ReadykeyPRO Unlimited

Combining people and technology

BOSCH

System Administration User Guide

Readykey*PRO Unlimited*, Version 6.5

Bosch ReadkeyPRO® Unlimited, System Administration User Guide, product version 6.5. This guide is item number DOC-200-2-045, revision 2.045, July 2012.

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Chapter 1: Introduction

Conventions Used in this Documentation

- Where a term is defined, the word is represented in *italics*.
- Field names, menus, and menu choices are shown in **bold**.
- Keyboard keys are represented in angle brackets. For example: <Tab>, <Ctrl>.
- Keyboard key combinations are written in two ways:
  – <Ctrl> + <Z> means hold down the first key and press the second
  – <Alt>, <C> means press the first key, then press the second
- Window buttons on the screen are represented in square brackets. For example: [OK], [Cancel].

UL Listed Installations

Refer to the UL Listed system's Hardware Installation Guide (DOC-600) for required UL294 and UL1076 features/operation.

Getting Started

Passwords

ReadkeyPRO®includes strong password enforcement, which checks the user's password against password standards. This functionality is designed to enhance password security if single sign-on is not used. If single sign-on is used (automatic or manual), ReadkeyPRO does not enforce password standards. For more information on single sign-on, refer to Single Sign-On on page 79.

The system's strong password enforcement also checks the Bosch database user's password when logging into applications. Database user passwords apply only to SQL databases. For information on changing your database password, refer to the Accounts and Passwords chapter in the Installation Guide.

Password Standards

When creating a strong password keep the following guidelines in mind:

- Passwords cannot be blank.

- Passwords cannot be the same as the user name (e.g. SA, SA).
- Passwords cannot be Bosch keywords.
- Although not required, your password should contain numbers, letters, and symbols. Spaces are also acceptable. (e.g. August 18, 2002).
- ReadkeyPRO user passwords are *not* case-sensitive.
- Database passwords conform to the rules of the specific database being used; passwords in SQL Server are case sensitive.
- The maximum value for a strong password is 127 characters. The minimum value is 1.

Enable/Disable Strong Password Enforcement

Strong password enforcement is enabled/disabled in System Administration or ID CredentialCenter. When you install ReadkeyPRO, by default strong password enforcement is enabled. When you upgrade, by default strong password enforcement is disabled. To manually enable or disable strong password enforcement:

1. Select **System Options** from the **Administration** menu.
2. Select the General System Options tab.
3. Click [Modify].
4. Select or deselect the **Enforce strong passwords** checkbox.

Note: If you disable the option to enforce strong passwords, you will continue to receive a message stating your password is weak every time you log into an application until you change your ReadkeyPRO password to meet the password standards.

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5. Click [OK].

Change User Passwords

You can use this feature only if the **Change Password** checkbox is selected for the System Permission Group specified in your User Profile. The **Change Password** checkbox is located on the Software Options sub-tab on the System Permission Groups form in the Users folder. For more information, refer to Chapter 13: Users Folder on page 399.

User passwords are checked every time a user logs into any application. After a user logs into an application he/she can change his/her user password.

1. From the **Application** menu select **Change Password**.
2. The Change Password window displays. Enter your old password and new password in the appropriate fields. Refer to the Password Standards on page 75 for guidelines in choosing a secure password.
3. A message confirms that you have successfully changed your password.
4. Click [OK].

Note: If you get a weak password message the next time you log into the application, carefully read the message. It may be telling you that your database password is weak and not your user password. To change your database password, refer to the Accounts and Passwords chapter in the Installation Guide.

Error Messages

Read weak password messages/warnings carefully to avoid confusion about whether your user password or database password is weak.

If you have a weak database password you will receive a warning every time you log into any application, until you change your database password. Although it is not recommended, you can acknowledge the warning and continue working in the application. This table describes the password-related error messages that may be generated and which password you need to correct.

- To correct the database password, refer to the Accounts and Passwords chapter in the Installation Guide.
- To correct the user password, select a password that meets the standards specified in Password Standards on page 75.

Warning message	Password to correct
Database password violations: Your password is a keyword that is not allowed. It is highly recommended that you change your password to meet our minimum password standards.	Database
Your password cannot be blank. Please enter a password.	User
User password violations: Passwords cannot be the same as the user name.	User
Your password is a keyword that is not allowed.	User

Accounts

Anyone who wishes to use ReadkeyPRO applications must enter a user name and password in order to access the software. The System Administrator should create a unique account for each user of the applications. The System

Administrator can also, for each user, create a list of *permissions*, which specifies precisely which screens, fields, and buttons the user can access.

During initial installation of the application, default accounts are created. These include:

User name	Password	Type
sa	sa	system account
admin		sample
user		sample
badge		sample

These are provided as samples. You may change the passwords and use the accounts, or remove them. The exception to this is the system account, SA. By definition this account has permission to do anything in the system. A user with system access has unlimited access to the application. You cannot delete or change the system account except to modify the password, which you are strongly encouraged to do as soon as possible to discourage unauthorized use.

The first time you log into ReadkeyPRO to configure the application, you should log in as **SA** and your password should be **SA**.

Log In

This procedure describes how to log in without using single sign-on. For a description of single sign-on, refer to Single Sign-On on page 79. To log in using single sign-on, refer to Configure Single Sign-On on page 81.

1. Click the Start button, select **Programs** > **ReadkeyPRO**, and then select the desired application.
2. Your system may be configured to prompt you to select a database to log into. If it is not, proceed to the next step. If it is:
   a. In the **Database** drop-down, all ODBC system databases currently defined on your computer are listed. Select the database that you wish to use for your application.
   b. Click [OK].

Note: This only occurs when the "DataSourceType=" value in the **Database** section of the ACS.INI file is set to 2.

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3. The Log On window displays.
   a. In the **User name** field, type the user name assigned to you. When logging in for the first time, your user name is **SA**.
   b. In the **Password** field, type the password assigned to you. When logging in for the first time, your password is **SA**. Note that the characters you type do not appear in the field. Instead, for each character you type, an "*" displays. This is intended to protect against

unauthorized access in the event that someone else can see the screen while you type.

Important: After logging in for the first time, you are strongly encouraged to modify the password for the system account as soon as possible to discourage unauthorized use.

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c. In the **Directory** field, select the directory that you wish to log into. For user accounts not using single sign-on, the default is "<Internal>."

d. Select the **Remember user name and directory** checkbox if you want the values you just entered in the **User name** and **Directory** fields to automatically be selected the next time that you log in.

e. Click [OK].

4. Your system may be configured to prompt you to confirm that you are authorized to use the application. To accept the terms of the authorization warning click [Yes].

Note: This is configured in the **Log on authorization warning** section on the General System Options form in the System Options folder in System Administration or ID CredentialCenter. The actual message may differ depending on whether your system has been configured to display the standard message or a custom message.

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5. If segmentation is not enabled, skip this step. If segmentation is enabled:

a. The Select Segment window opens. Select the segment you wish to log into.

b. Click [OK].

Single Sign-On

Single sign-on simply means logging into ReadkeyPRO with the same user name and password that you use to log into Windows or logging into ReadkeyPRO using an LDAP user name and password for authentication. *LDAP* (Lightweight Directory Access Protocol) is a software protocol that enables you to locate businesses, people, files, and devices without knowing the domain name (network address).

Single sign-on allows scripts using the DataConduIT API to authenticate. These scripts will be run under a Windows account. The account that is making the call to the API can be obtained easily this way, and the script can be restricted to those actions that the user is permitted to perform (using standard ReadkeyPRO permissions).

Note: The use of the explicit username and password for directory authentication to Windows is strongly discouraged. It is recommended that you do not store Windows passwords in the ReadkeyPRO system, since ReadkeyPRO uses reversible encryption and Windows does not. If explicit authentication is required, you should use an account that has view only permission to the directory in question.

It is possible to assign both an internal account and one or more directory accounts to a single user. Assigning both types of accounts increases the flexibility of the system during the authentication process. If the directory service is down or cannot be found from the workstation where the user is logging on, that user can instead use the internal account. Using both types of accounts means that you need to manage the internal account user names and passwords in addition to managing the directory accounts.

Important: Allowing a user to log on in multiple ways increases the probability that the user's access to the system could be compromised. It is recommended that you standardize on either internal or directory accounts, but not both.

There are cases where assigning both an internal account and a directory account to a user may make sense. In a system where directory accounts are predominantly used, you may also assign an internal account to a user who needs to access the system from locations where the directory service is unavailable. If internal accounts are predominantly used, you may want to assign a directory account to a user so that the user does not need to enter in a password to log on.

Directory Accounts

To log into ReadkeyPRO using single sign-on, a user name, password, and directory are required. A *directory* is a database of network resources, such as printers, software applications, databases, and users. The following directories are supported by ReadkeyPRO: Microsoft Active Directory, Microsoft Windows NT 4 Domain, Microsoft Windows Local Accounts, and LDAP.

Automatic and Manual Single Sign-On

When a user account is configured for single sign-on, the user can log into ReadkeyPRO automatically or manually.

For example, with automatic single sign-on, users simply start ReadkeyPRO and they are automatically logged in under their Windows account and directory.

With manual single sign-on, users must manually enter their Windows or LDAP account information (user name and password). Users also have the option of selecting a different configured directory.

If single sign-on is not used, users manually enter a user name and a password that is different from their Windows or LDAP password. The directory is hard-coded to refer to the internal ReadkeyPRO user directory.

Notes: *Manual* single sign-on can be used with the following directories: Microsoft Active Directory, Microsoft Windows NT 4 Domain, and LDAP.

Automatic single sign-on can be used with every directory supported by ReadkeyPRO *except* LDAP because it doesn't provide all the account information required.

Configure Single Sign-On

By default, user accounts do **not** use sign-on. To configure single sign-on the System Administrator must add a directory and link a user account to the directory.

Notes: For more information, refer to Add a Directory on page 396.

For more information, refer to Link a User Account to a Directory Account on page 410.

Log In Using Automatic Single Sign-On

Automatic single sign-on is supported with Windows domain accounts.

1. Click the Start button, select **Programs** > **ReadkeyPRO**, and then select the desired application.
2. Your system may be configured to prompt you to select a database to log into. If it is not, proceed to step 3. If it is:
   a. In the **Database** drop-down, all ODBC system databases currently defined on your computer are listed. Select the database that you wish to use for your application.
   b. Click [OK].

Note: This only occurs when the "DataSourceType=" value in the **Database** section of the ACS.INI file is set to 2.

3. If your Windows account is linked to a user, a message will be displayed that says, "Attempting to automatically log you on using your Windows account. To bypass this, hold down SHIFT." To automatically be logged in, do nothing.
4. Your system may be configured to prompt you to confirm that you are authorized to use the application. To accept the terms of the authorization warning, click [Yes].

Note: This is configured in the **Log on authorization warning** section on the General System Options form in the System Options folder in System Administration or ID CredentialCenter. The actual message may differ depending on whether your system has been configured to display the standard message or a custom message.

5. If segmentation is not enabled, skip this step. If segmentation is enabled:
   a. The Select Segment window opens. Select the segment you wish to log into.
   b. Click [OK].

Log In Using Manual Single Sign-On

Both users who want to log into ReadkeyPRO using an LDAP user name and password for authentication and users who want to log in using a Windows domain account can do so using manual single sign-on.

1. Click the Start button, then select **Programs** > **ReadkeyPRO**, and then select the desired application.
2. Your system may be configured to prompt you to select a database to log into. If it is not, proceed to step 3. If it is:
   a. In the **Database** drop-down, all ODBC system databases currently defined on your computer are listed. Select the database that you wish to use for your application.
   b. Click [OK].
3. If your Windows account is linked to a user, a message will be displayed that says, “Attempting to automatically log you on using your Windows account. To bypass this, hold down SHIFT.”
   To manually login or to login using a different user name and password, hold down the <Shift> key. The Log On window opens.
   a. In the **Directory** field, select the directory that you wish to log into. The default is “<Internal>.”

Note: For a Directory to be listed, it must first be added on the Directories form in the Directories folder, which is displayed by selecting **Directories** from the **Administration** menu in System Administration or ID CredentialCenter.

   b. In the **User name** field, type the Windows user name assigned to you. Do not enter the domain\user name just enter your user name.
   c. In the **Password** field, type the Windows password assigned to you.

Note: A Windows account that is used for single sign-on in ReadkeyPRO must have both a user name **and** a password.

d. Select the **Remember user name and directory** checkbox if you want the values you just entered in the **User name** and **Directory** fields to automatically be selected the next time that you log in.

e. Click [OK].

4. Your system may be configured to prompt you to confirm that you are authorized to use the application. To accept the terms of the authorization warning, click [Yes].

Note: This is configured in the **Log on authorization warning** section on the General System Options form in the System Options folder in System Administration or ID CredentialCenter. The actual message may differ depending on whether your system has been configured to display the standard message or a custom message.

5. If segmentation is not enabled, skip this step. If segmentation is enabled:

a. The Select Segment window opens. Select the segment you wish to log into.

b. Click [OK].

Troubleshoot Logging In

If you attempted to log in and were unable to do so, make sure that the following conditions have been met:

- You entered a correct user name/password and specified the correct directory.
- If your system is configured to display an authorization warning, you accepted the terms.
- A valid license is installed.
- You have permission to use the application.
- If you attempted to log in and were unable to do so, make sure the following conditions have been met:
  - You entered the correct user name and password for the selected directory of a user with permission to use the application.
  - If the system is configured to display an authorization warning, then you accepted the terms.
  - Verify your acs.ini file has the correct LicenseServer Host and Port settings. The LS License Server service must be started on the specified Host.

- Log into the License Administration application to verify a valid license is installed.
- Software based licenses must be activated.
- USB and Parallel licenses must have License Key Drivers installed.
- If using single sign-on, ensure the pc user you are logged in as is linked to an internal ReadkeyPRO user through an operational directory.

Assigning Directory and Internal Accounts to the User

It is possible to assign both an internal account and one or more directory accounts to a single user. Assigning both types of accounts increases the flexibility of the system during the authentication process. Meaning, if the directory service is down or cannot be found from the workstation where the user is logging on, then the user can use the internal account instead.

However, using both types of accounts means that you need to manage the internal account user names and passwords in addition to managing the directory accounts. Allowing a user to log on in multiple ways increases the probability that the user's access could be compromised. For that reason, it is recommended that you standardize on either internal or directory accounts, but not both.

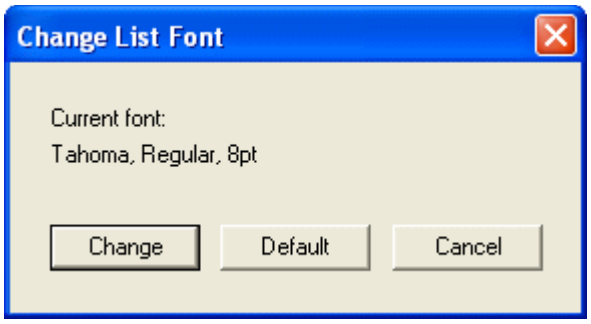
There are cases where assigning both an internal account and a directory account to a user may make sense. In a system where directory accounts are predominantly used, you may also assign an internal account to a user who needs to access the system from locations where the directory service is unavailable. If internal accounts are predominantly used, you may want to assign a directory account to a user for that user's convenience, so that the user does not need to enter in a password to log on.

Display Customization Procedures

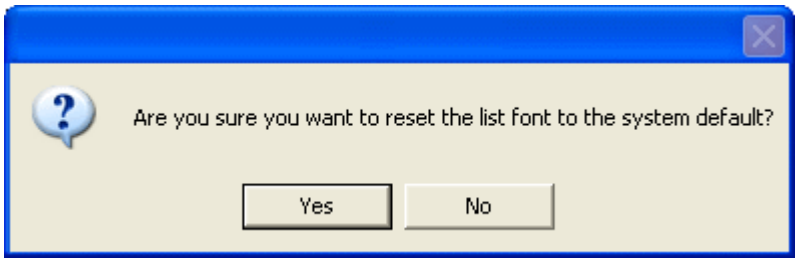
Change or Reset the List Font

The list font is the font used to display text in most listing windows in ReadkeyPRO applications. To change the list font, or to reset the list font to the default font:

1. Select **Change List Font** from the **View** menu.
2. The Change List Font window opens.



- If you wish to change the list font, click [Change]. The Font window opens. Select the font, font style, size, and script you want to use for the list font, then click [OK]. The font will be reset to the system default.
- If you wish to set the list font back to the default setting, click [Default]. Click [Yes] when the following message is displayed:

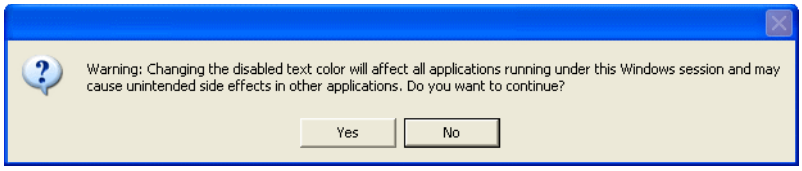


- If you decide not to change the list font, click [Cancel].

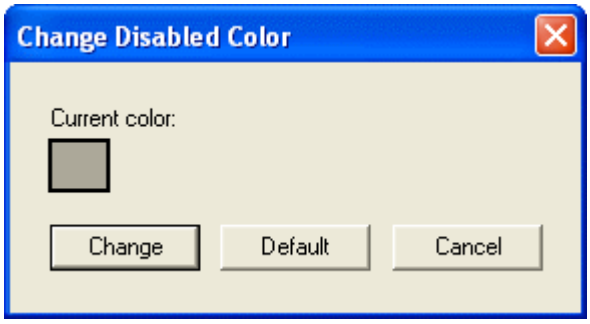
Change or Reset the Disabled Text Color

The disabled text color is the color that text that cannot be changed is displayed in. Typically, this is the "grayed out" text. To change the disabled text color, or to reset the disabled text color to the default color:

1. Select **Change Disabled Text Color** from the **View** menu.
2. The following message is displayed. Click [Yes].



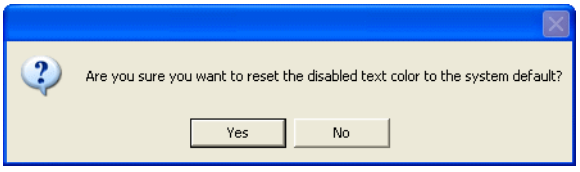
3. The Change Disabled Color window opens.



- If you wish to change the disabled text color, click [Change]. The Color window opens. In the Color window, do one of the following:
  - If the color you wish to use is shown in the Basic colors, select it by clicking on it, then click [OK].
  - If the color you wish to use is not shown, you can add a custom color. To do this, click [Define Custom Colors >>]. The window will expand. Click the color palette to select a precise color, or specify the color by entering red, green, blue, hue, saturation, and luminance values. Click [OK].

To have a custom color available for future selection, click the [Add to Custom Colors] button after the color is selected.

- If you wish to set the disabled text color back to the default setting, click [Default]. Click [Yes] when the following message is displayed:

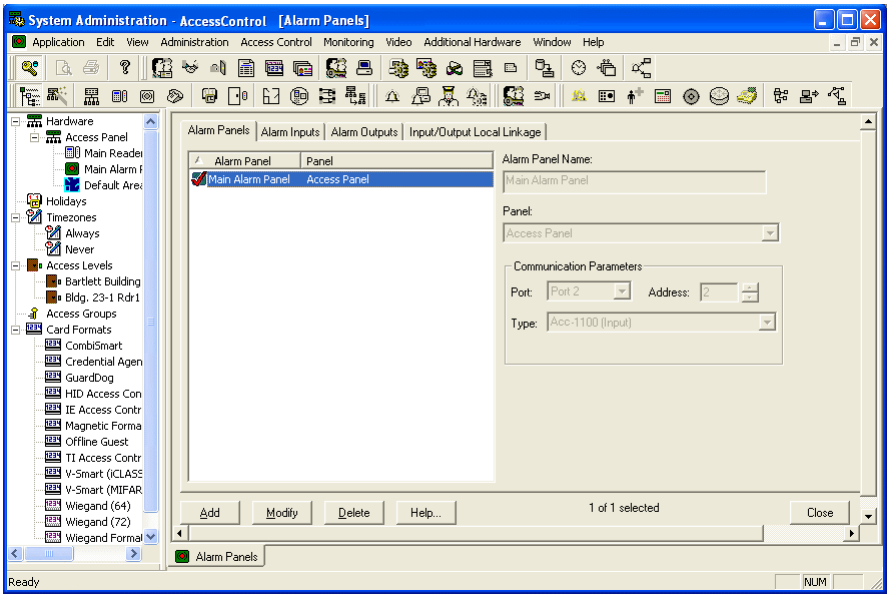


- If you decide not to change the disabled text color, click [Cancel].

Log Out of the Application

1. Select **Log Off** from the **Application** menu.
2. All open data entry forms will be closed. The main window will open again as it did before you logged in and most of the toolbar and menu options will be dimmed. To access most of the application's features you must then log in again.

Chapter 2: Main Window



Menus and Toolbars

The menu bar is a horizontal list of options that appears at the top of the main window. Each option has a pull-down menu.

A toolbar is a strip of buttons that is positioned by default just below the menu bar on the main window. Each button on a toolbar corresponds to a pull-down menu option. You can:

- Change toolbars from anchored to floating
  The toolbars are anchored by default. Anchored toolbars are displayed in horizontal rows below the menu bar. Anchored toolbars can be changed to floating toolbars, which allows the toolbar to be repositioned anywhere in the main window. For more information, refer to How to Use the Toolbars on page 99.
- Control which toolbars are displayed
  Which toolbars are displayed is selected in the **Toolbars** sub-menu of the **View** menu. By default, all toolbars are displayed. You can control which toolbars are displayed by selecting or deselecting the toolbar entries in this sub-menu. For more information, refer to How to Use the Toolbars on page 99.
- Display text labels on toolbar buttons
  If **Text Labels** is selected in the **Toolbars** sub-menu of the **View** menu, the icons will also contain a descriptive text label. For more information, refer to Display/Hide Text Labels on Toolbar Buttons on page 100.

- Reset toolbars to default values
  The toolbars can be reset to their default values by selecting **Reset Defaults** in the **Toolbars** sub-menu of the **View** menu. For more information, refer to Reset the Toolbars to their Default Settings on page 100.

Application Menu

Menu option	Toolbar button	Function
Wizards		Provides an alternative method to configure devices. The button is displayed on the **Access Control** toolbar. This option provides wizards that allow you to quickly complete the following tasks: • Configure multiple Bosch readers as well as multiple ILS offline and ILS wireless locks (up to 32 ILS locks per panel) • Configure multiple Bosch access panels For more information, refer to Use the Application Wizards to Configure Devices on page 105.
Print		Displays the Print Report Options window when a report is selected either on a form in the Reports folder or on the reports form in the Cardholders folder or the Assets folder. The button is displayed on the **Main** toolbar.
Print Preview		Displays the Report Print Preview window containing the currently selected report. It is only enabled when a report is selected either on a form in the Reports folder or on the reports form in the Cardholders folder or the Assets folder. The button is displayed on the **Main** toolbar.
Print Setup		Selects a printer and printing options.
Log On		Logs you into the application. The button is displayed on the **Main** toolbar.
Change Password		Opens the Change Password window, enabling you to change your password (you must have the corresponding system level permission to do so).
Log Off		Logs you out of the application.
Exit		Ends your session.

Edit Menu

Menu option	Function
Undo	Undoes the last action.
Cut	Removes a selected block of information and places it on the system clipboard.
Copy	Copies a selected block of information and places it on the system clipboard.

Edit Menu (Continued)

Menu option	Function
Paste	Inserts the contents of the system's clipboard.
Paste Special	Inserts the contents of the system's clipboard, while preserving the formatting.

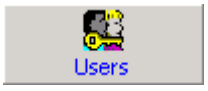
View Menu

Menu option	Toolbar button	Function
Toolbars		Contains a sub-menu of different toolbars. When a toolbar is selected, that particular toolbar is displayed.
Status Bar		When selected, the status bar is displayed.
Use Tabs in Main Window		When selected, each folder that is opened is displayed on its own tab in the main window. The tab is labeled with the icon and name of the folder. These tabs allow you to navigate quickly between the folders.
Change List Font		Changes the typeface and point size used to display data in listing windows.
Change Disabled Text Color		Allows you to customize the color of data displayed in dimmed fields.
Save Settings On Exit		If selected, most settings that you change will be saved when you logout or exit the application. The settings that change are the size and position of the window, the toolbar setting, the status bar setting, and the tabs setting.
System Tree		Displays the System Tree, a hierarchical listing of system configuration components. The button is displayed on the **Access Control** toolbar.

View Menu - Toolbar Sub-menu

Menu option	Function
Reset Defaults	Resets the toolbars displayed to the default settings.
Text Labels	If selected, each toolbar button displays an icon and a descriptive text label. If not selected, only the icon is displayed on the toolbar button.
Main	If selected, the **Main** toolbar will be displayed on the main window.
Administration	If selected, the **Administration** toolbar will be displayed on the main window.
Access Control	If selected, the **Access Control** toolbar will be displayed on the main window.
Monitoring	If selected, the **Monitoring** toolbar will be displayed on the main window.
Video	If selected, the **Video** toolbar will be displayed on the main window.
Additional Hardware	If selected, the **Additional Hardware** toolbar will be displayed on the main window.

Administration Menu

Menu option	Toolbar button	Function
Cardholders		Displays the Cardholders folder of data entry forms. The button is displayed on the **Administration** toolbar.
Visits		Displays the Visits folder, which contains the Visits data entry form. The button is displayed on the **Administration** toolbar.
Assets		Displays the Assets folder of data entry forms. The button is displayed on the **Administration** toolbar.
Reports		Displays the Reports folder of data entry forms. The button is displayed on the **Administration** toolbar.
Card Formats		Displays the Card Formats folder of data entry forms. The button is displayed on the **Administration** toolbar.
Badge Types		Displays the Badge Types folder of data entry forms. The button is displayed on the **Administration** toolbar.
Directories		Displays the Directories folder of data entry forms.
Users		Displays the Users folder of data entry forms. The button is displayed on the **Administration** toolbar.
Workstations		Displays the Workstations folder of data entry forms. The button is displayed on the **Administration** toolbar.
System Options		Displays the System Options folder of data entry forms. The button is displayed on the **Administration** toolbar.
Cardholder Options		Displays the Cardholder Options folder of data entry forms. The button is displayed on the **Administration** toolbar.
Segments		Displays the Segments folder of data entry forms. The button is displayed on the **Administration** toolbar.
List Builder		Displays the List Builder folder of data entry forms. The button is displayed on the **Administration** toolbar.

Administration Menu (Continued)

Menu option	Toolbar button	Function
DataConduIT Message Queues		Displays the DataConduIT Message Queues folder of data entry forms.
Archives		Displays the Archives folder of data entry forms. The button is displayed on the **Administration** toolbar.
Scheduler		Displays the Scheduler folder of data entry forms. The button is displayed on the **Administration** toolbar.
Action Group Library		Displays the Action Group Library folder of data entry forms. The button is displayed on the **Administration** toolbar.
Global Output Devices		Displays the Global Output Devices folder of data entry forms. The button is displayed on the **Administration** toolbar.
Download Entire System		Downloads the entire system to all access panels.

Access Control Menu

Menu option	Toolbar button	Function
Access Panels		Displays the Access Panels folder of data entry forms. The button is displayed on the **Access Control** toolbar.
Readers		Displays the Readers folder of data entry forms. The button is displayed on the **Access Control** toolbar.
Alarm Panels		Displays the Alarm Panels folder of data entry forms. The button is displayed on the **Access Control** toolbar.
Modems		Displays the Dialup Configuration folder of data entry forms. The button is displayed on the **Access Control** toolbar.
Timezones		Displays the Timezones folder of data entry forms. The button is displayed on the **Access Control** toolbar.
Access Levels		Displays the Access Levels folder of data entry forms. The button is displayed on the **Access Control** toolbar.

Access Control Menu (Continued)

Menu option	Toolbar button	Function
Areas		Displays the Areas folder of data entry forms. The button is displayed on the **Access Control** toolbar.
Groups		Displays the Groups folder of data entry forms. The button is displayed on the **Access Control** toolbar.
Local I/O		Displays the Local I/O folder of data entry forms. The button is displayed on the **Access Control** toolbar.
Global I/O		Displays the Global I/O folder of data entry forms. The button is displayed on the **Access Control** toolbar.
EOL Resistor Configuration		Displays the EOL Tables folder of data entry forms.
Destination Assurance		Displays the Destination Assurance folder of data entry forms.

Monitoring Menu

Menu option	Toolbar button	Function
Alarms		Displays the Alarm Configuration folder of data entry forms. The button is displayed on the **Monitoring** toolbar.
Monitor Zones		Displays the Monitor Zones folder of data entry forms. The button is displayed on the **Monitoring** toolbar.
Guard Tour		Displays the Guard Tour folder of data entry forms. The button is displayed on the **Monitoring** toolbar.

Video Menu

Menu option	Toolbar button	Function
Digital Video		Displays the Digital Video folder of data entry forms. The button is displayed on the **Video** toolbar.
IntelligentVideo		Displays the IntelligentVideo folder of data entry forms. The button is displayed on the **Video** toolbar.

Video Menu (Continued)

Menu option	Toolbar button	Function
Matrix Switchers		Displays the Matrix Switcher folder of data entry forms. The button is displayed on the **Video** toolbar.

Additional Hardware Menu

Menu option	Toolbar button	Function
Fire Panels		Displays the Fire Panels folder of data entry forms. The button is displayed on the **Additional Hardware** toolbar.
Intercom Devices		Displays the Intercom Devices folder of data entry forms. The button is displayed on the **Additional Hardware** toolbar.
Personal Safety Devices		Displays the Personal Safety Devices folder of data entry forms. The button is displayed on the **Additional Hardware** toolbar.
Receivers		Displays the Receivers folder of data entry forms. The button is displayed on the **Additional Hardware** toolbar.
Intrusion Detection Devices		Displays the Intrusion Detection Configuration folder of data entry forms. The button is displayed on the **Additional Hardware** toolbar.
POS Devices		Displays the POS Devices folder. The button is displayed on the **Additional Hardware** toolbar.
SNMP Managers		Displays the SNMP Managers folder of data entry forms. The button is displayed on the **Additional Hardware** toolbar.
DataConduIT Sources		Displays the DataConduIT Sources folder of data entry forms. The button is displayed on the **Additional Hardware** toolbar.
OPC Connections		Displays the OPC Connections folder of data entry forms. The button is displayed on the **Additional Hardware** toolbar.

Logical Access Menu

Menu option	Function
ActivIdentity	Displays the CMS folder of data entry forms, which enables you to configure and test a connection with an ActivIdentity CMS.

Window Menu

Menu option	Function
Cascade	Places all open forms in an overlapping arrangement.
Tile Horizontally	Places all open forms in a horizontal, nonoverlapping arrangement.
Tile Vertically	Places all open forms in a vertical, nonoverlapping arrangement.
Arrange Icons	Arranges all minimized forms (icons) in a row.
Close All	Closes all open forms (including icons).
[numbered choices]	Lists all forms that are currently open. Select an entry to display that form over (on top of) the other forms.

Help Menu

Menu option	Toolbar button	Function
Contents		Displays online help of the displayed form. The button is displayed on the **Main** toolbar.
Search		Displays online help table of contents. The button is displayed on the **Main** toolbar.
Send Feedback		Displays the Send Feedback form. From here you can launch a web feedback form and send feedback directly to Bosch.
About		Displays software version and copyright information.

Cardholder Menu

Menu option	Function
Note: This menu is only available when a record in the Cardholders folder is displayed	

Cardholder Menu (Continued)

Menu option	Function
Show Unassigned Assets	If selected, both assets that currently are and assets that once were (but have since been unassigned) assigned to the selected cardholder will be displayed in the listing window on the Assets form. If not selected, only assets that are currently assigned to the selected cardholder will be displayed.
Keyboard Wedge Settings	When selected, displays the Wedge Scanner Settings window where you can configure how the ReadkeyPRO system interprets the information it receives from a wedge reader. You must have administrative rights to the workstation when setting these options. These settings are set per workstation.
View Options	When selected, displays the View Options window from where you can choose cardholder search attributes.
One Free Pass	If selected, allows the selected cardholder to violate anti-passback rules one time
APB Move Badge	When selected, displays the Area Move Badges window from where you can move a badge to a new area.
Display Global APB Areas	When selected, displays the Cardholder Global APB Areas window. This window lists the global APB areas that the selected cardholder is currently located in.
Show Last Granted Location	If selected, the **Last access** field will display information about the most recent valid access by the selected cardholder, including the triggered event, date, time, and reader name.
Show Last Attempted Location	If selected, the **Last access** field will display information about the most recent access attempt (whether access was granted or not) by the selected cardholder, including the triggered event, date, time, and reader name.
Bulk	Provides a sub-menu of options that can be applied to a select group of cardholder records.
First Record	Displays the first matching cardholder record.
Rewind	Jumps back 10 matching cardholder records.
Previous Record	Displays the previous matching cardholder record.
Next Record	Displays the next matching cardholder record.
Fast Forward	Jumps forward 10 matching cardholder records.
Last Record	Displays the last matching cardholder record.

Cardholder Menu - Bulk Sub-menu

Menu option	Function
Note: This menu is only available when a record in the Cardholders folder is displayed	
Assign Access Levels	Allows you to assign access levels to a select group of cardholder records.
Remove Access Levels	Allows you to remove access levels from a select group of cardholder records.

Cardholder Menu - Bulk Sub-menu (Continued)

Menu option	Function
Modify Badges	If selected, displays the Bulk Modify Badges window from where you can choose to update one or more of the following fields in the Cardholders folder: **Activate Date**, **Deactivate Date**, **Badge Status** and **Use Limit**. You can apply a filter as to which badges you want to update, based on status and/or type. Note that when updating the **Badge Status** field, you must select a badge status filter.
Change Cardholder Segments	When selected, the Bulk Segment Change window opens from where you can change a selected group of cardholder record's segment assignment.
Change Cardholder Replication	When selected, the Change Cardholder Replication window opens from where you can select a new replication setting. This menu option applies only to Enterprise systems.
Delete Cardholders in Search	Allows you to delete cardholders to a select group of records.
Destroy ALL Cardholder Data	Allows you to destroy all cardholder data.
View Log	When selected, displays the Log Viewer window from where you can view a log of bulk events.

Asset Menu

Menu option	Function
Note: This menu is only available when a record in the Assets folder is displayed	
First Record	Displays the first matching asset record.
Rewind	Jumps back 10 matching asset records.
Previous Record	Displays the previous matching asset record.
Next Record	Displays the next matching asset record.
Fast Forward	Jumps forward 10 matching asset records.
Last Record	Displays the last matching asset record.
Asset Groups and Classes	Displays the Asset Groups and Classes Management window.
Asset Types and Subtypes	Displays the Asset Types and Subtypes Management window.
Show Assignments X Days Past	Displays the Filter Out Assignments After X Days window, which allows you to specify the number of days you want to view.

Asset Menu (Continued)

Menu option	Function
Bulk Add Mode	Bulk features allow you to add groups of asset records. Selecting bulk Add Mode and entering a value will create a new asset with the same values as the asset that was on the screen when the menu item was selected. **Note:** When the Asset folder is first opened this menu item is disabled. The Bulk Add Mode becomes enabled once a search is run.

Toolbar Procedures

How to Use the Toolbars

System Administration utilizes standard Windows toolbars.

If you want to:	Do this:
Display the name of a toolbar button.	Point to the toolbar button with the mouse (without clicking).
Use a toolbar button to perform a command or function.	Click the toolbar button with the left mouse button.
Change a toolbar from "anchored" to "floating".	Double-click on the white vertical bars on the left side of the toolbar you want to move using the left mouse button. white vertical bars → 
Change a toolbar from "floating" to "anchored".	Double-click an empty area of the toolbar.
Rearrange floating toolbars.	1. Click in an empty area of the toolbar. 2. Drag the toolbar to its new position. 3. Release the mouse button to anchor it.
Rearrange anchored toolbars.	1. Click on the white vertical bars on the left side of the toolbar you want to move using the left mouse button. 2. Drag the toolbar to the position on the screen where you want it. 3. Release the mouse button.
To hide or display a toolbar.	1. Choose **Toolbars** from the **View** menu. A sub-menu displays, containing the name of each toolbar. (A checkmark appears next to each toolbar that is not currently hidden. Toolbars can be toggled in order to be displayed or hidden.) 2. Choose the desired toolbar name.

Reset the Toolbars to their Default Settings

The toolbars can be reset to their original (default) state. In the default state, all six toolbars are displayed in horizontal rows below the menu bar and the toolbar buttons contain only icons.

1. Select the **View** menu, point to the **Toolbars** menu option, then click **Reset Defaults**.
2. A message will be displayed that says, "Are you sure you wish to reset to the default toolbar settings?"
3. Click [Yes], and the toolbars will return to their default state.

Display/Hide Text Labels on Toolbar Buttons

By default, each toolbar button contains only an icon. The toolbars can be configured to display a descriptive text label on each button in addition to the icon.

Select the **View** menu, point to the **Toolbars** menu option, then click **Text Labels**. This toggles the text labels off and on.

- When the Text Labels menu option is selected (has a checkmark next to it), the toolbar buttons will contain both an icon and a descriptive text label.
- When the Text Labels menu is not selected (has no checkmark next to it), the toolbar buttons will contain only an icon.

Main Window Procedures

Command Buttons

Some actions have keyboard shortcuts associated with them. Examples of these include:

Ctrl+N = Add

Ctrl+M = Modify

Delete = Delete

Ctrl+P = Print

Ctrl+Shift+P = Encode

Ctrl+F = Find

Display the System Tree

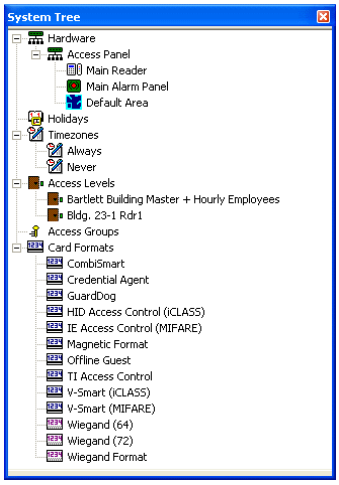
The System Tree is a sub-window of the main window. The System Tree lists all access control devices defined in System Administration and shows which devices are connected to which other devices. The Window also lists other configuration settings, such as currently defined Timezones and Holidays.

The System Tree is a dockable view that works much like a toolbar (it can be docked and undocked and moved around like a toolbar).

It can be displayed using any of the following methods:

Toolbar Shortcut

- Select the System Tree button on the Access Control toolbar
- <Alt>,<V>,<Y>
- Select **System Tree** from the **View** menu



The System Tree

The information in the window is displayed in hierarchical fashion, also called a tree or branching arrangement. Each entry in the list contains the name of one device (or, in some instances, one software component such as a timezone). Access Panels have the leftmost entries. For a specific Access Panel, a device connected to it is listed below and indented to the right. Each device connected to those devices is listed below them and further indented. You can search this or any tree by focusing on the list window and clicking “Ctrl+F”. To proceed through the search, press F3 on your keyboard.

Each type of entry is identified by an icon to the left of it. These include:

Icon	Indicates
	Access Control System
	Access Group
	Access Level

Icon	Indicates
	Access Panel
	Alarm Input
	Alarm Mask Group
	Alarm Output
	Alarm Panel
	Area
	Camera
	Card Formats - Magnetic
	Card Formats - Wiegand
	Fire Device
	Fire Input/Output
	Fire Panel
	Function List
	Holiday
	Intercom Exchange
	Intercom Station
	Intrusion Area
	Intrusion Door
	Intrusion Panel
	Intrusion Zone
	Matrix Switcher
	Monitor
	Offboard Relay
	Onboard Relay

Icon	Indicates
	Personal Safety Device
	Reader
	Reader Auxiliary Input
	Reader Auxiliary Output
	Receiver
	Receiver Account
	Segment (only if your system is segmented)
	Timezone
	Video Recorder
	Zone

You can display a popup menu by first clicking with the left mouse button to highlight a window entry, then clicking on the entry using the right mouse button. The menu choices available depend upon the type of entry that is selected.

For most window entries, you can double-click on the entry to display the corresponding data entry form and select that record. For example, double-clicking on a  entry opens the Alarm Panels folder, displays the Alarm Inputs form, and selects the corresponding input. This offers a convenient method by which you can accessing a data entry form to review information or make changes. For more information, refer to Data Entry Forms on page 106.

Display the System Tree Menu

To display the System Tree menu:

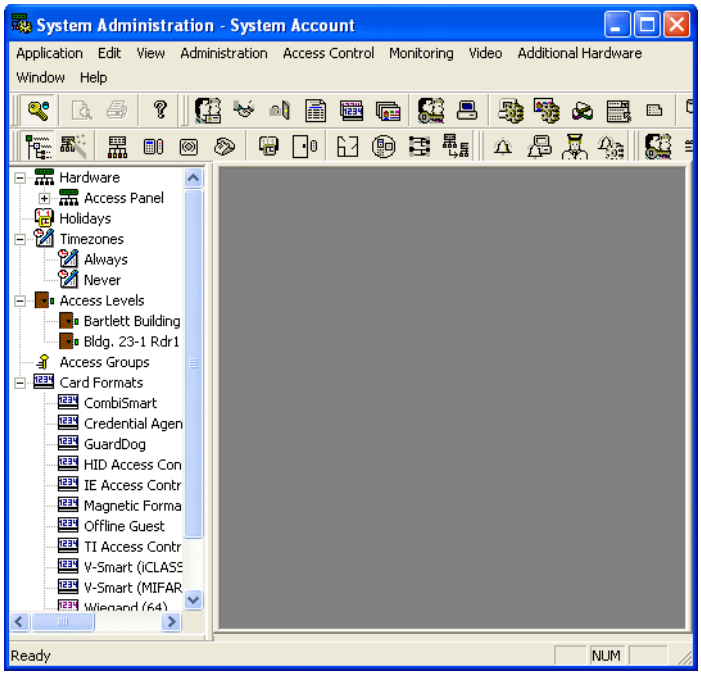
1. View the System Tree by selecting **System Tree** from the **View** menu.
2. Right-click on the System Tree.

System Tree Menu

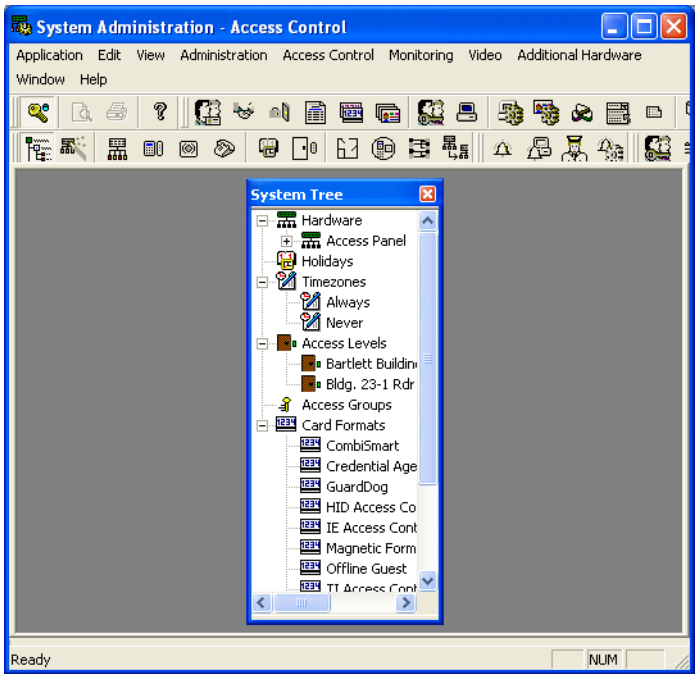
Menu option	Function
Find	Acts like a double-click by opening up the related view and selecting the item
Refresh	Refreshes all items from the database
Allow docking	Enables/disables docking of the System Tree view
Hide	Hides the System Tree

Dock/Undock the System Tree

The System Tree can either float on the screen or be “docked” to one edge of the screen. By default, the System Tree is docked to the left edge of the screen. The two views are shown below:



Docked System Tree View



Undocked System Tree View

Undock the System Tree

1. View the System Tree by selecting **System Tree** from the **View** menu.
2. Right-click on the System Tree, and the System Tree menu will be displayed. For more information, refer to Display the System Tree Menu on page 103.
3. De-select the **Allow Docking** menu option.
   - When the **Allow Docking** menu option has a checkmark to the left of it, docking of the System Tree IS allowed.
   - When the **Allow Docking** menu option does not have a checkmark to the left of it, docking of the System Tree is NOT allowed.

If the System Tree has been undocked, you can dock it again by doing the following:

1. Right-click on the System Tree, and the System Tree menu will be displayed. For more information, refer to Display the System Tree Menu on page 103.
2. Select the **Allow Docking** menu option.
   - When the **Allow Docking** menu option has a checkmark to the left of it, docking of the System Tree IS allowed.
   - When the **Allow Docking** menu option does not have a checkmark to the left of it, docking of the System Tree is NOT allowed.
3. Click on the title bar of the System Tree window and drag the System Tree toward the edge of the screen that you want it to dock to. When you are near the edge of the screen, release the mouse button. The System Tree will become “docked” to that side of the screen.

Move the System Tree When it is Docked

Once the System Tree is docked to a side of the screen, the easiest way to dock it to a different edge of the screen is to:

1. Right-click on the System Tree.
2. De-select the **Allow Docking** menu option.
3. Right-click again on the System Tree.
4. Select the **Allow Docking** menu option.
5. Click on the System Tree’s title bar, drag the System Tree to the new edge of the screen you want it to dock to, and release the mouse.

Use the Application Wizards to Configure Devices

Important: Do not use this feature unless you have full knowledge of the hardware.

Use the wizards to rapidly add several panels, readers, and ILS offline/wireless locks and configure their basic settings. The wizards guide you through each step of the process.

In order to run the application wizards, complete the following steps:

1. From System Administration, select the **Application** > **Wizards** menu. The Wizards window is displayed.
2. Click [Configure access panels] to quickly add and configure multiple Bosch access panels.

Note: This wizard supports Bosch panels only.

3. Click [Configure readers] to quickly add and configure multiple Bosch readers or ILS offline/wireless locks.

Notes: Readers and locks are added per access panel.

Access panels must be added before you can add readers or locks to them.

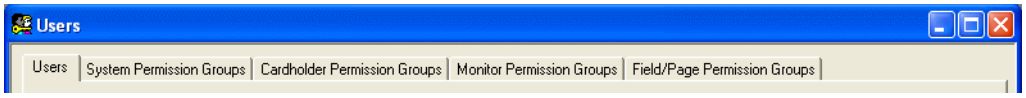
4. The wizards allow you to configure the common settings of the panels, readers, and locks. However, after you add these devices via the wizard, you will need to complete the process from the **Access Control** options in System Administration. For example, after configuring ILS wireless locks in the wizard, configure the remaining lock settings in the Readers and Doors folder as required:
   - Configure the reader or lock group settings. For more information, refer to Grouping Form on page 752.
   - Configure the features that are unique to the ILS locks. For more information, refer to ILS Form on page 794.
   - If you want to assign priority one events to the ILS wireless locks, configure these as required. For more information, refer to ILS Priority One Events Form on page 799.
5. After adding access panels in the wizard, configure the remaining panel settings on the appropriate access panel form (for example, the RKP-3300 form).

Note: You can configure the panel, reader and lock devices individually or select the **Multiple Selection** check box to configure two or more devices.

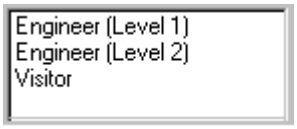
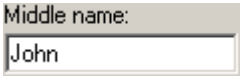
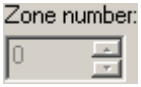
Data Entry Forms

All software setup and configuration is done through specialized windows called data entry forms. Each data entry form allows you to define the characteristics of a particular feature of the system. One or more data entry forms are logically

grouped together into a folder. When you select a toolbar button or menu option, you open the associated folder. You can then display a particular form in the folder by clicking on the desired tab at the top of the form. An example is shown below:



The Users folder contains the Users, System Permission Groups, Cardholder Permission Groups, Monitor Permission Groups, and Field/Page Permission Groups data entry forms.

Form element	Example	Description
Push button		A push button is a raised rectangular box. Typically, it contains a graphical image or text to indicate its purpose. Clicking on a push button performs an action.
Display		Display fields cannot be changed directly. They are intended to provide a picture of current settings or currently defined options. On some forms, you first select an item in a display field, then enter or choose the settings for that item elsewhere on the form.
Drop-down list		Drop-down list fields contain a rectangular box and a down arrow button. Clicking on the down arrow button displays a list of possible values for this field. Clicking on one of the choices inserts that value into the rectangular box. Drop-down lists are useful when there are a limited number of possible values for an item. They save data entry time, and ensure that every occurrence of a particular value is written exactly the same way.
Text/numeric		Text fields enable you to type whatever you want, up to the maximum number of characters allowable for that field. Text fields are used to enter information when there is a virtually unlimited number of possibilities, for things like names, addresses, and descriptions.
Spin buttons		A spin button field contains a rectangular box and a pair of buttons (down and up arrows). Clicking on the up arrow button increases the value in the rectangular box by one step. Clicking on the down arrow button lowers the value in the rectangular box by one step. Clicking and holding either button rapidly moves in that direction through the list of choices. Spin button fields are used when there are a limited number of possible values for an item, but this number can be many more than what a drop-down list typically contains. Spin button fields are typically used for numerical values.

Form element	Example	Description
Check box		Check box fields contain a small square box beside the name of the field. When you click on the field name, an "X" is inserted in the box to indicate that this choice is selected. Clicking on the name again removes the "X" from the box and deselects the field. When there are multiple check boxes on a form, you can select as many of them as is appropriate.
Radio button		In contrast to check boxes, radio buttons are mutually exclusive. In other words, you can only select one of them. Selecting a choice automatically deselects any previous selected choice.

Administration

Chapter 3: Cardholders Folder

The Cardholders folder contains forms with which you can:

- Add, modify and delete cardholder and visitor records.
- Assign cardholders or groups of cardholders to different segments.
- Create badge records for cardholders and visitors.
- Assign access levels to active badges for cardholders and visitors.
- Assign one or more Precision Access groups to a badge (if Precision Access is used on your system).
- Search for and display cardholders and visitors biometrics records.
- Search for cardholders and visitors visit records.
- Assign and track assets to cardholders and visitors.
- Link directory accounts to cardholders and visitors.
- Assign a cardholder as a tour guard.
- Assign security clearance levels to tour guards.
- Create and print reports containing cardholder information.

The folder contains up to eleven forms: the Cardholder/Visitor form, the Badge form, the Segments form (if segmentation is enabled), the Access Levels form, the Precision Access form (if in use), the Biometrics form, the Visits form, the Assets form, the Directory Accounts form, the ILS Authorization form,the Guard Tours form and the Reports form.

Toolbar Shortcut

The Cardholders folder is displayed by selecting **Cardholders** from the **Administration** menu, or by selecting the Cardholders toolbar button.

The forms in the Cardholders folder are visually divided into four sections; the right section, the upper-left section, the middle-left section and the bottom section.

Several of the form elements in these sections are common to every form in the cardholders folder. Refer to the following table for descriptions of the common form elements.

Notes: This documentation refers to cardholder data fields that are shipped as the default by Bosch. If you have used the FormsDesigner application to

customize your cardholder data, the elements on your Cardholders folders will be different.

The Segments form is only available if segmentation is enabled on your system

The availability of certain forms and fields in the Cardholders folder is subject to licensing restrictions.

Cardholders Folder

Form Element	Comment
Common form elements - right section	
Photo display	Displays the cardholder's photo as it appears on their badge.
Signature display	Displays the cardholder's signature as it appears on their badge.
Last access	If **Show Last Granted Location** is selected in the **Cardholder** menu, displays information about the most recent valid access by this cardholder, including the triggered event, date, time and reader name. If **Show Last Attempted Location** is selected in the **Cardholder** menu, displays information about the most recent access attempt (whether access was granted or not) by this cardholder, including the triggered event, date, time and reader name.
Badge ID	Displays the numeric identifier assigned to the cardholder's active badge.
Issue code	Displays the issue code assigned to the cardholder's active badge.
Prints	Displays the number of times the active badge has been printed.
Activate	Displays the date when the badge becomes valid.
Deactivate	Displays the date when the badge becomes invalid.
Common form elements - upper-left section	
Last name	Indicates the cardholder's last name.
First name	Indicated the cardholder's first name.
Middle name	Indicates the cardholder's middle name.
Cardholder ID	Indicates the cardholder's ID number. **Note:** This field is not displayed on the Visitor form.
Badge type	Indicates the cardholder's badge type. Badge types are configured in the Badge Types folder. For more information, refer to Chapter 11: Badge Types Folder on page 357.
Common form elements - bottom section	
Search	Displayed in view mode on every form in the Cardholders folder. This button is used to search for existing cardholder records.

Cardholders Folder (Continued)

Form Element	Comment
Add	Enabled in view mode on the Cardholder/Visitor and Badge form and is used to add a record. **Note:** This button is displayed but not enabled on the Segments form, the Access Levels form, the Precision Access form, the Biometrics form, the Visits form, the Guard Tours form and the Reports form because these records are not added in the Cardholders folder.
Modify	Displayed in view mode on every form in the Cardholders folder. **Note:** This button will be displayed but will not be enabled on the Directory Accounts form and the Reports form, because directory account and report records cannot be modified.
Delete	Enabled in view mode on the Cardholder/Visitor and Badge form and is used to delete a record. **Note:** This button is displayed but not enabled on the Segments form, the Access Levels form, the Precision Access form, the Biometrics form, the Guard Tours form and the Reports form because these records are not deleted in the Cardholders folder.
Print	Displayed in view mode on every form in the Cardholders folder. When selected, displays the **Badge Printing** window from where you can print the active badge for the current record, or the active badges for all records found in a search. You can also log and print errors encountered during the print operation. **Note:** When you select this button on the Reports form, the **Print Report Options** window is displayed. For more information, refer to Chapter 8: Print Report Options Window on page 271.
Encode	Displayed in view mode on every form in the Cardholders folder. When clicked, displays the **Encode Badge** window from where you can encode the badge configurations selected for the cardholder onto a smart card. For more information, refer to Chapter 10: Card Formats Folder on page 281. The availability of this button is subject to licensing restrictions.
Replication	**Note:** This field only appears on Enterprise systems. The value in this field determines where the cardholder record gets propagated. On a Master server, this option is grayed out, and "All Regions" is selected. This is because when cardholder records are added at a Master server, they must be propagated to ALL Regional servers. On a Regional server: • If "All Regions" is selected, the cardholder record is sent to the Master server when replication occurs, and the record is then sent to ALL Regional servers when they replicate. • If "Local Regions Only" is selected, the cardholder record is stored on the local Regional server where it was added. The record is also sent to the Master server.
	Displayed in search mode on every form in the Cardholders folder. When selected, moves to the first record that matches your search criteria.

Cardholders Folder (Continued)

Form Element	Comment
	Displayed in search mode on every form in the Cardholders folder. When selected, by default moves 10 matching records back. You can change the number of records moved back by modifying the value in the **Number of records to scroll for fast forward and rewind** field on the **View Options** window. The View Options window is displayed by selecting **View Options** from the **Cardholder** menu.
	Displayed in search mode on every form in the Cardholders folder. When selected, moves to the previous record that matches your search criteria.
	Displayed in search mode on every form in the Cardholders folder. When selected, moves to the next record that matches your search criteria.
	Displayed in search mode on every form in the Cardholders folder. When selected, by default moves 10 matching records forward. You can change the number of records moved forward by modifying the value in the **Number of records to scroll for fast forward and rewind** field on the **View Options** window. The View Options window is displayed by selecting **View Options** from the **Cardholder** menu.
	Displayed in search mode on every form in the Cardholders folder. When selected, moves to the last record that matches your search criteria.
OK	Displayed in search or modify mode on every form in the Cardholders folder. When selected, saves the changes made to the current record, or begins the requested search.
Cancel	Displayed in search or modify mode on every form in the Cardholders folder. When selected, cancels the pending requested action.
Clear	Displayed in search or modify mode on every form in the Cardholders folder. When selected, clears all current record information that can be cleared from the current form.
Clear All	Displayed in search or modify mode on every form in the Cardholders folder. When selected, clears all current record information that can be cleared from *all* forms in the folder.
Capture	Displayed in add or modify mode on the Cardholder/Visitor form, the Segments form, the Badge form, the Access Levels form, the Precision Access form and the Biometrics form. Displayed in modify mode on the Visits form. When selected, opens Multimedia Capture. **Note:** The availability of Multimedia Capture is subject to licensing restrictions.
Last Search	Displayed in search mode on every form in the Cardholders folder. When selected, retrieves the same group of records that was found by the most recent search operation.
Record count	Displayed in view mode on every form in the Cardholders folder and indicates the number of the record out of the total number of records found by the most recent search operation. For example: 6 of 10. You can type in a number and hit the <Enter> key to jump to that record number.
Person type	In search mode, select the type of record you want to search. Choices are: • All - when selected, your search will locate both Cardholder and Visitor records • Cardholders - when selected, your search will only locate cardholder records • Visitors - when selected, your search will only locate visitor records

Cardholders Folder Procedures

The following procedures pertain to every form in the Cardholders folder unless otherwise noted.

Cardholder Search Capabilities

Before you begin searching cardholders you must have cardholder search permissions enabled. For more information, refer to Cardholder Permission Groups Tree on page 426.

In search mode, you can search on any combination of fields in the Visits folder, including the Status search, Visit and Details forms. On the E-mail and Reports forms, you can only search for the host name or visitor name.

Comparison Operators

Comparison operators are symbols that represent specific actions. You can refine your search by prefixing search fields with a comparison operator. Refer to the following table to identify the comparison operators you can use with different fields.

Comparison operator	Description	Text field	Numeric field	Drop-down list
=	Equal to	Yes	Yes	Yes
!= or <>	Not equal to	Yes	Yes	Yes
>	Greater than	Yes	Yes	NA
<	Less than	Yes	Yes	NA
>=	Greater than or equal to	Yes	Yes	NA
<=	Less than or equal to	Yes	Yes	NA
%	Contains	Yes	NA	NA

Notes: "Equal to" is the default comparison operator for numeric and drop-down list fields.

If you type an equal to sign "=" in a field and nothing else, ReadkeyPRO will search for records that have an empty value for that field. For example, typing an "=" in the Department field will find every record that does not have an assigned department.

Search Fields Using "Begins With"

For text and drop-down list fields you can search records whose values begin with specific characters by entering those characters in the field. For example,

when searching by last name, a filter of “L” will find “Lake”, “Lewis”, etc. A filter of “Lake” will find “Lake”, “Lakeland”, etc.

Note: The default comparison operator for text fields is “begins with”.

Search Multiple Fields

When you search multiple fields, the search criteria for each field is combined. For example, typing “A” in **Last name** field and “B” in **First name** field will find all people whose last name begins with “A” and whose first name beings with “B”.

One *exception* is searching access levels, which uses an “or” comparison for multiple selections. For example, selecting both “Access Level A” and “Access Level B” will find all cardholders with either “Access Level A” or “Access Level B” assigned.

Note: If you want to search for a range of Badge IDs, take advantage of the two Badge ID fields on the Badge form. One field is located in the middle-left section of the form and the other field is located in the right section of the form. Note, the form must be in modify mode to see both fields. Type “>= 100” in one field and “<= 200” in the other to find all badges with IDs between 100 and 200 (inclusive).

Search for a Cardholder Record

1. In Alarm Monitoring, select **Badge Info** from the **View** menu. In all other applications, select **Cardholders** from the **Administration** menu.
2. The Cardholders folder opens. Click [Search].
3. If you are searching for a cardholder or visitor, select the type of person you are searching for in the **Person type** drop-down list (in the lower right). This field may not display due to licensing restrictions.
4. Specify your search criteria by typing full or partial entries in any enabled field on any of the tabs.
5. Click [OK].
6. ReadkeyPRO retrieves and displays the first matching record. Use the navigational buttons (in the lower right) to look at additional matching records.

    **First record/Last Record** - Displays the first/last matching record.

    **Rewind/Fast Forward** - Moves backward/forward ten matching records. To modify the number of records moved, refer to the View Options window, which is accessed from the **Cardholder** menu.

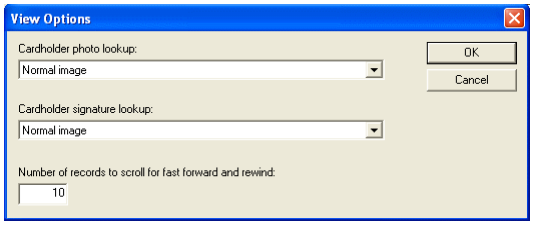
    **Previous record/Next record** - Displays the previous/next matching record.

Retrieve the Most Recent Search Results

1. Display the Cardholders folder or Visits folder by completing one of the following:
   - To display the Cardholders folder in Alarm Monitoring, select **Badge Info** from the **View** menu. For all other applications, select **Cardholders** from the **Administration** menu.
   - To display the Visits folder in Alarm Monitoring, select **Visits** from the **View** menu. For all other applications, select **Visits** from the **Administration** menu.
2. Click [Search].
3. Click [Last Search]. The criteria you selected from the most recent search operation will be inserted into the appropriate fields.
4. You can optionally modify your search criteria.
5. Click [OK].
6. ReadkeyPRO retrieves and displays the first matching record. Use the navigational buttons to look at additional matching records.

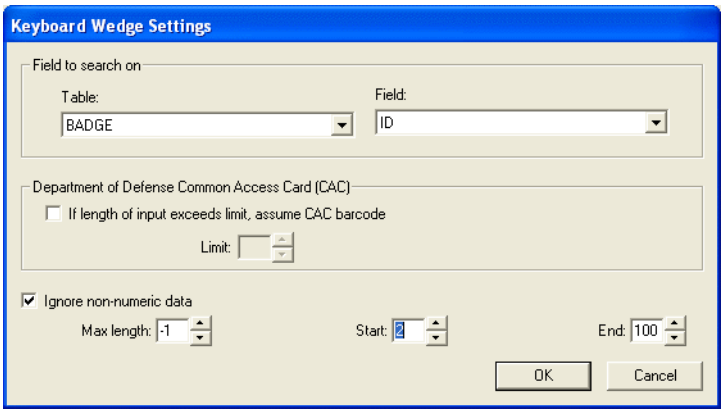
Change the Cardholders Folder View Options

1. Select **View Options** from the Cardholder menu. The **View Options** window opens.



2. From the **Cardholder photo lookup** drop-down list, select the image type you want displayed in **Photo** display (located in the right section of the Cardholders folder forms).
   Choices include:
   - **None** - no image will be displayed
   - **Normal image** - a photo image will be displayed as it was originally captured
   - **Normal image with chromakey** - a photo image will be displayed, but without its background
   - **Thumbnail** - This option is only displayed if the **Create/save photo thumbnails** check box in **Administration** > **Cardholder Options** > General Cardholder Options is selected. A smaller thumbnail version of the photo is displayed.
3. From the **Cardholder signature lookup** drop-down list, select the type of signature you want displayed in **Signature** display (located in the right section of the Cardholders folder forms).
   Choices include:
   - **None** - no signature will be displayed
   - **Normal image** - a signature will be displayed
4. In the **Number of records to scroll for fast forward and rewind** field, type in the number of records you want to move backwards and forwards when you select the  and  push buttons.
5. Click [OK].

Keyboard Wedge Settings Window



A wedge scanner, also sometimes referred to as a wedge reader, is a device that is attached to a keyboard and used to scan badge IDs as direct keyboard input. Wedge scanners can be used with ReadkeyPRO to:

- **Add a badge.** In this scenario, each card entry station has a wedge scanner. The operator clicks [Add] and swipes the badge with the wedge scanner to read the badge ID. This is equivalent to typing in the badge ID at the keyboard. When a wedge scanner is used in this manner, no configuration of the settings on the Keyboard Wedge Settings window is needed.
- **Search for a badge.** The normal way to search for a badge in ReadkeyPRO is to click [Search] and then specify what to search for, such as badge ID or social security number. When a wedge scanner is used, the [Search] button does not need to be clicked; instead, the system specifically searches on one predefined criteria. When a wedge scanner is used in this manner, the settings on the Keyboard Wedge Settings window must be properly configured.

Displaying the Keyboard Wedge Settings Window

The Keyboard Wedge Settings window is displayed by selecting **Keyboard Wedge Settings** from the **Cardholder** menu. (In System Administration, ID CredentialCenter, Visitor Management, and View/Edit Only the **Cardholder** menu is only displayed after selecting **Cardholders** from the **Administration** menu. In Alarm Monitoring, the **Cardholder** menu is displayed after clicking the  toolbar button.)

CAC Barcodes

A common access card (CAC) is a military-issued ID card that is issued to active duty personnel, selected reservists, Department of Defense civilian employees, eligible contractors, and some foreign nationals. Retirees, family members, and inactive reservists are not currently issued a CAC card.

Configuring ReadkeyPRO to Read CAC Barcodes

To set the ReadkeyPRO system up to read CAC cards, the **If length of input exceeds limit, assume CAC barcode** check box on the Keyboard Wedge Settings window must be selected. A limit also needs to be specified. If only CAC cards will be read, then the **Limit** can be set to 0. However, most systems will also need to have the ability to read other cards in addition to CACs, so the limit will need to be set to an appropriate value.

For example, a military base that assigns badge IDs to the people on its base may want to be able to read those badge IDs as well as CACs because visitors from other bases will only have a CAC. In this case, the limit would need to be set to an appropriate number. If the badge IDs were all nine digits long, then an appropriate limit would be ten because CAC barcodes are much longer than ten digits.

Scanning Barcodes with a Wedge Scanner

When an ID is scanned, ReadkeyPRO determines the length of the number that was scanned. If the number of digits exceeds the limit, then the number is treated as a CAC number, and the social security number is decrypted and searched up.

If the number of digits is less than the limit, then the maximum length, start, and end settings are applied to the string and used to extract the search criteria (typically badge ID or social security number).

After those settings are examined, the system then examines the **Table** and **Field** and searches that information up. The **Table** and **Field** specified depend on what information is encoded on the card that will be read in addition to the CAC. Common options include:

- **Badge ID**. If searching on Badge IDs, select the BADGE table and the ID field.
- **Social security number**. If searching on social security numbers, select the EMP table and the SSNO field.
- **User-defined field.** If searching on a user-defined field, select the desired table and field. For example, a company may wish to search on a table and field that is unique to their system, such as an employee number.

The following flowchart describes what happens when a barcode is scanned with a wedge scanner:

Keyboard Wedge Settings Window

Form Element	Comment
Table	Select the table in the ReadkeyPRO database that you wish to search on when keyboard input is detected. If searching for badge ID numbers, select the BADGE table, and if searching for social security numbers, select the EMP table. **Note:** If CAC is being used and an ID is scanned that has more than the specified **Limit** of digits, then the **Table** and **Field** will be ignored.

Keyboard Wedge Settings Window (Continued)

Form Element	Comment
Field	Select the field in the selected table in the ReadkeyPRO database that you wish to search on when keyboard input is detected. If searching for badge ID numbers, select ID (in the BADGE table), and if searching for social security number, select SSNO (in the EMP table). **Note:** If CAC is being used and an ID is scanned that has more than the specified **Limit** of digits, then the **Table** and **Field** will be ignored.
If length of input exceeds limit, assume CAC barcode	If selected, CAC (Common Access Card) barcodes can be used. This allows military code 3of9 barcodes to be scanned and decoded into the cardholder's social security number. If you do not wish to use this feature, leave this check box deselected. If this check box is selected, you must specify an appropriate **Limit**. When this check box is selected and an ID is scanned, the number of digits will be examined. • If the number of digits is less than or equal to the **Limit**, then the system will search on the **Table** and **Field**. • If the number of digits is greater than the **Limit**, then the system will assume the ID was a CAC, decrypt the social security number, and search the social security number up.
Limit	The **Limit** field is only enabled when the **If length of input exceeds limit, assume CAC barcode** check box is selected. If the **Limit** is set to zero, then only CAC can be read. Setting a limit greater than zero enables the system to recognize two different formats. When an ID is scanned, the number of digits will be examined. • If the number of digits is less than or equal to the **Limit**, then the system will search on the **Table** and **Field** using the **Max length**, **Start**, and **End** settings. • If the number of digits is greater than the **Limit**, then the system will assume the ID was a CAC, decrypt the social security number, and search the social security number up.
Ignore non-numeric data	If selected, non-numeric data is removed and not counted as a placeholder. This is important for scans that include dashes in the social security number. For example, if an ID is scanned that has 123-45-6789 encoded, the system will search for 123456789.
Max length	A maximum length must be provided if the wedge scanner does not automatically provide a line feed carriage return. This allows the wedge scanner to be used as long as the length of the scan is always the same (i.e., social security number). If 0 or -1 is specified, then the whole string will be read in.

Keyboard Wedge Settings Window (Continued)

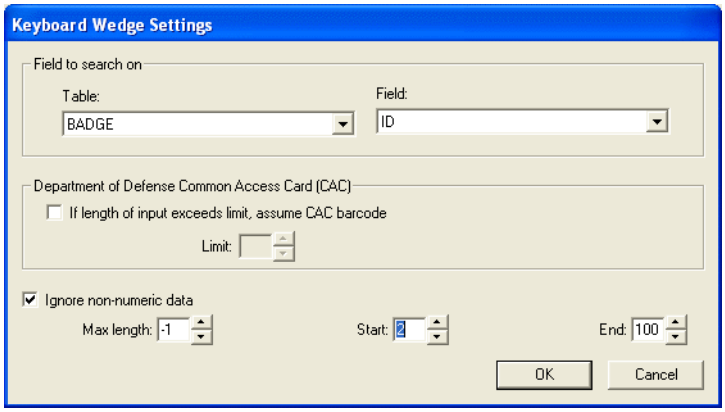
Form Element	Comment
Start	The **Start** field works in combination with the **End** field. When an ID is scanned, a string of numbers are read. As long as the ID is not a CAC, that string of numbers typically contains the actual badge ID or social security number. For a CAC, that string of numbers doesn't contain the actual social security number, but ReadkeyPRO does "decrypt" the social security number from the string. The **Start** position is important because the string of numbers may contain other numbers in addition to what is being searched for; it is the first position in the string of numbers that contains a digit of what is being searched for. The **End** position is the last digit of what is being searched for. The **End** position should be greater than or equal to the **Start** position. Take for example the string 123456789. If 4 is the **Start** position and 7 is the **End** position, then the ReadkeyPRO system will search on 4567. If you specify an **End** position that is less than the **Start** position, ReadkeyPRO assumes the end is 255. Therefore, for the string 123456789 with 4 as the **Start** and 3 as the **End**, ReadkeyPRO would search on 456789.
End	The **End** field works in combination with the **Start** field. As long as the ID is not a CAC, that string of numbers typically contains the actual badge ID or social security number. For a CAC, that string of numbers doesn't contain the actual social security number, but ReadkeyPRO does "decrypt" the social security number from the string. The **Start** position is important because the string of numbers may contain other numbers in addition to what is being searched for; it is the first position in the string of numbers that contains a digit of what is being searched for. The **End** position is the last digit of what is being searched for. The **End** position must be greater than or equal to the **Start** position. Take for example the string 123456789. If 4 is the **Start** position and 7 is the **End** position, then the ReadkeyPRO system will search on 4567. If you specify an **End** position that is less than the **Start** position, ReadkeyPRO assumes the end is 255. Therefore, for the string 123456789 with 4 as the **Start** and 3 as the **End**, ReadkeyPRO would search on 456789.
OK	Applies the selected wedge scanner settings and closes the Keyboard Wedge Settings window.
Cancel	Closes the Keyboard Wedge Settings window without applying any changes made.

Keyboard Wedge Settings Window Procedures

Configure a Wedge Scanner

How the ReadkeyPRO system interprets the information it receives from a wedge scanner can be configured by doing the following:

1. In System Administration, ID CredentialCenter, Visitor Management, or View/Edit Only, select **Cardholders** from the **Administration** menu. In Alarm Monitoring, click the  toolbar button.
2. Select **Keyboard Wedge Settings** from the **Cardholder** menu.
3. The Keyboard Wedge Settings window opens.



   a. Specify the **Table** and **Field** you wish to search on when non-CAC input is detected. By default, the system searches on the ID field in the BADGE table. If for example you wanted to search based on social security number instead of badge ID, you would select the SSNO field in the EMP table.

   b. If CAC (Common Access Card) barcodes will be used, select the **If length of input exceeds limit, assume CAC barcode** check box and specify the limit. This allows military code 3of9 barcodes to be scanned and decoded into the cardholder's social security number. If you do not wish to use this feature, leave this check box deselected.

   c. Select whether to ignore non-numeric data. By default, the **Ignore non-numeric data** check box is selected. This is important for scans that include dashes in the social security number.

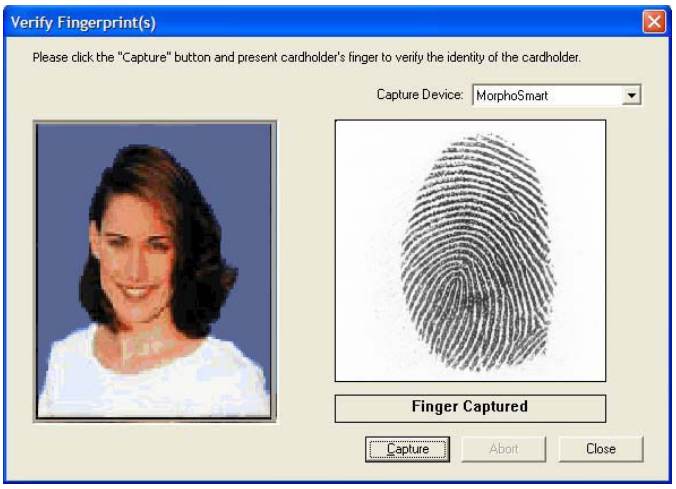
   d. Specify the maximum length in the **Max length** field. A maximum length must be provided if the wedge scanner does not automatically provide a line feed carriage return. This allows the wedge scanner to be used as long as the length of the scan is always the same (i.e., social security number).

Note: If 0 or -1 is specified, then the whole string will be read in.

e. Specify the start and end. In a string of numbers that contains a search criteria (typically social security number or badge ID), start and end are the first and last position, respectively, that contain the search criteria.

f. Click [OK].

Verify Fingerprint(s) Dialog



Fingerprint Verification with PIV Cards

When fingerprint data is imported from PIV cards, the Verify Fingerprint(s) dialog will be displayed allowing you to capture the cardholder's live fingerprint for comparison against the fingerprint encoded on the PIV card. If the PIV card is encoded with a facial image, it is displayed for additional verification.

Important: Fingerprint verification is optional. To verify fingerprints, select the **Verify fingerprints on import** check box on the Cardholder Options Folder > General Cardholder Options form in System Administration. For more information, refer to Cardholder Options Folder - General Cardholder Options Form on page 498.

Verify Fingerprint(s) Dialog

Dialog Element	Comment
Facial image from PIV card	If a facial image is encoded on the PIV card, it is displayed in the left pane of the dialog for verification of the cardholder's identity.
Capture Device	From the drop-down list, select the fingerprint scanning device you are using to capture the fingerprint.
Live fingerprint	The captured fingerprint is displayed in the left pane. This image is compared against the fingerprints encoded on the PIV card.
Status display	Messages and on-screen prompts are displayed in the status box below the fingerprint image.
Capture	Click this button to begin capturing the fingerprint.
Abort	Click this button to stop the capture operation.
Close	Click this button to close the dialog.

Verify Fingerprint(s) Dialog Procedures

Verify Fingerprints from a PIV Card

1. When the Verify Fingerprint(s) dialog is displayed, follow the on-screen prompts provided in the status box below the fingerprint image. You will be guided through the process of capturing and verifying the fingerprints.
2. From the **Capture Device** drop-down select the device you will use to capture the fingerprints.
3. When prompted, the cardholder presents his/her finger to the capture device.
4. Click [Capture].
5. If the fingerprints match, a successful issuance is registered with ReadkeyPRO. However, if fingerprint verification fails, the card is terminated and recycled.

Note: If the PIV card contains a facial image, it is displayed with the captured fingerprint image for additional verification of the cardholder.

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6. To stop the capture operation, click [Abort].

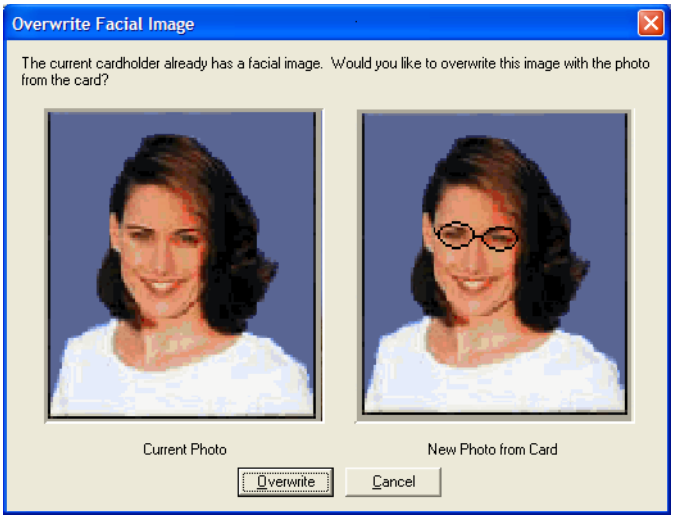
Import Fingerprints from a PIV Card

To import the fingerprints encoded on the PIV card into the database:

Important: Ensure the **Import fingerprints from card into database** check box is selected in the Cardholder Options Folder > General Cardholder Options Form in System Administration. For more information, refer to Cardholder Options Folder - General Cardholder Options Form on page 498.

Note: When importing data from a PIV card after adding, modifying, or searching on a badge (NOT a cardholder), cardholder-specific data that is imported (**Last name**, **First name**, **Middle name**, and **Cardholder ID**) is not overwritten even though it is displayed in the grayed-out fields. However, the cardholder photo is imported if the user confirms replacement of the existing photo.

Overwrite Facial Image Dialog



After fingerprint verification, if the cardholder already has a photo, the Overwrite Facial Image dialog is displayed allowing you to import the facial image from the PIV card and overwrite the current cardholder photo with it.

Note: Existing cardholder photos are NOT automatically overwritten. If there is an existing cardholder photo, the Overwrite Facial Image dialog is displayed

with the current photo and the photo from the card allowing the user to choose which one to use.

Overwrite Facial Image Dialog

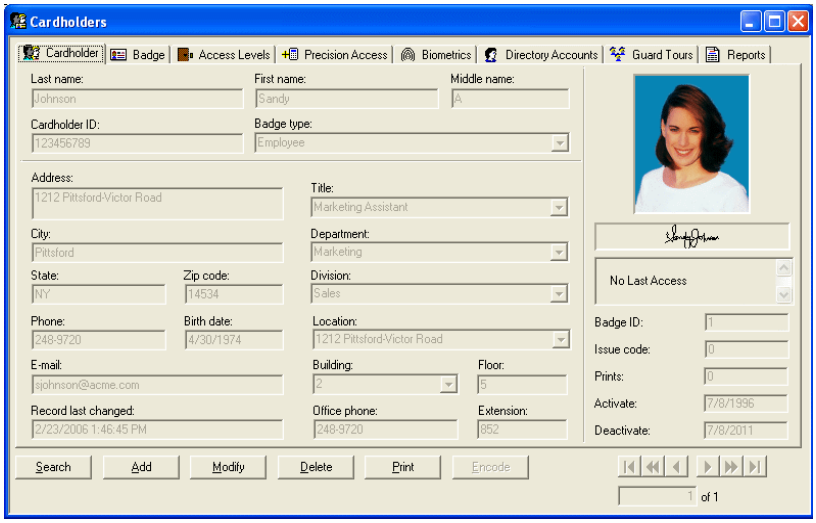
Dialog Element	Comment
Current Photo	Displays the cardholder's current photo.
New Photo on Card	Displays the facial image encoded on the PIV card.
Overwrite	Click this button to replace the current photo with the one on the PIV card.
Cancel	Click this button if you do not wish to overwrite the current photo.

Overwrite Facial Image Dialog Procedure

Replace Cardholder Photo with Facial Image on PIV Card

1. If the Overwrite Facial Image dialog is displayed, compare the facial image from the PIV card with the current cardholder photo.
2. Click [Overwrite] to replace the current cardholder photo with the one from the PIV card.
3. If you do not wish to replace the current cardholder photo, click [Cancel].

Cardholder Form



Cardholder Form Overview

In the System Administration and ID CredentialCenter applications, the Cardholder form is used to:

- Define a cardholder.
- Enter or import demographic information into the cardholder record.
- Choose a badge type for the cardholder.
- Access Multimedia Capture (subject to licensing restrictions).

In the Visitor Management application, the Cardholder form is used to search for a cardholder.

Cardholders Folder - Cardholder Form

Form Element	Comment
Cardholder data	Displayed in view mode. When adding or modifying a cardholder record, enter the cardholder's information such as name, address and department into these fields.
Record last changed	Displayed in view mode and indicates the date on which the selected cardholder record was last modified and saved. This date is updated only when cardholder information is changed, not when badge information is changed. The last changed date is saved individually for each badge record as well.

Import Cardholder/Visitor Data

Users can import demographic data stored on business cards, passports, driver's licenses, identification (ID) cards, and smart cards during cardholder/visitor add, modify, or search operations. Refer to the Cardholder/Visitor Import table on page 129 for a summary of the hardware used to import demographic data and the user-defined fields (UDF) that must be mapped in FormsDesigner to import data into the Cardholder form.

Note: Licenses are required to import cardholder data and are based on the number of scanning terminals used.

Prerequisites

System Administrators should complete the following steps in order to prepare ReadkeyPRO to import information:

1. Configure the reader/scanner communication settings including the workstation to which it is connected. Refer to the third column in the

Cardholder/Visitor Import table on page 129 to determine if you have to configure the reader/scanner in ReadkeyPRO and if so, what the device type would be. For more information, refer to the Encoders/Scanners form.

Note: Some reader/scanners do not need to be configured in the ReadkeyPRO application. Simply load the drivers onto the encoding/scanning workstation.

2. Map the demographic data to the appropriate user-defined fields in Forms Designer. For more information, refer to the FormsDesigner User Guide.
3. For PIV cards:
   a. Configure the fingerprint settings in the General Cardholder Options form. For more information, refer to General Cardholder Options Form Overview on page 498.
   b. Ensure the PIV card is inserted in the PC/SC encoder/scanner.

Cardholder/Visitor Import

Source	Hardware scanner	License required	Device Type to select in Workstations folder	Import Source to select	UDF
Business card	Corex CardScan scanner	No	NA	Corex CardScan scanner	vCard
Passport	ScanShell 1000-A Terminal	Yes	NA	ID Scan	DMV/ Passport
Driver's license	ScanShell 800-R Terminal	Yes	NA	ID Scan	DMV/ Passport
	ScanShell 1000-A Terminal	Yes	NA	ID Scan	DMV/ Passport
	ID-Check Terminal	Yes	ID-Check Terminal	ID-Check Terminal	DMV/ Passport
Identification card	ScanShell 800-R Terminal	Yes	NA	ID Scan	DMV/ Passport
	ScanShell 1000-A Terminal	Yes	NA	ID Scan	DMV/ Passport
	ID-Check Terminal	No	ID-Check Terminal	ID-Check Terminal	DMV/ Passport
GSC (iCLASS) smart card	HID iCLASS	Yes	HID (iCLASS) reader/encoder	GSC (iCLASS) smart card	CAC GSC FASC-N
PIV card	PC/SC encoder/scanner	No	PC/SC encoder/ scanner	PIV card	PIV FASC-N

Cardholder/Visitor Import

Source	Hardware scanner	License required	Device Type to select in Workstations folder	Import Source to select	UDF
TWIC card	PC/SC encoder/scanner	No	PC/SC encoder/ scanner	TWIC card PIV card	PIV FASC-N

Corex Business Card Scanner

Using Corex Business Card scanners, users can import demographic data into the Cardholder form from business cards.

The Corex Business Card scanners are not configured in ReadkeyPRO as encoder/scanners. Simply load the drivers onto the encoding/scanning workstation and the Corex CardScan scanner will be an option on the Select Import Source dialog.

Only data that is mapped to the appropriate vCard -UDF or DMV-UDF field in FormsDesigner is imported into the Cardholder form.

GSC (iCLASS) Card

Using HID (iCLASS) readers/scanners, users can import demographic data into the Cardholder form from GSC (iCLASS) smart cards.

Only data that is mapped to the appropriate CAC, GSC, or FASC-N-UDF fields in FormsDesigner is imported into the Cardholder form.

Note: If badge information is stored on the smart card, you will have to assign a badge type during import.

ID Scan

Using the ID Scan scanners, users can import demographic data on driver licenses, identification cards, and passports issued by various Countries and State and Provincial Departments of Motor Vehicles.

Note: Not all the state and provincial DMV's currently encode their driver's license and identification cards. Therefore, not all state driver licenses are supported.

Note: Importation of cardholder and visitor data with ScanShell 800-R and ScanShell 1000-A CSS devices is now licensed. This license allows only a

certain number of CSS devices, dictated by the license, to be configured through workstations and scanners.

The ScanShell 800-R is the regular scanner that scans driver's licenses and uses OCR to extract data off of them. The ScanShell 1000-A performs the same function plus passport scanning.

Only data that is mapped to the appropriate DMV-UDF fields in FormsDesigner is imported into the Cardholder form.

Data Import

Users will be prompted to select an ID, barcode, or passport during the scanning process. When ID scanning is selected users will have to select the country and the state/region of the driver license. However, when U. S. is selected (as the country), users will have an option to select auto detect (for the state). When auto detect is selected ID scan attempts to detect the state of the driver license that is being scanned.

ID-Check Terminal

Using the ID-Check Terminal scanner, users can import demographic data on driver licenses and identification cards issued by various State and Provincial Departments of Motor Vehicles. These credentials usually use any combination of a 3-track magnetic stripe, 2D barcode, and 1D barcode. Only data that is mapped to the appropriate DMV-UDF field in FormsDesigner can be imported.

Notes: Not all state and provincial DMV's are supported.

ReadkeyPRO supports ID-Check terminals (IDC-1400) version 5.4 and later.

Note: Importation of cardholder and visitor data with the ID-Check Terminal is now licensed. This license allows only certain number of ID-Check Terminal devices, dictated by the license, to be configured.

PIV Card

Using a PC/SC encoder/scanner, users can import data into the Cardholder form from PIV cards.

Only data that is mapped to the appropriate PIV-UDF or FASC-N-UDF fields in FormsDesigner is imported into the Cardholder form.

After selecting the PIV card as the data import source, the user must enter their PIN number to authenticate the process.

Fingerprint Verification and Import

Users will be prompted to verify the cardholder's fingerprint(s) and the photo on the PIV card is presented for further verification. Fingerprints from the card may be imported as well. For more information, refer to Fingerprint Verification with PIV Cards on page 124 and Import Fingerprints from a PIV Card on page 126.

Photo Replacement

If a photo is encoded on the PIV card, the user may elect to replace the current cardholder photo with the one on the card. For more information, refer to Replace Cardholder Photo with Facial Image on PIV Card on page 127.

TWIC Card

Using a PC/SC encoder/scanner, users can import data into the Cardholder form from TWIC cards which contain both TWIC and PIV data.

Only data that is mapped to the appropriate PIV-UDF or FASC-N-UDF fields in FormsDesigner is imported into the Cardholder form.

After selecting either the TWIC card or PIV card as the data import source, the user must enter their PIN number to authenticate the process.

Import Cardholder Data

1. Select **Cardholders** from the **Administration** menu for all applications except Alarm Monitoring. (In Alarm Monitoring, select **Badge Info** from the **View** menu.)
2. The Cardholders folder opens. Click [Add].

Note: The Import function is also available if the user searches for or modifies a cardholder/visitor or badge.

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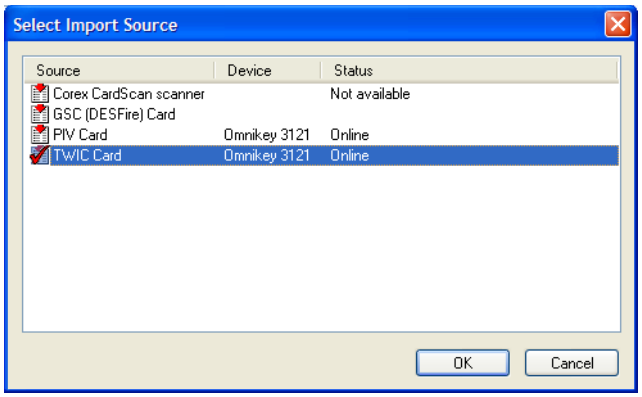
3. Click [Import].
4. In the Select Import Source window, select the import source available for this workstation. For more information, refer to the Cardholder/Visitor

Import table on page 129.



Note: Import devices are configured in System Administration. In System Administration, select **Encoders/Scanners** from the **Workstations** menu.

5. Click [OK].
6. Perform the instructions that display to complete the import data process.

Cardholder Form Procedures

Add a Cardholder Record

1. Select **Cardholders** from the **Administration** menu. The Cardholders folder opens.
2. By default, the Cardholder form is displayed. Click [Add].
3. From the **Person type** drop-down list, select **Cardholders**.

Note: The **Person type** drop-down list is subject to licensing restrictions. If this field is not displayed, move on to the next step.

4. Enter the cardholder's name and any additional information in the cardholder data fields.

Note: You can switch to other tabs and modify the other forms at this time.

5. If you want to add a photograph or signature to the cardholder record, click [Capture]. Multimedia Capture opens. For more information, refer to

Appendix C: Multimedia Capture on page 1369.

6. Enterprise users only: If you are adding a cardholder on a Regional server, select how the record will be replicated in the **Replication** drop-down list.
   - If you select "All Regions", the cardholder record will be sent to the Master server when replication occurs, and the record will then be sent to ALL Regional servers when they replicate.
   - If you select "Local Regions Only", the cardholder record will be stored on the local Regional server where it was added. The record will also be sent to the Master server.
7. Click [OK] to save the record.

Modify a Cardholder Record

1. Locate the cardholder record you want to change.
2. Click [Modify].
3. Make the changes you want to the record.
4. Click [OK] to save the changes, or [Cancel] to revert to the previously saved values.

Delete a Cardholder Record

1. Locate the cardholder record you want to delete.
2. Click [Delete].
3. Click [OK].

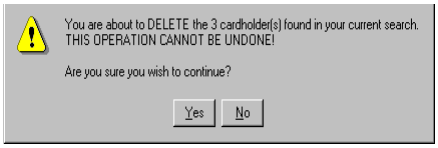
Note: If you delete the cardholder record, all associated records (Badge, Access Levels, Precision Access, Biometrics, Assets, Directory Accounts, Guard Tours and Visits) for the cardholder are also removed from the database.

Delete a Selected Group of Cardholder Records

Warning

This is a powerful feature that cannot be undone. Use caution when performing a bulk deletion of cardholders to ensure that you only delete the cardholders you want to eliminate from your database.

1. Locate the cardholder records you want to delete using the search function. The bulk delete operation will act on **all** cardholders that result from the current search.
2. Select **Bulk** > **Delete Cardholders in Search** from the **Cardholder** menu. The following message is displayed:



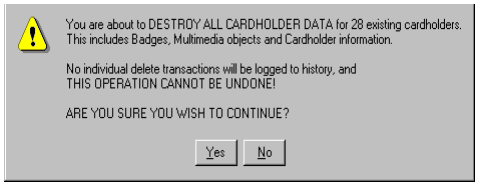
3. Click [Yes].

Destroy all Cardholder Data

Warning

This feature will wipe out all cardholder and badge information from the database without any transaction logging and cannot be undone. This function is mainly intended for wiping out data after a system has been installed and tested. For example, when you are first setting up the system and have imported cardholder data but you wish to change and redo the import. This function provides a quick way to wipe out all existing cardholder data.

1. Select **Bulk** > **Destroy ALL Cardholder Data** from the **Cardholder** menu. The following message is displayed:



2. Click [Yes] to confirm the deletion of all cardholder data.

Visitor Form

To provide integration with Visitor Management, visitor records can be searched and viewed in the Cardholders folder. When the current record is a visitor, the first tab in the window changes from Cardholder to Visitor and will display the appropriate fields.

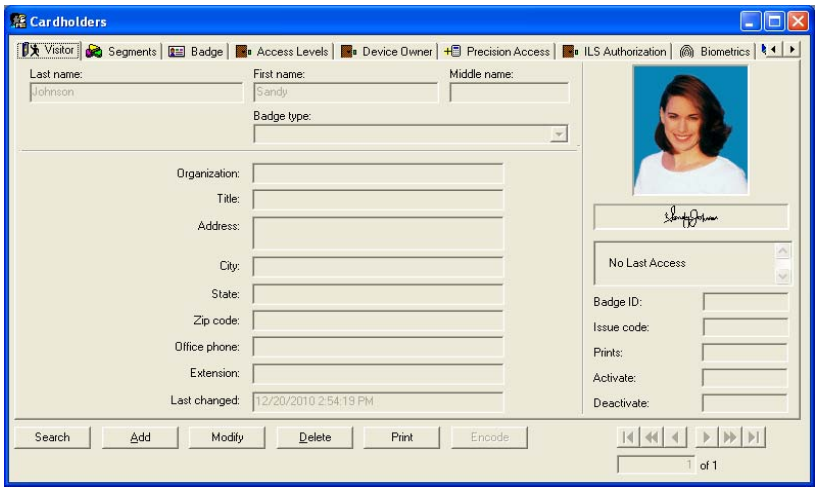
If you select the [Add] button on the Cardholder form, or the [Search] button on any of the forms in the Cardholders folder, the **Person type** drop-down list is displayed in the bottom section of the form.

The drop-down list choices are:

- All - when selected, your search will locate both Cardholder and Visitor records
- Cardholders - when selected, your search will only locate cardholder records
- Visitors - when selected, your search will only locate visitor records

Notes: With the exception of the **Allowed visitors** check box and the [Capture] button (in modify mode only) on the Visits form, visit records cannot be added, modified, or deleted from the Cardholders folder. To add, modify, or delete visits, you must purchase Visitor Management.

The availability of this form is subject to licensing restrictions.



Cardholders Folder - Visitor Form

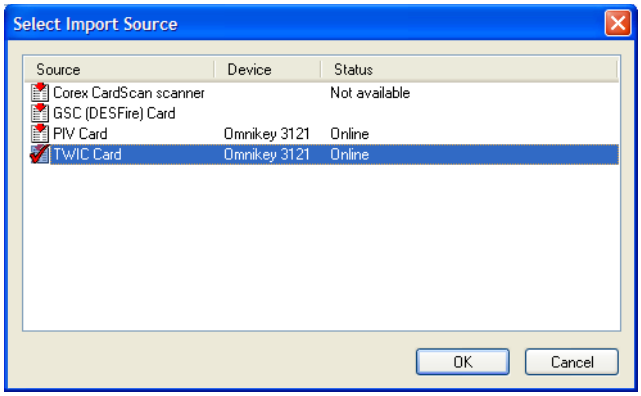
Form Element	Comment
Visitor data	Displayed in view mode. When adding or modifying a visitor record, enter the visitor's information such as name, address and organization into these fields.
Last changed	Displayed in view mode and indicates the date on which the selected visitor record was last modified and saved. This date is updated only when visitor information is changed, not when badge information is changed. The last changed date is saved individually for each badge record as well.

Visitor Form Procedures

Import Visitor Data

For more information, refer to Import Cardholder/Visitor Data on page 128.

1. In Alarm Monitoring, select **Badge Info** from the **View** menu. In all other applications, select **Cardholders** from the **Administration** menu.
2. The Cardholders folder opens. Click [Add].
3. Click [Import].
4. In the Select Import Source dialog, select the import source available for this workstation. Click [OK].



Note: Import sources are configured in System Administration under the Workstations folder > Encoders/Scanners form.

5. Follow the instructions that display. They should explain how to scan and execute the import data transaction.

Add a Visitor Record

1. Select **Cardholders** from the **Administration** menu. The Cardholders folder opens. By default, the Cardholder form is displayed.
2. Click [Add].
3. From the **Person type** drop-down list, select **Visitors**.
4. Enter the visitor's name and any additional information in the visitor data fields.

Note: You can switch to other tabs and modify the other forms at this time.

5. If you want to add a photograph or signature to the visitor record, click [Capture]. Multimedia Capture opens. For more information, refer to Appendix C: Multimedia Capture on page 1369.
6. Click [OK] to save the record.

Modify a Visitor Record

1. Locate the visitor record you want to change.
2. Click [Modify].
3. Make the changes you want to the record.
4. Click [OK] button to save the changes, or the [Cancel] button to revert to the previously saved values.

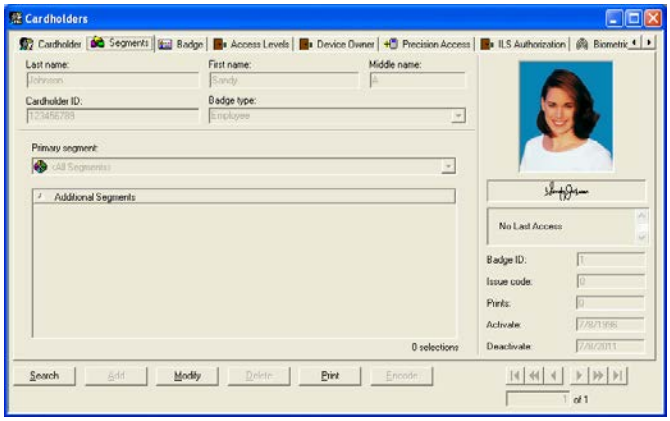
Delete a Visitor Record

1. Locate the visitor record you want to delete.
2. Click [Delete].
3. Click [OK].

Note: If you delete the visitor record, all associated records (Badge, Access Levels, Precision Access, Biometrics, Assets, Directory Accounts, Guard Tours and Visits) for the visitor are also removed from the database.

Segments Form

Note: The Segments tab is only displayed if segmentation is enabled on your system.



Segments Form Overview

With segmentation enabled you may see “Restricted Entry” in the cardholder drop-down boxes. This simply means you do not have the segment permissions to view the currently configured item for cardholder.

The Segments form is used to:

- Modify a cardholder’s segment assignment.
- Change a group of cardholder’s segments.

Cardholders Folder - Segments Form

Form Element	Comment
Primary segment	In modify mode, select which primary segment you want the selected cardholder to be assigned to. A cardholder can be assigned to a primary segment and as well as additional segments.
Additional Segments listing window	Lists all of the segments that have been configured in the system. For more information, refer to Chapter 17: Segments Folder on page 533.
Number of selections	Displays the number of segments that have been selected in the **Additional Segments** listing window. For example: 2 selections.

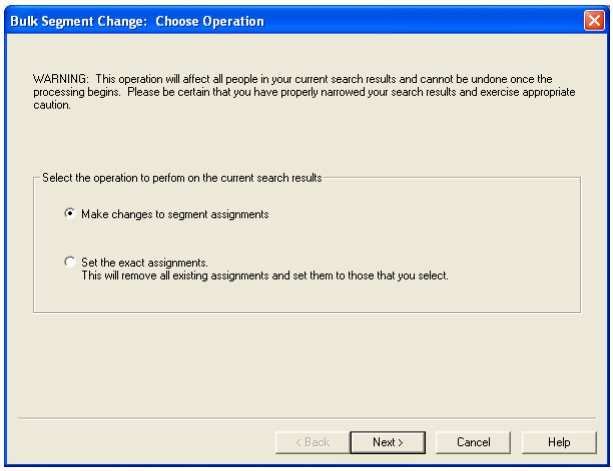
Segments Form Procedures

Modify a Cardholder's Segment Assignment

1. Select **Cardholders** from the **Administration** menu. The Cardholders folder opens.
2. Select the Segments tab.
3. Locate the cardholder record that you want to modify.
4. Click [Modify].
5. From the **Primary segment** drop-down list, select which primary segment you want the selected cardholder to be assigned to.
6. If you want to assign additional segments (if any exist), click on an entry in the **Additional Segments** listing window to select it. You can select multiple entries.
7. Click [OK].

Change a Group of Cardholder's Segments

1. Locate the group of cardholder records you want to change.
2. Select **Bulk** > **Change Cardholder Segments** from the **Cardholder** menu. The **Bulk Segment Change** window opens.



3. Select the **Make changes to segment assignments** radio button or select the **Set the exact assignments** radio button if you want all assignments that

exist for the cardholders in your group to be replaced with the new assignments you select.

4. Click [Next].
5. Select which primary segment you want the selected groups of cardholders to be assigned to.
6. If you selected the **Set the exact assignments** radio button in step 3, and if you want to assign additional segments (if any exist), click on an entry in the **Segments** listing window to select it. You can select multiple entries.
7. Click [Next]. If you selected "All Segments" in step 5, proceed to step 10.
   If you selected the **Make changes to segment assignments** radio button in step 3:
   a. From the **Segments** listing window, select any assignments you want to add in addition to the primary segment.
   b. Click [Next].
   c. If there are segment assignments you want to remove from the group, click on an entry in the **Segments** listing window to select it. You can select multiple entries.
   d. Click [Clear] to remove the assignment.
   e. Click [Next].
8. If you want to perform preliminary validation and be prompted with the results before proceeding, select the **Perform preliminary validation and prompt for confirmation** radio button. Select the **Prompt only if a problem is found** check box if you do not want to a prompt for confirmation if there is no validation problem.
   If you do not want to be prompted, select the **Skip preliminary validation and perform the operation without prompting** radio button.
9. Click [Next].
10. Click [Finish].
    - If you selected the **Skip preliminary validation and perform the operation without prompting** radio button in step 8 or if you selected "All Segments" in step 5, the **Bulk Action Results** window opens and displays a summary of your modifications. Click [OK].
    - If you selected the Perform preliminary validation and prompt for confirmation radio button in step 8 and a problem was found, the Bulk Segment Validation Results window opens.
      a. Click [View Badges]. An explanation of the problem is displayed.
      b. Click [OK].
      c. Click [Continue]. The **Bulk Action Results** window opens and displays a summary of your modifications.
      d. Click [OK].

Badge Form

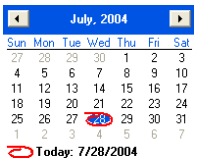
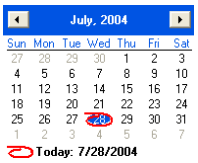
Badge Form (View Mode)

Badge Form (Modify Mode)

Cardholders Folder - Badge Form

Form Element	Comment
Badge listing window	Displayed in view mode. Lists all badges for the selected cardholder. If you right-click on a badge in this listing window, the following options are available: • One Free Pass - If selected, allows the selected badge to violate anti-passback rules one time. This is the same as selecting **One Free Pass** from the **Cardholder** menu. • APB Move Badge - If selected, displays the Area Move Badges window from where you can move a badge to a new area. This is the same as selecting **APB Move Badge** from the **Cardholder** menu. • Encode - If selected, displays the Encode Badge window from where you can encode the badge configurations selected for this badge onto a smart card. This is the same as clicking [Encode]. • Encoding History - Displays historical encoding information for the selected badge including card format, type, encoding count, and last time encoded. • Import Badge - Displays the Import Card window, in which you may select a reader to import cards from. • Import Badge ID - Displays the Encoder selection list window, in which you may select an encoder to read a badge ID from. In order for this option to be available for selection and function correctly: An encoder with the **Device type** "Digion24 (MIFARE)" must be configured in **Administration** > **Workstations** > Encoders/Scanners tab. The selected badge must be associated with a badge type that has "Import from card" selected in the **Generate badge ID** field in **Administration** > **Badge Types** > Badge ID Allocation tab > ID Allocation sub-tab. The system should have **Maximum badge number length** set to "10" in **Administration** > **System Options** > Hardware Settings tab.
Badge ID	Displayed in add or modify mode. Indicates the numeric identifier that is assigned to this badge. The maximum Badge ID length is determined in System Administration or ID CredentialCenter in the System Options folder > Hardware Settings form (non-segmented systems) or the Segments folder > Segments form > Hardware Settings sub-tab (segmented systems).
Issue code	Displayed in add or modify mode. Indicates the selected badge's issue code if your installation uses issue codes on its badges.

Cardholders Folder - Badge Form (Continued)

Form Element	Comment
Activate	Displayed in add or modify mode. Indicates the date when the selected badge becomes valid. The current date (at the time the badge record is created) is entered by default, but you can change this value by typing a numeric date into the field, or by selecting a date from the drop-down calendar.  • To select a month, click on the  and  navigation buttons. • You can also select a month by clicking on the displayed month to access a drop-down list of months. Highlight the month you want to select it. • Navigate to a year by clicking on the displayed year to access the year spin buttons  . • Once you have selected a month and a year, click on the day that you want the selected badge to activate on.
Deactivate	Displayed in add or modify mode. Indicates the date when the selected badge becomes invalid. A default date is assigned based on the **Badge type**, but you can change this value by typing a numeric date into the field, or by selecting a date from the drop-down calendar.  • To select a month, click on the  and  navigation buttons. • You can also select a month by clicking on the displayed month to access a drop-down list of months. Highlight the month you want to select it. • Navigate to a year by clicking on the displayed year to access the year spin buttons  . • Once you have selected a month and a year, click on the day that you want the selected badge to deactivate on.
Status	Displayed in add or modify mode. Indicates the badge status for the selected badge. Status drop-down list choices are defined on the Simple Lists form of the List Builder folder.

Cardholders Folder - Badge Form (Continued)

Form Element	Comment
PIN	Displayed in add or modify mode. Indicates the personal identification number for the selected badge. PIN numbers are used in conjunction with card readers that are operating in "Card and Pin," or "Pin or Card," mode. The maximum PIN length is determined by the **PIN type** field in the Access Panels folder. For increased security, PIN codes are not viewable by any user. However, if the system is configured to randomly generate a new PIN code when adding a badge, the user can see the PIN code when they first add the badge (but not later).
Use limit	Displayed in add or modify mode. Imposes a restriction on the number of times a cardholder can use his/her badge at readers marked with the "Enforce Use Limit" option. A use limit value of zero (0) indicates that a badge has no uses at readers that enforce a use limit. A use limit value of 255 or that is left empty indicates that the badge has unlimited uses. **Note:** Users who have upgraded to this current build should note that the Use Limit feature has changed. Having a use limit of "0" no longer means unlimited. It now means none. A use limit of "255" now means unlimited. Also, performing a download of your system will no longer reset the uses count. **Note:** When the use limit for a badge is modified the uses left are updated to reflect the new use limit assigned. For example, if you have 10 total uses and have already used 5 (so 5 are left), and you increase the Use limit to 15, the panel will be updated so the uses left will be 10. Conversely if you have a badge with 10 total uses and have already used 5 (so 5 are left), and you decrease the Use Limit count to 8, the panel will be updated so the uses left will be 3. **Note:** Making changes to the use limit feature while your system is offline with the host may cause the badges to become out of synch with the panel.
APB exempt	Displayed in add or modify mode. When this check box is selected, any anti-passback violation for the selected badge will granted access into the anti-passback area with no violation noted in the Alarm Monitoring application.
Destination exempt	Displayed in add or modify mode. Select this check box if you want the selected badge record to be exempt from destination assurance processing. When selected, the badge will not be included in the destination assurance processing and no alarms will be generated if the cardholder violates any of the destination assurance settings. Via the Reports folder, you can run a Destination Assurance Exempt Cardholders report to see a list of which cardholders will be exempt from processing. For more information, refer to Chapter 37: Destination Assurance Folder on page 953.
Use extended strike/held times	Displayed in add or modify mode. When this check box is selected, extended held open and extended strike times will be used for the selected badge. **Note:** This option is supported by Bosch hardware only.
Override blocking	Select this to give the cardholder assigned to this badge the ability to unlock a door that has been blocked with a blocking card. Locks are blocked to deny entrance in unusual cases such as a police investigation. It is important to leave this field deselected unless you are certain the user of this badge template should be able to open a blocked lock. For more information, refer to Configure Blocking Cards for Integra Locks on page 1544 and Configure Special Purpose Cards for ILS Offline/Wireless Locks on page 1576.

Cardholders Folder - Badge Form (Continued)

Form Element	Comment
Embossed	Displayed in add or modify mode. If applicable, enter in this field any numbers or characters that are embossed on the card. Typically this applies to Proximity cards, which are embossed by the manufacturer prior to delivery.
Default floor	Indicates which floor number is called by default when the badge is presented to a reader associated with the DEC (elevator terminal). Configure the Default floor -128 to 127. **Note:** Ensure the **Default floor** and its **Default door** is included in the **Allowed Floors** configured for the elevator terminal. For more information, refer to Elevator Terminal Form (Terminal Configuration Sub-tab) on page 974. **Note:** This field is only available when elevator dispatching is configured.
Default door	Indicates which elevator door (front or rear) is opened at the **Default floor** when the badge is presented to a reader associated with the DEC (elevator terminal). **Note:** This field is only available for elevator terminals associated with a version "V2" DES or DER elevator dispatching device. For more information, refer to Elevator Dispatching Configuration Overview on page 966.
Last changed	Displayed in add or modify mode. Indicates the date when the selected badge record was last saved.
Last printed	Displayed in add or modify mode. Indicates the most recent date that the selected badge was printed.

Badge Form Procedures

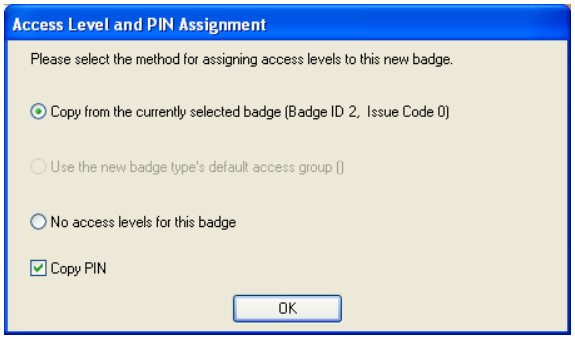
Add or Replace a Badge Record

1. In Alarm Monitoring, select **Badge Info** from the **View** menu. In all other applications, select **Cardholders** from the **Administration** menu.
2. Locate the existing cardholder/visitor record.
3. On the Badge tab, click [Add].
4. Select the badge type.
5. Enter the badge activation and deactivation dates.
6. Depending on how badge ID allocation is configured, you may need to manually enter a badge ID.
7. If the badge will be used for access control and access requires a card and/or personal identification number (PIN), ask the cardholder/visitor to enter a PIN.

Note: The length of PIN codes is configured in System Administration under the Access Panels folder > Options sub-tab and the Cardholder Options folder. If a PIN code is configured to be n-digits long and a cardholder enters a PIN code longer than n, the PIN code gets downloaded with the badge record, but

gets truncated at n digits. For example, if a cardholder enters “123456” and the PIN type is 4-digits, then “1234” gets downloaded.

8. Enter any additional information and click [OK].
9. If this is the only active badge assigned to the cardholder/visitor, you are finished. Otherwise, continue with the next step.
10. If the cardholder/visitor record already has an active badge, the Change Badge Status dialog opens, prompting you to change the status of the “old” badge. To do this:
    a. Verify the current active (old) badge is selected.
    b. Select the new status from the **New Status** drop-down list. Choices include the default badge status values, and any badge status values that were added in the List Builder folder.
    c. Click [OK].
    d. The Access Level and Pin Assignment dialog opens, prompting you to assign an access level and PIN to the recently added (new) badge.



Note: Select the No access levels for this badge radio button to manually assign access levels or to not assign access levels at all.

    e. Click [OK].

Modify a Badge Record

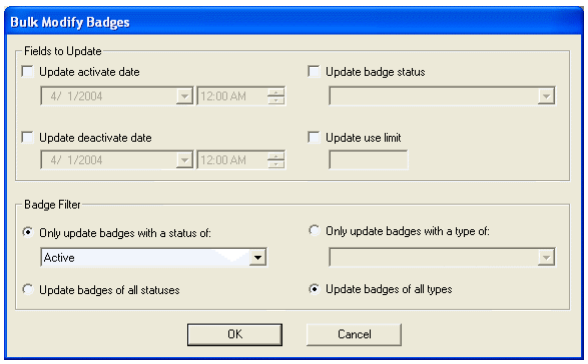
1. Locate the badge record you want to change.
2. Click [Modify].
3. Make the changes you want to the record.

Note: If the PIN type is modified on the Access Panel and/or the General Cardholder Options form, you must log off/log on before you modify a cardholder's pin number.

4. Click [OK] to save the changes, or the [Cancel] button to revert to the previously saved values.

Modify Badges for a Selected Group of Cardholders

1. Locate the group of cardholders whose records you want to modify.
2. Select **Bulk** > **Modify Badges** from the **Cardholder** menu. The Bulk Modify Badges window opens.



3. If you want to update the activation date, deactivation date, badge status, or use limit, do so in the Fields to Update section.

Note: The **Update use limit** field refers to the number of times a cardholder can use a badge at readers marked with the "enforce use limit" option. If you do update the use limit and leave the field empty it will be set to 255 (unlimited uses). In previous versions of ReadkeyPRO this would be set to 0, which now means 0 (or no) uses. Also note that a bulk use limit change updates a cardholder's previous use number. So, if a badge originally was set to 5 uses,

and has already used 3, and then a bulk update changed the use limit to 4, then the badge would only have 1 use left.

4. If you want to filter which badges from the selected group get modified, do so in the Badge Filter section. You can filter by badge status and/or badge type.
5. If you do not want to filter badges, select the **Update badges of all statuses** and/or **Update badges of all types** radio buttons.
6. Click [OK]. A message displays asking if you want to continue with the modification.
7. Click [Yes]. The Bulk Action Results window opens and displays a summary of your modifications.
8. Click [OK].

Encoding Prerequisites

Several steps must occur in ReadkeyPRO to properly encode a magnetic, Wiegand, or smart card. Each step occurs in a different folder in the ReadkeyPRO application.

1. In the Workstations folder > Encoding form, configure an inline or standalone encoder/scanner.

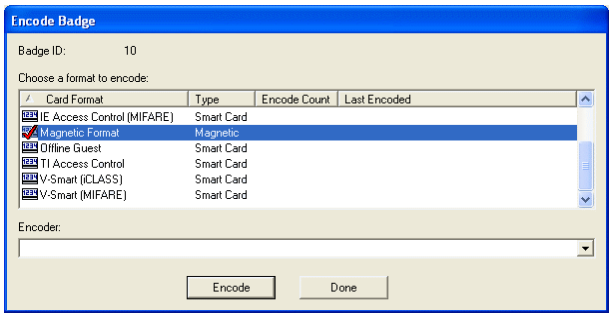
Note: You do not need to configure USB encoders/scanners (e.g. MIFARE Pegoda contactless smart card reader) in ReadkeyPRO applications. Simply install the drivers and attach the hardware to the workstation. This does not apply to the ScanShell 800-R/1000-A.

2. In the Card Formats folder, create a card format that will contain data to be encoded on a badge.
3. In the Badge Types folder > Encoding form, assign an encoding format to a badge type. In other words, assign a card format to be encoded on a badge of a specific type.
4. In the Cardholders folder, add a cardholder or visitor record to the database.
5. In Multimedia Capture, capture the cardholder/visitor's photo, signature, and/or biometric data.
6. In the Cardholders folder, encode the badge.

Encode a Badge

This procedure assumes the magnetic encoder has been set up and configured in System Administration on the **Administration** > **Workstations** > Encoders/ Scanners form.

1. Display a cardholder/visitor in the Cardholders folder. You can do this by enrolling a cardholder or searching for one or several cardholders.
2. Click [Encode]. he Encode Badge window opens.



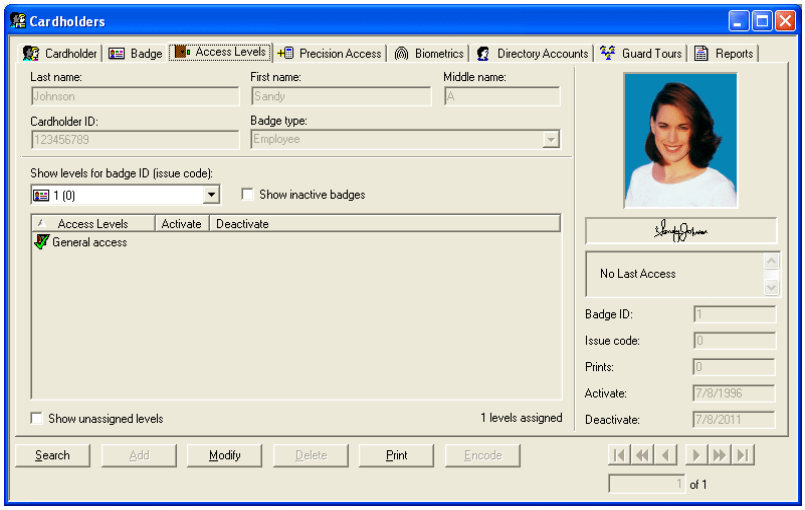
3. elect a format to encode and an **Encoder**, then click [Encode].
4. Follow the instructions that display on your monitor.

Delete a Badge Record

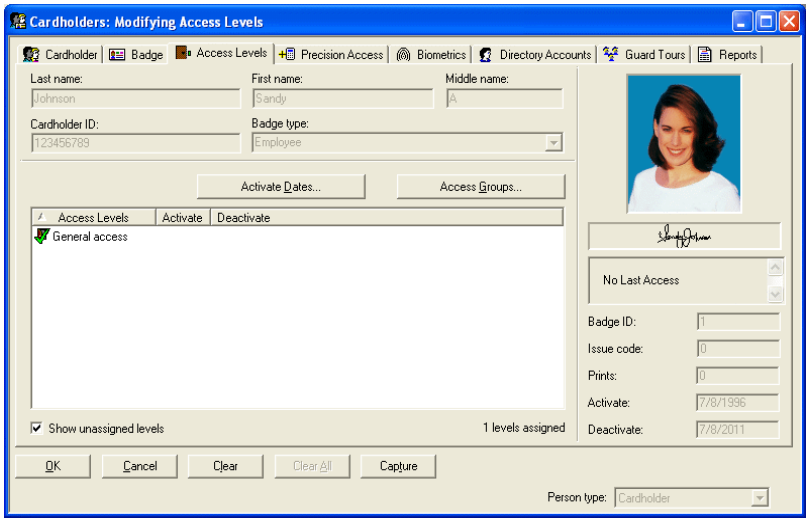
1. Locate the badge record you want to delete.
2. Click [Delete].
3. Click [OK].

Access Levels Form

Access Levels Form (View Mode)



Access Levels Form (Modify Mode)



Cardholders Folder - Access Levels Form

Form Element	Comment
Show levels for badge ID (issue code)	Displayed in view mode. Lists the badge ID and issue code (in parentheses) for the current active badge. If the **Show inactive badges** check box is selected, the list includes both the active and the inactive badge(s) assigned to the selected cardholder. Select a badge ID (issue code) from the list and the corresponding access levels for that badge will be displayed in the **Access levels** display.

Cardholders Folder - Access Levels Form (Continued)

Form Element	Comment
Show inactive badges	Displayed in view mode. When selected, the **Show levels for badge ID (issue code)** drop-down list will list both the active and inactive badge(s) assigned to the selected cardholder.
Access levels display	Displayed in a view and modify mode. When the **Show unassigned levels** check box is selected, lists both access levels that **have been** and that **can be** assigned to the selected cardholder/badge record. If the **Show unassigned levels** check box is not selected, only access levels that **have been** assigned will be listed. If they exist, also displays the access level's activation and deactivation dates.
Show unassigned levels	Displayed in view and modify mode. When selected, the **Access levels** display lists both access levels that **have been** and that **can be** assigned to the selected cardholder/badge record.
Number of levels assigned	Displayed in view and modify mode. Displays the number of access levels that have been assigned to the selected cardholder/badge record. For example: 6 levels assigned.
Intrusion Authority	**Note:** The authority levels assigned act as access levels. Make note of this as the maximum number of access levels is usually 32. This button is displayed in modify mode. When clicked, displays the Intrusion Authority Levels window from where you can assign intrusion authority levels. These levels will allow the cardholder the ability to issue commands via the keypad. For more information, refer to Chapter 31: Command Keypad Templates Folder on page 867.
Activate Dates	This button is displayed in modify mode. When clicked, displays the Access Level Activation Dates window from where you can select the dates when the selected access level will become valid and invalid.
Access Groups	This button is displayed in modify mode. When clicked, displays the Select Access Levels in a Group window from where you can choose the access level group that you want to select access levels from.

Access Levels Form Procedures

Note: HID Edge supports a maximum of eight (8) access levels per badge per Edge device. If you attempt to assign an access level to an HID badge that is over the 8 access levels per badge limit per device, it will not be assigned, and an error message will be displayed listing the 8 access levels already assigned to the badge.

Assign Access Levels to a Badge

1. Select **Cardholders** from the **Administration** menu. The Cardholders folder opens.
2. Select the Access Levels tab.
3. Locate the cardholder record for which you want to assign access levels.
4. From the **Show levels for badge ID (issue code)** drop-down list, select the badge you want to assign access levels to.

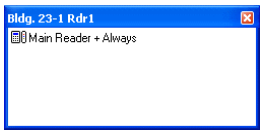
Note: If the **Show inactive badges** check box is selected, the **Show levels for badge ID (issue code)** drop-down list will list both the active and inactive badge(s) assigned to the selected cardholder.

---

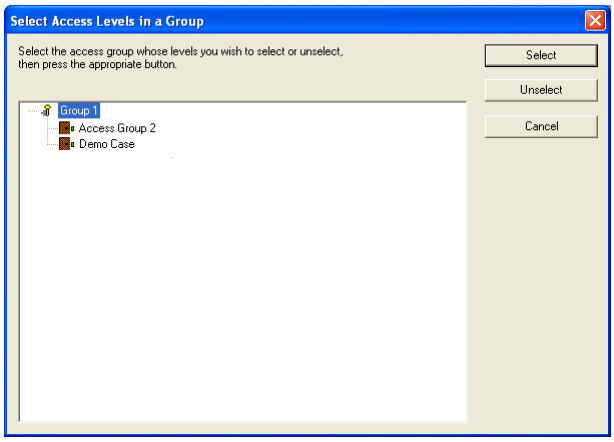
5. Click [Modify].
6. Select the **Show unassigned levels** check box. The **Access levels** display will list both access levels that **have been** and that **can be** assigned to the selected cardholder/badge record.

Note: To find out more about a particular access level, either double-click on an access level entry, or right-click on an access level entry and select **Level Definition**. A popup window opens, listing the reader/time zone

combinations that define the access level. For example:



7. Click on an access level in the **Access levels** display to select it.
   Optional: If you want to assign all the access levels that belong to an access group:
   a. Click [Access Groups]. The **Select Access Levels in a Group** window opens.



   b. The **Select Access Levels in a Group** window lists all currently defined access groups. You can expand an entry to display the list of access levels that make up a group. Select an access level or an access group. If you select an access group, you select all of the access levels it contains.
   c. Click [Select].
   d. Click [Yes].
8. Repeat step 7 for each access level you want to assign.
9. Click [OK].

Assign Intrusion Authority to the Cardholder

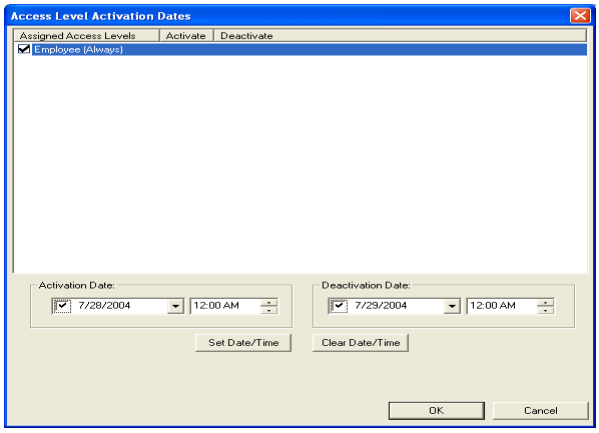
For more information, refer to Chapter 31: Command Keypad Templates Folder on page 867.

1. On the Access Levels form, click [Modify].
2. Click [Intrusion Authority]. The Intrusion Authority Levels window opens.
3. Select what access levels you would like to assign Level 1 and/or Level 2 authority.
4. Click [OK]. On the access levels listing window you will see an intrusion authority column that shows you what intrusion authority level(s) that access level now shares.

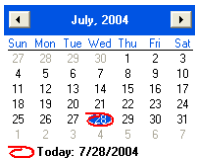
Important: The authority levels assigned act as access levels but do not count toward the maximum number of access level assignment allowed per badge. When the "Advanced Permission Control" intrusion command configuration option is selected, the maximum number of access level assignments allowed per badge is reduced to 30.

Assign Activation and Deactivation Dates to Access Levels

1. On the Access Levels form, click [Modify].
2. The access levels listing window displays all access levels that are currently configured for use with the selected cardholder's badge type. From the listing window, select one or more access levels.
3. Click [Activate Dates]. The Access Level Activation Dates window opens. The selected access levels that have been assigned to the selected cardholder/badge record will be listed in the Assigned Access Levels listing window.



4. Click on an access level entry to select it.
5. In the Activation Date section:
   a. Type a numeric date into the field, or select a date from the drop-down calendar.



   - To select a month, click on the  and  navigation buttons.
   - You can also select a month by clicking on the displayed month to access a drop-down list of months. Highlight the month you want to select it.
   - Navigate to a year by clicking on the displayed year to access the year spin buttons  .
   - Once you have selected a month and a year, click on the day that you want the selected badge to activate on.

   b. If your system is configured so that you can specify a specific activation time, enter a time in the field to the right of the date field. This time will be used in conjunction with the selected activation date.

Notes: To specify the activation time, the **Store expiration date** field on the Options sub-tab of the Access Panels form must be set to **Date only** or **Date and time**.

The activation time you enter should match the granularity setting on the Cardholder Options folder, General Cardholder Options form. Otherwise, the time you enter will be rounded down. For example if the granularity is set to 30 minutes, and you enter any time between 4:00 and 4:29 the time will automatically be rounded to 4:00. Any time entered between 4:31 and 4:59 will be rounded to 4:30.

6. In the Deactivation Date section, repeat step 5, choosing the date when you want the selected badge to become invalid.
7. Click [Set Date/Time].
8. Repeat steps 4-7 for each access level entry.
9. Click [OK].

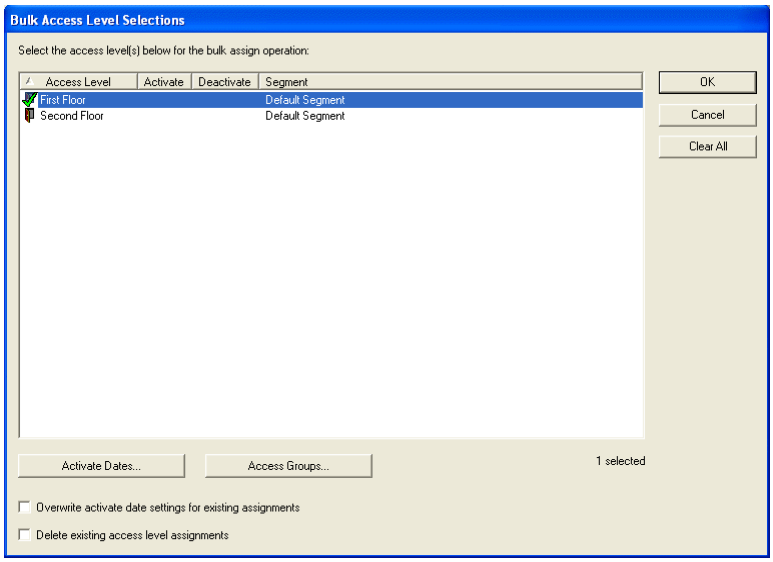
Assign Access Levels to a Selected Group of Cardholders

Important: The linkage server is required to be running for any bulk access level update. However, since the linkage server runs independently of System Administration it may take several minutes for the linkage server to finish processing any bulk updates even though System Administration indicates that the bulk update task is complete.

Note: HID Edge supports a maximum of eight (8) access levels per badge per HID controller. If you attempt to assign an access level that results in more than 8 access levels going to a badge for a single HID controller, the assignment

will not be allowed, and an error message will display with a list of the 8 access levels already selected for this controller.

1. Locate the group of cardholders that you want to assign access levels.
2. Select **Bulk** > **Assign Access Levels** from the **Cardholder** menu. The Bulk Access Levels Selections window opens.



3. To modify access levels:
   a. Select (place a checkmark beside) the access level(s) you want to assign.
   b. If you want to assign an entire access group, click [Access Groups]. Highlight the access group and click [Select].

Note: You can expand access groups to display associated access levels. You can also double-click access levels to display associated readers

   c. Select the **Delete existing access level assignments** check box if you want to delete the existing access level assignments and apply the new access level assignments. If you do not select this check box, the cardholders will retain their existing access levels in addition to their new access level assignments.
4. To modify activation/deactivation dates:
   a. Click [Activate Dates].The Access Level Activation Dates dialog opens.

Note: Although you can assign multiple access levels to a record, you can only assign activation/deactivation dates to one access level at a time.

b. Select the first access level.

c. Set the activation and deactivation dates.

d. If there is more than one access level that you want to assign dates to, click [Set] and continue setting the activation/deactivation dates.

e. When you are finished, click [OK].

f. Select the **Overwrite activate date settings for existing assignments** check box to apply the new dates.

g. Click [OK] and acknowledge any messages that display.

Remove Access Levels From a Selected Group of Cardholders

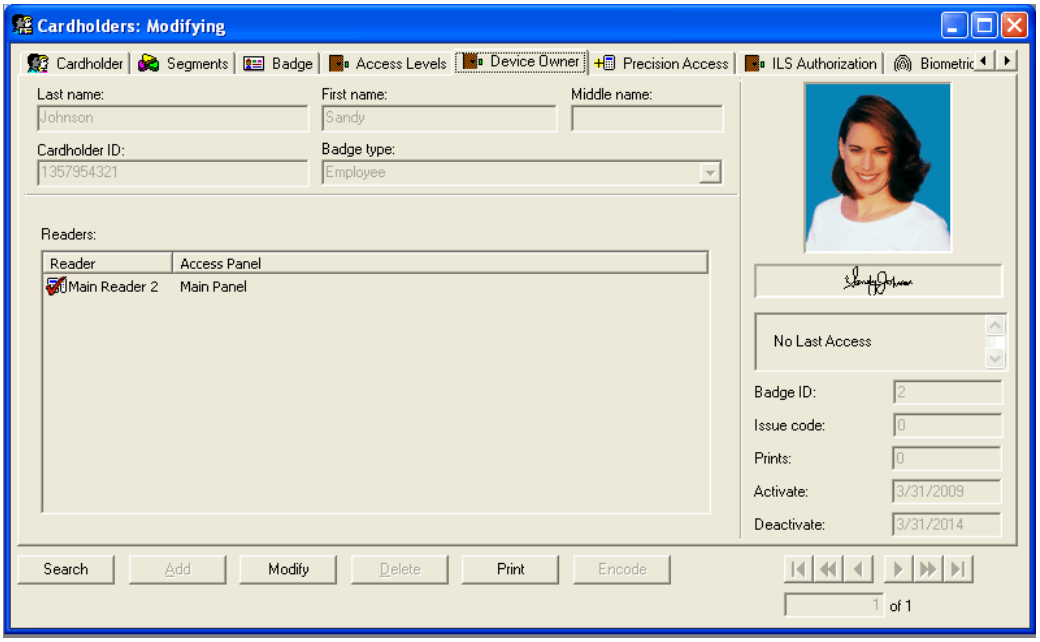
1. Locate the group of cardholders that you want to remove access levels from.
2. Select **Bulk** > **Remove Access Levels** from the **Cardholder** menu. The **Bulk Access Levels Selections** window opens.
3. Click on the access level you want to remove to select it. You can select multiple entries.
   Optional: If you want to remove all the access levels that belong to an access group:
   a. Click [Access Groups]. The **Select Access Levels in a Group** window opens.
   b. The **Select Access Levels in a Group** window lists all currently defined access groups. You can expand an entry to display the list of access levels that make up a group. Select an access level or an access group. If you select an access group, you select all of the access levels it contains.
   c. Click [Select].
   d. Click [Yes].
4. Click [OK].

Note: **All** active badges will be affected by this change, even in multiple active badge environments.

Modify Access Levels Assignments

1. Locate the cardholder/badge record whose access level assignments you want to change.
2. Click [Modify].
3. Make the changes you want to the record.
   - Select the access level to assign it to a cardholder/badge record.
   - Deselect the access level to limit cardholder/badge access.
   - Click [Clear all] to deselect all the access level assignments.
4. Click [OK] to save the changes, or [Cancel] to revert to the previously saved values.

Device Owner Form



Cardholders Folder - Device Owner Form

Form Element	Comment
Readers listing window	Lists the reader device(s) for all of the access levels belonging to the displayed cardholder. Select the reader(s) that you want the cardholder to own.

Device Owner Form Procedures

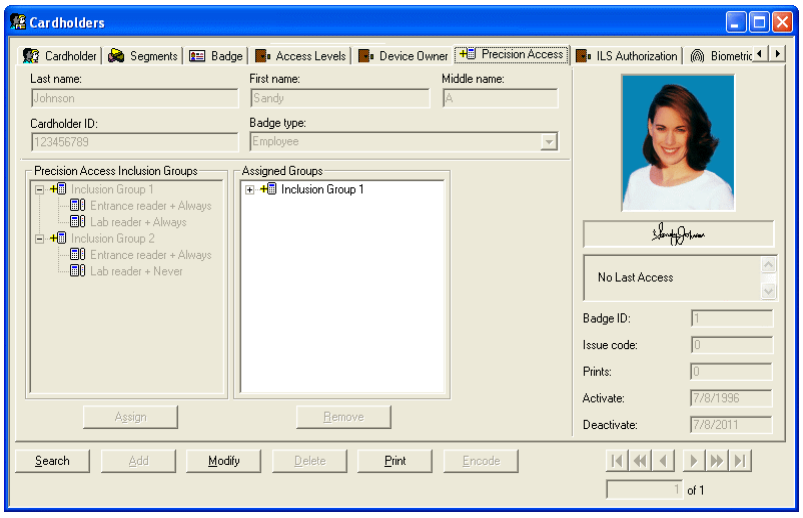
Assign a Cardholder to Own a Device

Important: To add or modify device owners you must have device owner permissions. For more information, refer to Cardholder Permission Groups Tree on page 426.

1. Select **Cardholders** from the **Administration** menu. The Cardholders folder opens.
2. Select the Device Owner tab.
3. Locate the cardholder record that you want to assign to be a device owner.
4. The Readers listing window is populated with the readers that the cardholder has access to. Select the reader(s) that you wish to make the cardholder owner of.
5. Click [OK].

Precision Access Form

Note: The Precision Access tab is only displayed if “Inclusion” is selected in the **Precision Access Mode** field on the General Cardholder Options form of the Cardholder Options folder.



Cardholders Folder - Precision Access Form

Form Element	Comment
Precision Access Inclusion Groups	Lists all currently defined Inclusion groups (your system will have one or the other) and the readers and timezones/elevator control levels that belong to each. An  icon precedes each inclusion group entry. Inclusion groups are defined on the Precision Access form of the Access Levels folder.
Assigned Groups	Lists the Inclusion Groups assigned to the selected cardholder/badge record.
Assign	Assigns to the selected cardholder/badge record the access levels selected in the Precision Access Inclusion Groups field.
Remove	Removes from the current cardholder/badge record the access levels selected in the Precision Access Inclusion Groups field.

Precision Access Form Procedures

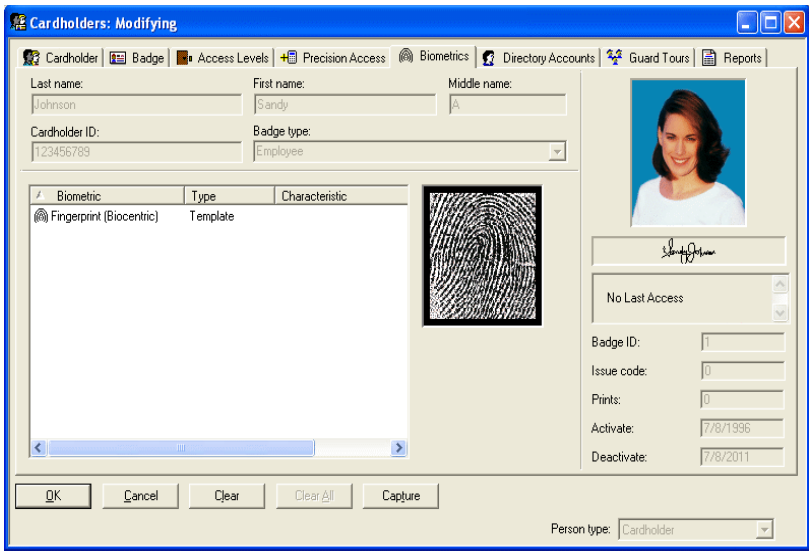
Assign Precision Access Groups to a Badge

1. Select **Cardholders** from the **Administration** menu.The Cardholders folder opens.
2. Select the Precision Access tab.
3. Locate the cardholder record that you want to assign precision access. Precision access can only be assigned to the selected cardholder's/visitor's active badge.
4. Click [Modify].
5. In the **Precision Access Inclusion Groups** window, select a precision access group.
   - The window contains all currently defined precision access groups. You can expand an entry to display the list of readers and timezones (if entries are Inclusion groups) that make up the group.
   - You can select only one group at a time.
   - By selecting a precision access group you select all of the reader-timezone combinations it contains. These combinations are defined on the Precision Access form of the Access Levels folder.
6. Click [Assign]. The group(s) you selected will be listed in the **Assigned Groups** window.
7. Repeat steps 5 and 6 for each additional group you want to assign to the badge. You can assign multiple Inclusion groups in addition to the 6 access levels that a cardholder can normally have.
8. Click [OK].

Remove Precision Access Groups From a Badge

1. Locate the record of the cardholder whose precision access assignment you want to remove.
2. In the **Assigned Groups** window, select the precision access group to be removed.
3. Click [Remove].
4. Repeat steps 2 and 3 for each precision access group you want to remove.
5. Click [OK].

Biometrics Form



Cardholders Folder - Biometrics Form

Form Element	Comment
Biometric listing window	In search mode, lists all biometric features and the type associated with each. In view mode, lists the selected cardholder's biometric information (if any exists). There are three biometric features, Fingerprint, Hand Geometry and Iris. A biometric fingerprint's type can be template or image.
Fingerprint image	Displayed in view mode. Displays a visual representation of the cardholder's fingerprint. For more information, refer to Appendix C: Multimedia Capture on page 1369.
Search Type	Displayed in search mode. This field is used in conjunction with the listing window. Click on a biometric feature in the listing window and select a choice from the **Search Type** drop-down list to search for a record that **Has** or **Does Not Have** a fingerprint image, a fingerprint template, iris data, or a hand geometry template associated with the cardholder.

Biometrics Form Procedures

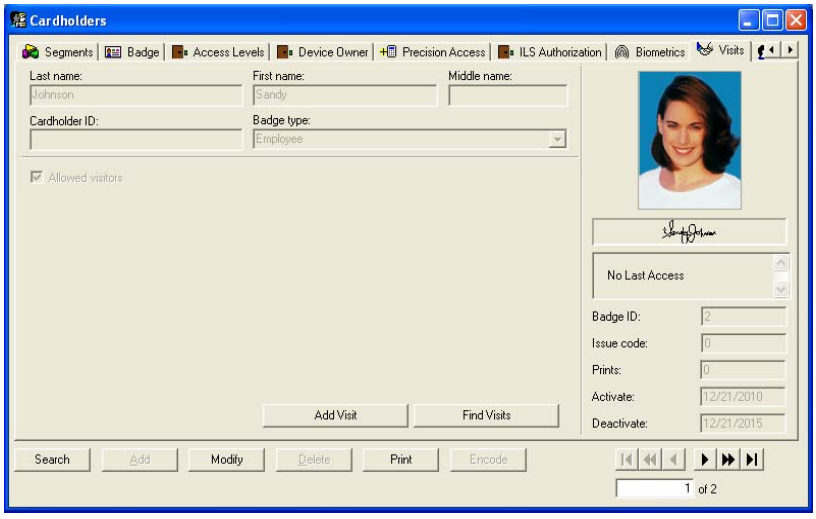
Search for a Cardholder's Biometric Record

1. Select **Cardholders** from the **Administration** menu. The Cardholders folder opens.
2. Select the Biometrics tab.
3. Click [Search].
4. In the **Biometric** listing window, click on a biometric feature to select it.
5. Choose either "Has" or "Does Not Have" from the **Search Type** drop-down list to search for a record that has or does not have specific biometric data associated with the cardholder.
6. Click [OK].

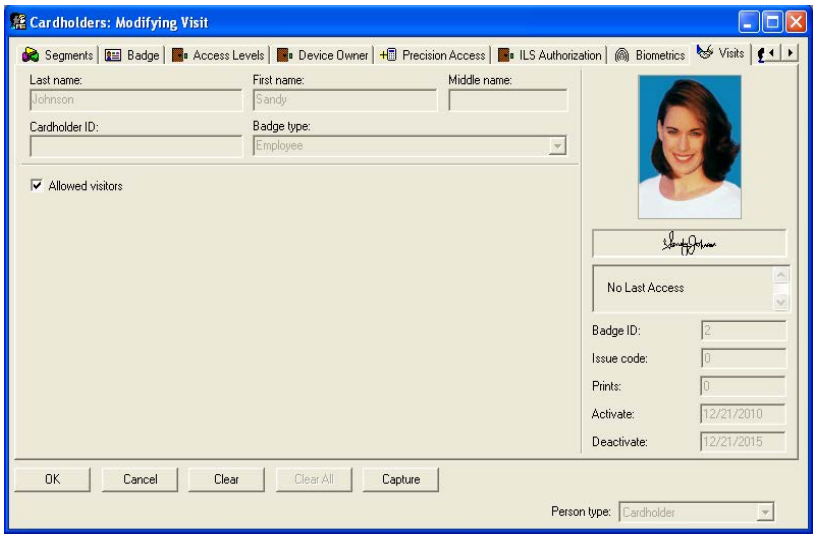
   ReadkeyPRO retrieves and displays the first matching record. Use the  ,  ,  ,  ,  and  buttons to navigate through the database. A dimmed button means that the associated operation is not possible (e.g., moving to the next record while the last record is being displayed).

Visits Form

Visits Form (View Mode)



Visits Form (Modify Mode)



Cardholders Folder - Visits Form

Form Element	Comment
Allowed visitors	When selected in modify mode, the selected cardholder is allowed to be assigned visitors. When not selected, the cardholder will not be available for visit assignment in the Visitor Management application.
Add Visit	In modify mode, click this button to display the Adding Visit window. From here you can add or modify visits, display visit records for a selected date range, and search for visit records based on the scheduled time in, scheduled time out, time in, time out, or date and time last changed.
Find Visits	This button quickly looks up visit records associated with the record whose name is specified in the **Last name**, **First name** and **Middle name** fields.
Type	Displayed in modify mode. Indicates the type of visit.
Purpose	Displayed in modify mode. Indicates the purpose of the visit.

Visits Form Procedures

Modify a Cardholder's Permission to Have Visitors

A cardholder must have permission to have visitors visit. This permission can only be granted (or taken away) in System Administration or ID

CredentialCenter, but not in Visitor Management. To change a cardholder's permission to have visitors:

1. Select **Cardholders** from the **Administration** menu.
2. Click the Cardholders tab.
3. Locate the record of the cardholder that you want to allow visitors.

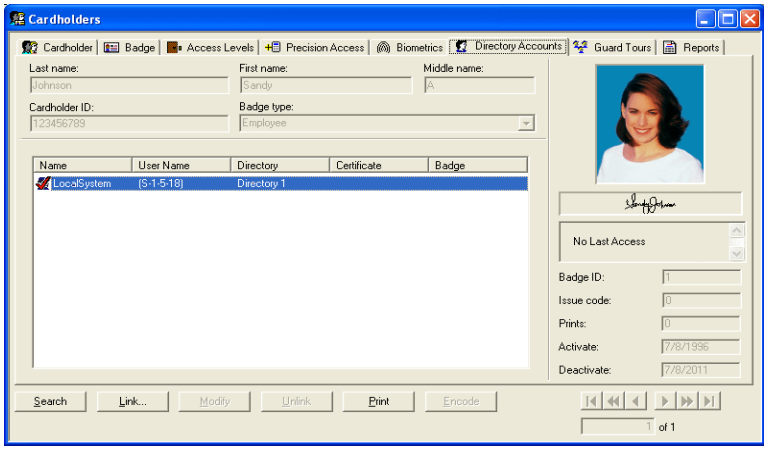
Note: Cardholders who are visitors cannot be assigned visitors.

4. Click the Visits tab.
5. Click [Modify].
6. The **Allowed visitors** check box setting controls a cardholder's permission to have visitors. Select the setting you want for the selected cardholder. The two possible settings are:
   - When the **Allow visitors** check box is selected, the cardholder will be allowed to have visitors. Only cardholders with the Allow visitors check box will be returned when searching for a cardholder and attempting to add a new visit.
   - When the **Allow visitors** check box is not selected, no visits to the cardholder can be scheduled.

Note: Changing the **Allow visitors** check box setting for a cardholder will only change the cardholder's ability to have visitors after the setting has been changed; any previously scheduled visits will be allowed to occur.

7. Click [OK].

Directory Accounts Form



Cardholders Folder - Directory Accounts Form

Form Element	Comment
Directory accounts listing window	Lists the directory accounts that have been linked to the selected cardholder.
Link	When selected, displays the **Select Account** window from where you can link a directory account to the selected cardholder.
Unlink	When selected, unlinks the selected cardholder from the directory account that is selected in the Directory Accounts listing window.

Directory Accounts Form Procedures

Link a Cardholder to a Directory Account

1. Select **Cardholders** from the **Administration** menu. The Cardholders folder opens.
2. Select the Directory Accounts tab.
3. Locate the cardholder record for which you want to link a directory account.
4. Click [Link]. The Select Account window opens. In the Select Account window:
   a. In the **Directory** drop-down list, select the directory you wish to link to.
   b. In the **Field** drop-down list select whether to search for a name or user name.
   c. In the **Condition** drop-down list, select how the value will be related to the field. For example, a search where the **Field** selected is “Name”, the **Condition** selected is “contains” and the **Value** specified is “Lake” will display all accounts where the name contains the word “Lake”, such as Lisa Lake.
   d. In the **Value** field, type or select a word you think may be in the user name or name. If you leave this field empty, all accounts for the selected directory will be displayed when the search is executed.

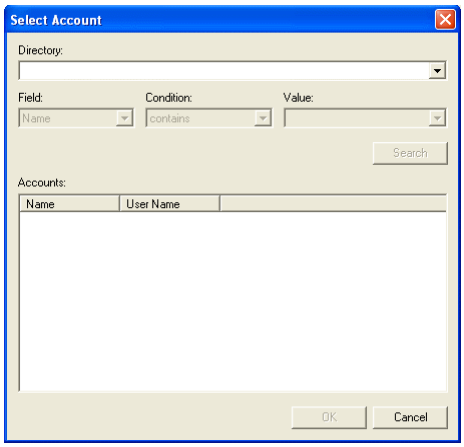
Note: To help you search, the **Value** field will contain different ways that the selected account may be expressed. For example, if the user account Lisa

Lake is selected, the permutations listed might be “L. Lake”, “LISA”, “Lisa”, “Lisa L.”, “Lisa Lake”, “LL”, “Lake” and “Lake, Lisa.”

e. Click [Search].

f. The accounts associated with the selected **Directory** will be displayed in the Accounts listing window.

- If the account you wish to link to is displayed, select it. Your window should look similar to the following:



- If the account you wish to link to is not displayed, return to step d and select another **Value** to search for.

g. Click [OK].

h. Repeat steps 3 and 4 for each directory account you wish to link to the selected user account.

5. Click the [OK] button on the Directory Accounts form.

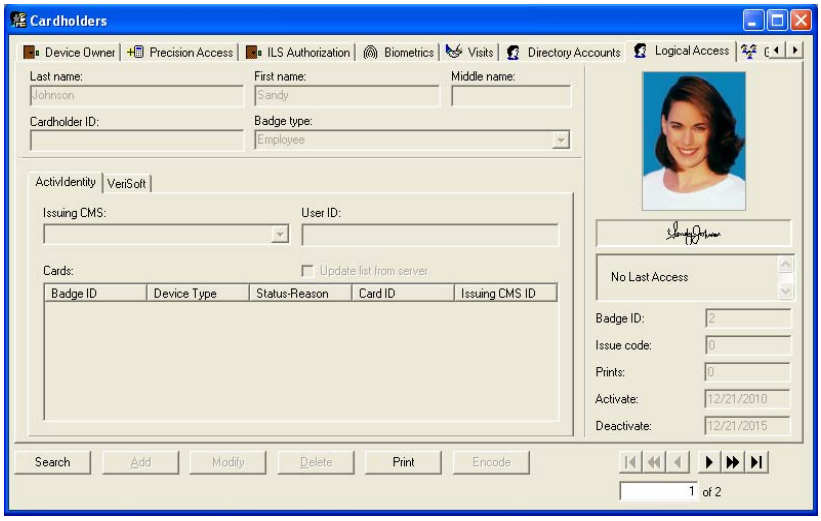
Unlink a Directory Account

1. Locate the record of the cardholder you want to unlink a directory account from.
2. Click on an entry in the **Directory accounts** listing window to select it.
3. Click [Unlink].
4. Click [OK].

Logical Access Form

Before a badge can be issued to a user, the cardholder record for the user must have a logical user account linked to it on this form.

Displayed by: **Administration** > **Cardholders** > Logical Access form.



Cardholders Folder - Logical Access Form

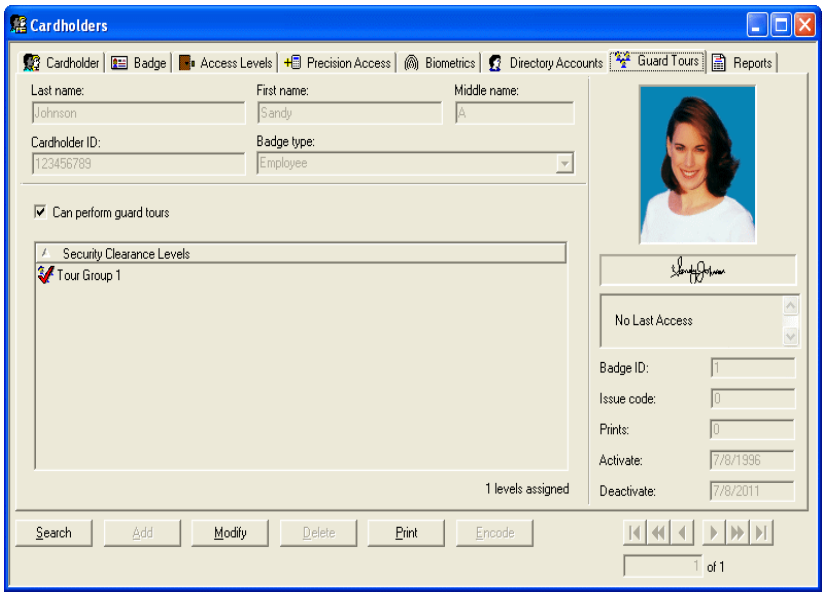
Form Element	Comment
Issuing CMS	The CMS that the user exists in. It will be the CMS that is connected to when issuing a badge to the cardholder.
User ID	The cardholder's logical user account name.
Cards listing window	Lists all cards/badges that have been encoded or bound to the cardholder. Additional operations on the badge (such as resuming, suspending, terminating, or unlinking) can be performed by right-clicking on an entry in the list. • Resume • Suspend • Terminate • Unlink
Update from CMS	Allows badges that have been issued to the user outside of ReadkeyPRO to be displayed in the Cards listing window. Badges issued to users outside of ReadkeyPRO cannot be linked to a physical badge and thus do not support life cycle management.

Logical Access Form (Cardholders Folder) Procedures

For instructions on how to configure and use CMS, refer to Appendix I: Integrating ActivIdentity CMS with ReadkeyPRO on page 1501. The following procedures in that section are performed using the Logical Access Form in the Cardholders folder:

- Encode/Bind a CMS Card on page 1515
- Encode/Bind a PIV Card on page 1517
- Manage Lost Badges on Systems Integrated with ActivIdentity CMS on page 1520

Guard Tours Form



Cardholders Folder - Guard Tours Form

Form Element	Comment
Can perform guard tours	Select this check box to if you want the selected cardholder to perform guard tours.
Security Clearance Levels listing window	Lists all security clearance levels that have been configured in the system. Security clearance levels are a means of limiting the number of tour guards to choose from when a tour is launched. Particular security clearance levels will be assigned only to guards who will need access to areas where a tour will take them. When a tour is launched, only guards with the appropriate security clearance level for that tour will be listed. Guard tours and security clearance levels are configured in the Guard Tour folder. For more information, refer to Chapter 42: Guard Tour Folder on page 1035. **Note:** This field is enabled only if the **Can perform guard tours** check box is selected.
Number of levels assigned	Displays the number of security clearance levels that have been assigned to the selected cardholder. For example: 6 levels assigned.

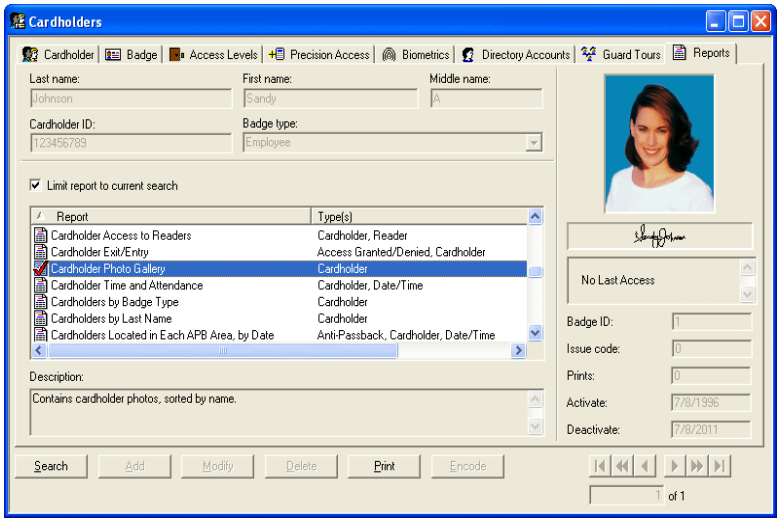
Guard Tours Form Procedures

Assign Guard Tour Security Clearance Levels to a Cardholder

1. Select **Cardholders** from the **Administration** menu. The Cardholders folder opens.
2. Select the Guard Tours tab.
3. Locate the cardholder record for which you want to assign security clearance levels.
4. Click [Modify].
5. Select the **Can perform guard tours** check box.
6. In the **Security Clearance Levels** listing window, click on an entry to select it.
7. Click [OK].

Note: You can assign multiple security clearance levels to a cardholder.

Reports Form



Cardholders Folder - Reports Form

Form Element	Comment
Limit report to current search	When selected, only cardholders in the current search will be included in the report.
Report listing window	Lists currently defined cardholder-related reports.
Description	A brief description of the report contents.

Reports Form Procedures

Run a Cardholder Report

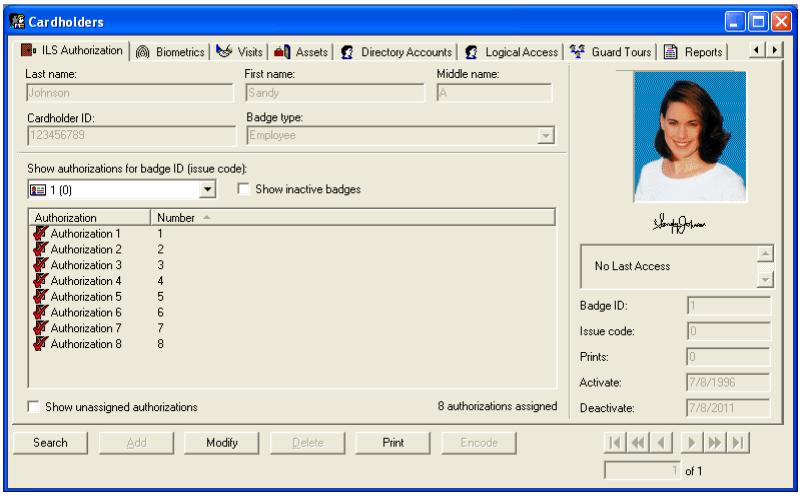
1. Select **Cardholders** from the **Administration** menu. The Cardholders folder opens.
2. Select the Reports tab.
3. Locate the cardholder record(s) for which you want to run a report. (If you want to run a report on all cardholder records, skip this step.)
4. In the **Reports** listing window, click on the name of the report you want to run.
5. Select the **Limit report to current search** check box if you want only cardholders in the current search to be included in the report. If you do not select this check box, all cardholder who meet the criteria specified in the **Description** field will be included in the report.
6. Click [Print]. The **Print Report Options** window opens. For more information, refer to Chapter 8: Print Report Options Window on page 271.

Note: Any report in the **Reports List** Window on the Event Reports form in the Reports folder that has "Cardholder" listed in the **Type(s)** column is available on the Reports form in the Cardholders folder. This means that a report can be generated on the Reports form in the Cardholders folder based on a cardholder search operation.

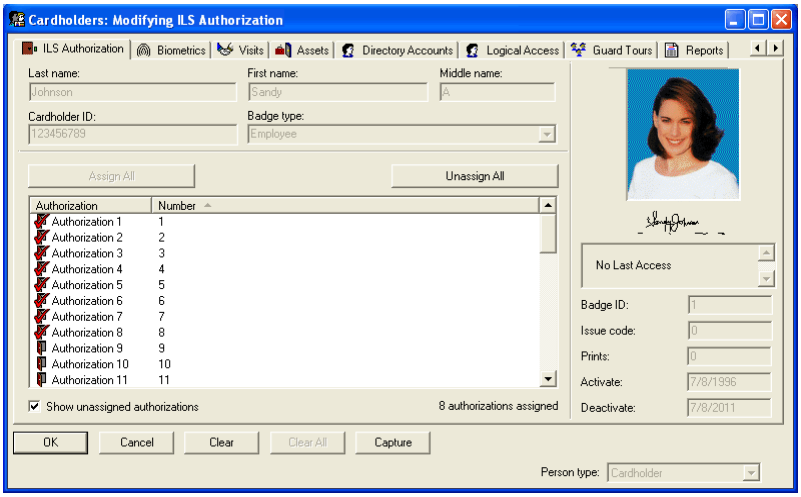
ILS Authorization Form

Note: To view these forms your system must have an ILS license.

ILS Authorization Form (View Mode)



ILS Authorization Form (Modify Mode)



Cardholders Folder - ILS Authorization Form

Form Element	Comment
Listing window	Lists the ILS authorizations that can be assigned to the cardholder.
Show authorizations for badge ID (issue code)	Displayed in view mode. Lists the badge ID and issue code (in parentheses) for the current active badge. If the **Show inactive badges** check box is selected, the list includes both the active and the inactive badge(s) assigned to the selected cardholder. Select a badge ID (issue code) from the list and the corresponding access levels for that badge will be displayed in the authorization listing window.
Show inactive badges	Displayed in view mode. When selected, the **Show levels for badge ID (issue code)** drop-down list will list both the active and inactive badge(s) assigned to the selected cardholder.
Show unassigned levels	Displayed in view and modify mode. When selected, the authorization listing window lists both access levels that have been and that can be assigned to the selected cardholder/badge record.

Cardholders Folder - ILS Authorization Form (Continued)

Form Element	Comment
Assign All	Displayed in modify mode. Click to assign all authorizations displayed in the authorization listing window.
Unassign All	Displayed in modify mode. Click to unassign all authorizations displayed in the authorization listing window.

ILS Authorization Form Procedures

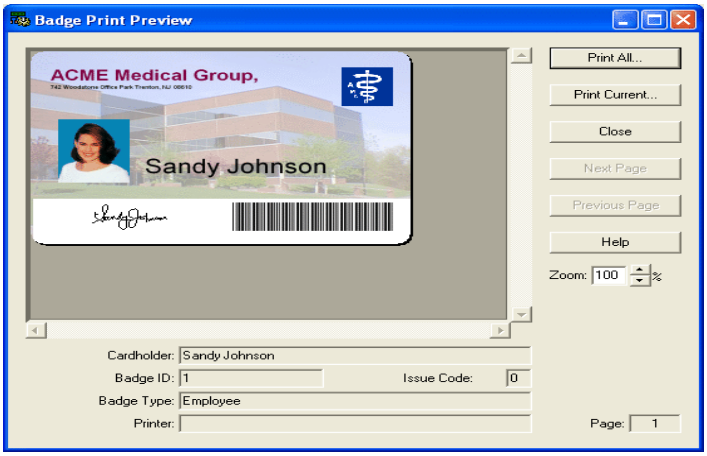
To read how to configure an ILS locking system,refer to Appendix K: ILS (Integrated Locking Solutions) on page 1525.

Chapter 4: Badge Print Preview Window

The Badge Print Preview window is used to:

- View (on-screen) a badge to be printed from the Cardholders folder.
- Print a badge.

This window is displayed by clicking [Print] in the Cardholders folder and then clicking [Print Preview], or by selecting **Print** from the **Application** menu. The **Application** menu is only available in System Administration and ID CredentialCenter.



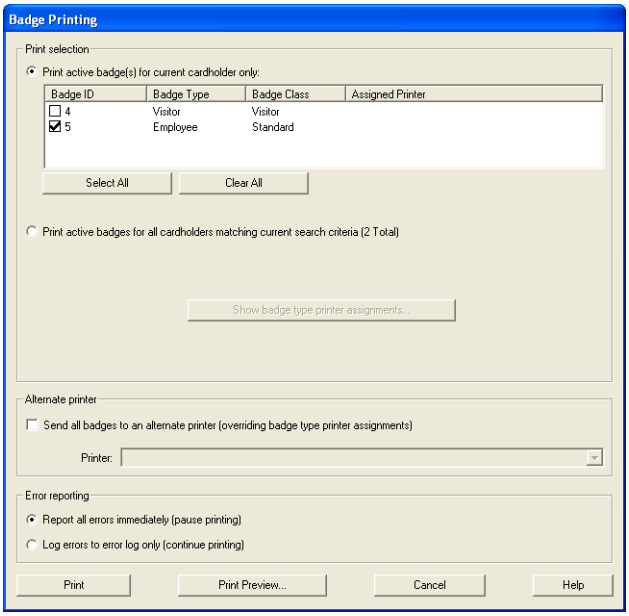
Badge Print Preview Window

Element	Comment
Preview window	Displays the currently selected badge layout with cardholder information.
Print All	Prints all the badges selected according to the Badge Printing window.
Print Current	Prints the badge that is currently displayed in the preview window.
Close	Click on this button to exit from the Badge Print Preview window.
Next Page	Allows you to view the next badge if multiple badges are being printed or to view the back layout of a two-sided badge.
Previous Page	Allows you to view the previous badge if multiple badges are being printed or to view the front layout of a two-sided badge.
Help	Displays online help for this topic.
Zoom	Enter a value to zoom in or zoom out on the badge in the preview window. • Entering a number greater than 100% will cause the preview to zoom in on the badge, displaying less area and more detail • Entering a number less than 100% will cause the preview to zoom out on the badge, display more area and less detail

Badge Print Preview Window (Continued)

Element	Comment
Badge information	Displays badge and cardholder information for the badge currently in the print preview window. Printer information displays also.
Page number	Displays the number of the page or badge that is currently in the preview window.

Badge Printing Form



Badge Printing Form

Form Element	Comment
Print active badge(s) for current cardholder only	Select this to print the active badges currently shown on the Cardholders form. By default, the active badge currently selected on the Cardholder form is selected to print. If other active badges exist for the cardholder, these will be included and may be selected to print as well.
Select All	Click to select all badges of the current cardholder.
Clear All	Click to de-select all badges of the current cardholder.
Print active badges for all cardholders...	Select this option to print all active badges that match the search criteria currently in the Cardholders form.

Badge Printing Form

Form Element	Comment
Show badge type printer assignments	Click to show what printer is assigned to the current print selection.
Send all badges to an alternate printer	Select to open the Printer dialog box which allows you to select a printer other than the one assigned.
Printer	Select what printer should be used.
Report all errors immediately (pause printing)	Select to pause the printing when an error occurs. Selecting this causes errors to be reported immediately.
Log errors to error log only (continue printing)	Select this to continue printing when errors occur. Selecting this causes errors to be logged for further review.
Print	Click to print your current selection.
Print Preview	Click to preview what will be printed.
Cancel	Closes the Badge Printing form.

Badge Print Preview Window Procedures

Preview and Print a Badge

1. Select an active badge from within the Cardholders folder (Cardholders, Badge, Access Levels, Assets or Precision Access form).
   - Before printing, make sure that you are properly configured to print badges. Configurations are done using the Badge Types and Card Formats folders in System Administration or ID CredentialCenter.
   - Make sure the proper printer is chosen. This is configured by selecting **Badge Types** from the **Administration** menu in System Administration or ID CredentialCenter and setting the printer assignments on the Printing/Encoding folder.
2. Do one of the following:
   - Select **Print** from the **Application** menu.
   - Click [Print] on any form within the Cardholders folder (Cardholders, Badge, Access Levels, Assets or Precision Access form).
3. The Badge Printing window displays.
   - The Print selection section determines which badges are printed or previewed out of the cardholders listed in the current search results.
     – To print/preview specific badges for the current cardholder select **Print active badge(s) for current cardholder only**. The badge selected within the Cardholder form is selected by default. If multiple active badges are included in the list, select any of these to

print or preview as well. Only the active badges for the current cardholder display in the Print selection section.

– To print all the active badges for the current cardholder select **Print active badges for all cardholders matching current search criteria**. If you click [Show badge type printer assignments] the following information displays within the Badge Printing window: Badge Type, Primary Segment and Assigned Printer.

Notes: Badges will not print if at least one badge does not have a printer assigned to it or at least one badge has been assigned to a printer that ReadkeyPRO no longer recognizes. You must establish a network connection to a remote printer (via control panel) in order ReadkeyPRO to recognize that printer.

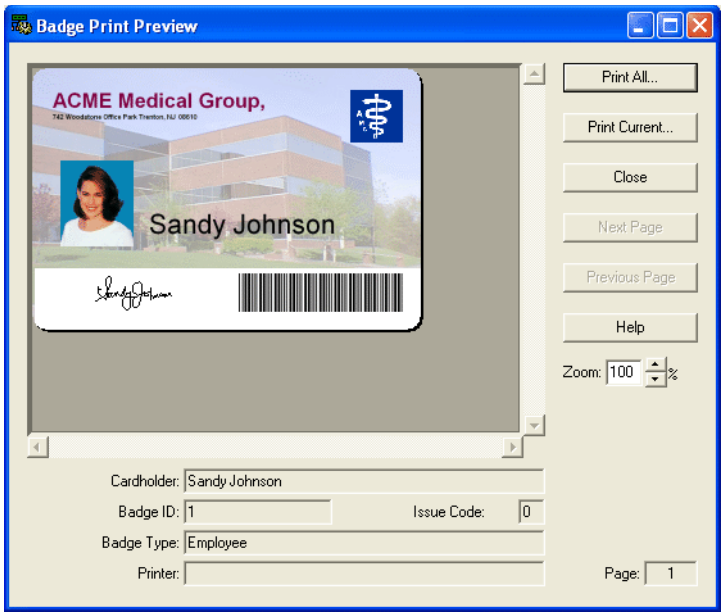
To be printable, a badge must be active, have a print count of zero if you do not have permission to print duplicates or a print count less than the maximum number of prints for its badge type if you have permission to print duplicates. Also, a badge must have a front and/or back layout assigned to its badge type.

- The **Alternate printer** section allows you to override badge type printer assignments and send all badges to an alternate printer. This section is only active when an alternate printer is configured and the user has permission to choose an alternate printer. For more information, refer to Modify a Print Setup on page 368. For more information, refer to Cardholder Permission Groups Form Procedures on page 427.
- The **Error Reporting** section allows you to configure how printing errors are handled. All badge printing is logged to the transaction log (print previews are not logged).
  – Click the **Report all errors immediately (pause printing)** radio button if you want to be prompted to either abort printing or skip to the next badge (or badge type) when an error occurs.
  – Click the **Log errors to error log only (continue printing)** radio button if you want errors logged and badge printing to continue on to the next badge (or if the error is associated with the badge type, the printing will move onto the next badge type).

4. It is recommended that you preview your badges first before printing them. If there is no need to preview the badge(s), you may print at this time by

clicking [Print]. Skip to step 9. If you wish to exit the window without printing, click [Cancel]. Otherwise continue on to the next step.

5. Click [Print Preview] to display the Badge Print Preview window.



The current badge displays along with cardholder data and printer information.

6. Use the [Next Page] and [Previous Page] buttons to view the next badge or other side of a two-sided badge.

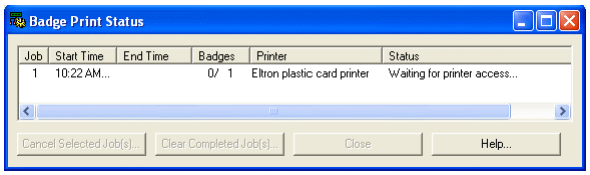
7. You can zoom in or out on the badge by changing the percentage value in the **Zoom** box. A larger number displays the badge close-up, in more detail. A smaller number will display more of the badge, in less detail.

8. To print the badge(s), do one of the following:
   - Click [Print Current]. Doing so will print the badge that is currently in the preview window.
   - Click [Print All] to print all of the badges that have been selected.
   - To exit from the window without printing, click [Close].

Note: If a user attempts to print a badge that has already been printed the maximum number of times then an error displays and the badge does not print. As with

other printing errors the user can continue on to the next badge if a batch print is being performed.

9. If you decided to print badges a status window displays to indicate the status of the print operation.



A *single* print job entry represents all the badges selected in the **Print selection** section.

Chapter 5: Visits Folder

The Visits folder contains the Status search form, the Visit form, the Details form, the E-mail form and the Reports form with which you can:

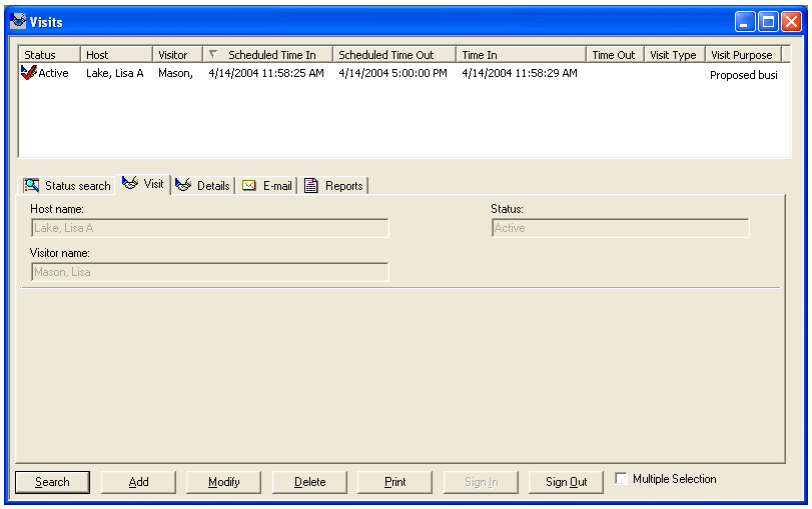
- Display visit records for a selected date range
- Search for visit records based on the scheduled time in, scheduled time out, time in, time out or date and time it was last changed
- Display visit records that are scheduled in the future, scheduled and are late, active, active and overstayed and finished
- Filter and display visit records for a selected cardholder, visitor or both
- Display the cardholder or visitor record associated with a visit
- Refresh the Visits listing window
- Send e-mail notifications regarding visits
- Add or modify visits
- Delete a visit or multiple visits
- Print a disposable badge or multiple disposable badges
- Sign out and sign in a visit or multiple visits
- Generate a report for either a defined search criteria or for all visits

Toolbar Shortcut

This folder is displayed by selecting **Visits** from the **Administration** menu or by selecting the Visits toolbar button.

The forms in the Visits folder are divided into two sections: the form elements that are common to every form in the Visits folder (shown in the screen shot that follows) and the form elements that are unique to each form. For descriptions of the common form elements refer to the Visits Folder Field Table table on page 184. For descriptions of the unique form elements refer to the Status Search Form Field Table table on page 204, the Visit Form Field Table table on page 201, the Details Form Field Table table on page 206, and the E-mail Form Field Table

table on page 207, and the Reports Form Field Table table on page 210.



Notes: This documentation refers to visit data fields that are shipped as the default by Bosch. If you have used the FormsDesigner application to customize your visit data, the elements on your Visits folder forms will be different.

Forms and fields that pertain to segmentation are only available if segmentation is enabled on your system.

Visit Right-Click Menu

If you right-click on a visit in the listing window, a menu will be displayed. The menu contains the following options:

Right-click menu option	Description
Select All	Enabled only when the **Multiple Selection** check box is selected. If selected, all visits in the listing window will be selected.
Clear All	If selected, all visits selected in the listing window will be deselected.
Add	Selecting this option does the same thing as clicking the [Add] button - it allows you to add another visit based on the currently selected visit.
Modify	Selecting this option does the same thing as clicking the [Modify] button - it allows you to change the visit that is currently selected.
Delete	Selecting this option does the same thing as clicking the [Delete] button - it allows you to delete the visit that is currently selected. The visit will be deleted without prompting for confirmation.
Sign In	This option is only available for a visit that is not active/not signed in. If the **Multiple Selection** check box is selected, multiple visits can be selected and signed in at once. Selecting this option does the same thing as clicking the [Sign In] button. If selected, the Sign In Visit(s) window is displayed. In this window, select whether to print disposable badges for the visitor that is being signed in.

Right-click menu option	Description
Sign Out	This option is only available for a visit that is active/signed in. If the **Multiple Selection** check box is selected, multiple visits can be selected and signed out at once. Selecting this option does the same thing as clicking the [Sign Out] button. To use this feature, you must first configure a badge status to use when doing an automatic sign out. This is done on the General Cardholder Options form of the Cardholder Options folder. For more information, refer to Configure System-wide Visit Options on page 522. When selected, the actual **Time out** for the visit is updated to the current date/time. If the visitor has an active badge, the deactivate date is updated and the badge status is set to the status setup that was selected on the General Cardholder Options form.
Find Cardholder	Opens the Cardholders folder and displays the cardholder record that is associated with the currently selected visit.
Find Visitor	Opens the Cardholders folder and displays the visitor record that is associated with the currently selected visit.
Refresh	Click this button to refresh the visits listed in the Visits listing window. When someone else makes changes in the database, you may need to click this button to see the changes. (Cardholder information is not automatically updated, but visit information is.)

Visits Folder Field Table

Visits Folder

Form Element	Comment
Common form elements	
Visits listing window	Displays the status, host, visitor, scheduled time in, scheduled time out, time in, time out, visit type and visit purpose for visit records.
Host name	Specifies the host for whom you want to display scheduled visits.
Visitor name	Specifies the visitor for whom you want to display scheduled visits.
Status	Displays the status of the visit. Choices include: • **Scheduled** - A visit that has a scheduled time in and scheduled time out that are both in the future • **Late** - A visit where the current date and time is after the scheduled time in • **Overstayed** - A visit where the current date and time is after the scheduled time out • **Active** - A visit that has been signed in and the scheduled time out has not yet been reached • **Finished** - A visit occurred in the past and has been signed out
Search	Allows you to search based on any field on any form in the Visits folder. The search results will be displayed in the Visits listing window.
Add	Allows you to add a visit record.
Modify	Allows you to modify a selected visit record. Multiple selection cannot be used when modifying visit records. If the **Multiple Selection** check box is selected and multiple visit records are selected, the [Modify] button will be grayed out.
Delete	Allows you to delete a selected visit record. If the **Multiple Selection** check box is selected, multiple visit records can be deleted at once. The visit(s) will be deleted without prompting for confirmation.
Print	Allows you to print a disposable badge. Disposable badge types are configured in the Badge Types folder. For a badge type to be used to print disposable badges, it must have “Visitor” selected for the **Class** and the **Disposable** check box must be selected (on the Badge Type sub-tab). If segmentation is enabled, the correct segment must be selected on the Segment Membership sub-tab.
Sign In	If selected, the Sign In Visit(s) window is displayed. In this window, select whether to print disposable badges for the visitor(s) that are being signed in. If the **Multiple Selection** check box is selected, multiple visit records can be signed in at once.
Sign Out	To use this feature, you must first configure a badge status to use when doing an automatic sign out. This is done on the General Cardholder Options form of the Cardholder Options folder. For more information, refer to Configure System-wide Visit Options on page 522. When selected, the actual **Time Out** for the visit is updated to the current date/time. If the visitor has an active badge, the deactivate date is updated and the badge status is set to the status setup that was selected on the General Cardholder Options form.

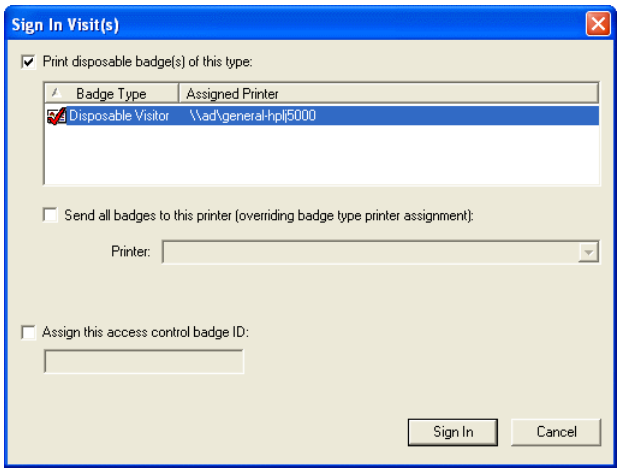
Visits Folder (Continued)

Form Element	Comment
Multiple Selection	If selected, more than one entry in the listing window can be selected simultaneously. The changes made on this form will apply to all selected visits. This feature is primarily used for printing badges, signing in visits and signing out visits.

Sign In Visit(s) Window

This window is displays when:

- A visit is added in the Visits folder and the **Sign In Now** check box is selected on the Visit form.
- A visit record is selected in the Visit listing window in the Visits folder and the [Sign In] button is clicked.
- Automatic sign in is enabled. For more information about this feature, refer to the Automatic Sign In section of the Visitor Management User Guide.



Visits Folder - Sign In Visit(s) Window Field Table

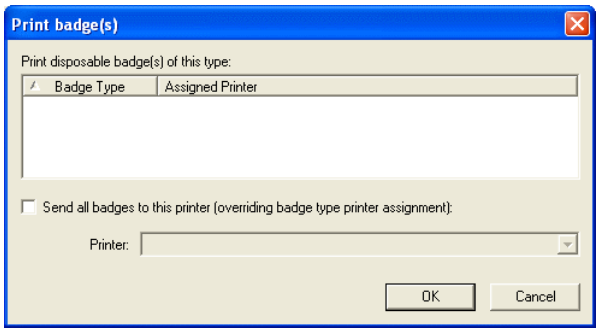
Form Element	Comment
Print disposable badge(s) of this type	• For this field to be enabled, the **Allow disposable badge printing** check box on the Visits form in the Cardholder Options folder in System Administration or ID CredentialCenter must be selected. • Displays a list of disposable badge types that can be selected for the visit. • Only those badge types that are disposable are listed. • If you do not want to print a disposable badge for the visitor, deselect this check box.

Visits Folder - Sign In Visit(s) Window Field Table (Continued)

Form Element	Comment
Send all badges to this printer (overriding badge type printer assignment)	• Select this check box to select an alternate printer • For these fields to be enabled, the user must have be rights to access to the **Choose alternate printer** option via the Users Folder, Cardholder Permission Groups Form. For more information, refer to Cardholder Permission Groups Form Overview on page 425. • Selecting this check box overrides the printer assignments in the Printing/Encoding form of the Badge Types folder.
Assign this access control badge ID	• For this field to be enabled, the **Allow access control badge assignment** check box on the Visits form in the Cardholder Options folder in System Administration or ID CredentialCenter must be selected. • The badge must already exist in the system • The existing badge's class must be "Visitor" • If the visitor already has an active access control badge (from a manual assignment or another visit), this field will automatically be populated with that ID. • If you do not want to assign an access control badge ID for the visitor, deselect this check box.
Sign In	Signs in the visit using the options selected on the form.
Cancel	Closes the Sign In Visit(s) window without signing in the visit.

Print Badge(s) Window

This window displays when the [Print] button is clicked on any form in the Visits folder.



Visits Folder - Print Badge(s) Window Field Table

Form Element	Comment
Print disposable badge(s) of this type	• For this field to be enabled, the **Allow disposable badge printing** check box on the Visits form in the Cardholder Options folder in System Administration or ID CredentialCenter must be selected. • Displays a list of disposable badge types that can be selected for the visit. You must select a badge type and only one badge type can be selected. • Only those badge types that are disposable are listed.
Send all badges to this printer (overriding badge type printer assignment)	• Select this check box to select an alternate printer. Chose the printer from the drop-down list. • For these fields to be enabled, the user must have access rights to the **Choose alternate printer** option via the Users Folder, Cardholder Permission Groups Form For more information, refer to Cardholder Permission Groups Form Overview on page 425. • Selecting this check box overrides the printer assignments in the Printing/Encoding form of the Badge Types folder.
OK	Prints the disposable badge
Cancel	Closes the Print Badge(s) window without printing the visit.

Visits Folder Procedures

The following procedures pertain to every form in the Visits folder unless otherwise noted.

Visit Search Capabilities

In search mode, you can search on any combination of fields in the Visits folder, including the Status search, Visit and Details forms. On the E-mail and Reports forms, you can only search for the host name or visitor name.

Comparison Operators

Comparison operators are symbols that represent specific actions. You can refine your search by prefixing search fields with a comparison operator. Refer to the following table to identify the comparison operators you can use with different fields.

Comparison operator	Description	Text field	Numeric field	Drop-down list
=	Equal to	Yes	Yes	Yes
!= or <>	Not equal to	Yes	Yes	Yes
>	Greater than	Yes	Yes	NA
<	Less than	Yes	Yes	NA
>=	Greater than or equal to	Yes	Yes	NA
<=	Less than or equal to	Yes	Yes	NA
%	Contains	Yes	NA	NA

Notes: "Equal to" is the default comparison operator for numeric and drop-down list fields.

If you type an equal to sign "=" in a field and nothing else, ReadkeyPRO will search for records that have an empty value for that field. For example, typing an "=" in the Department field will find every record that does not have an assigned department.

Search Fields Using "Begins With"

For text and drop-down list fields you can search records whose values begin with specific characters by entering those characters in the field. For example, when searching by last name, a filter of "L" will find "Lake", "Lewis", etc. A filter of "Lake" will find "Lake", "Lakeland", etc.

Note: The default comparison operator for text fields is "begins with".

Search Multiple Fields

When you search multiple fields, the search criteria for each field is combined. For example, typing "A" in **Last name** field and "B" in **First name** field will find all people whose last name begins with "A" and whose first name beings with "B".

One *exception* is searching access levels, which uses an "or" comparison for multiple selections. For example, selecting both "Access Level A" and "Access Level B" will find all cardholders with either "Access Level A" or "Access Level B" assigned.

Note: If you want to search for a range of Badge IDs, take advantage of the two Badge ID fields on the Badge form. One field is located in the middle-left section of the form and the other field is located in the right section of the form. Note, the form must be in modify mode to see both fields. Type ">= 100" in one field and "<= 200" in the other to find all badges with IDs between 100 and 200 (inclusive).

Search for All Visits to a Selected Cardholder

This procedure will search for every person who visited a selected cardholder.

1. Select **Visits** from the **Administration** menu. The Visits folder opens.
2. On the Visit tab, click [Search].
3. Do one of the following:
   - Enter the full or partial last name of the cardholder in the **Host name** drop-down list.
   - Use the Select Host Wizard by leaving the **Host name** drop-down list blank and clicking the [...] button to the right it. When the wizard opens, enter any information that you know about the cardholder and click [Next]. The wizard will display all records that match the criteria you entered. Select the correct cardholder and click [Finish].
4. Click [OK]. ReadkeyPRO displays all the visits made to the selected cardholder. If you entered a partial cardholder name, ReadkeyPRO displays all the visits made to the cardholders that meet the search criteria.

Search for All Visits by a Selected Visitor

1. Select **Visits** from the **Administration** menu. The Visits folder opens.
2. On the Visit tab, click [Search].
3. Do one of the following:
   - Enter the full or partial last name of the visitor in the **Visitor name** drop-down list.
   - Use the Select Host Wizard by leaving the **Visitor name** drop-down list blank and clicking the [...] button to the right it. When the wizard opens, enter any information that you know about the visitor and click [Next]. The wizard will display all records that match the criteria you entered. Select the correct visitor and click [Finish].
4. Click [OK]. ReadkeyPRO displays all the cardholders the selected visitor has met with. If you entered a partial visitor name, ReadkeyPRO displays all the cardholders visited by the visitors that meet the search criteria.

Search for Scheduled, Active or Finished Visits

1. Select **Visits** from the **Administration** menu. The Visits folder opens.
2. On the Status search tab, click [Search].
3. In the Search for visits section, select that status you wish to search for.
   - To search for scheduled visits, select the **Scheduled, future** check box.
     - If you wish to search for visits that are scheduled to begin in a specified amount of time, select the **Starting within** check box and specify the number of minutes, hours, or days.
     - By default, scheduled visits that are late getting started are included in the search. If you do not want to search for scheduled visits that are late, deselect the **Scheduled, late** check box.
   - To search for active visits, select the **Active** check box.
     - If you wish to search for visits that are scheduled to end within a specified amount of time, select the **Ending within** check box and specify the number of minutes, hours, or days.
     - By default, active visits that are late signing out (overstayed) are included in the search. If you do not want to search for overstayed visits, deselect the **Active, overstayed** check box.
   - To search for finished visits, select the **Finished** check box.
4. The refresh rate is how often (in minutes) the database is queried for changes.
   - Select the **Use system default rate** check box to use the system default rate. Notice the **Refresh rate** field automatically populates with the default value.
   - Deselect the **Use system default rate** check box to use a different rate. Enter the new rate in the **Refresh rate** field. This setting is stored on a per user basis.
5. Click [OK]. The visit records that meet the search criteria display in the Visits listing window.

Search for All Visits for a Specific Date or Time

Depending on the fields you populate, this procedure will search for:

- Visits scheduled to start on a specific date or time.
- Visits scheduled to end on a specific date or time.
- Visits that start on a specific date or time.

- Visits that end on a specific date or time.

1. Select **Visits** from the **Administration** menu. The Visits folder opens.
2. On the Visit tab, click [Search].
3. To search for a specific date:
   a. Click the [...] button to the right of one of the four date fields (Scheduled time in, Scheduled time out, Time in, or Time out).

   b. The Select Date(s) window opens. Complete one of the following:
      - Select a time range and the number of days to search. If you select "Today", you do not need to enter the number of days to search.
      - Select a time range and a date.
      - Select a start date and the number of days to search.
      - Select a start date and end date.
   c. Click [OK]. The code for the search criteria that you specified displays in the Visit form.
4. To search for a specific time:
   a. Click the [...] button to the right of one of the four time fields.

   b. The Select Time Range window opens. Select the start time range and enter a time.
   c. Select the end time range and enter a time.

Notes: If you select "None" for a time range, you cannot enter a specific time.

You can change the time by using the spin buttons or typing new values. The hour, minute, and time of day are adjusted individually.

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   d. Click [OK].
5. Click [OK] on the Visit form. The visit records that meet the search criteria display in the listing window.
6. Repeat steps 3-5 to search for scheduled time in, scheduled time out, time in, or time out.

Retrieve the Most Recent Visit Search Results

1. Display the Cardholders folder or Visits folder by completing one of the following:
   - To display the Cardholders folder in Alarm Monitoring, select **Badge Info** from the **View** menu. For all other applications, select **Cardholders** from the **Administration** menu.
   - To display the Visits folder in Alarm Monitoring, select **Visits** from the **View** menu. For all other applications, select **Visits** from the **Administration** menu.
2. Click [Search].
3. Click [Last Search]. The criteria you selected from the most recent search operation will be inserted into the appropriate fields.
4. You can optionally modify your search criteria.
5. Click [OK].
6. ReadkeyPRO retrieves and displays the first matching record. Use the navigational buttons to look at additional matching records.

Find a Cardholder or Visitor Associated with a Visit

1. Select **Visits** from the **Administration** menu. The Visits folder opens.
2. Locate the visit record that you wish to find the visitor or cardholder for.
3. Right-click on the visit record.
   - If you wish to view the cardholder record, select **Find Cardholder**.
   - If you wish to view the visitor record, select **Find Visitor**.
4. The record of the corresponding cardholder or visitor will be displayed in the Cardholder or Visitor window.

Add a Visit Record

To add a visit, information about the visit needs to be entered on the Visit, Details and E-mail forms in the Visits folder; it does not matter which form you start with. When the Visits folder opens, the Visit form displays by default, so this procedure begins on that form.

1. Select **Visits** from the **Administration** menu. The Visits folder opens.
2. On the Visit form:
   a. A new visit record can either be based on an existing visit record or it can be an entirely new record.
      - To create a record based on an existing visit record, select a visit record in the Visits listing window, then click [Add]. The fields prepopulate with the information from the selected visit. You can select new values for any field.
      - To create a record that is not based on an existing visit record, make sure that no visit record is selected in the Visits listing window, then click [Add]. The fields will be blank to begin with.

Note: Steps b and c can be done in either order.

b. Click the [...] button to the right of the **Host name** drop-down list. The Select Host Wizard: Search form opens. For more information, refer to Select Host Wizard: Search Form on page 212.

1) Specify your search criteria by typing full or partial entries in the enabled fields.

Note: Leave all fields blank to display all cardholders.

2) If a visitor is specified and you wish to search for only cardholders who have been visited by that visitor, select the **Previous hosts for current visitor only** check box.

3) Click [Next].

4) The Select Host Wizard: Select form opens. In the Cardholder listing window, select the cardholder you wish to add a visitor for. For more information, refer to Select Host Wizard: Select Form on page 214.

5) Click [Finish]. The cardholder's name appears in the **Host name** field on the Visit form.

c. Click the [...] button to the right of the **Visitor name** field. The Select Visitor Wizard: Search form displays.

1) Specify your search criteria by typing full or partial entries in the enabled fields.

Note: Leave all fields blank to display all visitors.

2) If a cardholder is specified and you wish to only search for visitors who have visited that cardholder, select the **Previous visitors for current host only** check box.

3) Click [Next].

4) The Select Visitor Wizard: Select or Add form displays. If the Visitor is listed below, select the visitor and click [Finish]. The visitor's name appears in the **Visitor name** field on the Visit form. If the Visitor is not listed below, select the **Create new visitor** radio button and click [Next]. The Select Visitor Wizard: Add form displays. Enter the new visitor's information and click [Finish].

Note: For a detailed description of the Select Visitor Wizard: Select or Add form refer to Select Visitor Wizard: Select or Add Form on page 216.

d. In the **Scheduled time in** fields, specify the date and time the visit will begin. You can either type the values or select them.

Note: If the **Sign In Now** check box is selected, these fields will be grayed out.

e. In the **Scheduled time out** fields, specify the date and time the visit will end. You can either type the values or select them.

f. Select the **Sign In Now** check box if the visit is starting immediately. If you select this option, the **Scheduled time in** fields will become grayed out and the date and time when you click the [OK] button will be assigned as the visit's **Time in**.

3. Click the Details tab. For a detailed description of the Details form refer to Details Form on page 206. On the Details form:

a. In the **Type** drop-down list, select the type of visit.

Note: Types of visits must first be configured in the List Builder, which is displayed by selecting the **Administration** menu, then selecting **List Builder**. For more information, refer to Chapter 18: List Builder Folder on page 569.

b. In the **Purpose** field, type the reason for the visitor's visit.

4. You may wish to send e-mail notifications to all parties that require information about a scheduled visit. For a detailed description of the E-mail form refer to E-mail Form on page 207. To set up e-mail notifications, click the E-mail tab. On the E-mail form:

Note: For an e-mail to be sent, the **Allow e-mail notification** check box on the Visits form in the Cardholder Options folder must be selected.

a. In the Include section, verify the **Default Recipients** check box is selected as long as you wish to send e-mail messages to the default

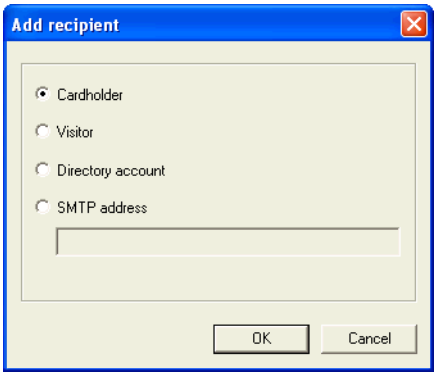
recipients. The default recipients are configured in the following locations:

- On segmented systems, select **Administration** > **Segments**, click the Segments tab, then click the Visits sub-tab. On the Visits sub-tab, you can view or modify the default recipients.
- On nonsegmented systems, select **Administration** > **System Options**, then click the Visits tab. On the Visits tab, you can view or modify the default recipients.

b. Select the **Cardholder for this visit** check box if you wish to have an e-mail sent to the cardholder for this visit.

c. Select the **Visitor for this visit** check box if you wish to have an e-mail sent to the visitor for this visit.

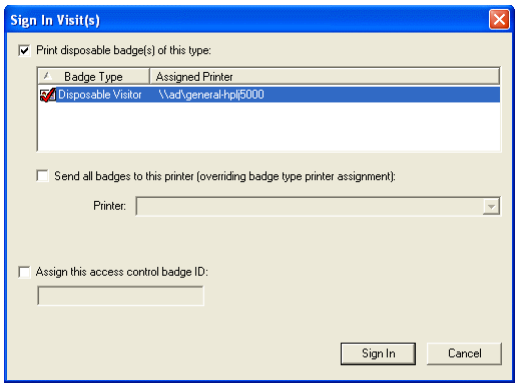
d. Click [Add] if you wish to add another recipient. The Add recipient window displays. You may add a cardholder, visitor, directory account or SMTP address.



- If you select the **Cardholder** radio button and click [OK], the Select Host Wizard: Search form displays. For a detailed description of the Select Host Wizard: Search form refer to Select Host Wizard: Search Form on page 212.
- If you select the **Visitor** radio button and click [OK], the Select Visitor Wizard: Search form displays. For a detailed description of the Select Visitor Wizard: Search form refer to Select Visitor Wizard: Search Form on page 215.
- If you select the **Directory account** radio button and click [OK], the Select Account window displays.
- If you select the **SMTP address** radio button, type the SMTP address, then click [OK]. An example of an SMTP address is “joesmith@company.com”.

5. Click [OK].
6. If the **Sign in now** check box was selected, proceed to step 7. If the **Sign in now** check box was not selected, the visit will be added. The value for the **Time In** column for the visit will remain blank and the visit can be signed in later when it actually occurs.
7. If none of the **Allow disposable badge printing**, **Allow access control badge assignment** and **Allow e-mail notification** check boxes are checked

on the Visits form in the Cardholder Options folder, the visit will be signed in. If any of those options are selected, the Sign In Visit(s) window displays.



8. The **Print disposable badge(s) of this type** check box and listing window are enabled if the **Allow disposable badge printing** check box is selected on the Visits form in the Cardholder Options folder.
   - If enabled, you can print a disposable badge for the user by selecting the **Print disposable badge(s) of this type** check box, then selecting a disposable badge type to be assigned and printed.

Note: Disposable badge types are configured in the Badge Types folder. For a badge type to be used to print disposable badges, it must have "Visitor" selected for the **Class** and the **Disposable** check box must be selected (on the Badge Type sub-tab). If segmentation is enabled, the correct segment must be selected on the Segment Membership sub-tab.

   - If the check box is deselected, the system will not print a disposable badge.
9. To override the badge type printer assignment select the **Send all badges to this printer (overriding badge type printer assignment)** check box and select the printer from the drop-down list. This check box and drop-down list

are enabled if the **Print disposable badge(s) of this type** check box is selected and the user has the correct permissions.

10. The **Assign this access control badge ID** check box and field are enabled if the **Allow access control badge assignment** check box is selected on the Visits form in the Cardholder Options folder.
    - If enabled, you can select the **Assign this access control badge ID** check box and then type the number of an existing badge that has the class "Visitor" in the field or leave the field blank.
    - If the visitor already has an active access control badge (from manual assignment or another visit), this field will automatically be filled in with that ID.
    - If the check box is deselected, the system will not attempt to assign an access control badge ID.
11. Click [Sign In]. The visit will be added, the **Time In** field will be updated to the current date and time and any access control badge assigned will become active.

Modify a Visit Record

1. Select **Visits** from the **Administration** menu. The Visits folder opens.
2. Locate the visit record you want to change and select it in the Visits listing window.

Note: Multiple selection cannot be used when modifying visits.

3. Click [Modify].
4. Make the changes you want to the record. Changes can be made on any tab in the Visits folder.
5. Click [OK] to save the changes, or [Cancel] to revert to the previously saved values.

Delete a Visit Record

1. Select **Visits** from the **Administration** menu. The Visits folder opens.
2. In the Visits listing window select the visit record you want to delete.

Note: To select multiple visit records select the **Multiple Selection** check box.

3. Click [Delete].
4. Click [OK]. The visit(s) will be deleted without confirmation.

Print a Visitor Badge

1. Select **Visits** from the **Administration** menu. The Visits folder opens.
2. In the Visits listing window select the visit record you want to print.

Note: To select multiple visit records select the **Multiple Selection** check box.

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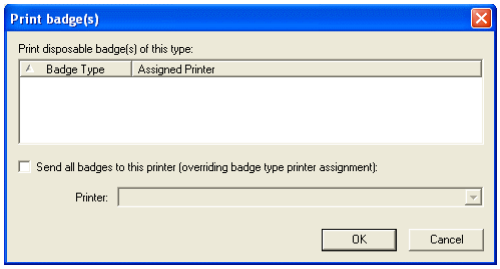
3. On any form in the Visits folder, click [Print].
4. The Print badge(s) window displays. In the **Print disposable badge(s) of this type** listing window select the type of badge to print.



Note: Disposable badge types are configured in the Badge Types folder and must have "Visitor" selected for the **Class** and the **Disposable** check box selected (on the Badge Type sub-tab). If segmentation is enabled, the correct segment must be selected on the Segment Membership sub-tab.

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5. To select an alternate printer select the **Send all badges to this printer (overriding badge type printer assignment)** check box and choose a printer from the drop-down list. This check box and drop-down list are enabled if the user has the correct permissions.
6. Click [OK].

Sign in a Previously Scheduled Visit and Print a Badge

Each visit has a time that it is scheduled to begin. When the visitor arrives and the visit actually begins, the visit should be "signed in". When a visit is signed in, the actual **Time In** of the visitor is updated to the current date and time and any

access control badge that the visitor is issued is activated. A visit can be signed in immediately after it is added or it can be signed in later.

1. Open the Sign In Visit(s) dialog by completing one of the following:
   a. Add a visit. For more information, refer to Add a Visit Record on page 192.
   b. Search for an existing visit and click [Sign In]. For more information, refer to Search for Scheduled, Active or Finished Visits on page 190.
2. Depending on how the badge types are configured, different fields are active on the Sign In Visit(s) form.
   - To print a disposable visitor's badge using the default printer assignment, complete steps a and d (below).
   - To print a disposable visitor's badge by overriding the default printer assignment, complete steps a, b, and d.
   - To print a non-disposable visitor's badge by using the default printer assignment, complete steps c and d.
   - To print a non-disposable visitor's badge by overriding the default printer assignment, complete steps a through d.
     a. Select the Print disposable badge(s) of this type check box and select a badge type.
     b. Select the Send all badges to this printer (overriding badge type printer assignment) check box and select the printer from the drop-down list.
     c. Select the Assign this access control badge ID check box and enter the badge ID. Note, the badge ID must exist in the database as an active visitor badge ID. If the visitor already has an active access control badge, this field will automatically be filled in with that ID.
     d. Click [Sign In].

Note: Disposable badge types are configured in the Badge Types folder. For a badge type to be used to print disposable badges, it must have "Visitor" selected for the **Class** and the **Disposable** check box must be selected (on the Badge Type sub-tab). If segmentation is enabled, the correct segment must be selected on the Segment Membership sub-tab.

Sign Out a Visit

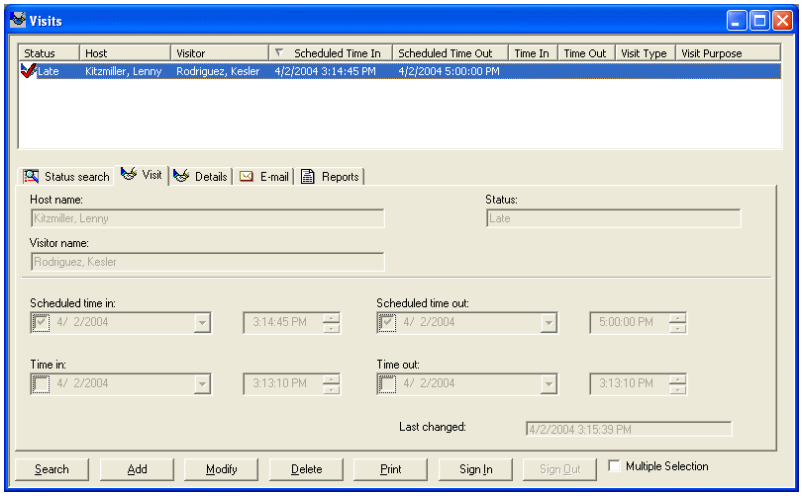
Each visit has a time that it is scheduled to end. When the visitor leaves and the visit actually ends, the visit should be "signed out." When a visit is signed out, the actual **Time Out** of the visitor is updated to the current date and time and any access control badge that the visitor is issued is deactivated.

To use the Sign Out feature, you must first configure a badge status to use when doing an automatic sign out. This is done on the Visits form in the Cardholder Options folder. For more information, refer to Configure System-wide Visit

Options on page 522.

1. Select **Visits** from the **Administration** menu. The Visits folder opens.
2. Locate the active visit record that needs to be signed out.
3. In the Visits listing window, select the active visit that you want to sign out by clicking on it.
4. Click [Sign Out].
5. The message “Are you sure you wish to sign out the selected visit(s)? This will also deactivate any badges the visitors have.” will be displayed. Click [Yes] to complete the sign out. The **Time out** will be updated to the current date/time. If the visitor has an active badge, the deactivate date will be updated and the badge status will be set to the status setup that was selected on the Cardholder Options form. The signed out visit will appear in the Visits listing window.

Visit Form



Visit Form Overview

The Visit form is displayed by default when the Visits folder opens. It is used to:

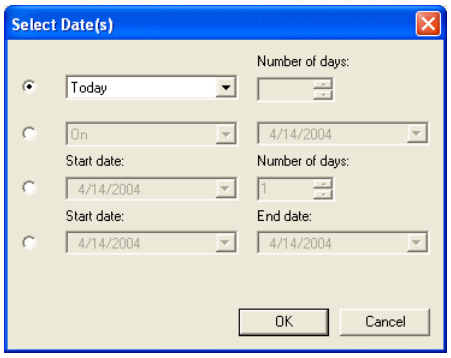
- Add or modify visits
- Display visit records for a selected date range
- Search for visit records based on the scheduled time in, scheduled time out, time in, time out or date and time last changed

Visit Form Field Table

Form Element	Comment
Scheduled time in	Select the date and time that the visit is expected to start.
Time in	When a visit is signed in, the visit's **Time in** gets updated to the current date and time.
Scheduled time out	Select the date and time that the visit is expected to end.
Time out	When a visit is signed out, the visit's **Time out** gets updated to the current date and time.
Last changed	Indicates the date and time on which this visit record was last modified and saved. This date and time are only updated when visit information is changed, not when badge information is changed. The last changed date is saved individually for each badge record as well.

Select Date(s) Window

This window is only displayed when the Visit form in the Visits folder is in Search mode. In Search mode, click the [...] button to the right of the first **Scheduled time in**, **Time in**, **Scheduled time out** or **Time out** field.



Visit Form - Select Date(s) Window Field Table

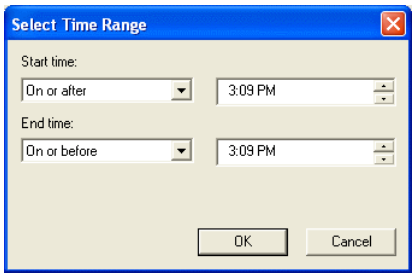
Form Element	Comment
Day	Used when searching for a scheduled time in, time in, scheduled time out or time out. Selects visits that occurred today, on a previous number of days or on a specified number of days in the future.
Specific Date	Used when searching for the date portion of a scheduled time in, time in, scheduled time out or time out. Selects visits that occurred on a specified date. Choices include on, on or after, after, on or before or before a specified date.
Number of Days After a Date	Used when searching for the date portion of a scheduled time in, time in, scheduled time out or time out. Selects visits between a specified start date and a specified number of days after the start date.

Visit Form - Select Date(s) Window Field Table (Continued)

Form Element	Comment
Between Two Dates	Used when searching for the date portion of a scheduled time in, time in, scheduled time out or time out. Selects all visits that occurred between the specified Start date and the End date.
OK	Enters the code for the selected search criteria in the respective field on the Visit form in the Visits folder.
Cancel	Closes the Select Date(s) window without selecting a date search criteria.

Select Time Range Window

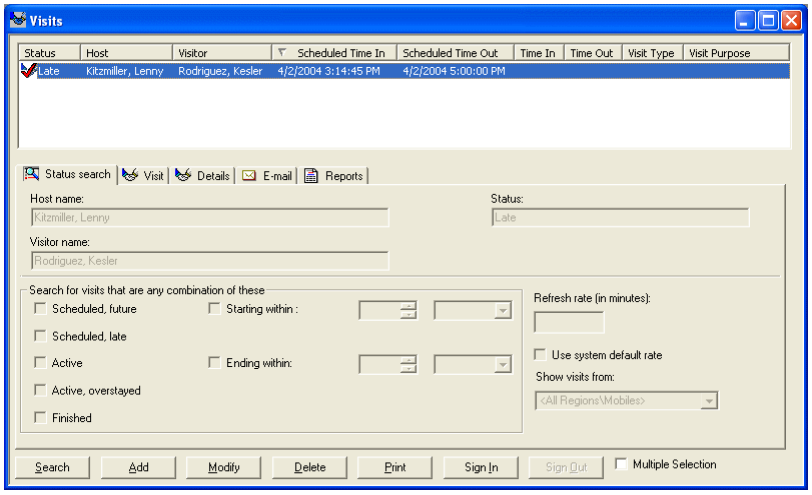
This window is only displayed when the Visit form in the Visits folder is in Search mode. In Search mode, click the [...] button to the right of the second **Scheduled time in**, **Time in**, **Scheduled time out** or **Time out** field.



Visit Form - Select Time Range Window Field Table

Form Element	Comment
Start time	Used when searching for the time portion of a scheduled time in, time in, scheduled time out or time out. Allows you to search for visits that start on or after or after a specified time. If "None" is selected, no time restraints are put on the visit records that are returned. (Visits that started at any time on the specified date will be returned.)
End time	Used when searching for the time portion of a scheduled time in, time in, scheduled time out or time out. Allows you to search for visits that end on or before or before a specified time. If "None" is selected, no time restraints are put on the visit records that are returned. (Visits that ended at any time on the specified date will be returned.)
OK	Enters the code for the selected search criteria in the respective field on the Visit form in the Visits folder.
Cancel	Closes the Select Time Range window without selecting a time search criteria.

Status Search Form



Status Search Form Overview

The Status Search form is only enabled when the [Search] button is clicked. It is used to:

- Search for Visits that meet a specified criteria (scheduled in the future, scheduled but late, active, finished, etc.)
- Set the refresh rate

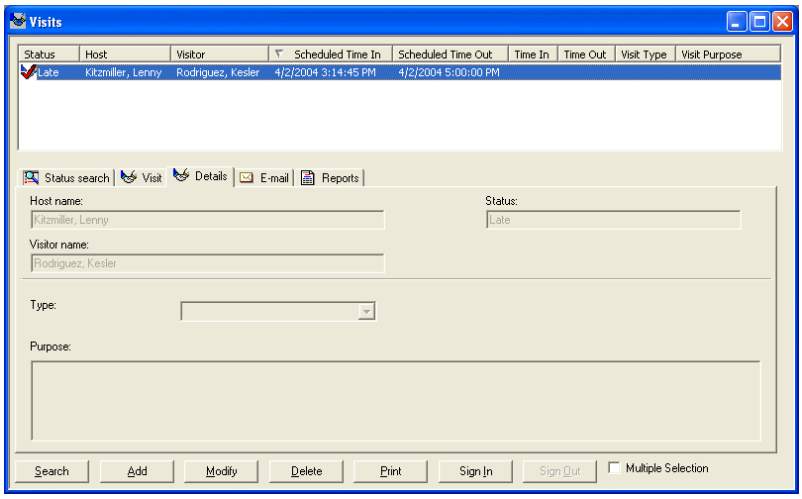
Status Search Form Field Table

Form Element	Comment
Scheduled, future	If selected, the search will find visits that are scheduled in the future, i.e., have a scheduled time in that is in the future and have not been signed in yet
Starting within	Enabled for selection only when the **Scheduled, future** check box is selected. If selected, specify the number of hours, days or minutes that the visit is scheduled to begin in. For example, you can search for all visits that are scheduled to begin within the next two days.
Scheduled, late	If selected, the search will find visits that are late, i.e., have a scheduled time in that is in the past and have not been signed in yet
Active	If selected, the search will find all visits that are currently signed in and have not been signed out yet
Ending within	Enabled for selection only when the **Active** check box is selected. If selected, specify the number of hours, days or minutes that the visit is scheduled to end in. For example, you can search for all visits that are scheduled to end within the next two days.
Active, overstayed	If selected, the search will find all visits that are currently signed in where the current date and time is after the scheduled time out. For example, a visitor that was supposed to leave at 3 p.m., but is still visiting at 5 p.m.
Finished	If selected, the search will locate visits that occurred in the past.

Status Search Form Field Table (Continued)

Form Element	Comment
Refresh rate (in minutes)	The refresh rate is how often the database is queried to see if it has changed. The refresh rate is stored on a per user basis and only applies when searching based on a status (i.e., the "Scheduled, future", "Scheduled, late", "Active", "Active, overstayed" or "Finished" status) on the Status search form in the Visits folder. The default value is set in the **Refresh rate (in minutes)** field on the Visits form in the Cardholder Options form. A custom refresh rate can be specified as long as the **Use system default rate** check box is not selected.
Use system default rate	If selected, the system default rate will be used when refreshing. The system default rate is set in the **Refresh rate (in minutes)** field on the Visits form in the Cardholder Options folder. If not selected, a custom refresh rate can be specified in the **Refresh rate (in minutes)** field.

Details Form



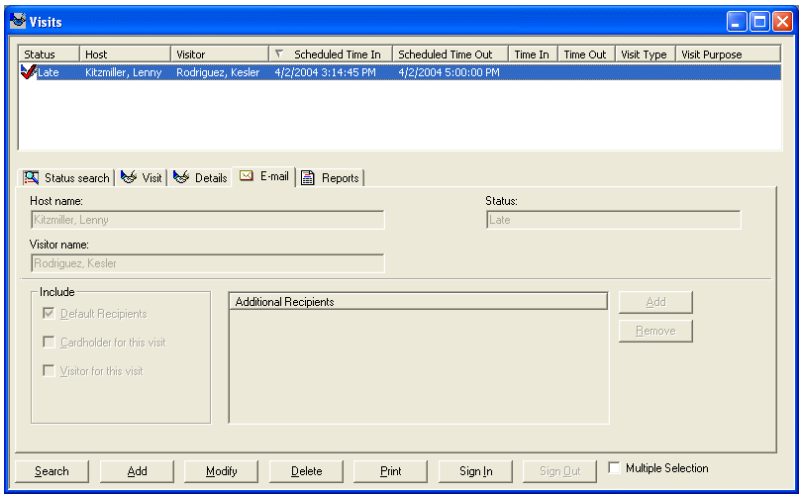
Details Form Overview

The Details form is a user-defined form that has been created for you. This form can be modified or even deleted using FormsDesigner. By default, the form contains the type and purpose of the visit.

Details Form Field Table

Form Element	Comment
Type	Select the type of visit. **Note:** Types of visits must first be configured in the List Builder, which is displayed by selecting the **Administration** menu, then selecting **List Builder**. For more information, refer to Chapter 18: List Builder Folder on page 569.
Purpose	Type the reason why the visitor is visiting the cardholder.

E-mail Form



E-mail Form Overview

The E-mail form is used to specify e-mail addresses and pager numbers that are automatically notified of visits. You can:

- Add a recipient
- Remove a recipient
- Specify whether to e-mail the default recipients, the cardholder being visited and/or the visitor

E-mail Form Field Table

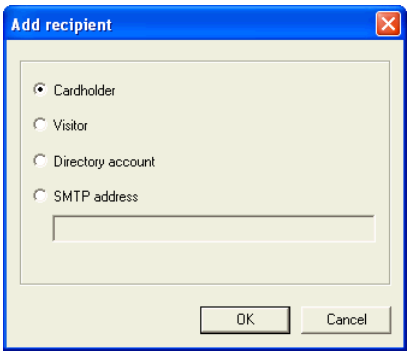
Form Element	Comment
Default Recipients	Select this check box if you wish to send e-mail messages to the default recipients. • On segmented systems, select **Administration** > **Segments**, click the Segments tab, then click the Visits sub-tab. On the Visits sub-tab, you can add or remove recipients. These recipients will be collectively considered the "Default Recipients" on the E-mail form in the Visits folder. • On non segmented systems, select **Administration** > **System Options**, then click the Visits tab. On the Visits tab, you can view or modify the default recipients. Whether this check box is selected by default when a new visit is added is determined by the **Include default recipients by default** check box on the Visits form in the Cardholder Options folder.
Cardholder for this visit	Select this check box if you wish to have an e-mail sent to the cardholder for this visit. Whether this check box is selected by default when a new visit is added is determined by the **Include host's e-mail by default** check box on the Visits form in the Cardholder Options folder.
Visitor for this visit	Select this check box if you wish to have an e-mail sent to the visitor for this visit. Whether this check box is selected by default when a new visit is added is determined by the **Include visitor's e-mail by default** check box on the Visits form in the Cardholder Options folder.

E-mail Form Field Table (Continued)

Form Element	Comment
Additional Recipients listing window	Displays the e-mail addresses that will receive e-mail notification of visits. **Note:** The addresses for the default recipients are not displayed in this listing window.
Add	Click this button if you wish to add another recipient. The Add recipient window is displayed. You may add a cardholder, visitor, directory account or SMTP address. • If you select the **Cardholder** radio button and click [OK], the Select Host Wizard: Search form is displayed. • If you select the **Visitor** radio button and click [OK], the Select Visitor Wizard: Search form is displayed. • If you select the **Directory account** radio button and click [OK], the Select Account window is displayed. • If you select the **SMTP address radio button**, type the SMTP address, then click [OK]. An example of an SMTP address is “joesmith@company.com”.
Remove	Removes the selected recipient from the list of recipients that will receive notification of visits.

Add Recipient Window

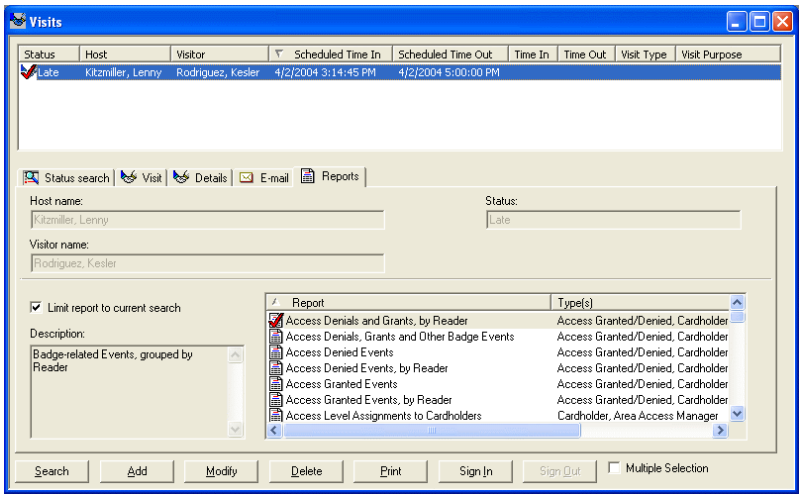
This window is displayed when the E-mail form in the Visits folder is in Add or Modify mode and the [Add] button to the right of the Additional Recipients listing window is clicked.



E-mail Form - Add Recipient Window Field Table

Form Element	Comment
Cardholder	The Select Host Wizard: Search form is displayed, which allows you to add a cardholder as an e-mail recipient. For more information, refer to Select Host Wizard: Search Form on page 212.
Visitor	The Select Visitor Wizard: Search form is displayed, which allows you to add a visitor as an e-mail recipient.
Directory account	The Select Account window is displayed, which allows you to add a directory account as an e-mail recipient.
SMTP address	Type the SMTP address, then click [OK]. An example of an SMTP address is "joesmith@company.com".
OK	• If you selected the **Cardholder** radio button, the Select Host Wizard: Search form is displayed. For more information, refer to Select Host Wizard: Search Form on page 212. • If you selected the **Visitor** radio button, the Select Visitor Wizard: Search form is displayed. For more information, refer to Select Visitor Wizard: Search Form on page 215. • If you selected the **Directory account** radio button, the Select Account window is displayed. • If you selected the **SMTP address** radio button and typed an SMTP address, the address will be added to the Additional Recipients listing window.
Cancel	Closes the Add recipient window without adding a recipient.

Reports Form



Reports Form Overview

The Reports form shows only visit-related reports. On the Reports form you can:

- Search for a cardholder
- Search for a visitor
- Generate a report

Reports Form Field Table

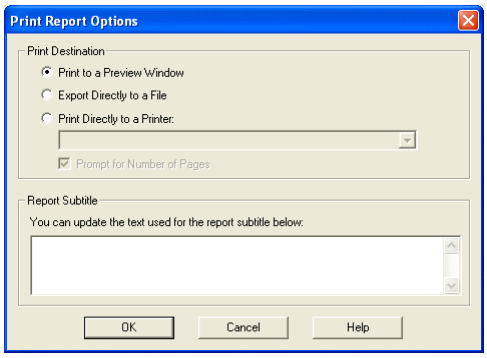
Form Element	Comment
Limit report to current search	If selected, the report will only include those records that match the rest of the search criteria specified on any form in the Visits folder. If not selected, the report will include all records for the selected report type.
Description	A brief description of the report contents.
Report listing window	Lists currently defined reports of the type(s) selected in the Report listing window.

Reports Form Procedures

Run a Visit Report from the Visits Folder

A visit report can be generated for either a defined search criteria or for all visits.

1. If you wish to generate a visit report that searches through all visit records not just those that match a search criteria, proceed to step 2. To generate a visit report based on a search criteria:
   a. Select **Visits** from the **Administration** menu. The Visits folder opens.
   b. In the Visits folder, click [Search].
   c. Run the search that you wish to print a report for. For more information on searching refer to the following:
      - Visit Search Capabilities on page 187
      - Search for All Visits to a Selected Cardholder on page 189
      - Search for All Visits by a Selected Visitor on page 189
      - Search for Scheduled, Active or Finished Visits on page 190
      - Search for All Visits for a Specific Date or Time on page 190
      - Retrieve the Most Recent Visit Search Results on page 192
   d. Click the Reports tab.
   e. Select the **Limit report to current search** check box.
   f. Proceed to step 3.
2. To generate a visit report that searches through all visits:
   a. Select **Visits** from the **Administration** menu. The Visits folder opens.
   b. In the Reports listing window, select the type of report you wish to print.
   c. Proceed to step 3.
3. Click [Print]. The Print Report Options window opens.



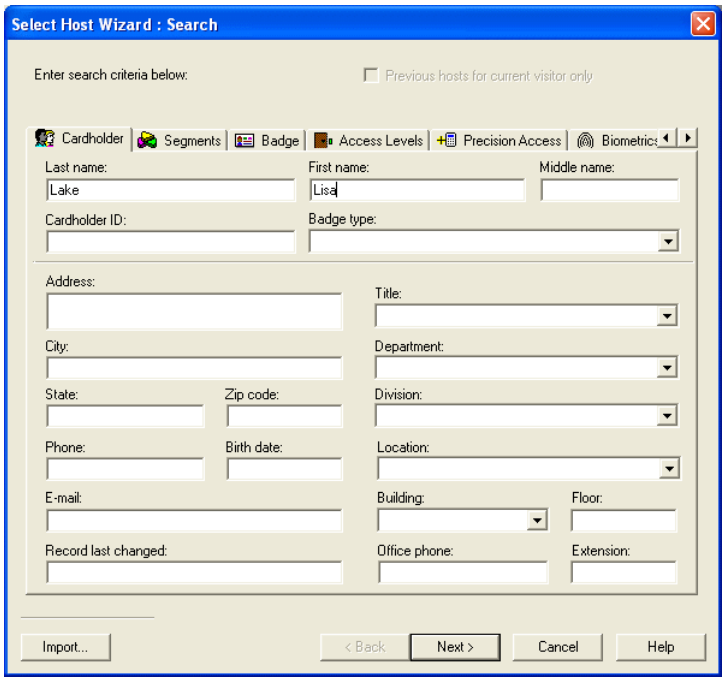
4. In the Print Destination section, select whether to print to a preview window, export directly to a file or print directly to a printer.
5. If you selected **Print Directly to a Printer** in the Print Destination section, select a printer in the drop-down list and choose whether to **Prompt for Number of Pages**.

6. In the Report Subtitle section, type the report subtitle. If the **Limit report to current search** check box is selected, the search criteria will be listed in the Report Subtitle section by default. The subtitle will be displayed below the report title on the report.
7. Click [OK]. The options selected in the Print Destination section will determine where the report is sent.

Select Host Wizard: Search Form

Note: If the FormsDesigner application has been used to customize your cardholder data, the elements on your Select Host Wizard: Search form will be different. The default fields are pictured below.

This form is displayed when the [Search] button in the Visits folder is clicked and then the [...] button to the right of the **Host name** field is clicked.



Select Host Wizard: Search Form Overview

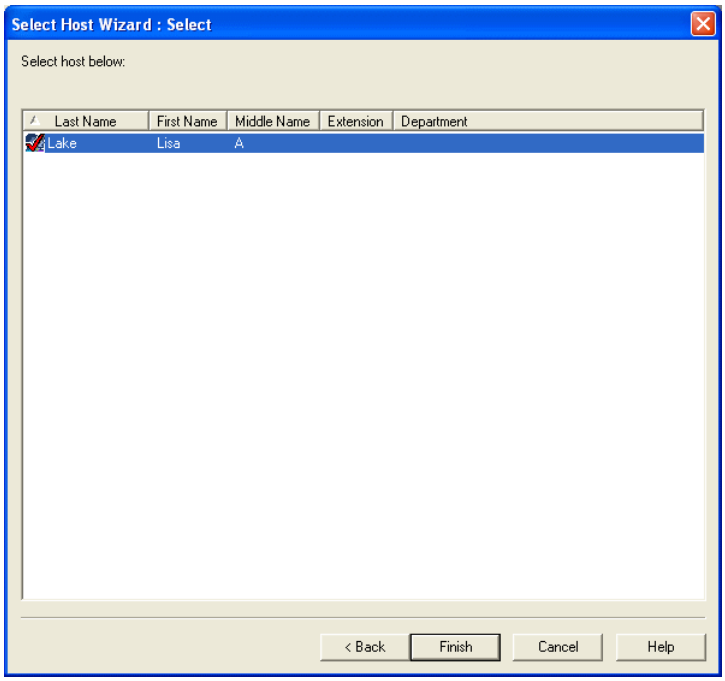
This form is used to enter search criteria that will allow you to locate a specific cardholder.

Visits Folder - Select Host Wizard: Search Form

Form Element	Comment
Previous hosts for current visitor only	This check box is only enabled when a visitor has been selected and a cardholder is being searched for. If selected, only those cardholders who have previously been visited by the selected visitor will be displayed on the Select Visitor: Select or Add form.
Last name	Indicates cardholder's last name.
First name	Indicates cardholder's first name.
Middle name	Indicates cardholder's middle name.
Cardholder ID	Indicates a cardholder's ID, which is most commonly their Social Security Number. The cardholder ID must be a numeric value.
Badge type	Selects which of the cardholder's badges (if he or she has more than one) is to be the active one.
User-defined fields	All fields below the line on this form are user-defined fields. The default fields are pictured, but your form may be different if the FormsDesigner application has been used to customize your cardholder data.
Back	This button is not used.
Next	The wizard will proceed to the Select Host Wizard: Select form.
Cancel	Closes the window without locating a cardholder and returns you to the Visit form in the Visits folder.
Help	Displays online help for this topic
Import	Displays the Select Import Source window, which allows you to select a device to import cardholder data from, such as a business card scanner

Select Host Wizard: Select Form

This form is displayed when the [Next] button on the Select Host Wizard: Search form is clicked.



Select Host Wizard: Select Form Overview

This form is used to select a cardholder record from those that matched the specified search criteria. The columns displayed are configured on the Cardholder Search Results form in the Cardholder Options folder. For more information, refer to Configure the Cardholder Search Results Lists on page 525.

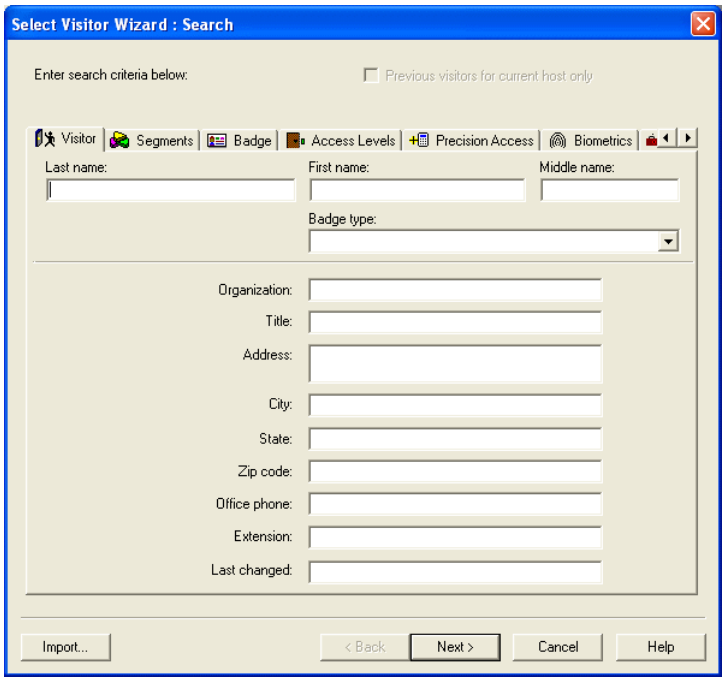
Visits Folder - Select Host Wizard: Select Form

Form Element	Comment
Cardholder listing window	A list of cardholder records that match the search criteria specified on the Select Host Wizard: Search form are displayed. **Note:** The fields that are displayed in columns are set on the Cardholder Search Results Lists form in the Cardholder Options folder.
Back	Returns to the Select Host Wizard: Search form.
Finish	Completes the wizard. The selected cardholder's name will be displayed in the **Host name** field.
Cancel	Closes the window without selecting a cardholder and returns you to the Visit form in the Visits folder.
Help	Displays online help for this topic

Select Visitor Wizard: Search Form

Note: If the FormsDesigner application has been used to customize your visitor data, the elements on your Select Visitor Wizard: Search form will be different. The default fields are pictured below.

This form is displayed when the [...] button to the right of the **Visitor name** drop-down list on the Visit form is clicked.



Select Visitor Wizard: Search Form Overview

This form is used to locate visitor records that match the specified search criteria.

Visits Folder - Select Visitor Wizard: Search Form

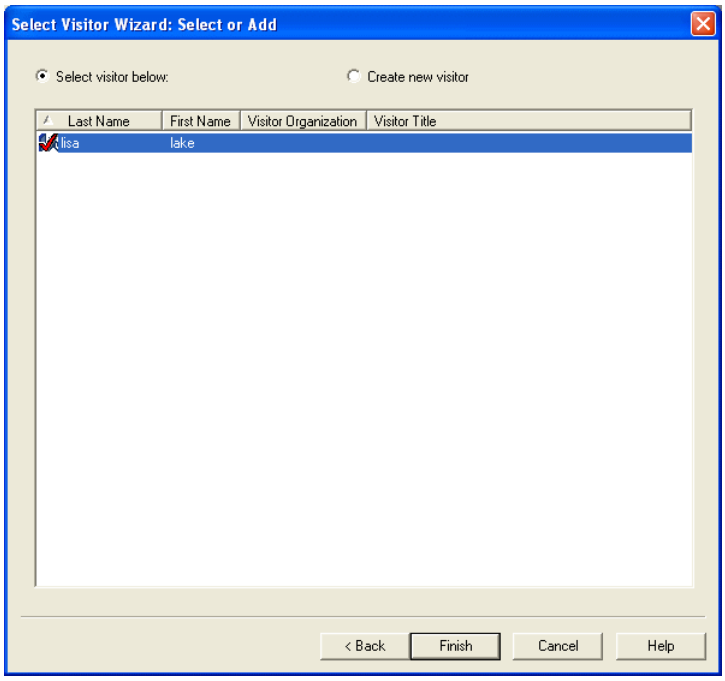
Form Element	Comment
Previous visitors for current host only	This check box is only enabled when a cardholder has been selected and a visitor is being searched for. If selected, only those visitors who have previously visited the selected cardholder will be displayed on the Select Visitor: Select or Add form.
Last name	Indicates visitor's last name.
First name	Indicates visitor's first name.
Middle name	Indicates visitor's middle name.

Visits Folder - Select Visitor Wizard: Search Form (Continued)

Form Element	Comment
Badge type	Indicates the visitor's badge type. Badge types are configured in the Badge Types folder. For more information, refer to Chapter 11: Badge Types Folder on page 357.
User-defined fields	All fields below the horizontal line on this form are user-defined fields. The default fields are pictured, but your form may be different if the FormsDesigner application has been used to customize your visitor data.
Back	This button is not used.
Next	The wizard will proceed to the Select Visitor Wizard: Select or Add form.
Cancel	Closes the window without locating a visitor and returns you to the Visit form in the Visits folder.
Import	Displays the Select Import Source window, which allows you to select a device to import visitor data from, such as a business card scanner
Help	Displays online help for this topic

Select Visitor Wizard: Select or Add Form

This form is displayed when the [Next] button on the Select Visitor Wizard: Search form is clicked.



Select Visitor Wizard: Select or Add Form Overview

This form is displayed when adding a visit. From this form, you can:

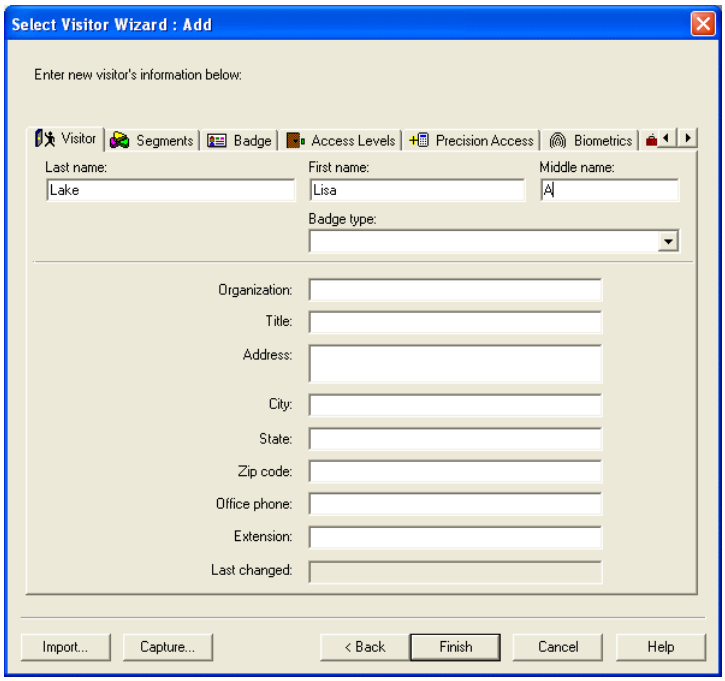
- Search for visitor records that match the specified search criteria.
- Add a new visitor record.

Visits Folder - Select Visitor Wizard: Select or Add Form

Form Element	Comment
Select visitor below	Select this option if the visitor you need to add a visit for is listed below in the Visitor listing window. If you select this option, also select a visitor in the Visitor listing window below.
Create new visitor	Select this option if the visitor you need to add a visit for is not listed in the Visitor listing window. If you select this option, the [Finish] button will be replaced with a [Next] button. When the [Next] button is clicked, the Select Visitor Wizard: Add form will be displayed, on which you can add a new visitor.
Visitor listing window	A list of visitor records that match the search criteria specified on the Select Visitor Wizard: Search form are displayed. **Note:** The fields that are displayed in columns are set on the Visitor Search Results Lists form in the Cardholder Options folder.
Back	Returns to the Select Visitor Wizard: Search form.
Finish	This button is displayed only if **Select visitor below** is selected. Click this button to complete the wizard. The selected visitor's name will be displayed in the **Visitor name** field. If **Create new visitor** is selected, the [Finish] button is replaced by a [Next] button.
Cancel	Closes the window without selecting a visitor and returns you to the Visit form in the Visits folder.
Help	Displays online help for this topic

Select Visitor Wizard: Add Form

This form is displayed when **Create new visitor** is selected and the [Next] button is clicked on the Select Visitor Wizard: Select or Add form.



Select Visitor Wizard: Add Form Overview

This form allows you to:

- Add a new visitor record
- Capture photographic information such as a photo, signature or biometric data for a visitor
- Import visitor data from a business card scanner or other similar device

Visits Folder - Select Visitor Wizard: Add Form

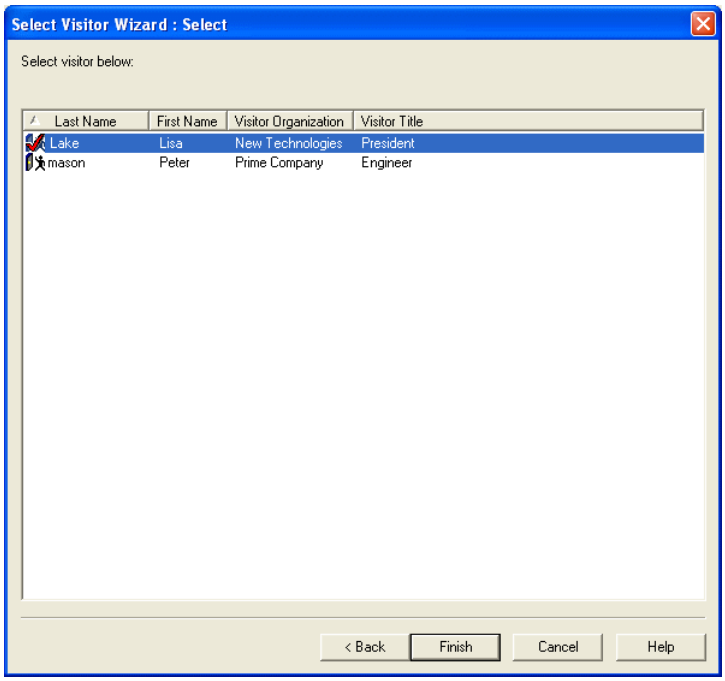
Form Element	Comment
Last name	Indicates visitor's last name.
First name	Indicates visitor's first name.
Middle name	Indicates visitor's middle name.
Badge type	Select the visitor's badge type. Badge types are configured in the Badge Types folder. For more information refer to Chapter 11: Badge Types Folder on page 243.
User-defined fields	All fields below the Name fields on this form are user-defined fields. The default fields are pictured, but your form may be different if the FormsDesigner application has been used to customize your visitor data.

Visits Folder - Select Visitor Wizard: Add Form (Continued)

Form Element	Comment
Import	Displays the Select Import Source window, which allows you to select a device to import visitor data from, such as a business card scanner
Capture	Displays Multimedia Capture, where you can capture photographic information such as a photo, signature or biometric data for a visitor
Back	Returns to the Select Visitor Wizard: Select or Add form.
Finish	Completes the wizard. The visitor record will be added to the database and the name of the visitor who was just added will be displayed in the **Visitor name** field.
Cancel	Closes the window without adding a visitor and returns you to the Visit form in the Visits folder.
Help	Displays online help for this topic

Select Visitor Wizard: Select Form

This form is displayed when the [...] button to the right of the Visitor name field on the Visit form in the Visits folder is clicked.



Select Visitor Wizard: Select Form Overview

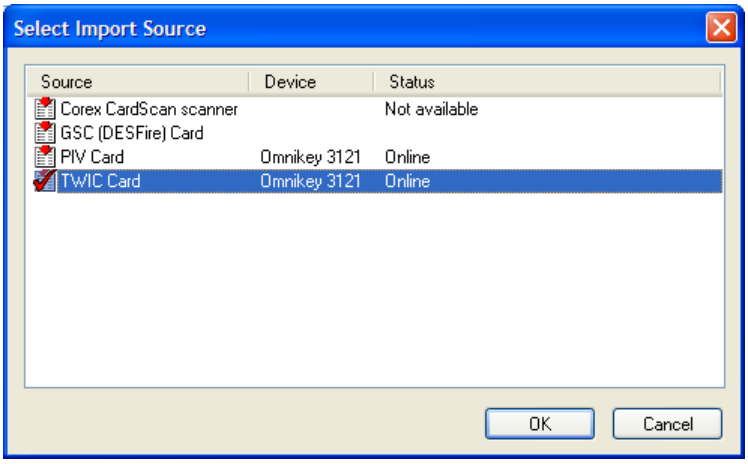
This form is displayed when searching; it is used to select a visitor record from those that matched the specified search criteria.

Visits Folder - Select Visitor Wizard: Select Form

Form Element	Comment
Last Name	Indicates visitor's last name.
First Name	Indicates visitor's first name.
Middle Initial	Indicates visitor's middle initial.
User-defined fields	All fields below the Name fields on this form are user-defined fields. The default fields are pictured, but your form may be different if the FormsDesigner application has been used to customize your visitor data.
Back	Returns to the previous form.
Finish	Completes the wizard. The selected visitor's name will be displayed in the **Visitor name** field.
Cancel	Closes the window without selecting a visitor and returns you to the Visit form in the Visits folder.
Help	Displays online help for this topic

Select Import Source Window

This window is displayed by clicking the [Import] button on any window in the Select Host Wizard or Select Visitor Wizard.



Select Import Source Window Field Table

Form Element	Comment
Source listing window	Displays a list of available sources, such as a business card scanner, to import cardholder or visitor data from.
OK	If a valid source is selected, you will be able to import cardholder or visitor data using it.
Cancel	Closes the Select Import Source window without selecting a source to import cardholder or visitor data from.

Chapter 6: Badge Templates Folder

Important: To view the Badge Templates folder your system must have an ILS license.

The Badge Templates folder is used to configure badge templates that can be downloaded to an ILS lock and assigned to a single cardholder. Badge templates are ideally used in dynamic environments where cardholders change frequently. Badge templates can be used to avoid numerous data downloads to the locks that are in such a dynamic environment.

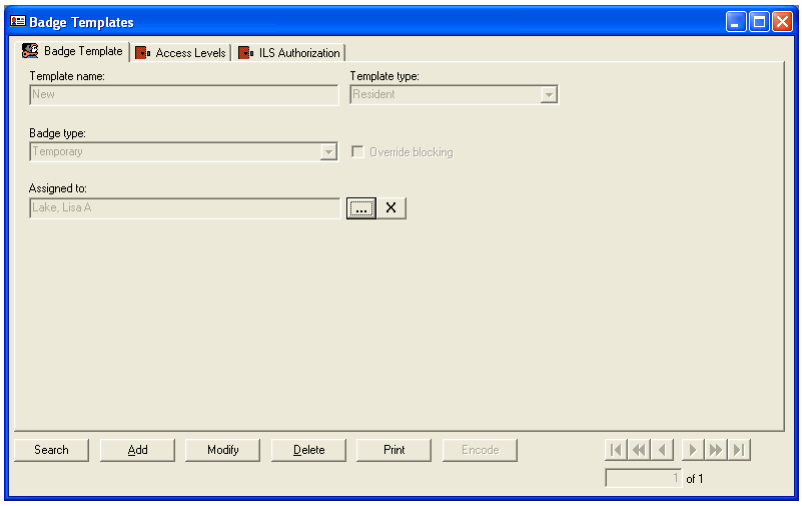
Badge templates allow you to set up pre-defined access to locks as well as the ability to control and monitor the access of the cardholders assigned to the badge templates. Since only one cardholder can be assigned to a badge template at a time, each new card that is issued to a badge template will lock out the previous card made from that badge template.

Note: For more information, refer to Appendix K: ILS (Integrated Locking Solutions) on page 1525.

Important: ILS readers (locks) do not support assigning an access level to a cardholder (badge) if that access level contains a lock that is in an access level already assigned to the cardholder (badge).

Badge Template Form

The Badge Template form is used to configure the template name and type and to assign the template to a cardholder.



Badge Templates - Badge Template Form

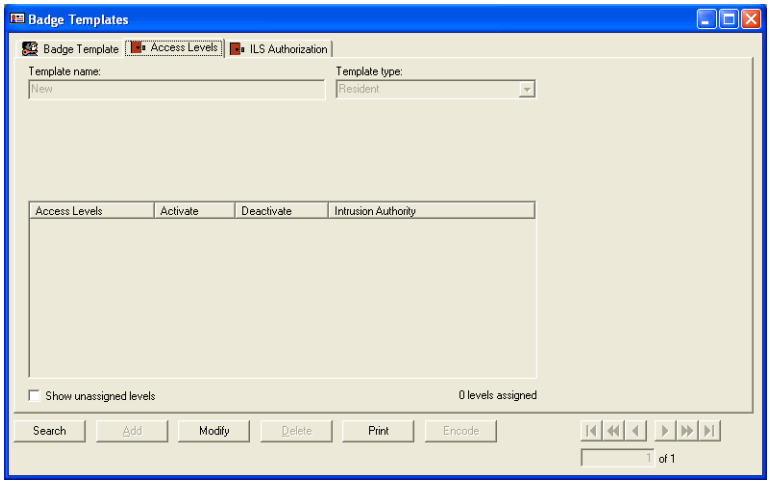
Form Element	Comment
Template name	Used to create a name for the template.
Template type	Select the template type. Your choices are: • **Resident** - Use for long term cardholders • **Visitor** - Use for short term cardholders
Badge type	Select the cardholder's badge type. Only a badge type that uses an automatic ID allocation type can be selected for a badge template. Badge types are configured in the Badge Types folder. For more information, refer to Chapter 11: Badge Types Folder on page 357.
Override blocking	Select this to give the cardholder assigned to this badge template the ability to unlock a door that has been blocked with a blocking card. Locks are blocked to deny entrance in unusual cases such as a police investigation. It is important to leave this field unselected unless you are certain the user of this badge template should be able to open a blocked lock. For more information, refer to Configure Blocking Cards for Integra Locks on page 1544 or Configure Special Purpose Cards for ILS Offline/Wireless Locks on page 1576.
Assigned to	Click the [...] button to open the Select Cardholder Wizard to search for or create a cardholder. Click the [X] button to unassign the cardholder from the badge template. You can also type in the name of the cardholder in the Assigned to text box to search for a specific cardholder.
Search all assigned	Only available in search mode. Select to only search for badge templates that have a cardholder assigned.
Search all unassigned	Only available in search mode. Select to only search for badge templates that do not have a cardholder assigned.

Badge Templates - Badge Template Form (Continued)

Form Element	Comment
Search	Click this button to search all assigned or unassigned badge templates, and then use the Badge Template Assignment Wizard to search for an existing cardholder or to create a new cardholder.
Add	Used to add a badge template.
Modify	Used to change a badge template.
Delete	Used to remove a badge template.
Print	Opens the Badge Printing window.

Access Levels Form

The Access Levels form is used to assign access levels to the badge templates.



Badge Templates - Access Levels Form

Form Element	Comment
Intrusion Authority	**Note:** The authority levels assigned act as access levels. Make note of this as the maximum number of access levels is usually 32. Displayed in modify mode. When selected, displays the Intrusion Authority Levels form from where you can assign intrusion authority levels. These levels will allow the cardholder the ability to issue commands via the keypad. For more information, refer to Chapter 31: Command Keypad Templates Folder on page 867. **Note:** The intrusion authority functionality is only used by online access control hardware and not offline locking systems.

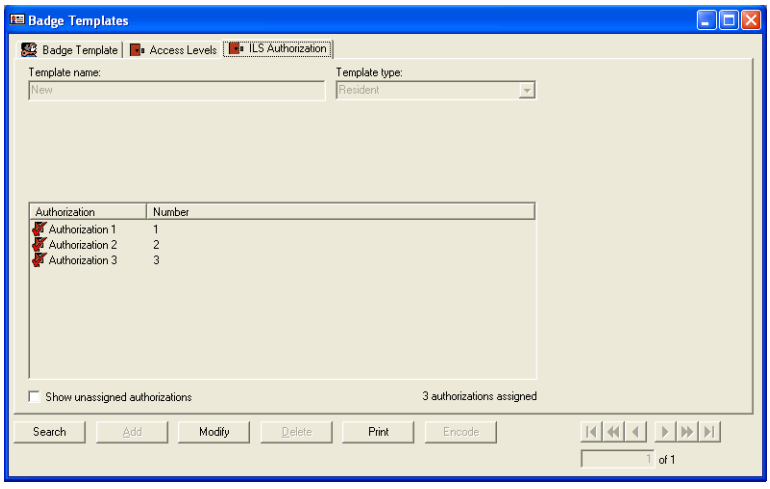
Badge Templates - Access Levels Form (Continued)

Form Element	Comment
Activate Dates	Displayed in modify mode. When selected, displays the Access Level Activation Dates form from where you can select the dates when the selected access level will become valid and invalid.
Access Groups	Displayed in modify mode. When selected, displays the Select Access Levels in a Group form from where you can choose the access level group that you want to select access levels from.
Access Levels listing window	Lists the access levels that can be added to the badge template.
Show unassigned levels	Displayed in view and modify mode. When selected, the **Access levels** display lists both access levels that have been and that can be assigned to the selected cardholder/badge record.

ILS Authorization Form

Note: To view this form your system must have an ILS license.

The ILS Authorization form is used to add authorization levels to the badge templates.



Badge Templates - ILS Authorization Form

Form Element	Comment
Authorization listing window	Lists the ILS authorizations that can be assigned to the badge template.
Assign All	Displayed in modify mode. Click to assign all authorizations displayed in the authorization listing window.

Badge Templates - ILS Authorization Form (Continued)

Form Element	Comment
Unassign All	Displayed in modify mode. Click to unassign all authorizations displayed in the authorization listing window.
Show unassigned authorizations	Displayed in view mode. When selected, the **Show levels for badge ID (issue code)** drop-down list will list both the active and inactive badge(s) assigned to the selected badge template.

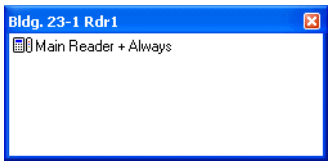
Badge Template Form Procedures

Add a Badge Template

1. Select **Badge Templates** from the **Administration** menu. The Badge Templates folder opens.
2. On the Badge Template tab click [Add].
3. Enter a template name in the Template name field.
4. Select a template type from the **Template type** drop-down box.
5. Select a badge type from the **Badge type** drop-down box.
6. Optionally, you can select the **Override blocking** check box.
7. In view mode, on the **Assigned to** field, click the [...] button to start the Select Cardholder Wizard. The wizard will allow to you to create or search for a specific cardholder that you wish to assign the badge template to. Click [OK].
   For more information, refer to Assign a Cardholder to a Badge Template on page 228.
8. Select the Access Levels tab and click [Modify].
9. Select the **Show unassigned levels** check box. The **Access levels** display will list both access levels that have been and that can be assigned to the selected cardholder/badge record.

Note: To find out more about a particular access level, either double-click on an access level entry, or right-click on an access level entry and select **Level Definition**. A popup window opens, listing the reader/time zone

combinations that define the access level. For example:



10. Optional: If you would like to set the date and time that the badge will deactivate:
    a. Click [Activate Dates]. The **Access Level Activation Dates** window opens.
    b. Deselect the [Activation Date] radio button.
    c. Select the [Deactivation Date] radio button and select the date and time that the access level should deactivate.
    d. Click [OK].
11. Optional: If you want to assign all the access levels that belong to an access group:
    a. Click [Access Groups]. The **Select Access Levels in a Group** window opens.
    b. The **Select Access Levels in a Group** window lists all currently defined access groups. You can expand an entry to display the list of access levels that make up a group. Select an access level or an access group. If you select an access group, you select all of the access levels it contains.
    c. Click [Select].
    d. Click [Yes].
12. Select the ILS Authorization tab.
13. In the authorization listing window select the authorizations that you want the cardholder to have. For more information, refer to ILS Authorization Form on page 172.
14. Click [OK]. The cardholder now has access to the authorization levels you have selected.
15. The badge template is now created.

Assign a Cardholder to a Badge Template

1. Create a new badge template or search for an unassigned badge template.
2. Select **Badge Templates** from the **Administration** menu. The Badge Templates folder opens.
3. On the Badge Template tab, search for the template you would like to add a cardholder to and click [Modify].
4. On the **Assigned to** field click the browse button. The **Badge Template Assignment Wizard** window opens.
5. Select whether you would like to search for an existing cardholder or create a new cardholder. If you choose to create a new cardholder then fill in all

appropriate information and click [Finish]. The cardholder will automatically be added to the badge template and the wizard will finish.

6. If you are searching for a cardholder, fill in as much information as you can and click [Next]. A list of cardholders matching your search criteria will be listed.
7. Select the cardholder you wish to add and click [Next].
8. Review and configure any settings for the selected cardholder. Click [Finish].
9. If you wish to assign a personalized access level assignment, Select the **Access levels** tab and select an access level in the listing window. Assigning an access level to a cardholder in the badge template will create a personalized access level that can be seen in the Assignment Type column of the Access Levels listing window.

Unassign a Cardholder from a Badge Template

1. Select **Badge Templates** from the **Administration** menu. The Badge Templates folder opens.
2. On the Badge Template tab, search for the template you would like to unassign cardholders from.
3. On the **Assigned to** field click [X] to unassign the cardholder. Unassigning the cardholder also removes any personalized access level assignments.

Move a Cardholder to a Different Badge Template

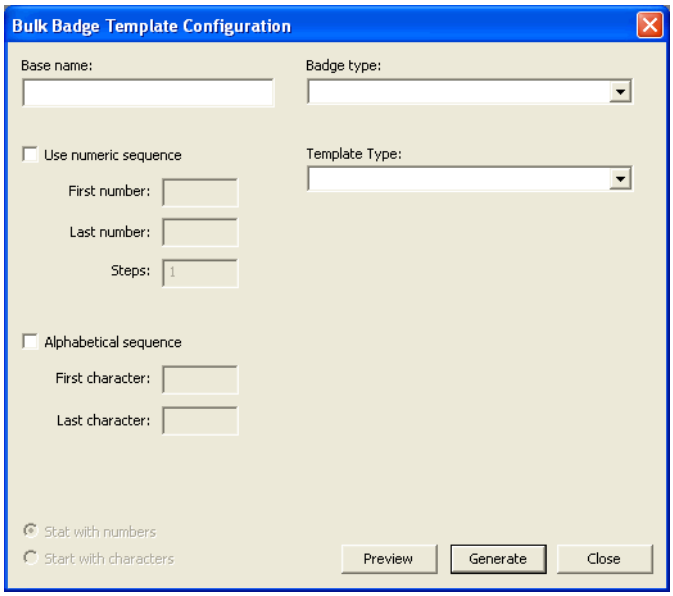
1. Select **Badge Templates** from the **Administration** menu. The Badge Templates folder opens.
2. On the Badge Template tab, search for the template whose cardholder you would like to move to a different badge template.
3. On the **Assigned to** field click [...].
4. The **Select Badge Template Operation** dialog opens. Select the **Move cardholder to another badge template** radio button. The **Badge Template Move Wizard** window opens.
5. In the **Badge Template Move Wizard** window, enter the search criteria for the template you would like to move the cardholder to and click [Next].
6. A list of matching templates are listed. Select which one you would like to move the cardholder to. Click [Finish]. The cardholder and any personalized access level assignments that were assigned to that cardholder are now moved to the new badge template.

Issue a New Badge to an Existing Cardholder

1. Select **Badge Templates** from the Administration menu. The Badge Templates folder opens.
2. On the Badge Template tab, search for the template whose assigned cardholder information you would like to update before issuing the new badge.
3. On the **Assigned to** field click [...].
4. The **Select Badge Template Operation** dialog opens. Select the **Issue a new badge for this cardholder** radio button. The **Badge Template Issue New Badge** window opens.
5. In the **Badge Template Issue New Badge** window, review and configure the settings for the badge template. Click [Finish].

Bulk Badge Template Configuration Form

The Bulk Badge Template Configuration form is used to add up to 2000 badge templates at once.



Bulk Badge Template Configuration Form

Form Element	Comment
Base name	Enter the name that will appear for each badge template you are creating.
Use numeric sequence	Select to amend the base name with a number. You can further select the number that will start the sequence, end the sequence, and by what multiplier the sequence will use.

Bulk Badge Template Configuration Form

Form Element	Comment
Alphabetical sequence	Select to amend the base name with a letter. You can further select what letters will start and end the sequence.
Start with numbers	If you are using the numeric sequence option select the **Start with number** radio button to add the numbers to the beginning of the base name.
Start with Characters	If you are using the alphabetical sequence option select the **Start with characters** radio button to add the letters to the beginning of the base name.
Badge type	Indicates the cardholder's badge type. Badge types are configured in the Badge Types folder. For more information, refer to Chapter 11: Badge Types Folder on page 357.
Template type	Select the template type. Your choices are: • **Resident** - Use for long term cardholders • **Visitor** - Use for short term cardholders
Preview	Click to preview the badge templates you are going to create.
Generate	Click to begin the process of creating the badge templates.

Add Bulk Badge Templates

Note: You can create up to 2000 badge templates for each bulk add.

1. Select **Badge Templates** from the Administration menu. The Badge Templates folder opens. A Badge Template menu item appears.
2. Select **Badge Template > Bulk > Add Templates**. The Bulk Badge Template Configuration opens.
3. Enter a base name in the **Base name** field. This is the name each template in the bulk add will begin with.
4. Select whether you want the sequence of templates added to be numeric or alphabetical. This adds either numbers or letters to the base name of your template.
5. Select either the **Start with numbers** or **Start with characters** radio button.
6. In the **Badge type** field**,** select the badge type you want each template to use.
7. In the **Template type** field, select the template type you want each template to use.
8. To preview the names of the badge templates that will be bulk added click [Preview].
9. To start the bulk badge templates click [Generate] and follow the on screen instructions.

Bulk Unassign Cardholders from Badge Templates

1. Select **Badge Templates** from the Administration menu. The Badge Templates folder opens.
2. Search for the badge template(s) that you wish to remove cardholder(s) from.
3. Select **Badge Template > Bulk > Unassign Cardholders in Search**.
4. You will be prompted as to whether you want to continue with the operation of removing the cardholders from the badge template. Click [OK] to continue with the process.

Chapter 7: Reports Folder

The Reports folder contains forms with which you can:

- View on the screen reports created using report layout templates in the database and current data
- Report on data that meets specified criteria (such as dates, times, readers, alarm panels, cardholders and badge IDs)
- Print a report, save it to a file or export the data

The folder contains eight forms: the Report Configuration form, the Reader Reports form, the Alarm Panel Reports form, the Anti-Passback Reports form, the Date/Time Reports form, the Event Reports form, the Receiver Account Zone Reports form, and the Alarm Acknowledgment Reports form.

Toolbar Shortcut

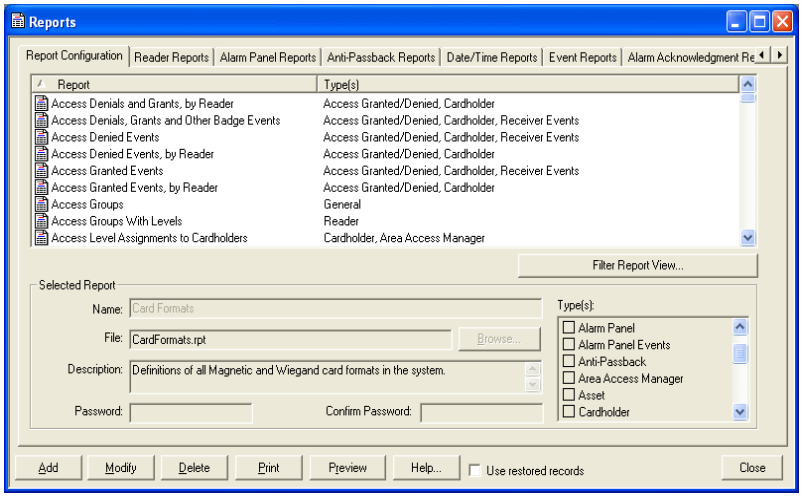
This folder is displayed by selecting **Reports** from the **Administration** menu or by selecting the Reports toolbar button.

Reports are installed when Database Setup is run. All reports are installed on the database server under the ReportTemplates subdirectory in the ReadkeyPRO installation path. By default, this location is **C:\Program Files\ReadkeyPRO\ReportTemplates**.

Note: Refer to the release notes for the versions of Seagate Crystal Reports that are supported. The release notes are located on the root of the ReadkeyPRO installation disc.

For more information, refer to Appendix D: Reports on page 1449.

Report Configuration Form



Reports Folder - Report Configuration Form

Form Element	Comment
Listing window	Lists currently defined reports of the type(s) selected in the Report View Filter window. Note that some reports are categorized under more than one type.
Filter Report View	Click this button to display the Report View Filter window from where you can choose the types of reports you wish to view.
Name	The name of the report.
File	The location and name of the file that contains the report.
Browse	Used to search through drives and directories to choose a report filename to insert into the **File** field.
Description	A brief description of the report contents.
Password	This field is optional. If you type a password here, a user attempting to print this report will be asked to first enter the correct password. A password can be from 1 to 32 characters in length. As you type, the password will appear in the field as a series of *s.
Confirm Password	If you typed something in the **Password** field, you must type exactly the same thing here. As with the **Password** field, your entry here will appear as a series of *s.
Type(s)	Lists the types of reports that you can configure. The system reports that are included with the installation are each assigned an appropriate Type. You can modify report types on the system reports but selecting invalid types could result in unwanted behavior. **Note:** To restore types back to their defaults, run Database Setup. **Note:** To make the report appear in Area Access Manager the Area Access Manager check box must be selected in the Types field.

Reports Folder - Report Configuration Form (Continued)

Form Element	Comment
Add	Used to configure a report.
Modify	Used to change a report configuration.
Delete	Used to remove a report.
Print	Opens the Print Report Options window.
Preview	Displays the selected report in the Report Print Preview window.
Help	Displays relevant on-screen help for this form.
Use restored records	If this check box is selected, data for an event or user transaction report is obtained from restored events/transactions in the database, rather than from the current "live" events/ transactions. Restored events/transactions are those restored using the [Restore Archive] button on the Restoring form of the Archives folder. For more information, refer to Chapter 21: Archives Folder on page 583.
Mode	In view mode, indicates the number of reports selected in the listing window and the total number of reports contained in all selected categories. For example: "1 of 42 selected." In modify mode, indicates the current operation, such as "Modify Mode."
Close	Closes the Reports folder.

Report View Filter Window

This window is displayed by clicking the [Filter Report View] button on the Report Configuration form.

Reports Folder - Report View Filter Window

Form Element	Comment
Access Granted/ Denied	If this check box is selected, Access Granted and Access Denied reports will be included in the listing window. Reports of this type appear on the Reader Reports form for filtering.
Alarm Acknowledgments	If this check box is selected, Alarm Acknowledgment reports will be included in the listing window.
Alarm Panel	If this check box is selected, Alarm Panel reports will be included in the listing window. Reports of this type appear on the Alarm Panel Reports form for filtering.

Reports Folder - Report View Filter Window (Continued)

Form Element	Comment
Alarm Panel Events	If this check box is selected, Alarm Panel Events reports will be included in the listing window. Reports of this type appear on the Alarm Panel Reports form for filtering.
Anti-Passback	If this check box is selected, Anti-Passback reports will be included in the listing window. Reports of this type appear on the Anti-Passback Reports form for filtering.
Asset	If this check box is selected, Asset reports will be included in the listing window. Reports of this type appear on the Asset Reports form for filtering.
Cardholder	If this check box is selected, Cardholder reports will be included in the listing window. Reports of this type appear on the Reports form of the Cardholder folder for filtering.
Date/Time	If this check box is selected, Date/Time reports will be included in the listing window. Reports of this type appear on the Date/Time Report form for filtering.
General	If this check box is selected, general reports will be included in the listing window.
Reader	If this check box is selected, Reader reports will be included in the listing window. Reports of this type appear on the Reader Reports form for filtering.
Reader Events	If this check box is selected, Reader Events reports will be included in the listing window. Reports of this type appear on the Reader Reports form for filtering.
Receiver	If this check box is selected, the names of Receiver reports will be displayed in the listing window. Reports of this type appear on the Receiver Account Zone Reports form for filtering.
Receiver account Zone	If this check box is selected, the names of Account Zone reports will be displayed in the listing window. Reports of this type appear on the Receiver Account Zone Reports form for filtering.
Receiver Events	If this check box is selected, the names of Receiver Events reports will be displayed in the listing window. Reports of this type appear on the Receiver Account Zone Reports form for filtering.
User Transactions	If this check box is selected, User Transactions reports will be included in the listing window. Restored events/transactions are those restored using the [Restore Archive] button on the Restoring form of the Archives folder.
Video Events	If this check box is selected, Video events reports will be included in the listing window.
Visitor	If this check box is selected, Visitor reports will be included in the listing window.
OK	Click this button to save your changes and return to the Report Configuration form.
Cancel	Click this button to return to the Report Configuration form without saving your changes.

Reports Folder - Report View Filter Window (Continued)

Form Element	Comment
Select All	Click this button to select all check boxes in the window.
Clear All	Click this button to deselect all check boxes in the window.

Report Configuration Form Procedures

Add a Report

1. Select **Reports** from the **Administration** menu. The Reports folder opens.
2. Click [Add].
3. In the **Name** field, type a unique, descriptive name for the report.
4. Click [Browse]. The Open window opens.
5. Select the drive, then the directory, then the file name for an existing report layout.
6. Click [OK] to insert the selection into the **File** field on the Report Configuration form.

Note: You cannot use the Report Configuration form to design a report layout. Only existing layouts can be used to create reports. A valid report layout must have been designed using Crystal Reports for Windows™ and must have the file extension “rpt.”

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7. In the **Description** field, type a description of this report's contents.
8. If you want to restrict previewing and printing of this report, type a password in the **Password** field.
9. Type the password again in the **Confirm Password** field.
10. In the **Type(s)** listing window, select the check boxes beside the most appropriate category for this report.

Note: You do not have to select a check box. Many of the reports currently in the system are uncategorized.

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11. Click [OK] to add the report. The name of the report will be inserted alphabetically into the listing window.

Modify a Report

1. From the listing window, select the name of the report that you want to be changed. If the report is not listed, make sure that the appropriate check box

is selected in the Report View Filter window (displayed by selecting the [Filter Report View] button).

2. Click [Modify].
3. Make the changes you want to the fields.
4. Click [OK] to save the changes, or [Cancel] to revert to the previously saved values.

Delete a Report

1. From the listing window, select the name of the report that you want to delete. If the report is not listed, make sure that the appropriate check box is selected in the Report View Filter window (displayed by selecting the [Filter Report View] button).
2. Click [Delete].
3. Click [OK].

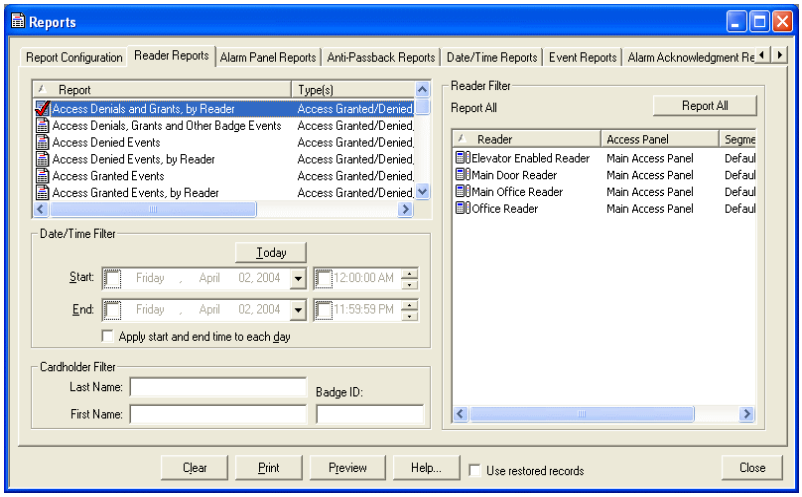
Filter The Report View

1. On the Report Configuration form, click [Filter Report View]. The Report View Filter window opens.
2. Select the check boxes that correspond with the types of reports that you want to view. Click [Select All] to select all of the choices in the listing window. Click [Clear All] to deselect all of the choices in the listing window.
3. Click [OK]. The types of reports that correspond to the check boxes that you selected will be displayed in the listing window on the Report Configuration form.

Preview and Print a Report

For more information, refer to Preview and Print a Report on page 278.

Reader Reports Form

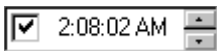


Reader Reports Form Overview

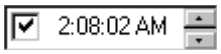
This form allows you to add filtering criteria to a reader report, so that you can narrow the results of your report. Depending on the type of report you select, you can optionally add a filter on reader(s), start date/time, end date/time, badge ID and/or cardholder name.

Reader Reports Form Field Table

Readers Folder - Reader Reports Form

Form Element	Comment
Listing window	Lists currently defined reader reports, and each report's type. Note that some reports are categorized under more than one type.
Today	Click this button to: • Set the Start time/date to 12:00:00 AM on the current date • Set the End time/date to 11:59:59 PM on the current date
Start	If you want to filter a report by a specific date, select the **Start date** check box and choose a specific start date from the drop-down calendar. 
	• Select the first month for which data is to be included in this report. Use the  and  navigation buttons to view different months. You can also click on the name of the month to access a drop-down list of every month.
	• Select the first year for which data is to be included in this report. To change the year, click on the name of the year and use the spin buttons  .
	• Once you have selected a month and a year, click on the first day for which data is to be included in this report. Note that the day circled in red indicates the current date.
	• Select the time for which data is to be included in this report by selecting the **Start time** check box and choosing a specific start time.  Highlight the hour, minutes, or seconds by clicking on them. Use the spin buttons to increase or decrease their value. To change from AM to PM, highlight AM by clicking on it, and use the spin buttons.

Readers Folder - Reader Reports Form (Continued)

Form Element	Comment
End	If you want to filter a report by a specific date, select the **End date** check box and choose a specific end date from the drop-down calendar. 
	• Select the last month for which data is to be included in this report. Use the  and  navigation buttons to view different months. You can also click on the name of the month to access a drop-down list of every month.
	• Select the last year for which data is to be included in this report. To change the year, click on the name of the year and use the spin buttons  .
	• Once you have selected a month and a year, click on the last day for which data is to be included in this report. Note that the day circled in red indicates the current date. • Select the time for which data is to be included in this report by selecting the **End time** check box and choosing a specific end time.  Highlight the hour, minutes, or seconds by clicking on them. Use the spin buttons to increase or decrease their value. To change from AM to PM, highlight AM by clicking on it, and use the spin buttons.
Apply start and end time to each day	If selected, the specified time range will be applied to any date that falls within the specified date range. For example, if you specify a Date/Time Filter starting January 1, 1998 at 8:00 AM and ending March 31, 1998 at 7:00 PM: • If this box is checked, the report will include only data collected during the hours of 8:00 AM through 7:00 PM, on any and all days between January 1 and March 31. • If this box is not checked, the report will include all data gathered from 8:00 AM on January 1 straight through until March 31 at 7:00 PM.
Cardholder Filter	Includes the **Last Name**, **First Name**, and **Badge ID** fields. These fields are available only for applicable report types. These fields are not case-sensitive and will match any names beginning with the characters you type (much like the Cardholder form searches). For example, typing “smith” for Last Name will match “Smith”, “SMITHY”, “smithereen”, etc.
Last Name	Enter the cardholder’s last name.
First Name	Enter the cardholder’s first name.

Readers Folder - Reader Reports Form (Continued)

Form Element	Comment
Badge ID	If you wish to report on the activity associated with a specific badge, enter the Badge ID here. This field is available only for applicable report types.
Report All	If this button is pushed, all entries in the **Reader** list are deselected. "Report All" is displayed to the left of this button, to indicate that data for all readers will be included in the report.
Report All/__ selected	Indicates "Report All" if no devices are selected in the **Reader** field. Indicates "__ selected" if one or more devices are selected in the **Reader** field.
Reader listing window	Lists all readers on the system and the access panel to which each is attached. To select/deselect a reader, click on the icon beside it. A checkmark on an icon indicates that the reader is selected. Only data from selected readers will be included in the report. However, if no devices are selected, data for all readers will be reported.
Clear	Clears all current filter criteria.
Print	Displays the Print Report Options window.
Preview	Displays the selected report with selected criteria in the Report Print Preview window.
Help	Displays relevant on-screen help for this form.
Use restored records	If this check box is selected, data for an event or user transaction report is obtained from restored events/transactions in the database, rather than from the current "live" events/ transactions. Restored events/transactions are those restored using the [Restore Archive] button on the Restoring form of the Archives folder. For more information, refer to Chapter 21: Archives Folder on page 583.
Close	Closes the Reports folder.

Reader Reports Form Procedures

Run a Reader Report

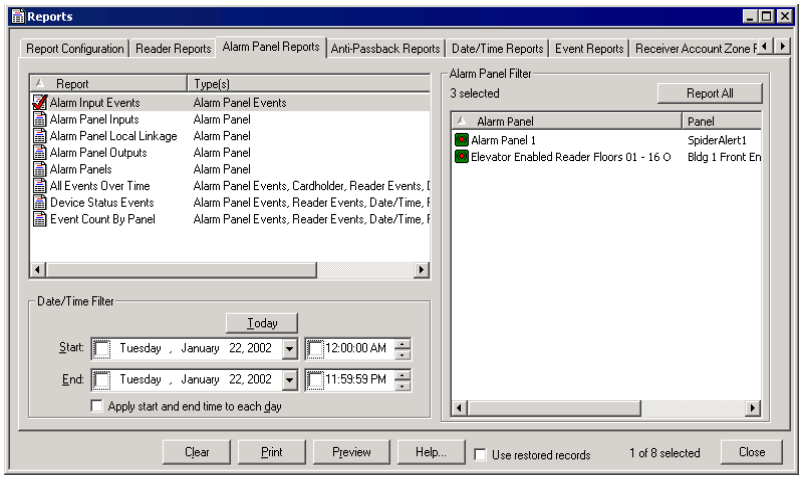
1. Select **Reports** from Administration **the View** menu. The Reports folder opens.
2. Select the Reader Reports tab.
3. From the listing window, select the report that you want to run.
4. In the **Reader Filter** section, select the icon(s) corresponding to the reader(s) whose data you wish to include in the report. If you don't select any readers, data for all readers will be reported.
5. If desired, specify a date/time interval for gathering data in the **Date/Time Filter** section. Only data gathered during the specified period will be

included in the report. To limit each date in the range to the specified time interval, select the **Apply start and end time to each day** check box.

6. In the **Cardholder Filter** section, enter the person's **Last Name**, **First Name,** and/or **Badge ID** if you want the report to contain data pertaining only to cardholders having the specified name and/or badge ID (cardholder name and badge ID is applicable only to reader reports based on events).
7. Click either the [Print] or [Preview] button depending on which function you wish to perform. For more information, refer to Chapter 9: Report Print Preview Window on page 275.

Note: Only data that's currently in the database can be included in the report. Events or other transactions deleted because of space limitations or elapsed time are no longer available.

Alarm Panel Reports Form

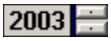
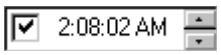


Alarm Panel Reports Form Overview

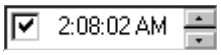
This form allows you to add filtering criteria to an alarm panel report, so that you can narrow the results of your report. Depending on the type of report you select, you can optionally add a filter on alarm panel(s), start date/time, and end date/time.

Alarm Panel Reports Form Field Table

Reports Folder - Alarm Panel Reports Form

Form Element	Comment
Listing window	Lists currently defined alarm panel reports, and each report's type. Note that some reports are categorized under more than one type.
Today	Click this button to: • Set the Start time/date to 12:00:00 AM on the current date • Set the End time/date to 11:59:59 PM on the current date
Start	If you want to filter a report by a specific date, select the **Start date** check box and choose a specific start date from the drop-down calendar. 
	• Select the first month for which data is to be included in this report. Use the  and  navigation buttons to view different months. You can also click on the name of the month to access a drop-down list of every month.
	• Select the first year for which data is to be included in this report. To change the year, click on the name of the displayed year and use the spin buttons  .
	• Once you have selected a month and a year, click on the first day for which data is to be included in this report. Note that the day circled in red indicates the current date.
	• Select the time for which data is to be included in this report by selecting the **Start time** check box and choosing a specific start time.  Highlight the hour, minutes, or seconds by clicking on them. Use the spin buttons to increase or decrease their value. To change from AM to PM, highlight AM by clicking on it, and use the spin buttons.

Reports Folder - Alarm Panel Reports Form (Continued)

Form Element	Comment
End	If you want to filter a report by a specific date, select the **End date** check box and choose a specific end date from the drop-down calendar. 
	• Select the last month for which data is to be included in this report. Use the  and  navigation buttons to view different months. You can also click on the name of the month to access a drop-down list of every month.
	• Select the last year for which data is to be included in this report. To change the year, click on the name of the year to access the spin buttons  .
	• Once you have selected a month and a year, click on the last day for which data is to be included in this report. Note that the day circled in red indicates the current date. • Select the time for which data is to be included in this report by selecting the **End time** check box and choosing a specific end time.  Highlight the hour, minutes, or seconds by clicking on them. Use the spin buttons to increase or decrease their value. To change from AM to PM, highlight AM by clicking on it, and use the spin buttons.
Apply start and end time to each day	If selected, the specified time range will be applied to any date that falls within the specified date range. For example, if you specify a Date/Time Filter starting January 1, 1998 at 8:00 AM and ending March 31, 1998 at 7:00 PM: • If this box is checked, the report will include only data collected during the hours of 8:00 AM through 7:00 PM, on any and all days between January 1 and March 31. • If this box is not checked, the report will include all data gathered from 8:00 AM on January 1 straight through until March 31 at 7:00 PM.
Report All	If this button is pushed, all entries in the **Alarm Panel** list are deselected. “Report All” is displayed to the left of this button, to indicate that data for all readers will be included in the report.
Report All /__ selected	Indicates “Report All” if no devices are selected in the **Alarm Panel** field. Indicates “__ selected” if one or more devices are selected in the **Alarm Panel** field.

Reports Folder - Alarm Panel Reports Form (Continued)

Form Element	Comment
Alarm Panel listing window	Lists all alarm panels on the system and the access panel to which each is attached. To select/deselect an alarm panel, click on the icon beside it. A checkmark on an icon indicates that the alarm panel is selected. Only data from selected alarm panels will be included in the report. However, if no devices are selected, data for all alarm panels will be reported.
Clear	Clears all current filter criteria.
Print	Displays the Print Report Options window.
Preview	Displays the selected report with selected criteria in the Report Print Preview window.
Help	Displays relevant on-screen help for this form.
Use restored records	If this check box is selected, data for an event or user transaction report is obtained from restored events/transactions in the database, rather than from the current "live" events/ transactions. Restored events/transactions are those restored using the [Restore Archive] button on the Restoring form of the Archives folder. For more information, refer to Chapter 21: Archives Folder on page 583.
Close	Closes the Reports folder.

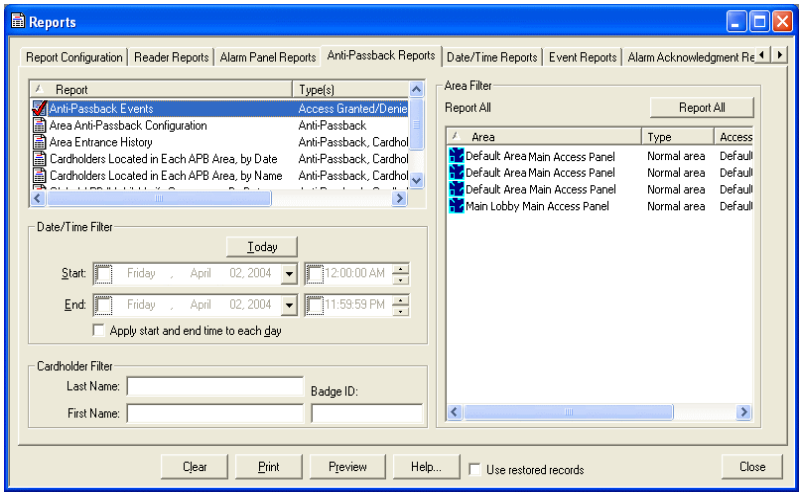
Alarm Panel Reports Form Procedures

Run an Alarm Panel Report

1. Select **Reports** from Administration **the View** menu. The Reports folder opens.
2. Select the Alarm Panel Reports tab.
3. From the listing window, select the report that you want to run.
4. If desired, specify a date/time interval for gathering data in the **Date/Time Filter** section. Only data gathered during the specified period will be included in the report. To limit each date in the range to the specified time interval, select the **Apply start and end time to each day** check box.
5. In the **Alarm Panel Filter** section, select the icon(s) corresponding to the alarm panel(s) whose data you wish to include in the report. If you don't select any alarm panels, or click [Report All], data for all alarm panels will be reported.
6. Click either the [Print] or [Preview] button depending on which function you wish to perform. For more information, refer to Chapter 9: Report Print Preview Window on page 275.

Note: Only data that's currently in the database can be included in the report. Events or other transactions deleted because of space limitations or elapsed time are no longer available.

Anti-Passback Reports Form

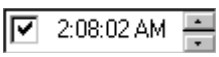


Anti-Passback Reports Form Overview

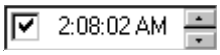
This form allows you to add filtering criteria to an anti-passback report, so that you can narrow the results of your report. Depending on the type of report you select, you can optionally add a filter on area(s), start date/time, end date/time, badge ID and/or cardholder name.

Anti-Passback Reports Form Field Table

Reports Folder - Anti-Passback Reports Form

Form Element	Comment
Listing window	Lists currently defined anti-passback reports, and each report(s) type. Note that some reports are categorized under more than one type.
Today	Click this button to: • Set the Start time/date to 12:00:00 AM on the current date • Set the End time/date to 11:59:59 PM on the current date
Start	If you want to filter a report by a specific date, select the **Start date** check box and choose a specific start date from the drop-down calendar. 
	• Select the first month for which data is to be included in this report. Use the  and  navigation buttons to view different months. You can also click on the name of the month to access a drop-down list of every month.
	• Select the first year for which data is to be included in this report. To change the year, click on the name of the year and use the spin buttons  .
	• Once you have selected a month and a year, click on the first day for which data is to be included in this report. Note that the day circled in red indicates the current date.
	• Select the time for which data is to be included in this report by selecting the **Start time** check box and choosing a specific start time.  Highlight the hour, minutes, or seconds by clicking on them. Use the spin buttons to increase or decrease their value. To change from AM to PM, highlight AM by clicking on it, and use the spin buttons.

Reports Folder - Anti-Passback Reports Form (Continued)

Form Element	Comment
End	If you want to filter a report by a specific date, select the **End date** check box and choose a specific end date from the drop-down calendar. 
	• Select the last month for which data is to be included in this report. Use the  and  navigation buttons to view different months. You can also click on the name of the month to access a drop-down list of every month.
	• Select the last year for which data is to be included in this report. To change the year, click on the name of the year and use the spin buttons  .
	• Once you have selected a month and a year, click on the last day for which data is to be included in this report. Note that the day circled in red indicates the current date. • Select the time for which data is to be included in this report by selecting the **End time** check box and choosing a specific end time.  Highlight the hour, minutes, or seconds by clicking on them. Use the spin buttons to increase or decrease their value. To change from AM to PM, highlight AM by clicking on it, and use the spin buttons.
Apply start and end time to each day	If selected, the specified time range will be applied to any date that falls within the specified date range. For example, if you specify a Date/Time Filter starting January 1, 1998 at 8:00 AM and ending March 31, 1998 at 7:00 PM: • If this box is checked, the report will include only data collected during the hours of 8:00 AM through 7:00 PM, on any and all days between January 1 and March 31. • If this box is not checked, the report will include all data gathered from 8:00 AM on January 1 straight through until March 31 at 7:00 PM.
Cardholder Filter	Includes the **Last Name**, **First Name**, and **Badge ID** fields. These fields are available only for applicable report types. These fields are not case-sensitive and will match any names beginning with the characters you type (much like the Cardholder form searches). For example, typing “smith” for Last Name will match “Smith”, “SMITHY”, “smithereen”, etc.
Last Name	Enter the cardholder’s last name.

Reports Folder - Anti-Passback Reports Form (Continued)

Form Element	Comment
First Name	Enter the cardholder's first name.
Badge ID	If you wish to report on the activity associated with a specific badge, enter the Badge ID here. This field is available only for applicable report types.
Report All	If this button is pushed, all entries in the **Area** list are deselected. "Report All" is displayed to the left of this button, to indicate that data for all areas will be included in the report.
Report All /__ selected	Indicates "Report All" if no entries are selected in the **Area** field. Indicates "__ selected" if one or more entries are selected in the **Area** field.
Area listing window	Lists all anti-passback areas defined on the system, and the access panel associated with each. To select/deselect an area, click on the icon beside it. A checkmark on an icon indicates that the area is selected. Only data pertaining to selected areas will be included in the report. However, if no entries are selected, data for all areas will be reported.
Clear	Clears all current filter criteria.
Print	Displays the Print Report Options window.
Preview	Displays the selected report with selected criteria in the Report Print Preview window.
Help	Displays relevant on-screen help for this form.
Use restored records	If this check box is selected, data for an event or user transaction report is obtained from restored events/transactions in the database, rather than from the current "live" events/ transactions. Restored events/transactions are those restored using the [Restore Archive] button on the Restoring form of the Archives folder.
Close	Closes the Reports folder.

Anti-Passback Reports Form Procedures

Run an Anti-Passback Report

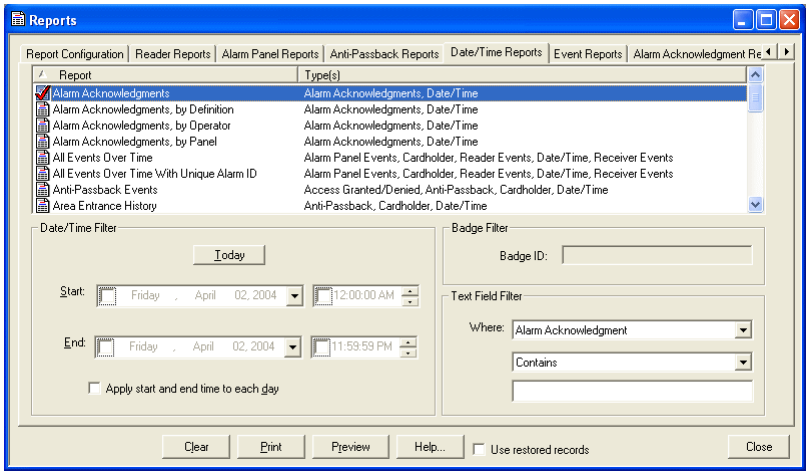
1. Select **Reports** from Administration the **View** menu. The Reports folder opens.
2. Select the Anti-Passback Reports tab.
3. In the reports listing window, select the icon that corresponds to the report you wish to run.
4. Complete the **Date/Time Filter** section to specify a date/time interval for gathering data. Only data gathered during the specified period will be

included in the report. To limit each date in the range to the specified time interval, select the **Apply start and end time to each day** check box.

5. In the **Cardholder Filter** section, enter the person's **Last Name**, **First Name**, and/or **Badge ID** if you want the report to contain data pertaining only to cardholders having the specified name or badge ID.
6. In the **Area Filter** section, select the icon(s) corresponding to the anti-passback area(s) whose data you wish to include in the report. If you don't select any areas, or click [Report All], data for all areas will be reported.
7. Click either the [Print] or [Preview] button depending on which function you wish to perform. For more information, refer to Chapter 9: Report Print Preview Window on page 275.

Note: Only data that's currently in the database can be included in the report. Events or other transactions deleted because of space limitations or elapsed time are no longer available.

Date/Time Reports Form

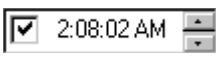


Date/Time Reports Form Overview

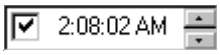
This form allows you to add filtering criteria to a date/time report, so that you can narrow the results of your report.

Date/Time Reports Form Field Table

Reports Folder - Date/Time Reports Form

Form Element	Comment
Listing window	Lists currently defined date/time reports, and each report(s) type. Note that some reports are categorized under more than one type.
Today	Click this button to: • Set the Start time/date to 12:00:00 AM on the current date • Set the End time/date to 11:59:59 PM on the current date
Start	If you want to filter a report by a specific date, select the **Start date** check box and choose a specific start date from the drop-down calendar. 
	• Select the first month for which data is to be included in this report. Use the  and  navigation buttons to view different months. You can also click on the name of the month to access a drop-down list of every month.
	• Select the first year for which data is to be included in this report. To change the year, click on the name of the year and use the spin buttons  .
	• Once you have selected a month and a year, click on the first day for which data is to be included in this report. Note that the day circled in red indicates the current date.
	• Select the time for which data is to be included in this report by selecting the **Start time** check box and choosing a specific start time.  Highlight the hour, minutes, or seconds by clicking on them. Use the spin buttons to increase or decrease their value. To change from AM to PM, highlight AM by clicking on it, and use the spin buttons.

Reports Folder - Date/Time Reports Form (Continued)

Form Element	Comment
End	If you want to filter a report by a specific date, select the **End date** check box and choose a specific end date from the drop-down calendar. 
	• Select the last month for which data is to be included in this report. Use the  and  navigation buttons to view different months. You can also click on the name of the month to access a drop-down list of every month.
	• Select the last year for which data is to be included in this report. To change the year, click on the name of the year and use the spin buttons  .
	• Once you have selected a month and a year, click on the last day for which data is to be included in this report. Note that the day circled in red indicates the current date. • Select the time for which data is to be included in this report by selecting the **End time** check box and choosing a specific end time.  Highlight the hour, minutes, or seconds by clicking on them. Use the spin buttons to increase or decrease their value. To change from AM to PM, highlight AM by clicking on it, and use the spin buttons.
Apply start and end time to each day	If selected, the specified time range will be applied to any date that falls within the specified date range. For example, if you specify a Date/Time Filter starting January 1, 1998 at 8:00 AM and ending March 31, 1998 at 7:00 PM: • If this box is checked, the report will include only data collected during the hours of 8:00 AM through 7:00 PM, on any and all days between January 1 and March 31. • If this box is not checked, the report will include all data gathered from 8:00 AM on January 1 straight through until March 31 at 7:00 PM.
Badge ID	If you wish to report on the activity associated with a specific badge, enter the Badge ID here. This field is available only for applicable report types.
Text Field Filter	Includes the **Where** and **Match criteria** fields, as well as a **Blank field**. This section is enabled only when a report that allows filtering is selected in the listing window.

Reports Folder - Date/Time Reports Form (Continued)

Form Element	Comment
Where	You can now add a text filter to the following: • Action Type, Details, or Object for User Transactions reports • Alarm Acknowledgment text for Alarm Acknowledgments reports When this section is enabled, the **Where** field contains the attribute in ReadkeyPRO that is to be filtered.
Match criteria (Set to Contains by default. May also be set to Begins With, Ends With, or Equals)	If enabled, the **Match criteria** drop-down list may be changed from its default value of contains to Begins With, Ends With, or Equals. This setting specifies how the selection in the **Where** field relates to the value entered to search for in the **Blank field**.
Blank field	In this field, type the value you wish to filter or search for. For example, if you wanted to display all User Transactions associated with System Administration, you should: 1. Select a User Transaction Log report in the listing window. 2. In the **Where** field, select "Object". 3. In the **Match criteria** field, select "Equals". 4. In the blank field, type "System Administration" (without the quotes). Click [Preview], and only those entries associated with System Administration will be displayed in the resulting report.
Clear	Clears all current filter criteria.
Print	Displays the Print Report Options window.
Preview	Displays the selected report with selected criteria in the Report Print Preview window.
Help	Displays relevant on-screen help for this form.
Use restored records	If this check box is selected, data for an event or user transaction report is obtained from restored events/transactions in the database, rather than from the current "live" events/ transactions. Restored events/transactions are those restored using the [Restore Archive] button on the Restoring form of the Archives folder. For more information, refer to Chapter 21: Archives Folder on page 583.
Close	Closes the Reports folder.

Date/Time Reports Form Procedures

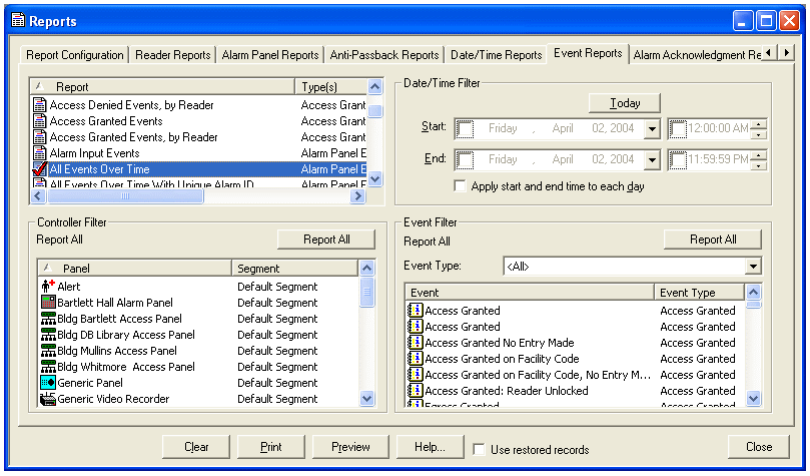
Run a Date/Time Report

1. Select **Reports** from Administration the **View** menu. The Reports folder opens.
2. Select the Date/Time Reports tab.
3. In the reports listing window, select the icon that corresponds to the report you wish to run.
4. Complete the **Date/Time Filter** section to specify a date/time interval for gathering data. Only data gathered during the specified period will be included in the report. To limit each date in the range to the specified time interval, select the **Apply start and end time to each day** check box.
5. Enter a **Badge ID** if you want the report to contain data pertaining only to cardholders having the specified name or badge ID.
6. Complete the **Text Field Filter** section. (This section is optional, and is only enabled for User Transactions reports and Alarm Acknowledgment reports.)
   a. Select a value to filter in the **Where** field.
      - If the report you are running is a User Transactions report and you wish to apply a filter, select Action Type, Details, or Object in the **Where** field.
      - If the report you are running is an Alarm Acknowledgment report and you wish to apply a filter, select Alarm Acknowledgment in the **Where** field.

   b. In the next drop-down list, select whether the filter criteria **Begins With**, **Contains**, **Ends With** or **Equals** the value that you will enter in the next blank field.
   c. In the blank field, type the value you wish to filter for.
7. Click either the [Print] or [Preview] button depending on which function you wish to perform. For more information, refer to Chapter 9: Report Print Preview Window on page 275.

Note: Only data that's currently in the database can be included in the report. Events or other transactions deleted because of space limitations or elapsed time are no longer available.

Event Reports Form



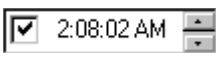
Note: On the Event Reports form, any report in the reports listing window that has "Cardholder" listed in the **Type(s)** column is available on the Reports form in the Cardholders folder. This means that a report can be generated on the Reports form in the Cardholders folder based on a cardholder search operation.

Event Reports Form Overview

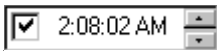
This form allows you to add filtering criteria to an event report, so that you can narrow the results of your report.

Event Reports Form Field Table

Reports Folder - Event Reports Form

Form Element	Comment
Listing window	Lists currently defined event reports, and each report's type(s). Note that some reports are categorized under more than one type.
Today	Click this button to: • Set the Start time/date to 12:00:00 AM on the current date • Set the End time/date to 11:59:59 PM on the current date
Start	If you want to filter a report by a specific date, select the **Start date** check box and choose a specific start date from the drop-down calendar. 
	• Select the first month for which data is to be included in this report. Use the  and  navigation buttons to view different months. You can also click on the name of the month to access a drop-down list of every month.
	• Select the first year for which data is to be included in this report. To change the year, click on the name of the year and use the spin buttons  .
	• Once you have selected a month and a year, click on the first day for which data is to be included in this report. Note that the day circled in red indicates the current date.
	• Select the time for which data is to be included in this report by selecting the **Start time** check box and choosing a specific start time.  Highlight the hour, minutes, or seconds by clicking on them. Use the spin buttons to increase or decrease their value. To change from AM to PM, highlight AM by clicking on it, and use the spin buttons.

Reports Folder - Event Reports Form (Continued)

Form Element	Comment
End	If you want to filter a report by a specific date, select the **End date** check box and choose a specific end date from the drop-down calendar. 
	• Select the last month for which data is to be included in this report. Use the  and  navigation buttons to view different months. You can also click on the name of the month to access a drop-down list of every month.
	• Select the last year for which data is to be included in this report. To change the year, click on the name of the year and use the spin buttons  .
	• Once you have selected a month and a year, click on the last day for which data is to be included in this report. Note that the day circled in red indicates the current date. • Select the time for which data is to be included in this report by selecting the **End time** check box and choosing a specific end time.  Highlight the hour, minutes, or seconds by clicking on them. Use the spin buttons to increase or decrease their value. To change from AM to PM, highlight AM by clicking on it, and use the spin buttons.
Apply start and end time to each day	If selected, the specified time range will be applied to any date that falls within the specified date range. For example, if you specify a Date/Time Filter starting January 1, 1998 at 8:00 AM and ending March 31, 1998 at 7:00 PM: • If this box is checked, the report will include only data collected during the hours of 8:00 AM through 7:00 PM, on any and all days between January 1 and March 31. • If this box is not checked, the report will include all data gathered from 8:00 AM on January 1 straight through until March 31 at 7:00 PM.
Report All (panels)	If this button is pushed, all entries in the **Panel** list are deselected. “Report All” is displayed to the left of this button, to indicate that data for all access panels will be included in the report.
Report All / __ selected	Indicates “Report All” if no entries are selected in the **Panel** field. Indicates “__ selected” if at least one entry is selected in the **Panel** field.

Reports Folder - Event Reports Form (Continued)

Form Element	Comment
Panel listing window	Lists all panels in the system. An icon that indicates the panel's type precedes each entry. If your installation uses segmentation, the segment assignment is listed for each entry.
Report All (events)	If this button is pushed, all entries in the **Event** list are deselected. "Report All" is displayed to the left of this button, to indicate that data for all events for the selected **Event Type** will be included in the report.
Report All / __ selected	Indicates "Report All" if no entries are selected in the **Event** field. Indicates "__ selected" if at least one entry is selected in the **Event** field.
Event Type	Can be used to filter all events of a particular type. For example, if you select the "All Events Over Time" report and select an **Event Type** of "Fire", an "All Fire Events Over Time" report will effectively be created.
Event listing window	Lists currently defined events for the selected **Event Type**, and each event's type.
Clear	Clears all current filter criteria.
Print	Displays the Print Report Options window.
Preview	Displays the selected report with selected criteria in the Report Print Preview window.
Help	Displays relevant on-screen help for this form.
Use restored records	If this check box is selected, data for an event or user transaction report is obtained from restored events/transactions in the database, rather than from the current "live" events/ transactions. Restored events/transactions are those restored using the [Restore Archive] button on the Restoring form of the Archives folder. For more information, refer to Chapter 21: Archives Folder on page 583.
Close	Closes the Reports folder.

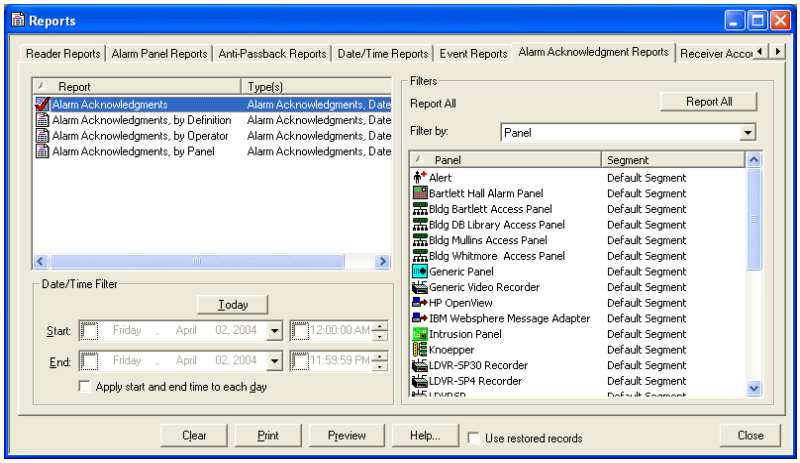
Event Reports Form Procedures

Run an Event Report

1. Select **Reports** from the **Administration** menu. The Reports folder opens.
2. Select the Event Reports tab.
3. In the reports listing window, select the icon that corresponds to the report you wish to run.
4. Complete the **Date/Time Filter** section to specify a date/time interval for gathering data. Only data gathered during the specified period will be included in the report. To limit each date in the range to the specified time interval, select the **Apply start and end time to each day** check box.
5. In the **Access Panel Filter** section, select the icon(s) corresponding to the panel(s) whose data you wish to include in the report. If you don't select any panels, or click [Report All], data for all panels will be reported.
6. In the **Event Filter** section, select an **Event Type**.
7. In the **Event** listing window, select the icon(s) corresponding to the event(s) whose data you wish to include in the report.
   - If you select "<All>" in the **Event Type** field, data for all events will be reported.
   - If you click [Report All], data for all events of the selected **Event Type** will be reported.
8. Click either the [Print] or [Preview] button depending on which function you wish to perform. For more information, refer to Chapter 9: Report Print Preview Window on page 275.

Note: Only data that's currently in the database can be included in the report. Events or other transactions deleted because of space limitations or elapsed time are no longer available.

Alarm Acknowledgment Reports Form



Alarm Acknowledgment Reports Form Overview

The Alarm Acknowledgment Reports form is designed to provide reports on acknowledged alarms. These reports can be filtered by the date/time the acknowledgment occurred, the device that triggered the alarm, and the operator who acknowledged the alarm. When you select a filter, the report displays alarm acknowledgments for only the filtered device. If you want to view everything, use the convenient [Report All] button.

The result of the report includes the following:

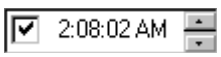
- Date and time this report was created
- Date and time the alarm occurred
- Date and time the alarm was acknowledged
- Who acknowledged the alarm
- Any notes included with the acknowledgment
- The device that caused the alarm
- The total number of acknowledgments

Notes: The details column does not report who acknowledged the alarm, but rather who was logged into Alarm Monitoring when the alarm was acknowledged. Therefore, someone other than the person logged into Alarm Monitoring may have acknowledged the alarm.

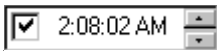
The first and last name displayed in the details column are configured in the System Administration Users folder.

Alarm Acknowledgment Reports Form Field Table

Reports Folder - Alarm Acknowledgment Reports Form

Form Element	Comment
Listing window	Lists currently defined alarm acknowledgment reports, and each report's type(s). Note that some reports are categorized under more than one type.
Today	Click this button to: • Set the Start time/date to 12:00:00 AM on the current date • Set the End time/date to 11:59:59 PM on the current date
Start	If you want to filter a report by a specific date, select the **Start date** check box and choose a specific start date from the drop-down calendar. 
	• Select the first month for which data is to be included in this report. Use the  and  navigation buttons to view different months. You can also click on the name of the month to access a drop-down list of every month.
	• Select the first year for which data is to be included in this report. To change the year, click on the name of the displayed year to access the spin buttons  .
	• Once you have selected a month and a year, click on the first day for which data is to be included in this report. Note that the day circled in red indicates the current date.
Start	• Select the time for which data is to be included in this report by selecting the **Start time** check box and choosing a specific start time.  Highlight the hour, minutes, or seconds by clicking on them. Use the spin buttons to increase or decrease their value. To change from AM to PM, highlight AM by clicking on it, and use the spin buttons.

Reports Folder - Alarm Acknowledgment Reports Form (Continued)

Form Element	Comment
End	If you want to filter a report by a specific date, select the **End date** check box and choose a specific end date from the drop-down calendar. 
	• Select the last month for which data is to be included in this report. Use the  and  navigation buttons to view different months. You can also click on the name of the month to access a drop-down list of every month.
	• Select the last year for which data is to be included in this report. To change the year, click on the name of the year to access the spin buttons  .
End	• Once you have selected a month and a year, click on the last day for which data is to be included in this report. Note that the day circled in red indicates the current date. • Select the time for which data is to be included in this report by selecting the **End time** check box and choosing a specific end time.  Highlight the hour, minutes, or seconds by clicking on them. Use the spin buttons to increase or decrease their value. To change from AM to PM, highlight AM by clicking on it, and use the spin buttons.
Apply start and end time to each day	If selected, the specified time range will be applied to any date that falls within the specified date range. For example, if you specify a Date/Time Filter starting January 1, 1998 at 8:00 AM and ending March 31, 1998 at 7:00 PM: • If this box is checked, the report will include only data collected during the hours of 8:00 AM through 7:00 PM, on any and all days between January 1 and March 31. • If this box is not checked, the report will include all data gathered from 8:00 AM on January 1 straight through until March 31 at 7:00 PM.
Report All	Reports every alarm acknowledgment and does not apply any filter.
Filter by	Select one device you want the report based on. The report displays the alarm acknowledgments only for the device you select.

Reports Folder - Alarm Acknowledgment Reports Form (Continued)

Form Element	Comment
Filter listing window	Select one or multiple filters for the report. The filters that display in this window depend on what you select in the **Filter by** drop-down list. The report displays the alarm acknowledgments for only the devices you select.
Clear	Clears all current filter criteria.
Print	Displays the Print Report Options window.
Preview	Displays the selected report with selected criteria in the Report Print Preview window.
Help	Displays relevant on-screen help for this form.
Use restored records	If this check box is selected, data for an event or user transaction report is obtained from restored events/transactions in the database, rather than from the current "live" events/ transactions. Restored events/transactions are those restored using the [Restore Archive] button on the Restoring form of the Archives folder. For more information, refer to Chapter 21: Archives Folder on page 583.
Close	Closes the Reports folder.

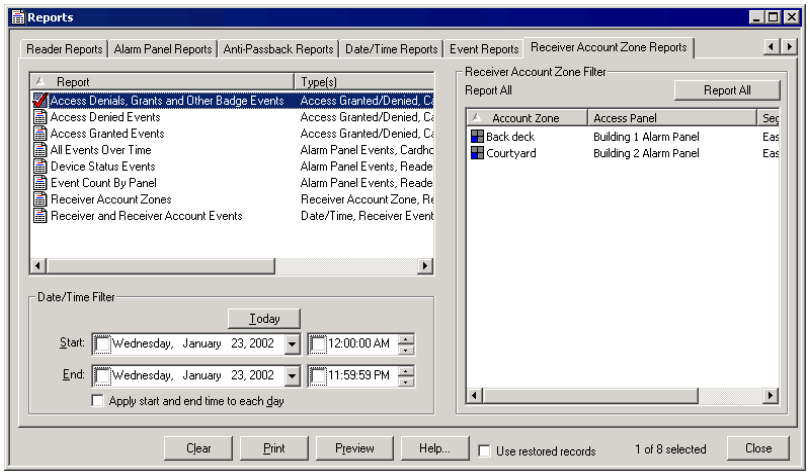
Alarm Acknowledgment Reports Form Procedures

Run an Alarm Acknowledgment Report

1. Select **Reports** from the **Administration** menu. The Reports folder opens.
2. Select the Alarm Acknowledgment Reports tab.
3. In the listing window, select the report you wish to run.
4. Complete the **Date/Time Filter** section to specify a date/time interval for gathering data. Only data gathered during the specified period will be included in the report. To limit each date in the range to the specified time interval, select the **Apply start and end time to each day** check box.
5. In the **Filter by** drop-down list, select the device whose data you wish to include in the report. If you don't select any device, or if you click [Report All], data for every device will be reported.
6. In the Filter listing window, select the device(s) whose data you wish to include in the report.
7. Click either the [Print] or [Preview] button depending on which function you wish to perform. For more information, refer to Chapter 9: Report Print Preview Window on page 275.

Note: Only data that's currently in the database can be included in the report. Events or other transactions deleted because of space limitations or elapsed time are no longer available.

Receiver Account Zone Reports Form

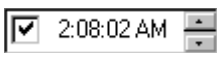


Receiver Account Zone Reports Form Overview

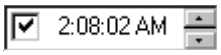
This form allows you to add filtering criteria to a receiver account zone report, so that you can narrow the results of your report.

Receiver Account Zone Reports Form Field Table

Reports Folder - Receiver Account Zone Reports Form

Form Element	Comment
Listing window	Lists currently defined alarm acknowledgment reports, and each report's type(s). Note that some reports are categorized under more than one type.
Today	Click this button to: • Set the Start time/date to 12:00:00 AM on the current date • Set the End time/date to 11:59:59 PM on the current date
Start	If you want to filter a report by a specific date, select the **Start date** check box and choose a specific start date from the drop-down calendar. 
	• Select the first month for which data is to be included in this report. Use the  and  navigation buttons to view different months. You can also click on the name of the month to access a drop-down list of every month.
	• Select the first year for which data is to be included in this report. To change the year, click on the name of the displayed year to access the spin buttons  .
	• Once you have selected a month and a year, click on the first day for which data is to be included in this report. Note that the day circled in red indicates the current date.
Start	• Select the time for which data is to be included in this report by selecting the **Start time** check box and choosing a specific start time.  Highlight the hour, minutes, or seconds by clicking on them. Use the spin buttons to increase or decrease their value. To change from AM to PM, highlight AM by clicking on it, and use the spin buttons.

Reports Folder - Receiver Account Zone Reports Form (Continued)

Form Element	Comment
End	If you want to filter a report by a specific date, select the **End date** check box and choose a specific end date from the drop-down calendar. 
	• Select the last month for which data is to be included in this report. Use the  and  navigation buttons to view different months. You can also click on the name of the month to access a drop-down list of every month.
	• Select the first year for which data is to be included in this report. To change the year, click on the name of the displayed year to access the spin buttons  .
End	• Once you have selected a month and a year, click on the last day for which data is to be included in this report. Note that the day circled in red indicates the current date. • Select the time for which data is to be included in this report by selecting the **End time** check box and choosing a specific end time.  Highlight the hour, minutes, or seconds by clicking on them. Use the spin buttons to increase or decrease their value. To change from AM to PM, highlight AM by clicking on it, and use the spin buttons.
Apply start and end time to each day	If selected, the specified time range will be applied to any date that falls within the specified date range. For example, if you specify a Date/Time Filter starting January 1, 1998 at 8:00 AM and ending March 31, 1998 at 7:00 PM: • If this box is checked, the report will include only data collected during the hours of 8:00 AM through 7:00 PM, on any and all days between January 1 and March 31. • If this box is not checked, the report will include all data gathered from 8:00 AM on January 1 straight through until March 31 at 7:00 PM.
Report All (account zones)	If this button is pushed, all entries in the **Account Zone** list are deselected. “Report All” is displayed to the left of this button, to indicate that data for all account zones will be included in the report.
Report All/___ selected	Indicates “Report All” if no entries are selected in the **Account Zone** field. Indicates “__ selected” if at least one entry is selected in the **Account Zone** field.

Reports Folder - Receiver Account Zone Reports Form (Continued)

Form Element	Comment
Account Zone listing window	Lists all account zones in the system. An icon that indicates the account zone's type precedes each entry. If your installation uses segmentation, the segment assignment is listed for each entry.
Clear	Clears all current filter criteria.
Print	Displays the Print Report Options window.
Preview	Displays the selected report with selected criteria in the Report Print Preview window.
Help	Displays relevant on-screen help for this form.
Use restored records	If this check box is selected, data for an event or user transaction report is obtained from restored events/transactions in the database, rather than from the current "live" events/ transactions. Restored events/transactions are those restored using the [Restore Archive] button on the Restoring form of the Archives folder. For more information, refer to Chapter 21: Archives Folder on page 583.
Close	Closes the Reports folder.

Receiver Account Zone Reports Form Procedures

Run a Receiver Account Zone Report

1. Select **Reports** from the **Administration** menu. The Reports folder opens.
2. Select the Receiver Account Zone Reports tab.
3. In the listing window, select the icon that corresponds to the report you wish to run.
4. Complete the **Date/Time Filter** section to specify a date/time interval for gathering data. Only data gathered during the specified period will be included in the report. To limit each date in the range to the specified time interval, select the **Apply start and end time to each day** check box.
5. In the **Account Zone Filter** section, select the icon(s) corresponding to the account zone(s) whose data you wish to include in the report. If you don't select any account zones, or if you click [Report All], data for all account zones will be reported.
6. Click either the [Print] or [Preview] button depending on which function you wish to perform. For more information, refer to Chapter 9: Report Print Preview Window on page 275.

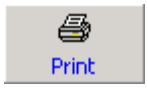
Note: Only data that's currently in the database can be included in the report. Events or other transactions deleted because of space limitations or elapsed time are no longer available.

Chapter 8: Print Report Options Window

From the Print Report Options window, you can:

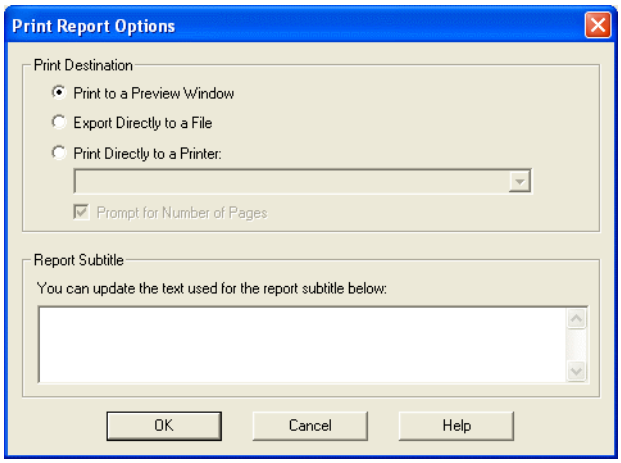
- Choose a destination for the report. Choices include:
  - Preview Window (the default)
  - Direct Export to a File
  - Directly to a Printer
- Update the subtitle used for the report

Toolbar Shortcut



This window is displayed by clicking the [Print] button or the Print toolbar button while a report is displayed.

Print Report Options Window



Print Report Options Window Field Table

Print Report Options Window

Form Element	Comment
Print Destination	Includes the **Print to a Preview Window, Export Directly to a File** and **Print Directly to a Printer** radio buttons. Also includes the **Printer** drop-down list and the **Prompt for Number of Pages** check box.
Print to a Preview Window	If selected, the Report Print Preview window will be displayed when the [OK] button is clicked. In the Report Print Preview window, you can view the selected report on the screen. For more information, refer to Chapter 9: Report Print Preview Window on page 275.
Export Directly to a File	If selected, the Export window will be displayed when the [OK] button is clicked. Choose the report Format and Destination from the drop-down lists. Depending on what you choose, enter the destination and format information in the corresponding window, then click [OK].
Print Directly to a Printer	If selected, also select a printer from the Printer drop-down list. If you select the **Prompt for Number of Pages** check box, the Print window will be displayed where you can select the print range, number of copies and whether or not to collate your report.
Printer drop-down list	Select a printer in this field for the report to be printed on. This field is enabled for selection only when the **Print Directly to a Printer** radio button is selected. All printers currently configured for use are listed.
Prompt for Number of Pages	This field is enabled for selection only when the **Print Directly to a Printer** radio button is selected. If selected, the Print window will be displayed where you can select the print range, number of copies and whether or not to collate your report.
Report Subtitle	Includes the **Report Subtitle** textbox.
Report Subtitle textbox	Type the text here that will be displayed as the subtitle on the report.
OK	Prints the report using the options you selected.
Cancel	Closes the Print Report Options window without printing the report.
Help	Displays online help for this form.

Print a Report

1. Select a report from within the Reports folder. Reports are also available in the Cardholders folder (Reports form) and the Assets folder (Reports form). You can use this procedure to print those reports as well.

Notes: The report form is available from within the Reports folder, Cardholders folder and Assets folder for System Administration and ID CredentialCenter.

The report form is only available from the Cardholders folder in Alarm Monitoring. (**View** menu > **Badge Info** > Reports form/tab).

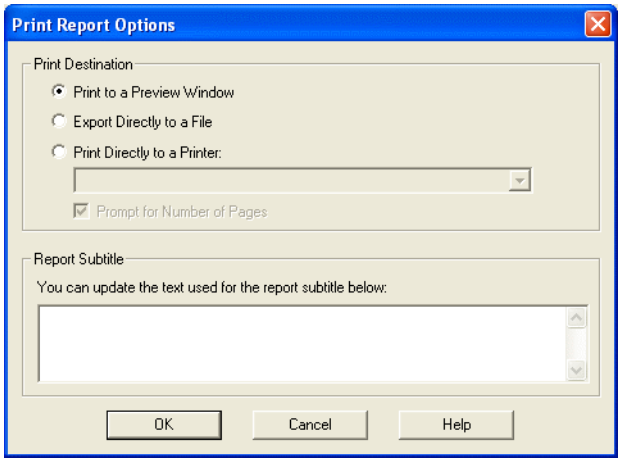
The availability of the Reports folder is subject to licensing restrictions.

2. Select additional criteria if you want the report to include only a specific range of data.
3. Click one of the following:

Toolbar Shortcut

- The Print button on the Main toolbar
- [Print] button on the form

4. The Print Report Options window opens.



5. In the **Print Destination** section, select whether to print to a preview window, export directly to a file or print directly to a printer.
6. If you selected **Print Directly to a Printer** in the Print Destination section, select a printer in the drop-down list and choose whether to **Prompt for Number of Pages**.

Note: If the Linkage Server is running under a local system account it may not have permission to access a network printer (depending on its configuration). If this is the case you must select a local or default network printer. Contact your System Administrator to determine what account the Linkage Server is running under and the printers it can access.

7. In the Report Subtitle section, type the report subtitle. The subtitle will be displayed below the report title on the report.
8. Click [OK]. The options selected in the Print Destination section will determine where the report is sent.

Chapter 9: Report Print Preview Window

Toolbar Shortcut

If you click [Preview] or [Print Preview] while a report form is displayed, the report is automatically printed to the Report Print Preview window.

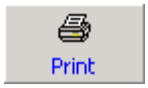
Previewing a report is done in a window. This allows you to preview multiple reports at the same time. It also means that while the report is processing, you can do other work. From the Report Print Preview window, you can:

- View an on-screen report created in the Reports folder.
- View an on-screen report created in the Cardholders folder (Reports form), The Visits folder (Reports form) or the Assets folder (Reports form) via the Print Report Options window.
- Print a report, save it to a file or send it over electronic mail.
- Search for any textual information in the report.

This window is displayed by:

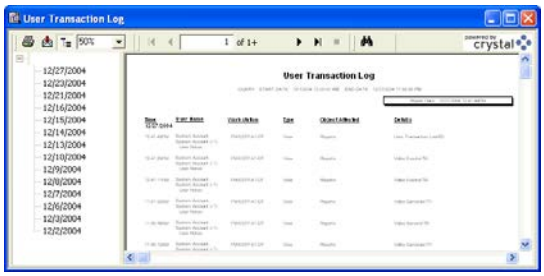
- Clicking on the [Print Preview] button on any form in the Reports folder.
- Clicking on the Print Preview toolbar button when a report is selected on a form in the Reports folder.

Toolbar Shortcut



- Clicking [Print] on the form, selecting the **Print to a Preview Window** radio button on the Print Report Options window, then clicking the [OK] button. (This is how the Report Print Preview form can be viewed from the Reports form in the Cardholders folder, the Visits folder or the Assets folder.)

Report Print Preview Window



Report Print Preview Window Field Table

Report Print Preview Window

Form Element	Comment
Report navigation tree	The display in the left portion of the Report Print Preview window. The report navigation tree lists the records contained in the report, in a hierarchical arrangement. The information is content-sensitive. The report type determines the entries in the tree. If the tree has branching entries, you can expand the branches of the tree. When you click an entry in the tree, you move to that section or record in the report. When a section or record is selected via the report navigation tree, that section or record will appear in the preview window with a blue box border. For more information, refer to Preview and Print a Report on page 278.
Preview window	The display in the right portion of the Report Print Preview window. The preview window displays up to one full page of the report, depending upon the zoom level set. If a report appears too large for the current window, either adjust the zoom level or use the up, down, left, and right arrow keys to scroll and see the rest of that page of the report. For reports that contain more than one page, use the arrows or the <Page Up>/<Page Down> keys to navigate through the pages.
	Click to displays a Print window from where you can select the page range and number of copies to print, then initiate report printing.
	Click to export the report to a file or to your organization's electronic mail system.
	Click to toggle the display of the report navigation tree on or off.
Zoom	From this drop-down list, you can select the magnification level of the preview window contents, with respect to the actual size. Choices include 400%, 300%, 200%, 150%, 100%, 75%, 50%, 25%, Page Width and Whole Page. Selecting either Page Width or Whole Page displays the corresponding percentage in this field. You can also type a number directly into this field, but you must then either press <Tab> or click outside of the field for the number to take effect.
	Click to move to the first page of the report.
	Click to move to the previous page of the report. Another way to do this is to click the <Page Up> key.
Page count	This display indicates the page number of the currently displayed page, followed by the total page count for the report. For example: "2 of 4."
	Click to move to the next page of the report. Another way to do this is to click the <Page Down> key.
	Click to move to the last page of the report.
	Click to terminate the report building process. This button is especially useful if the report is lengthy and you want to view only part of it.

Report Print Preview Window (Continued)

Form Element	Comment
	Click to display the Search window from where you can perform a text search of the report. When you enter text in the **Find what** field (in the Search window) and click [Find Next], the view jumps to the first occurrence of the requested text or a message is displayed if no match was found.

Report Print Preview Window Right-click Options

While viewing a report in the Report Print Preview Window there are a number of right-click options and identifiers that appear depending on what section of the report is highlighted.

- **Field:** Tells you what field is currently selected.
- **Text:** Tells you whether the current selection is text.
- **Copy:** Copy the information into the clipboard.
- **Freeze Pane:** Freezes the section of the pane so you continue to see the information as you scroll.
- **Unfreeze Pane:** Unfreezes the pane so the page scrolls normally

Report Print Preview Window Procedures

Preview and Print a Report

1. Select a report from within the Reports folder.

Note: Reports are also available on the Reports form in the Cardholders folder, Visits folder and Assets folder. However, the Print Preview toolbar button and the [Preview] button on the form are disabled or "grayed out." Instead, the Print toolbar button or the [Print] button on the form are used to preview and print reports from these forms. For more information, refer to Print a Report on page 273.

2. Select additional criteria if you want the report to include only a specific range of data.
3. Click one of the following:

Toolbar Shortcut

- The Print Preview button on the **Main** toolbar.
- The [Print] button, select the **Print to a Preview Window** radio button and then click [OK].
- The [Preview] button on the form.

4. If the chosen report has been password-protected, type the correct password when prompted to do so, then click [OK].
5. The Report Print Preview window is displayed.
   - On the left, the report navigation tree may have branching entries.
     – If the tree has branching entries, expand that branch of the tree.
     – Click an entry in the tree to move to that section or record in the report. When a section or record is selected via the report navigation tree, that section or record will appear in the preview window with a blue box border. For example:

Format Type:	Magnetic	Asset Format:	No
Facility Code:	12345	Badge Offset Number:	0
Guest:	No	Smart Card:	No

   - On the right, the preview window will show the first page of the report as it will look when it is printed. Click a section or record in the preview window. When a section or record is selected in the preview window, that section or record will appear in the preview window with a blue box border.
   - Click and drag the split bar to resize the report navigation tree and the preview window relative to each other.
   - Click the  button to hide the report navigation tree and maximize the space used for the preview window.
6. Use the  ,  ,  and  buttons or the <Page Down>/<Page Up> keys to view other pages of the report.
7. Select an option from the zoom drop-down list to change the size of the display. You can instead type a number directly into this field, but you must then either press <Tab> or click outside of the field for the number to take

effect. If a report page is still too large for the window, you can use the up, down, left, and right arrow keys to scroll and see the rest of the page.

8. To save the report to a file on your computer or to send the report to someone using your company's electronic mail system, select the  button. The Export window is displayed.
   - Select the format that you want to send the report in from the **Format** drop-down list.
   - In the **Destination** drop-down list, you can choose to export the report to an application, a disk file, an exchange folder, a Lotus Notes database or your electronic mail system (if you have one).
   - Click [OK] and follow the instructions
9. To print the report from within the Report Print Preview window:
   a. Click the  button. The Print window is displayed from where you can select which pages to print and the number of copies.
   b. Select one of the following:
      - The **All** radio button to print the entire report without user intervention.
      - The **Pages** radio button and enter a page range.
   c. A message box will be displayed to indicate the status of the print operation.

Search a Report for Specific Information

1. To search through the report for specific information, click the  button.
2. The Search window is displayed. In the **Find what** field, type the word, contiguous words or number you wish to locate in the report.

Note: The search is not case-sensitive.

3. Click [Find Next].
4. One of two things will happen:
   - If the requested information was found, the preview window display will move to the first occurrence of it.
   - If the information is not contained in the report, a message box will be displayed.
5. If the requested information was found, click [Find Next] to move through successive occurrences of it.

Chapter 10: Card Formats Folder

The Card Formats folder contains forms with which you can:

- Specify format parameters for magnetic, Wiegand and smart card formats
- Specify required fields for cardholder records of a given badge type

The Card Formats folder contains two forms if your system is not segmented: the Card Format and Custom Encoding form. If you system is segmented, the Card Formats folder contains a third form, the Segment Membership form.

Note: Card formats can be segmented. Card format segmentation is more flexible than segmentation of other hardware-related items. When card format segmentation is enabled, a card format can belong to <All Segments> (system-wide), one segment, or many segments.

Toolbar Shortcut

This folder is displayed by selecting **Card Formats** from the **Administration** menu, or by selecting the Card Formats toolbar button.

Card Format Form - Common Fields

The following table lists the common fields found in the Card Format form, regardless of whether you are working with magnetic, Wiegand, or smart card formats.

Card Formats Folder - Card Format Form

Form Element	Comment
Listing window	Lists currently defined card formats, the type of card, segment, and, ID number.
Name	A unique name for the specified card format. You can enter a name containing a maximum of 32 characters.
Type	Displays the card format type. The information in this field represents the selection made in the Choose Card Format Type window when the card format was added. This field is automatically populated and cannot be modified.
Add	Adds a card format entry.
Modify	Changes a card format entry.
Delete	Removes a smart card format entry.
Help	Displays online help for this topic.
Close	Closes the Card Formats folder.

Magnetic Card Format Form

You can use the Magnetic Card Format form to:

- Configure magnetic card formats.
- Define information for the magnetic stripe, including the order and size of fields, the unique facility code, and, the number of digits to be encoded on the card.

Card Formats Folder - Magnetic Card Format Form

Form Element	Comment
Facility Code	Specifies a unique value for this facility.
Badge Offset Number	The **Badge Offset Number** field is utilized in the card format configuration to offset the badge number by the value entered in the field. An example would be: if the actual card badge number is 1500 and the **Badge Offset Number** field is set to 1000 then the number reported in the access event would 2500. This is useful to keep duplicate badge ID's unique. When multiple independent systems are merged into one ReadkeyPRO system duplicate badge ID's could become a problem. It is important that the access control hardware is able to uniquely identify the card format using the offset by a different facility code or card format structure. **Note:** If the Badge Offset Number is set to zero (0) then no offset is applied and the actual badge number is reported.
Access Control Track	Selects the track for which to configure access control. The default is track 2.
Asset Format	When this box is checked, the selected card format can be configured for asset management. **Note:** The **Asset Format** check box should not be selected if the access levels associated with the badge has escort functionality.
Duress Format	Identifies this card format as a duress format. When the controller detects a duress format, it always reports the events as duress rather than normal. **Note:** This setting is ignored during badge encoding. **Note:** This setting is different than the **Deny On Duress PIN** setting for readers which accept PIN input. For more information, refer to Settings Form on page 754.
Total Characters on Track *n*	Specifies the total number of digits for all fields (including custom) on the access control track. You can choose a value in the range of 0 through 100.
Minimum	When this box is checked, the total number of characters on the specified track can vary as long as the number of characters exceeds the minimum length entered in the **Total Characters on Track n** field. Data will be right-padded with zeroes until the minimum length is reached. When this box is unchecked, the total number of characters on the specified track is the exact number specified in the **Total Characters on Track n** field.

Card Formats Folder - Magnetic Card Format Form (Continued)

Form Element	Comment
Field Length: Facility Code	Specifies the maximum number of digits the facility code can contain. You can choose a value in the range of zero through nine. A facility code shorter than the value will be padded with leading zeroes (zeroes will be inserted in front of it).
Field Length: Card Number	Specifies the maximum number of digits the card number can contain. You can choose a value in the range of zero through nine. A card number shorter than the value will be padded with leading zeroes (zeroes will be inserted in front of it).
Field Length: Issue Code	Specifies the maximum number of digits the issue code can contain. You can choose a value in the range of zero through two. An issue code shorter than the value will be padded with leading zeroes (zeroes will be inserted in front of it).
Field Order (0 = N/A)	Contains the **Field Order: Facility Code**, **Field Order: Card Number**, and **Field Order: Issue Code** fields. **Note:** If you select the **Determined by Custom Fields** radio button, this section is dimmed because the field order will be specified in the custom encoding view instead. An access control field is not encoded if the value of the field order equals zero.
Field Order: Facility Code	Indicates the position of this field on the access control track, with respect to the card number and issue code. Choose one of the following: • 1 = placed first on the card • 2 = placed second on the card • 3 = placed last on the card • 0 = N/A No two fields can have the same number. The exception to this is choice “0”— more than one of the fields can be assigned “0”.
Field Order: Card Number	Indicates the position of this field on the access control track, with respect to the facility code and issue code. Choose one of the following: • 1 = placed first on the card • 2 = placed second on the card • 3 = placed last on the card • 0 = N/A No two fields can have the same number. The exception to this is choice “0”— more than one of the fields can be assigned “0”.
Field Order: Issue Code	Indicates the position of this field on the access control track, with respect to the card number and facility code. Choose one of the following: • 1 = placed first on the card • 2 = placed second on the card • 3 = placed last on the card • 0 = N/A No two fields can have the same number. The exception to this is choice “0”— more than one of the fields can be assigned “0”.

Card Formats Folder - Magnetic Card Format Form (Continued)

Form Element	Comment
Offset from Start of Track *n*: Facility Code	This field is updated automatically and is based on the field length and field order values; you cannot change it. It specifies the first character position for encoding the facility code on the magnetic stripe, as measured from the beginning of the access control track.
Offset from Start of Track *n*: Card Number	This field is updated automatically and is based on the field length and field order; you cannot change it. This field specifies the first character position for encoding the card number on the magnetic stripe, as measured from the beginning of the access control track.
Offset from Start of Track *n*: Issue Code	This field is updated automatically and is based on the field length and field order; you cannot change it. This field specifies the first character position for encoding the issue code on the magnetic stripe, as measured from the beginning of the access control track.
Field Order & Offset	Determines whether the position of the access control fields (facility code, card number, and, issue code) on the access control track is on the Card Format form or the Custom Encoding form. Contains the **Contiguous Starting at Beginning of Track *n* (Custom Fields Appended)** and **Determined by Custom Fields** radio buttons.

Add a Magnetic Card Format

Your system can support a maximum of eight magnetic card formats. This is a limitation of existing hardware.

1. Choose **Card Formats** from the **Administration** menu. The Card Formats folder opens.
2. Click [Add]. The Choose Card Format Type window opens.
3. In the listing window, select “Magnetic” and click [OK].
4. If segmentation is not enabled, skip this step. If segmentation is enabled:
   a. The Segment Membership window opens. Select the segment that this card format will be assigned to.
   b. Click [OK].
5. In the **Name** field, enter a unique, descriptive name for this format.
6. If you want cards with this format to be available for asset assignment, select the **Asset Format** check box.
7. If you want cards with this format to be duress cards, select the **Duress Format** check box.
8. Enter the facility code for this format, if there is one.
9. If your system uses multiple card technologies with overlapping card numbers, specify an offset in the **Badge Offset Number** field.
10. In the **Access Control Track** field, select the track for which to configure access control.
11. In the **Total Characters on Track n** field, select the total number of digits for all fields (including custom) on the access control track.
12. Select the **Minimum** check box if you want the total characters on the track to be a minimum value. Uncheck the **Minimum** check box if you want the total characters on the track to be an exact value.
13. For the facility code, card number, and issue code, indicate the field length of each field.
14. Specify the access control track field order for facility code, card number, and issue code, or select the **Determined by Custom Fields** radio button.

Note: If you want to custom encode, click the Custom Encoding form. For more information, refer to Build a Custom Expression: Process Outline on page 348.

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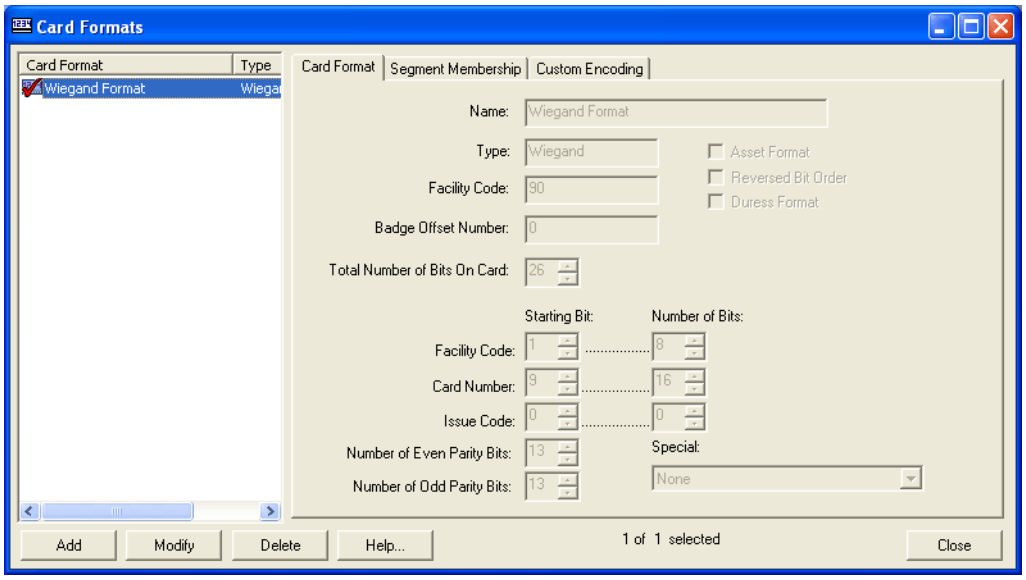
15. Click [OK].

Wiegand Card Format Form



Card Formats Folder - Wiegand Card Format Form

Form Element	Comment
Asset Format	When this box is checked, the selected card format can be configured for asset management. **Note:** The **Asset Format** check box should not be selected if the access levels associated with the badge has escort functionality.
Reversed Bit Order	**Note:** This option is supported only in series 2 Bosch access panels. Identifies this card format as a reversed bit order format. When the controller detects this format, it reverses the bit order of the incoming data before processing it. Readers report the duress state differently. For example, Bioscrypt readers report duress by reversing the bit order of the entire Wiegand string longitudinally. **Note:** This setting is ignored during badge encoding.
Duress Format	**Note:** This option is supported only in series 2 Bosch access panels. Identifies this card format as a reader duress card format. When the controller receives a duress format from the reader, it reports the access related events as duress followed by the access event description rather than normal standard reporting. For example: “DURESS - Access Grant” vs. “Access Grant”. **Note:** This setting is ignored during badge encoding. **Note:** This setting is different than the **Deny On Duress PIN** setting for readers that accept PIN input. The deny on duress reader setting only functions using this setting and not the duress card format. For more information, refer to Settings Form on page 754.
Facility Code	Specifies a unique value for this facility. Choose a value less than 999999999.

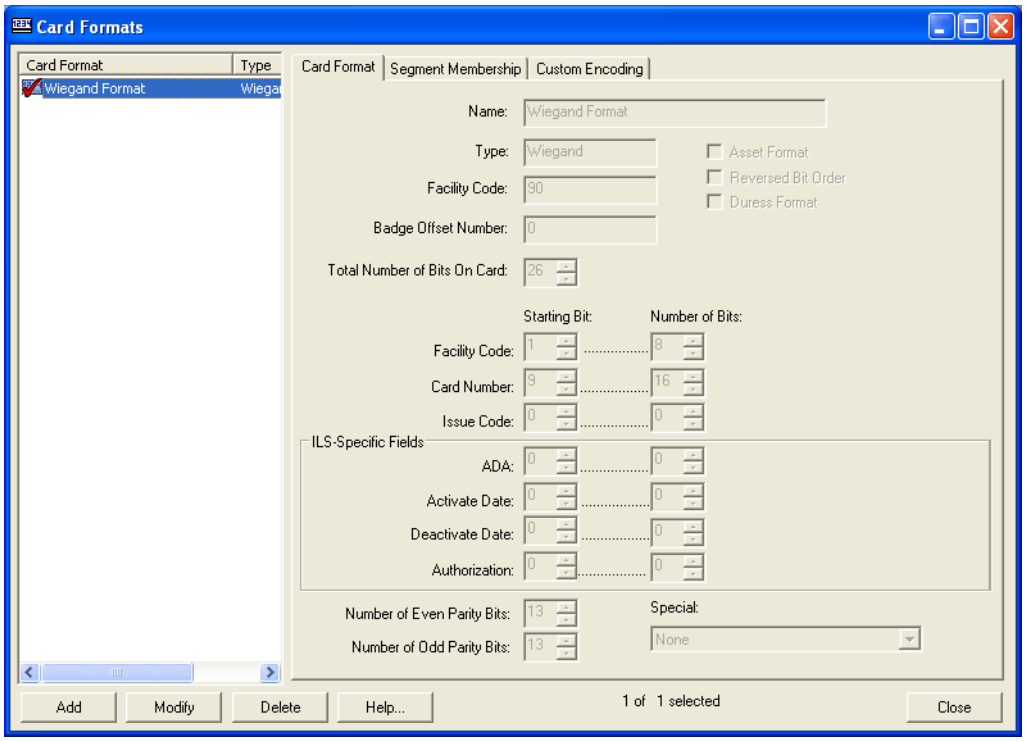
Card Formats Folder - Wiegand Card Format Form (Continued)

Form Element	Comment
Badge Offset Number	The **Badge Offset Number** field is utilized in the card format configuration to offset the badge number by the value entered in the field. An example would be: If the actual card badge number is 1500 and the **Badge Offset Number** field is set to 1000 then the number reported in the access event would 2500. This is useful to keep duplicate badge ID's unique. When multiple independent systems are merged into one ReadkeyPRO system duplicate badge ID's could become a problem. It is important that the access control hardware is able to uniquely identify the card format using the offset by a different facility code or card format structure. **Note:** If the Badge Offset Number is set to zero (0) then no offset is applied and the actual badge number is reported. Choose a value less than 999999999.
Total Number of Bits On Card	The total number of bits encoded on the card with a maximum value of 256 bits. **Note:** The number of bits in **Facility Code**, **Issue Code**, and **Card Number** combined must not exceed the total number of bits on the card. If one or more fields are out of range, the system will reset them to the maximum bits allowed. **Note:** Except for the parity bits, the fields should not overlap and the length of a field cannot extend beyond the length of the card.
Starting Bit for Facility Code	The bit number on which the facility code begins. Choose a starting value from 0 - 255.
Starting Bit for Card Number	The bit number on which the card number begins. Choose a starting value from 0 - 255.
Starting Bit for Issue Code	The bit number on which the issue code begins. Choose a starting value from 0 - 255.
Number of Bits in Facility Code	That portion of the total number of bits on the card that will be used for the facility code. Choose a value from 0 - 32 bits.
Number of Bits in Card Number	That portion of the total number of bits on the card that will be used for the card number. Choose a value from 0 - 64 bits.
Number of Bits in Issue Code	That portion of the total number of bits on the card that will be used for the issue code. Choose a value from 0 - 32 bits.
Number of Even Parity Bits	If parity is even, this field specifies the total value of parity bits in the Wiegand card format string. Choose a value from 0 - 256.
Number of Odd Parity Bits	If parity is odd, this field specifies the total value of parity bits in the Wiegand card format string. Choose a value from of 0 - 256.

Card Formats Folder - Wiegand Card Format Form (Continued)

Form Element	Comment
Special	If you are using special card format features, select a special feature from this drop-down. Choices include: • None - Select if you are not using special card format features. • Step Parity Check by Two Bits - If selected, step parity is calculated by 2 bits • Four Parity Bit Check - If selected, enables 37-bit Parity Test with 4 Parity Bits • Middle Parity Check - If selected, enables 37-bit Parity Test with 2 Parity Bits in middle of the card. • HID Corporate 1000 - Select if you are using HID access panels. You are only allowed to save this format if the following conditions are satisfied: a. "Total Number of Bits On Card" = 35 b. "Facility Code" has a "Start Code" = 2 c. "Facility Code" has a "Number of Bits" = 12 d. "Card Number" has a "Start Code" = 14 e. "Card Number" has a "Number of Bits" = 20 f. "Issue Code" has a "Number of Bits" = 0 **Note:** If the conditions are not met, you will be given the option of setting these conditions automatically. **Note:** Wiegand card formats configured with HID Corporate 1000 can only be referenced by HID Access Control (iCLASS) or (MIFARE) smart card formats. • GSA binary \ AC+SC+CC - If selected, it formats a 48-bit card number as follows: (bits 34 through 47)*(10**11)+(bits 20 through 33)*(10**7)+(bits 0 through 19).

Wiegand Card Format Form (ILS)



Important: To view the ILS-specific fields on this form your system must have an ILS license.

Card Formats Folder - Wiegand Card Format Form (ILS)

Form Element	Comment
Asset Format	When this box is checked, the selected card format can be configured for asset management. **Note:** The **Asset Format** check box should not be selected if the access levels associated with the badge has escort functionality.
Reversed Bit Order	**Note:** This option is supported only in series 2 Bosch access panels. Identifies this card format as a reserved bit order format. When the controller detects this format, it reverses the bit order of the incoming data before processing it. Readers report the duress state differently. For example, Bioscrypt readers report duress by reversing the bit order of the entire Wiegand string longitudinally. **Note:** This setting is ignored during badge encoding.

Card Formats Folder - Wiegand Card Format Form (ILS) (Continued)

Form Element	Comment
Duress Format	**Note:** This option is supported only in series 2 Bosch access panels. Identifies this card format as a reader duress card format. When the controller receives a duress format from the reader, it reports the access related events as duress followed by the access event description rather than normal standard reporting. For example: “DURESS - Access Grant” vs. “Access Grant”. **Note:** This setting is ignored during badge encoding. **Note:** This setting is different than the **Deny On Duress PIN** setting for readers that accept PIN input. The deny on duress reader setting only functions using this setting and not the duress card format. For more information, refer to Settings Form on page 754.
Facility Code	Specifies a unique value for this facility. Choose a value less than 999999999.
Badge Offset Number	The **Badge Offset Number** field is utilized in the card format configuration to offset the badge number by the value entered in the field. An example would be: If the actual card badge number is 1500 and the **Badge Offset Number** field is set to 1000 then the number reported in the access event would 2500. This is useful to keep duplicate badge ID's unique. When multiple independent systems are merged into one ReadkeyPRO system duplicate badge ID’s could become a problem. It is important that the access control hardware is able to uniquely identify the card format using the offset by a different facility code or card format structure. **Note:** If the Badge Offset Number is set to zero (0) then no offset is applied and the actual badge number is reported. Choose a value less than 999999999.
Total Number of Bits On Card	The total number of bits encoded on the card with a maximum value of 256 bits. **Note:** The number of bits in **Facility Code**, **Issue Code**, **Card Number**, **ADA**, **Activate Date**, **Deactivate Date**, and **Authorization** combined must not exceed the total number of bits on the card. If one or more fields are out of range, the system will reset them to the maximum bits allowed. **Note:** Except for the parity bits, the fields should not overlap and the length of a field cannot extend beyond the length of the card.
Starting Bit for Facility Code	The bit number on which the facility code begins. Choose a starting value from 0 - 255.
Starting Bit for Card Number	The bit number on which the card number begins. Choose a starting value from 0 - 255.
Starting Bit for Issue Code	The bit number on which the issue code begins. Choose a starting value from 0 - 255.
Starting Bit for ADA	The bit number on which the ADA (Americans with Disabilities Act) information is stored. In order to be ADA-compliant, extended door time is assigned to cardholders with disabilities who require it. Choose a starting value from 0 - 255.
Starting Bit for Activate Date	The bit number on which the activate date begins. Choose a starting value from 0 - 222. **Note:** Activate/deactivate time is stored as the number of seconds elapsed since midnight (00:00:00), January 1, 1970 to the specified time. The maximum date is January 18, 2038.

Card Formats Folder - Wiegand Card Format Form (ILS) (Continued)

Form Element	Comment
Starting Bit for Deactivate Date	The bit number on which the deactivate date begins. Choose a starting value from 0 - 222.
Starting Bit for Authorization	The bit number on which the authorization information begins. Choose a starting value from 0 - 215.
Number of Bits in Facility Code	That portion of the total number of bits on the card that will be used for the facility code. Choose a value from 0 - 32 bits.
Number of Bits in Card Number	That portion of the total number of bits on the card that will be used for the card number. Choose a value from 0 - 64 bits.
Number of Bits in Issue Code	That portion of the total number of bits on the card that will be used for the issue code. Choose a value from 0 - 32 bits.
Number of Bits in ADA	That portion of the total number of bits on the card that will be used for the ADA information. Choose a value of 0 or 1 bit.
Number of Bits in Activate Date	That portion of the total number of bits on the card that will be used for the activate date. Choose a value of either 0 or 32 bits.
Number of Bits in Deactivate Date	That portion of the total number of bits on the card that will be used for the deactivate date. Choose a value of either 0 or 32 bits.
Number of Bits in Authorization	That portion of the total number of bits on the card that will be used for the authorization information. Choose a value of either 0 or 40 bits.
Number of Even Parity Bits	If parity is even, this field specifies the total value of parity bits in the Wiegand card format string. Choose a value from 0 - 256.
Number of Odd Parity Bits	If parity is odd, this field specifies the total value of parity bits in the Wiegand card format string. Choose a value from of 0 - 256.

Card Formats Folder - Wiegand Card Format Form (ILS) (Continued)

Form Element	Comment
Special	If you are using special card format features, select a special feature from this drop-down. Choices include: • None - Select if you are not using special card format features. • Step Parity Check by Two Bits - If selected, step parity is calculated by 2 bits • Four Parity Bit Check - If selected, enables 37-bit Parity Test with 4 Parity Bits • Middle Parity Check - If selected, enables 37-bit Parity Test with 2 Parity Bits in middle of the card. • HID Corporate 1000 - Select if you are using HID access panels. You are only allowed to save this format if the following conditions are satisfied: – "Total Number of Bits On Card" = 35 – "Facility Code" has a "Start Code" = 2 – "Facility Code" has a "Number of Bits" = 12 – "Card Number" has a "Start Code" = 14 – "Card Number" has a "Number of Bits" = 20 – "Issue Code" has a "Number of Bits" = 0 **Note:** If the conditions are not met, you will be given the option of setting these conditions automatically. **Note:** Wiegand card formats configured with HID Corporate 1000 can only be referenced by HID Access Control (iCLASS) or (MIFARE) smart card formats. • GSA binary \ AC+SC+CC - If selected, it formats a 48-bit card number as follows: (bits 34 through 47)*(10**11)+(bits 20 through 33)*(10**7)+(bits 0 through 19).

Add a Wiegand Card Format

Your system can support a maximum of eight Wiegand card formats. This is a limitation of existing hardware. For ILS locking systems, a maximum of four Wiegand card formats are supported.

1. Choose **Card Formats** from the **Administration** menu. The Card Formats folder opens.
2. Click [Add]. The Choose Card Format Type window opens.
3. In the listing window, select “Wiegand” and click [OK].
4. If segmentation is not enabled, skip this step. If segmentation is enabled:
   a. The Segment Membership window opens. Select the segment that this card format will be assigned to.
   b. Click [OK].
5. In the **Name** field, enter a unique, descriptive name for this format.
6. If you want cards with this format to be available for asset assignment, select the **Asset Format** check box.
7. If you want cards with this format to be duress cards:
   a. If your reader reports duress by reversing the bit order, select the **Reversed Bit Order** check box.
   b. Select the **Duress Format** check box.
8. Enter the facility code for this format, if there is one.
9. If your system uses multiple card technologies with overlapping card numbers, specify an offset in the **Badge Offset Number** field.
10. Enter the total number of bits on the card. This information is available from the card vendor, and is usually a Wiegand standard number.
11. Enter the number of the Wiegand bit on which the facility code begins. Do the same for the card number and the issue code.
12. Enter the number of bits used for the card number, the facility code, and the issue code.
13. (Optional) Enter the number of bits used for the ADA information, the activate date, the deactivate date, and the authorization information.
14. (Optional) Enter the number of the Wiegand bit on which the ADA information begins. Do the same for the activate date, the deactivate date, and the authorization information.
15. If you are using special card format features, select a special feature from the **Special** drop-down.
16. Click [OK].

Standard 26-Bit Wiegand Card Formats

The following table suggests the settings to use for a standard 26-bit Wiegand card. Your organization may use a proprietary format instead. If so, your

Wiegand card vendor can provide the configuration information required for the Card Format form.

Wiegand Card Format form Field Name	Value to Enter
Format Name	Wiegand (26)
Facility Code	0 [or other - see Determine the Facility Code on page 294.]
Total Number of Bits on Card	26
Badge Offset Number	[default is 0 - see the definition in the Card Formats Folder - Wiegand Card Format Form table on page 286.]
Number of Bits in Card Number	16
Number of Bits in Facility Code	8
Number of Bits in Issue Code	0
Number of Even Parity Bits	13
Number of Odd Parity Bits	13
Starting Bit for Each Wiegand Field - Facility Code	1
Starting Bit for Each Wiegand Field - Card Number	9
Starting Bit for Each Wiegand Field - Issue Code	1

Determine the Facility Code

Your Wiegand card vendor provides the facility code. If you do not know your facility code, do the following:

1. Complete the Wiegand Card Format form as described in the Standard 26-Bit Wiegand Card Formats table on page 293 or the Standard 75-Bit PIV Card Formats table on page 295.
2. Continue configuring the rest of your system.
3. Swipe a valid badge through a card reader on your system. This will trigger an Invalid Facility Code event. In the Alarm Monitoring application, the event will indicate the correct facility code in the Main Alarm Monitor window.
4. You can then return to the Wiegand Card Format form and modify it to specify the correct facility code.

Your Wiegand card vendor also provides card numbers. In the **Generate Badge ID** field (located on the Badge ID Allocation form in the Cardholder Options folder), choose one of the following fields:

Automatic if your vendor has given you sequential Wiegand card numbers. Be sure also to enter an accurate **Badge Offset Number** value on the Wiegand Card Format form.

Manual Entry if your Wiegand card numbers are not sequential. This means that you will have to enter each **Badge ID** (card number) manually when adding badges using the Badge form in the Cardholders folder.

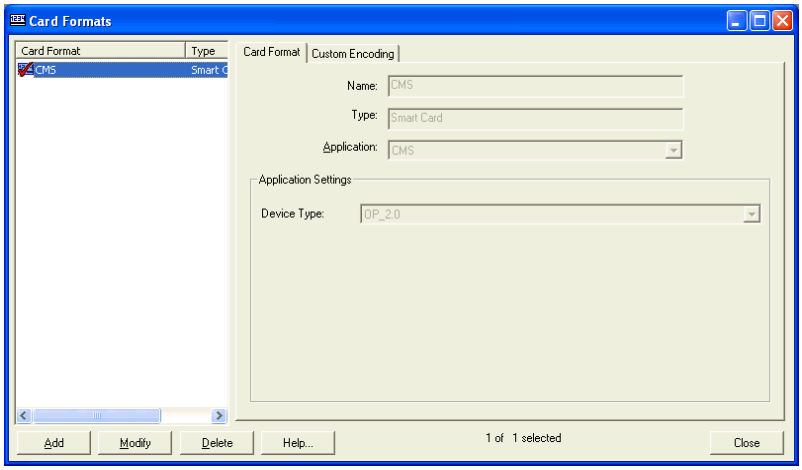
Standard 75-Bit PIV Card Formats

The following table suggests the settings to use for a standard 75-bit PIV card. Your organization may use a proprietary format instead. If so, your Wiegand card vendor can provide the configuration information required for the Card Format form.

PIV Card Format form Field Name	Value to Enter
Format Name	PIV (75)
Facility Code	0 [or other - see Determine the Facility Code on page 294.]
Total Number of Bits on Card	75
Badge Offset Number	[default is 0 - see the definition in the Card Formats Folder - Wiegand Card Format Form table on page 286.]
Number of Bits in Card Number	48
Number of Bits in Facility Code	0
Number of Bits in Issue Code	0
Number of Even Parity Bits	38
Number of Odd Parity Bits	37
Starting Bit for Each Wiegand Field - Facility Code	0
Starting Bit for Each Wiegand Field - Card Number	1
Starting Bit for Each Wiegand Field - Issue Code	0
Special	GSA binary PIV AC+SC+CC

CMS Card Format Form

This view displays when “CMS” is selected from the **Application** drop-down.



Card Formats Folder - CMS Form

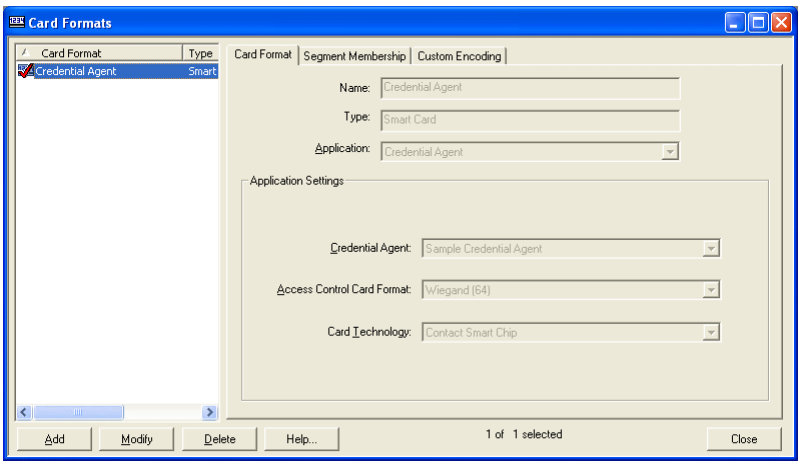
Form Element	Comment
Device Type	Identifies the CMS Device Type by its name. Currently ActivIdentity CMS only supports the “OP_2.0” device type.
CMS listing window	Displays the name, hostname, and port of CMS systems configured for use with the ReadkeyPRO system.

CMS Card Format Form Procedures

For instructions on how to configure and use CMS, refer to Appendix I: Integrating ActivIdentity CMS with ReadkeyPRO on page 1501. The following procedure in that section is performed in this folder: Add a CMS Smart Card Format on page 1509.

Credential Agent Card Format Form

This view displays when “Credential Agent” is selected from the **Application** drop-down.



Note: Credential Agent applications do not require special licensing.

Card Formats Folder - Credential Agent Card Formats Form

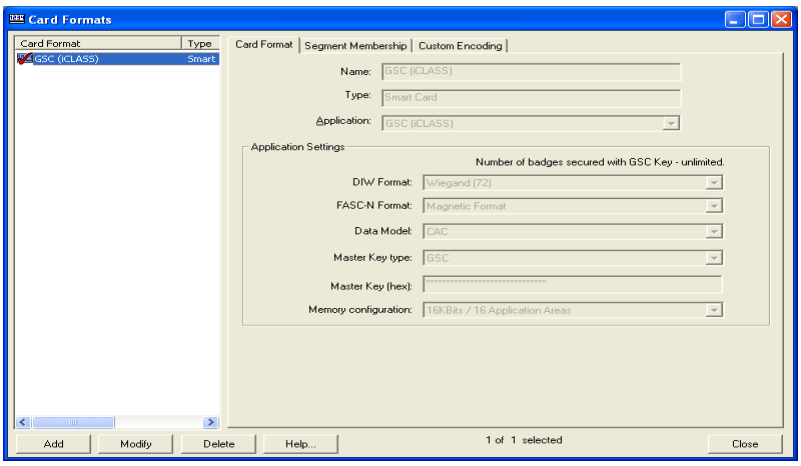
Form Element	Comment
Credential Agent	The name of the third party application registered with ReadkeyPRO that will be called during encoding. The Credential Agent field automatically populates with “Sample Credential Agent”, which demonstrates the features of the Credential Agent card format. Use the sample (COM application) to write your own credential agent.
Access Control Card Format	Lists Wiegand card formats previously configured in the system. The card format selected will be written to the card during encoding. **Note:** Wiegand card formats with **Special** configured for HID Corporate 1000 cannot be referenced by this smart card format.
Card Technology	Identifies the type of card this card format is associated with.

Add a Credential Agent Smart Card Format

1. Choose **Card Formats** from the **Administration** menu. The Card Formats folder opens.
2. Click [Add]. The Choose Card Format Type window opens.
3. In the listing window, select “Smart Card” and click [OK].
4. If segmentation is not enabled, skip this step. If segmentation is enabled:
   a. The Segment Membership window opens. Select the segment that this card format will be assigned to.
   b. Click [OK].
5. In the **Name** field, enter a unique, descriptive name for this format.
6. Select “Credential Agent” from the **Application** drop-down.
7. In the **Credential Agent** field, select the third party application registered with ReadkeyPRO that will be called during encoding.
8. Select the previously configured Wiegand access control card format from the **Access Control Card Format** drop-down. Any Wiegand card format with standard settings is acceptable. Special Wiegand card format settings are not required for Credential Agent applications.
9. Verify the correct card technology is selected. If not, select the card technology you want associated with this card format, from the drop-down.
10. Click [OK].

GSC (iCLASS) Card Format Form

This view displays when "GSC (iCLASS)" is selected from the **Application** drop-down.



Note: GSC (iCLASS) applications do not require special licensing.

Card Formats Folder - GSC (iCLASS) Card Format Form

Form Element	Comment
Number of badges secured with GSC Key	Displays the number of badges that are able to be secured with a GSC Key. If you are using GSC Key for encoding, you can encode unlimited cards, but if you are using custom key, the number is determined by your license.
DIW Format	A custom Wiegand format. The Device Independent Wiegand (DIW) format must be created before you configure a government smart card format. The DIW format can be up to 128 bits in length. Refer to the Wiegand Card Format Configurations for GSC (iCLASS) Applications (Default Settings) table on page 301 for the *default* DIW settings. **Note:** Wiegand card formats with **Special** configured for HID Corporate 1000 cannot be referenced by this smart card format.
FASC-N Format	A customized magnetic card format. A Federal Agency Smart Credential Number (FASC-N) magnetic card format must be created before you configure a government smart card format. All magnetic card formats configured in the system are available from the drop-down.
Data Model	The data model used to map data. Only user-defined fields that are mapped to a selected data model will be stored on a card. Fields are mapped to data models in FormsDesigner.
Master Key type	The type of key preprogrammed on smart card readers. Choices include: Custom and GSC. If you choose Custom you must also fill in the **Master Key (hex)** field with a series of 16 hexadecimal digits. If you choose GSC the **Master Key (hex)** field is populated automatically.

Card Formats Folder - GSC (iCLASS) Card Format Form (Continued)

Form Element	Comment
Master Key (hex)	A hex value preprogrammed on smart card readers that protects Federal Agency Smart Credential Number (FASC-N) and demographic data. This field automatically populates when you select the master key type GSC.
Memory configuration	The memory configuration of the smart card readers. The default memory configuration is 16K Bits/16 Application Areas which provides the greatest compatibility with different readers. Choices include: • 16kbits/16 Application Areas • 16kbits/2 Application Areas (Custom Key) • 16kbits/16 Application Areas (Custom Key)

Add a GSC (iCLASS) Smart Card Format

Note: GSC (iCLASS) applications require a custom Wiegand (DIW) format where the total number of bits on a card does not exceed 128.

1. Choose **Card Formats** from the **Administration** menu. The Card Formats folder opens.
2. Click [Add]. The Choose Card Format Type window opens.
3. In the listing window, select “Smart Card” and click [OK].
4. If segmentation is not enabled, skip this step. If segmentation is enabled:
   a. The Segment Membership window opens. Select the segment that this card format will be assigned to.
   b. Click [OK].
5. In the **Name** field, enter a unique, descriptive name for this format.
6. Select “GSC (iCLASS)” from the **Application** drop-down.
7. Select the DIW and FASC-N format.
8. Verify the data model format is correct. If not, use the **Data Model** drop-down to select the correct format.
9. The **Master Key Type** and **Master Key (hex)** fields automatically populate. If you wish to add a custom master key do the following:
   a. To use a custom master key you must first have a license (SWG-1490).
   b. Choose “Custom” from the **Master Key Type** drop-down field.
   c. Type the key you wish to use in the **Master Key (hex)** field.

Note: Once cards are secured using a custom key, data imports from GSC (iCLASS) cards will be disabled.

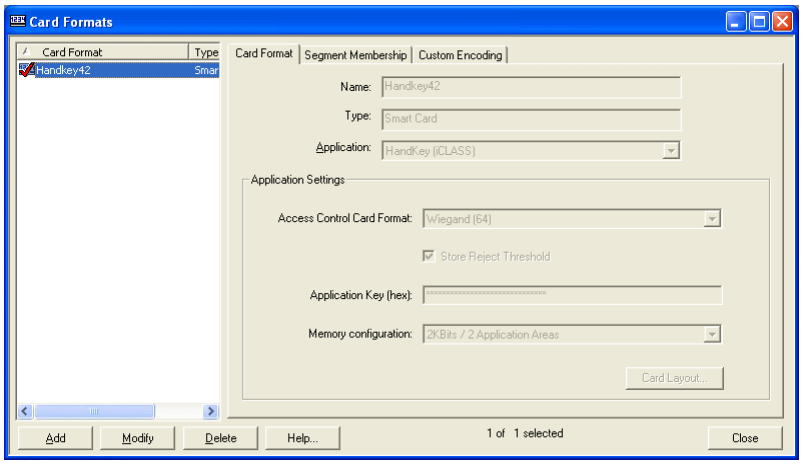
10. Verify the memory configuration value is correct. If not, use the drop-down to select the correct configuration.
11. Click [OK].

Wiegand Card Format Configurations for GSC (iCLASS) Applications (Default Settings)

Field name	Configuration
Name	DIW
Type	Wiegand
Facility Code	User configurable
Badge Offset Number	User configurable
Total Number of Bits on Card	64
Facility Code/Starting Bit	0
Facility Code/Number of Bits	8
Card Number/Starting Bit	8
Card Number/Number of Bits	48
Issue Code/Starting Bit	56
Issue Code/Number of Bits	8
Number of Even Parity Bits	0
Number of Odd Parity Bits	0
Special	None

HandKey (iCLASS) Card Format Form

This view displays when “HandKey (iCLASS)” is selected from the **Application** drop-down.



Card Formats Folder - HandKey (iCLASS) Card Formats Form

Form Element	Comment
Access Control Card Format	Lists Wiegand card formats previously configured in the system. The card format selected will be written to the card during encoding. **Note:** Wiegand card formats configured with HID Corporate 1000 can only be referenced by HID Access Control (iCLASS) smart card formats.
Store Reject Threshold	If checked, the card stores the reject threshold that was determined in the HandKey hand geometry template in the Multimedia Capture module.
Application Key (hex)	A key used to authenticate and secure application areas containing the biometric container on the smart card. The default application key is “Default HID Kd for Page 0 App 1”. The HandKey Access system must be configured to use the same application key in order to gain access to application areas holding the biometric container with HandKey handprint data. The application key must be 16 hexadecimal digits long. Only hex digits (1, 2, 3, 4, 5, 6, 7, 8, 9, a, b, c, d, e, f, and A, B, C, D, E, F) are allowed. This is a secure field. The application key is only visible when you enter the key value. After the key is stored, it displays as a predefined number of “*”.
Memory configuration	The memory configuration of the smart card readers. The default memory configuration is 16K Bits/16 Application Areas which provides the greatest compatibility with different readers.

Card Formats Folder - HandKey (iCLASS) Card Formats Form (Continued)

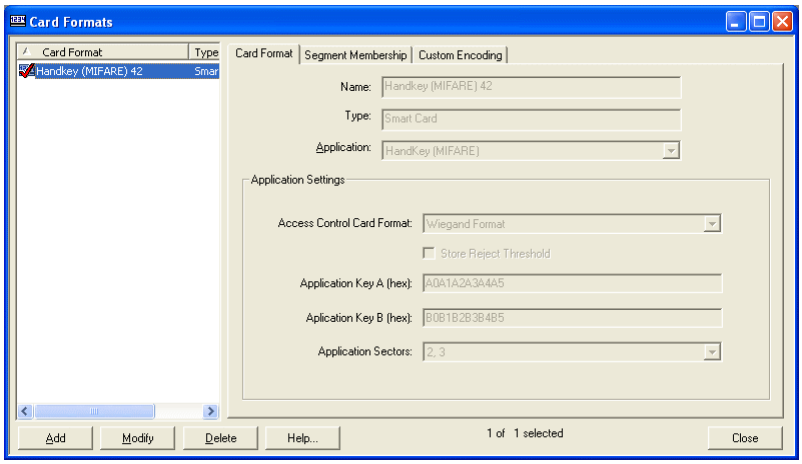
Form Element	Comment
Card Layout	The card layout is populated with a default configuration, and you should not modify the card layout unless you are very familiar with iCLASS card memory layout. However, if you desire to change the configuration, the following guidelines should be followed: • Default layout configuration for memory configuration of 16K/16 Application areas: Page 0 /Application 2 is used for Application data. All other Applications are unused. • Default layout configuration for memory configuration of 16K/2 Application areas or 2K/2 Application areas: Application data starting offset is 0x0013. Location of application data must also be Page 0/Application 2.

Add a HandKey (iCLASS) Card Format

1. Choose **Card Formats** from the **Administration** menu. The Card Formats folder opens.
2. Click [Add]. The Choose Card Format Type window opens.
3. In the listing window, select “Smart Card” and click [OK].
4. If segmentation is not enabled, skip this step. If segmentation is enabled:
   a. The Segment Membership window opens. Select the segment that this card format will be assigned to.
   b. Click [OK].
5. In the **Name** field, enter a unique, descriptive name for this format.
6. Select “HandKey (iCLASS)” from the **Application** drop-down.
7. Select the previously configured Wiegand access control card format from the **Access Control Card Format** drop-down. Any Wiegand card format with standard settings is acceptable. Special Wiegand card format settings are not required for Credential Agent applications.
8. Enter the 32 character hex value for the application key.
9. Select the memory configuration you wish to use.
10. Click [OK].

HandKey (MIFARE) Card Format Form

This view displays when "HandKey (MIFARE)" is selected from the **Application** drop-down.



Card Formats Folder - HandKey (MIFARE) Card Formats Form

Form Element	Comment
Access Control Card Format	Lists Wiegand card formats previously configured in the system. The card format selected will be written to the card during encoding. **Note:** Wiegand card formats with **Special** configured for HID Corporate 1000 cannot be referenced by this smart card format.
Store Reject Threshold	If checked, the card stores the reject threshold that was determined in the HandKey hand geometry template in the Multimedia Capture module.
Application Key A (hex)	A public key used for authentication to read sectors on a MIFARE card. Key A automatically populates with the default (secret) key. If you are using the native Integrated Engineering tools to configure readers and you change key A, make sure that the reader parameter, KEYASA, matches what ever you enter in this field. If you are using the stand alone utility to configure readers, make sure the settings in the IEConfiguration Card Utility match what ever you enter in this field. **Note:** Key A must be a 6 byte hex value. Therefore, the value must be 12 characters long and contain numbers 0-9 and/or letters A-F.
Application Key B (hex)	A covert key used for authentication to secure a MIFARE card. Key B protects the sector that holds access control data. By default, this key is set to a secret key. **New (blank) MIFARE cards -** have a transport configuration protected by default keys. Any number you enter in the **Key B** field overwrites the transport configuration. Note that key B must be a hex value. **Old (used) MIFARE cards -** have information already written on them and are no longer in transport configuration. You must enter the current key in order to encode the card.
Application Sectors	Choose the application sectors that match what is expected by the reader. This configuration is determined by the System Administrator. The default sectors are 2 and 3.

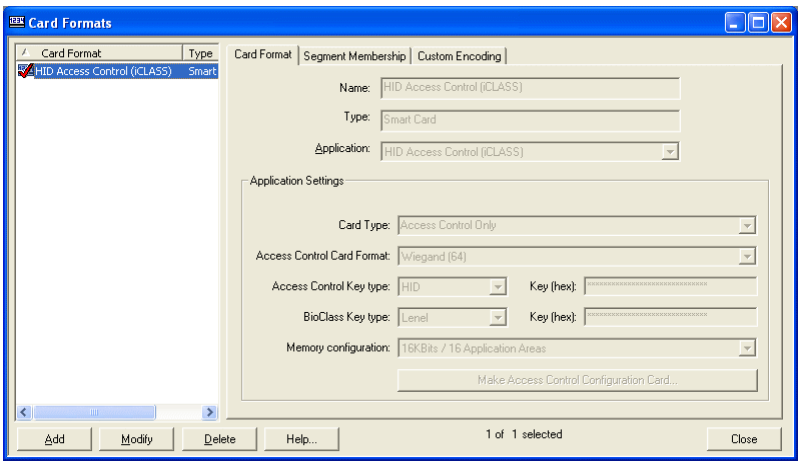
Add a HandKey (MIFARE) Card Format

Note: When assigning a HandKey (MIFARE) card format to a badge the cardholder's badge ID must be less than or equal to the value 65535.

1. Choose **Card Formats** from the **Administration** menu. The Card Formats folder opens.
2. Click [Add]. The Choose Card Format Type window opens.
3. In the listing window, select "Smart Card" and click [OK].
4. If segmentation is not enabled, skip this step. If segmentation is enabled:
   a. The Segment Membership window opens. Select the segment that this card format will be assigned to.
   b. Click [OK].
5. In the **Name** field, enter a unique, descriptive name for this format.
6. Select "HandKey (MIFARE)" from the **Application** drop-down.
7. Select the previously configured Wiegand access control card format from the **Access Control Card Format** drop-down. Only standard Wiegand 26-bit card format is acceptable.
8. If you want to customize the application keys, enter application key A and B. If you are working with a previously used card, you must enter the previously configured key B. Otherwise, use the application key default values.
9. Choose the application sectors you wish to use.
10. Click [OK].

HID Access Control (iCLASS) Card Format Form

This view displays when “HID Access Control (iCLASS)” is selected from the **Application** drop-down.



Card Formats Folder - HID Access Control (iCLASS) Card Format Form

Form Element	Comment
Card Type	The card type sets what information you want encoded onto the card. Choice include: **Access Control Only** - Choose if you want to create an access control smart card. **Access Control With BioClass** - Choose if you want to create a card with both access control and BioClass features. **Add BioClass** - Choose if you want to add BioClass data to an existing access control smart card.
Access Control Card Format	Lists Wiegand card formats previously configured in the system. The card format selected will be written to the card during encoding. The maximum length of the access control data encoded in the HID applications area of iCLASS cards is 143 bits. This accommodates the sentinel bit required by HID readers.
Access Control Key type	The type of key preprogrammed on smart card readers. Choices include: Lenel, HID, and Custom. If you choose Custom you must also fill in the **Master Key (hex)** field with a series of 16 hexadecimal digits. If you choose HID or Lenel the **Master Key (hex)** field is populated automatically. For more information, refer to the Make Configuration Card definition in this table. **Note:** You can not make a configuration card and use a Custom key type
Key (hex)	A hex value of the Bosch Security Master key that is preprogrammed on smart card readers and protects access control data. This field automatically populates when you select the HID or Lenel Access Control Key type.

Card Formats Folder - HID Access Control (iCLASS) Card Format Form

Form Element	Comment
BioClass Key Type	The type of key preprogrammed on smart card readers. Choices include: • **Lenel -** Uses the default Lenel bioCLASS key. In this case, the Lenel bioCLASS key is used to secure the data on the (iCLASS) smart card • **Custom -** Choosing Custom allows the operator to manually enter in a custom key. In this case, the custom key entered here by the operator is used to secure the data on the (iCLASS) smart card. Custom keys are a licensed feature. For more information, refer to the Make Configuration Card definition in this table. **Note:** You can not make a configuration card and use a Custom key type
Key (hex)	A hex value of the Bosch Security Master key that is preprogrammed on smart card readers and protects access control data. This field automatically populates when you select the Lenel BioClass Key type.
Memory configuration	The memory configuration of the smart card readers. The default memory configuration is 16K Bits/16 Application Areas which provides the greatest compatibility with different readers.
Make Access Control Configuration Card	Click this button to select the encoder to create a configuration card. Clicking this button opens the Encoder Listing window. Here you must choose the: **Configuration Type -** The configuration type that you choose is based on which key type (BioClass or Access Control) you are using on the Card Formats form. **Encoder -** Choose the encoder that you want to use from the drop-down box. *Configuration cards* are used to configure keys in HID Access Control (iCLASS) card format readers and to set default parameters. Using configuration cards, you can change the master key of the reader from HID to Lenel or set default Lenel settings on the reader. The type of configuration card that you create is based on the master key type. Select Lenel as the master key type, to make a configuration card that will change the master key from HID to Lenel. Select HID as the master key type to change the default parameters in the reader.

Application License - HID Access Control (iCLASS)

The iCLASS Access Control Support (STD) license is required to use the HID Access Control (iCLASS) application.

Add an HID Access Control (iCLASS) Smart Card Format

Note: HID Access Control (iCLASS) applications require a Wiegand format where the total number of bits on a card does not exceed 143.

1. Choose **Card Formats** from the **Administration** menu. The Card Formats folder opens.
2. Click [Add]. The Choose Card Format Type window opens.
3. From the list, select "Smart Card" and click [OK].
4. If segmentation is not enabled, skip this step. If segmentation is enabled:
   a. The Segment Membership window opens. Select the segment to which this card format will be assigned.
   b. Click [OK].
5. In the **Name** field, enter a unique, descriptive name for this format.
6. Select "HID Access Control (iCLASS)" from the drop-down.
7. Select a card type from the **Card Type** drop-down box.
8. Select the previously configured Wiegand access control card format you want this smart card to reference from the **Access Control Card Format** drop-down.
9. Depending on the card you are creating choose from the **Access Control Key type** and **BioClass Key type** drop-down boxes.

Note: The corresponding **Key (hex)** fields automatically populate depending on your choices.

10. Verify the memory configuration value is correct. If not, use the drop-down to select the correct configuration.
11. Click [OK].

Create an HID Access Control (iCLASS) Reader Configuration Card

Configuration cards can be created using native iCLASS tools or by using a stand alone utility. The following procedure creates a configuration card for various iCLASS readers using an iCLASS encoder and native iCLASS tools.

To use the stand alone HID iCLASS Utility, refer to the Supplemental Materials disc.

1. Choose **Card Formats** from the **Administration** menu. The Card Formats folder opens.
2. Select (place a checkmark beside) the HID Access Control (iCLASS) card format.
3. Verify the Application Settings are correct. To change the master key from HID to Lenel, select "Lenel" on the **Access Control Key type** field. To set default parameters, select "HID" instead. The **BioClass Key type** field must be set to "Custom".

Notes: You can create a configuration card to change the master key of an HID Access Control (iClass) reader from HID to Lenel, or to set default Lenel settings on the reader.

The decision on which card to create (HID or Lenel) is based on the **Access Control Key type** field. If you select "HID" the following default parameters will be set in the reader:

- Beep will be on
- LED will normally be red
- Reader will flash green on tag read

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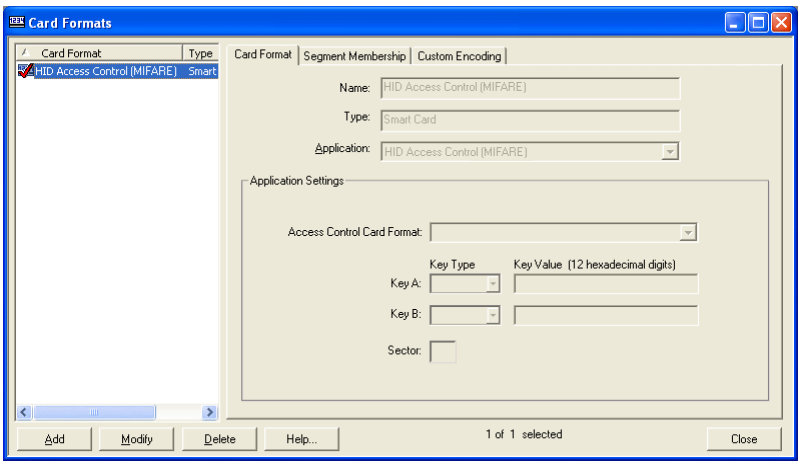
4. Click [Make Access Control Configuration Card].
5. The Encoder Listing window opens. Select the configuration type and encoder from the drop-down.
6. Click [OK].
7. Follow any prompts that display to encode the configuration card.

HID Access Control (MIFARE) Card Format Form

This view displays when “HID Access Control (MIFARE)” is selected from the **Application** drop-down.



Card Formats Folder - HID Access Control (MIFARE) Card Format Form

Form Element	Comment
Access Control Card Format	Lists Wiegand card formats previously configured in the system. The card format selected will be written to the card during encoding. The maximum length of the access control data encoded in the HID applications area of MIFARE cards is 119 bits. This accommodates the sentinel bit required by HID readers.
Key type	The type of key preprogrammed on smart card readers. Choices include: Custom and HID. If you choose Custom you must also fill in the **Key Value** field with a series of 12 hexadecimal digits. If you choose HID the **Key Value** field is populated automatically.
Key Value (12 hexadecimal digits)	When creating a custom key type, enter 12 hexadecimal digits into this field. The only characters allowed are a-f, A-F, and 0-9.
Sector	Use this field to select which sector to use. This must match what is expected by the reader. This configuration is determined by the System Administrator. The sector is 2 digits long.

Application License - HID Access Control (MIFARE)

The HID Access Control (MIFARE) license is required to use the HID Access Control (MIFARE) application.

Add an HID Access Control (MIFARE) Smart Card Format

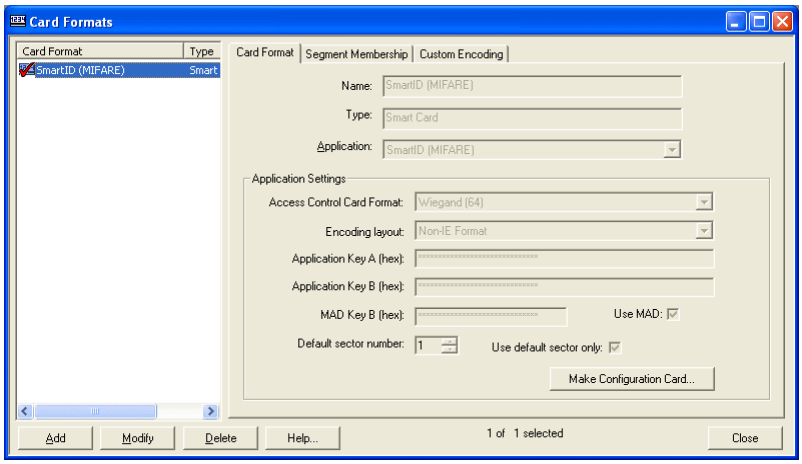
1. Choose **Card Formats** from the **Administration** menu. The Card Formats folder opens.
2. Click [Add]. The Choose Card Format Type window opens.
3. In the listing window, select “Smart Card” and click [OK].
4. If segmentation is not enabled, skip this step. If segmentation is enabled:
   a. The Segment Membership window opens. Select the segment that this card format will be assigned to.
   b. Click [OK].
5. In the **Name** field, enter a unique, descriptive name for this format.
6. Select a “HID Access Control (MIFARE)” from the drop-down.
7. Select the previously configured Wiegand access control card format you want this smart card to reference from the **Access Control Card Format** drop-down.
8. Choose a key type in the Key A and Key B section of the screen. Select HID to populate the **Key Value** field automatically. Select **Custom** if you want to fill in the key value yourself.
9. In the Sector field, enter the 2 digit sector that the reader has been configured for. This is configured by the System Administrator.
10. Click [OK].

Create an HID Access Control (MIFARE) Reader Configuration Card

1. Choose **Card Formats** from the **Administration** menu. The Card Formats folder opens.
2. Select (place a check mark beside) the HID Access Control (MIFARE) card format.
3. Verify the Application Settings are correct. To change the master key from HID to Lenel, select “Lenel” on the **Master Key type** field. To set default parameters, select “HID” on the **Master Key type** field.
4. Click [Make Configuration Card].
5. The Encoder Listing window opens. Select the encoder from the drop-down.
6. Click [OK].
7. Follow any prompts that display to encode the configuration card.

SmartID (MIFARE) Card Format Form

This view displays when “SmartID (MIFARE)” is selected from the **Application** drop-down.



Card Formats Folder - SmartID (MIFARE) Card Format Form

Form Element	Comment
Access Control Card Format	Lists Wiegand card formats previously configured in the system. The card format selected will be written to the card during encoding. **Note:** Wiegand card formats with **Special** configured for HID Corporate 1000 cannot be referenced by this smart card format.
Encoding layout	Select the format the access control data should be encoded in. If you are using the native SmartID tools to configure readers and you select IE Format as the encoding layout, then the reader parameter must be configured to read IE Format (IEFORMAT=Y). If you select Non-IE Format as the encoding layout, then the reader parameter must be set to IEFORMAT=N. **Note:** The SmartID reader’s output always contains parity. If you are encoding a card using IE format, the parity in the Wiegand format that is linked to the SmartID (MIFARE) application must match the reader's parity. IE calculates parity for each half of the Wiegand data. So, if you have 18 bits of data, parity will be calculated over the first 9 and last 9 bits. If you have an odd number of bits, for example 21 bits, parity will be calculated over the first 11 and last 11 bits.

Card Formats Folder - SmartID (MIFARE) Card Format Form (Continued)

Form Element	Comment
Application Key A (hex)	A public key used for authentication to read sectors on a MIFARE card. Key A automatically populates with the default (secret) key. If you are using the native Integrated Engineering tools to configure readers and you change key A, make sure that the reader parameter, KEYASA, matches what ever you enter in this field. If you are using the stand alone utility to configure readers, make sure the settings in the IEConfiguration Card Utility match what ever you enter in this field. Note that key A must be a 6 byte hex value. Therefore, the value must be 12 characters long and contain numbers 0-9 and/or letters A-F.
Application Key B (hex)	A covert key used for authentication to secure a MIFARE card. Key B protects the sector that holds access control data. By default, this key is set to a secret key. **New (blank) MIFARE cards -** have a transport configuration protected by default keys. Any number you enter in the **Key B** field overwrites the transport configuration. Note that key B must be a hex value. **Old (used) MIFARE cards -** have information already written on them and are no longer in transport configuration. You must enter the current key in order to encode the card.
Use MAD	This check box enables the MIFARE application directory (MAD) and writes MAD onto a MIFARE card. If you enable MAD, sector zero stores the application ID that tells the reader what sector to read. When you enable MAD, a new entry is made into the card, if MAD exists on the card. If MAD does not exist, MAD will be created and a new entry made into the card. If you do not enable MAD, the application will be written into the sector specified by the user in the **Default Sector Number** text box.
MAD Key B (hex)	A covert key for authentication to write to the MIFARE application directory (if MAD is enabled). MAD key B is a 32 character hex value. *Hex values* contain numbers 0-9 and/or letters A-F. By default, this key is set to a secret key. If MAD already exists on the card, then the current MAD key B should be entered. If the user is not an owner of MAD, then the user must find out what the current key is before MAD can be written. Once MAD is created, MAD key B will be used if other applications are programmed on to the card. MAD key B should only be released to people who will write other applications.
Default sector number	The sector number the IE application is written to. The default sector number cannot be zero because MAD uses/reserves this sector. The default sector is read with key A and secured with key B. If authentication cannot be performed and MAD is on the card, then the application will search MAD for the next available sector to write the IE application to.

Card Formats Folder - SmartID (MIFARE) Card Format Form (Continued)

Form Element	Comment
Use default sector only	Specifies the course of action if the specified (default) sector is not available. This check box is automatically enabled if the **Use MAD** check box is not selected. • If MAD is available and the **Use default sector only** check box is selected, then the specified sector number is used. If this sector cannot be overwritten, the application returns an error. • If MAD is available and the **Use default sector only** check box is not selected, then the first sector available on the card will be used to encode the IE application if the specified sector isn't available. If no sector is available an error will be returned. • If MAD is not used then the **Use default sector only** check box is automatically enabled and the application will be written into the sector specified by the user.
Make Configuration Card	Click this button to select the encoder to create a configuration card. *Configuration cards* are used to configure keys in SmartID (MIFARE) card format readers and to set default parameters.

Application License - SmartID (MIFARE)

A license (SWG-1402) is required to use the SmartID (MIFARE) application.

Add a SmartID (MIFARE) Smart Card Format

Important: SmartID (MIFARE) applications require a Wiegand format where the total number of bits on a card does not exceed 128 for Non-IE formats and 64 for IE formats.
Furthermore, the value you enter in the **Total Number of Bits On Card** field must also be entered as the CARDLEN parameter for the configuration

card. For more information on using the configuration card to configure readers, refer to the Hardware Installation Guide.

1. Choose **Card Formats** from the **Administration** menu. The Card Formats folder opens.
2. Click [Add]. The Choose Card Format Type window opens.
3. In the listing window, select “Smart Card” and click [OK].
4. If segmentation is not enabled, skip this step. If segmentation is enabled:
   a. The Segment Membership window opens. Select the segment that this card format will be assigned to.
   b. Click [OK].
5. In the **Name** field, enter a unique, descriptive name for this format.
6. Select a “SmartID (MIFARE)” from the drop-down.
7. Select the previously configured Wiegand access control card format you want this smart card to reference from the **Access Control Card Format** drop-down.
8. Select the encoding layout.
9. If you want to customize the application keys, enter application key A and B. If you are working with a previously used card, you must enter the previously configured key B. Otherwise, use the application key default values.
10. Select the **Use MAD** check box if you want to write MAD onto the MIFARE card.
11. If you selected the **Use MAD** check box and if MAD already exists on the card, then enter the current MAD key B. Otherwise, use the MAD key B default value.
12. Enter the default sector number regardless of whether you are using MAD or not.
13. If you are using MAD and only want to write to the default sector, verify the **Use Default Only** check box is selected.
14. Click [OK].

Create a SmartID (MIFARE) Reader Configuration Card

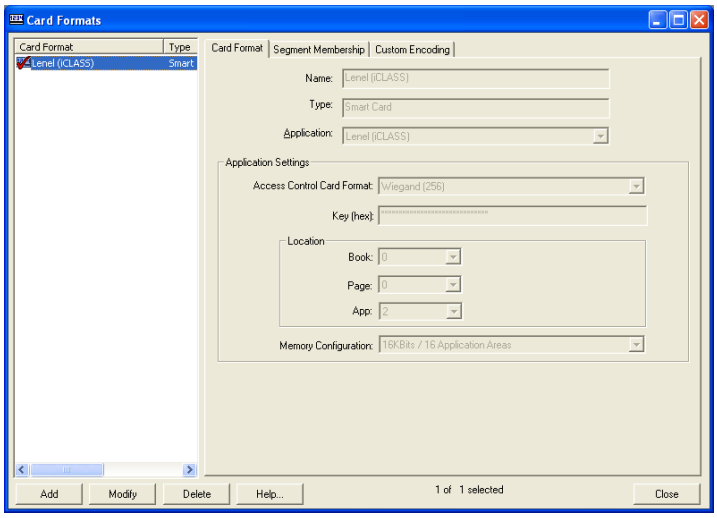
Configuration cards can be created using native Integrated Engineering tools or by using a stand alone utility. The following procedure creates a configuration card for IE PX007 (MIFARE) readers using the GemEasyLink680S/ GemEasyAccess332 encoder and native Integrated Engineering tools.

For more information on using the stand alone IEConfiguration Card Utility, refer to the MIFARE Readers chapter in the Alternative Reader Wiring Guide.

1. Choose **Card Formats** from the **Administration** menu. The Card Formats folder opens.
2. Select (place a checkmark beside) the SmartID (MIFARE) card format.
3. Verify the Application Settings are correct.
4. Click [Make Configuration Card].
5. The Encoder Listing window opens. Select the GemEasyLink680S/ GemEasyAccess332 encoder from the drop-down.
6. Click [OK].
7. Follow any prompts that display to encode the configuration card.

Lenel (iCLASS) Card Format Form

This view displays when “Bosch (iCLASS)” is selected from the **Application** drop-down.



Card Formats Folder - Lenel (iCLASS) Card Format Form

Form Element	Comment
Access Control Card Format	Lists Wiegand card formats previously configured in the system. The card format selected will be written to the card during encoding. **Note:** Wiegand card formats with **Special** configured for HID Corporate 1000 cannot be referenced by this smart card format.
Key (hex)	The key that is used to access the application area of the card. **Note:** The value must be 16 hexidecimal digits long and contain the numbers 0-9 and/or the letters A-F. **Note:** This is a secure field. The application key is only visible when you enter the key value. After the key is stored, it displays as a predefined number of “*”.

Card Formats Folder - Lenel (iCLASS) Card Format Form (Continued)

Form Element	Comment
Location	Specifies where the Lenel (iCLASS) application is stored in terms of Book, Page, and Application. • **Book -** Select a value of 0 or 1. • **Page -** Select a value from 0 - 7. • **App -** Select a value of 1 or 2. The default value is Book 0, Page 0, App 2. **Note:** Book 0, Page 0, App 1 is reserved for the HID Access Control (iCLASS) application. You must select a different location for the Lenel (iCLASS) application. **Note:** For Book 1, 32K iCLASS cards are required to encode the ILS data using an HID (iCLASS) PROG encoder Rev.B. For more information, refer to Configure ILS iCLASS Printing and Encoding on page 1578.
	Specify the memory configuration that is applied to the Book Location.Choices include: • 16KBits/16Application Areas • 16KBits/16Application Areas (Inside) • 16KBits/2Application Areas • 16KBits/2Application Areas (Inside) • 2KBits/2Application Areas • 2KBits/2Application Areas (Inside) The default value is 16KBits /16Application Areas. **Note:** For Book 1, select 16KBits/2Application Areas (Inside) or 16KBits/16Application Areas (Inside), only. **Note:** For **Page** values greater than zero (0), select 16KBits/16Application Areas or 16KBits/16Application Areas (Inside), only.

Add a Lenel (iCLASS) Smart Card Format

Note: Lenel (iCLASS) applications require a Wiegand format where the total number of bits on a card does not exceed 256.

1. Choose **Card Formats** from the **Administration** menu. The Card Formats folder opens.
2. Click [Add]. The Choose Card Format Type window opens.
3. From the list, select “Smart Card” and click [OK].
4. If segmentation is not enabled, skip this step. If segmentation is enabled:
   a. The Segment Membership window opens. Select the segment to which this card format will be assigned.
   b. Click [OK].
5. In the **Name** field, enter a unique, descriptive name for this format.
6. Select a “Lenel (iCLASS)” from the drop-down.
7. Select the Wiegand access control card format you want this smart card to reference from the **Access Control Card Format** drop-down.

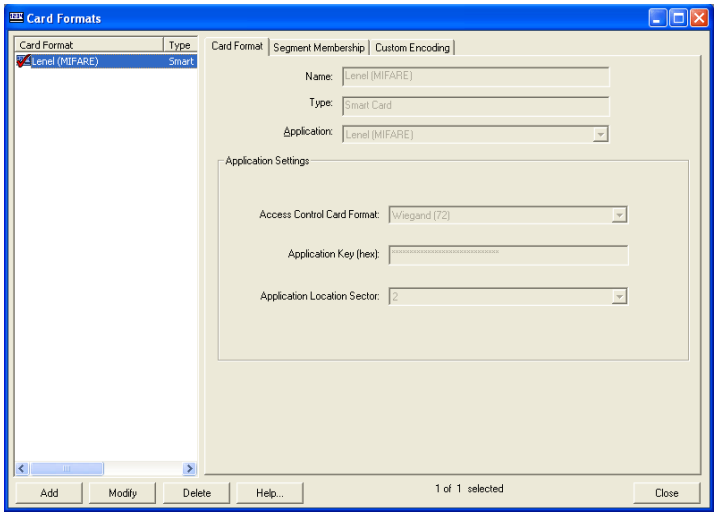
Note: Be sure to select a Wiegand card format configured with standard parity. Do not choose a Wiegand card format configured with HID Corporate 1000.

8. Enter a hex key.
9. Verify the memory configuration value is correct. If not, use the drop-down to select the correct configuration.
10. Click [OK].

Lenel (MIFARE) Card Format Form

(Depending on your version of ReadkeyPRO, this option may not be available.)

This view displays when "Lenel (MIFARE)" is selected from the **Application** drop-down.



Card Formats Folder - Lenel (MIFARE) Card Format Form

Form Element	Comment
Access Control Card Format	Lists Wiegand card formats previously configured in the system. The card format selected will be written to the card during encoding. **Note:** Wiegand card formats with **Special** configured for HID Corporate 1000 cannot be referenced by this smart card format.
Application Key (hex)	A key used to authenticate to and secure the sectors containing the Lenel (MIFARE) application data. The application key authenticates to all data blocks in the sector identified in the **Application Location Sector**. **Note:** This key is a 6-byte hex value. Therefore, the value must be 12 characters long and contain numbers 0-9 and/or letters A-F. **Note:** This is a secure field. The application key is only visible when you enter the key value. After the key is stored, it displays as a predefined number of "*".

Card Formats Folder - Lenel (MIFARE) Card Format Form (Continued)

Form Element	Comment
Application Location Sector	Specifies where the Lenel (MIFARE) application is stored in terms of sector. By default, the ILS (MIFARE) application is stored in sector 2, and occupies blocks 0, 1, and 2 (48 bytes). The following application locations are supported: • MIFARE Classic 1 K card: sector 0 - 15 • MIFARE Classic 4 K card: sector 0 - 32 **Note:** If 16 - 32 is specified for the **Application Location Sector**, and a MIFARE Classic 1 K card is presented, the Invalid Smart Card Location event will be generated.

Add a Lenel (MIFARE) Smart Card Format

(Depending on your version of ReadkeyPRO, this option may not be available.)

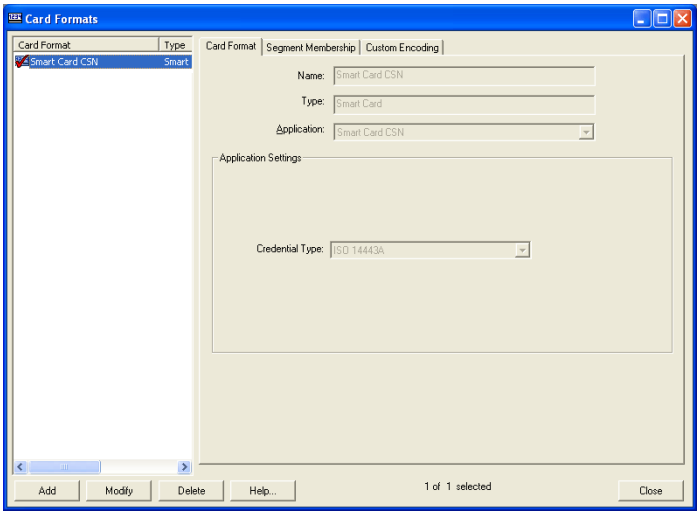
1. Choose **Card Formats** from the **Administration** menu. The Card Formats folder opens.
2. Click [Add]. The Choose Card Format Type window opens.
3. In the listing window, select "Smart Card" and click [OK].
4. If segmentation is not enabled, skip this step. If segmentation is enabled:
   a. The Segment Membership window opens. Select the segment that this card format will be assigned to.
   b. Click [OK].
5. In the **Name** field, enter a unique, descriptive name for this format.
6. Select a "Lenel (MIFARE)" from the drop-down.
7. Select the previously configured Wiegand access control card format you want this smart card to reference from the **Access Control Card Format** drop-down.

Note: Be sure to select a Wiegand card format configured with standard parity. Do not choose a Wiegand card format configured with HID Corporate 1000.

8. Enter the 12-character hex value for the application key.
9. Select the sector where the application is stored in the **Application Location Sector** field.
10. Click [OK].

Smart Card CSN Card Format

This view displays when “Smart Card CSN” is selected from the **Application** drop-down.



Card Formats Folder - Smart Card CSN Card Format Form

Form Element	Comment
Credential Type	Lists the CSN (Card Serial Number) card format types used for credential identification. Each smart card contains a unique permanent identification number (UID). This UID is also referred to as the Card Serial Number (CSN). The reader uses a compatible credential method to access the access control data encoded on the card. ISO 14443 is the International standard for contactless, proximity technology allowing a read range distance up to 10 centimeters. ISO 14443A is the leading standard for access control and transportation. An alternative standard for contactless, vicinity technology is ISO 15693 that allows a read range up to 50 centimeters. The advantage of using ISO 14443A is faster transaction speed. Choices include: • **ISO 14443A** - Specifies the retrieval of a 4 or 7-byte card serial number from the ISO 14443A credential in the proximity of the reader. This method of identification supports MIFARE and DESFire Cards. Application Location and Application Key are not utilized by this card format. • **ISO 15693** - Specifies retrieval of an 8-byte card serial number from the ISO 15693 credential in the vicinity of the reader. This method of identification supports iCLASS and other ISO 15693 credentials. **Note:** Because HID iCLASS readers output the entire 64 bits of the CSN, when Badge ID is imported from iCLASS cards in ReadkeyPRO, the Badge ID is converted to match the HID output. Therefore, you must configure the Wiegand card format as follows: – **Total Number of Bits On Card** is set to 64 bits. – **Card Number Starting Bit** is set to 0. – **Card Number Number of Bits** is set to 56. – All other numeric fields are set to 0. **Note:** Not all ISO 15693 readers (such as those from third parties) output the entire 64 bits of the CSN, or use the same byte order. In such cases, Badge ID must be produced using alternative methods.

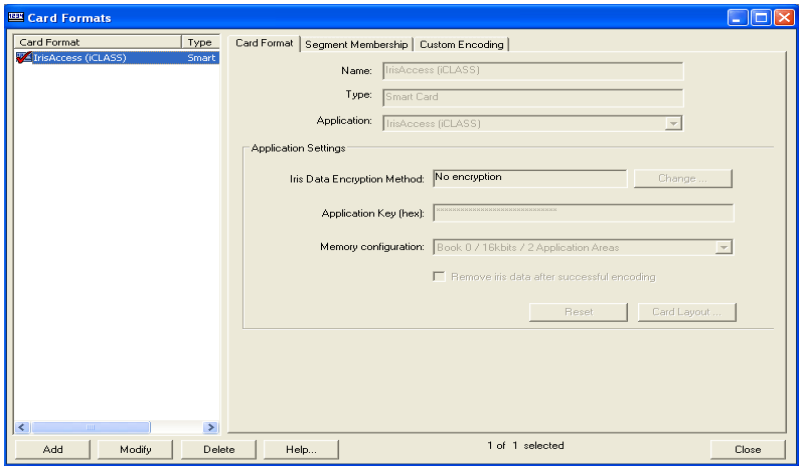
Add a Smart Card CSN Card Format

1. Choose **Card Formats** from the **Administration** menu. The Card Formats folder opens.
2. Click [Add]. The Choose Card Format Type window opens.
3. From the list, select “Smart Card” and click [OK].
4. If segmentation is not enabled, skip this step. If segmentation is enabled:
   a. The Segment Membership window opens. Select the segment to which this card format will be assigned.
   b. Click [OK].
5. In the **Name** field, enter a unique, descriptive name for this format.
6. Select a “Smart Card CSN” from the drop-down.
7. Select a **Credential Type** from the drop-down.
8. Click [OK].

IrisAccess (iCLASS) Card Format Form

This view displays when "IrisAccess (iCLASS)" is selected from the **Application** drop-down.

For more information about the IrisAccess system, refer to the Multimedia Capture appendix.



Notes:

The IrisAccess (iCLASS) application is licensed by the number of cardholders who have their irises captured.

IrisAccess (iCLASS) must always be used in conjunction with the HID Access Control (iCLASS) Application encoded in the default location on Book 0.

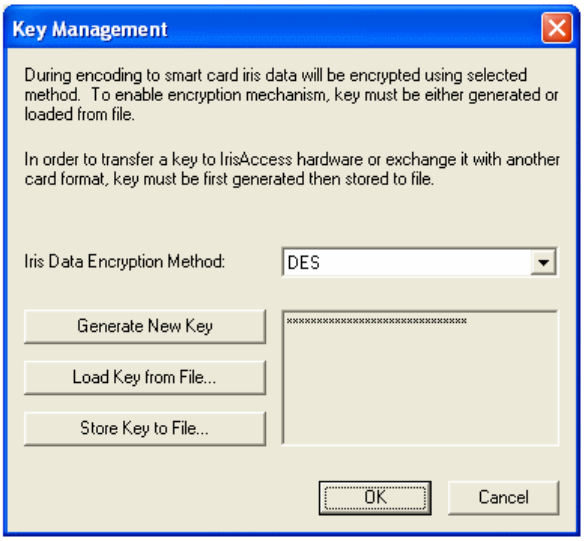
Card Formats Folder - IrisAccess (iCLASS) Card Format Form

Form Element	Comment
Iris Data Encryption Method	Displays the data encryption method and type of respective data encryption key (not to be confused with Application Key). The selected encryption method will be applied to iris data prior to storing it to the smart card. The IrisAccess system must be configured to apply the same method in order to gain access to iris data after extracting it from the biometric container stored on the smart card. **Note:** This field does not affect the encryption method used for storing iris data in the ReadkeyPRO database.
Change	Displays the Key Management window where you can modify the data encryption method and/or generate a new key. For more information, refer to Key Management Window on page 326.

Card Formats Folder - IrisAccess (iCLASS) Card Format Form (Continued)

Form Element	Comment
Application Key (hex)	A key used to authenticate and secure application areas containing the biometric container on the smart card. The default application key is "Default HID Kd for Page 0 App 1". The application key must be 16 hexadecimal digits long. Only hex digits (1, 2, 3, 4, 5, 6, 7, 8, 9, a, b, c, d, e, f, and A, B, C, D, E, F) are allowed. This is a secure field. The application key is only visible when you enter the key value. After the key is stored, it displays as a predefined number of "*". The IrisAccess system must be configured to use the proper application key in order to gain access to application areas holding the biometric container with IrisAccess data. When encoding with the IrisAccess iCAM, this application key in ReadkeyPRO is not used. Instead, the application key should be configured using the IrisAccess iCAM web page.
Memory configuration	The following memory configurations can be selected: • Book 0/16kbits/2 Application Areas • Book 0/16kbits/16 Application Areas • Book 0/16kbits/2 Application Areas (Custom Key) • Book 0/16kbits/16 Application Areas (Custom Key) • Book 1/16kbits/2 Application Areas (Custom Key) • Book 1/16kbits/16 Application Areas (Custom Key) The default memory configuration is Book 0/16kbits/2 Application Areas. This configuration assures faster access to the biometric container. When Book 1/16kbits/16 Application Areas or Book 1/16kbits/2 Application Areas is selected, the IrisAccess application will be written to Book 1 according to the selected card layout. Book 0 remains untouched. If Book 0 is selected, Book 1 remains untouched. When you encode to Book 1, 32K iCLASS cards are required.
Remove iris data after successful encoding	Selecting this check box deletes the biometric data after it has been captured and encoded. This clears the data from the system for security purposes.
Reset	By pressing the [Reset] button, application settings will reset to their default values.
Card Layout	The card layout is populated with a default configuration, and you should not modify the card layout unless you are very familiar with iCLASS card memory layout. • Default layout configuration for memory configuration of 16K/16 Application areas: Page 0/Application 2, Page 1/Application 1, Page 2/Application 1, Page 3/Application 1, Page 4/ Application 1, Page 5/Application 1 are used for Application data. All other Applications are unused. • Default layout configuration for memory configuration of 16K/2 Application areas: Application data starting offset is 0x0013. Location of application data must be Page 0/ Application 2.

Key Management Window



Key Management Window

Form Element	Comment
Iris Data Encryption Method	Select the encryption mechanism. Choices include: AES, DES, DES3, and no encryption. Once you change the encryption mechanism, a new key must be generated.
Generate New Key	Automatically generates a new key. The key is visible only when you generate a new key. After that a predefined number of "*" displays instead.
Load Key from File	Allows you to load a key from a file. A stored key is downloaded to Iris Access hardware using IrisICUAdmin.exe utility available on the Supplemental Materials disc. This utility loads the key from the file and then communicates it to the Iris Access hardware. **Note:** If you receive a "Failed to load key from file" error, then you selected a file that contains a key type that is different from the specified data encryption method. When this occurs, the key will not be loaded.
Store Key to File	Stores the key in an *encrypted* file. New files should have the ".dat" extension.
OK	Accepts the encryption method and key changes, and closes the Key Management window.
Cancel	Cancels the encryption method and key changes, and closes the Key Management window.

Add an IrisAccess (iCLASS) Smart Card Format

Important: IrisAccess (iCLASS) applications require a Wiegand format where the total number of bits on a card does not exceed 255. Currently, this limitation is superseded by HID Access Control (iCLASS) and IrisAccess (iCLASS) Wiegand record limitations, which is 143.

Furthermore, the length of a custom Wiegand format must equal the total Wiegand bits configured on the Identification Control Unit (ICU).

1. Choose **Card Formats** from the **Administration** menu. The Card Formats folder opens.
2. Click [Add]. The Choose Card Format Type window opens.
3. In the listing window, select “Smart Card” and click [OK].
4. If segmentation is not enabled, skip this step. If segmentation is enabled:
   a. The Segment Membership window opens. Select the segment that this card format will be assigned to.
   b. Click [OK].
5. In the **Name** field, enter a unique, descriptive name for this format.
6. Select a “Iris Access (iCLASS)” from the drop-down.
7. Verify the iris data encryption method is correct. If not, refer to Modify the Encryption Method or Key on page 327.
8. Click [OK].

Modify the Encryption Method or Key

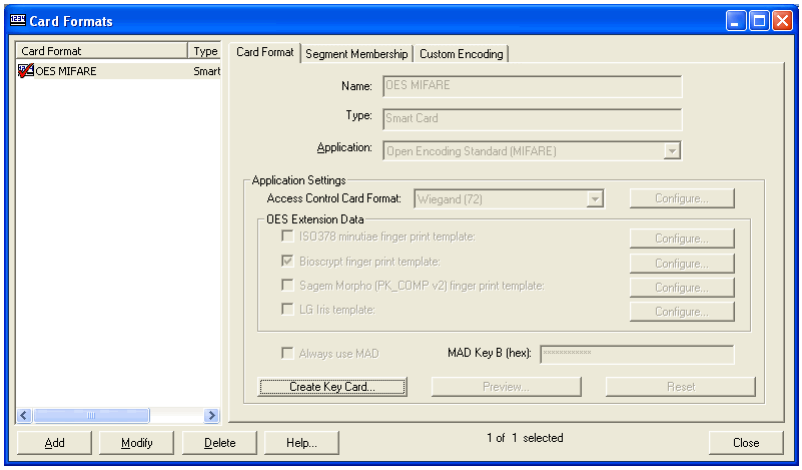
Note: A new key must be generated every time you change the encryption method.

1. Choose **Card Formats** from the **Administration** menu. The Card Formats folder opens.
2. Select (place a checkmark beside) the Iris Access (iCLASS) card format.
3. Click [Modify].
4. In the Application Settings section, click [Change]. The Key Management window opens.
5. Select the new encryption method from the drop-down.
6. Click either [Generate New Key] or [Load Key from File].
   - If you selected [Generate New Key], a new key is automatically generated. If you want to store the key in an encrypted file, click [Store Key to File], enter the file name and click [Save].
   - If you selected [Load Key from File], navigate to the appropriate file and click [Open].
7. Click [OK] to close the Key Management window.
8. Click [OK] to apply the changes to the IrisAccess card format.

Open Encoding Standard (MIFARE) Card Format Form

The purpose of the Open Encoding Standard (MIFARE) format is to provide cross-vendor badge compatibility of secure MIFARE badge. This means you can choose from different bioscrypt templates to use when creating the card. You can also create a key card which you can use to change the key of an Open Encoding Standard (MIFARE) reader.

This view displays when "Open Encoding Standard (MIFARE)" is selected from the **Application** drop-down.



Card Formats Folder - Open Encoding Standard (MIFARE) Card Format Form

Form Element	Comment
Access Control Card Format	Lists Wiegand card formats previously configured in the system. The card format selected will be written to the card during encoding. Click the corresponding **Configure** button to configure it's Key A and Key B hex fields and Start sector. **Note:** Wiegand card formats with **Special** configured for HID Corporate 1000 cannot be referenced by this smart card format.
ISO378 minutiae finger print template	Select this if you are using the ISO378 minutiae finger print template. Click the corresponding **Configure** button to configure it's Key A and Key B hex fields and Start sector.
Bioscrypt finger print template	Select this if you are using the Bioscrypt finger print template. Click the corresponding **Configure** button to configure it's Key A and Key B hex fields and Start sector.
Sagem Morpho (PK_COMP v2) finger print template	Select this if you are using the Sagem Morpho (PK_COMP v2) finger print template. Click the corresponding **Configure** button to configure it's Key A and Key B hex fields and Start sector.
IrisAccess template	Select this if you are using the IrisAccess template. Click the corresponding **Configure** button to configure it's Key A and Key B hex fields and Start sector.

Card Formats Folder - Open Encoding Standard (MIFARE) Card Format Form

Form Element	Comment
Always use MAD	If you select to always use MAD then sector zero stores the application ID that tells the reader what sector to read. When you enable MAD, a new entry is made into the card, if MAD exists on the card. If MAD does not exist, MAD will be created and a new entry made into the card.
MAD Key B (hex)	A covert key for authentication to write to the MIFARE application directory (if MAD is enabled). MAD key B is a 32 character hex value. *Hex values* contain numbers 0-9 and/or letters A-F. By default, this key is set to a secret key. If MAD already exists on the card then the current MAD key B should be entered. If the user is not an owner of MAD then the user must find out what the current key is before MAD can be written. Once MAD is created, MAD key B will be used if other applications are programmed on to the card. MAD key B should only be released to people who will write other applications.
Create Key Card	Click to open the Encoder Listing window. Select the MIFARE encoder that you are using from the drop-down box and click OK to create a configuration card.
Preview	Click to preview the card layout.
Reset	Click to clear your OES Extension Data selections.

Add an Open Encoding Standard (MIFARE) Smart Card Format

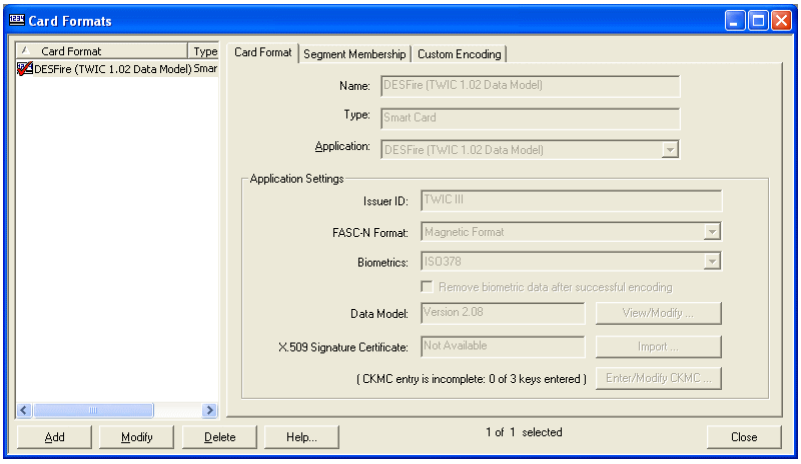
1. Choose **Card Formats** from the **Administration** menu. The Card Formats folder opens.
2. Click [Add]. The Choose Card Format Type window opens.
3. In the listing window, select “Smart Card” and click [OK].
4. If segmentation is not enabled, skip this step. If segmentation is enabled:
   a. The Segment Membership window opens. Select the segment that this card format will be assigned to.
   b. Click [OK].
5. In the **Name** field, enter a unique, descriptive name for this format.
6. Select “Open Encoding Standard (MIFARE)” from the drop-down.
7. Set the application settings by choosing the access control card format and configuring it.
8. In the OES Extension Data section of the window, select the biometric templates you wish to use and configure them.
9. Optionally, you can choose the MAD settings that are appropriate to what you are doing.
10. Click [OK].

Create an Open Encoding Standard Key Card

1. Click [Create Key Card]. The Encoder Listing window opens.
2. On the Encoder Listing window select the encoder you are using from the **Select encoder** drop-down box.
3. Click [OK].

DESFire (TWIC 1.02 Data Model) Card Format Form

This view displays when "DESFire (TWIC 1.02 Data Model)" is selected from the **Application** drop-down.

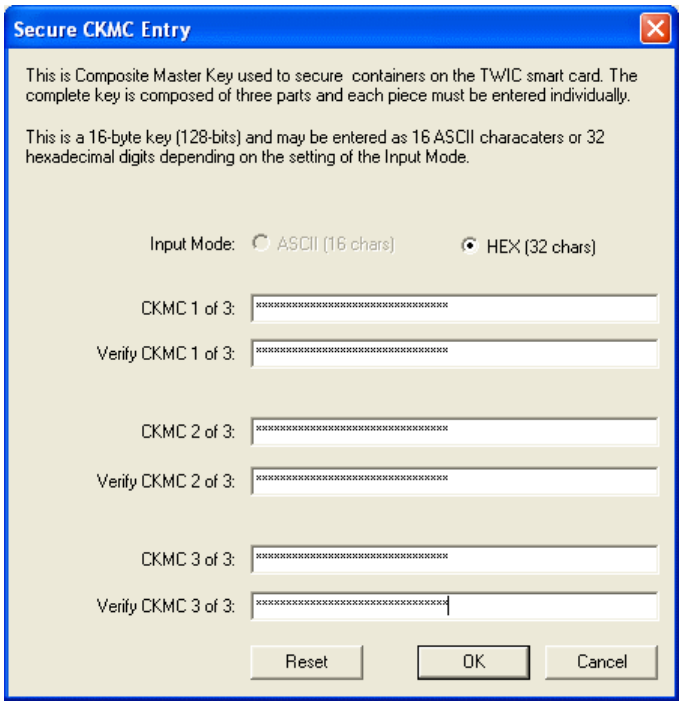


Card Formats Folder - DESFire (TWIC 1.02 Data Model) Card Format Form

Form Element	Comment
Issuer ID	For the TWIC card format you do not need an Issue ID. This is reserved for future use.
FASC-N Format	A customized magnetic card format. A Federal Agency Smart Credential Number (FASC-N) magnetic card format must be created before you configure a government smart card format. All magnetic card formats configured in the system are available from the drop-down.
Biometrics	Choose which biometric you wish to encode onto the card. Your choices include "ISO378 Fingerprint" and "Iris." You can also choose to encode both by choosing "ISO378 Fingerprint + Iris" from the drop-down box.
Remove biometric data after successful encoding	Select this to remove the biometric information from the system after it's encoding onto the card.
Data Model	The model that the TWIC card format is encoding. This is as yet not modifiable as only one model is supported.
X.509 Signature Certificate	The signature certificate that is used for particular data models. As only one data model is supported and that does not have an available signature certificate this form element is not used.
Enter/Modify CKMC	Opens the Secure CKMC Entry window where you can choose to enter the three part composite master key. The text next to this button will change to tell you the CKMC entry is complete once the passwords are entered. **Note:** This key must match the key set up on the reader.

Add a DESFire (TWIC 1.02 Data Model) Smart Card Format

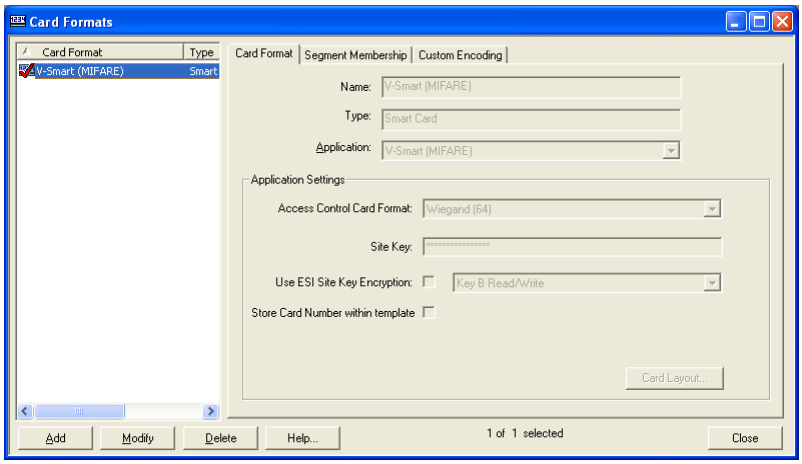
1. Choose **Card Formats** from the **Administration** menu. The Card Formats folder opens.
2. Click [Add]. The Choose Card Format Type window opens. Select “Smart Card” and click [OK].
3. If segmentation is not enabled, skip this step. If segmentation is enabled:
   a. On the Segment Membership tab,. select the segment that this card format will be assigned to.
4. In the **Name** field, enter a unique, descriptive name for this format.
5. Select “DESFire (TWIC 1.02 Data Model)” from the **Application** drop-down.
6. In the **FASC-N Format** drop-down box choose “Magnetic Format.”
7. In the **Biometrics** drop-down box choose the biometrics you would like encoded.
8. If you wish, **Check the Remove biometric data after successful encoding** checkbox.
9. Click [Enter/Modify CKMC]. The Secure CKMC Entry window opens.



10. Enter and verify the three key parts.
11. Click [OK]. The Secure CKMC Entry window closes.
12. Click [OK].

V-Smart (MIFARE) Card Format Form

This view displays when "V-Smart (MIFARE)" is selected from the **Application** drop-down.



Card Formats Folder - V-Smart (MIFARE) Card Format Form

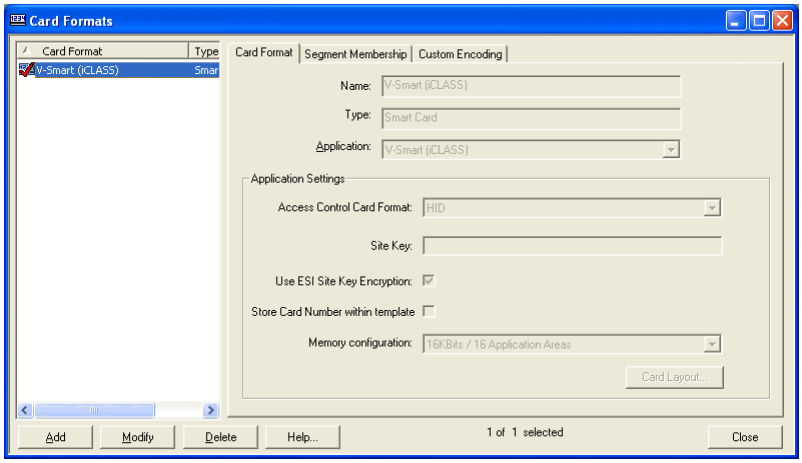
Form Element	Comment
Access Control Card Format	Lists Wiegand card formats previously configured in the system. The card format selected will be written to the card during encoding. **Note:** Wiegand card formats with **Special** configured for HID Corporate 1000 cannot be referenced by this smart card format.
Site Key	A key used for authentication. The site key protects bioscrypt data on both types of V-Smart (iCLASS) and V-Smart (MIFARE) card format forms, and can be 16 characters (letters/numbers) or less. The site key must be preprogramed on the reader. If the card has not been used before, then it is in transport configuration. This means that the card is protected by default keys. Entering the site key overwrites those keys and secures the application. If the card has been written to previously, then the site key must be the key that was used to secure the sectors configured for use with this application. If no site key specified, a blank key will be used.
Use ESI Site Key Encryption	This check box only applies if you use a V-Smart Bioscrypt encoder. If this box is checked, "Key B Read/Write" is automatically selected in the **Site Key** field and the field is grayed out. Also, during encoding, Key B will be hashed according to the bioscrypt algorithm for hashing keys.
Store Card Number within template	Check this box to encode the badge ID into the Bioscrypt template. **Note:** If you select this check box, and the **Access Control Card Format** allocates more than 32 bits for the ID number, a prompt will be displayed next to the check box to inform you this format requires the use of the Extended ID feature which is not currently supported. In this case, do not store the card number within the template.

Card Formats Folder - V-Smart (MIFARE) Card Format Form (Continued)

Form Element	Comment
Card Layout	Displays the dialog for both types of V-Smart (iCLASS) and V-Smart (MIFARE) card format forms. Changes to the card layout should only be performed by advanced users.

V-Smart (iCLASS) Card Format Form

This view displays when “V-Smart (iCLASS)” is selected.



Card Formats Folder - V-Smart (iCLASS) Card Format Form

Form Element	Comment
Access Control Card Format	Lists Wiegand card formats previously configured in the system. The card format selected will be written to the card during encoding. **Note:** Wiegand card formats with **Special** configured for HID Corporate 1000 cannot be referenced by this smart card format.
Site Key	A key used for authentication. The site key protects bioscrypt data on both types of V-Smart (iCLASS) and V-Smart (MIFARE) card format forms, and can be 16 characters (letters/numbers) or less. The site key must be preprogramed on the reader. If the card has not been used before, then it is in transport configuration. This means that the card is protected by default keys. Entering the site key overwrites those keys and secures the application. If the card has been written to previously, then the site key must be the key that was used to secure the sectors configured for use with this application. If no site key specified, a blank key will be used.
Use ESI Site Key Encryption	This check box only applies if you use a V-Smart Bioscrypt encoder. Select if you are using ESI site key encryption.
Store Card Number within template	Check this box to encode the badge ID into the Bioscrypt template. **Note:** If you select this check box, and the **Access Control Card Format** allocates more than 32 bits for the ID number, a prompt will be displayed next to the check box to inform you this format requires the use of the Extended ID feature which is not currently supported. In this case, do not store the card number within the template.

Card Formats Folder - V-Smart (iCLASS) Card Format Form (Continued)

Form Element	Comment
Memory configuration	Only displayed on V-smart (iCLASS) card format. Select a preset memory configuration. Choices include: • 16kbits/16 Application Areas • 16kbits/16 Application Areas (Custom Key) • 16kbits/2 Application Areas • 16kbits/2 Application Areas (Custom Key)
Card Layout	Displays the dialog for both types of V-Smart (iCLASS) and V-Smart (MIFARE) card format forms. Changes to the card layout should only be performed by advanced users.

Application License - Bioscrypt

The Bioscrypt Veri-Series Hardware Support (SWG-1402) license is required to use either the V-Smart (MIFARE) or (iCLASS) application.

Add a Bioscrypt Smart Card Format

Notes: This procedure applies to V-Smart (MIFARE) and V-Smart (iCLASS) applications. Both applications require a Wiegand format where the total number of bits on the card does not exceed 64.

Furthermore, to report duress, V-smart card readers must be configured for this in VeriAdmin (Veri-series devices). For more information, refer to the V-Smart Unit Parameter Settings section in the Hardware Installation Guide.

4G V-smart card readers must be configured for this in SecureAdmin. For more information, refer to Enrollment Configuration for V-Station and V-Flex 4G Readers in the Hardware Installation Guide.

1. Choose **Card Formats** from the **Administration** menu. The Card Formats folder opens.
2. Click [Add]. The Choose Card Format Type window opens.
3. In the listing window, select “Smart Card” and click [OK].
4. If segmentation is not enabled, skip this step. If segmentation is enabled:
   a. The Segment Membership window opens. Select the segment that this card format will be assigned to.
   b. Click [OK].
5. In the **Name** field, enter a unique, descriptive name for this format.
6. Select an application from the drop-down.
7. Select “Wiegand (64)” from the **Access Control Card Format** drop-down.
8. Enter a site key.
9. If you are using a V-Smart Bioscrypt encoder and you want key B hashed according to a bioscrypt algorithm, select the **Use ESI Site Key Encryption** check box.
10. If you selected V-Smart (MIFARE) as the application, verify the site key mode is correct. If not, select the correct mode from the drop-down.

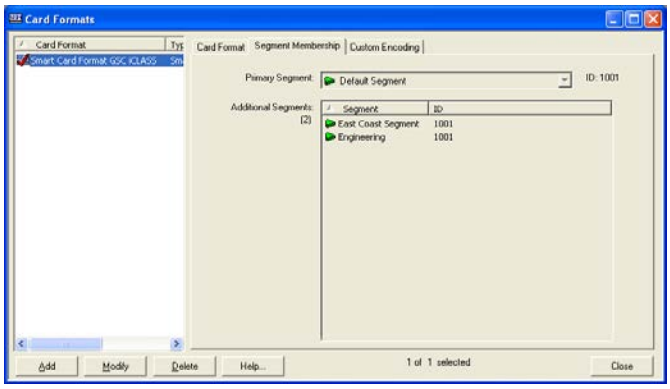
Note: Procedures are not provided for editing the card layout.

11. Click [OK].

Segment Membership Form

The Segment Membership form displays if segmentation is enabled on your system.

The fields on the Segment Membership form are disabled when you modify a smart card format that references a Wiegand or magnetic card format. In this case, the smart card format segments are set to the selections of the referenced (Wiegand or magnetic) card format. When a referenced card format's segments are modified, or when a segment is added to a Wiegand or magnetic card format using the Add Segment Wizard, the segments of any corresponding smart card format is updated.



Segment Membership Form

Form Element	Comment
Primary Segment	The name of the primary segment.
ID	Displays the segment if the segment has an id associated with it. The ID is created automatically when the card format is created. It is the same ID that is displayed in the ID column in the Card Format listing window on the left side of the Card Formats form. This ID needs to be unique to download to access panels. Different access panels have different maximum allowable card format IDs. Bosch panels support up to eight (ID numbers 1-8) card formats. When card formats are segmented and a format belongs to multiple segments, a unique ID must be obtained for each segment. Depending on which IDs are already in use for each segment, the hardware ID may actually be different for each segment to which the format belongs.
Additional Segments listing window	Displays a listing of additional segments (those other than the primary segment).

Custom Encoding Prerequisites

Several steps must occur in ReadkeyPRO to properly encode a magnetic, Wiegand, or smart card. Each step occurs in a different folder in the ReadkeyPRO application.

1. In the Workstations folder > Encoding/Scanners form, configure an inline or standalone encoder/scanner.

Note: You do not need to configure USB encoders/scanners (for example, the MIFARE Pegoda contactless smart card reader) in ReadkeyPRO applications. Simply install the drivers and attach the hardware to the workstation. This does not apply to the ScanShell 800/1000.

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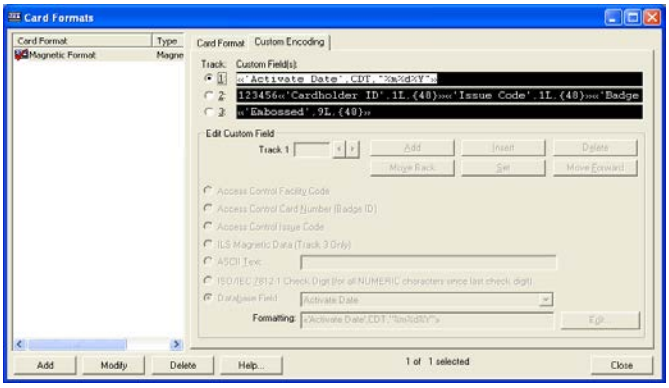
2. In the Card Formats folder, create a card format that will contain data to be encoded on a badge.
3. In the Badge Types folder > Encoding form, assign an encoding format to a badge type. In other words, assign a card format to be encoded on a badge of a specific type.
4. In the Cardholders folder, add a cardholder or visitor record to the database.
5. In Multimedia Capture, capture the cardholder/visitor's photo, signature, and/or biometric data.
6. In the Cardholders folder, encode the badge.

Custom Encoding Form

The Custom Encoding form applies only to magnetic formats. This form is used to modify the information that is encoded on a magnetic card.



Custom Encoding Form

Form Element	Comment
Primary Segment	Contains the name of the primary segment.
1	Selecting this button allows you to build a custom expression that will be encoded on track 1.
2	Selecting this button allows you to build a custom expression that will be encoded on track 2.
3	Selecting this button allows you to build a custom expression that will be encoded on track 3.
Track *n*; Field__	Indicates the ordinal number of the currently selected field, and the total number of fields currently in the expression. The format is x/y. For example, “2/3” indicates that the expression contains 3 fields, and that the second of these is the one that’s currently highlighted. If there are no fields in the track, this display is not active and the name of the display is Track *n*.
	Moves the position of the highlight one field to the left in the expression.
	Moves the position of the highlight one field to the right in the expression.
Add	Adds (appends) the selected field to the end of the expression.
Insert	Inserts the specified field to the immediate left of the currently highlighted field in the expression.
Delete	Deletes the selected field from the expression.
Move Back	Moves the currently selected field one position to the left in the expression.
Set	Changes the value of the currently selected field in the expression to a new value you specify.
Move Forward	Moves the currently selected field one position to the right in the expression.
Access Control Facility Code	Adds the facility code access control field to the expression. The field is added as “[AC Facility Code]”, and it can be added to the access control track only.
Access Control Card Number (Badge ID)	Adds the facility code access control field to the expression. The field is added as “[AC Badge ID]”, and it can be added to the access control track only.
Access Control Issue Code	Adds the facility code access control field to the expression. The field is added as “[AC Issue Code]”, and it can be added to the access control track only.
ILS Magnetic Data (Track 3 Only)	Only available to systems with ILS licenses. Only used with track 3, this field allows you to encode ILS lock data on a magnetic card. If you are adding ILS magnetic card data to track 3 by modifying an existing card format and you want to preserve the information encoded on track 1 and track 2 you must first modify the card format and delete any custom field information from track 1 and track 2 and then set the **Total Characters on Track 2** field and all of the **Access Control Fields on Track 2** fields on the Card Format tab to “0”. For more information, refer to Configure ILS Custom Encoding on page 1542.
ASCII Text	Includes literal characters in the expression. Enter the actual characters into the **text** field located to the right of the **ASCII Text** field.

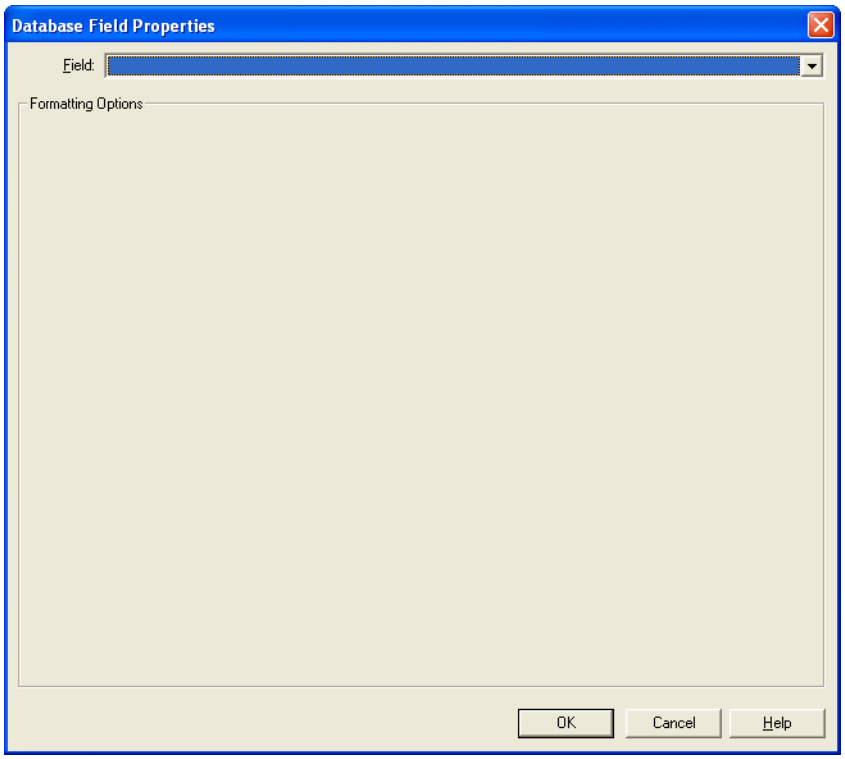
Custom Encoding Form (Continued)

Form Element	Comment
ISO/IEC 7812-1 Check Digit (for all NUMERIC characters since last check digit)	If this radio button is selected, a check digit will be applied to all numeric characters added to the expression since the last time a check digit was used. A *check digit* is a number calculated from the digits of a number and appended to it as a form of integrity check.
Database Field	Includes a field (dynamic data) in the expression. Select the actual field from the **field** drop-down. Only fields currently defined in FormsDesigner and the current date/time field are available for selection.
Formatting	Displays a particular database field reference used in a text/barcode object's text property or a magnetic format's custom encoding. An "F" appears after the field name in a database field reference when this new FormsDesigner formatting option is selected for it, as shown in the following example: «'Cardholder ID',F»
Edit	Opens the Database Field Properties window (Text/numeric) or (Date/time), in which you can specify field format parameters when custom encoding. To edit a new **Database Field** being added to a track on the Custom Encoding form: 1. In the **Database Field** drop-down, select a field to add. 2. Click [Edit]. The Database Field Properties window opens. 3. Make the changes you wish to make, and then click [OK]. 4. Click [Add] to add the edited custom field to the end of the track, or [Insert] to insert the edited custom field into the track after the currently selected field. To edit an existing custom field in a track on the Custom Encoding form: 1. Select the **Track** you wish to modify the field(s) for. 2. Use the forward and/or backward arrows to go to the field you wish to modify. 3. Click [Edit]. The Database Field Properties window opens. 4. Make the changes you wish to make, and then click [OK]. 5. Click [Set] to modify the selected field.

Database Field Properties Window (Blank)

The Database Field Properties window (Blank) is used to format the fields you inserted into a text object using the Text window or the Text Properties window. The contents of this window changes depending on whether the type of field selected in the **Field** drop-down is blank, text/numeric, or date/time.

The Database Field Properties window (Blank) displays only if the field that was previously specified in the **Database Field** field for the Card Format has been renamed or removed via FormsDesigner since the last time the card format was edited.



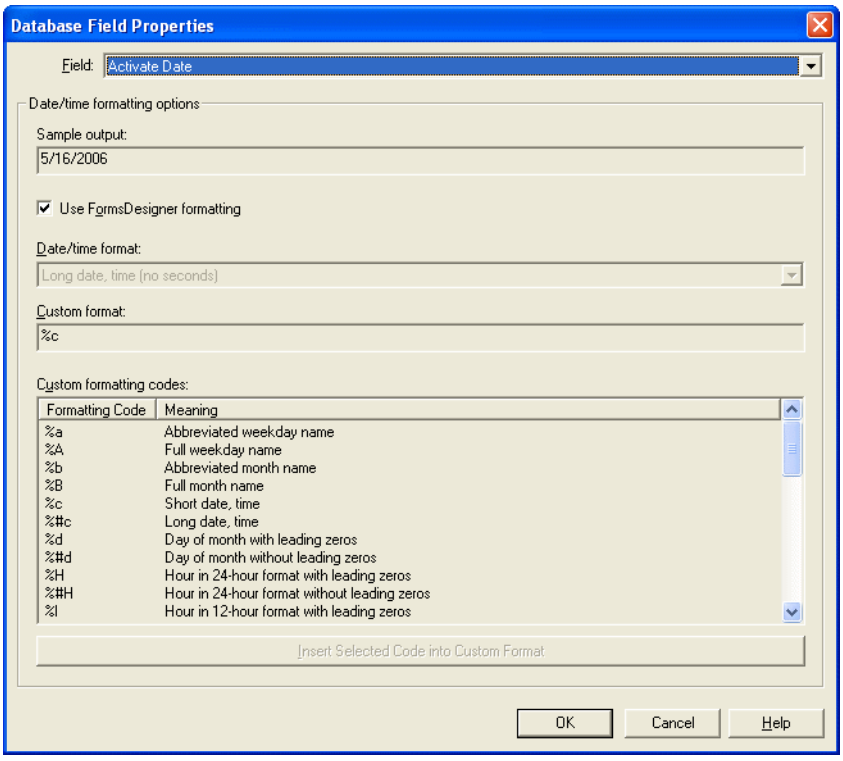
Field/button	Description
Field	Displays a list of the BadgeDesigner database fields that can be linked to the object (including standard BadgeDesigner database fields and user-defined database fields). The contents of the Database Field Properties window changes depending on whether the field selected in this drop-down is blank, text/numeric, or date/time.
OK	Saves the changes you have made and exits the window.
Cancel	Exits the window without saving the changes.
Help	Displays online help for this topic.

Database Field Properties Window (Date/time)

The Database Field Properties window (Date/time) is used to format the date/time database fields you inserted into a text object using the Text window or the Text Properties window. The contents of this window depend on whether the type of value in the **Field** drop-down is blank, text/numeric, or date/time.

Note: In BadgeDesigner, you may select a **Field**; in System Administration and ID CredentialCenter, the **Field** is always grayed out.

The Database Field Properties window (Date/time) displays when a date/time field is specified in the Database Field drop-down on the Custom Encoding tab in the Card Formats folder and then [Edit] is clicked.



Field/button	Description
Field	Describes the object being modified. The contents of the Database Field Properties window changes depending on whether the field selected in this drop-down is blank, text/numeric, or date/time. In BadgeDesigner, you may select a **Field**; in System Administration and ID CredentialCenter, the **Field** is always grayed out.
Sample output	Displays a sample output of the data. This field is display-only, and is automatically updated as changes are made.

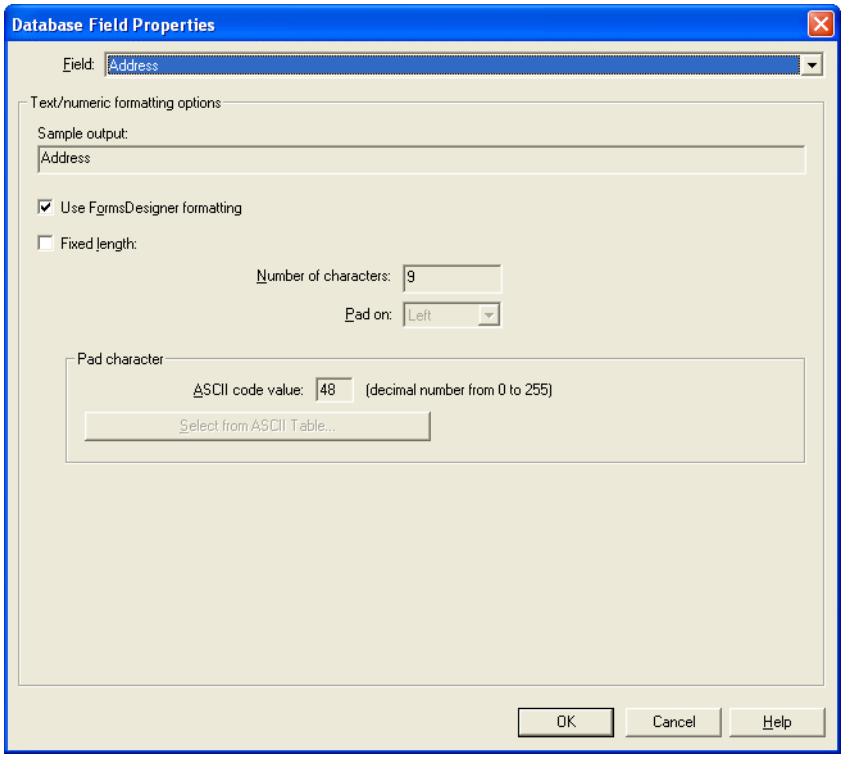
Field/button	Description
Use FormsDesigner formatting	Check this box to use the field formatting as shown in the Cardholders form. For example, the activate date could appear as “1/1/2001” instead of “Monday, January 01, 2001 12:00 AM.” Newly inserted field references default to having this option checked.
Date/time format	Enabled for selection if the **Use FormsDesigner formatting** check box is deselected. Allows you to choose from a predefined list how the field will be formatted.
Custom format	Enabled for selection if you select **Custom** from the **Date/time format** drop-down. Allows you to design a customized format using the formatting codes.
Custom formatting codes	Enabled for selection if you select **Custom** from the **Date/time format** drop-down. Provides a predefined list of formatting codes you can use to customize the field format.
Insert formatting code	Enabled only when an entry is selected in the **Custom formatting codes** list. Click this button to apply a selected custom formatting code to an output. The **Sample output** field will then be updated with a preview of the output.
OK	Saves the changes you have made and exits the window.
Cancel	Exits the window without saving the changes.
Help	Displays online help for this topic.

Database Field Properties Window (Text/numeric)

The Database Field Properties window (Text/numeric) is used to format the text/numeric database fields you inserted into a text object using the Text window or the Text Properties window. The contents of this window depend on whether the type of value in the **Field** drop-down is blank, text/numeric, or date/time.

Note: In BadgeDesigner, you may select a **Field**; in System Administration and ID CredentialCenter, the **Field** is always grayed out.

The Database Field Properties window (Date/time) displays when a text/numeric field is specified in the **Database Field** drop-down on the Custom Encoding tab in the Card Formats folder and then [Edit] is clicked.



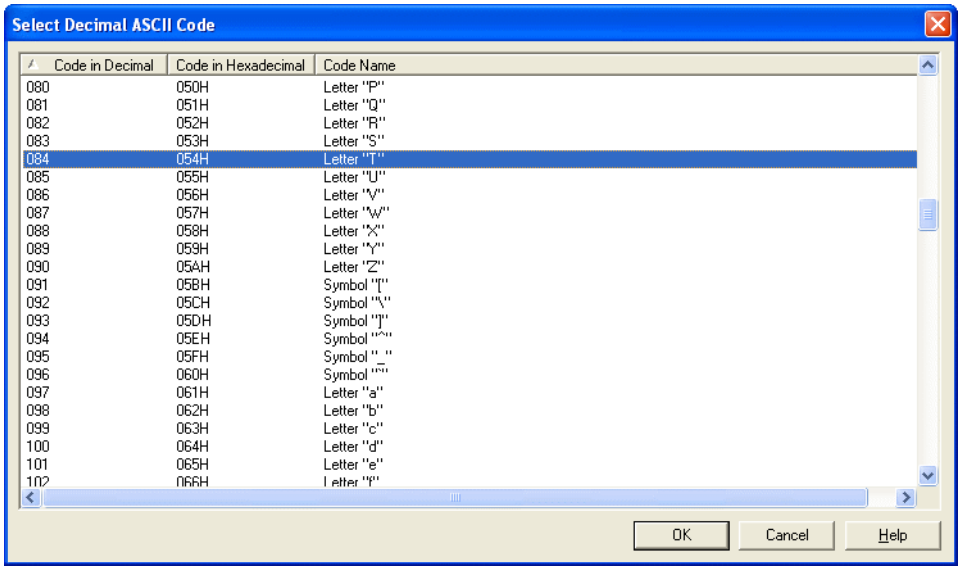
Field/button	Description
Field	Describes the object being modified. The contents of the Database Field Properties window changes depending on whether the field selected in this drop-down is blank, text/numeric, or date/time. In BadgeDesigner, you may select a **Field**; in System Administration and ID CredentialCenter, the **Field** is always grayed out.
Sample output	Displays a sample output of the data. This field is display-only, and is automatically updated as changes are made.

Field/button	Description
Use FormsDesigner formatting	Check this box to use the field formatting as shown on the Cardholder screen. For example, the phone number could appear as “(123) 456-7890” instead of “1234567890.” The field defaults to having this option checked.
Fixed length	Check this box if the field data should contain a specific number of characters/numbers.
Number of characters	Specify the number of characters or numbers in this field.
Pad on	Pads or truncates fields on the left or the right. When the **Fixed length** check box is selected, field data will be truncated on the left/right if the cardholder’s data for that field exceeds the specified number of characters. If the cardholder’s data for that field is less than the specified number of characters the field data will be padded on the left/right.
ASCII code value	Using ASCII Code, choose the pad character. If the data is padded on the left, the pad character(s) will show up before the data. If the data is padded on the right, the pad character(s) will show up after the data.
Select from ASCII Table	Brings up the Select Decimal ASCII Code dialog and allows you to select the pad character from a list.
OK	Saves the changes you have made and exits the window.
Cancel	Exits the window without saving the changes.
Help	Displays online help for this topic.

Select Decimal ASCII Code Dialog

The Select Decimal ASCII Code dialog lists all ASCII codes in decimal and hexadecimal, as well as the code name for each.

The Select Decimal ASCII Code dialog is by clicking the [Select from ASCII Table] button on the Database Field Properties window (Text/numeric).



Field/button	Description
Code in Decimal	Lists the code for the decimal (base-ten) representation of the character(s).
Code in Hexadecimal	Lists the code for the hexadecimal (base-sixteen) representation of the character(s).
Code Name	Lists the international standard character name.
OK	Once you have selected an ASCII code, click this button to save the changes and exit from this window.
Cancel	Exits the window without saving the changes.
Help	Displays online help for this topic.

Custom Encoding Procedures

Build a Custom Expression: Process Outline

General guidelines for custom encoding are given below. The specific procedure is determined by what you want to encode and where. To help you, a detailed custom encoding example follows this procedure.

1. When adding or modifying a magnetic card format, select the Custom Encoding tab.
2. Choose a track number by selecting the **1**, **2**, or **3** radio button.
3. For each track:
   a. In the Edit Custom Field section, select the appropriate field type radio button.
   b. If necessary provide specific information. For example, if you select the **Database Field** radio button, select the database field from the drop-down and click [Add].
   c. Repeat steps a-b for each custom field you want to add. Refer to Modify a Custom Expression on page 348 for tips on using the Custom Encoding form.
4. Repeat steps 2 and 3 for each track to be encoded.
5. Click [OK].

Modify a Custom Expression

Refer to the following tips when modifying a custom expression:

- If you make a mistake when specifying a field, simply navigate to the field you wish to change, make the change then click [Set] to register the change.
- If you forget to insert a specific field, simply navigate to the left of where you want the field to be placed, select the field, then click [Insert] to insert the missing field.
- If you place a field out of sequence, simply navigate to that field then click [Move Back] or [Move Forward] to reposition the field within the track. (You cannot move a field to another track.)
- The currently selected field appears as black characters against a white background. All other fields in the encoded expression appear as white characters against a black background.
- On the Custom Encoding form, the three access control field radio buttons are always dimmed when a track other than the access control track is selected. Because the access control readers look for access control fields only on the access control track, these fields can’t be encoded on any other tracks.

Custom Encoding Example

Lets say you want to encode the following information on magnetic cards:

- Track 1: the cardholder's first, middle, and last names (database fields), each separated by a caret (^)
- Track 2: an ISO 7812-1 standard encoded track containing the following items in the order listed:
  - a 6-digit card issuer number (123456 in our example)
  - the rightmost digit of the cardholder ID (database field)
  - the rightmost digit of the **issue code** access control field
  - the **card number** access control field, a 7-digit fixed length number with leading zeros
  - an ISO/IEC 7812-1 check digit for all previous digits on the access control track
- Track 3: the cardholder's embossed value (database field), a 12-digit fixed length number with leading zeros

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Note: The access control fields are specified in the custom encoding. The card readers will ignore fields encoded on tracks 1 and 3 and the following custom fields encoded on the access control track: the 6-digit card issuer number, the rightmost digit of cardholder ID and the check digit.

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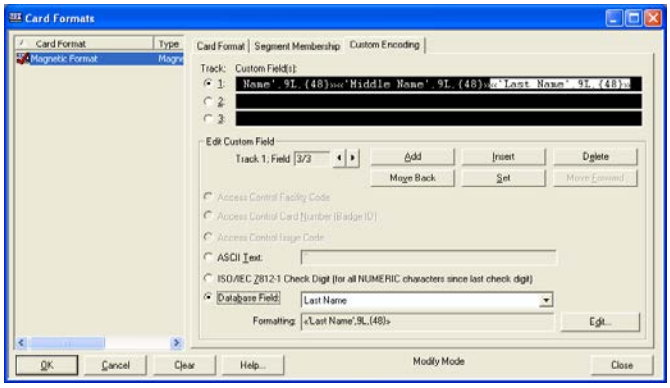
1. Indicate that you want to customize a magnetic format. To do this:
   a. In the Card Format listing window, select the "Magnetic Format" entry that you want to custom encode.
   b. Click [Modify].
2. Select the **Determined by Custom Fields** radio button. This tells the system that the position of the access control track access control fields will be specified on the Custom Encoding form. All fields in the **Field Order (0 == N/A)** and **Offset from Start of the access control track (Characters)**

sections are reset to zero since there are no access control fields in the access control track custom encoding yet.

3. In the Field Length (Pad/Truncate on Left) section, set the card number to "7". The issue code should already be set to "1". You should see the following at the end of this step:
4. Select the Custom Encoding tab.
5. Add the cardholder's first name field to track 1. To do this:
   a. Select the track **1** radio button.
   b. Select the **Database Field** radio button.
   c. From the drop-down, select "First Name."
   d. Click [Edit]. The Field Format window opens.
   e. Deselect the **Fixed Length** check box.
   f. Click [OK].
   g. Click [Add]. This inserts an expression for the First Name field into custom field 1.
6. Append a caret (^) field separator character to track 1. To do this:
   a. Click the **ASCII Text** radio button.
   b. In the text field, enter the caret character, ^. (If there is already information in this field, replace it with the caret character by highlighting the information, then enter the caret character in its place.)
   c. Click [Add].
7. Repeat step 5, but instead select the "Middle Name" database field to append the middle name field to track 1.
8. Append a caret field separator character to track 1 by repeating step 6.
9. Repeat step 5, but instead select the "Last Name" database field to append the last name field to track 1. You should see the following at the end of this step:



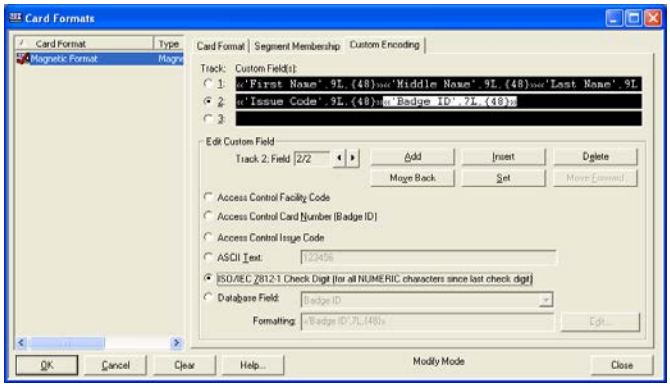
10. Add the card issuer ID "123456" to the access control track. To do this:
    a. Select the track **2** radio button.
    b. Select the **ASCII Text** radio button.
    c. In the text field, enter "123456."

d. Click [Add].

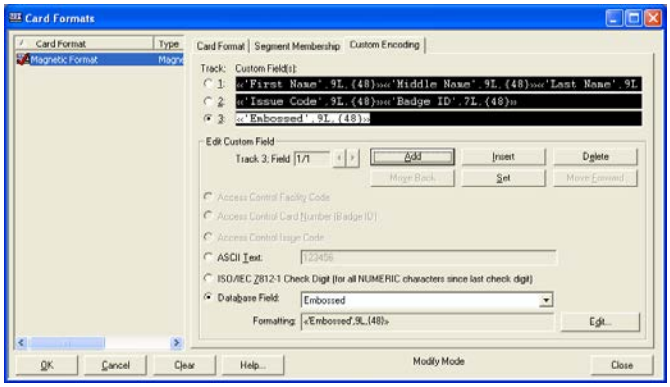
11. Append the rightmost digit of the cardholder ID field to the access control track. To do this:
    a. Select the **Database Field** radio button.
    b. From the drop-down, select “Cardholder ID.”
    c. Click [Edit]. The Field Format window opens.
    d. Select the **Fixed Length** check box.
    e. In the **Number of characters** field, enter “1.”
    f. Select “Left” from the **Pad on** drop-down.
    g. Click [OK].
    h. Click [Add]. Since you’ve specified that only 1 character is allowed for this field, and have set the field to pad/truncate on the left, all but the last digit will be truncated. This leaves only the rightmost digit of the cardholder ID field, which is what you wanted to encode here.
12. Append the issue code access control field to the access control track. To do this:
    a. Select the **Access Control Issue Code** radio button.
    b. Click [Add].

Note: The **Access Control Issue Code** radio button is now dimmed, because you can specify the issue code field for access control only once on the access control track.

13. Append the card number access control field to the access control track. To do this:
    a. Select the **Access Control Card Number (Badge ID)** radio button.
    b. Click [Add].
14. Append an ISO/IEC 7812-1 check digit character to the access control track. To do this:
    a. Select the **ISO/IEC 7812-1 Check Digit (for all NUMERIC characters since last check digit)** radio button.
    b. Click [Add]. You should see the following at the end of this step:



15. Add the embossed field to track 3 as a 12 digit fixed length number with leading zeros. To do this:
    a. Select the track **3** radio button.
    b. Select the **Database Field** radio button.
    c. From the field drop-down, select “Embossed.”
    d. Click [Edit]. The Field Format window opens.
    e. Select the **Fixed Length** check box.
    f. In the **Number of characters** field, enter “12.”
    g. Select “Left” from the **Pad on** drop-down.
    h. Click [Select]. The Select Control Character window opens.
    i. From the listing window, select “0” (the zero character).
    j. Click [OK].
    k. Click [OK] on the Field Format window.
    l. Click [Add]. You should see the following at the end of this step:



16. Click [OK]. The card format is now configured for the specified custom encoding. However, you must download this card format to the card readers before the application can use it.

Encode the Example Card Format

The application encodes magnetic information on ID cards using the ISO 7811 magnetic encoding standard, described in the following table.

ISO 7811 Track Format Standard

Track	Magnetic Format	Typical Use
1	IATA	financial
2	ABA	security
3	TTS	none

For MAGICARD and NISCA PR5100 printers, the application automatically sets the track 1, 2, and 3 magnetic formats to IATA, ABA, and TTS respectively. The application assumes that these track formats are already configured on other card printers. Most printers have either a Windows driver or a Windows diagnostic program (as does the DataCard (r) printer) that enables you to specify the track formats.

The track's magnetic format dictates the number of bits per character, the bits per inch, the start sentinel character, the set of ASCII characters allowable on the track, and the maximum number of characters per track. The following table provides details.

ISO 7811 Magnetic Track Formats

Property	Magnetic Format		
	IATA	ABA	TTS
Bits/Character	7	5	5
Bits/Inch	210	75	210
Start Sentinel Character (SS)	%	;	;
End Sentinel Character (ES)	?	?	?
Field Separator Character (FS)	^	=	=
ASCII Chars Allowed on Track	SPC ! ‘ # $ % & ‘ ( ) * + , - . / 0 1 2 3 4 5 6 7 8 9 : ; < = > ? @ A B C D E F G H I J K L M N O P Q R S T U V W X Y Z [\ ] ^ _	0 1 2 3 4 5 6 7 8 9 : ; < = > ?	0 1 2 3 4 5 6 7 8 9 : ; < = > ?
Max # of Data Chars	76	37	104

The application automatically encodes the start sentinel and end sentinel characters. You must specify the data characters, optional ISO 7812-1 check digit character, and optional ISO 7811 field separator character(s), using the Magnetic Card Format form.

ReadkeyPRO supports non-standard track configuration on some printers. For more information, refer to Appendix H: Inline Encoding on page 1489.

Card Format Folder Procedures

Modify a Card Format

Note: The fields on the Segment Membership form are disabled when you modify a smart card format that references a Wiegand or magnetic card format. In this case, the smart card format segments are set to the selections of the referenced (Wiegand or magnetic) card format. When a referenced card format's segments are modified, or when a segment is added to a Wiegand or magnetic card format using the Add Segment Wizard, the segments of any corresponding smart card format will also be updated.

1. In the listing window, click on the name of the card format that you want to modify.
2. Click [Modify].
3. Make the changes you want to the fields.
4. Click [OK] to save the changes, or [Cancel] to revert to the previously saved values.

Delete a Card Format

1. In the listing window, click on the name of the card format that you want to delete.
2. Click [Delete].
3. Click [OK]. A confirmation message will be displayed.
4. Click [Yes].

Chapter 11: Badge Types Folder

The Badge Types folder contains forms with which you can:

- Define badge types, each consisting of front and back badge layouts, a deactivation date, and an access group
- Identify segments a badge type belongs to
- Assign an encoding format and a badge printer to a badge layout
- Specify required fields for Cardholder records of a given badge type
- Configure ID allocation parameters and badge deactivation status settings for badge types

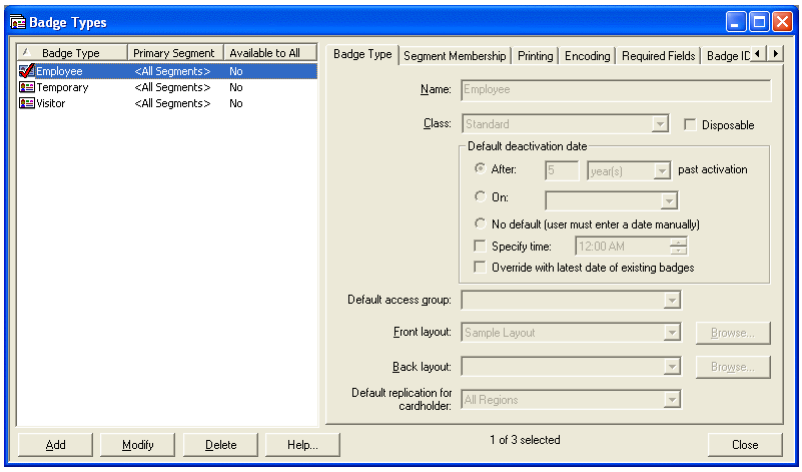
The folder contains several forms: the Badge Type form, Segment Membership form (if segmentation is enabled on your system), Printing form, Encoding form, Required Fields form, Badge ID Allocation form, Logical Access form, and the Deactivation Settings form. Any form is editable when the folder is in add or modify mode.

Toolbar Shortcut

This folder is displayed by selecting **Badge Types** from the **Administration** menu, or by selecting the Badge Types toolbar button.

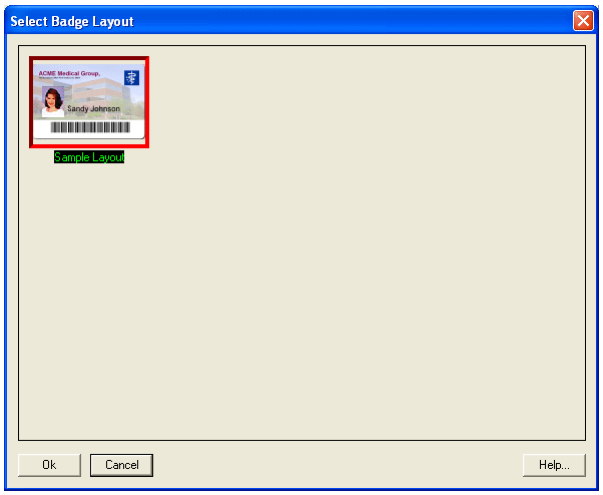
Note: For segmentation users, badges can be segmented via the Badge Types folder. When badges are segmented via Badge Types folder, they can belong to <All Segments>, one segment or many segments. They can also be assigned to Segment Groups. When badge types are segmented, cardholders' badges are in effect segmented as well, by virtue of their badge type.

Badge Type Form



Select Badge Layout Window

This window is displayed by clicking the [Browse] button on the Badge Type form.



Badge Type Form Overview

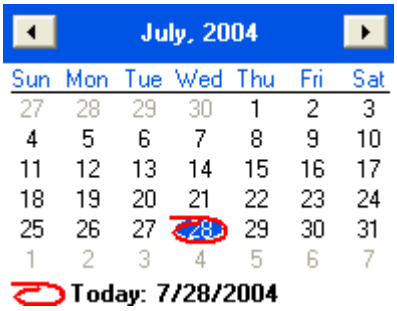
The Badge Types form is used to define badge types, each consisting of front and back badge layouts, and a badge deactivation date. If your installation includes the System Administration application, the Badge Type form also includes a default access level group.

Badge Type Form Field Table

Badge Types Folder - Badge Type Form

Form Element	Comment
Badge Type listing window	Lists the names of all currently defined badge types.
Name	Enter a unique, descriptive name for the badge type. When you add a Badge record in the Cardholders folder, you select a badge type by the name defined here.
Class	Indicates the class of the badge. Choices include: • **Standard** - A standard badge, typically permanently assigned to cardholders. • **Visitor** - A badge used for visitors. A badge must have this class to be assigned to a visitor. • **Temporary** - A badge used for temporary assignment to cardholders. **Note:** A badge must have a badge type with a class of Visitor or Temporary in order to be automatically moved from one person to another. In previous releases, you could move a badge of any type to another person, since there was no concept of badge class. If you have upgraded from a previous release, you may want to examine your current badge types and decide which should be changed to a Visitor or Temporary class.
Disposable	Enabled (allowing selection) only when Visitor is selected in the **Class** field. • If checked, the visitor's badge will be a disposable badge. When checked, the **Default Access Group** field will become grayed out. • If not checked, the visitor's badge will not be a disposable badge. A **Default Access Group** field can be selected. • If a badge type has its Class set to a Visitor, it can be marked as disposable. A disposable badge can be printed but cannot have access levels assigned to it. A disposable badge will not use up a badge ID from the pool of possible IDs for non-disposable badges. • The Visitor Management application will only allow you to assign badges with a badge type in the Visitor class. Furthermore, it can only print badges with a Disposable badge type attribute.
Default deactivation date	Includes the **After *x* days/months/years past activation**, **On Specific Date**, **No default (user must enter a date manually)**, and **Override with latest date of existing badges** fields. Default Badge Deactivation Date sets the date, with respect to the activation date, on which badges having this Badge Type will expire. When you add a Badge record and select a **Badge Type**, the **Deactivate** field will display the date determined by this field. However, you can change the deactivation date for individual badge records.
After *x* days/ months/years past activation	Choose this to specify a Default Badge Deactivation Date that is some number of days/ months/years after the activation date (indicate the quantity in the quantity box).

Badge Types Folder - Badge Type Form (Continued)

Form Element	Comment
On	Select this radio button if you want to enter a specific date for the default badge deactivation date. The date is selected from the drop-down calendar. If you also want to specify a specific time for default badge deactivation, refer to Specify time definition in this table.
Date box	Select a date from the drop-down calendar to be associated with the **On** radio button.  • To select a month, click on the  and  navigation buttons. • You can also select a month by clicking on the displayed month to access a drop-down list of months. Highlight the month you want to select it. • Navigate to a year by clicking on the displayed year to access the year spin buttons  • Once you have selected a month and a year, click on the day that you wish the selected badge to deactivate on. **Note:** If you select the **On** radio button and "2/5/98" is displayed in the date box, the default badge deactivation date for this badge type will be 2/5/98, regardless of the activation date.
No default (user must enter a date manually)	Select this radio button if you don't want the selected badge to have a default deactivation date. For badge types without default deactivation dates, the user must manually type a date into the **Deactivate** field on the Badge form of the Cardholders folder.
Specify time	Select this check box if you want to specify a specific time for default badge deactivation. When this check box is selected, the **On** radio button cannot be deselected. **Note:** This field is enabled only when the **Use time** check box is selected on the General Cardholder Options form in the Cardholder Options folder.
Time box	If you selected the **Specify time** check box, enter a time that will be used in conjunction with the selected badge type's default deactivation date.
Override with latest date of existing badges	Select this check box if you want the default deactivation date to default to the latest date of the existing badge.

Badge Types Folder - Badge Type Form (Continued)

Form Element	Comment
Default access group	Select a group of access levels to be associated with this badge type. You can change the access levels for an individual cardholder record, using the Access Levels form of the Cardholders folder. The application creates a couple of access levels at installation. Other access levels and access groups are defined in the Access Levels folder of System Administration.
Front layout	Select a badge layout for the front of the card. Badge layouts are defined in the BadgeDesigner application.
Browse	Clicking on this button brings up the Select Badge Layout window, which allows you to select a badge layout for the front from the database.
Back layout	Select a badge layout for the back of the card. Badge layouts are defined in the BadgeDesigner application.
Browse	Clicking on this button brings up the Select Badge Layout window, which allows you to select a badge layout for the back from the database.
Default replication for cardholder	**Note:** This field only appears on Enterprise systems. Each badge type has a default replication setting. For each cardholder, visitor, and asset record, you can choose if a record is for the Local Region Only or for All Regions. Visitors and assets are not replicated to Regions by default. All records are always replicated to the Master Server. If adding or modifying a badge on a Master Server, the badge information will go to All Regions. In this case, this field will not be enabled. Settings for this field include: • Local Region Only - when a badge associated with the selected badge type is added or modified, the information goes to the Master Server only • All Regions - when a badge associated with the selected badge type is added or modified, the information goes to all regions
Add	Adds a badge type record.
Modify	Changes a badge type record.
Delete	Deletes a badge type record.
Help	Displays online help for this topic.
Close	Closes the Badge Types folder.

Badge Type Form Procedures

Add a Badge Type

Note: To add a badge type for CMS, refer to Add a Badge Type for CMS on page 1509.

1. In System Administration or ID CredentialCenter, select **Badge Types** from the **Administration** menu. The Badge Types folder opens.
2. Click the Badge Type tab and click [Add].
3. If segmentation is not enabled on your system, skip this step. If segmentation is enabled, the Segment Membership window opens.
   a. Select the segment that this badge type will be assigned to.
   b. When badge types are segmented, an <All Segments> badge type is considered "administrator only." This means that:
      - Only an <All Segments> user can add, modify, and delete a badge of that type.
      - If cardholders are segmented, only an <All Segments> cardholder can be assigned a badge of that type.
        Select the **Make available to any user and any person (no segment restrictions)** check box if you want to allow the user to lift this restriction on a per badge type basis so that the <All Segments> badge type is available for assignment by any user to any cardholder (assuming that the user is allowed to update the cardholder record if cardholders are segmented). For more information, refer to Appendix E: Segmentation on page 1457.

Note: This field is enabled only when the selected badge type's primary segment is <All Segments>.

c. Click [OK].

4. Enter a badge type name in the **Name** field.
5. Select a badge class from the **Class** drop-down list. For more information, refer to Badge Type Classes on page 363.
6. Select the **Disposable** check box if you are configuring a visitor badge and do not want to assign access levels.
7. Specify the default deactivation date by completing one of the following:
   - To deactivate a specific amount of time after activation occurs, select the **After** radio button. Select the time period from the drop-down list and enter the amount of time.
   - To deactivate on a specific date and/or time, select the **On** radio button. Choose a date from the drop-down list.
   - To require badge operators to manually enter a deactivation date, choose the **No default (user must enter a date manually)** radio button.
   - To specify a specific time, select the **Specify time** check box and enter the hour and minutes. You may need to first enable the "use time" feature on the General Cardholder Options form. For more information, refer to General Cardholder Options Form on page 498.
   - To copy the deactivation date of an existing badge, select the **Override with latest date of existing badges** check box.
8. Select a default access group. This field is not available for disposable visitor badge types.
9. Select a front and back layout to be used when printing.
10. Click [OK].

Badge Type Classes

Badge Type Class	Disposable?	Description
Visitor	Disposable	A badge without access levels, assigned to visitors.
	Non-disposable	A badge with access levels, assigned to visitors.
Temporary	Non-disposable	A badge with access levels, used for temporary assignment to employees
Standard	Non-disposable	A badge with access levels, used for permanent assignment to employees.

Modify a Badge Type

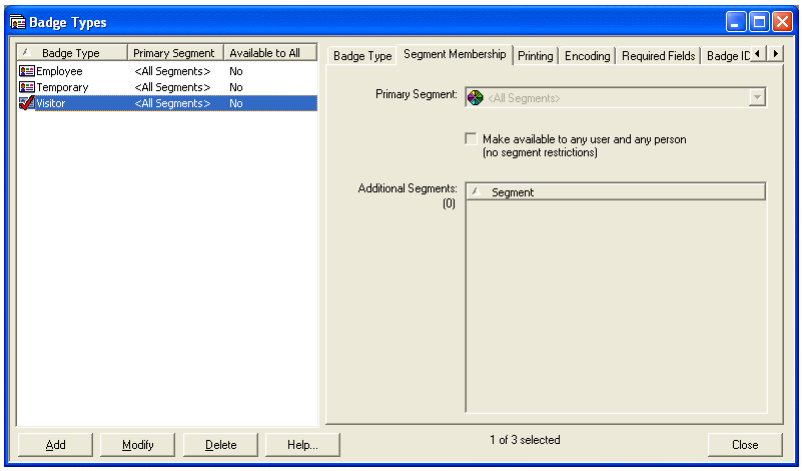
1. From the Badge Type listing window, select the badge type entry that you want to change.
2. Click [Modify].
3. Make the changes you want to the fields.
4. Click [OK] to save the changes, or on the [Cancel] to revert to the previously saved values.

Delete a Badge Type

1. From the Badge Type listing window, select the badge type entry that you want to remove.
2. Click [Delete].
3. Click [OK].
4. Click [Yes] to confirm the deletion.

Segment Membership Form

Note: The Segment Membership tab is only displayed if segmentation is enabled on your system.



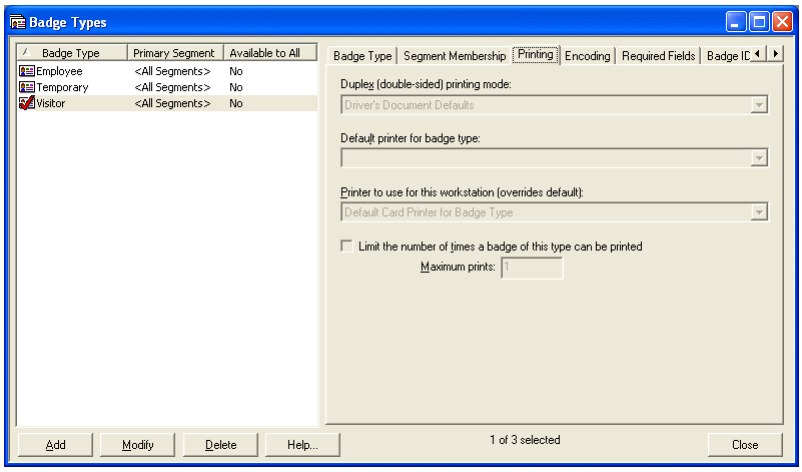
Badge Types Folder - Segment Membership Form

Form Element	Comment
Primary Segment	Contains the name of the primary segment.

Badge Types Folder - Segment Membership Form (Continued)

Form Element	Comment
Make available to any user and any person (no segment restrictions)	This field is enabled only when the selected badge type's primary segment is <All Segments>. When badge types are segmented, an <All Segments> badge type is considered "administrator only." This means that: • Only an <All Segments> user can add, modify, and delete a badge of that type. • If cardholders are segmented, only an <All Segments> cardholder can be assigned a badge of that type. Select this check box if you want to allow the user to lift this restriction on a per badge type basis so that the <All Segments> badge type is available for assignment by any user to any cardholder (assuming that the user is allowed to update the cardholder record if cardholders are segmented). For example, in a tenant/landlord scenario, the landlord can create: • A landlord badge type that is <All Segments> *without* this check box selected. This badge type could only be assigned to <All Segments> landlord cardholders and modified by landlord users. • A general visitor badge type that is <All Segments> *with* this check box selected. Any tenant users could assign this badge type to any cardholder in their segment. For more information, refer to Appendix E: Segmentation on page 1457.
Additional Segments listing window	Displays a listing of additional segments (those other than the primary segment).

Printing Form



Printing Form Overview

This form is used to assign a badge printer to a badge layout and to limit the number of times a badge type can be printed.

Badge Types Folder - Printing Form

Form Element	Comment
Badge Type listing window	Lists currently defined badge types.
Duplex (double-sided) printing mode	If there is a Back Layout selected for the badge(s), the application allows you to select the orientation (which way the badge is flipped when printed). The options are: • Double-sided Flip Horizontally (Normal): the current card is flipped horizontally before the back layout is printed on its back side. Examples: – Typical Portrait Horizontal flipping done by card printer drivers: Front Side: Back Side:  – Typical Portrait Horizontal flipping done by laser printer drivers: Front Side: Back Side:  – Typical Landscape Horizontal flipping done by card and laser printer drivers: Front Side: Back Side: 

Badge Types Folder - Printing Form (Continued)

Form Element	Comment
Duplex (double-sided) printing mode (continued)	• Double-sided Flip Vertically: the current card is flipped vertically before the back layout is printed on its back side. Examples: – Portrait Vertical flipping done by card printer drivers: Front Side: Back Side: Two single-sided prints or  – Landscape Vertical flipping done by card printer drivers: Front Side: Back Side: Two single-sided prints or  – Typical Portrait Vertical flipping done by laser printer drivers: Front Side: Back Side:  – Typical Landscape Vertical flipping done by laser printer drivers: Front Side: Back Side:  • Single-sided: the current card is not flipped during printing. If a back layout is selected, the front layout will print on the front of the current card and the back layout will print on the front of the next layout. • Driver's Document Defaults: the duplex mode is set in the printer driver's defaults (set via the Control Panel Printer Applet). Unfortunately horizontal vs. vertical flipping are interpreted differently by different printer drivers. If one type does not work for you, try the other.
Default printer for badge type	Selects the printer that will be used to print cards of the badge type currently selected for all workstations. Options include all printers configured for your computer which are either network printers or local printers which are being shared with the network. Be sure to select a printer that is capable of printing badges.
Printer to use for this workstation (overrides default)	Selects the printer that will be used to print cards from a particular workstation. Options include all local and network printers configured for your computer. This selection overrides all selected "Default Card Printer for Badge Type" if it is different.
Limit the number of times a badge of this type can be printed	Select this check box to limit the number of prints. This feature works in conjunction with the print duplicate badges cardholder badge permission. If a cardholder does not have permission to print duplicate badges the limit on the number of times a badge can be printed does not apply.
Maximum prints	Identifies the maximum number of prints allowed for a badge type. You can enter a value of zero which does not allow anyone to print the badge.

Printing Form Procedures

In ReadkeyPRO Badge printers must be assigned to a badge type and/or a workstation. Assigning a printer to a workstation overrides any printer assignment to a badge type.

Modify a Print Setup

1. In System Administration or ID CredentialCenter, select **Badge Types** from the **Administration** menu. The Badge Types folder opens.
2. Click the Printing tab. Select a badge type and click [Modify].
3. If this badge type has a back layout, select a printing mode from the **Duplex (double-sided) printing mode** drop-down list.
4. Select a default printer for the badge type. Printers must be shared over the network in order to be available from the drop-down list, even if the printer is connected directly to your workstation.
5. Select a printer for the workstation you are currently using.
6. Select the **Limit the number of times a badge of the type can be printed** check box if you want to limit how many times users print a badge type. Enter the maximum number of prints.

Notes: The number of times a user can print a badge type also depends on their "print duplicate badges" cardholder badge permission setting. For more information, refer to Cardholder Permission Groups Form Procedures on page 427.

If a user attempts to modify the maximum number of prints such that it is lower than the print count of at least one badge of that type then the user will be warned and given the opportunity to cancel the modification.

The warning message indicates the number of badges that exceed the attempted new limit and the largest print count for all badges of that type.

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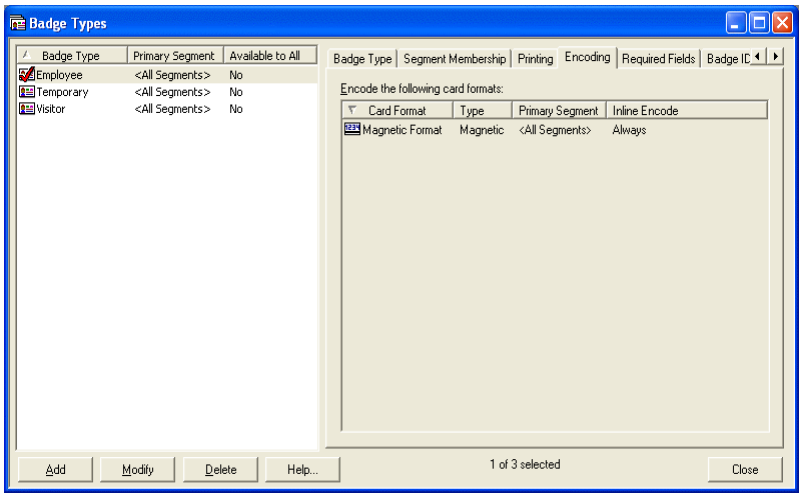
7. Click [OK].

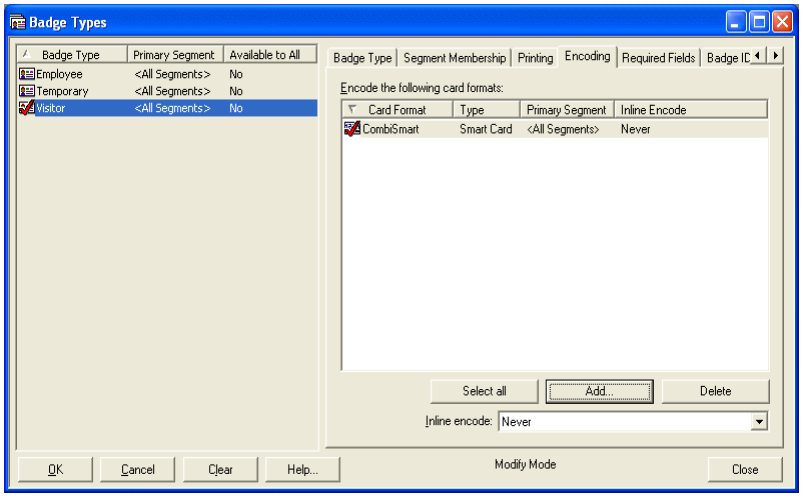
Encoding Form

The Encoding form is used to encode a badge according to the card format that you choose. Different fields display in the Encoding form, depending on the mode you are in (modify mode or view mode).

Encoding Form (View mode)



Encoding Form (Modify mode)



Badge Types Folder - Encoding Form

Form Element	Comment
Badge type listing window	Lists currently defined badge types.
Encoding listing window	If you want to encode information on badges of this type, choose a card format from the listing window. Card formats are defined in the Card Formats folder.
Select all	Selects (places a checkmark beside) all the card formats listed in the Encoding listing window
Add	Displays the Add Card Formats dialog where you select the card formats to encode.
Delete	Deletes the selected card format in the Encoding listing window.
Inline encode	*Inline encoding* is a process of transferring cardholder information to the integrated circuit (IC) or magnetic strip of an ID card during the printing process. Select Always, Never, or If encoder configured from the drop-down list.

Encoding Prerequisites

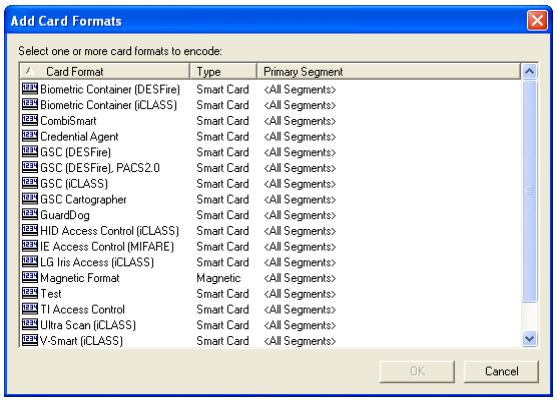
Several steps must occur in ReadkeyPRO to properly encode a magnetic, Wiegand, or smart card. Each step occurs in a different folder in the ReadkeyPRO application.

1. In the Workstations folder > Encoding form, configure an inline or standalone encoder/scanner.
   You do not need to configure USB encoders/scanners (e.g. MIFARE Pegoda contactless smart card reader) in ReadkeyPRO applications. Simply install the drivers and attach the hardware to the workstation. This does not apply to the ScanShell 800/1000.
2. In the Card Formats folder, create a card format that will contain data to be encoded on a badge.
3. In the Badge Types folder > Encoding form, assign an encoding format to a badge type. In other words, assign a card format to be encoded on a badge of a specific type.
4. In the Cardholders folder, add a cardholder or visitor record to the database.
5. In Multimedia Capture, capture the cardholder/visitor's photo, signature, and/or biometric data.
6. In the Cardholders folder, encode the badge.

Encoding Form Procedures

Assign an Encoding Format to a Badge Type

1. From the **Administration** menu select **Badge Types**.
2. Select a badge type and click [Modify].
3. Click the Encoding tab.
4. Click [Add]. The Add Card Formats dialog displays.



5. Select (place a checkmark beside) one or more card format(s) and click [OK].

Note: The card formats available for encoding are created in the Card Formats folder. For more information, refer to Card Formats Folder on page 281.

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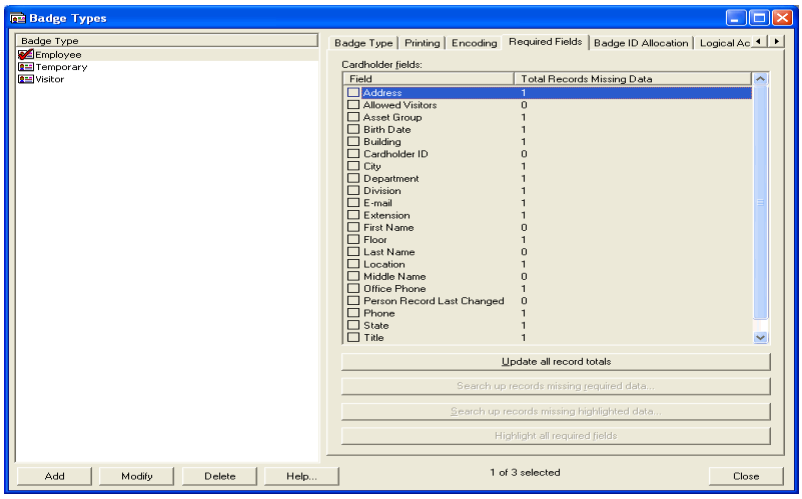
6. Select "Always" from the **Inline encode** drop-down list if you want to transfer cardholder information to the integrated circuit (IC) or magnetic strip of an ID card during the printing process. Otherwise, use the default value, "Never". A third option, "If encoder configured" can also be used. This will transfer cardholder information if the encoder is configured. This option does not imply that the encoder is actually present and equipped with an encoder that can handle the specific card format.
7. Click [OK].

Required Fields Form



Required Fields Form Overview

Use this form to specify required fields for cardholder records of a given badge type. Someone adding a cardholder record will be forced to enter data into all of the selected fields before being allowed to assign the selected badge type to the record.

For example, you might require a user to enter a valid Department value for a cardholder before allowing the cardholder to be assigned the “Employee” Badge Type.

Badge Types Folder - Required Fields Form

Form Element	Comment
Badge Type listing window	Lists currently defined badge types.
Cardholder fields	Lists all currently defined cardholder record fields. A check box precedes each field name. This field is named **Cardholder Fields** and is populated with cardholder-specific check boxes unless the class of the selected badge type is “Visitor.” In this case, the name of the field changes to **Visitor Fields** and is populated with visitor-specific check boxes.
Update all record totals	Click this button to update the Cardholder fields window. When updated the Cardholder fields window will update to show the total records missing for each data field.
Search up records missing required data	By clicking this button the Cardholders window opens and displays the cardholders who are missing required information.
Search up records missing highlighted data	After highlighting the fields in the Cardholder fields window, click this button to open the Cardholder window and display the cardholders who are missing the highlighted data.

Badge Types Folder - Required Fields Form (Continued)

Form Element	Comment
Highlight all required fields	Highlights all the required fields that you've selected. Use in conjunction with the **Search up records missing highlighted data** button.

Required Fields Form Procedures

Specify Required Fields by Badge Type

To configure the cardholder and/or visitor fields that will be required when badge operators add a record, complete the following procedure. The fields that will be required depend on the badge type selected during the enrollment process.

1. From the **Administration** menu select **Badge Types**.
2. Select a badge type and click [Modify].
3. Place a checkmark beside any field you want to be required.
4. Click [OK].

Badge ID Allocation Form - (ID Allocation sub-tab)

This form is used to configure ID allocation parameters for badge types.

Badge ID Allocation Form - (ID Ranges sub-tab: View Mode)

Badge ID Allocation Form - (ID Ranges sub-tab: Modify Mode)

Badge ID Allocation Form - (ID Import Source sub-tab)

Badge Types Folder - Badge ID Allocation Form

Form Element	Comment
Badge Type listing window	Lists currently defined badge types.
Use system settings for badge ID allocation (Automatic)	When this box is checked, the **Generate badge ID** field, **Allow edit of badge ID** field, **First issue code** field, **Auto-increment issue code** field, and the FASC-N Information section are not enabled. The system settings for badge ID allocation will be used.
Use different settings for badge ID allocation of this badge type	When this box is checked, the **Generate badge ID** field, **Allow edit of badge ID** field, **First issue code** field, and the **Auto-increment issue code** field are enabled.

Badge Types Folder - Badge ID Allocation Form (Continued)

Form Element	Comment
Generate badge ID	Select the method by which the **Badge ID** field (on the Badge form - modify mode in the Cardholders folder) will be automatically filled in when adding a new badge. Choices include: • **Automatic** - the badge ID will be assigned by the system. Generally, each new badge ID will be the previous badge ID + 1. This applies even if you are creating a new badge for a cardholder who's already in the database, as would occur if the previous badge were lost or stolen. • **FASC-N -** Refers to government issued badges. FASC-N is an acronym for Federal Agency Smart Credential Number. Selecting this causes the FASC-N Settings on this form to become enabled for you to use. • **From 'Cardholder ID'** (or, if you have a custom cardholder layout, the custom field name will be indicated here) - uses the special cardholder fixed field. The name of this field may be different if you have a custom cardholder layout designed with FormsDesigner. Whatever you enter in this field will be used as the badge ID for that particular cardholder. With this setting the badge ID will always be the same for a cardholder - in this case, the issue code is used to distinguish between different badges for the same cardholder. Note that to use this setting the field upon which you are basing the badge ID must be all numeric data. • **Internal Cardholder ID** - this option is similar to the "From 'Cardholder ID'" option except that this option uses a system-generated number as compared to a manually entered number. Functionally, the badge ID will always be the same for a cardholder. You must use a different issue code to distinguish between different badges for the same cardholder. • **Import from card** - select this option to enable the **Card Technology** and **Data Source** fields on the ID Import Source tab. Using **Import from card** will import the badge ID from the card. Select the options from the ID Import Source sub-tab to specify how the badge ID will be imported. • **Manual Entry** - no badge ID will be automatically assigned. A badge ID must be entered by the user who creates the badge record. The badge ID cannot start with a 0 when this option is selected. • **Guest Allocation** - this choice is available only when you are configuring a guest badge type. In this case, Guest Allocation is automatically entered into the field. This choice cannot be modified for guest badge types.
Allow edit of badge ID	If selected, a user having the appropriate privileges will be able to change the badge ID (on the Badge form - modify mode in the Cardholders folder) values. Leave this check box unselected if you do not want a user to be able to edit the badge ID.
First issue code	If your installation uses issue codes on its badges, zero is used by default as the first issue code when you create a new badge. If your organization wants to use a different number, enter that number in this field.
Auto-increment issue code	You can change (select or deselect) this value. However: • This field is selected by default if you chose "Internal Cardholder ID" in the **Generate badge ID** field. • This field is deselected by default if you chose "Automatic" in the **Generate badge ID** field. This is because each time you create a badge (even if it's for someone whose badge has been lost), a new badge ID will be assigned automatically. Therefore, it's considered to be a new card, and the issue code counter starts over again.

Badge Types Folder - Badge ID Allocation Form (Continued)

Form Element	Comment
Agency	A four digit code identifying the government agency issuing the credential. The agency code is just one part of 31 bits of information that will be encoded on the magnetic stripe of government smart cards. The agency code is also part of what becomes the ReadkeyPRO badge ID.
System	A four digit field identifying the system the card is enrolled in. Within an Agency the system must be a unique value. The system is just one part of 31 bits of information that will be encoded on the magnetic stripe of government smart cards. THe system is also part of what becomes the ReadkeyPRO badge ID.
Field to fill with Agency Code	Specifies the field in the Cardholders folder > Badge form that will display the Agency Code. You can select from the default ReadkeyPRO fields or define a field using FormsDesigner.
Field to fill with System Code	Specifies the field in the Cardholders folder > Badge form that will display the System Code. You can select from the default ReadkeyPRO fields or define a field using FormsDesigner.
Field to fill with Credential ID	Specifies the field in the Cardholders folder > Badge form that will display the Credential ID. You can select from the default ReadkeyPRO fields or define a field using FormsDesigner.
Allocated ranges listing window	Displays the first and last ID number that will be used, as well as the number of IDs, next ID, and remaining IDs.
First ID (displayed only in modify mode)	Type in the first ID number to be allocated for this badge type. If you enter the first ID and ID count, the last ID will automatically be determined and filled in.
ID count (displayed only in modify mode)	Type in the number of IDs you wish to allocate. If you enter the ID count and first ID, the last ID will automatically be determined and filled in.
Last ID (displayed only in modify mode)	This is the last number that will be allocated as an ID. As long as the **First ID** and **ID count** fields are populated with numeric values, the **Last ID** field will automatically be determined and filled in.
Add (displayed only in modify mode)	This button is enabled only when valid data is entered in the **First ID, ID count,** and **Last ID** fields. Its function is to add the range specified in the **First ID, ID count,** and **Last ID** fields to the Allocated ranges listing window.
Modify (displayed only in modify mode)	This button is enabled only when an entry is selected in the **Allocated ranges** listing window. Its function is to modify the range that is selected in the **Allocated ranges** listing window when a new value is entered in the **First ID, ID count**, or **Last ID** fields.
Delete (displayed only in modify mode)	This button is enabled only when an entry is selected in the **Allocated ranges** listing window. Its function is to delete the range that is selected in the **Allocated ranges** listing window.
Card Technology	This field is enabled when **Import from card** is selected from the Generate badge ID drop-down box on the ID Allocation sub-tab. Select the card technology that you are using that the badge ID will be imported from.

Badge Types Folder - Badge ID Allocation Form (Continued)

Form Element	Comment
Data Source	This field is enabled when **Import from card** is selected from the Generate badge ID drop-down box on the ID Allocation sub-tab. Select the data source that the badge ID will be generated from. • **Card Serial Number** - This option is for importing the badge ID from the serial number of the badge. • **Mapping Table** - This option allows the badge ID to be imported using the Mapping Table Information. To use this selection, map the serial and embossed numbers to a user-defined field (UDF) on the Cardholders Badge form.
Allow import to delete existing badges	Selecting this check box allows the system to automatically delete badges with the same ID as the newly imported badge, if there were any assigned. If the badges have the same badge ID but different issue codes, they will all still be deleted. This option can only be configured when **Import from card** is selected from the Generate badge ID drop-down on the ID Allocation sub-tab.
Field to fill with serial number	This field is available when **Import from card** is selected from the Generate badge ID drop-down on the ID Allocation sub-tab and when **Mapping Table** is selected for the Data Source. Use this drop-down to select the field to be used for storing serial numbers. The serial number is obtained from the SERIAL_NUMBER column of the BADGE_ID_IMPORT table. For more information, refer to Import Badge Information from a Card for Database Lookup on page 380. A UDF on the Cardholders Badge form should be created for this purpose. The serial number can only be mapped to a text UDF.
Field to fill with embossed number	This field is available when **Import from card** is selected from the Generate badge ID drop-down on the ID Allocation sub-tab and when **Mapping Table** is selected for the Data Source. Use this drop-down to select the field to be used for storing embossed numbers. The embossed number is obtained from the EXTERNAL_NUMBER column of the BADGE_ID_IMPORT table. For more information, refer to Import Badge Information from a Card for Database Lookup on page 380. A UDF on the Cardholders Badge form should be created for this purpose. The embossed number can be mapped to a numeric or text UDF.

Badge ID Allocation Form Procedures

Configure Badge ID Allocation

If you want to configure the ID allocation for a specific badge type, complete the following procedures. If you want to configure the ID allocation for every badge type, refer to the Cardholder Options folder, Badge ID Allocation form.

Note: Changes made to the Badge ID Allocation form in the Badge Types folder override settings on the Badge ID Allocation form in the Cardholder Options folder.

1. Select **Badge Types** from the **Administration** menu.
2. Select a badge type and click [Modify].
3. Click the Badge ID Allocation tab.
4. Complete one of the following on the ID Allocation sub-tab:
   - Select the **Use system settings for badge ID allocation (Automatic)** check box if you want to use the system settings that are configured in the Cardholder Options folder.
   - Select the **Use different settings for badge ID allocation of this badge type** check box if you want to manually enter configuration settings.
     a. Select the method you will use to generate badge IDs from the **Generate badge ID** drop-down list. For more information, refer to Generate Badge ID Options on page 379.
     b. Select the **Allow edit of badge ID** checkbox if you want ReadkeyPRO users, with the appropriate privileges, to be able to edit badge IDs.
     c. Enter the number of the first issue code. Typically this value is zero.
     d. Select the **Auto-increment issue code** check box if you want the issue code to automatically increment when a new badge is created.
     e. If you selected FASC-N for badge ID generation, enter the four-digit codes identifying the government agency and system issuing the credential. The agency and system codes are encoded on smart cards and become part of the ReadkeyPRO badge ID. Select the user-defined fields that will be populated with the agency code, system code and credential ID.
5. On the ID Ranges sub-tab:
   a. Enter the numeric values in the **First ID** and **ID count** fields. The **Last ID** field automatically populates.
   b. Click [Add]. If [Add] is not enabled, you did not enter a valid range.
6. Optionally, on the ID Import Source sub-tab configure the options as you see fit. The options of this tab are enabled when “Import from card” is selected from the **Generate badge ID** drop-down box on the ID Allocation sub-tab.
7. Click [OK].

Generate Badge ID Options

General badge ID	Description
Automatic	Badge IDs are automatically assigned to a cardholder/visitor record. This is the default setting. Each new badge ID is the previous badge ID + 1.
FASC-N	Applies to government issued badges. FASC-N is an acronym for Federal Agency Smart Credential Number.
From "Cardholder ID"	Badge IDs are based on numeric data manually entered in the **Cardholder ID** field in the Cardholders folder. Issue codes differentiate multiple badges for the same cardholder.
Import from card	Badge IDs are created based on information imported from the card. Select the options from the ID Import Source sub-tab to specify how the badge ID will be imported. Selecting this option enables the **Card Technology** and **Data Source** fields on the ID Import Source tab.
Internal Cardholder ID	Badge IDs are based on a system-generated Cardholder ID number. Issue codes differentiate multiple badges for the same cardholder.
Manual	Badge IDs are manually entered by badge operators.

Add a Fixed ID Range

1. Select **Badge Types** from the **Administration** menu.
2. Click on an entry in the Badge Type listing window to select it.
3. Click the Badge ID Allocation tab.
4. Click [Modify].
5. On the ID Allocation sub-tab:
   a. Depending on your selection, the default settings displayed for the **Allow edit of badge ID** and **Auto-increment issue code** check boxes automatically change. If the check box is enabled, you can change it if you need to.
   b. In the **First issue code** field, enter the number that will be used as the first issue code.
6. On the ID Ranges sub-tab:
   a. Enter numeric values in the **First ID** and **ID count** fields. The **Last ID** field automatically populates.
   b. If you entered a valid range, [Add] will be enabled. Click [Add]. If the fixed ID range does not conflict with a range that already exists, it will be added to the **Allocated ranges** listing window.
7. Click [OK].

Modify a Fixed ID Range

1. Select **Badge Types** from the **Administration** menu.
2. Click on an entry in the **Badge Type** listing window to select it.
3. Click the Badge ID Allocation tab.
4. Click [Modify].
5. On the ID Ranges sub-tab:
   a. In the **Allocated Ranges** listing window, select the fixed ID range to be modified. The values associated with the selected fixed ID range display in the **First ID**, **ID count**, and **Last ID** fields.
   b. Make changes to any of those three fields that you want to change.
   c. Click [Modify].
6. Click [OK].

Delete a Fixed ID Range

1. Select **Badge Types** from the **Administration** menu.
2. Click on an entry in the Badge Type listing window to select it.
3. Click the Badge ID Allocation tab.
4. Click [Modify].
5. On the ID Ranges sub-tab:
   a. In the **Allocated ranges** listing window, select the fixed ID range to be deleted.
   b. Click [Delete]. The fixed ID range will be deleted without any confirmation.
6. Click [OK].

Import Badge Information from a Card for Database Lookup

Before using the Mapping Table as the data source to import the information from a card, the badges must be in the database.

For more information on this procedure, please contact the ReadykeyPRO Technical Support department at 800-289-0096.

Important: Back up your database prior to proceeding, and verify the integrity of the backup.

1. In FormsDesigner, create UDFs for the serial number and embossed number on the Badge form. Create a text field for the serial number. Create a numeric or text field for the embossed number. These UDFs should have a length sufficient to hold the serial numbers and/or embossed numbers being

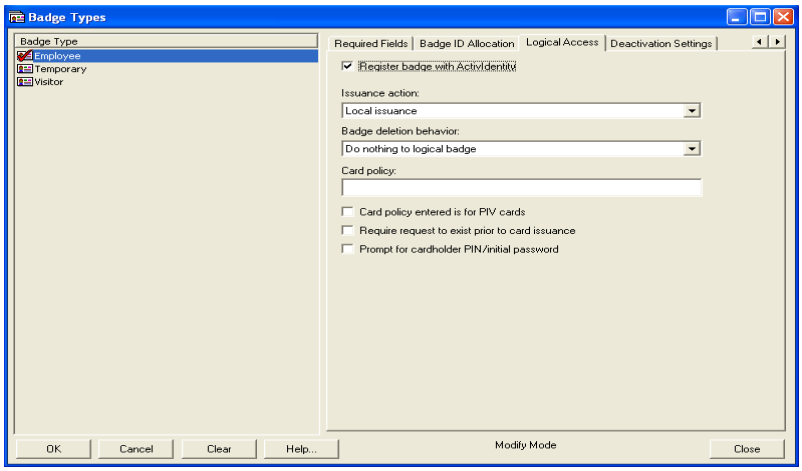
imported. (There is an embossed number UDF that exists by default. It may be used, provided the length is sufficient.)

2. In System Administration, configure an encoder. Encoders with the credential technology of iCLASS are supported for badge ID import, and should be configured as follows.
   - For an inline encoder,
     a. On the General tab, configure the device type as **PC/SC Encoder**.
     b. For the credential technology, select **iCLASS**.
     c. On the Location tab, select **This is an inline device that resides within a card printer attached to workstation**.
     d. Choose the card printer from the drop-down.
     e. For the encoder station, select **iCLASS**.
   - For a standalone encoder,
     a. On the General tab, configure the device type as **HID iCLASS**.
     b. For the credential technology, select **iCLASS**.
     c. On the Location tab, select **This is a standalone device attached to workstation**.

   For more information, refer to Configure an Inline or Standalone Encoder/ Scanner on page 453.
3. In System Administration, in the Badge Types folder on the Badge ID Allocation form ID Import Source sub-tab, configure the Data Source to use the Mapping Table and choose the fields created for the serial and embossed numbers.

Logical Access Form

Use this form to configure the issuance action, badge deletion behavior, and card policy that badge types that will use ActivIdentity CMS.



Badge Types Folder - Logical Access Form

Form Element	Comment
Register badge with ActivIdentity	This option must be checked to allow issuance and post-issuance (life-cycle management, etc.) operations.
Issuance action	The issuance action defines whether to issue the badge locally or to perform issuance with self-enrollment (i.e., binding; encoding is done by the user with CMS's My Digital ID). Choices include: • Local issuance - personalizes the smart card (writes data to the card) • Issuance with self-enrollment (binding) - does not personalize the card (no data is written to the card). Binding only links the card to the user in CMS and allows the user to personalize the card using CMS's My Digital ID. **Note:** For CMS version 4.0/4.1: Issuance with self-enrollment (binding) also includes the submission of a badge production request (to define the policy and other information required for self-enrollment).
Badge deletion behavior	Specifies the action that will occur on the logical badge when the physical badge is deleted.
Card policy	Specifies the CMS Policy (configured in CMS) which defines what applications and credentials can be issued to a card by CMS. Be sure to type the policy name correctly; this name is case-sensitive, and must be the same policy name that is configured in CMS.
Card policy entered is for PIV cards	Specifies that the **Card policy** entered is for the issuance of a PIV card. **Note:** When this option is selected, fingerprint verification is performed immediately after the card is encoded. For more information, refer to Encode/Bind a PIV Card on page 1517 on page 732.

Badge Types Folder - Logical Access Form (Continued)

Form Element	Comment
Request request to exist prior to card issuance	Specifies that production requests will be forced prior to card issuance if such requests are submitted by a third party system before ReadkeyPRO performs the issuance. **Note:** If this option is not selected, then ReadkeyPRO will submit the production request and immediately execute it. **Note:** For CMS version 4.0/4.1: If this option is not selected, then ReadkeyPRO will submit the production request and immediately execute it. However, to ensure compliance with FIPS standards, it is recommended that the production request comes from an authoritative system to the CMS and not from the ReadkeyPRO system. **Force request to exist prior to card issuance** should be selected so that the FIPS requirements are met. For CMS version 3.8: ReadkeyPRO always submits the production request. Therefore, **Force request to exist prior to card issuance** should be deselected.
Prompt for cardholder PIN/ initial password	Enable to prompt the cardholder to enter their PIN or initial PIN when using their badge.

Logical Access Form Procedures

For instructions on how to configure and use CMS, refer to Appendix I: Integrating ActivIdentity CMS with ReadkeyPRO on page 1501. The following procedure in that section is performed using this form: Add a Badge Type for CMS on page 1509.

Deactivation Settings Form

The deactivation settings are configured system-wide in the Cardholder Options folder, and by badge type in the Badge Types folder. For more information, refer to Cardholder Options Folder on page 497.

First, the deactivation settings for each badge type will be considered. If a badge type has the deactivation setting enabled, the appropriate badges that belong to this badge type meeting the conditions configured will be changed to the new badge status. Then after these steps have been performed, the system setting will be processed.

- All badges that are assigned a badge type with any deactivation settings enabled will be processed first before checking the system setting.
- All badges that are assigned a badge type without any deactivation settings will have the system setting checked when processing badges for deactivation.

- All badges that are assigned a badge type without any deactivation settings, and without the system deactivation setting, will not be included in any of the badge processing.
- When a deactivation setting is chosen for a badge type and the system setting is configured, the badge type setting will be used for any badges belonging to that badge type.

Use or Lose Badge

For use or lose badge, badge deactivation is based on the setting with the lower number of days. Setting either the system setting or badge type setting to zero removes that setting from being processed. For example, if the system setting is zero and the employee badge type setting is 30 days, the use or lose feature will not apply to any badge type except the employee badge type which will deactivate after 30 days of non use. If the system setting is 30 days and the employee badge type setting is zero, then every badge type will deactivate after 30 days of non use.

- If the number of use or lose days configured for the system setting is less than the number of use or lose days for any badge type setting, the system settings will always override the badge type settings.
- If the number of use or lose days for any badge type is less than or equal to the system setting, the badge type use or lose settings will override the system use or lose settings.

Badge Deactivate Status

The badge deactivate status is based on either the badge type setting or the system badge status setting. If the badge type setting is not set, the system badge status will be used. If neither setting is configured, then the badge status will remain unchanged. The change in badge status occurs between 24 and 48 hours after expiration (accounting for differences in time zones).

If the system setting is configured for new badge status, and the new badge status is configured based on badge type, the setting based on badge type setting will take precedence over the system setting (for that badge type).

Linkage Server

Functionality of deactivation settings requires that the Linkage Server be configured and running.

For Enterprise systems, the Cardholder Options or Badge Type setting will be replicated down to regions. This cannot be modified on the regions.

The actual change in status corresponds to changes to the actual badge and is not replicated, therefore each region must also be running the Linkage Server.

ACS.INI settings are supported. You can configure the Linkage Server host on the General System Options form in the System Options folder. For more information, refer to General System Options Form on page 456. The Linkage

Server will run once a day. The following settings can be configured in the ACS.INI file under the `[Service]` section:

Setting	Description

`UseOrLoseDebug`
 	
`DeactivateStatusDebug`
	Used to indicate if a debug file will be created for the use or lose processing or the badge deactivate status processing. It creates a file named UseOrLoseDebug.txt or DeactivateStatusDebug.txt located in the ...\ReadykeyPRO\logs directory.

`UseOrLoseStartTimeHour`
 	
`DeactivateStatusStartTimeHour`
	Used to specify the hour (in 24-hour/military time) in which the processing is performed.

`UseOrLoseStartTimeMinute`
 	
`DeactivateStatusStartTimeMinute`
	Used to specify the minute in which the processing is performed.

`UserOrLoseDatabaseSleepTime`
 	
`DeactivateStatusSleepTime`
	Used to specify the database timeout to use for the processing.

Badge Types Folder - Deactivation Settings Form

Form Element	Comment
Badge Type listing window	Lists currently defined badge types.
Number of days	Enter the number of consecutive days of badge inactivity after which all badges of the selected badge type will be assigned the badge status indicated in the **New badge status** field. A value of zero disables the use or lose badge feature.
New badge status	Enter the badge status that will be assigned to all badges of the selected badge type when the **Number of days** value has been exceeded. Choices in the drop-down list include default badge status values, and any badge status values that were added in the List Builder folder.
After deactivate date, New badge status	Enter the badge status that will be assigned to active badges of the selected badge type when the deactivate date has passed. Choices in the drop-down list include default badge status values except for Active, and any badge status values that were added in the List Builder folder.

Deactivation Settings Form Procedures

Configure Use or Lose Badge Settings

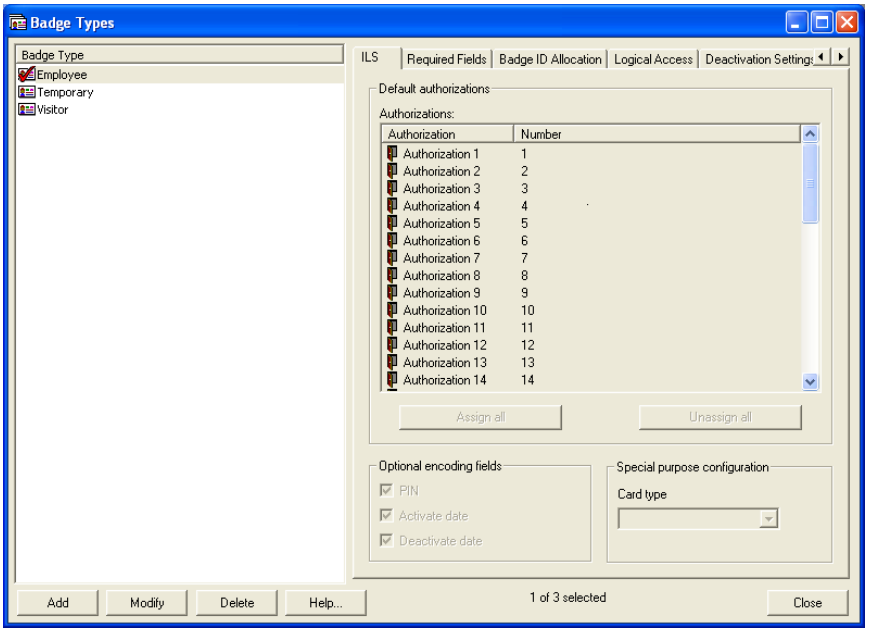
1. Select **Badge Types** from the **Administration** menu. The Badge Types folder opens.
2. On the Deactivation Settings tab, select a badge type and click [Modify].
3. In the **Number of days** field, enter the number of consecutive days of badge inactivity after which badges will be deactivated. A value of zero disables the use or lose badge feature, unless the use or lose feature is configured system-wide.
4. In the **New badge status** field, enter the badge status that will be assigned to all badges of the selected badge type when the number of days has been exceeded.
   Choices in the drop-down list include default badge status values (except Active) and any badge status values that were added in the List Builder folder. For more information, refer to Chapter 18: List Builder Folder on page 569.
5. Click [OK].

Configure Badge Deactivate Settings

1. Select **Badge Types** from the **Administration** menu. The Badge Types folder opens.
2. On the Deactivation Settings tab, select a badge type and click [Modify].
3. In the **After deactivate date, New badge status** field, enter the badge status that will be assigned to all badges of the selected badge type when the deactivate date has passed.
   Choices in the drop-down list include default badge status values (except Active) and any badge status values that were added in the List Builder folder. For more information, refer to Chapter 18: List Builder Folder on page 569.
4. Click [OK].

ILS Form

Important: To view this form your system must have an ILS license.



Badge Types Folder - ILS Form

Form Element	Comment
Authorizations	List of authorizations that can be selected to be used on the selected badge type. Authorizations are used to limit access to areas without the need to update the locks and allow you to customize accessibility to the locks as needed.
Assign all	Click to select all of the listed authorizations.
Unassign all	Click to deselect all of the listed authorizations.
PIN	Select to encode the badge PIN code onto the badge. ILS locks require a PIN when in one of the following reader modes: Standard, Security, and Security Passage.
Activate date	When selected, the Badge Activate date and time will be encoded in local time. Badge Activate dates and times will not be downloaded to the locks. However, if encoded on the badge the locks will deny access if the time encoded is previous to the current time.
Deactivate date	When selected, the Badge Deactivate date and time will be encoded in local time. Badge Deactivate dates and times will not be downloaded to the locks. However, if encoded on the badge the locks will deny access if the time encoded is previous to the current time.

Badge Types Folder - ILS Form (Continued)

Form Element	Comment
Card type	When adding a special purpose badge, you will also need to specify the special function configuration for the card. Special functions include the following: • Blocking • Emergency Lock • Emergency Unlock • Network Join • Test For more information, refer to ILS Special Purpose Cards on page 1575.

ILS Form Procedures

To read how to configure an ILS locking system,refer to Appendix K: ILS (Integrated Locking Solutions) on page 1525.

Chapter 12: Directories Folder

The Directories folder contains forms with which you can add, modify, and delete directories.

The Directories folder contains the Directories form. On the Directories form, there are three sub-tabs: General, Authentication, and Advanced. (The Advanced sub-tab is only displayed for LDAP or Microsoft Active Directories.)

This folder is displayed by selecting **Directories** from the **Administration** menu.

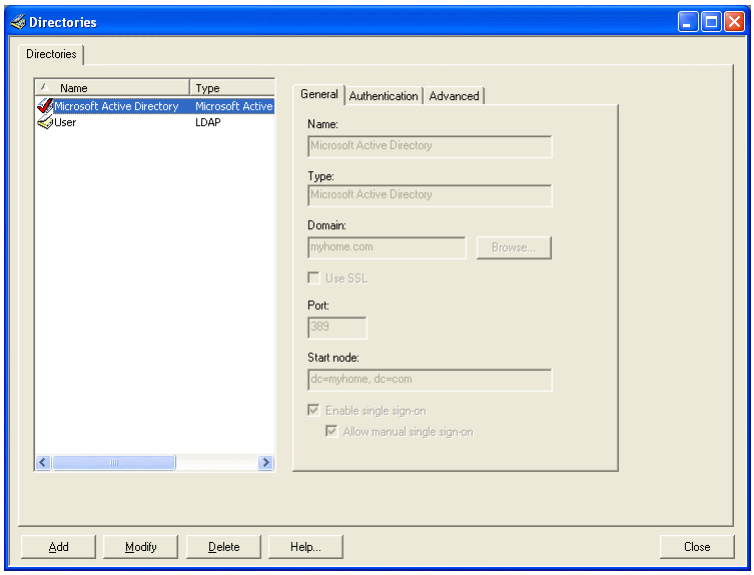
Directories Overview

A directory is a database of network resources, such as printers, software applications, databases, and users. A directory service includes both the directory and the services that make the information in the directory available. ReadkeyPRO supports the following types of directory services: Microsoft Active Directory, Microsoft Windows NT 4 Domain, Windows Local Accounts, and LDAP (Lightweight Directory Access Protocol).

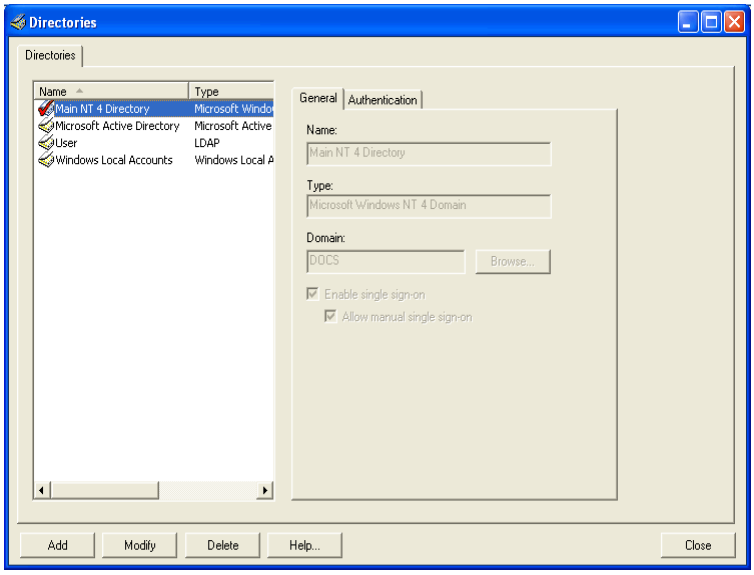
A directory must be configured in the Directories folder before it can be linked to a user in the Users folder. After a user account has been linked to a directory account, that directory account will be available for selection when that user logs into the system. A user account may be configured to use an internal account, a directory account, or both to login.

Directories Form (General Sub-tab)

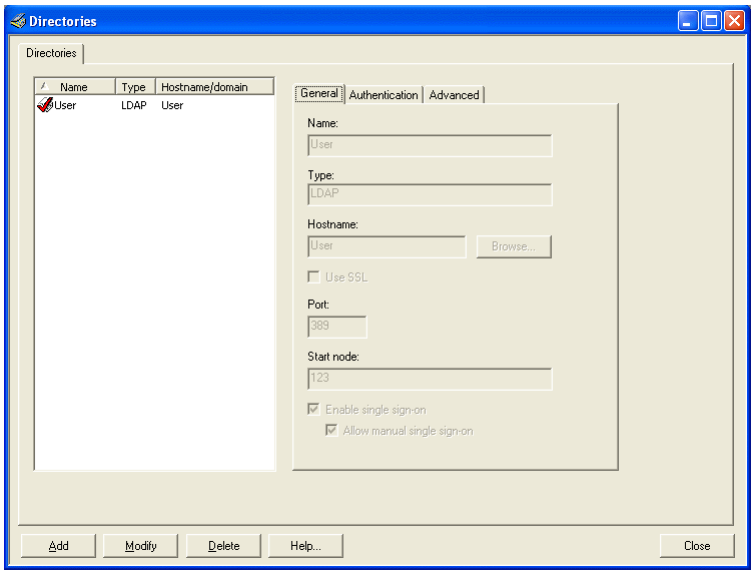
The options available on this form change depending on the **Type** of directory selected. If the **Type** selected is “Microsoft Active Directory”, the following view is displayed:



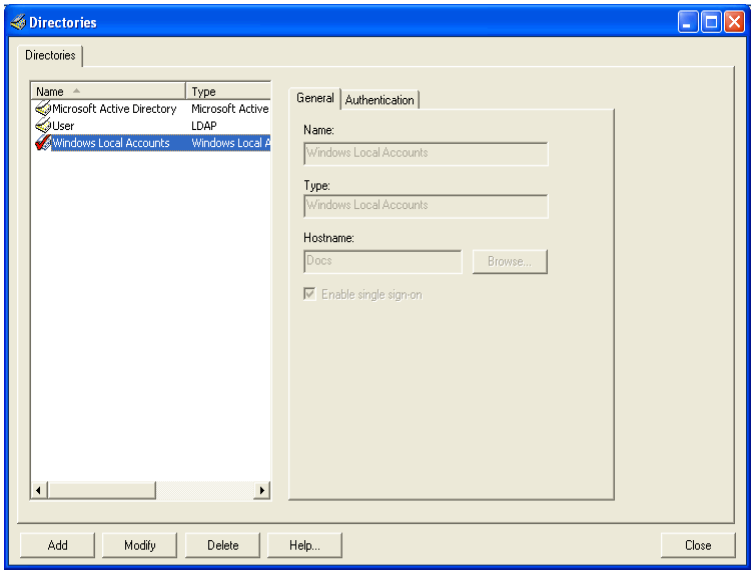
If the **Type** selected is “Microsoft Windows NT 4 Domain”, the following view is displayed:



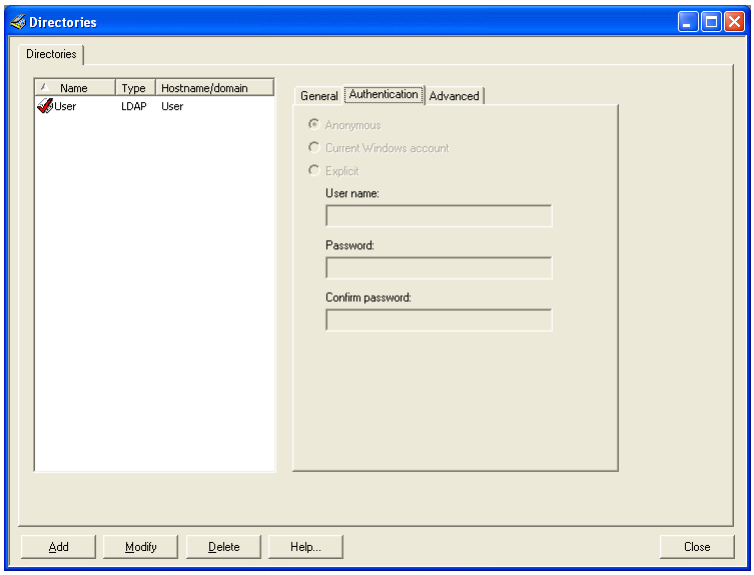
If the **Type** selected is “LDAP”, the following view is displayed:



If the **Type** selected is “Windows Local Accounts”, the following view is displayed:

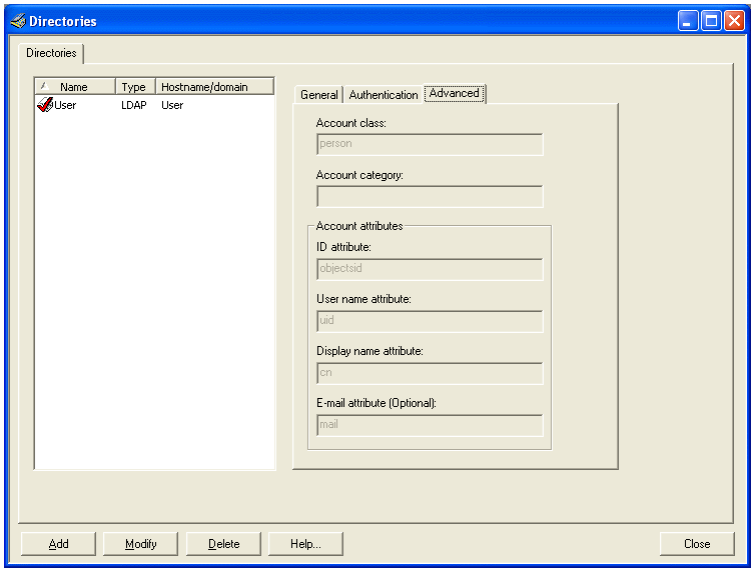


Directories Form (Authentication Sub-tab)



Directories Form (Advanced Sub-tab)

Note: This form is not displayed for directories with the "Microsoft Windows NT 4 Domain" or "Windows Local Accounts" **Type**.



Directories Form Field Table

Directories Folder - Directories Form

Form Element	Comment
Listing window	Lists the name, type, and host/domain of currently defined directories.
Add	Click this button to add a directory.
Modify	Click this button to change a directory.
Delete	Click this button to delete a directory.
Help	Displays online help for this form.
Close	Closes the Directories folder.
General Sub-tab	
Name	Identifies the name of the directory. This is a friendly name assigned to each directory to make it easy to identify. Each name must be unique and can contain no more than 96 characters.
Type	The **Type** is selected in the Add Directory window that is displayed after the [Add] button on the Directories form is clicked. Once selected, the **Type** cannot be modified.
Hostname	Displayed only if the directory **Type** is "LDAP" or "Windows Local Accounts." This is the host name or IP address of the machine running the directory.
Domain	Displayed only if the directory **Type** is "Microsoft Active Directory" or "Microsoft Windows NT 4 Domain." The **Domain** is the name of the Windows domain, and must be in the following form: tom.windows.accesscontrolsystem.com
Browse	Displays a Browse for computer form from which you can click on the name of a workstation to highlight the entry. Click [OK] to then enter the workstation name in the **Host name, Hostname** or **Domain** field, depending on the directory type.
Use SSL	Displayed only if the directory type is "LDAP" or "Microsoft Active Directory." If selected, SSL (Secure Sockets Layer) will be used. If not selected, SSL will not be used.
Port	Displayed only if the directory type is "LDAP" or "Microsoft Active Directory". This is the port that the directory listens on for connections.
Start node	(Optional.) Displayed only if the directory type is "LDAP" or "Microsoft Active Directory." The **Start node** is the node to start searching from, and it is automatically configured. The **Start node** must correspond to the **Domain** specified, and must be in the following form: DC=tom, DC=windows, DC=accesscontrolsystem, DC=com.
Enable single sign-on	If selected, automatic single sign-on is enabled for the directory.
Allow manual single sign-on	This field is not displayed if the directory **Type** is "Windows Local Accounts." If selected, manual single sign-on can be used for the directory. **Note:** For increased security, it is recommended that allow manual single sign-on not be enabled if the directory type is "Microsoft Active Directory" or "Microsoft Windows NT 4 Domain."

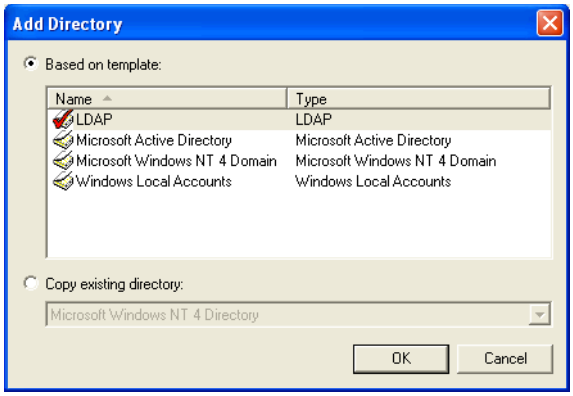
Directories Folder - Directories Form (Continued)

Form Element	Comment
Authentication Sub-tab	
Anonymous	If selected, the user name and password used by ReadkeyPRO to connect to the directory will be anonymous.
Current Windows account	If selected, the user name and password used by ReadkeyPRO to connect to the directory will be the current Windows account.
Explicit	If selected, specify the **User name, Password,** and **Confirm Password** used by ReadkeyPRO to connect to the directory. ***Important Note!*** It is recommended that you do not use the explicit user name and password option for authentication to Windows. ReadkeyPRO uses reversible encryption (Windows does not), and therefore, Windows passwords should not be stored in the system. If you need to use explicit authentication, you should use an account that only has view permissions to the directory.
User name	(Optional.) The user name to supply the directory service to use for credentials. Must be in the form TOM\tom where TOM is the domain name and tom is the user. It does not need to be an administrative account; it can be a normal network account.
Password	(Optional.) The password to supply to the directory service to use for credentials. Authentication cannot be assigned to a user that does not have a password.
Confirm Password	Enter here exactly the same information that you entered in the **Password** field.
Advanced Sub-tab (Displayed only if the directory type is "LDAP" or "Microsoft Active Directory".)	
Account class	The LDAP class that stores account information.
Account category	The account category is used in addition to the account class to improve performance by filtering computers (which are users).
Account attributes	Includes the **ID attribute**, **User name attribute**, **Display name attribute**, and **E-mail attribute (Optional)** fields.
ID attribute	The LDAP attribute of the LDAP Account Class that uniquely identifies an account. This will be used when querying the LDAP directory for the account.
User name attribute	The LDAP attribute of the LDAP Account Class that uniquely identifies an account and is used as a username for the account. This will be used when querying the LDAP directory for the account.
Display name attribute	The LDAP attribute of the LDAP Account Class that is used when displaying the account.
E-mail attribute (Optional)	The E-mail attribute is set to "mail" by default and is available for Microsoft Active Directory and LDAP accounts. Most systems such as Microsoft Exchange Server expose their database objects via directory accounts, but each system may name the e-mail attribute differently. If you add a directory account to the recipient list (on the E-mail form in the Visits folder in ReadkeyPRO), that e-mail attribute in the directory is examined, and if it is available, the SMTP address will be returned. All directories with an e-mail attribute specified will be listed in the Linked account directories listing window on the Person E-mail Fields form in the Cardholder Options folder.

Directories Form Procedures

Add a Directory

1. From the **Administration** menu, select **Directories**.
2. On the Directories form, click [Add]. The Add Directory window opens.



3. Do one of the following:
   - To create a directory that is based on a directory template:
     a. Select **Based on template**.
     b. Click on the template you wish to use.
     c. Click [OK].
   - To create a directory that is based on an existing directory:
     a. Select **Copy existing directory**.
     b. In the drop-down list, select the existing directory that you wish to copy.
     c. Click [OK].
4. In the **Name** field, type a name for the directory.
5. The sub-tabs available and the fields available on those sub-tabs differ depending on the type of directory that was selected. Select appropriate values for all available fields on all available sub-tabs.
6. Click [OK].

Modify a Directory

Note: After the **Type** has been selected for a directory, it cannot be modified.

1. From the **Administration** menu, select **Directories**.
2. In the listing window on the Directories form, select the directory that you wish to change.
3. Click [Modify].
4. Make any desired changes in the fields on the sub-tabs.
5. Click [OK].

Delete a Directory

1. From the **Administration** menu, select **Directories**.
2. In the listing window on the Directories form, select the directory that you wish to delete.
3. Click [Delete].
4. Click [OK].
   - If no accounts have been linked to the directory, it will be deleted without confirmation.
   - If accounts have been linked to the directory, a message will be displayed that says, “There are x user accounts and y cardholder accounts for this directory. If you delete this directory, these user and cardholder accounts will be unlinked. This operation cannot be undone. Are you sure you wish to continue?” Click [Yes]. The directory will then be deleted.

Chapter 13: Users Folder

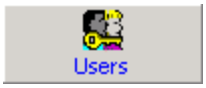
The Users folder contains forms with which you can:

- Define users and their passwords.
- For each user, select a permission group for each portion of the software.
- Create permission groups, identifying levels of access to cardholder information fields.
- Create permission groups, identifying specific software features and devices that can be accessed.
- When segmentation is enabled, assign users multiple segments. It is recommended that Segment groups be used to accomplish this.
- Configure access levels that a user can assign.

The folder contains several forms: the Users form, Search form, System Permission Groups form, Cardholder Permission Groups form, Monitor Permission Groups form, and the Field/Page Permission Groups form.

Note: The availability of these forms is subject to licensing restrictions.

Toolbar Shortcut



Selecting **Users** from the **Administration** menu, or by selecting the Users toolbar button.

Users Form Overview

The Users form contains six sub-tabs, the General sub-tab, Directory Accounts sub-tab, Internal Account sub-tab, Permission Groups sub-tab, Area Access Manager Levels sub-tab, and the Monitor Zone Assignment sub-tab. If segmentation is enabled, a seventh sub-tab, the Segment Access sub-tab is also present.

From the Users form, you can:

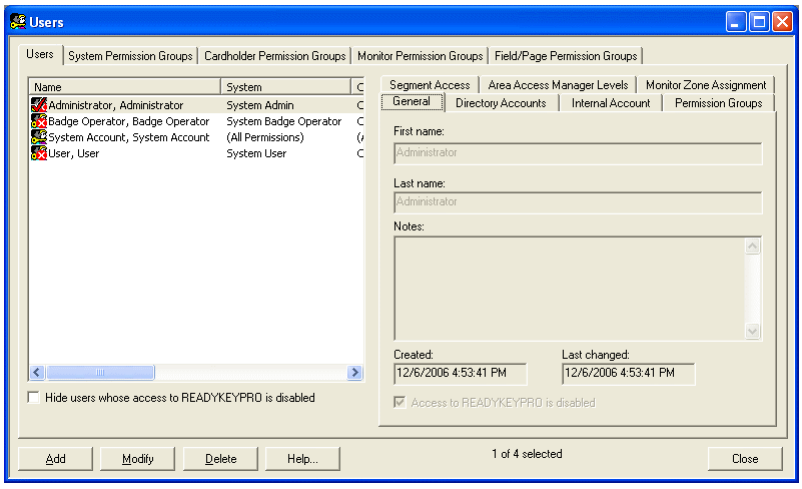
- Create usernames and passwords
- For a given username, choose a permission group for each user-related portion of the software (General, Directory Accounts, Internal Account, Permission Groups, Area Access Manager Levels, Segment Access if enabled, and User Replication Mode for Enterprise systems.)
- Disable user accounts

Users Form

Users Form - Common Form Elements

Form Element	Comment
Listing window	Lists currently defined users. Each entry contains the user's name and ID, plus the user's System, Cardholder, Monitor, Replication mode, and Field/Page permission groups. Segmented systems also display the segment(s) that the user has access to. If you see users named "New Trans User": When you upgrade ReadkeyPRO system, the upgrade process creates a user with the last name of "New Trans User" if the user transaction log contained a username that was not assigned to an existing user at the time of the upgrade. (Basically, this is a user account that was deleted. This is why it is recommended to disable a user account rather than delete it.) The user's internal account name is the username found in the user transaction log, the user's first name is the user's internal ID, and the user account is disabled by default. This user is created is so that user transaction reports will still print out the correct usernames for these old log entries.
Hide users whose access to this system is disabled	If selected, users whose access to ReadkeyPRO is disabled will not be displayed. If not selected, users whose access to ReadkeyPRO is disabled will be displayed.
Hide users that have been automatically created	If selected, users who have been automatically been created with the Bulk User tool will not be displayed. If not selected, users who have been automatically been created with the Bulk User tool will be displayed.
Add	Click on this button to add a user record.
Modify	Click on this button to change a selected user record.
Delete	Click on this button to delete a selected user record.
Help	Displays online help for this form.
Mode	In view mode, indicates the record/selection count (such as "1 of 42 selected"). In modify mode, indicates the current operation, such as "Modify Mode."
Close	Closes the Users folder.

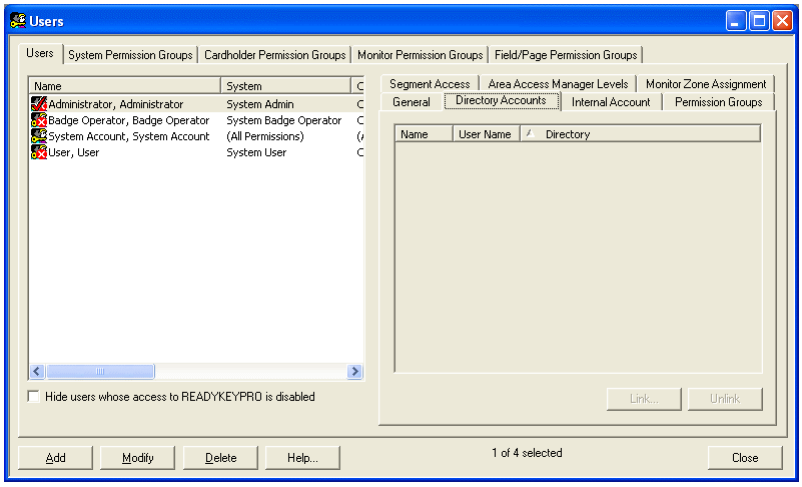
Users Form (General Sub-tab)



Users Form - General Sub-tab

Form Element	Comment
First name	Enter the user's first name as you want it to be displayed in the system. The **First name** and **Last name** fields are case-sensitive.
Last name	Enter the user's last name as you want it to be displayed in the system. The software is case-sensitive. This means that the capital and lowercase versions of a letter are considered two different letters. Therefore, the name "Smith" is not the same as the name "smith". This is why it is important to be consistent when entering names and other case-sensitive information.
Notes	This space allows you to add notes up to 2000 characters. **Note:** These notes are optional and are NOT read only.
Created	This field is automatically filled and lists the date and time the record was created.
Last changed	This field is automatically filled and lists the date and time the record was changed.
Last Successful Login	Displays the date and time of the last successful login to the system.
Access to this system is disabled	This check box is only available for selection in add or modify mode. If selected, access to ReadkeyPRO for the selected user group is disabled.
Automatically created user	A read-only field. If selected, that user has been automatically created using the Bulk User tool.
UL 1981	This check box is only available for systems with an UL 1981 license. Enable this check box to give the selected user UL 1981 security level.

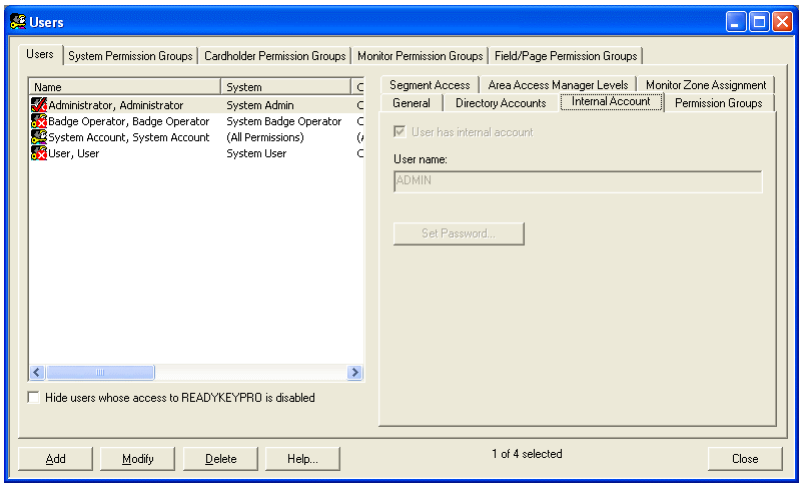
Users Form (Directory Accounts Sub-tab)



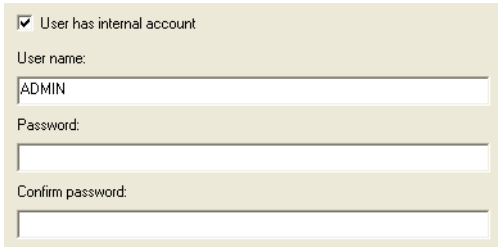
Users Form - Directory Accounts Sub-tab

Form Element	Comment
Directory accounts listing window	Lists currently defined directory accounts in the application. Each entry contains the name, user name, and directory.
Link	This check box is only available for selection in add or modify mode. If clicked, the Select Account window will be displayed, in which you can choose a directory and account to link to a user account.
Unlink	This check box is only available for selection in add or modify mode, and can only be clicked when a directory account-user account linkage is selected in the listing window. If clicked, the directory account and user account for the selected directory account-user account linkage will be unlinked.

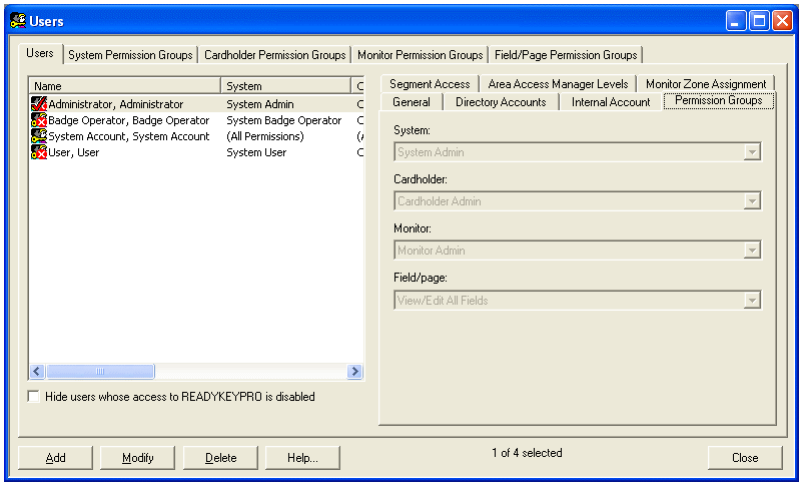
Users Form (Internal Account Sub-tab)



Users Form - Internal Account Sub-tab

Form Element	Comment
User has internal account	This check box is only available for selection in add or modify mode. • If selected, indicates the user has an internal account. Enter values in the **User name** and **Password** fields, and then enter the password again in the **Confirm password** field.  • If not selected, indicates the user does not have an internal account. In this case, the **User name** and **Password** fields are not available.
User name	Enter a user name for this user. It's a good idea to choose a name that is meaningful to the user, such as the person's initials.
Password	Enter a password for this user.
Confirm password	This field is only available in the add or modify mode. Enter the password for confirmation.

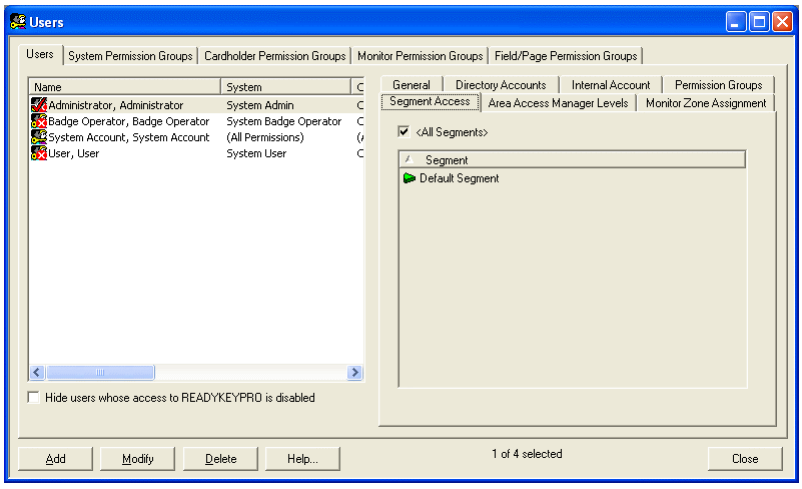
Users Form (Permission Groups Sub-tab)



Users Form - Permission Groups Sub-tab

Form Element	Comment
System	Select a permission group for system administration functions. Choices are defined on the System Permission Groups form of this folder.
Cardholder	Select a permission group for cardholder record functions. Choices are defined on the Cardholder sub-tab of the Cardholder Permission Groups form in this folder.
Monitor	Select a permission group for alarm monitoring functions. Choices are defined on the Monitor Permission Groups form of this folder.
Field/page	Select a permission group for cardholder record viewing and editing functions. Choices are defined on the Field/Page Permission Groups form of this folder.

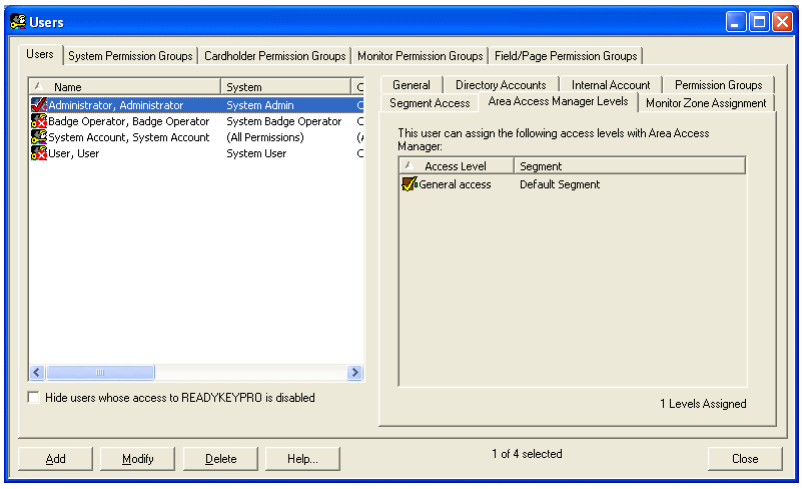
Users Form (Segment Access Sub-tab)



Users Form - Segment Access Sub-tab

Form Element	Comment
Segment listing window	Displays all segments that the user currently selected in the listing window on the Users form has access to.

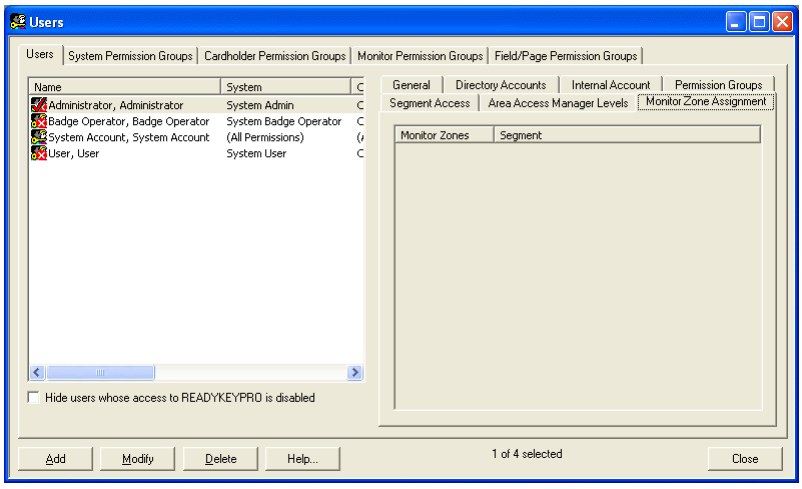
Users Form (Area Access Manager Levels Sub-tab)



Users Form - Area Access Manager Levels Sub-tab

Form Element	Comment
Area access levels listing window	In view mode, lists the access level (s) that the user who is currently selected in the listing window on the Users form has been assigned. In modify mode, lists all available access levels. In modify mode, you can select one or more access levels to assign to a selected user in this listing window.
This user has view-only access	If this option is selected, the user can only view access level assignments to people in Area Access Manager. They can not assign, remove, or edit access level activation dates. If this option is not selected for the user, then the user will have full access level assignment editing capabilities in Area Access Manager.

Users Form (Monitor Zone Assignment Sub-tab)

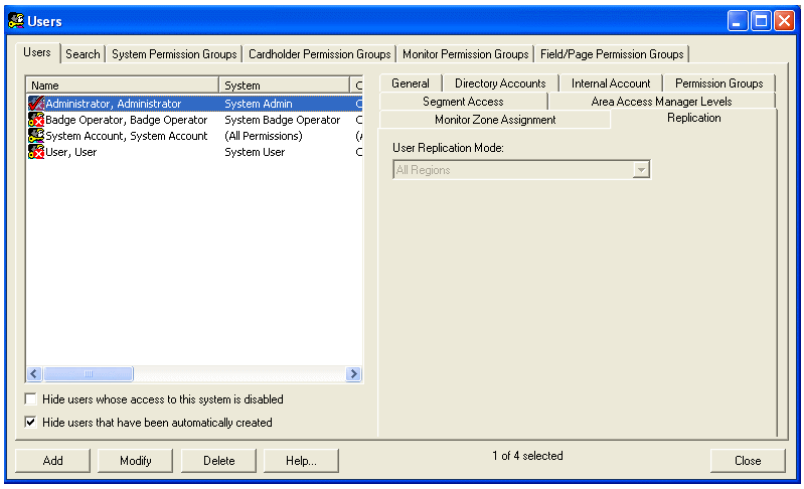


Users Form - Monitor Zone Assignment Sub-tab

Form Element	Comment
Monitor Zones listing window	In view mode, lists the monitor zone that the user who is currently selected in the listing window on the Users form has been assigned. In modify mode, lists all available monitor zones. In modify mode, you can select which monitor zone to assign to a selected user in the listing window.

User Form (Replication Sub-tab)

Note: The Replication sub-tab is only displayed for Enterprise systems.



Users Form - Replication Levels Sub-tab

Form Element	Comment
User Replication Mode	Specify whether the user is replicated to the “Local Region Only” or to “All Regions”.

Users Form Procedures

Add a User

1. From the **Administration** menu, select **Users**.
2. On the Users form, click [Add].
3. On the General sub-tab, enter the user's first and last name.
4. On the Internal Account sub-tab, complete the following steps if the user is to have an internal account:
   a. Select the **User has internal account** check box.
   b. Enter the user name for the internal account.
   c. Enter the user's password. Enter the password a second time in the **Confirm password** field.
   d. Click [OK].
5. Click the Permission Groups sub-tab.
6. Choose system, cardholder, monitor, and field/page permission groups for this user.

Note: You must first define these permission groups on the System Permission Groups, Cardholder Permission Groups, Monitor Permission Groups, and Field/Page Permission Groups sub-tabs of this folder.

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7. Make selections on the Directory Accounts, Area Access Manager Levels, and Segment Access sub-tabs if desired.
8. On Enterprise systems, use the **User Replication Mode** drop-down on the Replication sub-tab to indicate whether the user should be replicated to the "Local Region Only" or to "All Regions".
9. Click [OK].

Assign Access Level(s) to a User

1. From the **Administration** menu, select **Users**.
2. In the listing window of the Users form, select the user record you want to assign an access level(s) to.
3. Click [Modify].
4. Click the Area Access Manager Levels sub-tab.
5. Click on the icon to the left of each access level you want to assign to the selected user. A checkmark appears on the icon of each selected access level.

Note: You must first define these access levels on the Access Levels form, which is opened by selecting the **Access levels** option from the **Access Control** menu.

6. Click [OK].

Assign a Monitor Zone to a User

1. From the **Administration** menu, select **Users**.
2. In the listing window of the Users form, select the user record you want to assign a monitor zone to.
3. Click [Modify].
4. Click the Monitor Zone Assignment sub-tab.
5. Click on the icon to the left of the monitor zone you want to assign to the selected user. A checkmark appears on the icon of the selected monitor zone.

Note: You must first define monitor zones on the Monitor Zones form, which is opened by selecting the **Monitor Zones** option from the **Monitoring** menu.

6. Click [OK].

Link a User Account to a Directory Account

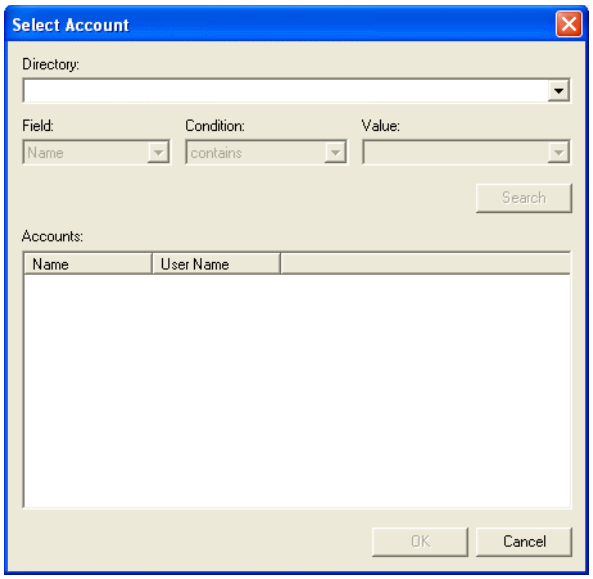
1. From the **Administration** menu, select **Users**.
2. On the Users form:
   - If you are adding a new user account, click [Add].
   - If you are modifying an existing user account, select existing user and click [Modify].
3. On the Directory Accounts sub-tab, click [Link].
4. The Select Account window will open. In the Select Account window:
   a. In the **Directory** drop-down, select the directory you want to link to.
   b. In the **Field** drop-down select whether to search for a name or user name.
   c. In the **Condition** drop-down, select how the value will be related to the field. For example, a search where the **Field** selected is “Name”, the **Condition** selected is “contains”, and the **Value** specified is “Lake” will display all accounts where the name contains the word “Lake”, such as Lisa Lake.
   d. In the **Value** field, type or select a word you think may be in the user name or name. If you leave this field empty, all accounts for the selected directory will be displayed when the search is executed.

Note: To help you search, the **Value** field will contain different ways that the selected account may be expressed. For example, if the user account Lisa Lake is selected, the permutations listed might be “L. Lake”, “LISA”, “Lisa”, “Lisa L.”, “Lisa Lake”, “LL”, “Lake”, and “Lake, Lisa.”

e. Click [Search].

f. The accounts associated with the selected **Directory** will be displayed in the Accounts listing window.

- If the account you want to link to is displayed, select it. Your window should look similar to the following:



- If the account you want to link to is not displayed, return to step d and select another **Value** to search for.

g. Click [OK].

h. Repeat steps 3 and 4 for each directory account you want to link to the selected user account.

5. Click [OK].

Unlink a User Account from a Directory Account

1. From the **Administration** menu, select **Users**.
2. On the Users form in the listing window, select the user account you want to unlink a directory account from.
3. Click [Modify].
4. On the Directory Accounts sub-tab in the Directory accounts listing window, select the directory account-user account linkage you want to unlink.
5. Click [Unlink]. The directory account-user account linkage will be removed from the listing window.
6. Click [OK] to actually delete the directory account-user account linkage, or click [Cancel] to leave the directory account and user account linked.

Restrict User Access to Segments

An <All Segments> User with system administration privileges can choose the segment(s) to which a normal Segment User has access.

1. Select **Users** from the **Administration** menu. On the Users form, select the name of the user to be restricted.
2. Click [Modify].
3. Select the Segment Access sub-tab, if it is not already displayed.
4. A user can now belong to a single segment or to multiple segments. In the **Segment listing window**, select the segment(s) in which the user will work.
   - If you select the name of a segment (or segments), the person will be a regular <Segment User> and will be restricted to working within the specified segment.
   - If you select the **<All Segments>** check box, the person will be an <All Segments> User, and can potentially (with proper permissions) view, add, modify, and delete records from all segments.
5. Click [OK] to save the changes, thereby restricting the user to the selected segments.

Modify User Information

1. From the **Administration** menu, select **Users**.
2. In the listing window of the Users form, select the user record you want to change.
3. Click [Modify].
4. Make the changes you want to the fields. Changes can be made on any sub-tab.
5. Click [OK] to save the changes or [Cancel] to revert to the previously saved values.

Disable a User Account

1. From the **Administration** menu, select **Users**.
2. In the listing window of the Users form, select the user account you want to disable.
3. Click [Modify].
4. On the General sub-tab, select the **Access to this system is disabled** check box.
5. Click [OK] to save the changes and disable the account or [Cancel] to revert to the previously saved values.

You can control whether disabled user accounts are shown in the Users listing window by selecting or deselecting the **Hide users who access to this system is disabled** check box.

Hide or Show Disabled User Accounts

1. From the **Administration** menu, select **Users**.
2. To prevent user accounts from being displayed in the Users listing window, select the **Hide users whose access to this system is disabled** check box.
3. To show disabled user accounts in the Users listing window, deselect the **Hide users whose access to this system is disabled** check box.

Delete a User

Important: Deleting a user is not recommended. Instead, disable the account. Disabling the account hides it by default from the users listing window. For more information refer to Disable a User Account on page 413 and Hide or Show Disabled User Accounts on page 413.

1. From the **Administration** menu, select **Users**.
2. In the listing window of the Users form, select the user record you want to delete.
3. Click [Delete].
4. Click [OK].
5. Click [Yes] to confirm the deletion.

Search Form Overview

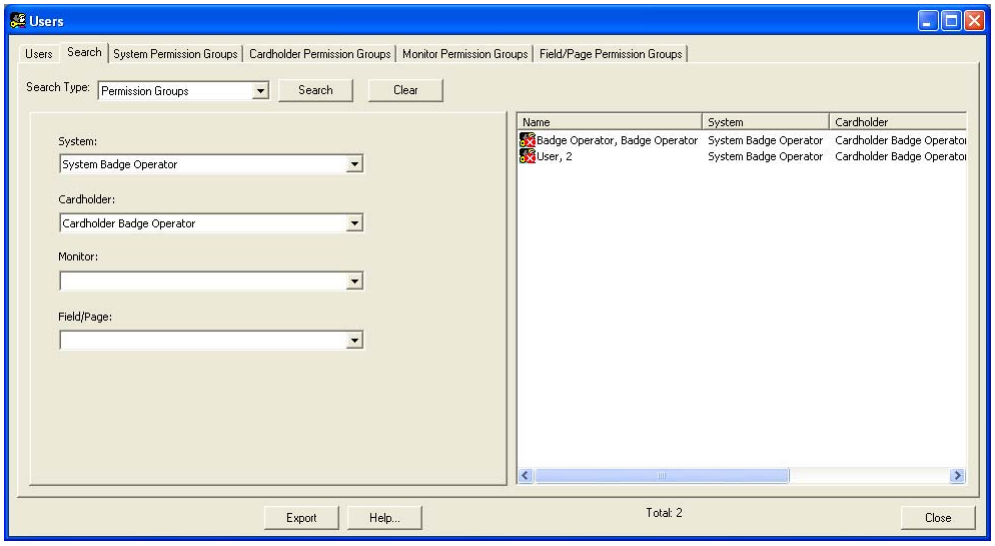
This form is used to

- View users with specific permissions
- View users with specific group permissions
- Export the search results to a report

Search Form - Common Form Elements

Form Element	Comment
Search Type	Specifies the type of search for users: • **Permission Groups** - Returns users that are assigned to the permission groups specified in the search criteria. • **Selected Permissions (AND)** - Returns users that have permission granted for all permissions selected in the tree. • **Selected Permissions (OR)** - Returns users that have permission granted for one of the permissions selected in the tree.
Search	After defining the search criteria, click this button to search for users with the selected permissions or permission groups.
Clear	Used to clear the current permission search selections.
Search results listing window	Lists users that meet the search criteria. Each entry contains the user's Name and ID, plus the System, Cardholder, Monitor, and Field/Page permission groups.
Export	Used to export the search results into a report in the Comma Delimited **.csv** file format.
Help	Displays online help for this form.
Close	Closes the Users folder.

Search Form - Permission Groups Search Mode



When "Permission Groups" is the **Search Type**, you can search for users with common permission groups by selecting the permission group you want to search on from each of the permission group types, and then click [Search].

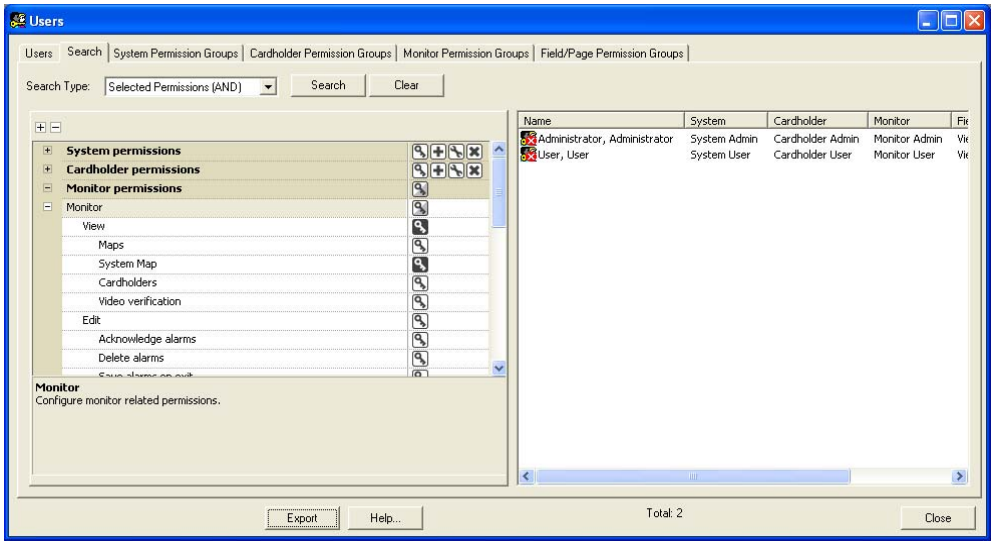
Note: If no selection is made in a group type, that group is ignored during the search.

When users are added, they are assigned to one or more permission groups. For more information, refer to Users Form - Permission Groups Sub-tab on page 404.

Search Form - Permission Groups Search Mode

Form Element	Comment
System	Select the system permission group for which you want to find users.
Cardholder	Select the cardholder permission group for which you want to find users.
Monitor	Select the monitor permission group for which you want to find users.
Field/page	Select the field/page permission group for which you want to find users.

Search Form - Selected Permissions AND/OR Search Modes



Search Form - Selected Permissions AND/OR Search Modes

Form Element	Comment
Permission search tree	This is displayed when “Selected Permissions (AND)” or “Selected Permissions (OR)” is selected as the **Search Type**. Contains the combined permissions from the system, cardholder, and monitor permission groups. To search for users by permission, select the permission(s) from the tree, and then click [Search]. **Note:** Permission dependencies are not shown for the search function.

Permission Groups Tree

A permission groups tree is provided for configuring the permissions for System Permission Groups, Cardholder Permission Groups, and Monitor Permission Groups. For more information, refer to the following topics:

- System Permission Groups Tree on page 423
- Cardholder Permission Groups Tree on page 426
- Monitor Permission Groups Tree on page 430

Control Device Groups permissions are configured on the Control Device Groups form. For more information, refer to Monitor Permission Groups Form (Control Device Groups Sub-tab) on page 432.

Field/Page Permission Groups are configured on the Field/Page Permission Groups Form on page 435.

Configure User Permissions

You can configure the permissions individually or all permissions within a *category*. For example, changing the view/access rights at the **Users, directories, certification authorities, logical access** category level to "Permission granted" sets all permissions in that category to "Permission granted." Categories are used to organize permissions by form and functionality.

In the tree, use the permission toggle buttons to modify the user's view/access, add, modify, or delete rights as described in the following tables:

Operate Permission Toggle Buttons at the Permission Level

Button		Status	Description
View/ Access		Permission granted	Allows the user to view a form or have access to an option on a form or menu, or run an application.
		Permission denied	The user is not allowed to view a form or access an option on a form.
		Not available	The user does not have rights to configure the View/Access option for this permission.
Add		Permission granted	Allows the user to add records on a form.
		Permission denied	The user is not allowed to add records a form.
		Not available	The user does not have rights to configure the Add option for this permission.

Operate Permission Toggle Buttons at the Permission Level

Button		Status	Description
Modify		Permission granted	Allows the user to modify records on a form.
		Permission denied	The user is not allowed to modify records on a form.
		Not available	The user does not have rights to configure the Modify option for this permission.
Delete		Permission granted	Allows the user to delete records on a form.
		Permission denied	The user is not allowed to delete records on a form.
		Not available	The user does not have rights to configure the Delete option for this permission.

Operate Permission Toggle Buttons at the Category Level

Button		Status	Description
View/ Access		All permissions in category granted	Allows the user to view all forms and have access to all options belonging to the category.
		Some permissions in category granted	Allows the user to view at least one form or access at least one option belonging to the category.
		All permissions in category denied	The user is not allowed to view any form or access any option belonging to the category.
		Not available	The user does not have rights to configure the View/Access option for any permission belonging to the category.
Add		All permissions in category granted	Allows the user to add records on all forms belonging to the category.
		Some permissions in category granted	Allows the user to add records on at least one form belonging to the category.
		All permissions in category denied	The user is not allowed to add records on any form belonging to the category.
		Not available	The user does not have rights to configure the Add option for any permission belonging to the category.

Operate Permission Toggle Buttons at the Category Level

Button		Status	Description
Modify		All permissions in category granted	Allows the user to modify records on all forms belonging to the category.
		Some permissions in category granted	Allows the user to modify records on at least one form belonging to the category.
		All permissions in category denied	The user is not allowed to modify records on any form belonging to the category.
		Not available	The user does not have rights to configure the Modify option for any permission belonging to the category.
Delete		All permissions in category granted	Allows the user to delete records on all forms belonging to the category.
		Some permissions in category granted	Allows the user to delete records on at least one form belonging to the category.
		All permissions in category denied	The user is not allowed to delete records on any form belonging to the category.
		Not available	The user does not have rights to configure the Delete option for any permission belonging to the category.

Keyboard Commands

Some actions in the permission trees have keyboard shortcuts associated with them.

Toggle the Permission Buttons

After you select a permission, press the following keys to toggle the permission buttons:

<1> = Toggles the View/Access permission button

<2> = Toggles the Add permission button

<3> = Toggles the Modify permission button

<4> = Toggles the Delete permission button

Navigate the Tree

Press the arrow Up and Down keys to navigate through the tree.

Search the Tree

First give the tree focus (click on the tree), and then press <Ctrl+F>. To continue through the search, press <F3>.

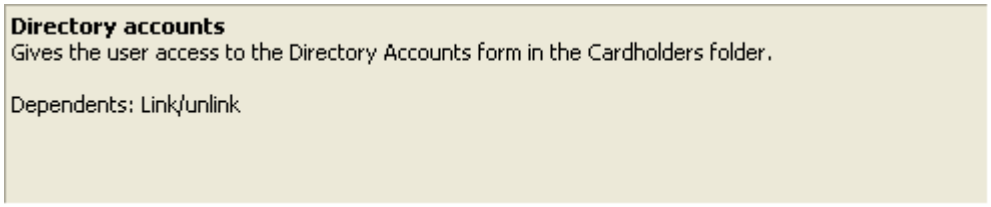
Expand All / Collapse All Permissions

Above each permission tree, click the Expand All button to expand all permissions or click the Collapse All button to collapse all permissions in the tree.

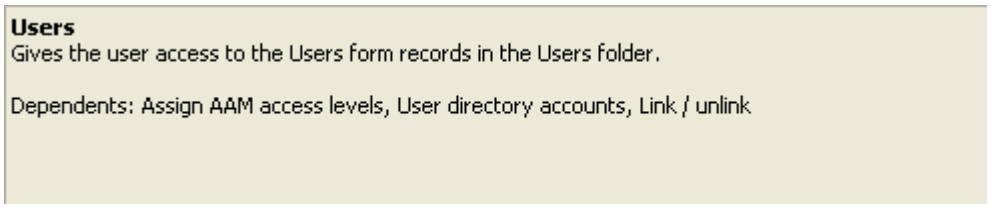
Optionally, press the arrow Left or Right keys on a category to expand or collapse the category's permissions.

Permission Dependencies

A description of the currently selected permission is displayed at the bottom the tree along with a list of permissions which depend on that permission:



In this example, the user must be allowed to access the **User directory accounts** in order to link directory accounts to user accounts. (**Link / unlink**). Whereas, **User directory accounts** is dependent on access to the **Users** form:



Compare One Permission Group to Another

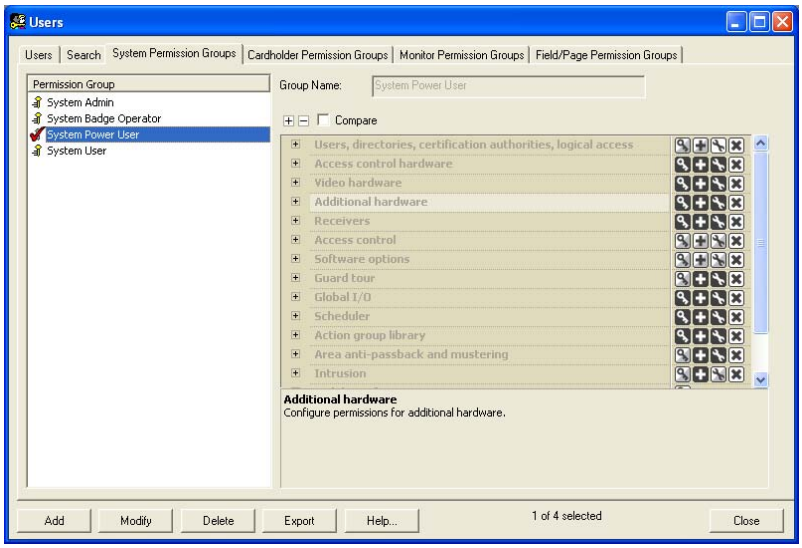
1. From the **Administration** menu, select **Users**.
2. Click the System, Cardholder, or Monitor Permission Groups tab.
3. In the listing window, select the name of the permission group you want to compare to.
4. Select the **Compare** check box. The comparison drop-down becomes available and an additional column of permissions is displayed on the right.

5. From the drop-down, select the permission group you want to use to compare against the currently selected group (on the left).
6. Scroll to compare the permissions in first column against those in the second one.

Verify Permission Changes Using the Compare Function

1. From the **Administration** menu, select **Users**.
2. Click the System, Cardholder, or Monitor Permission Groups tab.
3. In the listing window, select the name of the permission group you want to update.
4. Click [Modify], and then make any required changes to the permissions.
5. Select the **Compare** check box, and then select the same permission group you are updating. You can compare your proposed changes in the left column to the existing permissions:
6. Click [OK] to confirm your changes or Cancel.

System Permission Groups Form Overview



This form is used to create permission groups, each of which contains a set of abilities to access system functions.

System Permission Groups Form - Common Form Elements

Form Element	Comment
Listing window	Lists currently defined system permission groups. To select an entry, click on the entry or its icon. Only one entry may be selected at a time. The record for the currently selected entry is displayed in the System Permission Groups tree. For more information, refer to System Permission Groups Tree on page 423.
Group Name	In view mode, displays the name of the system permission group that is currently selected in the listing window of the Users form. In modify mode, you can enter a name for a system permission group. The permission group contains all of the permissions configured in the tree.
Compare	Select to compare the permissions of the currently selected permission group against those of another group. From the drop-down, select the permission group you want to compare. An additional column will be displayed with the permissions configured for the comparable group. Deselect the **Compare** check box to close the "compare" mode. **Note:** You can also compare a permission group against itself. This would be done in modify mode if you need to compare the existing permission settings to your changes before confirming them. For more information, refer to Verify Permission Changes Using the Compare Function on page 421.
Add	Used to add a system permission group.
Modify	Used to change a system permission group.
Delete	Used to delete a system permission group.
Export	Used to export the system permission settings into a report in the Comma Delimited **.csv** format. If **Compare** is selected, exports the compared permission groups information.
Help	Displays online help for this form.

System Permission Groups Form - Common Form Elements (Continued)

Form Element	Comment
Close	Closes the Users folder.

System Permission Groups Tree

The system permission groups tree is organized by *category* which is generally based on system forms. For example, permissions to add, modify, or delete records on the **Access panels** forms belongs to the **Access control hardware** category.

Other permission types allow the user to access options on a form or menu as well as run an application. Examples of these permissions include **Local I/O** and **Programming** which allow the user to access and program the Local I/O features.

Dependencies

A description of the currently selected permission is displayed at the bottom of the tree followed by any dependencies (when you modify a system permission, it may depend on the setting of another permission). For example:

- The user must be allowed to View/Access the Groups forms (**Mask Groups**) in order to access the Local I/O features, and the user must have access to the Local I/O features in order to Program the Local I/O features.
- **Change [threat level] setting to anything** and **Change [threat level] setting to higher than default only** cannot have the same rights.

For more information, refer to Permission Dependencies on page 420.

System Permission Groups Form Procedures

Add a System Permission Group

1. From the **Administration** menu, select **Users**.
2. Click the System Permission Groups tab.
3. Click [Add].
4. If segmentation is not enabled, skip this step. If segmentation is enabled:
   a. The Segment Membership window will open. Select the segment that this permission group will be assigned to.
   b. Click [OK].
5. In the **Group Name** field, type a unique, descriptive name for this permission group.
6. In the System Permission Group tree, configure the permissions that correspond to the capabilities you want to include in this permission group. For more information, refer to Configure User Permissions on page 417.
7. Click [OK].

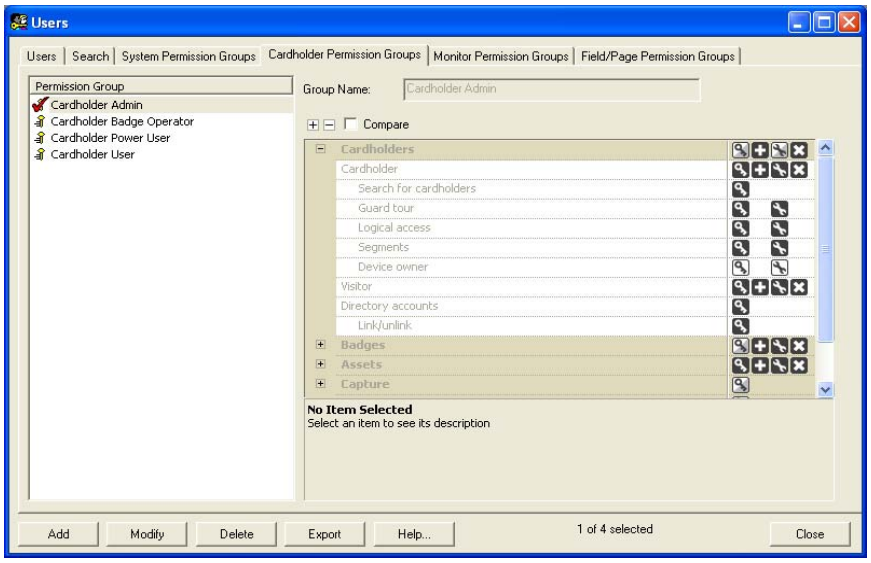
Modify a System Permission Group

1. From the **Administration** menu, select **Users**.
2. Click the System Permission Groups tab.
3. In the listing window, select the name of the permission group you want to change.
4. Click [Modify].
5. In the System Permission Group tree, change the permissions as required. For more information, refer to Configure User Permissions on page 417.
6. Click [OK] to save the changes or [Cancel] to revert to the previously saved values.
7. A warning message will be displayed, reporting that modifying the permission group will affect all users who are assigned to that group. Click [Yes] to confirm or [No] to cancel.

Delete a System Permission Group

1. From the **Administration** menu, select **Users**.
2. Click the System Permission Groups tab.
3. In the listing window, select the name of the permission group you want to delete.
4. Click [Delete].
5. Click [OK].
6. Click [Yes] to confirm the deletion.

Cardholder Permission Groups Form Overview



This form is used to create permission groups, each of which contains a set of abilities to access cardholder record functions.

Note: The Badge Types folder, badge printing, and multimedia capture are subject to licensing restrictions. Although you may be able to change permissions for those features here, they will have no effect unless you have the appropriate license.

Cardholder Permission Groups Form - Common Form Elements

Form Element	Comment
Listing window	Lists currently defined cardholder permission groups. The record for the currently selected entry is displayed in the Cardholder Permission Groups tree. For more information, refer to Cardholder Permission Groups Tree on page 426.
Group Name	In view mode, displays the name of the cardholder permission group that is currently selected in the listing window of the Users form. In modify mode, you can enter a name for a cardholder permission group. The permission group will contain all of the permissions settings configured in the tree.
Compare	Select to compare the permissions of the currently selected permission group against those of another group. From the drop-down, select the permission group you want to compare. An additional column will be displayed with the permissions configured for the comparable group. Deselect the **Compare** check box to close the “compare” mode. **Note:** You can also compare a permission group against itself. This would be done in modify mode if you need to compare the existing permission settings to your changes before confirming them. For more information, refer to Verify Permission Changes Using the Compare Function on page 421.
Add	Used to add a cardholder permission group.

Cardholder Permission Groups Form - Common Form Elements (Continued)

Form Element	Comment
Modify	Used to change a cardholder permission group.
Delete	Used to delete a cardholder permission group.
Export	Used to export the cardholder permission settings into a report in the Comma Delimited **.csv** format. If **Compare** is selected, exports the compared permission groups information.
Help	Displays online Help for this form.
Close	Closes the Users folder.

Cardholder Permission Groups Tree

The cardholder permission groups tree is organized by *category* which is generally based on the forms in the Cardholder folder. For example, the permissions to add, modify, or delete records on the Badge form belong to the **Badge** category.

Other permission types allow the user to view a form or access options on a form or menu. Examples of such permissions include searching for cardholders, using or modifying the guard tour features, linking or unlinking directory accounts to users, and using or modifying the logical access features.

Dependencies

When you modify cardholder group permissions, some may be dependent on other permissions. For example:

- The user must have permission to View/Access the **Cardholders** form in order to add, modify, or delete records on the **Visit** form since an associated cardholder is required.
- If the user has the **Deactivation Settings** permission granted, they should also have the **List Builder Delete** permission (located on the System Permission Groups Software Options category). **Deactivation Settings** belongs to the **Badge** category.

For more information, refer to Permission Dependencies on page 420.

Important: Make sure you do not grant the user permission to **Destroy all cardholder data** unless the user understands the impact of such an action. This permission belongs to the **Bulk operations** category.

Note: **Segment** permissions are applicable to segmented systems only.

Note: The **Print badges** permission and the **Capture** category are subject to licensing restrictions.

Cardholder Permission Groups Form Procedures

Add a Cardholder Permission Group

1. From the **Administration** menu, select **Users**.
2. Click the Cardholder Permission Groups tab.
3. Click [Add].
4. If segmentation is not enabled, skip this step. If segmentation is enabled:
   a. The Segment Membership window will open. Select the segment that this permission group will be assigned to.
   b. Click [OK].
5. In the **Group Name** field, type a unique, descriptive name for this permission group.
6. In the Cardholder permission tree, configure the permissions that correspond to the capabilities you want to include in this permission group. For more information, refer to Configure User Permissions on page 417.
7. Click [OK].

Modify a Cardholder Permission Group

1. From the **Administration** menu, select **Users**.
2. Click the Cardholder Permission Groups tab.
3. In the listing window, select the name of the permission group you want to change.
4. Click [Modify].
5. In the Cardholder Permission Groups tree, change the permissions as required.
6. Click [OK] to save the changes or [Cancel] to revert to the previously saved values.
7. A warning message will be displayed, reporting that modifying the permission group will affect all users who are assigned to that group. Click [Yes] to confirm or click [No] to cancel.

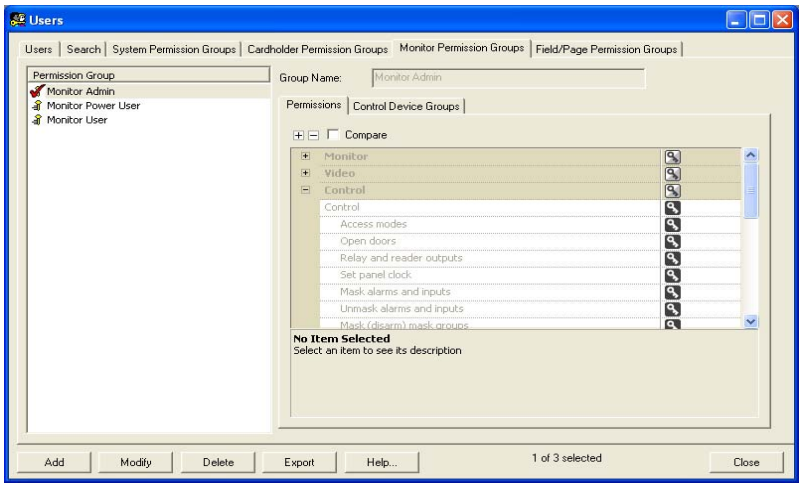
Delete a Cardholder Permission Group

1. From the **Administration** menu, select **Users**.
2. Click the Cardholder Permission Groups tab.
3. In the listing window, select the name of the permission group you want to delete.
4. Click [Delete].
5. Click [OK].
6. Click [Yes] to confirm the deletion.

Monitor Permission Groups Form Overview

This form is used to create permission groups, each of which contains a set of abilities to access alarm monitoring functions and/or device groups.

Monitor Permission Groups Form (Permissions Sub-tab)



Monitor Permission Groups Form - Permissions Sub-tab

Form Element	Comment
Listing window	Lists currently defined monitor permission groups. The record for the currently selected entry is displayed in the Monitor Permission Groups tree. For more information, refer to Monitor Permission Groups Tree on page 430.
Group Name	In view mode, displays the name of the monitor permission group that is currently selected in the listing window of the Users form. In modify mode, you can enter a name for a monitor permission group. The permission group will contain all of the permissions settings configured in the tree.
Compare	Select to compare the permissions of the currently selected permission group against those of another group. From the drop-down, select the permission group you want to compare. An additional column will be displayed with the permissions configured for the comparable group. Deselect the **Compare** check box to close the "compare" mode. **Note:** You can also compare a permission group against itself. This would be done in modify mode if you need to compare the existing permission settings to your changes before confirming them. For more information, refer to Verify Permission Changes Using the Compare Function on page 421.
Add	Used to add a Monitor permission group.
Modify	Used to change a Monitor permission group.

Monitor Permission Groups Form - Permissions Sub-tab (Continued)

Form Element	Comment
Delete	Used to delete a Monitor permission group.
Export	Used to export the monitor permission settings into a report in the Comma Delimited **.csv** format. If **Compare** is selected, exports the compared permission groups information.
Help	Displays online help for this form.
Close	Closes the Users folder.

Monitor Permission Groups Tree

The Monitor permission groups tree is organized by *category* allowing you to easily locate and configure the **Monitor**, **Video**, and **Control** related permissions. Unlike the other permission groups trees, the Monitor permission groups tree does not contain permissions to add, modify, or delete records on forms but rather offers permissions that allow the user to edit, view, trace, and control operations in Alarm Monitoring.

For example, in the **Monitor** category, **Disabling of automatic alarm display options** allows the user to turn off the following **Options** menu items:

- Automatic Map Display
- Automatic Cardholder Display
- Automatic Video Verification
- Automatic Visual Notification
- Automatic Live Video Display

Other permissions allow the user to view live or recorded video and export video as well as use the camera PTZ functionality.

Dependencies

When you modify monitor group permissions, some may be dependent on other permissions. For example: The permission **Export video** is only applicable if **Recorded video** is allowed. For more information, refer to Permission Dependencies on page 420.

Notes: A user transaction is generated each time the Video Export dialog is opened, regardless of how many times the video is actually exported or if not exported at all.

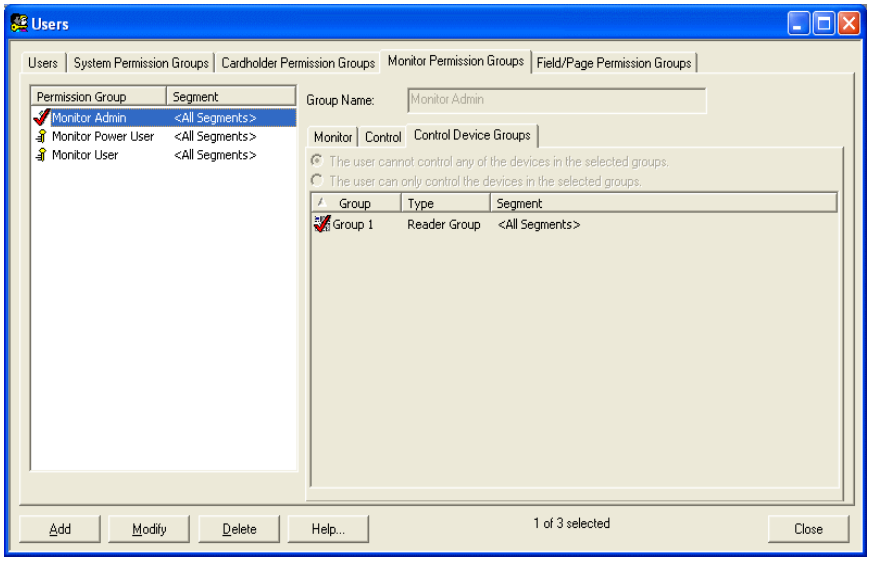
Note: A**Windows logout upon monitoring logout** must always be denied for the SA account. SA can always log out of the application without logging out of Windows.

Notes: In order to limit the number of channels in the **Max channels** permission, toggle the View/Access button to "Permission granted" and then type a value in the field next to the button.

For permissions with associated fields, you can use a keyboard command to move the cursor over to the field value. After you select the permission, press <2> and then type the value.

Note: For the **Camera PTZ** permission, toggle the View/Access button to "Permission granted" and then type a value in field next to the button. This field specifies the priority level of the user. Since only one person can control a PTZ camera at a time, a user with higher priority will be able to take over PTZ control of a camera from someone who has lower priority. Configure the PTZ priority level from 1 - 255 (where 1 is the lowest priority and 255 is the highest).

Monitor Permission Groups Form (Control Device Groups Sub-tab)



Monitor Permission Groups Form - Control Device Groups Sub-tab

Form Element	Comment
The user cannot control any of the devices in the selected groups	Select this radio button if you want to deny a permission group access to a group of devices. The groups selected in the group listing window will be unavailable to the permission group.
The user can only control the devices in the selected groups.	Select this radio button if you want to grant a permission group access to a group of devices. Only groups selected in the group listing window will be available to the permission group.
Group listing window	Displays the name and type of groups available in the system and the segment they belong to. Group devices are configured in the Groups folder, Device Groups form

Monitor Permission Groups Form Procedures

Add a Monitor Permission Group

1. From the **Administration** menu, select **Users**.
2. Click the Monitor Permission Groups tab.
3. Select the Permissions sub-tab.
4. Click [Add].
5. If segmentation is not enabled, skip this step. If segmentation is enabled:
   a. The Segment Membership window will open. Select the segment that this permission group will be assigned to.
   b. Click [OK].
6. In the **Group Name** field, type a unique, descriptive name for this permission group.
7. On the Permissions sub-tab, configure permissions that correspond to the capabilities you want to include in this permission group. For more information, refer to Configure User Permissions on page 417.
8. On the Control Device Groups sub-tab:
   a. Select the check box(es) to configure the permissions.
   b. Select the device groups you want to grant or deny the permission group access to.
9. Click [OK].

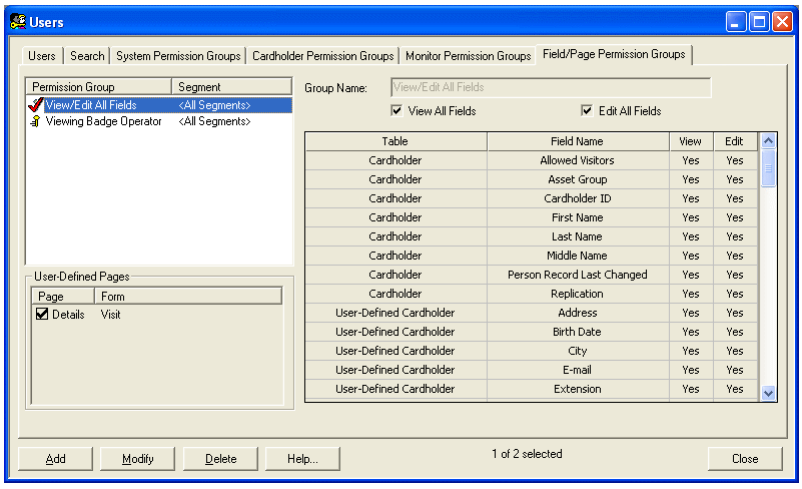
Modify a Monitor Permission Group

1. From the **Administration** menu, select **Users**.
2. Select the Monitor Permission Groups tab.
3. Select the Permissions sub-tab.
4. In the listing window, select the permission group you want to change.
5. Click [Modify].
6. On the Permissions or Control Device Groups sub-tab, change the permissions and device groups selections as required.
7. Click [OK] to save the changes or [Cancel] to revert to the previously saved values.
8. A warning message will be displayed, reporting that modifying the permission group will affect all users who are assigned to that group. Click [Yes] to confirm or click [No] to cancel.

Delete a Monitor Permission Group

1. From the **Administration** menu, select **Users**.
2. Click the Monitor Permission Groups tab.
3. In the listing window, select the name of the permission group you want to delete.
4. Click [Delete].
5. Click [OK].
6. Click [Yes] to confirm deletion.464

Field/Page Permission Groups Form



Field/Page Permission Groups Form Overview

This form is used to create field permission groups, identifying levels of access to cardholder information fields.

Users Folder - Field/Page Permission Groups Form

Form Element	Comment
Listing window	Lists currently defined field/page permission groups.
User-Defined Pages	Select the user-defined pages you want the permission group to be able to view/edit in the Cardholders, Visits and/or Visitors folders. **Note:** The Details page is considered a user-defined page that is automatically created. You can create (define) other pages in FormsDesigner. The pages you define display as forms in their respective Cardholders, Visits or Visitors folder. The Details form opens in the Visits folder.
Group Name	Specifies the name of a field/page permission group.
View All Fields	Select this box to allow a user having this permission group to view all cardholder database fields.
Edit All Fields	Select this box to allow a user who has this permission group to change all cardholder database fields.
Field table	Lists all the fields you can set permissions for. This includes user-defined and default fields. Each row entry in the table contains the **Table**, **Field Name**, **View**, and **Edit** fields. **Note:** In order to use the Visitor Management, the Viewing Badge Operator permissions must be changed. For the Cardholder, the Allowed Visitors property must be toggled to Yes under the View column.
Table	(a column in the field table) Indicates the name of the table the field belongs to.

Users Folder - Field/Page Permission Groups Form (Continued)

Form Element	Comment
Field Name	(a column in the field table) Indicates the name of the field. This is not the actual field name used by the database. It is the "friendly" or "logical" name, as defined using the FormsDesigner application.
View	(a column in the field table) Indicates whether this field is visible to a user who has this permission group. Toggle on this field to enable/disable the permission to view the specified field. Note this applies only to a specific field on a page/form. In other words, you can allow a permission group to view specific fields on a page or view entire pages. To enable a permission group to view the entire page/form you must enable each field on the page/form. **Note:** Double-clicking an individual cell toggles it between being defined as "Yes" or "No." Clicking the column head will change all fields in that column to the same value as it toggles between "Yes" or "No."
Edit	(a column in the field table) Indicates whether a user having this permission group can change this field. Toggle on this field to enable/disable the permission to modify the specified field. Note this applies only to a specific field on a page/form. In other words, you can allow a permission group to modify specific fields on a page or modify entire pages. To enable a permission group to modify the entire page/form you must enable each field on the page/form. **Note:** Double-clicking an individual cell toggles it between being defined as "Yes" or "No." Clicking the column head will change all fields in that column to the same value as it toggles between "Yes" or "No."
Add	Used to create a field/page permission group containing the selected capabilities.
Modify	Used to change a field/page permission group.
Delete	Used to delete a field/page permission group.
Mode	In view mode, indicates the record/selection count (such as "1 of 42 selected"). In modify mode, indicates the current operation, such as "Modify Mode."
Close	Closes the Users folder.

Field/Page Permission Groups Form Procedures

Add a Field/Page Viewing Permission Group

1. From the **Administration** menu, select **Users**.
2. Click the Field/Page Permission Groups tab.
3. Click [Add].
4. If segmentation is not enabled, skip this step. If segmentation is enabled:
   a. The Segment Membership window will open. Select the segment that this permission group will be assigned to.
   b. Click [OK].
5. In the **Group Name** field, type a unique, descriptive name for this permission group.
6. Scroll through the field table. For each field, choose a value in the View column (to indicate whether the field will be displayed on the corresponding form(s)).
   For each field in the table, choose a value in the Edit column (to indicate whether the user will be able to change the field on the corresponding form(s)). Here are some tips:
   - Double-click on a “Yes” value to change it to “No”, and vice-versa. Some values will change automatically. For example, if you set the View value for a particular field to “No”, the Edit value for that field automatically changes to “No”. This is because you can't change the information in a field if you can't even see the field.
   - Select the **View All Fields** check box to change all values in the View column to “Yes”
   - Select the **Edit All Fields** check box to change all values in the Edit column to “Yes”. All values in the View column will also be changed to “Yes”, because a field must be displayed on the form in order for you to edit it.
   - Double-click on a column heading (View or Edit) to change all values in that column
   - Double-click on a Field Name to change both of the corresponding View and Edit values to “Yes” or “No”.
7. Click [OK] to save the selected capabilities as the specified field restrictions permission group.

Modify a Field/Page Viewing Permission Group

1. From the **Administration** menu, select **Users**.
2. Click the Field/Page Permission Groups tab.
3. In the listing window, select the name of the permission group you want to change.
4. Click [Modify].
5. Make the changes you want to the field table.
6. Click [OK] to save the changes or [Cancel] to revert to the previously saved values.
7. A warning message will be displayed, telling you that modifying the permission group will affect all users who are assigned to that group. Click [Yes] to continue with the modification or click [No] to cancel.

Delete a Field/Page Viewing Permission Group

1. From the **Administration** menu, select **Users**.
2. Click the Field/Page Permission Groups tab.
3. In the listing window, select the name of the permission group you want to delete.
4. Click [Delete].
5. Click [OK].
6. Click [Yes] to confirm the deletion.

Chapter 14: Workstations Folder

The Workstations folder contains forms with which you can:

- Add, modify, and delete workstations
- Configure options for activity printers, CCTV controllers, and video capture devices
- Add, modify, and delete encoders/scanners

The folder contains two forms, the Workstations form and the Encoders/Scanners form.

Toolbar Shortcut

This folder is displayed by selecting **Workstations** from the **Administration** menu, or by selecting the Workstations toolbar button.

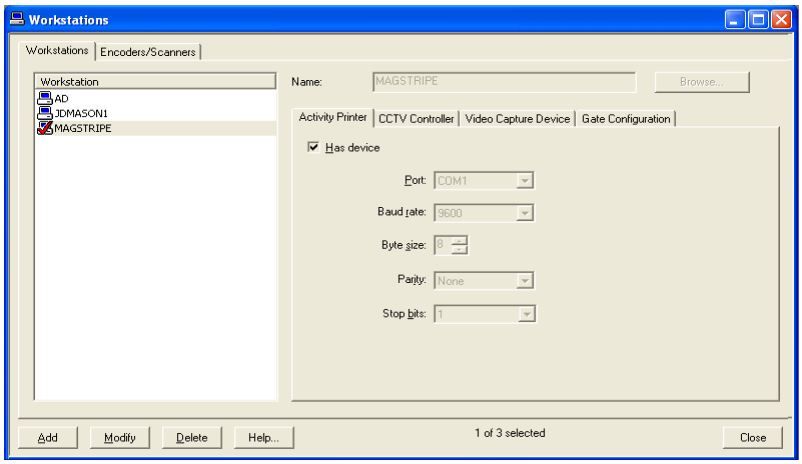
Workstations Form

The following table identifies the fields common to the sub-tabs on the Workstations form.

Workstations Form - Common fields

Form Element	Comment
Listing window	Lists previously defined workstations.
Name	The name of an existing or planned workstation. You are required to enter the workstation's NetBIOS name. (The NetBIOS name is specified when Windows networking is installed/configured.)
Browse	Opens a Browse for Computer form, from which you can select a workstation.
Add	Adds a workstation record.
Modify	Changes a workstation record.
Delete	Deletes a workstation record.
Help	Displays online help for this topic.
Close	Closes the Workstations folder.

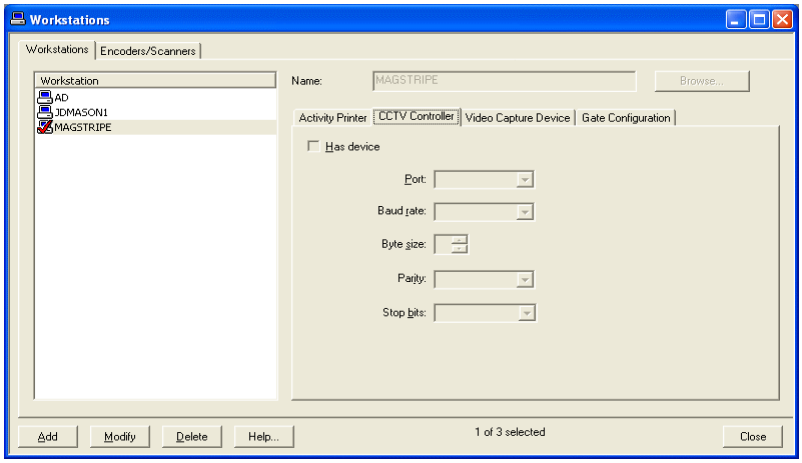
Workstations Form (Activity Printer Sub-tab)



Workstations Folder - Workstations Form (Activity Printer Sub-tab)

Form Element	Comment
Has device	If selected, indicates that this workstation has an attached printer for alarms. To print an alarm you must select the **Print Alarm** check box on the Alarm Definitions form of the Alarm Configuration folder. This field activates the **Port**, **Baud rate**, **Byte size**, **Parity**, and **Stop bits** fields.
Port	The communication port the activity printer attaches to.
Baud rate	The rate, in bits per second (bps), data is transferred. This field applies only if the port for the activity printer is a COM port (RS-232 serial port).
Byte size	The byte size of data transferred via the activity printer's communication port. This field applies only if the port for the activity printer is a COM port (RS-232 serial port).
Parity	*Parity* is a technique of checking data when it is moved or transmitted, to confirm that data was not lost or written over. This field applies only if the port for the activity printer is a COM port (RS-232 serial port).
Stop bits	The number of stop bits used in data transmission via the activity printer's communication port. Each block of data sent/received during asynchronous data transmission (communication between the workstation and encoder/scanner device at irregular intervals) is prefixed with 1 start bit and suffixed with 1, 1.5 or 2 stop bits. The *start bit* lets the receiving end know when a new block has started. The *stop bit(s)* indicate the end of the block. This field applies only if the port for the activity printer is a COM port (RS-232 serial port).

Workstations Form (CCTV Controller Sub-tab)

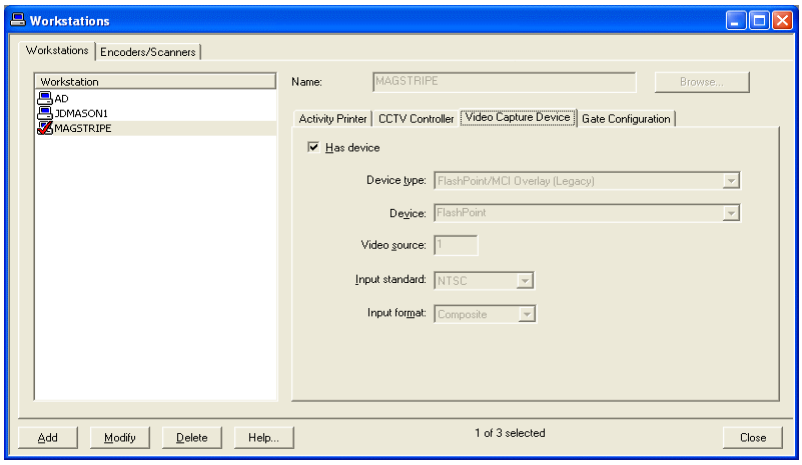


Workstations Folder - Workstations Form (CCTV Controller Sub-tab)

Form Element	Comment
Has device	If selected, indicates that this workstation has an attached CCTV controller to which CCTV command strings will be sent during alarm monitoring. This field activates the **Port**, **Baud rate**, **Byte size**, **Parity** and **Stop bits** fields. Note that CCTV instructions (configured in the Alarm Configuration folder) are automatically sent to CCTV controllers when their associated workstations (monitoring stations) receive alarms containing CCTV instructions.
Port	The communication port the CCTV controller attaches to.
Baud rate	The rate, in bits per second (bps), data is transferred via the CCTV controller's communication port. This field applies only if the port for the activity printer is a COM port (RS-232 serial port).
Byte size	The byte size of data transferred via the CCTV controller's communication port. This field applies only if the Port for the activity printer is a COM port (RS-232 serial port).
Parity	*Parity* is a technique of checking data when it is moved or transmitted, to confirm that data was not lost or written over. This field applies only if the port for the activity printer is a COM port (RS-232 serial port).
Stop bits	The number of stop bits used in data transmission via the CCTV controller's communication port. Each block of data sent/received during asynchronous data transmission (communication between the workstation and encoder/scanner device at irregular intervals) is prefixed with 1 start bit and suffixed with 1, 1.5 or 2 stop bits. The *start bit* lets the receiving end know when a new block has started. The *stop bit(s)* indicate the end of the block. This field applies only if the Port for the activity printer is a COM port (RS-232 serial port).

Workstations Form (Video Capture Device Sub-tab)

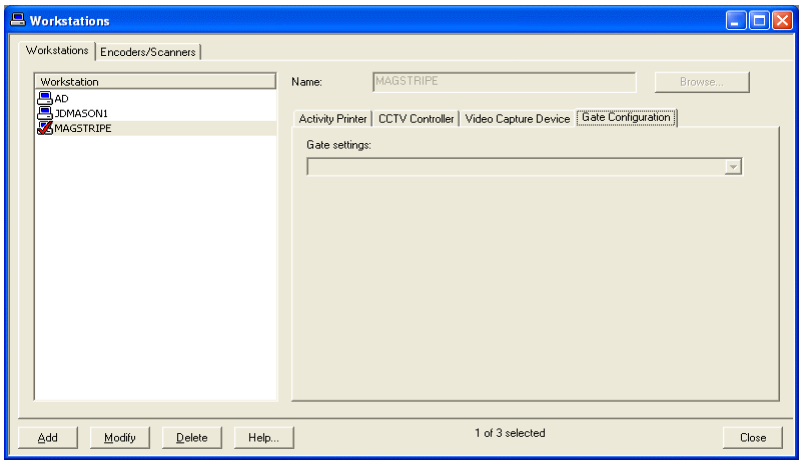
This view displays when “FlashPoint/MCI Overlay (Legacy)” is selected in the **Device type** drop-down list. The same fields display when “WDM (Windows Driver Model)” is selected in the **Device type** drop-down list except for the **Input format** field, which does not display.



Workstations Folder - Workstations Form (Video Capture Device Sub-tab)

Form Element	Comment
Has device	If selected, indicates that this workstation contains a video board. This field activates the **Device type**, **Device**, **Video source**, **Input standard**, and **Input format** fields.
Device type	The type of video board you are using.
Device	The name of the video board you are using.
Video source	The video connector number.
Input standard	The video input standard used. The options available change depending on the device type and device selected. Two commonly selected options are: • NTSC (U.S.A. standard) • PAL (European standard)
Input Format	The video interface standard. The options available change depending on the device type and device selected. **Note:** If the Device type selected is “WDM (Windows Driver Model)”, this field is not displayed.

Workstations Form (Gate Configuration Sub-tab)



Workstations Folder - Workstations Form (Gate Configuration Sub-tab)

Form Element	Comment
Gate setting	The name of the gate associated with the selected workstation.

Workstations Form Procedures

Add a Workstation Entry

1. From the **Administration** menu, select **Workstations**. The Workstations folder opens.
2. Click [Add].
3. In the **Name** field, enter the name of the workstation.
4. If you do not wish to configure an activity printer, skip this step. Otherwise, select the Activity Printer sub-tab.
   a. Select the **Has device** check box.
   b. Select the options that are appropriate for the printer.
5. If you do not wish to configure a CCTV controller, skip this step. Otherwise, select the CCTV Controller sub-tab.
   a. Select the **Has device** check box.
   b. Select the options that are appropriate for the CCTV controller.
6. If you do not wish to configure a video capture device, skip this step. Otherwise, select the Video Capture Device sub-tab.
   a. Select the **Has device** check box.
   b. Select the options that are appropriate for the video capture device.
7. If you do not wish to configure gates, skip this step. Otherwise:
   a. Select the Gate Configuration sub-tab.
   b. From the **Gate settings** drop-down list, select the name of the gate that you want associated with this workstation.
8. Click [OK].

Modify a Workstation Entry

1. In the listing window, click the name of the workstation you wish to change.
2. Click [Modify].
3. Make the changes you want to the fields. Changes can be made on any sub-tab.
4. Click [OK] to save the changes, or [Cancel] to revert to the previously saved values.

Delete a Workstation Entry

1. In the listing window, click the name of the workstation you wish to delete.
2. Click [Delete].
3. Click [OK]. The workstation entry will be deleted without confirmation.

Encoders/Scanners Form Overview

The Encoders/Scanners form is used to define encoder/scanner settings. The configuration fields on this form change depending on your selection in the **Device Type** drop-down list.

ReadkeyPRO currently supports the following device types:

- **CSS Scanner** - a device allows to import cardholder data from a driver's license or passport. Connected through a USB port, it will be dynamically discovered on the workstation.
- **Digion24 (iCLASS)** - an inline contactless encoder. This device should be configured the same as the HID iClass encoder. In addition the Baud rate must be set to 38400.
- **Digion24 (MIFARE)** - used to encode any application that resides on a MIFARE smart card or DESFire (TWIC 1.02 Data Model). In addition, the Baud rate must be set to 9600.
- **GemEasyLink680S/GemEasyAccess332** - a MIFARE encoder for V-Smart and SmartID (MIFARE) applications. This unit works as either a standalone unit or inline with printing hardware.
- **HID iCLASS** - an internal iCLASS reader/encoder that allows you to encode iCLASS credentials from ReadkeyPRO software. It can also be used to import cardholder data from iCLASS credentials for the following applications: GSC (iCLASS), HandKey (iCLASS), HID Access Control (iCLASS), Lenel (iCLASS), IrisAccess (iCLASS), and V-Smart (iCLASS).
- **ID-Check Terminal** - a scanner that allows you to import cardholder data from a driver's license or military ID. This unit must be configured through the ReadkeyPRO software.
- **Magstripe Swipe Reader/Writer (Model 712)** - a standalone encoder for magnetic cards. This is a discontinued model that ReadkeyPRO supports.
- **Magstripe Swipe Reader/Writer (Model 722**) - a standalone encoder for magnetic cards. This is a discontinued model that ReadkeyPRO supports.
- **MSR206** - a standalone magstripe encoder for GemEasyLink680S/ GemEasyAccess332 applications. The MSR206 is also built into the Magicard Rio and Tango printers.
- **OmniKey (iCLASS)** - a standalone OMNIKEY 5321 reader/encoder for the Bosch (iCLASS) application.
- **PC/SC Encoder** - a Personal Computer/Smart Card encoder that supports International Standards Organization (ISO 7816) and PC/SC standards.
- **MIFARE Pegoda Contactless Smart Card Reader (MF EV700)** - an encoder connected through a USB port. On the encoding station, the drivers and DESFire reader hardware must be installed from the Supplemental Materials disc, after which it will be available for selection in the ReadkeyPRO software. To find the drivers navigate to \Credential Center Device Drivers\Integrated Engineering Drivers on the Supplemental Materials disc.

- **Serial Encoder** - any smart chip encoder that supports standard R-232 encoding protocols. The serial encoder is used with Credential Agent smart card applications.
- **SmartID/Pro** - SmartID/Pro is an USB interfaced encoder that supports DESFire card technology.
- **V-Smart (iCLASS) -** a Bioscrypt device used to capture fingerprint templates and encode V-Smart biometric applications on iCLASS credentials, when it is connected to an enrollment station. The V-Smart (iCLASS) also serves as an access control device for iCLASS credentials encoded with Bioscrypt V-Smart applications, when connected to a Bosch panel.
- **V-Smart (MIFARE) -** a Bioscrypt device used to capture fingerprint templates and encode V-Smart biometric applications on MIFARE credentials, when it is connected to an enrollment station. The V-Smart (MIFARE) also serves as an access control device for MIFARE credentials encoded with Bioscrypt V-Smart applications, when connected to a Bosch panel.

Encoding Prerequisites

Several steps must occur in ReadkeyPRO to properly encode a magnetic, Wiegand, or smart card. Each step occurs in a different folder in the ReadkeyPRO application.

1. In the Workstations folder > Encoding form, configure an inline or standalone encoder/scanner.

Note: You do not need to configure USB encoders/scanners (e.g. MIFARE Pegoda contactless smart card reader) in ReadkeyPRO applications. Simply install the drivers and attach the hardware to the workstation. This does not apply to the ScanShell 800/1000.

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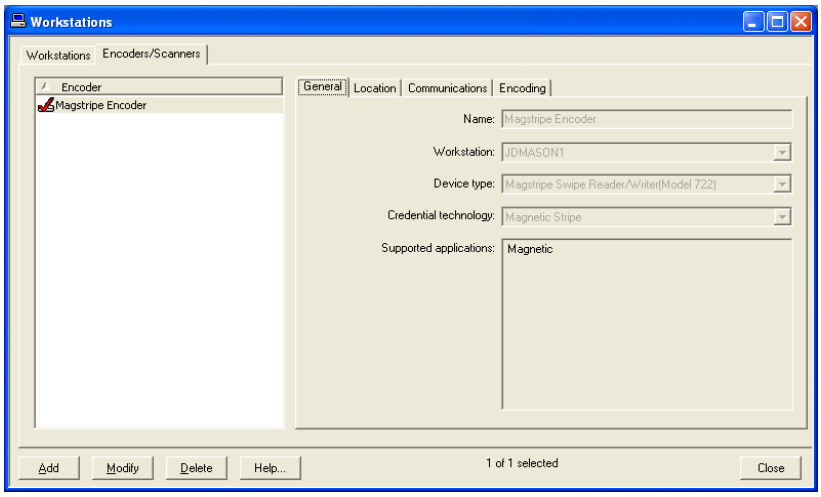
2. In the Card Formats folder, create a card format that will contain data to be encoded on a badge.
3. In the Badge Types folder > Encoding form, assign an encoding format to a badge type. In other words, assign a card format to be encoded on a badge of a specific type.
4. In the Cardholders folder, add a cardholder or visitor record to the database.
5. In Multimedia Capture, capture the cardholder/visitor’s photo, signature, and/or biometric data.
6. In the Cardholders folder, encode the badge.

Encoders/Scanners Form (General Sub-tab)

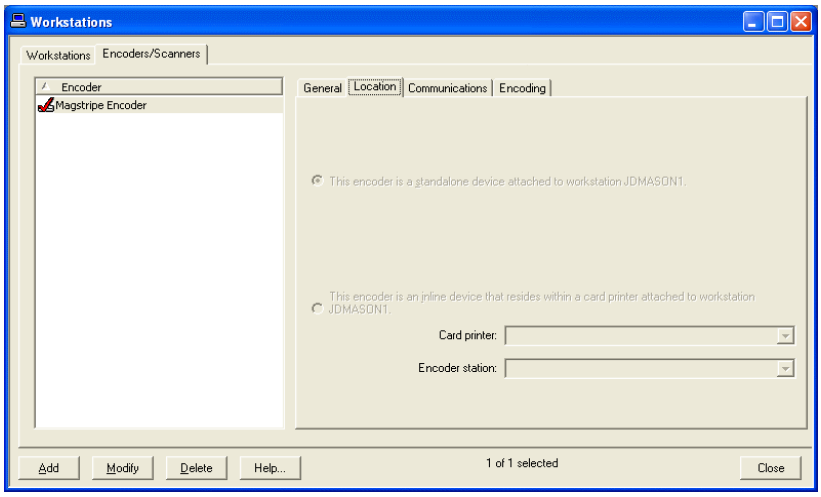


Encoders/Scanners Form - General Sub-tab

Form Element	Comment
Encoder listing window	Lists previously defined encoders/scanners.
Name	A descriptive name for the encoder/scanner.
Workstation	The workstation the encoder/scanner attaches to. Only workstations that have been configured on the Workstations form display in the drop-down list.
Device type	The type of encoder/scanner. The remaining fields on this form change, depending on the device type you choose.
Credential technology	The type of card that will be scanned/encoded by the specified device. This field automatically populates. However, if a device handles multiple types of cards, you can select the credential technology from the drop-down list.
Supported applications	The applications supported by the specified device. This field automatically populates.
Add	Adds an encoder/scanner record.
Modify	Modifies an encoder/scanner record.
Delete	Deletes an encoder/scanner record.
Help	Displays online help for this form.
Close	Closes the Workstations folder.

Encoders/Scanners Form (Location Sub-tab)

The Location sub-tab displays two radio buttons that identify the encoding device as either being a standalone device or an inline device that resides within a card printer.

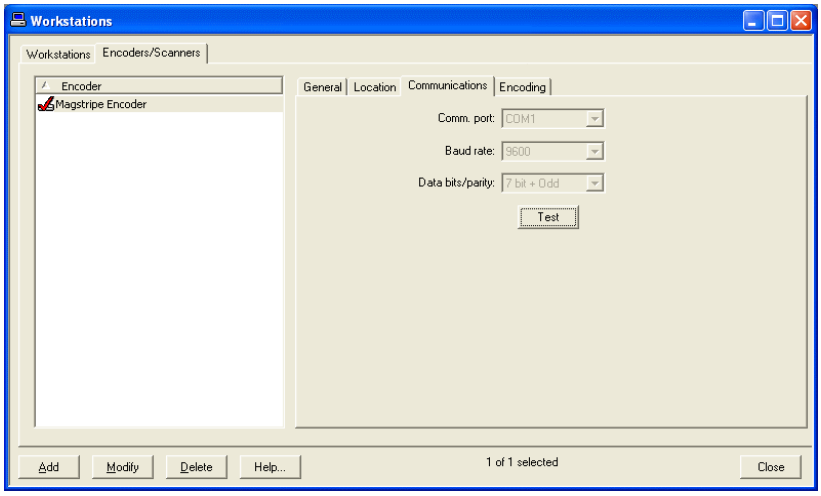


Encoders/Scanners Form - Location Sub-tab

Form Element	Comment
This encoder is a standalone device attached to this workstation.	This radio button is automatically selected by default. Select this radio button if the encoder is a standalone device and attached to the workstation (listed on the General sub-tab).
This encoder is an inline device that resides within a card printer attached to this workstation.	This field is reserved for configuring inline smart chip encoders with a future ReadkeyPRO version.
Card printer	This field is reserved for configuring inline smart chip encoders with a future ReadkeyPRO version.
Encoder station	This field is reserved for configuring inline smart chip encoders with a future ReadkeyPRO version.

Encoders/Scanners Form (Communications Sub-tab)

Different fields display on the Communications sub-tab depending on the device type selected on the General sub-tab. Refer to the Encoders/Scanners Form - Communications Sub-tab table on page 449 for definitions of the various fields that may display.



Encoders/Scanners Form - Communications Sub-tab

Form Element	Comment
Comm. port	The communication port on the workstation that the encoder/scanner connects to.
Baud rate	This field automatically populates with the default setting for the specified device type. However, you can select the rate, in bits per second (bps) that data is transferred. The baud rate entered must match the fixed baud rate on the hardware.
Data bits	This field automatically populates with the default setting for the specified device type. However, you can select the number of bits of data transmitted per character, between the workstation and the encoder/scanner. This does not include start, stop or parity bits. The *data bits* value indicates whether the encoder/scanner uses the standard ASCII character set, with 7 bits forming each of 128 different characters, or the extended ASCII character set, with 8 bits forming each of 256 different characters.
Parity	This field automatically populates with the default setting for the specified device type. However, you can select the parity of data transferred via the encoder/scanner's communication port. *Parity* is a technique of checking data when it is moved or transmitted, to confirm that data was not lost or written over.

Encoders/Scanners Form - Communications Sub-tab (Continued)

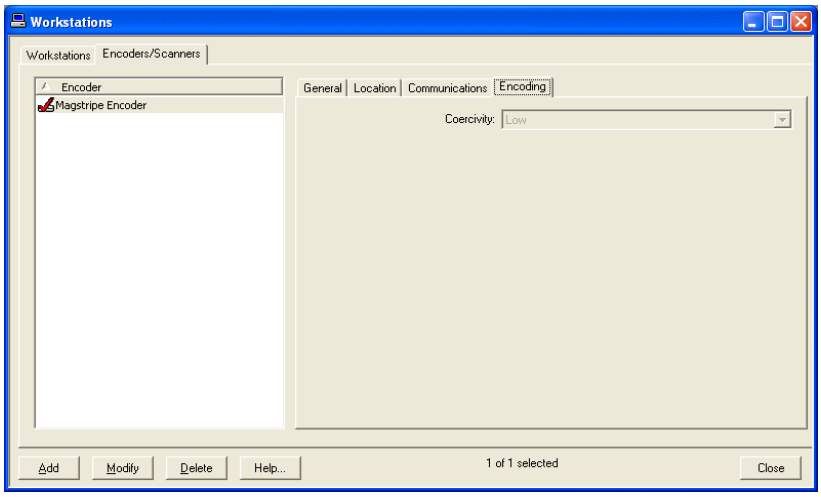
Form Element	Comment
Stop bits	This field automatically populates with the default setting for the specified device type. However, you can select the stop bits if necessary. Each block of data sent/received during asynchronous data transmission (communication between the workstation and encoder/scanner device at irregular intervals) is prefixed with 1 start bit and suffixed with 1, 1.5 or 2 stop bits. The *start bit* lets the receiving end know when a new block has started. The *stop bit(s)* indicate the end of the block.
Data bits/parity	The parity of data transferred via the encoder/scanner's communication port. *Parity* is a technique of checking data when it is moved or transmitted, to confirm that data was not lost or written over. Choices include: • **7 bit + Odd** - For each character transmitted between the workstation and the encoder there will be seven bits of data plus one bit for odd parity information. The value of the parity bit will be zero if there are an odd number of data bits that have a value of one. Otherwise, the parity bit will have a value of one. • **7 bit + Even** - For each character transmitted between the workstation and the encoder there will be seven bits of data plus one bit for even parity information. The value of the parity bit will be zero if there are an even number of data bits that have a value of one. Otherwise, the parity bit will have a value of one. • **7 bit + Mark** - For each character transmitted between the workstation and the encoder there will be seven bits of data plus one "mark" bit (a bit value of one). • **7 bit + Space** - For each character transmitted between the workstation and the encoder there will be seven bits of data plus one "space" bit (a bit value of zero). • **8 bit + None** - For each character transmitted between the workstation and the encoder there will be eight bits of data and no parity information.
IP Address	Enter the Internet Protocol (IP) address for the device. An IP address consists of four numbers, each in the range of 0 through 255. The IP address entered in this field must match the IP address programmed for the device.
Sound Volume	This setting is used to control the volume of voice messages for the IrisAccess iCAM. Select **Mute** to silence the voice messages.
Test	Verifies the encoder can communicate with the workstation.
Test Connection	(Applies when configuring IrisAccess iCAM) Verifies the device can communicate with the workstation.
PC/SC Device	The Personal Computer/Smart Card (PC/SC) for the specified encoder. *PC/SC* is a standard for communicating with smart cards connected to Windows machines. PC/SC enables smart cards, smart card encoders/readers, and computers made by different manufacturers to work together. **Note:** If the PC/SC device is located on a remote workstation, you can add the encoder name to ReadkeyPRO using any computer but you must go to the remote workstation to complete the encoder configuration (populate the Communications sub-tab).

Encoders/Scanners Form - Communications Sub-tab (Continued)

Form Element	Comment
Flow control	This field automatically populates with the default setting for the specified device type. However, you can select the flow control if necessary. The *flow control* manages the flow of data between computers, devices or nodes in a network. Choices include: • **Xon /Xoff** - uses two nominated characters to signal to the remote end that it should stop or start transmitting data. • **Hardware** - allows either of the two stations to signal whether it is ready to receive more data, or if the other station should pause until the receiver is done processing the incoming data. • **None** - no flow control applied.
SmartID/Pro device	This field lists all the SmartID/Pro devices attached to the workstation. Select the one that best suits your needs.

Encoders/Scanners Form (Encoding Sub-tab)

The Encoding sub-tab displays when you are working with either the Magstripe Swipe Reader/Writer (Model 722) or MSR206 encoder/scanner. Otherwise, this sub-tab does not display.



Workstations Folder - Encoders/Scanners Form (Encoding Sub-tab)

Form Element	Comment
Coercivity	*Coercivity* is the intensity of the magnetic field needed to reduce the magnetization of material after it has reached saturation. Select a high coercivity when possible. Magnetic stripes encoded with low coercivity are not as strongly magnetized and are more susceptible to magnetic fields.

Encoders/Scanners Form Procedures

Configure an Inline or Standalone Encoder/Scanner

1. From the **Administration** menu, select **Workstations**. The Workstations folder opens.
2. Select the Encoders/Scanners tab and click [Add].
3. On the General sub-tab:
   a. In the **Name** field, enter a descriptive name for the encoder/scanner.
   b. From the **Workstation** drop-down list, select the workstation this encoder/scanner attaches to.
   c. Select a **Device type**.
   d. The **Credential technology** field automatically populates. However, if more than one technology is supported, you can select a different technology from the drop-down list.
4. On the Location sub-tab, verify the default settings are correct. If necessary, select the card printer and encoder station from the drop-down lists.
5. On the Communications sub-tab, populate the different fields that display.
6. If the Encoding sub-tab displays, select the coercivity.
7. Click [OK].

Modify an Encoder/Scanner Entry

1. In the listing window, select the name of the encoder/scanner you wish to change.
2. Click [Modify].
3. Change any field on any sub-tab.
4. Click [OK] to save the changes, or [Cancel] to revert to the previously saved values.

Delete an Encoder/Scanner Entry

1. In the listing window, select the name of the encoder/scanner you wish to delete.
2. Click [Delete].
3. Click [OK].

Chapter 15: System Options Folder

The System Options folder contains forms with which you can:

- Identify the peripheral devices that are attached to ReadkeyPRO workstations
- Configure hardware limits for the maximum number of holidays, timezones, access levels, badge length, elevator floors
- Configure the maximum access level assignments per badge
- Reset anti-passback status
- Configure the maximum number of templates and security levels of biometric readers
- Configure asset mode
- Configure the extended held open times and pre-alarm time
- Configure the default recipients that will receive E-mail notifications for visits
- Extend access level options (e.g. enable escorting)
- Configure the system to generate an alarm when a device enters a “runaway” state
- Configure controller encryption

The folder contains different forms, depending on whether segmentation has been enabled.

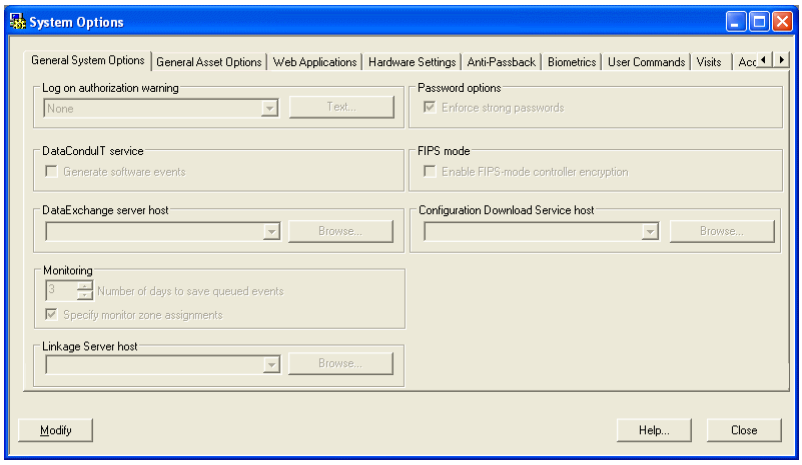
- In a non-segmented system, the System Options folder contains the General System Options form as well as the General Assets Options, Web Applications, Hardware Settings, Anti-Passback, Biometrics, User Commands, Visits, Access Levels/Assets, and Controller Encryption forms.
- In a segmented system, the System Options folder contains only the General System Options, General Asset Options, and Web Applications forms. The Hardware Settings, Anti-Passback, Biometrics, User Commands, Visits, Access Levels/Assets, and Controller Encryption forms appear as sub-tabs on the Segments form in the Segments folder when segmentation is enabled.

Toolbar Shortcut

This form displays when you select **System Options** from the **Administration** menu, or select the System Options toolbar button.

General System Options Form

Note: This form displays in both segmented and unsegmented systems.



General System Options Form Overview

The General System Options form is used to:

- Indicate if and how users will be warned about unauthorized system access.
- Configure monitoring options.
- Specify the host computer for the Linkage Server, which directs automatic e-mail/paging messages in response to specific alarms.
- Specify whether the DataConduIT service will generate software events.
- Specify the system's current threat level.

Important: It is advisable to determine and configure General System Options prior to entering any data into your system.

General System Options Form Field Table

System Options Folder - General System Options Form

Form Element	Comment
Log on authorization warning	Configures the text for the authorization warning that is displayed upon login to the application. The text will be displayed in an Authorization Notification window. Choices include: • **None**: no authorization warning will be displayed upon login to the application. This is the default selection. • **Standard**: the default authorization warning will be displayed upon login to the application. The text of the default warning is as follows: "Warning: This computer program is a private application, restricted to use by only those who have authorized user accounts. Unauthorized use of this application or any portion thereof constitutes a violation of the law, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible. Are you authorized to use this application?" • **Custom**: activates the [Text] push button, which enables you to customize the authorization warning.
Text	This button is activated only when **Custom** is selected in the Display authorization Warning drop-down list. Click this button to open the Custom Authorization Text window, in which you can specify the authorization warning text and its display characteristics.
Number of days to save queued events	The system can be configured to queue events while no one is logged into a particular monitoring station. This is done by selecting the **Queue Events When Logged Out** check box on the Monitor Stations form of the Monitor Zones folder, when creating a monitoring assignment for the monitoring station. Over time, if no one logs into the monitoring station, there may be many queued events. The **Number of Days to Save Queued Events** field provides a way to purge the database so that the events don't become too numerous. Once a day (between 3 a.m. and 4 a.m.), the Communication Server removes from the database any queued events that are older than the number of days specified by this field. You can select a value in the range of 1 to 365 days. The default is 3.
Specify monitor zone assignments	If selected, you are able to choose which monitor zone to add a new controller to. By default this option is selected and when the controller is added to the system it is added to all the monitor zones. If selected, once you add a new controller a dialog window opens and allows you to select the monitor zone(s) to add the controller to.
Linkage server host	You can configure the system to automatically send e-mail and paging messages when a given alarm occurs. The *Linkage Server* performs the alarm to message linkages. This section configures the host computer that the Linkage Server runs on. Each installation can have only one Linkage Server, which can be configured to run either as an application or as a Windows service. The Linkage server needs to be configured for use for destination assurance, e-mail, paging, guard touring, badge deactivate status, Global I/O, DataConduIT message queues, and Scheduler. This section contains the **Workstation** field and the [Browse] button.

System Options Folder - General System Options Form (Continued)

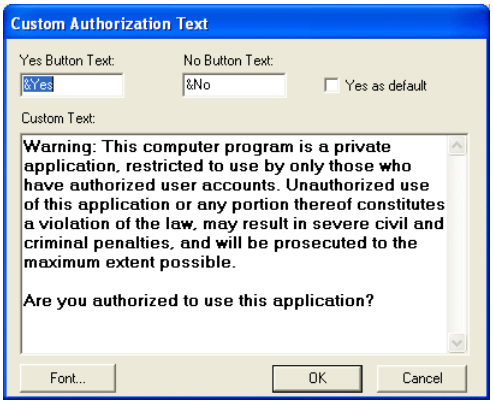
Form Element	Comment
Workstation	Specify the computer that will contain the Linkage Server. Each installation can have only one Linkage Server; the server can be started on the specified computer only. Type the computer name or use the [Browse] button to select it. **Note:** You are required to enter the workstation's NetBIOS name. (The NetBIOS name is specified when Windows networking is installed/configured.)
Browse	Displays a window from which you can select the name of a host server. Click [OK] to insert the selected name into the **Host** field.
Generate software events	If selected, the DataConduIT service will generate software events.
DataExchange server host	Contains the **Workstation** field and the [Browse] button. This section is used to configure the host computer that the DataExchange server runs on. Each installation can have only one DataExchange server, which can be configured to run either as an application or as a Windows service.
Workstation	Specify the computer that will contain the DataExchange server host. Each installation can have only one DataExchange server; the server can be started on the specified computer only. Type the computer name or use the [Browse] button to select it. **Note:** You are required to enter the workstation's NetBIOS name. (The NetBIOS name is specified when Windows networking is installed/configured.)
Browse	Displays a window from which you can select the name of a host server. Click [OK] to insert the selected name into the **Host** field.
Enforce strong passwords	Select this check box if you want to enforce strong passwords. Note the following: • Strong passwords cannot be blank. • Strong passwords cannot be the same as the user name. • Strong passwords cannot be certain keywords. • All user password's are checked when a user logs into an application. If the user's password does not meet the above standards and the **Enforce strong passwords** check box is selected, the user will be required to change their password before logging in. If the user's password does not meet the above standards and the **Enforce strong passwords** check box is *not* selected, the user will receive a message that their password does not meet the above standards but will be allowed to continue.
KnoWho server	Contains the [Browse] button and the **Host** and **Port** fields. This section is used to configure the host computer that the KnoWho server runs on.
Host	Select a host server form the drop-down list. You can either type the name in the field, select a host from the drop-down list, or use the [Browse] button to view a list of available workstations. **Note:** You are required to enter the workstation's NetBIOS name. (The NetBIOS name is specified when Windows networking is installed/configured.)
Browse	Displays a window from which you can select the name of a host server. Click [OK] to insert the selected name into the **Host** field.
Port	Specifies the port that is on the serial expansion unit or the back of the host server.

System Options Folder - General System Options Form (Continued)

Form Element	Comment
Enable FIPS-mode controller encryption	Determines whether the windows for configuring controller encryption will be visible. An administrator may choose to enable this option so the ReadkeyPRO user interface does not display things to users that don't apply to them. If this option is selected, the windows for configuring controller encryption that are normally in the following locations will not be visible: • (Non-segmented systems only) System Options folder • (Segmented systems only) Segments folder • Encryption form in the Access Panels folder along with the Fire Panels, Intercom Devices, Personal Safety Devices, Receivers, Intrusion Panels, and POS Devices folders. This setting is separate from the FIPS mode settings that are configured on the individual Communication Server(s) using the FIPS Mode Configuration Utility. This setting has no impact on whether FIPS mode is used; it only affects how System Administration works and what windows are displayed. To use FIPS mode, you must enable FIPS mode on the Communication Server(s) by running the FIPS Mode Configuration Utility. After this check box has been selected, all encryption keys for controller encryption will be cleared out of the database.
Configuration Download Service host	The configuration download service host is used to send updates down to the controllers when access level assignment changes are made using the browser-based Area Access Manager application. Only one instance of this service can exist in a system. To configure where this service runs, use the browse button to select a workstation for the Configuration Download Service host.
Modify	Changes the system options. When clicked, options on any form in the System Options folder can be modified.
Help	Displays online help information for this form
Close	Closes the System Options folder

Custom Authorization Text Window

This window is displayed by selecting “Custom” in the Log on authorization warning drop-down list and clicking [Text] on the General System Options form in the System Options folder.



System Options Folder - Custom Authorization Text Window

Form Element	Comment
Yes Button Text	Specifies the label that will be displayed on the [Yes] button in the Authorization Notification window. For example, OK/Cancel may be more appropriate choices for your notification than Yes/No. You can underline one of the letters of the label, indicating that the letter can be used in combination with <Alt> as an accelerator key. To underline a letter for use as an accelerator key, place a “&” character immediately before it. For example, to specify the label “Valid”, type “V&alid”. <Alt><a> will be the accelerator.
No Button Text	Specifies the label that will be displayed on the [No] button in the Authorization Notification window. You can underline a letter for use as an accelerator key. For more information, refer to “Yes Button Text” definition in this table.
Yes as default	If this check box is selected, the [Yes] button will be the default button. If this check box is not selected, the [No] button will be the default button.
Custom Text	It is here that you type the actual text to be displayed in the Authorization Notification window.

System Options Folder - Custom Authorization Text Window (Continued)

Form Element	Comment
Font	Opens a Font window, in which you can specify the display characteristics of the Authorization Notification window text. You can select the following from the options available on your computer: • Font • Font style (regular, bold, italic, etc.) • Size (point size of the text) • Script - lists language scripts available for the selected font • Effects - (strikeout, underline, and color of text) **Sample** displays sample text with the selected attributes applied.
OK	Saves your changes and closes the Custom Authorization Text window.
Cancel	Closes the Custom Authorization Text window without saving your changes.

General System Options Form Procedures

Configure the Authorization Warning

1. On the General System Options form, click [Modify].
2. In the **Log on authorization warning** drop-down list, select the option that applies:
   - If you don't want users to be warned against unauthorized use when they log in, select **None**
   - If you wish to display the default warning, which is built into the system, select **Default**.
   - If you wish to display a customized warning, select **Custom**.

     To Customize the Warning:

     – Click [Text]. The Custom Authorization Text window will be opened.

     – Specify the label that will be displayed on the window's Yes and No buttons.

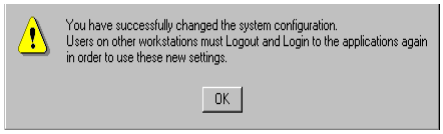
     – Specify whether or not the Yes button will be the default

     – Type the actual text of the warning as you wish it to appear in the window.

     – Choose the text's display characteristics.

– Click [OK] to close the Custom Authorization Text window.

3. Click [OK] to save your General System Options settings.
4. If you have made changes using this form, the following message displays:

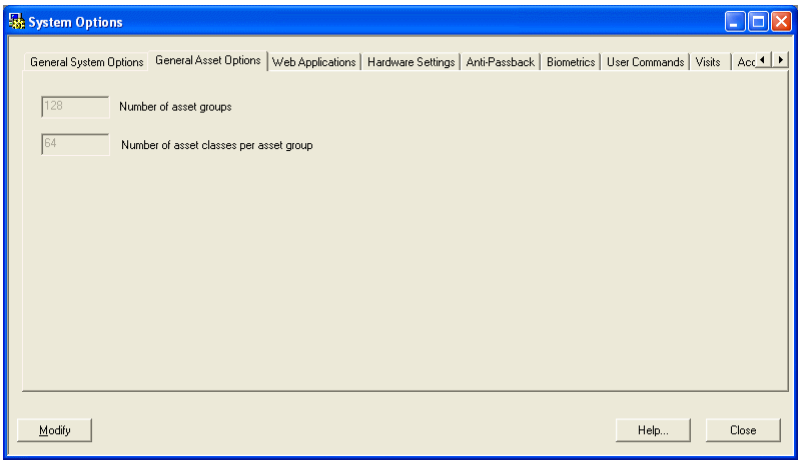


5. As the message indicates, any users that are currently accessing the system must log out then log in again.

General Asset Options Form

Note: This form displays in both segmented and unsegmented systems.

The General Asset Options Form is used to select the number of asset groups and number of asset classes per asset group for the system.

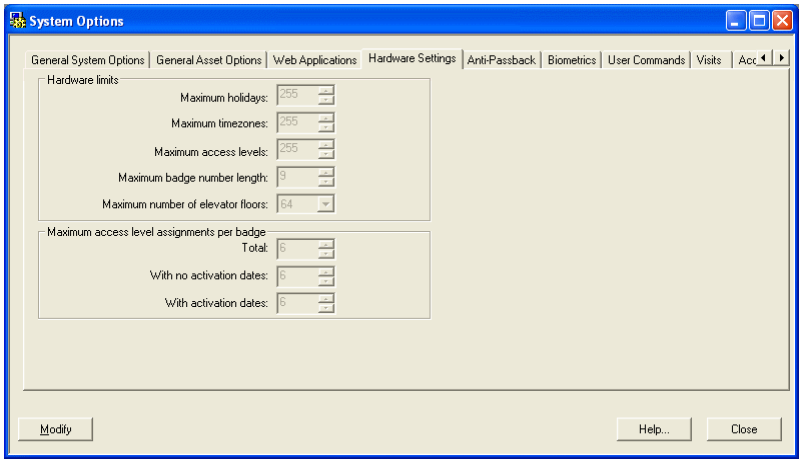


System Options Folder - General Asset Options Form

Form Element	Comment
Number of asset groups	Set the number of asset groups. The default number of asset groups will be 128. The range that you are allowed to enter is from 1 to XXX.
Number of asset classes per asset group	The default number of asset classes per asset group will be 64 but you can choose between a range of 1 to 64.

Hardware Settings Form

Note: This form displays when segmentation is not enabled. When segmentation is enabled, these options are available in the Segments folder on the Hardware Settings sub-tab of the Segments form.



Hardware Settings Form Overview

The Hardware Settings form is used to:

- Specify the maximum number of holidays, timezones, and access levels that can be defined in the system.
- Specify the maximum badge number length.
- Specify the maximum number of standard access levels, temporary access levels, and total access levels that can be assigned to an individual cardholder badge.

Important: It is advisable to determine and configure Hardware Setting options prior to entering any data into your system.

Hardware Settings Form Field Table

System Options Folder - Hardware Settings Form

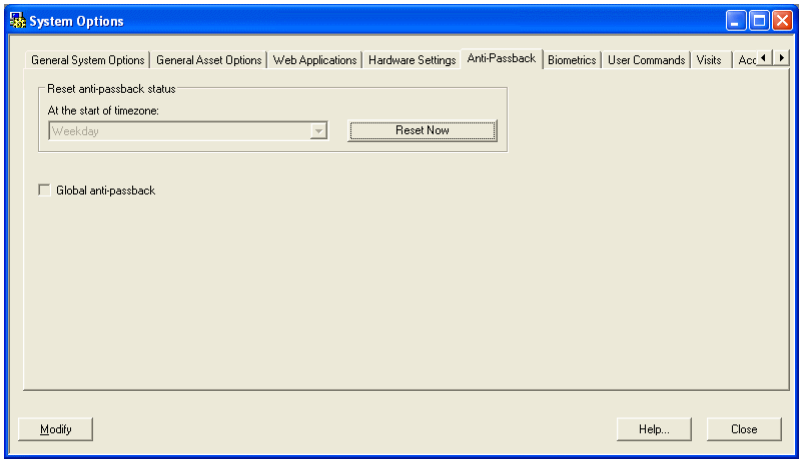
Form Element	Comment
Maximum holidays	If you are using Bosch access panels, choose a value between 20 and 255 to specify the maximum number of holidays that can be defined in the system. The default is 255.
Maximum timezones	If you are using Bosch access panels, choose a value between 127 and 255 to specify the maximum number of timezones that can be defined in the system. The default is 255.
Maximum access levels	If you are using Bosch access panels, choose a value between 255 and 31,999 to specify the maximum number of access levels that can be defined in the system. The default is 255.
Maximum badge number length	Choose a maximum badge number length (number of digits). Bosch access panels support a maximum of an 18-digit badge number (maximum value 999,999,999,999,999,999). If you create any temporary badges and import badge IDs to them, then the maximum badge number length must be increased to at least a value of 10. Badge IDs require 4 to 8 bytes of memory when stored in access panels, depending on the number of digits in a badge. • 9 digits or less require 4 bytes • 10-12 digits require 5 bytes • 13-14 digits require 6 bytes • 15-16 digits require 7 bytes • 17-18 digits require 8 bytes
Maximum number of elevator floors	Choose a maximum number of elevator floors to correspond with the floors in your building. The maximum number is 128.
Total	Specify the maximum number of access levels that can be assigned to a badge at one time. This includes both standard and temporary access levels. If you are using Bosch access panels, the maximum allowed is 128. If you reduce this number, you will be prompted that the application must proceed with a validation of each badge in the database to ensure that there are currently no badges that have more access level assignments than the value you are attempting to set. If there exist badges that have too many assignments, a message box will display the badge ID that is in violation. If you wish to proceed, you must search up the badge in the Cardholders folder and reduce its access level assignments.
With no activation dates	Specify the maximum number of standard access levels that can be assigned to a badge at one time. *Standard access assignments* are regular assignments with no activate/deactivate date. In most cases, this will be set equal to the number entered in the **Total** field. If you are using Bosch access panels, the maximum allowed is 128. This number cannot exceed the value in the **Total** field.

System Options Folder - Hardware Settings Form (Continued)

Form Element	Comment
With activation dates	Specify the maximum number of temporary access level assignments that a badge can have. In most cases, this will be set equal to the number entered in the **Total** field. A *temporary access level* assignment is one that has been assigned an activate date, a deactivate date, or both. If you are using Bosch access panels, the maximum allowed is 128. This number cannot exceed the value in the **Total** field.
Modify	Changes the system options. When clicked, options on any form in the System Options folder can be modified.
Help	Displays online help information for this form.
Close	Closes the System Options folder.

Anti-Passback Form

Note: This form displays when segmentation is not enabled. When segmentation is enabled, these options are available in the Segments folder on the Anti-Passback sub-tab of the Segments form.



Anti-Passback Form Overview

The Anti-Passback form is used to:

- Specify when to reset the anti-passback status for users associated with a given segment.
- Select whether the system will use global anti-passback.

Important: It is advisable to determine and configure Anti-Passback options prior to entering any data into your system.

System Options Folder - Anti-Passback form

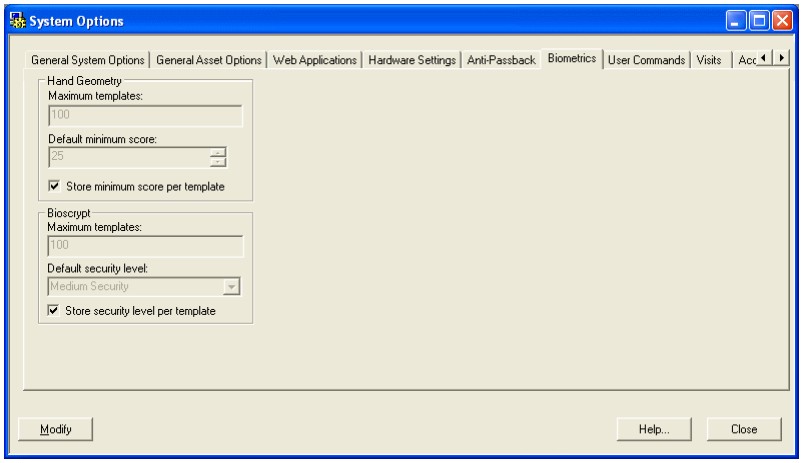
Form Element	Comment
At the start of timezone	Cards used in anti-passback readers will be made usable again at the beginning of the selected timezone. Choices include the names of all currently defined timezones. Example: In situations where people may have left an area without swiping their cards through anti-passback readers (perhaps at the end of the work day) this insures that they will be allowed to reenter properly the next day.

System Options Folder - Anti-Passback form (Continued)

Form Element	Comment
Reset Now	This button is intended for use when a cardholder has committed an anti-passback violation and can't get into or out of a particular area. • If you click this button on a non-segmented system, a confirmation message that says "Are you sure you wish to reset global anti-passback status?" will be displayed. If you click [Yes], cards used in anti-passback readers will become usable again immediately. • If you click this button on a segmented system, a confirmation message that says "Are you sure you wish to reset global anti-passback status for segment <*segment name*>?" will be displayed. If you click the [Yes] button, cards used in anti-passback readers in the selected segment will become usable again immediately.
Global anti-passback	If selected, global anti-passback features can be used. When this check box is not selected the Areas folder only contains the Anti-Passback Areas form. When this check box is selected, the Areas folder contains the Anti-Passback Areas, Associated Safe Locations, Associated Inside Areas, and Muster Reporting forms.
Modify	Changes the system options. When clicked, options on any form in the System Options folder can be modified.
Help	Displays online help information for this form.
Close	Closes the System Options folder.

Biometrics Form

Note: This form displays when segmentation is not enabled. When segmentation is enabled, these options are available in the Segments folder on the Biometrics sub-tab of the Segments form.



Biometrics Form Overview

The Biometrics form is used to:

- Specify Hand Geometry biometric settings including maximum templates, default minimum score, and whether to store the minimum score per template.
- Specify Bioscrypt biometric settings including maximum templates, default minimum score, and whether to store the minimum score per template.

Important: It is advisable to determine and configure biometric options prior to entering any data into your system.

Biometrics Form Field Table

System Options Folder - Biometrics Form

Form Element	Comment
Hand Geometry	
Maximum templates	Enter the maximum number of templates that can be downloaded to the RKP-2000 controller. Only RKP-2000 controllers support HandKey biometrics. **Note:** The maximum number of templates is limited by the amount of free space on the controller. Each hand print template occupies 20 bytes. A total of 22 bytes are required per template if individual scores are stored with the template. Additional memory is required to enable HandKey support. For more information, refer to RKP-2000 (Options Sub-tab) on page 687.
Default minimum score	Choose the minimum score required to accept a template match between the access control reader and the template in the database.The *lower* the specified score, the closer the match must be during the verification process. Scores range from 1-255, with the default score being 25.
Store minimum score per template	Select this check box if you want minimum acceptance scores to be stored on a per template basis. If this check box is selected *and* the given template has a minimum acceptance score, the default will be overridden. If not selected, the default will be used.
Bioscrypt	
Maximum templates	Enter the maximum number of templates that can be downloaded to the RKP-2000 controller. Only RKP-2000 controllers support Bioscrypt (V-Flex, V-Station or MV-1200) biometrics. **Note:** The maximum number of templates is limited by the amount of free space on the controller. Each fingerprint template occupies 362 bytes. Additional bytes are *not* required if individual scores are stored with the template because of the way the system rounds to the nearest even number. Additional memory is required to enable Bioscrypt support. For more information, refer to RKP-2000 (Options Sub-tab) on page 687.
Default security level	Select the default security level from the drop-down list.
Store security level per template	Select this check box if you want the default security level to be stored on a per template basis. If this check box is selected *and* the given template has a default security level, the default will be overridden. If not selected, the default will be used.
Modify	Changes the system options. When clicked, options on any form in the System Options folder can be modified.
Help	Displays online help information for this form.
Close	Closes the System Options folder.

Biometrics Form Procedures

Configure Biometrics

Complete this procedure to configure the maximum number of templates that can be downloaded to the access panel, as well as the minimum score necessary for

template verification.

Note: The default number of templates that can be downloaded to the access panel is zero. Therefore, you must change the default value. If you do not change the default value, data will not be sent to the access panel and the controller capacity status will not display in Alarm Monitoring.

Toolbar shortcut

1. From the **Administration** menu, select **System Options**, or click the System Options toolbar button.
2. Click the Biometrics tab.
3. Click [Modify].
4. If you are working with HandKey:
   a. Enter the maximum number of templates to be downloaded to the controller.
   b. Enter the default minimum score required to accept a template match between the template read at the reader and the template stored in the database.

Note: The *lower* the *HandKey score*, the closer the match must be during the verification process.

   c. Select the **Store minimum score per template** check box if you want minimum acceptance scores stored on a per template basis. If this check box is selected and the given template has a minimum acceptance score, the default will be overridden. If not selected, the default will be used. You assign minimum acceptance scores to templates in Multimedia Capture.
5. If you are working with Bioscrypt:
   a. Enter the maximum number of templates to be downloaded to the controller.
   b. Select the default security level which identifies the level of accuracy acceptable for template verification. Refer to the following table for rejection and acceptance rates per security level.

Security Level	False Rejection Rate	False Acceptance Rate
Very Low Security	1/10,000	1/100
Low Security	1/5,000	1/200
Medium Security	1/1,000	1/1,000
High Security	1/200	1/5,000
Very High Security	1/100	1/20,000

   c. Select the **Store security level per template** check box if you want to store individual security levels per template. Individual security levels

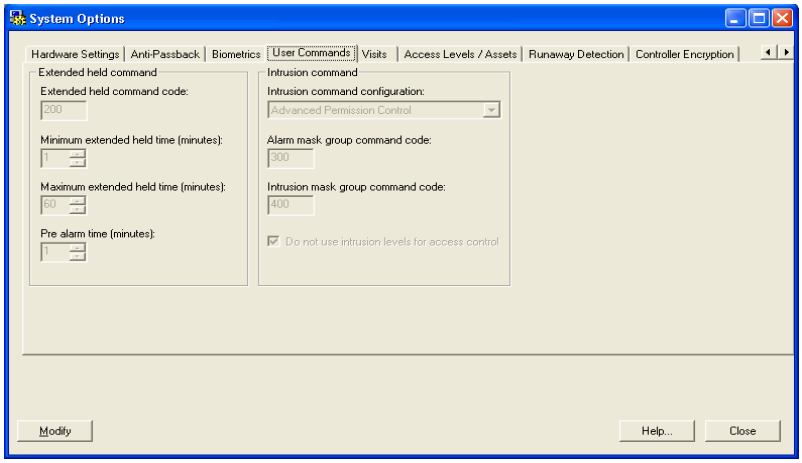
are configured in Multimedia Capture. Leave this check box deselected if you want to use default security levels for all Bioscrypt templates.

- If this check box is selected and the individual security level is set to “No Security”, then every Bioscrypt template will be successfully verified at the reader.
- If this check box is not selected, then individual security levels are disabled, even though the security levels are still active in Multimedia Capture.

6. Click [OK].

User Commands Form

Note: This form displays when segmentation is not enabled. When segmentation is enable these options are available in the Segments folder on the User Commands sub-tab of the Segments form.



System Options Folder - User Commands form

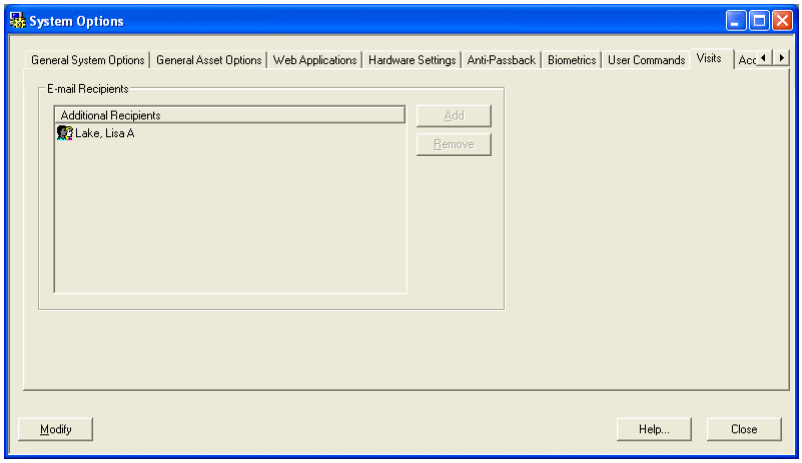
Form Element	Comment
Extended held command code	The held open time for some readers can be extended by a validated user at a command keypad. This field indicates the key sequence to use for the command. The command code key sequence must be between three and six digits. The default is 200.
Minimum extended held time (minutes)	Indicates the minimum number of minutes to extend the held open time to. The default is one.
Maximum extended held time (minutes)	Indicates the maximum number of minutes to extend the held open time to. The default is 60.
Pre alarm time (minutes)	Indicates the pre alarm time in minutes. This is the number of minutes before the held open time expires that a pre alarm will be generated. The default is one.

System Options Folder - User Commands form (Continued)

Form Element	Comment
Intrusion command configuration	**Note:** Changing this option requires a database download to all access panels configured to be online. Select from the following intrusion command options: • **Disabled** - The default setting disables use of the intrusion command code. • **Global Permission Control Only -** Allows use of the Alarm mask group command code only. For more information, refer to Appendix J: Intrusion Command on page 1521.You should also refer to Mask Groups Form (Alarm Mask Group Modify Mode) on page 894. • **Advanced Permission Control -**Allows the use of both the Alarm mask group command code and the Intrusion mask group command code separately according with the advanced functionality used for Command Keypad Templates. For more information, refer to Chapter 31: Command Keypad Templates Folder on page 867. You should also refer to Appendix J: Intrusion Command on page 1521.
Alarm mask group command code	If the **Global Permission Control Only or Advanced Permission Control** options are selected from the Intrusion command configuration drop-down box then the Alarm mask group command code can be configured. The command code can be between 3 and 6 digits in length and can not match the command code that is used by the extended held command code or intrusion mask group command code. For more information, refer to Appendix J: Intrusion Command on page 1521.
Intrusion mask group command code	The **Intrusion mask group command code** is only available for configuration when the Advanced Permission Control option is selected from the Intrusion command configuration drop-down list. The 'Intrusion mask group command code' number can be between 3 and 6 digits in length and can not match the command codes that are used for the Extended held command code as well as for the Alarm mask group command code. For more information, refer to Appendix J: Intrusion Command on page 1521.
Do not use intrusion levels for access control	Select to disallow cardholders automatic access control rights. To gain access control rights the cardholder must hold non-intrusion authority access levels. When this field is selected, intrusion authority levels assigned to a badge only allow control over executions of intrusion commands at the command keypad. **Note:** Setting this option requires a database download to all access panels configured to be online.
Modify	Changes the system options. When clicked, options on any form in the System Options folder can be modified.
Help	Displays online help for this topic.
Close	Closes the System Options folder.

Visits Form

Note: This form displays when segmentation is not enabled. When segmentation is enabled, these options are available in the Segments folder on the Visits sub-tab of the Segments form.



System Options Folder - Visits form

Form Element	Comment
Additional Recipients listing window	The recipients listed are the default recipients who will be e-mailed if the **Default Recipients** check box is selected on the E-mail form in the Visits folder.
Add	In modify mode, click this button to open the Add recipient window, from where you can locate a recipient. For more information, refer to Chapter 5: Visits Folder on page 181.
Remove	In modify mode, click this button to remove the selected recipient from the Additional Recipients listing window.
Modify	Changes the system options. When clicked, options on any form in the System Options folder can be modified.
Help	Displays online help for this topic.
Close	Closes the System Options folder.

Visits Form Procedures

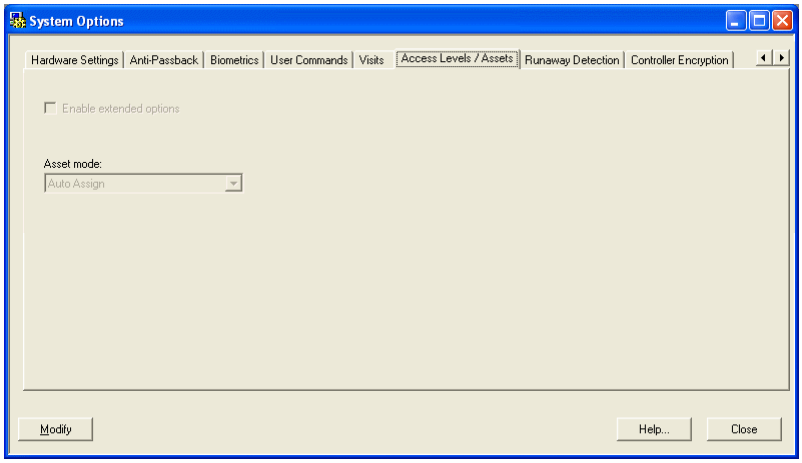
Configure Default E-mail Recipients

The recipients listed in the Additional Recipients listing window for a selected segment are the default recipients who will be e-mailed if the **Default Recipients** check box is selected on the E-mail form in the Visits folder. To configure the default e-mail recipients:

1. On a non-segmented system, select **Administration** > **System Options**, then click the Visits tab. On a segmented system, select the **Administration** > **Segments** menu option, click the Segments tab, and then click the Visits sub-tab.
2. On a non-segmented system, just click [Modify]. On a segmented system, select a segment, then click [Modify].
3. Click [Add].
4. The Add recipient window opens. You may add a cardholder, visitor, directory account, or SMTP address.
   - If you select the Cardholder radio button and click [OK], the Select Host Wizard: Search form opens. For more information, refer to Select Host Wizard: Search Form Overview on page 212.
   - If you select the Visitor radio button and click [OK], the Select Visitor Wizard: Search form opens. For more information, refer to Select Visitor Wizard: Search Form Overview on page 215.
   - If you select the Directory account radio button and click [OK], the Select Account window opens.
   - If you select the SMTP address radio button, type the SMTP address, then click [OK]. An example of an SMTP address is “joesmith@company.com”.
5. Click [OK].

Access Levels/Assets Form

Note: This form displays when segmentation is not enabled. When segmentation is enabled, these options are available in the Segments folder on the Access Levels/Assets sub-tab of the Segments form.



System Options Folder - Access Levels/Assets form

Form Element	Comment
Enable extended options	Select this check box to add escort functionality to access levels and enable the Access Levels/Assets folder > Extended Options form. **Note:** Extending options requires additional memory and a full access panel download. Users on other workstations must log out/on in order to use the new settings. **Note:** If a badge is using an escorted access level the badge should not also have the **Asset Format** check box selected when it is being configured. Doing so may result in errors when using the badge.
Asset mode	Choose the asset mode you wish to choose. Options include: • Tracking - assets will be assigned to a specific individual (In Alarm Monitoring, an Asset Privilege Only message will always be generated.) • Auto Assign - assets will be assigned based on Groups and Classes. A cardholder can belong to one Group. A Group contains Classes. Assets also contain Classes. When Auto Assign is selected, if the Assets Class matches the Group Class, then permission to have the asset is granted. **Note:** To disable asset operations, set the Assets field on the RKP-2000 or RKP-1000 form in the Access Panels folder to 0. **Note:** It is advisable to determine and configure this option prior to entering any data into your system.
Modify	Changes the system options. When clicked, options on any form in the System Options folder can be modified.

System Options Folder - Access Levels/Assets form (Continued)

Form Element	Comment
Help	Displays online help for this topic.
Close	Closes the System Options folder.

Access Levels/Assets Form Procedures

Enable Extended Options for Access Levels

The following procedure applies to non-segmented systems only. For segmented systems, refer to the Segments folder on the Access Levels/Assets sub-tab of the Segments form.

Toolbar Shortcut

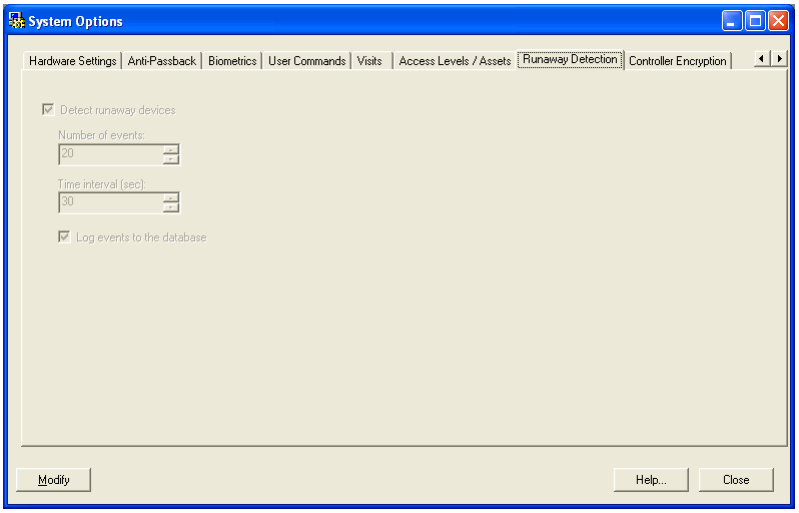
1. From the **Administration** menu, select **System Options**, or click the System Options toolbar button.
2. Click the Access Levels/Assets tab.
3. Click [Modify].
4. Select the **Enable extended options** check box.

Note: To configure extend options for Access Levels (escort mode and activation times), refer to the Access Levels/Assets folder > Extended Options form. For more information, refer to Extended Options Form on page 852.

Runaway Detection Form

The Runaway Detection feature monitors the system for devices that have entered a "runaway" condition characterized by multiple alarms of the same type coming from a device during a user-defined time interval. Once this state has been identified it will be indicated in Alarm Monitoring by an alarm and by a change in state in the hardware tree. While in this state, the Communication Server stops sending the runaway events to Alarm Monitoring stations.

When the configured conditions for the runaway state are no longer true, a restored event will occur and the status will be returned to normal in the hardware tree.



System Options Folder - Runaway Detection form

Form Element	Comment
Detect runaway devices	Select this check box to enable detection of runaway devices.
Number of events	Specify the number of events of the same type that must occur for a device to enter the runaway state.
Time interval (sec)	Specify the amount of time that the events must occur within for the device to enter the runaway state.
Log events to the database	Select this check box to continue logging the events to the database while the device is in a runaway state. **Note:** Events will no longer be sent to Alarm Monitoring stations while the device is in a runaway state, but they can still be logged in the database.
Modify	Changes the system options. When clicked, options on any form in the System Options folder can be modified.
Help	Displays online help for this topic.

System Options Folder - Runaway Detection form (Continued)

Form Element	Comment
Close	Closes the System Options folder.

Controller Encryption Form

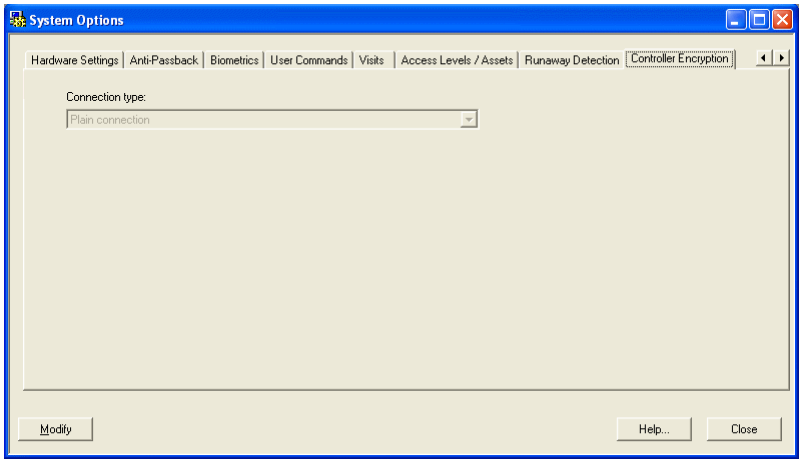
Note: This form displays when segmentation is not enabled. When segmentation is enabled, these options are available in the Segments folder, of the Segments form, on the Controller Encryption sub-tab.

To open the Controller Encryption form, select **System Options** from the **Administration** menu and click the Controller Encryption tab.

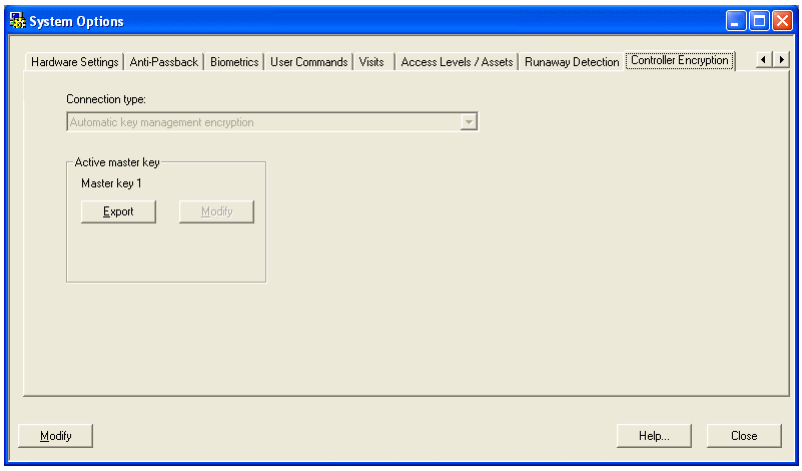
The Controller Encryption form is used to configure encryption for a system. This applies to Bosch controllers (RKP-2000, RKP-1000, and RKP-500), Fire panels (ESPA, Notifier AM2020/NFS-640, Pyrotronics), Intercom Devices, Personal Safety Devices (Visonic Spider Alert), Receivers (Bosch 6500, SIA), Intrusion Panels (all except generic Intrusion), and POS Devices (TVC-2100 series). For more information, refer to the Access Panels Folder chapter.

The Controller Encryption form displays different fields depending on the connection type.

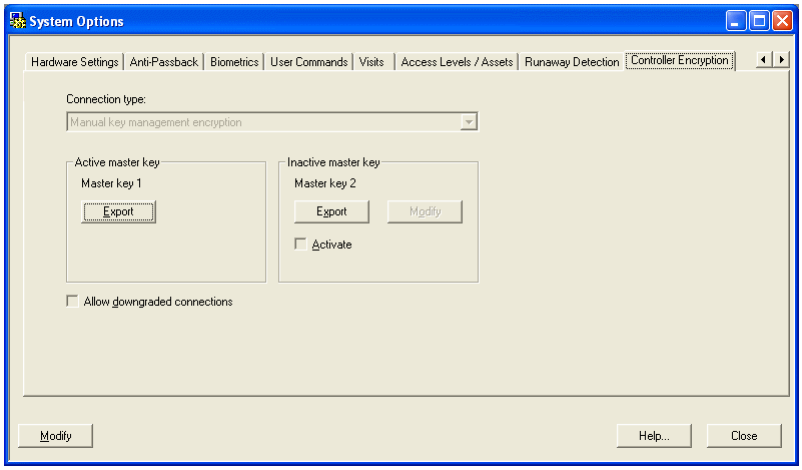
Plain Connection



Automatic Key Management Encryption



Manual Key Management Encryption



Form Element	Comment
Connection type	The type of connection that exists between the controller and the host application. The default value is a plain connection.
Active master key	Displays the name of the active key, an export button and depending on the connection type, a modify button. If the connection type is automatic, the modify button displays. If the connection type is manual, the modify button does not display.
Active master key - Export	Exports the active master key to a text file. Depending on the status of your system, this may be master key one or two.
Active master key - Modify	Opens the Master Key Entry window where you can modify the active master key (one or two). Note that you cannot modify the active master key using manual key management encryption; doing so would cause communication errors.

Form Element	Comment
Inactive master key	Displays to the right of the Active master key section, regardless of which key is in/active. The inactive master key section includes the name of the inactive key, export and modify buttons, and the **Activate** check box. Displays only for manual key management systems.
Inactive master key - Export	Exports the inactive master key to a text file. Depending on the status of your system, this may be master key one or two. Displays only for manual key management systems.
Inactive master key - Modify	Opens the Master Key Entry window where you can modify the inactive master key. Depending on the status of your system, this may be master key one or two. Displays only for manual key management systems.
Activate	Select this check box when you want ReadkeyPRO to begin using this key. Displays only in the inactive master key section for manual key management systems. **Note:** You should not activate a master key until both the controller and ReadkeyPRO have the same value for the inactive key. **Note:** If using an encrypted connection to one of the supported panels (Fire, Intercom, Personal Safety, Receiver, Intrusion or POS Devices) do not activate a master key until both the encrypted communication device and ReadkeyPRO have the same value for the inactive key
Allow downgraded connections	Select this check box if you want the host/controller connection to downgrade the connection if the encryption connection fails. Displays only for manual key management systems. When this check box is selected, the access control system attempts the following connections (in sequence): 1. An encrypted connection with the inactive master key 2. An encrypted connection with the factory default value for Master Key 1 3. An encrypted connection with the factory default value for Master Key 2 4. A plain connection (only attempted if the controller does not require an encrypted connection) If encryption is enabled the following connections are attempted in sequence: 1. An encrypted connection with the inactive master key. 2. A plain connection.
OK	Saves the changes made to the Controller Encryption form.
Cancel	Cancels the recent changes made to the Controller Encryption form.
Help	Displays online help for this topic.
Close	Closes the System Options Folder.

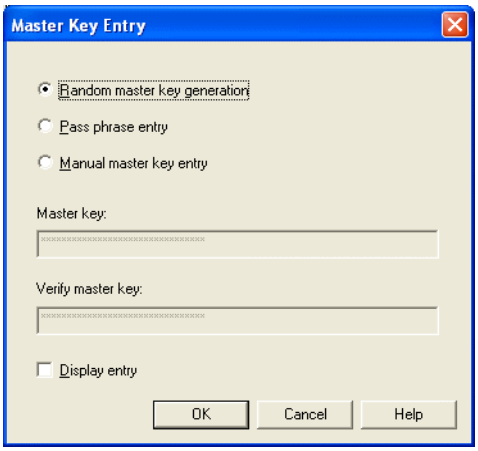
Controller Encryption Form Overview

The Controller Encryption form is used to:

- Configure the system for encryption (automatic or manual)
- Enter master keys for encryption
- Export master keys to a text file
- Activate inactive keys (manual encryption only)

For more information regarding encryption, refer to the Encryption for Controllers User Guide.

Master Key Entry Window



Form Element	Comment
Random master key generation	Randomly generates a 128-bit value master key and automatically populates the master key and verify master key text fields.
Pass phrase entry	Identifies the master key value as a pass phrase or sentence. When you select this radio button, you need to enter and verify the pass phrase in the corresponding text fields. The recommended minimum length for a pass phrase is 50 characters. The range of acceptable character length is between 1 and 255 characters. Spaces and symbols can be used and the pass phrase is case-sensitive. Notice when this radio button is selected, the text fields on this form change to Pass phrase and Verify pass phrase.
Manual master key entry	Identifies the master key value as a 128-bit value in hexadecimal form. A 128-bit hexadecimal value is exactly 32 digits containing any of the following numbers or letters: 0 – 9, A – F. When you select this radio button, you need to enter and verify the master key in the corresponding text fields.
Master key/Pass phrase	The master key or pass phrase value. If you selected the random master key generation radio button, this field is automatically populated. If you selected the Pass phrase entry or Manual master key entry radio button, enter the master key/pass phrase.
Verify master key/Verify pass phrase	The master key or pass phrase value. Enter the master key/pass phrase field to verify that you correctly entered the master key/pass phrase value. **Note:** You cannot copy/paste between this field and the master key/pass phrase field.
Display entry	Displays the characters in the master/pass phrase fields if this check box is selected.
OK	Accepts the changes and closes the Master Key Entry window.
Cancel	Closes the Master Key Entry window.

Form Element	Comment
Help	Displays online help for this topic.

Controller Encryption Form Procedures

Configure Automatic Encryption and Set Keys

Note: The encryption modify/export permission is required to complete this procedure.

Toolbar Shortcut

1. From the **Administration** menu, select **System Options**, or click the System Options toolbar button.
2. Click the Controller Encryption tab. The Controller Encryption form opens.
3. Click [Modify].
4. If you are initially setting up automatic encryption:

Note: When encryption is being used with an encrypted communication device, the encryption key must be configured properly within the communication device first. The master key should then be configured on the Controller Encryption form For more information, refer to Controller Encryption Form on page 481.

   a. Select "Automatic key management encryption" from the **Connection type** drop-down list.
   b. Acknowledge any messages that display.
   c. Skip to step 5.

5. If you are updating the master key, click [Modify] (located in the active master key section of the form).
6. The Master Key Entry window opens. Select the **Manual master key entry**, **Pass phrase entry**, or **Random master key generation** radio button.
   - If you selected the **Manual master key entry** or **Pass phrase entry** radio button:
     a. Select the **Display entry** check box if you want to see the characters you are typing.
     b. Enter and verify the master key/phrase. If the key is stored in a text file, you can copy/paste the key into these fields.
     c. Click [OK].
     d. Acknowledge any messages that display.
   - If you selected the **Random master key generation** radio button:

a. Select the **Display entry** check box if you want to see the master key values.

b. Click [OK].

7. On the Controller Encryption form, click [OK].
8. Acknowledge any messages that display.

Configure Manual Encryption and Set Keys

When you initially configure manual encryption, you should modify both master keys to prevent a key with a factory default value from being used (security risk).

If encryption is being used for Bosch access control panels (RKP-3300, RKP-2220, RKP-2000, RKP-1000 and RKP-500) then when you manually update a master key, you modify the inactive key and use the Controller Encryption Configuration Utility to load the new key into the controller. Once both the controller and ReadkeyPRO have the same value for the inactive key, you can activate the new key. For more information, refer to the Encryption for Controllers User Guide or the Controller Encryption Configuration Utility.

Note: When encryption is being used with an encrypted communication device, the encryption key must be configured properly within the communication device first. Then the master key should be updated on the Controller Encryption form. Once the communication device and ReadkeyPRO have the same value for the inactive key, you can activate the new key.

Note: The encryption modify/export permission is required to complete this procedure.

Toolbar Shortcut

1. From the **Administration** menu, select **System Options**, or click the System Options toolbar button.
2. Click the Controller Encryption tab. The Controller Encryption form opens.
3. Click [Modify].
4. If you are updating a key, skip to step 5. If you are initially setting up manual encryption, complete the following:

   a. Select “Manual key management encryption” from the **Connection type** drop-down list.

   b. Acknowledge any messages that display.

   c. Skip to step 6.

5. If you are updating a key, click [Modify] (located in the inactive master key section of the form).
6. The Master Key Entry window opens. Select the **Manual master key entry**, **Pass phrase entry**, or **Random master key generation** radio button.

   - If you selected the **Manual master key entry** or **Pass phrase entry** radio button:

a. Select the **Display entry** check box if you want to see the characters you are typing.

b. Enter and verify the master key/phrase. If the key is stored in a text file, you can copy/paste the key into these fields.

c. Click [OK].

d. Acknowledge any messages that display.

- If you selected the **Random master key generation** radio button:

a. Select the **Display entry** check box if you want to see the master key values.

b. Click [OK].

7. On the Controller Encryption form, click [OK].
8. Acknowledge any messages that display.
9. If manual encryption is enabled for the first time, it is recommended that you update both master keys by repeating this procedure.

Modify Master Keys

If you want to automatically update/change keys, refer to Configure Automatic Encryption and Set Keys on page 486.

If you want to manually update/change keys, refer to Configure Manual Encryption and Set Keys on page 487.

Export Master Keys

This procedure applies to manual and automatic key management encryption systems. To export master keys:

Toolbar Shortcut

1. From the **Administration** menu, select **System Options**, or click the System Options toolbar button.
2. Click the Controller Encryption tab. The Controller Encryption form opens.
3. Click [Export].
4. The Save As dialog opens. Enter the file name and click [Save].
5. Acknowledge any messages that display.

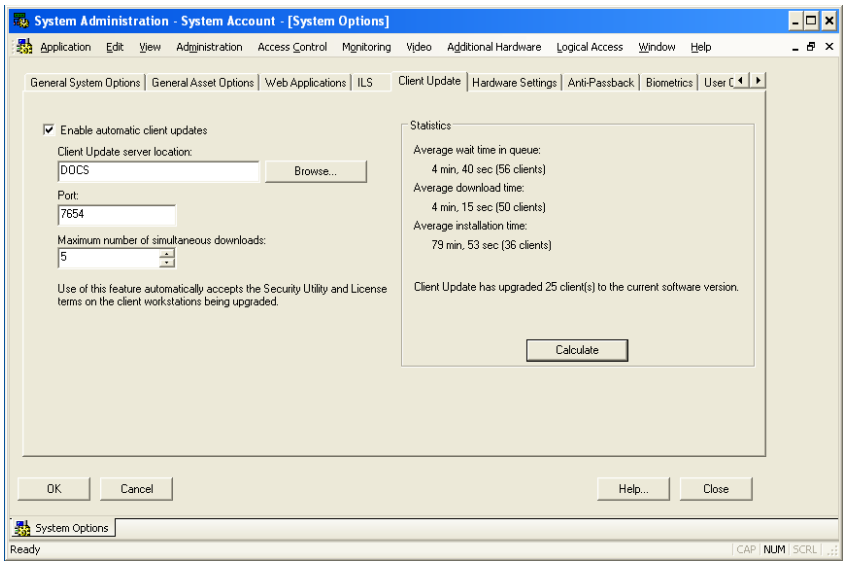
Activate Master Keys

The modify/export permission is required to complete this procedure.

Toolbar Shortcut

1. From the **Administration** menu, select **System Options**, or click the System Options toolbar button.
2. Click the Controller Encryption tab. The Controller Encryption form opens.
3. Click [Modify].
4. Select the **Activate** check box.
5. Select the **Allow downgraded connections** check box if you want the host to controller connection to downgrade to a plain connection when the encryption connection fails.
6. Click [OK].
7. Acknowledge any messages that display.

Client Update Form



Client Update Server Overview

The Client Update Server allows the ReadkeyPRO server workstation to automatically update client workstations. When a client workstation opens an ReadkeyPRO application, the application detects that the software version does not match the database. The application then allows the user to either cancel the login or update the client software. This functionality only exists for applications that are part of the ReadkeyPRO installation suite.

Two services enable this functionality, one installed on the server workstation (LS Client Update Server Service) and another installed on each client workstation (LS Client Update Service). These services are only used to update client workstations. Server workstations must still be updated manually. The server service is disabled by default.

Note: After enabling the automatic client updates feature, all Security Utility system modifications and license terms are accepted automatically on the client workstation being updated.

For more Automatic Client Update information, refer to *Remote Installation of* ReadkeyPRO in the *Advanced Installation Topics* guide.

Client Update Form Field Table

Form Element	Comment
Enable automatic client updates	Select this check box to enable the Client Update function for the entire system (or region for an Enterprise system).
Client Update server location	Click [Modify] and then browse to identify the server that hosts the update.
Port	This field allows you to configure the port used when downloading the update. By default, the port is 7654.
Maximum number of simultaneous downloads	Use this field to specify the maximum number workstations that can download from the server at the same time. The default is 5.
Statistics	This form area shows statistics for the Client Update function. Click [Calculate] to generate the following statistics: • **Average wait time in queue:** The average time duration the client workstations have waited in the queue before the installation package download begins. Also identifies the number of client wait times used in this calculation. • **Average download time:** The average time duration required to download the installation package. Also identifies the number of package downloads used in this calculation. • **Average installation time:** The average time duration required to complete the Client Update installation. Also identifies the number of installations used in this calculation. The form area also identifies the number of clients upgraded to the current software version. The number of clients shown might not be the same for each statistic. This occurs for several reasons, such as non-queued clients, incomplete downloads, incomplete installations, and so on. Also, the three Average statistics are based on the entire history of client updates which could span multiple software versions and hot fixes, but the Current Software Version client count is based on the current software release or hot fix only. Archived transactions are not included in these statistics. For Enterprise systems, these statistics are specific to each server. For example, statistics on a master server apply to the master and its clients, but not the regions. You can also run a detailed client update report. For more information, refer to Running a Client Update Report on page 493.
OK	Accepts the changes and closes the Client Update entry window.
Cancel	Closes the Client Update entry window.

Client Update Form Procedures

Enable and Configure Automatic Client Updates

Note: Only perform these configuration steps once for the entire system.

Toolbar Shortcut

1. From the **Administration** menu, select **System Options**, or click the System Options toolbar button.
2. Click the Client Update tab. The Client Update form opens.
3. Click [Modify].
4. Select the **Enable automatic client updates** checkbox.
5. Click [Browse], and then identify the location of the Client Update Server.
6. If the default port 7654 is acceptable, then leave the **Port** field unchanged. Otherwise, configure the port used when downloading the updates to the client workstations.
7. Configure the **Maximum number of simultaneous downloads** of client update files that the server will support at the same time. The default is **5**.
8. Click [OK].
9. Start the LS Client Update Server Service on the workstation specified in step 5.

Client Update Troubleshooting

Issue

The client workstation does not ask users if they would like to perform an automatic upgrade after it determines that its version of ReadkeyPRO does not match the database.

Resolution

Confirm the following:

- **Confirm that this is not a server installation.** Automatic upgrades only work on client workstations.
- **Automatic updates is turned on and configured.** For more information, refer to “Enable and Configure Automatic Client Updates” on page 492.
- **LS Client Update Server service is running and reachable on the configured host.** On the server workstation, in Windows, go to **Start > Control Panel > Administrative Tools > Component Services > Services (Local)** and confirm that the LS Client Update Server service’s status is **Started**.

  To confirm that you can reach the LS Client Update Server service, open a

command prompt and ping the server using the **ping <configuredWorkstationName>** command.

If the server service is not running and you get an error on startup, check the logs for details.

- **The installed version of ReadkeyPRO is 6.5 or later. ReadkeyPRO 6.5** or later is required to provide automatic prompts to the user that an upgrade is available. To view the product version, open System Administration and select **Help > About**.

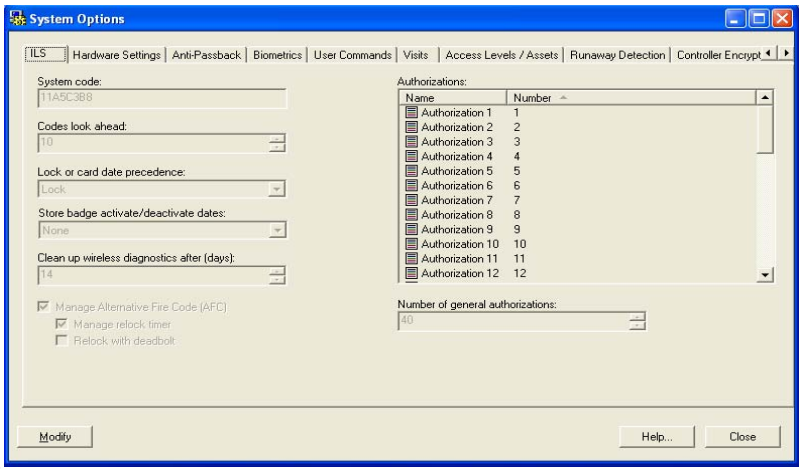
  For client workstation versions of **ReadkeyPRO** earlier than 6.5, users can install an update without a disc if they receive and run the Client Update application.
- **The installed version of ReadkeyPRO is newer than the database version.** Run Database Setup on the server to update the database version.

Running a Client Update Report

To run a detailed report of the client update statistics:

1. In System Administration, select **Administration > Reports**.
2. Select the **Date/Time Reports** tab.
3. Select **User Transaction Log, By User ID**.
4. Configure the **Text Field Filter** as follows:
   - **Where:** Object
   - Equals
   - Client Update
5. Click [Preview].

ILS Form



Note: In order to view this form, your system must have an ILS license.

Use the ILS form to configure data elements that affect the programming of all ILS controllers and locks in the system.

Important: The default **System Code** should be modified by the system administrator and the system integrator prior to badge deployment and lock initialization. Failure to modify the **System Code** may cause corruption to wireless systems in close proximity (e.g. multi-tenant facilities). Retaining the default **System Code** will also lead to reduced facility security.

Important: When you modify certain system settings, such as **System code** or **Store badge activate/deactivate dates**, this information must be downloaded to the XPP or Mobile Configurator in order to update or initialize the lock.

System Options Folder - ILS Form

Form Element	Comment
System code	The system code is a unique identifier or name for the system.
Codes look ahead	This option applies to all ILS locks in the system. It tells the lock how many future codes it should allow for each user with access to that lock. Select from 5 - 99 with a default value of 10. **Note:** Configuring this field to lower values provides greater system security.

System Options Folder - ILS Form (Continued)

Form Element	Comment
Lock or card date precedence	This option specifies the date validation precedence at the lock, giving priority to the activate/deactivate date information on either the "Lock" or the "Card." Initially the card data is downloaded to the lock, but the card data may eventually become out of sync with the lock data.
Store badge activate/deactivate dates	Specifies how the card activation/deactivation date information is stored on the badge. Choices include: • None • Date only • Date and time **Note:** If you select "Date and time" ensure the **Use time** feature is enabled on the Cardholder Options > General Cardholder Options form.
Listing window	Lists the currently defined authorizations.
Number of general authorizations	Authorizations are used to limit access to areas without the need to update the locks. Authorizations allow you to customize accessibility to the locks as needed. There are 40 pre-defined authorizations that can be used. The number of general authorizations entered in this field controls the amount of authorizations that are available for assignment within the list when configuring badge types or cardholders.
Clean up wireless diagnostics after (days)	Allows all wireless diagnostics records stored longer than the number of days specified to be automatically purged. Configure from 1 - 30 days with a default value of 14 days.
Manage Alternative Fire Code (AFC)	The Alternative Fire Code (AFC) feature is used in jurisdictions where the local fire code specifies the locks cannot automatically relock behind a user exiting a room. Select this check box to allow this feature on a door-by-door basis. For more information, refer to the ILS Lock Operation User Guide.
Manage relock timer	Select to allow the door to relock after the door is unlocked after a specified amount of time. The time value is specified in the **Relock timer** field. For more information, refer to Readers and Doors Folder - ILS Form on page 794. **Note:** The **Relock timer** field is only available form when **Manage relock timer** is selected during system configuration. **Note:** Be sure to check with the local authorities to verify if this option is allowed within your jurisdiction.
Relock with deadbolt	Allows you to configure individual locks to lock automatically when the deadbolt is engaged.
Modify	Changes an ILS System Options entry.
Help	Displays online help information for this form.
Close	Closes the System Options folder.

ILS Form Procedures

To read how to configure an ILS locking system, refer to Appendix K: ILS (Integrated Locking Solutions) on page 1525.

Chapter 16: Cardholder Options Folder

The Cardholder Options folder contains forms with which you can:

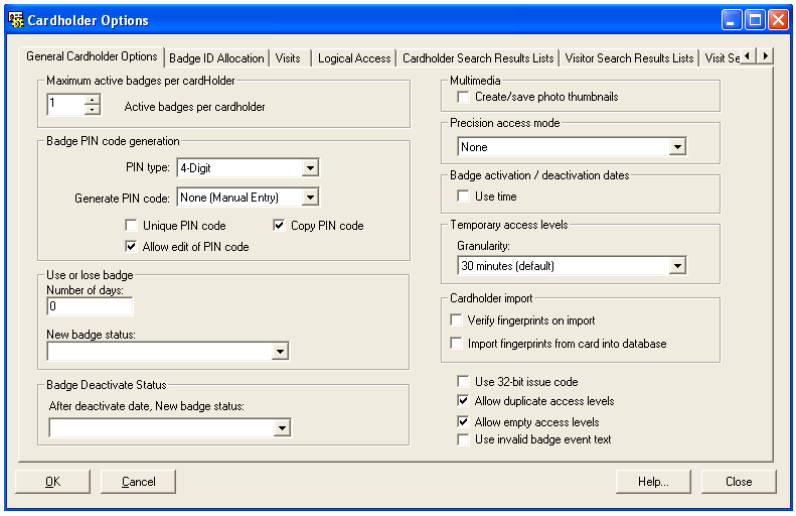
- Modify general cardholder options
- Modify badge ID allocation options
- Modify visit options
- Modify logical access options
- Modify cardholder search results lists
- Modify visitor search results lists
- Modify visit search results lists
- Modify visit notification fields
- Modify person e-mail fields
- Link a cardholder field to an intercom panel type

The folder contains the following forms: the General Cardholder Options, Badge ID Allocation, Visits, Logical Access, Cardholder Search Results Lists, Visitor Search Results Lists, Visit Search Results Lists, Visit Notification Fields, Person E-mail Fields, and Automatic Lookup forms.

Toolbar Shortcut

The Cardholder Options folder is displayed by selecting **Cardholder Options** from the **Administration** menu, or by selecting the Cardholder Options toolbar button.

General Cardholder Options Form



General Cardholder Options Form Overview

The General Cardholder Options form is used to specify database guidelines for cardholder information, including maximum number of active badges per cardholder, PIN code, photo thumbnails, the status when a badge is not used for a period of time or has passed the deactivate date.

Important: It is advisable to determine and configure General Cardholder Options prior to entering any data into your system.

Cardholder Options Folder - General Cardholder Options Form

Form Element	Comment
Active badges per cardholder	Indicates the maximum number of active badges that are allowed for each cardholder. An active badge is one that was assigned the “Active” badge status using the Badge form in the Cardholders folder. The value must be at least 1, which is also the default. In most security systems, it is desirable to allow only one active badge per cardholder. However some installations require the ability to have more than one active badge per cardholder. For example, if this value is set to “2”, you can define up to 2 active badges for an individual cardholder. If you attempt to add an additional active badge for a cardholder that already has two active badges, a Change Badge Status window opens, prompting you to change the badge status of one of the first two badges to something other than “Active.”

Cardholder Options Folder - General Cardholder Options Form (Continued)

Form Element	Comment
PIN type	Select the format for the PIN type. Choices include: • 4-Digit - the PIN will contain 4 numbers • 6-Digit - the PIN will contain 6 numbers • 9-Digit - the PIN will contain 9 numbers **Note:** • Changing the PIN type requires a full download. • System Administrators must log off/log on to the System Administration application before entering PIN numbers on the Cardholder folder-Badge form. • If you have a pin code configured for a controller that is 1-*n* digits long, but have a cardholder in the database that has a pin code ***longer*** than *n*, the pin code gets downloaded with the badge record, but gets truncated at *n* digits. For example, you have a 1-4 digit pin for the controller, but the badge record in the access control system's database has '123456' specified as the pin code. When this gets downloaded, it is truncated to '1234.'
Generate PIN code	Select the method by which a PIN code will be assigned upon creation of a new badge. Choices include: • None (Manual Entry) - no PIN will be assigned. A PIN must be entered by the user who creates or changes the badge record. • Random - the PIN will be assigned by the system. The number will be chosen randomly.
Unique PIN code	If selected, each cardholder badge record must have a unique PIN code. Otherwise, duplicate PIN codes will be allowed.
Copy PIN code	If selected, the **Copy PIN** check box in the Access Level and Pin Assignment form will be selected by default. Likewise, if it is not selected the **Copy PIN** check box will not be selected by default. For more information, refer to Add or Replace a Badge Record on page 145.
Allow edit of PIN code	If selected, a user having the appropriate privilege level will be able to change PIN values.
Number of days	For the use or lose badge feature, enter the number of consecutive days of badge inactivity after which badges will be assigned the badge status indicated in the **New badge status** field. A value of zero disables the use or lose badge feature.
New badge status	Select the badge status that will be assigned to badges when the **Number of days** value has been exceeded. Choices in the drop-down list include default badge status values, and any badge status values that were added in the List Builder folder. For information on the relationship between the use or lose badge settings (configured here) and use or lose badge type settings (configured in the Badge Types folder), refer to Use or Lose Badge on page 384.

Cardholder Options Folder - General Cardholder Options Form (Continued)

Form Element	Comment
After deactivate date, New badge status	Select the badge status that will be assigned to active badges when the deactivate date has passed. Choices in the drop-down list include default badge status values except for Active, and any badge status values that were added in the List Builder folder. If the field remains blank, the badge status will not be changed unless the badge deactivate status is set for the badge type. For information on the relationship between the badge deactivate status settings (configured here) and badge deactivate status settings (configured in the Badge Types folder), refer to Badge Deactivate Status on page 384.
Create/save photo thumbnails	When a cardholder's photo is captured, by default it is saved in a high-resolution format in the database. If this check box is selected, the application immediately generates compressed, thumbnail versions for all existing cardholder photos. Any photos captured subsequently will be saved in both full-sized and thumbnail formats in the database. The Cardholder View Options determine how photos are displayed. (To set Cardholder View Options, select **Cardholders** from the **Administration** menu, and then select **View Options** from the **Cardholder** menu.) • If "Normal image" or "Normal image with chromakey" is selected in the **Cardholder photo lookup** drop-down, the uncompressed photo is displayed. • If "Thumbnail" is selected in the **Cardholder photo lookup** drop-down, a smaller thumbnail version of the photo is displayed. Although the thumbnail photo has a lower resolution than the full-sized image, it displays faster–particularly when you have a slow network connection to the database. **Note:** The "Thumbnail" option will not be available until this check box is selected and thumbnails have been created and saved. If this check box was previously selected and you deselect it, the application immediately deletes all thumbnails currently in the database, leaving the full-sized versions alone. Any photos captured subsequently will be saved in the database in a full, uncompressed format only. Because most organizations want to view the highest quality cardholder photos and don't really need/want to have optional draft versions, this check box is typically not selected. Selecting this check box requires more database space per image, since the thumbnail version of the image must be saved in addition to the full-size photo.
Precision access mode	Select the precision access mode for your installation. The option you choose applies to the entire system. • None - Most people will choose this option, because the precision access features will typically be used only in very large, campus installations. Furthermore, the ability of Bosch hardware to manage up to 32,000 access levels and 32 level assignments per badge all but eliminates the need for precision access for any new installation. If you choose this option, the Precision Access forms in the Cardholders and Access Levels folders will not open. • Inclusion - Choose this option to be able to select readers that an individual cardholder CAN access, and when (by specifying timezones)

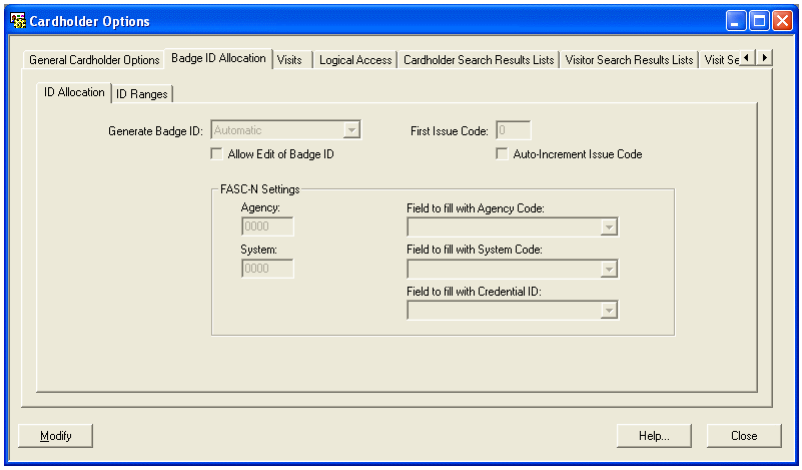
Cardholder Options Folder - General Cardholder Options Form (Continued)

Form Element	Comment
Use time	Select this check box if you want to specify both date and time for badge activation/ deactivation. When this check box is selected, the "Date and time" option will become available for selection in the **Store expiration date** and **Store activation date** drop-down lists on the Options sub-tab on the RKP-2000, RKP-1000, and RKP-500 forms in the Access Panels folder. Note that only Bosch controllers can use time with badge activation and deactivation dates. For all other controllers, the time will always default to midnight. Also, when this check box is selected, additional time controls will appear on the Badge form in the Cardholders folder. Modifications to this layout may be needed to properly handle these additional controls. Badge form layout modifications can be made in the FormsDesigner application. For more information, refer to the FormsDesigner User Guide.
Granularity	For date and time badge activation and deactivation purposes, the Linkage Server examines and updates temporary access levels several times a day (to determine if a badge needs to be added to or removed from a panel). By default, the temporary access levels are examined and updated every 30 minutes. If you choose, you can change this setting by selecting another value from this drop-down list. **Note:** It is important to consider that reducing the temporary access level granularity below the default setting (30 minutes) may impact system performance. (Because temporary access level processing will be performed more frequently, more resources may be consumed.)
Verify fingerprints on import	Select to enable fingerprint verification. **Note:** If an ReadkeyPRO supported fingerprint scanning device is not available, this option must be disabled. For a list of supported scanner devices, refer to the Cardholder/Visitor Import table on page 129.
Import fingerprints from card into database	Select to enable the importing of fingerprint templates. **Note:** By default, this option is not enabled since fingerprints are considered sensitive data, and some organizations may not want them copied off the card.
Use 32-bit issue code	Enabling this checkbox increases the size of the issue code from a single byte (8-bit) to 4 bytes (32-bit). When changing this setting the cardholder size changes, and so a database download is required. The cardholder record size will increase by 3 more bytes. This is a system wide setting so enabling it will affect your entire system. Currently the only hardware that can support a 32-bit issue code are the Bosch Intelligent System Controllers. **Note:** If enabled, the first issue code used when generating badges can only have a maximum value of 99.
Allow duplicate access levels	This check box is selected by default. Disable this option to not allow duplicate access levels to be created.
Allow empty access levels	This check box is selected by default. If disabled, the user will be prompted when deleting an access panel or reader that results in an access level losing its reader assignments.

Cardholder Options Folder - General Cardholder Options Form (Continued)

Form Element	Comment
Use invalid badge event text	Select to enable/disable the invalid badge event text. The invalid badge event text is a system administrative user enabled feature that allows configured text to appear when an invalid badge event is received.
Modify	Used to change Cardholder Options. When clicked, settings can be changed on any form in the Cardholder Options folder.
Help	Displays online assistance for this form.
Close	Closes the Cardholder Options folder

Badge ID Allocation Form - ID Allocation Sub-tab



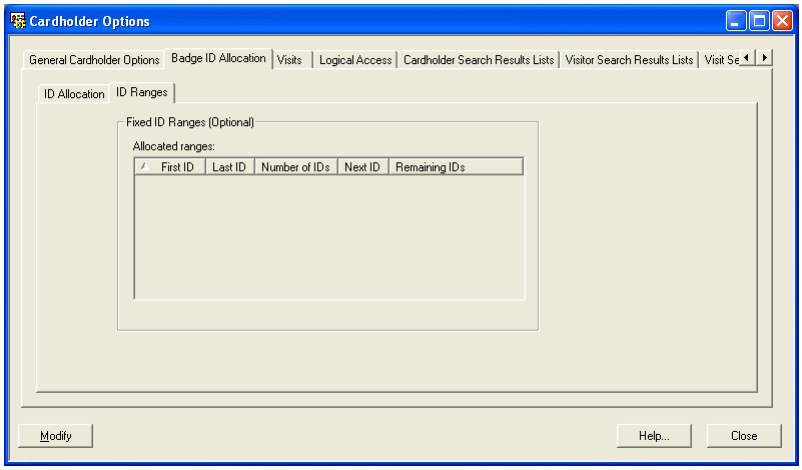
Badge ID Allocation Form - ID Allocation Sub-tab

Form Element	Comment
Generate Badge ID	Select the method by which the **Badge ID** field will be automatically filled in when adding a new badge. Choices include: • **Automatic** - the badge ID will be assigned by the system. Generally, each new badge ID will be the previous badge ID + 1. This applies even if you are creating a new badge for a cardholder who's already in the database, as would occur if the previous badge were lost or stolen. • **FASC-N** - Refers to government issued badges. FASC-N is an acronym for Federal Agency Smart Credential Number. Selecting this causes the FASC-N Settings on this form to become enabled for you to use. • **From 'Cardholder ID'** (or, if you have a custom cardholder layout, the custom field name will be indicated here) - uses the special cardholder fixed field. The name of this field may be different if you have a custom cardholder layout designed with FormsDesigner. Whatever you enter in this field will be used as the badge ID for that particular cardholder. With this setting the badge ID will always be the same for a cardholder - in this case, the issue code is used to distinguish between different badges for the same cardholder. Note that to use this setting the field upon which you are basing the badge ID must be all numeric data. • **Internal Cardholder ID** - this option is similar to the "From 'Cardholder ID'" option except that this option uses a system-generated number as compared to a manually entered number. Functionally, the badge ID will always be the same for a cardholder. You must use a different issue code to distinguish between different badges for the same cardholder. • **Manual Entry** - no badge ID will be automatically assigned. A badge ID must be entered by the user who creates the badge record. • **Guest Allocation** - this choice is available only when you are configuring a guest badge type. In this case, Guest Allocation is automatically entered into the field. This choice cannot be modified for guest badge types.

Badge ID Allocation Form - ID Allocation Sub-tab (Continued)

Form Element	Comment
Allow Edit of Badge ID	If selected, a user having the appropriate privilege level will be able to change badge ID values. Leave this check box blank if you do not want a user to ever be able to edit the badge ID. This check box is selected and cannot be deselected when you configure a guest badge type.
First Issue Code	If your installation uses issue codes on its badges, zero is used by default as the first issue code when you create a new badge. If your organization wants to use a different number, enter that number in this field. When you configure a guest badge type, a zero issue code is used. This value cannot be modified for guest badge types.
Auto-Increment Issue Code	You can change (select or deselect) this value. However: • This field is selected by default if you chose "From Cardholder ID" in the **Generate Badge ID** field on this form. • This field is deselected by default if you chose "Automatic" in the **Generate Badge ID** field on this form. This is because each time you create a badge (even if it's for someone whose badge has been lost), a new badge ID will be assigned automatically. Therefore, it's considered to be a new card, and the issue code counter starts over again.
FASC-N Settings	This section of the form holds the settings used for FASC-N badges. To enable these you must select FASC-N from the **Generate Badge ID** drop-down box.
Agency	A four digit code identifying the government agency issuing the credential. The agency code is just one part of 31 bits of information that will be encoded on the magnetic stripe of government smart cards. The agency code is also part of what becomes the ReadkeyPRO badge ID.
System	A four digit field identifying the system the card is enrolled in. Within an Agency the system must be a unique value. The system is just one part of 31 bits of information that will be encoded on the magnetic stripe of government smart cards. The system is also part of what becomes the ReadkeyPRO badge ID.
Field to fill with Agency Code	Specifies the field in the Cardholders folder > Badge form that will display the Agency Code. You can select from the default ReadkeyPRO fields or define a field using FormsDesigner.
Field to fill with System Code	Specifies the field in the Cardholders folder > Badge form that will display the System Code. You can select from the default ReadkeyPRO fields or define a field using FormsDesigner.
Field to fill with Credential ID	Specifies the field in the Cardholders folder > Badge form that will display the Credential ID. You can select from the default ReadkeyPRO fields or define a field using FormsDesigner.
Modify	Used to change Cardholder Options. When clicked, options on any form in the Cardholder Options folder can be modified.
Help	Displays online assistance for this form.
Close	Closes the Cardholder Options folder.

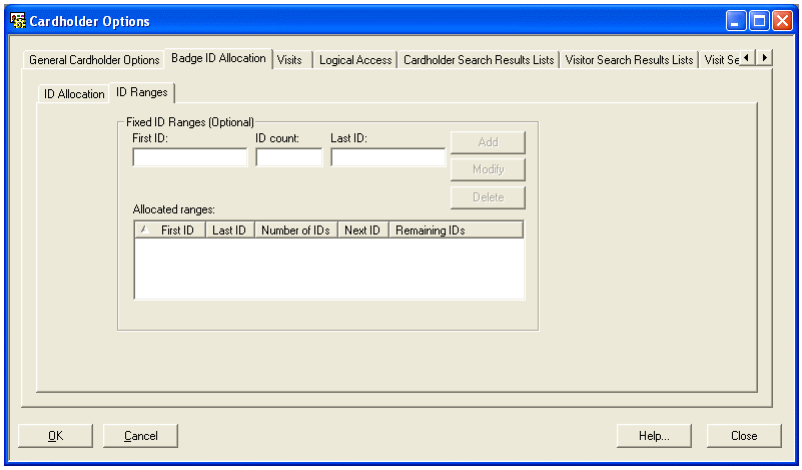
Badge ID Allocation Form - ID Ranges Sub-tab (View Mode)



Badge ID Allocation Form - ID Ranges Sub-tab (View Mode)

Form Element	Comment
Fixed ID Ranges (Optional)	In view mode, contains the **Allocated ranges** display field. In modify mode, contains the **First ID**, **ID count**, and **Last ID** fields. Also contains the [Add], [Modify], and [Delete] buttons as well as the **Allocated ranges** display field.
Allocated ranges listing window	Displays the first and last ID number that will be used, as well as the number of IDs, next ID, and remaining IDs.
Modify	Used to change Cardholder Options. When clicked, options on any form in the Cardholder Options folder can be modified.
Help	Displays online assistance for this form.
Close	Closes the Cardholder Options folder.

Badge ID Allocation Form - ID Ranges Sub-tab (Modify Mode)



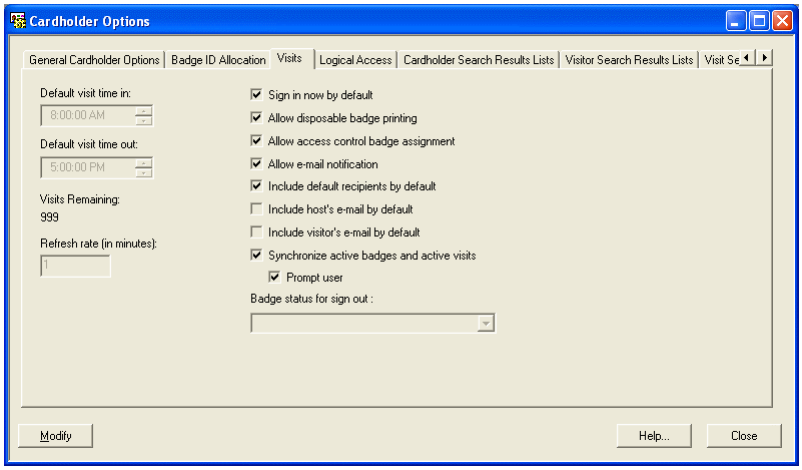
Badge ID Allocation Form - ID Ranges Sub-tab (Modify Mode)

Form Element	Comment
Fixed ID Ranges (Optional)	In view mode, contains the **Allocated ranges** display field. In modify mode, contains the **First ID**, **ID count**, and **Last ID** fields. Also contains the [Add], [Modify], and [Delete] buttons as well as the **Allocated ranges** display field.
Allocated ranges listing window	Displays the first and last ID number that will be used, as well as the number of IDs, next ID, and remaining IDs.
First ID (displayed only in modify mode)	Type the first ID number to be used. If you enter the first ID and ID count, the Last ID will automatically be determined and filled in.
ID count (displayed only in modify mode)	Type the number of IDs you wish to use. If you enter the ID count and first ID, the last ID will automatically be determined and filled in.
Last ID (displayed only in modify mode)	This is the last number that will be allocated as an ID. As long as the **First ID** and **ID count** fields have numeric values entered, the **Last ID** field will automatically be determined and filled in.
Add (displayed only in modify mode)	This button is enabled only when valid data is entered in the **First ID**, **ID count**, and **Last ID** fields. Its function is to add the range specified in the **First ID**, **ID count**, and **Last ID** fields to the **Allocated ranges** listing window.
Modify (displayed only in modify mode)	This button is enabled only when an entry is selected in the **Allocated ranges** listing window. Its function is to modify the range that is selected in the **Allocated ranges** listing window when a new value is entered in the **First ID**, **ID count**, or **Last ID** fields.
Delete (displayed only in modify mode)	This button is enabled only when an entry is selected in the **Allocated ranges** listing window. Its function is to delete the range that is selected in the **Allocated ranges** listing window.
Modify	Used to change Cardholder Options. When clicked, options on any form in the Cardholder Options folder can be modified.

Badge ID Allocation Form - ID Ranges Sub-tab (Modify Mode) (Continued)

Form Element	Comment
Help	Displays online assistance for this form.
Close	Closes the Cardholder Options folder.

Visits Form



Visits Form Overview

The Visits form is used to specify database guidelines for cardholder information, including default visit time in and out, the badge status set when a badge is signed out, and other visit options. This form is also used to specify options for the Front Desk if it is in use.

Important: It is advisable to determine and configure Visit options prior to entering any data into your system.

Cardholder Options Folder - Visits form

Form Element	Comment
Default visit time in	Select the time that visits begin by default. This time will become the default time that is displayed in the **Time in** field on the Visit form in the Visits folder and/or the Front Desk. There are four sections in this field: hour, minute, second, and AM/PM. Click on the section of the time you would like to adjust, and then do one of the following to adjust it: • Click the up arrow to increase a numerical value, or the down button to decrease a numerical value. For AM/PM, the arrow buttons toggle between the two settings. • Type the numerical time value, typing a colon in between each value. For example, to enter the time 6:00:00 AM, type 6:00:00:AM.

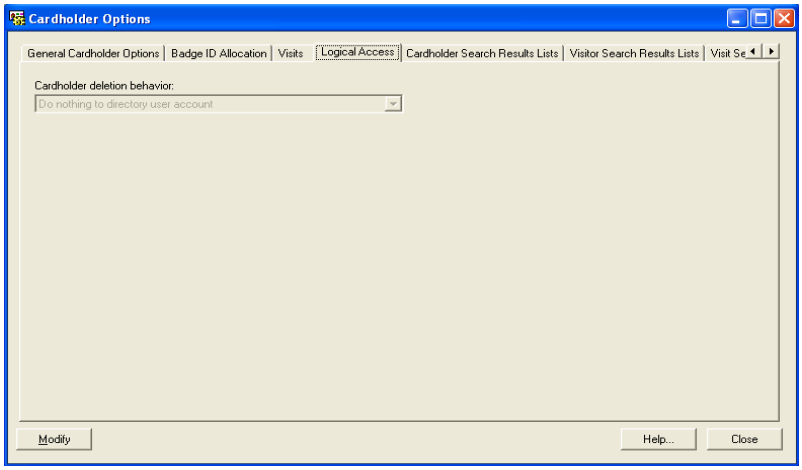
Cardholder Options Folder - Visits form (Continued)

Form Element	Comment
Default visit time out	Select the time that visits end by default. This time will become the default time that is displayed in the **Time out** field on the Visit form in the Visits folder and/or the Front Desk. There are four sections in this field: hour, minute, second, and AM/PM. Click on the section of the time you would like to adjust, and then do one of the following to adjust it: • Click the up arrow to increase a numerical value, or the down button to decrease a numerical value. For AM/PM, the arrow buttons toggle between the two settings. • Type the numerical time value, typing a colon in between each value. For example, to enter the time 6:00:00 AM, type 6:00:00:AM.
Visits Remaining	Indicates the number of visits that can be specified. This number is determined by subtracting one from the maximum number of visits specified in the ReadkeyPRO license each time a visit is scheduled.
Refresh rate (in minutes)	This refresh rate determines the default value for the **Refresh rate (in minutes)** field on the Status search form in the Visits folder and/or the Front Desk. The refresh rate is how often the database is queried to see if it has changed. This refresh rate only applies when searching based on a status (i.e., the "Scheduled, future", "Scheduled, late", "Active", "Active, overstayed", or "Finished" status) on the Status search form in the Visits folder. **Note:** Although this setting determines the default value, the refresh rate on the Status search form in the Visits folder can be changed by a user when a search is done.
Sign in now by default	If selected, the **Sign in now** check box will be selected by default when a visit is added, the visit will automatically be signed in, and the **Time in** field for the visit will be updated with the current time. If not selected, the **Sign in now** check box will not be selected by default when a visit is added. The [Sign In] button will be available. When the [Sign In] button is clicked, the visit will be signed in, and the **Time in** field for the visit will be updated with the current time.
Allow disposable badge printing	If selected, the user can print a disposable badge by selecting a disposable badge type to be assigned and printed when adding a visit.
Allow access control badge assignment	Enables assigning an access control badge on visit sign in. If enabled, the user will be able to type in the badge ID of an existing visitor badge when signing in a visit. The badge must already exist in the system, and its badge type must be of the class "Visitor".
Allow e-mail notification	If selected, e-mail notifications can be sent for visits. For this feature to work, an SMTP server must be configured in the Global Output Devices folder.
Include default recipients by default	If selected, the Default Recipients check box on the E-mail form in the Visits folder will be selected by default when a new visit is added. (If a visit is added based on a currently selected record, the setting for that record will be used instead of the default.) To configure the default recipients: • On segmented systems, select **Administration** > **Segments**, click the Segments tab, then click the Visits sub-tab. On the Visits sub-tab, you can add or remove recipients. These recipients will be collectively considered the "Default Recipients" on the E-mail form in the Visits folder. • On nonsegmented systems, select **Administration** > **System Options**, then click the Visits tab. On the Visits tab, you can view or modify the default recipients.

Cardholder Options Folder - Visits form (Continued)

Form Element	Comment
Include host's e-mail by default	If selected, the **Cardholder for this visit** check box on the E-mail form in the Visits folder will be selected by default when a new visit is added. (If a visit is added based on a currently selected record, the setting for that record will be used instead of the default.)
Include visitor's e-mail by default	If selected, the **Visitor for this visit** check box on the E-mail form in the Visits folder will be selected by default when a new visit is added. (If a visit is added based on a currently selected record, the setting for that record will be used instead of the default.)
Synchronize active badges and active visits	If selected, synchronizes the badge activation and deactivation date with the visit time in and visit time out. A visitor's badge is activated at the beginning of the day the visit is scheduled for and deactivated at the end of the day that the visit is scheduled for. For more information, refer to Synchronize Active Badges with Active Visits on page 524.
Prompt user	If the **Synchronize active badges and active visits** and **Prompt user** check boxes are selected, active badges will be synchronized with active visits, and you will be prompted before the synchronization occurs. The prompt gives you a clear understanding of what is being synchronized, and allows you to choose which badges will be synchronized if the visitor has multiple active badges. If the **Synchronize active badges and active visits** is selected but the **Prompt user** check box is not selected, all active badges and active visits will be synchronized, and you will not be prompted when they are synchronized. If a visitor has multiple active badges, you will not be able to choose which active badges get synchronized; they will all get synchronized.
Badge status for sign out	Allows the user to choose the default badge status to change active badges to when the [Sign Out] button is pressed. Choices include all currently recognized Badge Statuses, which are defined on the Simple Lists form of the List Builder folder. Default choices that are defined include: • Lost • Returned
Modify	Used to change Cardholder Options. When clicked, settings can be changed on any form in the Cardholder Options folder.
Help	Displays online help for this form.
Close	Closes the Cardholder Options folder.

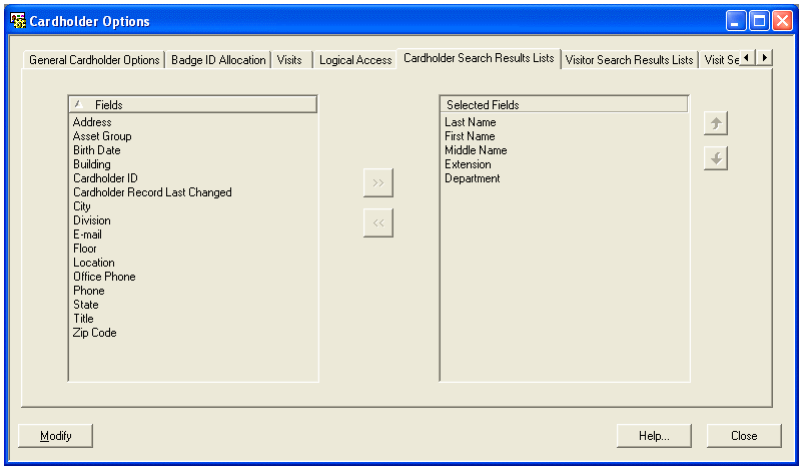
Logical Access Form



Logical Access Form

Form Element	Comment
Cardholder deletion behavior	Determines the action that will take place on the cardholder's linked logical user account when the cardholder is deleted.
Modify	Used to change Cardholder Options. When clicked, settings can be changed on any form in the Cardholder Options folder.
Help	Displays online help for this form.
Close	Closes the Cardholder Options folder.

Cardholder Search Results Lists Form



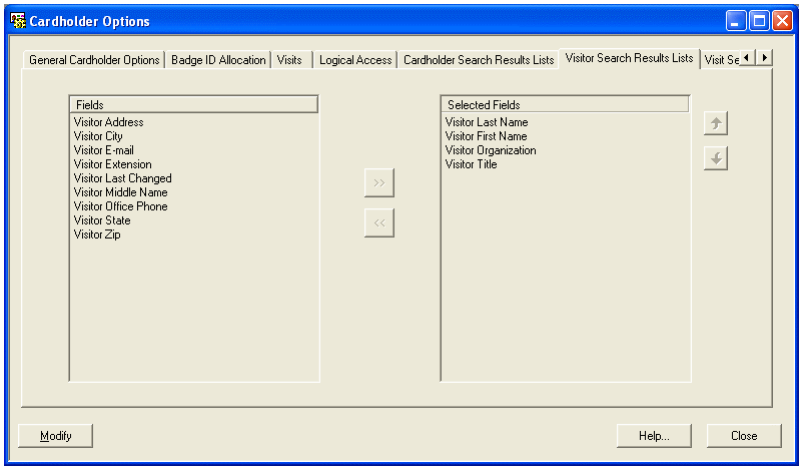
Cardholder Search Results Lists Form Overview

The Cardholder Search Results List form is used to specify database guidelines for which information will be displayed when a cardholder is searched for and in what order this information will be displayed.

Cardholder Options Folder - Cardholder Search Results Lists Form

Form Element	Comment
Fields	Displays the list of fields available to be displayed in the Cardholder search results.
Selected Fields	Displays the list of fields that will be displayed in the order listed (from top to bottom) in the Cardholder search results.
<<	Enabled only in Modify Mode. When clicked, moves a field that is selected in the **Selected Fields** display to the **Fields** display, effectively removing it from the Cardholder search results.
>>	When clicked, moves a field that is selected in the **Fields** display to the **Selected Fields** display, effectively including it in the Cardholder search results.
↑	Moves a field selected in the **Selected Fields** display up one position in the Cardholder search results.
↓	Moves a field selected in the **Selected Fields** display down one position in the Cardholder search results.
Modify	Used to change Cardholder Options. When clicked, settings can be changed on any form in the Cardholder Options folder. On the Cardholder Search Results Lists form, allows the user to change the contents and order in the Cardholder search results lists.
Help	Displays online help for this form.
Close	Closes the Cardholder Options folder.

Visitor Search Results Lists Form



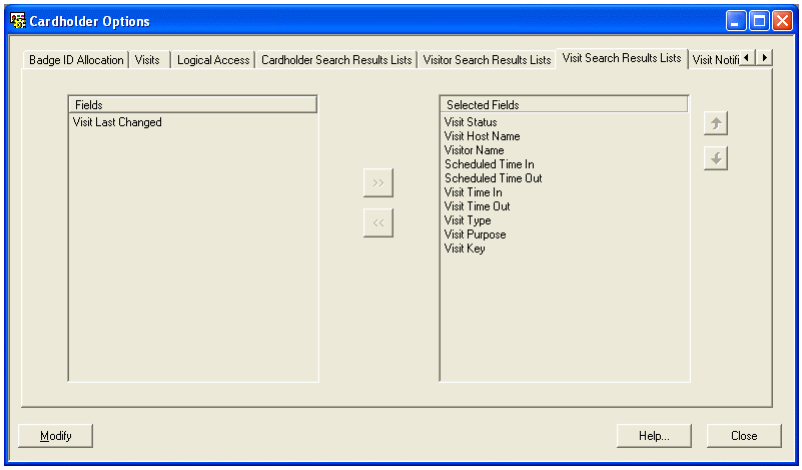
Visitor Search Results Lists Form Overview

The Visitor Search Results Lists form allows the user to select the fields and display order to use for the visitors search results lists. User defined fields (UDFs) will be included.

Cardholder Options Folder - Visitor Search Results Lists Form

Form Element	Comment
Fields	Displays the list of fields available to be displayed in the Visitor search results.
Selected Fields	Displays the list of fields that will be displayed in the Visitor search results.
<<	Enabled only in Modify Mode. When clicked, moves a field that is selected in the **Selected Fields** display to the **Fields** display, effectively removing it from the Visitor search results.
>>	Enabled only in Modify Mode. When clicked, moves a field that is selected in the **Fields** display to the **Selected fields** display, effectively including it in the Visitor search results.
	Moves a field selected in the **Selected Fields** display up one position in the Visitor search results.
	Moves a field selected in the **Selected Fields** display down one position in the Visitor search results.
Modify	Used to change Cardholder Options. When clicked, settings can be changed on any form in the Cardholder Options folder. On the Visitor Search Results Lists form, allows the user to change the contents and order in the Visitor search results lists.
Help	Displays online help for this form.
Close	Closes the Cardholder Options folder.

Visit Search Results Lists Form



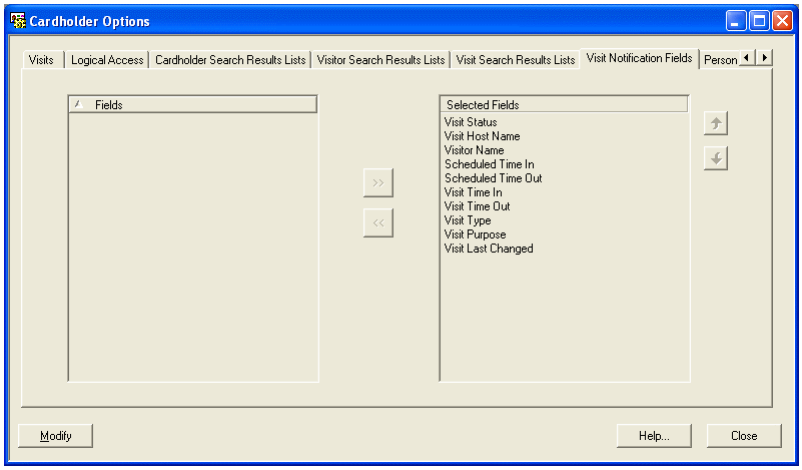
Visit Search Results Lists Form Overview

The Visit Search Results Lists form allows you to select the fields and display order to use for the columns in the Visits listing window in the Visits folder.

Cardholder Options Folder - Visit Search Results Lists Form

Form Element	Comment
Fields listing window	Displays the list of fields available to be displayed in the Visit search results.
Selected Fields listing window	Displays the list of fields that will be displayed in the Visit search results.
<<	Enabled only in Modify Mode. When clicked, moves a field that is selected in the **Selected Fields** display to the **Fields** display, effectively removing it from the Visit search results.
>>	Enabled only in Modify Mode. When clicked, moves a field that is selected in the **Fields** display to the **Selected fields** display, effectively including it in the Visit search results.
↑	Moves a field selected in the **Selected Fields** display up one position in the Visit search results.
↓	Moves a field selected in the **Selected Fields** display down one position in the Visit search results.
Modify	Used to change Cardholder Options. When clicked, settings can be changed on any form in the Cardholder Options folder. On the Visit Results Lists form, allows the user to change the contents and order in the Visit search results lists.
Help	Displays online help for this form.
Close	Closes the Cardholder Options folder.

Visit Notification Fields Form



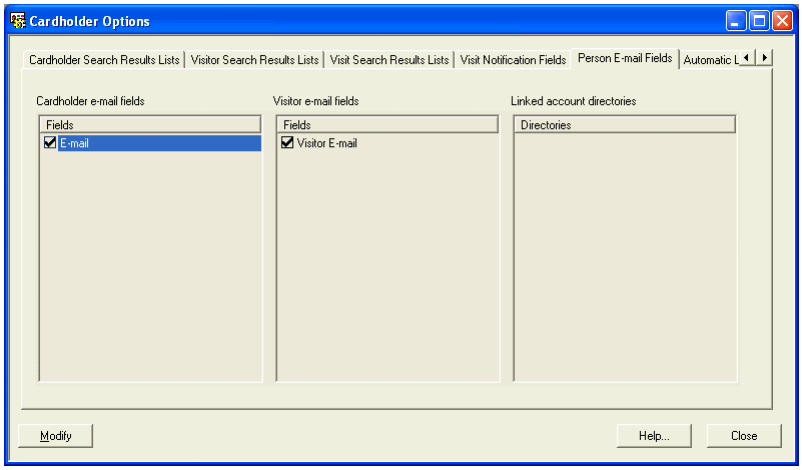
Visit Notification Fields Form Overview

The Visit Notification Fields form allows you to select the fields and display order to use for the information that is included in visit notification e-mails.

Cardholder Options Folder - Visit Notification Fields Form

Form Element	Comment
Fields listing window	Displays the list of visit record fields that are available to be included in the body of e-mail notifications.
Selected Fields listing window	Displays the list of visit record fields that will be included in the body of e-mail notifications.
<<	Enabled only in Modify Mode. When clicked, moves a field that is selected in the **Selected Fields** display to the **Fields** display, effectively removing it from the body of e-mail notifications.
>>	Enabled only in Modify Mode. When clicked, moves a field that is selected in the **Fields** display to the **Selected fields** display, effectively including it in the body of e-mail notifications.
	Moves a field selected in the **Selected Fields** display up one position in the e-mail notification's body.
	Moves a field selected in the **Selected Fields** display down one position in the e-mail notification's body.
Modify	Used to change Cardholder Options. When clicked, settings can be changed on any form in the Cardholder Options folder. On the Visit Notification Fields form, allows the user to change the contents and order in the e-mail notification's body.
Help	Displays online help for this form.
Close	Closes the Cardholder Options folder.

Person E-mail Fields Form



Person E-mail Fields Form Overview

The Person E-mail Fields form is used to specify which cardholder fields, visitor fields, or linked directories to check when an e-mail notification is sent. On the Person E-mail Fields form, *person* refers to a cardholder or a visitor.

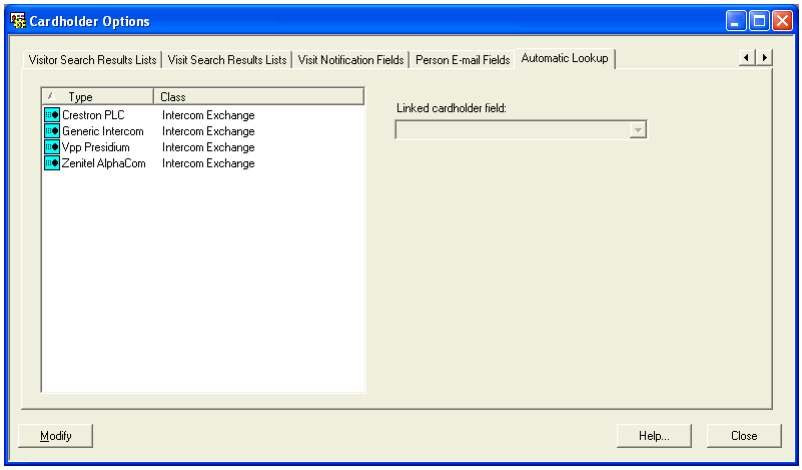
Cardholder Options Folder - Person E-mail Fields Form

Form Element	Comment
Cardholder e-mail fields	The check boxes listed in the Cardholder e-mail fields listing window are configured in FormsDesigner. All fields in the Cardholder form with the **vCard** setting of "Internet Email" are displayed. By default, only the **E-mail** field on the Cardholder form has the **vCard** setting of "Internet Email". When an e-mail notification is sent, the selected field will be examined. If an e-mail address has been entered for the record, an e-mail message will be sent to that address. For example, by default the **E-mail** check box in the Cardholder e-mail fields listing window is listed and selected. If a visit is scheduled and the **Cardholder for this visit** check box on the E-mail form in the Visits folder is selected, then the **E-mail** field on the Cardholder form in the Cardholders folder for the cardholder being visited will be examined. If an e-mail address is found, then that e-mail address will receive an e-mail notification. The Cardholder e-mail fields are configured in FormsDesigner. For more information, refer to "Configure Cardholder E-mail Fields" in the FormsDesigner User Guide.

Cardholder Options Folder - Person E-mail Fields Form (Continued)

Form Element	Comment
Visitor e-mail fields	The check boxes listed in the Visitor e-mail fields listing window are configured in FormsDesigner. All fields in the Visitor form with the **vCard** setting of "Internet Email" are displayed. By default, only the **E-mail** field on the Visitor form has the **vCard** setting of "Internet Email". When an e-mail notification is sent, the selected field will be examined. If an e-mail address has been entered for the record, an e-mail message will be sent to that address. For example, by default the **Visitor E-mail** check box in the Visitor e-mail fields listing window is listed and selected. If a visit is scheduled. and the **Visitor for this visit** check box on the E-mail form in the Visits folder is selected, then the **E-mail** field on the Visitor form for the cardholder being visited will be examined. If an e-mail address is found, then that e-mail address will receive an e-mail notification. The Visitor e-mail fields are configured in FormsDesigner. For more information, refer to "Configure Visitor E-mail Fields" in the FormsDesigner User Guide.
Linked account directories	The check boxes that are listed in the Linked account directories listing window are configured in the Directories folder and in the Cardholders folder. All LDAP and Microsoft Active Directory directories that have a value specified in the **E-mail attribute** field on the Advanced sub-tab in the Directories folder will appear in this listing window. (Only an LDAP or Microsoft Active Directory can have an e-mail attribute defined.)
Modify	Used to change Cardholder Options. When clicked, settings can be changed on any form in the Cardholder Options folder. On the Person E-mail Fields form, allows you to select and deselect cardholder and visitor e-mail fields to examine for e-mail addresses when an e-mail notification is sent. Also allows you to select and deselect linked accounts to examine for e-mail addresses when an e-mail notification is sent.
Help	Displays online help for this form.
Close	Closes the Cardholder Options folder.

Automatic Lookup Form



Automatic Lookup Form Overview

The Automatic Lookup Form requires an intercom license to view and/or edit the form. This form is designed to work in conjunction with the Intercom Stations Form on page 1083.The Automatic Lookup form links a cardholder field to a type of intercom panel. You may link any cardholder field (standard or custom) to an intercom panel as long as it is a text field. Field properties, including the type of field, are set in the Field Properties folder of the FormsDesigner application.

The Intercom Stations form links the cardholder field to an intercom station.

Note: Be sure to link a cardholder field to an intercom panel before you link the cardholder field to an intercom station.

Cardholder Options Folder - Automatic Lookup Form

Form Element	Comment
Intercom panel type and class listing window	Displays the intercom panel types available. The types of panels that display are based on your intercom license.
Linked cardholder field	Choose the cardholder field you want linked to the intercom type. The drop-down list includes all standard and customized cardholder text fields.
Modify	Used to change cardholder options. When clicked, settings can be changed on any form in the Cardholder Options folder.
Help	Displays online help for this form.
Close	Closes the Cardholder Options folder.

Cardholder Options Folder Procedures

Configure Cardholder Options

1. On the General Cardholder Options tab, click [Modify].
2. Specify the maximum active badges per cardholder.
3. Decide whether or not you wish to have thumbnails created for cardholder photos. If you do, select the **Create/save photo thumbnails** check box.
4. Choose the badge PIN code generation parameters.
5. Choose the precision access mode if it applies to you, or leave it as the default, “None”.
6. If you want inactive badges to be assigned a different badge status, indicate the parameters in the **Use or lose badge** section.
   a. In the **Number of days** field, enter the number of consecutive days of badge inactivity after which badges will be assigned the badge status indicated in the **New badge status** field. A value of zero disables the use or lose badge feature.
   b. In the **New badge status** field, enter the badge status that will be assigned to badges when the **Number of days** value has been exceeded.
7. If you want to change the status of active badges when the deactivate date passes, choose the new badge status from the **After deactivate date, New badge status** drop-down.

Note: For information on the relationship between the use or lose badge settings (configured here) and use or lose badge type settings (configured in the Badge Types folder), refer to Deactivation Settings Form on page 383.

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8. Select the **Use time** check box if you want to specify both date and time for the badge activation/deactivation date.

Notes: When this check box is selected, the “Date and time” option will become available for selection in the **Store expiration date** and **Store activation date** drop-down lists on the Options sub-tab on the RKP-2000, RKP-1000, and RKP-500 forms in the Access Panels folder in the System Administration application. Note that only Bosch controllers can use time with badge activation and deactivation dates. For all other controllers, the time will always default to midnight.

Also, when this check box is selected, additional time controls will appear on the Badge form in the Cardholders folder. Modifications to this layout may be needed to properly handle these additional controls. Badge form layout modifications can be made in the FormsDesigner application. For more information, refer to the FormsDesigner User Guide.

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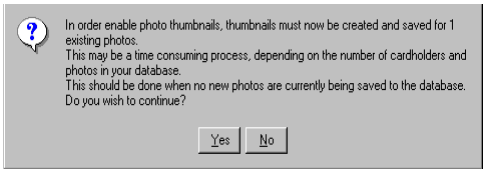
9. For date and time badge activation and deactivation purposes, the Linkage Server examines and updates temporary access levels several times a day (to

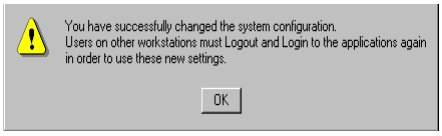
determine if a badge needs to be added to or removed from a panel). By default, the temporary access levels are examined and updated every 30 minutes. If you would like to change the default, select another value from the **Granularity** drop-down list.

Important: Reducing the temporary access level granularity below the default setting (30 minutes) may impact system performance. (Because temporary access level processing will be performed more frequently, more resources may be consumed.)

10. If you selected the **Create/Save Photo Thumbnails** check box, and if there are currently cardholder records in the database, a message similar to the following will be displayed:



11. Click [Yes] to generate thumbnails for the existing cardholder photos, or [No] to cancel the request and return to the form.
12. If you have made changes using this form, the following message will be displayed:



As the message indicates, any users that are currently accessing the system must log out then log in again.

Configure ID Allocation

If you want to configure the ID allocation for every badge type, complete the following procedures. If you want to configure the ID allocation for a specific badge type refer to the Badge Types folder, Badge ID Allocation form.

Note: Changes made to the Badge ID Allocation form in the Badge Types folder override settings on the Badge ID Allocation form in the Cardholder Options folder.

1. Select **Cardholder Options** form the **Administration** menu or select the appropriate toolbar button.
2. On the Badge ID Allocation tab click [Modify].
3. On the ID Allocation sub-tab:
   a. Select the method you will use to generate badge IDs from the **Generate Badge ID** drop-down list.
   b. Select the **Allow Edit of Badge ID** check box if you want badge operators, with the proper permission, to modify badge IDs.
   c. Enter the number of the first issue code. Typically, this value is zero.
   d. Select the **Auto-Increment Issue Code** check box if you want the issue code to automatically increment when a new badge is created.
   e. If you selected FASC-N for badge ID generation, enter the four-digit codes identifying the government agency and system issuing the credential. The agency and system codes are encoded on smart cards and become part of the ReadkeyPRO badge ID. Select the user-defined fields that will be populated with the agency code, system code and credential ID.
4. On the ID Ranges sub-tab:
   a. Enter the numeric values in the **First ID** and **ID count** fields. The **Last ID** field automatically populates.
   b. Click [Add]. If [Add] is not enabled, you did not enter a valid range.
5. Click [OK].

Add a Fixed ID Range

1. Open the Cardholder Options folder.
2. Click the Badge ID Allocation tab.
3. Click [Modify].
4. On the ID Allocation sub-tab:
   a. In the **Generate Badge ID** field, select the method you will use to generate badge IDs. The **Generate Badge ID** field must be set to either ‘Manual Entry’ or ‘Automatic’ to add a fixed ID range.
   b. Depending on your selection, the default settings displayed for the **Allow Edit of Badge ID** and **Auto-Increment Issue Code** check boxes

will automatically change. If the check box is enabled, you can change it if you need to.

c. In the **First Issue Code** field, enter the number that will be used as the first issue code.

5. On the ID Ranges sub-tab:
   a. Enter numeric values in the **First ID** and **ID count** fields. The **Last ID** field will automatically populates.
   b. If you have entered a valid range, the [Add] button will be enabled. Click [Add]. If the fixed ID range does not conflict with a range that already exists, it will be added to the **Allocated ranges** listing window.
6. Click [OK].

Modify a Fixed ID Range

1. Open the Cardholder Options folder.
2. Click the Badge ID Allocation tab.
3. Click [Modify].
4. On the ID Ranges sub-tab:
   a. In the **Allocated Ranges** listing window, select the fixed ID range to be modified. The values associated with the selected fixed ID range will be displayed in the **First ID**, **ID count**, and **Last ID** fields.
   b. Make changes to any of those three fields that you want to change.
   c. Click [Modify].
5. Click [OK].

Delete a Fixed ID Range

1. Open the Cardholder Options folder.
2. Click the Badge ID Allocation tab.
3. Click [Modify].
4. On the ID Ranges sub-tab:
   a. In the Allocated ranges listing window, select the fixed ID range to be deleted.
   b. Click [Delete]. The fixed ID range will be deleted without any confirmation.
5. Click [OK].

Configure System-wide Visit Options

System-wide visit sign in options can be configured in System Administration or ID CredentialCenter, but not in Visitor Management. To configure the options

that will be available for visit sign in and sign out in System Administration, ID CredentialCenter, and Visitor Management:

1. In ID CredentialCenter or System Administration, select the **Administration > Cardholder Options** menu option.
2. On the Visits tab, click [Modify].
3. In the **Default visit time in** and **Default visit time out** fields, select the time that visits will start and end. These are the default values that will appear in the **Scheduled time in** and **Scheduled time in** fields on the Visit form.
4. Specify the default refresh rate (in minutes). This *refresh rate* is the frequency the database is queried for changes, and affects the results of visit searches based on status (e.g., the "Scheduled, future", "Scheduled, late", and "Active" status).
5. Select the visit options you wish to use.

Note: If the title of the check box you are selecting has the word "default" in it, you are setting a default value and badge operators can change these default values in the Visits folder. Otherwise, you are enabling a feature which cannot be changed by badge operators.

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   a. Select the **Sign in now by default** check box if you want visits to automatically be signed in and printed when they are added to the system. Badge operators can override the default setting by deselecting the **Sign In Now** check box on the Visits form.
   b. Select the **Allow disposable badge printing** check box to enable disposable badge printing. In addition, the disposable badge type should be assigned a printer.
   c. Select the **Allow access control badge assignment** check box to allow an existing access control badge to be assigned to a visitor when a visit is added. This option must be selected if you want badge operators to assign access control badges from the Sign In Visit(s) window.
   d. Select the **Allow e-mail notification** check box to enable e-mail notification.

Note: E-mail notification requires the GOS module to be configured and running. For more information, refer to the Global Output Devices Folder chapter in the System Administration User Guide.

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   e. Select the **Include host's e-mail by default** and/or **Include visitor's e-mail by default** check box if you want the host or visitor to be included in the e-mail notification.
   f. Select the **Synchronize active badges and active visits** check box to automatically update badge activation/deactivation dates if changes are made to the scheduled time in/out fields. Select the **Prompt user** check box if you want badge operators to decide whether badges activation/deactivation dates are updated. For more information, refer to the

Cardholder Options Folder chapter in the System Administration User Guide.

g. In the **Badge status for sign out** drop-down list, select the badge status when a visitor signs out.

h. Click [OK].

Synchronize Active Badges with Active Visits

This option synchronizes the badge activation and deactivation date with the visit time in and visit time out. A visitor's badge is activated at the beginning of the day the visit is scheduled for and deactivated at the end of the day that the visit is scheduled for.

For example, the badge of a visitor who is scheduled to visit from 8 a.m. to 5 p.m. on Wednesday would be activated on Tuesday at midnight and would be deactivated on Wednesday at midnight. If the visitor arrives and is signed in, and then visit's scheduled time out is changed to Friday at 5 p.m., this is where the visit synchronization feature would become important. If the synchronization feature is enabled, then the deactivation date for the badge would be changed to match the new scheduled time out, and would be deactivated at midnight on Friday. If the synchronization feature is disabled, then the original deactivation date, which was Wednesday at midnight, would still be used.

Active badges can be synchronized with active visits when:

- An active visit (one that is signed in) is changed. For example, the person was scheduled to leave at 3 p.m., but you change the scheduled time out to 5 p.m. The example given above falls into this category.
- Multiple active badges are assigned to a visitor for a visit, and an active visit is signed out. (This doesn't happen often because usually a visitor only has one active badge.)

Whether active badges are synchronized with active visits depends on the settings for the **Synchronize active badges and active visits** and **Prompt user** check boxes on the Visits form in the Cardholder Options folder in System Administration or ID CredentialCenter.The following table describes each possible combination of settings.

Summary of Active Badge and Active Visit Synchronization Settings

Synchronize active badges and active visits check box selected?	Prompt user check box selected?	How synchronize feature works
Yes	Yes	By default, both of these check boxes are selected. Active badges will be synchronized with active visits, and you will be prompted before the synchronization occurs. The prompt gives you a clear understanding of what is being synchronized, and allows you to choose which badges will be synchronized if the visitor has multiple active badges.

Summary of Active Badge and Active Visit Synchronization Settings (Continued)

Synchronize active badges and active visits check box selected?	Prompt user check box selected?	How synchronize feature works
Yes	No	All active badges and active visits will be synchronized, and you will not be prompted when they are synchronized. If a visitor has multiple active badges, you will not be able to choose which active badges get synchronized; they will all get synchronized.
No	No	Active badges and active visits will not be synchronized. For example, if the scheduled time out is changed for a visitor who is signed in, the deactivation date of the active badge will not be updated to match the new scheduled time out.

To change the visit synchronization settings:

1. In ID CredentialCenter or System Administration, select the **Administration > Cardholder Options** menu option.
2. Click the Visits tab.
3. Click [Modify].
4. Refer to the Summary of Active Badge and Active Visit Synchronization Settings table on page 524 to determine which synchronization settings you wish to use.
   a. Select or deselect the **Synchronize active badges and active visits** check box.
   b. Select or deselect the **Prompt user** check box.
5. Click [OK].

Configure the Cardholder Search Results Lists

The columns displayed on the Select People window and the Area Access Manager main window, as well as the Select Host Wizard: Select window in the

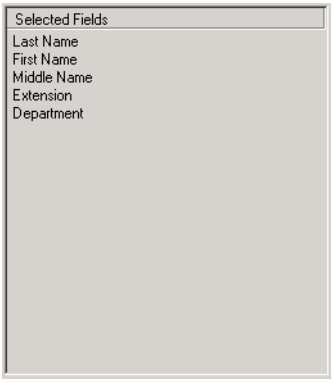
Visits folder can be changed using System Administration. To change the columns displayed:

1. From the **Administration** menu in System Administration or ID CredentialCenter, select **Cardholder Options**.
2. Click the Cardholder Search Results Lists tab.
3. Click [Modify].
4. In the **Fields** column, click on the field you want to be displayed in the Area Access Manager main window, the Select People window, and the Select Host Wizard: Select window. (Only one field can be selected at a time.)
5. Click the 

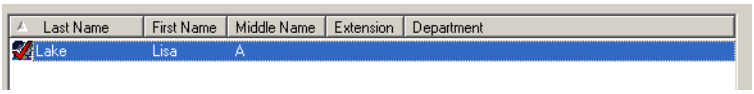
button to add the selected field to the list of fields that will be displayed.
6. Repeat steps 4 and 5 until all fields to be displayed are listed in the **Selected Fields** column.

Notes: The order that the fields are listed in the **Selected Fields** column is the order that the columns will be displayed in, from left to right, in the Area Access Manager main window, the Select People window, and the Select Host Wizard: Select window.

For example, if the selected Fields listing window on the Cardholder Search Results Lists form looks like this:



then the columns in the Select Host Wizard: Select window will be laid out like this:



7. Select a field in the **Selected Fields** column, then:

   a. Click the  button to move the selected field one position to the left, or

   b. Click the  button to move the selected field one position to the right.

8. Click [OK].

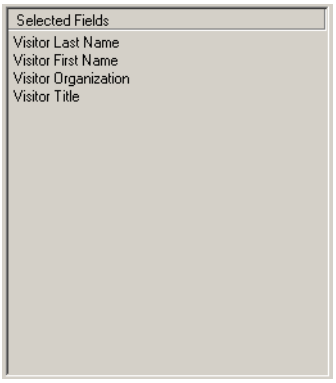
Configure the Visitor Search Results Lists

The columns displayed on the Select Visitor Wizard: Select window in the Visits folder can be changed using System Administration. To change the columns displayed:

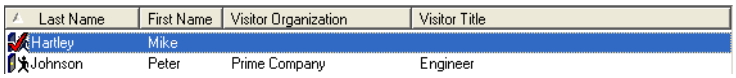
1. From the **Administration** menu in System Administration or ID CredentialCenter, select **Cardholder Options**.
2. Click the Visitor Search Results Lists tab.
3. Click [Modify].
4. In the **Fields** column, click on the field you want to be displayed in the Select Visitor Wizard: Select window. (Only one field can be selected at a time.)
5. Click the  button to add the selected field to the list of fields that will be displayed.
6. Repeat steps 4 and 5 until all fields to be displayed are listed in the **Selected Fields** column.

Notes: The order that the fields are listed in the **Selected Fields** column is the order that the columns will be displayed in, from left to right, in the Select Visitor Wizard: Select window.

For example, if the Selected Fields listing window on the Visitor Search Results Lists form looks like this:



then the columns in the Select Visitor Wizard: Select window will be laid out like this:



7. Select a field in the **Selected Fields** column, then:

   a. Click the  button to move the selected field one position to the left, or

   b. Click the  button to move the selected field one position to the right.

8. Click [OK].

Configure the Visit Search Results Lists

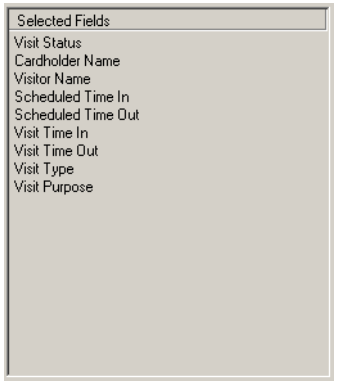
The columns displayed in the Visits listing window in the Visits folder can be changed using System Administration. To change the columns displayed:

1. From the **Administration** menu in System Administration or ID CredentialCenter, select **Cardholder Options**.
2. Click the Visit Search Results Lists tab.
3. Click [Modify].
4. In the **Fields** column, click on the field you want to be displayed in the Select Visitor Wizard: Select window. (Only one field can be selected at a time.)
5. Click the 

button to add the selected field to the list of fields that will be displayed.
6. Repeat steps 4 and 5 until all fields to be displayed are listed in the **Selected Fields** column.

Notes: The order that the fields are listed in the **Selected Fields** column is the order that the columns will be displayed in, from left to right, in the Visits listing window in the Visits folder.

For example, if the Selected Fields listing window on the Visit Search Results Lists form looks like this:



then the columns in the Visits listing window in the Visits folder will be laid out like this:

7. Select a field in the **Selected Fields** column, then:

   a. Click the  button to move the selected field one position to the left, or

   b. Click the  button to move the selected field one position to the right.

8. Click [OK].

Configure the Visit Notification Fields

The information that is included in visit notification e-mails can be changed using System Administration. To change the information sent:

1. From the **Administration** menu in System Administration or ID CredentialCenter, select **Cardholder Options**.
2. Click the Visit Notification Lists tab.
3. Click [Modify].
4. In the **Fields** column, click on the field you want to be displayed in the Select Visitor Wizard: Select window. (Only one field can be selected at a time.)
5. Click the  button to add the selected field to the list of fields that will be displayed.
6. Repeat steps 4 and 5 until all fields to be displayed are listed in the **Selected Fields** column.

Note: The order that the fields are listed in the **Selected Fields** column is the order that the information will be included in the visit notification e-mail.

7. Select a field in the **Selected Fields** column, then:

   a. Click the  button to move the selected field one position to the left, or

   b. Click the  button to move the selected field one position to the right.

8. Click [OK].

Modify the Person E-mail Fields

The person e-mail fields consist of the cardholder and visitor e-mail fields, as well as linked directory accounts. Both the cardholder e-mail fields and the Visitor e-mail fields are configured in FormsDesigner. To modify the person e-mail fields:

1. From the **Administration** menu in System Administration or ID CredentialCenter, select **Cardholder Options**.
2. Click the Person E-mail Fields tab.
3. Click [Modify].
4. In the Cardholder e-mail fields listing window, select the field(s) in the Cardholders folder from which you want to get e-mail addresses. By default, the "E-mail" entry is selected, which means that when the **Cardholder for this visit** check box is selected on the E-mail form in the Visits folder, and an e-mail notification is sent, the e-mail address that will be sent an e-mail notification is the e-mail address that is listed in the **E-mail** field on the Cardholder form in the Cardholders folder.

Note: The Cardholder e-mail fields are configured in FormsDesigner. For more information, refer to "Configure Cardholder E-mail Fields" in the FormsDesigner User Guide.

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5. In the Visitor e-mail fields listing window, select the field(s) in the Visitor folder from which you want to get e-mail addresses. By default, the "Visitor E-mail" entry is selected, which means that when the **Visitor for this visit** check box is selected on the E-mail form in the Visits folder, and an e-mail notification is sent, the e-mail address that will be sent an e-mail notification is the e-mail address that is listed in the **E-mail** field on the Visitor form in the Cardholder folder.

Note: The Visitor e-mail fields are configured in FormsDesigner. For more information, refer to "Configure Visitor E-mail Fields" in the FormsDesigner User Guide.

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6. In the Linked account directories listing window, all LDAP and Microsoft Active Directory directories that have a value specified in the **E-mail attribute** field on the Advanced sub-tab in the Directories folder will be listed. (Only an LDAP or Microsoft Active Directory can have an e-mail attribute defined.) To add a directory, refer to "Add a Directory" in the Directories Folder chapter in the System Administration User Guide.

Notes: The linked account directories will be checked in addition to the Cardholder e-mail fields. If a cardholder has a different address specified in their cardholder record than the e-mail address that the linked directory is using, an e-mail notification will be sent to both addresses. This only occurs if the

Cardholder for this visit check box is selected on the E-mail form in the Visits folder.

The linked account directories will be checked in addition to the Visitor e-mail fields. If a visitor has a different address specified in their visitor record than the e-mail address that the linked directory is using, an e-mail notification will be sent to both addresses. This only occurs if the **Visitor for this visit** check box is selected on the E-mail form in the Visits folder.

7. Click [OK].

Chapter 17: Segments Folder

The Segments folder contains forms with which you can activate the segmentation feature. The folder contains the Segment Options form. Two additional forms, the Segments form, and the Segment Group form display only if your installation uses segmentation.

Toolbar Shortcut

This folder displays when you select **Segments** from the **Administration** menu or select the Segments toolbar button.

Segments Folder Procedures

Log Into the Application as a User with Access to All Segments

1. On the log on screen, enter the user name and password for an account that has access to all segments.
2. Click [OK].
3. The Select Segment window will prompt you to select a segment to log into from a list of all currently defined segments. You can either:
   - Choose the default, “Access all segment assignments”, or
   - Select “Apply segment filter” and select one specific segment to work in

     If you choose a particular segment, during that session your user interface will be the user interface of a regular Segment User for the specified segment. The application will display only records that are contained in the selected segment. This is convenient if you will be configuring within one segment only for a session.
4. The main window will be presented. If you logged into a specific segment, the name of that segment will be listed in the application’s title bar.

Add Segments to Your Installation

Warning

It is CRITICAL that you first think about how you want your system to function, and then define the segments and select the appropriate options for each. This must be done before you attempt to put your segmented system into use.

Segments are added using the Segments form of the Segments folder. Features available by using the New Segment Wizard include:

- Copy objects from an existing segment to the new segment you’re adding
- Assign selected access panels to the new segment
- Perform an automatic full download to each of the selected access panels after they’re moved to the new segment

There are two situations in which this form is used:

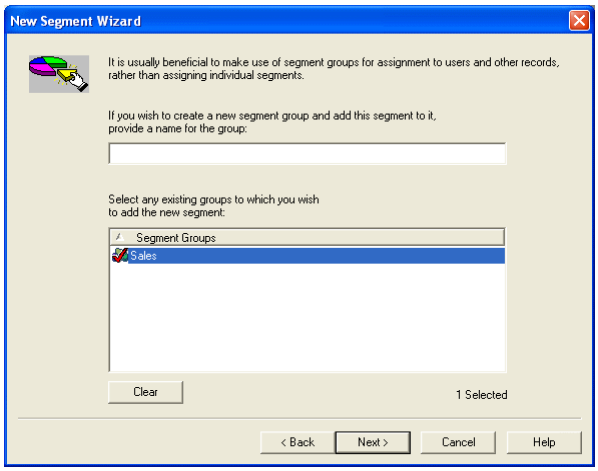
- You want to move existing Access Panels to the new segment.
- You don't want to move existing Access Panels to the new segment, but you do want to copy some objects (e.g., Holidays and Timezones) to the new segment for convenience.

Additional features available by using the New Segment Wizard include:

- Automatically adding the segment to a new or existing Segment Group (this is recommended)
- Optionally clean up the source segment by removing any access levels which no longer have readers or access groups that no longer have levels after panels have been moved
- Optionally prefix or append text to the names of records when copying

To add a segment to your installation:

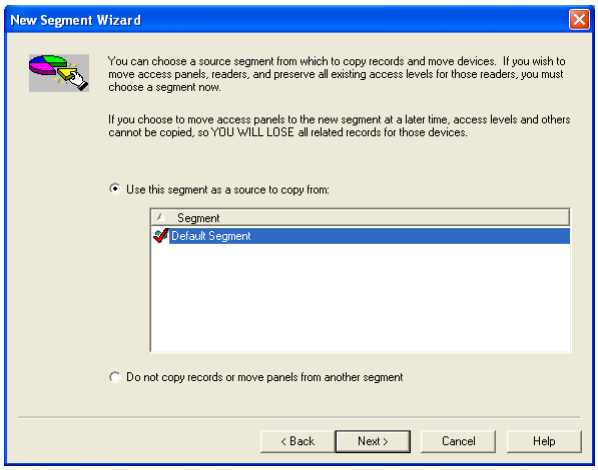
1. Log in as a user who has access to all segments and select the "Access all segment assignments" option in the Select Segment window.
2. Select the **Administration > Segments** menu option.
3. On the Segments form in the Segments folder, click [Add].
4. The New Segment Wizard opens. Enter a unique, descriptive name for the segment you're adding.
5. Click [Next].
6. The wizard proceeds. Skip this step if you do not wish to use segment groups. Otherwise, do the following:
   a. If you want to create a new segment group for the segment, type the name you want to use in the first blank field.
   b. If you want to add the segment to existing segment groups, select them in the Segment groups listing window.



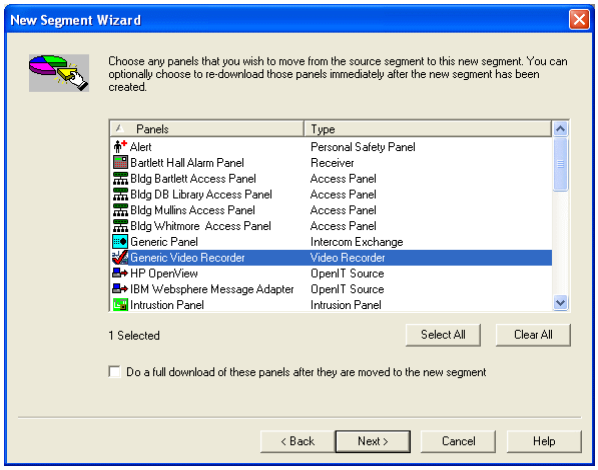
7. Click [Next].
8. The wizard proceeds.
   a. Select either the **Use segment as a source to copy from** or the **Do not copy records or move panels from another segment** radio button.
   b. If you selected **Use segment as a source to copy from**, click on the segment you wish to copy from in the Segment listing window. A red checkmark will appear over the icon of the selected segment.

Note: It's best if all selected access panels are currently in the same segment that you choose in the Segment listing window of the **Use this segment as a source to copy from** option. Then you would choose to copy all records from that segment. Although you can move access panels from other

segments also, *all links for those access panels will be lost*, since you can use this window to copy system records from only one segment.



9. Click [Next].
10. The wizard proceeds.
    a. In the listing window, select any panel(s) you wish to move from the source segment to the new segment.
        - If you wish to select all the panels listed, click [Select All].
        - If you wish to deselect all panels listed, click [Clear All].

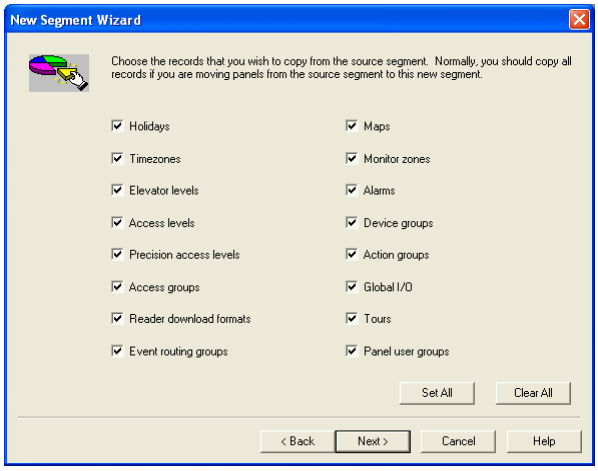


    b. Select the **Do a full download of these panels after they are moved to the new segment** check box to perform a full download to each of the selected access panels automatically after the panels are moved to the new segment. This ensures that the panels are updated to include the object records that you selected for copying.
    c. If you do not select the **Do a full download of these panels after they are moved to the new segment** check box, you should manually perform a full download to the affected panels after they've been moved

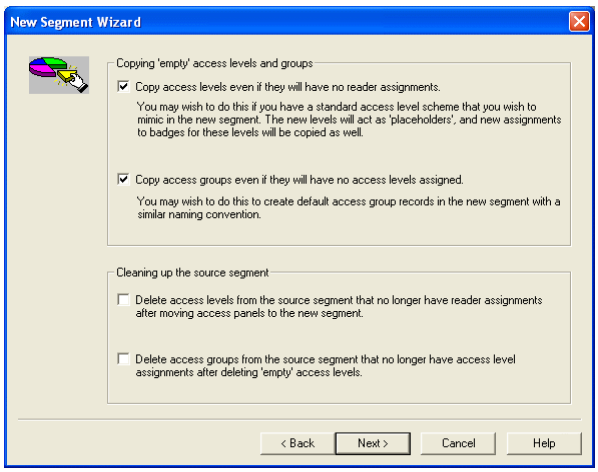
to the new segment. The wizard will display the following warning message (after you click [Next]) to warn you of this.

d. If the warning message above is displayed, click [OK].

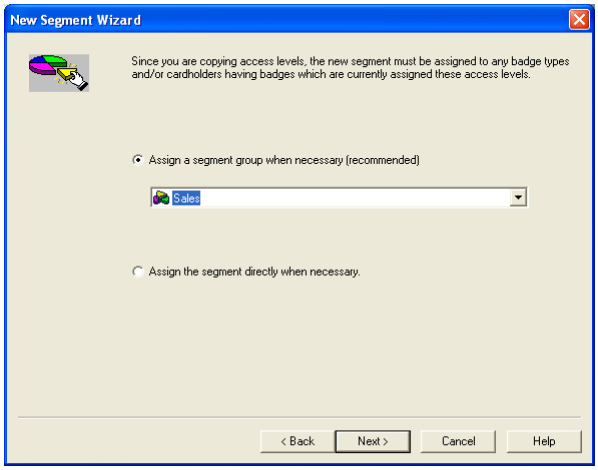
11. Click [Next].
12. The wizard proceeds. Select the records you wish to copy from the source segment.



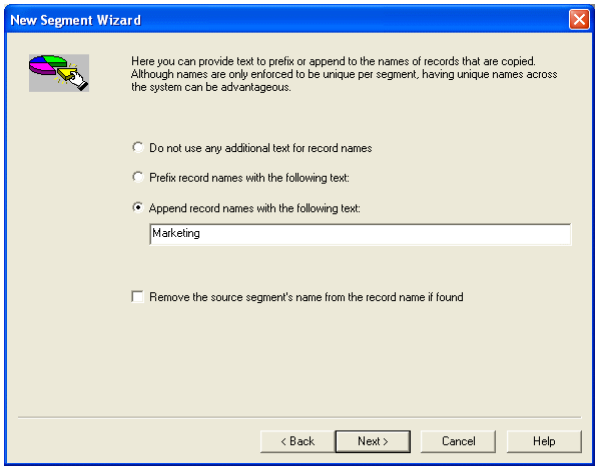
13. Click [Next].
14. Select the each of the options you desire in the **Copying empty access levels and groups** and **Cleaning up the source segment** sections.



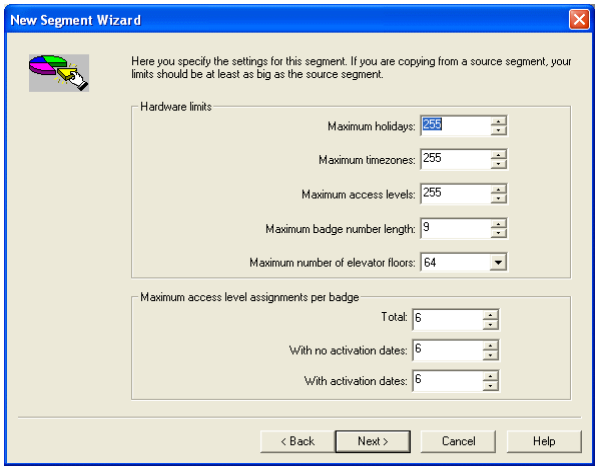
15. Click [Next].
16. The Wizard proceeds.



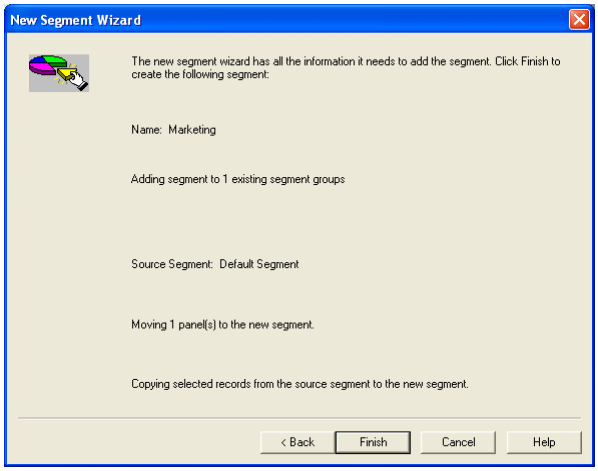
17. Click [Next].
18. The wizard proceeds.
    a. Select an option for the text to prefix or append to the names of the records that are copied.
    b. Select the **Remove the source segment's name from the record name if found** if you wish.



19. Click [Next].
20. The wizard proceeds. Make selections in the **Hardware Limits** and **Access Level Assignments** sections. (These properties can be modified after the segment has been created.)



21. Click [Next].
22. The wizard proceeds to its final screen, and a summary of the characteristics of the new segment is displayed. Make sure that these characteristics are what you want, then click [Finish].



23. A status window will appear and get updated as the segment is added. Once the segment has been added, it will automatically appear in the Segment listing window on the Segments form in the Segments folder.

Notes About the New Segment Wizard

- Because access panels are segmented, all other segmented objects that are related to access panels are affected when you reassign an access panel to a different segment. For this reason, you are strongly encouraged to take this ONE opportunity (since this option is only offered in the New Segment Wizard when you're creating a segment) to copy all related records for the panels to be moved to the new segment.

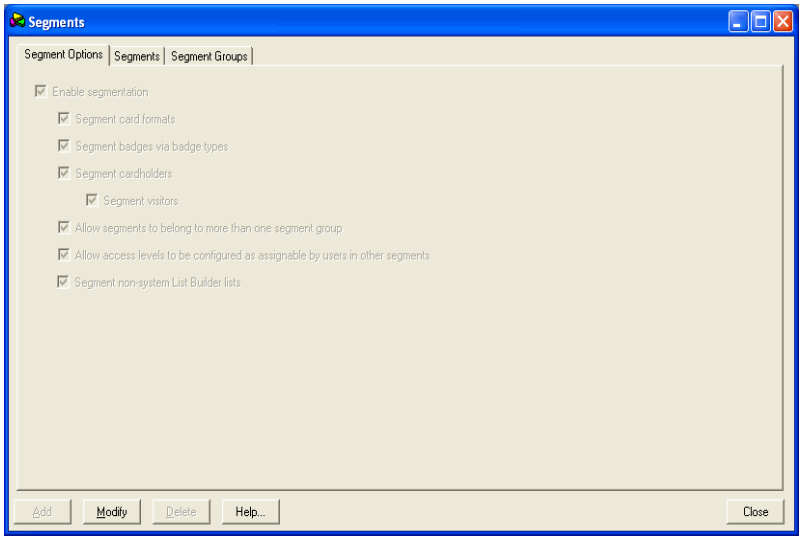
Note: If at a later time you wish to move an access panel to the new segment, all existing links to other records such as Access Level assignments (reader +

timezone/elevator level), Badge/Access Level assignments, Monitoring Zone assignments and Map items, etc. will be PERMANENTLY LOST.

- For records that contain definitions that include access panel-related items (e.g., maps, monitor zones, access levels), only the definitions for hardware attached to access panels that you are moving will get moved. For example: You currently have “Access Panel A” and “Access Panel B” in “Segment 1”. “My Access Level” contains reader/timezone assignments for readers on both “Access Panel A” and “Access Panel B”. You then add “Segment 2”, choose to copy access levels, and move “Access Panel B” to the new “Segment 2”. “My Access Level” will get copied to “Segment 2”, and the reader assignments for readers on “Access Panel B” will get *moved* to the access level definition in “Segment 2”. The level in “Segment 1” will be left only with assignments for readers on “Access Panel A”.

Segment Options Form

Note: This form displays on segmented and unsegmented systems. The Modify button on this form is disabled if a segment filter is chosen at login time.



Segment Options Form Overview

The Segment Options form is used to:

- Activate the Segmentation feature
- Select additional options for segmenting card formats, segmenting badges via badge types, and allowing segments to belong to more than one segment group (These options are only enabled for selection after the **Enable segmentation** check box has been checked and segmentation has been enabled.)

Important: It is advisable to determine and configure segment options prior to entering any data into your system.

Segments Folder - Segment Options Form

Form Element	Comment
Enable Segmentation	Activates Segmentation. This also enables the **Segment card formats**, **Segment badges via badge types**, **Segment cardholders**, **Allow segments to belong to more than one segment group**, and **Allow access levels to be configured as assignable by users in other segments** check boxes.

Segments Folder - Segment Options Form (Continued)

Form Element	Comment
Segment card formats	If selected, card format segmentation is enabled. In card format segmentation, a card format can belong to <All Segments> (system-wide), one segment, or many segments.
Segment badges via badge types	If selected, badge type segmentation is enabled. In badge type segmentation, a card format can belong to <All Segments> (system-wide), one segment, or many segments. When badge types are segmented, cardholders' badges are in effect segmented as well, by virtue of their badge type. A badge type's segment(s) determine: • Which default access groups can be assigned to the badge type. • Which magnetic card formats can be assigned to the badge type, if card formats are also segmented. • Which users can see and edit the badge type. A user must have at least one segment in common with a badge type in order to view it, and must have access to the "Primary Segment" of the badge type (described later) in order to edit it. • Which badge types a user can assign to a badge. A user must have access to the badge type's "Primary Segment" in order to assign it to a new or existing badge. • Which badges a user can see. A user must have at least one segment in common with a badge type in order to see badges of that type. However, unless they have access to the badge's primary segment, they cannot modify or delete the badge; they can only assign and remove access levels to it. • Which access levels a badge can have assigned to it. For example, even if a user has access to segments A, B and C, if the badge's type only belongs to segment A, only access levels in segment A can be assigned to the badge.
Segment cardholders	If selected, cardholders can be segmented. This also enables the **Segment visitors** check box to be selected.
Segment visitors	If selected, visitors can be segmented. Note that **Segment cardholders** must be selected before **Segment visitors** can be selected.
Allow segments to belong to more than one segment group	Segment groups can be assigned to users and badge types. • If not selected, a segment can only belong to one segment group. • If selected, a segment can belong to more than one segment group. For example, consider a system that has segments A, B, C, and D. Segments A and B might belong to one segment group, while segments C and D belong to another segment group. Segments A, B, C, and D can be assigned to some third segment group if desired.
Allow access levels to be configured as assignable by users in other segments	If selected, the Access Level Additional Segments form will be displayed in the Access Levels/Assets folder. This form allows users to specify additional segments whose users are allowed to assign a level. When this option is enabled, any user with permission to modify access levels can assign additional segments to a level.
Segment non-system List Builder lists	If selected, List Builder entries are shown across all regional nodes of the Enterprise system regardless of what List Builder entries are assigned to what node. This is done to avoid duplicate entries at the master node. Each node may only use and modify those List Builder entries assigned to them.
Add	This button is not used.

Segments Folder - Segment Options Form (Continued)

Form Element	Comment
Modify	Changes any of the segmentation options on this form. If the **Enable segmentation** check box is selected, it cannot be deselected. The Modify button is disabled if a segment filter is chosen at login time
Delete	This button is not used.
Help	Displays online help for this form.
Close	Closes the Segments folder.

Segment Options Form Procedures

Configure an Installation to Use Segmentation

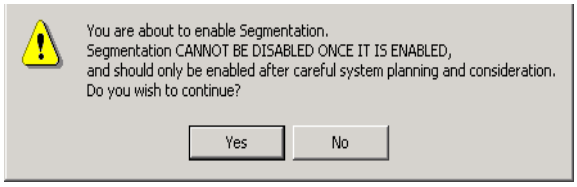
Warning

Once the Segmentation feature is enabled, it CANNOT be disabled. For this reason, segmentation should be enabled only after careful system planning and consideration.

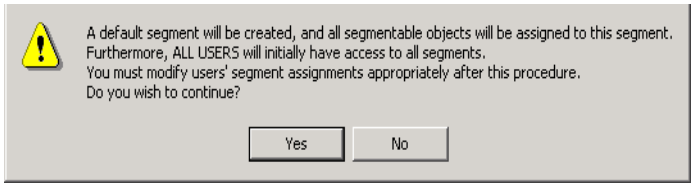
To enable segmentation:

Toolbar Shortcut

1. From the **Administration** menu, select **Segments,** or click the Segments toolbar button.
2. On the Segment Options form, click [Modify].
3. Select the **Enable segmentation** check box.
4. Click [OK]. The following message will be displayed:



5. Do one of the following:
   - If you don't want to enable segmentation, click [No]. This returns you to the Segment Options form.
   - Click [Yes] to proceed. The following message will then be displayed:



6. Do one of the following:
   - If you don't want to enable segmentation, click [No]. This returns you to the Segment Options form.
   - Click [Yes] to enable segmentation.

As the message indicates, several things happen during this conversion:

- A default segment is created, and all segmentable records are allocated to this segment.
- A Segments form and Segment Groups form are added to the Segments folder to allow you to add, modify, and delete segments and segment groups.
- Any other forms that are open at the moment are closed (this is so they have the proper segmentation controls showing the next time you open them).
- All users are made <All Segments> Users, allowing them to view all segments and to do software configuration from within any segment of choice. Such unrestricted access by all users negates the advantages of using segmentation. Segmented installations have the ability to limit a user to operating within one segment, and it is the job of the System Administrator to define each user's segmentation abilities. For more information, refer to Restrict User Access to Segments on page 412.
- After the initial segmentation setup is complete, you may change the name of the "Default Segment" to another name if desired.

Enable Additional Segmentation Features

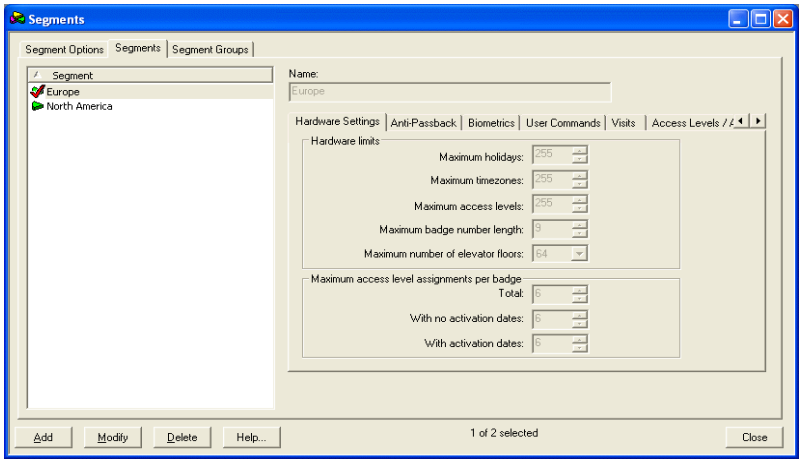
After segmentation has been enabled, there are several additional segmentation features available to you. You can choose to segment card formats, segment badges via badge types, and/or allow segments to belong to more than one Segment Group.

To enable any of the above features:

1. From the **Administration** menu, select **Segments,** or click the Segments toolbar button.
2. Click the System Options tab.
3. Click [Modify].
4. In the Segmentation section, select the check box of each additional segmentation features you wish to enable. Choices available include:
   - Segment card formats
   - Segment badges via badge types
   - Segment cardholders
   - Segment visitors
   - Allow segments to belong to more than one segment group
   - Allow access levels to be configured as assignable by users in other segments
5. Click [OK].

Segments Form (Hardware Settings Sub-tab)

Note: This form displays when segmentation is enabled. When segmentation is not enabled, these options are available on the Hardware Settings form in the System Options folder.



Hardware Settings Sub-tab Overview

The Hardware Settings sub-tab is used to:

- Specify the maximum number of holidays, timezones, and access levels that can be defined in the system.
- Specify the maximum badge number length.
- Specify the maximum number of standard access levels, temporary access levels, and total access levels that can be assigned to an individual cardholder badge.

It is advisable to determine and configure Hardware Setting options prior to entering any data into your system.

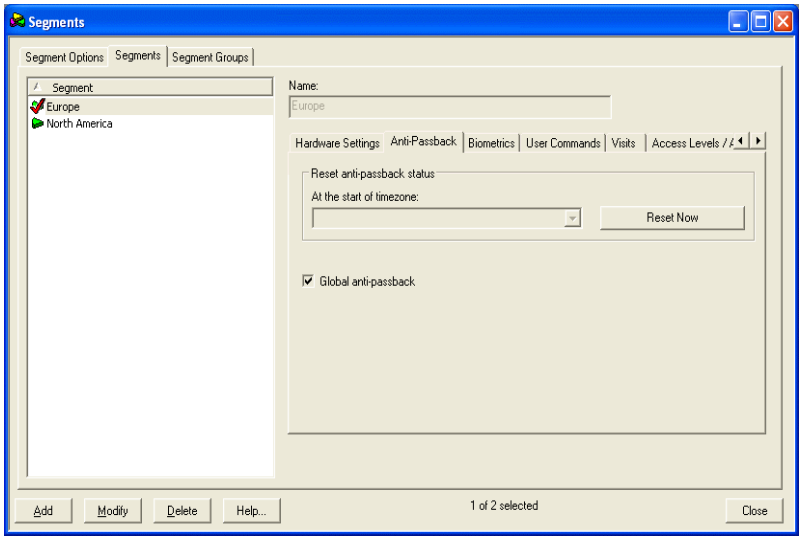
Segments Form - Hardware Settings Sub-tab

Segments Form - Hardware Settings Sub-tab

Form Element	Comment
Maximum holidays	If you are using Bosch access panels, choose a value between 20 and 255 to specify the maximum number of holidays that can be defined in the system. The default is 255.
Maximum timezones	If you are using Bosch access panels, choose a value between 127 and 255 to specify the maximum number of timezones that can be defined in the system. The default is 255.
Maximum access levels	If you are using Bosch access panels, choose a value between 255 and 31,999 to specify the maximum number of access levels that can be defined in the system. The default is 255.
Maximum badge number length	Choose a maximum number of digits a badge can be for manual entry of badge IDs. Bosch access panels support a maximum of an 18-digit badge number (maximum value 999,999,999,999,999,999). Badge IDs require 4 to 8 bytes of memory when stored in access panels, depending on the number of digits in a badge. • 9 digits or less require 4 bytes • 10-12 digits require 5 bytes • 13-14 digits require 6 bytes • 15-16 digits require 7 bytes • 17-18 digits require 8 bytes
Maximum number of elevator floors	Choose a maximum number of elevator floors to correspond with the floors in your building. The maximum number is 128.
Total	Specify the maximum number of access levels that can be assigned to a badge at one time. This includes both standard and temporary access levels. If you are using Bosch access panels, the maximum allowed is 32. If you reduce this number, you will be prompted that the application must proceed with a validation of each badge in the database to ensure that there are currently no badges that have more access level assignments than the value you are attempting to set. If there exist badges that have too many assignments, a message box will display the badge ID that is in violation. If you wish to proceed, you must search up the badge in the Cardholders folder and reduce its access level assignments.
With no activation dates	Specify the maximum number of standard access levels that can be assigned to a badge at one time. *Standard access assignments* are regular assignments with no activate/deactivate date. In most cases, this will be set equal to the number entered in the **Total** field. If you are using Bosch access panels, the maximum allowed is 32. This number cannot exceed the value in the **Total** field.
With activation dates	Specify the maximum number of temporary access level assignments that a badge can have. In most cases, this will be set equal to the number entered in the **Total** field. A *temporary access level* assignment is one that has been assigned an activate date, a deactivate date, or both. If you are using Bosch access panels, the maximum allowed is 32. This number cannot exceed the value in the **Total** field.

Segments Form (Anti-Passback Sub-tab)

Note: This form displays when segmentation is enabled. When segmentation is not enabled, these options are available on the Anti-Passback form in the System Options folder.



Anti-Passback Sub-tab Overview

The Anti-Passback sub-tab is used to:

- Specify when to reset the anti-passback status for users associated with a given segment.
- Select whether the system will use global anti-passback.

It is advisable to determine and configure Anti-Passback options prior to entering any data into your system.

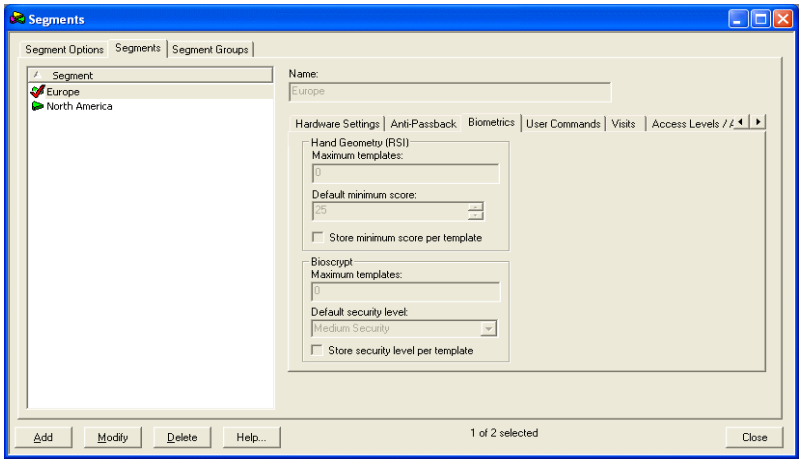
Anti-Passback Sub-tab Field Table

Segments Form - Anti-Passback Sub-tab

Form Element	Comment
At the start of timezone	Cards used in anti-passback readers will be made usable again at the beginning of the selected timezone. Choices include the names of all currently defined timezones. Example: In situations where people may have left an area without swiping their cards through anti-passback readers (perhaps at the end of the work day) this insures that they will be allowed to reenter properly the next day.
Reset Now	This button is intended for use when a cardholder has committed an anti-passback violation and can't get into or out of a particular area. • If you click this button on a non-segmented system, a confirmation message that says "Are you sure you wish to reset global anti-passback status?" will be displayed. If you click [Yes], cards used in anti-passback readers will become usable again immediately. • If you click this button on a segmented system, a confirmation message that says "Are you sure you wish to reset global anti-passback status for segment <*segment name*>?" will be displayed. If you click the [Yes] button, cards used in anti-passback readers in the selected segment will become usable again immediately.
Global anti-passback	If selected, global anti-passback features can be used. When this check box is not selected the Areas folder only contains the Anti-Passback Areas form. When this check box is selected, the Areas folder contains the Anti-Passback Areas, Associated Safe Locations, Associated Inside Areas, and Muster Reporting forms.

Segments Form (Biometrics Sub-tab)

Note: This form displays when segmentation is enabled. When segmentation is not enabled, these options are available on the Biometrics form in the System Options folder.



Biometrics Sub-tab Overview

The Biometrics sub-tab is used to:

- Specify Hand Geometry biometric settings including maximum templates, default minimum score, and whether to store the minimum score per template.
- Specify Bioscrypt biometric settings including maximum templates, default minimum score, and whether to store the minimum score per template.

Note: It is advisable to determine and configure biometric options prior to entering any data into your system.

Biometrics Sub-tab Field Table

Segments Form - Biometrics Sub-tab

Form Element	Comment
Hand Geometry	
Maximum templates	Enter the maximum number of templates that can be downloaded to the RKP-2000 controller. Only RKP-2000 controllers support HandKey biometrics. **Note:** The maximum number of templates is limited by the amount of free space on the controller. Each hand print template occupies 20 bytes. A total of 22 bytes are required per template if individual scores are stored with the template. Additional memory is required to enable HandKey support.For more information, refer to RKP-2000 (Options Sub-tab) on page 687.
Default minimum score	Choose the minimum score required to accept a template match between the access control reader and the template in the database.The *lower* the specified score, the closer the match must be during the verification process. Scores range from 1-255, with the default score being 25.
Store minimum score per template	Select this check box if you want minimum acceptance scores to be stored on a per template basis. If this check box is selected *and* the given template has a minimum acceptance score, the default will be overridden. If not selected, the default will be used.
Bioscrypt	
Maximum templates	Enter the maximum number of templates that can be downloaded to the RKP-2000 controller. Only RKP-2000 controllers support Bioscrypt (V-Flex, V-Station, or MV-1200) biometrics. **Note:** The maximum number of templates is limited by the amount of free space on the controller. Each fingerprint template occupies 362 bytes. Additional bytes are *not* required if individual scores are stored with the template because of the way the system rounds to the nearest even number. Additional memory is required to enable Bioscrypt support. For more information, refer to RKP-2000 (Options Sub-tab) on page 687.
Default security level	Select the default security level from the drop-down list.
Store security level per template	Select this check box if you want the default security level to be stored on a per template basis. If this check box is selected *and* the given template has a default security level, the default will be overridden. If not selected, the default will be used.
Modify	Changes the system options. When clicked, options on any form in the System Options folder can be modified.
Help	Displays online help information for this form.
Close	Closes the System Options folder.

Biometrics Sub-tab Procedures

Configure Biometrics

Complete this procedure to configure the maximum number of templates that can be downloaded to the access panel, as well as the minimum score necessary for template verification.

Note: The default number of templates that can be downloaded to the access panel is zero. Therefore, you must change the default value. If you do not change the default value, data will not be sent to the access panel and the controller capacity status will not display in Alarm Monitoring.

Toolbar Shortcut

1. From the **Administration** menu, select **Segments,** or click the Segments toolbar button.
2. Click the Segments tab. Click the Biometrics sub-tab.
3. Click [Modify].
4. If you are working with HandKey:
   a. Enter the maximum number of templates to be downloaded to the controller.
   b. Enter the default minimum score required to accept a template match between the template read at the reader and the template stored in the database.

Note: The *lower* the *HandKey score*, the closer the match must be during the verification process.

   c. Select the **Store minimum score per template** check box if you want minimum acceptance scores stored on a per template basis. If this check box is selected and the given template has a minimum acceptance score, the default will be overridden. If not selected, the default will be used.

You assign minimum acceptance scores to templates in Multimedia Capture.

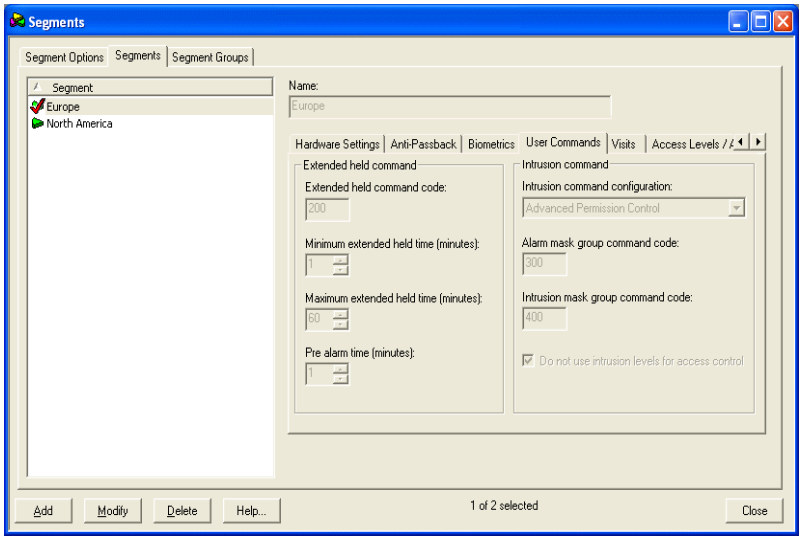
5. If you are working with Bioscrypt:
   a. Enter the maximum number of templates to be downloaded to the controller.
   b. Select the default security level which identifies the level of accuracy acceptable for template verification. Refer to the following table for rejection and acceptance rates per security level.

Security Level	False Rejection Rate	False Acceptance Rate
Very Low Security	1/10,000	1/100
Low Security	1/5,000	1/200
Medium Security	1/1,000	1/1,000
High Security	1/200	1/5,000
Very High Security	1/100	1/20,000

   c. Select the **Store security level per template** check box if you want to store individual security levels per template. Individual security levels are configured in Multimedia Capture. Leave this check box deselected if you want to use default security levels for all Bioscrypt templates.
      - If this check box is selected and the individual security level is set to “No Security”, then every Bioscrypt template will be successfully verified at the reader.
      - If this check box is not selected, then individual security levels are disabled, even though the security levels are still active in Multimedia Capture.
6. Click [OK].

Segments Form (User Command Sub-tab)

Note: This form displays when segmentation is enabled. When segmentation is not enabled, these options are available on the User Command form in the System Options folder.



Segments Form - User Command Sub-tab

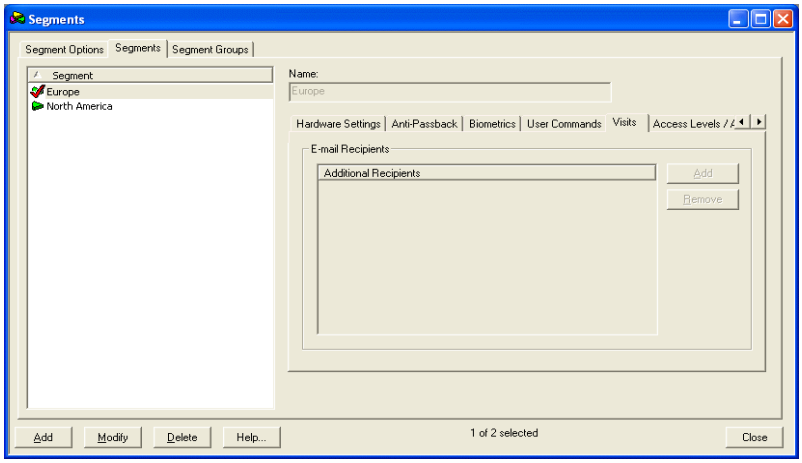
Form Element	Comment
Extended held command code	The held open time for some readers can be extended by a validated user at a command keypad. This field indicates the key sequence to use for the command. The command code key sequence must be between three and six digits. The default is 200.
Minimum extended held time (minutes)	Indicates the minimum number of minutes to extend the held open time to. The default is one.
Maximum extended held time (minutes)	Indicates the maximum number of minutes to extend the held open time to. The default is 60.
Pre alarm time (minutes)	Indicates the pre alarm time in minutes. This is the number of minutes before the held open time expires that a pre alarm will be generated. The default is one.
Intrusion command configuration	Select from the following intrusion command options: • **Disabled** - The default setting disables use of the intrusion command code. • **Global Permission Control Only - Allows use of the intrusion command code.** For more information, refer to Appendix J: Intrusion Command on page 1521. • **Advanced Permission Control** - Allows the use of the intrusion command code and other advanced functionality used for Command Keypad Templates. For more information, refer to Chapter 31: Command Keypad Templates Folder on page 867.

Segments Form - User Command Sub-tab

Form Element	Comment
Alarm mask group command code	If the **Global Permission Control Only or Advanced Permission Control options are selected from the Intrusion command configuration** drop-down box then the Alarm mask group command code can be configured. The command code can be between 3 and 6 digits in length and can not match the command code that is used by the extended held command code or intrusion mask group command code. For more information, refer to Appendix J: Intrusion Command on page 1521.
Intrusion mask group command code	If the **Global Permission Control Only or Advanced Permission Control options are selected from the Intrusion command configuration** drop-down box then the Intrusion mask group command code can be configured. The command code can be between 3 and 6 digits in length and can not match the command code that is used by the extended held command code or alarm mask group command code. For more information, refer to Appendix J: Intrusion Command on page 1521.
Do not use intrusion levels for access control	Select to disallow cardholders automatic access control rights. To gain access control rights the cardholder must hold non-intrusion authority access levels. When this field is selected, intrusion authority levels assigned to a badge only allow control over executions of intrusion commands at the command keypad. **Note:** Setting this option requires a database download to all access panels configured to be online.

Segments Form (Visits Sub-tab)

Note: This form displays when segmentation is enabled. When segmentation is not enabled, these options are available on the Visits form in the System Options folder.



Segments Form - Visits Sub-tab

Form Element	Comment
Additional Recipients listing window	The recipients listed are the default recipients who will be e-mailed if the **Default Recipients** check box is selected on the E-mail form in the Visits folder.
Add	In modify mode, click this button to open the Add recipient window, from where you can locate a recipient. For more information, refer to Chapter 5: Visits Folder on page 181.
Remove	In modify mode, click this button to remove the selected recipient from the Additional Recipients listing window.
Modify	Changes the system options. When clicked, options on any form in the System Options folder can be modified.
Help	Displays online help for this topic.
Close	Closes the System Options folder.

Visits Sub-tab Procedures

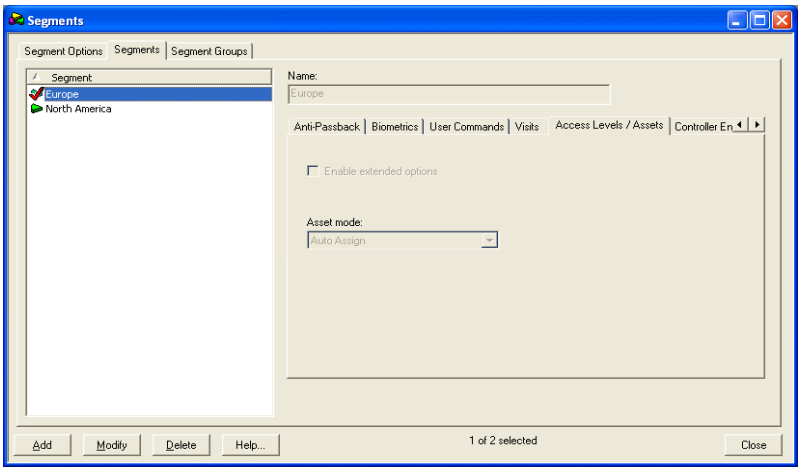
Configure Default E-mail Recipients (Segmented System)

The recipients listed in the Additional Recipients listing window for a selected segment are the default recipients who will be e-mailed if the **Default Recipients** check box is selected on the E-mail form in the Visits folder. To configure the default e-mail recipients:

1. On a segmented system, select the **Administration** > **Segments** menu option, click the Segments tab, and then click the Visits sub-tab. On a non-segmented system, select **Administration** > **System Options**, then click the Visits tab.
2. On a segmented system, select a segment, then click [Modify]. On a non-segmented system, just click [Modify].
3. Click [Add].
4. The Add recipient window opens. You may add a cardholder, visitor, directory account, or SMTP address.
   - If you select the Cardholder radio button and click [OK], the Select Host Wizard: Search form opens. For more information, refer to Select Host Wizard: Search Form on page 212.
   - If you select the Visitor radio button and click [OK], the Select Visitor Wizard: Search form opens. For more information, refer to Select Visitor Wizard: Search Form on page 215.
   - If you select the Directory account radio button and click [OK], the Select Account window opens.
   - If you select the SMTP address radio button, type the SMTP address, then click [OK]. An example of an SMTP address is “joesmith@company.com”.
5. Click [OK].

Segments Form (Access Levels/Assets Sub-tab)

Note: This sub-tab displays when segmentation is enabled. When segmentation is not enabled, these options are available on the Access Levels/Asset form in the System Options folder.



Form Element	Comment
Enable extended options	Select this check box to add escort functionality to access levels and enable the Access Levels/ Assets folder >Extended Options form. **Note:** Extending options requires additional memory and a full access panel download. Users on other workstations must log out/on in order to use the new settings. **Note:** The **Enable extended options** check box should not be selected if asset management is going to be used.
Asset mode	Choose the asset mode you wish to choose. Options include: • Tracking - assets will be assigned to a specific individual (In Alarm Monitoring, an Asset Privilege Only message will always be generated.) • Auto Assign - assets will be assigned based on Groups and Classes. A cardholder can belong to one Group. A Group contains Classes. Assets also contain Classes. When Auto Assign is selected, if the Assets Class matches the Group Class, then permission to have the asset is granted. **Note:** To disable asset operations, set the Assets field on the RKP-2000 or RKP-1000 form in the Access Panels folder to 0. **Note:** It is advisable to determine and configure this option prior to entering any data into your system.

Enable Extended Options for Access Levels/Asset

The following procedure applies to segmented systems only. For non-segmented systems, refer to the System Options folder on the Access Levels/Assets form.

Toolbar Shortcut

1. From the **Administration** menu, select **Segments**, or click the Segments toolbar button.
2. Click the Segments tab. Click the Access Levels/Asset sub-tab.
3. Click [Modify].
4. Select the **Enable extended options** check box.

Note: To configure extend options for Access Levels (escort mode and activation times), refer to the Access Levels/Asset folder > Extended Options form. For more information, refer to Extended Options Form on page 852.

Segments Form (Controller Encryption Sub-tab)

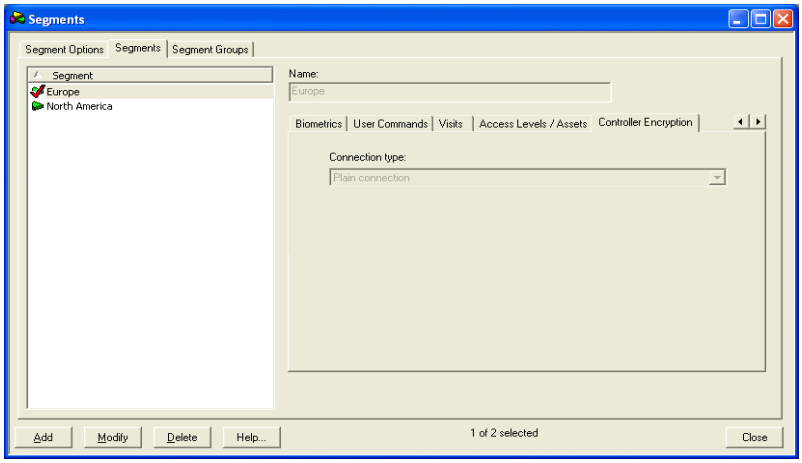
Note: This sub-tab displays when segmentation is enabled. When segmentation is not enabled, these options are available on the Controller Encryption form in the System Options folder.

To display the Controller Encryption sub-tab, select **Segments** from the **Administration** menu and click the Segments tab. Then, click the Controller Encryption sub-tab.

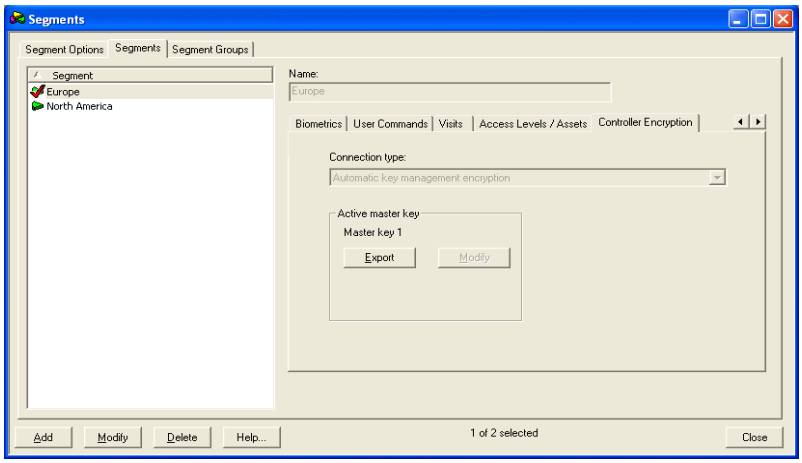
The Controller Encryption sub-tab is used to configure encryption for a system. This applies to Bosch controllers (RKP-2000, RKP-1000, and RKP-500), Fire panels (ESPA, Notifier AM2020/NFS-640, Pyrotronics), Intercom Devices, Personal Safety Devices (Visonic Spider Alert), Receivers (Bosch 6500, SIA), Intrusion Panels (all except generic Intrusion), and POS Devices (TVC-2100 series). For more information, refer to the Access Panels Folder chapter.

The Controller Encryption form displays different fields depending on the connection type.

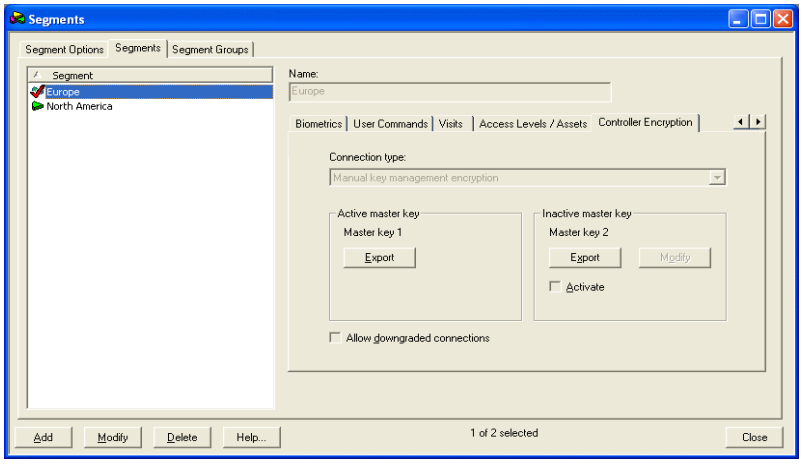
Plain Connection



Automatic Key Management Encryption



Manual Key Management Encryption



Form Element	Comment
Connection type	The type of connection that exists between the controller and the host application. The default value is a plain connection.
Active master key	Displays the name of the active key, an export button and depending on the connection type, a modify button. If the connection type is automatic, the modify button displays. If the connection type is manual, the modify button does not display.
Active master key - Export	Exports the active master key to a text file. Depending on the status of your system, this may be master key one or two.
Active master key - Modify	Opens the Master Key Entry window where you can modify the active master key (one or two). Note that you cannot modify the active master key using manual key management encryption; doing so would cause communication errors.

Form Element	Comment
Inactive master key	Displays to the right of the Active master key section, regardless of which key is in/active. The inactive master key section includes the name of the inactive key, export and modify buttons, and the **Activate** check box. Displays only for manual key management segments.
Inactive master key - Export	Exports the inactive master key to a text file. Depending on the status of your segment, this may be master key one or two. Displays only for manual key management segments.
Inactive master key - Modify	Opens the Master Key Entry window where you can modify the inactive master key. Depending on the status of your system, this may be master key one or two. Displays only for manual key management segments.
Activate	Select this check box when you want ReadkeyPRO to begin using this key. Displays only in the inactive master key section for manual key management systems. **Note:** You should not activate a master key until both the controller and ReadkeyPRO have the same value for the inactive key. **Note:** If using an encrypted connection to one of the supported panels (Fire, Intercom, Personal Safety, Receiver, Intrusion or POS Devices) do not activate a master key until both the encrypted communication device and ReadkeyPRO have the same value for the inactive key
Allow downgraded connections	Select this check box if you want the host/controller connection to downgrade the connection if the encryption connection fails. Displays only for manual key management segments. When this check box is selected, the access control system attempts the following connections (in sequence): 1. An encrypted connection with the inactive master key 2. An encrypted connection with the factory default value for Master Key 1 3. An encrypted connection with the factory default value for Master Key 2 4. A plain connection (only attempted if the controller does not require an encrypted connection) If encryption is enabled the following connections are attempted in sequence: 1. An encrypted connection with the inactive master key. 2. A plain connection.

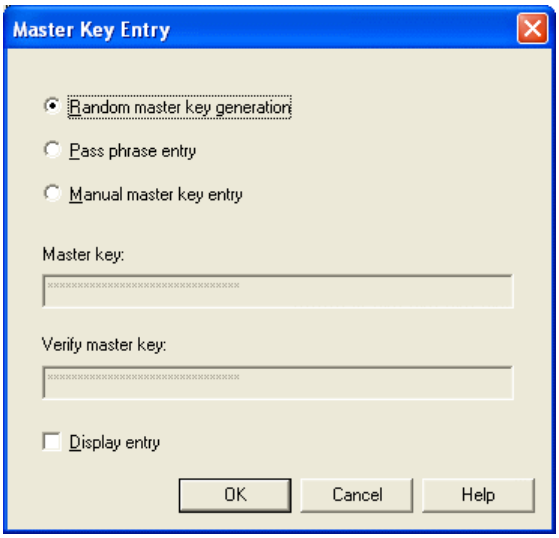
Controller Encryption Sub-tab Overview

The Controller Encryption form is used to:

- Configure the segment for encryption (automatic or manual)
- Enter master keys for encryption
- Export master keys to a text file
- Activate inactive keys (manual encryption only)

For more information regarding encryption, refer to the Encryption for Controllers User Guide.

Master Key Entry Window



Form Element	Comment
Random master key generation	Randomly generates a 128-bit value master key.
Pass phrase entry	Identifies the master key value as a pass phrase or sentence. The recommended minimum length for a pass phrase is 50 characters. The range of acceptable character length is between 1 and 255 characters. Spaces and symbols can be used and the pass phrase is case-sensitive. Notice when this radio button is selected, the text fields on this form change to Pass phrase and Verify pass phrase.
Manual master key entry	Identifies the master key value as a 128-bit value in hexadecimal form. A 128-bit hexadecimal value is exactly 32 digits containing any of the following numbers or letters: 0 – 9, A – F.
Master key/Pass phrase	The master key or pass phrase value.
Verify master key/Verify pass phrase	The master key or pass phrase value. This field verifies that you correctly entered the master key/pass phrase value. **Note:** You cannot copy/paste between this field and the master key/pass phrase field.
Display entry	Displays the characters in the master/pass phrase fields if this check box is selected.
OK	Accepts the changes and closes the Master Key Entry window.
Cancel	Closes the Master Key Entry window.

Controller Encryption Sub-tab Procedures

Configure Automatic Encryption and Set Keys

Note: The encryption modify/export permission is required to complete this procedure.

Toolbar Shortcut

1. Select **Segments** from the **Administration** menu, or click the Segments toolbar button.
2. Click the Segments tab. Click the Controller Encryption sub-tab.
3. Click [Modify].
4. If you are initially setting up automatic encryption:

Note: When encryption is being used with an encrypted communication device, the encryption key must be configured properly within the communication device first. The master key should then be configured on the Controller Encryption sub-tab. For more information, refer to Segments Form (Controller Encryption Sub-tab) on page 560.

   a. Select "Automatic key management encryption" from the **Connection type** drop-down list.
   b. Acknowledge any messages that display.
   c. Skip to step 6.

5. If you are updating the master key, click [Modify] (located in the active master key section of the sub-tab).
6. The Master Key Entry window opens. Select the **Manual master key entry**, **Pass phrase entry**, or **Random master key generation** radio button.
   - If you selected the **Manual master key entry** or **Pass phrase entry** radio button:
     a. Select the **Display entry** check box if you want to see the characters you are typing.
     b. Enter and verify the master key/phrase. If the key is stored in a text file, you can copy/paste the key into these fields.
     c. Click [OK].
     d. Acknowledge any messages that display.
   - If you selected the **Random master key generation** radio button:
     a. Select the **Display entry** check box if you want to see the master key values.
     b. Click [OK].
7. On the Controller Encryption form, click [OK].
8. Acknowledge any messages that display.

Configure Manual Encryption and Set Keys

When you initially configure manual encryption, you should modify both master keys to prevent a key with a factory default value from being used (security risk).

If encryption is being used for Bosch access control panels (RKP-3300, RKP-2220, RKP-2000, RKP-1000 and RKP-500) then when you manually update a master key, you modify the inactive key and use the Controller Encryption Configuration Utility to load the new key into the controller. Once both the controller and ReadkeyPRO have the same value for the inactive key, you can activate the new key. For more information, refer to the Encryption for Controllers User Guide or the Controller Encryption Configuration Utility.

Note: When encryption is being used with an encrypted communication device, the encryption key must be configured properly within the communication device first. Then the master key should be updated on the Controller Encryption form. Once the communication device and ReadkeyPRO have the same value for the inactive key, you can activate the new key.

Note: The encryption modify/export permission is required to complete this procedure.

Toolbar Shortcut

1. Select **Segments** from the **Administration** menu, or click the Segments toolbar button.
2. Click the Segments tab. Click the Controller Encryption sub-tab.
3. Click [Modify].
4. If you are updating a key, skip to step 5. If you are initially setting up manual encryption complete the following:
   a. Select “Manual key management encryption” from the **Connection type** drop-down list.
   b. Acknowledge any messages that display.
   c. Skip to step 6.
5. If you are updating a key, click [Modify] (located in the inactive master key section of the form).
6. The Master Key Entry window opens. Select the **Manual master key entry**, **Pass phrase entry**, or **Random master key generation** radio button.
   - If you selected the **Manual master key entry** or **Pass phrase entry** radio button:
     a. Select the **Display entry** check box if you want to see the characters you are typing.
     b. Enter and verify the master key/phrase. If the key is stored in a text file, you can copy/paste the key into these fields.
     c. Click [OK].

d. Acknowledge any messages that display.

- If you selected the **Random master key generation** radio button:
  a. Select the **Display entry** check box if you want to see the master key values.
  b. Click [OK].

7. On the Segments form, click [OK].
8. Acknowledge any messages that display.
9. If manual encryption is enabled for the first time, it is recommended that you update both master keys by repeating this procedure.

Modify Master Keys

If you want to automatically update/change keys, refer to Configure Automatic Encryption and Set Keys on page 565.

If you want to manually update/change keys, refer to Configure Manual Encryption and Set Keys on page 566.

Export Master Keys

This procedure applies to manual and automatic key management encryption systems. To export master keys:

Toolbar Shortcut

1. Select **Segments** from the **Administration** menu, or click the Segments toolbar button.
2. Click the Segments tab. Click the Controller Encryption sub-tab.
3. Click [Export].
4. The Save As dialog opens. Enter the file name and click [Save].
5. Acknowledge any messages that display.

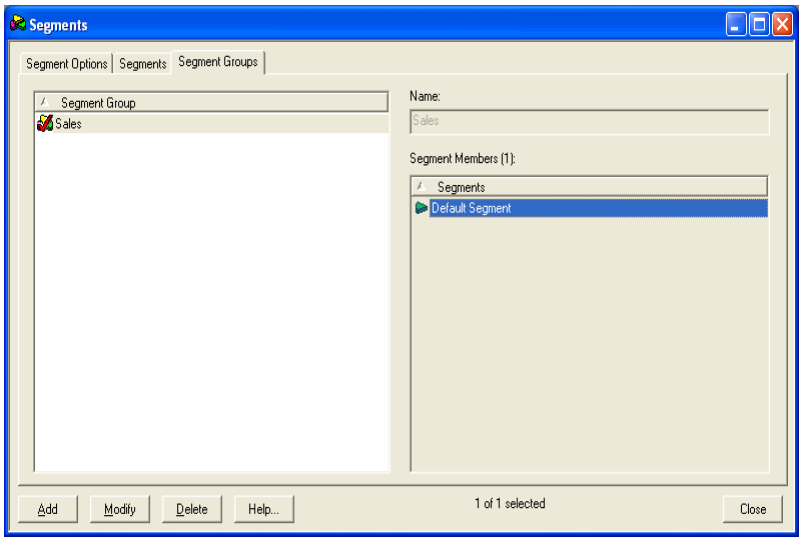
Activate Master Keys

The modify/export permission is required to complete this procedure.

Toolbar Shortcut

1. Select **Segments** from the **Administration** menu, or click the Segments toolbar button.
2. Click the Segments tab. Click the Controller Encryption sub-tab.
3. Click [Modify].
4. Select the **Activate** check box.
5. Select the **Allow downgraded connections** check box if you want the host to controller connection to downgrade to a plain connection when the encryption connection fails.
6. Click [OK].
7. Acknowledge any messages that display.

Segment Groups Form



Segment Groups Form Overview

The Segment Groups form is used to add segment groups to your installation. This form is displayed only if you have enabled segmentation. For more information, refer to Configure an Installation to Use Segmentation on page 543. You must also have the appropriate permission group to view this form. Permission groups are set on the forms in the Users folder.

Segments Folder - Segment Groups Form

Form Element	Comment
Segment Group listing window	Lists the names of all currently defined Segment Groups.
Name	Type a unique, descriptive name for the Segment Group.
Segment Members listing window	In “Add” and “Modify” mode, lists the names of all currently defined segments that are available to be included in a Segment Group. In “View” mode, lists the names of all segments included in the Segment Group that is currently selected in the Segment Group listing window.
Add	Adds a new segment group.
Modify	Changes an existing segment group.
Delete	Deletes an existing segment group.
Mode	In view mode, indicates the record/selection count (such as “1 of 42”). In modify mode, indicates the current operation, such as “Modify Mode.”
Help	Displays online help for this form.
Close	Closes the Segments folder

Chapter 18: List Builder Folder

The List Builder folder contains a form with which you can add, change, and delete the contents of lists that are used on the Cardholder form.

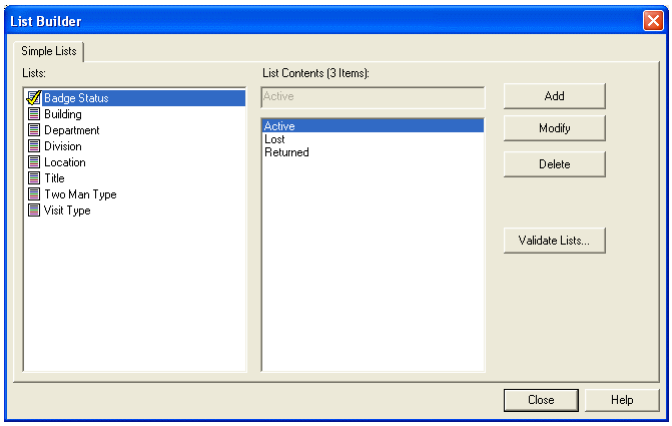
If you are using a segmented system you can add entries to the list builder which will then be filtered by the user's segments as well as any selected cardholder segments (if cardholder segmentation is enabled)

The folder contains one form, the Simple Lists form.

Toolbar Shortcut

The List Builder folder is displayed by selecting **List Builder** from the **Administration** menu, or by selecting the List Builder toolbar button.

Simple Lists Form



Simple Lists Form Overview

The Simple Lists form is used to add, change, and delete the contents of lists that are used throughout the software.

Note: The Two Man Type list cannot have its default list items deleted or modified. For more information, refer to Configure the List Builder for Special Two-Man Rule on page 1486.

List Builder Folder - Simple Lists Form

Form Element	Comment
Lists	Each entry is the name of a system-wide list whose contents can be changed. Some lists are common to all ReadkeyPRO installations; others are customer-specific.
List Contents (__ items)	Contains the edit window and the listing window.
edit window	For the selected list, displays the entry that is being added, changed, or deleted.
Listing window	Displays the current contents of the selected list
Add	Used to add an entry to the selected list.
Modify	Used to change an entry in the selected list.
Delete	Used to remove an entry from the selected list.
Validate Lists	Clicking this button causes the application to validate all list tables and cardholder records to ensure they contain valid values. This can be useful after performing data imports or adding/updating cardholder data using other database tools. If you encounter an error printing a badge that indicates the cardholder may be missing data for a field, using this button may fix the problem.
Close	Closes the List Builder folder.

List Builder Folder - Simple Lists Form

Form Element	Comment
Help	Displays online assistance for this form.

Simple Lists Form Procedures

Add an Entry to a List

1. In the **Lists** section, select the name of the list. The contents of the list will be displayed in the listing window.
2. Click [Add].
3. If you have a segmented system you will be prompted to choose which segment you are adding the entry to.
4. In the edit window, type the item to add to the list.
5. Click [OK], or press the <Enter> key on your keyboard. The new item will be inserted alphabetically into the listing window.
6. Repeat steps 2 through 5 for each item to be added to the same list.

Modify an Entry in a List

1. In the **Lists** section, select the name of the list. The contents of the list will be displayed in the listing window.
2. In the listing window, select the entry you wish to change.
3. Click [Modify]. The entry will be displayed in the edit window.
4. In the edit window, make the change you want to the item.
5. Click [OK], or press the <Enter> key on your keyboard. The item will be revised in the listing window.

Delete an Entry from a List

1. In the **Lists** section, select the name of the list. The contents of the list will be displayed in the listing window.
2. In the listing window, select the entry you wish to delete.
3. Click [Delete]. The entry will be displayed in the edit window.
4. Click [OK] button, or press the <Enter> key on your keyboard.
5. Click [Yes] to confirm the deletion. The item will be removed from the listing window.

Chapter 19: DataConduIT Message Queues Folder

The DataConduIT Message Queues folder contains forms with which you can:

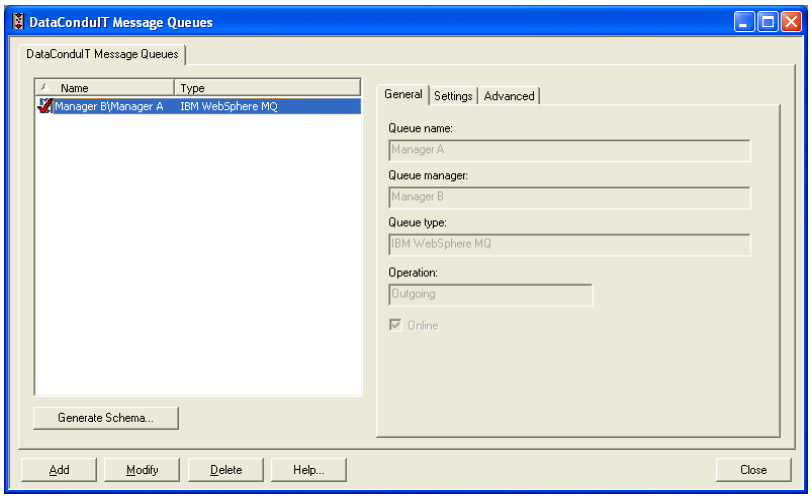
- Add, modify, or delete DataConduIT message queues.
- Generate a schema for the user to reference.
- Configure whether photo and signature information is included in messages.
- Configure when messages are sent.
- Add, modify, or delete a custom object event WMI query, custom access and security event WMI query.

The DataConduIT Message Queues folder contains one form: the DataConduIT Message Queues form. The DataConduIT Message Queues form contains three sub-tabs: General, Settings, and Advanced.

This folder is displayed by selecting **DataConduIT Message Queues** from the **Administration** menu.

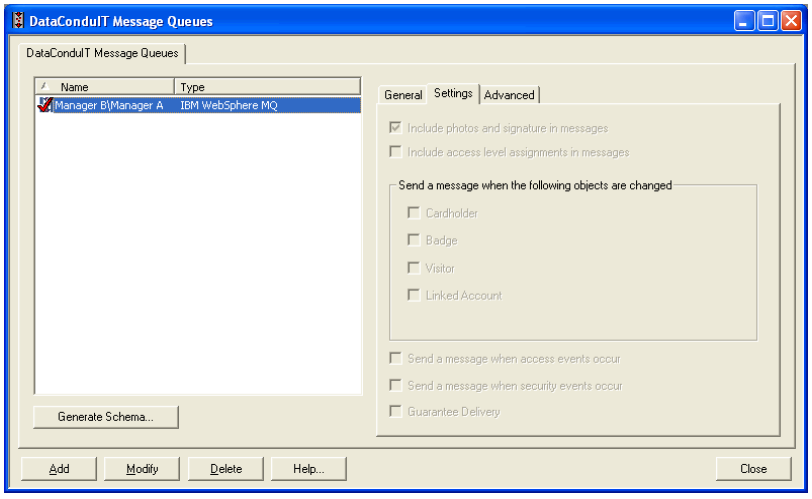
For more information about DataConduIT Message Queues, refer to the DataConduIT User Guide.

DataConduIT Message Queues Form (General Sub-tab)



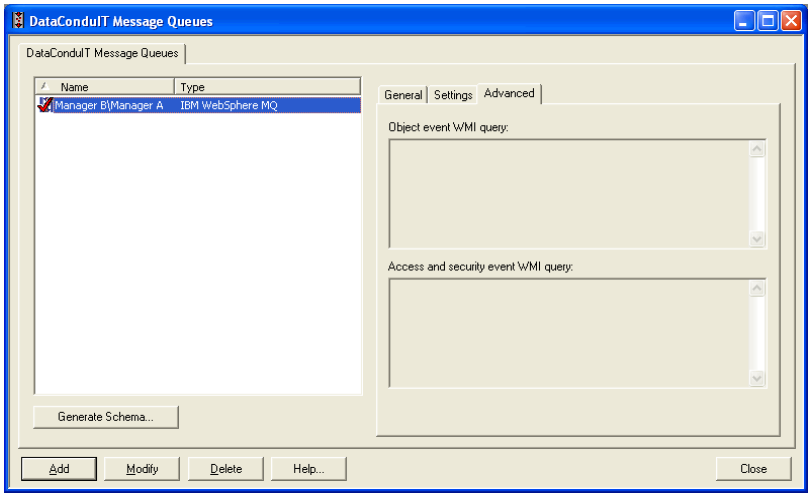
DataConduIT Message Queues Form (Settings Sub-tab)

Note: This sub-tab is only displayed for outgoing queues.



DataConduIT Message Queues Form (Advanced Sub-tab)

Note: This sub-tab is only displayed for outgoing queues.



DataConduIT Message Queues Form - DataConduIT Message Queues Form

Form Element	Comment
Listing window	Lists currently defined DataConduIT message queues. Each entry contains the queue's name and type.
Generate Schema	Generates a schema for you to reference. If clicked, the Save As window is displayed, and you must select where to save the schema. After any changes to the database have been made using FormsDesigner, you must regenerate the schema so that the updated database is reflected in the schema file. **Note:** DataConduIT uses the Windows account of the person who is logged on to the machine at the time of schema creation. Because of this, it is probably more preferable for a system administrator to handle all schema generation.
Add	Click this button to add a DataConduIT message queue.
Modify	Click this button to change a selected DataConduIT message queue.
Delete	Click this button to delete a selected DataConduIT message queue.
Help	Displays online help for this form.
Close	Closes the DataConduIT Message Queues folder.
General Sub-tab	
Queue name	Enter the queue's name. This field is case-sensitive.

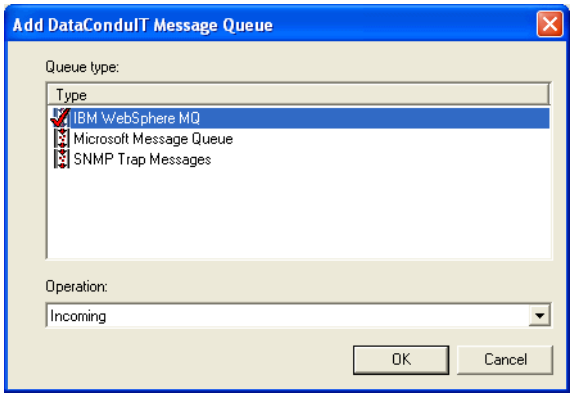
DataConduIT Message Queues Form - DataConduIT Message Queues Form

Form Element	Comment
Queue type	ReadkeyPRO supports the following types of queues: Microsoft Message Queue, and SNMP Trap Messages. The queue type is selected when a queue is added, and it cannot be modified after the queue has been added.
Operation	A queue is designated as either incoming or outgoing when it is added. The SNMP Trap Messages queue type only supports outgoing queues. The operation cannot be modified after a queue has been added.
Online	Shows whether the queue is online or offline. While checked the queue is online and will function normally. Unchecked makes the queue become offline. Being offline means no events are sent or received from the queue.
Settings Sub-tab	
Include photos and signature in messages	Specifies whether photos, signatures, and fingerprints are included in messages. If this option is selected, the size of the messages sent is much larger.
Include access level assignments in messages	Check this box to include access level assignments in the outgoing messages.
Cardholder	If selected, a message will be sent whenever a cardholder record is added, modified, or deleted.
Badge	If selected, a message will be sent whenever a badge record is added, modified, or deleted.
Visitor	If selected, a message will be sent whenever a visitor record is added, modified, or deleted.
Linked Account	If selected, a message will be sent whenever a linked account record is added, modified, or deleted.
Send a message when access events occur	If selected, a message will be sent every time an access event occurs. Two examples of access events are access granted and access denied events.
Send a message when security events occur	If selected, a message will be sent every time a security event occurs. Two examples of security events are door forced open and alarm restored events.
Guarantee Delivery	Check this box to guarantee delivery of hardware events. This works by first sending the events to a table where the DataConduITQueue will then retrieve them. The guarantee is assured because the table is used as a preliminary queue and the events are not deleted until picked up by the DataConduITQueue. The DataConduITQueue will not mark the event as processed until it is written on the designated message queue. **Note:** There is a mathematically small possibility that you could receive a duplicate event, but the chances are negligible.
Advanced Sub-tab	
Object event WMI query	You can type an object event WMI query in directly. Objects include cardholders, linked accounts, badges, and visitors.
Access and security event WMI query	You can type an access and security event WMI query in directly. Access events are events such as access granted and access denied. Security events are events such as door forced open and alarm restored.

DataConduIT Message Queues Form Procedures

Add DataConduIT Message Queue

1. From the **Administration** menu, select **DataConduIT Message Queues**.
2. On the DataConduIT Message Queues form, click the [Add] button.
3. The Add DataConduIT Message Queue window opens.
   a. Select the queue **Type**.
   b. Select the queue **Operation**. The operation cannot be modified after a queue has been added.



   c. Click [OK].
4. On the General sub-tab:
   a. In the **Queue name** field, type the name of the queue. The name is case-sensitive.
   b. In the **Queue manager** or **SNMP manager** field, enter the manager's name. If adding an SNMP Trap Messages queue, enter the SNMP manager's IP address. Depending on the network configuration, a fully qualified NetBios name may be required. If adding a Microsoft Message Queue this field is not present.
   c. Note that the **Queue type** and **Operation** that you selected are displayed, but cannot be modified.
5. If you added an incoming queue, click [OK] and the queue will be added. If you added an outgoing queue, continue on to step 6.
6. On the Settings sub-tab:
   a. If you wish to have photo, signature, and fingerprint information sent in messages, select the **Include photos and signature in messages** check box.

Note: Including photo information in the messages makes the size of the message sent much larger.

b. Select whether a message will be sent when cardholder, badge, visitor, and linked accounts are added, modified, or deleted.

c. If you wish to have a message sent when an access event occurs, select the **Send a message when access events occur** check box.

d. If you wish to have a message sent when a security event occurs, select the **Send a message when security events** occur check box.

7. Using the Advanced sub-tab is optional and for advanced users. On the Advanced sub-tab you may:

   a. Type an object event WMI query directly into the **Object event WMI query** textbox.

   b. Type an access and security event WMI query directly into the **Access and security event WMI query** textbox.

8. Click the [OK] button.

Note: If you configured an SNMP Trap Messages queue, load the **lenel.mib** file into the SNMP Manager so that it knows how to handle and display the variables it receives. The Lenel MIB file is located in the **Support Center/ SNMP** folder on the Supplemental Materials disc.

Modify a DataConduIT Message Queue

1. From the **Administration** menu, select **DataConduIT Message Queues**.
2. In the listing window of the DataConduIT Message Queues form, select the queue record you wish to modify.
3. Click the [Modify] button.
4. Make the changes you want to the fields. Changes can be made on any sub-tab.
5. Click the [OK] button to save the changes, or the [Cancel] button to revert to the previously saved values.

Delete a DataConduIT Message Queue

1. From the **Administration** menu, select **DataConduIT Message Queues**.
2. In the listing window of the DataConduIT Message Queues form, select the queue record you wish to delete.
3. Click the [Delete] button.
4. Click the [OK] button.
5. Click the [Yes] button to confirm the deletion.

Chapter 20: Text Library Folder

The Text Library folder contains a form with which you can create text entries that can be used as additional parameters for when they are linked to the alarm or global I/O input events.

Note: Currently the only components that support Text Library linking are Alarm Configuration and Global I/O.

Toolbar Shortcut

The Text Library folder is displayed by selecting **Text Library** from the **Administration** menu.

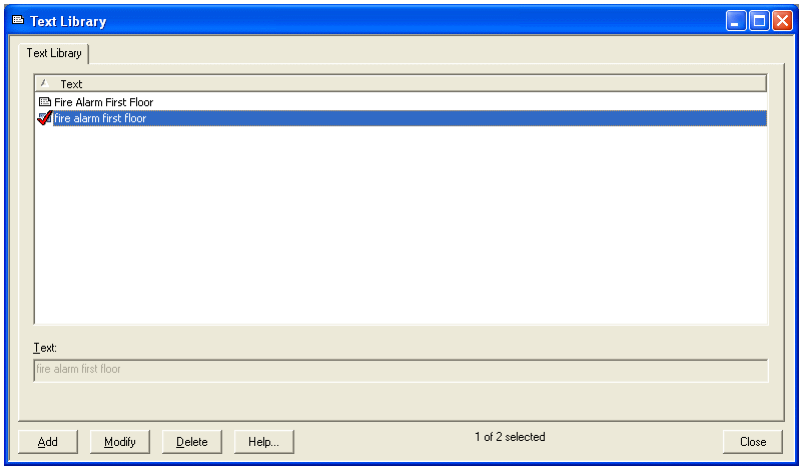
Adding your own custom text entries allows you to modify and work with generic events based on the event text you created for them in the text library. Through the text library, you create different text entries that are then used when modifying alarms for the generic event.

The Generic Event event conveys no information other than to indicate that an event has occurred. Once you modify the Generic Event event to run after a certain alarm is triggered you can create a text entry to match the action. For example you could create a Generic Event event for a fire alarm on the first floor of your building. You could then create a text entry “Fire alarm - First floor.”

When creating a Generic Event event you are presented with a drop-down list with your text entries. You select the “Fire alarm - First floor” and that becomes the Generic Events event text. Once that Generic Event is triggered the event text is matched to the text library. If a match is found, the alarm specified with that event text is shown in Alarm Monitoring.

Note: If you have the correct permissions you can add text directly to the **Event text** drop-down list when modifying a Generic Event. If the text you enter isn’t in the text library it will be added.

Text Library Form



Text Library Folder - Text Library Form

Form Element	Comment
Text	Lists the text entries that have already been entered by a user.
Text	Type the name of the Text Library entry. Once added, the name appears in the text display. The text library cannot contain any duplicate names and is limited to a maximum of 2000 characters per entry. text entries are also case-sensitive so you could have “Fire” and “fire” be separate text entries.
Add	Click this button to add a text entry.
Modify	Click this button to modify an existing text entry.
Delete	Click this button to delete an existing text entry.
Help	Displays online help for this form.
Close	Closes the Text Library folder.

Text Library Form Procedures

Add a Text Library Entry

1. From the **Administration** menu, select **Text Library**.
2. On the Text Library form, click [Add].
3. In the **Text** text box, enter the name of the text entry, that you want to be available when linking to alarm or global I/O input events.
4. Click [OK].

The text entry is now displayed in the **Text** display area.

Modify a Text Library Entry

1. From the **Administration** menu, select **Text Library**.
2. On the Text Library form, select the Text Library entry you want to modify.
3. Click [Modify].
4. Change the name of the text entry. Be aware that modifying the text entry also affects all the linked devices.

Delete a Text Library Entry

1. From the **Administration** menu, select **Text Library**.
2. On the Text Library form, select the Text Library entry you want to delete.
3. Click [Delete].
4. Click [OK]. The text entry is now deleted.

Note: A text entry cannot be deleted if it is currently linked to other items. When you try to delete a linked entry you are presented with a list of linked items. You then have to unlink them before continuing.

Linking to the Text Library Entry

Once you have added a text library entry you can link it to either a Global I/O input event by using Add a Global I/O Linkage on page 938 or a custom alarm by using Add a Custom Alarm on page 990.

Chapter 21: Archives Folder

This folder allows you to archive Events, Events Video Location, Alarm Acknowledgments, User Transactions, Visits Records, and specific event types to text files in order to free up space in their respective database tables. This is an important task for the System Administrator to do on an ongoing basis, because allowing these records to build up can eventually fill up the allocated database space and adversely affect system performance.

The frequency and settings with which you archive will depend on what is appropriate for your security system and how long you must keep events and records online for reporting purposes. Archived records can always be restored to the database (provided you still have the archive files) and used for historical reporting.

The archive process is NOT an automated or scheduled process; you must manually run the archive process on an ongoing basis using the [Archive/Purge Now] button.

The Archives folder contains forms with which you can:

Archive:

- Indicate the frequency with which each type of record will be moved, and to where
- Preview record counts per every record type matching record archive configuration
- Move records from the database to a text file (called an *archive file*) located in the specified path
- Force immediate archival of video recordings that are associated with events but haven't been archived yet
- Purge events from the database
- Specify which event types should be archived

Restore:

- View a list of all archive files that have been created
- Restore Records from an archive file to the database
- Delete an archive file from the system
- Delete restored records from the database

The folder contains two forms: the Archiving form and the Restoring form.

Toolbar Shortcut

The Archives folder is displayed by selecting **Archives** from the **Administration** menu or by selecting the Archives toolbar button.

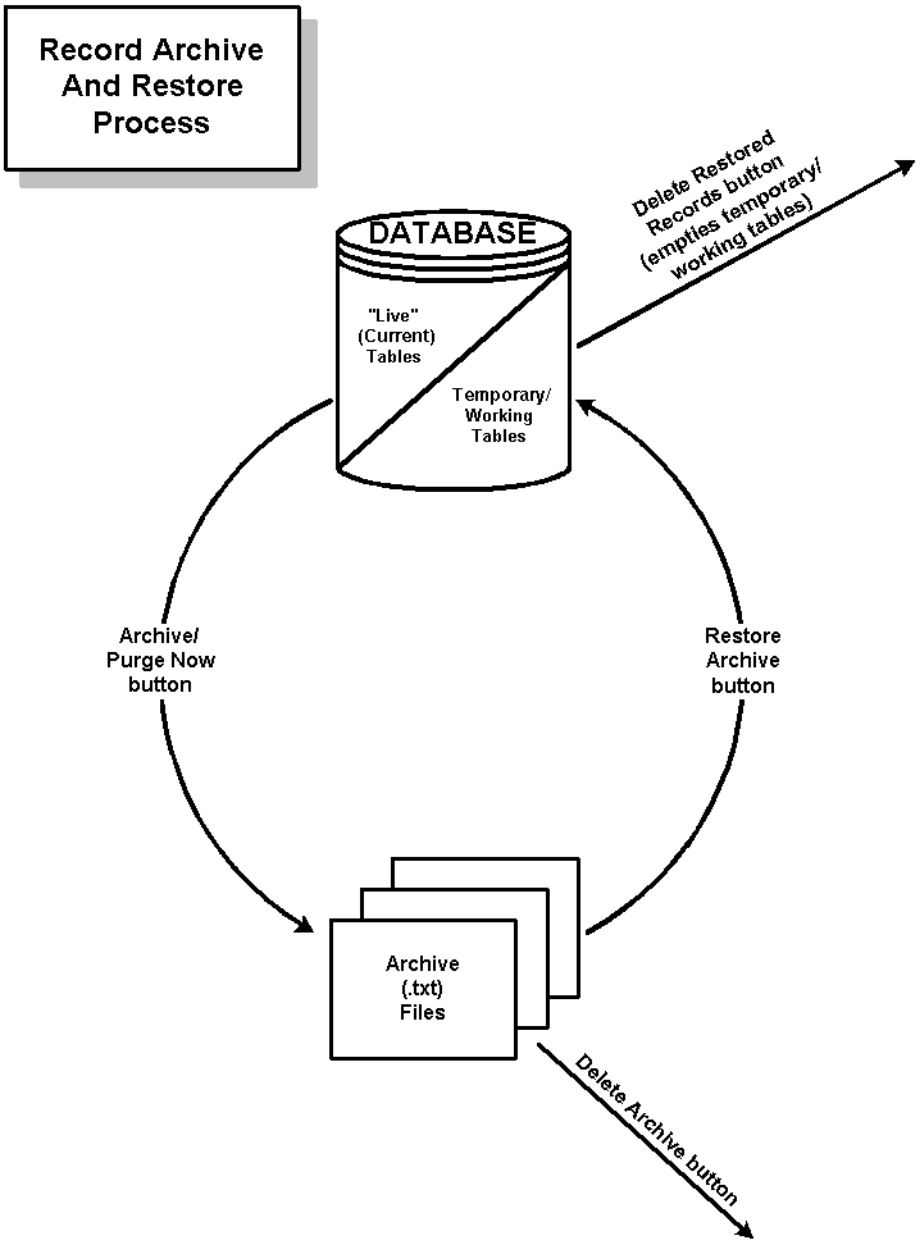
Visit Records

The criteria for archiving visit records is different from the criteira for archiving other types of records or events.

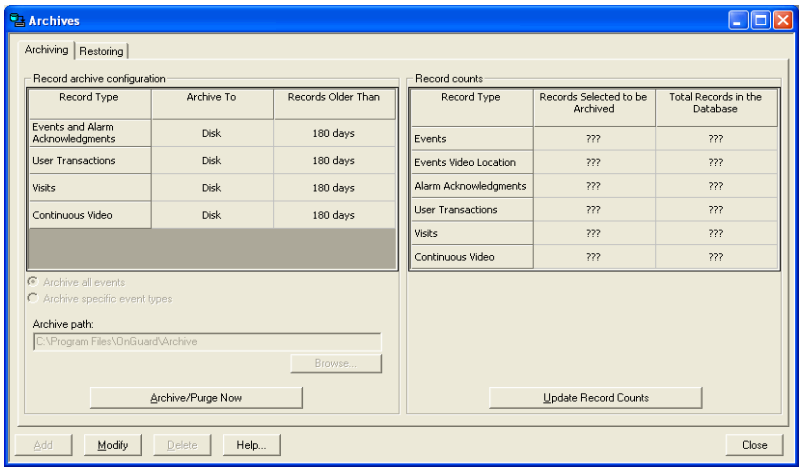
A visit that is currently signed in, regardless of the date, will not be archived. For archival to occur, the visit must be signed out.

Once signed out, the critieria for archiving the visit is based on the scheduled time out of the visit event. This ensures that visits scheduled in advance will not be archived before the actual visit occurs.

Record Archive & Restore Processes



Archiving Form



Archiving Form Overview

The Archives form is used to:

- Indicate the frequency with which each type of records will be archived, and to where.
- *Archive* - move records from the database to a text file (called an *archive file*) located in the specified path (Archive To: Disk).
- *Purge* - delete records from the system [Archive To: None (Delete Only)].

Archives Folder - Archiving Form

Form Element	Comment
Record Archive Configuration	Includes **Record Type**, **Archive To**, **Records Older Than**, and **Archive Path** sections. In this section you can select whether or not they will archive all events or events belonging to a specific event type. Use this section to choose settings for many record types. These include: Access Denied, Access Granted, Area APB, Asset, Biometric, Burglary, C900, Duress, Fire, Gas, Generic, Intercom, Medical, Muster, Open/Close, Point of Sale, Relay/Sounder, System, Temperature, Transmitter, Trouble, Video, Water. **Note:** If the user does not have a license for receivers or intrusion panels the Trouble, Burglary, Temperature, Gas, Relay Sounder, Medical, Water, C900, and Open Close event types must not be listed in the event type archiving configuration or in the record counts section.

Archives Folder - Archiving Form (Continued)

Form Element	Comment
Archive To	For a particular **Record Type**, indicate what will be done with those Records that have been in the database longer than the **Records Older Than** value. Choose one of the following: • Disk - the events/Records will be stored in a text file on the disk, in the directory specified by the **Archive Path** field. The name of the text file identifies the date the archive was performed and the **Record Type**. • None (Delete only) - the records will be deleted from the system. This means, that they are then PERMANENTLY LOST. **Note:** To bulk change the entire column double click on the **Archive To** column and follow the dialog prompts.
Records Older Than	For a particular **Record Type**, indicate the number of days after which this type of Record will be archived. You can specify a number in the range of 1 through 3650 (which is approximately 10 years). Access Denied, Access Granted, Area APB, Asset, Biometric, Burglary, C900, Duress, Fire, Gas, Generic, Intercom, Medical, Muster, Open/Close, Point of Sale, Relay/Sounder, System, Temperature, Transmitter, Trouble, Video, and Water are governed by the same **Records Older Than** setting to maintain data integrity. **Note:** To bulk change the entire column double click on the **Records Older Than** column and follow the dialog prompts. **Note:** If you have both an "Archive To" and "Records Older Then" item selected and you right-click, another dialog will be displayed allowing you to set both of these items.
Archive all events	If selected, the Record Archive Configuration listing window will show the basic record types to be archived and purged.
Archive specific event types	If selected, the Record Archive Configuration listing window will show a nested grid control to choose specific events that can be archived and purged. These will be shown in a nested tree under the Events and Alarm Acknowledgments Record Type.
Archive Path	Indicates the drive and directory where archive files will be stored. Type a path here, or click [Browse] to select one. It is good practice to create one common shared directory on the network for archives, and to set this field to that path. That way, the same directory will be used no matter which workstation you archive from. If you want to archive events for a specific event type and keep it isolated from a path that contains archives for all events as well, then you should specify a separate path. Note that Universal Naming Convention (UNC) paths are supported (e.g., \\Server_Name\C_Drive\Archives).
Browse	Opens a Browse for Folder window, from which you can select a Archive Path.
Archive/Purge Now	Removes from the database all events/Records that meet the Records Older Than criteria specified for each Record Type. The removed events/Records are then handled in the manner specified in the Archive To section.

Archives Folder - Archiving Form (Continued)

Form Element	Comment
Record Counts	Includes **Record Type**, **Records Selected to be Archived**, and **Total Records in the Database** sections. Use this form to view the number of currently stored Records that meet the archive age (**Records Older Than**) criteria as well as the total number of records of particular **Record Type** currently stored in the database. When the **Archive specific event types** option is selected, record counts will be updated to list out the specific event types that apply under Events, Alarm Acknowledgments, and Events Video Location. This is because these counts may differ for a specific event type for each of these three record types.
Records Selected to be Archived	For a particular **Record Type**, indicates the number of currently stored Records that meet the archive age (**Records Older Than**) criteria. It is the number of Records of each type that would be archived or purged if you were to click [Archive/Purge Now]. This information comes from the database; you cannot change it directly. To update the display, click [Update Record Counts].
Total Records in the Database	For a particular Record Type, indicates the total number of Records currently stored in the database. This information is generated from the database; you cannot change it directly. To update the display, click [Update Record Counts].
Update Record Counts	Polls the database and updates the count displayed in the **Records Selected to be Archived** and **Total Records in the Database** fields. **Note:** The processing that occurs when selecting Update Record Counts could take a while if many events, user transactions, etc. are contained in the database. **Note:** When the **Archive specific event types** option is selected and you select **Update Record Counts**, the counts for the specific event types under Events, Alarm Acknowledgments and Events Video Location will only be calculated if the tree item has been expanded for these. If you do not need one or more of these counts, and wants to speed up the count processing, it is better to collapse these items.
Modify	Used to change Record Archive Configuration
OK	Used to accept changes to Record Archive Configuration (Modify Mode only)
Help	Displays pertinent help information on screen
Mode	(modify mode only) Indicates the current operation, such as “Modify Mode”
Close	Closes the Archives folder

Archiving Form Procedures

Configure Archive Parameters

1. With the **Archive all events** radio button selected, Click [Modify].
2. Working from left to right, row by row, select **Archive To** and **Records Older Than** values for each **Record Type**.
3. In the **Archive Path** field, type the drive and directory where you want archive files to be stored. Or, click [Browse] to navigate to the desired path, then click [OK] to insert the path into the field.
4. Click [OK] to save the changes, or [Cancel] to revert to the previously saved values.

Archive Specific Event Types

Archiving and purging specific event types is useful when archiving all events create files that are too large and impossible to restore or the user only wants more flexibility regarding when events of a specific type will be archived. For example, the Granted and Denied event types may accumulate in the database faster than other event types, therefore the user may want to archive/purge these more often.

1. On the Archives folder click [Modify].
2. Select the **Archive specific event types** radio button. The **Record archive configuration** listing window switches to a nesting view.
3. In the **Archive To** column, select which events are to be archived to disk and which are to be deleted.
4. In the **Records Older Than** column, select the age of the event to be archived/purged.
5. In the **Archive Path** field, type the drive and directory where you want archive files to be stored. Or, click [Browse] to navigate to the desired path, then click [OK] to insert the path into the field.
6. Click [OK] to save the changes, or [Cancel] to revert to the previously saved values.

Archive Database Records

Note: You can perform this procedure only if the **Archive Transactions** check box is selected for your user account on the Software Options sub-tab of the System Levels form in the Users folder.

1. If you wish to know how many records of each type meet the specified elapsed time criteria, click [Update Record Counts]. This will update the

numerical values in the **Records Selected to be Archived** and **Total Records in the Database** columns.

2. Select one of the following radio buttons:
   - **Archive all events**: Select this to archive and purge the events shown in the Record Archive Configuration listing window.
   - **Archive specific event types:** Select this to archive and purge the specific events shown in the Record Archive Configuration listing window. These will be shown in a nested tree under the Events Record Type.

Note: When performing the archive/purge operation, the user can not change the **Archive all events** or **Archive specific event types** options. This can only be done when in modify mode and is stored as part of the archiving configuration.

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3. Click [Archive/Purge Now].
4. Click [Yes] to confirm the action.
   All records that have been in the database longer than their **Records Older Than** number of days will be archived. The transactions will be archived to disk or deleted, as specified in the **Archive To** field.
   If you wish to cancel the archival/purge of records, click [Cancel] that appears in the status dialog.

Note: Records will not be automatically archived, even if the database is getting full or if the Records Older Than value is exceeded. You must click [Archive/Purge Now] to actually initiate the archive process.

Data Integrity

In order to maintain data integrity *Alarm Acknowledgments, Events (Access Granted, Access Denied, System/Alarm, Emergency/Duress, Area Anti-Passback),* and *Events Video Location* **Record Types** are governed by the same **Records Older Than** and **Archive To** settings.

Some Events have associated video recordings, which are tracked in the Events Video Location table in the database. Video recordings, accumulated on video recorders, are periodically and/or continuously stored to some media This activity is also tracked in the Events Video Location table. If Events are Archived/Purged, all not-stored (unarchived) video recordings associated with these Events will no longer be noticed. They will therefore never be archived and will eventually take up all the storage space on the Video Recorders, causing them to stop recording.

In order to prevent this situation, the system verifies information about video recordings associated with Events being Archived/Purged. If any not archived video recordings are found, the user is prompted with two choices:

- Cancel the Archive/Purge and change **Records Older Than** field for **Events and Alarm Acknowledgments** to a larger number (older video recordings are more likely to be archived).

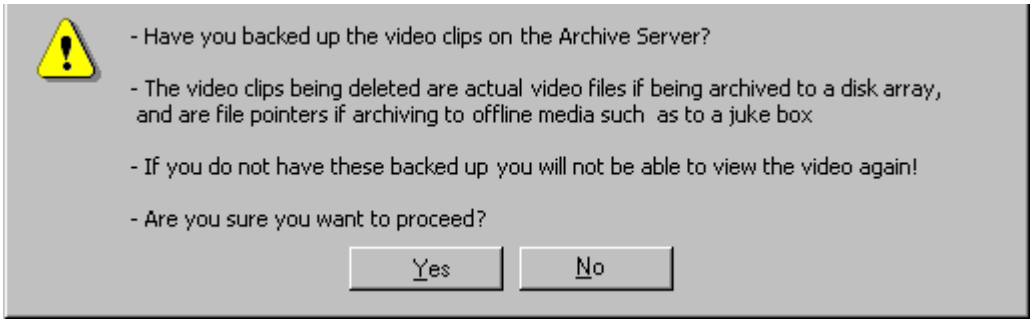
Example:

Notes: When Continuous Video records are archived or purged, their associated video recordings are deleted from online archived video storage. The records will be completely lost if you did not back up to offline storage before you began the archive or purge process. During the archive/purge process, the system will display a warning message. For example, the following warning message is displayed during a purge:

When Continuous Video records are archived or purged, their associated video recordings are DELETED from ONLINE archived video storage. They are COMPLETELY LOST if not already backed up to OFFLINE storage BEFORE the archive/purge process starts. System Administration

posts warnings about this during the archive/purge process. For example, see the following warning that is displayed during a purge:

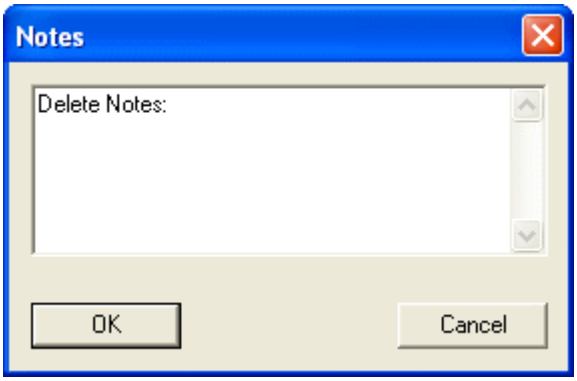
- When Events Video Location records are purged, their associated video recordings are deleted from online archived video storage. The records will be completely lost if you did not back up to offline storage before you began the archive/purge process.
- Online archived video storage locations are specified on the Archive Server form of the Digital Video folder.
- **Archive locations on DELL PowerVaults are considered to be ONLINE archived video storage.** Customers can prevent the loss of video recordings stored in these locations by backing them up, either manually or automatically, via third-party backup software. The file folders specified for these archive locations need to be backed up ENTIRELY (i.e. the folders and all files and all sub-folders contained within them).
- During an archive/purge involving Events Video Location and/or Continuous Video records, the system will warn users with the following message before it deletes any associated video recordings from online archived video storage:



Restoring Form

Notes Window

This window opened by clicking the [Delete Archive File] button, then the [Yes] button.



Restoring Form Overview

This form is used to:

- View a list of all archive files that have been created.
- Restore records from an archive file to the database.
- Delete an archive file from the system.
- Delete restored records.

Restoring Form Field Table

Archives Folder - Restoring Form

Form Element	Comment
Listing window	Lists all archive files that have been created. Each (row) entry contains the following information **Date/Time** - the date and time the file was created. EXAMPLE 1/8/00 1:23:54 PM **Record Type** - the category of event, as listed on the Archiving form. For example: User Transactions **Count** - the total number of events included in the file **First Event** - the date of the oldest event included in the file. EXAMPLE 12/10/99 **Last Event** - the date of the most recent event included in the file. EXAMPLE 12/29/99 **Path** - the drive and directory in which the file resides. Specifically, it is the PurgeLog subdirectory of your application installation path.
Listing window (continued)	**Filename** - the name of the text file that includes the archived events. The filename is derived from the date and the event type, and has the file extension “txt”. EXAMPLE 2000_01_08_Visits.txt. Files include: • [date]AlarmAcks.txt - alarm acknowledgments • [date]ContinuousVideo.txt - continuous video • [date]Events.txt - user Transactions • [date]EventsVideo.txt - user Transactions • [date]UserTrans.txt - user Transactions • [date]Visits.txt - user Transactions Files created on previous ReadkeyPRO versions also include: • [date]Area.txt - area anti-passback events • [date]Denied.txt - access denied events • [date]Duress.txt - emergency and duress events • [date]Granted.txt - access granted events • [date]System.txt - system and alarm events **Workstation** - the name of the workstation from which the archive process was run **User** - the user who created the file (archived the data) **Notes** - if you delete an archive file, you are prompted to type any pertinent comments. Whatever you type is displayed here.
Archive File Management	Includes the [Restore Archive] and [Delete Archive] push buttons, and the **Show Deleted Archives** check box

Archives Folder - Restoring Form (Continued)

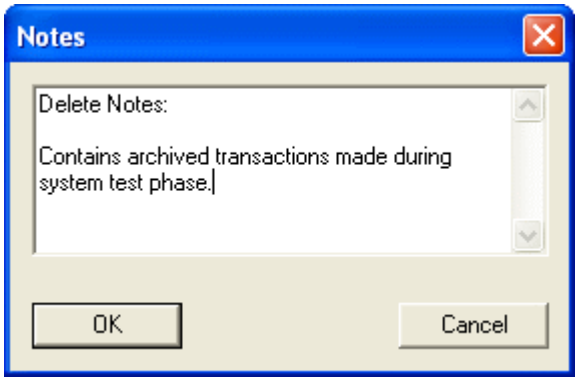
Form Element	Comment
Restore Archive	This button does not affect the actual archive (.txt) file stored in an archive directory. Instead, it copies the transactions from the selected archive file to a temporary/working table in the database. This table is not the same table as the one in which "live" (non-archived) transactions are stored. This is done so that restored records do not clutter the tables for current records. It allows you to quickly clear (remove the records from) a restored table without having to perform another archive/purge operation. You can restore multiple archive files to the same working table. The **restored counts** value will be updated accordingly. If you try to restore an archive that cannot be located, you are prompted to browse for the file. You can navigate to a different drive/directory to find the file, but the filename itself must match the name stored in the database. The browse feature is useful if you have moved files, or have backed them up and restored them to a different location. If you've deleted the archive file, you need to have made an accessible backup copy of the file in order to be able to restore its records.
Delete Archive	Deletes the selected archive file from the system. Its records are then permanently lost. For this reason it is advisable to back up an archive file before you delete it.
Show Deleted Archives	Even after an archive file has been deleted, you can display its listing window entry for historical reference. This applies to any archive file, no matter how long ago it was deleted. Remember, though, that the records contained in a deleted archive file are not retrievable (unless you've backed them up somewhere). If this check box is selected, the listing window will include entries for deleted archive files. Entries for deleted files have the words "Delete Notes:" in the Notes column. If this check box is not selected, only archive files that have not been deleted will be listed.
Records Currently Restored to the Database	Includes the [Delete Restored Records] push button and the **restored counts** window.
Count	Indicates the number of records that have been restored to the database using the [Restore Archive] push button. This is the cumulative number of records currently stored in the temporary/working directories. The window includes counters for Alarm Acknowledgments, Events (which includes access granted, access denied, system/alarm, emergency/duress, and area anti-passback events), Events Video Location, User Transactions, and Visit Records. A selected counter is reset to zero (0) when you click [Delete Restored Records].
Delete Restored Records for Selected Type	Clears the temporary/working table for the record type selected in the **restored counts** window (alarm acknowledgments, hardware events, or user transactions). The corresponding counter is reset to zero (0). This allows you to clear the restored records from a temporary database table so that you can "cleanly" restore another archive file.
Help	Displays pertinent help information on screen.
Mode	(view mode only) Indicates the record/selection count (such as "1 of 42 selected").
Close	Closes the Archives folder.

Restoring Form Procedures

Delete an Archive File From the System

Note: This procedure permanently removes an archive file from the system. If you haven't first backed up the file, you will be unable to restore it later, and the records will be lost. You cannot perform this procedure unless the **Delete Archive** check box is selected for your user account on the Software Options sub-tab of the System Levels form in the Users folder.

1. In the listing window, highlight the archive file you wish to delete.
2. Click [Delete Archive].
3. The following message will be displayed: "If you have not backed up this file to another location, the information in this file will be lost. Are you sure you want to permanently delete the selected archive file?"
   Click [Yes] to proceed with deletion.
   Click [No] to cancel the request and to NOT delete the file.
4. If you selected [Yes] to proceed with deletion, the software then displays a Notes window in which you can type any relevant information that you want retained with the deletion record.
   In the Notes window, do one of the following:
   If you don't want to delete the file, click [Cancel]. This is your last chance to back out of the process!
   If you do want to delete the file, enter any notes you wish to include, then click [OK].



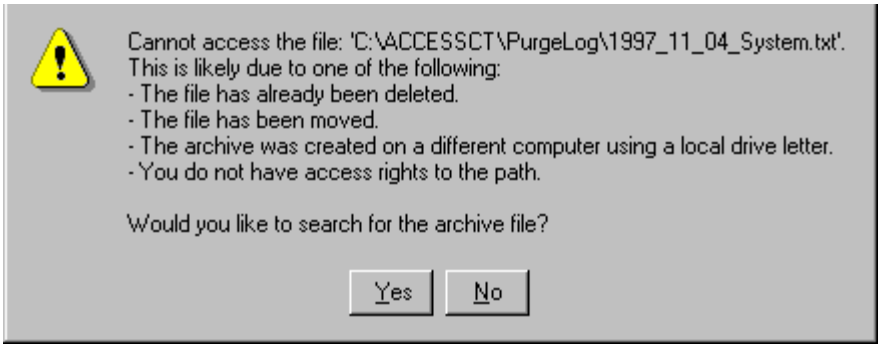
The archive file will be removed from the system. If you select the **Show Deleted Archives** check box, the entry for the archive file will be included in the listing window, and your delete notes will be displayed in the Notes column for that entry.

Restore Records to the Database

This procedure copies the records from the selected archive file to a temporary/working table in the database. You can do this only if the file still exists (i.e., if you have deleted the file and don't have a backup, you're out of luck). Note that you can perform this procedure only if the **Restore Transactions** check box is

selected for your user account on the Software Options sub-tab of the System Levels form in the Users folder. Although this feature can be used to restore Continuous Video and Events Video Location records to the database, it does not restore any of their associated video recordings to online archived video storage. The system will attempt to restore an associated video recording to online archived video storage when a user attempts to play it via a Digital Video Player window in Alarm Monitoring.

1. In the listing window, highlight the archive file that contains the records you wish to restore.
2. Click [Restore Archive].
3. A message will be displayed indicating the number and type of record that will be restored to the database, and asking whether you wish to continue.
4. Click [Yes].
5. The application looks for the filename in the directory to which the file was archived. One of two things will happen:
   If the archive file is where it's expected to be, a status indicator is displayed that tracks the progress of the restoration. A message is then displayed indicating how many events/records were restored successfully. The appropriate **record count** will be updated to include the newly restored events/records.
   If the archive file cannot be found, a message similar to the following will be displayed:



   Click [Yes] to display an Open window, from which you can browse for the file. If you locate the file, click [Open] to initiate the restore.

Delete Restored Records From the Database

This procedure removes restored records from their temporary tables in the database. As long as the required archive files still exist, you can always restore the records again if you need to.

1. In the **restored counts** window, click on the counter you wish to clear—Alarm Acknowledgments, Events (which includes access granted, access

denied, system/alarm, emergency/duress, and area anti-passback events), Events Video Location, User Transactions, and Visits.

2. Click [Delete Restored Records].
3. A message will be displayed asking whether you wish to delete all currently restored records of the selected type. Click [Yes]. The temporary table will be emptied and the selected counter will be reset to zero (0).

Chapter 22: Scheduler Folder

The Scheduler folder contains the Scheduler form with which you can schedule actions.

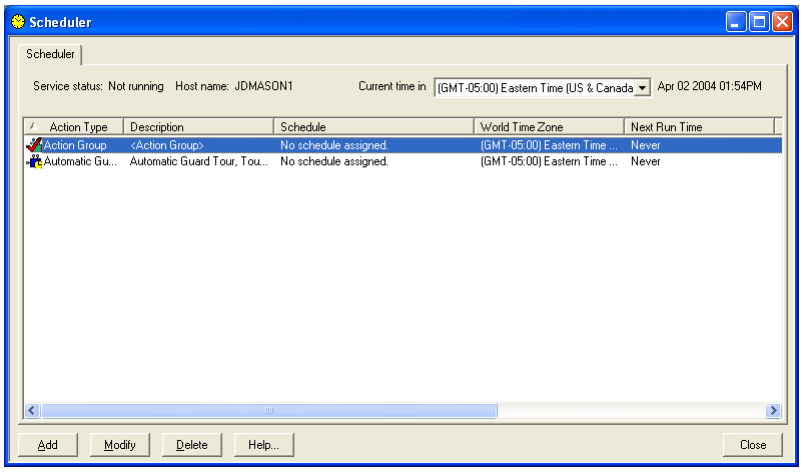
Note: Additional documentation on actions is available in the Actions appendix. For more information, refer to Appendix A: Actions on page 1217.

Toolbar Shortcut

This folder is displayed by selecting **Scheduler** from the **Administration** menu, or by selecting the Scheduler toolbar button.

Important: For the Scheduler to run and execute action the Linkage Server needs to be configured and running. You can configure the Linkage Server host on the General System Options Form on page 456.

Scheduler Form



Note: This form also displays in the Guard Tours Folder for your convenience.

Scheduler Folder - Scheduler Form

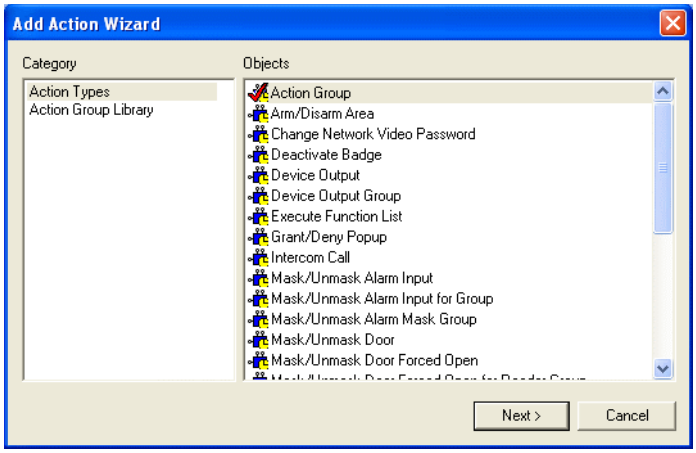
Form Element	Comment
Service status	Lists the status of the LS Linkage Server host and whether it's running or not. This is displayed only when the LS Linkage Server host is configured.
Host name	Lists the name of the host computer. This is displayed only when the Linkage Server host is configured.
Current time in	When scheduling an action, select which time zone you want the action to be scheduled in. The selections in the drop-down list are listed sequentially and each includes: • The world time zone's clock time relative to Greenwich Mean Time. For example, (GMT+05:00) indicates that the clock time in the selected world time zone is 5 hours ahead of the clock time in Greenwich, England. • The name of one or more countries or cities that are located in that world time zone.
Listing window	Displays a list of all scheduled actions.
Add	Click this button to open the **Add Action Wizard**.
Modify	Click this button to modify the selected scheduled action.
Delete	Click this button to delete the selected scheduled action.
Help	Click this button to display online assistance for this form.
Close	Click this button to close the Scheduler folder.

Scheduler Form Procedures

Add and Schedule an Action

1. Select **Scheduler** from the **Administration** menu. The Scheduler folder opens.
2. Click [Add]. The **Add Action Wizard** opens.

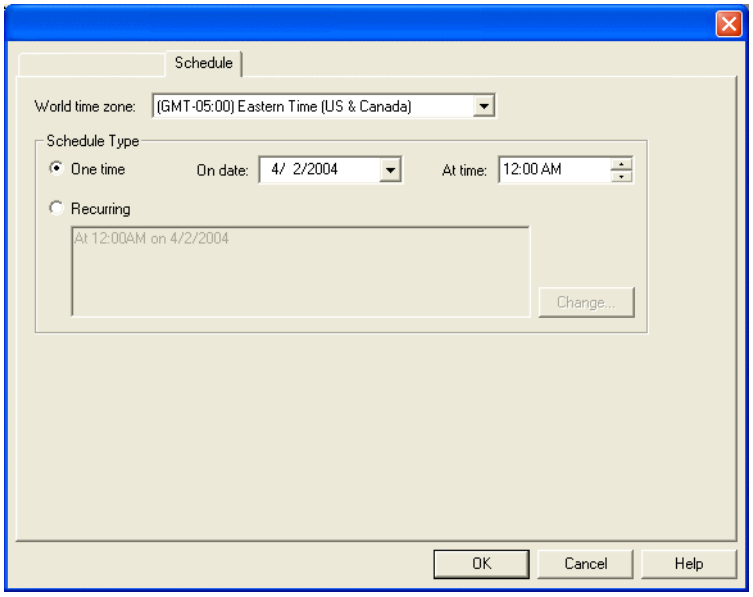
Note: You can also display the **Add Action Wizard** by right-clicking anywhere on the Scheduler form and selecting the **Add Action** menu option.



3. Select either “Action Types” or “Action Group Library” from the **Category** listing window.
   - When “Action Types” is selected, the **Objects** listing window lists all available action types.
   - When “Action Group Library” is selected, the **Objects** listing window lists all action groups which have been either created in or saved to the action group library. For more information, refer to Chapter 23: Action

Group Library Folder on page 611.

4. Click on an entry in the **Objects** listing window to select it.
5. Click [Next]. Depending on which Category/Object combination you chose in steps 3 and 4, a corresponding action properties window will open.
   For example, if you selected "Action Types" in the **Category** listing window and "Archive/Purge Database" in the **Objects** listing window, then the **Archive/Purge Database Properties** window would open.
6. Click the Schedule tab. The Schedule form is displayed.
   The Schedule form is the same in every action properties window that is accessed via the Scheduler folder.



7. From the **World time zone** drop-down list, select which time zone you want the action to be scheduled in. The selections in the drop-down list are listed sequentially and each includes:
   - The world time zone's clock time relative to Greenwich Mean Time. For example, (GMT+05:00) indicates that the clock time in the selected

world time zone is 5 hours ahead of the clock time in Greenwich, England.

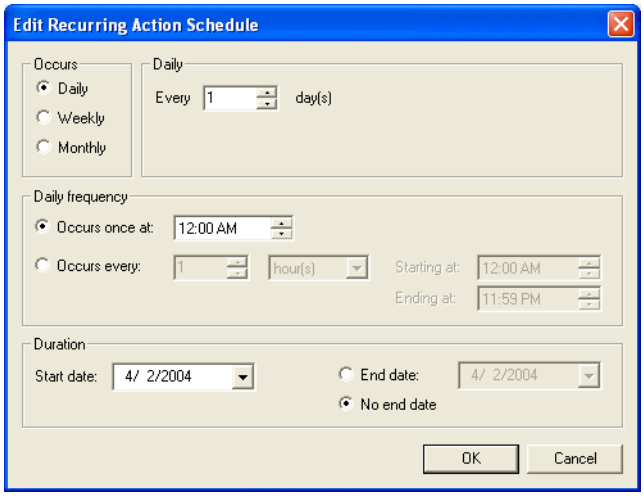
- The name of one or more countries or cities that are located in that world time zone.

8. If you want to schedule the action to occur more than once, skip this step and proceed to step 9. If you want to schedule the action to occur once:
   a. Select the **One time** radio button.
   b. In the **On date** field, the current date is entered by default, but you can change this value by typing a numeric date into the field or by selecting a date from the drop-down calendar.

   - To select a month, click on the  and  navigation buttons.
   - You can also select a month by clicking on the displayed month to access a drop-down list of months. Highlight the month you want to select it.
   - Navigate to a year by clicking on the displayed year to access the year spin buttons  .
   - Once you have selected a month and a year, click on the day that you want the action to occur.

   c. In the **At time** field, select the time when you want this action to occur. Proceed to step 10.

9. If you want to schedule the action to occur more than once:
   a. Select the **Recurring** radio button.
   b. Click [Change]. The **Edit Recurring Action Schedule** window opens.



c. Do one of the following:

- Select the **Daily** radio button in the Occurs section if you want the action to occur on a daily basis.

  If you want the action to occur every day, in the Daily section, type the number 1 in the **Every___day(s)** field. If you want the action to occur every other day, type the number 2 and so on.

- Select the **Weekly** radio button in the Occurs section if you want the action to occur on a weekly basis.

  If you want the action to occur every week, in the Weekly section, type the number 1 in the **Every___week(s) on** field. If you want the action to occur every other week, type the number 2 and so on. You must also select the check box that corresponds with the day of the week that you want the action to occur.

  For example, if you want the action to occur every other Monday, type the number 2 in the **Every___week(s) on** field and select the **Mon** check box.

- Select the **Monthly** radio button in the Occurs section if you want the action to occur on a monthly basis. Then, do one of the following:

  Select the **Day___of every___month(s)** radio button and type in which day of how many months you want the action to occur.

  The following example shows an action being scheduled to occur on the 4th day of every 6th month.

  Select the **The___of every___month(s)** radio button and enter which day of how many months you want the action to occur.

The following example shows an action being scheduled to occur of the 2nd Tuesday of every 3rd month.

d. In the Daily frequency section, do one of the following:

- If you want the action to occur only once on its scheduled day(s), select the **Occurs once at___** radio button and enter a time.

  The following example shows an action being scheduled to occur at 12:00 PM.

- If you want the action to occur more than once on its scheduled day(s), select the **Occurs every___Starting at___Ending at___** radio button and enter the hours that you want the action to occur.

The following example shows an action being scheduled to occur every 2 hours, starting at 9:00 AM and ending at 5:00 PM.

e. Enter the action's **Start date**. The current date is entered by default, but you can change this value by typing a numeric date into the field or by selecting a date from the drop-down calendar.

- To select a month, click on the  and  navigation buttons.
- You can also select a month by clicking on the displayed month to access a drop-down list of months. Highlight the month you want to select it.
- Navigate to a year by clicking on the displayed year to access the year spin buttons  .
- Once you have selected a month and a year, click on the day that you want the action to begin occurring.

f. Enter the action's **End date**. The current date is entered by default, but you can change this value by typing a numeric date into the field or by selecting a date from the drop-down calendar.

- To select a month, click on the  and  navigation buttons.
- You can also select a month by clicking on the displayed month to access a drop-down list of months. Highlight the month you want to select it.

- Navigate to a year by clicking on the displayed year to access the year spin buttons 

.
- Once you have selected a month and a year, click on the day that you want the action to stop occurring.

Note: You do not have to select an end date. If you do not want to set an end date, select the **No end date** radio button.

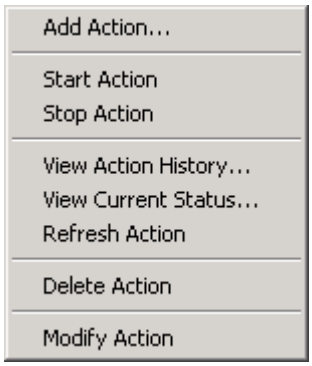
---

g. Click [OK].

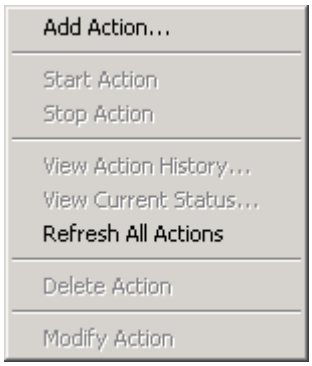
10. Now you must configure the action that you have just scheduled. Select the tab to the left of the Schedule tab (this tab will correspond to the specific action properties window which you are viewing). For more information, refer to Appendix A: Actions on page 1217.

Display the Scheduler Right-Click Menu

1. Right-click on a scheduled action in the listing window. The scheduler right-click menu is displayed.



Note: If you right-click anywhere on the Scheduler form when a scheduled action is not selected in the listing window, the scheduler right-click menu will look like this:



Add and Schedule an Action Using the Scheduler Right-Click Menu

1. Right-click anywhere on the Scheduler form. The scheduler right-click menu is displayed.
2. Select the **Add Action** menu option. The **Add Action Wizard** opens.
3. Proceed to step 3 of the "Add and Schedule an Action" procedure in this chapter.

Start an Action

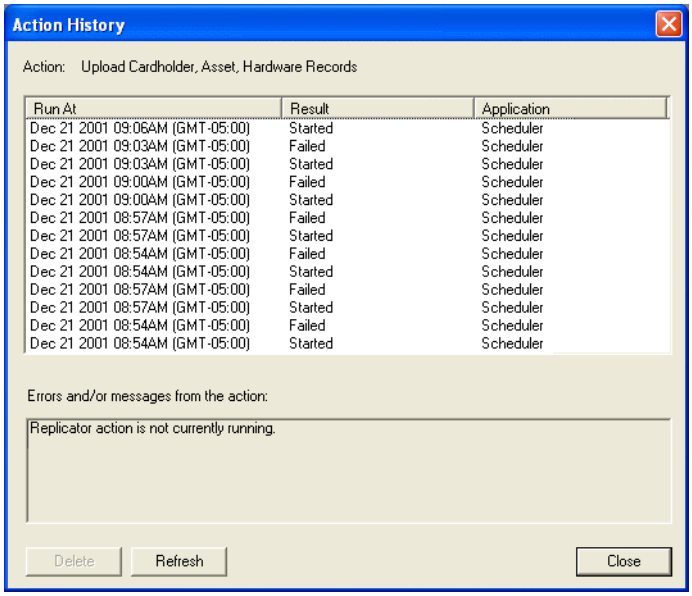
1. Right-click on a scheduled action in the listing window. The scheduler right-click menu is displayed.
2. Select the **Start Action** menu option to start the selected action immediately.

Stop an Action

1. Right-click on a scheduled action in the listing window. The scheduler right-click menu is displayed.
2. Select the **Stop Action** menu option to stop the selected action immediately.

View Action History

1. Right-click on a scheduled action in the listing window. The scheduler right-click menu is displayed.
2. Select the **View Action History** menu option. The Action History window opens and the name of the action, when the action was run, the result, the application and any errors or messages that resulted from the action are all displayed.



View the Current Status of an Action

1. Right-click on a scheduled action in the listing window. The scheduler right-click menu is displayed.
2. Select the **View Current Status** menu option. A message similar to the following will be displayed:

Refresh an Action

1. Right-click on a scheduled action in the listing window. The scheduler right-click menu is displayed.
2. Select the **Refresh Action** menu option. The listing window will be updated to display the most current information for the selected action.

Refresh all Actions

1. Right-click anywhere on the Scheduler form except on a scheduled action in the listing window. The scheduler right-click menu is displayed.
2. Select the **Refresh All Actions** menu option. The listing window will be updated to display the most current information for all of the scheduled actions.

Delete a Scheduled Action using the Scheduler Right-Click Menu

1. Right-click on a scheduled action in the listing window. The scheduler right-click menu is displayed.
2. Select the **Delete Action** menu option. A confirmation message is displayed.
3. Click [Yes].

Note: Selecting the **Delete Action** right-click menu option does the same thing as selecting an action in the listing window, and then clicking [Delete] on the Scheduler form.

Modify a Scheduled Action using the Scheduler Right-Click Menu

1. Right-click on a scheduled action in the listing window. The scheduler right-click menu is displayed.
2. Select the **Modify Action** menu option. Depending on which action you selected in the listing window, a corresponding action properties window will open.
3. Make the changes you want to the fields. For more information, refer to Appendix A: Actions on page 1217.
4. Click [OK].

Note: Selecting the **Modify Action** right-click menu option does the same thing as selecting an action in the listing window, then clicking the [Modify] button on the Scheduler form.

Chapter 23: Action Group Library Folder

The Action Group Library folder contains the Action Group Library form with which you can create, modify, and delete action groups.

Toolbar Shortcut

This folder is displayed by selecting **Action Group Library** from the **Administration** menu, or by selecting the Action Group Library toolbar button.

Action Groups Overview

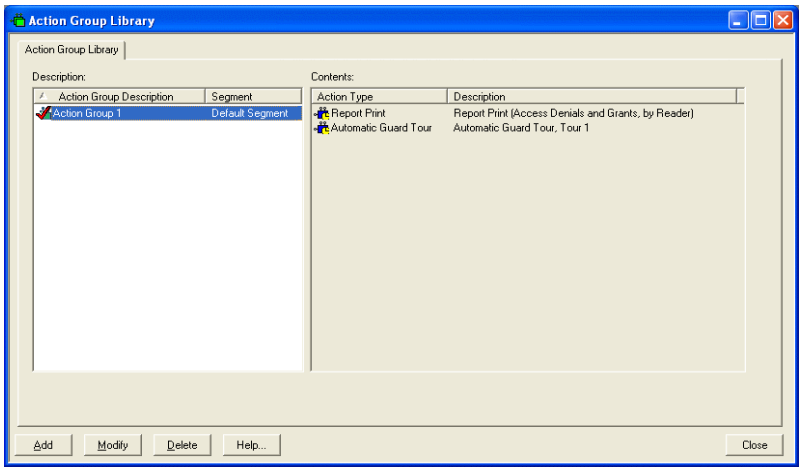
Note: You *must* refer to the Actions appendix for detailed information on actions. For more information, refer to Appendix A: Actions on page 1217.

The purpose of the Action Group Library folder is to create action groups.

An *Action Type* is any task that can be performed by the system as a result of an event or a schedule. All actions are organized by action types. **Action Group** is one action type.

An *Action Group* is a group of actions that will be executed simultaneously. Once an action group is created, it can be used by other System Administration features. For example: when assigning actions in the Guard Tour folder, you can assign an action group that was created in the Action Group Library folder.

Action Group Library Form



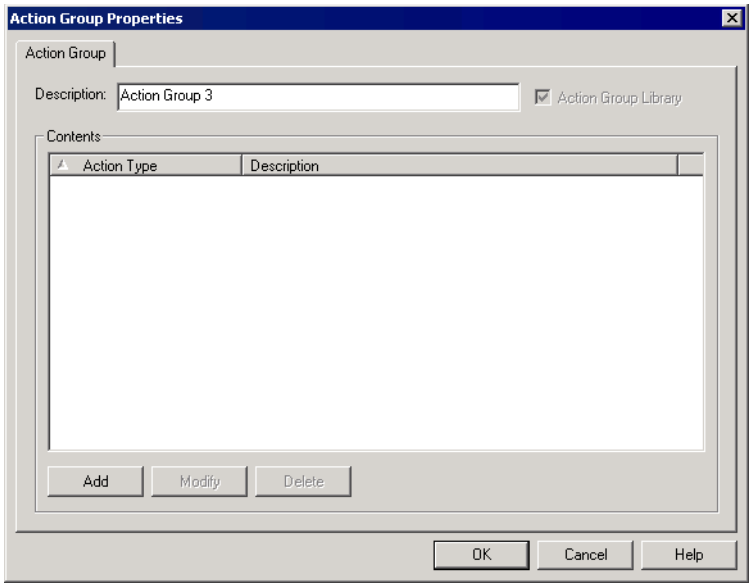
Action Group Library Folder - Action Group Library form

Form Element	Comment
Description listing window	Lists all action groups that have been created. A icon precedes each action group entry.
Contents listing window	Lists all actions that belong to the selected action group. A icon precedes each entry.
Add	When selected, displays the **Action Group Properties** window from where you can add an action group.
Modify	When selected, displays the **Action Group Properties** window from where you can modify an existing action group.
Delete	When selected, removes the selected action group from the system.
Help	When selected, displays online help information for this form.
Close	Closes the Action Group Library folder.

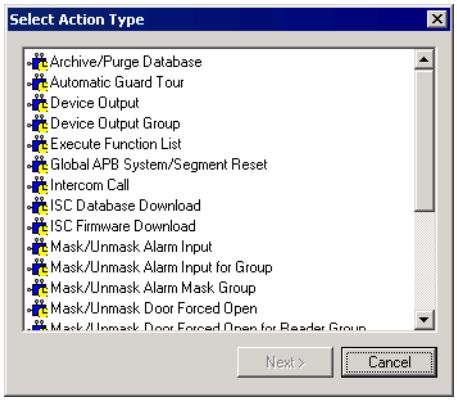
Action Group Library Form Procedures

Add an Action Group

1. Select **Action Group Library** from the **Administration** menu. The Action Group Library folder opens.
2. Click [Add]. If segmentation is not enabled on your system, proceed to step 4.
3. If segmentation is enabled on your system, the **Segment Membership** window opens. Select a segment and click [OK].
4. The **Action Group Properties** window opens. In the **Description** field, type a name for the action group.



5. Click [Add]. The **Select Action Type** window opens.



6. From the listing window, click on an action type to select it.
7. Click [Next]. Depending on which action type you chose in step 6, a

corresponding action type properties window will open.
You *must* refer to the Actions appendix in this user guide for detailed information on how to use the action type properties windows to assign an action. For more information, refer to Appendix A: Actions on page 1217.

8. Repeat steps 5-7 for each action you want to assign to this action group.
9. Click [OK].

Modify an Action Group

1. In the **Description** listing window, click on the name of the action group that you want to modify.
2. Click [Modify]. The **Action Group Properties** window opens.
3. If you want to modify an action type that has already been assigned to the selected action group, in the **Contents** listing window, click on an assigned action type to select it.
4. Click [Modify]. Depending on which action type you chose in step 3, a corresponding action type properties window will open.
You *must* refer to the Actions appendix in this user guide for detailed information on how to use the action type properties windows to modify an assigned action. For more information, refer to Appendix A: Actions on page 1217.
5. Repeat steps 3 and 4 to for each assigned action type that you want to modify.
6. To assign an action type to this action group, click [Add]. The **Select Action Type** window opens.
7. From the listing window, click on an action type to select it.
8. Click [Next]. Depending on which action type you chose in step 7, a corresponding action type properties window will open.
You *must* refer to the Actions appendix in this user guide for detailed information on how to use the action type properties windows to assign an action. For more information, refer to Appendix A: Actions on page 1217.
9. Repeat steps 6-8 for each action you want to assign to this action group.
10. Click [OK].

Delete an Action Group

1. In the **Description** listing window, click on the name of the action group that you want to delete.
2. Click [Delete]. An **Action Group Library Configuration** deletion confirmation message is displayed.
3. Click [Yes].

Chapter 24: Global Output Devices Folder

The Global Output Devices folder contains forms with which you can:

- Define SMTP server settings to be used when sending electronic mail messages via the global output server.
- Define a GOS paging device to be used when sending pager messages via the global output server.
- Define all prospective recipients of e-mail and pager messages.

The folder contains three forms: the SMTP Server Settings form, the Paging Devices form, and the Recipients form.

Toolbar Shortcut

The Global Output Devices folder is displayed by selecting **Global Output Devices** from the **Administration** menu, or by selecting the GOS Devices toolbar button.

Global Output Server Overview

The Global Output Server (GOS) feature supports on-demand messaging from Alarm Monitoring. Functionally, an Alarm Monitoring user (such as a security guard) can send an electronic mail or pager message pertaining to a specific alarm displayed on his/her workstation.

Behind the scenes, the GOS client (i.e., Alarm Monitoring) sends the message to GOSServer (which runs as a Windows operating system service). GOSServer then directs the message to the appropriate Global Output Device.

- If the message is a page, the paging software then sends it to the recipient via the paging service or in-house paging terminal.
- If the message is electronic mail, the electronic mail server then sends it to the recipient via the electronic mail service.

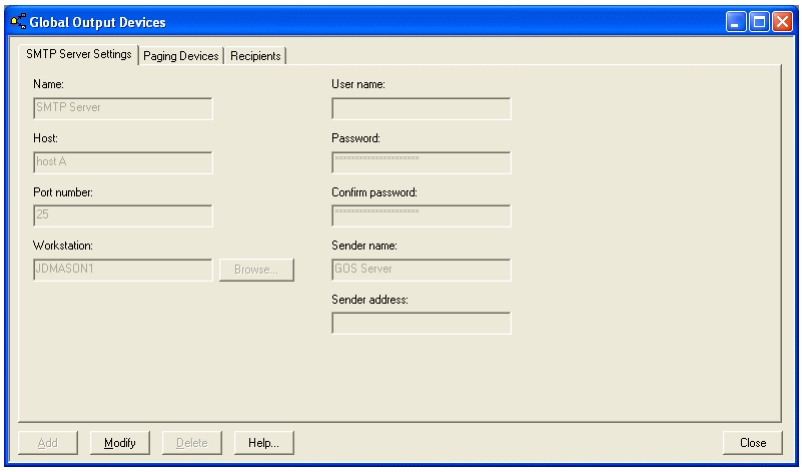
To use this feature you must first:

- Purchase, install, and configure the electronic mail and/or paging software.
- Use this folder to configure the SMTP server settings or paging devices and the message recipients. You define such a device to be on the workstation where the associated application (for example, the e-mail or paging software) resides. If you have both a paging application and an electronic mail application, they may have been installed on two different computers.
- Launch the Global Output Server application, which is located in the ReadkeyPRO program group. Like the Communication Server, Global Output Server runs in the background, but it must be active in order to send messages from Alarm Monitoring. For more information, refer to the Alarm Monitoring User Guide.

Specifications

	E-Mail	Paging
Output Devices:	SMTP server	Wireless paging software
Message Types:	ASCII (plain) text only	Alphanumeric
Recipient Addresses:	Any address that can be correctly resolved and handled by your electronic mail server	Any alphanumeric pager that can be accessed through a paging terminal with your wireless paging software can communicate using the TAP (Telocator Alphanumeric Protocol).

SMTP Server Settings Form



Global Output Devices Folder - SMTP Server Settings Form

Form Element	Comment
Name	Enter a descriptive name for the SMTP server.
Host	Specify the host computer for the SMTP server.
Port number	Specify the port that is on the serial expansion unit or the back of the host server.
Workstation	Identifies the workstation on which the global output server applications is running on. You can either type the name in the field, or use the [Browse] button to view a list of available workstations. **Note:** You are required to enter the workstation's NetBIOS name. (The NetBIOS name is specified when Windows networking is installed/configured.)
Browse	Displays a Browse for Computer window from which you can click on the name of a workstation to highlight the entry. Click [OK] to then enter the workstation name in the **Workstation** field.
User name	In modify mode, enter a user name if the SMTP server's authentication level requires it.
Password	If a user name was entered in the **User name** field, type in a password. Your password is not displayed as you type.
Confirm password	Enter here exactly the same information that you entered in the **Password** field.
Sender name	Enter the sender's name. The default is "GOS Server."
Sender address	Enter the sender's address. The address must be in SMTP format. For example, "administration@company.com." **Note:** Although it is not required, it is highly recommended that you enter a sender address. Some systems may require a valid e-mail address or for security reasons, may require that the address belong to a certain domain name.

Global Output Devices Folder - SMTP Server Settings Form (Continued)

Form Element	Comment
Modify	Click on this button to configure SMTP server settings.
Help	Click this button to display online help for this form.
Close	Click this button to close the Global Output Devices folder.

SMTP Server Settings Form Procedures

Configure SMTP Server Settings

1. Select **Global Output Devices** from the **Administration** menu.
2. Click [Modify].
3. Enter a descriptive **Name** for the SMTP server.
4. Specify the **Host** computer and the **Port** that is on the serial expansion unit or the back of the host server.
5. Enter the **Workstation** on which the global output server applications have been installed. You can either type the name in the field, or use the [Browse] button to view a list of available workstations.

Note: You are required to enter the workstation's NetBIOS name. (The NetBIOS name is specified when Windows networking is installed/configured.)

---

6. If the SMTP server's authentication level requires it:
   a. Enter a **User Name** and **Password**.
   b. In the **Confirm Password** field, enter here exactly the same information that you entered in the **Password** field.
7. Enter the **Sender Name**. The default is "GOS Server."
8. Enter the **Sender Address**. The address must be in SMTP format. For example, "administration@company.com."

Note: Although it is not required, it is highly recommended that you enter a sender address. Some systems may require a valid e-mail address or for security reasons, may require that the address belong to a certain domain name.

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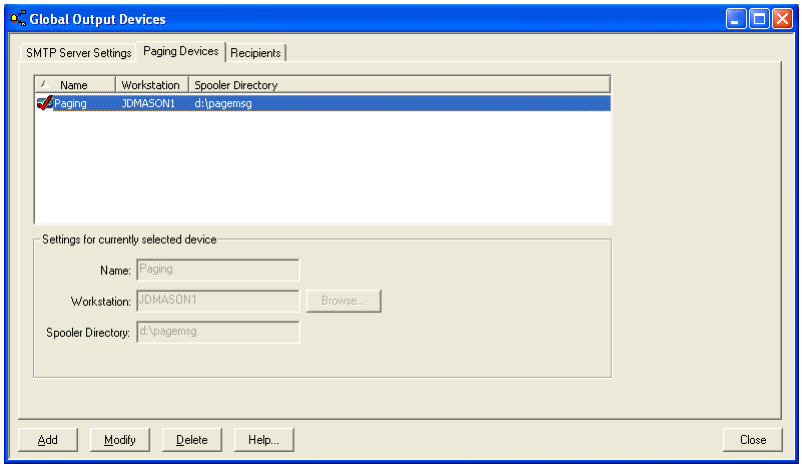
9. Click [OK].

Paging Devices Form



Paging Devices Form Overview

This form is used to define a GOS paging device to be used when sending pager messages via the Global Output Server.

Global Output Devices Folder - Paging Devices Form

Form Element	Comment
Listing window	Lists all Paging devices currently defined in the application. Each entry is preceded by a icon, and includes the device's **Name**, **Workstation**, and **Spooler Directory**.
Settings for Currently Selected Device	Includes the **Name**, **Workstation**, and **Spooler Directory** fields.
Name	Enter a unique, descriptive name for the Paging device.
Workstation	Identifies the workstation on which the Paging and Global Output Server applications have been installed. You can either type the name in the field, or use the [Browse] button to view a list of available workstations. **Note:** You are required to enter the workstation's NetBIOS name. (The NetBIOS name is specified when Windows networking is installed/configured.)
Browse	Displays a Browse for Computer window from which you can click on the name of a workstation to highlight the entry. Click [OK], and then enter the workstation name in the **Workstation** field on the Paging form.

Global Output Devices Folder - Paging Devices Form (Continued)

Form Element	Comment
Spooler Directory	Specify the location of the wireless paging software's spooler directory on the **Workstation**. Functionally, a Paging message sent from the Global Output Server is temporarily stored in the spooler directory. The wireless paging software then retrieves the message from the spooler directory and forwards it to the designated recipient.
Add	Click on this button to add a Paging device.
Modify	Click on this button to change the selected Paging device.
Delete	Click on this button to delete the selected Paging device.
Help	Displays online help for this form.
Mode	In modify mode, indicates the current operation, such as "Modify Mode".
Close	Closes the Global Output Devices folder.

Paging Devices Form Procedures

Add A Paging Device

1. Click [Add].
2. In the **Name** field, type a unique, descriptive name for the paging device.
3. In the **Workstation** field, enter the name of the computer on which the wireless paging software and the Global Output Server software have been installed.

Notes: This **Workstation** must be the same computer that was specified in the wireless paging software.

You are required to enter the workstation's NetBIOS name. The NetBIOS name is specified when Windows networking is installed/configured.

---

4. In the **Spooler Directory** field, type the directory on the **Workstation** in which temporary page messages will be stored.

Note: This must be the same directory that is specified in the wireless paging software.

---

5. Click [OK]. In the listing window, an entry will be added for the Paging device.

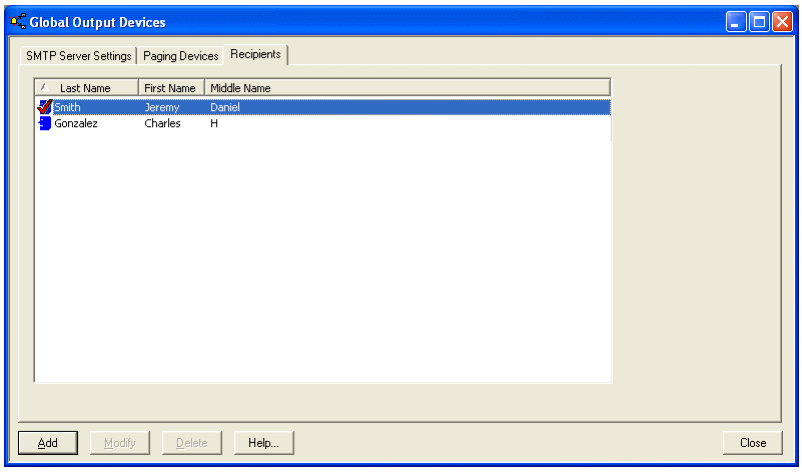
Modify a Paging Device

1. In the listing window, select the name of the Paging device you wish to change.
2. Click [Modify].
3. Make the changes you want to the fields.
4. Click [OK] to save the changes, or [Cancel] to revert to the previously saved values.

Delete a Paging Device

1. In the listing window, select the name of the Paging device you wish to delete.
2. Click [Delete].
3. Click [OK].

Recipients Form



Recipients Form Overview

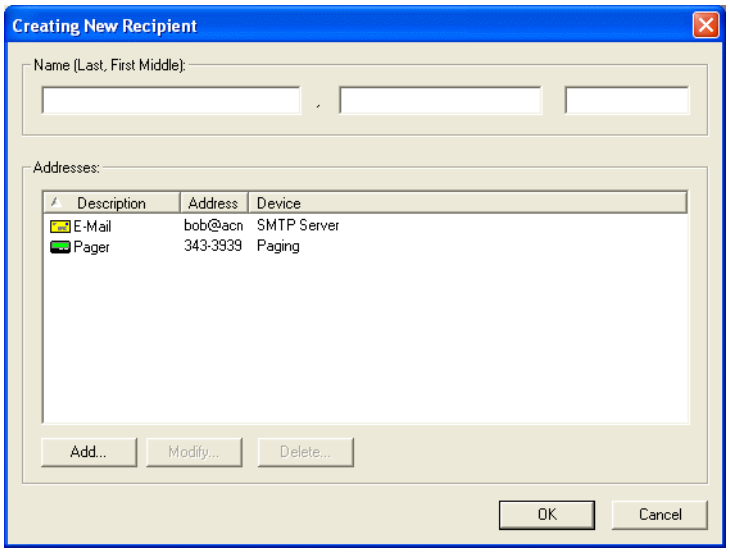
This form is used to define all potential recipients of e-mail and paging messages.

Global Output Devices Folder - Recipients Form

Form Element	Comment
Listing window	Lists all currently defined Global Output Server recipients. Each entry is preceded by a icon, and includes the person's **Last Name**, **First Name**, and **Middle Name**.
Add	Click on this button to add a recipient.
Modify	Click on this button to change information for the selected recipient.
Delete	Click on this button to delete the selected recipient record.
Help	Displays online help for this form.
Close	Closes the Global Output Devices folder.

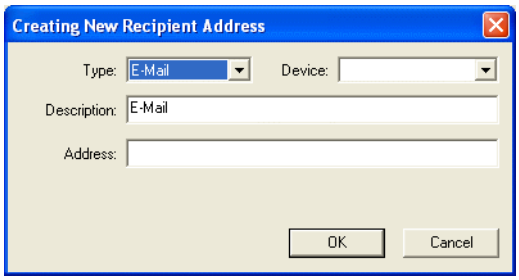
Creating New [Modifying] Recipient Window

This window is displayed by clicking the [Add] or [Modify] button on the Recipients form.



Creating New [Modifying] Recipient Address Window

This window is displayed by clicking the [Add] or [Modify] button on the Adding [Modifying] Recipient window.



Creating New [Modifying] Recipient Window Field Table

Global Output Devices Folder - Creating New [Modifying] Recipient Window

Form Element	Comment
Name	Includes the **Last Name**, **First Name**, and **Middle Name** fields.
last name	Enter the recipient's last name.
first name	Enter the recipient's first name.
middle name	Enter the recipient's middle initial or name.
Addresses	Lists all currently defined addresses for this recipient. Each entry is preceded by a  or a  icon and includes a description, the actual address, and whether it is an e-mail or pager address.
Add	Click on this button to add a recipient address.
Modify	Click on this button to change the selected address.
Delete	Click on this button to delete the selected address.
OK	Saves changes and returns you to the Recipients form.
Cancel	Cancels pending changes and returns you to the Recipients form.

Global Output Devices Folder - Creating New [Modifying] Recipient Address Window

Form Element	Comment
Type	Indicate whether the address you're adding or modifying is to be used for electronic mail or paging. Choose either "E-Mail" or "Pager."
Device	Indicates the global output device to be used for messages to this recipient. Choices include all currently defined devices of the **Type** you selected. (The only device available for e-mail is "SMTP Server" and devices listed for the pager type are defined on the Paging Devices form.) If more than one device has been defined for the specified **Type**, you can select the one you want to use for this recipient.
Description	The application automatically enters either "E-Mail" or "Pager" here, based upon your **Type** field selection. You can, however, modify this default value. Type a description to distinguish this address from the recipient's other addresses (if any). For example, "Personal E-Mail" or "Technical Support Pager"

Global Output Devices Folder - Creating New [Modifying] Recipient Address Window (Continued)

Form Element	Comment
Address	Specify the actual e-mail or paging address. • For e-mail: type the address exactly as required to send messages to the recipient. For example, kdsmith@aol.com • For paging: the required syntax is: <recipient's pager PIN number>.<paging service name> For example, 20234.ZippyPage A pager's PIN number is assigned by the paging carrier company. Paging service names (carriers) are defined in the wireless paging software, and correspond to paging carrier companies or an in-house paging terminal. The combination of the PIN number and paging service name uniquely identifies each pager.
OK	Saves changes and returns you to the Creating New [Modifying] Recipient window.
Cancel	Cancels pending changes and returns you to the Creating New [Modifying] Recipient window.

Recipients Form Procedures

Add a Recipient

1. Click [Add].
2. In the Creating New Recipient window, type the recipient's name directory-style. In other words, enter the last name first, followed by first name then middle name or initial. Press the <Tab> key to move between the fields.
3. To add e-mail and paging addresses for the recipient:
   a. Click [Add] in the Creating New Recipient window.
   b. In the Creating New Recipient Address window, choose the address **Type** ("E-Mail" or "Pager").
   c. The application then assigns default **Device** and **Description** values automatically. You may want to change these, especially if multiple devices are defined or if the recipient has multiple addresses. (The only device available for e-mail is "SMTP Server" and devices listed for the **Pager** type are defined on the Paging Devices form.)
   d. Type the actual e-mail or page **Address**. The address depends on the carrier settings in the Emergin Orchestrator program.
   e. Repeat steps a-d for each additional address to be defined for this recipient. The person might have an office pager plus office and home e-mail addresses, for example.
   f. Click [OK] to close the Creating New Recipient Address window.
4. Click [OK] to close the Creating New Recipient window. The recipient's name will be added to the listing window on the Recipients form.

Modify a Recipient

1. In the listing window, select the name of the recipient record you wish to change.
2. Click [Modify].
3. Make the changes you want. You can change the recipient's name, add other addresses, or change or remove a selected address.
4. Click [OK] to save the changes, or [Cancel] to revert to the previously saved values.

Delete a Recipient

1. In the listing window, select the name of the recipient record you wish to delete.
2. Click [Delete].
3. Click [OK].

Access Control

Chapter 25: Access Panels Folder

The Access Panels folder contains forms with which you can:

- Name individual access panels in the software
- Specify access panel setup parameters, including information stored in the panel
- Specify communication panel setup parameters, including the workstation associated with the panel
- View the firmware, DIP switch settings and flash chip size of RKP-3300, 2220, 2210, 2000, 1000, or 500 panels
- Enable encryption on RKP-3300, 2220, 2210, 2000, 1000, or 500 panels, if the system/segment is configured for encryption and you have the proper user permission

The folder contains several forms, the RKP-3300 form, RKP-2220 form, RKP-2210 form, RKP-2000 form, the RKP-1000 form, the RKP-500 form, the HID form, and the Other form.

Toolbar Shortcut

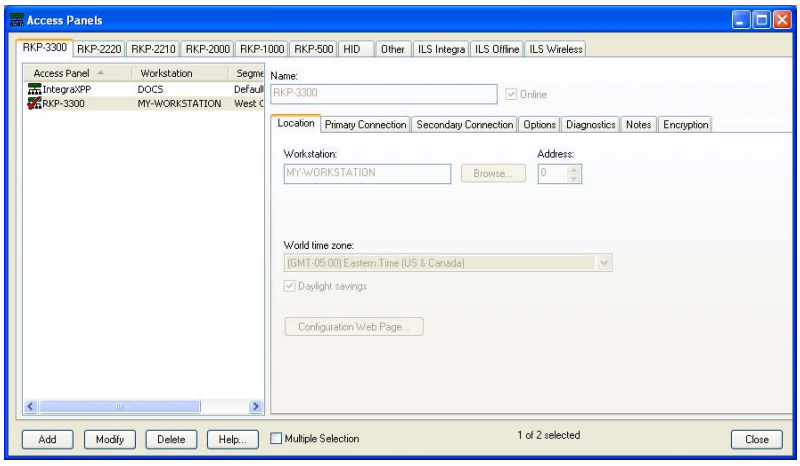
The Access Panels folder is displayed by selecting **Access Panels** from the **Access Control** menu, or by selecting the Access Panels toolbar button.

RKP-3300 Form Overview

This form is used to:

- Assign names to individual RKP-3300 type access panels in the software
- Specify access panel setup parameters, including information stored in the panel
- Specify communication panel setup parameters, including the workstation associated with the panel and the access method (direct serial connection, LAN, or dialup)
- View the firmware, DIP switch settings and flash chip size of the panel
- Enable encryption, if you have the proper user permission

RKP-3300 Form (Location Sub-tab)



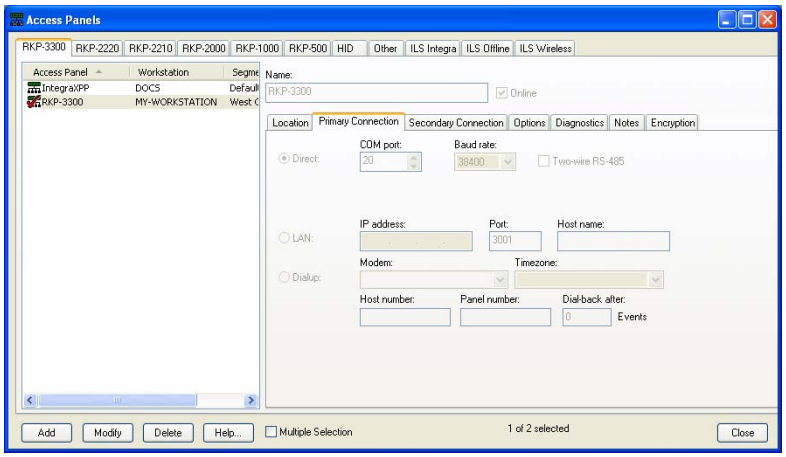
RKP-3300 Form - Location Sub-tab

Form Element	Comment
Listing window	Lists currently defined access panels and the name of the workstation that is connected to each.
Name	Enter a name for the access panel. This is a “friendly” name assigned to each panel to make it easy to identify. Each name must be unique and can contain no more than 32 characters.
Online	If selected, the panel will be online. Online indicates that the panel is ready for use, and that the Communication Server will attempt to communicate with the panel. If the panel is not marked as online, the Communication Server will not attempt to communicate with the panel.
Workstation	Selects the workstation or server to which the access panel is or will be connected in order to transfer events/commands. The Communication Server must be present on the specified workstation. You can either type the name in the field, or use the [Browse] button to view a list of available workstations. **Note:** You are required to enter the workstation’s NetBIOS name. (The NetBIOS name is specified when Windows networking is installed/configured.)
Browse	Displays a Browse for Computer window from where you can click on the name of a workstation to highlight the entry. Click the [OK] button to then enter the workstation name in the **Workstation** field.
Address	Specifies the panel’s address, which must match the DIP switch setting on the panel itself. Possible values are in the range of 0 through 7. The factory default DIP switch setting is 0. **Note:** For any panel(s) that will be communicating with a workstation using a dialup connection, the panel(s) must be set to address 1 or the dial-back to host capability will fail.

RKP-3300 Form - Location Sub-tab (Continued)

Form Element	Comment
World time zone	Select the world time zone for the selected access panel's geographical location. The selections in the drop-down list are listed sequentially, and each includes: • The world time zone's clock time relative to Greenwich Mean Time. For example, (GMT+05:00) indicates that the clock time in the selected world time zone is 5 hours ahead of the clock time in Greenwich, England. • The name of one or more countries or cities that are located in that world time zone.
Daylight savings	Select this check box if Daylight Savings Time is enforced in the selected access panel's geographical location.
Configuration Web Page	Opens the web page used to configure the access panel. Only available when in view mode and if the controller has an IP address or host name configured for the primary connection.
Add	Adds a panel entry.
Modify	Changes a panel entry.
Delete	Removes a panel entry.
Help	Displays online help for this topic.
Change Segment	Displays if segmentation is enabled and you are in modify mode. Click this button to move the access panel to a different segment.
Multiple Selection	If selected, more than one entry in the listing window can be checked simultaneously. The changes made on this form will apply to all selected panels.
Mode	In view mode, indicates how many panels are currently selected, and the current total number of panels; for example, "2 of 5 selected". In modify mode, indicates the current operation (Add Mode, Modify Mode, etc.).
Close	Closes the Access Panels folder.

RKP-3300 Form (Primary Connection Sub-tab)



Primary Connection Sub-tab Overview

Certain options on the Primary Connection and Secondary Connection tabs function together to limit combinations of primary and secondary communications for dual path usage. Valid dual path selections include:

Primary Connection option selected	Secondary Connection options available for selection
Direct	None and LAN
LAN	None, Direct, LAN, Dialup
Dialup	Secondary connection not allowed.

RKP-3300 Form - Primary Connection Sub-tab

Form Element	Comment
Direct	Select this radio button if communication with the access panel will be via a direct serial connection to the specified workstation. You must also specify the workstation's **COM port**, the **Baud rate**, and whether or not communication to the host will use a **Two-wire RS-485** connection.
COM port	If you selected the **Direct** radio button, specify the port that's on the serial expansion unit or the back of the workstation. To each port you can assign only one access panel. Choose a value in the range of 1 through 255.
Baud rate	If you selected the **Direct** radio button, this is the speed (in bits per second) at which information is transferred between the workstation and the access panel via the serial connection. **Note:** Some third party devices do not allow the baud rate to be modified from the host application software. If such a device is in use, the baud rate setting in ReadkeyPRO has no bearing. Refer to the documentation for any third party devices being used.

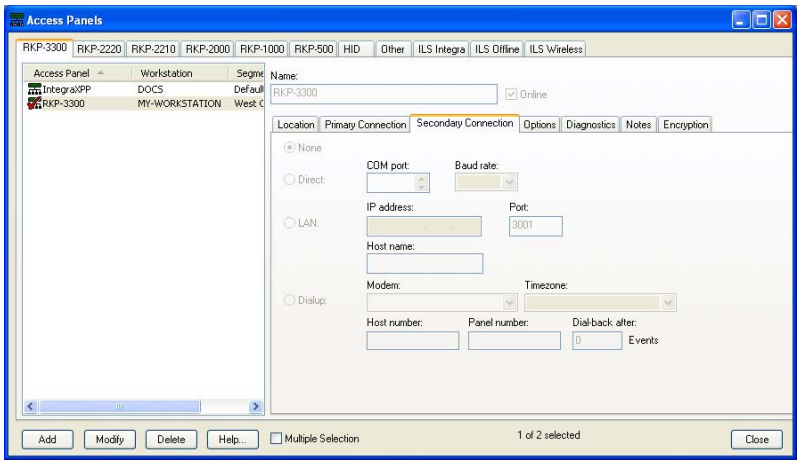
RKP-3300 Form - Primary Connection Sub-tab (Continued)

Form Element	Comment
Two-wire RS-485	Other panels can be configured to communicate with the host workstation using either a 4-wire or 2-wire RS-485 connection. Select this check box if 2-wire communication is to be used.
LAN	Select this radio button if the workstation will communicate with the access panel over a Local Area Network. You must also specify the workstation's IP address or Host name.
IP address	If you selected the **LAN** radio button, enter here the Internet Protocol (TCP/IP) address for the access panel, as provided by your LAN Network Administrator. An IP address consists of four numbers, each in the range of 0 through 255. A period separates each number. The access panel itself must be configured to have the same IP address as what you enter in this field. Refer to the Hardware Installation Guide to program the IP address for the access panel.
Port	The network port that the LAN connection will be established on. This needs to match what is specified in the RKP-3300 configuration web page. The default is 3001.
Host Name	The host name that the RKP-3300 will use with DHCP and will register with the DHCP server. Instead of referencing the panel by a static IP address you may be able to reference it by the host name depending on your network configuration.
Dialup	Select this radio button if the workstation will communicate with the access panel using a dialup connection. This option functions together with the LAN option on the Secondary Connection sub-tab to limit combinations of primary and secondary communications for dual path usage. You must also specify the workstation's modem, timezone, host number, panel number and dial-back after__events.
Modem	If you selected the **Dialup** radio button, select the modem on the workstation that will be used for dialup communication with the access panel. Choices include all TAPI (Telephone Application Programming Interface) devices that are currently configured on the specified Workstation. **Important Notes!** • Before a modem can be listed in this drop-down list, the modem must be properly configured for the selected workstation. This is done on the Modems form in the Dialup Configuration folder, which is reached by selecting **Modems** from the **Access Control** menu. For more information, refer to Connect a Modem to a Bosch Access Panel on page 823. • If any of the TAPI devices are used for other dial functions such as remote access, do not select them for panel dial usage. • For more information, refer to your Windows user guide.
Timezone	If you selected the **Dialup** radio button, indicate the timezone during which the access panel will initiate dialup communication with the workstation. You can select only one timezone for the particular workstation-modem-panel combination. Timezones are defined on the Timezones form of the Timezones folder. Functionally, at the start of each interval that comprises the timezone, the panel will automatically dial the host number. If a connection cannot be established, it will redial until a connection can be made. Once connected, all transactions stored in the panel will be dumped to the Communication Server (on the workstation) to be logged in the database. In addition, all commands that need to be sent to the panel will be sent from the host at that time.

RKP-3300 Form - Primary Connection Sub-tab (Continued)

Form Element	Comment
Timezone (continued)	After all information is transferred, the Communication Server will automatically terminate the dialup connection with the panel. The exception to this occurs if you select the "Always" timezone. In that situation, the workstation will attempt to always stay connected to the panel via dial-up. Functionally, this is similar to communicating with the workstation via a direct (serial) or LAN connection. Multiple workstations can use the same TAPI modem, or one workstation might have access to multiple TAPI modems. However, only one connection to a particular modem can be established at a particular time. For example, a particular workstation might use a particular modem to dial one panel at 12:00, a second panel at 1:00, a third panel at 2:00, etc.
Host number	If you selected the **Dialup** radio button, enter the phone number used to reach the modem that's connected to the workstation. This is the number that the access panel will use to dial into the panel to send events and other transactions to the workstation. Type the exact dialing sequence here. Although you can use parentheses and dashes, they are ignored by TAPI devices. For example, 2489720 and (212) 546-1234. For more information, refer to your Windows user guide.
Panel number	If you selected the **Dialup** radio button, enter the phone number used to reach the modem that's connected to the access panel. This is the number that the workstation would need to dial to communicate with the access panel. Typically, all communication between the access panel and the workstation is initiated from the panel. However, the workstation can dial the panel from within the Alarm Monitoring system. This is done by right-clicking on the panel's entry in the System Tree, then selecting the **Connect** command from the popup menu. Any ASCII string can be typed here (for example, a comma typically triggers a pause in the dialing sequence).
Dial-back after__Events	This field is displayed only if you have selected the **Dialup** radio button. RKP-3300 panels can be programmed to dial the workstation after a certain number of events have been stored in the panel but have not yet been reported to the host (because the panel has been offline). When the panel has accumulated the specified number of stored events, the panel will automatically dial the host number to dump its transactions and to receive any command programming. After the information has been exchanged, the workstation will terminate the connection. The default value here is 255 events. The minimum value you can enter is zero (meaning that the panel will never dial the host). The maximum value is equal to one less than the maximum number of events that the panel can store.

RKP-3300 Form (Secondary Connection Sub-tab)



Secondary Connection Sub-tab Overview

Certain options on the Secondary Connection and Primary Connection tabs function together to limit combinations of secondary and primary communications for dual path usage. Valid dual path selections include:

Secondary Connection option selected	Primary Connection options available for selection
Direct	None and LAN
LAN	None, Direct, LAN, Dialup
Dialup	Secondary connection not allowed.

RKP-3300 Form - Secondary Connection Sub-tab

Form Element	Comment
None	Select if you want no secondary connection.
Direct	Select this radio button if for the secondary connection, communication with the access panel will be via a direct serial connection to the specified workstation. You must also specify the workstation's **COM port**.
COM port	If you selected the **Direct** radio button, specify the port that's on the serial expansion unit or the back of the workstation. To each port you can assign only one access panel. Choose a value in the range of 1 through 255.
LAN	Select this radio button if for the secondary connection the workstation will communicate with the access panel over a Local Area Network. This option functions together with the **Dialup** option on the Primary Connection sub-tab to limit combinations of primary and secondary communications for dual path usage. You must also specify the workstation's **IP address** or **Host name**

RKP-3300 Form - Secondary Connection Sub-tab (Continued)

Form Element	Comment
IP address	If you selected the **LAN** radio button for secondary connection, enter here the Internet Protocol (TCP/IP) address for the access panel, as provided by your LAN Network Administrator. An IP address consists of four numbers, each in the range of 0 through 255. A period separates each number. The access panel itself must be configured to have the same IP address as what you enter in this field. Refer to the Hardware Installation Guide to program the IP address for the access panel.
Baud rate	If you selected the **Direct** or **LAN** radio button, this field displays the speed (in bits per second) at which information is transferred between the workstation and the access panel via the serial connection. A baud rate of 38400 is automatically entered into this field when a **LAN** connection is selected. This value cannot be changed. **Note:** Some third party devices do not allow the baud rate to be modified from the host application software. If such a device is in use, the baud rate setting in ReadkeyPRO has no bearing. Refer to the documentation for any third party devices being used.
Port	The network port that the LAN connection will be established on. This needs to match what is specified in the RKP-3300 configuration web page. The default is 3001
Host Name	The host name that the RKP-3300 will use with DHCP and will register with the DHCP server. Instead of referencing the panel by a static IP address you may be able to reference it by the host name depending on your network configuration.
Dialup	Select this radio button if for the secondary connection the workstation will communicate with the access panel using a dialup connection. You must also specify the workstation's **Modem**, **Timezone**, **Host number**, **Panel number** and **Dial-back after__Events**.
Modem	If you selected the **Dialup** radio button for secondary connection, select the modem on the workstation that will be used for dialup communication with the access panel. Choices include all TAPI (Telephone Application Programming Interface) devices that are currently configured on the specified **Workstation**. **Important Notes!** • Before a modem can be listed in this drop-down list, the modem must be properly configured for the selected **Workstation**. This is done on the Modems form in the Dialup Configuration folder, which is reached by selecting **Modems** from the **Access Control** menu. For more information, refer to Connect a Modem to a Bosch Access Panel on page 823. • If any of the TAPI devices are used for other dial functions such as remote access, do not select them for panel dial usage. • For more information, refer to your Windows user guide.

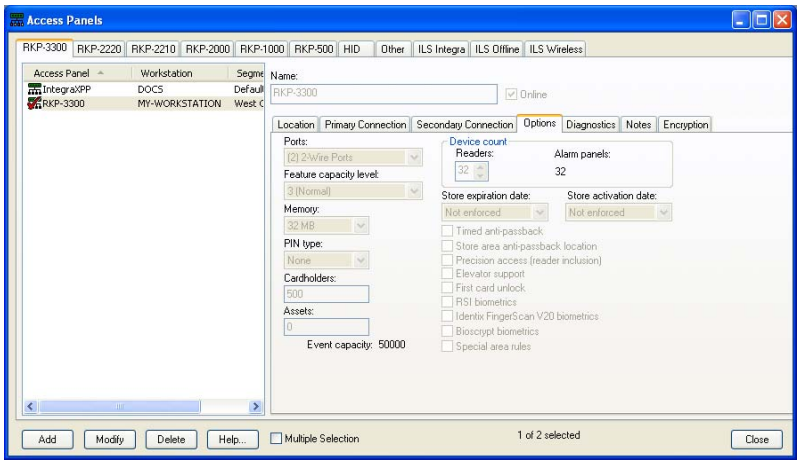
RKP-3300 Form - Secondary Connection Sub-tab (Continued)

Form Element	Comment
Timezone	If you selected the **Dialup** radio button for secondary connection, indicate the timezone during which the access panel will initiate dialup communication with the workstation. You can select only one timezone for the particular workstation-modem-panel combination. Timezones are defined on the Timezones form of the Timezones folder. Functionally, at the start of each interval that comprises the timezone, the RKP-3300 panel will automatically dial the **Host number**. If a connection cannot be established, it will redial until a connection can be made. Once connected, all transactions stored in the RKP-3300 will be dumped to the Communication Server (on the workstation) to be logged in the database. In addition, all commands that need to be sent to the RKP-3300 will be sent from the host at that time. After all information is transferred, the Communication Server will automatically terminate the dialup connection with the RKP-3300 panel. The exception to this occurs if you select the "Always" timezone. In that situation, the workstation will attempt to always stay connected to the panel via dial-up. Functionally, this is similar to communicating with the workstation via a direct (serial) or LAN connection. Multiple workstations can use the same TAPI modem, or one workstation might have access to multiple TAPI modems. However, only one connection to a particular modem can be established at a particular time. For example, a particular workstation might use a particular modem to dial one panel at 12:00, a second panel at 1:00, a third panel at 2:00, etc.
	When the "Always" timezone is used as the dialup timezone for the secondary connection, the primary connection needs to be non-dialup (direct or LAN). When the primary connection is up, the secondary connection will be offline. If the primary connection goes down, a call will be placed to the panel on the secondary path after a certain period of time (default roughly 60 seconds). Once the secondary dialup connection has been established, the connection will remain until the primary connection has been re-established. After the primary connection is established, the secondary connection will remain connected for about one to two minutes (to make sure that the primary connection has connected and remained connected).
Host number	If you selected the **Dialup** radio button for secondary connection, enter the phone number used to reach the modem that's connected to the workstation. This is the number that the access panel will use to dial into the panel to send events and other transactions to the workstation. Type the exact dialing sequence here. Although you can use parentheses and dashes, they are ignored by TAPI devices. For example, 2489720 and (212) 546-1234. For more information, refer to your Windows user guide.

RKP-3300 Form - Secondary Connection Sub-tab (Continued)

Form Element	Comment
Panel number	If you selected the Dialup radio button for secondary connection, enter the phone number used to reach the modem that's connected to the access panel. This is the number that the workstation would need to dial to communicate with the access panel. Typically, all communication between the access panel and the workstation is initiated from the panel. However, the workstation can dial the panel from within the Alarm Monitoring system. This is done by right-clicking on the panel's entry in the System Tree, then selecting the Connect command from the popup menu. Any ASCII string can be typed here (for example, a comma typically triggers a pause in the dialing sequence).
Dial-back after__Events	This field is displayed only if you have selected the Dialup radio button for secondary connection. RKP-3300 panels can be programmed to dial the workstation after a certain number of events have been stored in the panel but have not yet been reported to the host (because the panel has been offline). When the panel has accumulated the specified number of stored events, the panel will automatically dial the Host Number to dump its transactions and to receive any command programming. After the information has been exchanged, the workstation will terminate the connection. The default value here is 255 events. The minimum value you can enter is zero (meaning that the panel will never dial the host). The maximum value is equal to one less than the maximum number of events that the panel can store.

RKP-3300 (Options Sub-tab)



RKP-3300 Form - Options Sub-tab

Form Element	Comment
Note:	These access panel setup parameters must be completed prior to adding cardholder records to the database, and should not be altered after cardholder records have been added. Changing these settings will result in a full cardholder database download to the panel.
Ports	Access panels communicate with its *downstream devices* (reader interfaces, input control modules, and output control modules) using either 2- or 4-wire RS-485 communication, or a combination of the two.
Feature capacity level	This setting controls the amount of memory reserved for downstream devices, timezone control, local linkages, and other features within the controller. A higher value reserves more room for these options while leaving less room for the cardholder database and event transaction buffer. In the vast majority of circumstances, the default value of 3 should be left unchanged. This value will rarely need to be adjusted. If free memory in the panel becomes low, flagged by a “Panel Free Memory Low” Alarm, this value should be increased. Values of less than 3 are not recommended. They can be used in the rare case when there are few downstream devices, few configured features, and maximum memory is required for the cardholder database and/or event transaction buffer.
Memory	Indicates the amount of memory that’s on the panel. • To enable biometric support, you must have 76 bytes of available memory. Additional memory is required to store templates on the panel. For more information, refer to the System Options Folder - Biometrics Form on page 470 (non-segmented systems) or the Segments Form - Biometrics Sub-tab on page 551 (segmented systems). • Badge IDs require 4 to 8 bytes of memory, depending on the number of digits in a badge. For more information, refer to the System Options Folder - Hardware Settings Form on page 465 (non-segmented systems) or the Segments Form - Hardware Settings Sub-tab on page 547 (segmented systems).

RKP-3300 Form - Options Sub-tab (Continued)

Form Element	Comment
PIN type	Select the range of PIN digits allowed. Using PINs takes up memory on the access panel, which reduces the card capacity. If you have a pin code configured for a controller that is 1-*n* digits long, but have a cardholder in the database that has a pin code ***longer*** than *n*, the pin code gets downloaded with the badge record, but gets truncated at *n* digits. For example, you have a 1-4 digit pin for the controller, but the badge record in the access control system's database has '123456' specified as the pin code. When this gets downloaded, it is truncated to '1234.' The Cardholder can either enter the first 4 digits or all 6 digits correctly and gain access.
Cardholders	This field determines how much of the access panel's memory will be set aside for the cardholder records. This size is limited by the size of the access panel's memory, and is directly related to the options you choose in this section. The more options you choose and the more that each option requires (more digits in the card number, for example), the fewer the maximum number of cardholders possible.
Assets	Indicates the number of assets downloaded to the panels. To disable Asset Operations, set this value to 0.
Readers	Select the number of reader devices you plan to have attached to this RKP-3300 access panel. The more reader devices you have attached, the fewer alarm panels can be attached. There is a fixed limit of 32, which can not be adjusted.
Alarm panels	Indicates the maximum number of alarm panels that can be attached to this RKP-3300 access panel. There is a fixed limit of 32, which can not be adjusted.
Store expiration date	If you want the badge expiration date to be used to determine the status of cards detected at the card readers, select "Date only" from the drop-down list. If the present date is later than the expiration date of the card, the card is considered to be invalid and access is denied. If you do not want the badge expiration date to be used to determine the status of card, select "Not enforced" from the drop-down list. A third option, "Date and time" is available only if you selected the **Use time** check box on the General Cardholder Options form in the Cardholder Options folder. Select this option if you want the badge expiration date and time to be used to determine the status of cards detected at readers. If the present date and time is later than the expiration date and time of the card, the card is considered to be invalid and access is denied.
Store activation date	If you want the badge activation date to be used to determine the status of cards detected at the card readers, select "Date only" from the drop-down list. If the present date is earlier than the activation date of the card, the card is considered invalid and access is denied. If you do not want the badge activation date to be used to determine the status of card, select "Not enforced" from the drop-down list. A third option, "Date and time" is available only if you selected the **Use time** check box on the General Cardholder Options form in the Cardholder Options folder. Select this option if you want the badge activation date and time to be used to determine the status of cards detected at readers. If the present date and time is earlier than the activation date and time of the card, the card is considered to be invalid and access is denied.

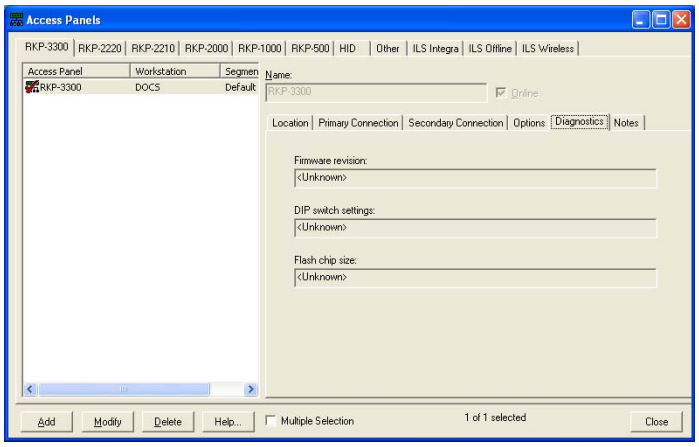
RKP-3300 Form - Options Sub-tab (Continued)

Form Element	Comment
Timed anti-passback	Indicates that readers attached to this panel are to be used for timed anti-passback. You must also set the **Timed anti-passback setting (minutes)** field. This is done on the Anti-Passback form of the Readers folder.
Store area anti-passback location	Select this check box if a reader attached to this access panel is used to enter or leave an anti-passback area. Anti-passback areas are defined on the Anti-Passback Areas form of the Areas folder. The **Area entering** and **Area leaving** fields, located on the Anti-Passback form of the Readers folder, are used to associate specific readers with specific areas.
Precision access (reader inclusion)	If selected, it indicates that this access panel will use the application's precision access capabilities. Precision access is a method for assigning unique access privileges to individual cardholders. There is an infinite number of precision access combinations that can be created and assigned to cardholders. **Note:** Using this option severely limits the number of cardholders that can be stored in the panel. If you wish to use precision access, it is recommended that panel memory be expanded to meet your facility's needs.
Elevator support	If selected, this panel will support elevator control. You must have at least 1 MB of memory to use this feature. This check box will be grayed out if 256 KB of memory is used.
First card unlock	If selected, this panel will have first card unlock functionality. First card unlock is used in conjunction with reader mode and timezone control. Doors configured with first card unlock will not unlock until valid personnel arrives. For example, rather than setting a lobby door to unlock at 9:00 am, you can leave it in a secure mode (i.e., card only, card and pin, etc.) and set the first card unlock to 9:00 am. The first person that comes in the door after 9:00 am will have to present their card. Once access is granted, the reader mode will change to unlocked. This feature is useful for days like "snow days" when employees can't make it to work on time. **Note:** If the reader is in "Facility code only" mode, the first card unlock feature does not work.
HandKey biometrics	Enables hand geometry (HandKey) support. Specifically, this check box enables alternate readers to download templates to the panel. 76 bytes of memory are required to enable hand geometry support, and additional memory is required to store template information on the panel. For more information, refer to the System Options folder (non-segmented systems) or the Segments folder (segmented systems). **Note:** The **Maximum templates** setting must be greater than zero (the default value) for the panel to support HandKey alternate readers. This setting is located on the System Options folder > Biometrics form (non-segmented systems) or the Segments form > Biometrics sub-tab (segmented systems).

RKP-3300 Form - Options Sub-tab (Continued)

Form Element	Comment
Bioscrypt biometrics	Enables Bioscrypt alternate reader support. Specifically, this check box enables alternate readers to download templates to the panel. 76 bytes of memory are required to enable Bioscrypt biometric support, and additional memory is required to store template information on the access panel. For more information, refer to the System Options folder (non-segmented systems) or the Segments folder (segmented systems). **Note:** The **Maximum templates** setting must be greater than zero (the default value) for the panel to support Bioscrypt alternate readers. This setting is located on the System Options folder > Biometrics form (non-segmented systems) or the Segments form > Biometrics sub-tab (segmented systems).
Special area rules	Checking this option enables the Special Two-Man Rule. If this is the first time enabling this rule a check will be made on your system and a message displayed informing you that additional changes may have to be made to the cardholder badge options. For more information, refer to Appendix G: Special Two-Man Rule on page 1481.
Event capacity	Fixed at 50,000. Unlike the other RKP- panels this does not change based on what options are selected.

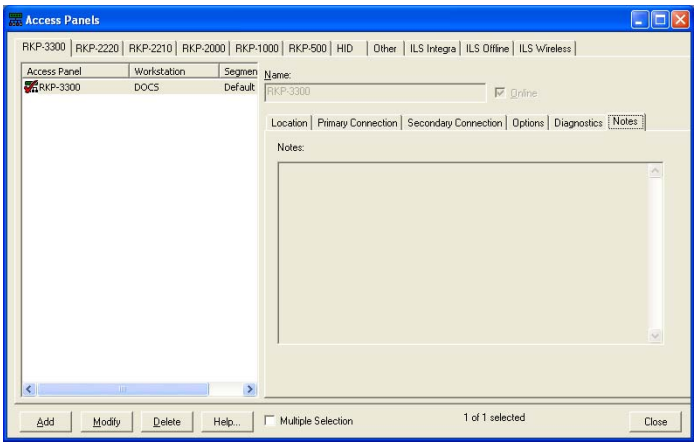
RKP-3300 (Diagnostics Sub-tab)



RKP-3300 Form - Diagnostics Sub-tab

Form Element	Comment
Firmware revision	Displays the firmware revision reported by the controller the last time it was online. This is a read only text field.
DIP switch settings	Displays the DIP switch settings reported by the controller, the last time it was online. This is a read only text field. Note that DIP switch settings are read by the controller only when the controller is powered up. DIP switch changes made afterward will not take affect until the controller goes through another power cycle.
Flash chip size	Displays the flash chip size reported by the controller the last time it was online. This is a read only text field.

RKP-3300 (Notes Sub-tab)



RKP-3300 Form - Notes Sub-tab

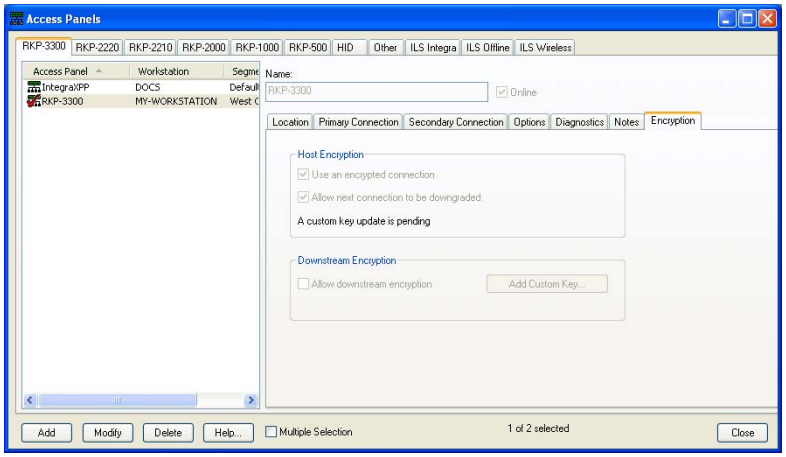
Form Element	Comment
Notes	Enter information about the panel. This field is limited to less than 2000 characters. Any text that is entered here will be displayed in Alarm Monitoring. For more information, refer to the procedure to View Notes in the Alarm Monitoring User Guide in Chapter 5, “Monitor Devices.”

RKP-3300 (Encryption Sub-tab)

This view displays when the system/segment (the panel is associated with) uses automatic encryption. The same fields display when the system/segment is configured for manual encryption, except for the **Allow next connection to be downgraded** check box.The Encryption sub-tab does not display if a system/segment uses a plain connection.

Note: The system/segment the controller belongs to must be configured for encryption in order for this tab to display. The user must also have the correct user permissions.

For more information about encryption, refer to the Encryption for Controllers User Guide.



RKP-3300 Form - Encryption Sub-tab

Form Element	Comment
Use an encrypted connection	Determines whether the connection to the controller is encrypted or not. If not selected (the default), a plain connection is used. If selected, the connection is encrypted.
Allow next connection to be downgraded	Determines whether the system will attempt a downgrade the next time it connects to the controller and there are encryption problems. If not selected (the default), the system will not attempt to downgrade the connection, even if the configured encrypted connection fails. If selected, the system will attempt to downgrade the connection if the encrypted connection fails. The system attempts downgrades by trying encryption with the inactive master key, the factory default master keys, and finally by trying a plain connection. Note that if the controller requires encryption, a plain connection is not possible. This check box displays only if the controller exists in an automatic key management system/segment.

RKP-3300 Form - Encryption Sub-tab (Continued)

Form Element	Comment
A custom key update is pending	Indicates there is an outstanding key update for this controller. This is a read only field. This text field displays only if the controller exists in an automatic key management system/ segment, and the condition exists (if there is an outstanding key update).

RKP-3300 Form Procedures

Add an RKP-3300 Access Panel

1. Display the Access Panels folder by selecting **Access Panels** from the **Access Control** menu. Click the RKP-3300 tab.
2. Click [Add].
3. In the **Name** field, type a unique, descriptive name for the access panel.
4. If you want to place the panel online immediately, select the **Online** check box. Typically, you wouldn't check this box when configuring the system or defining panels, but instead would wait until you're ready to put the panel into service.
5. Specify communication parameters on the **Location**, **Primary Connection**, and **Secondary Connection** sub-tabs.
6. Specify setup parameters on the **Options** sub-tab, which sets up the cardholder database for this panel.

Important: These access panel setup parameters must be completed prior to adding cardholder records to the database, and should not be altered after cardholder records have been added. Changing these settings will result in a full cardholder database download to the panel.

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7. Click [OK].

Modify an RKP-3300 Access Panel

Notes: Modifying the PIN type requires a full panel download.

If the PIN type is modified on the controller and/or the General Cardholder Options form, you must log off/log on to System Administration before you modify a cardholder pin number.

1. In the listing window, select the RKP-3300 entry you wish to change.
2. Click [Modify].
3. Make the changes you want to the fields.
4. Click [OK] to save the changes, or [Cancel] to revert to the previously saved values.

Delete an RKP-3300 Access Panel

1. In the listing window, select the RKP-3300 entry you wish to delete.
2. Click [Delete].
3. Click [OK].

Enable an RKP-3300 Access Panel for Host Encryption

The encryption modify/export permission is required to complete this procedure.

1. Display the Access Panels folder by selecting **Access Panels** from the **Access Control** menu.
2. On the RKP-3300 form, click the Encryption sub-tab.
3. In the listing window, select the RKP-3300 entry you wish to enable encryption for.
4. Click [Modify].
5. Select the **Use an encrypted connection** check box.
6. If automatic encryption is used, you can also select the **Allow next connection to be downgraded** check box, if you want the connection downgraded if the encrypted connection fails.
7. Click [OK].
8. Acknowledge any messages that display.

Enable an RKP-3300 Access Panel for Downstream Encryption

1. Download the latest firmware to all access panels, alarm panels, and readers.
2. Enable encryption on the system.
   a. Navigate to **Administration > System Options** or **Administration > Segment Options** if segmentation is enabled.
   b. Click [Modify].
   c. On the Controller Encryption tab, select either Manual key management encryption or Automatic key management encryption from the **Connection type** drop-down box.
   d. Click [OK].
3. Enable host and downstream encryption.
   a. Navigate to **Access control > Access Panels**.
   b. On the RKP-3300 form, select the Encryption sub-tab.
   c. In the Access Panel listing window select an access panel you wish to configure downstream encryption for.
   d. Select the **Use an encrypted connection** check box.
   e. Select the **Allow downstream encryption** check box.
   f. To add a downstream encryption key, click [Add Master Key]. The Master Key Entry window opens. Select the options appropriate for your system.
4. Set the encryption level for each reader that needs to be encrypted. For more information, refer to General Form on page 743.
   a. Navigate to **Access Control** > **Readers**.
   b. On the Reader tab, select the readers to be encrypted in the Reader listing window. Click [Modify].
   c. Select the encryption level from the **Encrypted Communications Mode** drop-down box. If Encrypted Communications Mode is set to "Custom" then first download the master keys as described in step 6 before completing this step.
5. Set the encryption level for each alarm panel that needs to be encrypted. For more information, refer to Alarm Panels Form on page 803.
   a. Navigate to **Access Control** > **Alarm Panels**. Only RKP-1100 and RKP-1200 alarm panels can be configured for downstream encryption.
   b. On the Alarm Panels tab, select the panels to be encrypted in the Alarm Panel listing window. Click [Modify].
   c. Select the encryption level from the **Encrypted Communications Mode** drop-down box. If Encrypted Communications Mode is set to

"Custom" then first download the master keys as described in step 6 before completing this step.

6. In the Alarm Monitoring application, download the master keys to the access panels and other devices.
   a. In the hardware tree, right-click the access panel and select "Download encryption keys."
   b. Verify that the connection is encrypted as requested by looking at each devices encryption status in the alarm monitoring hardware tree.

Enter Notes for an Access Panel

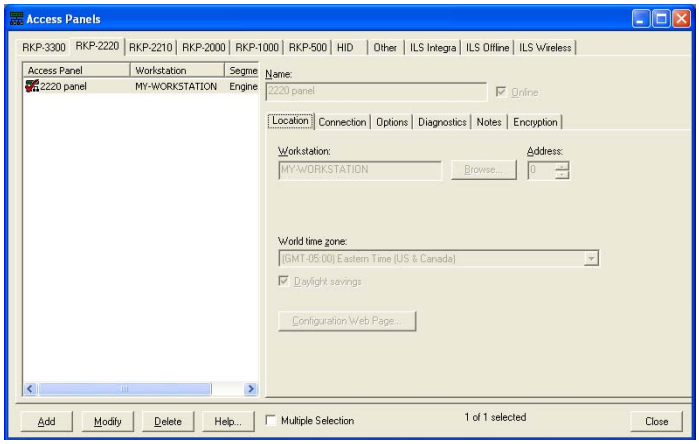
1. In the listing window, select the entry you want to edit.
2. Click [Modify].
3. Type the information in the Notes field. This note will be able to be displayed in Alarm Monitoring.
4. Click [OK].

RKP-2220 Form Overview

This form is used to:

- Assign names to individual RKP-2220 type access panels in the software
- Specify access panel setup parameters, including information stored in the panel
- Specify communication panel setup parameters, including the workstation associated with the panel and the access method (direct serial connection, LAN, or dialup)
- View the firmware, DIP switch settings and flash chip size of the panel
- Enable encryption, if you have the proper user permission

RKP-2220 Form (Location Sub-tab)



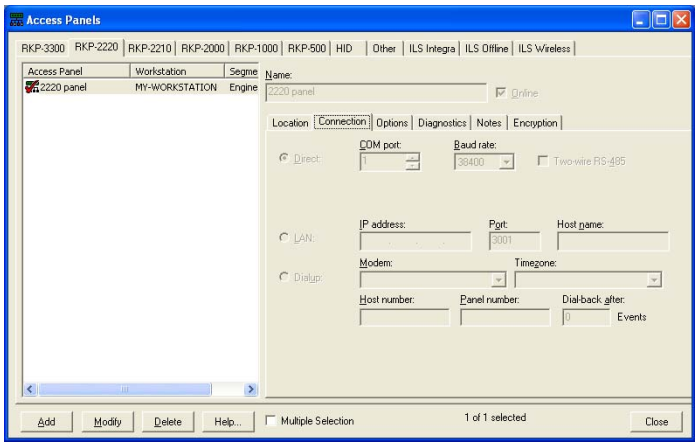
RKP-2220 Form - Location Sub-tab

Form Element	Comment
Listing window	Lists currently defined access panels and the name of the workstation that is connected to each.
Name	Enter a name for the access panel. This is a “friendly” name assigned to each panel to make it easy to identify. Each name must be unique and can contain no more than 32 characters.
Online	If selected, the panel will be online. Online indicates that the panel is ready for use, and that the Communication Server will attempt to communicate with the panel. If the panel is not marked as online, the Communication Server will not attempt to communicate with the panel.
Workstation	Selects the workstation or server to which the access panel is or will be connected in order to transfer events/commands. The Communication Server must be present on the specified workstation. You can either type the name in the field, or use the [Browse] button to view a list of available workstations. **Note:** You are required to enter the workstation’s NetBIOS name. (The NetBIOS name is specified when Windows networking is installed/configured.)
Browse	Displays a Browse for Computer window from where you can click on the name of a workstation to highlight the entry. Click the [OK] button to then enter the workstation name in the **Workstation** field.
Address	Specifies the panel’s address, which must match the DIP switch setting on the panel itself. Possible values are in the range of 0 through 7. The factory default DIP switch setting is 0. **Note:** For any panel(s) that will be communicating with a workstation using a dialup connection, the panel(s) must be set to address 1 or the dial-back to host capability will fail.

RKP-2220 Form - Location Sub-tab (Continued)

Form Element	Comment
World time zone	Select the world time zone for the selected access panel's geographical location. The selections in the drop-down list are listed sequentially, and each includes: • The world time zone's clock time relative to Greenwich Mean Time. For example, (GMT+05:00) indicates that the clock time in the selected world time zone is 5 hours ahead of the clock time in Greenwich, England. • The name of one or more countries or cities that are located in that world time zone.
Daylight savings	Select this check box if Daylight Savings Time is enforced in the selected access panel's geographical location.
Configuration Web Page	Opens the web page used to configure the access panel. Only available when in view mode and if the controller has an IP address or host name configured for the primary connection.
Add	Adds a panel entry.
Modify	Changes a panel entry.
Delete	Removes a panel entry.
Help	Displays online help for this topic.
Change Segment	Displays if segmentation is enabled and you are in modify mode. Click this button to move the access panel to a different segment.
Multiple Selection	If selected, more than one entry in the listing window can be checked simultaneously. The changes made on this form will apply to all selected panels.
Mode	In view mode, indicates how many panels are currently selected, and the current total number of panels; for example, "2 of 5 selected". In modify mode, indicates the current operation (Add Mode, Modify Mode, etc.).
Close	Closes the Access Panels folder.

RKP-2220 Form (Connection Sub-tab)



RKP-2220 Form - Connection Sub-tab

Form Element	Comment
Direct	Select this radio button if communication with the access panel will be via a direct serial connection to the specified workstation. You must also specify the workstation's **COM port**, the **Baud rate**, and whether or not communication to the host will use a **Two-wire RS-485** connection.
COM port	If you selected the **Direct** radio button, specify the port that's on the serial expansion unit or the back of the workstation. To each port you can assign only one access panel. Choose a value in the range of 1 through 255.
Baud rate	If you selected the **Direct** radio button, this is the speed (in bits per second) at which information is transferred between the workstation and the access panel via the serial connection. **Note:** Some third party devices do not allow the baud rate to be modified from the host application software. If such a device is in use, the baud rate setting in ReadkeyPRO has no bearing. Refer to the documentation for any third party devices being used.
Two-wire RS-485	Other panels can be configured to communicate with the host workstation using either a 4-wire or 2-wire RS-485 connection. Select this check box if 2-wire communication is to be used.
LAN	Select this radio button if the workstation will communicate with the access panel over a Local Area Network. You must also specify the workstation's IP address.
IP address	If you selected the **LAN** radio button, enter here the Internet Protocol (TCP/IP) address for the access panel, as provided by your LAN Network Administrator. An IP address consists of four numbers, each in the range of 0 through 255. A period separates each number. The access panel itself must be configured to have the same IP address as what you enter in this field. Refer to the Hardware Installation Guide to program the IP address for the access panel.
Port	The network port that the LAN connection will be established on. This needs to match what is specified in the RKP-2220 configuration web page. The default is 3001.

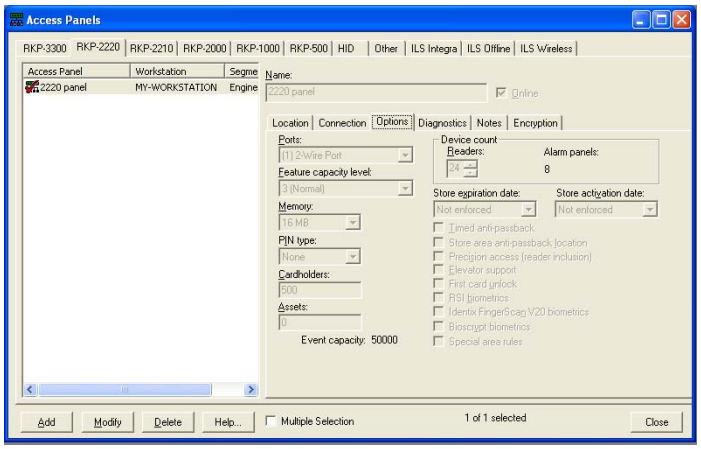
RKP-2220 Form - Connection Sub-tab (Continued)

Form Element	Comment
Host name	The host name that the RKP-2220 will use with DHCP and will register with the DHCP server. Instead of referencing the panel by a static IP address you may be able to reference it by the host name depending on your network configuration.
Dialup	Select this radio button if the workstation will communicate with the access panel using a dialup connection. This option functions together with the LAN option on the Secondary Connection sub-tab to limit combinations of primary and secondary communications for dual path usage. You must also specify the workstation's modem, timezone, host number, panel number and dial-back after__events.
Modem	If you selected the **Dialup** radio button, select the modem on the workstation that will be used for dialup communication with the access panel. Choices include all TAPI (Telephone Application Programming Interface) devices that are currently configured on the specified Workstation. **Important Notes!** • Before a modem can be listed in this drop-down list, the modem must be properly configured for the selected workstation. This is done on the Modems form in the Dialup Configuration folder, which is reached by selecting **Modems** from the **Access Control** menu. For more information, refer to Connect a Modem to a Bosch Access Panel on page 823. • If any of the TAPI devices are used for other dial functions such as remote access, do not select them for panel dial usage. • For more information, refer to your Windows user guide.
Timezone	If you selected the **Dialup** radio button, indicate the timezone during which the access panel will initiate dialup communication with the workstation. You can select only one timezone for the particular workstation-modem-panel combination. Timezones are defined on the Timezones form of the Timezones folder. Functionally, at the start of each interval that comprises the timezone, the panel will automatically dial the host number. If a connection cannot be established, it will redial until a connection can be made. Once connected, all transactions stored in the panel will be dumped to the Communication Server (on the workstation) to be logged in the database. In addition, all commands that need to be sent to the panel will be sent from the host at that time.
Timezone (continued)	After all information is transferred, the Communication Server will automatically terminate the dialup connection with the panel. The exception to this occurs if you select the "Always" timezone. In that situation, the workstation will attempt to always stay connected to the panel via dial-up. Functionally, this is similar to communicating with the workstation via a direct (serial) or LAN connection. Multiple workstations can use the same TAPI modem, or one workstation might have access to multiple TAPI modems. However, only one connection to a particular modem can be established at a particular time. For example, a particular workstation might use a particular modem to dial one panel at 12:00, a second panel at 1:00, a third panel at 2:00, etc.

RKP-2220 Form - Connection Sub-tab (Continued)

Form Element	Comment
Host number	If you selected the **Dialup** radio button, enter the phone number used to reach the modem that's connected to the workstation. This is the number that the access panel will use to dial into the panel to send events and other transactions to the workstation. Type the exact dialing sequence here. Although you can use parentheses and dashes, they are ignored by TAPI devices. For example, 2489720 and (212) 546-1234. For more information, refer to your Windows user guide.
Panel number	If you selected the **Dialup** radio button, enter the phone number used to reach the modem that's connected to the access panel. This is the number that the workstation would need to dial to communicate with the access panel. Typically, all communication between the access panel and the workstation is initiated from the panel. However, the workstation can dial the panel from within the Alarm Monitoring system. This is done by right-clicking on the panel's entry in the System Tree, then selecting the **Connect** command from the popup menu. Any ASCII string can be typed here (for example, a comma typically triggers a pause in the dialing sequence).
Dial-back after__Events	This field is displayed only if you have selected the **Dialup** radio button. RKP-2220 panels can be programmed to dial the workstation after a certain number of events have been stored in the panel but have not yet been reported to the host (because the panel has been offline). When the panel has accumulated the specified number of stored events, the panel will automatically dial the host number to dump its transactions and to receive any command programming. After the information has been exchanged, the workstation will terminate the connection. The default value here is 255 events. The minimum value you can enter is zero (meaning that the panel will never dial the host). The maximum value is equal to one less than the maximum number of events that the panel can store.

RKP-2220 (Options Sub-tab)



RKP-2220 Form - Options Sub-tab

Form Element	Comment
Note:	These access panel setup parameters must be completed prior to adding cardholder records to the database, and should not be altered after cardholder records have been added. Changing these settings will result in a full cardholder database download to the panel.
Ports	Access panels communicate with its *downstream devices* (reader interfaces, input control modules, and output control modules) using either 2- or 4-wire RS-485 communication, or a combination of the two.
Feature capacity level	This setting controls the amount of memory reserved for downstream devices, timezone control, local linkages, and other features within the controller. A higher value reserves more room for these options while leaving less room for the cardholder database and event transaction buffer. In the vast majority of circumstances, the default value of 3 should be left unchanged. This value will rarely need to be adjusted. If free memory in the panel becomes low, flagged by a “Panel Free Memory Low” Alarm, this value should be increased. Values of less than 3 are not recommended. They can be used in the rare case when there are few downstream devices, few configured features, and maximum memory is required for the cardholder database and/or event transaction buffer.
Memory	Indicates the amount of memory that’s on the panel. • To enable biometric support, you must have 76 bytes of available memory. Additional memory is required to store templates on the panel. For more information, refer to the System Options Folder - Biometrics Form on page 470 (non-segmented systems) or the Segments Form - Biometrics Sub-tab on page 551 (segmented systems). • Badge IDs require 4 to 8 bytes of memory, depending on the number of digits in a badge. For more information, refer to the System Options Folder - Hardware Settings Form on page 465 (non-segmented systems) or the Segments Form - Hardware Settings Sub-tab on page 547 (segmented systems).

RKP-2220 Form - Options Sub-tab (Continued)

Form Element	Comment
PIN type	Select the range of PIN digits allowed. Using PINs takes up memory on the access panel, which reduces the card capacity. If you have a pin code configured for a controller that is 1-*n* digits long, but have a cardholder in the database that has a pin code ***longer*** than *n*, the pin code gets downloaded with the badge record, but gets truncated at *n* digits. For example, you have a 1-4 digit pin for the controller, but the badge record in the access control system's database has '123456' specified as the pin code. When this gets downloaded, it is truncated to '1234.' The Cardholder can either enter the first 4 digits or all 6 digits correctly and gain access.
Cardholders	This field determines how much of the access panel's memory will be set aside for the cardholder records. This size is limited by the size of the access panel's memory, and is directly related to the options you choose in this section. The more options you choose and the more that each option requires (more digits in the card number, for example), the fewer the maximum number of cardholders possible.
Assets	Indicates the number of assets downloaded to the panels. To disable Asset Operations, set this value to 0.
Readers	Select the number of reader devices you plan to have attached to this RKP-2220 access panel. The more reader devices you have attached, the fewer alarm panels can be attached. The actual number of readers that can be attached to the access panel is directly related to both the number of reader devices that are configured AND to the type of reader device(s) installed. Two readers can be attached to a Dual-Reader Interface board. One reader can be attached to a Single Reader Interface board. You can choose a value in the range of 16 through 32. The value in the **Alarm panels** field is adjusted accordingly.
Alarm panels	Indicates the maximum number of alarm panels that can be attached to this RKP-2220 access panel. You can change this field only indirectly, by modifying the **Readers** field on this form. The more readers you have attached, the fewer alarm panels can be attached.
Store expiration date	If you want the badge expiration date to be used to determine the status of cards detected at the card readers, select "Date only" from the drop-down list. If the present date is later than the expiration date of the card, the card is considered to be invalid and access is denied. If you do not want the badge expiration date to be used to determine the status of card, select "Not enforced" from the drop-down list. A third option, "Date and time" is available only if you selected the **Use time** check box on the General Cardholder Options form in the Cardholder Options folder. Select this option if you want the badge expiration date and time to be used to determine the status of cards detected at readers. If the present date and time is later than the expiration date and time of the card, the card is considered to be invalid and access is denied.

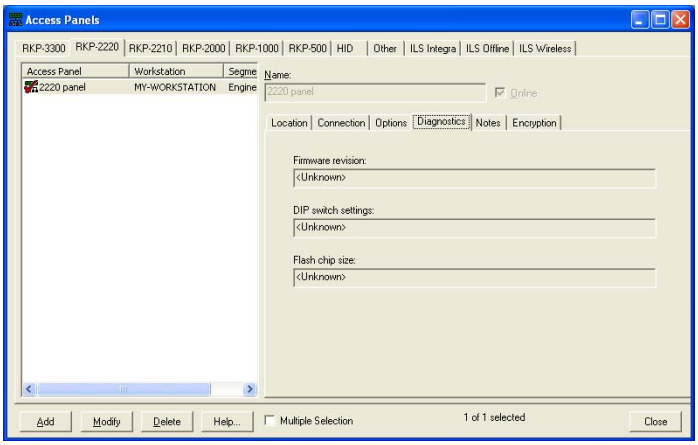
RKP-2220 Form - Options Sub-tab (Continued)

Form Element	Comment
Store activation date	If you want the badge activation date to be used to determine the status of cards detected at the card readers, select "Date only" from the drop-down list. If the present date is earlier than the activation date of the card, the card is considered invalid and access is denied. If you do not want the badge activation date to be used to determine the status of card, select "Not enforced" from the drop-down list. A third option, "Date and time" is available only if you selected the **Use time** check box on the General Cardholder Options form in the Cardholder Options folder. Select this option if you want the badge activation date and time to be used to determine the status of cards detected at readers. If the present date and time is earlier than the activation date and time of the card, the card is considered to be invalid and access is denied.
Timed anti-passback	Indicates that readers attached to this panel are to be used for timed anti-passback. You must also set the **Timed anti-passback setting (minutes)** field. This is done on the Anti-Passback form of the Readers folder.
Store area anti-passback location	Select this check box if a reader attached to this access panel is used to enter or leave an anti-passback area. Anti-passback areas are defined on the Anti-Passback Areas form of the Areas folder. The **Area entering** and **Area leaving** fields, located on the Anti-Passback form of the Readers folder, are used to associate specific readers with specific areas.
Precision access (reader inclusion)	If selected, it indicates that this access panel will use the application's precision access capabilities. Precision access is a method for assigning unique access privileges to individual cardholders. There is an infinite number of precision access combinations that can be created and assigned to cardholders. **Note:** Using this option severely limits the number of cardholders that can be stored in the panel. If you wish to use precision access, it is recommended that panel memory be expanded to meet your facility's needs.
Elevator support	If selected, this panel will support elevator control. You must have at least 1 MB of memory to use this feature. This check box will be grayed out if 256 KB of memory is used.
First card unlock	If selected, this panel will have first card unlock functionality. First card unlock is used in conjunction with reader mode and timezone control. Doors configured with first card unlock will not unlock until valid personnel arrives. For example, rather than setting a lobby door to unlock at 9:00 am, you can leave it in a secure mode (i.e., card only, card and pin, etc.) and set the first card unlock to 9:00 am. The first person that comes in the door after 9:00 am will have to present their card. Once access is granted, the reader mode will change to unlocked. This feature is useful for days like "snow days" when employees can't make it to work on time. **Note:** If the reader is in "Facility code only" mode, the first card unlock feature does not work.

RKP-2220 Form - Options Sub-tab (Continued)

Form Element	Comment
HandKey biometrics	Enables hand geometry (HandKey) support. Specifically, this check box enables alternate readers to download templates to the panel. 76 bytes of memory are required to enable hand geometry support, and additional memory is required to store template information on the panel. For more information, refer to the System Options folder (non-segmented systems) or the Segments folder (segmented systems). **Note:** The **Maximum templates** setting must be greater than zero (the default value) for the panel to support HandKey alternate readers. This setting is located on the System Options folder > Biometrics form (non-segmented systems) or the Segments form > Biometrics sub-tab (segmented systems).
Bioscrypt biometrics	Enables Bioscrypt alternate reader support. Specifically, this check box enables alternate readers to download templates to the panel. 76 bytes of memory are required to enable Bioscrypt biometric support, and additional memory is required to store template information on the access panel. For more information, refer to the System Options folder (non-segmented systems) or the Segments folder (segmented systems). **Note:** The **Maximum templates** setting must be greater than zero (the default value) for the panel to support Bioscrypt alternate readers. This setting is located on the System Options folder > Biometrics form (non-segmented systems) or the Segments form > Biometrics sub-tab (segmented systems).
Special area rules	Checking this option enables the Special Two-Man Rule. If this is the first time enabling this rule a check will be made on your system and a message displayed informing you that additional changes may have to be made to the cardholder badge options. For more information, refer to Appendix G: Special Two-Man Rule on page 1481.
Event capacity	Fixed at 50,000. Unlike the other RKP- panels this does not change based on what options are selected.

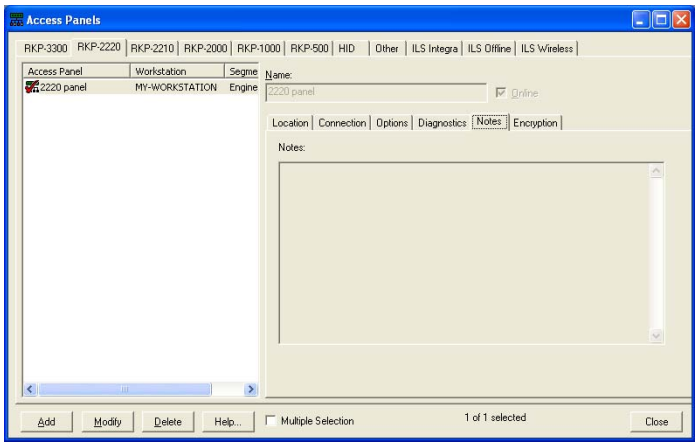
RKP-2220 (Diagnostics Sub-tab)



RKP-2220 Form - Diagnostics Sub-tab

Form Element	Comment
Firmware revision	Displays the firmware revision reported by the controller the last time it was online. This is a read only text field.
DIP switch settings	Displays the DIP switch settings reported by the controller, the last time it was online. This is a read only text field. Note that DIP switch settings are read by the controller only when the controller is powered up. DIP switch changes made afterward will not take affect until the controller goes through another power cycle.
Flash chip size	Displays the flash chip size reported by the controller the last time it was online. This is a read only text field.

RKP-2220 (Notes Sub-tab)



RKP-2220 Form - Notes Sub-tab

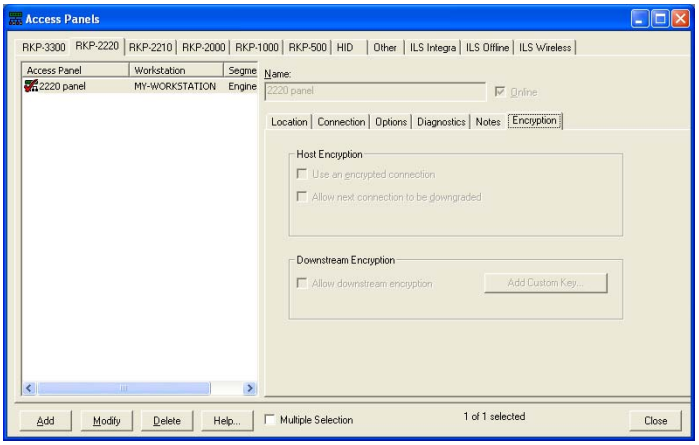
Form Element	Comment
Notes	Enter information about the panel. This field is limited to less than 2000 characters. Any text that is entered here will be displayed in Alarm Monitoring. For more information, refer to the procedure to View Notes in the Alarm Monitoring User Guide in Chapter 5, “Monitor Devices.”

RKP-2220 (Encryption Sub-tab)

This view displays when the system/segment (the panel is associated with) uses automatic encryption. The same fields display when the system/segment is configured for manual encryption, except for the **Allow next connection to be downgraded** check box.The Encryption sub-tab does not display if a system/segment uses a plain connection.

Note: The system/segment the controller belongs to must be configured for encryption in order for this tab to display. The user must also have the correct user permissions.

For more information about encryption, refer to the Encryption for Controllers User Guide.



RKP-2220 Form - Encryption Sub-tab

Form Element	Comment
Use an encrypted connection	Determines whether the connection to the controller is encrypted or not. If not selected (the default), a plain connection is used. If selected, the connection is encrypted.
Allow next connection to be downgraded	Determines whether the system will attempt a downgrade the next time it connects to the controller and there are encryption problems. If not selected (the default), the system will not attempt to downgrade the connection, even if the configured encrypted connection fails. If selected, the system will attempt to downgrade the connection if the encrypted connection fails. The system attempts downgrades by trying encryption with the inactive master key, the factory default master keys, and finally by trying a plain connection. Note that if the controller requires encryption, a plain connection is not possible. This check box displays only if the controller exists in an automatic key management system/segment.

RKP-2220 Form - Encryption Sub-tab (Continued)

Form Element	Comment
A custom key update is pending	Indicates there is an outstanding key update for this controller. This is a read only field. This text field displays only if the controller exists in an automatic key management system/ segment, and the condition exists (if there is an outstanding key update).

RKP-2220 Form Procedures

Add an RKP-2220 Access Panel

1. Display the Access Panels folder by selecting **Access Panels** from the **Access Control** menu. Click the RKP-2220 tab.
2. Click [Add].
3. In the **Name** field, type a unique, descriptive name for the access panel.
4. If you want to place the panel online immediately, select the **Online** check box. Typically, you wouldn't check this box when configuring the system or defining panels, but instead would wait until you're ready to put the panel into service.
5. Specify communication parameters on the **Location**, **Primary Connection**, and **Secondary Connection** sub-tabs.
6. Specify setup parameters on the **Options** sub-tab, which sets up the cardholder database for this panel.

Important: These access panel setup parameters must be completed prior to adding cardholder records to the database, and should not be altered after cardholder records have been added. Changing these settings will result in a full cardholder database download to the panel.

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7. Click [OK].

Modify an RKP-2220 Access Panel

Notes: Modifying the PIN type requires a full panel download.

If the PIN type is modified on the controller and/or the General Cardholder Options form, you must log off/log on to System Administration before you modify a cardholder pin number.

1. In the listing window, select the RKP-2220 entry you wish to change.
2. Click [Modify].
3. Make the changes you want to the fields.
4. Click [OK] to save the changes, or [Cancel] to revert to the previously saved values.

Delete an RKP-2220 Access Panel

1. In the listing window, select the RKP-2220 entry you wish to delete.
2. Click [Delete].
3. Click [OK].

Enable an RKP-2220 Access Panel for Encryption

The encryption modify/export permission is required to complete this procedure.

1. Display the Access Panels folder by selecting **Access Panels** from the **Access Control** menu.
2. On the RKP-2220 form, click the Encryption sub-tab.
3. In the listing window, select the RKP-2220 entry you wish to enable encryption for.
4. Click [Modify].
5. Select the **Use an encrypted connection** check box.
6. If automatic encryption is used, you can also select the **Allow next connection to be downgraded** check box, if you want the connection downgraded if the encrypted connection fails.
7. Click [OK].
8. Acknowledge any messages that display.

Enable an RKP-2220 Access Panel for Downstream Encryption

1. Download the latest firmware to all access panels, alarm panels, and readers.
2. Enable encryption on the system.
   a. Navigate to **Administration > System Options** or **Administration > Segment Options** if segmentation is enabled.
   b. Click [Modify].
   c. On the Controller Encryption tab, select either Manual key management encryption or Automatic key management encryption from the **Connection type** drop-down box.
   d. Click [OK].
3. Enable host and downstream encryption.
   a. Navigate to **Access control > Access Panels**.
   b. On the RKP-2220 form, select the Encryption sub-tab.
   c. In the Access Panel listing window select an access panel you wish to configure downstream encryption for.
   d. Select the **Use an encrypted connection** check box.
   e. Select the **Allow downstream encryption** check box.
   f. To add a downstream encryption key, click [Add Master Key]. The Master Key Entry window opens. Select the options appropriate for your system.
4. Set the encryption level for each reader that needs to be encrypted. For more information, refer to General Form on page 743.
   a. Navigate to **Access Control** > **Readers**.
   b. On the Reader tab, select the readers to be encrypted in the Reader listing window. Click [Modify].
   c. Select the encryption level from the **Encrypted Communications Mode** drop-down box. If Encrypted Communications Mode is set to "Custom" then first download the master keys as described in step 6 before completing this step.
5. Set the encryption level for each alarm panel that needs to be encrypted. For more information, refer to Alarm Panels Form on page 803.
   a. Navigate to **Access Control** > **Alarm Panels**. Only RKP-1100 and RKP-1200 alarm panels can be configured for downstream encryption.
   b. On the Alarm Panels tab, select the panels to be encrypted in the Alarm Panel listing window. Click [Modify].
   c. Select the encryption level from the **Encrypted Communications Mode** drop-down box. If Encrypted Communications Mode is set to

"Custom" then first download the master keys as described in step 6 before completing this step.

6. In the Alarm Monitoring application, download the master keys to the access panels and other devices.
   a. In the hardware tree, right-click the access panel and select "Download encryption keys."
   b. Verify that the connection is encrypted as requested by looking at each devices encryption status in the alarm monitoring hardware tree.

Enter Notes for an Access Panel

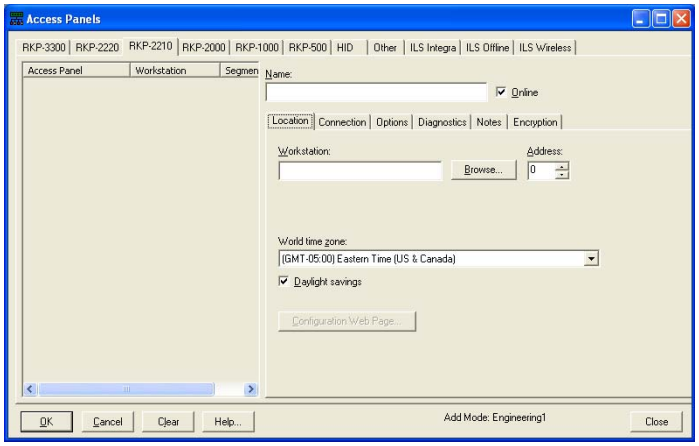
1. In the listing window, select the entry you want to edit.
2. Click [Modify].
3. Type the information in the Notes field. This note will be able to be displayed in Alarm Monitoring.
4. Click [OK].

RKP-2210 Form Overview

This form is used to:

- Assign names to individual RKP-2210 type access panels in the software
- Specify access panel setup parameters, including information stored in the panel
- Specify communication panel setup parameters, including the workstation associated with the panel and the access method
- View the firmware, DIP switch settings and flash chip size of the panel
- Enable encryption, if you have the proper user permission

RKP-2210 Form (Location Sub-tab)



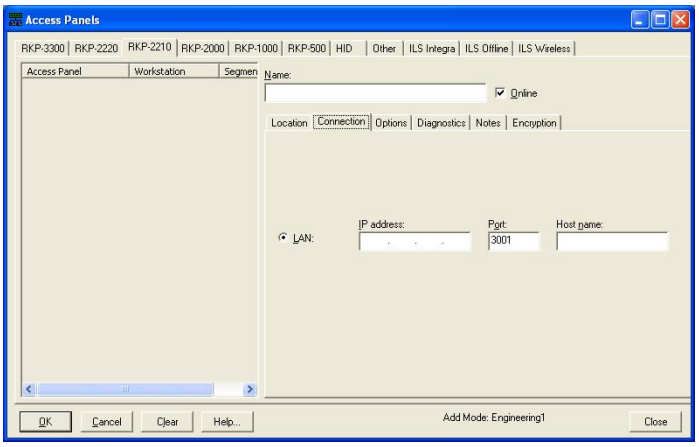
RKP-2210 Form - Location Sub-tab

Form Element	Comment
Listing window	Lists currently defined access panels and the name of the workstation that is connected to each.
Name	Enter a name for the access panel. This is a “friendly” name assigned to each panel to make it easy to identify. Each name must be unique and can contain no more than 32 characters.
Online	If selected, the panel will be online. Online indicates that the panel is ready for use, and that the Communication Server will attempt to communicate with the panel. If the panel is not marked as online, the Communication Server will not attempt to communicate with the panel.
Workstation	Selects the workstation or server to which the access panel is or will be connected in order to transfer events/commands. The Communication Server must be present on the specified workstation. You can either type the name in the field, or use the [Browse] button to view a list of available workstations. **Note:** You are required to enter the workstation’s NetBIOS name. (The NetBIOS name is specified when Windows networking is installed/configured.)
Browse	Displays a Browse for Computer window from where you can click on the name of a workstation to highlight the entry. Click the [OK] button to then enter the workstation name in the **Workstation** field.
Address	Specifies the panel’s address, which must match the DIP switch setting on the panel itself. Possible values are in the range of 0 through 7. The factory default DIP switch setting is 0. **Note:** For any panel(s) that will be communicating with a workstation using a dialup connection, the panel(s) must be set to address 1 or the dial-back to host capability will fail.

RKP-2210 Form - Location Sub-tab (Continued)

Form Element	Comment
World time zone	Select the world time zone for the selected access panel's geographical location. The selections in the drop-down list are listed sequentially, and each includes: • The world time zone's clock time relative to Greenwich Mean Time. For example, (GMT+05:00) indicates that the clock time in the selected world time zone is 5 hours ahead of the clock time in Greenwich, England. • The name of one or more countries or cities that are located in that world time zone.
Daylight savings	Select this check box if Daylight Savings Time is enforced in the selected access panel's geographical location.
Configuration Web Page	Opens the web page used to configure the access panel. Only available when in view mode and if the controller has an IP address or host name configured for the primary connection.
Add	Adds a panel entry.
Modify	Changes a panel entry.
Delete	Removes a panel entry.
Help	Displays online help for this topic.
Change Segment	Displays if segmentation is enabled and you are in modify mode. Click this button to move the access panel to a different segment.
Multiple Selection	If selected, more than one entry in the listing window can be checked simultaneously. The changes made on this form will apply to all selected panels.
Mode	In view mode, indicates how many panels are currently selected, and the current total number of panels; for example, "2 of 5 selected". In modify mode, indicates the current operation (Add Mode, Modify Mode, etc.).
Close	Closes the Access Panels folder.

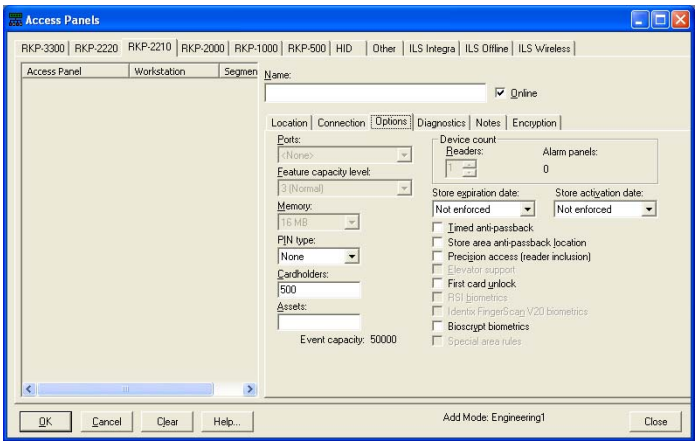
RKP-2210 Form (Connection Sub-tab)



RKP-2210 Form - Connection Sub-tab

Form Element	Comment
LAN	The workstation will communicate with the access panel over a Local Area Network. You must also specify the workstation's IP address or host name.
IP address	Enter the Internet Protocol (TCP/IP) address for the access panel, as provided by your LAN Network Administrator. An IP address consists of four numbers, each in the range of 0 through 255. A period separates each number. The access panel itself must be configured to have the same IP address as what you enter in this field. Refer to the Hardware Installation Guide to program the IP address for the access panel.
Port	The network port that the LAN connection will be established on. This needs to match what is specified in the RKP-2210 configuration web page. The default is 3001.
Host name	The host name that the RKP-2210 will use with DHCP and will register with the DHCP server. Instead of referencing the panel by a static IP address you may be able to reference it by the host name depending on your network configuration.

RKP-2210 (Options Sub-tab)



RKP-2210 Form - Options Sub-tab

Form Element	Comment
Note:	These access panel setup parameters must be completed prior to adding cardholder records to the database, and should not be altered after cardholder records have been added. Changing these settings will result in a full cardholder database download to the panel.
Ports	This access panels does not support downstream devices (reader interfaces, input control modules, and output control modules); therefore, this field is disabled.
Feature capacity level	This field is disabled.
Memory	This field is disabled.
PIN type	Select the range of PIN digits allowed. Using PINs takes up memory on the access panel, which reduces the card capacity. If you have a pin code configured for a controller that is 1-*n* digits long, but have a cardholder in the database that has a pin code ***longer*** than *n*, the pin code gets downloaded with the badge record, but gets truncated at *n* digits. For example, you have a 1-4 digit pin for the controller, but the badge record in the access control system's database has '123456' specified as the pin code. When this gets downloaded, it is truncated to '1234.' The Cardholder can either enter the first 4 digits or all 6 digits correctly and gain access.
Cardholders	This field determines how much of the access panel's memory will be set aside for the cardholder records. This size is limited by the size of the access panel's memory, and is directly related to the options you choose in this section. The more options you choose and the more that each option requires (more digits in the card number, for example), the fewer the maximum number of cardholders possible.
Assets	Indicates the number of assets downloaded to the panels. To disable Asset Operations, set this value to 0.
Readers	This field is disabled.
Alarm panels	This field is disabled.

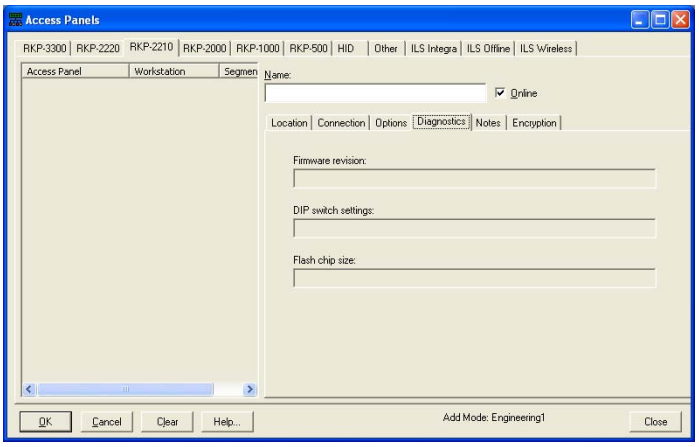
RKP-2210 Form - Options Sub-tab (Continued)

Form Element	Comment
Store expiration date	If you want the badge expiration date to be used to determine the status of cards detected at the card readers, select "Date only" from the drop-down list. If the present date is later than the expiration date of the card, the card is considered to be invalid and access is denied. If you do not want the badge expiration date to be used to determine the status of card, select "Not enforced" from the drop-down list. A third option, "Date and time" is available only if you selected the **Use time** check box on the General Cardholder Options form in the Cardholder Options folder. Select this option if you want the badge expiration date and time to be used to determine the status of cards detected at readers. If the present date and time is later than the expiration date and time of the card, the card is considered to be invalid and access is denied.
Store activation date	If you want the badge activation date to be used to determine the status of cards detected at the card readers, select "Date only" from the drop-down list. If the present date is earlier than the activation date of the card, the card is considered invalid and access is denied. If you do not want the badge activation date to be used to determine the status of card, select "Not enforced" from the drop-down list. A third option, "Date and time" is available only if you selected the **Use time** check box on the General Cardholder Options form in the Cardholder Options folder. Select this option if you want the badge activation date and time to be used to determine the status of cards detected at readers. If the present date and time is earlier than the activation date and time of the card, the card is considered to be invalid and access is denied.
Timed anti-passback	Indicates that readers attached to this panel are to be used for timed anti-passback. You must also set the **Timed anti-passback setting (minutes)** field. This is done on the Anti-Passback form of the Readers folder.
Store area anti-passback location	Select this check box if a reader attached to this access panel is used to enter or leave an anti-passback area. Anti-passback areas are defined on the Anti-Passback Areas form of the Areas folder. The **Area entering** and **Area leaving** fields, located on the Anti-Passback form of the Readers folder, are used to associate specific readers with specific areas.
Precision access (reader inclusion)	If selected, it indicates that this access panel will use the application's precision access capabilities. Precision access is a method for assigning unique access privileges to individual cardholders. There is an infinite number of precision access combinations that can be created and assigned to cardholders. **Note:** Using this option severely limits the number of cardholders that can be stored in the panel. If you wish to use precision access, it is recommended that panel memory be expanded to meet your facility's needs.
Elevator support	This panel does not support elevator control.

RKP-2210 Form - Options Sub-tab (Continued)

Form Element	Comment
First card unlock	If selected, this panel will have first card unlock functionality. First card unlock is used in conjunction with reader mode and timezone control. Doors configured with first card unlock will not unlock until valid personnel arrives. For example, rather than setting a lobby door to unlock at 9:00 am, you can leave it in a secure mode (i.e., card only, card and pin, etc.) and set the first card unlock to 9:00 am. The first person that comes in the door after 9:00 am will have to present their card. Once access is granted, the reader mode will change to unlocked. This feature is useful for days like "snow days" when employees can't make it to work on time. **Note:** If the reader is in "Facility code only" mode, the first card unlock feature does not work.
HandKey biometrics	This panel does not support HandKey.
Bioscrypt biometrics	Enables Bioscrypt alternate reader support. Specifically, this check box enables alternate readers to download templates to the panel. 76 bytes of memory are required to enable Bioscrypt biometric support, and additional memory is required to store template information on the access panel. For more information, refer to the System Options folder (non-segmented systems) or the Segments folder (segmented systems). **Note:** The **Maximum templates** setting must be greater than zero (the default value) for the panel to support Bioscrypt alternate readers. This setting is located on the System Options folder > Biometrics form (non-segmented systems) or the Segments form > Biometrics sub-tab (segmented systems).
Special area rules	This panel does not support Special Two-Man Rule.
Event capacity	Fixed at 50,000. Unlike the other panels, this does not change based on what options are selected.

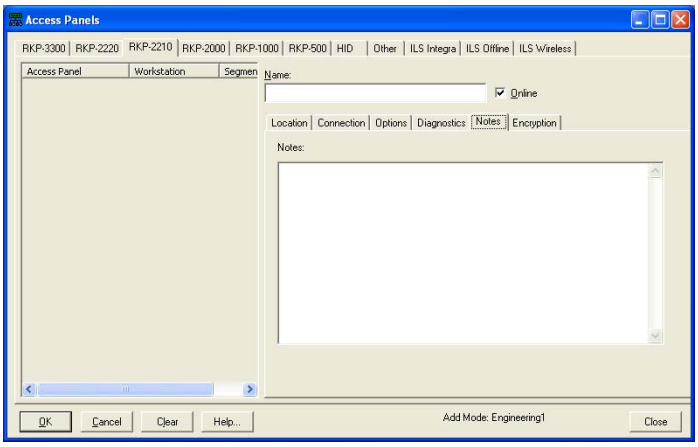
RKP-2210 (Diagnostics Sub-tab)



RKP-2210 Form - Diagnostics Sub-tab

Form Element	Comment
Firmware revision	Displays the firmware revision reported by the controller the last time it was online. This is a read only text field.
DIP switch settings	Displays the DIP switch settings reported by the controller, the last time it was online. This is a read only text field. Note that DIP switch settings are read by the controller only when the controller is powered up. DIP switch changes made afterward will not take affect until the controller goes through another power cycle.
Flash chip size	Displays the flash chip size reported by the controller the last time it was online. This is a read only text field.

RKP-2210 (Notes Sub-tab)



RKP-2210 Form - Notes Sub-tab

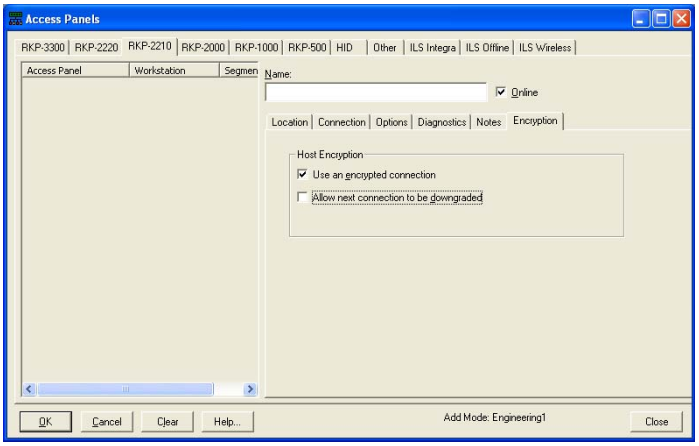
Form Element	Comment
Notes	Enter information about the panel. This field is limited to less than 2000 characters. Any text that is entered here will be displayed in Alarm Monitoring. For more information, refer to the procedure to View Notes in the Alarm Monitoring User Guide in Chapter 5, “Monitor Devices.”

RKP-2210 (Encryption Sub-tab)

This view displays when the system/segment (the panel is associated with) uses automatic encryption. The same fields display when the system/segment is configured for manual encryption, except for the **Allow next connection to be downgraded** check box.The Encryption sub-tab does not display if a system/segment uses a plain connection.

Note: The system/segment the controller belongs to must be configured for encryption in order for this tab to display. The user must also have the correct user permissions.

For more information about encryption, refer to the Encryption for Controllers User Guide.



RKP-2210 Form - Encryption Sub-tab

Form Element	Comment
Use an encrypted connection	Determines whether the connection to the controller is encrypted or not. If not selected (the default), a plain connection is used. If selected, the connection is encrypted.
Allow next connection to be downgraded	Determines whether the system will attempt a downgrade the next time it connects to the controller and there are encryption problems. If not selected (the default), the system will not attempt to downgrade the connection, even if the configured encrypted connection fails. If selected, the system will attempt to downgrade the connection if the encrypted connection fails. The system attempts downgrades by trying encryption with the inactive master key, the factory default master keys, and finally by trying a plain connection. Note that if the controller requires encryption, a plain connection is not possible. This check box displays only if the controller exists in an automatic key management system/segment.

RKP-2210 Form - Encryption Sub-tab (Continued)

Form Element	Comment
A custom key update is pending	Indicates there is an outstanding key update for this controller. This is a read only field. This text field displays only if the controller exists in an automatic key management system/ segment, and the condition exists (if there is an outstanding key update).

RKP-2210 Form Procedures

Add an RKP-2210 Access Panel

1. Display the Access Panels folder by selecting **Access Panels** from the **Access Control** menu. Click the RKP-2210 tab.
2. Click [Add].
3. In the **Name** field, type a unique, descriptive name for the access panel.
4. If you want to place the panel online immediately, select the **Online** check box. Typically, you wouldn't check this box when configuring the system or defining panels, but instead would wait until you're ready to put the panel into service.
5. Specify communication parameters on the **Location** and **Connection** sub-tabs.
6. Specify setup parameters on the **Options** sub-tab, which sets up the cardholder database for this panel.

Important: These access panel setup parameters must be completed prior to adding cardholder records to the database, and should not be altered after cardholder records have been added. Changing these settings will result in a full cardholder database download to the panel.

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7. Click [OK].

Modify an RKP-2210 Access Panel

Notes: Modifying the PIN type requires a full panel download.

If the PIN type is modified on the controller and/or the General Cardholder Options form, you must log off/log on to System Administration before you modify a cardholder pin number.

1. In the listing window, select the RKP-2210 entry you wish to change.
2. Click [Modify].
3. Make the changes you want to the fields.
4. Click [OK] to save the changes, or [Cancel] to revert to the previously saved values.

Delete an RKP-2210 Access Panel

1. In the listing window, select the RKP-2210 entry you wish to delete.
2. Click [Delete].
3. Click [OK].

Enable an RKP-2210 Access Panel for Encryption

The encryption modify/export permission is required to complete this procedure.

1. Display the Access Panels folder by selecting **Access Panels** from the **Access Control** menu.
2. On the RKP-2210 form, click the Encryption sub-tab.
3. In the listing window, select the RKP-2210 entry you wish to enable encryption for.
4. Click [Modify].
5. Select the **Use an encrypted connection** check box.
6. If automatic encryption is used, you can also select the **Allow next connection to be downgraded** check box, if you want the connection downgraded if the encrypted connection fails.
7. Click [OK].
8. Acknowledge any messages that display.

Enter Notes for an Access Panel

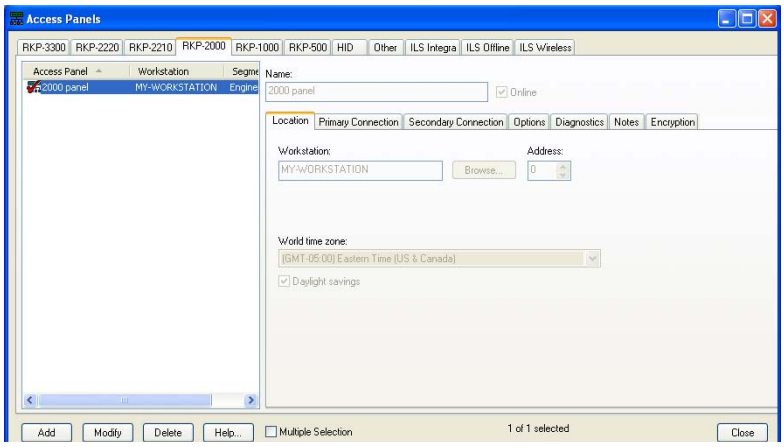
1. In the listing window, select the entry you want to edit.
2. Click [Modify].
3. Type the information in the Notes field. This note will be able to be displayed in Alarm Monitoring.
4. Click [OK].

RKP-2000 Form Overview

This form is used to:

- Assign names to individual RKP-2000 type access panels in the software
- Specify access panel setup parameters, including information stored in the panel
- Specify communication panel setup parameters, including the workstation associated with the panel and the access method (direct serial connection, LAN, or dialup)
- View the firmware, DIP switch settings and flash chip size of the panel
- Enable encryption, if you have the proper user permission

RKP-2000 Form (Location Sub-tab)



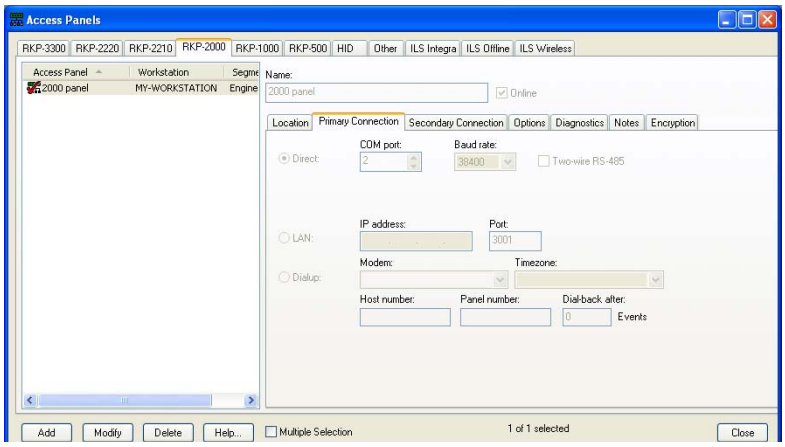
RKP-2000 Form - Location Sub-tab

Form Element	Comment
Listing window	Lists currently defined access panels and the name of the workstation that is connected to each.
Name	Enter a name for the access panel. This is a "friendly" name assigned to each panel to make it easy to identify. Each name must be unique and can contain no more than 32 characters.
Online	If selected, the panel will be online. Online indicates that the panel is ready for use, and that the Communication Server will attempt to communicate with the panel. If the panel is not marked as online, the Communication Server will not attempt to communicate with the panel.
Workstation	Selects the workstation or server to which the access panel is or will be connected in order to transfer events/commands. The Communication Server must be present on the specified workstation. You can either type the name in the field, or use the [Browse] button to view a list of available workstations. **Note:** You are required to enter the workstation's NetBIOS name. (The NetBIOS name is specified when Windows networking is installed/configured.)
Browse	Displays a Browse for Computer window from where you can click on the name of a workstation to highlight the entry. Click the [OK] button to then enter the workstation name in the **Workstation** field.
Address	Specifies the panel's address, which must match the DIP switch setting on the panel itself. Possible values are in the range of 0 through 7. The factory default DIP switch setting is 0. **Note:** For any panel(s) that will be communicating with a workstation using a dialup connection, the panel(s) must be set to address 1 or the dial-back to host capability will fail.
World time zone	Select the world time zone for the selected access panel's geographical location. The selections in the drop-down list are listed sequentially, and each includes: • The world time zone's clock time relative to Greenwich Mean Time. For example, (GMT+05:00) indicates that the clock time in the selected world time zone is 5 hours ahead of the clock time in Greenwich, England. • The name of one or more countries or cities that are located in that world time zone.
Daylight savings	Select this check box if Daylight Savings Time is enforced in the selected access panel's geographical location.
Add	Adds a panel entry.
Modify	Changes a panel entry.
Delete	Removes a panel entry.
Help	Displays online help for this topic.
Change Segment	Displays if segmentation is enabled and you are in modify mode. Click this button to move the access panel to a different segment.
Multiple Selection	If selected, more than one entry in the listing window can be checked simultaneously. The changes made on this form will apply to all selected panels.

RKP-2000 Form - Location Sub-tab (Continued)

Form Element	Comment
Mode	In view mode, indicates how many panels are currently selected, and the current total number of panels; for example, “2 of 5 selected”. In modify mode, indicates the current operation (Add Mode, Modify Mode, etc.).
Close	Closes the Access Panels folder.

RKP-2000 Form (Primary Connection Sub-tab)



Primary Connection Sub-tab Overview

Certain options on the Primary Connection and Secondary Connection tabs function together to limit combinations of primary and secondary communications for dual path usage. Valid dual path selections include:

Primary Connection option selected	Secondary Connection options available for selection
Direct	None, Direct, LAN, Dialup
LAN	None, Direct, LAN, Dialup
Dialup	None, Dialup

RKP-2000 Form - Primary Connection Sub-tab

Form Element	Comment
Direct	Select this radio button if communication with the access panel will be via a direct serial connection to the specified workstation. You must also specify the workstation's **COM port**, the **Baud rate**, and whether or not communication to the host will use a **Two-wire RS-485** connection.
COM port	If you selected the **Direct** radio button, specify the port that's on the serial expansion unit or the back of the workstation. To each port you can assign only one access panel. Choose a value in the range of 1 through 255.
Baud rate	If you selected the **Direct** radio button, this is the speed (in bits per second) at which information is transferred between the workstation and the access panel via the serial connection. **Note:** Some third party devices do not allow the baud rate to be modified from the host application software. If such a device is in use, the baud rate setting in ReadkeyPRO has no bearing. Refer to the documentation for any third party devices being used.
Two-wire RS-485	Other panels can be configured to communicate with the host workstation using either a 4-wire or 2-wire RS-485 connection. Select this check box if 2-wire communication is to be used.

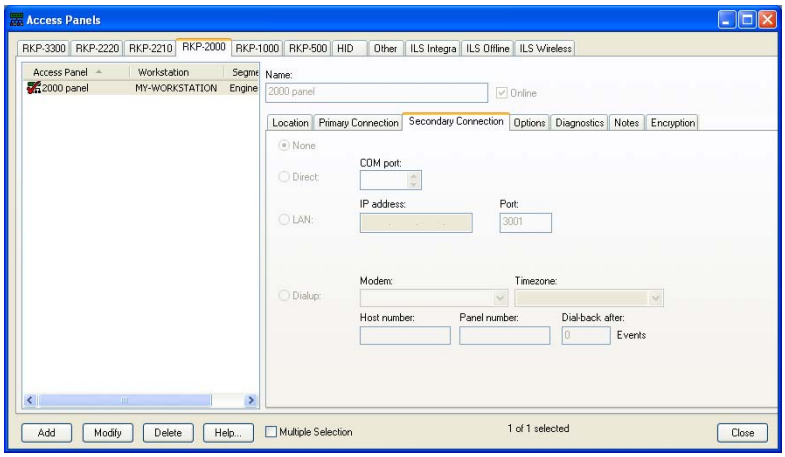
RKP-2000 Form - Primary Connection Sub-tab (Continued)

Form Element	Comment
LAN	Select this radio button if the workstation will communicate with the access panel over a Local Area Network. You must also specify the workstation's IP address.
IP address	If you selected the **LAN** radio button, enter here the Internet Protocol (TCP/IP) address for the access panel, as provided by your LAN Network Administrator. An IP address consists of four numbers, each in the range of 0 through 255. A period separates each number. The access panel itself must be configured to have the same IP address as what you enter in this field. Refer to the Hardware Installation Guide to program the IP address for the access panel.
Dialup	Select this radio button if the workstation will communicate with the access panel using a dialup connection. This option functions together with the LAN option on the Secondary Connection sub-tab to limit combinations of primary and secondary communications for dual path usage. You must also specify the workstation's modem, timezone, host number, panel number and dial-back after__events.
Modem	If you selected the **Dialup** radio button, select the modem on the workstation that will be used for dialup communication with the access panel. Choices include all TAPI (Telephone Application Programming Interface) devices that are currently configured on the specified Workstation. **Important Notes!** • Before a modem can be listed in this drop-down list, the modem must be properly configured for the selected workstation. This is done on the Modems form in the Dialup Configuration folder, which is reached by selecting **Modems** from the **Access Control** menu. For more information, refer to Connect a Modem to a Bosch Access Panel on page 823. • If any of the TAPI devices are used for other dial functions such as remote access, do not select them for panel dial usage. • For more information, refer to your Windows user guide.
Timezone	If you selected the **Dialup** radio button, indicate the timezone during which the access panel will initiate dialup communication with the workstation. You can select only one timezone for the particular workstation-modem-panel combination. Timezones are defined on the Timezones form of the Timezones folder. Functionally, at the start of each interval that comprises the timezone, the panel will automatically dial the host number. If a connection cannot be established, it will redial until a connection can be made. Once connected, all transactions stored in the panel will be dumped to the Communication Server (on the workstation) to be logged in the database. In addition, all commands that need to be sent to the panel will be sent from the host at that time.
Timezone (continued)	After all information is transferred, the Communication Server will automatically terminate the dialup connection with the panel. The exception to this occurs if you select the "Always" timezone. In that situation, the workstation will attempt to always stay connected to the panel via dial-up. Functionally, this is similar to communicating with the workstation via a direct (serial) or LAN connection. Multiple workstations can use the same TAPI modem, or one workstation might have access to multiple TAPI modems. However, only one connection to a particular modem can be established at a particular time. For example, a particular workstation might use a particular modem to dial one panel at 12:00, a second panel at 1:00, a third panel at 2:00, etc.

RKP-2000 Form - Primary Connection Sub-tab (Continued)

Form Element	Comment
Host number	If you selected the **Dialup** radio button, enter the phone number used to reach the modem that's connected to the workstation. This is the number that the access panel will use to dial into the panel to send events and other transactions to the workstation. Type the exact dialing sequence here. Although you can use parentheses and dashes, they are ignored by TAPI devices. For example, 2489720 and (212) 546-1234. For more information, refer to your Windows user guide.
Panel number	If you selected the **Dialup** radio button, enter the phone number used to reach the modem that's connected to the access panel. This is the number that the workstation would need to dial to communicate with the access panel. Typically, all communication between the access panel and the workstation is initiated from the panel. However, the workstation can dial the panel from within the Alarm Monitoring system. This is done by right-clicking on the panel's entry in the System Tree, then selecting the **Connect** command from the popup menu. Any ASCII string can be typed here (for example, a comma typically triggers a pause in the dialing sequence).
Dial-back after__Events	This field is displayed only if you have selected the **Dialup** radio button. RKP-2000 panels can be programmed to dial the workstation after a certain number of events have been stored in the panel but have not yet been reported to the host (because the panel has been offline). When the panel has accumulated the specified number of stored events, the panel will automatically dial the host number to dump its transactions and to receive any command programming. After the information has been exchanged, the workstation will terminate the connection. The default value here is 255 events. The minimum value you can enter is zero (meaning that the panel will never dial the host). The maximum value is equal to one less than the maximum number of events that the panel can store.

RKP-2000 Form (Secondary Connection Sub-tab)



Secondary Connection Sub-tab Overview

Certain options on the Secondary Connection and Primary Connection tabs function together to limit combinations of secondary and primary communications for dual path usage. Valid dual path selections include:

Secondary Connection option selected	Primary Connection options available for selection
Direct	Direct, LAN
LAN	Direct, LAN
Dialup	Direct, LAN, Dialup

RKP-2000 Form - Secondary Connection Sub-tab

Form Element	Comment
None	Select if you want no secondary connection.
Direct	Select this radio button if for the secondary connection, communication with the access panel will be via a direct serial connection to the specified workstation. You must also specify the workstation's **COM port**.
COM port	If you selected the **Direct** radio button, specify the port that's on the serial expansion unit or the back of the workstation. To each port you can assign only one access panel. Choose a value in the range of 1 through 255.
LAN	Select this radio button if for the secondary connection the workstation will communicate with the access panel over a Local Area Network. This option functions together with the **Dialup** option on the Primary Connection sub-tab to limit combinations of primary and secondary communications for dual path usage. You must also specify the workstation's **IP address**

RKP-2000 Form - Secondary Connection Sub-tab (Continued)

Form Element	Comment
IP address	If you selected the **LAN** radio button for secondary connection, enter here the Internet Protocol (TCP/IP) address for the access panel, as provided by your LAN Network Administrator. An IP address consists of four numbers, each in the range of 0 through 255. A period separates each number. The access panel itself must be configured to have the same IP address as what you enter in this field. Refer to the Hardware Installation Guide to program the IP address for the access panel.
Baud rate	If you selected the **LAN** radio button, this field displays the speed (in bits per second) at which information is transferred between the workstation and the access panel via the serial connection. A baud rate of 38400 is automatically entered into this field when a **LAN** connection is selected. This value cannot be changed. **Note:** Some third party devices do not allow the baud rate to be modified from the host application software. If such a device is in use, the baud rate setting in ReadkeyPRO has no bearing. Refer to the documentation for any third party devices being used.
Dialup	Select this radio button if for the secondary connection the workstation will communicate with the access panel using a dialup connection. You must also specify the workstation's **Modem**, **Timezone**, **Host number**, **Panel number** and **Dial-back after__Events**.
Modem	If you selected the **Dialup** radio button for secondary connection, select the modem on the workstation that will be used for dialup communication with the access panel. Choices include all TAPI (Telephone Application Programming Interface) devices that are currently configured on the specified **Workstation**. **Important Notes!** • Before a modem can be listed in this drop-down list, the modem must be properly configured for the selected **Workstation**. This is done on the Modems form in the Dialup Configuration folder, which is reached by selecting **Modems** from the **Access Control** menu. For more information, refer to Connect a Modem to a Bosch Access Panel on page 823. • If any of the TAPI devices are used for other dial functions such as remote access, do not select them for panel dial usage. • For more information, refer to your Windows user guide.

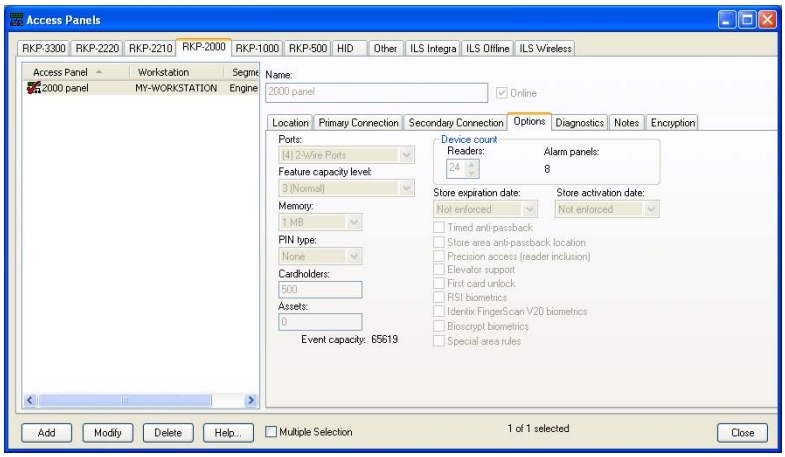
RKP-2000 Form - Secondary Connection Sub-tab (Continued)

Form Element	Comment
Timezone	If you selected the **Dialup** radio button for secondary connection, indicate the timezone during which the access panel will initiate dialup communication with the workstation. You can select only one timezone for the particular workstation-modem-panel combination. Timezones are defined on the Timezones form of the Timezones folder. Functionally, at the start of each interval that comprises the timezone, the RKP-2000 panel will automatically dial the **Host number**. If a connection cannot be established, it will redial until a connection can be made. Once connected, all transactions stored in the RKP-2000 will be dumped to the Communication Server (on the workstation) to be logged in the database. In addition, all commands that need to be sent to the RKP-2000 will be sent from the host at that time. After all information is transferred, the Communication Server will automatically terminate the dialup connection with the RKP-2000 panel. The exception to this occurs if you select the "Always" timezone. In that situation, the workstation will attempt to always stay connected to the panel via dial-up. Functionally, this is similar to communicating with the workstation via a direct (serial) or LAN connection. Multiple workstations can use the same TAPI modem, or one workstation might have access to multiple TAPI modems. However, only one connection to a particular modem can be established at a particular time. For example, a particular workstation might use a particular modem to dial one panel at 12:00, a second panel at 1:00, a third panel at 2:00, etc.
	When the "Always" timezone is used as the dialup timezone for the secondary connection, the primary connection needs to be non-dialup (direct or LAN). When the primary connection is up, the secondary connection will be offline. If the primary connection goes down, a call will be placed to the panel on the secondary path after a certain period of time (default roughly 60 seconds). Once the secondary dialup connection has been established, the connection will remain until the primary connection has been re-established. After the primary connection is established, the secondary connection will remain connected for about one to two minutes (to make sure that the primary connection has connected and remained connected).
Host number	If you selected the **Dialup** radio button for secondary connection, enter the phone number used to reach the modem that's connected to the workstation. This is the number that the access panel will use to dial into the panel to send events and other transactions to the workstation. Type the exact dialing sequence here. Although you can use parentheses and dashes, they are ignored by TAPI devices. For example, 2489720 and (212) 546-1234. For more information, refer to your Windows user guide.

RKP-2000 Form - Secondary Connection Sub-tab (Continued)

Form Element	Comment
Panel number	If you selected the Dialup radio button for secondary connection, enter the phone number used to reach the modem that's connected to the access panel. This is the number that the workstation would need to dial to communicate with the access panel. Typically, all communication between the access panel and the workstation is initiated from the panel. However, the workstation can dial the panel from within the Alarm Monitoring system. This is done by right-clicking on the panel's entry in the System Tree, then selecting the Connect command from the popup menu. Any ASCII string can be typed here (for example, a comma typically triggers a pause in the dialing sequence).
Dial-back after__Events	This field is displayed only if you have selected the Dialup radio button for secondary connection. RKP-2000 panels can be programmed to dial the workstation after a certain number of events have been stored in the panel but have not yet been reported to the host (because the panel has been offline). When the panel has accumulated the specified number of stored events, the panel will automatically dial the Host Number to dump its transactions and to receive any command programming. After the information has been exchanged, the workstation will terminate the connection. The default value here is 255 events. The minimum value you can enter is zero (meaning that the panel will never dial the host). The maximum value is equal to one less than the maximum number of events that the panel can store.

RKP-2000 (Options Sub-tab)



RKP-2000 Form - Options Sub-tab

Form Element	Comment
Note:	These access panel setup parameters must be completed prior to adding cardholder records to the database, and should not be altered after cardholder records have been added. Changing these settings will result in a full cardholder database download to the panel.
Ports	Access panels communicate with its *downstream devices* (reader interfaces, input control modules, and output control modules) using either 2- or 4-wire RS-485 communication, or a combination of the two.
Feature capacity level	This setting controls the amount of memory reserved for downstream devices, timezone control, local linkages, and other features within the controller. A higher value reserves more room for these options while leaving less room for the cardholder database and event transaction buffer. In the vast majority of circumstances, the default value of 3 should be left unchanged. This value will rarely need to be adjusted. If free memory in the panel becomes low, flagged by a "Panel Free Memory Low" Alarm, this value should be increased. Values of less than 3 are not recommended. They can be used in the rare case when there are few downstream devices, few configured features, and maximum memory is required for the cardholder database and/or event transaction buffer.
Memory	Indicates the amount of memory that's on the panel. • To enable biometric support, you must have 76 bytes of available memory. Additional memory is required to store templates on the panel. For more information, refer to the System Options Folder - Biometrics Form on page 470 (non-segmented systems) or the Segments Form - Biometrics Sub-tab on page 551 (segmented systems). • Badge IDs require 4 to 8 bytes of memory, depending on the number of digits in a badge. For more information, refer to the System Options Folder - Hardware Settings Form on page 465 (non-segmented systems) or the Segments Form - Hardware Settings Sub-tab on page 547 (segmented systems).

RKP-2000 Form - Options Sub-tab (Continued)

Form Element	Comment
PIN type	Select the range of PIN digits allowed. Using PINs takes up memory on the access panel, which reduces the card capacity. If you have a pin code configured for a controller that is 1-*n* digits long, but have a cardholder in the database that has a pin code ***longer*** than *n*, the pin code gets downloaded with the badge record, but gets truncated at *n* digits. For example, you have a 1-4 digit pin for the controller, but the badge record in the access control system's database has '123456' specified as the pin code. When this gets downloaded, it is truncated to '1234.' The Cardholder can either enter the first 4 digits or all 6 digits correctly and gain access.
Cardholders	This field determines how much of the access panel's memory will be set aside for the cardholder records. This size is limited by the size of the access panel's memory, and is directly related to the options you choose in this section. The more options you choose and the more that each option requires (more digits in the card number, for example), the fewer the maximum number of cardholders possible.
Assets	Indicates the number of assets downloaded to the panels. To disable Asset Operations, set this value to 0.
Readers	Select the number of reader devices you plan to have attached to this RKP-2000 access panel. The more reader devices you have attached, the fewer alarm panels can be attached. The actual number of readers that can be attached to the access panel is directly related to both the number of reader devices that are configured AND to the type of reader device(s) installed. Two readers can be attached to a Dual-Reader Interface board. One reader can be attached to a Single Reader Interface board. You can choose a value in the range of 16 through 32. The value in the **Alarm panels** field is adjusted accordingly.
Alarm panels	Indicates the maximum number of alarm panels that can be attached to this RKP-2000 access panel. You can change this field only indirectly, by modifying the **Readers** field on this form. The more readers you have attached, the fewer alarm panels can be attached.
Store expiration date	If you want the badge expiration date to be used to determine the status of cards detected at the card readers, select "Date only" from the drop-down list. If the present date is later than the expiration date of the card, the card is considered to be invalid and access is denied. If you do not want the badge expiration date to be used to determine the status of card, select "Not enforced" from the drop-down list. A third option, "Date and time" is available only if you selected the **Use time** check box on the General Cardholder Options form in the Cardholder Options folder. Select this option if you want the badge expiration date and time to be used to determine the status of cards detected at readers. If the present date and time is later than the expiration date and time of the card, the card is considered to be invalid and access is denied.

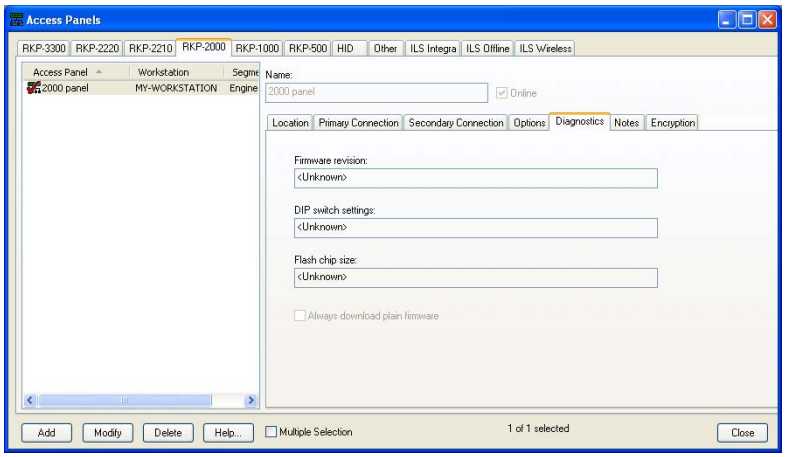
RKP-2000 Form - Options Sub-tab (Continued)

Form Element	Comment
Store activation date	If you want the badge activation date to be used to determine the status of cards detected at the card readers, select "Date only" from the drop-down list. If the present date is earlier than the activation date of the card, the card is considered invalid and access is denied. If you do not want the badge activation date to be used to determine the status of card, select "Not enforced" from the drop-down list. A third option, "Date and time" is available only if you selected the **Use time** check box on the General Cardholder Options form in the Cardholder Options folder. Select this option if you want the badge activation date and time to be used to determine the status of cards detected at readers. If the present date and time is earlier than the activation date and time of the card, the card is considered to be invalid and access is denied.
Timed anti-passback	Indicates that readers attached to this panel are to be used for timed anti-passback. You must also set the **Timed anti-passback setting (minutes)** field. This is done on the Anti-Passback form of the Readers folder.
Store area anti-passback location	Select this check box if a reader attached to this access panel is used to enter or leave an anti-passback area. Anti-passback areas are defined on the Anti-Passback Areas form of the Areas folder. The **Area entering** and **Area leaving** fields, located on the Anti-Passback form of the Readers folder, are used to associate specific readers with specific areas.
Precision access (reader inclusion)	If selected, it indicates that this access panel will use the application's precision access capabilities. Precision access is a method for assigning unique access privileges to individual cardholders. There is an infinite number of precision access combinations that can be created and assigned to cardholders. **Note:** Using this option severely limits the number of cardholders that can be stored in the panel. If you wish to use precision access, it is recommended that panel memory be expanded to meet your facility's needs.
Elevator support	If selected, this panel will support elevator control. You must have at least 1 MB of memory to use this feature. This check box will be grayed out if 256 KB of memory is used.
First card unlock	If selected, this panel will have first card unlock functionality. First card unlock is used in conjunction with reader mode and timezone control. Doors configured with first card unlock will not unlock until valid personnel arrives. For example, rather than setting a lobby door to unlock at 9:00 am, you can leave it in a secure mode (i.e., card only, card and pin, etc.) and set the first card unlock to 9:00 am. The first person that comes in the door after 9:00 am will have to present their card. Once access is granted, the reader mode will change to unlocked. This feature is useful for days like "snow days" when employees can't make it to work on time. **Note:** If the reader is in "Facility code only" mode, the first card unlock feature does not work.

RKP-2000 Form - Options Sub-tab (Continued)

Form Element	Comment
HandKey biometrics	Enables hand geometry (HandKey) support. Specifically, this check box enables alternate readers to download templates to the panel. 76 bytes of memory are required to enable hand geometry support, and additional memory is required to store template information on the panel. For more information, refer to the System Options folder (non-segmented systems) or the Segments folder (segmented systems). **Note:** The **Maximum templates** setting must be greater than zero (the default value) for the panel to support HandKey alternate readers. This setting is located on the System Options folder > Biometrics form (non-segmented systems) or the Segments form > Biometrics sub-tab (segmented systems).
Bioscrypt biometrics	Enables Bioscrypt alternate reader support. Specifically, this check box enables alternate readers to download templates to the panel. 76 bytes of memory are required to enable Bioscrypt biometric support, and additional memory is required to store template information on the access panel. For more information, refer to the System Options folder (non-segmented systems) or the Segments folder (segmented systems). **Note:** The **Maximum templates** setting must be greater than zero (the default value) for the panel to support Bioscrypt alternate readers. This setting is located on the System Options folder > Biometrics form (non-segmented systems) or the Segments form > Biometrics sub-tab (segmented systems).
Special area rules	Checking this option enables the Special Two-Man Rule. If this is the first time enabling this rule a check will be made on your system and a message displayed informing you that additional changes may have to be made to the cardholder badge options. For more information, refer to Appendix G: Special Two-Man Rule on page 1481.
Event capacity	Calculates and displays the number of events that can be stored on the panel based on the parameters you've selected. The minimum is 1000 events. The memory usage in an access panel is based on two criteria: • Memory used for cardholder storage • Memory used for event history storage After cardholder storage requirements are computed based on the options selected in this section, all remaining memory is used for event storage.

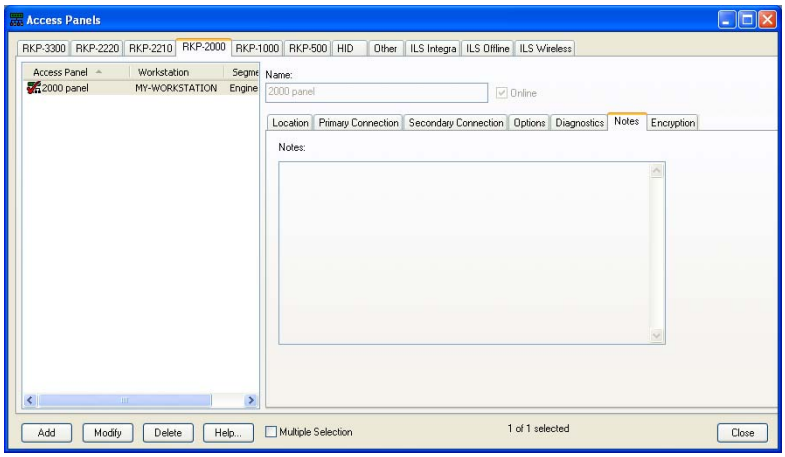
RKP-2000 (Diagnostics Sub-tab)



RKP-2000 Form - Diagnostics Sub-tab

Form Element	Comment
Firmware revision	Displays the firmware revision reported by the controller the last time it was online. This is a read only text field.
DIP switch settings	Displays the DIP switch settings reported by the controller, the last time it was online. This is a read only text field. Note that DIP switch settings are read by the controller only when the controller is powered up. DIP switch changes made afterward will not take affect until the controller goes through another power cycle.
Flash chip size	Displays the flash chip size (always 256 KB for the RKP-2000) reported by the controller, the last time it was online. This is a read only text field.
Always download plain firmware	Determines the type of firmware downloaded to the controller. If not selected, (the default) the system downloads AES/Extended firmware to the controller. If selected, the system downloads plain firmware to the controller.

RKP-2000 (Notes Sub-tab)



RKP-2000 Form - Notes Sub-tab

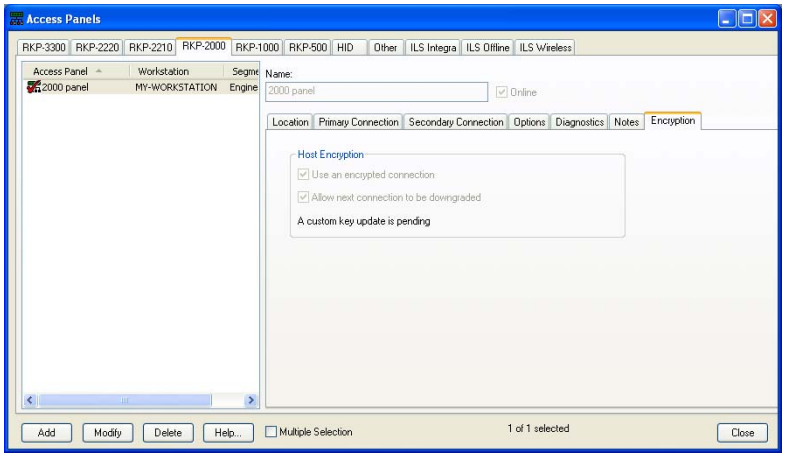
Form Element	Comment
Notes	Enter information about the panel. This field is limited to less than 2000 characters. Any text that is entered here will be displayed in Alarm Monitoring. For more information, refer to the procedure to View Notes in the Alarm Monitoring User Guide in Chapter 5, “Monitor Devices.”

RKP-2000 (Encryption Sub-tab)

This view displays when the system/segment (the panel is associated with) uses automatic encryption. The same fields display when the system/segment is configured for manual encryption, except for the **Allow next connection to be downgraded** check box.The Encryption sub-tab does not display if a system/segment uses a plain connection.

Note: The system/segment the controller belongs to must be configured for encryption in order for this tab to display. The user must also have the correct user permissions.

For more information about encryption, refer to the Encryption for Controllers User Guide.



RKP-2000 Form - Encryption Sub-tab

Form Element	Comment
Use an encrypted connection	Determines whether the connection to the controller is encrypted or not. If not selected (the default), a plain connection is used. If selected, the connection is encrypted.
Allow next connection to be downgraded	Determines whether the system will attempt a downgrade the next time it connects to the controller and there are encryption problems. If not selected (the default), the system will not attempt to downgrade the connection, even if the configured encrypted connection fails. If selected, the system will attempt to downgrade the connection if the encrypted connection fails. The system attempts downgrades by trying encryption with the inactive master key, the factory default master keys, and finally by trying a plain connection. Note that if the controller requires encryption, a plain connection is not possible. This check box displays only if the controller exists in an automatic key management system/segment.

RKP-2000 Form - Encryption Sub-tab (Continued)

Form Element	Comment
A custom key update is pending	Indicates there is an outstanding key update for this controller. This is a read only field. This text field displays only if the controller exists in an automatic key management system/ segment, and the condition exists (if there is an outstanding key update).

RKP-2000 Form Procedures

Add an RKP-2000 Access Panel

1. Display the Access Panels folder by selecting **Access Panels** from the **Access Control** menu. Click the RKP-2000 tab.
2. Click [Add].
3. In the **Name** field, type a unique, descriptive name for the access panel.
4. If you want to place the panel online immediately, select the **Online** check box. Typically, you wouldn't check this box when configuring the system or defining panels, but instead would wait until you're ready to put the panel into service.
5. Specify communication parameters on the **Location**, **Primary Connection**, and **Secondary Connection** sub-tabs.
6. Specify setup parameters on the **Options** sub-tab, which sets up the cardholder database for this panel.

Important: These access panel setup parameters must be completed prior to adding cardholder records to the database, and should not be altered after cardholder records have been added. Changing these settings will result in a full cardholder database download to the panel.

---

7. Click [OK].

Modify an RKP-2000 Access Panel

Notes: Modifying the PIN type requires a full panel download.

If the PIN type is modified on the controller and/or the General Cardholder Options form, you must log off/log on to System Administration before you modify a cardholder pin number.

1. In the listing window, select the RKP-2000 entry you wish to change.
2. Click [Modify].
3. Make the changes you want to the fields.
4. Click [OK] to save the changes, or [Cancel] to revert to the previously saved values.

Delete an RKP-2000 Access Panel

1. In the listing window, select the RKP-2000 entry you wish to delete.
2. Click [Delete].
3. Click [OK].

Enable an RKP-2000 Access Panel for Encryption

The encryption modify/export permission is required to complete this procedure.

1. Display the Access Panels folder by selecting **Access Panels** from the **Access Control** menu.
2. On the RKP-2000 form, click the Encryption sub-tab.
3. In the listing window, select the RKP-2000 entry you wish to enable encryption for.
4. Click [Modify].
5. Select the **Use an encrypted connection** check box.
6. If automatic encryption is used, you can also select the **Allow next connection to be downgraded** check box, if you want the connection downgraded if the encrypted connection fails.
7. Click [OK].
8. Acknowledge any messages that display.

Enter Notes for an Access Panel

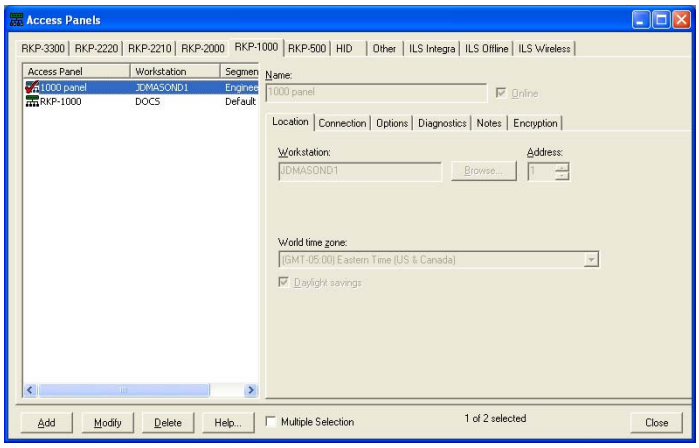
1. In the listing window, select the entry you want to edit.
2. Click [Modify].
3. Type the information in the Notes field. This note will be able to be displayed in Alarm Monitoring.
4. Click [OK].

RKP-1000 Form Overview

This form is used to:

- Assign names to individual RKP-1000 type access panels in the software
- Specify access panel setup parameters, including information stored in the panel
- Specify communication panel setup parameters, including the workstation associated with the panel and the access method (direct serial connection, LAN, or dialup)
- View the firmware, DIP switch settings and flash chip size of the panel
- Enable encryption, if you have the proper user permission

RKP-1000 Form (Location Sub-tab)



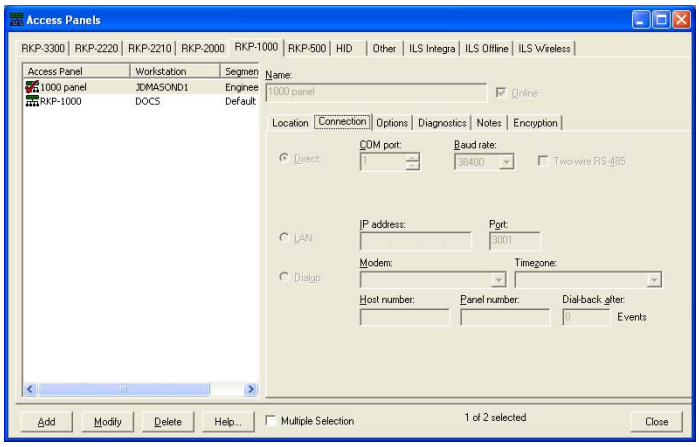
RKP-1000 Form - Location Sub-tab

Form Element	Comment
Listing window	Lists currently defined access panels and the name of the workstation that is connected to each.
Name	Enter a name for the access panel. This is a “friendly” name assigned to each panel to make it easy to identify. Each name must be unique and can contain no more than 32 characters.
Online	If selected, the panel will be online. Online indicates that the panel is ready for use, and that the Communication Server will attempt to communicate with the panel. If the panel is not marked as online, the Communication Server will not attempt to communicate with the panel.

RKP-1000 Form - Location Sub-tab (Continued)

Form Element	Comment
Workstation	Selects the workstation or server to which the access panel is or will be connected in order to transfer events/commands. The Communication Server must be present on the specified workstation. You can either type the name in the field, or use the [Browse] button to view a list of available workstations. **Note:** You are required to enter the workstation's NetBIOS name. (The NetBIOS name is specified when Windows networking is installed/configured.)
Browse	Displays a Browse for Computer window from where you can click on the name of a workstation to highlight the entry. Click the [OK] button to then enter the workstation name in the **Workstation** field.
Address	Specifies the panel's address, which must match the DIP switch setting on the panel itself. Possible values are in the range of 0 through 7. The factory default DIP switch setting is 0. **Note:** For any panel(s) that will be communicating with a workstation using a dialup connection, the panel(s) must be set to address 1 or the dial-back to host capability will fail.
World time zone	Select the world time zone for the selected access panel's geographical location. The selections in the drop-down list are listed sequentially, and each includes: • The world time zone's clock time relative to Greenwich Mean Time. For example, (GMT+05:00) indicates that the clock time in the selected world time zone is 5 hours ahead of the clock time in Greenwich, England. • The name of one or more countries or cities that are located in that world time zone.
Daylight savings	Select this check box if Daylight Savings Time is enforced in the selected access panel's geographical location.
Add	Adds a panel entry.
Modify	Changes a panel entry.
Delete	Removes a panel entry.
Help	Displays online help for this topic.
Change Segment	Displays if segmentation is enabled and you are in modify mode. Click this button to move the access panel to a different segment.
Multiple Selection	If selected, more than one entry in the listing window can be checked simultaneously. The changes made on this form will apply to all selected panels.
Mode	In view mode, indicates how many panels are currently selected, and the current total number of panels; for example, "2 of 5 selected". In modify mode, indicates the current operation (Add Mode, Modify Mode, etc.).
Close	Closes the Access Panels folder.

RKP-1000 Form (Connection Sub-tab)



RKP-1000 Form - Connection Sub-tab

Form Element	Comment
Direct	Select this radio button if communication with the access panel will be via a direct serial connection to the specified workstation. You must also specify the workstation's **COM port**, the **Baud rate**, and whether or not communication to the host will use a **Two-wire RS-485** connection.
COM port	If you selected the **Direct** radio button, specify the port that's on the serial expansion unit or the back of the workstation. To each port you can assign only one access panel. Choose a value in the range of 1 through 255.
Baud rate	If you selected the **Direct** radio button, this is the speed (in bits per second) at which information is transferred between the workstation and the access panel via the serial connection. **Note:** Some third party devices do not allow the baud rate to be modified from the host application software. If such a device is in use, the baud rate setting in ReadkeyPRO has no bearing. Refer to the documentation for any third party devices being used.
Two-wire RS-485	The panel can be configured to communicate with the host workstation using either a 4-wire or 2-wire RS-485 connection. Select this check box if 2-wire communication is to be used.
LAN	Select this radio button if the workstation will communicate with the access panel over a Local Area Network. You must also specify the workstation's **IP address**.
IP address	If you selected the **LAN** radio button, enter here the Internet Protocol (TCP/IP) address for the access panel, as provided by your LAN Network Administrator. An IP address consists of four numbers, each in the range of 0 through 255. A period separates each number. The access panel itself must be configured to have the same IP address as what you enter in this field. Refer to the Hardware Installation Guide to program the IP address for the access panel.

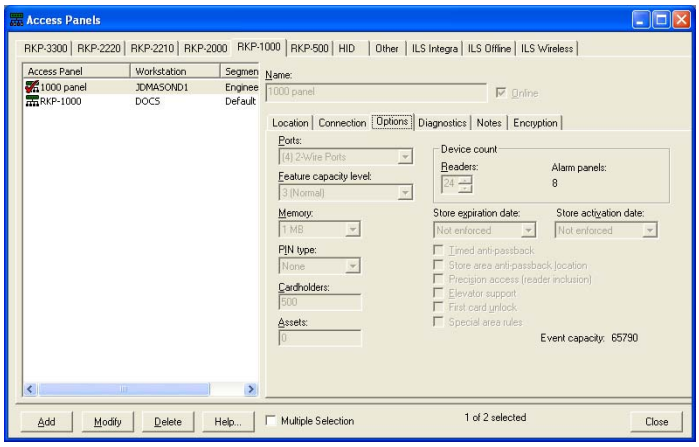
RKP-1000 Form - Connection Sub-tab (Continued)

Form Element	Comment
Dialup	Select this radio button if the workstation will communicate with the access panel using a dialup connection. This option functions together with the **LAN** option on the Secondary Connection sub-tab to limit combinations of primary and secondary communications for dual path usage. You must also specify the workstation's **Modem**, **Timezone**, **Host number**, **Panel number** and **Dial-back after__Events**.
Modem	If you selected the **Dialup** radio button, select the modem on the workstation that will be used for dialup communication with the access panel. Choices include all TAPI (Telephone Application Programming Interface) devices that are currently configured on the specified **Workstation**. **Important Notes!** • Before a modem can be listed in this drop-down list, the modem must be properly configured for the selected **Workstation**. This is done on the Modems form in the Dialup Configuration folder, which is reached by selecting **Modems** from the **Access Control** menu. For more information, refer to Connect a Modem to a Bosch Access Panel on page 823. • If any of the TAPI devices are used for other dial functions such as remote access, do not select them for panel dial usage. • For more information, refer to your Windows user guide.
Timezone	If you selected the **Dialup** radio button, indicate the timezone during which the access panel will initiate dialup communication with the workstation. You can select only one timezone for the particular workstation-modem-panel combination. Timezones are defined on the Timezones form of the Timezones folder. Functionally, at the start of each interval that comprises the timezone, the panel will automatically dial the **Host Number**. If a connection cannot be established, it will redial until a connection can be made. Once connected, all transactions stored in the panel will be dumped to the Communication Server (on the workstation) to be logged in the database. In addition, all commands that need to be sent to the panel will be sent from the host at that time. After all information is transferred, the Communication Server will automatically terminate the dialup connection with the panel. The exception to this occurs if you select the "Always" timezone. In that situation, the workstation will attempt to always stay connected to the panel via dial-up. Functionally, this is similar to communicating with the workstation via a direct (serial) or LAN connection. Multiple workstations can use the same TAPI modem, or one workstation might have access to multiple TAPI modems. However, only one connection to a particular modem can be established at a particular time. For example, a particular workstation might use a particular modem to dial one panel at 12:00, a second panel at 1:00, a third panel at 2:00, etc.
Host number	If you selected the **Dialup** radio button, enter the phone number used to reach the modem that's connected to the workstation. This is the number that the access panel will use to dial into the panel to send events and other transactions to the workstation. Type the exact dialing sequence here. Although you can use parentheses and dashes, they are ignored by TAPI devices. For example, 2489720 and (212) 546-1234. For more information, refer to your Windows user guide.

RKP-1000 Form - Connection Sub-tab (Continued)

Form Element	Comment
Panel number	If you selected the **Dialup** radio button, enter the phone number used to reach the modem that's connected to the access panel. This is the number that the workstation would need to dial to communicate with the access panel. Typically, all communication between the access panel and the workstation is initiated from the panel. However, the workstation can dial the panel from within the Alarm Monitoring system. This is done by right-clicking on the panel's entry in the System Tree, then selecting the **Connect** command from the popup menu. Any ASCII string can be typed here (for example, a comma typically triggers a pause in the dialing sequence).
Dial-back after__Events	This field is displayed only if you have selected the **Dialup** radio button. Panels can be programmed to dial the workstation after a certain number of events have been stored in the panel but have not yet been reported to the host (because the panel has been offline). When the panel has accumulated the specified number of stored events, the panel will automatically dial the **Host Number** to dump its transactions and to receive any command programming. After the information has been exchanged, the workstation will terminate the connection. The default value here is 255 events. The minimum value you can enter is zero (meaning that the panel will never dial the host). The maximum value is equal to one less than the maximum number of events that the panel can store.

RKP-1000 Form (Options Sub-tab)



RKP-1000 Form - Options Sub-tab

Form Element	Comment
Note:	These access panel setup parameters must be completed prior to adding cardholder records to the database, and should not be altered after cardholder records have been added. Changing these settings will result in a full cardholder database download to the panel.
Ports	Access panels communicate with *downstream devices* (reader interfaces, input control modules, and output control modules) using either 2- or 4-wire RS-485 communication, or a combination of the two.
Feature capacity level	This setting controls the amount of memory reserved for downstream devices, timezone control, local linkages, and other features within the controller. A higher value reserves more room for these options while leaving less room for the cardholder database and event transaction buffer. In the vast majority of circumstances, the default value of 3 should be left unchanged. This value will rarely need to be adjusted. If free memory in the panel becomes low, flagged by a "Panel Free Memory Low" Alarm, this value should be increased. Values of less than 3 are not recommended. They can be used in the rare case when there are few downstream devices, few configured features, and maximum memory is required for the cardholder database and/or event transaction buffer.
Memory	Indicates the amount of memory that's on the panel. To use the Elevator Control features, you must have 1 MB or more of memory.
PIN type	Select the range of PIN digits allowed. Using PINs takes up memory on the access panel, which reduces the card capacity. If you have a pin code configured for a controller that is 1-*n* digits long, but have a cardholder in the database that has a pin code ***longer*** than *n*, the pin code gets downloaded with the badge record, but gets truncated at *n* digits. For example, you have a 1-4 digit pin for the controller, but the badge record in the access control system's database has '123456' specified as the pin code. When this gets downloaded, it is truncated to '1234.' The Cardholder can either enter the first 4 digits or all 6 digits correctly and gain access.

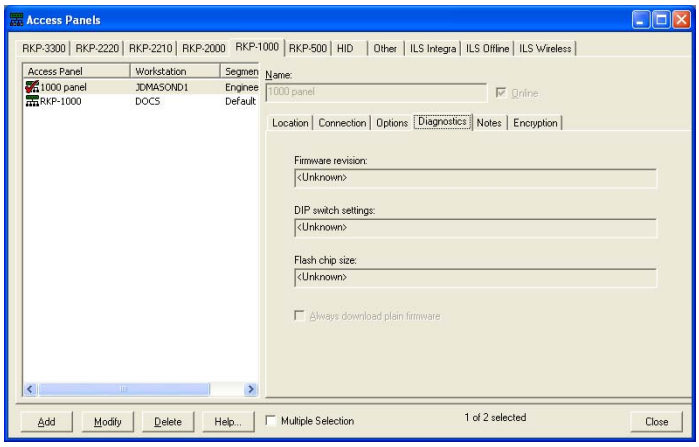
RKP-1000 Form - Options Sub-tab (Continued)

Form Element	Comment
Cardholders	This field determines how much of the access panel's memory will be set aside for the cardholder records. This size is limited by the size of the access panel's memory, and is directly related to the options you choose in this section. The more options you choose and the more that each option requires (more digits in the card number, for example), the fewer the maximum number of cardholders possible.
Assets	Indicates the number of assets downloaded to panels. To disable Asset Operations, set this value to 0. You must have at least 1 MB of memory to use this feature. This field will be grayed out if 256 KB of memory is used.
Readers	Select the number of reader devices you plan to have attached to this access panel. The more reader devices you have attached, the fewer alarm panels can be attached. The actual number of readers that can be attached to the access panel is directly related to both the number of reader devices that are configured AND to the type of reader device(s) installed. Two readers can be attached to a Dual-Reader Interface board. One reader can be attached to a Single Reader Interface board. You can choose a value in the range of 16 through 32. The value in the **Alarm panels** field is adjusted accordingly.
Alarm panels	Indicates the maximum number of alarm panels that can be attached to this access panel. You can change this field only indirectly, by modifying the **Readers** field on this form. The more readers you have attached, the fewer alarm panels can be attached.
Store expiration date	If you want the badge expiration date to be used to determine the status of cards detected at the card readers, select "Date only" from the drop-down list. If the present date is later than the expiration date of the card, the card is considered to be invalid and access is denied. If you do not want the badge expiration date to be used to determine the status of card, select "Not enforced" from the drop-down list. A third option, "Date and time" is available only if you selected the **Use time** check box on the General Cardholder Options form in the Cardholder Options folder. Select this option if you want the badge expiration date and time to be used to determine the status of cards detected at readers. If the present date and time is later than the expiration date and time of the card, the card is considered to be invalid and access is denied.
Store activation date	If you want the badge activation date to be used to determine the status of cards detected at the card readers, select "Date only" from the drop-down list. If the present date is earlier than the activation date of the card, the card is considered invalid and access is denied. If you do not want the badge activation date to be used to determine the status of card, select "Not enforced" from the drop-down list. A third option, "Date and time" is available only if you selected the **Use time** check box on the General Cardholder Options form in the Cardholder Options folder. Select this option if you want the badge activation date and time to be used to determine the status of cards detected at readers. If the present date and time is earlier than the activation date and time of the card, the card is considered to be invalid and access is denied.
Timed anti-passback	Indicates that readers attached to this panel are to be used for timed anti-passback. You must also set the **Timed anti-passback setting (minutes)** field. This is done on the Anti-Passback form of the Readers folder.

RKP-1000 Form - Options Sub-tab (Continued)

Form Element	Comment
Store area anti-passback location	Select this check box if a reader attached to this access panel is used to enter or leave an anti-passback area. Anti-passback areas are defined on the Anti-Passback Areas form of the Areas folder. The **Area entering** and **Area leaving** fields, located on the Anti-Passback form of the Readers folder, are used to associate specific readers with specific areas.
Precision access (reader inclusion)	If selected, it indicates that this access panel will use the application's precision access capabilities. Precision access is a method for assigning unique access privileges to individual cardholders. There is an infinite number of precision access combinations that can be created and assigned to cardholders. **Note:** Using this option severely limits the number of cardholders that can be stored in the panel. If you wish to use precision access, it is recommended that panel memory be expanded to meet your facility's needs.
Elevator support	If selected, this panel will support elevator control. You must have at least 1 MB of memory to use this feature. This check box will be grayed out if 256 KB of memory is used.
First card unlock	If selected, this panel will have first card unlock functionality. First card unlock is used in conjunction with reader mode and timezone control. Doors configured with first card unlock will not unlock until valid personnel arrives. For example, rather than setting a lobby door to unlock at 9:00 am, you can leave it in a secure mode (i.e., card only, card and pin, etc.) and set the first card unlock to 9:00 am. The first person that comes in the door after 9:00 am will have to present their card. Once access is granted, the reader mode will change to unlocked. This feature is useful for days like "snow days" when employees can't make it to work on time. **Note:** If the reader is in "Facility code only" mode, the first card unlock feature does not work.
Special area rules	When checked this option enables the Special Two-Man Rule. If this is the first time enabling this rule a check will be made on your system and a message displayed informing you that additional changes may have to be made to the cardholder badge options. For more information, refer to Appendix G: Special Two-Man Rule on page 1481.
Event capacity	Calculates and displays the number of events that can be stored on the panel based on the parameters you've selected. The minimum is 1000 events. The memory usage in an access panel is based on two criteria: • Memory used for cardholder storage • Memory used for event history storage After cardholder storage requirements are computed based on the options selected in this section, all remaining memory is used for event storage.

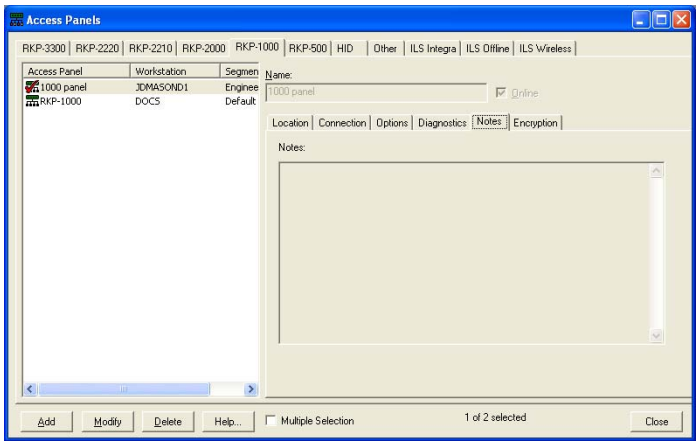
RKP-1000 Form (Diagnostics Sub-tab)



RKP-1000 Form - Diagnostics Sub-tab

Form Element	Comment
Firmware revision	Displays the firmware revision reported by the controller the last time it was online. This is a read only text field.
DIP switch settings	Displays the DIP switch settings reported by the controller, the last time it was online. This is a read only text field. Note that DIP switch settings are read by the controller only when the controller is powered up. DIP switch changes made afterward will not take affect until the controller goes through another power cycle.
Flash chip size	Displays the flash chip size (128 KB or 256 KB) reported by the controller, the last time it was online. This is a read only text field.
Always download plain firmware	Determines the type of firmware downloaded to the controller. If not selected, (the default) the system downloads AES/Extended firmware to the controller whenever the controller has a 256 KB flash chip. If selected, the system always downloads plain firmware to the controller.

RKP-1000 Form (Notes Sub-tab)



RKP-1000 Form - Notes Sub-tab

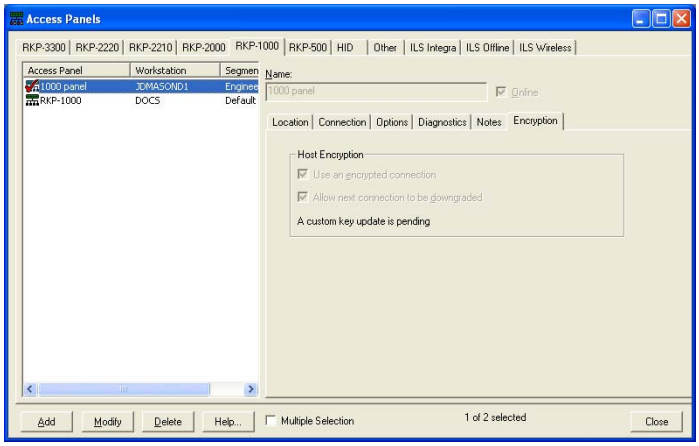
Form Element	Comment
Notes	Enter information about the panel. This field is limited to less than 2000 characters. Any text that is entered here will be displayed in Alarm Monitoring. For more information, refer to the procedure to View Notes in the Alarm Monitoring User Guide in Chapter 5, “Monitor Devices.”

RKP-1000 Form (Encryption Sub-tab)

This view displays when the system/segment (the panel is associated with) uses automatic encryption. When the system/segment is configured for manual encryption, the same fields display except for the **Allow next connection to be downgraded** check box.The Encryption sub-tab does not display if a system/segment uses a plain connection.

Note: The system/segment the controller belongs to must be configured for encryption in order for this tab to display. The user must also have the correct user permissions.

For more information about encryption, refer to the Encryption for Controllers User Guide.



RKP-1000 Form - Encryption Sub-tab

Form Element	Comment
Use an encrypted connection	Determines whether the connection to the controller is encrypted or not. If not selected (the default), a plain connection is used. If selected, the connection is encrypted.
Allow next connection to be downgraded	Determines whether the system will attempt a downgrade the next time it connects to the controller and there are encryption problems. If not selected (the default), the system will not attempt to downgrade the connection, even if the configured encrypted connection fails. If selected, the system will attempt to downgrade the connection if the encrypted connection fails. The system attempts downgrades by trying encryption with the inactive master key, the factory default master keys, and finally by trying a plain connection. Note that if the controller requires encryption, a plain connection is not possible. This check box displays only if the controller exists in an automatic key management system/ segment.

RKP-1000 Form - Encryption Sub-tab (Continued)

Form Element	Comment
A custom key update is pending	Indicates there is an outstanding key update for this controller. This is a read only field. This text field displays only if the controller exists in an automatic key management system/ segment, and the condition exists (if there is an outstanding key update).

RKP-1000 Form Procedures

Add an RKP-1000 Access Panel

Important: If you want to configure (add) several access panels, use the Configure Access Panels Wizard which is available by selecting **Wizards** from the **Application** menu. The wizard provides detailed instructions to guide you through the configuration process. The wizard is only available for RKP-1000 access panels.

1. Display the Access Panels folder by selecting **Access Panels** from the **Access Control** menu. Click the RKP-1000 tab.
2. Click [Add].
3. In the **Name** field, enter a unique, descriptive name for the access panel.
4. If you want to place the panel online immediately, select the **Online** check box. Typically, you wouldn't check this box when configuring the system or defining panels, but instead would wait until you're ready to put the panel into service.
5. Specify communication parameters on the **Location** and **Connection** sub-tabs.
6. Specify setup parameters on the **Options** sub-tab, which sets up the cardholder database for this panel.

Important: These access panel setup parameters must be completed prior to adding cardholder records to the database, and should not be altered after cardholder records have been added. Changing these settings will result in a full cardholder database download to the panel.

7. Click [OK].

Modify an RKP-1000 Access Panel

Notes: Modifying the PIN type requires a full panel download.

If the PIN type is modified on the controller and/or the General Cardholder Options form, you must log off/log on to System Administration before you modify a cardholder pin number.

1. In the listing window, select the RKP-1000 entry you wish to change.
2. Click [Modify].
3. Make the changes you want to the fields.
4. Click [OK] to save the changes, or [Cancel] to revert to the previously saved values.

Delete an RKP-1000 Access Panel

1. In the listing window, select the RKP-1000 entry you wish to delete.
2. Click [Delete].
3. Click [OK].

Enable an RKP-1000 Access Panel for Encryption

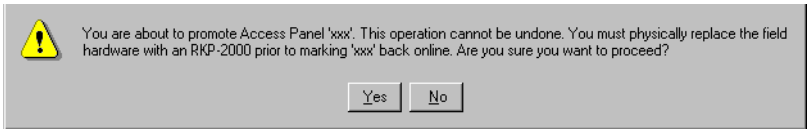
The encryption modify/export permission is required to complete this procedure.

1. Display the Access Panels folder by selecting **Access Panels** from the **Access Control** menu. Click the RKP-1000 tab.
2. Click the Encryption sub-tab.
3. In the listing window, select the RKP-1000 entry you wish to change.
4. Click [Modify].
5. Select the **Use an encrypted connection** check box.
6. If automatic encryption is used, you can also select the **Allow next connection to be downgraded** check box, if you want the next connection to downgrade to a plain connection if the encrypted connection fails.
7. Click [OK].
8. Acknowledge any messages that display.

Promote an RKP-1000 Access Panel to an RKP-2000 Access Panel

Note: In order to promote an access panel, it must be offline.

1. In the listing window, right-click over the RKP-1000 entry you wish to promote.
2. From the pop-up menu, select **Promote Access Panel to RKP-2000**. The following message will be displayed:



3. Click [Yes] to continue.
4. Click [OK].

Enter Notes for an Access Panel

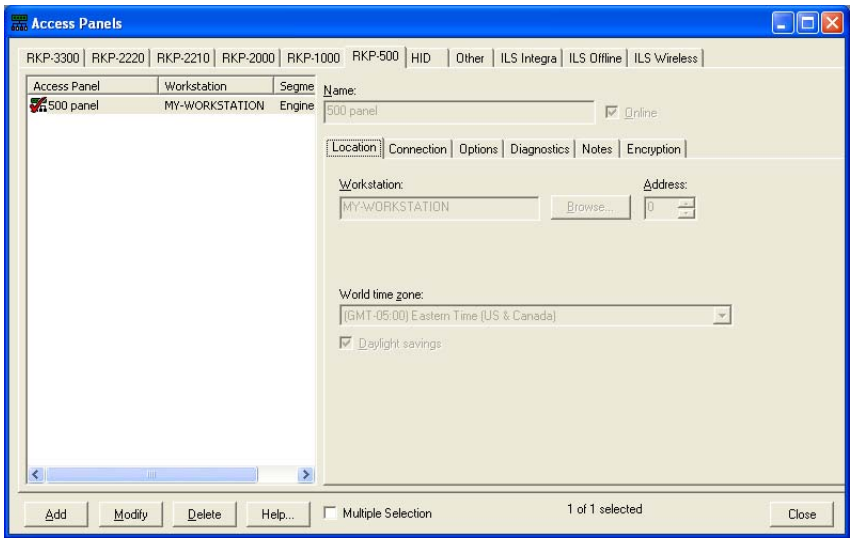
1. In the listing window, select the entry you want to edit.
2. Click [Modify].
3. Type the information in the Notes field. This note will be able to be displayed in Alarm Monitoring.
4. Click [OK].

RKP-500 Form Overview

This form is used to:

- Assign names to individual RKP-500 type access panels in the software
- Specify access panel setup parameters, including information stored in the panel
- Specify communication panel setup parameters, including the workstation associated with the panel and the access method (direct serial connection, LAN, or dialup)
- View the firmware, DIP switch settings and flash chip size of the panel
- Enable encryption, if you have the proper user permission

RKP-500 Form (Location Sub-tab)



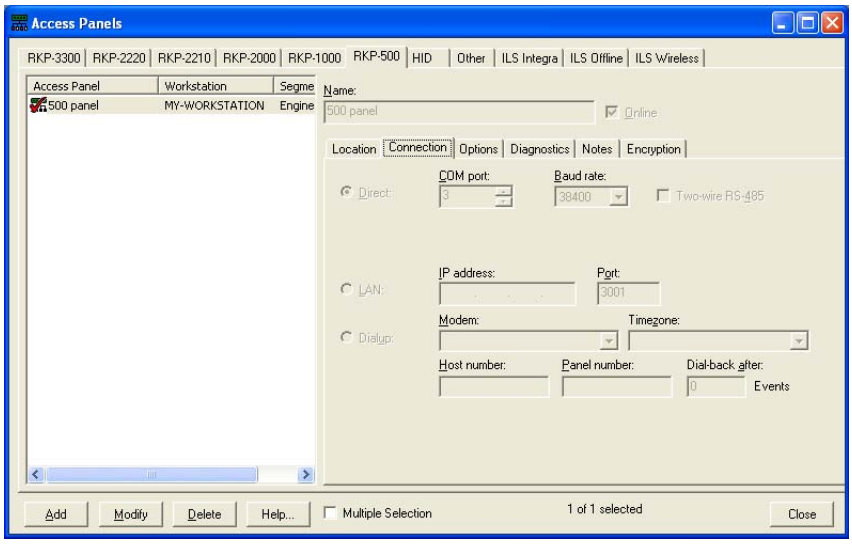
RKP-500 Form - Location Sub-tab

Form Element	Comment
Listing window	Lists currently defined access panels and the name of the workstation that is connected to each.
Name	Enter a name for the access panel. This is a “friendly” name assigned to each panel to make it easy to identify. Each name must be unique and can contain no more than 32 characters.
Online	If selected, the panel will be online. Online indicates that the panel is ready for use, and that the Communication Server will attempt to communicate with the panel. If the panel is not marked as online, the Communication Server will not attempt to communicate with the panel.

RKP-500 Form - Location Sub-tab (Continued)

Form Element	Comment
Workstation	Selects the workstation or server to which the access panel is or will be connected in order to transfer events/commands. The Communication Server must be present on the specified workstation. You can either type the name in the field, or use the [Browse] button to view a list of available workstations. **Note:** You are required to enter the workstation's NetBIOS name. (The NetBIOS name is specified when Windows networking is installed/configured.)
Browse	Displays a Browse for Computer window from where you can click on the name of a workstation to highlight the entry. Click the [OK] button to then enter the workstation name in the **Workstation** field.
Address	Specifies the panel's address, which must match the DIP switch setting on the panel itself. Possible values are in the range of 0 through 7. The factory default DIP switch setting is 0. **Note:** For any panel(s) that will be communicating with a workstation using a dialup connection, the panel(s) must be set to address 1 or the dial-back to host capability will fail.
World time zone	Select the world time zone for the selected access panel's geographical location. The selections in the drop-down list are listed sequentially, and each includes: • The world time zone's clock time relative to Greenwich Mean Time. For example, (GMT+05:00) indicates that the clock time in the selected world time zone is 5 hours ahead of the clock time in Greenwich, England. • The name of one or more countries or cities that are located in that world time zone.
Daylight savings	Select this check box if Daylight Savings Time is enforced in the selected access panel's geographical location.
Add	Adds a panel entry.
Modify	Changes a panel entry.
Delete	Removes a panel entry.
Help	Displays online help for this topic.
Change Segment	Displays if segmentation is enabled and you are in modify mode. Click this button to move the access panel to a different segment.
Multiple Selection	If selected, more than one entry in the listing window can be checked simultaneously. The changes made on this form will apply to all selected panels.
Mode	In view mode, indicates how many panels are currently selected, and the current total number of panels; for example, "2 of 5 selected". In modify mode, indicates the current operation (Add Mode, Modify Mode, etc.).
Close	Closes the Access Panels folder.

RKP-500 Form (Connection Sub-tab)



RKP-500 Form - Connection Sub-tab

Form Element	Comment
Direct	Select this radio button if communication with the access panel will be via a direct serial connection to the specified workstation. You must also specify the workstation's **COM port**, the **Baud rate**, and whether or not communication to the host will use a **Two-wire RS-485** connection.
COM port	If you selected the **Direct** radio button, specify the port that's on the serial expansion unit or the back of the workstation. To each port you can assign only one access panel. Choose a value in the range of 1 through 255.
Baud rate	If you selected the **Direct** radio button, this is the speed (in bits per second) at which information is transferred between the workstation and the access panel via the serial connection. **Note:** Some third party devices do not allow the baud rate to be modified from the host application software. If such a device is in use, the baud rate setting in ReadkeyPRO has no bearing. Refer to the documentation for any third party devices being used.
Two-wire RS-485	The panel can be configured to communicate with the host workstation using either a 4-wire or 2-wire RS-485 connection. Select this check box if 2-wire communication is to be used.
LAN	Select this radio button if the workstation will communicate with the access panel over a Local Area Network. You must also specify the workstation's **IP address**.
IP address	If you selected the **LAN** radio button, enter here the Internet Protocol (TCP/IP) address for the access panel, as provided by your LAN Network Administrator. An IP address consists of four numbers, each in the range of 0 through 255. A period separates each number. The access panel itself must be configured to have the same IP address as what you enter in this field. Refer to the Hardware Installation Guide to program the IP address for the access panel.

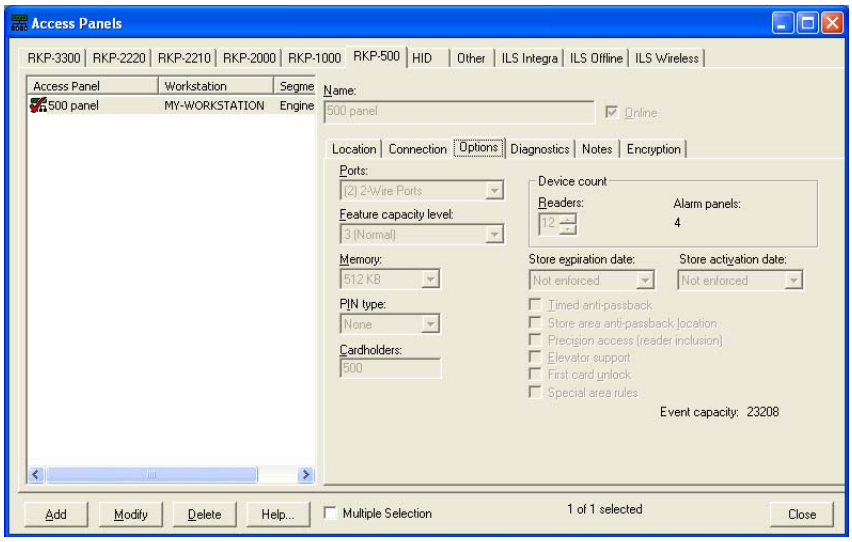
RKP-500 Form - Connection Sub-tab (Continued)

Form Element	Comment
Dialup	Select this radio button if the workstation will communicate with the access panel using a dialup connection. This option functions together with the **LAN** option on the Secondary Connection sub-tab to limit combinations of primary and secondary communications for dual path usage. You must also specify the workstation's **Modem**, **Timezone**, **Host number**, **Panel number** and **Dial-back after__Events**.
Modem	If you selected the **Dialup** radio button, select the modem on the workstation that will be used for dialup communication with the access panel. Choices include all TAPI (Telephone Application Programming Interface) devices that are currently configured on the specified **Workstation**. **Important Notes!** • Before a modem can be listed in this drop-down list, the modem must be properly configured for the selected **Workstation**. This is done on the Modems form in the Dialup Configuration folder, which is reached by selecting **Modems** from the **Access Control** menu. For more information, refer to Connect a Modem to a Bosch Access Panel on page 823. • If any of the TAPI devices are used for other dial functions such as remote access, do not select them for panel dial usage. • For more information, refer to your Windows user guide.
Timezone	If you selected the **Dialup** radio button, indicate the timezone during which the access panel will initiate dialup communication with the workstation. You can select only one timezone for the particular workstation-modem-panel combination. Timezones are defined on the Timezones form of the Timezones folder. Functionally, at the start of each interval that comprises the timezone, the panel will automatically dial the **Host Number**. If a connection cannot be established, it will redial until a connection can be made. Once connected, all transactions stored in the panel will be dumped to the Communication Server (on the workstation) to be logged in the database. In addition, all commands that need to be sent to the panel will be sent from the host at that time. After all information is transferred, the Communication Server will automatically terminate the dialup connection with the panel. The exception to this occurs if you select the "Always" timezone. In that situation, the workstation will attempt to always stay connected to the panel via dial-up. Functionally, this is similar to communicating with the workstation via a direct (serial) or LAN connection. Multiple workstations can use the same TAPI modem, or one workstation might have access to multiple TAPI modems. However, only one connection to a particular modem can be established at a particular time. For example, a particular workstation might use a particular modem to dial one panel at 12:00, a second panel at 1:00, a third panel at 2:00, etc.
Host number	If you selected the **Dialup** radio button, enter the phone number used to reach the modem that's connected to the workstation. This is the number that the access panel will use to dial into the panel to send events and other transactions to the workstation. Type the exact dialing sequence here. Although you can use parentheses and dashes, they are ignored by TAPI devices. For example, 2489720 and (212) 546-1234. For more information, refer to your Windows user guide.

RKP-500 Form - Connection Sub-tab (Continued)

Form Element	Comment
Panel number	If you selected the **Dialup** radio button, enter the phone number used to reach the modem that's connected to the access panel. This is the number that the workstation would need to dial to communicate with the access panel. Typically, all communication between the access panel and the workstation is initiated from the panel. However, the workstation can dial the panel from within the Alarm Monitoring system. This is done by right-clicking on the panel's entry in the System Tree, then selecting the **Connect** command from the popup menu. Any ASCII string can be typed here (for example, a comma typically triggers a pause in the dialing sequence).
Dial-back after__Events	This field is displayed only if you have selected the **Dialup** radio button. Panels can be programmed to dial the workstation after a certain number of events have been stored in the panel but have not yet been reported to the host (because the panel has been offline). When the panel has accumulated the specified number of stored events, the panel will automatically dial the **Host Number** to dump its transactions and to receive any command programming. After the information has been exchanged, the workstation will terminate the connection. The default value here is 255 events. The minimum value you can enter is zero (meaning that the panel will never dial the host). The maximum value is equal to one less than the maximum number of events that the panel can store.

RKP-500 Form (Options Sub-tab)



RKP-500 Form - Options Sub-tab

Form Element	Comment
Note:	These access panel setup parameters must be completed prior to adding cardholder records to the database, and should not be altered after cardholder records have been added. Changing these settings will result in a full cardholder database download to the panel.
Ports	Access panels communicate with *downstream devices* (reader interfaces, input control modules, and output control modules) using either 2- or 4-wire RS-485 communication.
Feature capacity level	This setting controls the amount of memory reserved for downstream devices, timezone control, local linkages, and other features within the controller. A higher value reserves more room for these options while leaving less room for the cardholder database and event transaction buffer. In the vast majority of circumstances, the default value of 3 should be left unchanged. This value will rarely need to be adjusted. If free memory in the panel becomes low, flagged by a “Panel Free Memory Low” Alarm, this value should be increased. Values of less than 3 are not recommended. They can be used in the rare case when there are few downstream devices, few configured features, and maximum memory is required for the cardholder database and/or event transaction buffer.
Memory	Indicates the amount of memory that’s on the panel. The RKP-500 has 512 KB of memory and this value cannot be changed

RKP-500 Form - Options Sub-tab (Continued)

Form Element	Comment
PIN type	Select the range of PIN digits allowed. Using PINs takes up memory on the access panel, which reduces the card capacity. If you have a pin code configured for a controller that is 1-*n* digits long, but have a cardholder in the database that has a pin code ***longer*** than *n*, the pin code gets downloaded with the badge record, but gets truncated at *n* digits. For example, you have a 1-4 digit pin for the controller, but the badge record in the access control system's database has '123456' specified as the pin code. When this gets downloaded, it is truncated to '1234.' The Cardholder can either enter the first 4 digits or all 6 digits correctly and gain access.
Cardholders	This field determines how much of the access panel's memory will be set aside for the cardholder records. This size is limited by the size of the access panel's memory, and is directly related to the options you choose in this section. The more options you choose and the more that each option requires (more digits in the card number, for example), the fewer the maximum number of cardholders possible.
Assets	Indicates the number of assets downloaded to the panels. To disable Asset Operations, set this value to 0.
Readers	Select the number of reader devices you plan to have attached to this access panel. The more reader devices you have attached, the fewer alarm panels can be attached. The actual number of readers that can be attached to the access panel is directly related to both the number of reader devices that are configured AND to the type of reader device(s) installed. Two readers can be attached to a Dual-Reader Interface board. One reader can be attached to a Single Reader Interface board. You can choose a value in the range of 16 through 32. The value in the **Alarm panels** field is adjusted accordingly.
Alarm panels	Indicates the maximum number of alarm panels that can be attached to this access panel. You can change this field only indirectly, by modifying the **Readers** field on this form. The more readers you have attached, the fewer alarm panels can be attached.
Store expiration date	If you want the badge expiration date to be used to determine the status of cards detected at the card readers, select "Date only" from the drop-down list. If the present date is later than the expiration date of the card, the card is considered to be invalid and access is denied. If you do not want the badge expiration date to be used to determine the status of card, select "Not enforced" from the drop-down list. A third option, "Date and time" is available only if you selected the **Use time** check box on the General Cardholder Options form in the Cardholder Options folder. Select this option if you want the badge expiration date and time to be used to determine the status of cards detected at readers. If the present date and time is later than the expiration date and time of the card, the card is considered to be invalid and access is denied.

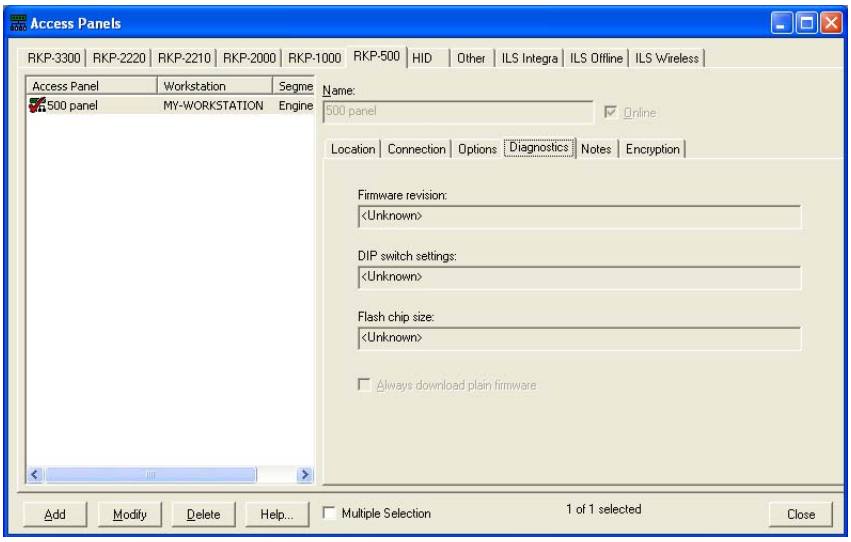
RKP-500 Form - Options Sub-tab (Continued)

Form Element	Comment
Store activation date	If you want the badge activation date to be used to determine the status of cards detected at the card readers, select "Date only" from the drop-down list. If the present date is earlier than the activation date of the card, the card is considered invalid and access is denied. If you do not want the badge activation date to be used to determine the status of card, select "Not enforced" from the drop-down list. A third option, "Date and time" is available only if you selected the **Use time** check box on the General Cardholder Options form in the Cardholder Options folder. Select this option if you want the badge activation date and time to be used to determine the status of cards detected at readers. If the present date and time is earlier than the activation date and time of the card, the card is considered to be invalid and access is denied.
Timed anti-passback	Indicates that readers attached to this panel are to be used for timed anti-passback. You must also set the **Timed anti-passback setting (minutes)** field. This is done on the Anti-Passback form of the Readers folder.
Store area anti-passback location	Select this check box if a reader attached to this access panel is used to enter or leave an anti-passback area. Anti-passback areas are defined on the Anti-Passback Areas form of the Areas folder. The **Area entering** and **Area leaving** fields, located on the Anti-Passback form of the Readers folder, are used to associate specific readers with specific areas.
Precision access (reader inclusion)	If selected, it indicates that this access panel will use the application's precision access capabilities. Precision access is a method for assigning unique access privileges to individual cardholders. There is an infinite number of precision access combinations that can be created and assigned to cardholders. **Note:** Using this option severely limits the number of cardholders that can be stored in the panel. If you wish to use precision access, it is recommended that panel memory be expanded to meet your facility's needs.
Elevator support	If selected, this panel will support elevator control. You must have at least 1 MB of memory to use this feature. This check box will be grayed out if 256 KB of memory is used.
First card unlock	If selected, this panel will have first card unlock functionality. First card unlock is used in conjunction with reader mode and timezone control. Doors configured with first card unlock will not unlock until valid personnel arrives. For example, rather than setting a lobby door to unlock at 9:00 am, you can leave it in a secure mode (i.e., card only, card and pin, etc.) and set the first card unlock to 9:00 am. The first person that comes in the door after 9:00 am will have to present their card. Once access is granted, the reader mode will change to unlocked. This feature is useful for days like "snow days" when employees can't make it to work on time. **Note:** If the reader is in "Facility code only" mode, the first card unlock feature does not work.
Special area rules	When checked this option enables the Special Two-Man Rule. If this is the first time enabling this rule a check will be made on your system and a message displayed informing you that additional changes may have to be made to the cardholder badge options. For more information, refer to Appendix G: Special Two-Man Rule on page 1481.

RKP-500 Form - Options Sub-tab (Continued)

Form Element	Comment
Event capacity	Calculates and displays the number of events that can be stored on the panel based on the parameters you've selected. The minimum is 1000 events. The memory usage in an access panel is based on two criteria: • Memory used for cardholder storage • Memory used for event history storage After cardholder storage requirements are computed based on the options selected in this section, all remaining memory is used for event storage.

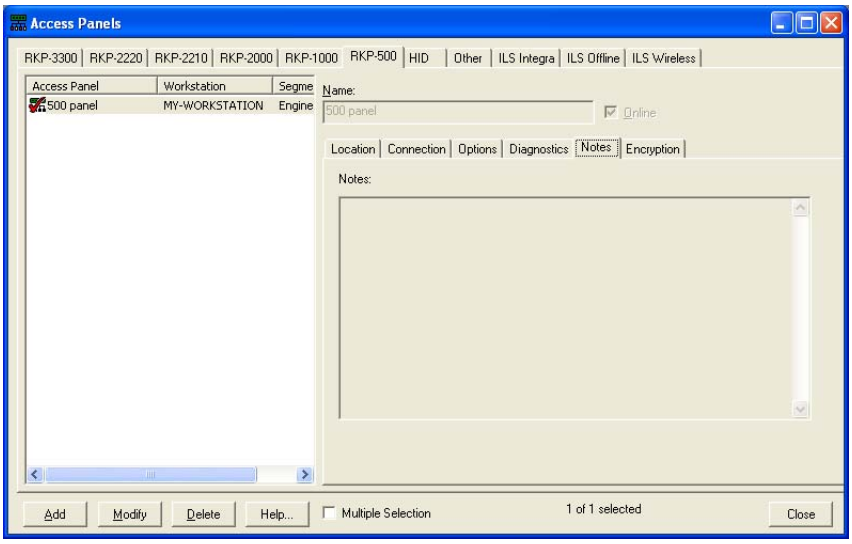
RKP-500 Form (Diagnostics Sub-tab)



RKP-500 Form - Diagnostics Sub-tab

Form Element	Comment
Firmware revision	Displays the firmware revision reported by the controller the last time it was online. This is a read only text field.
DIP switch settings	Displays the DIP switch settings reported by the controller, the last time it was online. This is a read only text field. Note that DIP switch settings are read by the controller only when the controller is powered up. DIP switch changes made afterward will not take affect until the controller goes through another power cycle.
Flash chip size	Displays the flash chip size (128 KB or 256 KB) reported by the controller, the last time it was online. This is a read only text field.
Always download plain firmware	Determines the type of firmware downloaded to the controller. If not selected, (the default) the system downloads AES/Extended firmware to the controller whenever the controller has a 256 KB flash chip. If selected, the system always downloads plain firmware to the controller.

RKP-500 Form (Notes Sub-tab)



RKP-500 Form - Notes Sub-tab

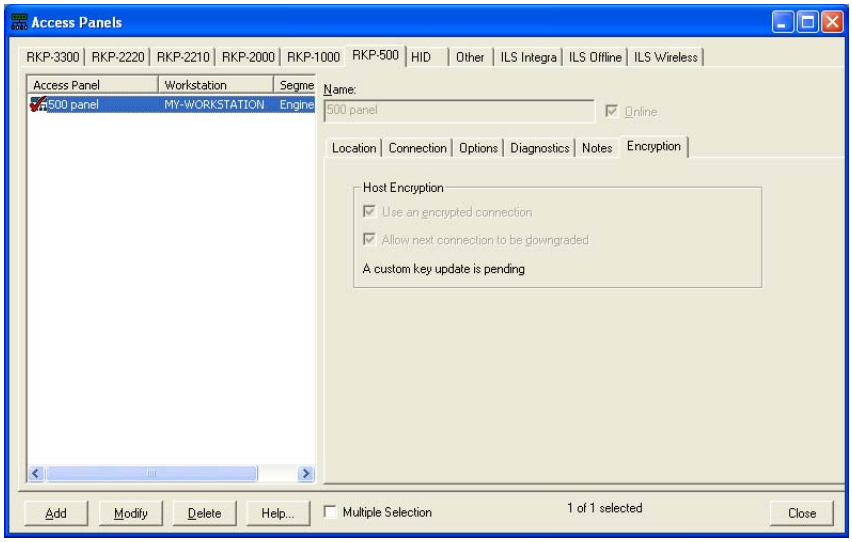
Form Element	Comment
Notes	Enter information about the panel. This field is limited to less than 2000 characters. Any text that is entered here will be displayed in Alarm Monitoring. For more information, refer to the procedure to View Notes in the Alarm Monitoring User Guide in Chapter 5, “Monitor Devices.”

RKP-500 Form (Encryption Sub-tab)

This view displays when the system/segment (the panel is associated with) uses automatic encryption. When the system/segment is configured for manual encryption, the same fields display except for the **Allow next connection to be downgraded** check box.The Encryption sub-tab does not display if a system/segment uses a plain connection.

Note: The system/segment the controller belongs to must be configured for encryption in order for this tab to display. The user must also have the correct user permissions.

For more information about encryption, refer to the Encryption for Controllers User Guide.



RKP-500 Form - Encryption Sub-tab

Form Element	Comment
Use an encrypted connection	Determines whether the connection to the controller is encrypted or not. If not selected (the default), a plain connection is used. If selected, the connection is encrypted.
Allow next connection to be downgraded	Determines whether the system will attempt a downgrade the next time it connects to the controller and there are encryption problems. If not selected (the default), the system will not attempt to downgrade the connection, even if the configured encrypted connection fails. If selected, the system will attempt to downgrade the connection if the encrypted connection fails. The system attempts downgrades by trying encryption with the inactive master key, the factory default master keys, and finally by trying a plain connection. Note that if the controller requires encryption, a plain connection is not possible. This check box displays only if the controller exists in an automatic key management system/ segment.

RKP-500 Form - Encryption Sub-tab (Continued)

Form Element	Comment
A custom key update is pending	Indicates there is an outstanding key update for this controller. This is a read only field. This text field displays only if the controller exists in an automatic key management system/ segment, and the condition exists (if there is an outstanding key update).

RKP-500 Form Procedures

Add an RKP-500 Access Panel

1. Display the Access Panels folder by selecting **Access Panels** from the **Access Contro**l Menu. Click the RKP-500 tab.
2. Click [Add].
3. In the **Name** field, type a unique, descriptive name for the access panel.
4. If you want to place the panel online immediately, select the **Online** check box. Typically, you wouldn't check this box when configuring the system or defining panels, but instead would wait until you're ready to put the panel into service.
5. Specify communication parameters on the **Location** and **Connection** sub-tabs.
6. Specify setup parameters on the **Options** sub-tab, which sets up the cardholder database for this panel.

Important: These access panel setup parameters must be completed prior to adding cardholder records to the database, and should not be altered after cardholder records have been added. Changing these settings will result in a full cardholder database download to the panel.

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7. Click [OK].

Modify an RKP-500 Access Panel

Notes: Modifying the PIN type requires a full panel download.

If the PIN type is modified on the controller and/or the General Cardholder Options form, you must log off/log on to System Administration before you modify a cardholder pin number.

1. In the listing window, select the RKP-500 entry you wish to change.
2. Click [Modify].
3. Make the changes you want to the fields.
4. Click [OK] to save the changes, or [Cancel] to revert to the previously saved values.

Delete an RKP-500 Access Panel

1. In the listing window, select the RKP-500 entry you wish to delete.
2. Click [Delete].
3. Click [OK].

Enable an RKP-500 Access Panel for Encryption

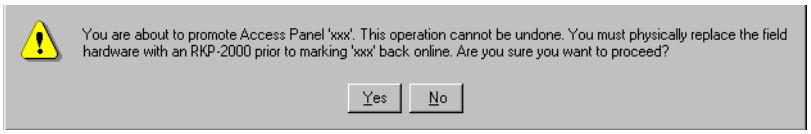
The encryption modify/export permission is required to complete this procedure.

1. Display the Access Panels folder by selecting **Access Panels** from the **Access Control** menu. Click the RKP-500 tab.
2. Click the Encryption sub-tab.
3. In the listing window, select the RKP-500 entry you wish to change.
4. Click [Modify].
5. Select the **Use an encrypted connection** check box.
6. If automatic encryption is used, you can also select the **Allow next connection to be downgraded** check box, if you want the next connection to downgrade to a plain connection if the encrypted connection fails.
7. Click [OK].
8. Acknowledge any messages that display.

Promote an RKP-500 Access Panel to an RKP-1000 or RKP-2000 Access Panel

Note: In order to promote an access panel, it must be offline.

1. In the listing window, right-click over the RKP-500 entry you wish to promote.
2. From the pop-up menu, select **Promote Access Panel to RKP-2000** or **Promote Access Panel to RKP-1000**. The following message will be displayed:



3. Click [Yes] to continue.
4. Click [OK].

Enter Notes for an Access Panel

1. In the listing window, select the entry you want to edit.
2. Click [Modify].
3. Type the information in the Notes field. This note will be able to be displayed in Alarm Monitoring.
4. Click [OK].

HID Form Overview

HID Edge access panels are IP devices that are treated as panels by ReadkeyPRO because they are able to contain a database that can operate autonomously from the ReadkeyPRO host.

Events from the HID panel are represented in Alarm Monitoring just as with any other traditional access control device. In Alarm Monitoring you can View Events (Door Forced and Door Held), Open Door, Manually Unlock (Free Access) Door, and Manually Lock (Lockdown) Door. Additionally, HID access panel events can be set to trigger Global I/O.

Warning

The maximum number of cardholders (badges) that can be downloaded is 44,000 divided by the number of card formats specified for an HID panel. For example, 44,000/5 card formats = 8,800 badges while 44,000/1 card format = 44,000 badges. An alarm will be generated if the maximum number of cardholders is reached.

Note: Badge activate/deactivate dates will be adjusted to fall within acceptable ranges when badges are downloaded. Activate dates less than the minimum allowed are adjusted to 01/01/1970. Deactivate dates greater than the maximum allowed are adjusted to 12/31/2037.

Important: HID supports a maximum of eight (8) access levels per badge. If more than 8 access levels with a common HID controller are assigned to a badge, only 8 access levels will be downloaded. In addition, other HID controllers in the same access level may be affected.

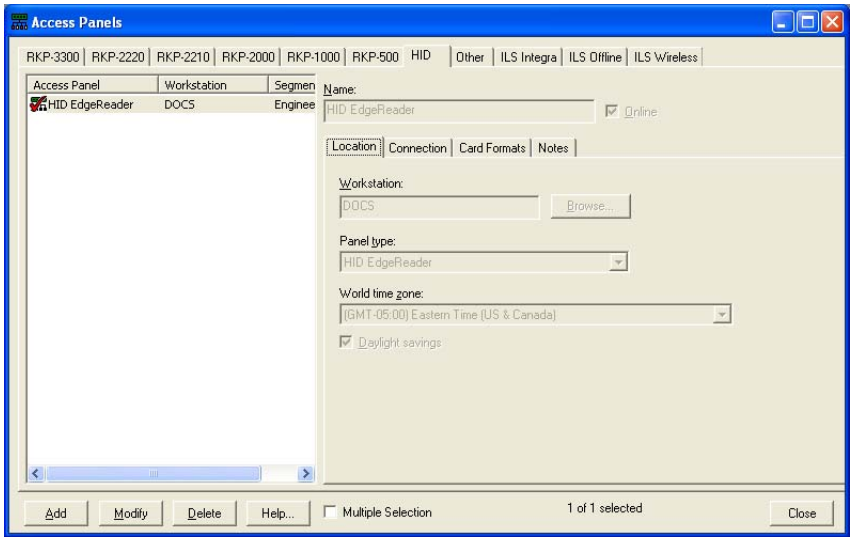
Supported HID panels include EdgePlus and EdgeReader. When either type of Edge panel is added, one (1) reader is automatically assigned to it.

Readers connected to HID panels can be used with ReadkeyPRO to provide basic access control functionality in locations where the full capability of Bosch access hardware is not needed.

Use the HID form to:

- Assign names to individual HID panels in the software.
- Specify HID panel setup parameters, including time zone and panel type.
- Specify the LAN communication panel setup parameters.
- Assign card formats to individual HID panels.

HID Form (Location Sub-tab)



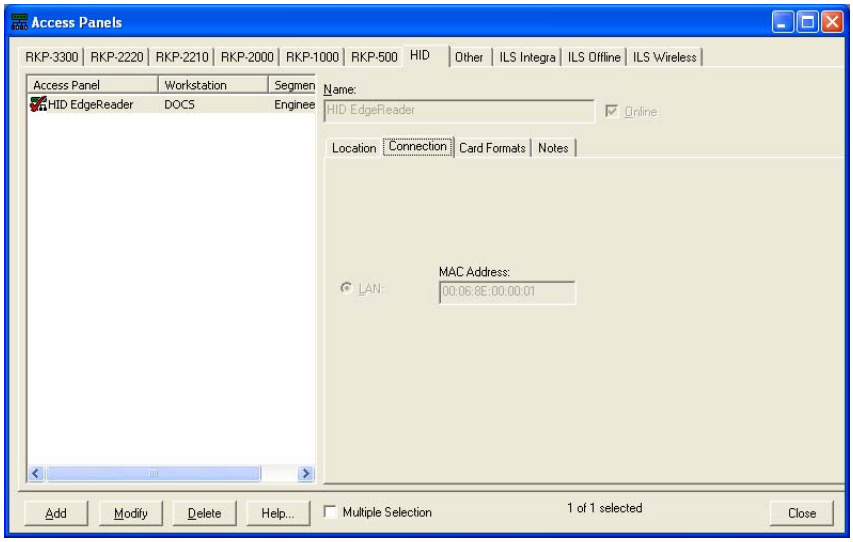
HID Form - Location Sub-tab

Form Element	Comment
Listing window	Lists currently defined access panels and the name of the workstation that is connected to each.
Name	Enter a name for the HID panel type. This is a “friendly” name assigned to each panel to make it easy to identify. Each name must be unique and can contain no more than 32 characters. Though the name can be 32 characters it is advantageous to keep the name to 25 characters or less or else the reader name for the panel may be truncated.
Online	If selected, the panel will be online. Online indicates that the panel is ready for use, and that the Communication Server will attempt to communicate with the panel. If the panel is not marked as online, the Communication Server will not attempt to communicate with the panel.
Workstation	Selects the workstation or server to which the access panel is or will be connected in order to transfer events/commands. The Communication Server must be present on the specified workstation. You can either type the name in the field, or use the [Browse] button to view a list of available workstations. **Note:** You are required to enter the workstation’s NetBIOS name. (The NetBIOS name is specified when Windows networking is installed/configured.)
Browse	Displays a Browse for Computer window from where you can click on the name of a workstation to highlight the entry. Click the [OK] button to then enter the workstation name in the **Workstation** field.

HID Form - Location Sub-tab (Continued)

Form Element	Comment
Panel Type	Select the type of HID panel you are adding. Choices include: • HID EdgePlus - (HID EdgePlus only supports 8-bit keypad data). • HID EdgeReader • Lenel EdgePlus - (Lenel EdgePlus only supports 8-bit keypad data). • Lenel EdgeReader **Note:** Non-Lenel HID access panels require you to purchase a separate license. Lenel-branded HID access panels, however, come with a built-in license. Any combination of HID access panels can be added along with other types of access panels up to the maximum capacity of your ReadkeyPRO system. For more information, see the Licenses for Hardware section in the Installation Guide.
World time zone	Select the world time zone for the geographical location of the access panel. The options in the drop-down are listed sequentially, and each includes: • The world time zone's clock time relative to Greenwich Mean Time. For example, (GMT+05:00) indicates that the clock time in the selected world time zone is 5 hours ahead of the clock time in Greenwich, England. • The name of one or more countries or cities located in that world time zone.
Daylight savings	Select this check box if Daylight Saving Time is enforced for the geographical location of the access panel.
Add	Adds a panel entry.
Modify	Changes a panel entry.
Delete	Removes a panel entry.
Help	Displays online help for this topic.
Close	Closes the Access Panels folder.

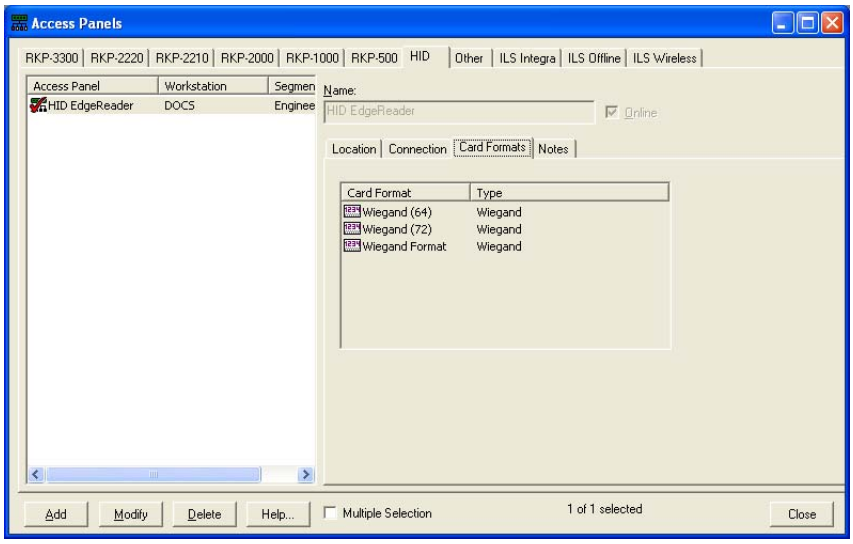
HID Form (Connection Sub-tab)



HID Form - Connection Sub-tab

Form Element	Comment
LAN	Select this radio button if the workstation will communicate with the access panel over a Local Area Network. You must also specify the workstation's **IP address**.
MAC Address	If you selected the **LAN** radio button, enter here the MAC address for the access panel, as listed on the device.The access panel itself must be configured to have the same MAC address that is entered in this field.

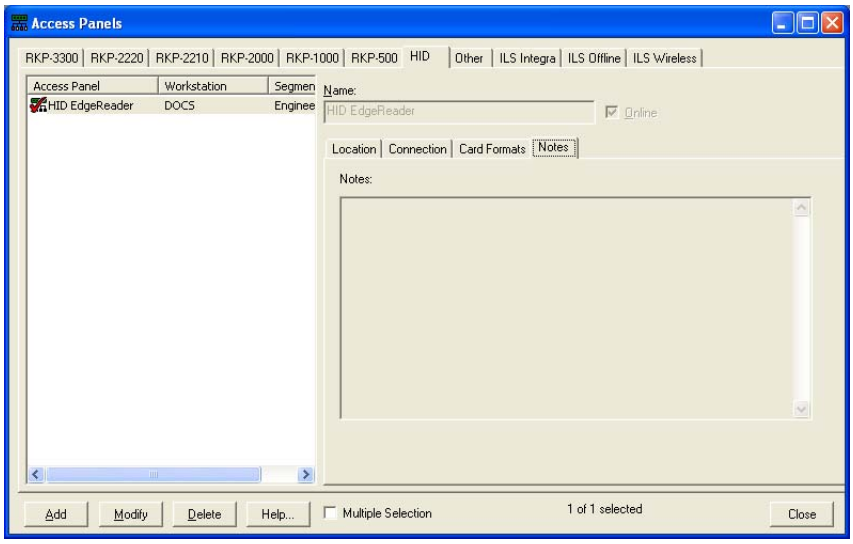
HID Form (Card Formats Sub-tab)



HID Form - Card Formats Sub-tab

Form Element	Comment
Card Format	Identify the format(s) expected when a card is presented to an HID reader. Card formats are defined in the Card Formats folder. HID panels are limited to using Wiegand format cards with no more than 128 bits and with "HID Corporate 1000" or "None" selected in the **Special** setting of the card format. For more information, refer to Card Formats Folder - Wiegand Card Format Form on page 286. **Note:** Card formats specified for an HID access panel are applied to all readers assigned to that panel.

HID Form (Notes Sub-tab)



HID Form - Notes Sub-tab

Form Element	Comment
Notes	Enter information about the panel. This field is limited to less than 2000 characters. Any text that is entered here will be displayed in Alarm Monitoring. For more information, refer to the procedure to View Notes in the Alarm Monitoring User Guide in Chapter 5, "Monitor Devices."

HID Form Procedures

Add an HID Access Panel

1. Display the Access Panels folder by selecting **Access Panels** from the **Access Control** menu. Click the HID tab.
2. Click [Add].
3. In the **Name** field, type a unique, descriptive name for the access panel.
4. If you want to place the panel online immediately, select the **Online** check box. Typically, you wouldn't check this box when configuring the system or

defining panels, but instead would wait until you are ready to put the panel into service.

5. Specify the communication parameters on the **Location** and **Connection** sub-tabs.
   - The MAC address you enter on the **Connection** sub-tab can be found on the HID reader itself.
6. Select one or more card formats on the **Card Formats** sub-tab.

Important: These access panel settings must be completed prior to adding cardholder records to the database, and should not be altered after cardholder records have been added. Changing these settings will result in a full cardholder database download to the panel.

7. Click [OK].

Modify an HID Access Panel

1. In the listing window, select the HID entry you wish to change.
2. Click [Modify].
3. Make the changes you want to the fields.
4. Click [OK] to save the changes, or [Cancel] to revert to the previously saved values.

Delete an HID Access Panel

1. In the listing window, select the HID entry you wish to delete.
2. Click [Delete].
3. Click [OK].

Enter Notes for an HID Access Panel

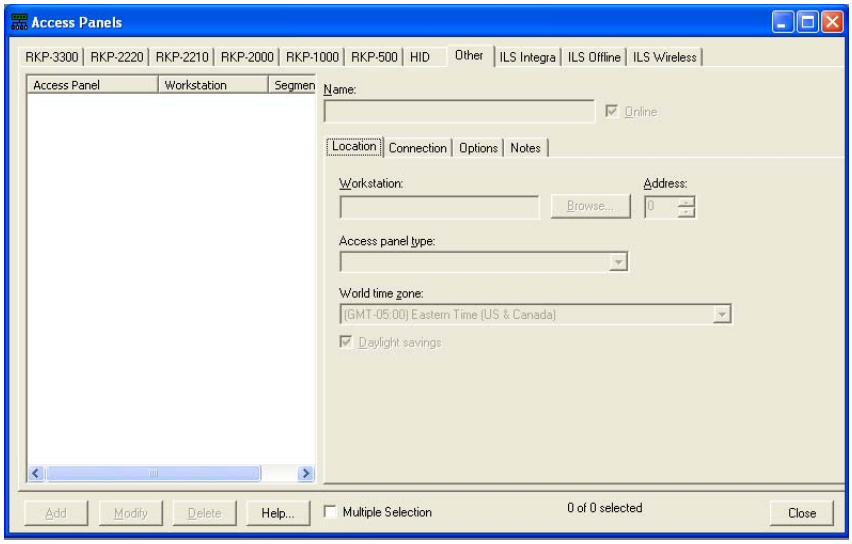
1. In the listing window, select the entry you want to edit.
2. Click [Modify].
3. Type the information in the Notes field. This note will be able to be displayed in Alarm Monitoring.
4. Click [OK].

Other Form Overview

This form is used to:

- Assign names to generic type access panels in the software. Mainly used to support additional access control type panels that may be integrated via the OpenAccess Alliance Program.
- Specify access panel setup parameters.
- Specify communication panel setup parameters, including the workstation associated with the panel

Other Form (Location Sub-tab)



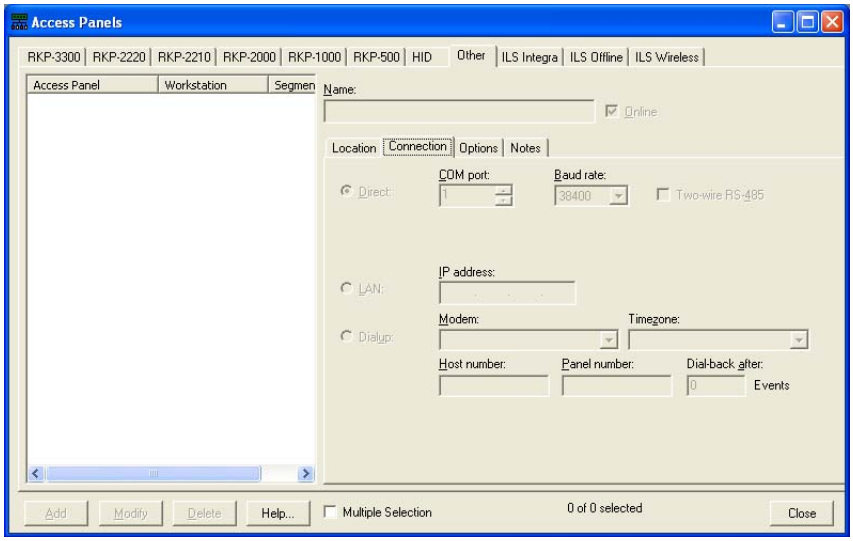
Other Form - Location Sub-tab

Form Element	Comment
Workstation	Selects the workstation or server to which the access panel is or will be connected in order to transfer events/commands. The Communication Server must be present on the specified workstation. You can either type the name in the field, or use the [Browse] button to view a list of available workstations. **Note:** You are required to enter the workstation's NetBIOS name. (The NetBIOS name is specified when Windows networking is installed/configured.)
Browse	Displays a Browse for Computer window, from which you can click on the name of a workstation to highlight the entry. Click the [OK] button to then enter the workstation name in the **Workstation** field on the Other form.
Address	Specifies the panel's address, which will match the DIP switch setting on the panel itself. Each panel must have a different address. Possible values are in the range of 0 through 7. The factory default DIP switch setting is 0.

Other Form - Location Sub-tab (Continued)

Form Element	Comment
Access panel type	Select the type of access panel you are adding.
World time zone	Select the world time zone for the selected access panel's geographical location. The selections in the drop-down list are listed sequentially, and each includes: • The world time zone's clock time relative to Greenwich Mean Time. For example, (GMT+05:00) indicates that the clock time in the selected world time zone is 5 hours ahead of the clock time in Greenwich, England. • The name of one or more countries or cities that are located in that world time zone.
Daylight savings	Select this check box if Daylight Savings Time is enforced in the selected access panel's geographical location.
Add	Adds a panel entry.
Modify	Changes a panel entry.
Delete	Removes a panel entry.
Help	Displays online help for this topic.
Multiple Selection	If selected, more than one entry in the listing window can be checked simultaneously. The changes made on this form will apply to all selected panels.
Close	Closes the Access Panels folder.

Other Form (Connection Sub-tab)



Other Form - Connection Sub-tab

Form Element	Comment
Direct	Select this radio button if communication with the access panel will be via a direct serial connection to the specified workstation. You must also specify the workstation's **COM port**, the **Baud rate**, and whether or not communication to the host will use a **Two-wire RS-485** connection.
COM port	If you selected the **Direct** radio button, specify the port that's on the serial expansion unit or the back of the workstation. To each port you can assign only one access panel. Choose a value in the range of 1 through 255.
Baud rate	If you selected the **Direct** radio button, this is the speed (in bits per second) at which information is transferred between the workstation and the access panel via the serial connection. **Note:** Some third party devices do not allow the baud rate to be modified from the host application software. If such a device is in use, the baud rate setting in ReadkeyPRO has no bearing. Refer to the documentation for any third party devices being used.
Two-wire RS-485	The panel can be configured to communicate with the host workstation using either a 4-wire or 2-wire RS-485 connection. Select this check box if 2-wire communication is to be used.
LAN	Select this radio button if the workstation will communicate with the access panel over a Local Area Network. You must also specify the workstation's **IP address**.
IP address	If you selected the **LAN** radio button, enter here the Internet Protocol (TCP/IP) address for the access panel, as provided by your LAN Network Administrator. An IP address consists of four numbers, each in the range of 0 through 255. A period separates each number. The access panel itself must be configured to have the same IP address as what you enter in this field. Refer to the Hardware Installation Guide to program the IP address for the access panel.

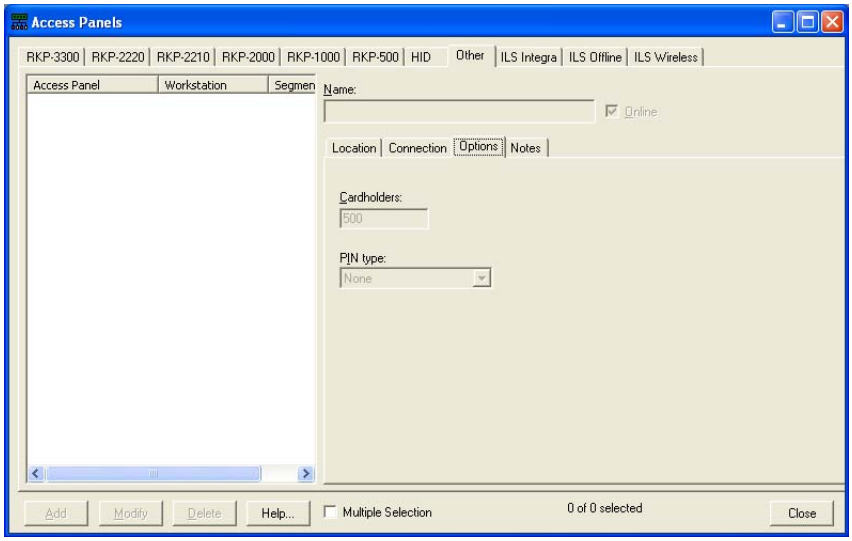
Other Form - Connection Sub-tab (Continued)

Form Element	Comment
Dialup	Select this radio button if the workstation will communicate with the access panel using a dialup connection. This option functions together with the **LAN** option on the Secondary Connection sub-tab to limit combinations of primary and secondary communications for dual path usage. You must also specify the workstation's **Modem**, **Timezone**, **Host number**, **Panel number** and **Dial-back after__Events**.
Modem	If you selected the **Dialup** radio button, select the modem on the workstation that will be used for dialup communication with the access panel. Choices include all TAPI (Telephone Application Programming Interface) devices that are currently configured on the specified **Workstation**. **Important Notes!** • Before a modem can be listed in this drop-down list, the modem must be properly configured for the selected **Workstation**. This is done on the Modems form in the Dialup Configuration folder, which is reached by selecting **Modems** from the **Access Control** menu. For more information, refer to Connect a Modem to a Bosch Access Panel on page 823. • If any of the TAPI devices are used for other dial functions such as remote access, do not select them for panel dial usage. • For more information, refer to your Windows user guide.
Timezone	If you selected the **Dialup** radio button, indicate the timezone during which the access panel will initiate dialup communication with the workstation. You can select only one timezone for the particular workstation-modem-panel combination. Timezones are defined on the Timezones form of the Timezones folder.
Host number	If you selected the **Dialup** radio button, enter the phone number used to reach the modem that's connected to the workstation. This is the number that the access panel will use to dial into the panel to send events and other transactions to the workstation. Type the exact dialing sequence here. Although you can use parentheses and dashes, they are ignored by TAPI devices. For example, 2489720 and (212) 546-1234. For more information, refer to your Windows user guide.
Panel number	If you selected the **Dialup** radio button, enter the phone number used to reach the modem that's connected to the access panel. This is the number that the workstation would need to dial to communicate with the access panel. Typically, all communication between the access panel and the workstation is initiated from the panel. However, the workstation can dial the panel from within the Alarm Monitoring system. This is done by right-clicking on the panel's entry in the System Tree, then selecting the **Connect** command from the popup menu. Any ASCII string can be typed here (for example, a comma typically triggers a pause in the dialing sequence).

Other Form - Connection Sub-tab (Continued)

Form Element	Comment
Dial-back after__Events	This field is displayed only if you have selected the **Dialup** radio button. Panels can be programmed to dial the workstation after a certain number of events have been stored in the panel but have not yet been reported to the host (because the panel has been offline). When the panel has accumulated the specified number of stored events, the panel will automatically dial the **Host Number** to dump its transactions and to receive any command programming. After the information has been exchanged, the workstation will terminate the connection. The default value here is 255 events. The minimum value you can enter is zero (meaning that the panel will never dial the host). The maximum value is equal to one less than the maximum number of events that the panel can store.

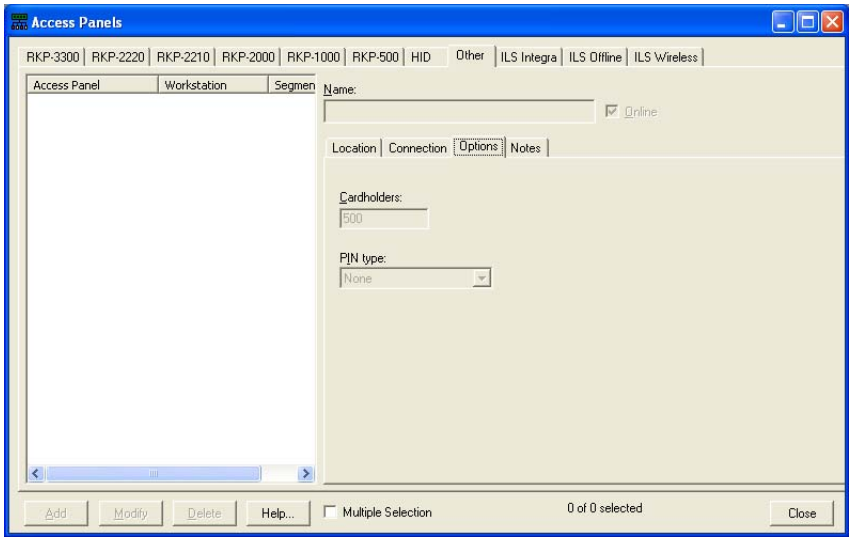
Other Form (Options Sub-tab)



Other Form - Options Sub-tab

Form Element	Comment
PIN type	Select the range of PIN digits allowed. Using PINs takes up memory on the access panel, which reduces the card capacity. If you have a pin code configured for a controller that is 1-*n* digits long, but have a cardholder in the database that has a pin code ***longer*** than *n*, the pin code gets downloaded with the badge record, but gets truncated at *n* digits. For example, you have a 1-4 digit pin for the controller, but the badge record in the access control system's database has '123456' specified as the pin code. When this gets downloaded, it is truncated to '1234.' The Cardholder can either enter the first 4 digits or all 6 digits correctly and gain access.
Cardholders	This field determines how much of the access panel's memory will be set aside for the cardholder records. This size is limited by the size of the access panel's memory, and is directly related to the options you choose in this section. The more options you choose and the more that each option requires (more digits in the card number, for example), the fewer the maximum number of cardholders possible.

Other Form (Notes Sub-tab)



Other Form - Notes Sub-tab

Form Element	Comment
Notes	Enter information about the panel. This field is limited to less than 2000 characters. Any text that is entered here will be displayed in Alarm Monitoring. For more information, refer to the procedure to View Notes in the Alarm Monitoring User Guide in Chapter 5, “Monitor Devices.”

Other Form Procedures

Add an Other Access Panel

1. Click [Add].
2. In the **Name** field, type a unique, descriptive name for the access panel.
3. If you want to place the panel online immediately, select the **Online** check box. Typically, you wouldn’t check this box when configuring the system or

defining panels, but instead would wait until you're ready to put the panel into service.

4. Specify communication parameters on the Location and Connection sub-tabs.
5. Specify setup parameters on the Options sub-tab, which sets up the cardholder database for this panel.

Important: These access panel setup parameters must be completed prior to adding cardholder records to the database, and should not be altered after cardholder records have been added. Changing these settings will result in a full cardholder database download to the panel.

6. Click [OK].

Modify an Other Access Panel

1. In the listing window, select the Other entry you wish to change.
2. Click [Modify].
3. Make the changes you want to the fields.
4. Click [OK] to save the changes, or [Cancel] to revert to the previously saved values.

Delete an Other Access Panel

1. In the listing window, select the Other entry you wish to delete.
2. Click [Delete].
3. Click [OK].

Enter Notes for an Access Panel

1. In the listing window, select the entry you want to edit.
2. Click [Modify].
3. Type the information in the Notes field. This note will be able to be displayed in Alarm Monitoring.
4. Click [OK].

Threshold Settings in the ACS.INI File for Dialup Panels

Important: Some operating systems require you to run the **ACS.INI** file as the administrator to modify it.

Additional threshold settings can be configured for Bosch dialup panels by modifying the **ACS.INI** file. The **ACS.INI** file is located in the Windows directory of the workstation to which the dialup panel will be connected. The following are options that are located in the [Service] section of the **ACS.INI** file

[Service]	Description
FailedRPCLowWaterMark=0	• Determines if a dialup panel needs to be called if the number of failed RPCs reaches a specified threshold • FailedRPCLowWaterMark is set to 0 (off) by default, which means that it is not enabled. • FailedRPCLowWaterMark can be enabled and set to a number that serves as the threshold for the number of failed RPCs for a specific dialup panel. For example: • FailedRPCLowWaterMark=50
LastDialupConnectionCheck=0	• Checks when the last connection to a specific dialup panel occurred. If too many hours have elapsed, a call is initiated to the panel. • LastDialupConnectionCheck is set to 0 (off) by default, which means that it is not enabled. • LastDialupConnectionCheck can be enabled and set to a number that serves as the threshold for the number of hours since the dialup panel has called. For example: • LastDialupConnectionCheck=10
LogEventThreadFilePath=C:\accessct[PW1]\	• Allows the Communication Server to save events to a file upon shutdown that it was unable to save to the database • The file that these events are saved to is called LogEventThreadEvents.dat • The default location where the LogEventThreadEvents.dat file is saved is the current directory that the Communication Server is run from • Another location can be chosen by setting the LogEventThreadFilePath to a different path. For example: • LogEventThreadFilePath=C:\tmp\

If FailedRPCLowWaterMark is set to any value other than 0, the Communication Server will check the number of failed RPCs for non-connected dialup panels approximately once an hour. If the number of failed RPCs in the database is greater than the specified threshold number, a connection to the panel is attempted.

- When this connection attempt occurs, an alarm is displayed in the Alarm Monitoring application that reads “Dialup Stored Command Limit Exceeded”.
- No status indication of the actual connection and processing of failed RPCs is indicated in the alarm.

The purpose of the LastDialupConnectionCheck option in the ACS.INI file is to identify panels that have not connected, but should have. This helps identify panels in the field that are damaged or are experiencing problems. If LastDialupConnectionCheck is set to any value other than 0, the Communication Server will check the most recent connection time for each dialup panel approximately once an hour. Only panels that have connected at least once (since this build has been installed) will be checked. If the amount of time that has

elapsed since the dialup panel last connected is greater than the specified threshold number, a connection to the panel is attempted.

- When this connection attempt occurs, an alarm is displayed in the Alarm Monitoring application that reads “Dialup Last Connection Time Expired”.
- No indication of whether the connection was successful or not is indicated.

LogEventThreadFilePath allows you to save events to a file upon shutdown that it was unable to save to the database. Normally, this should not occur. This should only occur if there was a problem writing to the database. When the Communication Server is started, it checks to see if the LogEventThreadEvents.dat file exists using the path specified in the ACS.INI file. If the file does exist, the Communication Server will read the events that are in the file, save them to the database, and delete the file.

If the Communication Server gets into a state where it can still open the database but is having problems writing to the table that the events are stored in, the Communication Server will stop polling the panel for events until it can write another event to the database. Error messages will be recorded in the following locations:

- “Database Error” messages will be sent to Alarm Monitoring as a warning that this condition occurred
- Application Log
- LenelError.log

The information contained in the error messages is useful in determining exactly why the Communication Server was unable to write to the database. The Communication Server will probably need to be shut down to get the system to work properly.

- Shutting down the Communication Server will save any unsaved events to the LogEventThreadEvents.dat file.
- When the Communication Server restarts, it will load the events from the LogEventThreadEvents.dat file and attempt to save them to the database. (The events will not be sent to Alarm Monitoring because they were already sent once.)
- Before restarting the database, the error logs should be examined and any problems with the database should be resolved.

Chapter 26: Readers and Doors Folder

The Reader folder contains forms with which you can:

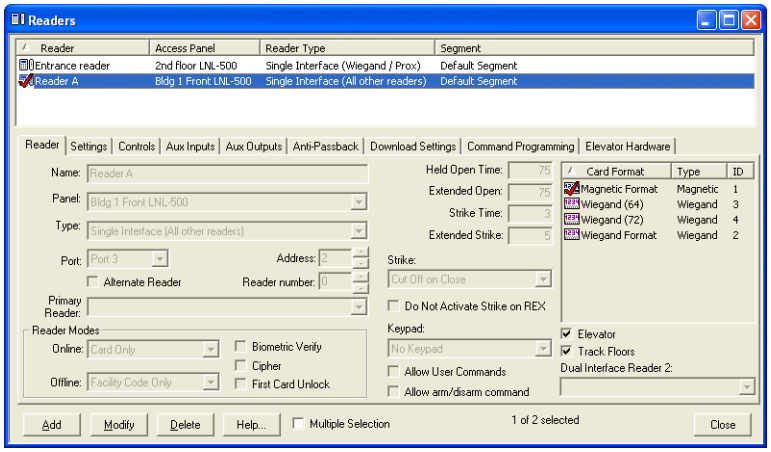
- Name individual readers in the software
- Identify the reader's type and its access panel address
- Specify reader setup parameters, including access panel connection, and modes of operation

The folder contains forms: the General form, the Grouping form, the Settings form, the Controls form, the Aux Inputs form, the Aux Outputs form, the Anti-Passback form, the Command Programming form, the Elevator Hardware form, the Door form, the In Reader form, and the Out Reader form.

Toolbar Shortcut

The Readers folder is displayed by selecting **Readers and Doors** from the **Access Control** menu, or by selecting the Readers and Doors toolbar button.

General Form



General Form Overview

The General form is used to:

- Name individual readers in the software
- Identify the reader's type and its access panel address
- Specify offline and online modes of operation, and the card format used

Note: Reader functions supported for HID panels allow you to grant access on "Card Only" or "Card and Pin" and configure strike time, held time, and extended strike for specified users. Additionally, strike on REX can be disabled/enabled. For more information, refer to the HID Form Overview on page 726.

General Form Field Table

Readers Folder - General Form

Form Element	Comment
Listing window	Lists currently defined readers, the access panel to which each is connected, and each reader's type. It also lists the reader's port, address, and reader number.
Name	Enter a unique reader name of no more than 32 characters. The application uses the name when assigning card readers to access groups, when monitoring alarms, and elsewhere in the system.
Panel	Select the access panel to which the reader is attached. Choices include all currently defined access panels.
Type	Select the type of reader that is being configured. Available choices depend upon the type of access panel that the reader is connected to.
Port	Select the port on the access panel that the reader board attaches to. Different access panels have a different number of communication ports that connect to devices such as reader boards and alarm panels. **Note:** Dual readers use the same port.
Address	Select the address that was set on the reader board during installation. The reader board address is set using DIP switches. Addresses range from 0 - 31.The address you enter in System Administration must match the reader board address. **Exceptions**: • **Gateway readers** - must use the address that was set on the gateway board (i.e.RKP-500B). This applies to every biometric reader connected to the same gateway board. **Note:** Readers are differentiated by their reader number.
Alternate Reader	Select this check box if you want an alternate reader associated with a primary reader. Alternate readers can be either a biometric or generic reader. **Requirements for Biometric Reader Support** • Biometric readers must be alternate readers. Therefore, this check box must be selected when you configure a biometric reader. • The **Biometric Verify** check box (located on the General form) must be selected when you configure the Primary reader. **About Generic Alternate Reader Support** • A generic alternate reader is a secondary read head and/or keypad that works with a primary reader. Together the generic alternate reader and the primary reader function as one logical reader. • The REX, Strike, and Door Contact come from the primary reader's interface. • All access related events are considered events for the primary reader.

Readers Folder - General Form (Continued)

Form Element	Comment
Reader number	The reader number differentiates readers that use the same port and address. Values typically range from 0 - 7. However, for the following readers: • **Scaled Wireless Access readers** - The reader accepts reader numbers from 0 - 15. • **Dual readers** - The reader number is a fixed value that you cannot change. • **Gateway readers** - The first reader must be reader number 0. The second reader can be any number. The reader number is related to the gateway reader address/node number. For example with HandKey readers, reader number 0 on the gateway corresponds to the HandKey reader with address 0 and reader number 5 corresponds to the HandKey reader with address 5. A similar thing is done with Bioscrypt and Scaled Wireless Access.
Primary Reader	If you are configuring an alternate reader, select the primary reader associated it.
Online (Reader mode)	Specify the reader's mode when it's online and communicating with the access panel. Most of the modes are self explanatory, except for **Facility Code Only** mode, which means the access grant decision is based on the cardholder's facility code setting. **Note:** When using PIN only access (PIN or Card mode) at a reader configured for Biometric verification, PIN configurations should be unique. Otherwise, two cardholders having the same PIN may be denied access due to the wrong biometric template in the database being used for verification. Choosing a PIN only access (by selecting the Pin or Card option) is not recommended because it provides a low level of security.
Offline (reader mode)	Specify how the reader behaves when communication is lost between the reader and the access panel (if the reader is wired to the access panel), or between the reader and the intelligent reader. Applicable choices depend upon the type of reader. All readers with the exception of downloadable readers can only choose from locked, unlocked or facility code as valid offline modes of operation. **Note:** When using PIN only access (PIN or Card mode) at a reader configured for Biometric verification, PIN configurations should be unique. Otherwise, two cardholders having the same PIN may be denied access due to the wrong biometric template in the database being used for verification. Choosing a PIN only access (by selecting the Pin or Card option) is not recommended because it provides a low level of security.
Biometric Verify	Select this check box if the primary reader is used along with a biometric reader. The primary reader will ask for verification from the alternate (biometric) reader only if this check box is selected. This field can be used in conjunction with the verify mode fields, on the Timezones folder, if you want biometric verify mode based on timezones. To display the Timezones folder, select **Timezones** from the **Access Control** menu, and select the Timezone/Reader Modes form.

Readers Folder - General Form (Continued)

Form Element	Comment
Cipher	**Bosch hardware only -** Select this check box if you want cipher mode enabled for the reader. When a reader is in cipher mode, card data can be entered via the keypad. **Note:** In addition to selecting this check box, a magnetic card format must be assigned to the reader (even for Wiegand readers). When set, a keypad sequence starting with "*" and ending with "#" will be treated as a magnetic card read stream and matched against the formats assigned to the reader.
First Card Unlock	First card unlock mode is only supported on Bosch controllers. However, first unlock behavior can be configured for use with any controller through global I/O support **Note:** Note that whenever a reader's mode is changed, the first card unlock mode is automatically disabled. Doors configured with first card unlock will not unlock until valid personnel arrives. For example, rather than setting a lobby door to unlock at 9:00 am, you can leave it in a secure mode (i.e., card only, card and pin, etc.) and set the first card unlock to 9:00 am. The first person that comes in the door after 9:00 am will have to present their card. Once access is granted, the reader mode changes to unlocked. This feature is useful for days like "snow days" when employees can't make it to work on time. **Note:** This field is used in conjunction with the **First Card Unlock** check box on the Timezone/Reader Modes form in the Timezones folder. This is so that timezone control can be used to specify when the reader uses the first card unlock functionality. **Note:** If the reader is in "Facility code only" mode, the first card unlock feature does not work.
Encrypted Communications Mode	This field is used for configuring downstream encryption. The options are: • **None** - encryption is not required to send communication. • **Not Required** - encryption is attempted but if it fails the communication is sent unencrypted. • **Required** - encryption is attempted but if it fails the communication is not sent. • **Custom** - the custom key is used and if communication cannot be established then an encryption error status is generated. This field is enabled only if the following conditions are met: • The panel type is an RKP-1100 or RKP-1200. • The reader is connected to an RKP-2220 or RKP-3300 access panel. • Host and downstream encryption are both enabled for the specific access panel.
Held Open Time	Specify the number of seconds the door can be held open before an alarm generates. • **Bosch hardware -** Enter a value from 1 to 131,070 seconds (36.4 hours). • **Other types of hardware** - Enter a value from 1 to 255 seconds (4.25 minutes).

Readers Folder - General Form (Continued)

Form Element	Comment
Extended Open	**Bosch hardware only** - Specify the held open time for badges with the extended strike/held times feature enabled (on the Badge form of the Cardholders folder).This field is intended for anyone who needs extra time to proceed through a doorway. Values range from 1 - 131,070 seconds (36.4 hours).
Strike Time	Specify the number of seconds a strike or lock is open (activated) when access is granted. Typically, this is set from 5 - 10 seconds, but you can enter a value from 1 - 255 seconds (4.25 minutes). **Note:** If you are using Scaled Wireless Access readers, the strike time value should be set to the value matching what is set in the Scaled Wireless Access reader itself. You can not change the strike time via System Administration. This can only be done though the Scaled Wireless Access reader itself.
Extended Strike	**Bosch hardware only** - Specify the reader strike time for badges with the extended strike/held times feature enabled, on the Badge form of the Cardholders folder. This field is intended for anyone who needs extra time to proceed through a doorway. Values range from 1 - 255 seconds (4.25 minutes).
Strike	**RKP-500, RKP-1000,** or **RKP-2000** panels - Indicate how the door strike behaves when a valid card swipe occurs. Choices include: • **Cut Off On Close** – cuts off the door strike when the door closes. This is the default setting. • **Cut Off On Open** – cuts off the door strike when the door opens.
Do Not Activate Strike on REX	**RKP-500, RKP-1000,** or **RKP-2000** panels - A *REX* (Request to Exit) *contact* is typically a button located near the associated door. When a cardholder pushes the button a REX is sent to the panel. • If this check box is selected, the door strike will NOT energize when the REX contact closes. • If this check box is not selected, the door strike energizes when the REX closes.
Keypad	Choose the type of keypad (if any) this reader has.
Allow User Commands	Select this check box if you are configuring a command reader. A *command reader* is equipped with a keypad by which system functions are performed. **Note:** This check box must be selected before you specify the actions triggered by the keypad entries. Actions are specified using the Command Programming form of this folder.
Allow Intrusion command	Select this check box if you want the reader to have the intrusion command authority enabled. **Note:** While this setting is available on all Bosch readers that are not elevator readers this should only be used for the LNL-CK reader, which has proper displays for the intrusion command.

Readers Folder - General Form (Continued)

Form Element	Comment
Card Format	Identify the format(s) expected when a card is presented to a reader. Card formats are defined in the Card Formats folder. The system has the flexibility to incorporate multiple technologies from different readers. For example, a master reader might use a magnetic format, while the associated slave reader might use Wiegand Format. If the panel is RKP-1000, you can select multiple card formats for a single reader. **Multiple Selection** During multiple selections, the card format list is disabled unless the selected readers are of the same type or are Bosch readers. **Sorting** Click on the Card Format column to sort the card formats. **Note:** Card formats for HID readers are automatically specified based on the card formats selected for the panel to which the reader is assigned and cannot be modified on the General form. For more information, refer to HID Form (Card Formats Sub-tab) on page 730.
Elevator	**Bosch readers** - Select this check box you are configuring an elevator reader. Elevator control is supported through reader 1 on the dual reader interface board. This check box can be selected only if you select one of the "Dual Interface Rdr 1" choices in the **Type** field on this form. **Note:** This check box must be selected before you can further configure elevator access via the Elevator Control form on the Access Levels folder.
Track Floors	Select this check box ONLY if you intend to install alarm input modules.To use the floor tracking feature, you must also define the input and output panels using the Elevator Hardware form, and the outputs themselves using the Alarm Outputs form. For more information, refer to Elevator Hardware Form on page 788. **Single interface readers on Bosch panels** - Select this check box to enable cardholder tracking with respect to the floors they access. When floor tracking is enabled, and a cardholder in an elevator cab selects one of the floor buttons, an alarm monitoring transaction is generated that identifies the cardholder and indicates which button was pressed. If the cardholder does not have access to the requested floor, an Access Denied event is generated.
Dual Interface Reader 2	**Bosch panels with dual readers only** - Specify the name of the second reader. The second reader must have been previously defined on this form and "Dual Interface Rdr 2" must have been selected as the reader type when you defined the second reader. **Note:** If the primary reader is a Bosch elevator reader, this field is not supported.
Add	Adds a reader to the system.
Modify	Changes a reader entry.
Delete	Removes the selected reader(s).
Help	Displays pertinent help information onscreen.
Multiple Selection	If selected, two or more reader entries can be simultaneously checked in the listing window.
Close	Closes the Readers folder.

Hardware Notes

ReadkeyPRO supports a keypad command readers, the LNL-CK in RS-485 connection mode. For more information, refer to the Command Keypad section of the Hardware Installation Guide.

LNL-CK in RS-485 Connection Mode

The LNL-CK in RS-485 connection mode is a device with a keypad and display that connects directly to a RS-485 line. This device has no inputs or outputs therefore, this device has no door strike, door contact, or REX functionality.

Note: If you want door inputs and door outputs, use the LNL-CK in RS-485 connection mode as an alternate reader and use the read head, door inputs, and door outputs of an associated primary reader.

The LNL-CK in RS-485 connection mode supports PIN only verification. However, you can wire a card reader into the unit so that card entry as well as pin only verification can occur.

LNL-CK Reader Types

Refer to the following reader type definitions to configure LNL-CK readers.

- RS-485 Command Keypad (All Other Readers) - denotes an LNL-CK connected to the RS-485 line. The card reader attached to the LNL-CK is an “all other readers” type.
- RS-485 Command Keypad (Wiegand/Prox) - denotes an LNL-CK connected to the RS-485 line. The card reader attached to the LNL-CK is a “Wiegand/ Prox” type.
- RS-485 Command Keypad (Mag w/ Wiegand Output) - denotes an LNL-CK connected to the RS-485 line. The card reader attached to the LNL-CK is a Mag w/ Wiegand Output type.

General Form Procedures

Add a Reader

Important: If you want to configure (add) several readers or ILS offline/wireless locks, use the Configure Readers Wizard which is available by selecting **Wizards** from the **Application** menu. The wizard provides detailed instructions to guide you through the configuration process. The wizard cannot be used to add biometric or Schlage wireless readers.

The mandatory fields required to add a reader include: **Name**, **Panel**, **Type**, **Port**, **Address**, Reader modes (online and offline) and associated **Card Format**. Other fields may be required depending on the type of system and hardware you are using.

The procedures that follow include the required fields for a basic system. Refer to the Readers Folder - General Form table on page 745 for information on additional fields.

1. From the **Access Control** menu, select **Readers**. The Readers folder opens.
2. On the General tab, click [Add].
3. In the **Name** field, enter a unique, descriptive name for the reader.
4. In the **Panel** drop-down, select the access panel the reader connects to.
5. Select the reader's type. Keypad command reader type definitions are available in LNL-CK Reader Types on page 750.
6. Choose the port and address that connects the reader to the access panel.
7. Select one or more card formats.
8. Select the mode the reader should be in when the panel is online and offline.

Note: When using PIN only access (PIN or Card mode) at a reader configured for Biometric verification, PIN configurations should be unique. Otherwise, two cardholders having the same PIN may be denied access due to the wrong biometric template in the database being used for verification.

9. Click [OK].

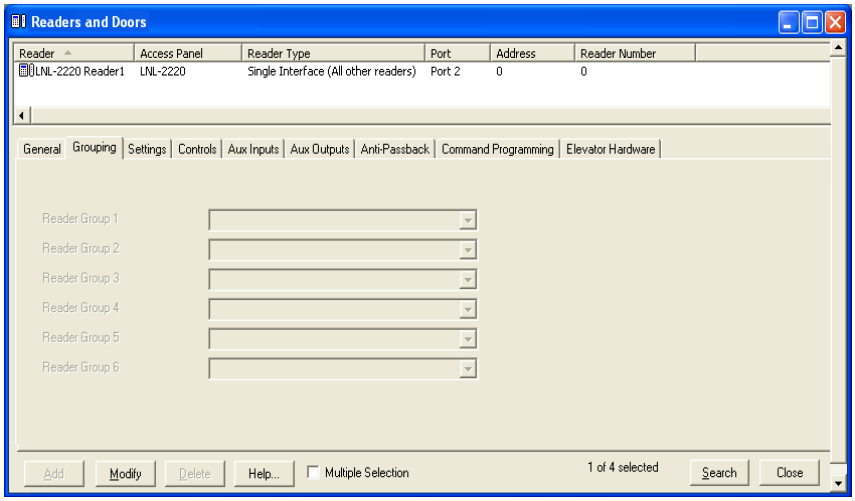
Modify a Reader

1. On the General form, select (place a check mark beside) the reader entry you wish to change.
2. Click [Modify].
3. Make the changes you want to the fields.
4. Click [OK] to save the changes or [Cancel] to revert to the previously saved values.

Delete a Reader

1. On the General form, select (place a check mark beside) the reader entry you wish to delete.
2. Click [Delete].
3. Click [OK].
4. Click [OK] to confirm deletion.

Grouping Form



Grouping Form Overview

The Grouping form is used to:

- Specify the group or groups to which the reader belongs.
- Search for readers by group (The search for readers button is available from all of the forms in the Readers folder.)
- Name and save lock group search criteria for future use.

Six (6) default reader group drop-down lists are provided on this form.

Reader Group List Entries

In order to activate the reader group features, you need to add entries to each of the group lists you are planning to use in List Builder.

Reader Group Labels

Use FormsDesigner Lite to modify the label text (such as “Reader Group 1”) to better describe how you want to refer to the reader groups for your system.

Note: If you have the full version of FormsDesigner, in addition to modifying the label text, you can add reader group drop-down lists to the form and modify the default reader group lists. For more information, refer to the FormsDesigner User Guide.

Grouping Form Field Table

Readers Folder - Grouping Form

Form Element	Comment
Listing window	Lists currently defined readers (locks), the controller panel to which each is connected, and each lock's type. It also lists the lock's ID (Reader number).
Reader Groups	Specify groups for the selected reader (lock) from the **Reader Group** drop-down lists. Choices include the reader (lock) group values that were added in the List Builder folder.
Search	Displayed in view mode on every form in the Readers folder. This button is used to search for and list existing readers (locks) that meet the specified lock group search criteria.
Modify	Allows you to change reader (lock) group entries.
Help	Displays pertinent help information.
Multiple Selection	If selected, two or more reader (lock) entries can be simultaneously selected in the listing window.
Close	Closes the Readers folder.

Grouping Form Procedures

Add Reader Groups

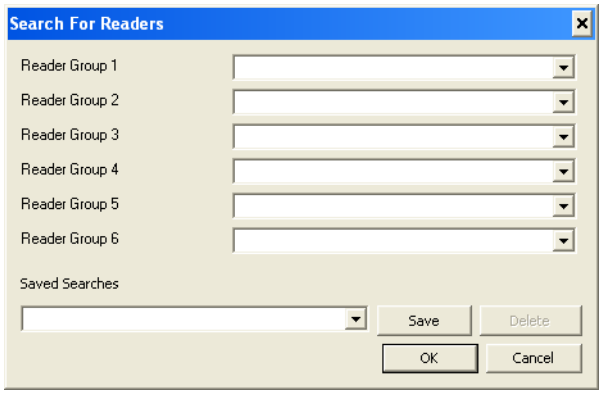
In System Administration, complete the following steps:

1. Select **Readers** from the **Access Control** menu. The Readers folder opens.
2. From the readers list, select the reader you want to configure.
3. Click [Modify].
4. From one or more of the **Reader Group** drop-downs, select a group item to assign to the lock.
5. Click [OK].

Search for Readers by Groups

In System Administration, complete the following steps:

1. Select **Readers** from the **Access Control** menu. The Readers folder opens.
2. In view mode, click [Search]. The Search for Readers window opens.



3. Specify your search criteria by selecting entries from one or more of the **Reader Group** drop-downs.
4. (Optional) Type a unique, descriptive name for the current search criteria, and then click [Save] to save the search settings. To remove a saved search, select the search name in **Saved Searches**, and then click [Delete].
5. Click [OK]. The readers listing window now list the locks that match the group search criteria.

Settings Form

Note: Several fields are not available for RS-485 Command Keypad readers.

Settings Form Overview

This form is used to:

- Identify time periods during which to report or to not report ("mask") certain types of information
- Identify time periods during which to activate the reader's outputs
- Select other reader settings such as paired master or slave

Settings Form Field Table

Readers Folder - Settings Form

Form Element	Description
Listing window	Lists currently defined readers, the access panel to which each is connected, and each reader's type.
Mask Forced Open	Specifies the times during which a forced entry will not be reported as an alarm. Choices in the drop-down list are currently defined timezones. However, when segmentation is enabled, only timezones in the same segment as the selected reader are listed. **Note:** When alarms are masked, they are not reported to either alarm monitoring or stored in the database for later event reporting.
Mask Held Open	Specifies the times when an alarm will not be reported if the door is held open longer than the **Held Open Time** (from the General form). Choices in the drop-down list are currently defined timezones. However, when segmentation is enabled, only timezones in the same segment as the selected reader are listed. **Note:** When alarms are masked, they are not reported to either alarm monitoring or stored in the database for later event reporting.
Log Access Grants	Specifies the time period(s) during which the system will log Access Granted events received from this reader. Choices in the drop-down list are currently defined timezones. However, when segmentation is enabled, only timezones in the same segment as the selected reader and timezones assigned to <All Segments> are listed. Access Grants will not be logged during time periods outside of the specified timezone. If no timezone is selected, ALL Access Granted events will be logged to the database.
Log Access Denies	Specifies the time period(s) during which the system will log Access Denied events received from this reader. Choices in the drop-down list are currently defined timezones. However, when segmentation is enabled, only timezones in the same segment as the selected reader and timezones assigned to <All Segments> are listed. Access Denies will not be logged during time periods outside of the specified timezone. If no timezone is selected, ALL Access Denied events will be logged to the database.
Log Reader Status	Specifies the time period(s) during which the system will log Reader Status events received from this reader. Choices in the drop-down list are currently defined timezones. However, when segmentation is enabled, only timezones in the same segment as the selected reader and timezones assigned to <All Segments> are listed. Status events will not be logged during time periods outside of the specified timezone. If no timezone is selected, ALL Status events will be logged to the database.

Readers Folder - Settings Form (Continued)

Form Element	Description
Paired Master	If selected, indicates that this is a master reader that has an attached slave reader. You must also make sure that the name of the slave reader is selected in the **Slave Reader Attached** field on the Readers form of this folder. A master/slave relationship indicates that the door strike and door contact will be shared between the two readers. This is used when two readers are used to control the same door. An example is when a door is secured for both in and out access. In this case, there will be a reader located on the outside as well as the inside of the door. The master reader controls and reports all door strikes and door contacts, meaning that if a door is forced open, the alarm will be reported for the reader selected as master.
Paired Slave	If selected, indicates that this is a slave reader attached to a master reader. A master/slave relationship indicates that the door strike and door contact will be shared between the two readers. This is used when two readers are used to control the same door. An example is when a door is secured for both in and out access. In this case, there will be a reader located on the outside as well as the inside of the door. The master reader controls and reports all door strikes and door contacts, meaning that if a door is forced open, the alarm will be reported for the reader selected as master.
Two Card Control	If selected, two cards must always be granted access through the reader in order to open the door.
Deny On Duress PIN	In environments where the reader accepts PIN input, a special duress PIN signals the system that the person attempting entry is in danger (i.e., the person is entering under threat). By default, the door opens in such situations. If this check box is not selected, access will be granted under duress. The event “Granted Under Duress” or “Granted Under Duress, No Entry” will be generated depending on whether or not the door was opened. Special linkage actions can be associated with these events through the local I/O and global I/O features. If this check box is selected, access will be denied under duress and the event “Denied Under Duress” will be generated. Special linkage actions can be associated with this event through the local I/O and global I/O features.
Assume Door Used	Selecting this check box will force all valid card swipes to be reported immediately as “Access Granted” events, even if the cardholder did not open the door. If this check box is NOT selected, the event “Access Granted” will not reported until the cardholder opens the door after a valid card swipe. If the door is not used, the event “Access Granted, Door Not Used” will be reported.

Readers Folder - Settings Form (Continued)

Form Element	Description
Enforce Use Limit	If this check box is selected, badge use limits are enforced at this reader. This means that each time a use-limited badge is used at this reader, the badge's use limit is decremented for the associated access panel. A cardholder's use limit is specified on the Badge form of the Cardholders folder. Whenever the cardholder swipes his badge at a reader where use limits are enforced, the cardholder's use limit is reduced by one (1). When the use count reaches zero (0), the cardholder is unable to access use limit-enforced card readers on that panel. A cardholder's use limit stays in effect until someone manually resets it from within Alarm Monitoring (by right-clicking on the entry for the use limit exceeded alarm) or by manually executing or scheduling a reset use limit action (For more information, refer to Reset Use Limit Properties Window on page 1293.). It should be noted that if a full database download is performed the use limit is preserved. Some applications of the Use Limit: • for use by temporary employees or visitors • for use at readers that control access to commissaries or other locations of supplies, equipment, or provisions. With use limits enforced in these areas, the cardholder's badge functions like a debit card.
Checkpoint	Select this check box if you want the selected reader to be a designated stop along a guard tour.
First Card Unlock Authority Required	Select this check box if you want special authority to be required for unlocking a door when the reader is in first card unlock mode. **Note:** If the reader is in "Facility code only" mode, the first card unlock feature does not work.
Turnstile	This check box applies only to readers on Bosch panels that support the Revolving Door Controller turnstile. This check box is not required for other turnstiles. Select this check box if you have a turnstile model from the Revolving Door Controls company and you want support for multiple access grants while the revolving turnstile is getting previous grants through the turnstile. When this check box is selected, an access grant pulses the strike output 1 second, regardless of the strike time. This gives the turnstile a count of the number of people it needs to move through the turnstile. If multiple cards are granted entry, the strike output pulses once for each card. The controller waits the length of the strike time for the door contact input to be activated before issuing a grant with or without entry. Each time the door contact input is activated, the next badge in the queue is issued a grant with entry. The strike time for all other badges in the queue is renewed.

Readers Folder - Settings Form (Continued)

Form Element	Description
Tailgate	With the tailgate option enabled on the reader, a pulse is sent to the output connected to the tailgate sensor. The tailgate hardware keeps track of how many people enter through a door and generates alarms if a violation is detected. The output to the tailgate sensor will be auxiliary output 1 and must be configured as such. A tailgate cannot be configured with an alarm shunt or strike follower because they use auxiliary output 1. Consequently, if **Tailgate** is enabled, **Alarm Shunt** and **Strike Follower** will be deselected. **Note:** The tailgate option is for Bosch hardware only.
Alarm Shunt	Supported only with the RKP-2220, RKP-1300. This option is used to disable generation of an alarm in a secondary intrusion/alarm system when the access control door is used during a valid access grant or REX. When enabled, the auxiliary output 1 relay on the reader interface module will be pulsed in addition to the strike relay and used to intercept the second contact connected to the intrusion/alarm system. The auxiliary output 1 relay will remain energized until just after the door is secured. An alarm shunt cannot be configured with a tailgate or strike follower because they use auxiliary output 1. Consequently, if **Alarm Shunt** is enabled, **Tailgate** and **Strike Follower** will be deselected. If you plan to configure an alarm shunt and a pre-alarm, they cannot both use auxiliary output 1. Consequently: • For the RKP-2220 and RKP-1300 readers, if **Alarm Shunt** is enabled, no pulse aux output option will be available in the **Pre-Alarm mode** drop-down list.
Strike Follower	This option is for configuring the output to follow the strike pulse, optionally with a delay or pulse time. When selected, the auxiliary output 1 relay (Output 1 on the Aux Outputs form) is used to define the timing and mode. This feature is supported with the RKP-2220, RKP-3300 or Series 2 RKP-1300. Strike follower cannot be configured with a tailgate or alarm shunt because they use auxiliary output 1. Consequently, if **Strike Follower** is enabled, **Alarm Shunt** and **Tailgate** will be deselected. When strike follower is configured, aux output 1 cannot be activated or pulsed in Alarm Monitoring. When strike follower is configured for a reader, output 1 cannot be used for local I/O or global I/O. If you plan to configure a pre-alarm and strike follower, they cannot both use auxiliary output 1. Consequently: • For the RKP-2220 and RKP-1300 readers, if **Strike Follower** is enabled, no pulse aux output option will be available in the Pre-Alarm mode drop-down list.
Asset Required	When enabled, an asset is then required to gain access to the reader.
Mask Forced Open	If selected, a forced entry at this door will never be reported as an alarm. If this option is selected, the timezone setting for masking this alarm will have no effect.

Readers Folder - Settings Form (Continued)

Form Element	Description
Mask Held Open	If selected, indicates that at no time will an alarm be reported if the door is held open longer than the **Held Open Time** (from the General form). If this option is selected, the timezone setting for masking this alarm will have no effect.
Count	Select a number from 0 to 255. A value of 0 indicates that the denied attempts feature will not be used for this reader. When a value greater than 0 is entered, that value indicates the number of times an invalid PIN number can be entered at this reader incorrectly before a "Denied Count Exceeded" transaction is reported. The increment count is based on an invalid PIN for a reader in card and PIN mode, invalid PIN for a reader in PIN or card mode, invalid biometric for a reader in biometric verification mode. Through local I/O, you can configure a local I/O function list to be executed when the "Deny Count Exceeded" transaction occurs for a given reader. For more information, refer to Chapter 34: Local I/O Folder on page 911. Through global I/O, you can configure actions to execute when the "Deny Count Exceeded" transaction is reported. For example, you can configure actions that activate an output or lock the reader. For more information, refer to Appendix A: Actions on page 1217.
Timeout	In cases of denied attempts, this field is used to specify the amount of time (in minutes) the controller will use to evaluate the number of denied attempts for a given reader. For example, if the **Timeout** field set to 1 the controller would reset the count of invalid attempts after a period of 1 minute. If the cardholder does not wait for 1 minute the **Count** field limit is invoked.
Restore	Determine whether a reader will be locked from access requests when the Denied Attempts **Count** value has been reached. Select a number which, in minutes, will determine how long a reader remains locked when the Denied Attempts count has been reached. For example, assume the **Count** field is set to 5, the **Timeout** field is set to 1, and the **Restore** field is set to 1. If a user enters 5 invalid pin codes at a reader within a 1 minute time period the reader will be automatically locked from processing further access control requests until the 1 minute restore time has elapsed. The mode of the reader cannot be changed once locked until this time has lapsed. It will also continue to show the original mode the reader was set to prior to the lock out occurring. A value of 0 indicates the reader will not be locked when the Denied Attempts **Count** has been reached.

Readers Folder - Settings Form (Continued)

Form Element	Description
Pre-Alarm mode	A *pre-alarm* alerts cardholders that the door held open time is about to expire and triggers an alarm. To use the pre-alarm, select an option from this drop-down. The options include: • **None:** No alarm is used. • **Pulse aux output 1:** On a pre-alarm, a "Door Forced Open" alarm is generated. **Note:** If you plan to configure a pre-alarm and an alarm shunt, they cannot both use auxiliary output 1. Consequently: – For the RKP-2220 and RKP-1300 readers, if **Alarm Shunt** is enabled, no pulse aux output option will be available in the **Pre-Alarm mode** drop-down list. • **Use reader buzzer:** On a pre-alarm the reader buzzer will beep twice every second until the door is closed, ending the pre-alarm. **Note:** The Use reader buzzer functionality might not work on every reader. It also requires firmware 3.073 or later. The pre-alarm is used ONLY in situations where the door is held open after access has been granted. If the door is forced open and a "Door Forced Open" alarm is generated, the pre-alarm is not activated if the held open time expires**.** You will already be in alarm mode because the door has been forced open, so a pre-alarm is not necessary. For Bosch hardware, the duration of the reader's auxiliary output 1 is specified on the Aux Outputs tab (**Output 1 Pulse Time** spin button). The default value is five (5) seconds. For Bosch readers, the reader's auxiliary output 1 can be wired to devices such as sounders which can warn the cardholder to close the door before an alarm is triggered.
Pre-Alarm timeout	A *pre-alarm* alerts cardholders that the door held open time is about to expire and trigger an alarm. Enter when (in seconds) you want the reader's auxiliary output 1 (pre-alarm) activated. The pre-alarm timeout range is 1-131,070 seconds but must be 2 seconds less than the held open time.
LED Mode	This field configures the LED on the reader, and is activated only if the reader is connected to a Bosch access panel. Choices include: • **1-Wire LED Control** - If selected, LED control will be via a single wire. • **2-Wire LED Control** - If selected, two wires will be used to control the LED on the reader. This option applies to the RKP-2000 reader and to all other readers that support 2-wire communication. **Note:** If you use a 2-wire LED you lose control of the buzzer. • **Dorado LED Control** - This option is to be used ONLY for readers manufactured by Dorado. Dorado readers are configured differently from the standard 1- or 2-wire LED control. • **LCD Command Keypad** - Indicates the attached reader is LED/text capable. This LED mode is automatically selected (and cannot be changed) when the reader type is one of the RS-485 Command Keypads.
Modify	Used to configure reader settings.
Help	Displays online assistance for this form.

Readers Folder - Settings Form (Continued)

Form Element	Description
Multiple Selection	If selected, two or more entries can be simultaneously checked in the listing window.
Close	Closes the Readers folder.

Settings Form Procedures

Configure Reader Settings

1. From the **Access Control** menu, select **Readers**. The Readers folder opens.
2. Click the Settings tab.
3. In the listing window, select the name of the reader to which these settings will apply.
4. Click [Modify].
5. In the During Timezone section, for each action listed select the timezone (if any) during which it is to occur.
6. In the Settings and Always sections, select the check box(es) corresponding to the conditions that you want to occur.
7. In the Denied Attempts section, specify the count and timeout values for this reader.
8. In the Pre-Alarm section, select a Pre-Alarm mode to use a pre-alarm. Enter the number of seconds before the held open time expires that you want pre-alarm to start.

Note: The duration of the pre-alarm is configured on the Aux Outputs tab.

9. If the reader is connected to a Bosch panel, select the appropriate LED mode.
10. Click [OK].

Controls Form

Note: RS-485 Command Keypad readers do not support fields on the Controls form.

Note: For readers connected to HID panels, Door Contact and REX **Supervision** is supported for System and Basic Custom EOL resistor tables, only. Door Contact and REX **Debounce** settings are also supported. For more information, refer to Advanced Custom EOL Resistor Tables on page 945.

Controls Form Overview

This form is used to:

- Choose elevator access settings, if you are working with an elevator reader.
- Specify the command used in video verification situations, if you are working with an elevator reader and a CCTV camera is installed at this reader.
- Specify global event programming links associated with keypad commands, if you are working with keypad-equipped readers.

Controls Form Field Table

Readers Folder - Controls Form

Form Element	Comment
Listing window	Lists currently defined readers, the access panel to which each is attached, and each reader's type.
Door Contact	Contains the **Supervision** and **Debounce** fields.
Supervision	**Bosch hardware only** - Select a supervision and normally open/closed setting from the drop-down list. Choices in the drop-down list are based on the EOL tables. There are four built-in tables and up to four custom tables that can be configured by the user. For more information, refer to Chapter 36: EOL Tables Folder on page 945. The four built in tables are: • Default Supervision, Normally Closed • Default Supervision, Normally Open • Not Supervised, Normally Closed • Not Supervised, Normally Open Each auxiliary input can be individually wired for either supervised or unsupervised activity. An unsupervised input is an unprotected, low security input. Someone can short-circuit the connection between the auxiliary input and the device controlled by the input, thereby defeating the circuit. Although the device may trigger an alarm condition in such a situation, the auxiliary input will not be aware of it. By contrast, a supervised input's circuit is equipped with resistors. Subtle changes in the voltage on the circuit can be detected to determine whether someone has tampered with the wiring. For this reason, supervised inputs are high security.
Debounce	**Bosch hardware only** - Debounce is the amount of time that an input must change state in order for that change to be considered a logical change of state. There are six levels of debounce (1-6). These are relative levels with 1 being the lowest (shortest) and 6 being the highest (longest). It is up to the hardware interface to map these values to hardware specific values, as well as to map the "Default" option to a hardware specific value. The Bosch hardware interface maps these values to: • 1 - Bosch value of two scans, ~33 ms (default for REX) • 2 - Bosch value of four scans, ~67 ms • 3 - Bosch value of six scans, ~100 ms (default for door contact and alarm and reader aux inputs) • 4 - Bosch value of nine scans, ~150 ms • 5 - Bosch value of 12 scans, ~200 ms • 6 - Bosch value of 15 scans, ~250 ms **Note:** It is recommended that the debounce time should not be changed and left at the default setting of "Default."

Readers Folder - Controls Form (Continued)

Form Element	Comment
Use relaxed door forced open detection	Select to allow a small window of time (approximately 3 seconds) after an authorized door entry that the door may be reopened without triggering a door forced open alarm.
REX	Contains the **Supervision** and **Debounce** fields.
Supervision	**Bosch hardware only** - Select a supervision and normally open/closed setting from the drop-down list. Choices in the drop-down list are based on the EOL tables. There are four built-in tables and up to four custom tables that can be configured by the user. For more information, refer to Chapter 36: EOL Tables Folder on page 945. The four built in tables are: • Default Supervision, Normally Closed • Default Supervision, Normally Open • Not Supervised, Normally Closed • Not Supervised, Normally Open Each auxiliary input can be individually wired for either supervised or unsupervised activity. An unsupervised input is an unprotected, low security input. Someone can short-circuit the connection between the auxiliary input and the device controlled by the input, thereby defeating the circuit. Although the device may trigger an alarm condition in such a situation, the auxiliary input will not be aware of it. By contrast, a supervised input's circuit is equipped with resistors. Subtle changes in the voltage on the circuit can be detected to determine whether someone has tampered with the wiring. For this reason, supervised inputs are high security.
Debounce	**Bosch hardware only** - Debounce is the amount of time that an input must change state in order for that change to be considered a logical change of state. There are six levels of debounce (1-6). These are relative levels with 1 being the lowest (shortest) and 6 being the highest (longest). It is up to the hardware interface to map these values to hardware specific values, as well as to map the "Default" option to a hardware specific value. The Bosch hardware interface maps these values to: • 1 - Bosch value of two scans, ~33 ms (default for REX) • 2 - Bosch value of four scans, ~67 ms • 3 - Bosch value of six scans, ~100 ms (default for door contact and alarm and reader aux inputs) • 4 - Bosch value of nine scans, ~150 ms • 5 - Bosch value of 12 scans, ~200 ms • 6 - Bosch value of 15 scans, ~250 ms **Note:** It is recommended that the debounce time should not be changed and left at the default setting of "Default."

Readers Folder - Controls Form (Continued)

Form Element	Comment
Report request to exit events	Click to enable. By enabling the check box the request to exit events are reported to Alarm Monitoring and logged in the database.
Elevator Control Settings	This section is activated only when an elevator reader is selected. A reader is configured as an elevator reader if the **Elevator** check box is selected on the General form of the Readers folder. This section includes the **Standard Day Mode Timezone**, **Custom Day Mode Settings**, **Standard Day Mode/Facility Code Settings** OR **Online Facility Code** and **Custom Day Mode Settings** fields.
Online Facility Code	When the Reader and Alarm Output Panel(s) are online: • Online facility code grants will gain access to any floor listed in the **Online Facility Code** drop-down list, if the current time is within the timezone for that floor. Each floor listed in the drop-down list can have its own timezone, which is configured on the Elevator Control form of the Access Levels folder. • Access to floors occurs regardless of the **Enable Floor When Using Facility Code** check box setting on the Elevator Control form in the Access Levels folder. • The Online Facility Code feature applies to 6 floor Bosch elevator control with Dual Reader interface and extended Bosch elevator control with Single Reader interface modules configured to support facility code operation. When the Reader and/or Alarm Output Panel(s) are offline: • Offline facility code floor access is not supported by Bosch elevator readers. For extended elevator control using a Single Reader Interface and alarm panels, no floor access can be gained through an offline facility code grant. • For 6 floor dual reader elevator control, the first floor output is always activated upon an offline facility code grant. • For 6 floor dual reader elevator control, if the reader goes offline and offline mode is facility code only, the first output will be activated upon a facility code grant. If the offline mode is unlocked, the first floor will be active while the reader is offline. To prevent this, the offline mode must be locked.
Custom Day Mode Settings	Selects the elevator control level that will be used for access to floors via this reader. Elevator control levels are defined on the Elevator Control form of the Access Levels folder. • Cardholder grants will gain access to any floor listed in the **Online Facility Code** drop-down list, if the current time is within the timezone for that floor. Each floor listed in the drop-down list can have its own timezone, which is configured on the Elevator Control form of the Access Levels folder. • Access to floors occurs regardless of the **Enable Floor During Day Mode** check box setting on the Elevator Control form in the Access Levels folder. • When using floor tracking for extended elevator control with a Dual Reader Interface, the outputs do not light up until the button is pressed.

Readers Folder - Controls Form (Continued)

Form Element	Comment
CCTV Command for Video Verification	Indicates the CCTV command to be used to display live video during video verification. The command specified in this box will be sent to the CCTV switcher for all card events specified for this reader during video verification. This reader must be monitored in the video verification window in order for the command to be sent. The command must be a command string that your organization's CCTV equipment understands. If your equipment uses control characters as commands, refer to the special note following the procedures in the Alarm Configuration folder chapter, CCTV Instructions form.
Time and Attendance	Includes the **Not Used**, **Entrance Reader**, and **Exit Reader** fields. These fields are used for reporting purposes only, for installations that have time and attendance systems. These fields have no effect on the behavior of the readers.
Not Used	If selected, this reader will not be used for time and attendance reporting.
Entrance Reader	If selected, this reader will be identified as an entrance reader for time and attendance reporting.
Exit Reader	If selected, this reader will be identified as an exit reader for time and attendance reporting.
Modify	Used to configure reader controls.
Help	Displays online assistance for this form.
Multiple Selection	If selected, two or more entries can be simultaneously checked in the listing window.
Close	Closes the Readers folder.

Controls Form Procedures

Configure Reader Controls

Note: Dimmed fields indicate that the corresponding capabilities are not available for the selected reader.

1. From the **Access Control** menu, select **Readers**. The Readers folder opens.
2. Select the Controls tab.
3. In the listing window, select the reader for which to configure reader controls. If the **Multiple Selection** check box is selected, you can select more than one reader at the same time, but will not be able to configure all fields on the form in multiple selection mode.
4. Click [Modify].
5. For Bosch hardware only, in the Door Contact and REX sections:
   a. Select supervision and normally open/closed settings from the **Supervision** drop-down lists.
   b. It is recommended that the debounce time should not be changed and left at the default setting of "Default." However, if you want to change this value, select an option from the **Debounce** drop-down list. Debounce is the amount of time that an input must change state in order for that change to be considered a logical change of state. There are six levels of debounce (1-6). These are relative levels with 1 being the lowest (shortest) and 6 being the highest (longest). It is up to the hardware interface to map these values to hardware specific values, as well as to map the "Default" option to a hardware specific value. The Bosch hardware interface maps these values to:
      - 1 - Bosch value of two scans, ~33 ms (default for REX)
      - 2 - Bosch value of four scans, ~67 ms
      - 3 - Bosch value of six scans, ~100 ms (default for door contact and alarm and reader aux inputs)
      - 4 - Bosch value of nine scans, ~150 ms
      - 5 - Bosch value of 12 scans, ~200 ms
      - 6 - Bosch value of 15 scans, ~250 ms

Note: The **Debounce** field is available for Bosch hardware only.

6. If the reader is an elevator reader, choose elevator control settings.
7. If your system is integrated with a time and attendance system, indicate whether you wish to identify the reader (for reporting or data exporting purposes) as an entrance reader, exit reader, or neither.
8. If a CCTV camera is installed at this reader, specify the command for video verification.
9. If the reader is a keypad reader, enter the cipher code (up to six digits) that can be used to unlock the reader when it is in cipher mode.
10. Click [OK].

Aux Inputs Form

Note: RS-485 Command Keypad readers do not support auxiliary inputs.

Aux Inputs Form Overview

Each reader has one or more auxiliary inputs that can be connected to and can monitor a set of dry (non-powered) contacts. When a closure of the contacts is detected the reader generates an auxiliary alarm.

If the reader is a Bosch elevator reader then inputs 1 and 2 are used as the auxiliary inputs. The other six inputs are reserved for future use.

Functions:

- Assign a name to each of a reader's auxiliary inputs
- Specify the times during which auxiliary input alarms will not be reported to the system

Aux Inputs Form Field Table

Readers Folder - Aux Inputs Form

Form Element	Comment
Listing window	Lists currently defined readers, the access panel to which each is attached, and each reader's type.
Input # Name	Enter a unique, descriptive name for this reader's auxiliary input # 1 or 2. If this field is configured, alarms generated from the aux 1 or 2 input will be displayed in alarm monitoring with the name entered in this field.
Mask Input # During Timezone	**Bosch hardware only** - Select the timezone (if any) during which to not report alarms from this reader's auxiliary input #1or 2. Choices include all currently defined timezones.
Never Mask Input #	If selected, alarms originating at this reader's auxiliary input #1 or 2 will always be reported. For those inputs marked as such the mask and unmask options in the software will be disabled.
Always Mask Input #	If selected, alarms originating at this reader's auxiliary input #1 or 2 will never be reported.
Checkpoint	Select this check box if the reader's auxiliary input #1 or 2 is wired as a checkpoint (a designated stop along a guard tour).
Hold Time	When an input goes active and is restored, enter the amount of time (in seconds) to wait until reporting the input as restored. If the input goes active again within the hold time, a change of state is not reported, but just remains as active. This feature is useful when there is no advantage to log the specific number of times a point is tripped after the initial event. For example, if a motion detector is tripped into active, the state remains there for the hold time after the last motion event is detected. You can enter a value of 0 to 15 seconds.
Supervision	Select a supervision and normally open/closed setting from the drop-down list. Choices in the drop-down list are based on the EOL tables. There are four built-in tables and up to four custom tables that can be configured by the user. For more information, refer to Chapter 36: EOL Tables Folder on page 945. The four built in tables are: • Default Supervision, Normally Closed • Default Supervision, Normally Open • Not Supervised, Normally Closed • Not Supervised, Normally Open Each auxiliary input can be individually wired for either supervised or unsupervised activity. An unsupervised input is an unprotected, low security input. Someone can short-circuit the connection between the auxiliary input and the device controlled by the input, thereby defeating the circuit. Although the device may trigger an alarm condition in such a situation, the auxiliary input will not be aware of it. By contrast, a supervised input's circuit is equipped with resistors. Subtle changes in the voltage on the circuit can be detected to determine whether someone has tampered with the wiring. For this reason, supervised inputs are high security.

Readers Folder - Aux Inputs Form (Continued)

Form Element	Comment
Debounce	**Bosch hardware only** - Debounce is the amount of time that an input must change state in order for that change to be considered a logical change of state. There are six levels of debounce (1-6). These are relative levels with 1 being the lowest (shortest) and 6 being the highest (longest). It is up to the hardware interface to map these values to hardware specific values, as well as to map the "Default" option to a hardware specific value. The Bosch hardware interface maps these values to: • 1 - Bosch value of two scans, ~33 ms (default for REX) • 2 - Bosch value of four scans, ~67 ms • 3 - Bosch value of six scans, ~100 ms (default for door contact and alarm and reader aux inputs) • 4 - Bosch value of nine scans, ~150 ms • 5 - Bosch value of 12 scans, ~200 ms • 6 - Bosch value of 15 scans, ~250 ms **Note:** It is recommended that the debounce time should not be changed and left at the default setting of "Default."
Non-Latch Entry	**Bosch hardware only** - Non-latch entry is used in conjunction with the **Entry Delay** field. When checked, the **Entry Delay** being configured will be a Non-Latch entry delay.
Entry Delay	**Bosch hardware only** - Entry delay is used in conjunction with the **Non-Latch Entry** field. • If the **Non-Latch Entry** check box is selected (i.e. non-latched mode), when auxiliary input 2 is active the alarm will NOT be reported until the **Entry Delay** time expires. The alarm will only be reported if the input is still active at the end of the specified delay. Application: false alarm prevention such as invalid motion detector reads. • If the **Non-Latch Entry** check box is not selected (i.e. latched mode), when auxiliary input 2 is active the alarm WILL be reported unless the input is masked (either automatically through the software or manually via a keypad) within the specified delay after the alarm input goes active. Application: valid access to a room with motion detectors.
Exit Delay	**Bosch hardware only** - Specifies the delay (in seconds) for auxiliary input 2 to switch from a masked state to an unmasked state. You can choose a value in the range of 0 through 32767. When an auxiliary input is unmasked, active alarms will NOT be reported until the **Exit Delay** expires. Application: securing a room upon exit (such as activating motion detectors).
Modify	Changes the auxiliary output configuration for the selected reader.
Help	Displays online assistance for this form.
Multiple Selection	If selected, two or more entries can be simultaneously checked in the listing window.
Close	Closes the Readers folder.

Aux Inputs Form Procedures

Configure Reader Input(s)

1. From the **Access Control** menu, select **Readers**. The Readers folder opens.
2. Click the Aux Inputs tab.
3. In the listing window, select the reader for which to configure the auxiliary input(s).
4. Click [Modify].
5. From the reader's type (as defined on the Readers form) the application automatically determines the number of auxiliary inputs. Dimmed fields indicate that the corresponding inputs are not configurable for the selected type of reader.
6. For each input, type a name and indicate when to mask the input.
7. If the reader is a Bosch reader, you can choose non-latched mode and configure entry and exit delays.
8. Click [OK].

Aux Outputs Form

Note: RS-485 Command Keypad readers do not support auxiliary outputs.

Aux Outputs Form Overview

This form is used to:

- Assign a name to each of a reader's auxiliary outputs
- Specify the pulse time for each output
- Configure strike follower timing (when enabled on the Settings form)

Readers Folder - Aux Outputs Form

Form Element	Comment
Listing window	Lists currently defined readers, the access panel to which each is attached, and each reader's type.
Output 1 Name	Use this field to specify a unique, descriptive name for this reader's output #1.
Activate Output 1 During Timezone	Specifies the time period(s) when auxiliary output #1 is to be active. Available choices are the currently defined timezones.
Output 1 Pulse Time (sec)	You can pulse (turn on then off again) reader output #1 from within the software. Use this field to specify the duration of the pulse, in seconds.
Always Activate Output 1	This field specifies that the output will be always in an active ("on") state. If you select this check box, you cannot choose a timezone in the **Activate Output 1 During Timezone** field (because the output will be active during all timezones).
Strike Follower Mode	This field appears when **Strike Follower** is configured on the Settings form. When strike follower is enabled (through an option on the Settings form) output 1 is used for strike follower configuration. (The strike time and cut off are defined on the General form.) (See Configure Strike Follower on page 776 for details.)
Delay time	This field appears when **Strike Follower** is configured on the Settings form. Use this field to enter the duration of delay between activation of the strike and activation of the aux 1 output (in seconds). The delay can be set from 0 (no delay) to 6 seconds.
Pulse time	This field appears when **Strike Follower** is configured on the Settings form and when Strike Follower Mode is set to **Pulse**. From the drop-down, select the duration of the pulse (in seconds) for the output. The pulse time can be set from 0.5 to 2.0 seconds.
Output 2 Name	Use this field to specify a unique, descriptive name for this reader's output #2.
Activate Output 2 During Timezone	Specifies the time period(s) when auxiliary output #2 is to be active. Available choices are the currently defined timezones.

Readers Folder - Aux Outputs Form (Continued)

Form Element	Comment
Output 2 Pulse Time (sec)	You can pulse (turn on then off again) reader output #2 from within the software. Use this field to specify the duration of the pulse, in seconds.
Always Activate Output 2	This field specifies that the output will be always in an active ("on") state. If you select this check box, you cannot choose a timezone in the **Activate Output 2 During Timezone** field (because the output will be active during all timezones).
Modify	Changes the auxiliary output configuration for the selected reader.
Help	Displays online assistance for this form.
Multiple Selection	If selected, two or more entries can be simultaneously checked in the listing window.
Close	Closes the Readers folder.

Aux Outputs Form Procedures

Configure Reader Output(s)

1. From the **Access Control** menu, select **Readers**. The Readers folder opens.
2. Click the Aux Outputs tab.
3. In the listing window, select the reader for which to configure the auxiliary output(s).
   If the **Multiple Selection** check box is selected, you can select more than one reader at the same time, but you can't name outputs while in multiple selection mode.
4. Click [Modify].
5. From the reader's type (as defined on the Readers form) the application automatically determines the number of auxiliary outputs. Dimmed fields indicate that the corresponding outputs are not configurable for the selected type of reader.
6. For each output, type a name and indicate when to activate the output.
7. Indicate the pulse time in seconds.
8. Click [OK].

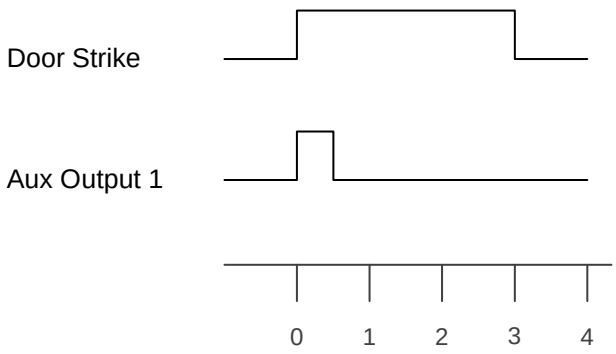
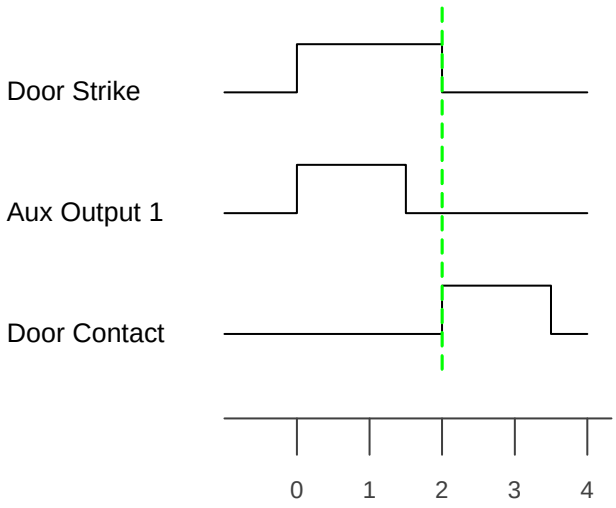
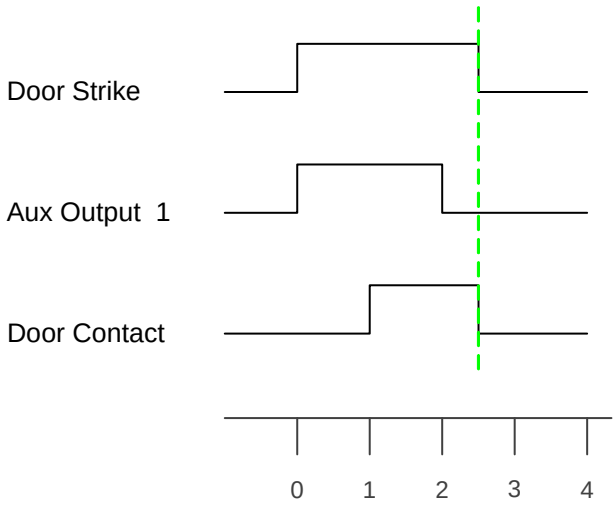
Configure Strike Follower

1. From the **Access Control** menu, select **Readers**. The Readers folder opens.
2. On the General form, choose a reader. Enter the **Strike Time** and choose the **Strike** cut off for the reader.
3. On the Settings form, select the **Strike Follower** check box.
4. Since Strike Follower was selected, on the Aux Outputs form, Output 1 becomes the Strike Follower. If the reader type selected does not have any outputs, then strike follower cannot be configured.
5. For the **Delay**, enter the duration of delay between the strike and aux output 1 (in seconds). The delay can be set from 0 (no delay) to 6 seconds.
6. For the Strike Follower Mode, select **Follower** or **Pulse**.
7. If pulse mode was selected, from the drop-down, select the duration of the **Pulse Time** (in seconds) for the output. The Pulse time can be set from 0.5 to 2.0 seconds.
8. Click [OK].

The following tables show a visual depiction of the timing of the door strike and follower, with sample data chosen for the delay and pulse times.

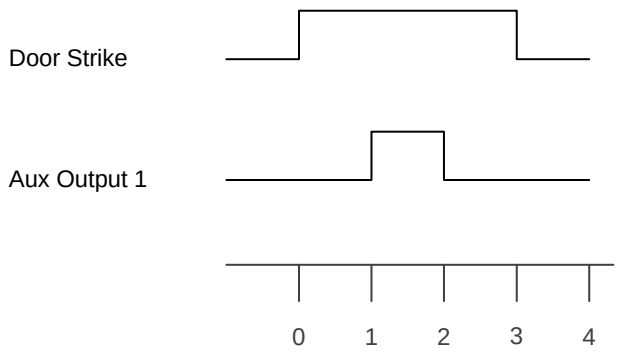
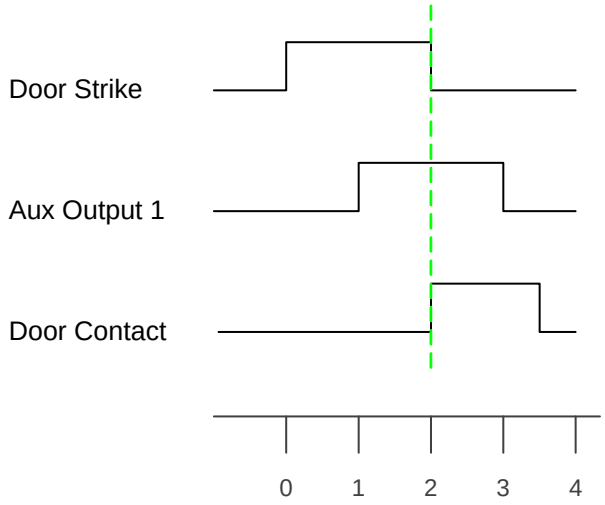
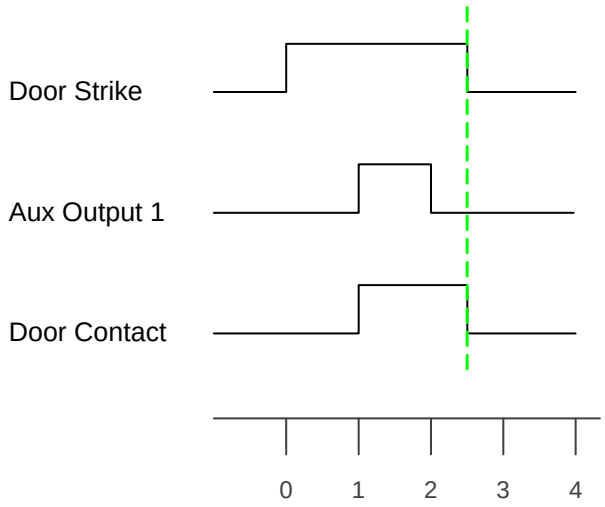
Pulse Mode

In this configuration, the strike and aux output 1 are activated at the same time, with aux output 1 remaining energized for the specified pulse time.

Delay = 0 Pulse mode Pulse = 0.5 The door is not opened.	
Delay = 0 Pulse mode Pulse = 1.5 The door is opened and the strike is set to cut off on open.	
Delay = 0 Pulse mode Pulse = 2 The door is opened and the strike is set to cut off on close.	

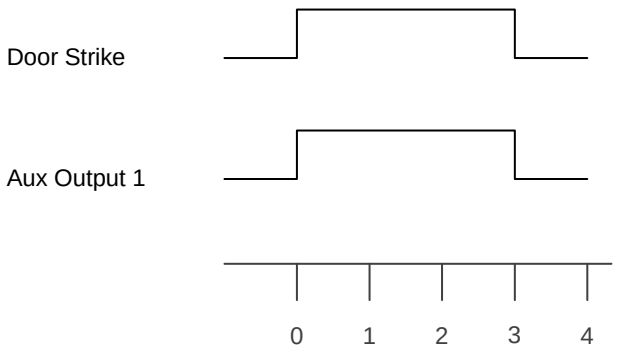
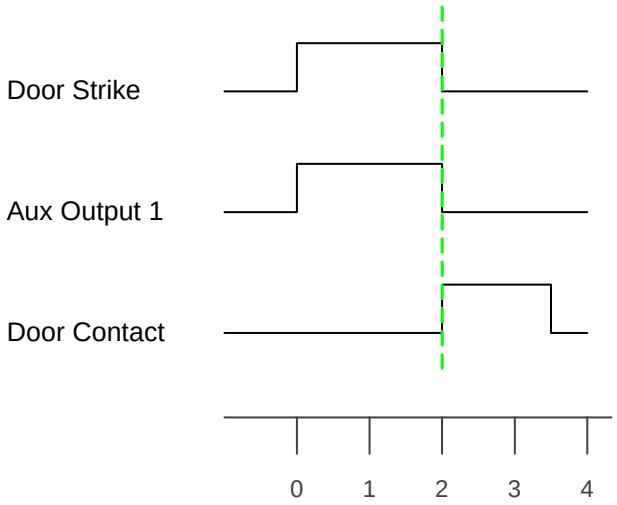
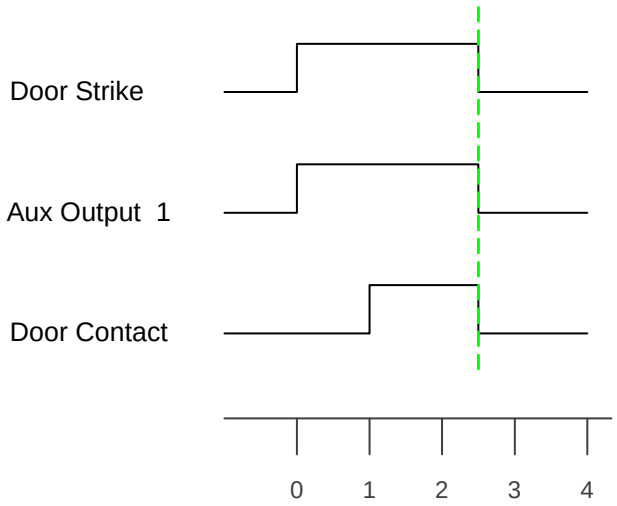
Delayed Pulse Mode

In this configuration, the strike activates first. After the specified delay time, the aux output 1 activates. After the specified pulse time, aux output 1 should deactivate. Note that aux output 1 will only activate if the delay time is within the time of the strike being energized.

Delay = 1 Pulse mode Pulse = 1 The door is not opened.	
Delay = 1 Pulse mode Pulse = 2 The door is opened and the strike is set to cut off on open.	
Delay = 1 Pulse mode Pulse = 1 The door is opened and the strike is set to cut off on close.	

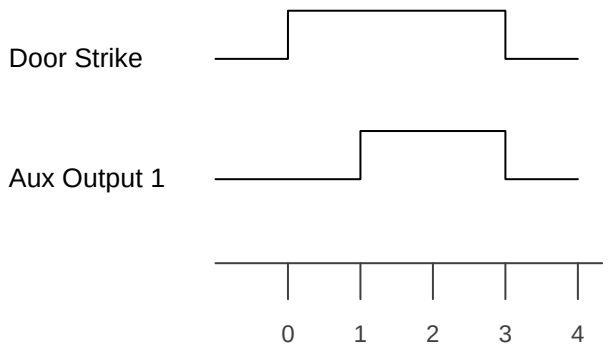
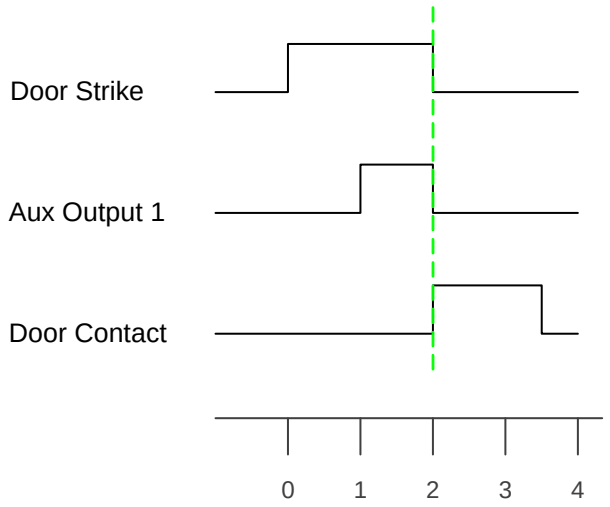
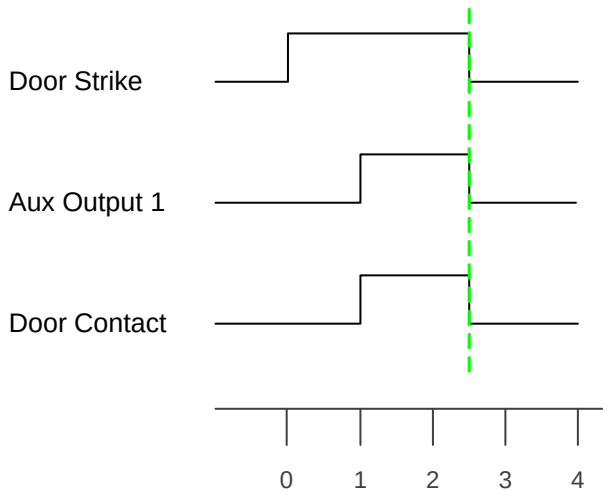
Follower Mode

In this configuration, the strike and aux output 1 activate and deactivate at the same time.

Delay = 0 Follower mode Pulse not applicable The door is not opened.	
Delay = 0 Follower mode Pulse not applicable The door is opened and the strike is set to cut off on open.	
Delay = 0 Follower mode Pulse not applicable The door is opened and the strike is set to cut off on close.	

Delayed Follower Mode

In this configuration, the strike activates, and then aux output 1 activates after the specified delay time. When the strike deactivates, aux output 1 also deactivates. Note that aux output 1 will only activate if the delay time is within the time of the strike being energized.

Delay = 1 Follower mode Pulse not applicable The door is not opened.	
Delay = 1 Follower mode Pulse not applicable The door is opened and the strike is set to cut off on open.	
Delay = 1 Follower mode Pulse not applicable The door is opened and the strike is set to cut off on close.	

Anti-Passback Form

Readers Folder - Anti-Passback Form

Form Element	Comment
Listing window	Lists currently defined readers, the access panel to which each is attached, and each reader's type.
Area entering	Selects the area a cardholder enters by using this reader. Named areas are defined on the Anti-Passback Areas form of the Areas folder. Area anti-passback prevents a cardholder from gaining access to an area without first using his/her card to move out of the area.
Area leaving	Selects the area a cardholder exits by using this reader. Choices include: • Named areas - Areas that are defined on the Anti-Passback Areas form of the Areas folder. • <Don't Care> - Setting used by Global Anti-Passback and Local Anti-Passback to indicate that the anti-passback rules do not care about the area leaving. **Note:** With a Bosch controller, if you attempt to enter an area you are already in an APB violation will be noted.
Use soft anti-passback (APB not enforced)	Select this check box to enable soft anti-passback at this reader. This means that access will be granted even if an anti-passback violation occurs. In this case, the user is still permitted access to the reader and an anti-passback violation is reported to Alarm Monitoring.
Timed area anti-passback	Select this check box to enable timed area anti-passback for the selected reader. Timed area anti-passback provides the behavior of timed anti-passback but across a group of readers in the same area. For example, in office buildings with multiple readers that access the same area. Timed area anti-passback allows you to configure how many minutes (configurable by the **Timed anti-passback settings (minutes)** scroll button) a person must wait before they are able to use their card again at the specified readers. If the reader is used *before* the time allotted has passed the cardholder will be denied access and an "Anti-Passback Violation" will be reported in Alarm Monitoring. If the reader is used *after* the time allotted has passed the cardholder is still granted access but a "Granted, APB Violation" is reported in Alarm Monitoring. **Note:** For Timed area anti-passback to work you must enable both the **Store area anti-passback location** and **Timed anti-passback** check boxes on the Options tab in the Access Panels form. **Note:** You must NOT configure global anti-passback for the system or segment a reader belongs to if that reader has already been configured for timed area anti-passback. If you do the timed area anti-passback will be turned off.

Readers Folder - Anti-Passback Form (Continued)

Form Element	Comment
Host decision offline mode	This option is used for Global Anti-Passback to inform the panel what to do in case the panel is offline from the host. For this option to be available, you must: • Have Global Anti-Passback enabled. On non-segmented systems, this is done by selecting the **Global Anti-Passback** check box on the Anti-Passback form in the System Options folder. On segmented systems, this check box is available on the Anti-Passback sub-tab of the Segments form in the Segments folder. • Select an **Area entering** on this form. • Deselect the **Use soft-anti-passback (APB not enforced)** check box on this form. For Global Anti-Passback, the panel requests a decision from the host to determine if the cardholder will be allowed access to the reader. When the panel is offline from the host this request cannot be performed, so the panel will allow access based on this setting. Choices include: • Deny all access attempts - All access attempts at this reader when the panel is offline with the host will be denied. • Make local decision at panel - All access attempts at this reader when the panel is offline will be granted access based on the local settings in the panel (proper access level, etc.).
Timed anti-passback setting (minutes)	Specifies the length of time (in minutes) after this reader is used before it can be used again. Timed anti-passback differs functionally from area anti-passback. When timed anti-passback is used at a reader, the cardholder cannot use their card at the reader with timed anti-passback enabled until AFTER the anti-passback time has expired OR their card is used to gain valid access to another reader. For this option to be available, you cannot have an **Area entering** or **Area leaving** selected, and the **Use soft anti-passback (APB not enforced)** check box cannot be selected. **Note:** This setting also applies to the area anti-passback configuration if the **Timed area anti-passback** options has been selected.
Modify	Click this button to change the area anti-passback configuration for the selected reader.
Help	Displays online assistance for this form.
Multiple Selection	If selected, two or more entries can be simultaneously checked in the listing window.
Close	Closes the Readers folder.

Anti-Passback Form Procedures

Configure Area Anti-Passback

1. From the **Access Control** menu, select **Readers**. The Readers folder opens.
2. Click the Anti-Passback tab.
3. In the listing window, select the reader for which to configure area anti-passback. If the **Multiple Selection** check box is selected, you can select more than one reader at the same time.
4. Click [Modify].
5. In the **Area entering** field, select the area a cardholder enters when he/she uses this reader.
6. In the **Area leaving** field, select the area a cardholder exits when he/she uses this reader.
7. Select one of the following:
   a. **Use soft anti-passback (APB not enforced) -** Select if you want to enable soft anti-passback at this reader. When selected, access will be granted even if an anti-passback violation occurs. In this case, the user is still permitted access to the reader and an anti-passback violation is reported to Alarm Monitoring.
   b. **Timed area anti-passback -** Select if you want to enable timed area anti-passback at this reader.

Note: If you select the **Use soft anti-passback (APB not enforced)** check box, the **Host decision offline mode** drop-down list will be disabled.

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8. If you've selected the **Use soft anti-passback (APB not enforced)** or **Timed area anti-passback** check box, skip this step. Otherwise, select the **Host decision offline mode**.
   This option is used for Global Anti-Passback to inform the panel what to do in case the panel is offline from the host. Choices include:
   - Deny all access attempts - All access attempts at this reader when the panel is offline with the host will be denied.
   - Make local decision at panel - All access attempts at this reader when the panel is offline will be granted access based on the local settings in the panel (proper access level, etc.).

Note: For this field to be available for selection, you must have Global Anti-Passback enabled. On non-segmented systems, this is done by selecting the **Global Anti-Passback** check box on the Anti-Passback form in the System Options folder. On segmented systems, this check box is available on the Anti-Passback sub-tab of the Segments form in the Segments folder.

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9. Click [OK].

Configure Timed Anti-Passback

Note: These steps are also used when you select the **Timed area anti-passback** check box on the Anti-passback form.

Timed anti-passback differs functionally from area anti-passback. When timed anti-passback is used at a reader, the cardholder cannot use their card at the reader with timed anti-passback enabled until AFTER the anti-passback time has expired OR their card is used to gain valid access to another reader. To configure timed anti-passback:

1. From the **Access Control** menu, select **Readers**. The Readers folder opens.
2. Click the Anti-Passback tab.
3. In the listing window, select the reader for which to configure timed anti-passback. If the **Multiple Selection** check box is selected, you can select more than one reader at the same time.
4. Click [Modify].
5. In the **Timed Anti-passback setting (minutes)** field, specify the length of time (in minutes) after this reader is used before it can be used again.

Note: For this option to be available, you cannot have an **Area entering** or **Area leaving** selected, and the **Use soft anti-passback (APB not enforced)** check box cannot be selected.

6. Click [OK].
7. Click [OK] to confirm the modification.

Command Programming Form

Note: Several fields are not available for RS-485 Command Keypad readers.

Command Programming Form Overview

Keypad-equipped readers can have one or more keypad-activated commands programmed into the access panel. These commands (function lists) can be accessed by assigning the function lists to certain keypad sequences. Users of the keypad can invoke these function lists only if they are given permission to execute function lists. This is determined during access level configuration in the Access Levels folder. All commands are paired functionally; one activates a condition and the second deactivates the condition.

This form is used to link the built-in keypad commands to lists of actions defined elsewhere in the software. This feature is part of the software's global event programming capability.

The fields on this form are arranged in pairs. The left column lists keypad commands available from the selected reader. For each, you specify both a local I/O function list and a logic term of that list. In order to make these selections there must be at least one Local I/O function list defined for the associated access panel. This section is activated only under the following conditions:

- For the selected reader, the **Allow User Commands** check box is selected on the General form of the Readers folder.
- The user wishing to enter keypad commands has an access level that was defined with the **Command Authority for Users** check box selected. This is done on the Access Levels form of the Access Levels folder.

Command Programming Form Field Table

Readers Folder - Command Programming Form

Form Element	Comment
Listing window	Lists currently defined readers, the access panel to which each is attached, and each reader's type.
Func 4/5	Select the local I/O function list to link to the Func 4/5 keypad command. Choices include all currently defined Local I/O function lists, which are defined on the Local I/O Function Lists form of the Local I/O folder. The Func 4/5 pair of commands is available on all keypad readers connected to RKP-1000. If the selected reader is not intelligent, this field is not available.
Func 6/7	Select the local I/O function list to link to the Func 6/7 keypad command. Choices include all currently defined Local I/O function lists, which are defined on the Local I/O Function Lists form of the Local I/O folder. The Func 6/7 pair of commands is available on all keypad readers connected to RKP-1000. If the selected reader is not intelligent, this field is not available.
Func 8/9	Select the local I/O function list to link to the Func 8/9 keypad command. Choices include all currently defined Local I/O function lists, which are defined on the Local I/O Function Lists form of the Local I/O folder. The Func 8/9 pair of commands is available for all keypad readers connected to RKP-1000. If the selected reader is not intelligent, this field is not available.
Func 10/11	Select the local I/O function list to link to the Func 10/11 keypad command. Choices include all currently defined Local I/O function lists, which are defined on the Local I/O Function Lists form of the Local I/O folder. The Func 10/11 pair of commands is available for all keypad readers connected to RKP-1000. If the selected reader is not intelligent, this field is not available.
Func 12/13	Select the local I/O function list to link to the Func 12/13 keypad command. Choices include all currently defined Local I/O function lists, which are defined on the Local I/O Function Lists form of the Local I/O folder. The Func 12/13 pair of commands is available for all keypad readers connected to RKP-1000. If the selected reader is not intelligent, this field is not available.
Func 14/15	Select the local I/O function list to link to the Func 14/15 keypad command. Choices include all currently defined Local I/O function lists, which are defined on the Local I/O Function Lists form of the Local I/O folder. The Func 14/15 pair of commands is available for all keypad readers connected to RKP-1000. If the selected reader is not intelligent, this field is not available.
Func 16-22	These functions are non-paired commands used to execute local I/O function lists. These commands can be executed at the reader by inputting "*16#" - "*22#". These commands do not require command authority in order to be executed.
Mode	Used in conjunction with func 16 through func 22. The **Mode** field determines the action of the function and can be set to "True," "False," and "Pulse."
Command keypad template	Select the command keypad template you would like associated with this reader. For more information, refer to Command Keypad Templates Folder on page 867.

Readers Folder - Command Programming Form (Continued)

Form Element	Comment
Default alarm mask group	Select the alarm mask group that is to be the default mask group for readers. For more information, refer to Command Keypad Templates Folder on page 867.
Modify	Used to program reader keypad commands.
Help	Displays online assistance for this form.
Multiple Selection	If selected, two or more entries can be simultaneously checked in the listing window.
Close	Closes the Readers folder.

Command Programming Form Procedures

Program Reader Keypad Commands

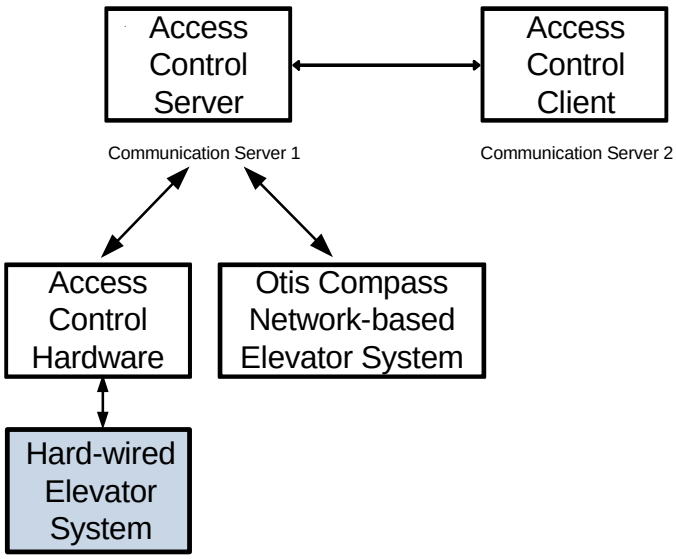
Dimmed fields indicate that the corresponding capabilities are not available for the selected reader.

1. From the **Access Control** menu, select **Readers**. The Readers folder opens.
2. Click the Command Programming tab.
3. In the listing window, select the reader for which to program the keypad commands. If the **Multiple Selection** check box is selected, you can select more than one reader at the same time.
4. Click [Modify].
5. If the reader has a keypad, create links between keypad commands and local I/O function lists. For each pair of commands, select a **Function List** to trigger. At least one function list must have been defined for the associated access panel.
6. Click [OK].

Elevator Hardware Form

Notes: This section describes the configuration of a hard-wired elevator system. Various solutions can be configured using Bosch hardware including the RKP-1300 panel (6 floors; no floor tracking).

For Otis Compass elevator systems: Use the Elevator Dispatching Devices and Elevator Terminal forms. For more information, refer to Elevator Dispatching Configuration Overview on page 966.



Note: RS-485 Command Keypad readers do not support elevator control.

Readers Folder - Elevator Hardware Form

Form Element	Comment
Listing window	Lists currently defined readers, the access panel to which each is attached, and each reader's type.
Assignment window	Lists currently defined alarm panels used for elevator control with the selected reader. You can sort the list by the alarm panel names or by their type.
Floors	Indicates the range of outputs or inputs that this panel controls. Each input or output can be wired to control access to one or multiple floors, gates, etc.

Readers Folder - Elevator Hardware Form (Continued)

Form Element	Comment
Port	Indicates the access panel port that this alarm panel is connected to. Each access panel has communication ports used for field hardware devices such as readers or alarm panels. RKP-1000 access panel can have 2 to 4 ports (ports # 2-5), depending on configuration. RKP-500 has ports 2 and 3. Two-wire and/or four-wire communication can be used, depending upon configuration. There can be up to 32 devices (but no more than 16 alarm panels) connected to each port on RKP-1000 access panel. There can be up to 16 devices (but no more than 8 alarm panels) connected to each port on RKP-500 access panel.
Address	Each alarm panel is addressable, and has an address stored inside of it. Select the address that was set with DIP switches during alarm panel installation. Options fall in the range of 0 through 31.
Panel Type	Select the type of alarm panel you are configuring: • RKP-1100 (input control module) • RKP-1200 (output control module)
Add	Adds an alarm panel for an elevator reader.
Modify	Changes an alarm panel record.
Delete	Deletes an alarm panel record.
Help	Displays online assistance for this form.
Multiple Selection	If selected, two or more entries can be simultaneously checked in the listing window.
Close	Closes the Readers folder.

Elevator Hardware Form Procedures

Elevator Control Limits

Bosch controllers support up to 128 elevator floors as well as 128 inputs/outputs. To do this, the Single Reader Interface Module (RKP-1300), Alarm Input Control Module (RKP-1100), and Alarm Output Control Module (RKP-1200) are used.

The maximum number of elevator control levels (inputs/outputs) that can be created per segment is 255. This includes the “all floors always” and “no floors” values. All of these elevator control levels can be downloaded and used in Bosch hardware.

By using the Alarm Input Control Module (RKP-1100), the software can also track cardholder movement between floors.

Bosch Hardware	Type of Input or Output	Status
Single Reader Interface Module (RKP-1300)	Door Contact	Disabled
Single Reader Interface Module (RKP-1300)	REX	Disabled
Single Reader Interface Module (RKP-1300)	Door Strike Relay	Disabled
Single Reader Interface Module (RKP-1300)	Aux1	Enabled
Alarm Output Control Module (RKP-1200)	Outputs 1 - 16	Enabled for floor control
Alarm Input Control Module (RKP-1100)	Inputs 1 - 16	Enabled for floor tracking
Alarm Input Control Module (RKP-1100)	Outputs 1,2	Disabled

Standard Elevator Control Mode (No Floor Tracking)

Standard elevator control mode does NOT track cardholder usage of elevator controls.

Functionally, the sequence of events is this:

1. The cardholder swipes his card.
2. Buttons for the floors that the cardholder may access are illuminated for the duration of the strike time.
3. The cardholder presses the desired button.
4. The pressed button remains lit after the strike time, sending the elevator cab to the desired stop.

Configure the System for Standard Elevator Control Mode

1. Verify the access panel has elevator support. The **Elevator support** check box must be selected on the Options tab of the Access Panels folder.
2. On the General form, add a single interface type reader. Be sure to select the **Elevator** check box.
3. Click the Elevator Hardware tab. Although the elevator control feature uses standard alarm output control (RKP-1200) hardware, you must configure it using the Elevator Hardware form, NOT the Alarm Panels form.
4. In the listing window, select the entry for the reader you just added. You will now configure the alarm output panel(s) that this reader controls.
5. Click [Add].
6. Select the correct **Floors** value. Each panel can support up to 16 elevator cab control buttons, so you must configure the appropriate number of panels. For example, if you need to control 25 buttons in the elevator cab, you will need to configure two panels, one for buttons 1-16 and the second for the remaining buttons. There are 4 choices and they must be added in numerical order. In other words, for the first alarm output panel that you configure, you

must select the value “floors 1-16.” The second panel must be assigned the value “floors 17-32,” etc.

7. Select the **Port**, **Address**, and **Panel Type** for the alarm output module. Standard elevator control mode requires alarm output control modules, so you must select the “RKP-1200 (Output)” **Panel Type** here.
8. Click [OK].
9. For each alarm output control module you add, 16 output relays are automatically added to the system for you; no additional configuration is required. A name is assigned to each relay based on the **Floors** selection you made. In other words, if you add an output panel to control floors 1-16, the relays will be labeled “Floor 1,” “Floor 2,” etc. These will be listed on the Alarm Outputs form of the Alarm Panels folder. Because for a given relay output the automatically assigned name might not match the actual floor numbers controlled, the application allows you to change the relay names and addresses on the Alarm Outputs form. Note that alarm panels, alarm inputs and linkages for elevator hardware aren’t displayed on the other forms in the folder.
   In the system tree, clicking on an elevator reader entry expands the entry to display all of the associated elevator control hardware. For each alarm output panel, you will see all of the outputs named as indicated on the alarm outputs form. This allows an Alarm Monitoring system operator to activate only a specific floor from his monitoring station. Alternatively, all floors controlled by the reader can be activated by right-clicking on the elevator reader entry and selecting **Open Doors** from the popup menu.

Floor Tracking Elevator Control Mode

Unlike Standard elevator control mode, floor tracking elevator control mode requires that you install both alarm input and alarm output control modules (RKP-1100 and RKP-1200). The floor tracking feature will not work if you do not have input control modules installed.

Configure the System for Floor Tracking Elevator Control Mode

To configure your system for floor tracking elevator control mode, you must do the following things in addition to the steps described in the procedure “Configure the System for Standard Elevator Control Mode”:

1. On the General form, you must select both the **Elevator** and **Track Floors** check boxes when configuring an elevator reader and want floor tracking.
2. On the Elevator Hardware form, you must add separate entries for the alarm input control modules in the same manner that you added entries for the output modules. In other words, you need entries for input modules and entries for output modules.

Functionality:

When floor tracking is enabled, the sequence of events is this:

1. The cardholder swipes his card.
2. No cab control buttons are illuminated. The reader will wait for up to the strike time for the cardholder to press a button. After the cardholder presses a button:
   - If the cardholder has access, the access cycle is completed and the button is lit, sending the cab to that floor. A single transaction is generated to the Alarm Monitoring system, indicating the identity of the cardholder and the floor pressed.
   - If the cardholder does not have access to the requested floor, no buttons will be illuminated. An "Access Denied" event will be generated to the Alarm Monitoring system, indicating the floor to which the cardholder attempted access.
   - Note that, in floor tracking elevator control mode, after ANY cab control button has been pressed, no other buttons can be pressed until another card swipe is performed.

In the Alarm Monitoring system, if an operator activates a relay output or selects the "Open Door" menu choice for the elevator reader, the cab control button will NOT be illuminated until a cab control button is selected.

Add an Alarm Panel for an Elevator Reader

1. On the General form, select (place a check mark beside) the elevator reader for which you wish to configure alarm panels.
2. Click [Add].
3. In the Floors drop-down list, select the range of outputs or inputs that this panel will control. You must configure these floors in order. Therefore, if the panel will control 30 floors, for example, you must add the entry for Floors 01 - 16 before you can add the entry for Floors 17 - 32.
4. Select the port for these inputs or outputs. Options include Ports 2 through 5 for RKP-1000 and Ports 2 and 3 for RKP-500.
5. Select the address that corresponds to this alarm panel you are configuring.
6. Select whether this is an output panel (RKP-1200) or an input panel (RKP-1100).
7. Click [OK].
8. Repeat steps 2-7 for each range of inputs or outputs you wish to configure.

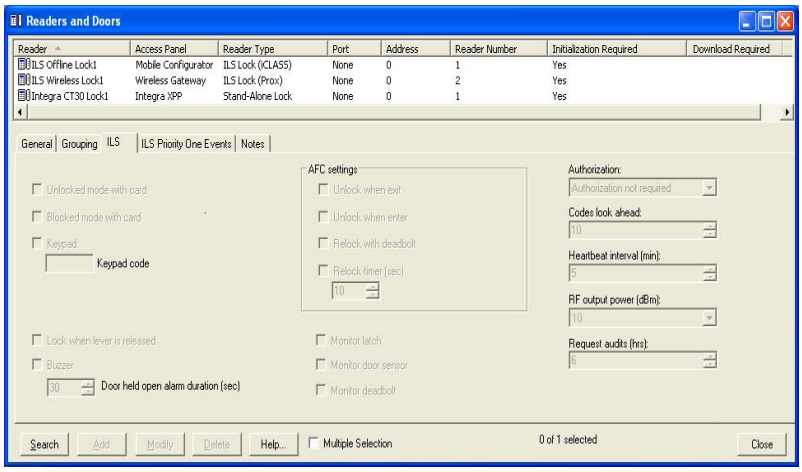
Modify an Alarm Panel

1. On the General form, select the entry you wish to change.
2. Click [Modify].
3. Make the changes you want.
4. Click [OK] to save the changes.

Delete an Alarm Panel

1. On the General form, select the entry you wish to delete. Note that, like adding panels, you must delete panels in sequence. In other words, you must delete the panel for Floors 17-32 before you can delete the panel for Floor 01-16.
2. Click [Delete].
3. Click [OK] to confirm the deletion.

ILS Form



Important: To view this ILS form your system must have an ILS license.

Use this form to configure features that are unique to the ILS readers (locks).

Note: Depending on the lock type, some of the options on the ILS form may not be available. However, the AFC settings are available if these are configured in ILS System Options.For more information, refer to System Options Folder - ILS Form on page 494. For information about the Alternative Fire Code, refer to the ILS Lock Operation User Guide.

Readers and Doors Folder - ILS Form

Form Element	Comment
Unlocked mode with card	When selected, allows the lock owner to put the door into Unlocked mode by swiping the card twice (double-dipping). The Unlocked mode allows free passage through the door; the door is unlocked (a card is not needed to unlock the door). To lock the door, and return to the previous mode of operation, the lock owner swipes the card twice again. For more information about lock owners, refer to Device Owner Form on page 159. **Note:** When double-dipping, the second swipe of the card must be performed within the allotted Held Open Time/Extended Open (or lock on release setting) before relock occurs after the first presentation. For information on configuring Held Open and Extended Open times, refer to General Form on page 743.
Blocked mode with card	When selected, allows the lock to be put into the Blocked mode when a valid blocking card is presented.
Keypad	Select this option if the lock has a keypad and you want to use a keypad code and/or a cardholder PIN code.
Keypad code	If **Keypad** is enabled, then enter a code in this field. This keypad code will need to be entered to gain access to the door.

Readers and Doors Folder - ILS Form (Continued)

Form Element	Comment
Lock when lever is released	When selected, if the cardholder is granted access, the lock will re-engage after the door handle is turned. When deselected, if the cardholder is granted access, then the lock will only re-engage after the specified **Strike Time**.
Buzzer	When selected, the buzzer will beep a low tone every two (2) seconds for the specified amount of time if the door is not closed before the Held Open Time expires. In addition, a visual indication will be provided via the LED.
Door held open alarm duration (sec)	The length of time the buzzer sounds when a Door Help Open alarm occurs. Select from 0 - 180 seconds with a default value of 30 seconds.
AFC settings	The settings in this section allow for Alternative Fire Code (AFC) functionality. AFC settings include: • Unlock when exit • Unlock when enter • Relock with deadbolt • Relock timer **Note:** These settings are only available if they are enabled in ILS System Options. For more information, refer to System Options Folder - ILS Form on page 494. For more information about AFC, refer to the ILS Lock Operation User Guide.
Unlock when exit	When selected, causes the door to unlock, and remain unlocked when an individual uses the lever to exit the room. The lock will only relock when a valid card is used to relock the door or if either the **Relock timer** or **Relock with deadbolt** option is enabled, and that event occurs.
Unlock when enter	When selected, allows the lock to remain in an unlocked state after a valid card is used to open the door. The lock will only relock when a valid card is used to relock the door or if either the **Relock timer** option or **Relock with deadbolt** option is enabled, and that event occurs.
Relock with deadbolt	When selected, allows you to configure the lock to lock automatically when the deadbolt is engaged.
Relock timer (sec)	When selected, allows the relock timer to relock the door after a specified amount of time (seconds) after the door is unlocked. Configure the timer value in the **Relock timer** field. The relock timer can be configured from 1 - 5940 seconds (99 minutes).

Readers and Doors Folder - ILS Form (Continued)

Form Element	Comment
Monitor latch	When selected, allows you use latch monitoring for the locks. The latch monitoring feature, used in conjunction with latch monitoring hardware, detects if the door is closed. The latch must be engaged in the strike for the door to indicate that it is closed. When latch monitoring hardware is present and enabled, the door events include the following: • Granted Access Entry Made • Granted Access No Entry Made **Note:** Because the locks only detect a change in state between door opened and door closed, the lock cannot detect if the hardware is not present or compromised. Therefore, if you receive an unusually large number of events such as "Access Granted No Entry Made," this may indicate such a condition. **Note:** If both **Monitor latch** and **Monitor door sensor** are enabled for the lock, the state of the door sensor takes precedence.
Monitor door sensor	When selected, allows you to use the door sensor for the locks. The door sensor feature, in conjunction with door sensor hardware, is used to physically secure the door. When door sensor hardware is present and enabled, the door events include the following: • Granted Access Entry Made • Granted Access No Entry Made **Note:** Because the locks only detect a change in state between door opened and door closed, the lock cannot detect if the hardware is not present or compromised. Therefore, if you receive an unusually large number of events such as "Access Granted No Entry Made," this may indicate such a condition. **Note:** If both **Monitor door sensor** and **Monitor latch** are enabled for the lock, the state of the door sensor takes precedence.
Monitor deadbolt	When selected, and the door is locked with the deadbolt engaged, only the lock owner will be granted access; the door will then unlock and the deadbolt will disengage when the door handle is turned. **Note:** The lock ignores all scheduled mode changes while it is in the "privacy" state unless the reader mode is changed from ReadkeyPRO, the portable programmer, or a special purpose card (Emergency Lock, Emergency Unlock, or Blocking). When deselected, and the door is locked with the deadbolt engaged, then anyone with a valid card will be granted access; the door will then unlock and the deadbolt will disengage when the door handle is turned.

Readers and Doors Folder - ILS Form (Continued)

Form Element	Comment
Authorization	Authorizations are used to limit access when you have already created and implemented your locking plan. This allows you to create generic users in your locking plan before they are needed. For example, you might encode a generic visit card that only gives a visitor the authorization to enter Residence Hall A on a college campus, although in the locking plan, the generic visit card included all Residence Halls. To use only the locking plan to make access decisions, select "Authorization not required." Otherwise, select one of the available authorization levels.
Codes look ahead	This option applies to all of the ILS locks within the system. It tells the lock how many future codes it should allow for each user with access to that lock. The allowed range is 5 - 99 with a default value of 10.
Heartbeat interval (min)	This is the delay time in minutes between "heartbeat" messages sent from the lock to ReadkeyPRO via the Wireless Gateway. It is used to notify ReadkeyPRO that the lock is still online. If ReadkeyPRO does not receive a heartbeat message within the specified time, then the lock is determined to be offline. The allowed range for the **Heartbeat interval** is 1 - 1440 minutes (24 hours) with a default value of 5 minutes. **Note:** If **Missed lock heartbeats** is greater than "1" for the Wireless Gateway, the lock will not go offline until the specified number of lock heartbeat messages are missed. **Note:** Configuring a longer interval (more minutes) between heartbeats will extend lock battery life. For example, in comparison with the standard interval of every 5 minutes, if you configure the interval to every 1 minute, then the battery would last only about 20% of its standard lifetime. However, if you increase the interval to every 30 minutes, this would extend the battery life by 600%. **Note:** If you reduce the heartbeat interval, this change will not take effect until the next heartbeat. Until then the lock will appear to be offline.
RF output power (dBm)	Specifies the RF (Radio Frequency) power for the lock. Choices include: • 0 dBm • 5 dBm • 10 dBm • 15 dBm **Note:** *dBm* refers to the power level of the signal strength expressed in decibels above 1 milliwatt.s. **Note:** Locks assigned to the Wireless Gateway typically use the **RF output power** configured for the Wireless Gateway. However, you may need to increase the power level for locks placed at a greater distance from the Wireless Gateway to optimize their signal strength. **Note:** If you modify **RF output power,** in order for this change to take effect, you must update the lock using the Mobile Configurator.

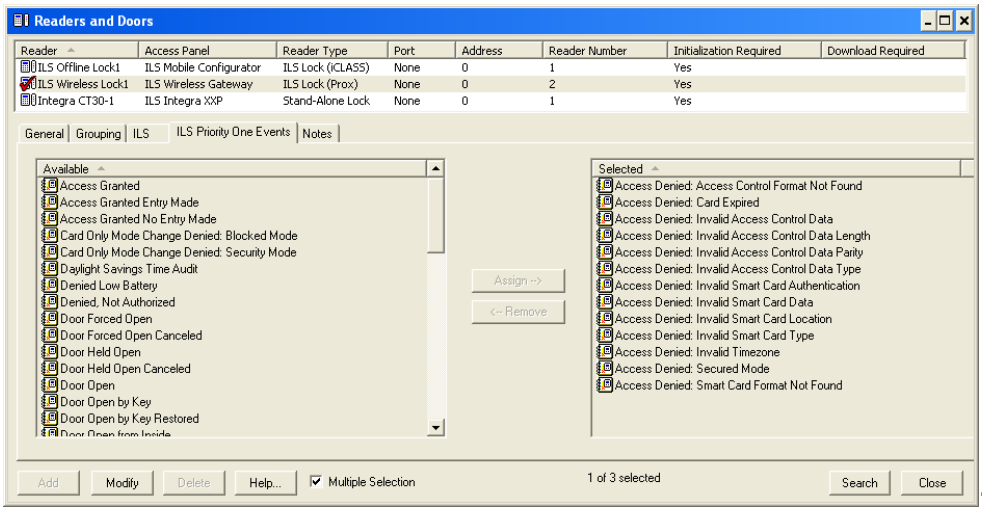
Readers and Doors Folder - ILS Form (Continued)

Form Element	Comment
Request audits (hrs)	Specifies the time interval at which *incremental* events are retrieved from the ILS wireless lock. Incremental events are those events stored in the lock that have not been sent to ReadkeyPRO. At each interval, a request is placed on the queue to retrieve the incremental events on the next heartbeat. The allowed range for the **Request audits** interval is 1 - 255 hours with a default value of every six (6) hours. However, the value in **Request audits** must be greater than the heartbeat time. **Note:** Events retrieved during the Request audits interval are obtained independently of the heartbeat and priority one schedules. **Note:** You can also manually request audits in Alarm Monitoring. For more information, refer to Retrieve Wireless Lock Events in the Alarm Monitoring User Guide.
Add	Adds a reader to the system.
Modify	Changes a reader entry.
Delete	Removes the selected reader(s).
Help	Displays pertinent help information onscreen.
Multiple Selection	If selected, two or more reader entries can be simultaneously checked in the listing window.
Close	Closes the Readers and Doors folder.

ILS Form Procedures

To read how to configure an ILS locking system,refer to Appendix K: ILS (Integrated Locking Solutions) on page 1525.

ILS Priority One Events Form



Important: To view this ILS form your system must have an ILS license.

Use this form to specify up to 20 events as priority one events on a lock-by-lock basis. To configure priority one events on a system-wide basis, use the ILS Priority One Events form in the Alarm Configuration folder. By default, all ILS wireless locks are initially configured with the system priority one events. For more information, refer to Alarm Configuration Folder - ILS Priority One Events Form on page 1021.

Note: Depending on the lock type, some of the options on the ILS form may not be available.

Readers and Doors Folder - ILS Priority One Events Form

Form Element	Comment
Available	Lists all ILS wireless lock events.
Selected	Lists ILS wireless lock events assigned as priority one events. Priority one events are sent to Alarm Monitoring, filtering out all other lock events.
Assign	Click to move selected events to the list of priority one events. Up to 20 events can be assigned as priority one.
Remove	Click to remove events from the list of priority one events.
Modify	Used to change an event's configuration.
Help	Displays online assistance for this form.
Search	Displayed in view mode on every form in the Readers and Doors folder. This button is used to search for and list existing readers that meet the specified reader group search criteria.

Readers and Doors Folder - ILS Priority One Events Form (Continued)

Form Element	Comment
Close	Closes the Readers and Doors folder.

ILS Priority One Events Form Procedures

To read how to configure an ILS locking system, refer to Appendix K: ILS (Integrated Locking Solutions) on page 1525.

Notes Form

Notes Form Overview

This form is used to enter information about a reader, which can then be displayed in Alarm Monitoring.

Notes Form Field Table

Readers and Doors Folder - Notes Form

Form Element	Description
Notes	Enter information about the panel. This field is limited to less than 2000 characters. Any text that is entered here will be displayed in Alarm Monitoring. For more information, refer to the procedure to View Notes in the Alarm Monitoring User Guide.
Modify	Used to configure reader settings.
Help	Displays online assistance for this form.
Multiple Selection	If selected, two or more entries can be simultaneously checked in the listing window.
Close	Closes the Readers and Doors folder.

Notes Form Procedures

Enter Reader Notes

1. From the **Access Control** menu, select **Readers and Doors**. The Readers and Doors folder opens.
2. Click the Notes tab.
3. In the listing window, select the entry you want to edit.
4. Click [Modify].
5. Type the information in the Notes field. This note will be able to be displayed in Alarm Monitoring.
6. Click [OK].

Chapter 27: Alarm Panels Folder

The Alarm Panels folder contains forms with which you can:

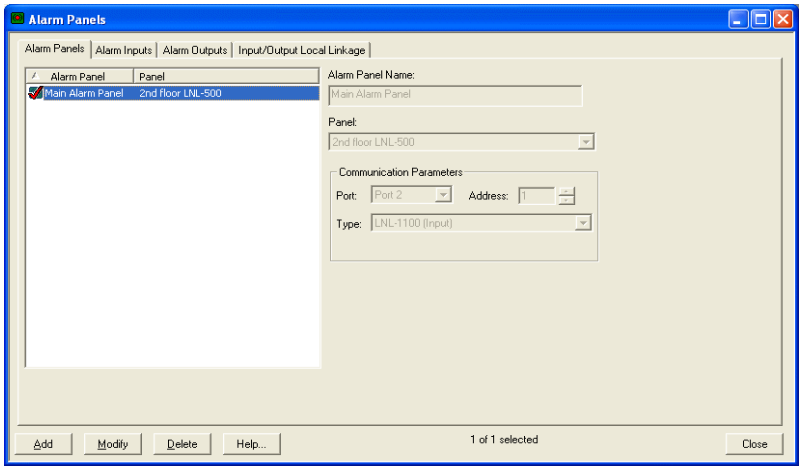
- Name individual alarm panels in the software
- Specify setup parameters, including the alarm panel type and its panel address
- Name and describe each of the alarm panel's inputs and outputs
- Specify the output(s) to be triggered by a specific input

The folder contains four forms: the Alarm Panels form, the Alarm Inputs form, the Alarm Outputs form, and the Input/Output Local Linkage form.

Toolbar Shortcut

The Alarm Panels folder is displayed by selecting **Alarm Panels** from the **Access Control** menu, or by selecting the Alarm Panels toolbar button.

Alarm Panels Form



Alarm Panels Form Overview

This form is used to:

- Name individual alarm panels in the software
- Specify setup parameters, including the alarm panel type and its panel address

Alarm Panels Form Field Table

Alarm Panels Folder - Alarm Panels Form

Form Element	Comment
Listing window	Lists currently defined alarm panels and the panels associated with each.
Name	Enter a unique name for the alarm panel. This name will appear on other forms in this folders, and elsewhere in the system.
Panel	Select the panel to which the alarm panel is connected. Depending on the panel selected the fields options on this screen will change.
Port	Only available for RKP Alarm Panels. Select the choice that indicates to which of the panel ports this alarm panel is attached. Each panel has communication ports used for field hardware devices such as readers or alarm panels. The RKP-500 can have from 1 to 2 ports (Ports 2-3) depending on the configuration of the panel. The RKP-1000 and the RKP-2000 can have from 2 to 4 ports (Ports 2-5) depending on the configuration of the panel. **Note:** For the RKP-500, 2- and/or 4-wire communication can be used, depending upon the configuration. There can be up to 16 downstream devices. **Note:** For the RKP-1000 and RKP-2000, 2- and/or 4-wire communication can be used, depending upon the configuration. There can be up to 32 devices (readers or alarm panels) connected to each port on a panel.
Address	Only available for RKP Alarm Panels. Select the number that corresponds to the DIP switch settings for addressing, on the alarm panel. You can choose a value in the range of 0 through 31. **Note:** This field displays only for alarm panels added to access control panels. If you are adding an alarm panel to any other hardware, this field does not display.
Type	Only available for RKP and Visonic Alarm Panels. Select the type of alarm panel. Choices will differ depending on whether the **Panel** is an RKP-1000, RKP-2000, RKP-500, fire panel, or a Visonic SpiderAlert Personal Safety Device.
Encryption	Only available for RKP Alarm Panels. This field is used for configuring downstream encryption. This field is enabled only if the following conditions are met: • The panel type is an RKP-1100 or RKP-1200. • The reader is connected to an RKP-2220 or RKP-3300 access panel. • Host and downstream encryption are both enabled for the specific access panel.

Alarm Panels Folder - Alarm Panels Form (Continued)

Form Element	Comment
Alarm Panel ID	Only available for Visonic Alarm Panels. This field displays only for alarm panels added to hardware devices that are not access control panels. If configuring alarm panels for personal safety devices: • For Visonic SpiderAlert devices, Alarm Panel ID is displayed as a two digit hexadecimal number in the range 00 - FF (0 - 255 decimal). This is because when these devices are shipped from the factory, this is how their IDs are indicated. Also, this is format that Visonic uses to refer to these IDs. • For Generic Personal Safety devices, Alarm Panel ID must be a number between 1 and 255.
Add	Adds an alarm panel entry.
Modify	Changes an alarm panel entry.
Delete	Removes an alarm panel entry.
Help	Displays online assistance for this form.
Mode	In view mode, indicates the record/selection count (such as “1 of 42 selected”). In modify mode, indicates the current operation, such as “Modify Mode.”
Close	Closes the Alarm Panels folder.

Alarm Panels Form Procedures

Add an Alarm Panel

1. Select **Alarm Panels** from the **Access Control** menu.
2. Click [Add].
3. In the **Alarm Panel Name** field, type a unique, descriptive name for the alarm panel.
4. Select the panel to which the alarm panel is connected.
5. Complete the Communication Parameters section, indicating the port and address used to connect the alarm panel to the access panel and the type of alarm panel used.

Note: The **Address** spin buttons display only if you are adding an alarm panel to an access control panel.

---

6. Click [OK].

Modify an Alarm Panel

1. In the listing window, select the name of the alarm panel you wish to change.
2. Click [Modify].
3. Make the changes you want to the fields.
4. Click [OK] to save the changes, or [Cancel] to revert to the previously saved values.

Delete an Alarm Panel

1. In the listing window, select the name of the alarm panel you wish to delete.
2. Click [Delete].
3. Click [OK].

Add a Visonic Bus Device

1. Select **Alarm Panels** from the **Access Control** menu, or click the icon to display the Alarm Panels form.
2. Click [Add].
3. In the **Alarm Panel Name** field, type a unique, descriptive name that is no more than 32 characters long.
4. In the **Panel** field, select a panel from the drop-down list. Depending on the panel selected, the **Port** field may become disabled.

Note: These panels must be added on the Personal Safety Panels form in the Personal Safety devices folder before they will appear in the **Panel** drop-down list.

5. Select a value for the **Port** (if enabled) from the drop-down list.
6. Select a value for the **Type** from the drop-down list.
7. In the **Alarm Panel ID** field, enter the device's two-digit hexadecimal ID.
8. Click [OK].

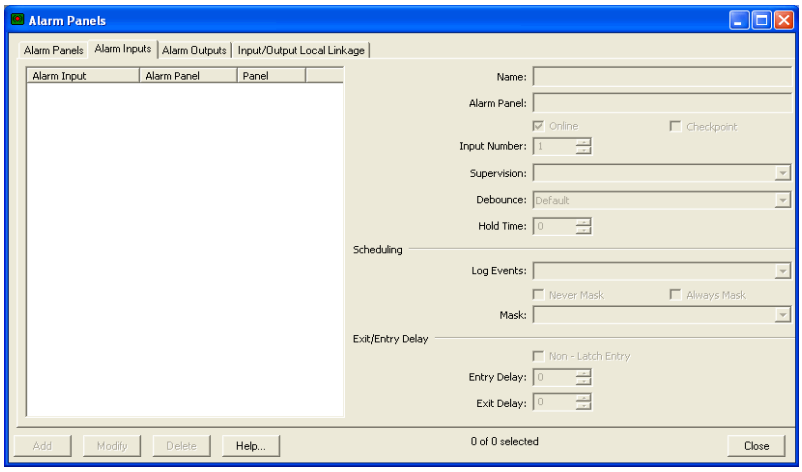
Modify a Visonic Bus Device

1. Select **Alarm Panels** from the **Access Control** menu, or click the icon to display the Alarm Panels form.
2. In the listing window, select the entry you want to modify. A selected entry has a red checkmark over the icon.
3. Click [Modify].
4. The **Alarm Panel Name** field is the only field that is allowed to be changed. Make any changes to the name that you want. (To change the **Type** or **Alarm Panel ID**, you must delete the alarm panel, then add a new one.)
5. Click [OK].

Delete a Visonic Bus Device

1. Select **Alarm Panels** from the **Access Control** menu, or click the icon to display the Alarm Panels form.
2. In the listing window, select the entry you want to delete. A selected entry has a red checkmark over the icon.
3. Click [Delete].
4. Click [OK].

Alarm Inputs Form



Alarm Inputs Form Overview

This form is used to:

- Name an alarm panel's individual alarm inputs
- Specify setup parameters, including the input number on the panel, and when to mask the input (if ever)
- If the alarm panel is digital, identify the DSS address for the input

Alarm Inputs Form Field Table

Alarm Panels Folder - Alarm Inputs Form

Form Element	Comment
Listing window	In view mode, lists currently defined alarm inputs, and the alarm panels and panels associated with each. In modify mode, lists currently defined alarm panels and the panels associated with each.
Name	Enter a name for the alarm input. This name will also appear on the Input/Output Local Linkage form.
Supervision	Select a supervision and normally open/closed setting from the drop-down list. Choices in the drop-down list are based on the EOL tables. There are four built-in tables and up to four custom tables that can be configured by the user. For more information, refer to Chapter 36: EOL Tables Folder on page 945. The four built in tables are: • Default Supervision, Normally Closed • Default Supervision, Normally Open • Not Supervised, Normally Closed • Not Supervised, Normally Open Each auxiliary input can be individually wired for either supervised or unsupervised activity. An unsupervised input is an unprotected, low security input. Someone can short-circuit the connection between the auxiliary input and the device controlled by the input, thereby defeating the circuit. Although the device may trigger an alarm condition in such a situation, the auxiliary input will not be aware of it. By contrast, a supervised input's circuit is equipped with resistors. Subtle changes in the voltage on the circuit can be detected to determine whether someone has tampered with the wiring. For this reason, supervised inputs are high security.

Alarm Panels Folder - Alarm Inputs Form (Continued)

Form Element	Comment
Debounce	For Bosch hardware only Debounce is the amount of time that an input must change state in order for that change to be considered a logical change of state. There are six levels of debounce (1-6). These are relative levels with 1 being the lowest (shortest) and 6 being the highest (longest). It is up to the hardware interface to map these values to hardware specific values, as well as to map the "Default" option to a hardware specific value. The Bosch hardware interface maps these values to: • 1 - Bosch value of two scans, ~33 ms (default for REX) • 2 - Bosch value of four scans, ~67 ms • 3 - Bosch value of six scans, ~100 ms (default for door contact and alarm and reader aux inputs) • 4 - Bosch value of nine scans, ~150 ms • 5 - Bosch value of 12 scans, ~200 ms • 6 - Bosch value of 15 scans, ~250 ms **Note:** It is recommended that the debounce time should not be changed and left at the default setting of "Default."
Log Events	Select the timezone during which events originating at this alarm input are to be logged by the system. If this field is left blank, all events from this input will be recorded.
Online	If selected, indicates that the input is online and in communication with the alarm panel. If NOT selected, the input will not be monitored by the panel, thus preventing events from reporting back to the panel. This field may be useful for initial system configuration if the alarm input has not yet been installed.
Checkpoint	Select this check box to designate the device as a checkpoint. This device will be listed along with all other devices that have this check box selected when the **Only show devices marked as checkpoints** check box is selected when adding a guard tour.
Input Number	Select the number that matches the input's number on the panel. The value will be in the range of 1 through 16.
Hold Time	When an input goes active and is restored, enter the amount of time (in seconds) to wait until reporting the input as restored. If the input goes active again within the hold time, a change of state is not reported, but just remains as active. This feature is useful when there is no advantage to log the specific number of times a point is tripped after the initial event. For example, if a motion detector is tripped into active, the state remains there for the hold time after the last motion event is detected. You can enter a value of 0 to 15 seconds.

Alarm Panels Folder - Alarm Inputs Form (Continued)

Form Element	Comment
Mask	Select Mask option. Choices are: • **Always** - Select if the alarms from this input are never to be reported to alarm monitoring or logged to the database. • **Never** - Select if the alarms from this input are always to be reported to alarm monitoring or logged to the database. • **Weekend** - Select to mask the alarm inputs on non-workdays. When the timezone in this field is active, events from this input will not be reported to alarm monitoring or recorded to the database. • **Workday** - Select to mask the alarm inputs on workdays. When the timezone in this field is active, events from this input will not be reported to alarm monitoring or recorded to the database.
Exit /Entry Delay	Includes the **Non-Latch Entry**, **Entry Delay**, and **Exit Delay** fields.
Non-Latch Entry	Used in conjunction with the **Entry Delay** field. When checked, the **Entry Delay** being configured will be a Non-Latch entry delay.
Entry Delay	Used in conjunction with the **Non-Latch Entry** field. • If the **Non-Latch Entry** check box is selected (i.e. non-latched mode), when the alarm input is active the alarm will NOT be reported until the **Entry Delay** time expires. The alarm will only be reported if the input is still active at the end of the specified delay. Application: false alarm prevention such as invalid motion detector reads. • If the **Non-Latch Entry** check box is not selected (i.e. latched mode), when the alarm input is active the alarm WILL be reported unless the input is masked (either automatically through the software or manually via a keypad) within the specified delay after the alarm input goes active. Application: valid access to a room with motion detectors.
Exit Delay	Specifies the delay, in seconds, for the alarm input to switch from a masked state to an unmasked state. You can choose a value in the range of 0 through 32767. When an alarm input is unmasked, active alarms will NOT be reported until the **Exit Delay** expires. Application: securing a room upon exit (such as activating motion detectors).
Add	Used to add an alarm input entry.
Modify	Used to change an alarm input entry.
Delete	Used to remove an alarm input entry.
Help	Displays online assistance for this form.
Close	Closes the Alarm Panels folder.

Alarm Inputs Form Procedures

Add an Alarm Input

1. Click [Add].
2. In the listing window, select the name of the alarm panel for which you're adding this input.
3. In the **Name** field, type a unique, descriptive name for this input.
4. Indicate whether the input should be **Online** and if you want it to be configured as a **Checkpoint**.
5. Select a supervision and normally open/closed setting from the **Supervision** drop-down list.
6. It is recommended that the debounce time should not be changed and left at the default setting of "Default." However, if you want to change this value, select an option from the **Debounce** drop-down list. Debounce is the amount of time that an input must change state in order for that change to be considered a logical change of state. There are six levels of debounce (1-6). These are relative levels with 1 being the lowest (shortest) and 6 being the highest (longest). It is up to the hardware interface to map these values to hardware specific values, as well as to map the "Default" option to a hardware specific value. The Bosch hardware interface maps these values to:
   - 1 - Bosch value of two scans, ~33 ms (default for REX)
   - 2 - Bosch value of four scans, ~67 ms
   - 3 - Bosch value of six scans, ~100 ms (default for door contact and alarm and reader aux inputs)
   - 4 - Bosch value of nine scans, ~150 ms
   - 5 - Bosch value of 12 scans, ~200 ms
   - 6 - Bosch value of 15 scans, ~250 ms

Note: The **Debounce** field is available for Bosch hardware only.

7. Specify the **Input Number**.
8. Specify a **Hold Time**. When an input goes active and is restored, enter the amount of time (in seconds) to wait until reporting the input as restored. If the input goes active again within the hold time, a change of state is not reported, but just remains as active.
9. Select the timezone, if any, during which to log events associated with this input.
10. If you wish to mask this input sometimes or always, choose the appropriate setting in the Mask Configuration section.
11. Indicate the **Entry Delay** or **Exit Delay** time. If **Entry Delay** is specified, indicate whether or not to use **Non-Latch Entry** mode.
12. Click [OK].

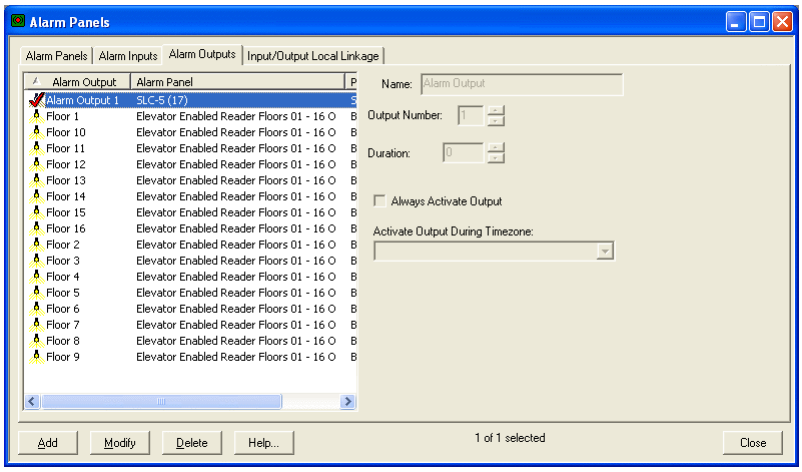
Modify an Alarm Input

1. In the listing window, select the name of the alarm input you wish to change.
2. Click [Modify].
3. Make the changes you want to the fields.
4. Click [OK] to save the changes, or [Cancel] to revert to the previously saved values.

Delete an Alarm Input

1. In the listing window, select the name of the alarm input you wish to delete.
2. Click [Delete].
3. Click [OK].

Alarm Outputs Form



Alarm Outputs Form Overview

This form is used to:

- Name an alarm panel's individual alarm outputs
- Specify setup parameters, including the output number on the panel, when to activate it, and for how long
- Change the name and/or output number for an elevator control relay output

Alarm Outputs Form Field Table

Alarm Panels Folder - Alarm Outputs Form

Form Element	Comment
Listing window	In view mode, lists currently defined alarm outputs, and the alarm panels and panels associated with each. In modify mode, lists currently defined alarm panels and the panels associated with each.
Name	Enter a name of 32 characters or less for the output. The name you use will also appear on the Input/Output Local Linkage form as well as in Alarm Monitoring.
Output Number	Select the number that is one less than the RLY# on the Relay Output Module to which the relay is attached. The value will be in the range of 0 through 15.
Duration	Specifies how long the relay will be active when it is pulsed from either a user (operator) action or from the execution of a local I/O function list. The output will remain on for the defined duration, unless another function list, timezone control schedule, or operator action deactivates the output. Enter the time in seconds. The maximum value is 32,767 for Bosch panels. **Note:** This field is not available for elevator control relay outputs.
Always Activate Output	If this check box is selected, the output will be always activated. Note that this field is not available for elevator control relay outputs.
Activate Output During Timezone	If you wish to activate the relay for specific durations, choose the timezone that spans the indicated intervals. Available choices are the currently defined timezones. Note that this field is dimmed for elevator control relay outputs.
Add	Used to add an alarm output entry.
Modify	Used to change an alarm output entry.
Delete	Used to remove an alarm output entry.
Help	Displays online assistance for this form.
Mode	In view mode, indicates the record/selection count (such as “1 of 42 selected”). In modify mode, indicates the current operation, such as “Modify Mode.”
Close	Closes the Alarm Panels folder.

Alarm Outputs Form Procedures

Add an Alarm Output

1. Click [Add].
2. In the listing window, select the name of the alarm panel for which you’re adding this output.
3. In the **Name** field, type a unique, descriptive name for this output.

4. Choose the output's ID number, when it will be active, and for how long it will be triggered.
5. Click [OK].

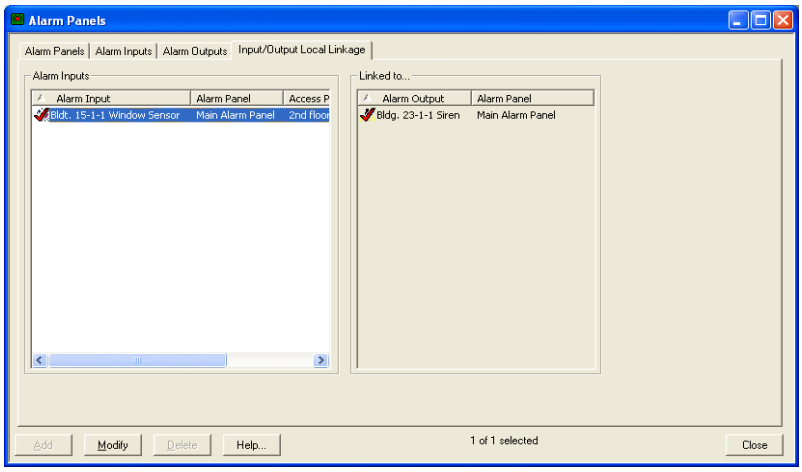
Modify an Alarm Output

1. In the listing window, select the name of the alarm output you wish to change.
2. Click [Modify].
3. Make the changes you want to the fields.
4. Click [OK] to save the changes, or [Cancel] to revert to the previously saved values.

Delete an Alarm Output

1. In the listing window, select the name of the alarm output you wish to delete.
2. Click [Delete].
3. Click [OK].

Input/Output Local Linkage Form



Input/Output Local Linkage Form Overview

This form is used to specify one or more output(s) to be triggered by a specific input.

Alarm Panels Folder - Input/Output Local Linkage Form

Form Element	Comment
Alarm Inputs	The window lists all alarm inputs, and the alarm panel and panel with which each is associated.
Linked to	Lists currently defined alarm outputs and the alarm panel with which each is associated. In this window, select one or more alarm outputs to be linked to the selected alarm input.
Add	This button is not used.
Modify	Used to link one or more alarm output(s) to an alarm input.
Delete	This button is not used.
Help	Displays online assistance for this form.
Mode	In view mode, indicates the record/selection count (such as “1 of 42 selected”). In modify mode, indicates the current operation, such as “Modify Mode.”
Close	Closes the Alarm Panels folder.

Input/Output Local Linkage Form Procedures

Create an Input-to-Output Link

1. In the listing window, select the name of the alarm input to be linked to one or more outputs.
2. Click [Modify].
3. In the **Linked to** field, choose the alarm output(s) that will be linked to the selected input. To select an output, click on its icon. A selected output has a checkmark on its icon.
   You can link multiple outputs to a single input.
4. Click [OK].

Chapter 28: Dialup Configuration Folder

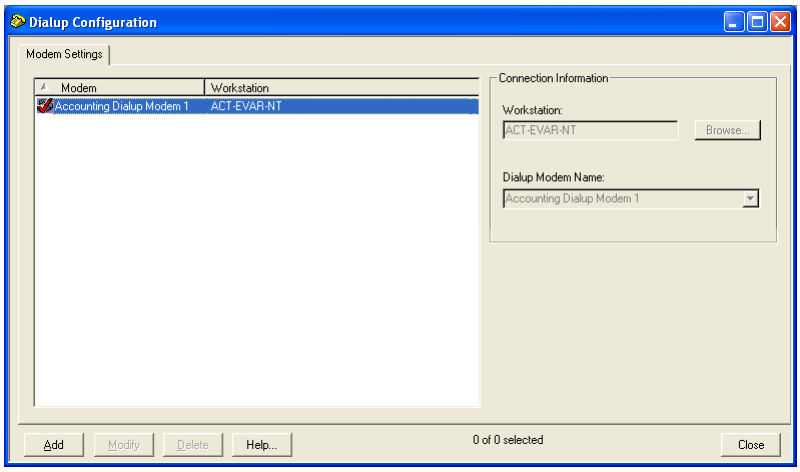
The Dialup Configuration folder contains the Modem Settings form with which you can:

- Configure dialup modems that can be used to communicate with access panels.
- Identify the workstations modems are attached to.

Toolbar Shortcut

This folder is displayed by selecting **Modems** from the **Access Control** menu, or by selecting the Modems toolbar button.

Modem Settings Form



Modem Settings Form Overview

This form is used to configure dialup modems that can be used to communicate with access panels.

Notes: The more modems you have the better, but you can't define more modems than the current number of access panels.

Ideally, you should define a different modem for each access panel.

You should have at least as many phone lines (numbers) as modems.

Multiple access panels can use the same modem. This arrangement is referred to as *modem sharing*.

Modem Settings Form Field Table

Dialup Configuration Folder - Modem Settings Form

Form Element	Comment
Listing window	Lists all currently defined modems.
Connection Information	Contains the [Browse] button, and the **Workstation** and **Dialup Modem Name** fields.
Workstation	Identifies the workstation to which the modem is attached. You can either type the name in the field, or use the [Browse] button to view a list of available workstations. **Note:** You are required to enter the workstation's NetBIOS name. (The NetBIOS name is specified when Windows networking is installed/configured.)
Browse	Browse the network for the appropriate workstation.
Dialup Modem Name	Name of the dialup modem. The options available in this drop-down list are available after you set up a host modem.
Add	Used to add dialup modem record.
Modify	Used to change a dialup modem record.
Delete	Used to remove a dialup modem record.
Help	Displays online assistance for this form.
Mode	In view mode, indicates the record number of the selected dialup modem, and the current total number of dialup modems, for example, "1 of 5 selected".
Close	Closes the Dialup Configuration folder.

Host Modems Supported

Host modems are set up as TAPI modems in windows. This allows more brands and types of modems to be supported on the host side. Below are a few of the modems that have been used successfully on the host side:

- Practical Peripherals 336 MiniTower (Model 5913US)
- USRobotics 56k (Model 0459)
- Practical Peripherals PM144MT II (Model PM0438S)
- Practical Peripherals PM288MT II V.34 (Model PM0438VS)
- Practical Peripherals PM144MT II (Model 5615US)

Modem Procedures For Bosch Access Panels

Set Up a Bosch Host Modem

1. Connect the modem to the Com port of the workstation. Verify the modem has power and is connected to a phone line.
2. Click the Start button and select **Settings** > **Control Panel** > **Phone and Modem Options**.
3. Click the Modems tab.
4. Windows XP should automatically detect a new device. Follow the Install New Modem wizard to install your modem. If you need the drive file for the modem, it should be located on the software included with the modem or possibly on the manufacturer's website.

Note: If Windows XP detects a standard modem you need to manually add the modem.

---

5. Select the modem and click [Add].

Add a Dialup Modem Record

Notes: If you are configuring dialup configuration from another machine that the modem is not on, the Communication Server must be running on the specified **Workstation** at the time the modem is selected in the **Dialup Modem Name** field, or an error message will be displayed and no choices will be listed.

If you are on the same machine that the modem is on then you do not need to have the Communication Server running on your machine.

---

1. In the System Administration application, display the Modem Settings form by selecting **Modems** from the **Access Control** menu.
2. Click [Add].
3. Enter the workstation name that the modem will be connected to. It's best to select the workstation using the [Browse] button.

Note: You are required to enter the workstation's NetBIOS name. (The NetBIOS name is specified when Windows networking is installed/configured.)

4. Enter or select the **Dialup Modem Name**.
   A list of modems displays if:
   - You are using the computer that you are configuring a modem for and the modem is attached
   - You are using a computer that does not have the modem attached, but the selected **Workstation** with a modem attached is running the Communication Server

   A list of modems will not display if:
   - The specified **Workstation** is not running the Communication Server application
   - The specified **Workstation** has no TAPI devices configured on it/does not have a modem attached
5. Click [OK].

Connect a Modem to a Bosch Access Panel

1. Connect the modem to the port 1of the access panel. Be sure to use an RS-232 wire with a 5 pin connection.
2. Verify the dip switch settings on the modem are correct. Refer to the hardware documentation for wire diagrams and other dip switch settings.
3. Verify the modem has power and is connected to a phone line.

Set up a Bosch Access Panel for Dialup Connection

Note: The Address field on the Location sub-tab of the Access Panel form must be set to 1 for any and all access panels that use a dial up connection.

1. Select **Access Panels** from the **Access Control** menu.
2. Select the correct Access Panel form.
3. Click the Location tab. Verify the Address field is set to 1.
4. Click the Connection tab.
5. Click [Add].
6. If you are working with a segmented system, select the appropriate segment and click [OK].
7. Select the **Dialup** radio button.
8. Select the Modem from the drop-down list.
9. Enter the Host number which is the phone number used to connect the modem to the workstation.
10. Enter the Panel number which is the phone number used to connect to the access panel.
11. **Optional** - Select the timezone when the access panel will connect to the modem. Select **Timezones** from the **Access Control** menu to configure timezones. For more information refer to the Timezones Folder chapter.
12. **Optional** - Enter a value for the Dial-back after field if you want to download information after a certain number of events occur.

Chapter 29: Timezones Folder

The Timezones folder contains forms with which you can:

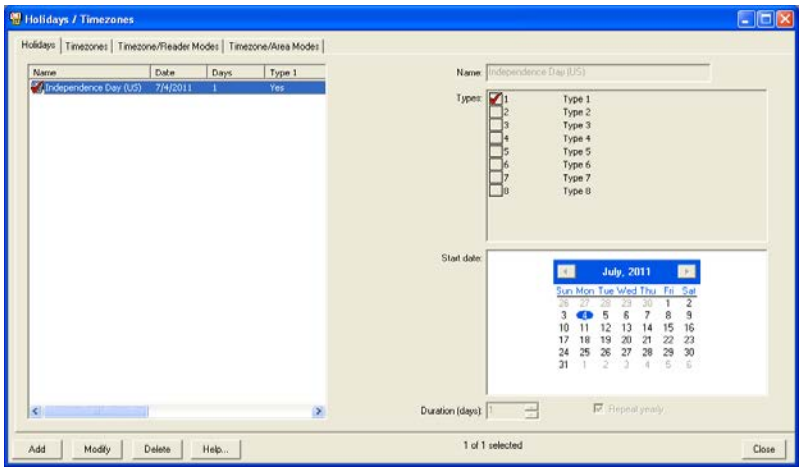
- Identify specific dates as holidays, enable holidays to repeat yearly, and assign a type to each
- Create timezones - groups of time/day intervals
- For a given reader, specify different modes of operation for the beginning and end of a particular timezone

The folder contains three forms: the Holidays form, the Timezones form, and the Timezone/Reader Modes form.

Toolbar Shortcut

The Timezones folder is displayed by selecting **Timezones** from the **Access Control** menu, or by selecting the Timezones toolbar button.

Holidays Form



Holidays Form Overview

This form is used to define specific dates (or ranges of specific dates) as holidays, enable holidays to repeat yearly, and categorize each holiday into any of 8 types, or into multiple types. In addition, holidays may be configured to repeat yearly.

Hardware Dependencies:

Bosch access panels support up to 255 holidays. If your system contains both Bosch and non-Bosch access panels, you should consider using segmentation in order to avoid operator entry error and to take advantage of the extended performance features of the RKP-1000 access panel. If your system uses segmentation, your System Administrator determines the maximum number of holidays allowed per segment.

Holidays Form Field Table

Timezones Folder - Holidays Form

Form Element:	Comment
Listing window	Lists currently defined holidays, arranged in rows and columns. Each column represents a field that is included in a holiday entry. Click on a column heading to arrange the contents of the listing window by that field. • **Name** – name of the holiday, as defined in the Description field • **Date** – date of the holiday, in MMM DD, YY (DAY) format • **Days –** the number of days that the holiday will be in effect, as defined in the **Holiday Duration** section • **Type 1** through **Type 8** – displays "Yes" or "No" to indicate whether or not the holiday is of that Type You can resize the width of a column for better visibility. To do this, position the mouse pointer over the boundary of two column headings. Then click and drag to resize the column.
Name	Indicates the name of the holiday, and corresponds to the **Name** field in the listing window. You can enter a description of no more than 32 characters.
Types	Indicates that this holiday is of the selected type(s). A holiday can be of Type 1, 2, 3, 4, 5, 6, 7, 8, more than one of these, or all of these. At least one type MUST be selected for a holiday, or the holiday will not be active within the access panel. Bosch access panels can accept all 8 holiday types. Other access panels will recognize only holiday types 1 and 2. Holiday types enable you to create different holiday schedules for different types of cardholders. You may, for example, define as one type all holidays scheduled for employees, and define holidays for contractors and vendors to be of another type. This would offer you the flexibility to configure different holiday schedules for different types of people. You can change the name of the Type by right-clicking on it.
Start Date	Select a start date on the calendar. To select a month, click on the  and  navigation buttons. You can also select a month by clicking on the displayed month to access a drop-down list of months. Highlight the month you want to select it. Navigate to a year by clicking on the displayed year to access the year spin buttons, and then choose the year that you want. Once you have selected a month and a year, click on the day you want the holiday to start on.
Duration (days)	Select the number days that you want the selected holiday to last.
Repeat yearly	Specifies that a holiday is to repeat every year. When **Repeat yearly** is selected, ReadkeyPRO automatically recalculates the holiday's year during panel downloads. **Note:** Linkage server must be running in order to update holidays.
Add	Used to add a holiday entry.
Modify	Used to change a holiday entry.
Delete	Used to remove a holiday entry.
Help	Displays pertinent online help information.

Timezones Folder - Holidays Form (Continued)

Form Element:	Comment
Mode	In view mode, indicates the record/selection count (such as "1 of 42 selected"). In modify mode, indicates the current operation, such as "Modify Mode."
Close	Closes the Timezones folder.

Holidays Form Procedures

Add a Holiday

1. Click [Add].
2. In the **Name** field, type a unique description or name for the holiday.
3. If you want this holiday to be of one or more types, indicate so by selecting the corresponding check box(es).
4. Select a start date on the calendar.
   - To select a month, click on the  and  navigation buttons. You can also select a month by clicking on the displayed month to access a drop-down list of months. Highlight the month you want to select it.
   - Navigate to a year by clicking on the displayed year to access the year spin buttons, and then choose the year that you wish.
   - Once you have selected a month and a year, click on the day that you want the holiday to start on.
5. In the **Duration (days)** field, select the number of days that you want the selected holiday to last.
6. Click [OK]. The information will be updated in the listing window.

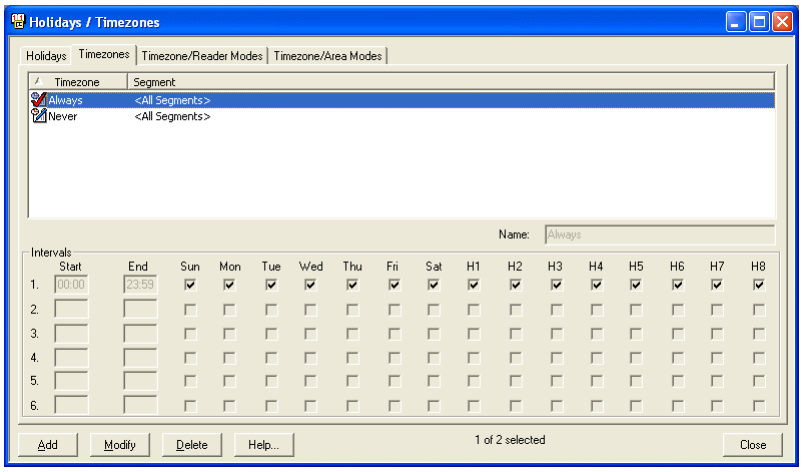
Modify a Holiday

1. In the listing window, select the name of the holiday you wish to change.
2. Click [Modify].
3. Make the changes you want to the fields.
4. Click [OK] to save the changes, or [Cancel] to revert to the previously saved values.

Delete a Holiday

1. In the listing window, select the name of the holiday you wish to delete.
2. Click [Delete].
3. Click [OK].

Timezones Form



Timezones Form Overview

The Timezones form is used to create timezones, each consisting of up to 6 time range/day intervals. Selectable "days" include any of the seven days of the week, plus any of up to 8 holiday types (holiday types are defined on the Holidays form).

Hardware Dependencies:

Bosch access panels support up to 255 timezones. All other access panels will accept a maximum of 127 timezones per panel. If your system contains both Bosch and non-Bosch access panels, you should consider using segmentation in order to avoid operator entry error and to take advantage of the extended performance features of the RKP-1000 access panel. If your system uses segmentation, your System Administrator determines the maximum number of timezones allowed per segment.

Timezones Form Field Table

Timezones Folder - Timezones Form

Form Element	Comment
Timezone	Lists currently defined timezones.
Name	Specifies the name of this timezone.
Intervals	**Note:** Contains 6 lines (rows) of information, each of which includes **Start**, **End**, **Sun**, **Mon**, **Tue**, **Wed**, **Thu**, **Fri**, **Sat**, **H1**, **H2**, **H3**, **H4**, **H5**, **H6**, **H7**, and **H8** fields. Holiday types 3 - 8 are supported by Bosch access panels only.
1	A particular timezone can be comprised of up to 6 time intervals, each of which is in effect on one or more days of the week ("days of the week" include Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday, and holiday types 1 through 8). For the current timezone, complete the appropriate fields in this (first) row: • The **Start** field represents the interval's starting time in military time. You can enter a value in the range of 00:00 through 24:00 • The **End** field represents the interval's ending time in military time. You can enter a value in the range of 00:00 through 24:00 • Click on "**Sun**" to put the Start-End interval in effect on Sundays • Click on "**Mon**" to put the Start-End interval in effect on Mondays • Click on "**Tue**" to put the Start-End interval in effect on Tuesdays • Click on "**Wed**" to put the Start-End interval in effect on Wednesdays • Click on "**Thu**" to put the Start-End interval in effect on Thursdays • Click on "**Fri**" to put the Start-End interval in effect on Fridays • Click on "**Sat**" to put the Start-End interval in effect on Saturdays • Click on "**H1**" to put the Start-End interval in effect on Type 1 holidays. Do the same for any of the other defined holiday types (check boxes "**H2**" through "**H8**") that you want to include in the timezone.
2	If the current timezone is to include 2 or more day/time intervals, complete the appropriate fields in rows 1 and 2.
3	If the current timezone is to include 3 or more day/time intervals, complete the appropriate fields in rows 1 through 3.
4	If the current timezone is to include 4 or more day/time intervals, complete the appropriate fields in rows 1 through 4.
5	If the current timezone is to include 5 or more day/time intervals, complete the appropriate fields in rows 1 through 5.
6	If the current timezone is to include 6 or more day/time intervals, complete the appropriate fields in all rows (1 through 6).
Add	Used to add a timezone entry.
Modify	Used to change a timezone entry.
Delete	Used to remove a timezone entry.
Help	Displays online assistance for this form.

Timezones Folder - Timezones Form (Continued)

Form Element	Comment
Mode	In view mode, indicates the record/selection count (such as “1 of 42 selected”). In modify mode, indicates the current operation, such as “Modify Mode.”
Close	Closes the Timezones folder.

Timezone Form Procedures

Add a Timezone

1. Click [Add].
2. Type a **Name** for the timezone.
3. Define each time interval in this Timezone, including the start and end times, the specific days of the week, and the holiday types that you want. Enter **Start** and **End** times, then select the check boxes that you want the time range to apply to.
4. A timezone can consist of up to 6 such intervals.
5. Click [OK].

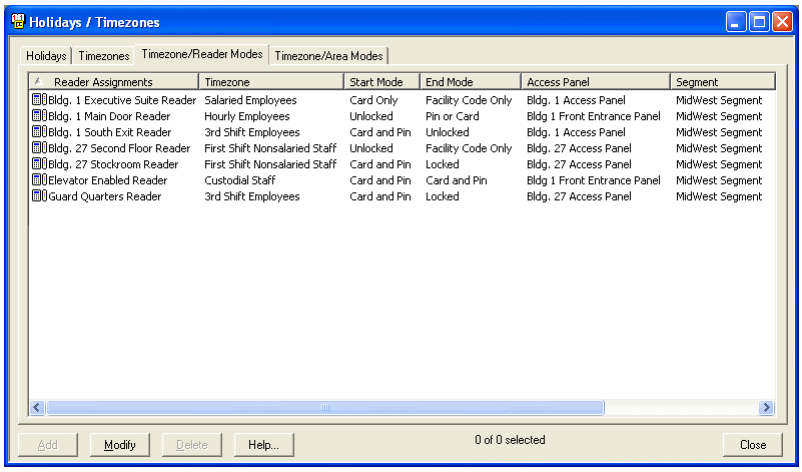
Modify a Timezone

1. In the listing window, select the name of the timezone you wish to change.
2. Click [Modify].
3. Make the changes you want to the fields.
4. Click [OK] to save the changes, or [Cancel] to revert to the previously saved values.

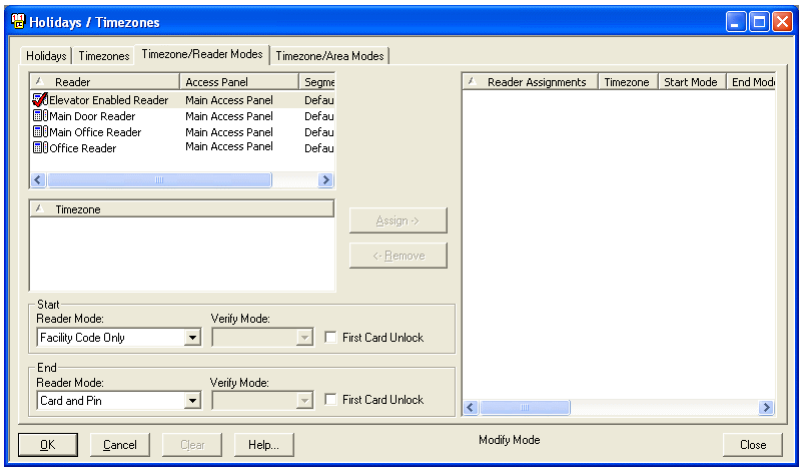
Delete a Timezone

1. In the listing window, select the name of the timezone you wish to delete.
2. Click [Delete].
3. Click [OK].

Timezone/Reader Modes Form (View Mode)



Timezone/Reader Modes Form (Modify Mode)



Timezone/Reader Modes Form Overview

This form is used to:

- For a given reader, choose individual operating modes for the beginning and the end of a particular timezone
- Remove the association between a particular timezone and a particular reader

Note: For readers connected to HID panels, the scheduled Unlocked mode is supported. To configure the scheduled Unlocked mode for an assigned timezone, select "Unlocked" for the (Start) **Reader Mode** and "Default" as the (End) **Reader Mode**. For more information, refer to the procedure Select Modes of Operation for a Reader During a Timezone on page 834.

Timezones Folder - Timezone/Reader Modes Form

Form Element	Comment
Listing window	Lists currently defined readers. Each entry also indicates the **Timezone**, **Start Mode**, and **End Mode** assignments, plus the access panel to which the reader is attached and the segment involved (if segmentation is enabled).
Timezone	Selects a timezone to be associated with the selected reader.
Start	Contains the **Reader Mode**, **Verify Mode**, and **First Card Unlock** fields.
Reader Mode	• Specifies the mode the reader will operate in at the **beginning** of the timezone.
Verify Mode	This field is used in conjunction with the **Biometric Verify** check box on the Readers form in the Readers folder. If that check box is selected, for alternate reader support, the primary reader will ask for verification from the alternate reader. Choose an option from this drop-down list to specify when the reader is to be in biometric verify mode.
First Card Unlock	Select this check box to enable the first card unlock feature for this timezone/reader mode. Doors configured with first card unlock will not unlock until valid personnel arrives. For example, rather than setting a lobby door to unlock at 9:00 am, you can leave it in a secure mode (i.e., Card Only, Card and Pin, etc.) and set the first card unlock to 9:00 am. The first person that comes in the door after 9:00 am will be required to present their card. After access is granted, the reader mode will change to Unlocked. This feature is useful for days like "snow days" when employees cannot make it to work on time. **Note:** If the reader is in Facility Code Only mode, the first card unlock feature does not work.
End	Contains the **Reader Mode**, **Verify Mode**, and **First Card Unlock** fields.
Reader Mode	• Specifies the mode the reader will operate in at the **end** of the timezone.
Verify Mode	This field is used in conjunction with the **Biometric Verify** check box on the Readers form in the Readers folder. If that check box is selected, for alternate reader support, the primary reader will ask for verification from the alternate reader. Choose an option from this drop-down list to specify when the reader is to be in biometric verify mode.
First Card Unlock	Select this check box to enable the first card unlock feature for this timezone/reader mode. **Note:** If the reader is in Facility Code Only mode, the first card unlock feature does not work.

Timezones Folder - Timezone/Reader Modes Form (Continued)

Form Element	Comment
Assign	Associates the selected **Start mode** and **End mode** with this reader during the selected timezone.
Remove	Removes the association between the selected timezone and the selected reader modes.
Add	This button is not used. Use the [Assign] button to associate a timezone with a reader.
Modify	This button is used to change an existing timezone/reader assignment.
Delete	This button is not used. Use the [Remove] button to delete a reader-timezone association.
Help	Displays online assistance for this form.

Timezone/Reader Modes Form Procedures

Select Modes of Operation for a Reader During a Timezone

1. In the listing window, select the reader that you wish to control the operation of during a particular timezone.
2. Click [Modify].
3. Choose the **Timezone** you wish to configure for the selected reader.
4. In the Start section, from the **Reader Mode** drop-down, select the mode you want this reader to be placed in at the start of the selected timezone.
5. In the End section, from the **Reader Mode** drop-down, select the mode you want this reader to be placed in at the end of the selected timezone.
6. Click [Assign]. The following things happen immediately:
   - the change is saved to the database
   - the change is downloaded to the reader's access panel
   - the assignment window is updated

   Functionally, at the start of the selected timezone, the selected reader will begin to function in the selected **Start mode**. It will remain in that mode until the end of the timezone, at which time the reader will be placed in the selected **End mode**.
7. Repeat steps 3-6 for each additional timezone you wish to configure for this reader.
8. Click [OK] to return to view mode. The listing window will be updated to reflect your changes.
9. Repeat this procedure if you wish to select the operating modes of other readers.

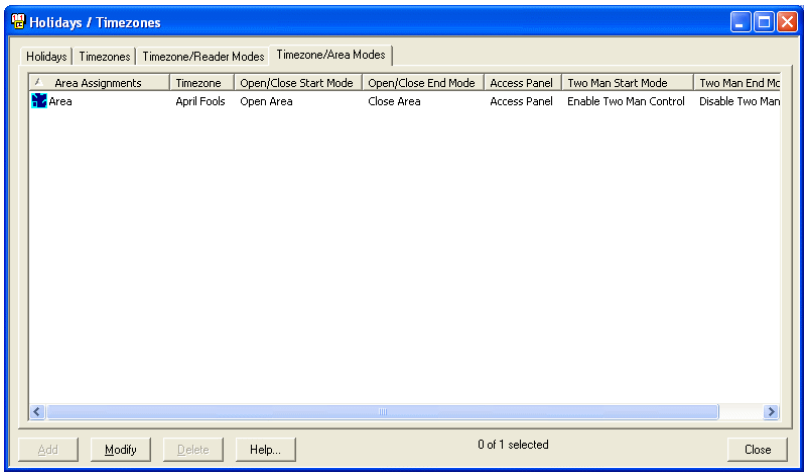
Modify a Timezone/Reader Assignment

1. Click [Modify].
2. In the assignment window (located on the right side of the form), select the timezone/reader assignment you wish to change.
3. Make the changes you want for the **Timezone**, **Start mode**, and/or **End mode** selections.
4. Click [Assign] to immediately save the change to the database and download it to the access panel.
5. Repeat steps 1-4 for each other timezone/reader assignment you wish to change.
6. Click [OK] to return to view mode. The listing window will be updated to reflect your changes.

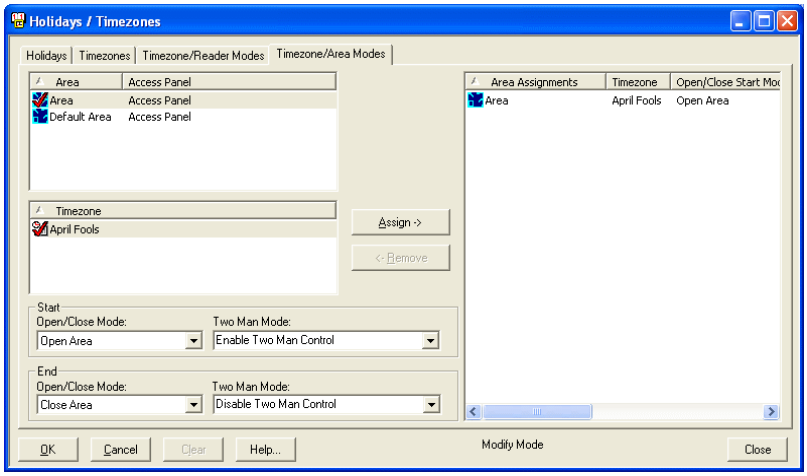
Remove a Timezone/Reader Assignment

1. Click [Modify].
2. In the assignment window (located on the right side of the form), select the timezone/reader assignment you wish to delete.
3. Click [Remove] to immediately save the change to the database and download it to the access panel.
4. Repeat steps 2 and 3 for each assignment to be removed.
5. Click [OK] to return to view mode. The listing window will be updated to reflect your changes.

Timezone/Area Modes Form (View Mode)



Timezone/Area Modes Form (Modify Mode)



Timezone/Area Modes Form Overview

This form is used to:

- For a given area, choose individual operating modes (including enabling or disabling Two Man Mode) for the beginning and the end of a particular timezone
- Remove the association between a particular timezone and a particular area

Note: The Open/Close Mode will be available to any local area on Bosch panels but the Two Man Mode will only be available to areas that belong to panels that have the special area rules enabled.

Timezones Folder - Timezone/Area Modes Form

Form Element	Comment
Listing window	Lists currently defined areas. Each entry also indicates the **Timezone**, **Open/Close Start Mode**, **Open/Close End Mode, Two Man Start Mode and Two Mad End Mode** assignments, plus the access panel to which the reader is attached and the segment involved (if segmentation is enabled).
Timezone	Selects a timezone to be associated with the selected area.
Start	Contains the **Open/Close Mode**, and **Two Man Mode** fields.
Open/Close Mode	Allows you to change whether to open, close or have no change to the area access during the start of the specified timezone.
Two Man Mode	Allows you to change whether the Two Man Mode is enabled or not during the start of the specified timezone.
End	Contains the **Reader Mode**, **Verify Mode**, and **First Card Unlock** fields.
Open/Close Mode	Allows you to change whether to open, close or have no change to the area access during the end of the specified timezone.
Two Man Mode	Allows you to change whether the Two Man Mode is enabled or not during the end of the timezone.
Assign	Associates the selected **Start mode** and **End mode** with this area during the selected timezone.
Remove	Removes the association between the selected timezone and the selected area modes.
Add	This button is not used. Use the [Assign] button to associate a timezone with an area.
Modify	This button is used to change an existing timezone/reader assignment.
Delete	This button is not used. Use the [Remove] button to delete an area-timezone association.
Help	Displays online assistance for this form.
Mode	In view mode, indicates the record/selection count (such as “1 of 42 selected”). In modify mode, indicates the current operation, such as “Modify Mode.”
Close	Closes the Timezones folder.
Start	Contains the **Open/Close Mode**, and **Two Man Mode** fields.

Timezone/Area Modes Form Procedures

Select Modes of Operation for an Area During a Timezone

1. In the listing window, select the area that you wish to control the operation of during a particular timezone.
2. Click [Modify].
3. Choose the **Timezone** you wish to configure for the selected reader.
4. In the Start section, from the **Open/Close Mode** drop-down list, select the mode you want this area to be placed in at the start of the selected timezone.
5. In the Start section, choose from the **Two Man Mode** drop-down list any changes you would like to make to the Two-Man Rule.
6. In the End section, from the **Open/Close Mode** drop-down list, select the mode you want this area to be placed in at the end of the selected timezone.
7. In the End section, choose from the **Two Man Mode** drop-down list any changes you would like to make to the Two-Man Rule.
8. Click [Assign]. The following things happen immediately:
   - the change is saved to the database
   - the change is downloaded to the reader's access panel
   - the assignment window is updated

   Functionally, at the start of the selected timezone, the selected area will begin to function in the selected **Start mode**. It will remain in that mode until the end of the timezone, at which time the reader will be placed in the selected **End mode**.
9. Repeat steps 3-6 for each additional timezone you wish to configure for this area.
10. Click [OK] to return to view mode. The listing window will be updated to reflect your changes.
11. Repeat this procedure if you wish to select the operating modes of other area.

Modify a Timezone/Area Assignment

1. Click [Modify].
2. In the assignment window (located on the right side of the form), select the timezone/area assignment you wish to change.
3. Make the changes you want for the **Timezone**, **Start mode**, and/or **End mode** selections.
4. Click [Assign] to immediately save the change to the database and download it to the access panel.
5. Repeat steps 1-4 for each other timezone/area assignment you wish to change.
6. Click [OK] to return to view mode. The listing window will be updated to reflect your changes.

Remove a Timezone/Area Assignment

1. Click [Modify].
2. In the assignment window (located on the right side of the form), select the timezone/area assignment you wish to delete.
3. Click [Remove] to immediately save the change to the database and download it to the access panel.
4. Repeat steps 2 and 3 for each assignment to be removed.
5. Click [OK] to return to view mode. The listing window will be updated to reflect your changes.

Chapter 30: Access Levels Folder

The Access Levels folder contains forms with which you can:

- Define user access levels, each consisting of one or more reader/timezone combinations
- Define elevator access control types, and assign one or more elevator reader + timezone + elevator output/door combinations to each
- Group access levels into convenient access groups

The folder contains several forms: the Access Levels form, the Elevator Control form, and the Access Groups form. In addition, the Access Level Additional Segments form displays only if segmentation is enabled. The Extended Options form displays only if extended options are enabled in the system /segment.

The Precision Access form displays only if:

- The **Precision Access** check box is selected on the appropriate Access Panels folder.
- The Precision access mode is selected in the General Cardholder Options Form.
- At least one access level (not a precision access level) is assigned to the cardholder before a precision access level is assigned.

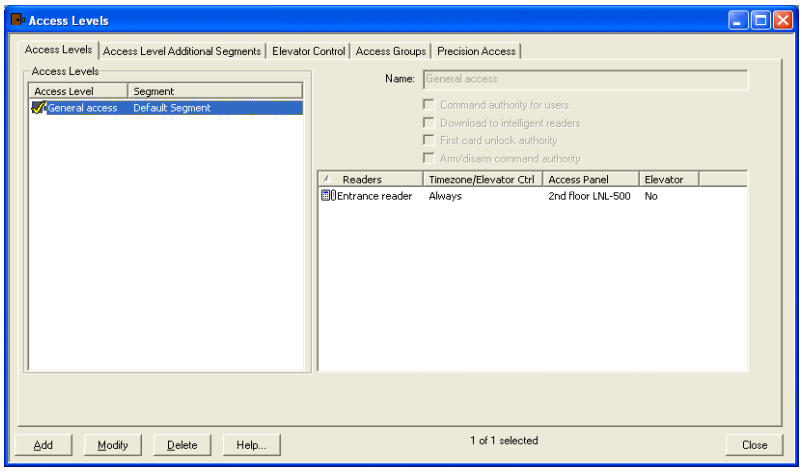
Hardware Dependencies:

- The system supports connectivity to a variety of access panels. Each of the access panels provides different functionality and capabilities. One of the areas of varying functionality is access level support. The RKP-1000 can support up to 32,000 access levels.
- If your system contains RKP-1000 and non-RKP-1000 access panels, you should consider using segmentation in order to avoid operator entry error and to take advantage of the extended performance features of the RKP-1000 access panel.
- HID Edge panels support a maximum of eight (8) access levels per badge. If you add an access level that has an HID controller in common with 8 or more other access levels, some badges may exceed the limits of the controller, in which case only 8 access levels will be downloaded to this controller for those badges. Other HID controllers in the same access level may also be affected.
- Elevator dispatching systems do not support precision access levels.

Toolbar Shortcut

The Access Levels folder is displayed by selecting **Access Levels** from the **Access Control** menu, or by selecting the Access Levels toolbar button.

Access Levels Form (Access Sub-tab - View Mode)

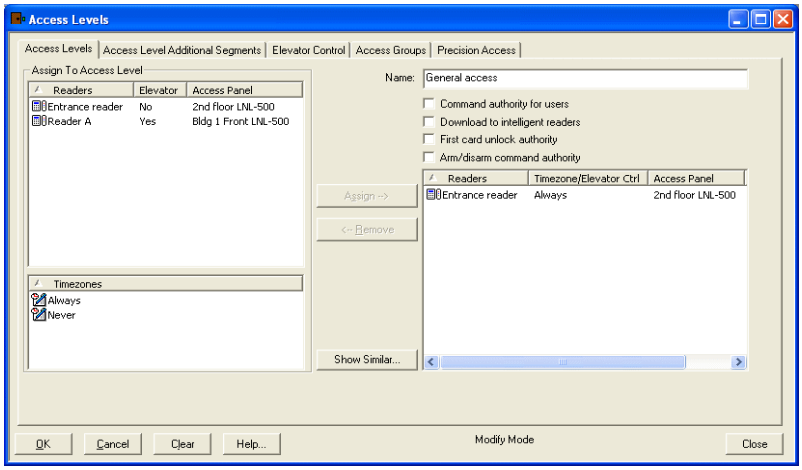


Note: What displays on this form differs depending on whether or not elevator dispatching support is enabled. The form differences are minor and are mainly seen in the menu headings for the listing windows. For more information, refer to the details in the table that follows.

Access Levels Folder - Access Levels Form (Access Sub-tab)

Form Element	Comment
Listing window	(Displays in view mode only.) Lists currently defined access levels.

Access Levels Form (Access Sub-tab - Modify Mode)



Access Levels Form Overview

The Access Levels form appears different when is used to:

- Define cardholder access levels.
- Assign one or more (reader + timezone) combinations to an access level.
- Assign one or more (elevator reader + elevator control level) combinations to an access level.
- Remove (reader + timezone) or (elevator reader + elevator control level) assignments.

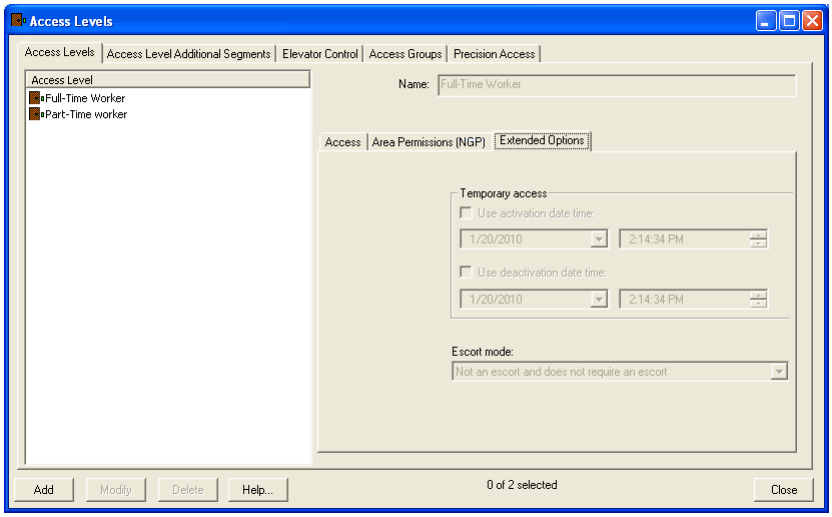
Access Levels Folder - Access Levels Form (Access Sub-tab - Modify Mode)

Form Element	Comment
Access Levels	(Displays in view mode only.) Lists currently defined access levels.
Name	Indicates the name of this access level
LCD name	The name as it will appear on the LCD reader display.
Assignment window	Each entry includes the following components: • **Readers** - indicates the name of the reader • **Timezone/Elevator Ctrl** - If the reader is an elevator reader, the elevator control level is indicated here. Otherwise, the name of the timezone is indicated. If no elevator is selected the Elevator Ctrl will be blank. • **Access Panel** - indicates the name of the access panel to which the reader is connected • **Elevator** - if Yes, the reader is an elevator reader. If No, the reader is not an elevator reader. • **Area -** indicates the area the reader is assigned to.

Access Levels Folder - Access Levels Form (Continued)(Access Sub-tab - Modify

Form Element	Comment
Readers to assign	(displays in modify mode only) Each entry includes the following components: • **Readers** - displays the name of the reader • **Elevator** - displays name of the elevator to which the reader is associated or "No" if the reader is not associated with an elevator. • **Access Panel** - displays the name of the access panel to which the reader is connected
Timezone to assign	(displays in modify mode only) Lists currently defined timezones
Elevator level to assign	(displays in modify mode only when an elevator reader is selected in the **Readers to assign** list) Lists currently defined elevator control levels.
Assign	Associates an access level with a reader and timezone
Remove	Removes the link between an access level to a reader and timezone.
Show Similar	Click to open the Similar Access Levels window. The Similar Access Levels window allows you to see access levels similar to the one you are trying to define. For more information please refer to Similar Access Levels Form on page 849.
Add	Adds an access level.
Modify	Changes an access level.
Delete	Removes an access level.
Help	Displays online assistance for this form.
Mode	In view mode, indicates the record/selection count (such as "1 of 42 selected"). In modify mode, indicates the current operation, such as "Modify Mode."
Close	Closes the Access Levels folder.

Access Levels Form (Extended Options Sub-tab)



Access Levels Form (Extended Options Sub-tab) Overview

The form is used to:

- Configure temporary access to the access levels.

Access Levels Folder - Access Levels Form (Extended Options Sub-tab)

Form Element	Comment
Listing window	Lists currently defined access levels.
Use activation date time	An access level can have an activation date and/or a deactivation date. Outside of these date ranges, the access level will have an effective time zone of "never". **Note:** The activation date can be set to "None" (disabled). Also, the granularity is to the second, so activation is based on time as well as a date. **Note:** If enabled, activation date time is used in conjunction with the cardholder specific access level dates. Whichever has the latest activation date is used.
Use deactivation date time	An access level can have an activation date and/or a deactivation date. Outside of these date ranges, the access level will have an effective time zone of "never". **Note:** The deactivation date can be set to "None" (disabled). Also, the granularity is to the second, so activation is based on time as well as a date. **Note:** If enabled, deactivation date time is used in conjunction with the cardholder specific access level dates. Whichever has the earliest deactivation date is used.

Access Levels Folder - Access Levels Form (Extended Options Sub-tab) (Continued)

Form Element	Comment
Escort mode	You can extend access level options to include escort access by selecting an escort mode. Choices include: • Not an escort and does not require an escort • An escort • Requires an escort A cardholder assigned to an access level that gives them escort access is allowed to escort cardholders who are assigned to an access level that requires an escort access.

Access Levels Form Procedures

Add an Access Level

1. Click [Add].
2. In the **Name** field, type a unique, descriptive name for this access level.
3. In the **LCD name** field, type the name as it will appear on the LCD reader display.
4. In the **Assign to Access Level** field, select one or more readers. If you have multiple readers selected simultaneously, they all must be the same type (either all elevator readers, or all non-elevator readers).

   To select a reader you must click on the  icon to the left of it. A reader is selected if there is a checkmark on its icon, like this: 
5. Do one of the following:
   - If the selected readers are elevator readers, select an entry in the **Elevator Control Levels** field
   - Select an entry in the **Timezones** field

   Although you can select multiple readers simultaneously, you can only select one Elevator Control Level or Timezone. An entry is selected if there is a checkmark on its icon.
6. Click [Assign]. An entry will be inserted into the assignment window for each selected reader.
7. Repeat steps 4-6 for each Elevator Control Level or Timezone you want to include in this access level.
8. To remove one or more reader assignments from this access level:
   a. In the assignment window, click on the entry or entries that you want to remove. [Remove] will become active.
   b. Click [Remove]. The entry or entries will be removed from the assignment window.
9. Click [OK]. The name of the access level will be inserted alphabetically into the **Access Levels** list. When you select the name, the readers that you assigned will be listed in the assignment window.
   - Each reader entry indicates that the reader can be used on specific days during specific time intervals.
   - Each elevator reader entry indicates that the elevator reader can be used to reach specific floors on specific days during specific time intervals.

   A cardholder having that access level would have the capabilities defined by all of the associated (reader + timezone/elevator control level) entries.

Assign Extended Options to an Access Level

You can assign escort access or require an escort access to access levels. A cardholder with escort access is allowed to escort cardholders who are not allowed in specific access levels.

1. From the **Access Control** menu, select **Access Levels**. The Access Levels folder opens.
2. Click the Extended Options sub-tab.
3. Select (place a check mark beside) an access level.
4. Click [Modify].

Note: If the modify button is disabled, you need to enable extended options. This is done in the System Options folder for non-segmented systems or the Segments folder in segmented systems.

5. Select the escort mode from the drop-down list.
6. To configure an activation date/time, select the **Use activation date time** check box. Select the date and time using the drop-down list and spin buttons.
7. To configure the deactivation date/time, select the **Use deactivation date time** check box. Select the date and time using the drop-down list and spin buttons.
8. Click [OK].

Modify an Access Level

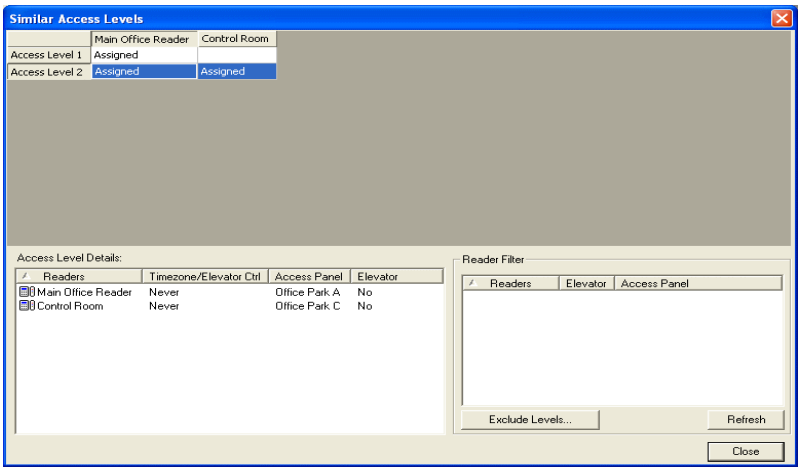
1. In the **Access Levels** window, select the name of the access level you wish to change.
2. Click [Modify].
3. Make the changes you want.
4. Click [OK] to save the change, or [Cancel] to revert to the previously saved assignments.

Delete an Access Level

1. In the **Access Levels** window, select the name of the access level you wish to delete.
2. Click [Delete].
3. Click [OK].

Similar Access Levels Form

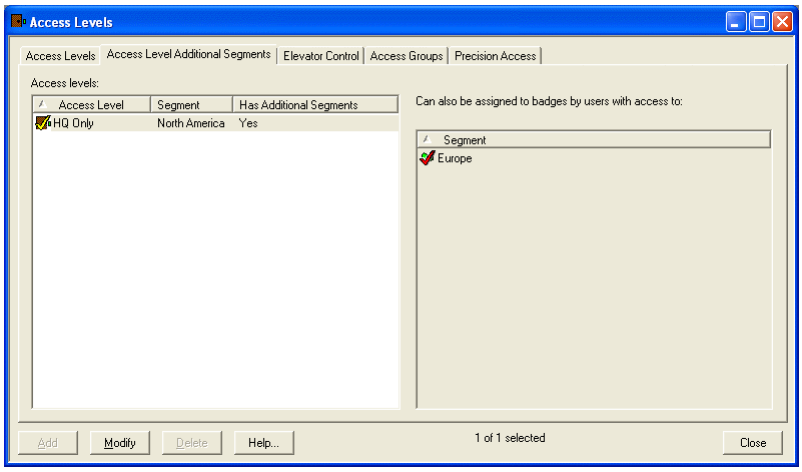
While creating an access level, use the **Show Similar** button to see other access levels that have similar assignments to the one you are creating. Doing this helps stop the creation of duplicate access levels.



Access Levels Folder - Similar Access Levels

Form Element	Comment
Reader filter	Select or deselect the reader to view or hide access levels that use that reader.
Areas filter	Select or deselect the area to view or hide access levels that use that reader.
Exclude Levels	Click to open the Exclude Levels window. The Exclude Levels window allows you to choose the access level to exclude when filtering similar access levels.
Refresh	After selecting a reader click this button to refresh the listing window.
Similar access levels	Shows the access levels similar to the one selected.
Close	Click to close the window.

Access Level Additional Segments Form



Access Level Additional Segments Form Overview

This form allows you to specify that a selected access level in one segment can also be assigned to badges by users with access to other selected segments.

Access Levels Folder - Access Level Additional Segments Form

Form Element	Comment
Access levels listing window	Lists currently defined access levels, the segment each is associated with, and whether the access level has additional segments.
Segments listing window	In modify mode, all segments display. If a segment is selected, that access level can also be assigned to users with access to that segment. In view mode, only selected segments display.
Modify	Changes the additional segments that an access level can be assigned to.
Help	Displays online assistance for this form.
Close	Closes the Access Levels folder.

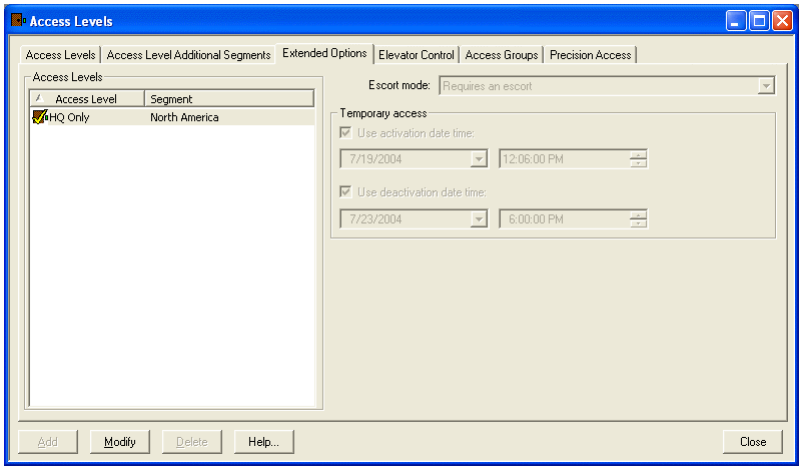
Access Level Additional Segments Form Procedures

Modify an Access Level for Additional Segments

1. On the Access Level Additional Segments form in the Access levels listing window, select the access level you wish to make available to additional segments.
2. Click [Modify].
3. In the Segments listing window, select any additional segments you want the access level to be able to be assigned to.
4. Click [OK].

Extended Options Form

Note: Extended options are enabled (the Extend Options form is enabled) in the System Options folder for non-segmented systems or the Segments folder in segmented systems.



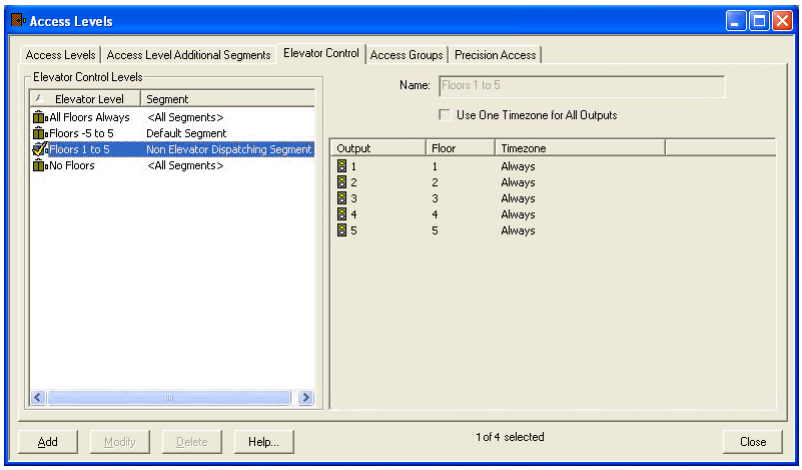
Access Levels Folder - Extended Options Form

Form Element	Comment
Access Levels	Lists currently defined access levels and the segment each is associated with.
Escort mode	You can extend access level options to include escort access by selecting an escort mode. Choices include: • Not an escort and does not require an escort • An escort • Requires an escort A cardholder assigned to an access level that gives them escort access is allowed to escort cardholders who are assigned to an access level that requires an escort access.
Use activation date time	An access level can have an activation date and/or a deactivation date. Outside of these date ranges, the access level will have an effective time zone of “never”. **Note:** The activation date can be set to “None” (disabled). Also, the granularity is to the second, so activation is based on time as well as a date. **Note:** If enabled, activation date time is used in conjunction with the cardholder specific access level dates. Whichever has the latest activation date is used.

Access Levels Folder - Extended Options Form (Continued)

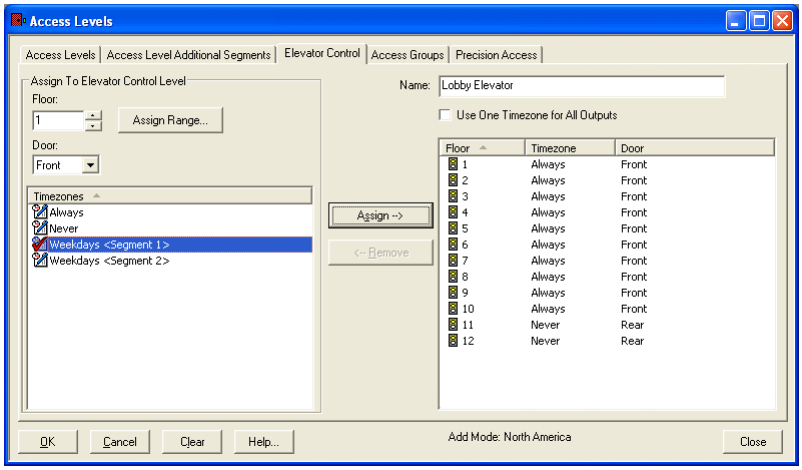
Form Element	Comment
Use deactivation date time	An access level can have an activation date and/or a deactivation date. Outside of these date ranges, the access level will have an effective time zone of "never". **Note:** The deactivation date can be set to "None" (disabled). Also, the granularity is to the second, so activation is based on time as well as a date. **Note:** If enabled, deactivation date time is used in conjunction with the cardholder specific access level dates. Whichever has the earliest deactivation date is used.
Modify	Changes an access level option.
Help	Displays online assistance for this form.
Close	Closes the Access Levels folder.

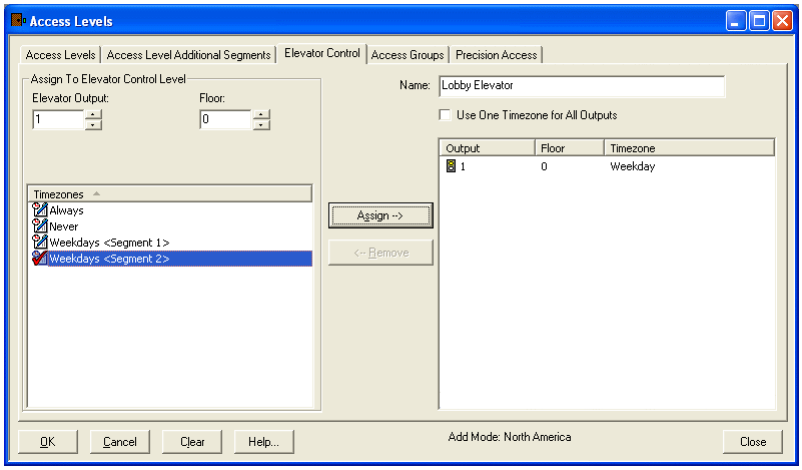
Elevator Control Form (View Mode)



Elevator Control Form (Modify Mode)

Note: This form looks different depending on whether or not elevator dispatching is enabled. The differences are minor and consist mostly of different column headings of the listing windows. They are detailed in the table below.





Elevator Control Form Overview

This form is used to:

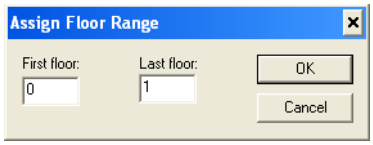
- Define elevator control levels.
- Assign (reader output + timezone) combinations to an elevator control level.
- Remove (reader output + timezone) assignments.

Note: If elevator dispatching is configured, use this form to assign (floor + timezone) combinations or remove such assignments.

Access Levels Folder - Elevator Control Form

Form Element	Comment
Elevator Control Levels	(displays in view mode only) Lists currently defined elevator control levels and the segment each is associated with, if segmentation is enabled. (The Segment column will only appear if segmentation is enabled on your system.) An  icon precedes each entry.
Name	Specifies a name for this elevator control level. Two types are pre-defined. They are: • **All Floors Always** (all floors are always accessible) • **No Floors** You can create additional elevator control levels to fit your needs.
Use One Timezone for All Outputs	If selected, the currently selected timezone will be assigned to all (output) entries in the assignment window. Existing entries will be changed to reflect this. If not selected, you can assign a different timezone for each output. When elevator dispatching is configured, select **Use One Timezone for All Floors** to assign the timezone to all floor entries.
Assignment window	Each entry includes the following components: • **Floor** - indicates the floor number associated with the output or the default floor for elevator dispatching configurations • **Timezone** - indicates the name of the timezone • **Door** - indicates which door is associated with the default floor for elevator dispatching configurations Included only if elevator dispatching is not configured: • **Output** - indicates the output number of the elevator reader
Assign To Elevator Control Level	(displays in modify mode only) Includes the **Floor**, **Timezones**, and **Door** fields. Includes the **Elevator Output**, **Floor**, and **Timezones** fields when elevator dispatching is not configured.

Access Levels Folder - Elevator Control Form (Continued)

Form Element	Comment
Elevator Output	(displays in modify mode only when elevator dispatching is not configured) Indicates which output is lit on the elevator reader's output module. Possible values are in the range of 0 through 31.
Floor	(displays in modify mode only) When elevator dispatching is not configured, indicates the actual floor number associated with the output. This field is used for your reference. With elevator dispatching enabled, indicates the floor number(s) associated with the timezone.
Assign Range	(displays in modify mode only when elevator dispatching is configured) Opens a dialog allowing you to associate more than one floor with a timezone. Enter the **First floor** through the **Last floor** in the range, and then click [OK]. 
Door	(displays in modify mode only when elevator dispatching is configured) Indicates which door is associated with the floor.
Timezones	(displays in modify mode only) Select a timezone from those listed for this segment.
Assign -->	Associates an elevator control type with a reader output + timezone combination. For elevator dispatching configurations, associates an elevator control type with a floor + timezone combination.
<--Remove	Removes the link between an elevator control type and a reader output + timezone combination. For elevator dispatching configurations, removes the link between an elevator control type and a floor + timezone combination.
Add	Adds an elevator control entry.
Modify	Changes an elevator control entry.
Delete	Removes an elevator control entry.
Help	Displays online assistance for this form.
Close	Closes the Access Levels folder.

Elevator Control Form Procedures

An elevator control level consists of one or more (output/floor + timezone) combinations. Each such entry indicates that a particular floor can be accessed on specific days during specific time intervals. A cardholder whose access level includes a particular elevator control level would have the capabilities defined by all of the associated (output/floor + timezone) entries.

Add an Elevator Control Level

1. Click [Add].
2. In the **Name** field, type a unique, descriptive name for this elevator control level.
3. In the **Elevator Output** field, use the spin buttons to select the number of the output to be activated. Or, you can highlight the value in the field, then type the output number.
4. In the **Floor** field, type the number of the floor that corresponds to this output. This step is not required; it is for your reference only. However, if elevator dispatching is configured, this step is required.

Note: If elevator dispatching is configured, in the **Door** field, select which door corresponds to the **Floor**.

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5. In the **Timezones** field, select the name of a timezone.
6. If you want this timezone to apply to all outputs in this elevator control level, select the **Use One Timezone for All Outputs** check box.

Note: If elevator dispatching is configured, select the **Use One Timezone for All Floors** check box if you want to apply this timezone to all floors in this elevator control level.

Note: Selecting this check box will also affect any outputs (or floors) that have already been assigned to this elevator control level. In such instances, you will be asked whether you want to change the timezone for all output (floor) assignments.

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7. Click [Assign].
8. For each output you want activated, repeat steps 3-5 and 7 (skip step 5 if you selected the **Use One Timezone for All Outputs** check box).
9. Click [OK].

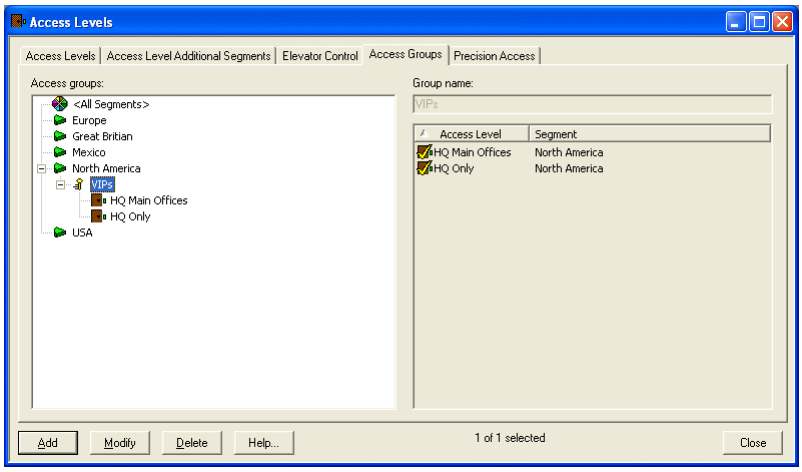
Modify an Elevator Control Level

1. In the **Elevator Control Levels** field, select the name of the elevator control level you wish to change.
2. Click [Modify].
3. Make the changes you want.
4. Click [OK] to save your changes, or [Cancel] to revert to the previously saved values.

Delete an Elevator Control Level

1. In the **Elevator Control Levels** field, select the name of the elevator control level you wish to delete.
2. Click [Delete].
3. Click [OK].
4. You will be prompted with a reminder that deleting the elevator control level will affect elevator access for all badges linked to it. Click [Yes] to proceed with deletion.

Access Groups Form



Access Groups Form Overview

This form is used to define access groups and to assign one or more access levels to a particular group.

Note: HID Edge supports a maximum of eight (8) access levels per badge. If you attempt to assign an access level to a group that would result in more than 8 access levels containing a common HID controller, it will not be assigned, and an error message will display listing the 8 access levels already assigned.

Access Levels Folder - Access Groups Form

Form Element	Comment
Access Groups	Lists currently defined access groups, and the access levels associated with each. If your system is segmented, the access groups will be shown in the segment they belong to. • An icon precedes each access group entry. • An icon precedes each access level entry.
Group Name	Indicates the name of this access group
Access Levels	Lists currently defined access levels and the segment each is associated with, if segmentation is enabled. (The Segment column will only appear if segmentation is enabled on your system.)
Add	Adds an access group entry.
Modify	Changes an access group entry.
Delete	Removes an access group entry.
Help	Displays online assistance for this form.

Access Levels Folder - Access Groups Form (Continued)

Form Element	Comment
Close	Closes the Access Levels folder.

Access Groups Form Procedures

Add an Access Group

1. Click [Add].
2. In the **Group Name** field, type a unique, descriptive name for this access group.
3. Select the icon(s) that correspond to the access levels you wish to include in this group. Access levels are defined on the Access Levels form of this folder.
4. Click [OK]. The name will be added in alphabetical order to the **Access Groups** list.

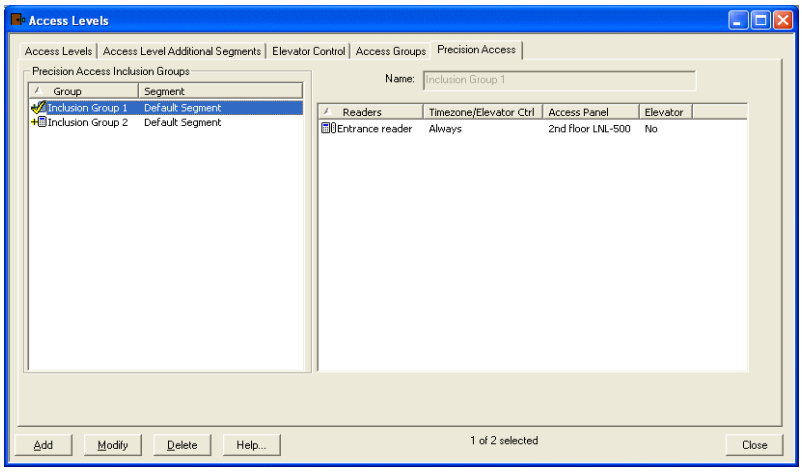
Modify an Access Group

1. In the **Access Groups** list, select the name of the access group you wish to change.
2. Click [Modify].
3. Make the changes you want.
4. Click [OK] to save the changes, or [Cancel] to revert to the previously saved values.

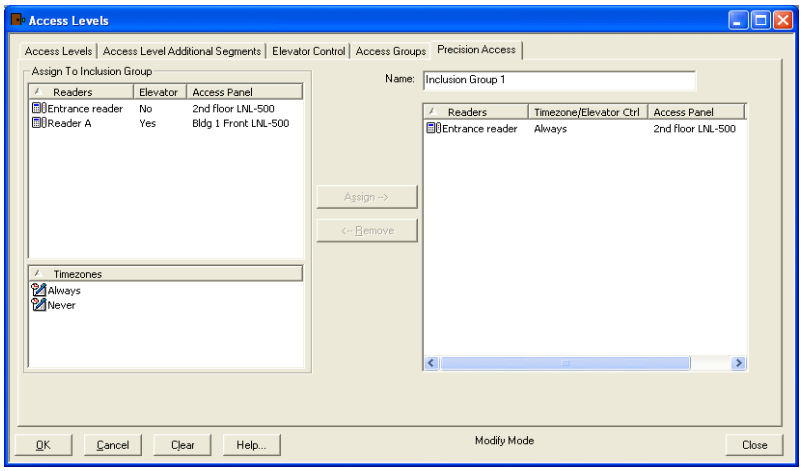
Delete an Access Group

1. In the **Access Groups** list, select the name of the access group you wish to delete.
2. Click [Delete].
3. Click [OK].

Precision Access Form (View Mode)



Precision Access Form (Modify Mode)



Precision Access Form Overview

This form is used to assign specific readers to specific inclusion groups.

Most installations will not use the application's Precision Access capabilities. Those that do will have either inclusion or groups. *Inclusion groups* provide a way to select readers that someone CAN access during a specified timezone. These capabilities are used in addition to the normal access levels to further control access.

This form is displays only if "Inclusion" is selected in the **Precision Access Mode** field on the General Cardholder Options form in the Cardholder Options folder.

To configure precision access panel:

- Make sure the **Precision Access** check box is selected on the appropriate Access Panels folder.
- Select the Precision access mode in the General Cardholder Options Form.
- Assign at least one access level (not a precision access level) to the cardholder before a precision access level is assigned.

Access Levels Folder - Precision Access Form

Form Element	Comment
Precision Access Inclusion Groups	(displays in view mode only) Lists currently defined inclusion groups. An  icon precedes each inclusion group entry.
Name	Indicates the name of the inclusion group
Assign to Inclusion Group	(displays in modify mode only) Each entry is preceded by an  icon, and includes the following components: • **Readers** - indicates the name of the reader • **Elevator** - if Yes, the reader is an elevator reader. If No, the reader is not an elevator reader. • **Access Panel** - indicates the name of the access panel to which the reader is connected
Timezones	(displays in modify mode only) Each entry is preceded by an  icon. Select a timezone to be applied to the selected reader(s). Choices include all currently defined timezones.
Elevator Control Levels	(displays in modify mode only) Each entry is preceded by an  icon. Select the elevator control level to be applied to the selected reader(s). Choices include all currently defined elevator control levels.
Assignment window	• Each entry is preceded by an  icon, and includes the following components: • **Readers** - indicates the name of the reader • **Timezone/Elevator Ctrl** - If the reader is an elevator reader, the elevator control level is indicated here. Otherwise, the name of the timezone is indicated. • **Access Panel** - indicates the name of the access panel to which the reader is connected • **Elevator** - if Yes, the reader is an elevator reader. If No, the reader is not an elevator reader

Access Levels Folder - Precision Access Form (Continued)

Form Element	Comment
Assign	(displays in modify mode only) Adds one or more readers to a Precision Access inclusion group.
Remove	(displays in modify mode only) Removes one or more readers from a Precision Access inclusion group.
Add	Adds an inclusion group.
Modify	Changes an inclusion group.
Delete	Removes an inclusion group.
Help	Displays online assistance for this form.
Close	Closes the Access Levels folder.

Precision Access Form Procedures

Add a Precision Access Inclusion Group

1. From the **Access Control** menu, select **Access Levels**. The Access Levels folder displays.
2. Click the Precision Access tab. If this tab does not available, refer to Precision Access Form Overview on page 861.
3. Click [Add].
4. If segmentation is not enabled, skip this step. If segmentation is enabled:
   a. The Segment Membership window will open. Select the segment that this precision access inclusion group will be assigned to.
   b. Click [OK].
5. In the **Name** field, type a unique, descriptive name for this group.
6. In the **Assign to Inclusion Group** field, select one or more readers to be contained in this group.
7. Do one of the following:
   - If the selected readers are elevator readers, select an entry in the **Elevator Control Levels** field.
   - If the selected readers are not elevator readers, select an entry in the **Timezones** field.

Note: Although you can select multiple readers simultaneously, you can only select one Elevator Control Level or Timezone. An entry is selected if there is a checkmark on its icon.

8. Click [Assign].
9. Repeat steps 6-7 for each different timezone to be included in the group. Note that a reader can be assigned to only one timezone. If you select a reader again and choose a different timezone, the change will be reflected in the assignment window.
10. Click [OK].

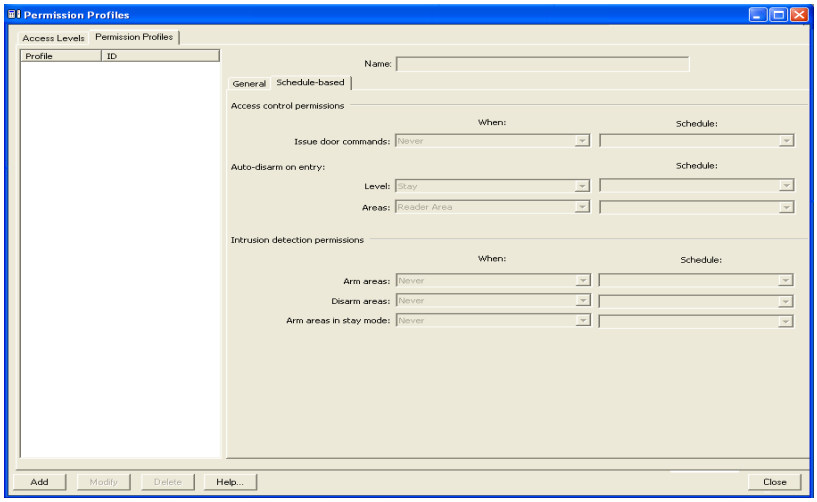
Modify a Precision Access Inclusion Group

1. In the **Precision Access Inclusion Groups** list, select the name of the group you wish to change.
2. Click [Modify].
3. Make the changes you want.
4. Click [OK] to save the changes, or [Cancel] to revert to the previously saved values.

Delete a Precision Access Inclusion Group

1. In the **Precision Access Inclusion Groups** list, select the name of the group you wish to delete.
2. Click [Delete].
3. Click [OK].

(Schedule-Based Sub-tab)



Chapter 31: Command Keypad Templates Folder

The Command Keypad Templates folder allows you to create macros for key sequences that can be assigned to a function key of a command keypad, allowing cardholders the ability to use the reader's keypad to issue commands. These commands can have a multitude of functions including arming/disarming an area and contacting emergency personnel. You can also define display strings that appear on the reader's display screen and assign intrusion command authority.

To accomplish this you will create macros, assign them to specific function keys for a template, configure the display strings and intrusion command for a template, and then assign that template to a specific reader. The intrusion commands assigned to the template can only be executed from the reader by cardholders who have specific access level authority.

Command Keypad Template Overview

The Command Keypad Templates folder is used to:

- Assign macros to shorten keypad sequences into single or double digit inputs
- Assign which cardholder authority has access to certain commands
- Assign text that is displayed on the reader

Command Keypad Templates User Permissions

The Command Keypad Templates form needs to have certain user permissions enabled to work fully.

To assign permissions to use command keypad templates navigate to **Administration > Users > System Permission Groups tab > Access Control sub-tab**. Use the **Command keypad templates** check boxes to enable the features. To do this:

1. Select a user in the Permission Group listing window
2. Click [Modify]
3. Select the Command keypad templates check box and its corresponding add, modify, and delete check boxes.

Intrusion Authority Levels User Permissions

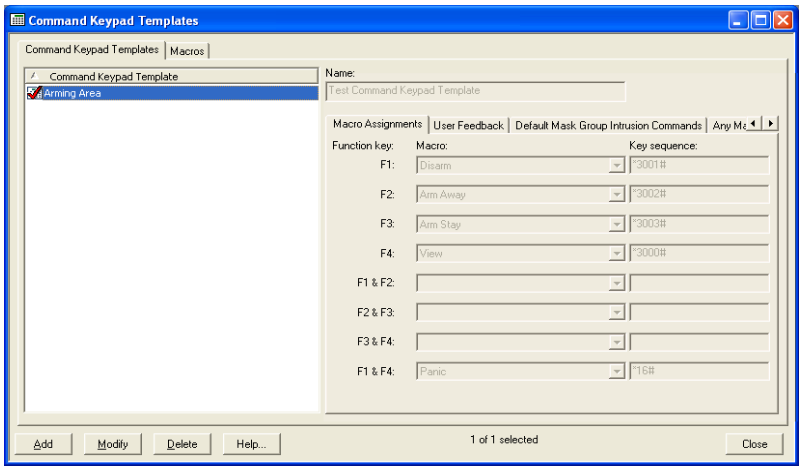
Once a command keypad template is created you will want to assign certain authority restrictions so only select cardholders can access the command keypad functions. You need proper cardholder permissions to do this.

To assign cardholders permission to use the command keypad templates navigate to **Administration > Users > Cardholder Permission Groups tab > Badge sub-tab**. Use the **Access level assignments** check boxes to enable the feature. To do this:

1. Select a user in the Permission Group listing window
2. Click [Modify]
3. Select the **Modify intrusion authority** check box. The selected users can now assign authority levels to cardholders.

Command Keypad Templates Form (Macro Assignments Sub-tab)

The Macro Assignments form is used to assign macros that you have created to the function keys of the keypad. The form is displayed by clicking **Access Control > Command Keypad Templates**. For more information, refer to Key Sequence Format on page 872.



Command Keypad Templates - Macro Assignments Form

Form Element	Comment
Command Keypad Template listing window	Lists any created templates.
Name	A user-defined name for a template. This should be a descriptive name.

Command Keypad Templates - Macro Assignments Form (Continued)

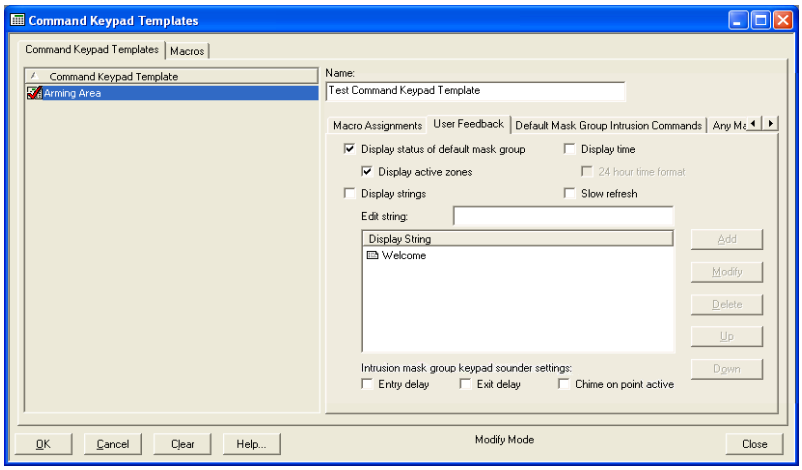
Form Element	Comment
Function key	Keys that correspond with the function keys on the command keypad. You assign macros to these keys.
Macro	Choose a macro that has been created to use with the corresponding function key.
Key sequence	A listing of the key sequence used with the selected macro.

Command Keypad Templates Form (User Feedback Sub-tab)

The User Feedback sub-tab allows you to add pre-configured or custom made strings that are then displayed on your command keypad.

The form is displayed by clicking **Access Control > Command Keypad Templates > User Feedback** sub-tab. For more information, refer to Add/Edit Display Strings on page 875.

Note: The display strings are listed for the template in the same order in which they are displayed on the command keypad.



Command Keypad Templates - User Feedback Form

Form Element	Comment
Display status of default mask group	Select to show the status of the default mask group on the command keypad.
Display active zones	Select to display the current active zones that are in a fault state and belong to the mask group.
Display time	Select to display the current time on the command keypad.

Command Keypad Templates - User Feedback Form (Continued)

Form Element	Comment
24 hour time format	After selecting the Display time check box, select this to display the time in the 24-hour format.
Display strings	Select to display the user created strings on the command keypad. For more information please refer to Add/Edit Display Strings on page 875.
Slow refresh	Check to slow the speed of the scrolling text on the LNL-CK display.
Edit string	Text box used to add or edit a display string. A display string can be a maximum of 16 characters.
Entry delay	Select to have the keypad produce an audio signal during an entry delay.
Exit delay	Select to have the keypad produce an audio signal during an exit delay.
Chime on point active	Select to have the keypad produce an audio signal when a point becomes active.
Add	Click to add a string to the command keypad display. The button will only become enabled once a string listed in the "Edit string" text box has been added or changed. Note that at most 8 display strings are allowed per template.
Modify	Click to Modify the string currently listed in the "Edit string" text box. This button will only become enabled once the string listed in the "Edit string" text box has changed.
Up	Select a display string and click [Up] to move it up in the queue.
Down	Select a display string and click [Down] to move it down in the queue.
Delete	Select a display string and click [Delete] to delete the string from the queue.

Command Keypad Templates Form (Default/Any Mask Group Intrusion Commands Sub-tab)

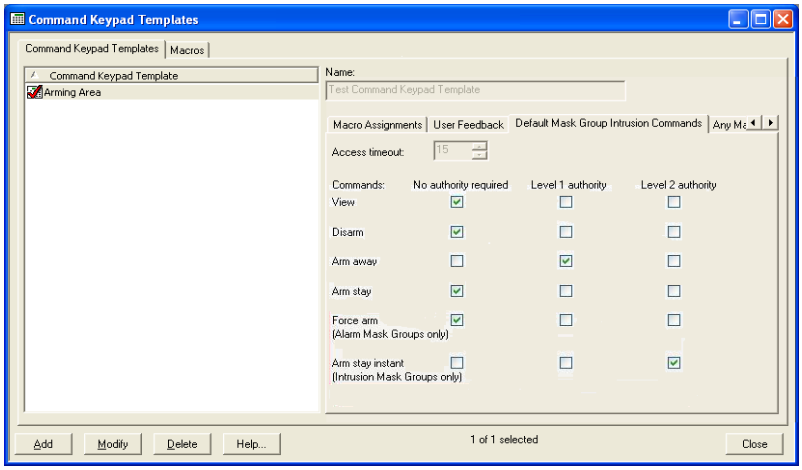
Important: To use this feature you must first enable intrusion command configuration. Do this by navigating to **Administration > System Options > User Commands sub-tab**. Then select "Advanced Permission Control" from the **Intrusion command configuration** drop-down box. If you have segmentation enabled this option will be in the Segments folder. For more information please refer to User Commands Form on page 473.

The Default Mask Group Intrusion Commands sub-tab and the Any Mask Group Intrusion Commands sub-tab have the same user interface and function in a similar manner. They are both used to determine the authority permissions that are required to view, arm, disarm, and force arm, areas through the keypad.

The only difference between them is that the Default Mask Group Intrusion Commands sub-tab affects only the default mask group assigned to a reader. The

Any Mask Group Intrusion Commands sub-tab determines authority permissions that are used for any mask group defined for a given controller.

The forms are displayed by clicking **Access Control > Command Keypad Templates > Default Mask Group Intrusion Commands** sub-tab or **Any Mask Group Intrusion Commands** sub-tab.



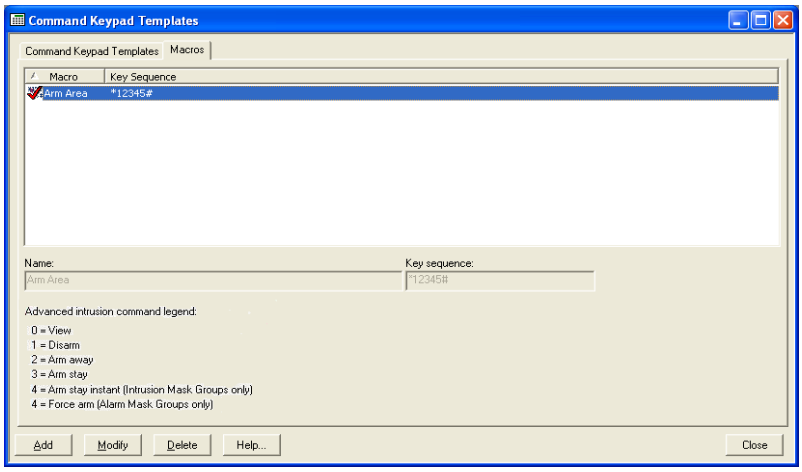
Command Keypad Templates - Default/Any Mask Group Intrusion Commands Form

Form Element	Comment
Access timeout	The amount of time (in seconds) that the user has to enter the command after presenting their badge.
Commands	The list of commands that you can assign authority to. Each command is associated with a number. This number is important to know when entering the key sequence into a macro or into the keypad itself as it is the command number that is entered at the reader to execute the specific command.
No authority	Check this box (next to the corresponding command) to make it so no authority is needed to use the command. **Note:** Take care when assigning No authority to a command. This will make it so any cardholder can run this command.
Level 1 authority	Check this box (next to the corresponding command) to make it so that only cardholders with level 1 authority can use the command. **Note:** To give a cardholder authority, go to the Cardholders folder and, after selecting a cardholder, navigate to the Access Levels sub-tab. Click [Intrusion Authority] and assign the appropriate authority.
Level 2 authority	Check this box (next to the corresponding command) to make it so that only cardholders with level 2 authority can use the command. **Note:** To give a cardholder authority, go to the Cardholders folder and, after selecting a cardholder, navigate to the Access Levels sub-tab. Click [Intrusion Authority] and assign the appropriate authority.

Macros Form

The Macros form is used to define macros to a keypad sequences in order to shorten the input to one or two keys. For example, instead of entering "*3000123" at the command keypad, a macro can be defined for this key sequence and assigned to one of the function keys.

The form is displayed by clicking **Access Control > Command Keypad Templates >Macros**. For more information, refer to Add a Macro on page 874.



Macros Folder

Form Element	Comment
Listing window	Lists the macro and the key sequence associated with it.
Name	Name of the macro you are creating.
Key sequence	Input the key sequence here that you wish to associate with the macro.

Key Sequence Format

The following key sequence formats are entered at the command keypad after the cardholder presents their badge.

Permission Control Format

The following key sequence format can be used when either "Global Permission Control Only" or "Advanced Permission Control" intrusion command have been chosen. For more information, refer to User Commands Form on page 473.

Note: The reader must be configured with the "Allow Intrusion Commands" option in order to accept this key sequence. For more information, refer to General Form on page 743.

*{command code}{2-digit mask group number}#

A menu is then displayed on the command keypad with various commands to be executed.

Default Mask Group Intrusion Command Format:

The following key sequence format only apply when the "Advanced Permission Control" intrusion command configuration is configured. For more information, refer to User Commands Form on page 473.

*{command code}{command number}#

This key sequence deals with the mask group assigned to the reader on the command programming tab of the Readers form. For more information, refer to Command Programming Form on page 784.

Any Mask Group Intrusion Command Format:

The following key sequence format only apply when the "Advanced Permission Control" intrusion command configuration is configured. For more information, refer to User Commands Form on page 473.

*{command code}{2-digit mask group number}{command number}#

The command numbers are as follows:

0 = View

1 = Disarm

2 = Arm away

3 = Arm stay (Intrusion Mask Groups only)

4 = Arm stay instant (Intrusion Mask Groups only)

4 = Force Arm (Alarm Mask Groups only)

Configuring the Command Keypad

The following procedures guide you through setting up a command keypad template with macros, display strings, and intrusion commands and then assigning that template to a reader.

In addition, the procedures will also guide you in how to assign authority to a cardholder in order for them to execute intrusion commands at the keypad based on the authority defined.

Setting up a Command Keypad Template and Associating with a Reader

Add a Macro

Note: A macro assignment is not required for a command keypad template.

1. Navigate to **Access Control > Command Keypad Templates** > **Macros**. On the Macros form, click [Add].
2. Input a name for the macro.
3. In the Key sequence section add the key sequence that is to be associated with the macro. This usually includes a "*", a 3-6 digit intrusion command code, a command, and "#". For more information please refer to Key Sequence Format on page 872.
4. Click [OK].

Create a Command Keypad Template

1. Navigate to **Access Control > Command Keypad Templates**. Click [Add].
2. Input a name for the template.
3. If you wish to add a Macro follow these steps:
   a. Click the Macros tab.
   b. Click [Add]
   c. Enter a name for the macro in the **Name** field.
   d. Enter the key sequence you wish the macro to utilize in the **Key sequence** field.
   e. Click [OK].
4. Choose a function key to correspond with any macros you created. On that function key's drop-down, select the macro to use. For more information please refer to Add a Macro on page 874.
5. On the Default or Any Mask Group Intrusion Commands form, check the appropriate commands that you wish the template to have. These commands mark what access authority the cardholder must have to run the commands from the keypad.
6. If you wish, you may change the default **Access timeout** to allow a longer or shorter period of time a cardholder has to execute intrusion commands after gaining access to the reader.
7. Click [OK].

Add/Edit Display Strings

The display strings are messages that you can have displayed at the command keypad. You may use these to instruct the cardholder what function key does what according to the macro that you made in the previous steps.

1. Navigate to **Access Control > Command Keypad Templates** > **User Feedback** sub-tab.
2. Select a Command Keypad Template from the listing box. Click, [Modify].
3. Enter a string into the “Edit string” text box and click, [Add]. You can also select an existing display string from the list, make changes to it in the “Edit string” text box and click, [Modify].
4. Select any of the pre-configured display string check-box options that you wish to add.
5. Click [OK].

Assign the Template to a Reader

With the template created you must now assign it to a reader on the Command Programming sub-tab of the Readers form. For more information, refer to Command Programming Form on page 784.

1. From the Access Control menu select Readers.
2. Select a compatible reader and click the Command Programming sub-tab.

Note: Compatible readers are those defined in a system/segment that is configured for the Advanced Permission Control intrusion command configuration. For more information, refer to step on page 473. Also note that any reader with a keypad interface can utilize the Intrusion Command portion of the template. If the reader is a command keypad, it can also utilize the macro assignments and display string portion of the template.

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3. Click [Modify].
4. In the **Command keypad template** drop-down box, select the template that you created. You can also define the default mask group by selecting an option from the **Default mask group** drop-down box. For more information, refer to step on page 784.
5. Click [OK].

Assign Authority Access Levels to Cardholders

When you created the template you selected whether a cardholder will need a special authority access level to run commands from the keypad. To assign these authority access levels to a cardholder do the following:

1. Enable Intrusion command configuration. To do this:
   a. Navigate to **Administration > System Options > User Commands** tab. Click [Modify].
   b. On the **Intrusion command configuration** drop-down, select **Advanced Permission Control**. This will allow authority levels to be assigned to cardholders.
   c. Make note of the **Intrusion command code** field. This code is important to issuing commands from the keypad and creating the macros.
   d. Click [OK].
2. Navigate to **Administration > Cardholders**. On the Cardholder screen, navigate to the cardholder you wish to give access to.
3. Click the Access Levels sub-tab. For more information, refer to Access Levels Form on page 150.
4. Click [Modify].
5. Click [Intrusion Authority]. A list of access levels that are configured in a system/segment are shown. Select what access levels for the selected cardholder you would like to assign Level 1 and/or Level 2 authority. You must have the proper permissions to do this. For more information please refer to Intrusion Authority Levels User Permissions on page 868.
6. Click [OK].

Important: The authority levels assigned act as access levels but do not count toward the maximum number of access level assignment allowed per badge. When the "Advanced Permission Control" intrusion command configuration option is selected, the maximum number of access level assignments allowed per badge is reduced to 126.

Chapter 32: Areas Folder

The Areas folder contains forms with which you can:

- Create one or more named areas associated with a specific access panel. On the Anti-Passback form of the Readers folder, you can indicate which readers are used to enter a particular area
- If the panel supports it, specify anti-passback rules governing access to and occupancy of the area
- Define open areas with no area rules in effect, closed areas that allow access, and closed areas that allow limited or no access
- Create interlocking doors so that only one door to a specified area may be open at a time
- Link a local I/O function list to area occupancy levels
- Define associated safe locations
- Define associated inside areas
- Configure muster reporting
- Configure the Special Two Man rule

The folder can contain up to five forms, the Areas form, and if global anti-passback is enabled on your system, the Associated Safe Locations form, the Associated Inside Areas form, and the Muster Reporting form. If the Special Two Man Rule is enabled you will see the Special Two Man form.

Toolbar Shortcut

The Areas Folder is displayed by selecting **Areas** from the **Access Control** menu, or by selecting the Areas toolbar button.

Mustering Overview

In the event of an emergency incident, mustering can be used to gather cardholders together in a specified area. When an emergency incident occurs in a hazardous location (a hazardous location), the system goes into muster mode. A Hazardous Location is a defined area that can have multiple entry and exit card readers. When the system is in muster mode, mustering out of a hazardous location area and into a safe location area is required. A Safe Location is a defined area with muster readers that are configured to be used in the event of an emergency incident. A muster reader is a card reader that is used to define a hazardous location and can be designated as either an entry reader or an exit reader.

When an emergency incident occurs in a hazardous location, a muster report is generated. This report lists all of the cardholders that are currently in the hazardous location. Cardholders can register in a safe location by checking in at a

specified muster reader. Once a cardholder has registered in a safe location, they are removed from the muster report. The muster report then becomes a report of all of the cardholders who were in the hazardous location at the time of the emergency incident, but who have failed to register at a safe location.

When safe locations are located outside of a hazardous location, when an incident occurs, cardholders have free access to leave the hazardous location. They are then required to register at a safe location outside of the hazardous location. When safe locations are located inside of a hazardous location, when an incident occurs, cardholders are not allowed to leave and must register at a safe location inside of the hazardous location.

Important: For the purpose of tracking hazardous location and safe location occupancy, global APB must be enabled on your system in order to configure mustering.

To enable global APB:

- In a segmented system, select the **Global Anti-Passback** check box on the Anti-Passback sub-tab of the Segments form in the Segments folder.
- In a non-segmented system, select the **Global Anti-Passback** check box on the Anti-Passback form of the System Options folder.

Interlock Overview

In a situation where a controlled area is needed, readers in the area can be interlocked. This can be configured using areas. In an interlocked area, only one door may be opened at a time. For any door in the area, if the door strike is active or the door is open, no other door may be opened to leave or enter the area. Any additional request for access will be denied when the interlock is in this busy state.

If this is the case, an event will indicate it in Alarm Monitoring, and the LED on the other door reader(s) will show that it has been disabled.

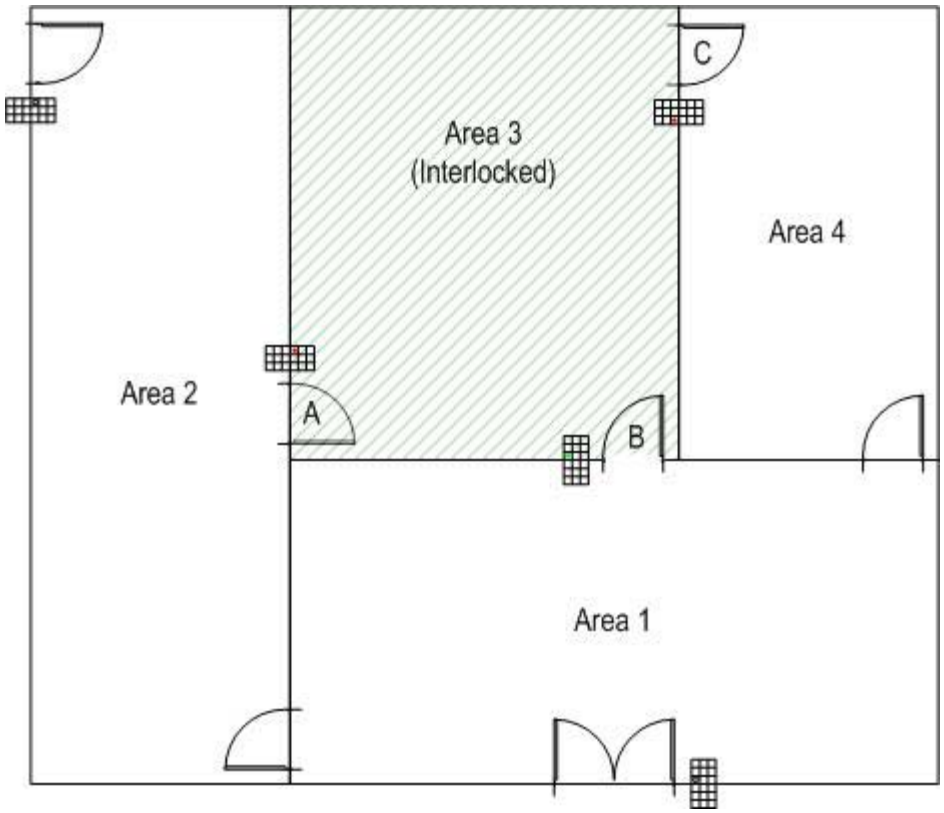
- **Interlock Area Busy.** This occurs when access requested by presenting a valid credential was denied because a door is open or the door strike is active within an interlocked area.

- **Cannot Open Door: Interlock Area Busy.** This occurs when an attempt to open the door in Alarm Monitoring was denied because a door is open or the door strike is active within an interlocked area.

- **Exit Request Denied: Interlock Area Busy.** This occurs when a request to exit made via REX button was denied because a door is open or the door strike is active within an interlocked area.

- **DURESS - Interlock Area Busy.** This occurs when access was requested to an interlocked area while under duress.

In the following diagram, Area 3 is an interlocked area. Since door B is open, or the door strike is active, the readers at doors A and C will not allow access.



This option is available for the RKP-2220 and RKP-3300 panels. This function can only be enabled for local anti-passback. If global anti-passback is enabled, this option will be unavailable.

For more information on interlock configuration, refer to Configure an Interlocked Area on page 884.

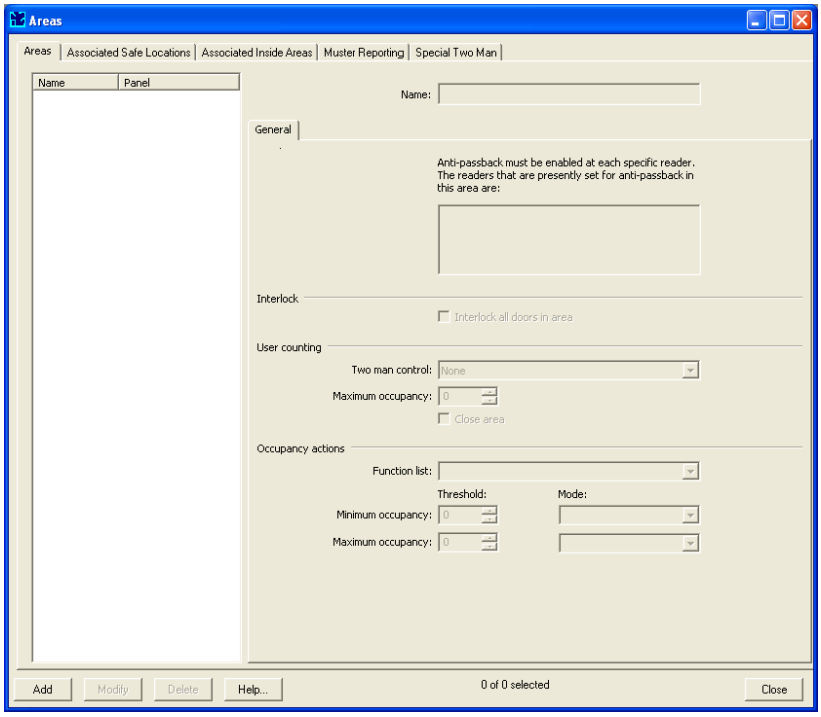
Escorts and Turnstiles

If the system is configured for escorts, all members of the escorted group and the escort are to present their credentials. The interlock will only be considered busy once the escort's access request has been granted. This ensures that the interlock is not busy for longer than necessary. If the access request is denied because the interlock is busy, then everyone in the escorted group and the escort must present their credentials to the reader again to request access.

If the system is also configured for turnstiles in addition to escorts, once the access request has been granted, the interlock will be considered busy until everyone in the group has passed through the turnstile.

Areas Form (General Sub-tab)

Note: This screen appears differently depending on the panel you are using and whether you are using a local or global anti-passback areas.



Areas Folder - Areas Form (General Sub-tab)

Form Element	Comment
Listing window	Lists currently defined areas and the access panel/segment associated with each.
Name	Specify a name for this area. You can enter a name containing a maximum of 32 characters.
Panel	This field does not appear when using global anti-passback. Select the access panel with which the area is associated. Choices include all currently defined access panels.
Anti-Passback	This section allows you to configure anti-passback options.
User Counting	This field does not appear when using global anti-passback. This section allows you to configure User Counting options.

Areas Folder - Areas Form (General Sub-tab) (Continued)

Form Element	Comment
Interlock all doors in area	This field does not appear when using global anti-passback. Select to enable an interlock area. In a situation where a controlled area is needed, readers in the area can be interlocked. This can be configured using areas. In an interlocked area, only one door may be opened at a time. For any door in the area, if the door strike is active or the door is open, no other door may be opened to leave or enter the area. Any additional request for access will be denied when the interlock is in this busy state.
Two man control	The options in this drop-down are and may differ depending on the panel you are using: • **None:** No Two man control is used • **Standard:** If selected, at least two cardholders (if any) must be in the area at all times. The first person attempting access can't get in until the second person attempts access. The last two people to leave the area must leave together. • **Special 1-Man:** In the Special 1-Man Mode, a special "Team Member" is configured to be the "Area" or "Assigned" owner to a specific area. This "Area Owner" must be the first individual to enter the area and the last individual to exit the area. Once the assigned Area Owner is inside the area, other Team Members or Supervisors are allowed to enter the area. When the assigned Area Owner is in the area and a Supervisor attempts access, a strobe inside the area fires and enables the door release push-button within the room. Individuals who are classified as Others are not allowed access to the area when in this mode. • **Special 2-Man:** In the Special 2-Man Mode, the first two individuals into the area must be Team Members and the last two individuals to leave the area must also be Team Members. Once two Team Members are inside the area, additional Team Members or Supervisors are allowed access. When a Supervisor attempts access and there are at least two Team Members in the area, a strobe inside the area fires and enables the door release push-button within the room. Individuals who are classified as Others are not allowed access to the area when in this mode. The last two individuals who leave the area must be Team Members. **Note:** The special 1-man and special 2-man modes for two man control are only available for local Bosch areas on panels that are configured for special area rules. The two man control option is not available at all for global areas. For more information, refer to Appendix G: Special Two-Man Rule on page 1481.
Maximum occupancy	This field does not appear when using global anti-passback. Indicates the maximum number of cardholders allowed in the area at any one time. Once this capacity has been reached, the software closes the area and no cardholders can enter it until someone exits.
Close area	This field does not appear when using global anti-passback. If selected, an "Area Closed" event will be triggered in Alarm Monitoring. Cardholders will still be granted access unless you have completed the **Area closed rules** section of this form. When the area is closed, cardholders can not enter the area unless they are anti-passback exempt.

Areas Folder - Areas Form (General Sub-tab) (Continued)

Form Element	Comment
Occupancy Actions	This section allows you to configure the Occupancy Actions.
Function list	This section is used to link the built-in occupancy control commands to lists of actions defined in Local I/O Function Lists. This feature is part of the application's global event programming capability. Select the local I/O function list to link to this area's occupancy levels.
Minimum Occupancy	Indicates the maximum number of cardholders allowed in the area at any one time. Once this capacity has been reached, the software closes the area and no cardholders can enter it until someone exits.
Maximum occupancy	The number of users that can be present with the area still being considered empty.
Add	Used to add an area.
Modify	Used to change an area.
Delete	Used to remove an area.
Help	Displays online assistance for this form.
Close	Closes the Areas folder.

Areas Form Procedures

Add an Area

1. Select **Areas** from the **Access Control** menu. The Areas folder opens.
2. Select the Areas tab.
3. Click [Add].
4. A dialog appears asking you to select the type of area to create.
   a. Select the type of area.
   b. Select the panel(s) to be associated with the area.
   c. Click [Select area type].
5. In the **Name** field, type a descriptive name for this area.
6. In the **Panel** field, select the access panel with which this area will be associated.
7. If your system/segment is configured for mustering, select an **Area type**.
8. Configure any **Anti-Passback** options if the specified access panel supports them.
9. Configure any **User Counting** options if the specified access panel supports them.
10. If you wish to link a function list to this area, complete the **Occupancy Actions** section.
11. Click [OK].

Modify an Area

1. In the listing window, select the name of the area to be changed.
2. Click [Modify].
3. Make the changes you want to the fields.
4. Click [OK] to save the changes, or [Cancel] to revert to the previously saved values.

Delete an Area

1. In the listing window, select the name of the area to be deleted.
2. Click [Delete].
3. Click [OK].

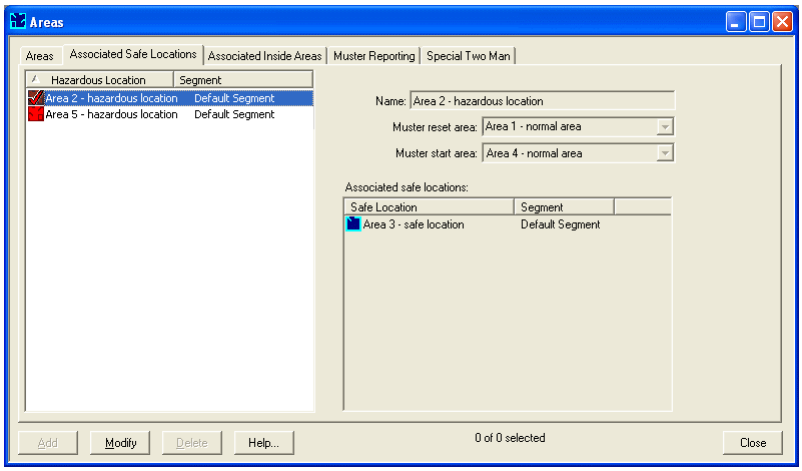
Configure an Interlocked Area

1. On the Areas form, Add an Area.
   a. For the panel, you may only select an RKP-2220 or RKP-3300 for this functionality.
   b. Select the **Interlock all doors in area** check box.
2. In the Readers folder, on the Anti-Passback form, select the reader that is to be used to gain access to the area.
   a. From the **Area entering** drop-down, select the name of the interlocked area.
   b. Repeat this step for any readers to be configured for entering the interlocked area.
3. Select the reader that is to be used to exit the area.
   a. From the **Area leaving** drop-down, select the interlocked area.
   b. Repeat this step for any readers to be configured for exiting the interlocked area.
4. Click [OK].

Associated Safe Locations Form

Associated safe locations are areas that are specified by a given Hazardous Location. When an emergency incident occurs in a hazardous location, a muster report is generated. This report lists all of the cardholders that are currently in the hazardous location. Cardholders can register in a safe location by checking in at a specified muster reader.

Once a cardholder has registered in a safe location, which is specified on this form, they are then removed from the muster report. The muster report then becomes a report of all of the cardholders who were in the hazardous location at the time of the emergency incident, but who have failed to register at a safe location.



Areas Folder - Associated Safe Locations Form

Form Element	Comment
Listing window	Displays a list of all currently defined areas with the “Hazardous location” area type. Areas are configured on the Areas form of this folder.
Name	Displays the name of the area which is selected in the listing window.
Muster reset area	Select a muster reset area. A muster reset area is an area where cardholders can be optionally moved to (from the safe location). A muster reset action indicates that the system is no longer in muster mode. Muster reset areas can be an outside area (when safe locations are outside of the hazardous location) or back into the hazardous location (when safe locations are inside of the hazardous location). Choices include all currently defined areas with either the “Hazardous location” or “Normal area” area type.
Muster start area	If muster mode is manually started, select the area where it is to be started from.

Areas Folder - Associated Safe Locations Form (Continued)

Form Element	Comment
Associated safe locations listing window	In view mode, displays a list of currently defined safe location areas that have been associated with the area selected in the main listing window. In modify mode, displays a list of all currently defined areas with the "Safe location" area type. Areas are configured on the Areas form of this folder.
Modify	Click this button to configure an associated safe location.
Help	Click this button to display online assistance for this form.
Close	Click this button to close the Areas folder.

Associated Safe Locations Form Procedures

Configure an Associated Safe Location

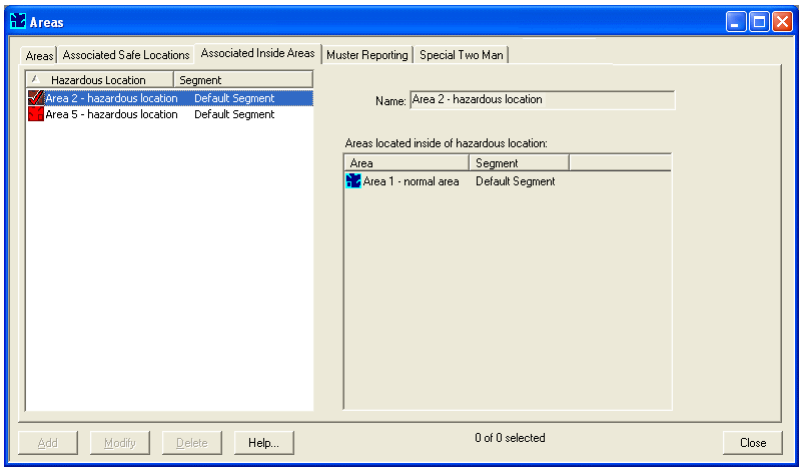
1. Select **Areas** from the **Access Control** menu. The Areas folder opens.
2. Select the Associated Safe Locations tab.
3. Click on an area in the listing window to select it. The name of the selected area will be displayed in the **Name** field.
4. Click [Modify].
5. If you want to associate the selected area with a muster reset area, select an area from the **Muster reset area** drop-down list.
6. If you want to associate the selected area with a muster start area, select an area from the **Muster start area** drop-down list.
7. Click on an area from the **Associated safe locations** listing window to select it.

Note: You can select multiple entries.

8. Click [OK].

Associated Inside Areas Form

The associated inside areas are areas specified to be inside a hazardous location. Cardholders located in these areas are put into a mustering report during an emergency until they reach a safe location and use their badge on a predetermined reader.



Areas Folder - Associated Inside Areas Form

Form Element	Comment
Listing window	Displays a list of all currently defined areas with the “Hazardous location” area type. Areas are configured on the Areas form of this folder.
Name	Displays the name of the area which is selected in the listing window.
Areas located inside of hazardous location listing window	In view mode, displays a list of currently defined inside areas that have been associated with the area selected in the main listing window. In modify mode, displays a list of all currently defined areas with the “Normal area” area type. Areas are configured on the Areas form of this folder.
Add	This button is not used.
Modify	Click this button to configure an associated inside area.
Delete	This button is not used.
Help	Click this button to display online assistance for this form.
Close	Click this button to close the Areas folder.

Associated Inside Areas Form Procedures

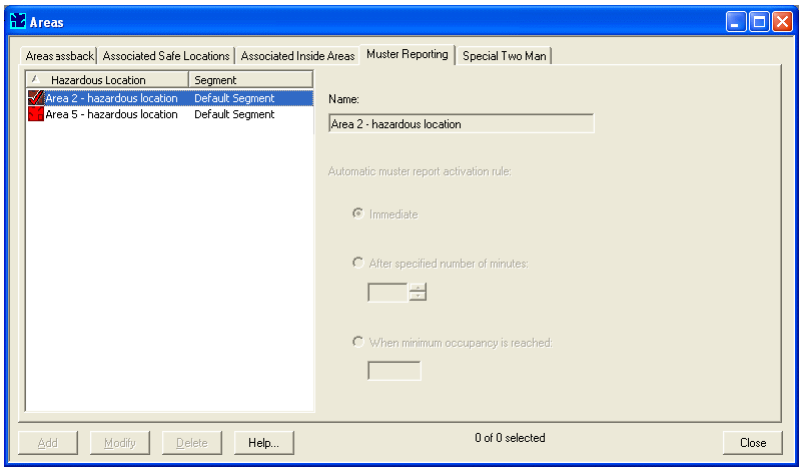
Configure an Associated Inside Area

1. Select **Areas** from the **Access Control** menu. The Areas folder opens.
2. Select the Associated Inside Areas tab.
3. Click on an area in the listing window to select it. The name of the selected area will be displayed in the **Name** field.
4. Click [Modify].
5. Click on an area from the **Areas located inside of hazardous location** listing window to select it.

Note: You can select multiple entries.

6. Click [OK].

Muster Reporting Form



Areas Folder - Muster Reporting Form

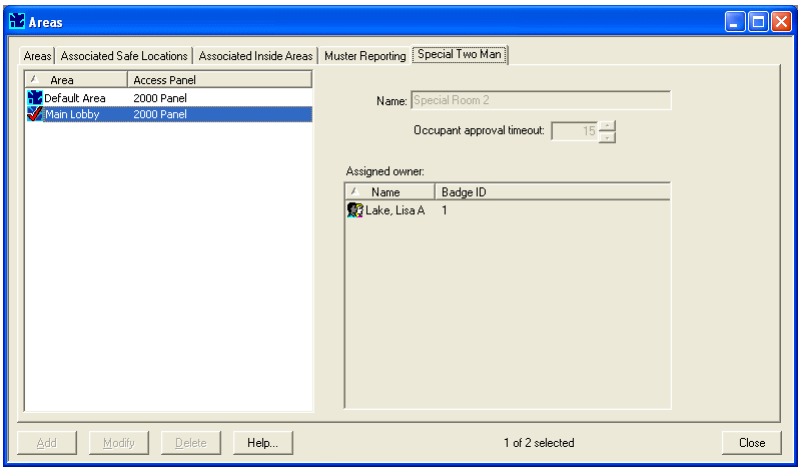
Form Element	Comment
Listing window	Displays a list of all currently defined areas with the “Hazardous location” area type. Areas are configured on the Areas form of this folder.
Name	Displays the name of the area which is selected in the listing window.
Immediate	Select this radio button if you want a Muster report to be run immediately following an emergency incident.
After specified number of minutes	Select this radio button and enter a number if you want a Muster report to be run after a specified number of minutes after an emergency incident.
When minimum occupancy is reached	Select this radio button and enter a number if you want a Muster report to be run after a minimum occupancy is reached in a hazardous location after an emergency incident.
Add	This button is not used.
Modify	Click this button to configure muster reporting.
Delete	This button is not used.
Help	Click this button to display online assistance for this form.
Close	Click this button to close the Areas folder.

Muster Reporting Form Procedures

Configure Muster Reporting

1. Select **Areas** from the **Access Control** menu. The Areas folder opens.
2. Select the Muster Reporting tab.
3. Click on an area in the listing window to select it. The name of the selected area will be displayed in the **Name** field.
4. Click [Modify].
5. Choose one of the following automatic muster report activation rules:
   - **Immediate** - select this radio button if you want a muster report to be run immediately following an emergency incident.
   - **After a specified number of minutes** - select this radio button and enter a number if you want a muster report to be run after a specified number of minutes after an emergency incident.
   - **When minimum occupancy is reached** - select this radio button and enter a number if you want a muster report to be run after a minimum occupancy is reached in a hazardous location after an emergency incident.
6. Click [OK].

Special Two Man Form



Areas Folder - Special Two Man Form

Form Element	Comment
Listing window	Displays a list of all currently defined areas with the “Special Two Man” option enabled. Areas are configured on the Areas form of this folder.
Name	Displays the name of the area which is selected in the listing window.
Occupant approval timeout	Refers to the timeout used for the strobe authorization. The occupant approval timeout will have a valid range of 1 to 255 seconds. For more information, refer to Configure the Areas for Special Two-Man Rule on page 1485.
Assigned owner	The area owner is configured here and is used when the area is in 1-man mode. The area owner is a team member who, once in the area, allows the other team members to enter without approval from inside. For more information, refer to Configure the Areas for Special Two-Man Rule on page 1485.

Configure Special Two Man

1. Select **Areas** from the **Access Control** menu. The Areas folder opens.
2. Select the Special Two Man tab.

Note: For the Special Two Man tab to appear you must first have the Special Two-Man Rule enabled. For more information, refer to Special Two-Man Rule on page 1481.

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3. Click on an area in the listing window to select it. The name of the selected area will be displayed in the **Name** field.
4. Click [Modify].
5. Set the **Occupant approval timeout** to a number you wish (between 1-255).
6. If you want, choose an Assigned owner by selecting the name of the team member.
7. Click [OK].

Chapter 33: Groups Folder

The folder contains two forms, the Mask Groups form and the Device Groups form.

The Groups folder is displayed by selecting **Groups** from the **Access Control** menu, or by selecting the Groups toolbar button.

The Groups folder contains forms with which you can:

- Create groups that enable you to mask or unmask multiple alarm inputs and readers simultaneously
- Create groups that enable you to configure and control intrusion groups.
- Define device groups consisting of one or more reader, (alarm or reader) input, or (alarm or reader) output devices

Note: Each device event assignment can belong to one and only one alarm mask group.

- (Bosch hardware only) Assign global I/O function list that are invoked when the selected mask group is activated or deactivated
- (RKP-2220 and RKP-3300 hardware only) Configure intrusion mask groups, which allow intrusion point configuration and the ability to execute local I/O functions based on intrusion group state transitions.

Note: Only 64 mask groups are configurable per access panel.

Note: When configuring door request, door forced, and door held events with an intrusion mask group, be aware that only one of those events can be assigned to an intrusion mask group.

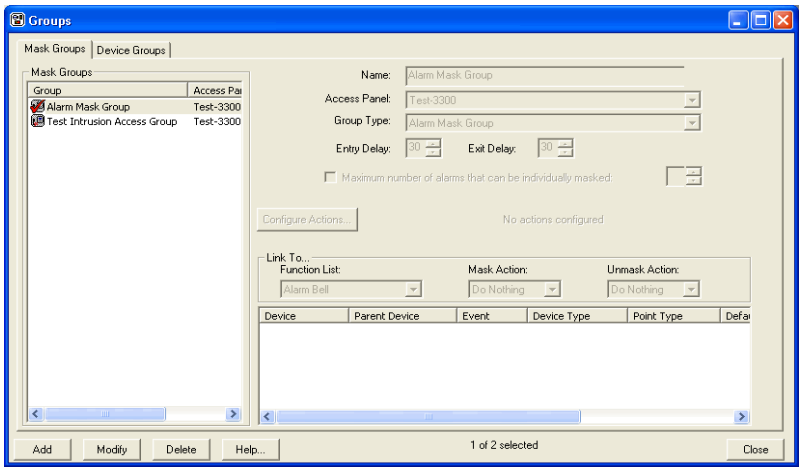
Mask Groups Form Overview

There are two types of mask groups:

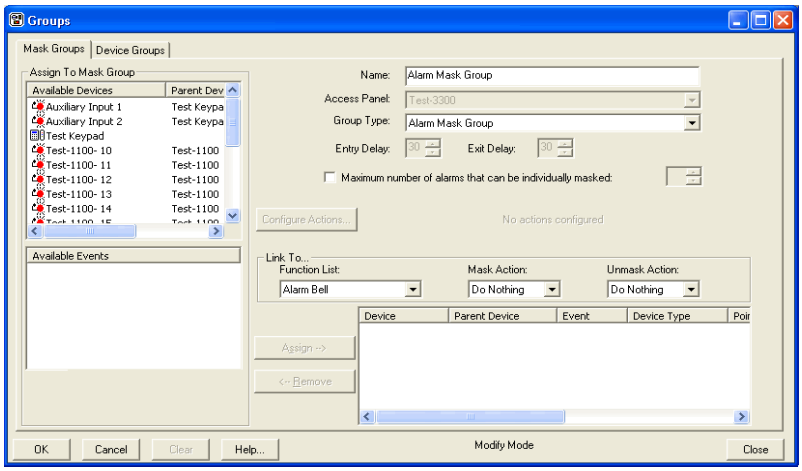
Alarm Mask Group: Alarm mask groups are used to control an alarm's reporting behavior. Alarm mask groups have two option available for configuring an input: mask and unmask. When an alarm is masked it is disabled and prevented from signaling an alarm. When an alarm is unmasked, it is enabled and alarms are able to be reported. Alarm Mask Groups support a maximum of 128 inputs.

Intrusion Mask Group: An intrusion mask groups are set much like a home-security system. It is either armed or disarmed. What alarm is reported depends on the different point type configured.

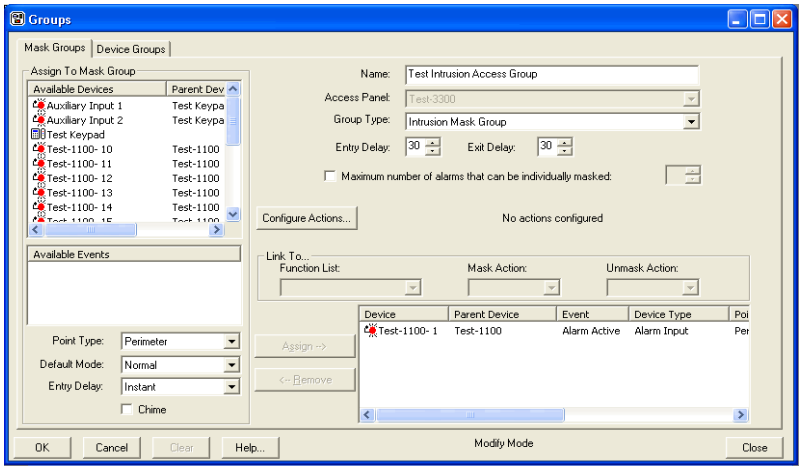
Mask Groups Form (View Mode)



Mask Groups Form (Alarm Mask Group Modify Mode)



Mask Groups Form (Intrusion Mask Group Modify Mode)



Intrusion Mask Group Permissions

The following user permissions must be enabled for a user to interact with intrusion mask group related alarms in Alarm Monitoring.

The following permissions can be configured in System Administration by navigating to **Administration** > **Users** > **Monitor Permission Groups** > **Control**.

- Mask (Disarm) mask groups - gives permissions to disarm an intrusion mask group from Alarm Monitoring.
- Unmask (Arm) mask groups - gives permissions to enable arm away, arm stay, or arm stay instant intrusion mask groups in Alarm Monitoring.
- Mask alarms and inputs - gives permissions to issue the bypass, disable or restore commands for inputs belonging to an intrusion mask group.

The following permission can be configured in System Administration by navigating to **Administration** > **Users** > **System Permission Groups** > **Access Control Hardware**.

- Mask Groups - gives permissions in order to add, modify, and/or delete intrusion mask groups

Mask Groups Form Field Table

Groups Folder - Mask Groups Form

Form Element	Comment
Mask Groups	(displayed in view mode only) Lists all currently defined mask groups, and the access panel associated with each.
Name	Indicates the name of the mask group.
Access Panel	The access panel that contains the devices in the mask group. Each mask group is associated with only one access panel.
Group Type	Used to define what type of mask group you are creating. Choices include: • Alarm Mask Group • Intrusion Mask Group **Note:** Some fields on the Mask Groups form can only be modified when configuring an intrusion mask group
Entry Delay	(Intrusion Mask Groups only) The amount of time in seconds a cardholder is allowed to enter a facility before an alarm will be reported for the intrusion mask group.
Exit Delay	(Intrusion Mask Groups only) The amount of time in seconds a cardholder is allowed to leave a facility when either the Arm Away or Arm Stay arming modes are set for an intrusion mask group.
Maximum Number of Alarms That Can be Individually Masked	Select this check box to limit the number of alarms that someone can mask individually. You specify the number in the **max. number** field.
max. number	Activated when the **Maximum Number of Alarms That Can be Individually Masked** check box is selected. Specifies the number You can choose a number in the range of 0 through the current number of entries in the assignment window. The default is the current number of entries.
Configure Actions	Opens the Mask Group Function Links window which allows you to configure local I/O function lists to be executed when an intrusion mask group transitions into and out of various states.
Link To	(Alarm Mask Groups only) This section is configurable for Bosch hardware only. Includes the **Function List**, **Mask Action**, and **Unmask Action** drop-down list fields.
Function List	(Alarm Mask Groups only) Selects the function list that will be affected by the Mask Action (when this alarm mask group is activated) and by the Unmask Action (when this alarm mask group is deactivated). The function list must have already been defined for the selected access panel. Function lists are defined using the Global I/O Function Lists form of the Global Input/Output folder.

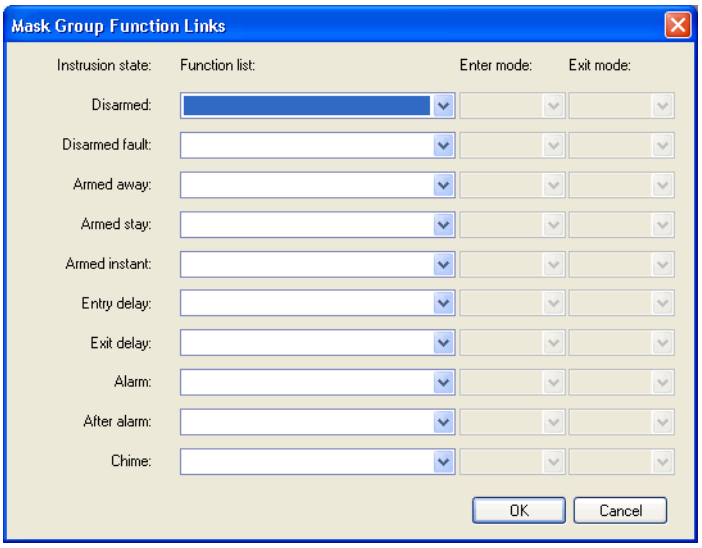
Groups Folder - Mask Groups Form (Continued)

Form Element	Comment
Mask Action	(Alarm Mask Groups only) Indicates the action to be performed on the selected function list when the alarm mask group is activated; i.e., when the group's mask count is other than zero. The action is performed whenever the group's mask count changes. For example, if the group count increments from 0 to 1 and then from 1 to 2, the Mask Action will be performed twice on this function list, once for each increment.
Unmask Action	(Alarm Mask Groups only) Indicates the action to be performed elected function list when the alarm mask group is deactivated; i.e., when the group's mask count equals zero (0).
Point Type	(Intrusion Mask Groups only) Used to select what kind of input that is monitored for an intrusion mask group. Choices include: • 24 Hour - Activates an alarm condition for the intrusion mask group regardless of arming mode. The 24 Hour point is used when an area needs to be constantly monitored. Examples of use would be to monitor fire conditions. • Interior - Used to monitor a specific area within a facility. An interior point will activate an alarm only when an intrusion mask group is in an Armed Away arming mode. • Perimeter - Used to monitor an area outside of a facility. An example being an alarm on a window to detect a break in. A perimeter input activates an alarm only when an intrusion mask group is in the Arm Away, Army Stay or Arm Stay Instant arming modes.
Default Mode	(Intrusion Mask Groups only) Used to select the supervision mode applied to the Point Type. Choices include: • Normal - Select to monitor for alarms normally. • Disabled - Select to disable alarms for the intrusion mask group.
Entry Delay	(Intrusion Mask Groups only) Used to select what, if any, delay will be applied to alarms when entering a facility. Choices include: • Follower - Input is masked during an entry delay. • Instant - Select to have no delay in alarm reporting once a cardholder enters a facility. • Trigger - Select to have a delay in alarm reporting once a cardhodler enters a facility. The number of seconds in the delay is entered in the Entry Delay field.
Chime	(Intrusion Mask Groups only) Select to enable the command keypad to produce an audio signal. A command keypad template needs to be configured and the **Chime on point active** field selected for the chime to work properly. **Note:** For the audio to work correctly the command keypad needs to be assigned to a reader capable of producing audio.
assignment window	Lists all device + event pairs that the mask group currently includes. An  icon precedes each alarm input entry. An  icon precedes each reader entry.
Assign To Mask Group	(displayed in modify mode only) Includes the Available Devices and Available Events fields.

Groups Folder - Mask Groups Form (Continued)

Form Element	Comment
Available Devices	(displayed in modify mode only) Lists all devices (readers and alarm inputs) that are connected to the selected access panel and that are available for inclusion in the mask group. Each entry includes the device name, the parent device (such as the access panel to which the device is connected), and the device type (such as "reader"). An  icon precedes each alarm input entry. An  icon precedes each reader entry.
Available Events	(displayed in modify mode only) Lists all unassigned events for the selected reader or alarm input. Available choices vary with the device type. An  icon precedes each entry.
Assign	(displayed in modify mode only) Assigns the selected reader or alarm input and the selected event to the mask group. Specifically, it adds the device + event pair to the assignment window.
Remove	(displayed in modify mode only) Removes the selected device + event pair from the assignment window, and inserts the event entry back into the **Available Events** window.
Add	Used to add an mask group.
Modify	Used to change an mask group.
Delete	Used to delete an mask group.
Help	Displays online assistance for this form.
Mode	In view mode, indicates the record/selection count (such as "1 of 42 selected"). In modify mode, indicates the current operation, such as "Modify Mode."
Close	Closes the Groups folder.

Mask Group Function Links Window



Mask Group Function Links Window Overview

The Mask Group Function Links window allows you to configure local I/O function lists to be executed when an intrusion mask group transitions into and out of various states.

Groups Folder - Mask Group Function Links Window

Form Elements	Comments
Disarmed	Indicates that points in the intrusion state are normal with no faults.
Disarmed fault	Indicates that a point in the intrusion state is in a fault state.
Armed away	Indicates an intrusion mask group arming state
Armed stay	Indicates an intrusion mask group arming state
Armed instant	Indicates an intrusion mask group arming state
Entry delay	Indicates that an intrusion mask group is currently armed and an entry delay is in progress.
Exit delay	Indicates that an intrusion mask group is transitioning from the disarmed to armed state.
Alarm	Indicates that an input assigned to the mask group has activated and caused an alarm condition
After alarm	A state that indicates an alarm acknowledgement for an intrusion mask group.
Chime	Indicates how the local I/O is executed when a chime condition occurs.
Function list	Items listed here are Local I/O functions that are configured in the Local I/O folder. For more information, refer to Chapter 34: Local I/O Folder on page 911.
Enter mode	Indicates how the local I/O is executed when entering the intrusion state.
Exit mode	Indicates how the local I/O is executed when exiting the intrusion state.

Mask Groups Form Procedures

Add an Alarm Mask Group

Important: Alarm Mask Groups support a maximum of 128 inputs.

1. Click [Add].
2. In the **Name** field, type a unique, descriptive name for this alarm mask group.
3. From the **Access Panel** drop-down list, select the access panel for which you want to create an alarm mask group. Readers and alarm inputs connected to this panel will then be listed in the **Available Devices** window.
4. Select a device (reader or alarm input) in the **Available Devices** window. This displays, in the **Available Events** window, the list of selectable events for that device.
5. Select one or more events from the list. You can add more later if your wish.

Note: Because an alarm input has only one assignable event ("Alarm Active"), it is automatically selected.

6. Click [Assign].
   - The device + event pair will be added to the assignment window. If you selected multiple events, each one will be listed in a separate entry.
   - Correspondingly, the selected event will have been removed from the **Available Events** window.
   - When all possible events for a device have been assigned, the device name will be removed from the **Available Devices** window.
7. Repeat steps 4-6 for each device to be included in the alarm mask group.
8. To remove a device + event assignment from the group, select the entry in the assignment window, then click [Remove].
9. For these assignments, if you want to restrict the number of alarms that someone can mask individually:
   a. Click on the Maximum Number of Alarms That Can be Individually Masked check box.
   b. In the **max. number** field, use the spin buttons to specify the number.
10. If you are configuring an alarm mask group for Bosch hardware, you can select a function list, and actions to be performed on that list when the group is activated (masked) or deactivated (unmasked).
11. Click [OK]. The name of the alarm mask group will be added to the **Alarm Mask Groups** window.

Add an Intrusion Mask Group

Important: Intrusion Mask Groups support a maximum of 128 inputs.

1. Click [Add].
2. In the **Name** field, type a unique, descriptive name for this intrusion mask group.
3. From the **Access Panel** drop-down list, select the access panel for which you want to create an intrusion mask group. Readers and alarm inputs connected to this panel will then be listed in the **Available Devices** window.
4. From the **Group Type** drop-down list, select **Intrusion Mask Group**.
5. Select a device (reader or alarm input) in the **Available Devices** window. This displays, in the **Available Events** window, the list of selectable events for that device.
6. Select one or more events from the list. You can add more later if your wish.

Note: Because an alarm input has only one assignable event ("Alarm Active"), it is automatically selected.

Note: When configuring door request, door forced, and door held events with an intrusion mask group, be aware that only one of those events can be assigned to an intrusion mask group.

7. Click [Assign].
   - The device + event pair will be added to the assignment window. If you selected multiple events, each one will be listed in a separate entry.
   - Correspondingly, the selected event will have been removed from the **Available Events** window.
   - When all possible events for a device have been assigned, the device name will be removed from the **Available Devices** window.
8. Repeat steps 4-6 for each device to be included in the intrusion mask group.
9. To remove a device + event assignment from the group, select the entry in the assignment window, then click [Remove].
10. For these assignments, if you want to restrict the number of alarms that someone can mask individually:
    a. Click on the Maximum Number of Alarms That Can be Individually Masked check box.
    b. In the **max. number** field, use the spin buttons to specify the number.
11. Click [OK]. The name of the intrusion mask group will be added to the **Mask Groups** window.
12. In order to execute commands at a command keypad for an intrusion mask group you must first have advanced permission control. To configure this:
    a. Navigate to **Administration** > **System Options** or if you have a segmented system **Administration** > **Segments** > **Segments**
    b. Click on the **User Commands** sub-tab.
    c. Click [Modify]
    d. Select **Advanced Permission Control** from the **Intrusion command configuration** drop-down box.
    e. Click [OK].

Modify a Mask Group

1. In the **Mask Groups** window, select the name of the group you wish to change.
2. Click [Modify].
3. Make the changes you want to the fields. The [Clear] button clears all field values.

Note: Note that you can't change the **Access Panel** selection, because all other selections depend upon it.

4. Click [OK] to save the changes, or on the [Cancel] button to revert to the previously saved values.

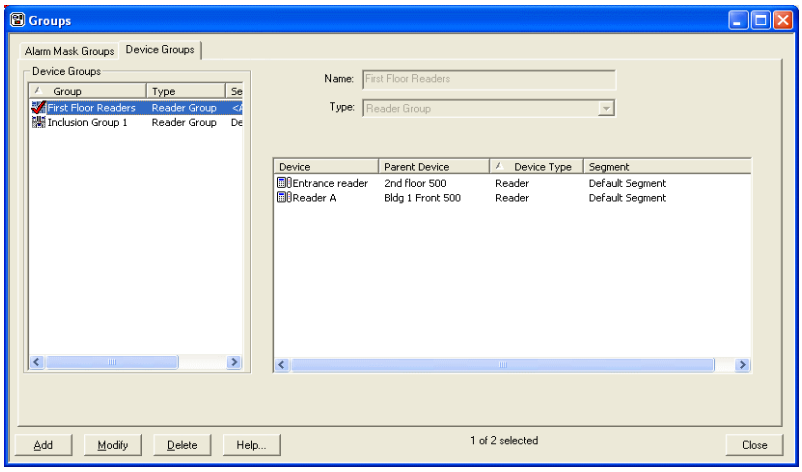
Delete a Mask Group

1. In the **Mask Groups** window, select the name of the group you wish to delete.
2. Click [Delete].
3. Click [OK].
4. Click [Yes] to confirm.

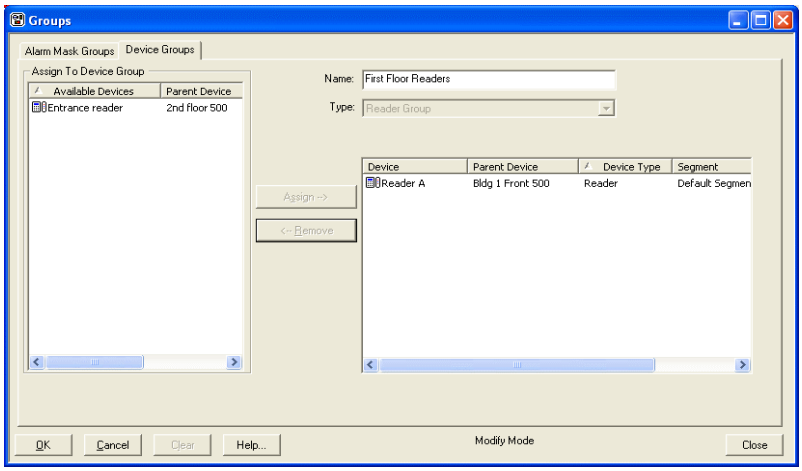
Configure Actions in the Mask Group Function Links Window

1. In **Group Type**, select **Intrusion Mask Group**.
2. Click [Configure Actions]. The **Mask Group Function Links** window opens.
3. Configure the options for any or all intrusion states. These include
   a. **Function list** - Items listed here are Local I/O functions that are configured in the Local I/O folder. For more information, refer to Chapter 34: Local I/O Folder on page 911.
   b. **Enter mode** - Select what happens when the function enters the intrusion state.
   c. **Exit mode** - Select what happens when the function exits the intrusion state.
4. Click [OK] to apply the changes.

Device Groups Form (View Mode)



Device Groups Form (Modify Mode)



Device Groups Form Overview

This form is used to define device groups consisting of one or more reader, (alarm or reader) input, (alarm or reader) output, camera, or remote monitor devices.

Notes: A group can contain devices from more than one access panel

A device can belong to more than one device group

If your system uses segmentation, device groups can be segmented. A device group can belong either to one segment or to all segments. If a device group

belongs to only one segment, the group will contain only devices associated with an access panel that was defined for that segment

Device Groups Form Field Table

Groups Folder - Device Groups Form

Form Element	Comment
Device Groups	(displayed in view mode only) Lists all currently defined device groups, and each group's type (reader, input, output, camera, or monitor). An  icon precedes each reader group entry. An  icon precedes each input group entry. An  icon precedes each output group entry. An  icon precedes each camera group entry. An  icon precedes each monitor group entry.
Name	Indicates the name of the device group.
Type	Select the type of device group. Choices include: • Reader Group - contains one or more readers that are currently defined in the system • Input Group - contains one or more alarm panel inputs and/or reader auxiliary inputs. The inputs must be currently defined in the system • Output Group - contains one or more alarm panel outputs and/or reader auxiliary outputs. The outputs must be currently defined in the system • Camera Group - contains one or more cameras that are currently defined in the system. • Monitor Group - contains one or more remote monitors that are currently defined in the system.

Groups Folder - Device Groups Form (Continued)

Form Element	Comment
Assign To Device Group	(displayed in modify mode only) Lists all currently defined devices of the selected type (readers, alarm inputs, alarm outputs, cameras, or remote monitors) as determined by the **Type** field selection. **Note:** Offline readers are not available because the purpose of creating device groups is to perform online operations. Each entry includes: • the device name • the parent device (the access panel, alarm panel, or reader to which the device is connected) • the device type (reader, reader aux input, reader aux output, alarm input, alarm output, camera or remote monitor) An  icon precedes each reader entry. An  icon precedes each input entry. An  icon precedes each output entry. An  icon precedes each camera entry. An  icon precedes each remote monitor entry.
Assign →	(displayed in modify mode only) Moves the device entry selected in the **Assign To Device Group** field to the assignment window.
← Remove	(displayed in modify mode only) Removes the selected device entry from the assignment window, and inserts it back into the **Assign To Device Group** window.

Groups Folder - Device Groups Form (Continued)

Form Element	Comment
Assignment window	Lists all devices assigned to the current device group. Each entry includes: • the device name • the parent device (the access panel, alarm panel, or reader to which the device is connected) • the device type (reader, reader aux input, reader aux output, alarm input, alarm output, camera or remote monitor). An  icon precedes each reader entry. An  icon precedes each input entry. An  icon precedes each output entry. An  icon precedes each camera entry. An  icon precedes each remote monitor entry.
Add	Used to add a device group.
Modify	Used to change a device group.
Delete	Used to delete a device group.
Help	Displays pertinent help information on screen.
Mode	In view mode, indicates the record/selection count (such as “1 of 42 selected”). In modify mode, indicates the current operation, such as “Modify Mode.”
Close	Closes the Groups folder.

Device Groups Form Procedures

Add a Device Group

1. Click [Add].
2. In the **Name** field, type a unique, descriptive name for this device group.
3. From the **Type** drop-down list, select the type of device group you want to create. All currently defined devices of this type will then be listed in the **Assign to Device Group** window.
4. To add a device to the group, select the device entry in the **Assign to Device Group** window, then click [Assign].
   This moves the selected device from the **Assign to Device Group** window to the assignment window.
5. Repeat step 4 for each device to be included in the group.
6. To remove one or more devices from the group, select the corresponding entr(ies) in the assignment window, then click [Remove]. The entries will be moved back into the **Assign to Device Group** list.
7. Click [OK]. The group name will be added to the **Device Groups** window.

Modify a Device Group

1. In the **Device Groups** window, select the name of the group you wish to change.
2. Click [Modify].
3. Make the changes you want to the fields. The [Clear] button clears all field values.
4. Click [OK] to save the changes, or on the [Cancel] button to revert to the previously saved values.

Delete a Device Group

1. In the **Device Groups** window, select the name of the group you wish to delete.
2. Click [Delete].
3. Click [OK].
4. Click [Yes] to confirm.

Chapter 34: Local I/O Folder

The Local I/O folder contains forms with which you can:

- Create local I/O function lists, each consisting of a sequence of actions to be performed, such as changing reader modes, activating outputs, and opening or closing anti-passback areas
- Link events to local I/O function lists such that a particular event occurring at a particular device will execute the function list

The folder contains two forms, the **Local I/O Function Lists** form and the **Device-->Function Links** form.

Toolbar Shortcut

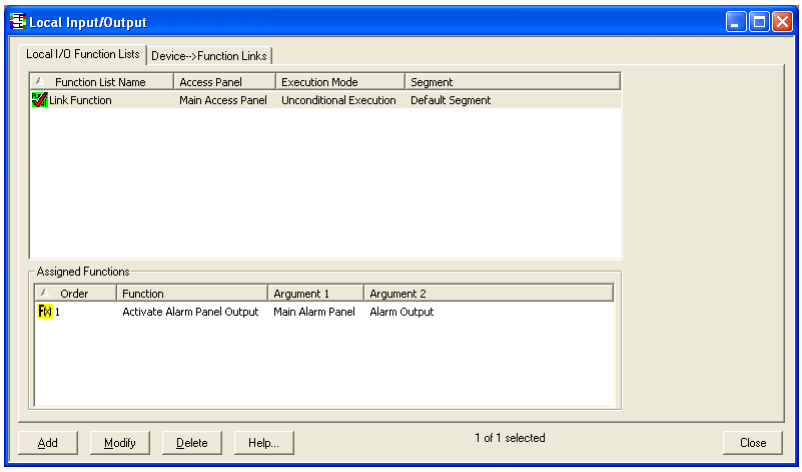
The Local I/O folder is displayed by selecting **Local I/O** from the **Access Control** menu, or by selecting the Local I/O toolbar button.

Hardware Dependencies

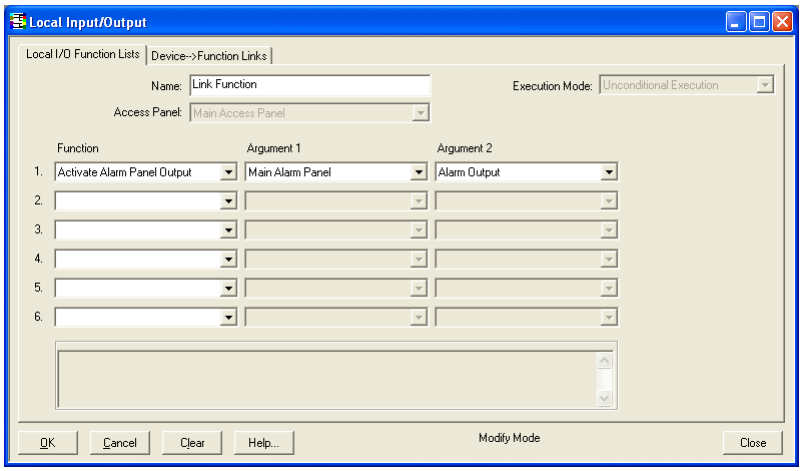
Although basically the same Local I/O interface is available for all hardware types, there are some hardware-dependent differences for Bosch panels:

- Bosch hardware has a simple interface which will always cause a function list to be executed when triggered by an event link
- Bosch hardware will always log an event when a function list is executed
- The available functions may differ slightly

Local I/O Function Lists Form (View Mode)



Local I/O Function Lists Form (Modify Mode)



Local I/O Function Lists Form Overview

This form is used to create local I/O function lists, each consisting of a sequence of actions to be performed, such as changing reader modes, activating outputs, and opening or closing anti-passback areas. A typical use of a function list is to trigger a series of outputs.

Local I/O Function Lists Form Field Table

Local I/O Folder - Local I/O Function Lists Form

Form Element	Comment
Listing window	(displayed in view mode only) Lists all currently defined local I/O function lists, the access panel associated with each, and the execution mode for each.
Assigned Functions	(displayed in view mode only) Lists the functions contained in the selected local I/O function list. Each function entry indicates the function's number in the execution sequence, the name of the function, and the values of up to two arguments for the function.
Name	(displayed in modify mode only) Indicates the name of the local I/O function list.
Execution Mode	(displayed in modify mode only) Indicate the circumstances under which the system will execute the function list. Choose one of the following: • Execute on State Change - indicates that the function list will execute when the state of the list changes from True to False, or from False to True (this not is enabled only for Bosch panels) • Unconditional Execution - indicates that the function list will always execute
Function (continued)	(displayed in modify mode only) Specify the functions contained in the local I/O function list. A function list can contain up to six functions, some of which may have one or two modifiers called *arguments*. The same function can be included more than once in a list, but typically with different arguments each time. If you require more than six functions in a list, you can link multiple function lists such that they will execute in sequence.
Function 1 (continued)	For each function field you can choose one of the following. Note that when you select a function, relevant information about it is displayed in the **Function Behavior** field at the bottom of the form. • **Activate Alarm Panel Output -** indicates that the specified alarm panel output will be triggered.

Function 2 (continued)	• **Activate Reader Output** - indicates that the specified reader output will be triggered. This function has two arguments.
	  • Argument 1 - the reader. Choices include all readers connected to the selected **Access Panel**. Readers are defined on the Reader form of the Readers folder.
	  • Argument 2 - the output to be activated. Choices include all outputs of the reader selected for Argument 1. Outputs are named on the Aux Inputs/Outputs form of the Readers folder.

Local I/O Folder - Local I/O Function Lists Form (Continued)

Form Element	Comment
Function 3 (continued)	• **Alarm Group Mask/Unmask** - indicates that the specified group of alarms will be either masked or unmasked. This function has one argument. • Argument 1 - the alarm mask group, which contains specific devices and alarms. Choices include all currently defined alarm mask groups that are associated with the selected **Access Panel**. Alarm Mask Groups are defined on the Alarm Mask Groups form of the Groups folder.
Function 4 (continued)	• **Area Open/Close** - indicates that the specified anti-passback area will be either opened or closed. **Note:** When Area Open/Close is used in a function list on supported panels: If you set the area to *True* (open) and the area is already open, the input argument will be set to "Do Nothing". This means that all subsequent functions in the function list will be set to "Do Nothing". The same applies if you set the area to *False* (close) and the area is already closed. If you set the area to *Pulse* (open/close), the input argument is changed to *True* if the new state is open, and *False* if the new state is closed. Since this function changes the input argument, the behavior of subsequent functions in the list may be affected. When Area Open/Close is used in a function list on a Bosch panel: *True* sets the area to open, *False* sets the area to closed, and *Pulse* does nothing.
Function 5 (continued)	• **Chain to Function List** – calls another function list. It is used to link two or more lists in situations that require more than six functions. It is for this reason that the function is typically placed at the end of the function list. This function has one argument. • Argument 1 - the local I/O function list to be linked to the current one. Choices include all currently defined local I/O function lists, as defined on this form. BE VERY CAREFUL NOT TO RECURSIVELY LINK TWO LOCAL I/O FUNCTION LISTS (i.e., have a list call a second list, which then calls the first list), AS THIS WILL PUT THE SOFTWARE IN AN INFINITELOOP.
Function 6 (continued)	• **Log Event** - generates an event indicating that this function list was executed. It is typically the last function in the list. This function has no arguments. Note that this function is not available for RKP-1000 access panels.
Function 7 (continued)	• **Dialback to Host** - dials the modem attached to the host computer. This function has no arguments. It is used for event reporting in environments where the access panel is linked to a remote host computer via modem. The function list can be linked to any action that can occur on the panel. Note that this function is available only for RKP-1000 access panels. When the function list is executed, the panel will attempt to dial the host (your application server). After the panel's transactions are dumped and any necessary commands are sent from the host to the panel, the host will terminate the connection. For example, suppose that you have a reader named "Vault Reader" connected to a vault door. Using this form, you create a function list called "Call Headquarters" that includes the "Dialback to Host" function. Using the Device◊Function Links form, you link "Vault Reader" to the "Call Headquarters" function list and the "Door Forced Open" event. Then, if someone forces the vault door open, the application will dial the phone number of the modem on the remote host computer and report a "Door Forced Open" alarm.
Function 8 (continued)	• **Reader Unlock/Set Mode** - Changes the mode of the selected reader to Unlocked when executed with TRUE, and back to the selected mode when executed with FALSE.

Local I/O Folder - Local I/O Function Lists Form (Continued)

Form Element	Comment
Function 9 (continued)	• **Test for Active Alarms in Alarm Group** - checks the status of the specified alarm mask group. This function has one argument. • Argument 1 - the alarm mask group, which contains specific devices and alarms. Choices include all currently defined alarm mask groups that are associated with the selected **Access Panel**. Alarm Mask Groups are defined on the Alarm Mask Groups form of the Groups folder. **Note:** If you set this function to false and if any of the alarms in the specified alarm mask group are active, the input argument will be set to "Do Nothing". This means that all subsequent functions in the function list will be set to "Do Nothing".
Function 10 (continued)	• **Timezone Activate/Deactivate** - activates or deactivates the selected timezone. The selected timezone will remain in that state until the next interval. This function has one argument. • Argument 1 - the timezone to be activated or deactivated until the next interval. Choices include all currently defined timezones. Timezones are defined on the Timezones form of the Timezones folder.
Function 11 (continued)	• **Timezone Override** - activates or deactivates the selected timezone permanently. The selected timezone will remain in that state until an activation or deactivation command is issued. This function has one argument. • Argument 1 - the timezone to be activated or deactivated permanently. Choices include all currently defined timezones. Timezones are defined on the Timezones form of the Timezones folder.
Argument 1	(displayed in modify mode only) A modifier that is applied to the current function. It provides required, detailed information for the function. For example, the function "Alarm Group Mask/Unmask" may have the argument "Main Lobby", which tells the system to mask or unmask alarms specified by the Main Lobby alarm mask group.
Argument 2	(displayed in modify mode only) If a function requires two arguments, this field is used to select the second one.
Function Behavior	(displayed in modify mode only) Provides descriptive information about the selected function.
Add	Used to add a local I/O function list.
Modify	Used to change a local I/O function list.
Delete	Used to delete a local I/O function list.
Help	Displays online assistance for this form.
Mode	In view mode, indicates the record/selection count (such as "1 of 42 selected"). In modify mode, indicates the current operation, such as "Modify Mode."
Close	Closes the Local I/O folder.
Access Panel	(displayed in modify mode only) The access panel on which the function list operates.

Local I/O Function Lists Form Procedures

Add a Local I/O Function List

1. Click [Add].
2. In the **Name** field, type a unique, descriptive name for the list.
3. Select an access panel from the **Access Panel** drop-down list.
4. Select an execution mode from the **Execution Mode** drop-down list. The execution mode describes the circumstances under which the system will execute the function list. Choices include:
   - Execute on State Change - indicates that the function list will execute when the state of the list changes from True to False, or from False to True (this not is enabled for Bosch panels)
   - Unconditional Execution - indicates that the function list will always execute
5. For each function statement you want to include in the list:
   a. Select the function name from the **Function** drop-down list. Notice that the **Function Behavior** display box is updated with descriptive information about the selected function.
   b. If the function requires an argument, select its value from the **Argument 1** drop-down list.
   c. If the **Argument 2** field is activated, select the second argument from that drop-down list.
6. Click [OK].

Note: If you want to include more than six function statements in the list, create a second function list for that Access Panel. Then you can modify the first list to select "**Chain to Function List**" for the sixth function.

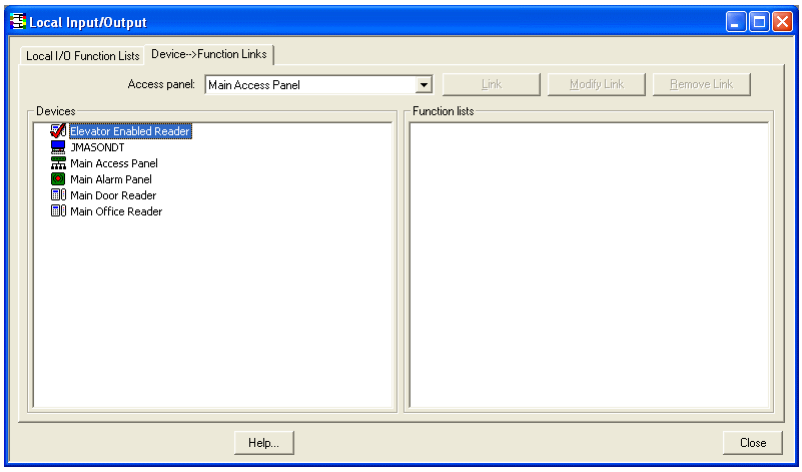
Modify a Local I/O Function List

1. In the listing window, select the local I/O function list you wish to change.
2. Click [Modify].
3. Make the changes you want to the fields.
4. Make the changes you want to the fields. The [Clear] button clears all field values.
   Note that you can't change the **Access Panel** selection, because all other selections depend upon it.
5. Click [OK] to save the changes, or [Cancel] to revert to the previously saved values.

Delete a Local I/O Function List

1. In the listing window, select the local I/O function list you wish to delete.
2. Click [Delete].
3. Click [OK].
4. Click [Yes] to confirm.

Device --> Function Links Form



Device --> Function Links Form Overview

This form is used to link events to local I/O function lists such that a particular event occurring at a particular device will execute the function list.

Local I/O Folder - Device --> Function Links Form

Form Element	Comment
Access Panel	The access panel whose devices and function list you wish to link.
Devices	Lists all linkable devices that are connected to the selected access panel. An icon precedes the access panel entry. An icon precedes each alarm panel entry. An icon precedes each reader entry. An icon precedes the entry for the workstation to which the access panel is attached. Subentries preceded by a ↳ indicate links between devices and function lists. These links are also listed in the **Function Lists** window.
Function Lists	Lists all local I/O function lists associated with the selected access panel. Subentries preceded by a ↰ indicate links between devices and function lists. These links are also listed in the **Devices** window.
Link	Used to link a device and a function list.
Modify Link	Changes the state/action parameters for a device-to-function list link.
Remove Link	Removes the link between a device and a function list.
Close	Closes the Local I/O folder.

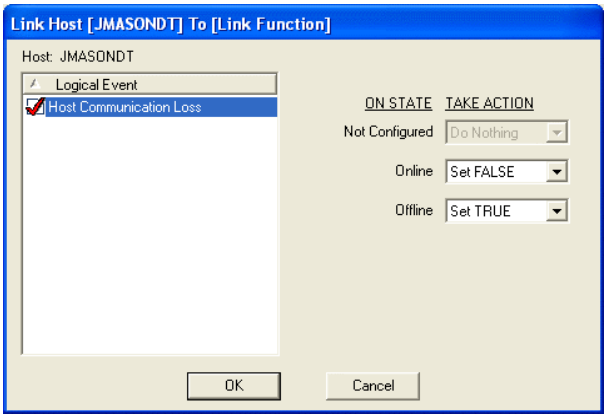
Device --> Function Links Form Procedures

Link A Device to a Local I/O Function List

1. Select an access panel from the **Access Panel** drop-down list.
   - Hardware associated with the selected **Access Panel** will be listed in the **Devices** field. This includes the access panel, readers, alarm panels, and workstation.
   - Local I/O function lists associated with the selected **Access Panel** will be listed in the **Function Lists** field. Note: you cannot create a link unless at least one function list has been created for the panel.
2. Select an item in the **Devices** list.
3. Select a local I/O function list in the **Function Lists** field. Note that the [Link] button is activated.
4. Click [Link].
5. A Link window will be displayed. The contents of the Link window vary with the device type and also with the Logical Event selected in the Link window itself. Refer to the following sections for an illustration of each window type:
   - Link Host Form on page 920
   - Link Access Panel Form on page 921
   - Link Alarm Panel Form on page 922
   - Link Reader Form on page 924
6. In the Link window, choose a **Logical Event** from the list. The State/Action parameters will be displayed.
7. For each item in the On State list, select the corresponding **Take Action** choice. The choices are:
   - Do Nothing - when the event is in that state, does nothing to the specified term of the specified function list. Typically, for a “Not Configured” state, you would choose this action.
   - Set TRUE - execute the function list with an input argument of TRUE
   - Set FALSE - execute the function list with an input argument of FALSE
   - PULSE - execute the function list with an input argument of PULSE
8. Click [OK].

Link Host Form

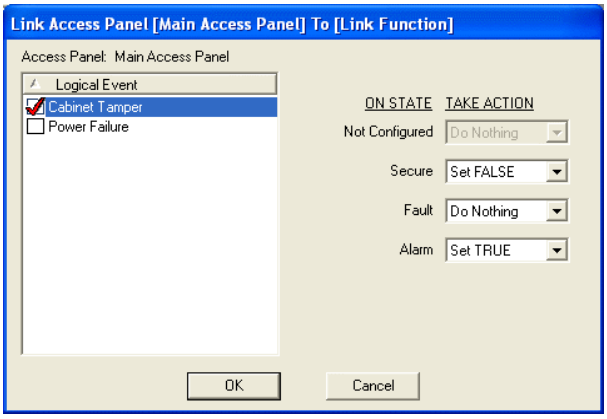
This view is displayed when linking a workstation with an access panel attached to it to a function list.



State	Description
Not Configured	The access panel is not configured on the host (workstation)
Online	The access panel is online and communicating properly with the host
Offline	The access panel is offline to the host

Link Access Panel Form

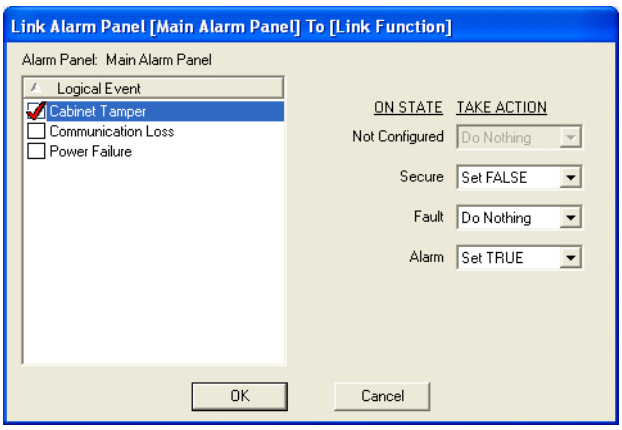
This view is displayed when linking an access panel to a function list.



State	Description
Not Configured	The access panel is not configured on the host
Secure	The access panel is operating normally
Fault	The access panel is experiencing a trouble condition
Alarm	The access panel is in an abnormal state

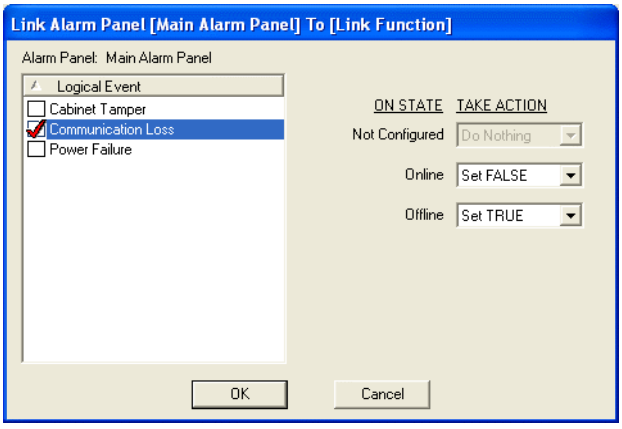
Link Alarm Panel Form

This view is displayed when linking an alarm panel to a function list and either the Cabinet Tamper or Power Failure logical event is selected.



State	Description
Not Configured	The alarm panel is offline. If the selected logical event is an input, the input is considered to be “Not Configured” if it’s configured as “offline”.
Secure	The alarm panel is operating normally
Fault	The alarm panel is experiencing a trouble condition
Alarm	The alarm panel is in an abnormal state

This view is displayed when linking an alarm panel to a function list and the Communication Loss logical event is selected.

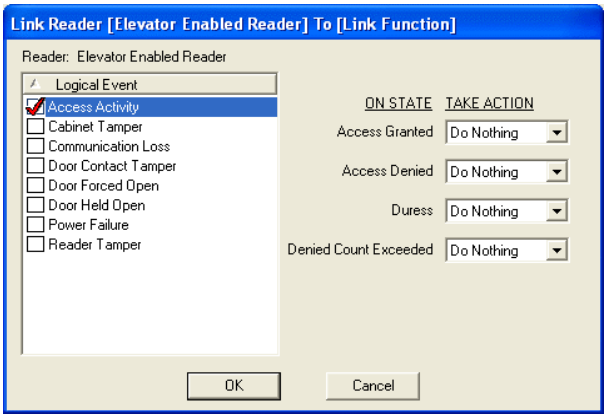


State	Description
Not Configured	The alarm panel is not configured on the host (workstation)
Online	The alarm panel IS communicating to the host

State	Description
Offline	The alarm panel IS NOT communicating to the host

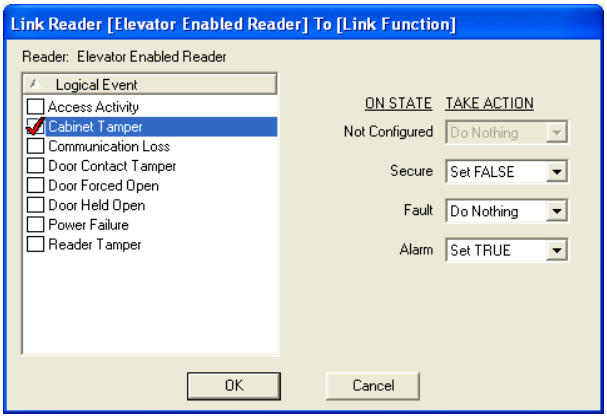
Link Reader Form

This view is displayed when linking a reader to a function list and the Access Activity logical event is selected.



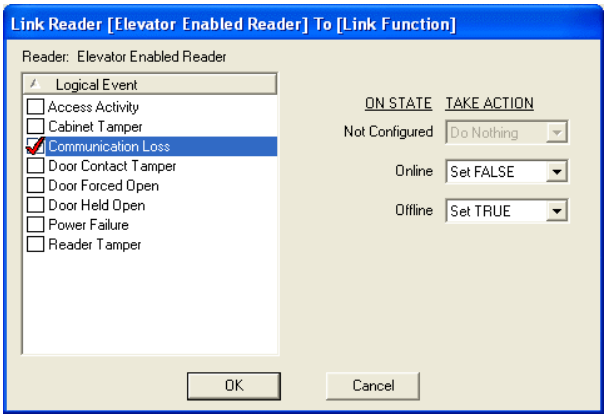
State	Description
Access Granted	An Access Granted alarm has occurred at the reader
Access Denied	An Access Denied alarm has occurred at the reader
Duress	A Duress alarm has occurred at the reader
Denied Count Exceeded	The **Denied Attempts Count** (“also called “Diddle Count”) value has been exceeded **Note:** This field only appears if the **Count** field in the Denied Attempts section on the Settings tab for the reader is set to a value greater than 0.

This view is displayed when linking a reader to a function list and the Cabinet Tamper, Door Contact Tamper, Door Forced Open, Door Help Open, Power Failure, or Reader Tamper logical event is selected.



State	Description
Not Configured	The reader is not configured on the host
Secure	The reader is operating normally
Fault	Fluctuating resistance has resulted in a fault in the reader or in its communication to the panel
Alarm	An alarm has been triggered by this reader

This view is displayed when linking a reader to a function list and the Communication Loss logical event is selected.



State	Description
Not Configured	The reader is functioning properly and is communicating to the access panel, but the access panel isn't detecting the reader.
Online	The reader is functioning and is communicating properly with the access panel.
Offline	The reader is NOT communicating with the access panel.

Chapter 35: Global I/O Folder

The Global I/O folder contains the Global Linkage form with which you can:

- Link any input event a controller is aware of to any output action a controller may cause in the same region
- Define Global I/O linkage lists that span controllers

Toolbar Shortcut

This folder is displayed by selecting **Global I/O** from the **Access Control** menu, or by selecting the Global I/O toolbar button.

Global I/O Overview

The Global I/O feature from previous versions has been renamed Local I/O. What's the difference between Local I/O and the new, expanded Global I/O? Both allow input events to be linked to output actions. The difference is that for Local I/O, the input event and the output action must use the same controller, whereas for Global I/O, the input event can initiate an output action on any other controller that is in the same region.

Note: An access panel is a type of controller.

The following table compares the features of Local I/O and Global I/O:

Feature	Local I/O	Global I/O
Events are viewable in Alarm Monitoring and are subject to alarm filtering	X	X
Input events can be linked to output actions using a single controller	X	X
Input events can be linked to output actions using multiple controllers in the same region		X
A timeout period can be specified for a linkage which indicates how long after an input is activated it will remain valid and can cause an output action		X
Failed linkages are displayed in Alarm Monitoring and are subject to alarm filtering		X
Failed linkages are logged		X
A linkage can be executed during a specified access control timezone and World Time Zone		X
Specific user's card access activity (i.e., badge number) can be used as an input event		X

User Permissions for Global I/O

Each form/feature requires certain permissions in an access control system user's profile in order for them to be able to access the Global I/O features. User permissions for Global I/O consist of being able to view, add, modify, or delete Global I/O linkages. These permissions are set on the Global I/O sub-tab of the System Permission Groups form in the Users folder (in the System Administration and ID CredentialCenter applications).

Global I/O and Alarm Monitoring

You can use Alarm Monitoring to view Global I/O linkage activity.

- When an input event is received that is configured to cause an output action, the linkage that was performed is displayed in Alarm Monitoring and is subject to alarm filtering.
- If the output action of a Global I/O linkage cannot be initiated, the notification will be displayed as an alarm in Alarm Monitoring. This alarm is subject to alarm filtering, and is logged.

Global I/O and Segmentation

Global I/O linkages can belong to a segment, segment group, or to all segments. In a segmented system, you will be prompted with the available segments and segment groups that you have access to for the Global I/O linkage. The following applies to segmented systems:

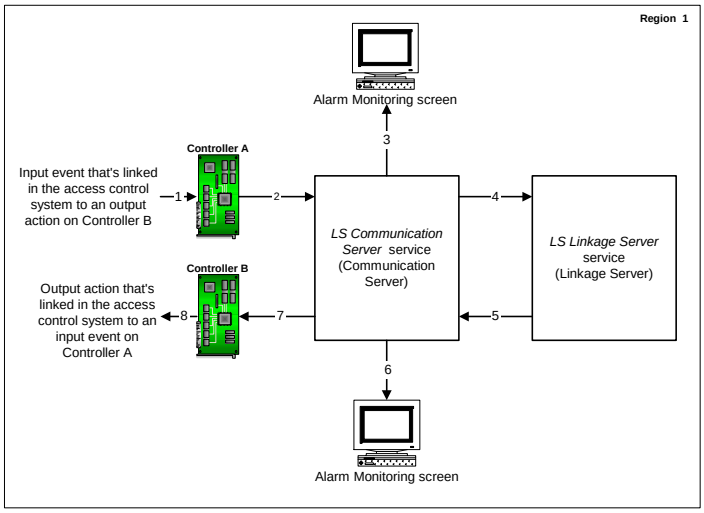
- To modify or delete a Global I/O linkage, a user must have access to all segments the linkage belongs to.
- To view a Global I/O linkage, a user only needs to have access to one segment that the linkage belongs to. Although all items are listed, only those in the user's segment will be fully displayed.
- When an input event is configured, only the hardware in the segment(s) for that Global I/O linkage will be displayed.
- When configuring output actions, only those actions that belong to the same segment(s) as the Global I/O linkage will be available.

How Do Global I/O Linkages Work?

The following diagram describes what happens when an input event on Controller A causes an output action on Controller B when a Global I/O linkage

has been set up in the access control software. Controller A and Controller B must be in the same region.

Global I/O Process Flow



The numbers below describe the process that occurs at each of the numbers in the diagram above.

1. An input event is defined as part of a Global I/O linkage in the access control software, and has an output action on Controller B assigned to it. The input event occurs on Controller A.
2. The Communication Server receives the input event.

Steps 3 and 4 occur at virtually the same time.

3. The Communication Server sends notice of the input event to Alarm Monitoring. The input event is filtered and displayed on the Alarm Monitoring screen.
4. The Linkage Server "listens" to events received by the Communication Server. The Linkage Server distinguishes the Global I/O input event from all others.
5. Based on the input event, the Linkage Server tells the Communication Server the appropriate Global I/O output linkage that needs to be executed.

Steps 6 and 7 occur at virtually the same time.

6. The Communication Server sends notice of the output action to Alarm Monitoring. The output action is filtered and displayed on the Alarm Monitoring screen.
7. The Communication Server communicates the action output to Controller B.
8. Controller B performs the action output.

What if a Global I/O Linkage Fails?

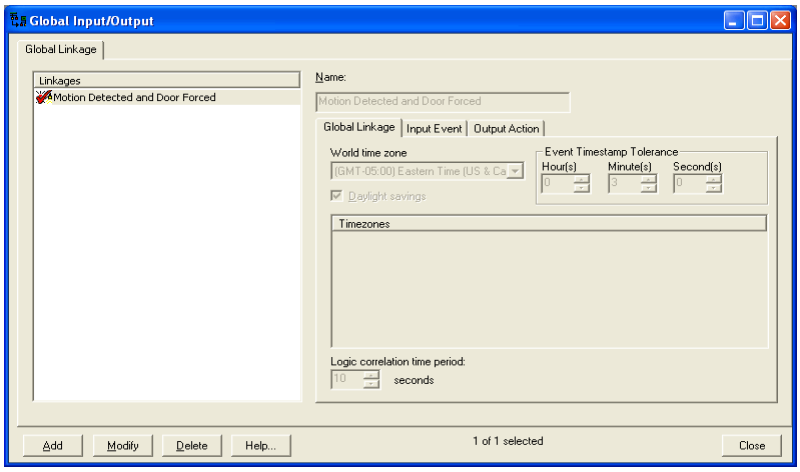
There are two main reasons why a Global I/O linkage might fail: if the input-event controller is offline, or if the output-event controller is offline.

- If a controller generates an input event but can't communicate with it's host, the input event will not be detected by the host, and the linkage will not be carried out at least until the controller and host communication is re-established. If the connection is re-established, the settings in the **Event Timestamp Tolerance** section on the Global Linkage sub-tab of the Global Linkage form will determine whether or not the output action is initiated.
- If a controller generating an output action cannot communicate with it's host, the output action to be carried out cannot be sent to the output-generating controller and the linkage will not be carried out. The failed output action will be logged.

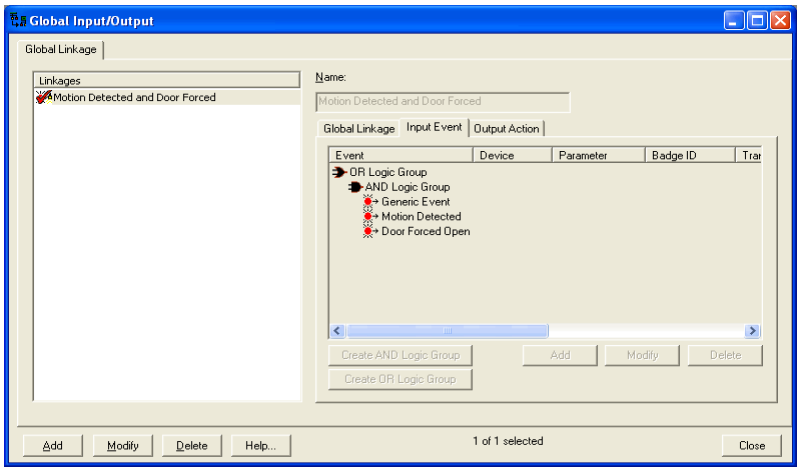
Global I/O Considerations

If the communication servers are run on different machines than the Linkage Server then you should keep the time of the machine running the Linkage Server accurate to the closest possible second. If the times are not in sync between machines then problems may occur in Global I/O linkage executions.

Global Linkage Form (Global Linkage Sub-tab)



Global Linkage Form (Input Event Sub-tab)



Input Events Overview

Input events are events that are detectable by the Linkage Server and may cause a Global I/O linkage to occur. The following examples are a few of the input events:

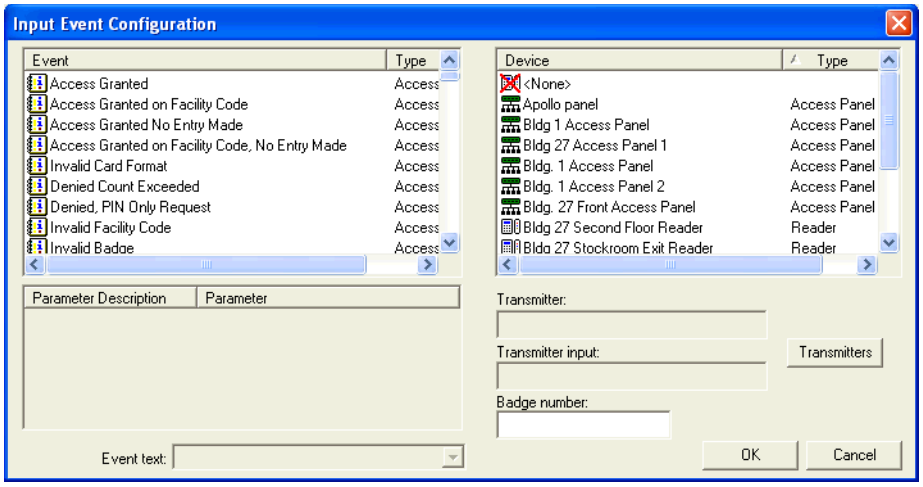
- Any predefined ReadkeyPRO event
- A user access event for a specific badge. This can be configured based on either of the following:
  - An event and badge number
  - An event, badge number, and hardware device
- An event and hardware device

- An event, hardware device, and badge device

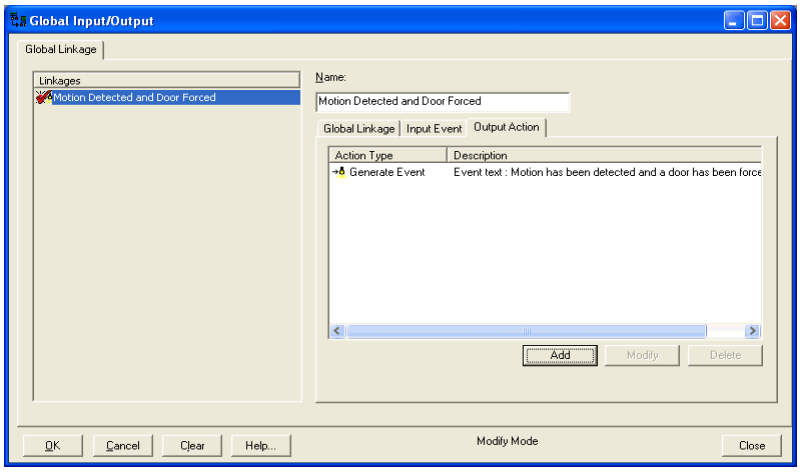
Note: Since Global I/O compares the time of incoming events with the time on the Linkage Server machine time synchronization becomes important. If the communication servers are run on different machines than the linkage server then you should keep the time of the machine running the Linkage Server accurate to the closest possible second. If the times are not in sync between machines then problems may occur in Global I/O linkage executions.

Input Event Configuration Form

This form is displayed when the [Add] button on the Input Event sub-tab is clicked.



Global Linkage Form (Output Action Sub-tab)



Output Actions Overview

Output actions are actions that may be performed as the result of a Global I/O linkage. The following can be output actions:

- Action Group
- Arm/Disarm Area
- Change Network Video Password
- Deactivate Badge
- Device Output
- Device Output Group
- Elevator Terminal Allowed Floors
- Elevator Terminal Mode
- Execute Function List
- Generate Event
- Grant/Deny Popup
- Intercom Call
- Mask/Unmask Alarm Input
- Mask/Alarm Input for Group
- Mask/Unmask Alarm Mask Group
- Mask/Unmask Door
- Mask/Unmask Door Forced Open
- Mask/Unmask Door Forced Open for Reader Group
- Moving Badges for APB Areas
- Muster Mode Initiation

- Open/Close APB Area
- Pulse Open Door
- Pulse Open Door Group
- Reader Mode
- Reader Mode Group
- Report Print
- Reset Use LImit
- Run PTZ Tour
- Select PTZ Preset
- Select Video Wall Layout
- Sign Out Visitor
- Silence Area

Global Linkage Form Field Table

Global I/O Folder - Global Linkage Form

Form Element	Comment
Linkages listing window	Lists currently defined Global I/O linkages and the segment each is associated with (if segmentation is enabled).
Name	Specifies a name for this Global I/O linkage. You can enter a name containing a maximum of 32 characters.
Add	Used to add a Global I/O linkage entry.
Modify	Used to change a Global I/O linkage entry.
Delete	Used to remove a Global I/O linkage entry.
Help	Displays online help for this form.
Close	Closes the Global I/O folder.
Global Linkage Sub-tab	
World Time Zone	Select the world time zone for the selected Global I/O linkage's geographical location. The default world time zone is the world time zone on the computer that the linkage is being configured on. A Global I/O linkage can be configured to occur only during a selected access control timezone in a selected world time zone. The selections in the drop-down list are listed sequentially, and each includes: • The world time zone's clock time relative to Greenwich Mean Time. For example, (GMT+05:00) indicates that the clock time in the selected world time zone is 5 hours ahead of the clock time in Greenwich, England. • The name of one or more countries or cities that are located in that world time zone.
Event Timestamp Tolerance	Contains the **Hour(s)**, **Minute(s)**, and **Second(s)** fields. **Note:** If you set the Event Timestamp Tolerance to 0 (by entering 0 into the **Hour(s)**, **Minute(s)**, and **Second(s)** fields), the global I/O linkage will execute regardless of how old the event is. Basically, when you set the Event Timestamp Tolerance to 0, it is not used.
Hour(s)	Number of hours that an input event remains valid after it has been generated and may cause a linkage to take place. Used in conjunction with the **Minute(s)** and **Second(s)** fields.
Minute(s)	Number of minutes, in addition to the number of hours, that an input event remains valid after it has been generated and may cause a linkage to take place.
Second(s)	Number of seconds, in addition to the number of hours and minutes, that an input event remains valid after it has been generated and may cause a linkage to take place.
Daylight savings	Select this check box if daylight savings time is used in the selected world time zone.
Timezones listing window	Indicates the range of time that a linkage is valid for. **Note:** Timezones are added on the Timezones form, which is displayed by selecting the **Access Control** > **Timezones** menu option and then clicking the Timezones tab.

Global I/O Folder - Global Linkage Form (Continued)

Form Element	Comment
Logic correlation time period	When creating a linked alarm event, set this to the number of seconds that must occur between each event for the events to be valid. This is a rolling time limit where the time period resets after each correlating event occurs.
Input Event Sub-tab	
Input event listing window	Displays the event, device, parameter, badge ID, transmitter, transmitter input, and event for each input event that is associated with the selected Global I/O linkage. There may be multiple input events associated with a single event.
Create AND Logic Group	With two or more events selected you can click this button to group the selected events together into a logic group. The multiple events must occur within a set amount of time as defined by the **Logic correlation time period** found on the Global Linkage Sub-tab to be considered grouped together.
Create OR Logic Group	After creating an AND logic group you are able to modify it by adding an OR logic group. After selecting events in the AND logic group click this button to create an OR subset of the AND logic group. How this works is that the events listed in the AND logic group and one or the other of the OR logic group events must occur for the alarm to appear in Alarm Monitoring.
Add	This button is used to add an input event for the selected Global I/O linkage. It is enabled for selection only when the Global Linkage form is in Add or Modify mode.
Modify	This button is used to modify an input event for the selected Global I/O linkage. It is enabled for selection only when the Global Linkage form is in Modify mode and an input event is selected.
Delete	This button is used to delete an input event from the selected Global I/O linkage. It is enabled for selection only when the Global Linkage form is in Modify mode and an input event is selected.
Input Event Configuration Form	
Event listing window	Shows the list of events that may initiate a linkage, including the event description and the type of event. When configuring an input event, an event must be selected.
Parameter Description	If the event selected in the Event listing window can have parameters, they are listed here.
Device listing window	Selecting a device is optional. All devices the current user may view as well as the type of device that is being viewed are displayed.
Event text	This field works in conjunction with generic events. Use this field when you send multiple events under the Generic event category and you want to identify a specific event that will trigger an output. For example, you may have an OPC Source that sends “Alarm Active” and “Alarm Restored” under the Generic event category. By entering specific event text, you can control what generic event triggers an output. In the example mentioned above, if you enter “Alarm Active” in the Event text field, the Global I/O linkage executes the output when that generic event comes in and not when the “Alarm Restored” generic event comes in. You can either enter event text or select text created in the Text Library form, which is located by selecting **Text Library** from the **Administration** menu.
Transmitter	Displays the name of the transmitter selected in the Input Event Transmitter Configuration window (displayed by selecting the [Transmitters] button).

Global I/O Folder - Global Linkage Form (Continued)

Form Element	Comment
Transmitter input	Displays the name of the transmitter input selected in the Input Event Transmitter Configuration window (displayed by selecting the [Transmitters] button).
Transmitters	Click this button to display the Input Event Transmitter Configuration window from where you can select the transmitter and optionally a transmitter input. **Note:** This button is enabled only if you have a license for devices that can support transmitters.
Badge Number	Selecting a badge number is optional. If a badge number is specified, the output action will only be initiated when the input event occurs for that badge number.
OK	Saves selections or changes and returns you to the Input Event sub-tab.
Cancel	Cancels pending selections or changes and returns you to the Input Event sub-tab.
Output Action Sub-tab	
Output action listing window	Displays the action type and description for each output action that is associated with the selected Global I/O linkage.
Add	This button is used to add an output action for the selected Global I/O linkage. It is enabled for selection only when the Global Linkage form is in Add or Modify mode.
Modify	This button is used to modify an output action for the selected Global I/O linkage. It is enabled for selection only when the Global Linkage form is in Modify mode and an output action is selected.
Delete	This button is used to delete an output action for the selected Global I/O linkage. It is enabled for selection only when the Global Linkage form is in Modify mode and an output action is selected.

Global Linkage Form Procedures

Add a Global I/O Linkage

1. Display the Global Linkage folder and click [Add].
2. If segmentation is enabled:
   a. The Segment Membership window opens. Select the appropriate segment.
   b. Click [OK].
3. In the **Name** field, enter a unique, descriptive name for the Global I/O linkage.
4. On the Global Linkage sub-tab:
   a. Select the World Time Zone during which the Global I/O linkage will function.
   b. Select how long the input event will occur.
   c. If the world time zone you selected uses daylight savings, click the **Daylight savings** check box.
   d. In the Timezones listing window, select the access control timezone during which the Global I/O linkage will function.
5. On the Input Event sub-tab:
   a. Click [Add] to display the Input Event Configuration form.
   b. Select the event that you wish to link.
   c. If you selected "Generic Event," enter the event text in the **Event text** field that will appear when the output executes.
   d. If the event you selected has parameters, select one of the following from the Parameter Description listing window.
      - **Optional** - Select the Device.
      - **Optional -** Click [Transmitters] to display the Input Event Transmitter Configuration window. Select a transmitter and a transmitter input.
      - **Optional** - Select a Badge Number.

Note: You cannot select both a transmitter and a badge at the same time. You must use one or the other.

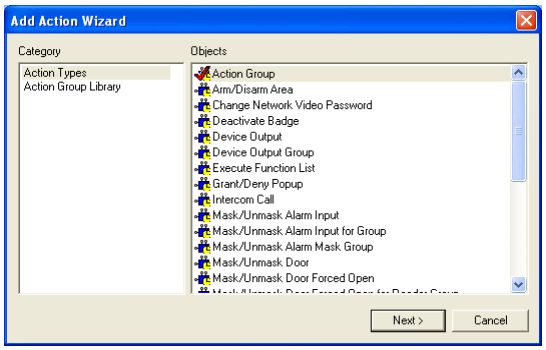
e. Click [OK].

f. Repeat steps a–e for every input event linkage you wish to add.

g. Optionally you can add event correlation. For more information, refer to Global I/O Event Correlation on page 941.

6. On the Output Action sub-tab:

   a. Click [Add]. The Add Action Wizard window opens.



   - If you select “Action Types,” a list of output actions which may be associated with a linkage displays.
   - If you select “Action Group Library,” entries in the Action Group Library display and may be associated with a linkage.

   For more information, refer to Appendix A: Actions on page 1217.

   b. Repeat step a for every output action linkage you wish to add.

7. Click [OK].

Modify a Global I/O Linkage

1. In the Linkages listing window, select (click on) the name of the Global I/O linkage you wish to change.
2. Click [Modify].
3. Make the changes you want to the fields. Changes can be made on any sub-tab. To modify an input event:
   a. Click the Input Event sub-tab.
   b. Select the input event you want to modify.
   c. Click [Modify]. The Input Event Configuration window will be displayed. Make the changes you want to make.
   d. Click [OK].

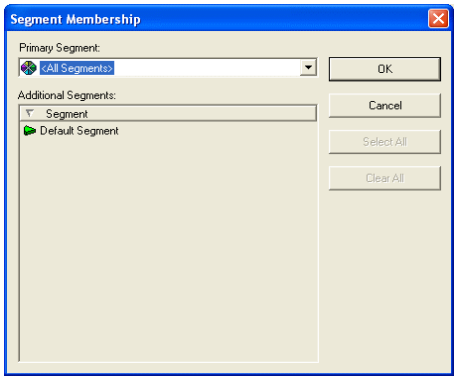
   To modify an output action:
   e. Click the Output Action sub-tab.
   f. Select the output action you want to modify.
   g. Click [Modify].
   h. The properties window for the selected output action will open. For more information, refer to Appendix A: Actions on page 1217.
   i. Click [OK] to save the changes, or [Cancel] to revert to the previously saved values.

Delete a Global I/O Linkage

1. In the Linkages listing window, select (click on) the name of the Global I/O linkage.
2. Click [Delete].
3. Click [OK].
4. Click [Yes] to confirm the deletion.

Modify a Global I/O Linkage's Segment

1. In the Linkages listing window, select (click on) the name of the Global I/O linkage you wish to change.
2. Click [Modify].
3. Click [Change Segment]. The Segment Membership window opens.
4. Select a segment to move the Global I/O linkage to.



5. Click [OK].
6. If segmentation is not enabled, skip this step. If segmentation is enabled, the timezones are updated to show only the timezones in the segment that you just changed the Global I/O linkage to. You must select a new timezone, which is done on the Global Linkage sub-tab in the Timezones listing window.
7. Click [OK].

Global I/O Event Correlation

Event correlation, at its base, restricts output based on user-defined correlations between input events. One outcome of this is that you can create a custom alarm to be generated when two or more events, based on certain logic conditions, occur within a set time period.For example, you may want a custom alarm to be reported if the "Motion Detected and "Door Forced Open" events occur within a certain number of seconds of each other. Linking these two events together creates a new alarm that is generated in Alarm Monitoring when these two events occur and an output action has been created for it.

The timing used to see whether the events are linked is determined by the timestamp provided by the hardware you are using. Because of this it is vitally important that all of your hardware is synced to have the same time.

Adding a Global I/O Event Correlation

1. Make sure that the events you wish to link are already added. For more information, refer to Add a Global I/O Linkage on page 938.
2. To link the events, first click [Modify].
3. On the Input Event sub-tab, select two or more events on the Input Event sub-tab and click **Create AND Logic Group**. This will link the events together under the AND Logic Group title. In the listing window you will see this represented as a listing tree. When creating an AND Logic Group the topmost item in the tree will be an empty OR Logic Group heading. You may add events here which act as independent events from the AND Logic Group. Events can be dragged and dropped to change their position in this listing window.

Note: On the Global Linkage sub-tab, you can change the value of the **Logic correlation time period** spin-box to the number of seconds that each event will have to occur between one another to be considered linked. This is a rolling time limit where the time period resets after each correlating event occurs.

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4. Optionally, you can further customize these linked events by adding an OR Logic Group under the AND Logic Group. Do this by selecting two or more event in the AND Logic Group and clicking **Create OR Logic Group**. This will add another layer of complexity to the event correlation before the output action is executed. Let's walk through a short example:
   a. If you have three events (A,B and C) that have to occur within a certain amount of seconds to be considered linked events you will select all three and click **Create AND Logic Group**.
   b. Now, let's say you also have events D and E but only one or the other has to occur along with events A,B, and C to be considered linked. You would then select events D and E and click **Create OR Logic Group**. This creates a linked event that occurs only when events A,B,C, occur together along with either D or E.
5. On the Output Action sub-tab:
   a. Click [Add]. The Add Action Wizard window opens.
      - Select Generate Event. This event allows you to create custom text that allows you to further customize your linked alarms.

Note: Feel free to select any event that you feel will work. Generate Event is just one option for you to use and is only recommended here because of its option for user-defined event text.

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6. Click [OK].
7. Optionally, if you are using custom alarms you can elect to turn the display of the individual alarms, the ones that make up your linked alarm, off. You

would do this so only your new linked alarm with your custom text is displayed in Alarm Monitoring. To do this:

a. In System Administration, click “Monitoring” in the menu bar and select “Alarms”.

b. Find the alarms in the listing window whose display you wish to turn off.

c. Click [Modify].

d. Un-check **Display Alarm**.

e. Click [OK].

Chapter 36: EOL Tables Folder

The EOL Tables folder contains the EOL Resistor Tables form with which you can add, modify, and delete custom EOL resistor tables.

This folder is displayed by selecting **EOL Resistor Configuration** from the **Access Control** menu.

EOL Resistor Tables Overview

You can configure up to four custom resistor tables for RKP-2000, RKP-1000 or RKP-500 access panels, using different EOL resistor input configurations (alarm panel inputs, reader inputs, reader door contact, and reader rex).

Note: If segmentation is enabled, you can configure up to four custom resistor tables *per* segment.

By default, there are four built-in system tables.

- Default Supervision, Normally Closed
- Default Supervision, Normally Open
- Not Supervised, Normally Closed
- Not Supervised, Normally Open

Note: The Default Supervision EOL resistor values are 1k ohms/1k ohms.

Advanced Custom EOL Resistor Tables

Important: A majority of the time, the basic custom EOL resistor tables are sufficient. If you need to use the advanced custom EOL Resistor table **you must consult your local hardware dealer**.

Important: Advanced custom EOL resistor tables are not supported for readers connected to HID access panels. If you attempt to change a “Basic Custom” EOL table to an “Advanced Custom” type for such readers, a warning message will be displayed.

Resistance Values

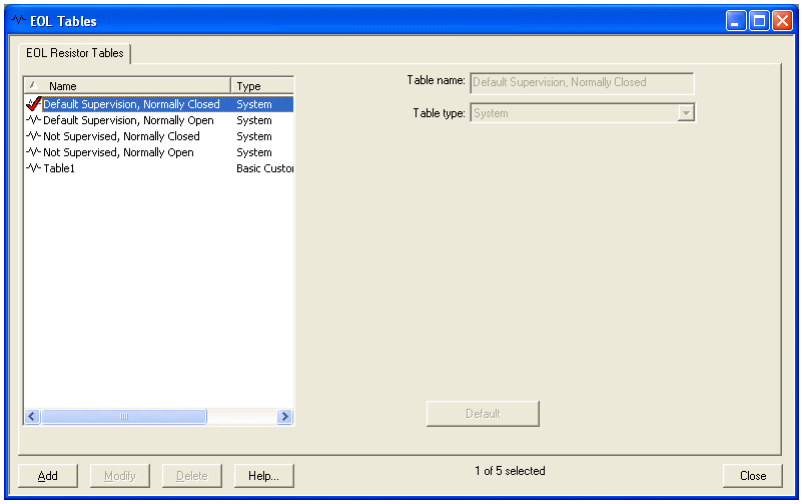
Bosch input/output boards measure resistance values differently between an advanced and basic table. The advanced table can be set between 50 and 25k ohms. The basic table can be set between 51 and 9999 ohms.

When you enter values for the normal low range, the first field is the resistance value for the inactive state of the circuit. The second field is the resistance value for the active state of the circuit. The same concept applies for the normal high range fields.

You can enter active and inactive values as percentages or absolute values (+/-). Regardless of the method, the lowest value should not be less than 51 ohms (50 on an advanced table) and the highest value should not exceed 9999 (25,000 on an advanced table) ohms. However, each range should be large enough to comfortably cover any noise induced variation.

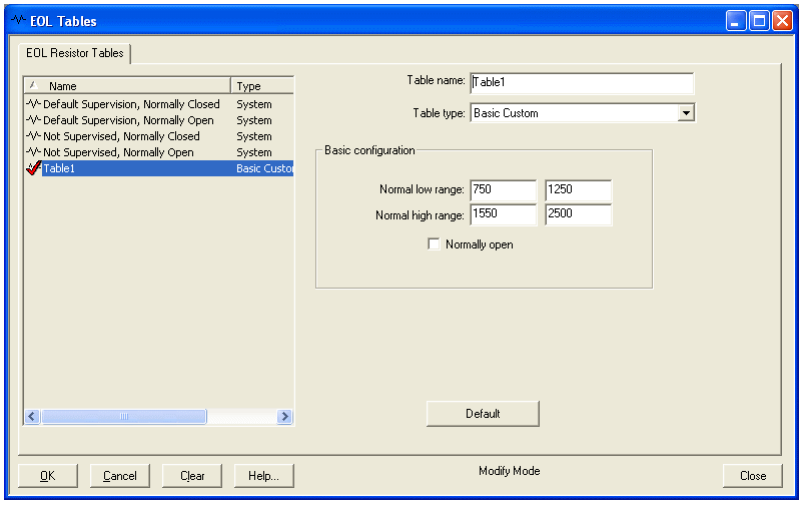
Note: To meet UL 1076 you must detect at least a 50% change in resistance. Resistant measurement is not 100% accurate.

EOL Resistor Tables Form (View Mode)

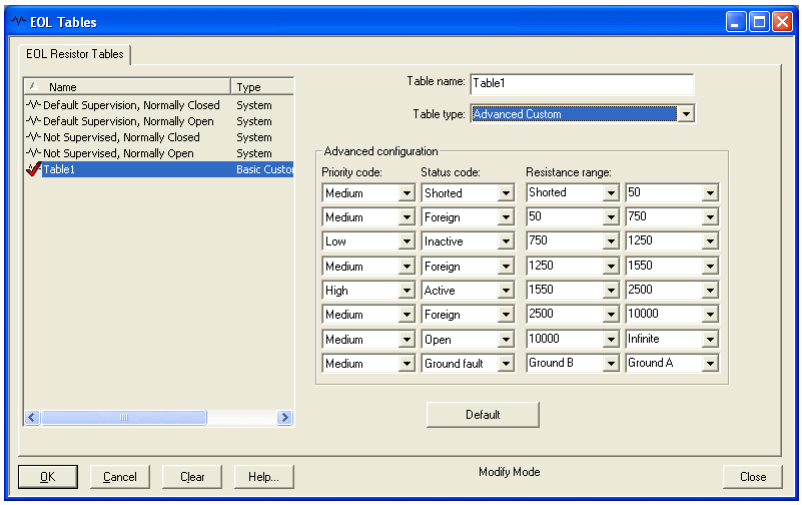


EOL Resistor Tables Form (Modify Mode)

This view displays for basic custom table types.



This view displays for advanced custom table types.



EOL Resistor Tables Form Field Table

EOL Tables Folder - EOL Resistor Tables Form

Form Element	Comment
Listing window	Lists currently defined system and custom EOL resistor tables. An icon precedes each entry.
Table name	Indicates the name for the custom EOL resistor table. The name can contain a maximum of 32 characters.
Table type	Indicates the type of EOL resistor table that is selected in the listing window or that is being configured. Choices in the drop-down list include: • **Basic Custom** - The basic configuration requires the resistance range for the normal low and normal high ranges to be defined, as well as an indication of whether or not the circuit is normally open. When the **Basic Custom** table type is selected, the **Normal low range**, **Normal high range**, and **Normally open** fields display. • **Advanced Custom** - There are eight sets of resistance ranges that can be configured. Each range is associated with a priority code and a status code. When the **Advanced Custom** table type is selected, the **Priority code**, **Status code**, and **Resistance range** fields display. **Note:** The table type "System" is automatically assigned to the four built-in system tables (but not available for selection in the **Table type** drop-down list). These tables cannot be modified or deleted.
Normal low range	This field displays with the Basic Custom table type. Enter the normal low resistance range. **The lowest value cannot be less than 51 ohms.**
Normal high range	This field displays with the Basic Custom table type. Enter the normal high resistance range. **The highest value cannot exceed 9999 ohms.**
Normally open	This field displays with the Basic Custom table type.In add or modify mode, selecting this check box indicates that this circuit is normally open.
Priority code	This field displays with the Advanced Custom table type.In add or modify mode, select a priority code; low, medium or high.

EOL Tables Folder - EOL Resistor Tables Form (Continued)

Form Element	Comment
Status code	This field displays with the Advanced Custom table type.In add or modify mode, select status codes. They are: • **Inactive -** This is the normal state of the circuit. • **Active** - This is the "alarm" state of the circuit. • **Ground fault** - Supervisory Fault: "ground fault." One (or both) lines is (are) grounded. • **Shorted** - Supervisory Fault: "shorted circuit" • **Open** - Supervisory Fault: "open circuit" • **Foreign** - Supervisory Fault: "foreign voltage." Represents any abnormal resistance not covered by the above definitions. • **Non-settling** - Supervisory Fault "non-settling error." Represents an oscillating condition (AC noise) where the circuit does not settle into any of the above states long enough to meet the "debounce" requirements.
Resistance range	This field displays with the Advanced Custom table type. In add or modify mode, for each range, two resistance values can be used. You can enter a numeric value or select a special resistance code from the drop-down list. The special resistance codes are: • **Infinite** - infinite resistance • **Shorted** - shorted line • **Ground A** - ground line a • **Ground B** - ground line b **Note:** **The lowest value cannot be less than 50 ohms and the highest value cannot exceed 25,000 ohms**.
Default	Resets the fields to the settings of a normally closed, 1K/2K circuit. This field is not enabled when you are viewing system type tables.
Add	Adds an EOL resistor table.
Modify	Modifies a custom EOL resistor table entry. **Note:** System type tables cannot be modified.
Delete	Removes a custom EOL resistor table entry. **Note:** System type tables cannot be deleted. Custom type tables cannot be deleted if they are in use by an input.
Help	Displays online help for this form.
Close	Closes the EOL Tables folder.

EOL Resistor Tables Form Procedures

Add an EOL Resistor Table

1. From the **Access Control** menu, select **EOL Resistor Configuration**.
2. On the EOL Resistor Table form, click [Add].
3. If segmentation is not enabled on your system, skip this step. If segmentation is enabled on your system, the Segment Membership window opens. Select which segment you want this table to belong to and click [OK].
4. In the **Table name** field, type a name for the table. The name can contain a maximum of 32 characters.
5. From the **Table type** drop-down list, select the type of table that you want to add.
6. If you selected **Advanced Custom** from the **Table type** drop-down list, proceed to step 7.
   If you selected **Basic Custom** from the **Table type** drop-down list:
   a. Enter a normal low resistance range. The lowest value should not be less than 51 ohms.
   b. Enter a normal high resistance range. The highest value should not exceed 9999 ohms
   c. If you want to indicate that the circuit is normally open, select the **Normally open** check box.

Note: Click [Default] if you want to reset the **Normal low range**, **Normal high range**, and **Normally open** fields to the settings of a normally closed, 1K/2K circuit.

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7. If you selected **Advanced Custom** from the **Table type** drop-down list:
   a. Select the priority codes.
   b. Select the status codes.
   c. Select or enter the resistance ranges. The lowest value cannot be less than 50 ohms and the highest value cannot exceed 25,000 ohms.
8. Click [OK].

Modify an EOL Resistor Table

1. From the **Access Control** menu, select **EOL Resistor Configuration**.
2. On the EOL Resistor Tables form, from the listing window, select the currently defined EOL resistor table that you want to modify.

Note: System type tables cannot be modified.

3. Click [Modify].
4. Make the changes you want to the fields. For more information, refer to EOL Resistor Tables Form Field Table on page 948.
5. Click [OK].

Delete an EOL Resistor Table

1. From the **Access Control** menu, select **EOL Resistor Configuration**.
2. On the EOL Resistor Tables form, from the listing window, select the currently defined EOL resistor table that you want to remove.

Note: System type tables cannot be deleted. Custom type tables cannot be deleted if they are currently in use by an input.

3. Click [Delete].
4. Click [OK].

Chapter 37: Destination Assurance Folder

The Destination Assurance folder contains the Destination Assurance form with which you can:

- Associate entrance readers with exit readers.
- Configure a specific amount of time a cardholder is allowed to reach a specified exit reader before an alarm is generated.

This folder is displayed by selecting **Destination Assurance** from the **Access Control** menu.

Note: In order to enable the destination assurance feature, the Linkage Server must be configured and running.

Destination Assurance on Segmented Systems

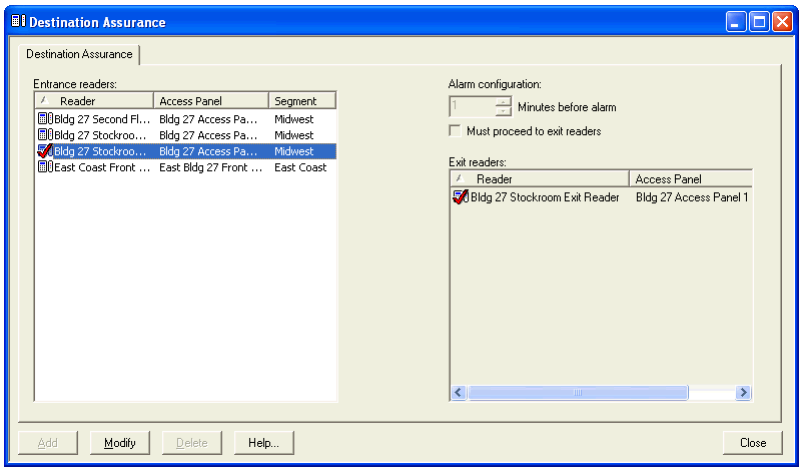
If a system is segmented, a user can only configure destination assurance for those entrance/exit readers that the user has access to. Also, to modify the "Minutes before alarm" and/or the "Must proceed to exit readers" settings on a segmented system, the user must have segment access for all configured exit readers that belong to the selected entrance reader.

For example, if an entrance reader has an exit reader from segment 1 and another exit reader from segment 2, a user who wishes to modify this value must have segment access to both segment 1 and 2. If the user does not have segment access to both segments and they try to change this setting, an error message that says the following will be displayed:

"You do not have segment access for one or more exit readers configured for this entrance reader. The 'Minutes before alarm' and 'Must proceed to exit readers' settings will not be saved."

If a user does not have segment access for all configured exit readers, the user cannot modify the entrance reader settings. However, the user can still assign or remove exit readers for which they do have segment access to.

Destination Assurance Form



Destination Assurance Folder - Destination Assurance Form

Form Element	Comment
Entrance readers listing window	Lists currently defined readers and the name of the access panel connected to each. On segmented systems, the segment is displayed if you are logged in as an <All segments> user, but not if you are logged into a specific segment.
___ Minutes before alarm	After a cardholder enters an area at an entrance reader, they will have a certain amount of time to reach an associated exit reader before an alarm is generated. In modify mode, enter the time (in minutes) that you want to allow a cardholder to reach (one of) the selected entrance reader's associated exit reader(s). Enter a value between 1 and 9999. The default is 1. If the specified time elapses without the cardholder receiving a grant at a valid exit reader, the reported alarm will be: "User Failed to Reach Destination" Segmented systems only: To modify this value (and the **Must proceed to exit readers** check box) on a segmented system, the user must have segment access for all configured exit readers that belong to the selected entrance reader. For example, if an entrance reader has an exit reader from segment 1 and another exit reader from segment 2, a user who wishes to modify this value must have segment access to both segment 1 and 2. If the user does not have segment access to both segments and they try to change this setting, an error message that says the following will be displayed: "You do not have segment access for one or more exit readers configured for this entrance reader. The 'Minutes before alarm' and 'Must proceed to exit readers' settings will not be saved."

Destination Assurance Folder - Destination Assurance Form (Continued)

Form Element	Comment
Must proceed to exit readers	Select this check box to indicate that a cardholder must go to one of the specified exit readers. If this check box is selected and a cardholder attempts to gain access or gains access to any other reader besides an exit reader associated with the selected entrance reader, an alarm will be generated. If a cardholder is granted access at an unexpected reader, the reported alarm will be: "Unexpected Access" If a cardholder attempts to gains access at an unexpected reader, the reported alarm will be: "Unexpected Access Attempt" It is important to note that since the destination assurance feature is configurable on multiple controllers, it is possible that false alarms could be reported if the entrance and exit readers are on separate controllers and one, but not both, of these controllers is offline. **Note:** If the **Destination exempt** check box was selected for a badge on the Badge form in the Cardholders folder, the badge will not be included in the destination assurance processing and no alarms will be generated if the cardholder violates any of the destination assurance settings. Segmented systems only: To modify this value (and the Minutes before alarm setting) on a segmented system, the user must have segment access for all configured exit readers that belong to the selected entrance reader. For example, if an entrance reader has an exit reader from segment 1 and another exit reader from segment 2, a user who wishes to modify this value must have segment access to both segment 1 and 2. If the user does not have segment access to both segments and they try to change this setting, an error message that says the following will be displayed: "You do not have segment access for one or more exit readers configured for this entrance reader. The 'Minutes before alarm' and 'Must proceed to exit readers' settings will not be saved."
Exit readers listing window	In view mode, lists all exit readers that have been associated with the selected entrance reader and the name of the access panel connected to each. On segmented systems, the segment is is displayed if you are logged in as an <All segments> user, but not if you are logged into a specific segment. In modify mode, lists all readers and the name of the access panel connected to each. On segmented systems, the segment is is displayed if you are logged in as an <All segments> user, but not if you are logged into a specific segment.
Add	This button is not used.
Modify	Click this button to
Delete	This button is not used.
Help	Click this button to display online help for this form.
Close	Click this button to close the Destination Assurance folder.

Destination Assurance Form Procedures

Configure Destination Assurance

1. From the **Access Control** menu, select **Destination Assurance**. The Destination Assurance folder opens.
2. From the Entrance readers listing window, select a reader.
3. Click [Modify].
4. From the Exit readers listing window, select one or more readers.

Note: The entrance reader and exit readers do not have to exist on the same controller.

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5. After a cardholder enters an area at an entrance reader, they will have a certain amount of time to reach an associated exit reader before an alarm is generated. In the **___ Minutes before alarm** field, for the selected entrance reader, enter the time (in minutes) that you want to allow a cardholder to reach (one of) the associated exit readers you selected in step 4. Enter a value between 1 and 9999. The default is 1.

Notes: To modify this value on a segmented system, the user must have segment access for all configured exit readers that belong to the selected entrance reader.

If the specified time elapses without the cardholder receiving a grant at a valid exit reader, the reported alarm will be: “User Failed to Reach Destination”

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6. Select the **Must proceed to exit readers** check box to indicate that a cardholder must go to one of the specified exit readers. If this check box is selected and a cardholder attempts to gain access or gains access to any other reader besides an exit reader associated with the selected entrance reader, an alarm will be generated.
   - If a cardholder is granted access at an unexpected reader, the reported alarm will be: “Unexpected Access”
   - If a cardholder attempts to gains access at an unexpected reader, the reported alarm will be: “Unexpected Access Attempt”

Notes: To modify this value on a segmented system, the user must have segment access for all configured exit readers that belong to the selected entrance reader.

It is important to note that since the destination assurance feature is configurable on multiple controllers, it is possible that false alarms could be reported if the entrance and exit readers are on separate controllers and one, but not both, of these controllers is offline.

If the **Destination exempt** check box was selected for a badge on the Badge form in the Cardholders folder, the badge will not be included in the

destination assurance processing and no alarms will be generated if the cardholder violates any of the destination assurance settings.

7. Click [OK].

Note: Via the Reports folder, you can run a Destination Assurance Exempt Cardholders report to see a list of which cardholders will be exempt from processing, or a Destination Assurance Configuration report to display a list of all configured entrance readers and their settings as well as the associated exit reader(s) for each entrance reader.

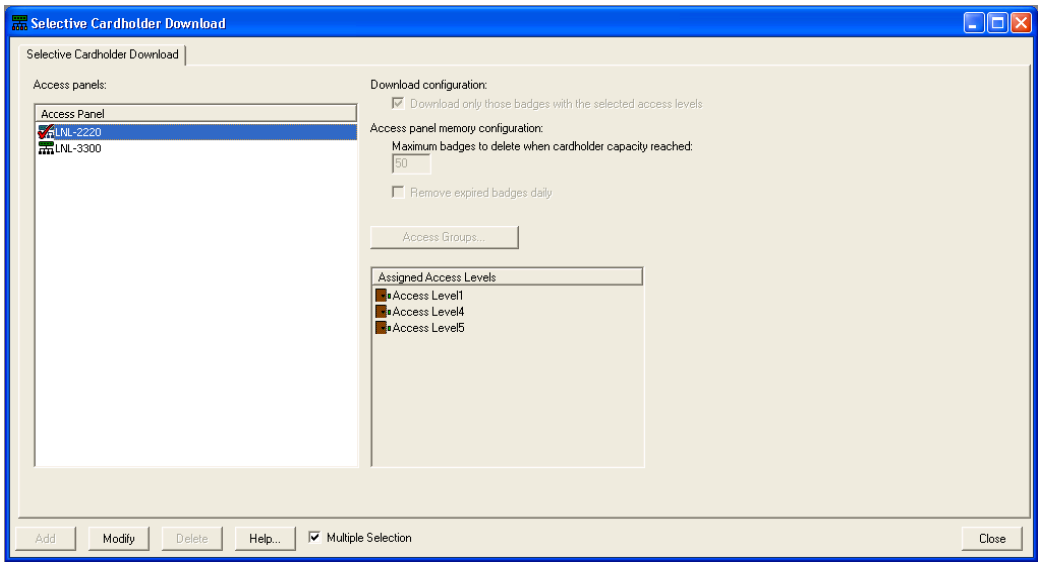
Chapter 38: Selective Cardholder Download

The Selective Cardholder Download folder is used to specify which access levels a badge must have assigned to it in order to be downloaded to the selected access panel. This feature makes it much easier to add cardholders to a panel for specific access levels without having to download the entire database.

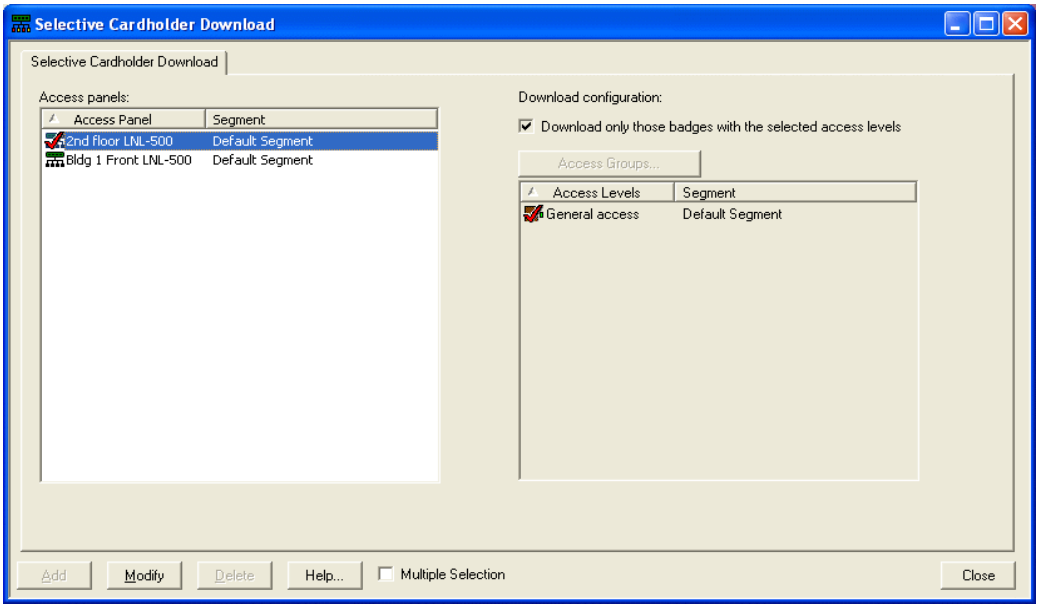
Use this feature for installations with a large cardholder database when you only need a subset of those cardholders downloaded to an access panel.

Note: When an access panel has selective cardholder download enabled, the icon in Alarm Monitoring will display as: 

Selective Cardholder Download Form (View Mode)



Selective Cardholder Download Form (Modify Mode)



Selective Cardholder Download Form

Form Element	Comment
Access Panel	Lists the access panels currently installed on the system.
Download only those badges with the selected access levels	Select this to configure the download to only download those badges with access levels that you placed in the Assigned Access Levels list below.
Maximum badges to delete when cardholder capacity reached	Enter the number of badges to delete when the panel's cardholder capacity is reached. For example, if this field is set to 30, and the capacity for badges is reached in the panel, then 30 badges that had been added "on-demand" will be deleted starting with those with the oldest expiration date. The minimum value for this field is 1. For more information, refer to Cardholders Added to Panels "On-Demand" on page 962.
Remove expired badges daily	Select this check box to remove expired badges that were added "on-demand" from the panel.
Access Groups	Opens the Select Access Levels in a Group window. Use this window to select the access group whose levels you want to select or unselect. Access levels belonging to the access group will be automatically selected in both the Available and Assigned Access Levels lists.
Available Access Levels	Lists the access levels available for the selected panel. By default, this list will only show access levels that include readers attached to the panel. Alternatively, you can use the **Show all access levels** option. For more information, refer to Show all access levels on page 961.
Assigned Access Levels	Lists the access levels you have assigned for the selective cardholder download.

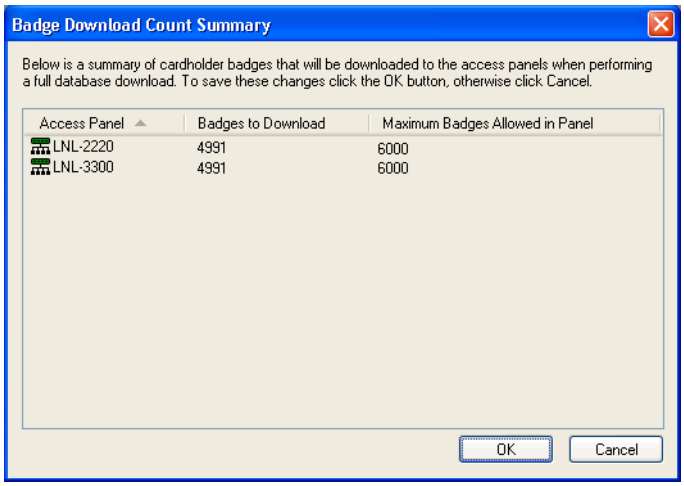
Selective Cardholder Download Form

Form Element	Comment
Show all access levels	Select this check box to view and select from all access levels currently configured in the segment to which the panel belongs. **Note:** When more than one panel is selected, **Show all access levels** is always enabled.
Multiple Selection	If selected, more than one panel in the same segment can be selected simultaneously. The changes made on this form will apply to all selected panels.
Assign	Moves selected entries from the Available Access Levels list to the Assigned Access Levels list.
Remove	Removes selected entries from the Assigned Access Levels list.
Modify	This button is used to change an existing selective cardholder download assignment.
Close	Closes the Selective Cardholder Download folder.
Help	Displays online assistance for this form.

Configuring a Selective Cardholder Download

1. Select an access panel from the Access Panel listing window. The access levels assigned for selective download to that panel will be listed.
2. Click [Modify]. By default, only access levels related to the selected panel will be listed in the Available Access Levels listing window. (Panel-related access levels are those assigned to devices that are defined on the panel.)
3. Optionally, select the **Show all access levels** check box to display all access levels in configured in ReadkeyPRO.
4. Select the **Download only those badges with the selected access levels** check box.
5. Optionally, you can enter the **Maximum badges to delete when cardholder capacity reached**. Use a small enough maximum number so the system does need to spend time deleting a large number of badges if only a few need to be deleted.
6. Optionally, you can choose to remove expired badges from the system (they will be purged from the system nightly) by selecting the **Remove expired badges daily** check box.
7. From the Available Access Levels list, select one or more access levels that you want to assign to the panel.
8. Click [Assign] to move the selected access levels to the Assigned Access Levels list.
9. Click [OK] to save the changes and return to the view mode.
10. If you configured selective download for multiple panels, the Badge Download Count Summary dialog is displayed. Verify that the Badges to

Download is not greater than the Maximum Badges Allowed in Panel, then click [OK] to save the changes.



Cardholders Added to Panels “On-Demand”

Once configured, only cardholders that have an access level assigned in the selective download will be downloaded to the panel during a full database download. You must initiate a database download to the panel manually before any badge filtering is applied.

Cardholders that have an access level that contains one or more readers defined on the panel, but do not exist in the panel due to the selective download configuration, will be added to the panel “on-demand” as they attempt to gain access to the readers that exist for the panel.

A cardholder that is added to the panel “on-demand” may have to use their badge 2 or 3 times before they are downloaded to the panel and granted access.

If a panel that supports selective cardholder downloads reaches its maximum cardholder capacity, the following will occur:

- The Communication Server will delete all badges from the panel that do not have a selective level assigned.
- The Max Cardholders Reached event will be reported in Alarm Monitoring.
- If you have configured this option, a specified number of expired badges will be deleted from the system.

Notes:

When a badge that will be downloaded “on-demand” is presented to one of the readers defined on the panel, the event “Denied, Badge Not In Panel” will be reported in Alarm Monitoring. This event will be reported for each access attempt by the badge until the badge has been successfully downloaded.

The Selective Cardholder Download “on-demand” badge downloading is only supported for direct and LAN connections to the access panel and NOT dialup. The Selective Cardholder Download database download feature is

supported for all connection types, including dialup, assuming a dialup connection has been established with an access panel.

A badge MUST be used for the “on-demand” badge download to work. If a cardholder attempts to gain access to a selective download panel using only a PIN code, the on-demand badge download will not work.

You can configure a Selective Cardholder Download without choosing an access level. If you do this, no badges will be downloaded to a panel during a full database download. They will be downloaded only “on-demand” as long as the badge has access to a reader for the panel.

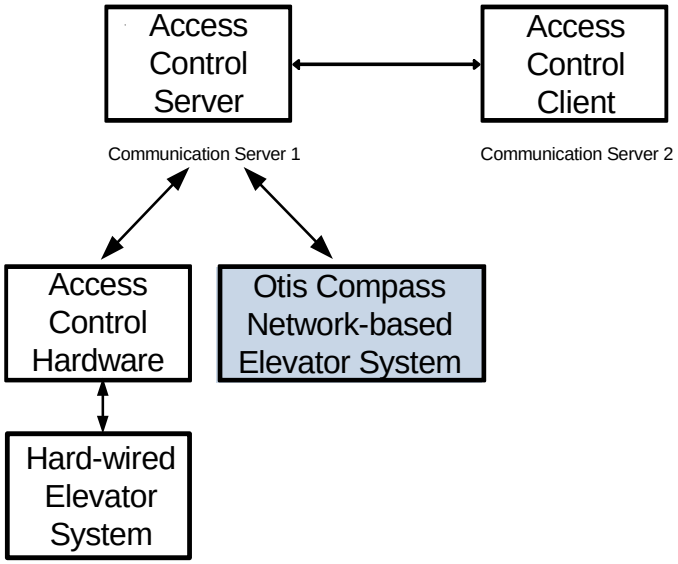
When a badge is added or modified with selective cardholder download enabled, and if the badge has an access level assigned to the panel’s selective download list, the badge will be added to the panel. Otherwise the badge will be deleted from the panel.

Any badge that is only assigned a temporary access level should be removed from the panel after the access level expires.

Chapter 39: Elevator Dispatching Configuration Folder

Notes: This section describes the configuration of an Otis Compass network-based elevator system.

For hard-wired elevator systems: Use the Elevator Hardware form to configure various Bosch hardware solutions including the RKP-1300 panel (6 floors; no floor tracking). For more information, refer to Elevator Hardware Form Procedures on page 789.

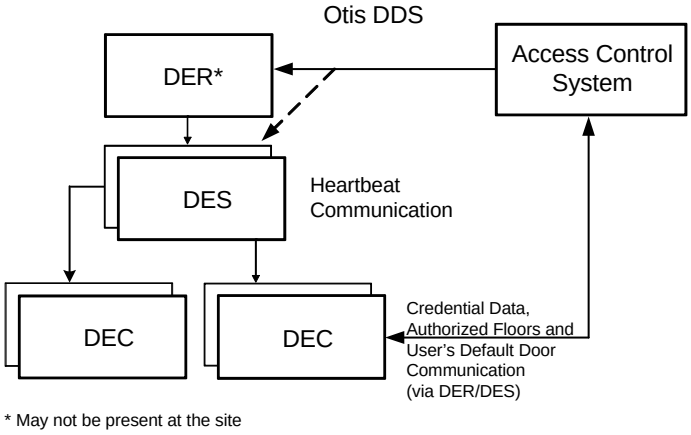


The Elevator Dispatching Configuration form is used to integrate **ReadkeyPRO** with the Otis Elevator's **Destination Dispatch System (DDS)**.

DDS includes the following components:

- **Destination Entry Computer (DEC)** - a touch screen or keypad that acts as a communication channel between the user and an elevator in the system. In ReadkeyPRO, *DEC* is referred to as Elevator Terminal and is configured as a device associated with an Elevator Dispatching Device (DES or DER).
- **Destination Entry Redirector (DER)** - supports elevators (DECs) that are not part of an elevator group. The DER connects to all elevator groups and allows DECs at a common entry point in the building, such as a lobby, to accept destination requests for any floor in the building.

- **Destination Entry Server (DES)** - controls a group of elevators. Each elevator group has a primary DES and, optionally, a standby or backup DES for the situation when the primary DES is down.



This solution addresses the secure access requirements of high-rise buildings as well as efficient movement of traffic to various elevator banks.

Elevator Dispatching Configuration Overview

ReadkeyPRO integrates with DDS by passing information onto the DDS and allowing it to implement its own logic to perform functions, which include determining if an elevator cab is called based on an access attempt or if a person is allowed to proceed to a floor without presenting any security credentials.

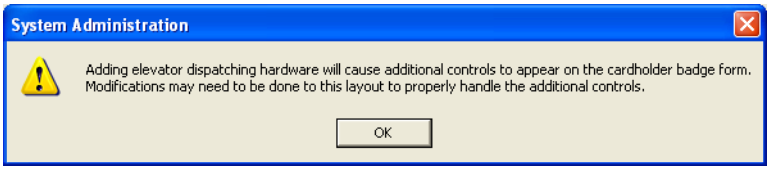
Note: It must be noted that the DDS is composed of many third-party hardware devices. ReadkeyPRO is not responsible for the operation, setup, or configuration of these third-party hardware devices. ReadkeyPRO is just transmitting messages to the DDS.

Elevator Dispatching User Permissions

Permissions for elevator dispatching can be given or restricted through System Administration. From the **Administration** menu select **Users**. On the **System Permission Groups** tab, you can grant or deny elevator dispatching. For more information, refer to System Permission Groups Form Overview **on page 422.**

Elevator Dispatching and the Cardholder Badge

The first time you configure elevator dispatching hardware, additional controls are automatically added to the Cardholder Badge form and the following message is displayed:



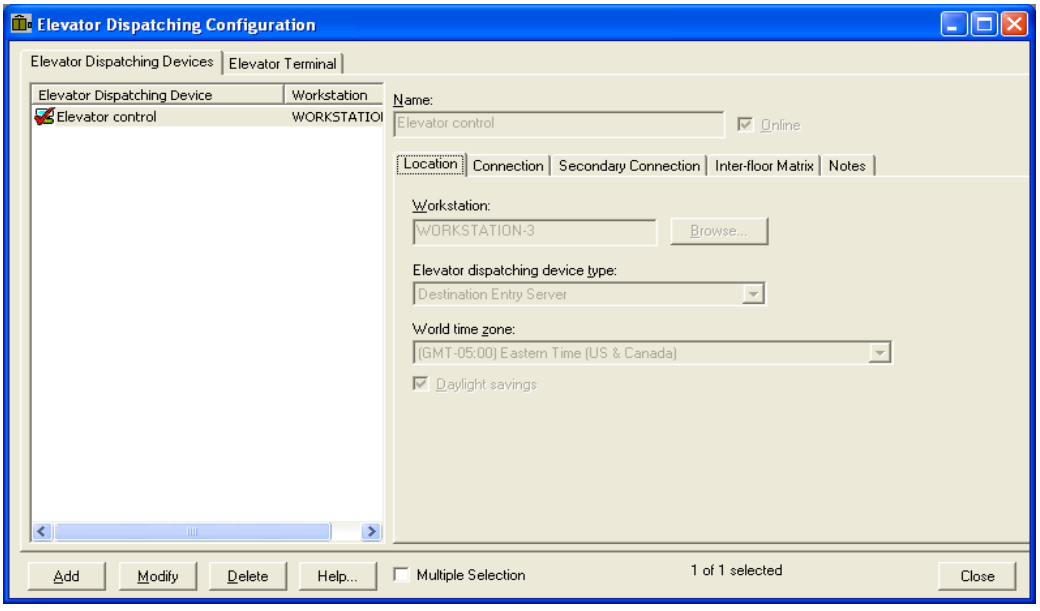
Important: Check the Cardholder Badge form to ensure the additional controls do not interfere with the existing fields. If necessary, use FormsDesigner to adjust the Badge form layout.

Enterprise systems: In Enterprise environments, it is required that all forms changes be done at the Master. Therefore, when adding Elevator Dispatching hardware to a Region, the additional controls are not added automatically. As part of setting up the system, you must use FormsDesigner to add the following **System Objects** (**Default floor** and **Default door**) to the Master database, and then replicate the forms down to all Regions. For details on how to add system objects to forms, refer to the Form Editing Procedures chapter in the *FormsDesigner User Guide*.

Cardholder Badge Form Configuration Instructions

In the System Administration menu bar, select **Administration** > **Cardholders**. On the Badge sub-tab, the **Default floor** field and **Default door** drop-down allow you to configure the cardholder's default floor and elevator door. For more information, refer to Chapter 3: Badge Form (Modify Mode) on page 142.

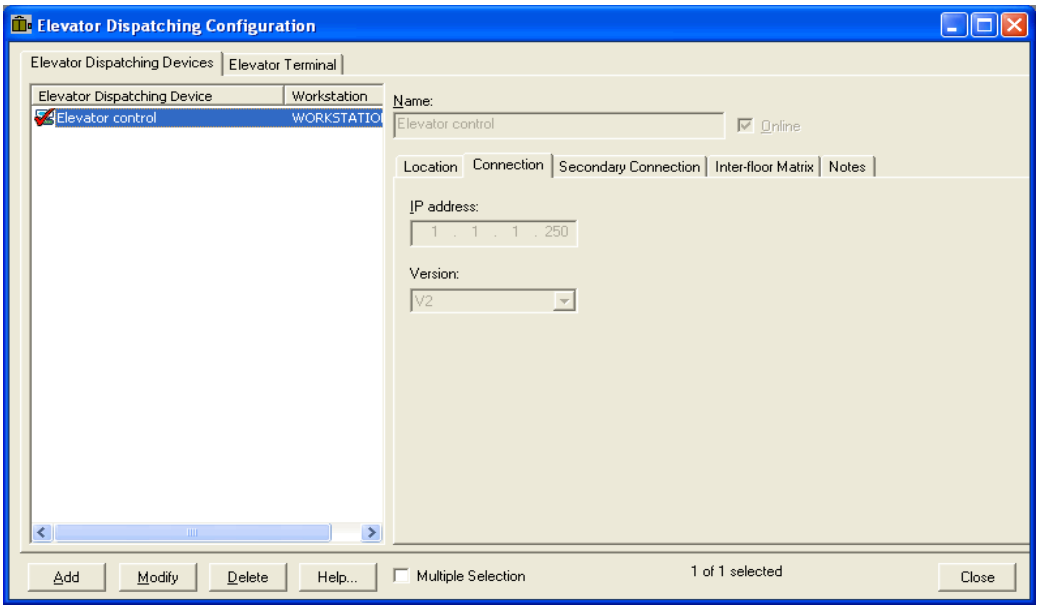
Elevator Dispatching Devices Form (Location Sub-tab)



Elevator Dispatching Devices form - Location Sub-tab

Form Element	Comment
Listing window	Lists currently defined elevator dispatching devices and the name of the workstation that is connected to each.
Name	Identifies the name of the elevator dispatching device. This is a “friendly” name assigned to each elevator dispatching device to make it easy to identify. Each name must be unique.
Online	If selected, the elevator dispatching device will be online. Online indicates that the elevator dispatching device is ready for use, and that the Communication Server will attempt to communicate with the device. If the elevator dispatching device is not marked as online, the Communication Server will not attempt to communicate with the panel.
Workstation	Select the workstation or server to which the elevator dispatching device is or will be connected in order to transfer events/commands. The Communication Server must be present on the specified workstation. You can either type the name in the field, or use the [Browse] button to view a list of available workstations.
Elevator dispatching device type	Choose either: • Destination Entry Server. This is a server that controls a group of elevators and is responsible for communicating with Destination Entry Computer (DEC) keypad terminals. • Destination Entry Redirector. This is a server that is associated with all elevator groups in an entire building. This can communicate with global Destination Entry Computer (DEC) elevator terminals.
World time zone	Select the world time zone for the selected elevator dispatching device’s geographical location. The selections in the drop-down list are listed sequentially, and each includes: • The world time zone’s clock time relative to Greenwich Mean Time. For example, (GMT+05:00) indicates that the clock time in the selected world time zone is 5 hours ahead of the clock time in Greenwich, England. • The name of one or more countries or cities that are located in that world time zone. **Note:** The world time zone is only used for reporting purposes on the elevator dispatching server side.
Daylight savings	Select this check box if Daylight Savings Time is enforced in the selected elevator dispatching device’s geographical location.

Elevator Dispatching Devices Form (Connection Sub-tab)

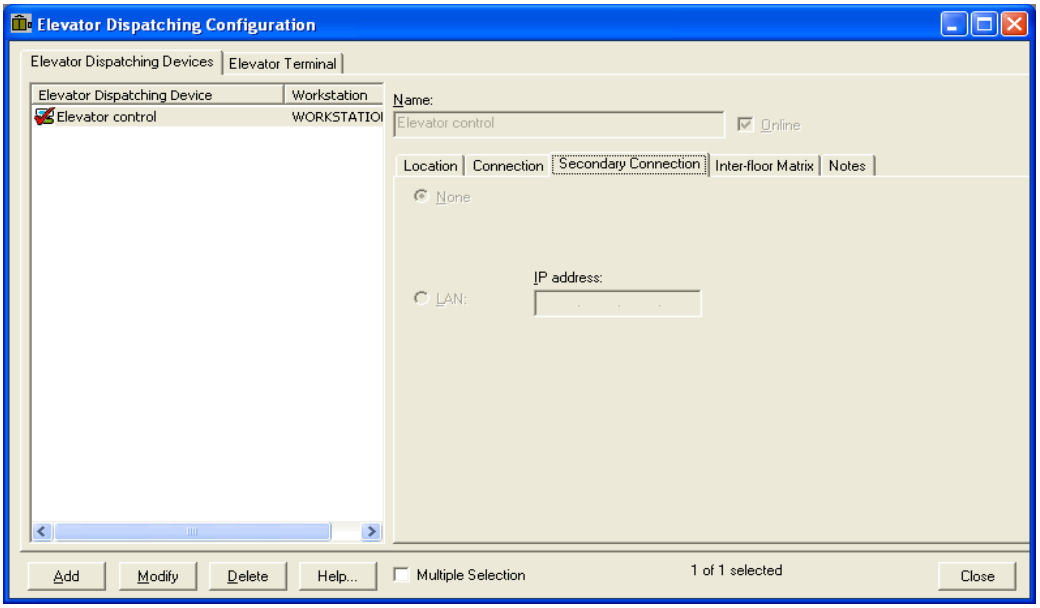


Elevator Dispatching Devices form - Connection Sub-tab

Form Element	Comment
IP address	Enter the Internet Protocol (TCP/IP) address for the elevator dispatching device, as provided by your LAN Network Administrator. An IP address consists of four numbers, each in the range of 0 through 255. A period separates each number. The elevator dispatching device itself must be configured to have the same IP address as what you enter in this field. Refer to the Hardware Installation Guide to program the IP address for the elevator dispatching device.
Version	Select which version of the DES or DER firmware and their associated DEC devices are installed in your system. Both “V1” and “V2” systems are supported. **Note:** If version V1 does not fully support a feature in ReadkeyPRO, only the applicable information will be sent to the V1 devices (V2-specific settings will be ignored.)

Elevator Dispatching Devices Form (Secondary Connection Sub-tab)

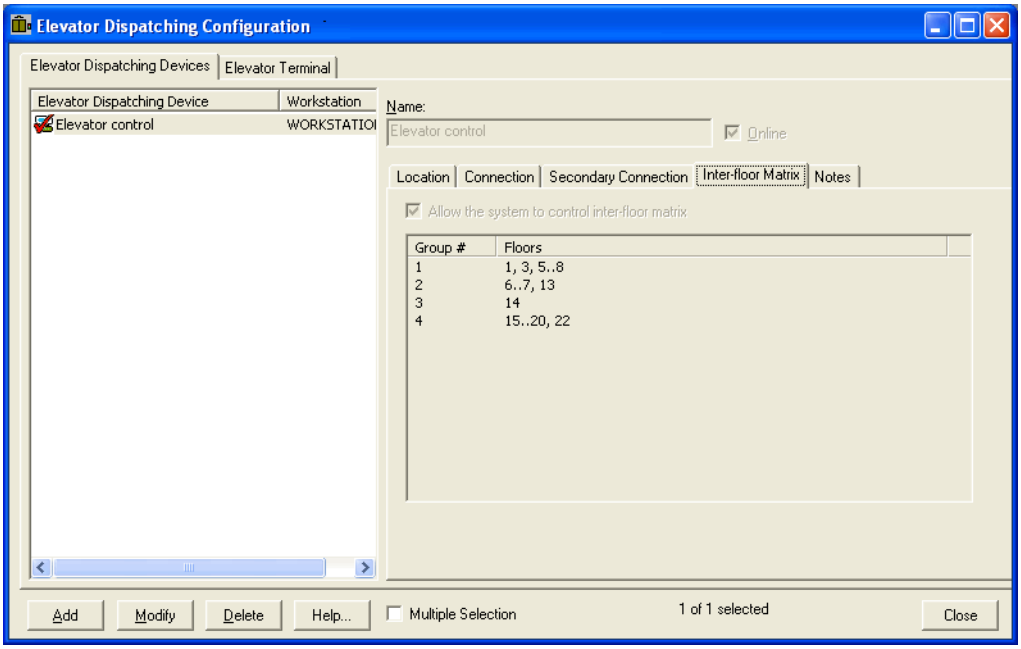
Note: The secondary connection is used when the primary connection fails.



Elevator Dispatching Devices form - Secondary Connection Sub-tab

Form Element	Comment
None	Select if you do not want a secondary connection.
LAN	Select this radio button so the workstation can communicate with the elevator dispatching device over a Local Area Network. You must also specify the workstation's IP address.
IP address	The secondary IP address only applies to a DES that is configured as a failover DES. This is the DES that takes over in the event that the primary DES goes offline. Enter the Internet Protocol (TCP/IP) address for the elevator dispatching device, as provided by your LAN Network Administrator. An IP address consists of four numbers, each in the range of 0 through 255. A period separates each number. The elevator dispatching device itself must be configured to have the same IP address as what you enter in this field. Refer to the Hardware Installation Guide to program the IP address for the elevator dispatching device.

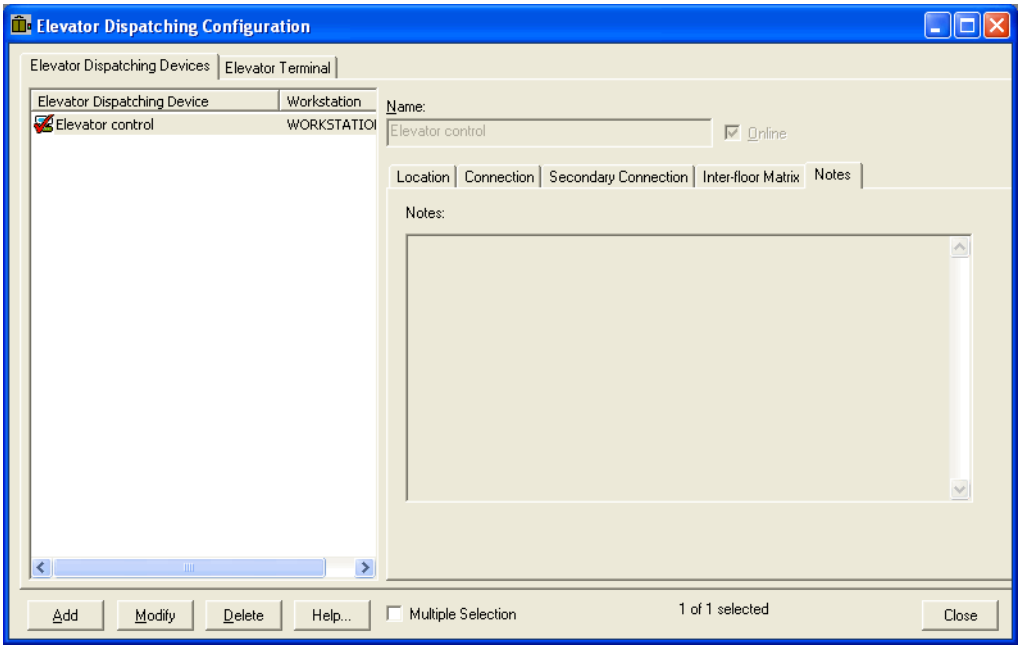
Elevator Dispatching Devices Form (Inter-floor Matrix Sub-tab)



Elevator Dispatching Devices form - Inter-floor Matrix Sub-tab

Form Element	Comment
Allow the system to control inter-floor matrix	Select this check box to use ReadkeyPRO to configure the floors of a building into logically divided sections (floor groups) to prevent passenger requests between the designated sections of the building, and possibly, to separate passengers into different elevator cars based on their section membership. Examples: • A 10-story apartment building is configured into two apartment complexes (sections). The first complex consists of apartments located on floors 2 through 5. The second complex consists of apartments on floors 6 through 10. In this scenario, if a passenger request is made at floor 2, the elevator will only serve floors 3, 4, or 5. If a passenger request is made at floor 6, the elevator will only serve floors 7, 8, 9, or 10. • VIP clients of a building or business are granted exclusive access to an elevator car. **Note:** This check box is only available for version "V2" DES devices.
Listing window (inter-floor matrix)	In the add or modify mode, allows you to specify up to four (4) floor groups per DES. In the view mode, lists the currently defined floor groups. • **Group #** - Identifies the group of floors (section) of the building. The group number is automatically generated when you add a new group. • **Floors** - Specifies the floor numbers in the group.

Elevator Dispatching Devices Form (Notes Sub-tab)



Elevator Dispatching Devices form - Notes Sub-tab

Form Element	Comment
Notes	Enter information about the panel. This field is limited to less than 2000 characters. Any text that is entered here will be displayed in Alarm Monitoring. For more information, refer to the procedure to View Notes in the Alarm Monitoring User Guide.

Elevator Dispatching Devices Form Procedures

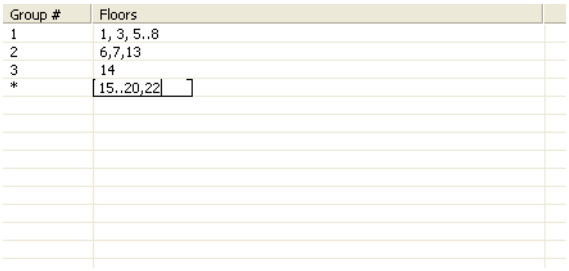
Add an Elevator Dispatching Device

1. Display the Elevator Dispatching Configuration folder by selecting **Elevator Dispatching** from the **Access Control** menu. Make sure the Elevator Dispatching Devices tab is selected.
2. Click [Add].
3. In the **Name** field, type a unique, descriptive name for the elevator dispatching device.
4. If you want to place the elevator dispatching device online immediately, select the **Online** check box. Typically, you wouldn't check this box when

configuring the system, but instead would wait until you're ready to put the panel into service.

5. Specify communication parameters on the **Location**, **Connection**, and **Secondary Connection** sub-tabs.
6. For version V2 DES devices only: If you are configuring passenger separation, complete the following steps on the **Inter-floor Matrix** sub-tab:
   a. Select the **Allow the system to control inter-floor-matrix** check box.
   b. Double-click in the add row (*) to add a group of floors.
   c. Type the floor numbers you want to include in the group. The floor numbers must be comma-separated and sequential floor numbers can be entered as a range of numbers. For example, if Group # 4 includes floor numbers 15, 16, 17, 18, 19, 20, and 22, you can type this information as follows:

      `15..20,22`



Note: Whichever format you use to type the floor numbers (individually or as a range of numbers), the system will merge consecutive floor numbers into the range format. For example, if you type `2..10,11,15` and then click [OK] to save the form, the results will display as `2..11,15`.

   d. Press <Enter>. The **Group #** will be generated automatically.
   e. Continue using the add row (*) to add more floor groups until you have configured all of the elevator's floor groups.

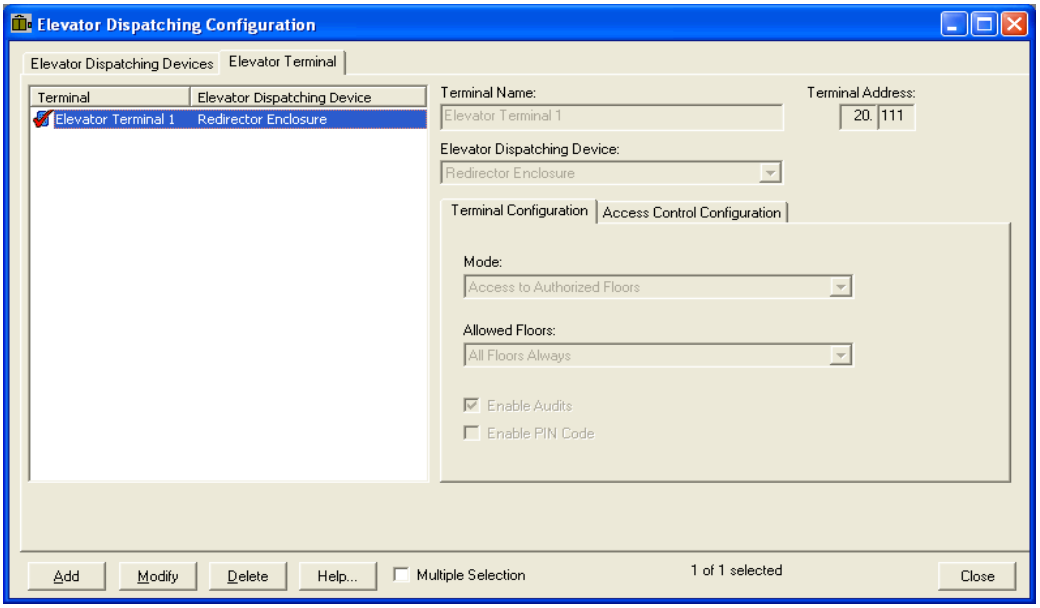
Note: Each DES elevator dispatching device can have up to four (4) floor groups configured for it.

7. Click [OK].

Enter Notes

1. In the listing window, select the entry you want to edit.
2. Click [Modify].
3. Type the information in the Notes field. This note will be able to be displayed in Alarm Monitoring.
4. Click [OK].

Elevator Terminal Form (Terminal Configuration Sub-tab)



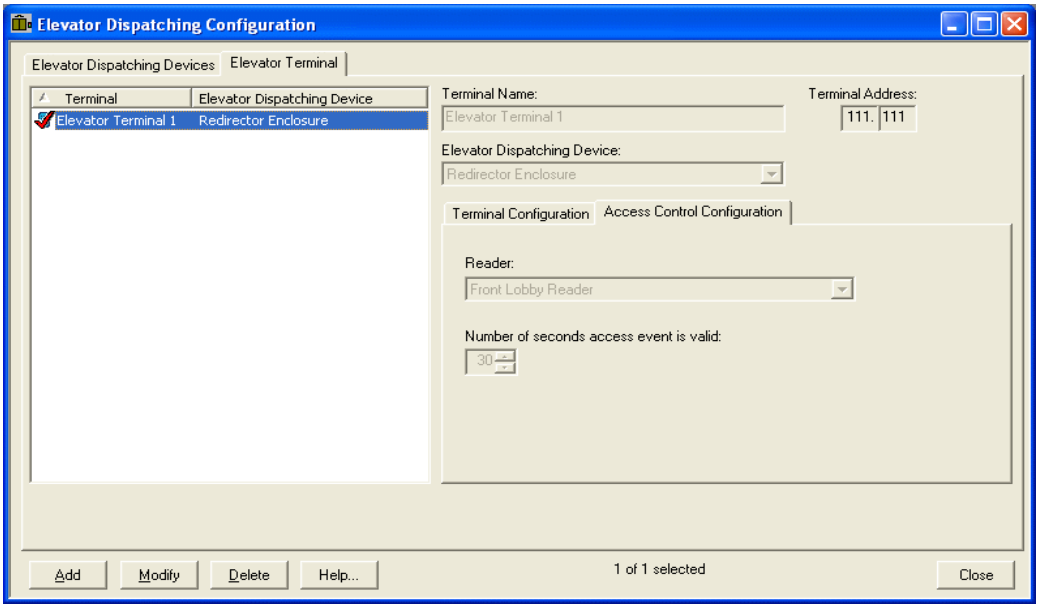
Elevator Terminal form - Terminal Configuration Sub-tab

Form Element	Comment
Listing window	Lists currently defined elevator terminal devices and the name of the elevator dispatching device to which each is associated.
Terminal Name	Identifies the name of the terminal. This is a “friendly” name assigned to each terminal to make it easy to identify.
Terminal Address	Enter the last two sets of numbers from the IP address of the terminal.
Elevator Dispatching Device	Choose the Elevator Dispatching Device that is used with the terminal.

Elevator Terminal form - Terminal Configuration Sub-tab

Form Element	Comment
Mode	Refers to operational modes which dictate how the elevator terminal interacts with the cardholder. Choose from: • **Access to Authorized Floors:** When the cardholder presents a valid badge to the elevator reader, and then selects an authorized floor, the system calls the authorized floor. • **Default Floor Only:** When the cardholder presents a valid badge to the elevator reader, or enters a valid PIN code or floor number on the DEC (elevator terminal), the system calls the default floor. • **Default Floor or User Entry of Destination Floor:** When the cardholder presents a valid badge to the elevator reader, the system calls the cardholder's default floor. Within a configurable timeout period, the cardholder can override the default floor call by entering another floor number. • **User Entry of Destination Floor:** The cardholder has the option to select a floor with or without presenting their badge to the elevator reader. If the selected floor is an allowed floor, the system calls the floor. If the floor is a non-allowed floor, the cardholder is requested to present their badge.
Allowed Floors	Allowed floors are floors that can be accessed via the elevator terminal without supplying security credentials. An example may be a common floor such as a lobby or parking garage. Select from the user-defined or system (“All Floors Always” and “No Floors”) entries.
Enable Audits	Select to allow events to be sent from the DEC (elevator terminal) to Alarm Monitoring. **Note:** This feature is only available for elevator terminals associated with version “V2” DES or DER devices.
Enable PIN Code	Select to allow the cardholder to enter their personal identification number (PIN) from the DEC (elevator terminal). If a valid PIN code is entered, ReadkeyPRO will send the authorized floors to the DEC based on the badge's access levels. **Note:** This feature is only available for elevator terminals associated with version “V2” DES or DER devices.

Elevator Terminal Form (Access Control Configuration Sub-tab)



Elevator Terminal form - Access Control Configuration Sub-tab

Form Element	Comment
Reader	Select the reader that is to be associated with the elevator terminal. Any access activity, from the reader, that is specific to the Destination Dispatching System will be sent to the elevator terminal. **Note:** For the configured elevator to receive a call from ReadkeyPRO, an access granted with access event type must be received for the reader assigned to the elevator.
Number of seconds access event is valid	Sets the time frame (in seconds) for which an access attempt is considered valid if the reader/ host goes offline.

Elevator Terminal Form Procedures

Add a Terminal

1. Display the Elevator Dispatching Configuration folder by selecting **Elevator Dispatching** from the **Access Control** menu. Make sure the Elevator Terminal tab is selected.
2. Click [Add].
3. In the **Terminal Name** field, type a unique, descriptive name for the elevator terminal.
4. Specify the terminal address.
5. Specify what elevator dispatching device the terminal will be associated with by using the **Elevator Dispatching Device** drop down box.
6. Specify the options on the **Terminal Configuration** and **Access Control Configuration** sub-tabs.
7. Click [OK].

Monitoring

Chapter 40: Alarm Configuration Folder

The Alarm Configuration folder contains forms with which you can:

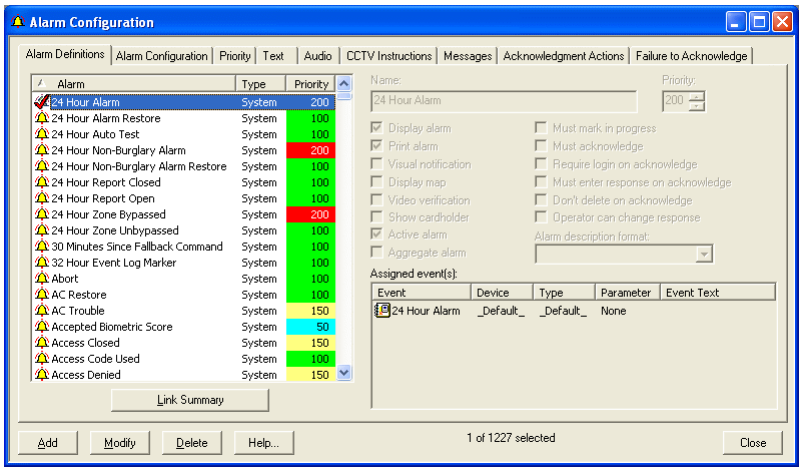
- Define a set of alarms that can be sent to an alarm monitoring workstation.
- Define alarm links for each alarm (the set of events that cause that alarm to be sent.) The set of events for an alarm can be optionally restricted to:
  - Events with certain parameter values (parameter-based events).
  - Events generated by specific hardware (within that segment if the database is segmented).
- Define custom alarms (not defined in the ReadkeyPRO database by default).
- Define how alarm monitoring stations display alarms.
- Assign a priority to an alarm.
- Select options that control the behavior of an alarm in Alarm Monitoring
- Group linked hardware devices with custom alarms.
- Password-protect alarm display and acknowledgment.
- For a particular alarm, specify text, sound, and camera instructions for monitoring purposes.
- Assign e-mail and page messages to an alarm.
- Link actions to alarms such that when an alarm is acknowledged the corresponding actions will be performed.

The folder contains eight forms: the Alarm Definitions form, the Alarm Configuration form, the Priority form, the Text form, the Audio form, the CCTV Instructions form, the Messages form and the Acknowledgment Actions form.

Toolbar Shortcut

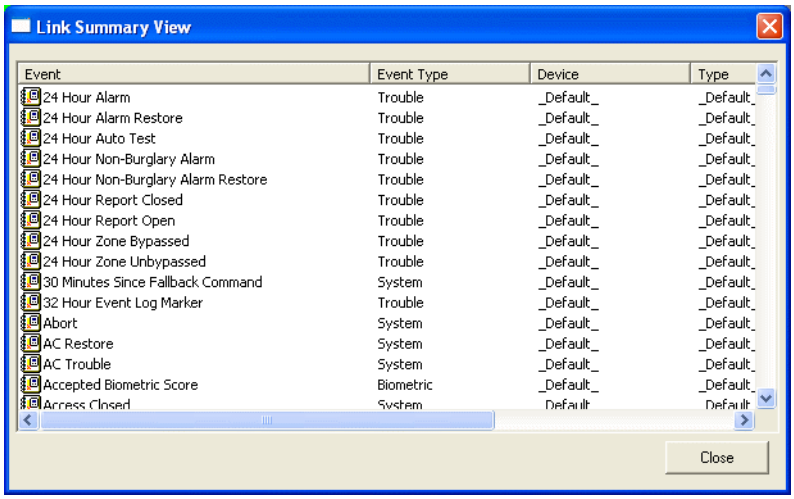
The Alarm Configuration folder is displayed by selecting **Alarms** from the **Monitoring** menu or by selecting the Alarms toolbar button.

Alarm Definitions Form (View Mode)

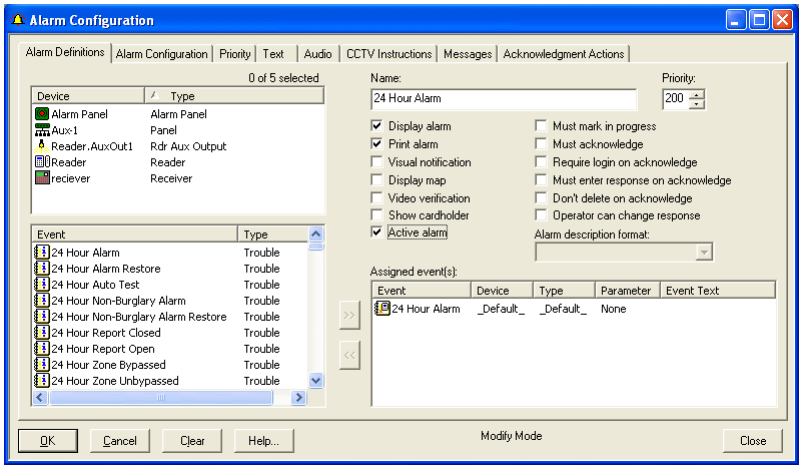


Link Summary View Window

This window is opened by clicking the [Link Summary] button on the Alarm Definitions form.



Alarm Definitions Form (Modify Mode for Normal Events)



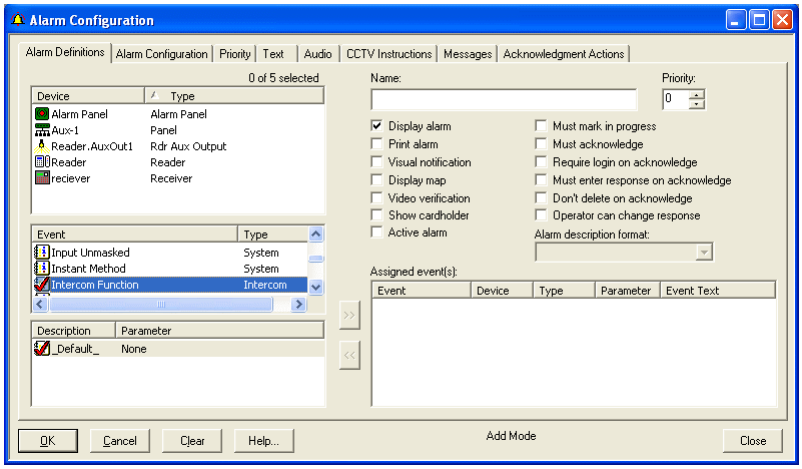
Alarm Definitions Form (Modify Mode for Parameter-Based Events)

To open the Alarm Definitions form in modify mode for parameter-based events:

1. Click [Add] when the Alarm Definitions form is in view mode, and the display will change to Add (edit) mode for normal events.
2. In the Events display field, select a parameter-based event. (**Intercom Function**, **Transmitter Alarm**, **Transmitter Alarm Restored**, **Transmitter Low Battery**, **Transmitter Low Battery Restored**, **Transmitter Pre-Tilt**, **Transmitter Pre-Tilt Restored**, **Transmitter Pull Cord Alarm**, **Transmitter Pull Cord Restored**, **Transmitter Tamper**, **Transmitter Restored**, **Transmitter Tilt Disable**, **Transmitter Tilt**, **Transmitter Tilt Disabled**, **Transmitter Tilt Enabled**, **Transmitter Tilt**

Restored, **Trouble Acknowledge**, **Trouble In**, and **Trouble Out** are the only parameter-based events.)

3. The **Access Control Events** display field will get smaller, and the **Event Parameters** display field will appear. The form will look like the following:



Alarm Definitions Form Overview

This form is used to:

- Assign a priority to an alarm.
- Select options that control the behavior of the alarm in Alarm Monitoring.
- Link specific hardware devices with events, and group them into custom alarms.

Alarm Definitions Form Field Table

Alarm Configuration Folder - Alarm Definitions Form

Form Element	Comment
Display alarm	If selected, the alarm will be displayed on an alarm monitoring workstation when the corresponding event is triggered. If this box is not selected, such alarms will not be displayed in the listing.
Print alarm	If selected, a one-line entry will automatically be printed to an activity printer at an alarm monitoring workstation when the corresponding event is triggered. An activity printer must be configured for the monitoring workstation via the Workstations form in the System Configuration folder.
Visual notification	When the alarm arrives, the Main Alarm Monitor window will be displayed in the foreground on the Alarm Monitoring workstations. This feature can be disabled in Alarm Monitoring.
Display map	If selected, the monitoring map that contains the alarm's location is associated with that alarm. If the automatic map display option in Alarm Monitoring is also checked, a map will automatically display when that alarm occurs. This automatic map display feature can be disabled in Alarm Monitoring. • If this check box is selected in System Administration and in Alarm Monitoring, the map displays. • If this check box is selected in System Administration and not selected in Alarm Monitoring, no map displays. • If this check box is not selected in System Administration and not selected in Alarm Monitoring, no map displays. • If this check box is not selected in System Administration and selected in Alarm Monitoring, no map displays.
Video verification	Select if you want to show the video verify view for a given alarm upon arrival. The video verify view is only displayed if the alarm is so configured and if the instance of the alarm deals with a reader. A video board must be configured for the monitoring workstation via the Workstations form in the System Configuration folder.
Show cardholder	Select if you want to show the cardholder view for a given alarm upon arrival. If the cardholder screen is already being displayed when such an alarm comes in, it is brought to the foreground and the new cardholder associated with the alarm is searched. The cardholder screen is shown only if the alarm is so configured AND the instance of the alarm deals with a badge ID.

Alarm Configuration Folder - Alarm Definitions Form (Continued)

Form Element	Comment
Active alarm	Selecting this check box produces the following effects in Alarm Monitoring: This alarm, when it occurs, will be highlighted in the Main Alarm Monitor window. The color of the highlight is determined by the priority value associated with the particular alarm. Priority values are specified on this form, but the color displayed for a given value is assigned on the Priority form of this folder. When this alarm occurs, animation displayed on the monitoring map for the associated device will indicate the location of the alarm. Next to the device icon, the word “Alarm” will grow to a maximum size, then the animation will pause before restarting.g
Aggregate alarm	Select this check box to combine all alarms of this type into one alarm in Alarm Monitoring. The alarm window columns will display the most recent alarm info. Actions will still be applied for individual alarms. Aggregation is only applied to the Main Alarm window, users can still perform a trace to see all alarms. **Note:** After selecting this check box for an alarm, the alarm configuration must be refreshed in Alarm Monitoring before aggregation of alarms will begin.
Must mark in progress	Selecting this check box requires the alarm to be marked “in progress” in Alarm Monitoring. When the **Must mark in progress** check box is checked the **Must acknowledge** check box is automatically checked too.
Must acknowledge	When the alarm arrives: The alarm must be acknowledged before it can be deleted. If it’s an initiating alarm, the canceling alarm won’t be displayed until the initiating alarm is acknowledged.
Require login on acknowledge	If selected, the operator will be required to log in when (s)he attempts to acknowledge this alarm. The operator can log in using the same or a different user ID from that which was used at initial login. This login is used only for logging transactions related to the acknowledgment of the alarm.
Must enter response on acknowledge	If selected, the operator must enter an alarm response in the **Notes** field of the Alarm Acknowledgment window before the alarm can be acknowledged.
Don't delete on acknowledge	By default, an alarm is automatically deleted from the Main Alarm Monitor window upon acknowledgment. If this check box is selected, an acknowledged entry will be marked with a checkmark (√), but won't be deleted automatically. The operator must manually remove it by selecting **Delete** from the **Edit** menu. It is important to note, however, that a canceling alarm will always automatically delete its corresponding initiating alarm (unless the operator deletes it first). The exception to this is an alarm for which the “Must acknowledge” check box is selected. A canceling alarm won’t delete such a Must acknowledge initiating alarm if it is unacknowledged.
Operator can change response	If selected, the operator will be able to change the information entered in the Alarm Acknowledgment window.

Alarm Configuration Folder - Alarm Definitions Form (Continued)

Form Element	Comment
Alarm description format	The **Alarm description format** drop-down box controls what is displayed as the alarm description in Alarm Monitoring when a generic event is received. This field only applies to generic events. Choices include: • **Event Text Only**: displays the first line of the event text as the alarm description in Alarm Monitoring. This is the default • **Alarm Name Only**: displays the alarm name as the alarm description in Alarm Monitoring. • **Alarm Name - Event Text**: displays both the alarm name and event text as the alarm description in Alarm Monitoring. • **Event Text - Alarm Name**: displays both the event text and alarm name as the alarm description in Alarm Monitoring.
Alarm description	(view mode only) Lists currently defined alarms, and the type (alarm category) and priority of each alarm.
Name	Indicates the alarm's name. This is the name that will appear in the listing window. Note that some names seem to go together. For example, “Door Held Open” and “Door Held Open Canceled”. These are, respectively, an *initiating alarm* and a *canceling alarm*. Some options selected on this form affect these paired alarms, as noted in this field table. You can also use this form to create custom alarms with more distinctive or eye-catching names such as “Unauthorized Access - President’s Office”.
Priority	Indicates a priority level for this alarm. You can choose a value in the range of 0 through 255. The priority is highlighted (reverse video) in the color assigned to the value, as specified on the Priority form of this folder. You can view priority assignments and colors for alarms by clicking on the Priority column heading in the alarm description field on this form. This sorts the entries in priority order.
Assigned Event(s)	Lists all event-hardware assignments for the current alarm. Each entry is preceded by an  icon, and includes the name of the event, name of the specific hardware device, and the device type.
Link Summary	(displayed only in view mode) Displays the Link Summary View window, which lists all currently defined event-hardware-alarm assignments.

Alarm Configuration Folder - Alarm Definitions Form (Continued)

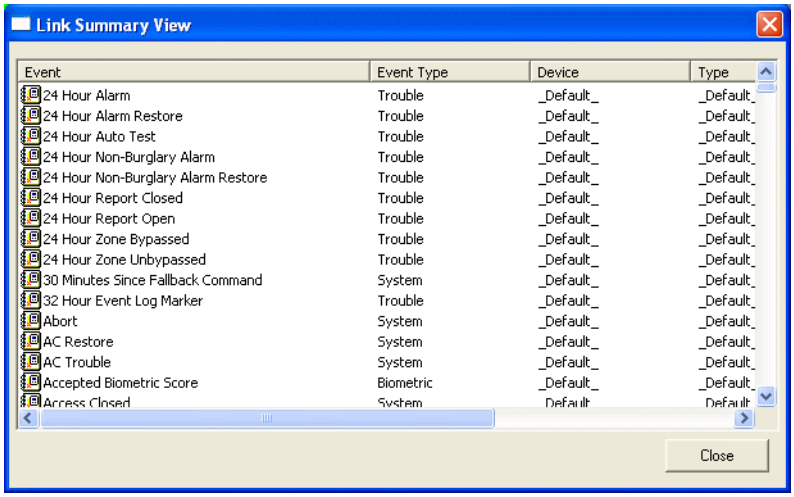
Form Element	Comment
Hardware Devices	(displayed only in modify mode) Lists currently defined hardware devices by name and device type. The icon that precedes each entry indicates the device type, as follows: •  access panel •  alarm panel •  alarm input or reader auxiliary input •  alarm output or reader auxiliary output •  reader
Access Control Events	(displayed only in modify mode) Lists all currently defined events by name and event type. An  icon precedes each entry.
Event text	(displayed only if the Invalid Badge event is selected.) Used to specify event text that is used for an invalid badge event. To use this feature it must be enabled on the General Cardholder Options form. For more information, refer to General Cardholder Options Form on page 498.
Event Parameters	(displayed only in modify mode for parameter-based events) Lists all currently defined event parameters by description and parameter number. An  icon precedes each entry.
	(displayed only in modify mode) Used to assign device-event pairs to the current alarm. The pairs are added to the **Assigned Event(s)** window.
	(displayed only in modify mode) Used to remove device-event assignments from the current alarm. The pairs are removed from the **Assigned Event(s)** window.
Add	Used to add a custom alarm.
Modify	Used to change an Alarm Description entry.
Delete	Used to remove an Alarm Description entry.
Help	Displays online assistance for this form.
Close	Closes the Alarm Configuration folder.

Alarm Definitions Form Procedures

For more information, refer to Appendix B: Alarm/Event Descriptions on page 1313.

View Device-Event-Alarm Links

The **Assigned Events** window shows you the device-event assignments for the currently selected alarm only. You can also display a list of ALL hardware device-event assignments for ALL alarm records by clicking on [Link Summary]. This opens the Link Summary View window.



Each row describes one **Assigned Event** for a specific alarm, with information arranged in the following columns:

- **Event** - event name
- **Event Type** - event category
- **Hardware Name** - device name (or "Default" for a default system alarm's **Assigned Event**)
- **Type** - device type (or "Default" for a default system alarm's **Assigned Event**)
- **Alarm** - the alarm to which the device-event pair is assigned

Note: "Default" device types can now be used for custom alarms. In previous versions of ReadkeyPRO you were not allowed to create new custom alarms with the "Default" device because it would be duplicating the default alarms that are already in the system. Now with the addition of event parameters you are able to create custom alarms using the "Default" device types.

Click on a column heading to sort the window's contents by that column. This gives you the flexibility to obtain information such as:

- For a specific event (“Cabinet Tamper”, for example) you can find out which alarms will be triggered.
- For a specific piece of hardware (“Vault Motion Detector”, for example) you can find out which alarms have been created.

Generic Events

The Generic Event event conveys no information other than to indicate that an event has occurred. Once you modify the Generic Event event to run after a certain alarm is triggered you can create a text entry to match the action. For example you could create a Generic Event event for a fire alarm on the first floor of your building. You could then create a text entry “Fire alarm - First floor.”

When creating a Generic Event event you are presented with a drop-down list with your text entries. You select the “Fire alarm - First floor” and that becomes the Generic Events event text. Once that Generic Event is triggered the event text is matched to the text library. If a match is found, the alarm specified with that event text is shown in Alarm Monitoring.

For more information, refer to Chapter 20: Text Library Folder on page 579.

Parameter-Based Events

The Alarm Definitions form also allows you to configure custom alarms for parameter-based events. Examples of devices that use parameter-based events include the Pyrotronics Fire panel, and the Visonic SpiderAlert hardware.

“Trouble In”, “Trouble Out” and “Trouble Acknowledge” are parameter-based events for Pyrotronics Fire panels. Currently all of the Pyrotronics parameters are pre-defined in the ReadkeyPRO database and cannot be modified. For more information, refer to Chapter 44: Fire Panels Folder on page 1061.

“Intercom Function” is a parameter-based event for intercoms. For more information, refer to Intercom Functions Form on page 1087.

“Verified” is a parameter-based event for Visonic SpiderAlert transmitters that indicates if the event was received by an infra-red receiver.

Add a Custom Alarm

Note: “Default” device types can now be used for custom alarms. In previous versions of ReadkeyPRO you were not allowed to create new custom alarms with the “Default” device because it would be duplicating the default alarms

that are already in the system. Now with the addition of event parameters you are able to create custom alarms using the “Default” device types.

1. In the **Monitoring** menu, select **Alarms**. The Alarm Definitions folder opens.
2. Click [Add].
3. In the **Name** field, type a unique, descriptive name for this alarm.
4. In the **Priority** field, choose a priority to assign to this alarm. The lowest priority that can be assigned is 0, the highest is 255.
5. Below the **Priority** field, select the check box(es) that indicate how you want the alarm to be presented to an Alarm Monitoring station user.

Note: The **Alarm description format** drop-down list applies to generic events only.

6. To assign a device-event linked pair to this alarm:
   a. Select the name of the device in the **Hardware Devices** window. If you wish to link more than one device to the same event, you can select all those devices in this step.
   b. In the **Access Control Events** window, select the event you wish to link to the selected device(s).
      - If the event you selected is parameter-based, the **Access Control Events** window will get smaller, and the **Event Parameters** display field will appear below it. The *Alarm Definitions form (modify mode for parameter-based events)* illustration demonstrates this.
        In the **Event Parameters** display field, select the event parameter you want to be linked with the device-event linked pair.
      - If the event you selected was the Generic Event, then select the event text in the **Event text** drop-down list box.
7. Click on the assign button,  . The **Assigned Event(s)** window will display one entry for the hardware device-event pair you selected. If you selected multiple devices for this event, each will have its own entry.
8. Repeat steps 6 and 7 for each additional event you want to assign to this alarm.
9. To remove one or more device-event assignments from this alarm, select the device-event entry (or entries) in the **Assigned Events** window, then click on the remove button,  . The entry will be removed from the **Assigned Events** window.

Notes: You cannot remove any of the **Assigned Events** from default system alarms, which are included in the database at the time of installation. If you attempt to delete such an alarm, the following message will be displayed:

"This default assignment is a system default. You cannot remove it!"

You cannot remove all of an alarm's assigned device-events (even if it's a custom alarm). An alarm must have at least one entry in the **Assigned Events** window.

10. Click [OK].

Modify an Alarm Definition Record

1. In the **Monitoring** menu, select **Alarms**. The Alarm Definitions folder opens.
2. In the alarm description window, select the name of the alarm entry you wish to change.
3. Click [Modify].
4. Make the changes you want to the fields.

Note: The **Alarm description format** drop-down list can be modified for generic events only.

5. Click [OK].

Delete an Alarm Definition Record

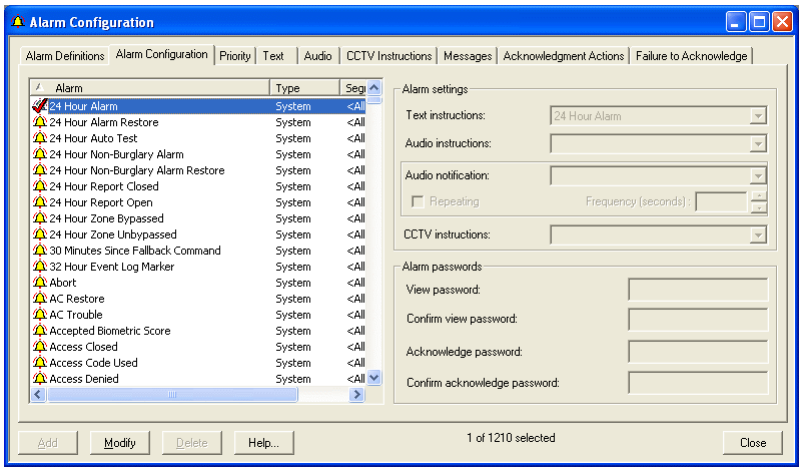
1. In the **Monitoring** menu, select **Alarms**. The Alarm Definitions folder opens.
2. In the alarm description window, select the name of the alarm entry you wish to delete.
3. Click [Delete].

Notes: You cannot delete any of the default *system alarms*, which are included in the database at the time of installation. If you attempt to delete such an alarm, the following message will be displayed:

"This is a system entry that cannot be deleted!"

4. Click [OK].
5. Click [Yes] when prompted to proceed with the deletion.

Alarm Configuration Form



Alarm Configuration Form Overview

This form is used to:

- Password-protect alarm display and acknowledgment
- For a particular alarm, specify text, sound, and camera instructions for monitoring purposes

Alarm Configuration Form Field Table

Alarm Configuration Folder - Alarm Configuration Form

Form Element	Comment
Text instructions	Indicates the text instructions that will be provided to the monitoring stations when this alarm occurs. Choices include the names of all currently defined text instruction records, defined on the Text form. For this reason, only Text records that have “Instruction” selected in the **Type** field will be listed here.
Audio instructions	Audio instructions are played when the Audio button in the Acknowledgement dialog is selected. Choices include the names of all currently defined audio instruction records, defined on the Audio form. For this reason, only Audio records having the **Instruction** radio button selected will be listed here.
Audio notification	Selects the audio announcement that will be made at the monitoring stations when this alarm occurs. Choices include the names of all currently defined audio notification records, defined on the Audio form. For this reason, only Audio records having the **Notification** radio button selected will be listed here. The audio notification will play once unless the **Repeating** check box is selected.
Repeating	Available only if an audio notification is selected from the **Audio notification** drop-down list. If selected: when the alarm occurs, the audio notification will play over and over again at an interval specified by the **Frequency (seconds)** field. At a given monitoring station, the notification will continue to play until either the alarm is acknowledged or it is deleted from that station. If not selected: the audio notification will play once.
Frequency (seconds)	Available only if the **Repeating** check box is selected. Specifies the frequency, in seconds, with which an audio notification will be repeated.
CCTV instructions	Indicates the instructions that will be provided to the CCTV equipment when this alarm occurs. Choices include the names of all currently defined CCTV instruction records, defined on the CCTV Instructions form. The instructions are sent to the CCTV controller that is attached to the monitoring workstation (as configured on the Workstations form in the System Configuration folder).
Alarm passwords	You can use passwords to restrict the ability to view and acknowledge specific alarms. This section includes the View Password, Confirm View Password, Acknowledge Password, and Confirm Acknowledge Password fields.
View password	Type a password here if you wish to require a password to be able to view the Alarm Acknowledgment window for this alarm on an Alarm Monitoring station. You can use up to 32 characters, including letters and numbers. This field is case-sensitive: it distinguishes upper-from lowercase letters. For example, “SECURITY”, “security”, and “SecuRitY” are considered to be three different words. If a password is entered here, you must enter EXACTLY the same password in the **Confirm view password** field.

Alarm Configuration Folder - Alarm Configuration Form (Continued)

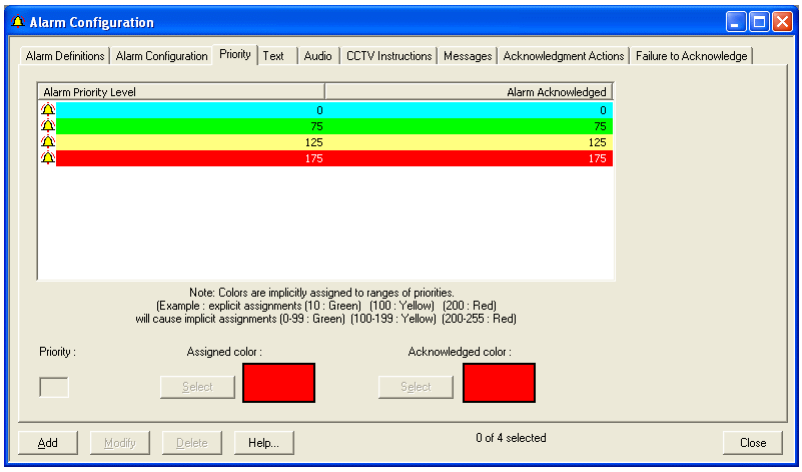
Form Element	Comment
Confirm view password	If a password was entered in the **View password** field, you must enter EXACTLY the same password here.
Acknowledge password	Type a password here if you wish to require a password to be able to acknowledge this alarm from an Alarm Monitoring station. You can use up to 32 characters, including letters and numbers. Like View Password, this field is case-sensitive. If a password is entered here, you must enter EXACTLY the same password in the **Confirm acknowledge password** field.
Confirm acknowledge password	If a password was entered in the **Acknowledge password** field, you must enter EXACTLY the same password here.
Alarm description	Lists currently defined alarms and the type (alarm category) for each.
Alarm Settings	Includes the Text Instructions, Audio Instructions, Audio Notification, Repeating, Frequency (sec), and CCTV Instructions fields.
Modify	Used to change an alarm's configuration.
Help	Displays online assistance for this form.
Close	Closes the Alarm Configuration folder.

Alarm Configuration Form Procedures

Configure an Alarm

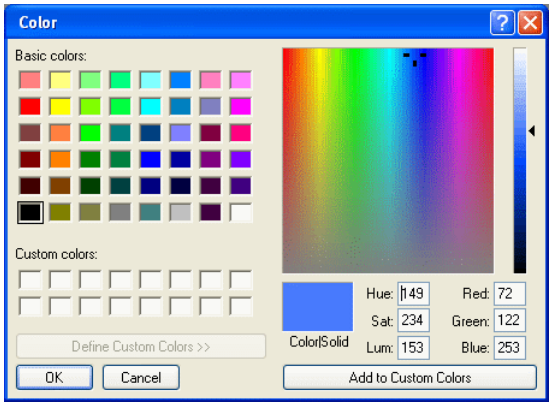
1. Click [Modify].
2. In the alarm description window, select the entry you wish to configure.
3. In the Alarm Settings section, choose the text instructions, audio announcement and instructions, and CCTV instructions for this alarm.
4. If you want to restrict the ability to view this alarm, complete the **View Password** and **Confirm View Password** fields.
5. If you want to restrict the ability to acknowledge this alarm, complete the **Acknowledge Password** and **Confirm Acknowledge Password** fields.
6. Click [OK].
   - When the selected alarm occurs, the selected audio notification will be announced at the Alarm Monitoring stations, and the selected CCTV command will be sent to your CCTV system for action. The selected audio and text instructions will be available to assist the monitoring station users.

Priority Form



Color Form

This form is opened by clicking on either of the [Select] buttons on the Priority form.



Priority Form Overview

This form is used to configure colors to be associated with alarm priority ranges.

Priority Form Field Table

Alarm Configuration Folder - Priority Form

Form Element	Comment
Alarm Priority Level	Lists all currently defined alarm priority colors and their minimum values.
Priority	Specifies the minimum value in the range of priorities that will be displayed in the **Assigned color**. By indicating a **Priority** you are actually defining a range of values that starts with the number you specify and ends just before the first number of the next priority range. This is illustrated by the default values, which are: • Green alarms have a **Priority** value 0; actual range is 0 - 84 • Yellow alarms have a **Priority** value 85; actual range is 85 - 169 • Red alarms have a **Priority** value 170; actual range is 170 - 255 Alarms can have priorities in the range of 0 through 255. Because all of those values display in some color, a **Priority** you specify may be adjusted to 0. For example, Specifying: pink = 25, blue = 100, yellow = 150, black = 200 will result in the following ranges: pink (0 - 99), blue (100 - 149), yellow (150 - 199), and black (200 - 255)
Assigned color	Displays the selected color assigned to the specified **Priority**
Select	Opens the Color form, from which you can select a color for the **Assigned color** field.
Acknowledged color	Displays the selected color assigned to the acknowledged alarm of the specified **Priority**.
Select	Opens the Color form, from which you can select a color for the **Acknowledged color** field.
Add	Used to add a color for a range of alarm priorities.
Modify	Used to change the color assigned to a range of alarm priorities.
Delete	Used to delete the color assigned to a range of alarm priorities.
Help	Displays online assistance for this form.
Close	Closes the Alarm Configuration folder.

Priority Form Procedures

You may choose to accept the default alarm priority ranges and their assigned colors. Or you can modify their colors and/or values. Alternatively, you can add or remove priority ranges as appropriate for your environment.

Define an Alarm Priority Range

1. Click [Add].
2. In the **Priority** field, type a number that's in the range of 0 through 255. Remember that this number specifies the minimum in range that's limited by the next higher color.
3. Click the [Select] button next to the **Assigned Color** display.
4. On the Color form, do one of the following:
   a. select one of the Basic Colors by clicking on it
   b. click [Define Custom Colors >>] to expand the window. Then:
      - click on the color palette to select a precise color, or
      - specify the color by entering red, green, blue, hue, saturation, and luminance values
5. Click [OK] to close the Color form. The selected color will be displayed in the **Assigned Color** field.
6. Click the [Select] button next to the **Acknowledged Color** display, then repeat step 4.
7. Click [OK] to close the Color form. The selected color will be displayed in the Acknowledged Color field.
8. Click [OK].

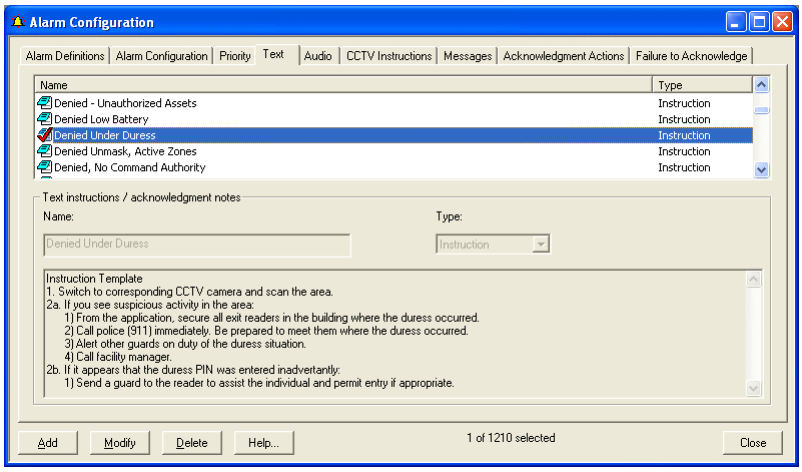
Modify an Alarm Priority Range

1. In the **Alarm Priority Level** field, select the priority range to be modified.
2. Click [Modify].
3. Make your desired changes.
4. Click [OK].

Delete an Alarm Priority Range

1. In the **Alarm Priority Level** field, select the priority range to be deleted.
2. Click [Delete].
3. Click [OK].

Text Form



Text Form Overview

This form is used to:

- Write the text instructions that will be displayed on an Alarm Monitoring station when a specific alarm occurs.
- Preconfigure information to be placed in the **Notes** field during alarm acknowledgment.

Text Form Field Table

Alarm Configuration Folder - Text Form

Form Element	Comment
Listing window	Lists the names of currently defined text records, and the type (instruction or acknowledgment note) for each.
Text instructions/ acknowledgment notes	Includes the **Name** and **Type** fields and the instructions window.
Name	Indicates the name of the text record.
Type	Indicate the type of text record you are defining. Choices include: • Instruction - if selected, the text in the edit window will be displayed on an Alarm Monitoring station when a particular alarm is viewed. • Ack. Note - if selected, the text in the edit window will be available for use during alarm acknowledgment. An Alarm Monitoring station user can click [Select Notes] in the Alarm Acknowledgment window and select this record, thereby inserting the text into the **Notes** field of the Alarm Acknowledgment window.
Instructions window	Contains the actual text information (up to 32,000 characters) that will be displayed in the Alarm Monitoring application when a specific event is triggered. The window will expand to accommodate whatever you type (up to 32,000 characters).
Add	Used to add a text record.
Modify	Used to change a text record.
Delete	Used to remove a text record.
Help	Displays online assistance for this form.
Close	Closes the Alarm Configuration folder.

Text Form Procedures

Add a Text Record

1. Click [Add].
2. In the **Name** field, type a unique, descriptive name for this text record.
3. In the **Type** field, choose whether this information will be used for instruction in response to an alarm, or for notes during alarm acknowledgment.
4. In the edit window, type the actual text information as you wish it to be displayed on an Alarm Monitoring workstation. The window will expand to accommodate whatever you type (up to 32,000 characters).
5. Click [OK].

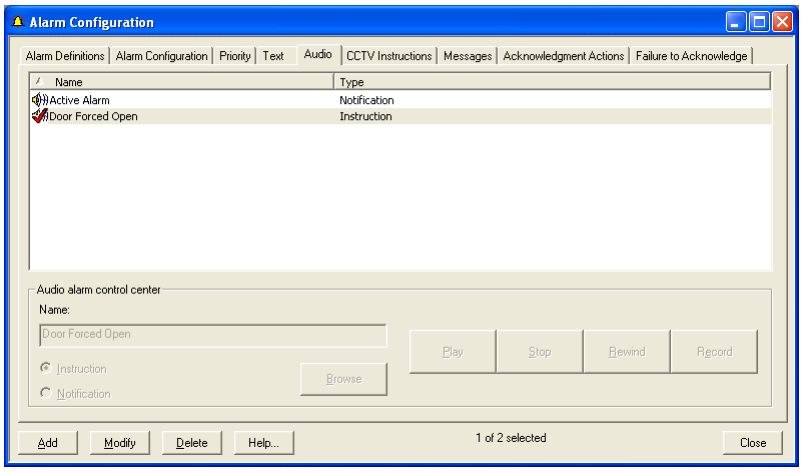
Modify a Text Record

1. In the listing window, select the name of the text record you wish to change.
2. Click [Modify].
3. Make the changes you want to the fields.
4. Click [OK].

Delete a Text Record

1. In the listing window, select the name of the text record you wish to delete.
2. Click [Delete].
3. Click [OK].
4. Click [Yes] when prompted to proceed with the deletion.

Audio Form



Audio Form Overview

This form is used to import or record an audio clip to be played on an Alarm Monitoring station when a specific alarm occurs. The clip can be used as either of the following:

- An audible announcement when the alarm is triggered.
- Verbal instructions for responding to the alarm.

Audio Form Field Table

Alarm Configuration Folder - Audio Form

Form Element	Comment
listing window	Lists the names of currently defined audio clips, and each one's type.
Name	Indicates the name of the audio clip.
Instruction	An audio clip can be used either to announce the arrival of an alarm, or to instruct a monitoring station user how to respond to the alarm. Select this radio button if this audio clip is to be used for instruction.
Notification	An audio clip can be used either to announce the arrival of an alarm, or to instruct a monitoring station user how to respond to the alarm. Select this radio button if this audio clip is to be used to announce the alarm's arrival. If you do not have the ability to record audio on your computer, or if your organization has not purchased the Custom Voice Alarm option, you can still select this radio button. In such situations, a standard beep will be played through the computer speaker at the Alarm Monitoring stations. Like custom notifications, the standard beep will repeat at regular intervals if the **Repeating** check box has been selected for this alarm on the Alarm Configuration form.
Browse	If you do not wish to record audio clips from within the software, you can import existing audio files to use for alarm notification and instruction. This button opens an Open form, from which you can select a standard Wave (*.WAV) format audio file to import.
Play	Plays an audio clip once from beginning to end.
Stop	Stops an audio clip Record or Play operation.
Rewind	Rewinds an audio clip to its beginning.
Record	Records an audio clip.
Add	Used to add an audio clip record.
Modify	Used to change an audio clip record.
Delete	Used to remove an audio clip record.
Help	Displays online assistance for this form.
Close	Closes the Alarm Configuration folder.

Audio Form Procedures

Add an Audio Clip Record

1. Click [Add].
2. In the **Name** field, type a unique, descriptive name for this audio clip record.
3. Specify whether this clip is to be used for **Instruction** or **Notification**.

4. Do one of the following:
   a. Use the [Browse] button to import an existing audio file
   b. Use the following buttons to create your own audio clip from within the application (your computer must be equipped to record audio):
      - [Record] starts recording the audio clip
      - [Play] plays the audio clip
      - [Stop] stops the audio clip recording or playback operation
      - [Rewind] rewinds the audio clip to its beginning
5. Click [OK].

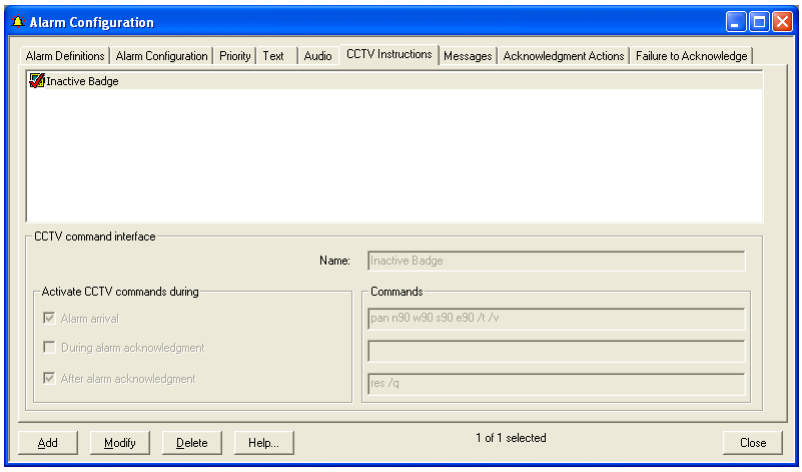
Modify an Audio Clip Record

1. In the listing window, select the name of the audio clip record you wish to change.
2. Click [Modify].
3. Make the changes you want to the record.
4. Click [OK].

Delete an Audio Clip Record

1. In the listing window, select the name of the audio clip record you wish to delete.
2. Click [Delete].
3. Click [OK].
4. Click [Yes] to confirm deletion.

CCTV Instructions Form



CCTV Instructions Form Overview

This form is used to store the commands that will be communicated to your CCTV device in response to a specific alarm event.

Note: The CCTV instructions you configure are automatically sent to the CCTV controller attached to the monitoring station when that station receives the alarm. The CCTV controller is configured in the Workstations folder.

CCTV Instructions Form Field Table

Alarm Configuration Folder - CCTV Instructions Form

Form Element	Comment
(listing window)	Lists currently defined CCTV instructions.
CCTV command interface	Includes the **Name** field, plus the Activate CCTV Commands During and Commands sections.
Name	Indicates the name of the CCTV instructions.
Activate CCTV commands during	Includes the Alarm Arrival, During Alarm Acknowledgment, and After Alarm Acknowledgment fields.
Alarm arrival	Select this check box to enter a CCTV command that will be put into effect upon alarm activation.
During alarm acknowledgment	Select this check box to enter a CCTV command that will be in effect during alarm acknowledgment.
After alarm acknowledgment	Select this check box to enter a CCTV command that will be put into effect after alarm acknowledgment.
Commands	Includes three (3) command string text fields.
command string 1	Enter a command string to be sent to your CCTV device upon alarm activation. If your equipment uses control characters as commands, refer to the special note following the procedures in this section.
command string 2	Enter a command string to be sent to your CCTV device during alarm acknowledgment. If your equipment uses control characters as commands, refer to the special note following the procedures in this section.
command string 3	Enter a command string to be sent to your CCTV device after alarm acknowledgment. If your equipment uses control characters as commands, refer to the special note following the procedures in this section.
Add	Used to add CCTV instructions.
Modify	Used to change CCTV instructions.
Delete	Used to remove CCTV instructions.
Help	Displays online assistance for this form.
Close	Closes the Alarm Configuration folder.

CCTV Instructions Form Procedures

Add a CCTV Instruction Record

1. Click [Add].
2. In the **Name** field, type a unique, descriptive name for this CCTV instruction record.
3. In the Activate CCTV Commands During section, select one of the check

boxes, which indicate when to activate the CCTV command.

4. In the Commands section, click in the text field to the right of the selected check box, and type a valid CCTV command string. The command will direct the Closed Circuit Television equipment to perform a specific action, such as to pan a particular area. For specific commands, refer to the user manual that was provided with the CCTV equipment used at your installation. If your equipment uses control characters as commands, refer to the special note following the procedures in this section.
5. Repeat steps 3 and 4 for each additional CCTV command you want to activate when this event occurs. Note that you can have the CCTV camera do one thing when the alarm occurs, do something else while the alarm is being acknowledged, and do a third thing after the alarm has been acknowledged.
6. Click [OK].

Modify a CCTV Instruction Record

1. In the listing window, select the name of the CCTV instruction record you wish to change.
2. Click [Modify].
3. Make the changes you want to the fields.
4. Click [OK].

Delete a CCTV Instruction Record

1. In the listing window, select the name of the CCTV instruction record you wish to delete.
2. Click [Delete].
3. Click [OK].
4. Click [Yes] to confirm that you want the record deleted.

Use Control Characters in CCTV Command Strings

Some CCTV switchers include control characters in their command strings. The following chart lists character sequences that can be entered in a command string to produce the corresponding control character.

Control Character	Character Sequence to Enter
newline (Hex 0A)	\n
tab (Hex 09)	\t
vertical tab (Hex 0B)	\v
backspace (Hex 08)	\b
carriage return (Hex 0D)	\r

Control Character	Character Sequence to Enter
formfeed (Hex 0C)	\f
alert character (Hex 07)	\a
start of header (Hex 01)	\soh
hex character **Note:** Any character with hex value 0x00 through 0xff can be configured by entering \x followed by two characters representing the hex value. The two hex characters (not one character) must be configured. For example, \x1 will not be converted to a hex value. \x01 must be used in order to specify the character with hex value 0x01. \x is case-sensitive. \X01 will not be converted to a hex value, but \x01 will. The hex characters themselves are *not* case-sensitive. \xaa and \xAA will both be converted to the character with hex value 0xaa.	\x00 through \xff

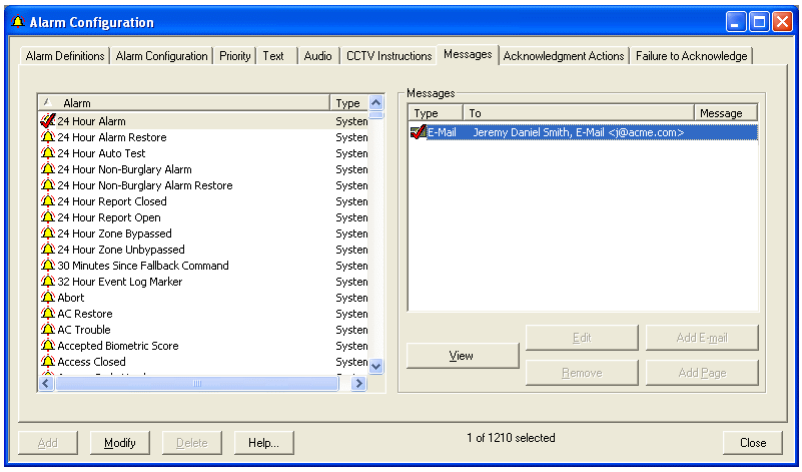
Important: Some operating systems require you to run the **ACS.INI** file as the administrator to modify it.

In order for the Alarm Monitoring system to treat these character sequences as control characters, the following statements need to be included in the ACS.INI file (located in your Windows operating system directory). This should be done on the computer that is connected to the CCTV switching equipment and running the Alarm Monitoring application:

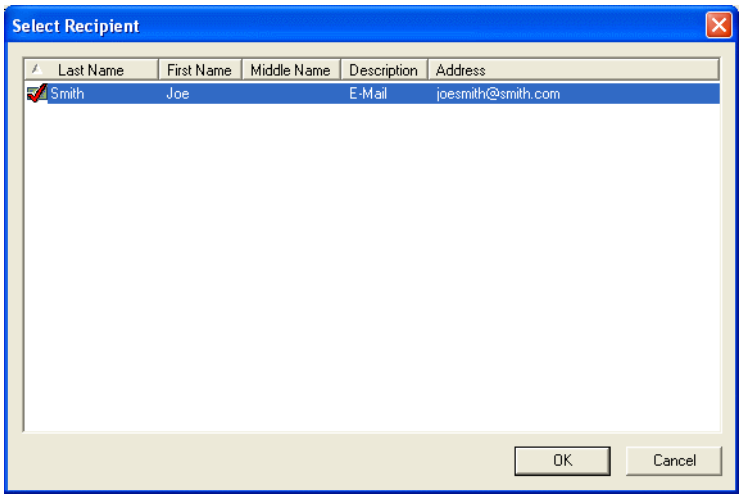
[MONITORING]

CCTV_BACKSLASH_PRECEDES_CONTROL_CHARS=1

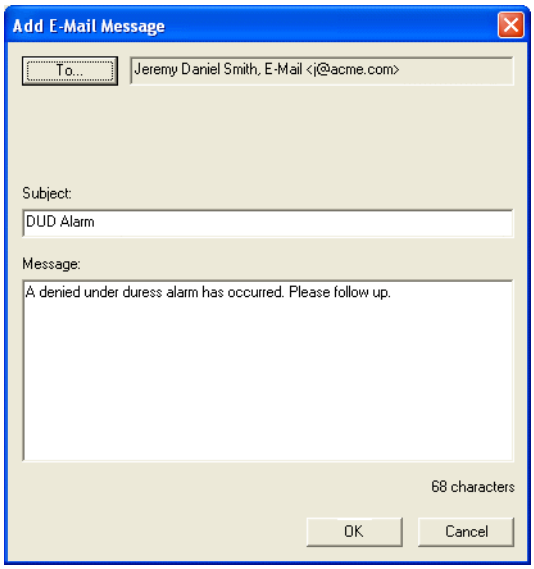
Messages Form



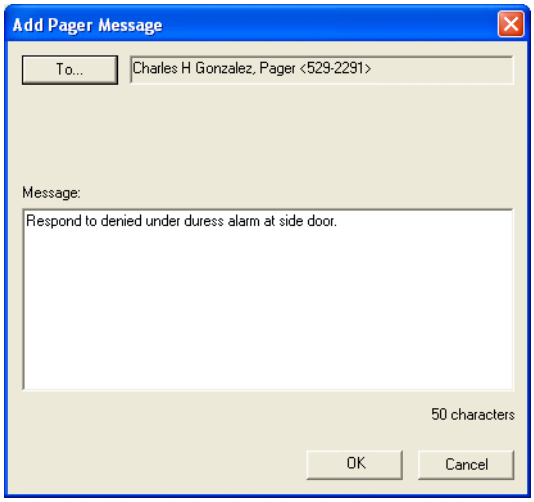
Select Recipient Window



Add E-mail Message Window



Add Pager Message Window



Messages Form Overview

This form is used to create e-mail and pager messages and link them to defined alarms. This ensures that specific individuals are automatically informed when the alarms occur.

Note that e-mail recipients must first be configured on the Recipients form in the Global Output Devices folder (The Recipients form is opened by selecting

Global Output Devices from the **Monitoring** menu, then clicking on the Recipients tab.)

Messages Form Field Table

Alarm Configuration Folder - Messages Form

Form Element	Comment
Alarm	Lists all currently defined alarms, as defined on the Alarm Definitions form.
Messages	Indicates the messages that are currently defined for the selected alarm. A Type of  indicates an E-mail message A Type of  indicates a pager message
View	Displays the recipient(s), subject, and content of the selected message.
Edit	(displayed in modify mode only) Allows you to edit the selected message.
Remove	(displayed in modify mode only) Deletes the selected message.
Add E-mail	(displayed in modify mode only) Click this button to add an automatic e-mail message. Doing so opens the Add E-mail Message window, from which you can select recipients and enter the subject and body text of the message.
Add Page	(displayed in modify mode only) Click this button to add an automatic page message. Doing opens the Add Pager Message window, from which you can select recipients and type the message to be sent.
Add	This button is not used.
Modify	Modifies the message assignments for the selected alarm.
Delete	This button is not used.
Help	Display online help for this topic.
Close	Closes the Alarm Configuration folder.

Alarm Configuration Folder - Add E-Mail/Pager Message Form

Form Element	Comment
To	Clicking this button opens the Select Recipient window, from which you can select addresses that will receive the message.
Subject	Displayed only on the Add E-Mail Message window. Type a description for the alarm, which will be displayed in the subject line of the message.

Alarm Configuration Folder - Add E-Mail/Pager Message Form (Continued)

Form Element	Comment
Message	Determines what will be displayed in the message. When a Message is being configured, you can specify parameters or "placeholders" for alarm occurrence specific information within the message body. These parameters will be automatically filled in at runtime with the proper message data. This information can include the Alarm Description, Alarm Priority, Time of Alarm Occurrence, Device Name, Badge ID, and/or Cardholder Name. When the Message is configured, the following strings will indicate a parameter to be filled in at runtime: • **%alarmDescription:** Alarm Description of the Alarm that generated the Message • **%alarmPriority:** Priority of the Alarm that generated the Message • **%alarmTime:** Time at which the Alarm generated the Message • **%deviceName:** Name of the Device associated with the Alarm that generated the Message • **%badgeID:** Badge ID associated with the Alarm that generated the Message • **%cardholderName:** Cardholder Name associated with the Alarm that generated the Message If the message body is left empty/blank, the details pertaining to the Alarm will be automatically filled in and the message sent.
OK	Saves changes and returns you to the Messages form.
Cancel	Cancels pending changes and returns you to the Messages form.

Messages Form Procedures

Add an Automatic E-mail Message

Note: The Global Output Server must be running for this to work.

1. Select the alarm for which an automatic message will be created.
2. Click [Modify]. For each e-mail message you wish to send whenever this alarm occurs, perform steps 3-7.
3. Click [Add E-mail] to open the Add E-Mail Message window.
4. To specify message recipient(s), click [To]. This opens the Select Recipient window, which contains a list of all currently defined e-mail recipients. Select one or more recipients by clicking on their icons to place a checkmark on each. Click [OK] when you have selected all intended recipients.

Note: E-mail recipients must first be configured on the Recipients form in the Global Output Devices folder (The Recipients form is opened by selecting **Global Output Devices** from the **Monitoring** menu, then clicking on the Recipients tab.)

5. Enter the subject of the message. This information will be displayed in the Message column of this entry in the Messages display window on the Messages form.
6. In the Message field, enter the actual content of the message to be sent. Notice that the number of characters contained in the message is displayed in the lower right corner of the window. Refer to the Message entry in the Add E-Mail/Pager Message form field table in this chapter for message configuration details.
7. Click [OK] to save your changes and close the Add E-Mail Message window. Or, click [Cancel] to exit without saving your changes.
8. After you have added all the e-mail messages you want sent in response to the selected alarm, click [OK] on the Messages form.

Add an Automatic Page Message

Note: The Global Output Server must be running for this to work.

1. Select the alarm for which an automatic message will be created.
2. Click [Modify]. For each pager message you wish to send whenever this alarm occurs, perform steps 3-6.
3. Click [Add Page] to open the Add Pager Message window.
4. To specify message recipient(s), click [To]. This opens the Select Recipient window, which contains a list of all currently defined paging recipients. Select one or more recipients by clicking on their icons to place a checkmark on each. Click [OK] when you have selected all intended recipients.

Note: Page recipients must first be configured on the Recipients form in the Global Output Devices folder (The Recipients form is opened by selecting **Global Output Devices** from the **Monitoring** menu, then clicking on the Recipients tab.)

5. In the Message field, enter the actual content of the message to be sent. In the lower right corner of the window, the number of characters in the message will be updated as you type. Refer to the Message entry in the Add

E-Mail/Pager Message form field table in this chapter for message configuration details.

6. Click [OK] to save your changes and close the Add Pager Message window. Or, click [Cancel] to exit without saving your changes.
7. After you have added all the pager messages you want sent in response to the selected alarm, click [OK] on the Messages form.

View an Automatic Message

1. In the Alarm display window, select the alarm you'd like to view messages for.
2. In the Message display window, select the message you would like to view.
3. Click [View] to display message contents in the corresponding View Message window.

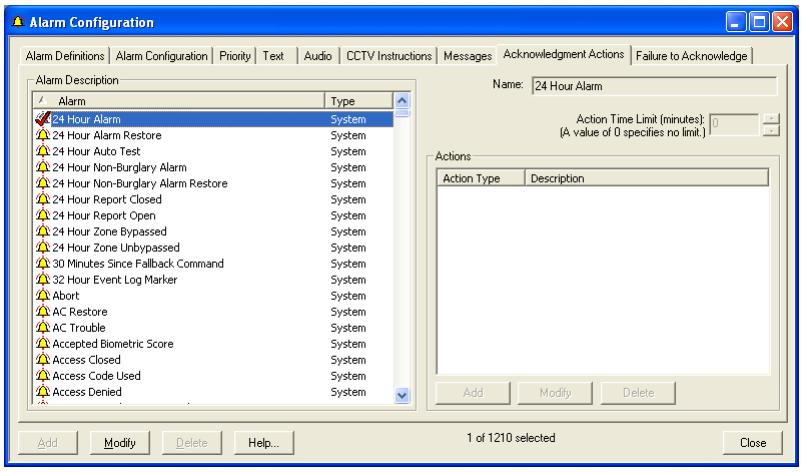
Modify an Automatic Message

1. Select the alarm for the message you'd like to change.
2. Click [Modify].
3. Select the message you wish to change.
4. Click [Edit].
5. Make the desired changes to the recipient list, subject, and/or message body.
6. Click [OK] to save your changes and close the Edit Message window.
7. Click [OK] on the Messages form to save your changes, or [Cancel] to lose them.

Delete an Automatic Message

1. Select the alarm for the message you'd like to change.
2. Click [Modify].
3. Select the message you would like to delete.
4. Click [Remove]. The message is removed from the Messages display window. However, the message is not actually deleted until you complete step 5.
5. Click [OK] on the Messages form to delete the selected message. If you do not wish to delete the selected message, click [Cancel] to restore the message to the Messages display window.

Acknowledgment Actions Form



Acknowledgment Actions Form Overview

Acknowledgment actions are commands that are automatically executed by Alarm Monitoring when an alarm is acknowledged. This form is used to configure acknowledgment actions to execute ReadkeyPRO actions. For example, you can configure an acknowledgment action to automatically execute a function list (an action) when a particular alarm is acknowledged.

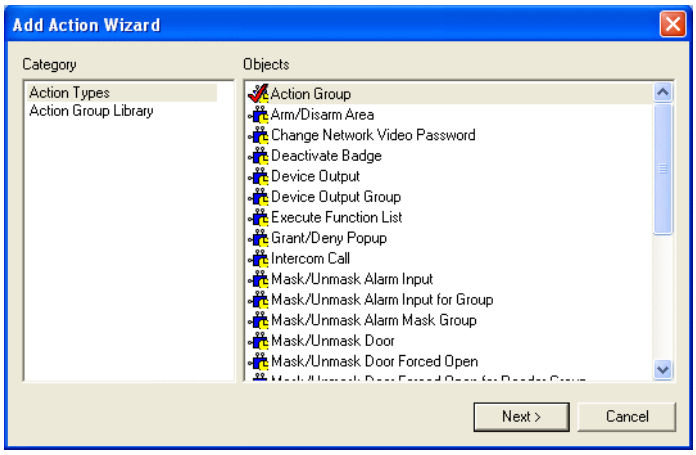
Alarm Configuration Folder - Acknowledgment Actions Form

Form Element	Comment
Alarm	Lists all currently defined alarms, as defined on the Alarm Definitions form.
Name	Indicates the name of the selected alarm.
Action Time Limit (minutes)	Specifies the length of time after which, if the alarm hasn't been acknowledged, the action won't be executed. A value of 0 specifies no limit.
Actions	Contains the Action Type/Description listing window, and the [Add], [Modify], and [Delete] push buttons.
Action Type/ Description listing window	Displays a list of all currently configured actions.
Add	Click this button to open the Add Action Wizard from where you can add an action.
Modify	Click this button to modify an existing alarm acknowledgment action.
Delete	Click this button to delete an existing alarm acknowledgment action.
Modify	Click this button to assign an action to an alarm.
Help	Displays online assistance for this form.
Close	Click this button to close the Alarm Configuration folder.

Acknowledgment Actions Form Procedures

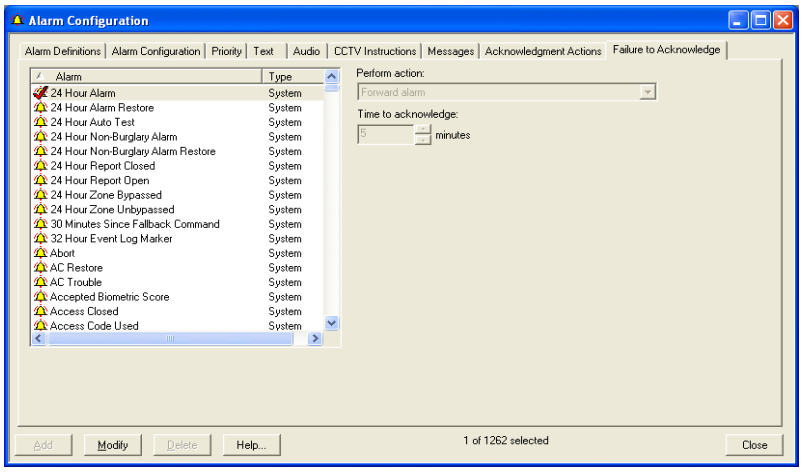
Configure Acknowledgment Actions

1. Select **Alarms** from the **Monitoring** menu. The Alarm Configuration folder opens.
2. Click the Acknowledgment Actions tab.
3. Select an alarm from the listing window. The name of the alarm you select will be displayed in the **Name** field.
4. Click [Modify].
5. In the Actions section, click [Add]. The Add Action Wizard opens.



6. Choose an action **Category**, and then select an action **Object**.
7. Click [Next]. Depending on which Category/Object combination you chose in step 6, a corresponding action properties window will open.
8. Configure the action you selected in step 6. To do this, you must refer to the Actions appendix for information on each action properties window. For more information, refer to Appendix A: Actions on page 1217.
9. The action you just added will be displayed in the Action Type/Description listing window. Repeat steps 5-8 for each action that you want to assign to the selected alarm.
10. Click [OK].

Failure to Acknowledge Form



Failure to Acknowledge Form Overview

The Failure to Acknowledge action allows you to define if alarms that are not acknowledged in a set number of minutes should be forwarded or highlighted in Alarm Monitoring. This form is used to configure such actions. For example, you can configure a failure to acknowledge action to automatically highlight an alarm that was not acknowledged after five minutes of happening.

If the alarm is configured to highlight, and it has not been acknowledged within the time-frame specified, an “Alarms waiting to be acknowledged” popup will appear in alarm monitoring.

If an alarm is forwarded to another station a blue arrow will appear next to it in the alarm list. If it was forwarded from another station a green arrow will appear next to it. A broken red arrow will appear if the forward failed.

Alarm Configuration Folder - Failure to Acknowledge Form

Form Element	Comment
Alarm	Lists all currently defined alarms, as defined on the Alarm Definitions form.
Perform action	Allows you to select: • **None** - No action will be taken • **Forward alarm** - The alarm will be forwarded if it is not answered in the set number of minutes. • **Highlight alarm** - The alarm will be highlighted if it is not answered in the set number of minutes.
Time to acknowledge	Specifies the length of time after which, if the alarm hasn’t been acknowledged, that the action chosen in the **Perform action** drop-down box will occur.

Failure to Acknowledge Form Procedures

Configure a Failure to Acknowledge Action

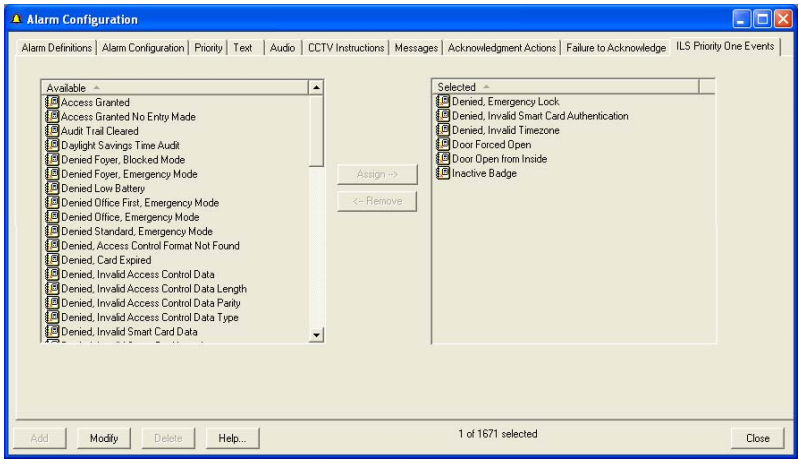
1. In the **Alarm** list box, choose the alarm you wish to configure for a failure to acknowledge action.
2. Click [Modify].
3. In the **Perform action** drop-down box, select the action you wish to take place.
4. In the **Time to acknowledge** scroll box, set the number of minutes that the alarm must go unacknowledged before the failure to acknowledge action occurs.
5. Click [OK].

ILS Priority One Events Form

Note: To view this form your system must have an ILS license.

Use this form to specify up to 20 ILS wireless lock events as priority one events on a system-wide. By default, all ILS wireless locks are configured with the system priority one events.

To configure priority one events on a lock-by-lock basis, use the ILS Priority One Events form in the Readers folder.



ILS Priority One Events Form Procedures

Alarm Configuration Folder - ILS Priority One Events Form

Form Element	Comment
Available	Lists all ILS wireless lock events.
Selected	Lists ILS wireless lock events assigned as priority one events. Priority one events are sent to Alarm Monitoring, filtering out all other lock events.
Assign	Click to move selected events to the list of priority one events. Up to 20 events can be assigned as priority one.
Remove	Click to remove events from the list of priority one events.
Modify	Used to change an event's configuration.
Help	Displays online assistance for this form.
Close	Closes the ILS Priority One Events form.

To read how to configure an ILS locking system, refer to Appendix K: ILS (Integrated Locking Solutions) on page 1525.

Chapter 41: Monitor Zones Folder

The Monitor Zones folder contains forms with which you can:

- Define monitor zones, and specify which device(s) are to be included in each
- Choose the workstations that will be able to monitor the selected monitor zone
- Choose the intercom station that the workstation will place calls from
- Define event routing groups
- Assign one or more events to a particular group
- Assign (event + timezone) pairs to an event routing group
- Link monitoring zones with action groups

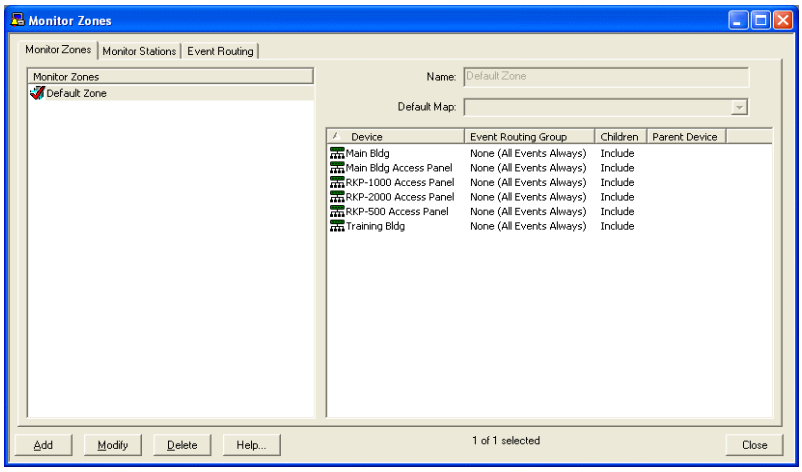
The folder contains three forms: the Monitor Zones form, the Monitor Stations form, and the Event Routing form.

Toolbar Shortcut

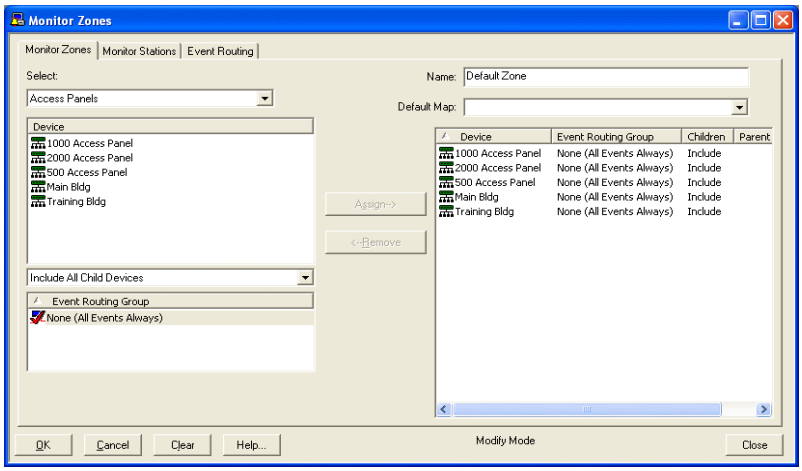
The Monitor Zones folder is displayed by selecting **Monitor Zones** from the **Monitoring** menu or by selecting the Monitor Zones toolbar button.

Note: For users of segmentation, Monitor Zones can now belong to a Segment group, instead of just <All Segments> or one segment. This allows a monitor zone to contain hardware from all segments in the segment group. For more information, refer to Appendix E: Segmentation on page 1457.

Monitor Zones Form (View Mode)



Monitor Zones Form (Modify Mode)



Monitor Zones Form Overview

This form is used to create monitor zones, assign a map to a monitor zone, and specify devices (and optionally, event routing groups) to be included in a zone.

Monitor Zones Form Field Table

Monitor Zones Folder - Monitor Zones Form

Form Element	Comment
Monitor Zones	(view mode only) Lists currently defined monitor zones. **Note:** If your installation uses segmentation, the assigned segment is also indicated here.
Name	Specifies the name of the monitor zone.
Default Map	Lists the names of all maps stored in the database. A monitor station can be associated with multiple monitor zones, each of which can have one associated map. Maps are created using MapDesigner.
Event Routing Groups	(modify mode only) Lists all existing event routing groups, as defined on the Event Routing form of this folder.
Assignment window	Lists all (device + event routing group) pairs currently defined for the current monitor zone. Each entry contains the following components: • Device - the name of the device, preceded by the appropriate icon for that device type • Event Routing Group - the name of the event routing group • Children - how the indicated Device's children are handled by this monitor zone. This value is either **Include**, if "Include All Child Devices" was selected from the **child** drop-down list; or **Specify**, if "Specify Child Devices Individually" was selected from the **child** drop-down list. • Parent Device - the name of the *parent device* for the indicated Device. If the device is an access panel, it has no parent device. If the device is an alarm panel or reader, its parent is the access panel to which it is attached. If the device is an alarm input or alarm output, its parent is the alarm panel. Note that if the device is a video recorder, it has no parent device. If the device is a camera, its parent is the video recorder to which it is attached. **Note:** If your installation uses segmentation, the assigned segment is also indicated here.
Select	(modify mode only) Selects the type of device to be displayed in the device window when assigning device-event routing group pairs to a monitor zone. Choices include Access Panels, Action Groups, Readers, Reader Inputs, Reader Outputs, Alarm Panels, Alarm Inputs, Alarm Outputs, Video Recorders, Cameras, Monitors, Fire Panels, Intercom Exchanges, Intercom Stations, and Personal Safety Panels.
device window	(modify mode only) Lists all currently defined devices of the type selected from the **Select** drop-down list. Based on that type, only those devices that can be assigned to the monitor zone will be displayed. For example, if you select "Readers" in the **Select** drop-down list, only readers for access panels that are in the monitor zone and are configured for specifying children devices individually will be displayed in the **device window**. If the device has a parent, the parent device is also listed. Each entry is preceded by the appropriate icon.

Monitor Zones Folder - Monitor Zones Form (Continued)

Form Element	Comment
Child	(modify mode only) Indicates how the children of the selected device(s) are handled by this monitor zone. Choice include: • Include All Child Devices - all child devices of the selected access panel, alarm panel, video recorder, or camera will be assigned to this monitor zone • Specify Child Devices Individually - if selected, you will be able to assign each child device individually to a monitor zone This field is activated only if you have selected Video Recorders, Fire Panels, Intercom Exchanges, Personal Safety Panels from the **Select** drop-down list. For all other device types, this field is dimmed but displays the "Include All Child Devices" value. Children devices can only be added to the Monitor Zone if their parent is already assigned to the Monitor Zone.
Assign	(modify mode only) Assigns the selected device(s), event routing group, and child value to the current monitor zone.
Remove	(modify mode only) Removes the selected device from the current monitor zone.
Add	Used to add a monitor zone entry.
Modify	Used to change a monitor zone entry.
Delete	Used to remove a monitor zone entry.
Help	Displays online assistance for this form.
Mode	In view mode, indicates the record/selection count (such as "1 of 42 selected"). In modify mode, indicates the current operation, such as "Modify Mode."
Close	Closes the Monitor Zones folder.

Monitor Zones Form Procedures

Add a Monitor Zone

1. Click [Add].
2. In the **Name** field, type a unique, descriptive name for the monitor zone.
3. In the **Select** field, choose what device type to display in the **Device window**.
4. In the **Device window** list, select one or more device(s) to be contained in the monitor zone. To select a device you must click on the icon that precedes it.
5. If a device can have children devices, select whether to **Include All Child Devices** or **Specify Child Devices Individually**.
6. If you want to associate an event routing group with these devices (it's not required), select it in the **Event Routing Groups** list. If you selected more than one device in step 4, each of them will be assigned to this event routing group.

Note: Event Routing Groups are defined on the Event Routing form of this folder.

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7. Click [Assign]. This inserts the selected (device + event routing group) pairs into the assignment window.
8. Repeat steps 2-7 as needed to add more devices to the zone.
9. In the **Default Map** list, select the name of a map to assign as the default map for the monitor zone. Choose a map that represents the physical area that is covered by the selected devices.
10. Click [OK]. The name of the zone will be inserted alphabetically into the **Monitor Zones** list. You assign workstations to monitoring zones using the Monitor Stations form of this folder. Each such workstation will then be able to monitor the alarm events that occur at hardware devices included in that zone.

Modify a Monitor Zone

1. Select the name of the monitor zone in the **Monitor Zones** list. The assignment window will list the devices and event routing groups that are included in the zone.
2. Click [Modify].
3. Make the changes you want.
   - To change the name, highlight the contents of the **Name** field, then type the new name.
   - If you want to assign a different map, simply select the name of the new map.
   - To add a device to this monitor zone:

a. In the **Select** field, choose what device type to display in the **Device window**

b. Select one or more device(s) in the **Device** listing window.

c. If the device can have children devices, select whether to "Include All Child Devices" or "Specify Child Devices Individually".

d. Optionally, select an event routing group in the **Event Routing Groups** list.

e. Click [Assign].

- To remove a device from this monitor zone:

a. From the Device listing window located on the right side of the form, select the device entry that you want to remove.

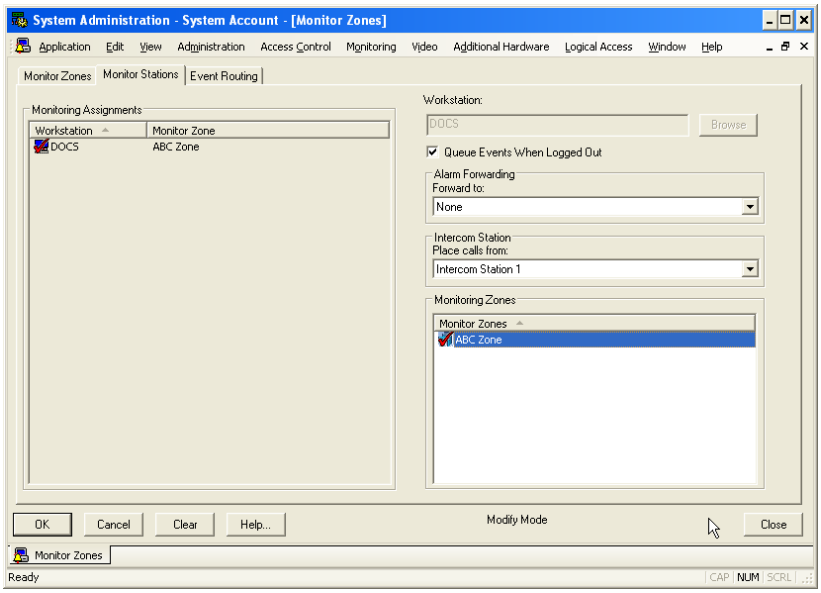
b. Click [Remove]

c. Click [OK].

Delete a Monitor Zone

1. In the **Monitor Zones** list, select the name of the monitor zone you wish to delete.
2. Click [Delete].
3. Click [OK].

Monitor Stations Form



Monitor Stations Form Overview

This form is used to, for a particular monitor zone, choose the workstations that will be able to monitor the zone. Note that assigning a workstation to a specific zone is optional. Such assignments can also be made “on the fly” upon login to the Alarm Monitoring software.

Monitor Stations Form Field Table

Monitor Zones Folder - Monitor Stations Form

Form Element	Comment
Monitoring Assignments	Lists workstations currently defined in the application, and their associated monitor zones.
Workstation	Selects the workstation that will be able to monitor the selected zone. The Workstation field is case insignificant and always stored in the database in uppercase letters. Letters are automatically converted to uppercase when you type a name into the field.
Browse	Enables you to search the network and choose the name of a workstation to insert into the Workstation field.
Queue Events When Logged Out	Selecting this check box configures the system to queue events while this monitoring station is logged off the system. When unselected, the system will still write events to the database while the monitoring station is logged off but the monitoring station operator must perform a historical trace to see these events.
Alarm Forwarding	Selects which monitor station, if any, will get forwarded alarms from the selected monitor zone.
Intercom Station	Selects which intercom station, if any, the workstation will use when placing calls.
Monitoring Zones	Selects the zone that will be monitored by the selected workstations. You can only select one monitoring zone for only one monitoring workstation at a time.
Add	Used to add a monitoring assignment.
Modify	Used to change a monitoring assignment.
Delete	Used to remove a monitoring assignment.
Mode	In view mode, indicates the record/selection count (such as “1 of 42 selected”). In modify mode, indicates the current operation, such as “Modify Mode.”
Close	Closes the Monitor Zones folder.

Monitor Stations Form Procedures

Add a Monitoring Assignment

1. From the **Monitoring** menu, select **Monitor Zones**. The Monitor Zones folder opens.
2. Select the Monitor Stations tab.
3. Click [Add].
4. Choose the workstation that will be able to monitor the selected zone. In the **Workstations** field, do one of the following:
   - Click [Browse] to display a Browse for Computer form. The form will

contain a list of all workstations on your network. Click on the name of a workstation, then click [OK]. The name will be inserted into the **Workstation** field.

- You can instead type the name of the workstation directly into the field. You must type the name absolutely correctly, or the application will not recognize it. For this reason it is better to use the [Browse] button to select a workstation.

5. From the Monitoring Zones listing window, select a monitor zone. Monitor zones are defined on the Monitor Zones form of this folder.
6. If you want this workstation to place calls using a specific intercom station when the user selects **Call Intercom** in Alarm Monitoring, select the intercom station. Intercom stations are defined in the **Additional Hardware > Intercom Devices** folder, and then select the **Intercom Stations** tab.
7. If you wish to have events for this monitoring station queued when no one is logged into this station, select the **Queue Events When Logged Out** check box.
8. Click [OK]. The workstation will be added in alphabetical order to the **Monitoring Assignments** list. You can assign more than one workstation on your network to the same monitor zone. However, each workstation can monitor only one zone.

Modify a Monitoring Assignment

1. From the Monitoring Assignments listing window, select the name of the assignment that you want to modify.
2. Click [Modify].
3. Make the changes you want to the fields.

Note: Note that you cannot modify the **Workstation** field for a monitoring workstation record once it has been added to the database. To rename a workstation, you must delete the current record and add a new one with all the same attributes (i.e. queue events and monitoring zone settings).

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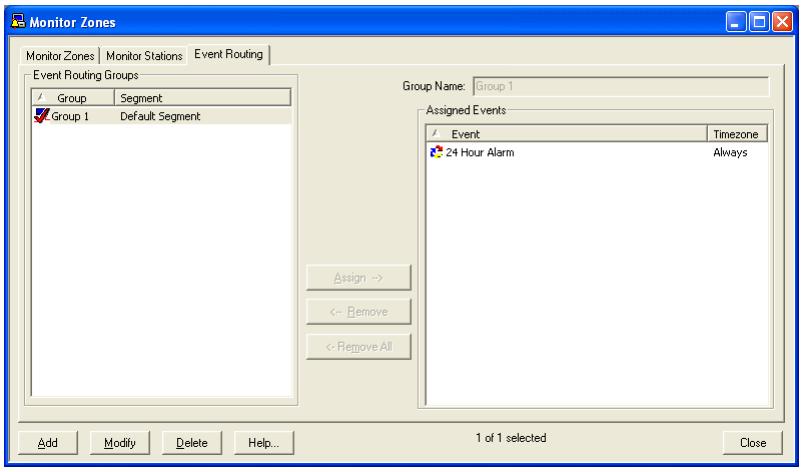
4. Click [OK] to save the changes, or click [Cancel] to revert to the previously saved values.

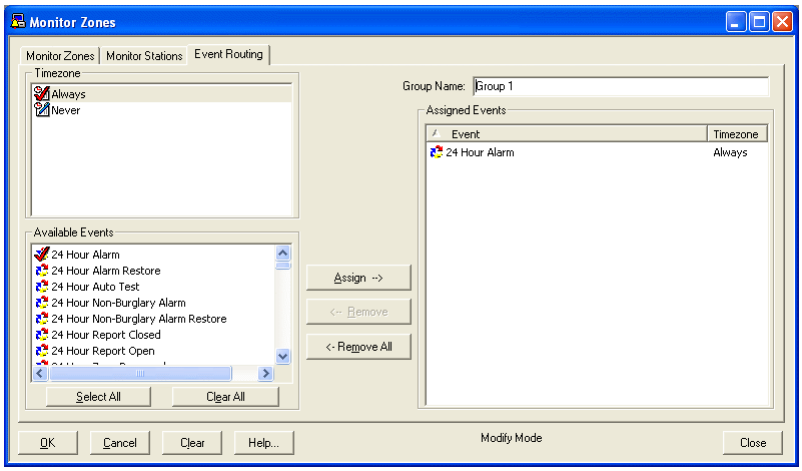
Delete a Monitoring Assignment

1. From the Monitoring Assignments listing window, select the name of the assignment that you want to delete.
2. Click [Delete].
3. Click [OK].

Event Routing Form (View Mode)



Event Routing Form (Modify Mode)



Event Routing Form Overview

This form is used to define event routing groups, assign one or more events to a particular group, and assign (event + timezone) pairs to an event routing group. Event routing groups can be assigned to monitor zones using the Monitor Zones form. This enables system administrators to route specific types of alarm events to specific workstations during designated times on designated days.

Event Routing Form Field Table

Monitor Zones Folder - Event Routing Form

Form Element	Comment
Event Routing Groups	(view mode only) Lists current defined event routing groups by name. An  icon precedes each entry.
Group Name	Indicates the name of the event routing group (a group of events).
Available Events	(modify mode only) List all currently defined events. An  icon precedes each entry.
Timezones	Lists currently defined timezones. An  icon precedes each entry.
Assigned Events	Lists (event + timezone) pairs that are included in the current event routing group. An  icon precedes each entry.
Assign	Adds events selected in the **Available Events** list to the **Assigned Events** list. Each entry added will include the timezone name currently selected in the **Timezones** list.
Remove	Removes events selected in the **Assigned Events** list from that list.
Remove All	Removes all events included in the **Assigned Events** list from that list.
Select All	(modify mode only) Selects all entries in the **Available Events** list.
Clear All	(modify mode only) Deselects all selected entries in the **Available Events** list.
Add	Used to add an event routing group.
Modify	Used to change an event routing group.
Delete	Used to remove an event routing group.
Help	Displays online assistance for this form.
Mode	In view mode, indicates the record/selection count (such as “1 of 42”). In modify mode, indicates the current operation, such as “Modify Mode.”
Close	Closes the Monitor Zones folder.

Event Routing Form Procedures

Add an Event Routing Group

1. Click [Add].
2. Type a name for the event routing group in the **Group Name** field.

3. In the **Timezones** list, highlight a timezone.
4. In the **Available Events** list, select one or more events that will be assigned to the selected timezone. To select an event, you must click on its icon. Or, use the arrow keys on your keyboard to highlight it, then press the spacebar. To deselect a selected event, click on it again (or highlight it and press the spacebar). Use the [Select All] and [Clear All] buttons to select or deselect all of the entries in the list.
5. Click [Assign]. Each of the selected events will be added to the **Assigned Events** list. Each entry will also include the selected timezone.
6. Repeat steps 3-5 for each combination of event(s) and a timezone that you wish to include in this event routing group.
7. Click [OK]. The event routing group name will then be listed in the **Event Routing Groups** window.

Remove Event and Timezone Pairs From an Event Routing Group

1. In the **Event Routing Groups** field, click on the name of the event routing group to select it. A selected entry has a checkmark on its icon.
2. Click [Modify].
3. In the **Assigned Events** list, select one or more event entries to be removed.
4. Click [Remove]. Each of the selected events will be removed from the **Assigned Events** list. If you select the [Remove All] button instead of the [Remove] button, all entries will be removed from the **Assigned Events** list.
5. Click [OK].

Delete an Event Routing Group

1. In the **Event Routing Groups** field, click on the name of the event routing group to select it. A selected entry has a checkmark on its icon.
2. Click [Delete].
3. Click [OK] to delete the group. Note that such an action may affect Event Routing Group assignments on the Monitor Zone form.

Chapter 42: Guard Tour Folder

The Guard Tour folder contains forms with which you can:

- Create, modify, and delete guard tours.
- Add checkpoints to tours.
- Assign minimum and maximum times to reach checkpoints.
- Associate actions with checkpoints.
- Associate messages with checkpoints.
- Associate tours with live video.
- Create tour instructions that can be viewed and printed prior to launching the tour from the Alarm Monitoring application.
- Create, modify, and delete tours groups.
- Schedule automatic guard tours.

The folder contains three forms: the Tours form, the Tour Groups form, and the Scheduler form.

Toolbar Shortcut

The Guard Tour folder is displayed by selecting **Guard Tour** from the **Monitoring** menu, or by selecting the Guard Tour toolbar button.

Guard Tour Overview

A guard tour provides a guard (a cardholder who has been specifically chosen to conduct a tour) with a defined set of tasks that must be performed within a specified period of time. Typical tasks include swiping a card at a checkpoint access reader or turning a key connected to an alarm panel input. *Checkpoints* are designated stops along a tour.

The guard tour management system records the location and timestamp for each checkpoint visited by a guard. The *checkpoint time* represents the time it should take to reach a particular checkpoint. All checkpoints have minimum and maximum checkpoint times. A guard tour event is generated if a checkpoint is missed, reached early, on time, late, out of sequence, or is overdue.

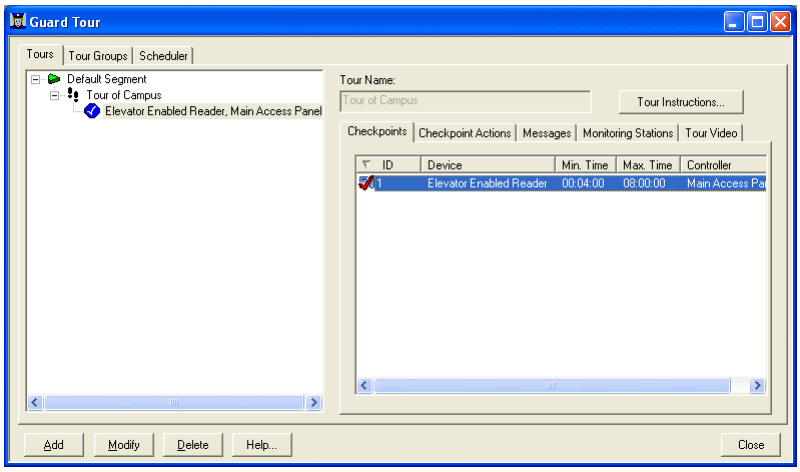
A tour is considered complete when any of the following occur:

- All of the checkpoints on the tour have been reached, reached out of sequence, or missed.
- The tour is acknowledged as complete at a monitoring station.
- The tour is terminated at a monitoring station.

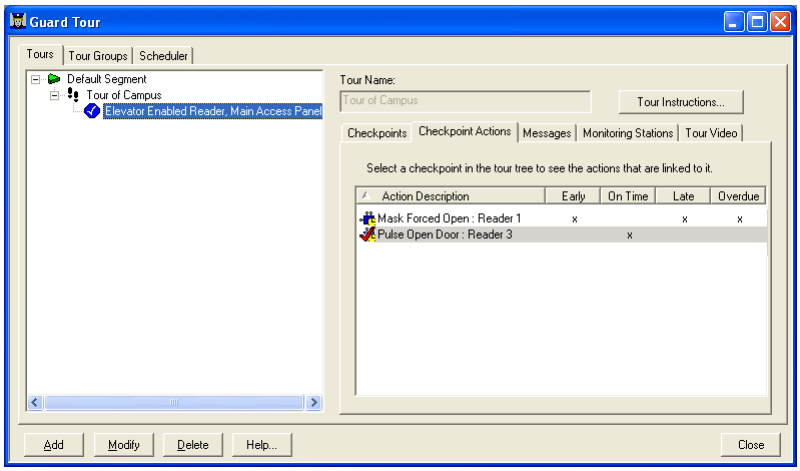
Guard tours are added in the Guard Tour folder in System Administration. For detailed information on how to configure a guard tour, refer to Add a Guard Tour on page 1041. Once a tour has been configured, it can be launched and tracked from Alarm Monitoring.

Note: Guard Tour requires the configuration of a linkage server in the system.

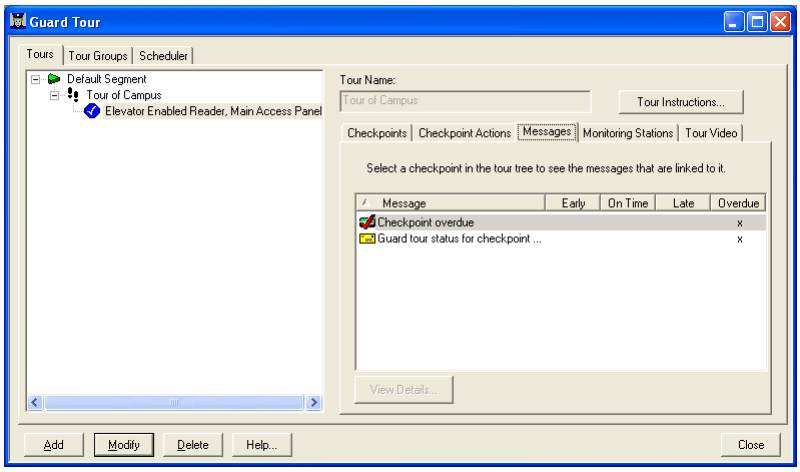
Tours Form (Checkpoints Sub-tab)



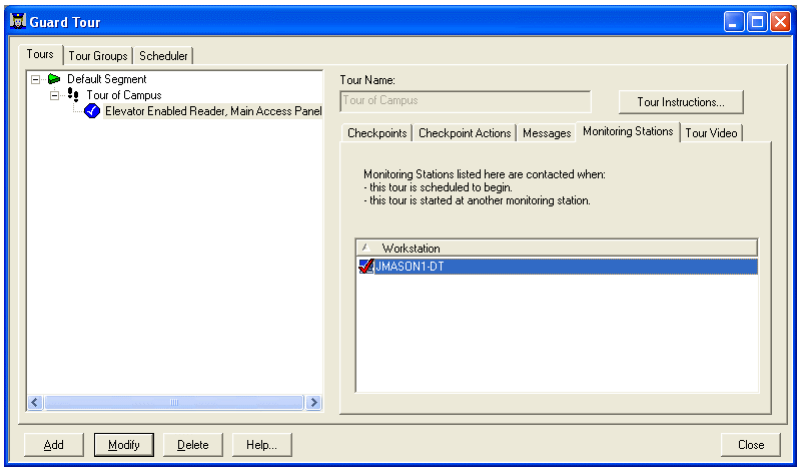
Tours Form (Checkpoint Actions Sub-tab)



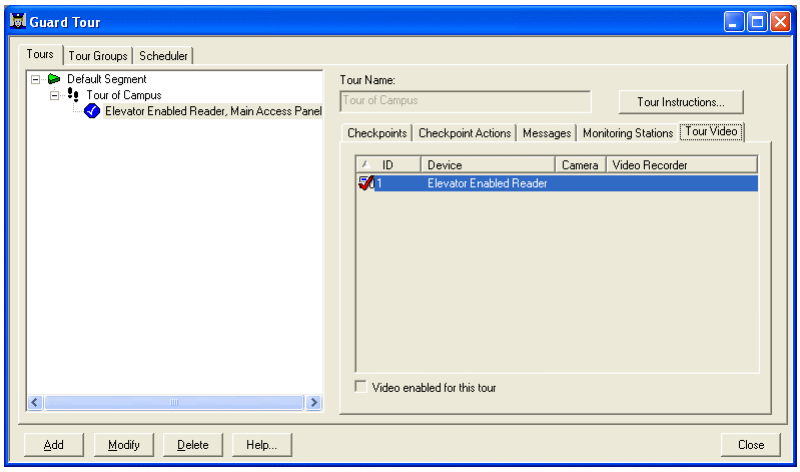
Tours Form (Messages Sub-tab)



Tours Form (Monitoring Stations Sub-tab)



Tours Form (Tour Video Sub-tab)



Tours Form Overview

This form is used to access the **Tour Wizard**, from where you can:

- Create, modify, and delete guard tours
- Add checkpoints to a tour
- Assign minimum and maximum times to reach checkpoints
- Associate actions with checkpoints
- Associate messages with checkpoints
- Associate the tour with live video
- Create tour instructions that can be viewed and printed prior to launching the tour from the Alarm Monitoring application

Tours Form Field Table

Guard Tour Folder - Tours Form

Form Element	Comment
Listing window	Displays a list of currently defined guard tours and the checkpoints associated with each. A  icon precedes each tour entry. A  icon precedes each checkpoint entry.
Tour Name	Displays the name of the selected tour.
Tour Instructions	When adding or modifying a tour, tour instructions can be added in the **Tour Wizard**. Click this button to view the instructions for this tour. Instructions can also be viewed prior to launching a tour from the Alarm Monitoring application.
Checkpoints Sub-tab	
Checkpoints listing window	Displays a list of the checkpoints that have been assigned to the selected tour and configuration information pertaining to each. Checkpoints are assigned in the **Tour Wizard**.
Checkpoint Actions Sub-tab	
Checkpoint actions listing window	Displays a list of the actions that have been linked to the checkpoint selected in the main listing window and configuration information pertaining to each. Checkpoint actions are linked in the **Tour Wizard**. A  icon precedes each checkpoint action entry.
Messages Sub-tab	
Messages listing window	Displays a list of the messages that have been linked to the checkpoint selected in the main listing window. Messages are linked in the **Tour Wizard**. A  icon precedes each e-mail message entry. A  icon precedes each pager message entry.
View Details	Click this button to display detailed information about the selected message.
Monitoring Stations Sub-tab	
Monitoring stations listing window	Displays a list of the monitoring stations that have been assigned to the tour selected in the main listing window. Monitoring stations are assigned in the **Tour Wizard**. The monitoring stations in the list are contacted when: • An automatic tour is scheduled to begin. • The tour is started at another monitoring station. A  icon precedes each monitoring station entry.
Tour Video Sub-tab	

Guard Tour Folder - Tours Form (Continued)

Form Element	Comment
Tour video listing window	Displays a list of the checkpoints that have been assigned to the tour selected in the main listing window. If the checkpoint has been linked to a video device, the name of the device is also displayed. Video devices are linked in the **Tour Wizard**. If the **Video enabled for this tour** check box was not selected in the **Tour Wizard**, this listing window is not enabled.
Video enabled for this tour	If this check box is selected, live video coverage of this tour will be displayed in the Alarm Monitoring application while the tour is taking place. If the **Enable live video for this tour** check box was selected in the **Tour Wizard** during the configuration of tour video, then this check box will also be selected. If the **Enable live video for this tour** check box was not selected in the **Tour Wizard** during the configuration of tour video, then this check box will not be selected.
Add	Click this button to start the **Tour Wizard** and add a tour.
Modify	Click this button to start the **Tour Wizard** and modify the tour that is selected in the main listing window.
Delete	Click this button to delete the tour that is selected in the main listing window.
Help	Click this button to display online assistance for this form.
Close	Click this button to close the Guard Tour folder.

Tours Form Procedures

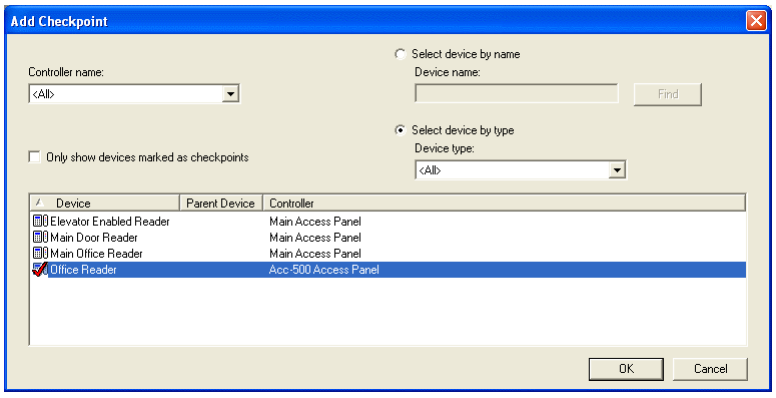
Add a Guard Tour

1. Select **Guard Tour** from the **Monitoring** menu. The Guard Tour folder displays.
2. Click [Add]. The Tour Wizard dialog displays.
3. In the **Tour name** field, enter a unique, descriptive name for the tour.
4. Click [Add]. The **Add Checkpoint** window opens.
5. From the **Controller name** drop-down list, select the name of the access panel that controls the checkpoint device that you want to add. If you select the **Only show devices marked as checkpoints** check box, only devices controlled by the selected access panel that have been marked as checkpoints will be displayed (devices can be marked as checkpoints when they are added or modified in the system). If this check box is not selected, all readers, reader inputs, and alarm inputs controlled by the selected access panel will be displayed.

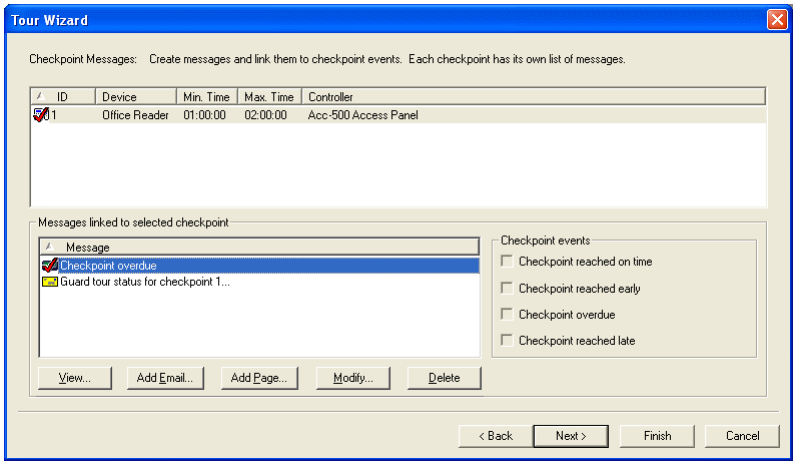
Note: A device does not need to be marked as a checkpoint during its initial configuration in the system in order for it to be added as a checkpoint in a

guard tour. The purpose of marking devices as checkpoints is for filtering the devices from which you can choose.

6. Do one of the following:
   - Select the **Select a device by name** radio button and type in the name of a device. Click [Find] to search the system for the name you typed. If you typed the entire name of a device, that device will be displayed in the listing window. If you typed the first letter(s) of a device name, all device names with matching first letter(s) will be displayed in the listing window. You must type at least one letter in the **Device name** field in order to search for a device by name.
   - Select the **Select a device by type** radio button to search for a device by type. Alarm inputs, readers, and reader inputs are the only types of devices that can be assigned as checkpoints.
7. Depending on your selections in steps 5 and 6, a list of devices will be displayed in the listing window. Click on a device to select it.



8. Click [OK]. The Tour Wizard proceeds. The name of the device you selected in step 7 is displayed in the **Checkpoints** listing window.



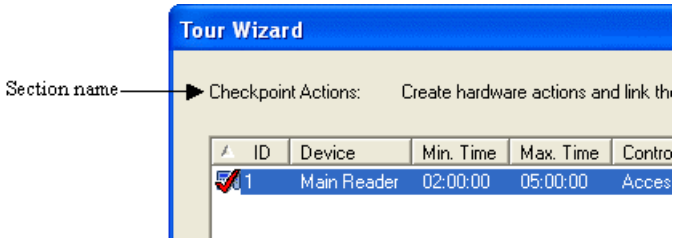
9. Repeat steps 4-8 for each device you want to add as a checkpoint.

Note: An ID number is automatically assigned to each device when it is added as a checkpoint. This number represents a checkpoint's sequence in a tour.

Example: a checkpoint with the ID number 1 is the first checkpoint that must be hit by a guard when the tour is run.

When there is more than one entry in the listing window, use [Move Up] and [Move Down] to rearrange the sequence order of the checkpoints.

10. In the **Checkpoints** listing window, click on a checkpoint to select it.
11. Enter the Checkpoint time, the time it should take for the tour guard to reach this checkpoint. Each checkpoint must have a minimum and a maximum checkpoint time.
    - Enter a Minimum minutes/seconds time. Example: 5 minutes, 30 seconds.
    - Enter a Maximum minutes/seconds time. Example: 10 minutes, 0 seconds.
12. Repeat steps 10 and 11 for each checkpoint.
13. You can click [Finish] and end the **Tour Wizard**. This guard tour is now available to be launched from a monitoring station running the Alarm Monitoring application. You can also click [Next] and assign checkpoint actions. If you click [Next], proceed to the "Assign Checkpoint Actions" procedure.
    To return to the **Tour Wizard** after you have clicked [Finish]:
    a. On the Tours form, select a tour entry from the main listing window.
    b. Click [Modify]. The **Tour Wizard** opens.
    c. Click [Next] until you reach the section of the **Tour Wizard** that you want to modify. The section name appears in the upper left hand corner of the wizard.



From this section	You can do this
Checkpoint Actions section	Assign Checkpoint Actions
Checkpoint Messages section	Create Messages and Link Them to Checkpoint Events
Monitoring Stations section	Assign Monitoring Stations to the Tour
Tour Video section	Link Camera Devices to Checkpoints
Tour Instructions section	Add Special Instructions

Assign Checkpoint Actions

Note: This procedure is optional.

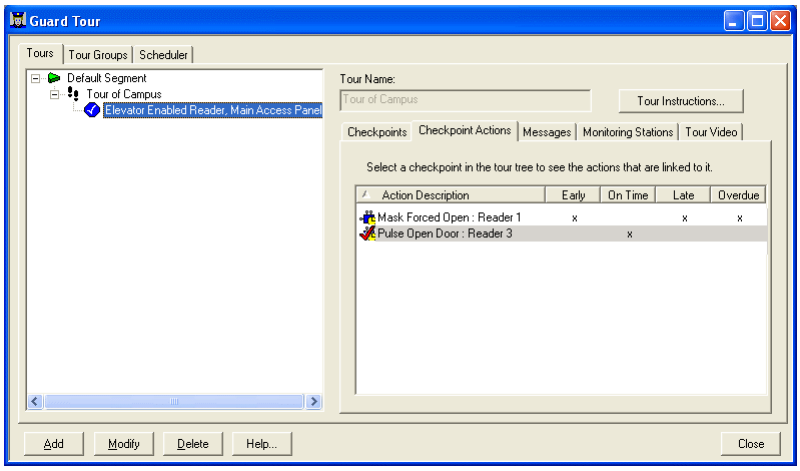
1. Skip this step if you are continuing from the procedure "Add a Guard Tour." If you are not continuing:
   a. On the Tours form, select the guard tour entry you want to modify from the listing window.
   b. Select the Checkpoint Actions sub-tab.
   c. Click [Modify]. The **Checkpoint Actions** section of the **Tour Wizard** opens.
2. From the **Checkpoint Actions** section of the **Tour Wizard**, select a checkpoint from the listing window.
3. Click [Add]. The **Add Action Wizard** opens from where you can:
   - Assign specific hardware actions to checkpoints.

     Example: you can assign an action group that will turn on a light when a guard reaches the first checkpoint on a tour.
   - Assign specific groups of hardware actions to checkpoints.

     Example: you can assign an action that will turn on a light, open a door, and sound a buzzer when a guard reaches the second checkpoint on a tour.
4. Assign an action or an action group to the selected checkpoint. You *must* refer to the Actions appendix for detailed information on how to use the **Add Action Wizard** to assign an action. For more information, refer to Appendix A: Actions on page 1217.
5. Repeat steps 2-4 for each checkpoint action you want to assign.

Note: You can assign multiple actions to each checkpoint.

6. Select a checkpoint from the listing window. The action(s) you assigned to that checkpoint will be displayed in the **Action Description** listing window.
7. Select an action description from the listing window.



8. Select one or more of **Checkpoint events** check boxes.
   Example: if you assigned an open door action to a checkpoint, select which checkpoint events you want to trigger that action. If you want the door to open when the checkpoint is reached on time, select the **Checkpoint reached on time** check box. Multiple checkpoint events can trigger and action, and therefore, you can select more than one check box.
9. Repeat steps 6-8 for each checkpoint action.
10. You can click [Finish] and end the **Tour Wizard**. You can also click [Next] and create messages and link them to checkpoint events. If you click [Next], proceed to the "Create Messages and Link Them to Checkpoint Events" procedure.

Create Messages and Link Them to Checkpoint Events

Note: This procedure is optional.

1. Skip this step if you are continuing from the procedure "Assign Checkpoint Actions." If you are not continuing:
   a. On the Tours form, select the guard tour entry you want to modify from the listing window.
   b. Select the Messages sub-tab.
   c. Click [Modify]. The **Checkpoint Messages** section of the **Tour Wizard** opens.
2. From the **Checkpoint Messages** section of the **Tour Wizard**, select a checkpoint from the listing window.
3. To link the selected checkpoint to an e-mail message:
   a. Click [Add E-mail].
   b. The **Add E-mail Message** window opens. Click [To].
   c. The **Select Recipient** window opens, which contains a list of all currently defined e-mail recipients. Click on the name of a recipient to select it.

Note: E-mail recipients are added on the Recipients form of the Global Output Devices folder. If you need to add recipients, make sure to click [Finish] and not [Cancel] to exit the **Tour Wizard**.

   d. Click [OK].
   e. On the **Add E-mail Message** window, type in the **Subject** of your message.
   f. In the **Message** field, type the actual content of the message. Notice that the number of characters contained in the message is displayed in the lower right corner of the window.
   g. Click [OK].
   h. Repeat steps a-g for each e-mail message you want to add.
4. To link the selected checkpoint to a pager message:
   a. Click [Add Page].
   b. The **Add Pager Message** window opens. Click [To].
   c. The **Select Recipient** window opens, which contains a list of all currently defined pager recipients. Click on the name of a recipient to select it.

Note: Pager recipients are added on the Recipients form of the Global Output Devices folder. If you need to add recipients, make sure to click [Finish] and not [Cancel] to exit the **Tour Wizard**.

d. Click [OK].

e. On the **Add Pager Message** window, type the actual content of the message in the **Message** field. In the lower right corner of the window, the number of characters in the message will be updated as you type.

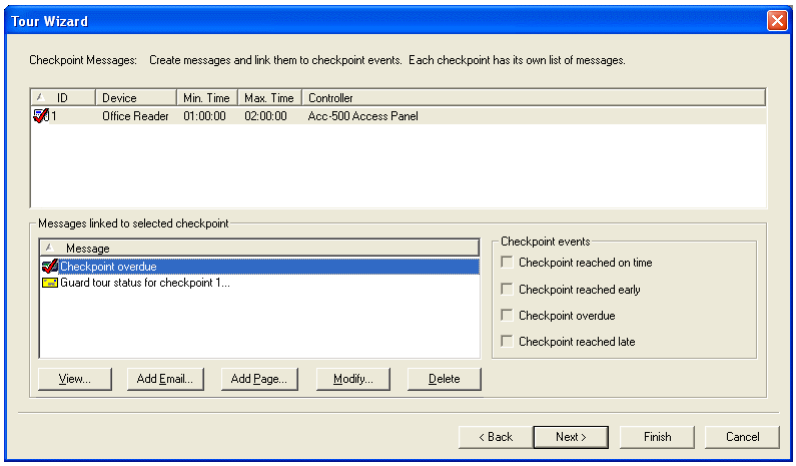
f. Click [OK].

g. Repeat steps a-f for each pager message you want to add.

Note: You can link multiple messages to each checkpoint.

5. Select a checkpoint from the listing window. The checkpoint messages you created will be displayed in the **Message** listing window.

6. Select a message from the listing window.



7. Select one or more of the **Checkpoint events** check boxes.
Example: if you linked an e-mail message to a checkpoint, select which checkpoint event you want to trigger that message to be sent. If you want the message to be sent when the checkpoint is reached on time, select the **Checkpoint reached on time** check box. Multiple checkpoint events can trigger a message to be sent, and therefore, you can select more than one check box.

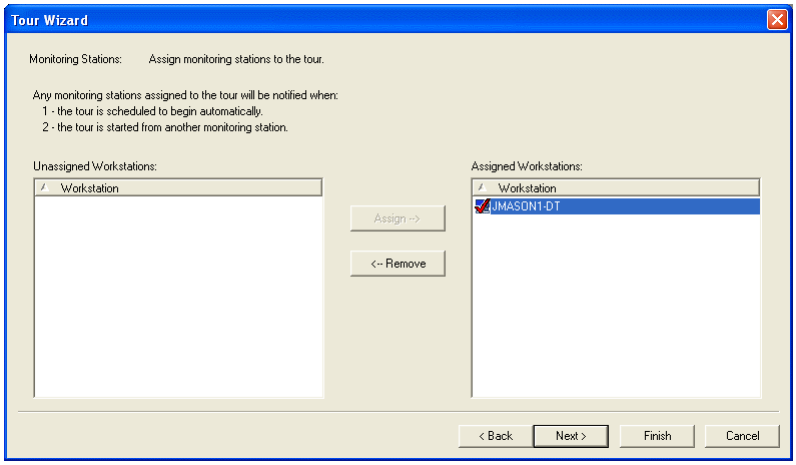
8. Repeat steps 6-8 for each checkpoint message.

9. You can click [Finish] and end the **Tour Wizard**. You can also click [Next] and assign monitoring stations to the tour. If you click [Next], proceed to the "Assign Monitoring Stations to the Tour" procedure.

Assign Monitoring Stations to the Tour

Note: This procedure is optional.

1. Skip this step if you are continuing from the procedure "Create Messages and Link Them to Checkpoint Events." If you are not continuing:
   a. On the Tours form, select the guard tour entry you want to modify from the listing window.
   b. Select the Monitoring Stations sub-tab.
   c. Click [Modify]. The **Monitoring Stations** section of the **Tour Wizard** opens.
2. From the **Monitoring Stations** section of the **Tour Wizard**, select a workstation from the **Unassigned Workstations** listing window. Options include workstations that you added on the Monitor Stations form of the Monitor Zones folder and workstations that have run the Alarm Monitoring application at least once.
3. Click [Assign].



4. The workstation you assigned is displayed in the **Assigned Workstations** listing window. All workstations in the **Assigned Workstations** listing window will, in the Alarm Monitoring application, receive a "Guard Tour in Progress" status displayed next to the tour's entry in the hardware tree when the tour is run. If this is an automatic guard tour, the assigned workstations will receive a notification message when the tour is scheduled to begin. For more information, refer to Scheduler Form on page 1054. Repeat steps 2 and 3 for each workstation you want to assign to this tour.
5. You can click [Finish] and end the **Tour Wizard**. You can also click [Next] and link camera devices to checkpoints at this time. If you click [Next], proceed to the "Link Camera Devices to Checkpoints" procedure.

Link Camera Devices to Checkpoints

Note: This procedure is optional.

1. Skip this step if you are continuing from the procedure "Assign Monitoring Stations to the Tour." If you are not continuing:
   a. On the Tours form, select the guard tour entry you want to modify from the listing window.
   b. Select the Tour Video sub-tab.
   c. Click [Modify]. The **Tour Video** section of the **Tour Wizard** opens.
2. From the **Tour Video** section of the **Tour Wizard**, select a checkpoint from the listing window.
3. Do one of the following:
   - Select the **Show all cameras** radio button to display every camera that is configured in the system in the **Camera** listing window.
   - Select the **Show all cameras that are linked to the checkpoint device** radio button to display only the cameras that are linked to the selected checkpoint's device to be displayed in the **Camera** listing window.

Note: Cameras are configured on the Camera form of the Digital Video folder. Cameras are linked to devices on the Device-Camera Links form of the Digital Video folder. To view the Digital Video folder, select **Digital Video** from the **Video** menu.

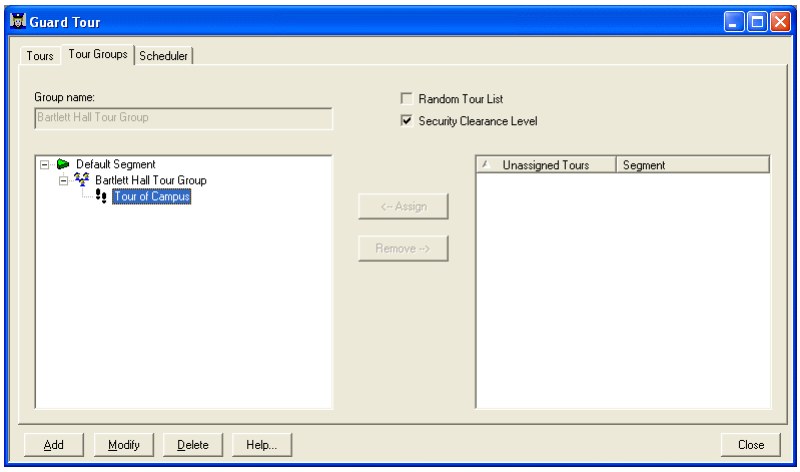
4. Select a camera from the listing window. This is the camera that will play live video when the tour is viewed in the Alarm Monitoring application.
5. Click [Assign].
6. Repeat steps 2-5 for each checkpoint you want to link to a camera.
7. Select the **Enable live video for this tour** check box if you want live video coverage of this tour to be displayed in the Alarm Monitoring application while the tour is taking place.
   If you want to save your configuration settings, but do not want to enable live video at this time, do not select this check box.
8. You can click [Finish] and end the **Tour Wizard**. You can also click [Next] and add special tour instructions at this time. If you click [Next], proceed to the "Add Special Instructions" procedure.

Add Special Instructions

Note: This procedure is optional.

1. Skip this step if you are continuing from the procedure “Link Camera Devices to Checkpoints.” If you are not continuing:
   a. On the Tours form, select the guard tour entry you want to modify from the listing window.
   b. Click [Modify].
   c. In the **Tour Wizard**, click [Next] until you reach the **Tour Instructions** section.
2. In the **Tour Instructions** section of the **Tour Wizard**, type any special instructions for this tour (up to 2000 characters). These instructions can be viewed and printed from the monitoring station(s) assigned to this tour before the tour is launched.
3. Click [Finish].

Tour Groups Form



Tour Groups Overview

A tour group is a grouping of two or more guard tours. There are two reasons why you would want to create tour groups. They are:

- **Random Tour Lists**. Random tour lists are used when scheduling automatic guard tours. An automatic guard tour is a tour that is scheduled to begin at a certain time. When an automatic guard tour is scheduled to begin, a notification message will be sent to the monitoring station(s) to which the tour is linked. When you schedule an automatic guard tour, you can choose to schedule either a particular tour, or a tour randomly selected from a tour group. When an automatic guard tour is scheduled for a tour group, the guard who is assigned to perform the tour will not know which tour to run until it is scheduled to begin. At that time, the system will randomly select one tour from the tour group, and the guard will receive a notification message telling them which tour to run. For more information, refer to Scheduler Form on page 1054.
- **Security Clearance Levels**. Security clearance levels are a means of limiting the number of tour guards to choose from when a tour is launched. Particular security clearance levels will be assigned only to guards who will need access to areas where a tour will take them. When a tour is launched, only guards with the appropriate security clearance level for that tour will be listed.

Note: Tour guards are assigned security clearance levels on the Guard Tours form in the Cardholders folder.

Tour Groups Form Field Table

Guard Tour Folder - Tour Groups Form

Form Element	Comment
Group name	Displays the name of the selected tour group.
Random Tour List	Select this check box if you want the tours in this tour group to be available for random selection when creating an automatic guard tour. For more information, refer to Scheduler Form on page 1054.
Security Clearance Level	Select this check box if you want this tour group to represent a security clearance level. Security clearance levels are a means of limiting the number of tour guards to chose from when a tour is launched. Particular security clearance levels will be assigned only to guards who will need access to areas where a tour will take them. When a tour is launched, only guards with the appropriate security clearance level for that tour will be listed. Tour guards are assigned security clearance levels on the Guard Tours form in the Cardholders folder.
Tour group listing window	Displays a list of tour groups. A  icon precedes each entry.
Assign	Click this button to assign an unassigned tour to a tour group. This button is enabled only when a tour is selected in the unassigned tours listing window. **Note:** One tour can be assigned to multiple tour groups.
Remove	Click this button to remove a tour from a tour group. This button is enabled only when a tour is selected in the tour group listing window.
Unassigned tours listing window	Displays a list of all tours that are available to be assigned to a tour group. **Note:** One tour can be assigned to multiple tour groups. A  icon precedes each entry.
Add	Click this button to add a tour group.
Modify	Click this button to modify the selected tour group.
Delete	Click this button to delete the selected tour group.
Help	Click this button to display online assistance for this form.
Close	Click this button to close the Guard Tour folder.

Tour Groups Form Procedures

Add a Tour Group

1. Select **Guard Tour** from the **Monitoring** menu. The Guard Tour folder displays.
2. Click the Tours Group tab.
3. Click [Add].
4. In the **Group Name** field, enter a unique, descriptive name for the tour group. As you type, the name will appear in the tour group listing window preceded by a  icon.
5. Select the **Random Tour List** check box if you want the tours in this tour group to be available for random selection when creating an automatic guard tour. For more information, refer to Scheduler Form on page 1054.
6. Select the **Security Clearance Level** check box if you want this tour group to represent a security clearance level. Security clearance levels are a means of limiting the number of tour guards to choose from when a tour is launched. Particular security clearance levels will be assigned only to guards who will need access to areas where a tour will take them. When a tour is launched, only guards with the appropriate security clearance level for that tour will be listed. (Tour guards are assigned security clearance levels on the Guard Tours form in the Cardholders folder.)
7. In the unassigned tour groups listing window, select a tour.

Note: One tour can be assigned to multiple tour groups.

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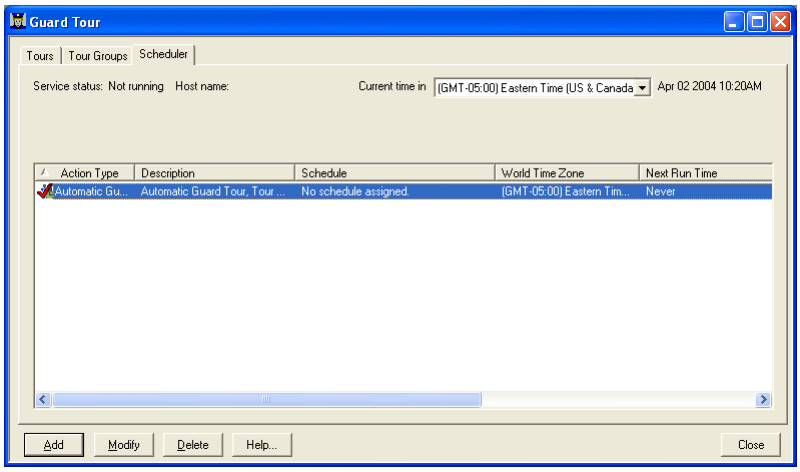
8. Click [Assign].
9. Repeat steps 7 and 8 for each tour you want to add to the tour group.
10. Click [OK].

Scheduler Form



Scheduler Form Overview

The Scheduler form is used to automatically schedule guard tours. This form is available in the Guard Tours folder by selecting **Guard Tour** from the **Monitoring** menu. You can also display the Scheduler form (by itself) by selecting **Scheduler** from the **Administration** menu. Both forms perform the same function.

An *automatic guard tour* is a tour that is scheduled to begin at a certain time. When an automatic guard tour is scheduled to begin, a notification message is sent to alarm monitoring station(s) linked to the tour.

Important: An automatic guard tour is automatically *scheduled*, not automatically *started*. When the notification message is received at alarm monitoring station(s), the tour must then be manually started.

Scheduler Form Field Table

Guard Tour Folder - Scheduler Form

Form Element	Comment
Current time in	Select a world time zone to view the current time in a particular geographical location. The selections in the drop-down list are listed sequentially, and each includes: • The world time zone's clock time relative to Greenwich Mean Time. For example, (GMT+05:00) indicates that the clock time in the selected world time zone is 5 hours ahead of the clock time in Greenwich, England. • The name of one or more countries or cities that are located in that world time zone.
Listing window	Displays a list of currently defined automatic guard tour schedules.
Add	Click this button to open the **Automatic Guard Tour Properties** window and schedule an automatic guard tour.
Modify	Click this button to modify the selected automatic guard tour schedule.
Delete	Click this button to delete the selected automatic guard tour schedule.
Help	Click this button to display online assistance for this form.
Close	Click this button to close the Guard Tour folder.

Scheduler Form Procedures

Schedule an Automatic Guard Tour Action

1. Click the [Add] button on the Scheduler form of the Guard Tour folder. If your system is not segmented, proceed to step 3.
2. If your system is segmented, the **Segment Membership** window opens. Select a segment and click [OK].
3. The **Automatic Guard Tour Properties** window opens. Do one of the following:
   - Select the **Single Tour** radio button if you want to configure an automatic guard tour for a single tour. When selected, only single tours will be listed in the **Tour/Tour Group** listing window.
   - Select the **Randomly select tour from group** radio button if you want to configure an automatic guard tour that will be randomly selected from a tour group. When selected, only tours groups that are configured

as random tour lists will be listed in the **Tour/Tour Group** listing window.

4. The monitoring stations that have been assigned to the selected tour or tour group will be displayed in the Monitoring Station listing window. Do one of the following:
   - If no monitoring stations have been assigned, or if you want to assign an additional monitoring station, click [Add]. The Select Monitoring Station window opens.
   - If you do not want to assign a monitoring station, proceed to step 8.
5. Click on a monitoring station to select it.
6. Click [OK]. The monitoring station you selected will be listed in the Monitoring Station listing window. All monitoring stations in the Monitoring Station listing window will receive a notification message, in the Alarm Monitoring application, when the tour is scheduled to begin.
7. Repeat steps 4-6 for each monitoring station you want to add.

Note: If you want to remove a monitoring station from the Monitoring Station listing window, click on an entry to select it, and then click [Remove].

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8. Click the Schedule tab. Using the Schedule form, schedule this action. You *must* refer to the Scheduler folder chapter for detailed information on scheduling an action. For more information, refer to Chapter 22: Scheduler Folder on page 599.
9. Click [OK].

Chapter 43: Monitoring Options Folder

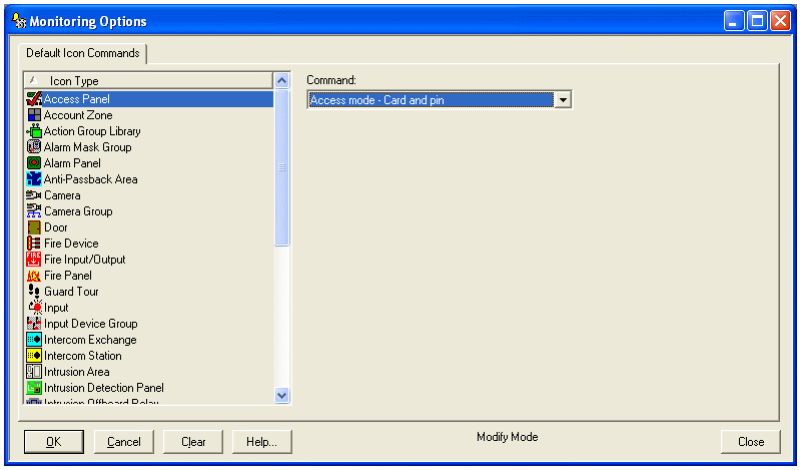
The Monitoring Options folder allows System Administrators to configure a command to be executed for an icon type on a system wide level. When an icon type, regardless of its state, is single or double-left clicked in Alarm Monitoring the command is executed. For example, an Alarm Monitoring operator can single or double-left click a door icon to unlock/lock a door.

Note: The type of click (single or double-left click) that executes the command for an icon is configured on a per user basis via Alarm Monitoring. For more information, refer to the Control Devices chapter in the Alarm Monitoring User Guide.

Toolbar Shortcut

The Monitoring Options folder is displayed by selecting **Monitoring Options** from the **Monitoring** menu or by selecting the Monitoring Options toolbar button.

Default Icon Commands Form



Monitoring Options Folder - Default Icon Commands Form

Form Element	Comment
Icon Type listing window	(view mode only) Lists the available icon types that can be configured to execute a command.
Command	Lists the commands available for the selected icon type.

Monitoring Options Folder - Default Icon Commands Form (Continued)

Form Element	Comment
OK	Saves the changes and takes the Default Icon Commands form out of modify mode. The folder does not close when the [OK] is selected.
Modify	Allows you to add a command to the icon type or modify an existing one. The [Modify] button initially displays when the Monitoring Options folder opens. When this button is selected it automatically changes to [Cancel].
Cancel	Cancels the modifications without saving changes. The Monitoring Options folder does not close.
Clear	Removes the command assigned to the selected icon type and continues to keep the Default Icon Commands form in modify mode.
Help	Displays online assistance for this form.
Close	Closes the Monitoring Options folder. If you attempt to close the folder without saving changes, a message asks if you want to abandon your changes, giving you an option to save the changes.

Default Icon Commands Form Procedures

Configure Commands to Execute by Icon Type

1. Select **Monitoring Options** from the **Monitoring** menu or select the Monitoring Options toolbar button. The Default Icon Commands form opens.
2. Select an Icon Type from the list window.
3. Select the command you want executed from the **Command** drop-down list.
4. Repeat steps 2 and 3 for each icon type you want to configure. Multiple icon types can be configured with the same command.
5. Click [OK].

Note: After the icon types are configured to execute commands, Alarm Monitoring operators can execute these commands via the alarm window or map view. Be sure to either restart Alarm Monitoring or log out and log back in again. For more information about the single or double-left click commands, refer to the Control Devices chapter in the Alarm Monitoring User Guide.

Additional Hardware

Chapter 44: Fire Panels Folder

The Fire Panels folder contains forms with which you can provide an interface to your fire alarm system.

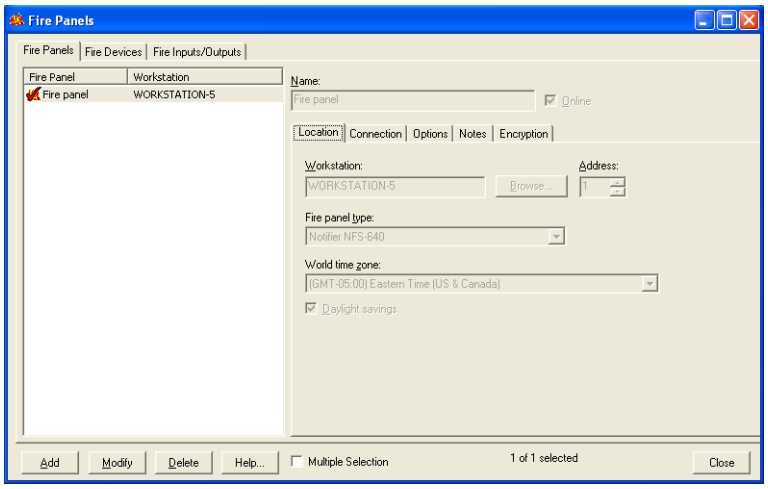
The folder contains three forms, the Fire Panels form, the Fire Devices form, and the Fire Inputs/Outputs form.

Toolbar Shortcut

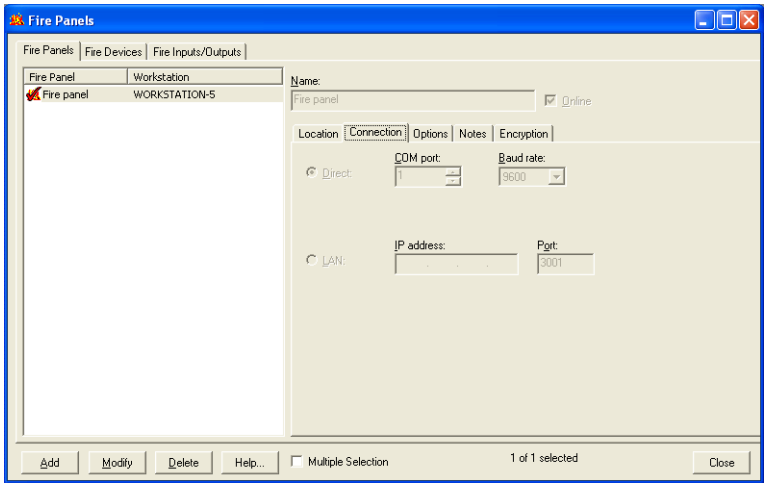
The Fire Panels folder is displayed by selecting **Fire Panels** from the **Additional Hardware** menu, or by selecting the Fire Panels toolbar button.

Important: Because of hardware limitations, the Notifier NFS-640 panel always appears to be online in the Alarm Monitoring application. Therefore the panel should physically be checked to verify that it's actually online.

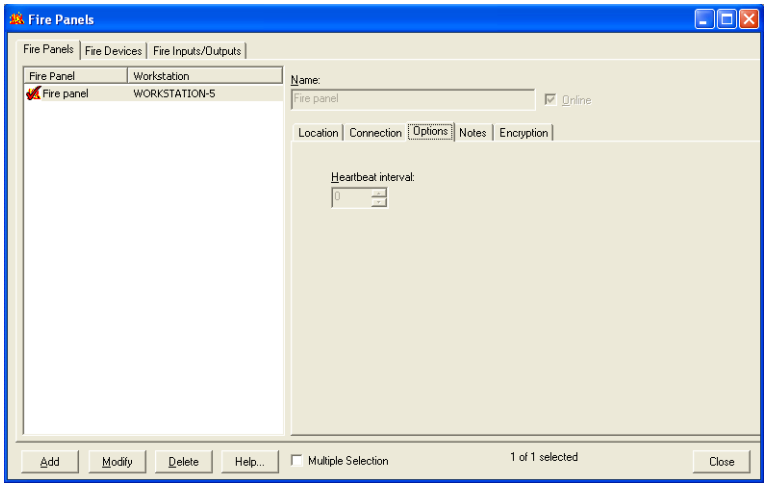
Fire Panels Form (Location Sub-tab)



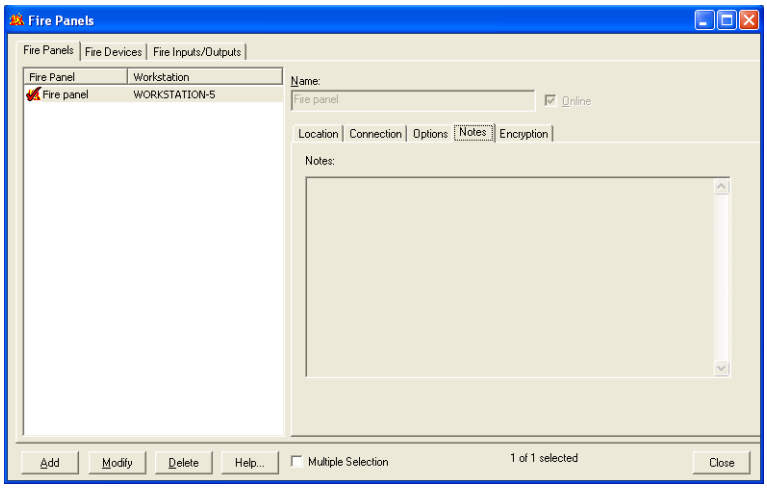
Fire Panels Form (Connection Sub-tab)



Fire Panels Form (Options Sub-tab)

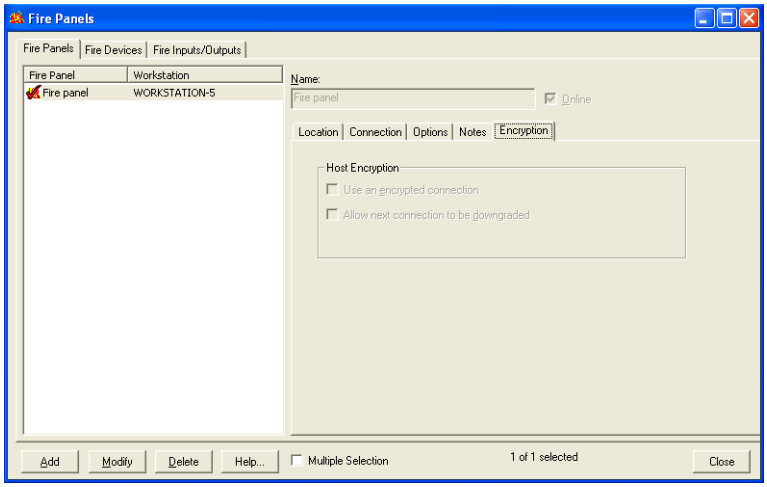


Fire Panels Form (Notes Sub-tab)



Fire Panels Form (Encryption Sub-tab)

Note: Configuration on this tab will be disabled unless the panel is configured for a LAN connection type on the Connection sub-tab.



Fire Panels Folder - Fire Panels Form

Form Element	Comment
Listing window	Lists currently defined fire panels and the name of the workstation that is connected to each. An icon precedes each entry.
Name	Enter a name for the fire panel. Each name must be unique and can contain no more than 32 characters. This is a "friendly" name assigned to each panel to make it easy to identify in the software. **Note:** Because of hardware limitations, the Notifier NFS-640 panel always appears to be online in the Alarm Monitoring application. Therefore the panel should physically be checked to verify that it's actually online.
Online	If selected, the panel will be online. Online indicates that the panel is ready for use, and that the Communication Server will attempt to communicate with the panel. If the panel is not marked as online, the Communication Server will not attempt to communicate with the panel.
Add	Used to add a fire panel entry.
Modify	Used to change a fire panel entry.
Delete	Used to remove a fire panel entry.
Help	Displays pertinent help information on screen.
Multiple Selection	If selected, more than one entry in the listing window can be checked simultaneously.
Close	Closes the Fire Panels folder.

Fire Panels Folder - Fire Panels Form (Continued)

Form Element	Comment
Location Sub-tab	
Workstation	Select the name of the computer to which the fire panel is connected. You can either type the name in the field, or use the [Browse] button to view a list of available workstations. **Note:** You are required to enter the workstation's NetBIOS name. (The NetBIOS name is specified when Windows networking is installed/configured.)
Browse	Displays a Browse for Computer from which you can click on the name of a workstation to highlight the entry. Click on the [OK] button to then enter the workstation name in the **Workstation** field on this form.
Address	Select the number that matches the address of the fire panel. Possible values are in the range of 1 through 255. The fire panel address is set using the CSGM configuration tool. By default, the address is 1 if you have a one-panel system. If you have multiple panels, you must use CSGM to set the address for each panel. You must also set this address on the NIM-1R board.
Fire panel type	Contains a list of fire panel types that are valid for the installed software license.
World time zone	Select the world time zone for the selected access panel's geographical location. The selections in the drop-down list are listed sequentially, and each includes: • The world time zone's clock time relative to Greenwich Mean Time. For example, (GMT+05:00) indicates that the clock time in the selected world time zone is 5 hours ahead of the clock time in Greenwich, England. • The name of one or more countries or cities that are located in that world time zone.
Daylight savings	Select this check box if Daylight Savings Time is enforced in the selected access panel's geographical location.
Connection Sub-tab	
Direct	Select this radio button if the workstation will be directly connected to the fire panel. You must also specify the **COM port** and **Baud rate**.
COM port	Enabled only when the **Direct** radio button is selected. Choose the number of the port (on the serial expansion unit or the back of the workstation or server) that will be used for communication with the panel. Choose a value in the range of 1 through 256.
Baud rate	This is the speed (in bits per second) at which information is transferred between the workstation and the fire panel.
LAN	Select this radio button if the workstation will communicate with the fire panel over a Local Area Network. You must also specify the workstation's **IP Address**.
IP address	If you selected the **LAN** radio button, enter here the Internet Protocol (TCP/IP) address for the fire panel, as provided by your LAN Network Administrator. An IP address consists of four numbers, each in the range of 0 through 255. A period separates each number.
Options Sub-tab	

Fire Panels Folder - Fire Panels Form (Continued)

Form Element	Comment
Heartbeat interval	**Note:** This field is enabled if you have selected "Notifier AM2020" from the **Fire panel type** drop-down list on the Location sub-tab, or if you've selected the "Tateco" fire panel using selected ESPA protocol. **Note:** The default heartbeat interval for the Notifier AM2020 is 90 seconds, and the default heartbeat interval for the Tateco ESPA is 0 seconds. Indicates the heartbeat interval of the selected panel. The heartbeat interval is the time (in seconds) between signals that determine a panel's online or offline status. By default, a signal is sent out approximately once every minute. This means that a panel may be offline for a full minute before the system is notified. If you increase the interval between signals, the heartbeat interval, you are increasing the time that a panel may be offline before the system is notified.
Notes Sub-tab	
Notes	Enter information about the panel. This field is limited to less than 2000 characters. Any text that is entered here will be displayed in Alarm Monitoring. For more information, refer to the procedure to View Notes in the Alarm Monitoring User Guide in Chapter 5, "Monitor Devices."
Encryption Sub-tab	
Use an encrypted connection	Determines whether the connection to the controller is encrypted or not. If not selected (the default), a plain connection is used. If selected, the connection is encrypted.
Allow next connection to be downgraded	Determines whether the system will attempt a downgrade the next time it connects to the controller and there are encryption problems. If not selected (the default), the system will not attempt to downgrade the connection, even if the configured encrypted connection fails. If selected, the system will attempt to downgrade the connection if the encrypted connection fails. The system attempts downgrades by trying encryption with the inactive master key and then by trying a plain connection. Note that if the controller requires encryption, a plain connection is not possible. This check box displays only if the controller exists in an automatic key management system/segment.

Fire Panels Form Procedures

Add a Fire Panel

1. From the **Additional Hardware** menu, select **Fire Panels**. The Fire Panels folder opens.
2. Click [Add].
3. If segmentation is not enabled, skip this step. If segmentation is enabled:
   a. The Segment Membership window will open. Select the segment that this fire panel will be assigned to.
   b. Click [OK].
4. In the **Name** field, type a unique, descriptive name for the fire panel.
5. Select the **Online** check box if you want the panel to be online.
6. On the Location sub-tab:
   a. In the **Workstation** field enter the name of the workstation the fire panel will be connected to. It's best to select the workstation using [Browse]. In the Browse for Computer window, select the name of the workstation, then click [OK].

Note: You are required to enter the workstation's NetBIOS name. (The NetBIOS name is specified when Windows networking is installed/configured.)

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   b. Select the number that matches the **Address** of the fire panel. Possible values are in the range of 1 through 255.

Note: The fire panel address is set using the CSGM configuration tool. By default, the address is 1 if you have a one-panel system. If you have multiple panels, you must use CSGM to set the address for each panel. You must also set this address on the NIM-1R board.

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   c. Select the **Fire panel type**.
   d. Select the world time zone from the **World time zone** drop-down list.
   e. Select whether **Daylight savings** is used or not.
7. On the Connection sub-tab:
   a. If the workstation will communicate with the fire panel directly, select the **Direct** radio button and specify the **COM port** and **Baud rate**.
   b. If the workstation will communicate with the fire panel over a LAN, select the **LAN** radio button and specify the **IP address**.
8. If you selected "Notifier AM2020" or a "Tateco" fire panel from the **Fire panel type** drop-down list on the Location sub-tab, select the Options sub-tab to determine the panel's **Heartbeat interval**. The heartbeat interval is the time (in seconds) between signals that determine a panel's online or offline status. By default, a signal is sent out approximately once every minute. This means that a panel may be offline for a full minute before the system is

notified. If you increase the interval between signals, the heartbeat interval, you are increasing the time that a panel may be offline before the system is notified.

9. Click [OK].

Modify a Fire Panel

1. From the **Additional Hardware** menu, select **Fire Panels**. The Fire Panels folder opens.
2. In the listing window, select the fire panel entry you wish to change.
3. Click [Modify].
4. Make the changes you want to the fields. Changes can be made on any sub-tab.
5. Click [OK] to save the changes, or [Cancel] to revert to the previously saved values.

Delete a Fire Panel

1. From the **Additional Hardware** menu, select **Fire Panels**. The Fire Panels folder opens.
2. In the listing window, select the fire panel entry you wish to delete.
3. Click [Delete].
4. Click [OK].

Enable for Encryption

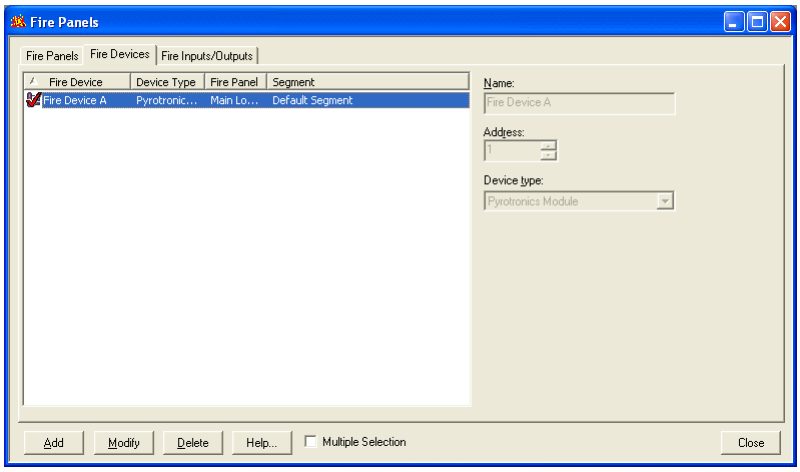
The encryption modify/export permission is required to complete this procedure. Also, encryption must be enabled and the proper encryption key configured in the communication device before enabling the panel for encryption.

1. From the **Additional Hardware** menu, select **Fire Panels**.
2. On the Fire Panel form, click the Encryption sub-tab.
3. In the listing window, select the Fire Panel entry you wish to enable encryption for.
4. Click [Modify].
5. Select the **Use an encrypted connection** check box.
6. If automatic encryption is used, you can also select the **Allow next connection to be downgraded** check box, if you want the connection downgraded if the encrypted connection fails.
7. Click [OK].
8. Acknowledge any messages that display.

Enter Notes for a Panel

1. In the listing window, select the entry you want to edit.
2. Click [Modify].
3. Type the information in the Notes field. This note will be able to be displayed in Alarm Monitoring.
4. Click [OK].

Fire Devices Form



Fire Panels Folder - Fire Devices Form

Form Element	Comment
Listing window	In view mode, displays currently defined fire devices. In add or modify mode, displays currently defined fire panels.
Name	In add or modify mode, enter a name for the fire device. Each name must be unique and can contain no more than 32 characters. This is a “friendly” name assigned to each device to make it easy to identify in the software.
Address	In add or modify mode, select the number that matches the address of the fire device. Possible values are in the range of 1 through 255.
Device type	In add or modify mode, select the type of fire device. Choices in the drop-down list depend on which fire panel the selected fire device is configured with.
Add	Used to add a fire device entry.
Modify	Used to change a fire device entry.
Delete	Used to remove a fire device entry.
Help	Displays online help for this form.
Multiple Selection	If selected, more than one entry in the listing window can be checked simultaneously.
Close	Closes the Fire Panels folder.

Fire Devices Form Procedures

Add a Fire Device

1. From the **Additional Hardware** menu, select **Fire Panels**. The Fire Panels folder opens.
2. Select the Fire Devices tab.
3. Click [Add].
4. From the listing window, select the name of the panel that you want to configure this device with.
5. In the **Name** field, type a unique, descriptive name for the fire device.
6. Select the number that matches the **Address** of the fire device. Possible values depend on the type of panel used.
7. Select the **Device type**. Choices in the drop-down list depend on which fire panel this fire device is configured with.
8. Click [OK].

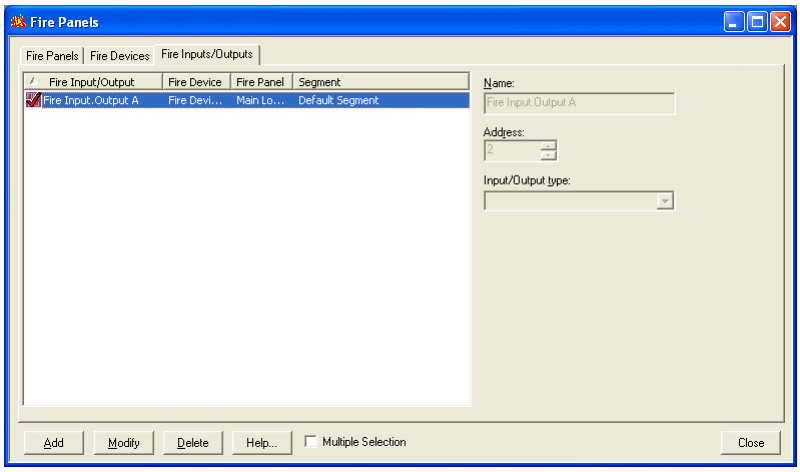
Modify a Fire Device

1. From the **Additional Hardware** menu, select **Fire Panels**. The Fire Panels folder opens.
2. Select the Fire Devices tab.
3. In the listing window, select the fire device entry you wish to change.
4. Click [Modify].
5. Make the changes you want to the fields.
6. Click [OK].
7. A Confirm Record Modify message will be displayed. Click [OK] to complete the modification.

Delete a Fire Device

1. From the **Additional Hardware** menu, select **Fire Panels**. The Fire Panels folder opens.
2. Select the Fire Devices tab.
3. In the listing window, select the fire device entry you wish to delete.
4. Click [Delete].
5. Click [OK].
6. A Confirm Record Delete message will be displayed. Click [OK] to complete the deletion.

Fire Inputs/Outputs Form



Fire Panels Folder - Fire Inputs/Outputs Form

Form Element	Comment
Listing window	In view mode, displays currently defined fire inputs/outputs. In add or modify mode, displays currently defined fire devices.
Name	In add or modify mode, enter a name for the fire input/output. Each name must be unique and can contain no more than 32 characters. This is a “friendly” name assigned to each fire input/output to make it easy to identify in the software.
Address	In add or modify mode, select the number that matches the address of the fire input/output. Possible values are in the range of 1 through 255.
Inputs/Outputs type	Only used for a Loop on a Notifier NFS-64, and Notifier AM2020 fire panel. Is used to specify what type of input is being added. This is necessary because the Notifier NFS-640, and AM2020 allows different types of inputs to be configured with the same address. **Note:** Notifier AM2020 Loop functionality is only available in ReadkeyPRO build 5.11.xxx and up. This was also added as a hot fix for build 5.10.423.
Add	Used to add a fire inputs/outputs entry.
Modify	Used to change a fire inputs/outputs entry.
Delete	Used to remove a fire inputs/outputs entry.
Help	Displays online help for this form.
Multiple Selection	If selected, more than one entry in the listing window can be checked simultaneously.
Close	Closes the Fire Panels folder.

Fire Inputs/Outputs Form Procedures

Add a Fire Input/Output

1. From the **Additional Hardware** menu, select **Fire Panels**. The Fire Panels folder opens.
2. Select the Fire Inputs/Outputs tab.
3. Click [Add].
4. From the listing window, select the name of the device that you want to configure this input/output with.
5. In the **Name** field, type a unique, descriptive name for the fire input/output.
6. Select the number that matches the **Address** of the fire input/output. Possible values are in the range of 1 through 255.
7. Click [OK].

Modify a Fire Input/Output

1. From the **Additional Hardware** menu, select **Fire Panels**. The Fire Panels folder opens.
2. Select the Fire Inputs/Outputs tab.
3. In the listing window, select the fire input/output entry you wish to change.
4. Click [Modify].
5. Make the changes you want to the fields.
6. Click [OK].
7. A Confirm Record Modify message will be displayed. Click [OK] to complete the modification.

Delete a Fire Input/Output

1. From the **Additional Hardware** menu, select **Fire Panels**. The Fire Panels folder opens.
2. Select the Fire Inputs/Outputs tab.
3. In the listing window, select the fire input/output entry you wish to delete.
4. Click [Delete].
5. Click [OK].
6. A Confirm Record Delete message will be displayed. Click [OK] to complete the deletion.

Chapter 45: Intercom Devices Folder

The Intercom Devices folder contains forms with which you can:

- Configure ReadkeyPRO to use exchanges for intercom communication
- Configure ReadkeyPRO to use intercom stations
- Configure ReadkeyPRO to recognize intercom functions
- Link a cardholder field to an intercom station (using the Automatic Lookup form)

The folder contains three forms: the Intercom Devices, the Intercom Stations form, and the Intercom Functions form.

Toolbar Shortcut

The Intercom Devices folder is displayed by selecting **Intercom Devices** from the **Additional Hardware** menu, or by selecting the Intercom toolbar button.

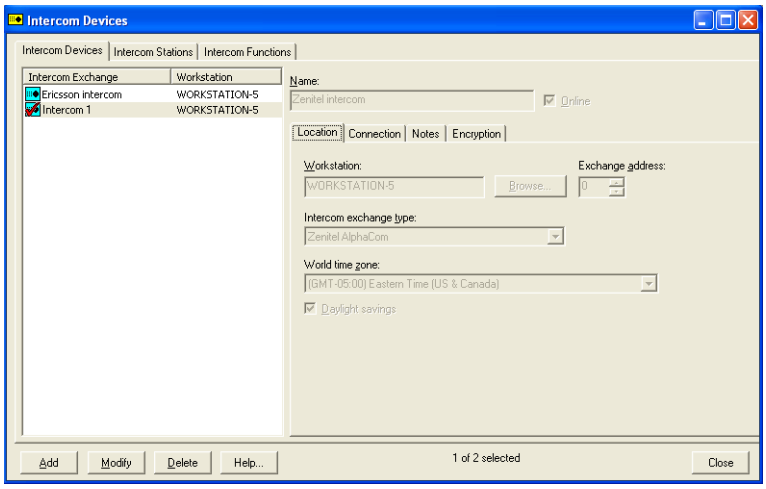
Intercom Communication

ReadkeyPRO supports the Ericsson MD110 and generic intercom systems in addition to supporting other intercom systems through the SDK. Intercom system hardware consists of stations and exchanges. The *station* is the actual unit a person uses to make calls. Each station is connected to an exchange unit, which is referred to as an *intercom exchange*.

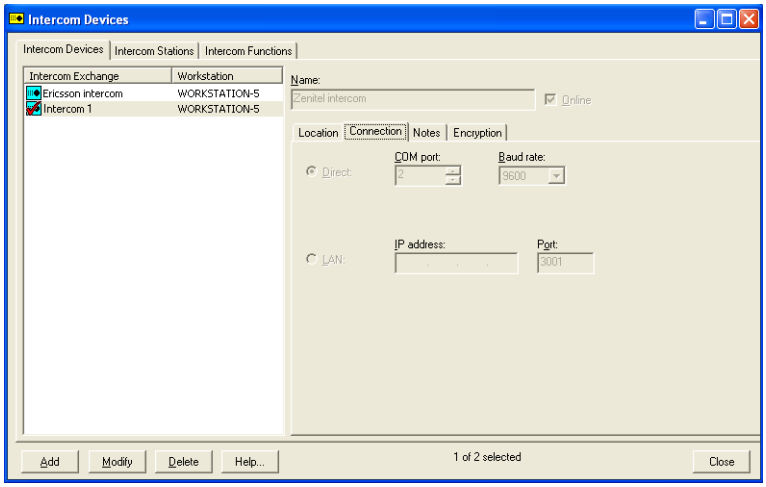
Ericsson MD110 Intercom System

ReadkeyPRO communicates with the Ericsson MD110 system using the Application Link client DLL. Therefore, the Application Link client DLL must be installed on the machine running the ReadkeyPRO Communication Server.

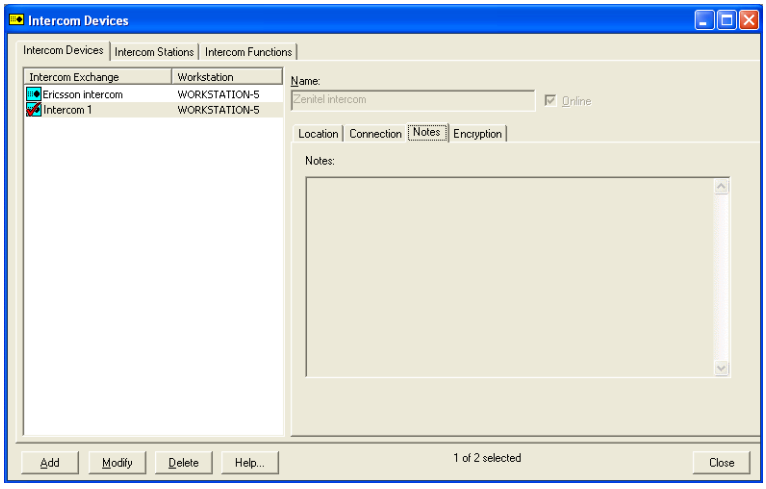
Intercom Devices Form (Location Sub-tab)



Intercom Devices Form (Connection Sub-tab)

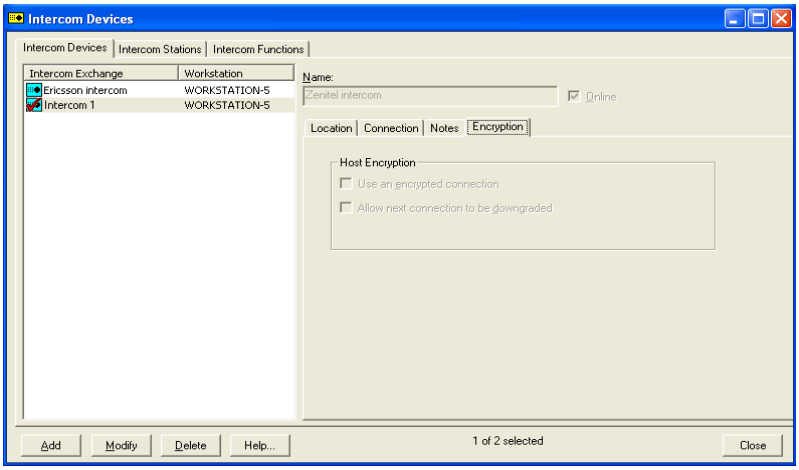


Intercom Devices Form (Notes Sub-tab)



Intercom Devices Form (Encryption Sub-tab)

Note: Configuration on this tab will be disabled unless the panel is configured for a LAN connection type on the Connection sub-tab.



Intercom Devices Form Field Table

Intercom Devices Folder - Intercom Devices Form

Form Element	Comment
Intercom exchange listing window	Lists all currently defined intercom exchanges. Each entry includes the name of the exchange, the workstation the exchange is attached to, and the segment it is in. (The Segment column appears only if segmentation is enabled on your system.)
Name	Indicates the name of the main exchange.
Online	If selected, the exchange is online. If not selected, the exchange is offline.
Add	Used to add an intercom exchange record.
Modify	Used to change an intercom exchange record.
Delete	Used to remove an intercom exchange record.
Help	Displays online assistance for this form.
Close	Closes the Intercom Devices folder.
Location Sub-tab	
Workstation	Identifies the workstation the exchange is attached to. **Note:** You are required to enter the workstation's NetBIOS name. (The NetBIOS name is specified when Windows networking is installed/configured.)
Browse	Opens a Browse for Computer window, from which you can select a workstation.
Exchange address	Identifies the intercom.
Intercom exchange type	Displays a list of intercom exchange types.
World time zone	Select the world time zone for the selected access panel's geographical location. The selections in the drop-down list are listed sequentially, and each includes: • The world time zone's clock time relative to Greenwich Mean Time. For example, (GMT+05:00) indicates that the clock time in the selected world time zone is 5 hours ahead of the clock time in Greenwich, England. • The name of one or more countries or cities that are located in that world time zone.
Daylight savings	Select this check box if Daylight Savings Time is enforced in the selected access panel's geographical location.
Connection Sub-tab	
Direct	Select this radio button if the workstation will communicate with the intercom exchange over a direct serial connection.
COM port	If you selected the **Direct** radio button, specify the serial port the intercom exchange is attached to (along with the baud rate).
Baud rate	If you selected the Direct radio button, enter the speed (in bits per second) at which information is transferred between the workstation and the intercom exchange.
LAN	Select the **LAN** radio button if the workstation will communicate with the intercom exchange over a Local Area Network.

Intercom Devices Folder - Intercom Devices Form (Continued)

Form Element	Comment
IP address	If you selected the **LAN** radio button, enter the Internet Protocol (TCP/IP) address for the intercom exchange, as provided by your LAN Network Administrator.
Port	This field applies to Ericsson MD110 intercoms only. Enter the port the Application Link client DLL uses (along with the IP address) to communicate with the Ericsson MD110. Port values range from 1-65535.
Notes Sub-tab	
Notes	Enter information about the panel. This field is limited to less than 2000 characters. Any text that is entered here will be displayed in Alarm Monitoring. For more information, refer to the procedure to View Notes in the Alarm Monitoring User Guide in Chapter 5, “Monitor Devices.”
Encryption Sub-tab	
Use an encrypted connection	Determines whether the connection to the controller is encrypted or not. If not selected (the default), a plain connection is used. If selected, the connection is encrypted.
Allow next connection to be downgraded	Determines whether the system will attempt a downgrade the next time it connects to the controller and there are encryption problems. If not selected (the default), the system will not attempt to downgrade the connection, even if the configured encrypted connection fails. If selected, the system will attempt to downgrade the connection if the encrypted connection fails. The system attempts downgrades by trying encryption with the inactive master key and then by trying a plain connection. Note that if the controller requires encryption, a plain connection is not possible. This check box displays only if the controller exists in an automatic key management system/segment.

Intercom Devices Form Procedures

Add an Intercom Exchange

1. From the **Additional Hardware** menu, select **Intercom Devices**.
2. On the Intercom Devices form, click [Add].
3. If segmentation is not enabled, skip this step. If segmentation is enabled:
   a. The Segment Membership window will open. Select the segment that this intercom exchange will be assigned to.
   b. Click [OK].
4. In the **Name** field, type a unique, descriptive name for the exchange.
5. Select the **Online** check box if the exchange will be online, or de-select the check box if the exchange will be offline.
6. On the Location sub-tab:
   a. Enter the name of the workstation the exchange will connect to.
   b. Enter the intercom exchange address. This field applies to generic and the SDK intercom exchanges.
   c. Select the type of intercom exchange from the drop-down list.
   d. Select the world time zone from the **World time zone** drop-down list.
   e. Select whether **Daylight savings** is used or not.
7. On the Connection sub-tab, select the method used to communicate with the exchange. Note that only network connections are allowed when adding an Ericsson MD110 exchange.
   a. Select the **Direct** radio button if communication with the exchange will be through a direct serial connection to the specified workstation. You must also specify the workstation's COM port and baud rate.
   b. Select the **LAN** radio button if communication with the exchange will be over a Local Area Network. You must also specify the workstation's IP address, and for Ericsson MD110 exchanges you must also specify the port.
8. Click [OK]. A record for the exchange will be added to the listing window.

Modify an Intercom Exchange

1. From the **Additional Hardware** menu, select **Intercom Devices**.
2. On the Intercom Devices form, select the intercom exchange you wish to change.
3. Click [Modify].
4. Make the changes you want to the fields. Changes can be made on any sub-tab.
5. Click [OK].
6. The Confirm Record Modify window opens. Click [OK] to complete the changes, or [Cancel] to abandon your changes.

Delete an Intercom Exchange

1. From the **Additional Hardware** menu, select **Intercom Devices**.
2. On the Intercom Devices form, select the intercom exchange you wish to delete.
3. Click [Delete].
4. Click [OK].
5. Click [OK] when prompted to proceed with the deletion, or [Cancel] to abandon the deletion.

Enable an Intercom Exchangefor Encryption

The encryption modify/export permission is required to complete this procedure. Also, encryption must be enabled and the proper encryption key configured in the communication device before enabling the panel for encryption.

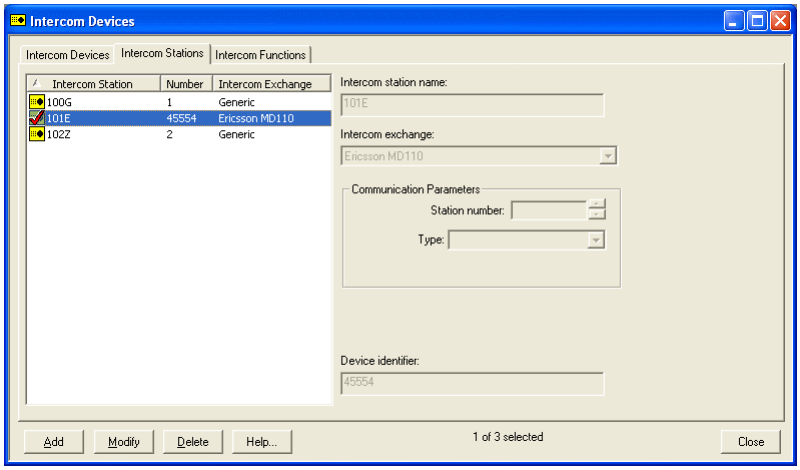
1. From the **Additional Hardware** menu, select **Intercom Devices**.
2. On the Intercom Exchange form, click the Encryption sub-tab.
3. In the listing window, select the Intercom Exchange entry you wish to enable encryption for.
4. Click [Modify].
5. Select the **Use an encrypted connection** check box.
6. If automatic encryption is used, you can also select the **Allow next connection to be downgraded** check box, if you want the connection downgraded if the encrypted connection fails.
7. Click [OK].
8. Acknowledge any messages that display.

Enter Notes for an Intercom Exchange

1. In the listing window, select the entry you want to edit.
2. Click [Modify].
3. Type the information in the Notes field. This note will be able to be displayed in Alarm Monitoring.
4. Click [OK].

Intercom Stations Form

This form is used to configure communication parameters for intercom stations.



Intercom Stations Form Field Table

Intercom Devices Folder - Intercom Stations Form

Form Element	Comment
Intercom station listing window	Lists all currently defined intercom stations. Each entry includes the name of the intercom station, its number, the intercom exchange it is attached to, and the segment it is in. (The Segment column appears only if segmentation is enabled on your system.)
Intercom station name	Specify the name of the intercom station.
Intercom exchange	Select the exchange the intercom station is attached to.
Station number	Enter the number individuals should use when calling this station. The combination of intercom exchange and station number must be unique. For most intercom stations the station number cannot be greater than 32766. If you can enter a station number greater than 32766 however, an error message displays “Missing or Invalid Address” when you attempt to add the record.
Cell number	This field displays if you previously linked **any** cardholder field to a type of intercom panel in the Automatic Lookup form in the Cardholder Options folder. For more information, refer to Automatic Lookup Form on page 518. **Note:** The **Cell number** field may not display until you select the intercom exchange.
Type	Assign Avaya (an SDK exchange) one of the following types: Analog, IP, or Advanced IP. This field will not be available for most exchanges.
Device identifier	This field applies only to Ericsson MD110 intercom systems. The device identifier consists of numbers (0-9) and can be from 2 to 5 digits long. **Note:** There is a limit of 8000 devices per Ericsson MD110 intercom exchange. This limit should be taken into consideration when installing the intercom system. For more information, refer to the Ericsson MD1100 manual.
Add	Used to add an intercom station record.
Modify	Used to change an intercom station record.
Delete	Used to remove an intercom station record.
Help	Displays online assistance for this form.
Mode	In view mode, indicates the record/selection count (such as “1 of 42 selected”). In modify mode, indicates the current operation, such as “Modify Mode.”
Close	Closes the Intercom Devices folder.

Intercom Stations Form Procedures

Add an Intercom Station

You may not add an intercom station until the exchange it is associated with has been defined on the Intercom Devices form.

1. Select **Intercom Devices** from the **Additional Hardware** menu. The Intercom Devices folder opens.
2. On the Intercom Stations form, click [Add].
3. In the **Intercom station name** field, type a unique, descriptive name for this intercom station.
4. Select the intercom exchange from the drop-down list.

Note: If the intercom exchange you select has a cardholder field associated with it, an additional field, **Cell number**, displays on the Intercom Stations form. For more information, refer to Automatic Lookup Form on page 518.

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5. In the Communication Parameters section, specify the intercom station number. The combination of the intercom exchange and the station number must be unique. The station number cannot be greater than 32766.
6. If you are linking a cell number to an intercom station, enter the cell number.
7. Ericsson MD110 stations only - enter the device identifier.

Note: There is a limit of 8000 devices per Ericsson MD110 intercom exchange. This limit should be considered when installing the intercom system. For more information, refer to the Ericsson MD1100 manual.

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8. Click [OK]. An intercom station record will be added to the listing window.

Modify an Intercom Station

1. Select **Intercom Devices** from the **Additional Hardware** menu. The Intercom Devices folder opens.
2. On the Intercom Stations form, select the intercom station record you wish to change.
3. Click [Modify].
4. Make the changes you want to the fields. You may change the **Intercom station name** and **Station number** fields, but you cannot change the **Intercom exchange** field.
5. Click [OK] to proceed with the deletion, or [Cancel] to abandon the deletion.

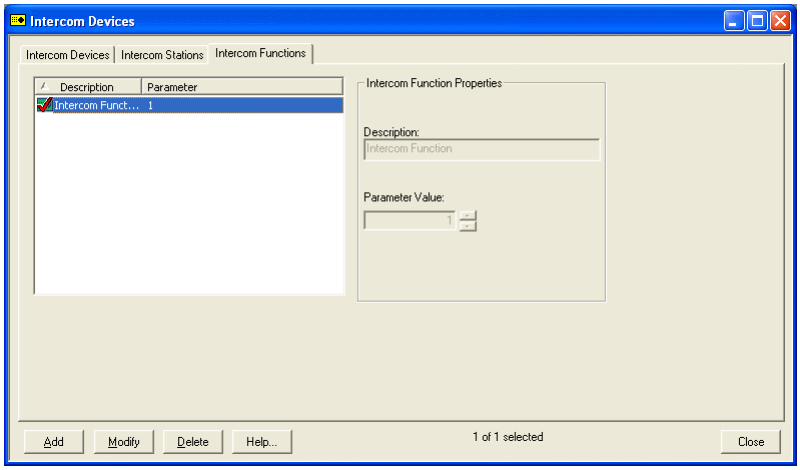
Delete an Intercom Station

1. Select **Intercom Devices** from the **Additional Hardware** menu. The Intercom Devices folder opens.
2. On the Intercom Stations form, select the intercom station record you wish to delete.
3. Click [Delete].
4. Click [OK].

Intercom Functions Form

The Intercom Functions form is used to:

- Configure intercom functions for Generic intercom systems only. Intercom functions are not supported with Ericsson MD110 systems.
- Change the description and/or parameter values given to intercom functions that are added by the Communication Server.
  If the Communication Server receives an event that includes a parameter value not found in the database, the Communication Server will add an entry into the database, including the parameter value and a default description. Therefore, the listing window of the Intercom Functions form may display records that you did not enter because the Communication Server can add entries.



Intercom Devices Folder - Intercom Functions Form

Form Element	Comment
Intercom functions listing window	Lists all currently defined intercom functions. Each entry includes a description and parameter number.
Description	The description given to the intercom function event with a certain parameter value.
Parameter Value	The parameter value that is returned in the event.
Add	Used to add an intercom function record.
Modify	Used to change an intercom function record.
Delete	Used to delete an intercom function record.
Help	Displays online assistance for this form.
Close	Closes the Intercom Devices folder.

Intercom Functions Overview

Intercom functions are defined in ReadkeyPRO so that additional information can display with events in Alarm Monitoring.

Functions are activated at an intercom station, and may be programmed by referring to the documentation included with the manufacturer of the intercom systems.

When a function is activated at a intercom station, an event is generated. The event travels from the intercom station to the exchange, and finally arrives at the Communication Server. Each function has a unique parameter value that is sent in the event. This parameter value is used by the Communication Server to determine which function was activated at the intercom station. You may set the parameter value for a specific function in the **Parameter Value** field on the Intercom Functions form.

Intercom Functions Form Procedures

Add an Intercom Function

1. Select **Intercom Devices** from the **Additional Hardware** menu. The Intercom Devices folder opens.
2. On the Intercom Functions form, click [Add].
3. In the **Description** field, type a description for this intercom function. (The description does not need to be unique.)
4. Use the spin buttons to choose a parameter value.

Note: Each parameter value must be unique, when you configure multiple functions. When a function generates an event, the event and the parameter value of the function are sent to the Communication Server. The Communication Server uses the parameter value to determine which function triggered the event.

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5. Click [OK]. An intercom function record will be added to the listing window.

Modify an Intercom Function

1. Select **Intercom Devices** from the **Additional Hardware** menu. The Intercom Devices folder opens.
2. On the Intercom Functions form, select the intercom function you wish to change.
3. Click [Modify].
4. Make the changes you want to the **Description** field and/or the **Parameter Value** field.
5. Click [OK].
6. A warning message is displayed that says your change may cause some historical information to be lost. Click [OK] to proceed with the modification, or [Cancel] to not make the modification.

Delete an Intercom Function

1. Select **Intercom Devices** from the **Additional Hardware** menu. The Intercom Devices folder opens.
2. On the Intercom Functions form, select the intercom function you wish to delete.
3. Click [Delete].
4. Click [OK].
5. A warning message is displayed that says your deletion may cause some historical information to be lost. Click [OK] to proceed with the deletion, or [Cancel] to not make the deletion.

Chapter 46: Personal Safety Devices Folder

The Personal Safety Devices folder contains forms with which you can:

- Configure personal safety panels, including Visonic SpiderAlert SLC-5s, for use with ReadkeyPRO software
- Configure transmitters that communicate with personal safety receivers to be recognized by ReadkeyPRO software
- Configure transmitters that communicate with personal safety receivers to be recognized by ReadkeyPRO software
- Modify or delete entries for transmitters
- Configure a transmitter to be masked all the time
- Configure a transmitter to be assigned to be masked during a particular timezone
- Assign a transmitter to an asset or a cardholder
- Modify the name of a transmitter input
- Assign transmitter inputs to assets
- Configure panels so that commands can be sent to the hardware

The folder contains four forms, the Personal Safety Panels form, Transmitters form, Transmitter Inputs form, and the Device Configuration form.

Toolbar Shortcut

The Personal Safety Devices folder is displayed by selecting **Personal Safety Devices** from the **Additional Hardware** menu, or by selecting the Personal Safety toolbar button.

Personal Safety Devices Overview

The Visonic SpiderAlert hardware can be used in a variety of applications. Some of these can include personal protection like in correctional facilities and schools or property protection like in museums. ReadkeyPRO classifies this hardware as Personal Safety Devices.

The Visonic SpiderAlert hardware consists of a main panel (SLC-5) that supports up to 255 bus devices. The bus devices are either receivers or input/output units. The different bus devices may also support inputs and outputs. The number of inputs and outputs vary between the device types.

SLC-5 (SpiderAlert Local Controller)

The SLC-5 is the Visonic SpiderAlert controller. The SLC-5 is the device that communicates with the PC. It can have up to 255 downstream bus devices (Receivers and Input/Output units). The SLC-5 can also have one input as well as two outputs.

When an SLC-5 is added, a pseudo alarm panel is added for this panel on the Alarm Panels form in the Alarm Panels folder. Currently the ReadkeyPRO architecture doesn't support inputs and outputs directly connected to the main panel, so part of this panel is treated as an alarm panel. The input and outputs can then be created and assigned to this alarm panel.

The SLC-5s are configured on the Personal Safety Panels form in the Personal Safety Devices folder. Configuring SLC-5s is very similar to configuring access control panels. One difference that you will see is the **Site Number** on the Personal Safety Panels form. This is basically the same thing as panel address. Each SLC-5 can be programmed with a site number. The control for the site number on this screen displays the IDs as two digit hexadecimal numbers and they are in the range 01 - FF (01 - 255 decimal).

The SLC-5 has two dip switches, SW1 and SW2. The correct settings for the dip switches depends on the action the SLC-5 is performing. The various dip switch settings are:

- Programming the SLC-5 (SW1 OFF, SW2 OFF)
- Single-Site Direct Connection to Computer (SW1 & SW2 ON)
- Multi-Site Connection via Short-Range Fast Modems (SW1 OFF, SW2 ON)
- Multi-Site Connection via Telephone-Line Modems (SW1 ON, SW2 OFF)

When configuring a Spiderbus Controller (SLC-5), the SW1 and SW2 DIP switches must be set to **OFF**. After programming of the Spiderbus Controller (SLC-5) is complete, SW1 and SW2 must be set back to **ON**.

Bus Devices

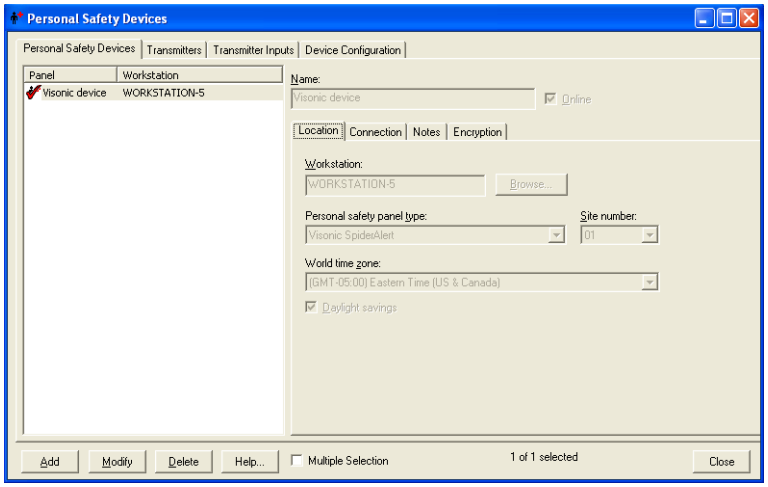
The Visonic SpiderAlert bus devices are treated as Alarm Panels. They are configured using the Alarm Panels form similar to the way Alarm Panels are configured for Access Control Panels. For more information, refer to Alarm Panels Form Procedures on page 806.

One difference is that the **Alarm Panel ID** is displayed as a two digit hexadecimal number in the range 00 - FF (0 - 255 decimal). This is because when these devices are shipped from the factory, this is how their IDs are indicated. Also, this is format that Visonic uses to refer to these IDs.

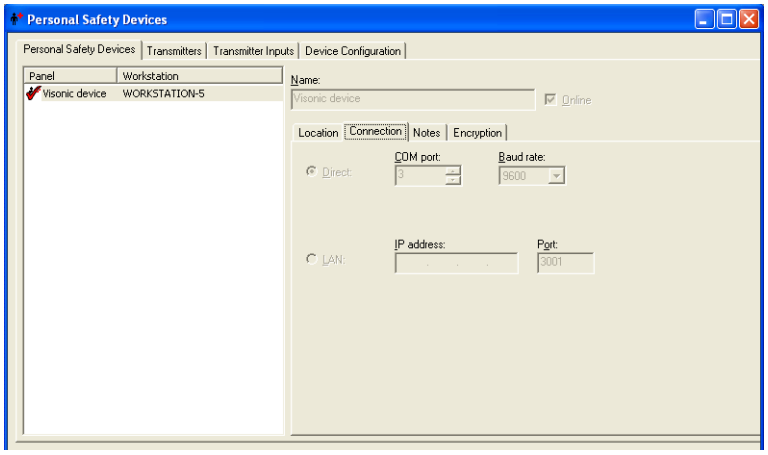
The table below lists the bus devices that are currently supported

Bus Device Model	Description	# Inputs	#Outputs
SR-500	Single channel receiver.	3	2
SR-520	Dual technology receiver.	0	1
SR-521	Dual technology receiver (Base station for SR-522 receiver).	0	1
SR-522	IR technology only receiver.	0	1
SRP-50	Spider bus signal repeater.	3	2
SRP-51	Spider bus signal repeater.	1	1
SI-540	8 output I/O unit.	0	8
SI-544	4 input and 4 output I/O unit.	4 (virtual)	4
SI-561	6 input and 1 output I/O unit.	6	1

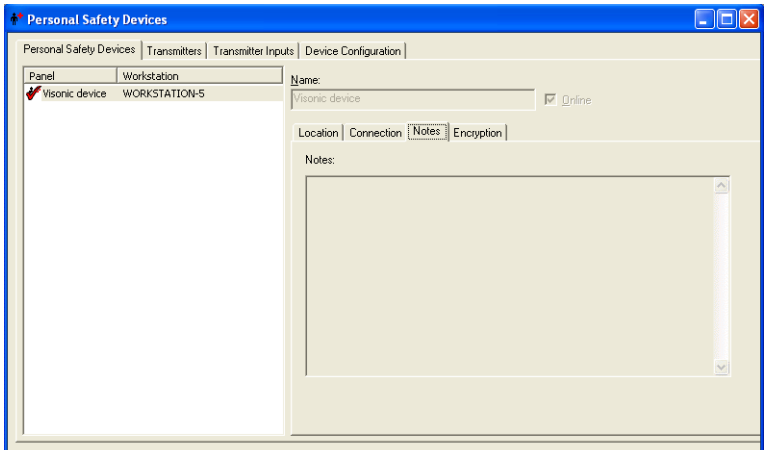
Personal Safety Devices Form (Location Sub-tab)



Personal Safety Devices Form (Connection Sub-tab)

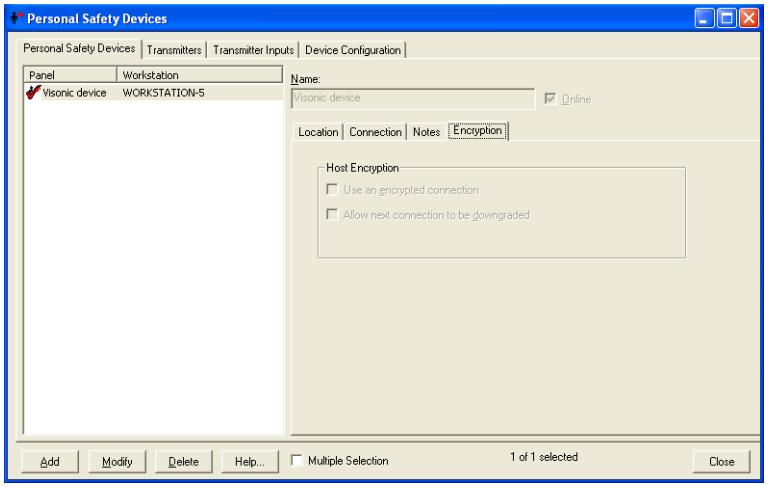


Personal Safety Devices Form (Notes Sub-tab)



Personal Safety Devices Form (Encryption Sub-tab)

Note: Configuration on this tab will be disabled unless the panel is configured for a LAN connection type on the Connection sub-tab.



Personal Safety Devices Form Overview

This form is used to:

- Configure personal safety panels, including SLC-5s (Visonic SpiderAlert Local Controllers) for use in ReadkeyPRO
- Modify or delete a personal safety panel entry in ReadkeyPRO

It is important to note that dip switches 1 and 2 on the Spiderbus Controller (SLC-5) must be set to **ON** for direct serial connection to the SLC-5 panel.

Personal Safety Devices Folder - Personal Safety Devices Form

Form Element	Comment
Personal safety devices listing window	Lists currently defined devices and the name of the workstation connected to each. A icon precedes each entry.
Name	Identifies the name of the personal safety device. This is a “friendly” name assigned to each personal safety panel to make it easy to identify. Each name must be unique and can contain no more than 32 characters.
Online	If selected, the personal safety panel will be online. Online indicates that the panel is ready for use, and that the Communication Server will attempt to communicate with the device. If the panel is not marked as online, the Communication Server will not attempt to communicate with the panel.

Personal Safety Devices Folder - Personal Safety Devices Form (Continued)

Form Element	Comment
Add	Click on this button to add a personal safety panel.
Modify	Click on this button to change a personal safety panel.
Delete	Click on this button to delete a personal safety panel.
Help	Displays online help for this form.
Multiple Selection	If selected, more than one entry in the listing window can be checked simultaneously. The changes made on this form will apply to all selected panels.
Mode	In view mode, indicates the record number of the selected panel, and the current total number of panels; for example, "2 of 5 selected". In modify mode, indicates the current operation (Add Mode, Modify Mode, etc.).
Close	Closes the Personal Safety Devices folder.
Location Sub-tab	
Workstation	Select the workstation or server to which the personal safety panel is or will be connected in order to transfer events/commands. The Communication Server must be present on the specified workstation. You can either type the name in the field, or use the [Browse] button to view a list of available workstations. **Note:** You are required to enter the workstation's NetBIOS name. (The NetBIOS name is specified when Windows networking is installed/configured.)
Browse	Displays a Browse for computer form (see illustration on previous page) from which you can click on the name of a workstation to highlight the entry. Click on the [OK] button to then enter the workstation name in the **Workstation** field.
World time zone	Select the world time zone for the selected access panel's geographical location. The selections in the drop-down list are listed sequentially, and each includes: • The world time zone's clock time relative to Greenwich Mean Time. For example, (GMT+05:00) indicates that the clock time in the selected world time zone is 5 hours ahead of the clock time in Greenwich, England. • The name of one or more countries or cities that are located in that world time zone.
Daylight savings	Select this check box if Daylight Savings Time is enforced in the selected access panel's geographical location.
Personal safety panel type	Contains a list of personal safety panel types that are valid for the installed software license
Site number	Each personal safety panel can be programmed with a site number, which is similar to the panel's address. • The control for the site number on the screen displays the site number as a two digit hexadecimal number. • The site number can range from 01-FF (01-255 decimal).
Connection Sub-tab	

Personal Safety Devices Folder - Personal Safety Devices Form (Continued)

Form Element	Comment
Direct	Select this radio button if communication with the personal safety panel will be via a direct serial connection to the specified workstation. You must also specify the workstation's **COM port** and **Baud rate**.
COM port	If you selected the **Direct** radio button, choose the number of the port (on the serial expansion unit or the back of the workstation or server) that will be used for communication with the panel. Choose a value in the range of 1 through 256.
Baud rate	This is the speed (in bits per second) at which information is transferred between the workstation and the personal safety panel. Currently, 9600 bps is the only baud rate supported for Visonic personal safety panels.
LAN	Select this radio button if the workstation will communicate with the personal safety panel over a Local Area Network. You must also specify the workstation's **IP address**.
IP address	If you selected the **LAN** radio button, enter here the Internet Protocol (TCP/IP) address for the personal safety panel, as provided by your LAN Network Administrator. An IP address consists of four numbers, each in the range of 0 through 255. A period separates each number.
Notes Sub-tab	
Notes	Enter information about the panel. This field is limited to less than 2000 characters. Any text that is entered here will be displayed in Alarm Monitoring. For more information, refer to the procedure to View Notes in the Alarm Monitoring User Guide in Chapter 5, "Monitor Devices."
Encryption Sub-tab	
Use an encrypted connection	Determines whether the connection to the controller is encrypted or not. If not selected (the default), a plain connection is used. If selected, the connection is encrypted.
Allow next connection to be downgraded	Determines whether the system will attempt a downgrade the next time it connects to the controller and there are encryption problems. If not selected (the default), the system will not attempt to downgrade the connection, even if the configured encrypted connection fails. If selected, the system will attempt to downgrade the connection if the encrypted connection fails. The system attempts downgrades by trying encryption with the inactive master key and then by trying a plain connection. Note that if the controller requires encryption, a plain connection is not possible. This check box displays only if the controller exists in an automatic key management system/ segment.

Personal Safety Devices Form Procedures

Add a Personal Safety Panel

1. On the Personal Safety Devices form, click [Add].
2. If segmentation is not enabled, skip this step. If segmentation is enabled:
   a. The Segment Membership window will open. Select the segment that this personal safety panel will be assigned to.
   b. Click [OK].
3. In the **Name** field, type a unique, descriptive name for this panel.
4. If you want to place this panel online immediately, select the **Online** check box. Typically, you wouldn't check this box when configuring the system or defining panels, but instead would wait until you're ready to put the panel into service.
5. On the Location sub-tab:
   a. Enter the name of the workstation the personal safety panel will be connected to in the **Workstation** field. It's best to select the workstation using [Browse]. In the Browse for Computer window, select the name of the workstation, then click [OK].
   b. On the Location sub-tab, Select the world time zone from the **World time zone** drop-down list.
   c. Select whether **Daylight savings** is used or not.

Note: You are required to enter the workstation's NetBIOS name. (The NetBIOS name is specified when Windows networking is installed/configured.)

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6. In the **Personal safety panel type** drop-down list, select the type of personal safety panel.
7. In the **Site Number** drop-down list, select the site number.
8. On the Connection sub-tab, select the method that will be used to communicate with the personal safety panel.
   a. Select the **Direct** radio button if communication with the personal safety panel will be via a direct serial connection to the specified **Workstation**. You must also specify the workstation's **COM port** and the **Baud rate**. Currently 9600 bps is the only baud rate supported for Visonic personal safety panels.
   b. Select the **LAN** radio button if communication with the personal safety panel will be over a Local Area Network. You must also specify the workstation's **IP address**.
9. Click [OK].

Modify a Personal Safety Panel

1. In the Personal safety devices listing window of the Personal Safety Devices form, select the entry you wish to change. To make changes to multiple

entries at the same time, select the **Multiple Selection** check box and continue to select entries.

2. Click [Modify].
3. Make the changes you want to the fields.
4. Click [OK] to save the changes, or [Cancel] to revert to the previously saved values. If the **Multiple Selection** check box is selected, the values for the **Site Number** and **Baud rate** for all selected entries will be changed to the new values.

Delete a Personal Safety Panel

1. In the Personal safety devices listing window of the Personal Safety Devices form, select the entry you wish to delete.
2. Click [Delete].
3. Click [OK].

Enable a Personal Safety Panel for Encryption

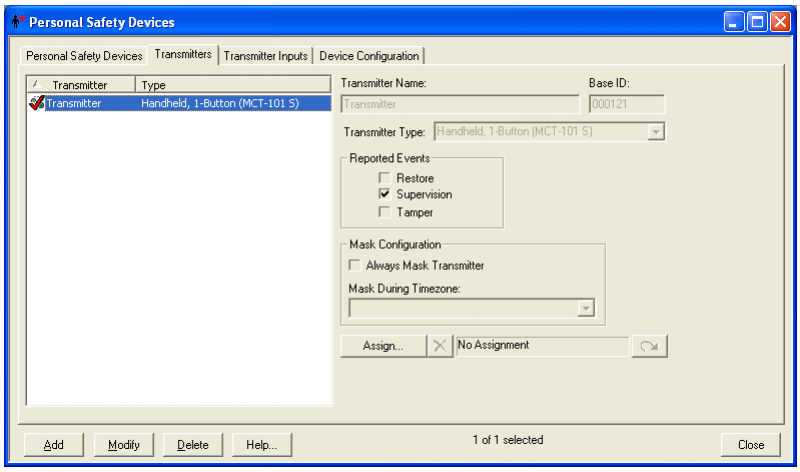
The encryption modify/export permission is required to complete this procedure. Also, encryption must be enabled and the proper encryption key configured in the communication device before enabling the panel for encryption.

1. From the **Additional Hardware** menu, select **Personal Safety Devices**.
2. On the Personal Safety Devices form, click the Encryption sub-tab.
3. In the listing window, select the Personal Safety Devices entry you wish to enable encryption for.
4. Click [Modify].
5. Select the **Use an encrypted connection** check box.
6. If automatic encryption is used, you can also select the **Allow next connection to be downgraded** check box, if you want the connection downgraded if the encrypted connection fails.
7. Click [OK].
8. Acknowledge any messages that display.

Enter Notes for a Panel

1. In the listing window, select the entry you want to edit.
2. Click [Modify].
3. Type the information in the Notes field. This note will be able to be displayed in Alarm Monitoring.
4. Click [OK].

Transmitters Form



Transmitters Form Overview

Transmitters are devices that generate an RF or IR (or both) signal that Visonic SpiderAlert receivers can receive. There are three types of these devices: fixed, portable (hand-held), and man-down. Transmitters are not assigned to any particular SLC-5; they are independent. Therefore, any receiver connected to any SLC-5 can pick up the transmitter signal.

Transmitters can be configured to be masked for a selected timezone or always masked. Transmitters can also be assigned to assets or cardholders.The various types of transmitters that ReadkeyPRO currently supports are listed below.

Model	Description
MCT-101 S	Hand held transmitter (One button).
MCT-102 S	Hand held transmitter (Two buttons).
MCT-104 S	Hand held transmitter (Four buttons).
MCT-201 S, MCT-201 WP S, MCT-201 AT S	Pendant transmitter.
MCT-211 S	Waterproof wrist transmitter.
MCT/IR-201 S	Dual RF & IR transmitter.
MCT-100 S	Supervised, two-input wireless transmitter.
MCT-302 S	Supervised magnetic contact transmitter.
MCT-101 MD S	Man-down transmitter.
MCT-432	Smoke Detector
MCT-501 S	Acoustic Sensor
MCT/IR-252WPS	Resettable Dual RF & IR
MDT-122 S	RF / IR man-down transmitter.

Model	Description
MCPIR-2000 S	Fully supervised wireless PIR detector.
MCPIR-3000 S	Full supervised wireless PIR detector.
SPD-1000	Magnetic Displacement Detector.
SPD-2000	Wireless spatial position detector.
SPD-3000	PIR Painting Removal Detector.

The Transmitters form is used to:

- Configure transmitters that communicate with Visonic SpiderAlert receivers to be recognized by ReadkeyPRO software
- Modify or delete entries for transmitters
- Configure transmitters to be masked all the time
- Configure a transmitter to be assigned to be masked during a particular timezone
- Assign a transmitter to an asset or a cardholder

Personal Safety Devices Folder - Transmitters Form

Form Element	Comment
Transmitter listing window	Lists currently defined devices and the name of the workstation connected to each. A  icon precedes each entry.
Transmitter Name	Enter the name of the transmitter. This is a “friendly” name assigned to each transmitter to make it easy to identify. Each name must be unique and can contain no more than 32 characters.
Base ID	This is the base transmitter ID that is generated in the RF or IR signal that is transmitted when an event on the transmitter takes place. • Must be specified because many transmitters can generate more than one of these signals • Usually indicated somewhere on the transmitter, such as inside the unit • This is a hexadecimal value that can only be made up of the following numbers or letters: 0 -9 and A -F
Transmitter Type	This is the transmitter model.

Personal Safety Devices Folder - Transmitters Form (Continued)

Form Element	Comment
Reported Events	Section that contains the **Restore**, **Supervision**, and **Tamper** check boxes. • Indicates whether these events are generated for this transmitter or not. • Can only be changed if the transmitter type that is selected has a dip switch to turn them on or off • These settings should match the current setting of the dip switch • Some transmitters do not have a dip switch for some of these, but they support reporting events for these so these will be displayed as checked but will not allow them to be changed.
Restore	These settings should match the current dip switch settings on the hardware. • If checked (and the dip switches are set correctly), the transmitter will generate restore events. • If checked and you are unable to de-select it, the transmitter supports reporting restore events, but has no dip switches for them. • If not checked (and the dip switches are set correctly), the transmitter will not generate restore events. • If not enabled, the transmitter does not support generating restore events.
Supervision	These settings should match the current dip switch settings on the hardware. • If checked (and the dip switches are set correctly), the transmitter will generate supervision events. • If checked and you are unable to de-select it, the transmitter supports reporting supervision events, but has no dip switches for them. • If not checked (and the dip switches are set correctly), the transmitter will not generate supervision events. • If not enabled, the transmitter does not support generating supervision events.
Tamper	These settings should match the current dip switch settings on the hardware. • If checked (and the dip switches are set correctly), the transmitter will generate tamper events. • If checked and you are unable to de-select it, the transmitter supports reporting tamper events, but has no dip switches for them. • If not checked (and the dip switches are set correctly), the transmitter will not generate tamper events. • If not enabled, the transmitter does not support generating tamper events.
Mask Configuration	Section that contains the **Always Mask Transmitter** check box and the **Mask During Timezone** drop-down list

Personal Safety Devices Folder - Transmitters Form (Continued)

Form Element	Comment
Always Mask Transmitter	• If checked, the Communication Server will not process any message for this particular transmitter • If not checked, the Communication Server will process any message for this particular transmitter • When logged into System Administration in a segmented system, if the timezone for a particular segment other than the one you are logged into is currently assigned to a transmitter, this field will not be allowed to be modified • The **Always Mask Transmitter** overrides the **Mask During Timezone** option
Mask During Timezone	• The **Mask During Timezone** option is overwritten by the **Always Mask Transmitter** option • To mask a timezone, the **Always Mask Transmitter** check box CANNOT be selected
Assign	Click on this button to assign a transmitter to an asset or cardholder
	Click on this button to delete an assignment of a transmitter to an asset or cardholder
	After an assigning a transmitter to an asset or cardholder, click on this button to go to the correct screen, which displays more information about the cardholder or asset.
Add	Click on this button to add a transmitter.
Modify	Click on this button to change a transmitter.
Delete	Click on this button to delete a transmitter.
Help	Displays online help for this form.
Close	Closes the Personal Safety Devices folder

Transmitters Form Procedures

Add a Transmitter

1. On the Transmitters form, click [Add].
2. In the **Transmitter Name** field, enter a unique, descriptive name that is no longer than 32 letters.
3. In the **Base ID** field, enter the base transmitter ID that is generated when the FR or IR signal is transmitted when an event on the transmitter takes place.
4. In the **Transmitter Type** field, select a type from the drop-down list.
5. The check boxes that are applicable to the **Transmitter Type** selected will be enabled in the **Reported Events** section. This section indicates whether these events are generated for this transmitter or not.
   The **Restore**, **Supervision**, and **Tamper** check boxes can only be changed if the transmitter type that is selected has a dip switch to turn them on or off.

The settings for these check boxes should match the current setting of the dip switch.

Some transmitters do not have a dip switch for some of the **Restore**, **Supervision**, and **Tamper** options, but they support reporting events for them. In this case, the options are displayed as checked but the application will not allow them to be changed.

6. Check the **Always Mask Transmitter** check box if you do not want the Communication Server to process any message from this particular transmitter. Otherwise, leave the **Always Mask Transmitter** check box unchecked.
7. In the **Mask During Timezone** field, select a timezone from the drop-down list if you wish to mask the transmitter during a particular timezone. For the transmitter to be masked during a timezone, the **Always Mask Transmitter** check box CANNOT be checked.
(Note that a timezone must already have been created for it to appear in the **Mask During Timezone** drop-down list. Timezones are created on the Timezones form in the Holidays / Timezones folder.)
8. If you want to assign the timezone to an asset or cardholder, click [Assign]. See the procedures “Assign a Transmitter to an Asset” and “Assign a Transmitter to a Cardholder” for details.
9. Click [OK].

Modify a Transmitter

1. In the Transmitters listing window of the Transmitters form, select the entry you wish to change.
2. Click [Modify].
3. Make the changes you want to the fields.
4. Click [OK] to save the changes, or [Cancel] to revert to the previously saved values.

Delete a Transmitter

1. In the Transmitters listing window of the Transmitters form, select the entry you wish to delete.
2. Click [Delete].
3. Click [OK] to save the changes, or [Cancel] to revert to the previously saved values.

Assign a Transmitter to a Cardholder

1. In the Transmitters listing window of the Transmitters form, select the entry you wish to assign a cardholder to.
2. Click [Assign].
3. The Assign Asset or Cardholder window opens. Click the **Assign [ ] Cardholder to Transmitter** radio button.
4. Click [OK], and the Cardholders folder will open.
5. On the Cardholder form in the Cardholders folder, click [Search].
6. On the Cardholders form, locate the cardholder record you want to assign the transmitter to.
7. Click on the Personal Safety Devices tab at the bottom of the window.
8. Click [Assign]. This time, the radio button will be labeled **Assign** [cardholder name you selected] **Cardholder to Transmitter**.
9. Select the **Assign** [cardholder name you selected] **Cardholder to Transmitter** radio button.
10. Click [OK]. The name of the cardholder the transmitter is assigned to will now appear in the field to the right of the  button.
11. If you want to view the cardholder record that is associated with transmitter, click the  button.

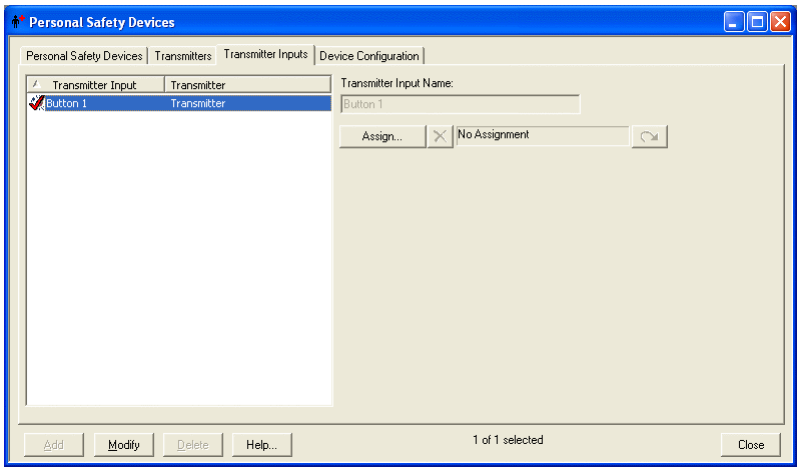
Assign a Transmitter to an Asset

1. In the Transmitters listing window of the Transmitters form, select the entry you wish to assign an asset to.
2. Click [Assign].
3. The Assign Asset or Cardholder window opens. Click the **Assign [-] Asset to Transmitter** radio button.
4. Click [OK], and the Assets folder will open.
5. On the Assets form in the Assets folder, click [Search].
6. On the Assets form, locate the asset record you want to assign the transmitter to.
7. Click on the Personal Safety Devices tab at the bottom of the window.
8. Click [Assign]. This time, the radio button will be labeled **Assign** [asset name you selected] **Cardholder to Transmitter**.
9. Select the **Assign [**cardholder name you selected**] to Transmitter** radio button.
10. Click [OK]. The name of the asset the transmitter is assigned to will now appear in the field to the right of the  button.
11. If you want to view the asset record that is associated with transmitter, click the  button.

Delete a Transmitter's Assignment

1. Transmitters can be assigned to either assets or cardholders. In the Transmitters listing window of the Transmitters form, select the entry that has the transmitter assignment you wish to delete.
2. Click the  button, and the assignment will be deleted.

Transmitter Inputs Form



Transmitter Inputs Form Overview

Transmitters can also have inputs. When a transmitter is added, its inputs are automatically added. Some of the transmitters have buttons, so these are named using “Button X” as opposed to “Input X” for the others.

On the Transmitter Inputs form, the names that are generated for these transmitter inputs can be modified. Transmitter inputs are not allowed to be deleted or added; only the name can be modified. Using the same form, transmitter inputs can also be assigned to assets.

The Transmitter Inputs form is used to:

- Modify the name of a transmitter input
- Assign transmitter inputs to assets

Transmitter Inputs Form Field Table

Personal Safety Devices Folder - Transmitter Inputs Form

Form Element	Comment
Transmitter input listing window	Lists currently defined inputs and the transmitter it is associated with. A  icon precedes each entry.
Transmitter Input Name	Indicates the name of the transmitter input. The **Transmitter Input Name** is automatically created when the transmitter is added, but can be changed on this form. Each name can contain no more than 32 characters.
Assign	Click on this button to assign a transmitter input to an asset
	Click on this button to delete an assignment of a transmitter input to an asset
	After an assigning a transmitter input to an asset, click on this button to go to the correct screen, which displays more information about the asset.
Add	This button is disabled. Transmitter inputs cannot be added by the user; they are automatically created when a transmitter is defined.
Modify	Click on this button to modify the Transmitter Input Name or its assignment.
Delete	This button is disabled. Transmitter inputs cannot be deleted by the user.
Help	Displays online help for this form.
Close	Closes the Personal Safety Devices folder

Transmitter Inputs Form Procedures

Add a Transmitter Input

Transmitter inputs are automatically created when a transmitter is added on the Personal Safety Devices form. The user cannot directly create new transmitter inputs.

Modify a Transmitter Input

1. In the Transmitter input listing window of the Transmitter Inputs form, select the entry you wish to change.
2. Click [Modify].
3. Make the changes you want to the **Transmitter Input Name** field.
4. Click [OK] to save the changes, or [Cancel] to revert to the previously saved values.

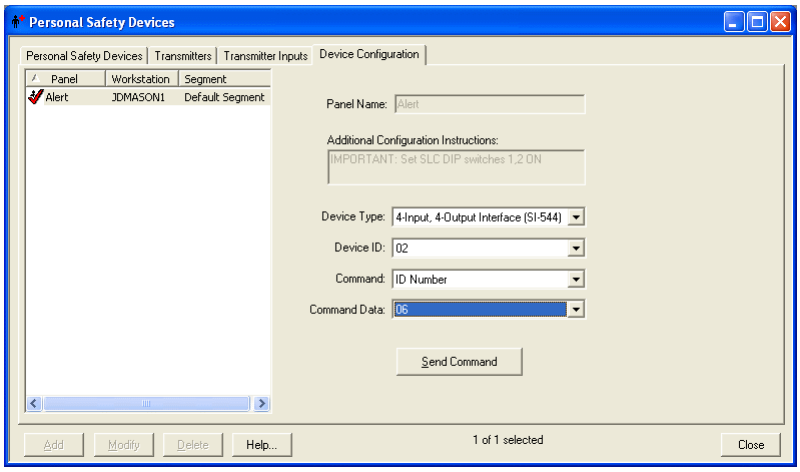
Delete a Transmitter Input

Transmitter inputs are automatically created when a transmitter is added on the Personal Safety Devices form. The user cannot delete transmitter inputs.

Assign a Transmitter Input to an Asset

1. In the Transmitter inputs listing window of the Transmitter Inputs form, select the entry you wish to assign an asset to.
2. Click [Assign].
3. The Assign Asset or Cardholder window opens. Click the **Assign [ ] Asset to Input** radio button.
4. Click [OK], and the Assets folder will open.
5. On the Assets form in the Assets folder, click [Search].
6. On the Assets form, locate the asset record you want to assign the transmitter to.
7. Click the Personal Safety Devices tab at the bottom of the window.
8. Click [Assign]. This time, the radio button will be labeled **Assign [**asset name you selected**] Cardholder to Input**.
9. Select the **Assign [**cardholder name you selected**] to Input** radio button.
10. Click [OK]. The name of the asset the transmitter input is assigned to will now appear in the field to the right of the  button.
11. If you want to view the asset record that is associated with transmitter input, click the  button.

Device Configuration Form



Visonic Device Configuration Overview

The Visonic SpiderAlert devices are shipped from the factory with default settings. The Device Configuration form has been designed for the configuration of these devices. Both the SI-561 (6-Input, 1 Output Unit) and the SRP-50 (SpiderBus Repeater) cannot be programmed and no device on the bus after an SRP-50 can be programmed. The new SRP-51 is programmable and will allow devices after it on the bus to be programmed.

In order for any commands to be sent to the hardware, the panel needs to be configured on the Device Configuration form in the Personal Safety Devices folder. This is required so that the commands can be sent to the proper machine and panel for programming. The Communication Server must be running when programming; if it is not running the commands will fail.

When programming the main SLC-5 controller, dip switches 1 and 2 (there are only two) need to be set to **OFF**. To do this, the unit needs to be powered off, the dip switches set, and then the unit must be powered back up. After programming of the Spiderbus Controller (SLC-5) is complete, dip switches 1 and 2 must be set back to **ON**. Programming the other bus devices requires that these dip switches to be set to **ON**. Currently both of these switches will need to be set to **ON** for normal operation with the system.

When changing the SLC-5 Site ID, if the command succeeds, you will need to go back to the Visonic Configuration screen to change the site ID to match the site ID that you just changed the SLC-5 to. When changing the device ID of a bus device you will also need to make sure that you have a bus device defined for this new ID.

Device Configuration Form Field Table

Personal Safety Devices Folder - Device Configuration Form

Form Element	Comment
Device configuration listing window	Lists currently defined panels and the name of the workstation connected to each. A icon precedes each entry.
Panel Name	Identifies the name of the panel. The **Panel Name** is specified on the Personal Safety Devices form, and cannot be modified on the Device Configuration form.
Additional Configuration Instructions	After the device type is selected, instructions pertaining to the selected device are displayed here.
Device Type	Indicates the type of Visonic device. Choices include: • SpiderBus Controller (SLC-5) • 8-Output Interface Unit (SI-540) • 4-Input, 4-Output Interface (SI-544) • Wireless Receiver (SR-500) • Dual Technology Receiver (SR-520) • Dual Technology Receiver (SR-521) • Dual Technology Receiver (SR-522) • SpiderBus Repeater (SRP-51)
Device ID	• Must be specified for bus device configurations • Represented as a two-digit hexadecimal number
Command	A function or action that will be attempt to performed at the panel when the [Send Command] button is clicked. The **Command Data** specifies the parameters for the **Command**.
Command Data	The parameters that the selected **Command** will be executed according to when both are sent to the panel by clicking the [Send Command] button.
Send Command	The Communication Server needs to be running before clicking the [Send Command] button. When this button is clicked, the selected **Command** and **Command Data** are sent to the panel.
Add	This button is disabled.
Modify	This button is disabled.
Delete	This button is disabled.
Help	Displays online help for this form.
Close	Closes the Personal Safety Devices folder

Device Configuration Form Procedures

Configure a Personal Safety Device

1. Before a personal safety device can be configured, the panel it will be associated with must be added on the Personal Safety Devices form. For more information, refer to Add a Personal Safety Panel on page 1098.
2. Make sure that the Communication Server is running. The Communication Server must be running when programming. If it is not, running the commands will fail.
3. Set the dip switches on the hardware.
   a. For the SLC-5 controller, dip switches 1 and 2 (there are only two) must be set to OFF. To do this:
      - Power off the SLC-5 controller
      - Set the dip switches.
      - Power the SLC-5 back up.
   b. For other bus devices, these dip switches must be set to ON
   c. Both dip switches need to be set to ON for normal operation with the system.
4. In the Personal Safety Devices folder, click the Device Configuration tab.
5. In the Device configuration listing window, select the panel you wish to program a device for.
6. In the **Device Type** field, select the type of device you will be programming. Instructions pertaining to the selected device will then automatically be displayed in the **Additional Configuration** display box.
7. If the selected **Device Type** is part of a bus device configuration, a **Device ID** is required. The **Device ID** drop-down list will become enabled, and you must select a **Device ID** from the drop-down list.
   (If the selected **Device Type** is not part of a bus device configuration, it does not require a **Device ID**. In this case the **Device ID** drop-down list will not become enabled.)
8. The **Command** drop-down list will become enabled. Select a command from the drop-down list.
9. The **Command Data** drop-down list will become enabled. Select a command data time from the drop-down list.
10. Click [Send Command].
11. A message box will be displayed which asks if you are sure that you want to send the command to the selected device. Click [OK] to send the command, or click [Cancel] to not send the command.
12. A message box will be displayed indicating whether the command succeeded or failed.

Chapter 47: Receivers Folder

The Receivers folder contains forms with which you can:

- Add, modify, and delete receivers
- Add, modify, and delete receiver accounts (panels)
- Add, modify, and delete receiver account groups
- Add, modify, and delete zones
- Add, modify, and delete areas
- Define mappings from event codes to access control system events

The Receivers folder contains the Receivers form, Receiver Accounts form, Receiver Account Groups form, Zones form, Areas form, and the Event Code Templates form.

Toolbar Shortcut

This folder is displayed by selecting **Receivers** from the **Additional Hardware** menu, or by selecting the Receivers toolbar button.

Note: Throughout the Receivers folder documentation, the term "access control system" is used to represent the ReadkeyPRO software and hardware collectively, whereas the term "access control software" refers to only the ReadkeyPRO software.

Receivers Overview

Receivers allow the access control system to receive multiple alarms from many receiver accounts (panels) in many different formats. Receivers act as a central communication point for all of the receiver accounts configured to connect to it. Most receiver accounts communicate with the receiver via phone lines, but some also allow the communication over a direct wire or over the network.

When an event occurs on a receiver account, the receiver account dials in to a specified receiver and reports the event. The receiver accepts these messages, returns the correct handshake signals based on the specific format currently in use, formats the message, and then sends it out. Receivers typically use a printer to maintain a hard copy of events received, but they also allow the events to be reported to the access control system. With a receiver connected to the access control system, it may monitor any receiver account that outputs in a format supported by the receiver without any configuration in the access control system.

The access control software provides an interface to display the incoming events to someone monitoring the system, and provides them with instructions on how

to handle the event. This includes the use of a call list with a particular order, pass codes that need to be confirmed, etc.

The access control software receives the events from the receiver and displays them in the same manner as existing events. This allows the use of automatic paging, e-mail, custom alarms, and other additional features that the access control system provides. Instructions can be added via Alarm Configuration, and a call list may be maintained through the comments section.

Receiver Accounts Overview

Receiver accounts are used to represent panels in a receiver setup. While a receiver must be configured, receiver accounts (panels) can be added optionally. Because the receiver is between the receiver account and the access control software, there needs to be some way to represent which receiver account an event originated from. To solve this problem, an account number is entered in the receiver account, and that number is reported to the access control software.

When an event occurs for an account, Alarm Monitoring is provided with a name and other information to display. For receiver accounts that are not entered in the database initially, The access control software will automatically add them with the account number as the default name. You can then go back later and change the name.

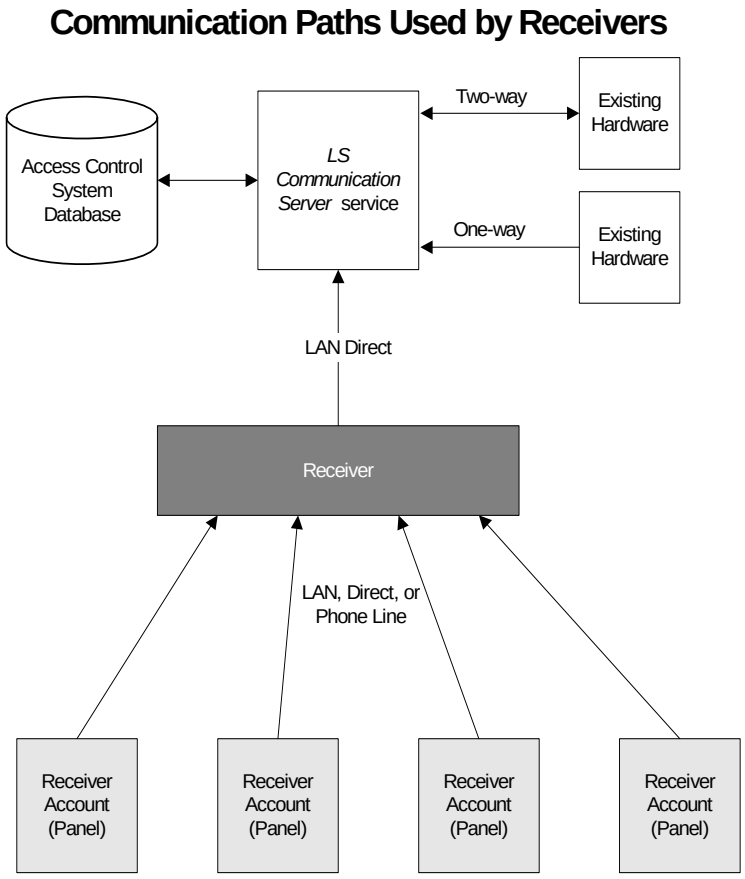
Communication Paths Used by Receivers

The connection between receiver accounts and receivers does not affect the access control system and its configuration. Receiver accounts can be connected to the receiver via a phone line, a direct wire connection, or a network connection. Data is communicated in a format that both the receiver account (panel) and the receiver understand. The receiver then formats that data into the output mode it is using and reports the information up to the access control system.

Communication between the receiver accounts and the receiver is one-way, as well as the communication between the receiver and the access control software. The access control software is only used to receive the events from the receiver and report them. All configuration of the receiver is done outside of the access control software at the receiver itself.

In a receiver/receiver account setup, the receiver is acting as the main point of communication between all receiver accounts connected to it and the access control software. For this reason, the receiver is the only piece of hardware in this setup that needs communication parameters defined in the access control software.

The following diagram illustrates the communication paths used in a receiver/ receiver account setup:



Default Receiver Configuration

The following settings are the default for each receiver. These need to be set in the access control software if you are using a direct connection or in the Lantronix box if you are using a LAN connection.

Bosch D6600 (Bosch SIA and Bosch 6500):

Flow control = CTS/RTS

Baud rate = 1200

Parity = none

Byte size = 8

Stop bits = 1

Lantronix Box Communication Configuration for Receivers

To connect a receiver to the access control system over a LAN, a Lantronix box must be used. The serial settings will need to be changed based on the configuration of the receiver. The default settings are explained in the “Default Receiver Configuration” topic in this user manual. The Lantronix box will also need the following setting configured:

Access = Remote

The following three settings are based on how IP addresses are assigned. Set all of these to disabled if a static IP Address is assigned to the Lantronix box. Otherwise, enable the appropriate flag.

- BOOTP
- RARP
- DHCP

The following three settings are based on the network the Lantronix box is connected to. They will need to be set manually or they will automatically be configured based on the three flags above.

- IP Address
- Gateway
- Subnet mask

Events Overview

The access control software receives both receiver events and account events.

- Receiver events are events that pertain to the receiver itself. These are mainly status events informing the user of any changes in the receiver's status.
- Account events are events that are sent up from the receiver accounts to the receiver, and then reported to the access control software.

Event Code Mappings Overview

Each new receiver account connected to a receiver reports up their information in a different format. For each of these formats, there are different event codes that may represent similar events. The access control software provides a mapping between event codes received from the receivers and receiver accounts to existing access control system events.

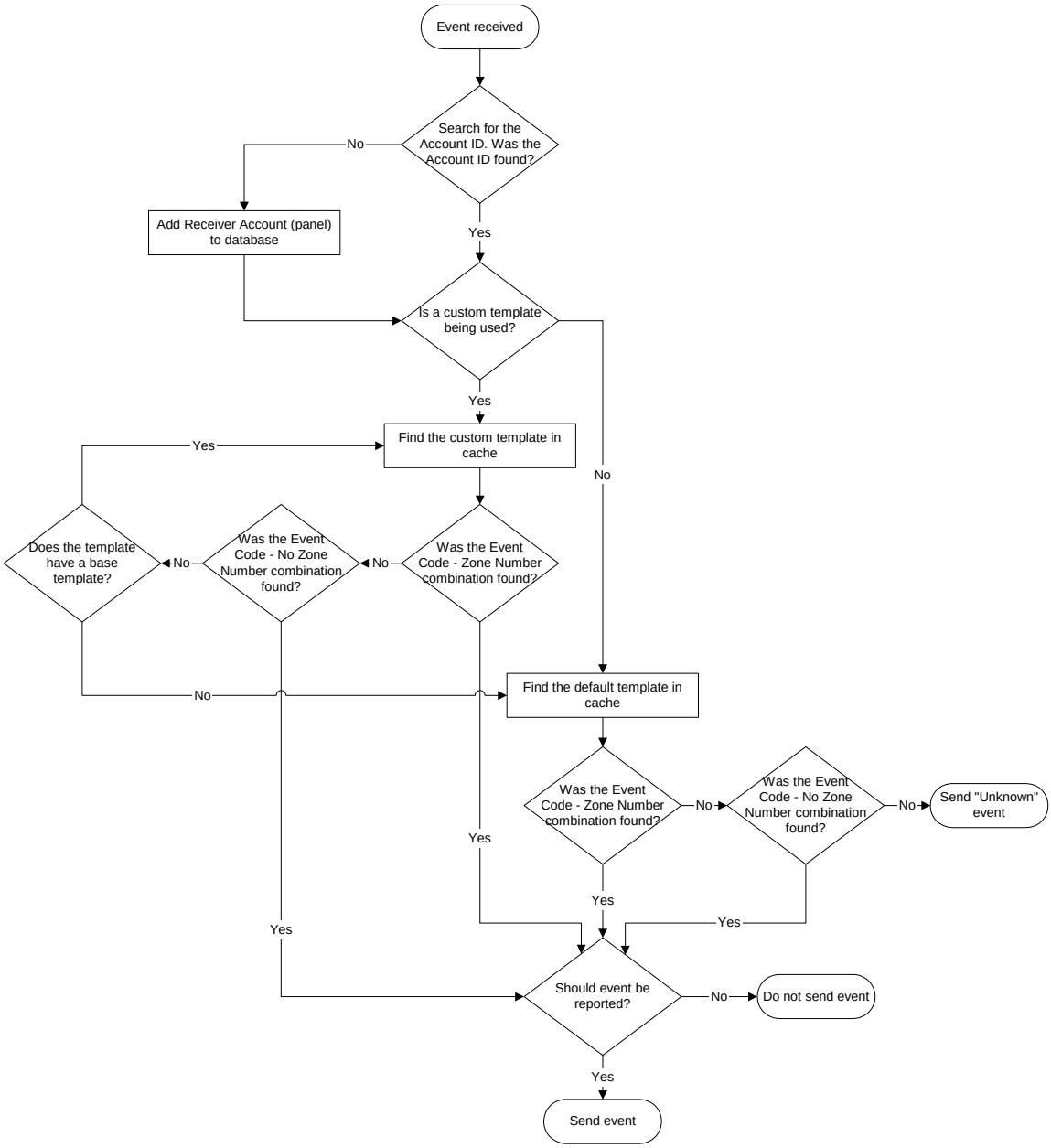
Some receiver accounts allow event codes to be programmed into the receiver account. The meanings of these event codes are not known until they are entered in the access control software. You can enter the custom event code mappings based on how the receiver account was configured. This is done on the Event Code Templates form in the Receivers folder in the access control software.

Due to the large number of events that may be generated along with the large number of receiver accounts that may be monitored with a single receiver, it is possible that a particular event code will not map to an event that corresponds to the receiver account configuration. For this reason, the way an event code maps to an event for a particular receiver account can be configured.

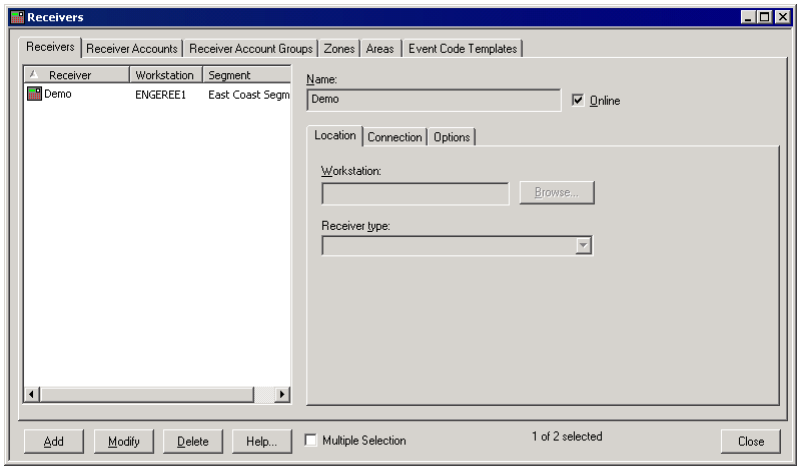
Event Logging and Reporting Overview

When creating and customizing the event code templates, there is also the ability to choose whether the event is reported and logged. This is useful when a receiver account is reporting up an event, perhaps quite frequently, that the user does not want to fill the database with or send to Alarm Monitoring. If an event code is marked to not be reported/logged, that option can be overridden for a specific case using the custom event code mappings and deriving a new template off an existing template.

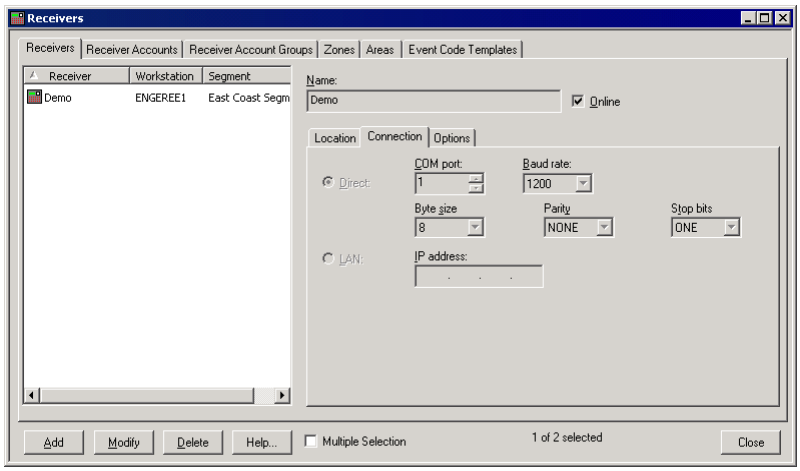
The following diagram shows how an event received from the receiver is processed:



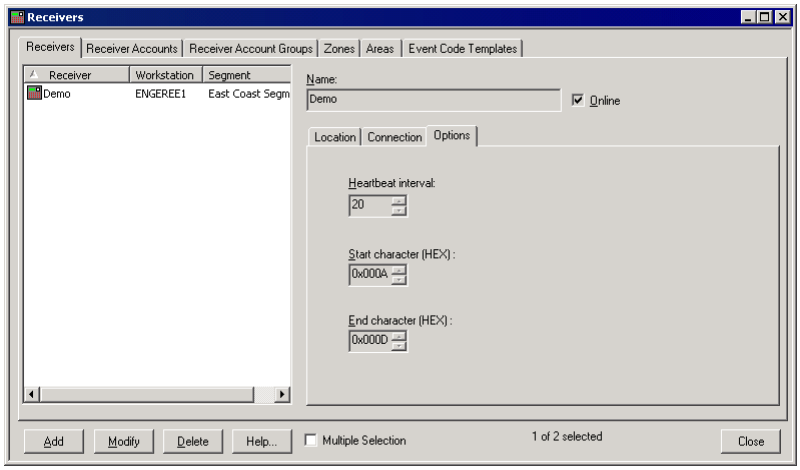
Receivers Form (Location Sub-tab)



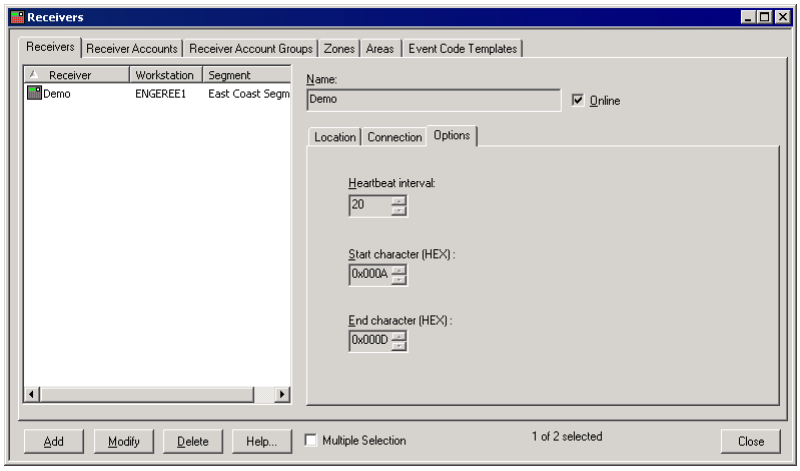
Receivers Form (Connection Sub-tab)



Receivers Form (Options Sub-tab)

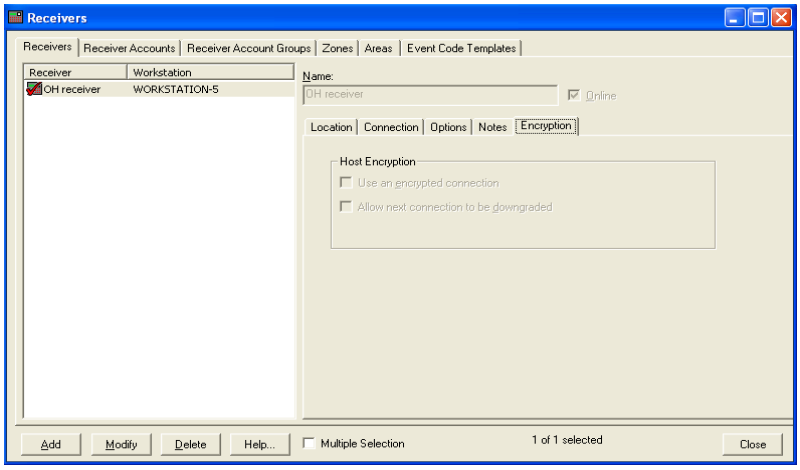


Receivers Form (Notes Sub-tab)



Receivers Form (Encryption Sub-tab)

Note: Configuration on this tab will be disabled unless the panel is configured for a LAN connection type on the Connection sub-tab.



Receivers Form Overview

A receiver is a piece of hardware that the access control system can connect with to receive transactions. Each receiver must be given a name, and whether it will initially be online or not can be specified. Receivers are defined on the Receivers form by entering information on the actual Receivers form, as well as the Connection, Location, and Options sub-tabs.

On the Location sub-tab, you must specify the name of the **Workstation** that will be used to connect to the receiver. This is also the name of the machine running the Communication Server. This machine will be responsible for connecting with this receiver. The **Receiver output format** must also be specified.

On the Connection sub-tab, you must specify how the Receiver is connected to the access control system. You can connect the Workstation via a direct serial interface. If this is chosen, the **Workstation** from the Location sub-tab must be the machine to which the direct serial connection is made. Alternatively, you can connect the Receiver to a Lantronix box and have the access control software communicate with it via a network connection. If this method is chosen the IP address of the Lantronix box must be specified.

On the Options sub-tab, you must specify the options that the receiver must have configured correctly to communicate with the access control software. The options that must be configured depend on the **Receiver output format** specified on the Location sub-tab.

The Encryption sub-tab displays when the system/segment (the panel is associated with) uses automatic encryption. The same fields display when the system/segment is configured for manual encryption, except for the **Allow next**

connection to be downgraded check box.The Encryption sub-tab does not display if a system/segment uses a plain connection. For more information about encryption, refer to the Encryption for Controllers User Guide.

Receivers Form Field Table

Receivers Folder - Receivers Form

Form Element	Comment
Listing window	Lists currently defined receivers and the name of the workstation connected to each. A  icon precedes each entry.
Name	Identifies the name of the receiver. This is a "friendly" name assigned to each receiver to make it easy to identify. Each name must be unique and can contain no more than 96 characters.
Online	If selected, the receiver will be online. Online indicates that the receiver is ready for use, and that the Communication Server will attempt to communicate with the device. If the receiver is not marked as online, the Communication Server will not attempt to communicate with the device.
Add	Click this button to add a receiver.
Modify	Click this button to change a receiver.
Delete	Click this button to delete a receiver.
Help	Displays online help for this form.
Multiple Selection	If selected, more than one Receiver entry in the listing window can be selected and modified or deleted simultaneously. Options that cannot be modified simultaneously will appear grayed out.
Close	Closes the Receivers folder
Location Sub-tab	
Workstation	Select the workstation or server to which the receiver is or will be connected in order to transfer events/commands. The Communication Server must be present on the specified workstation. You can either type the name in the field, or use the [Browse] button to view a list of available workstations. **Note:** You are required to enter the workstation's NetBIOS name. (The NetBIOS name is specified when Windows networking is installed/configured.)
Browse	Displays a Browse for computer form from which you can click on the name of a workstation to highlight the entry. Click the [OK] button to then enter the workstation name in the **Workstation** field.
World time zone	Select the world time zone for the selected access panel's geographical location. The selections in the drop-down list are listed sequentially, and each includes: • The world time zone's clock time relative to Greenwich Mean Time. For example, (GMT+05:00) indicates that the clock time in the selected world time zone is 5 hours ahead of the clock time in Greenwich, England. • The name of one or more countries or cities that are located in that world time zone.
Daylight savings	Select this check box if Daylight Savings Time is enforced in the selected access panel's geographical location.

Receivers Folder - Receivers Form (Continued)

Form Element	Comment
Receiver output format	Contains a list of supported receiver output formats that are valid for the installed software license. Choices include: • Bosch 6500 • Bosch SIA **Note:** A particular receiver output format may be supported by several different receivers. For example, the BOSCH 6500 output format is supported by the BOSCH D6500, Bosch D6600, and AES Intellinet receivers.
Connection Sub-tab	
Direct	Select this radio button if communication with the receiver will be via a direct serial connection to the specified workstation. You must also specify the workstation's **COM port**, **Baud rate**, **Byte size**, **Parity**, and **Stop bits**.
COM port	If you selected the **Direct** radio button, specify the port that's on the serial expansion unit or the back of the workstation. To each port you can assign only one receiver. Choose a value in the range of 1 through 255.
Baud rate	Enter the speed (in bits per second) at which information is transferred between the workstation and the receiver.
Byte size	Select the byte size of data transferred via the communication port. The values available for selection depend on the **Receiver output format** specified.
Parity	Select the parity of data transferred via the communication port.
Stop bits	Select the number of stop bits used in data transmission via the communication port.
LAN	Select this radio button if the workstation will communicate with the receiver over a Local Area Network. You must also specify the workstation's **IP Address**.
IP Address	If you selected the **LAN** radio button, enter here the Internet Protocol (TCP/IP) address for the receiver, as provided by your LAN Network Administrator. An IP address consists of four numbers, each in the range of 0 through 255. A period separates each number.
Options Sub-tab	
Heartbeat interval	This is the delay time between 'heartbeat' messages sent from the receiver to the access control system. It is used to tell the access control system that the receiver is still online. If the access control system does not receive a heartbeat message within the indicated time on that page, then the receiver is determined to be offline. This option is available for the Bosch 6500 Mode and for the Bosch SIA mode, as it is configurable on the Bosch D6600.
Start character (HEX)	This is available only for the Bosch 6500 Mode. For the Bosch SIA Mode, this value is hard coded as 0x0a. The Bosch D6600 allows you to configure the header character for 6500 Mode messages. This needs to be configured properly for the access control system to communicate with the receiver.
End character (HEX)	This is available only for the Bosch 6500 Mode. For the Bosch SIA Mode, this value is hard coded as 0x0d. The Bosch D6600 allows you to configure the trailer character for 6500 Mode messages. This needs to be configured properly for the access control system to communicate with the receiver.
Notes Sub-tab	

Receivers Folder - Receivers Form (Continued)

Form Element	Comment
Notes	Enter information about the panel. This field is limited to less than 2000 characters. Any text that is entered here will be displayed in Alarm Monitoring. For more information, refer to the procedure to View Notes in the Alarm Monitoring User Guide in Chapter 5, "Monitor Devices."
Encryption Sub-tab	
Use an encrypted connection	Determines whether the connection to the controller is encrypted or not. If not selected (the default), a plain connection is used. If selected, the connection is encrypted.
Allow next connection to be downgraded	Determines whether the system will attempt a downgrade the next time it connects to the controller and there are encryption problems. If not selected (the default), the system will not attempt to downgrade the connection, even if the configured encrypted connection fails. If selected, the system will attempt to downgrade the connection if the encrypted connection fails. The system attempts downgrades by trying encryption with the inactive master key and then by trying a plain connection. Note that if the controller requires encryption, a plain connection is not possible. This check box displays only if the controller exists in an automatic key management system/ segment.

Receivers Form Procedures

Add a Receiver

1. From the **Additional Hardware** menu, select **Receivers**.
2. On the Receivers tab, click [Add].
3. If segmentation is not enabled, skip this step. If segmentation is enabled:
   a. The Segment Membership window will open. Select the segment that this receiver will be assigned to.
   b. Click [OK].
4. In the **Name** field, type a name for the receiver.
5. Select whether the receiver will be online.
   a. Allow the **Online** check box to remain selected if you want the receiver to be ready for use. When a receiver is online, the Communication Server will attempt to communicate with the device.
   b. Deselect the **Online** check box if the receiver is not ready for use. If the receiver is not marked as online, the Communication Server will not attempt to communicate with the device.
6. On the Location sub-tab:
   a. Select the **Workstation** (or server) to which the receiver is or will be connected in order to transfer events/commands. The Communication

Server must be present on the specified workstation. You can either type the name in the field, or use [Browse] to view a list of available workstations.

b. Select the world time zone from the **World time zone** drop-down list.

c. Select whether **Daylight savings** is used or not.

Note: You are required to enter the workstation's NetBIOS name. (The NetBIOS name is specified when Windows networking is installed/configured.)

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7. In the **Receiver output format** drop-down list, select a receiver output format that is valid for the installed software license.
8. Click the **Connection** sub-tab.
9. Select the method that will be used to communicate with the receiver.
   a. Select the **Direct** radio button if communication with the receiver will be via a direct serial connection to the specified **Workstation**. You must also specify the workstation's **COM Port**, the **Baud rate**, the **Byte size**, the **Parity**, and the **Stop bits**.
   b. Select the LAN radio button if communication with the receiver will be over a Local Area Network. You must also specify the workstation's **IP address**.
10. Click the **Options** sub-tab. Different options are available depending on the **Receiver output format** that you selected on the Location sub-tab. Options not available are grayed out.
    a. If the Receiver output format is **Bosch 6500**, select the **Heartbeat interval**, the **Start character (HEX)**, and the **End character (HEX)**.
    b. If the Receiver output format is **Bosch SIA**, select the **Heartbeat interval**.
11. Click [OK].

Modify a Receiver

1. From the **Additional Hardware** menu, select **Receivers**.
2. On the Receivers tab, select the **Multiple Selection** check box if you want to modify more than one Receiver entry. If not, leave it deselected.
3. Select the Receiver entry you want to modify. If the **Multiple Selection** check box is selected, you can select more than one Receiver entry.
4. Click [Modify].
5. Make any desired changes.
6. Click [OK].
7. A prompt to confirm that you want to make the modification will be displayed. Click [OK].

Delete a Receiver

1. From the **Additional Hardware** menu, select **Receivers**.
2. On the Receivers tab, select the **Multiple Selection** check box if you want to delete more than one Receiver entry. If not, leave it deselected.
3. Select the Receiver entry you want to delete. If the **Multiple Selection** check box is selected, you can select more than one Receiver entry.
4. Click [Delete].
5. Click [OK].
6. A prompt to confirm that you want to make the deletion will be displayed. Click [OK].

Enable a Receiver for Encryption

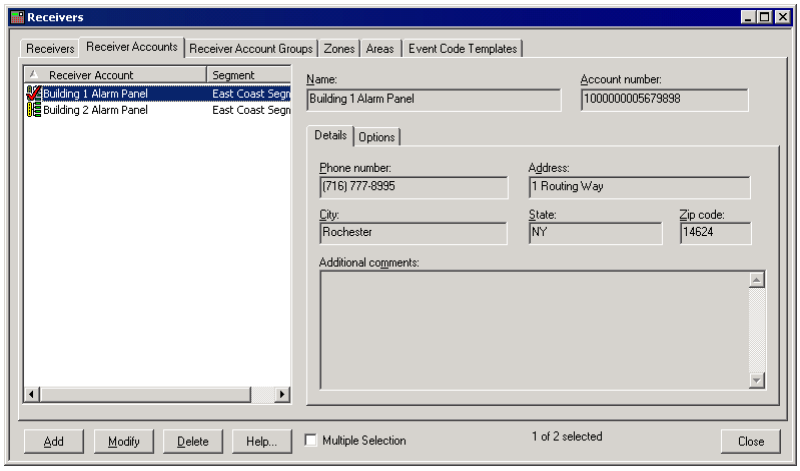
The encryption modify/export permission is required to complete this procedure. Also, encryption must be enabled and the proper encryption key configured in the communication device before enabling the panel for encryption.

1. From the **Additional Hardware** menu, select **Receivers**.
2. On the Receiver form, click the Encryption sub-tab.
3. In the listing window, select the Receiver entry you wish to enable encryption for.
4. Click [Modify].
5. Select the **Use an encrypted connection** check box.
6. If automatic encryption is used, you can also select the **Allow next connection to be downgraded** check box, if you want the connection downgraded if the encrypted connection fails.
7. Click [OK].
8. Acknowledge any messages that display.

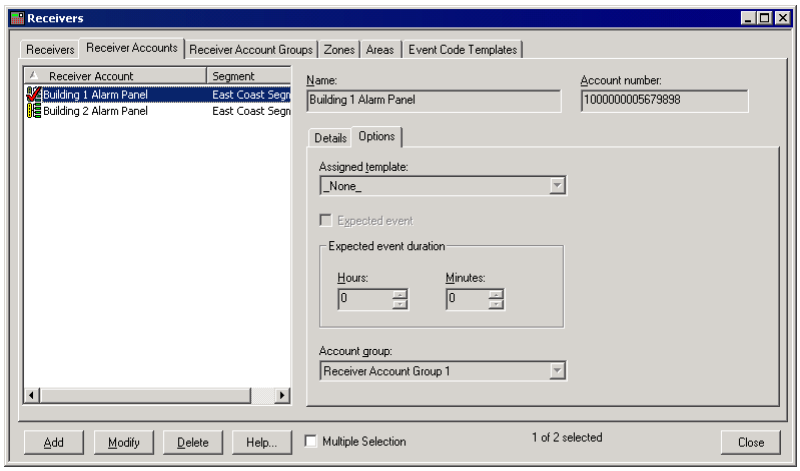
Enter Notes for a Receiver

1. In the listing window, select the entry you want to edit.
2. Click [Modify].
3. Type the information in the Notes field. This note will be able to be displayed in Alarm Monitoring.
4. Click [OK].

Receiver Accounts Form (Details Sub-tab)



Receiver Accounts Form (Options Sub-tab)



Receiver Accounts Form Overview

On the Receiver Accounts form, you can specify receiver accounts (panels). A receiver account must have a **Name** and an **Account number** defined. The **Name** can be any user-friendly name, and is what is displayed in Alarm Monitoring. The **Account number** must match the account number as reported from the receiver. The Options sub-tab contains fields for optional information that may be associated with the receiver account.

If the access control software receives a transaction for a receiver account that has not been defined, it will automatically add a receiver account for it and fill in the **Account number** and **Name**. The **Account number** is the exact number as reported from the receiver.

Receivers Folder - Receiver Accounts Form

Form Element	Comment
Receiver Account listing window	Lists currently defined receiver accounts.
Name	Identifies the name of the receiver account. This is a "friendly" name assigned to each account to make it easy to identify. This name will be displayed in Alarm Monitoring. Each name must be unique and can contain no more than 96 characters.
Account number	The **Account number** must match the account number as reported from the receiver.
Add	Click this button to add a receiver account.
Modify	Click this button to change a receiver account.
Delete	Click this button to delete a receiver account.
Help	Displays online help for this form.
Multiple Selection	If selected, more than one Receiver Account entry in the listing window can be selected and modified or deleted simultaneously. Options that cannot be modified simultaneously will appear grayed out.
Close	Closes the Receivers folder
Details Sub-tab	
Phone number	(Optional) Telephone number associated with the receiver account
Address	(Optional) Address associated with the receiver account
City	(Optional) City associated with the receiver account
State	(Optional) State associated with the receiver account
Zip code	(Optional) Zip code associated with the receiver account
Additional comments	(Optional) Type any additional information about the receiver account here. There is a limit of 32,000 characters.
Options Sub-tab	
Assigned template	Used to specify custom mappings for *event codes* reported from the receiver for the given receiver account to access control system event definitions. If an assigned template is not selected, the access control system will use a default template.
Expected event	Select this check box to indicate that an event will take place. When selected, the **Hours** and **Minutes** fields are available for selection.
Expected event duration	Section that contains the **Hours** and **Minutes** fields. This section is only enabled when the Expected event check box is selected.
Hours	Specify the number of hours that event will go on for
Minutes	Specify the number of minutes, in addition to the specified **Hours**, that the event will go on for

Receivers Folder - Receiver Accounts Form (Continued)

Form Element	Comment
Account group	Select the account group that this receiver account will be a member of, if any. Receiver Account Groups are added on the Receiver Account Groups form in the Receivers folder. If segmentation is enabled, the Receiver Account Group must be in the same segment as the Receiver in order to be available for selection in the **Account group** drop-down list. The **Account group** specified will appear on the Account List sub-tab of the Receiver Account Groups form when that same Receiver Account Group is selected in the Receiver Account Group listing window of the Receiver Account Groups form.
World time zone	Select the world time zone for the selected access panel's geographical location. The selections in the drop-down list are listed sequentially, and each includes: • The world time zone's clock time relative to Greenwich Mean Time. For example, (GMT+05:00) indicates that the clock time in the selected world time zone is 5 hours ahead of the clock time in Greenwich, England. • The name of one or more countries or cities that are located in that world time zone.
Daylight savings	Select this check box if Daylight Savings Time is enforced in the selected access panel's geographical location.

Receiver Accounts Form Procedures

Add a Receiver Account

1. From the **Additional Hardware** menu, select **Receivers**.
2. Click the Receiver Accounts tab.
3. Click [Add].
4. If segmentation is not enabled, skip this step. If segmentation is enabled:
   a. The Segment Membership window will open. Select the segment that this receiver account will be assigned to.
   b. Click [OK].
5. In the **Name** field, type a name for the receiver account.
6. In the **Account number** field, type the account number as reported from the receiver. Each receiver has a unique account number.
7. On the **Details** sub-tab, fill in any options associated with the receiver account. No options are required, but you can enter the **Phone number**, **Address**, **City**, **State**, **Zip code**, and any **Additional comments**.
8. On the **Options** sub-tab:
   a. You can select an **Assigned template**. An assigned template is used to specify custom mappings for event codes reported from the receiver for the given receiver account to access control system event definitions.

      If an assigned template is not selected, the access control system will use a default template.
   b. You can also select if an event is expected to occur. If an event is expected, enter the number of **Hours** and **Minutes** that the event will go on for.
   c. Select the **Account group** that the receiver account will belong to, if any.
   d. Select the world time zone and daylight savings options as you see fit.

Note: Receiver Account Groups are added on the Receiver Account Groups form in the Receivers folder. If segmentation is enabled, the Receiver Account Group must be in the same segment as the Receiver in order to be available for selection in the **Account group** drop-down list. For more information, refer to Add a Receiver Account Group on page 1135.

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9. Click [OK].

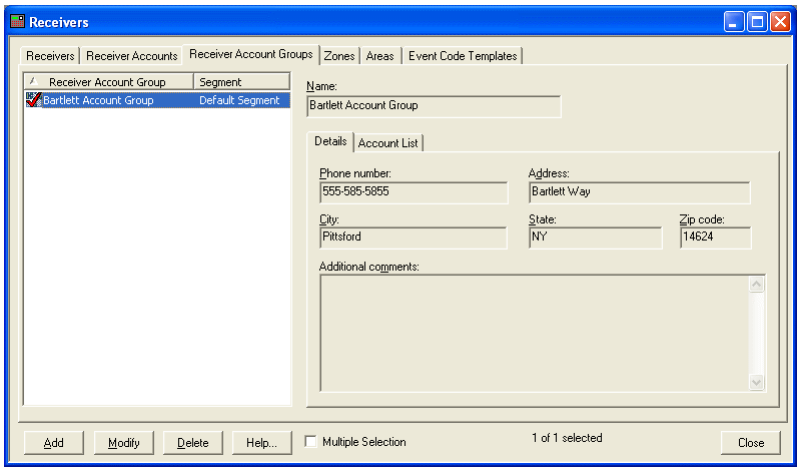
Modify a Receiver Account

1. From the **Additional Hardware** menu, select **Receivers**.
2. Click the Receiver Accounts tab.
3. Select the **Multiple Selection** check box if you want to modify more than one Receiver Account entry. If not, leave it deselected.
4. Select the Receiver Account entry you want to modify. If the **Multiple Selection** check box is selected, you can select more than one Receiver Account entry.
5. Click [Modify].
6. Make any desired changes. Changes can be made on any sub-tab.
7. Click [OK].
8. A prompt to confirm that you want to make the modification will be displayed. Click [OK].

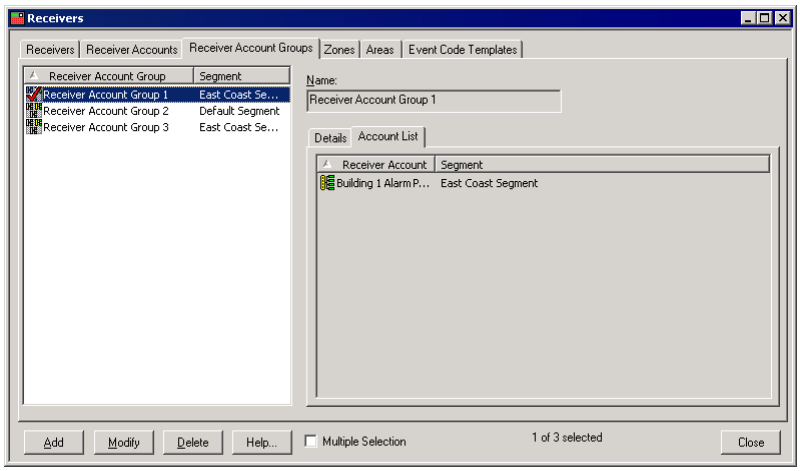
Delete a Receiver Account

1. From the **Additional Hardware** menu, select **Receivers**.
2. Click the Receiver Accounts tab.
3. Select the **Multiple Selection** check box if you want to delete more than one Receiver Account entry. If not, leave it deselected.
4. Select the Receiver Account entry you want to delete. If the **Multiple Selection** check box is selected, you can select more than one Receiver Account entry.
5. Click [Delete].
6. Click [OK].
7. A prompt to confirm that you want to make the deletion will be displayed. Click [OK].

Receiver Account Groups Form (Details Sub-tab)



Receiver Account Groups Form (Account List Sub-tab)



Receiver Account Groups Form Field Table

Receivers Folder - Receiver Account Groups Form

Form Element	Comment
Receiver Account Group listing window	Lists currently defined receiver account groups. A  icon precedes each entry.
Name	Identifies the name of the receiver account group. This is a "friendly" name assigned to each account to make it easy to identify. This name will be displayed in Alarm Monitoring. Each name must be unique and can contain no more than 96 characters.
Add	Click this button to add a receiver account group.
Modify	Click this button to change a receiver account group.
Delete	Click this button to delete a receiver account group.
Help	Displays online help for this form.
Multiple Selection	If selected, more than one Receiver Account Group entry in the listing window can be selected and modified or deleted simultaneously. Options that cannot be modified simultaneously will appear grayed out.
Close	Closes the Receivers folder
Details Sub-tab	
Phone number	(Optional) Telephone number associated with the receiver account group
Address	(Optional) Address associated with the receiver account group
City	(Optional) City associated with the receiver account group
State	(Optional) State associated with the receiver account group
Zip code	(Optional) Zip code associated with the receiver account group
Additional comments	(Optional) Type any additional information about the receiver account group here. There is a limit of 32,000 characters.
Account List Sub-tab	
Account List listing window	For a receiver account group that is selected in the Receiver Account Group listing window, lists the names of receiver accounts and the segment each belongs to. For a Receiver Account to be listed, the Receiver Account Group that is selected in the **Receiver Account Group** listing window on this form must also be selected in the **Account group** drop-down list on the Receiver Accounts form.

Receiver Accounts Form Procedures

Add a Receiver Account Group

1. From the **Additional Hardware** menu, select **Receivers**.
2. Click the Receiver Account Groups tab.
3. Click [Add].
4. If segmentation is not enabled, skip this step. If segmentation is enabled:
   a. The Segment Membership window will open. Select the segment that this receiver account group will be assigned to.
   b. Click [OK].
5. In the **Name** field, type a name for the receiver account group.
6. On the **Details** sub-tab, fill in any options associated with the receiver account group. No options are required, but you can enter the **Phone number**, **Address**, **City**, **State**, **Zip code**, and any **Additional comments**.
7. On the **Account List** sub-tab, the list of receiver accounts and the segment that the selected receiver account group belongs to. For a Receiver Account to be listed, the Receiver Account Group that is selected in the **Receiver Account Group** listing window on this form must also be selected in the **Account group** drop-down list on the Receiver Accounts form.
8. Click [OK].

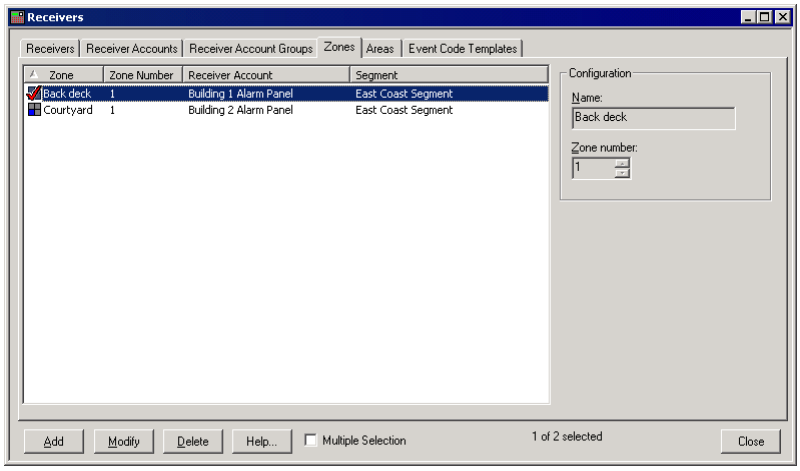
Modify a Receiver Account Group

1. From the **Additional Hardware** menu, select **Receivers**.
2. Click the Receiver Account Groups tab.
3. Select the Receiver Account Group entry you want to modify.
4. Click [Modify].
5. Make any desired changes. Changes can be made on any sub-tab.
6. Click [OK].
7. A prompt to confirm that you want to make the modification will be displayed. Click [OK].

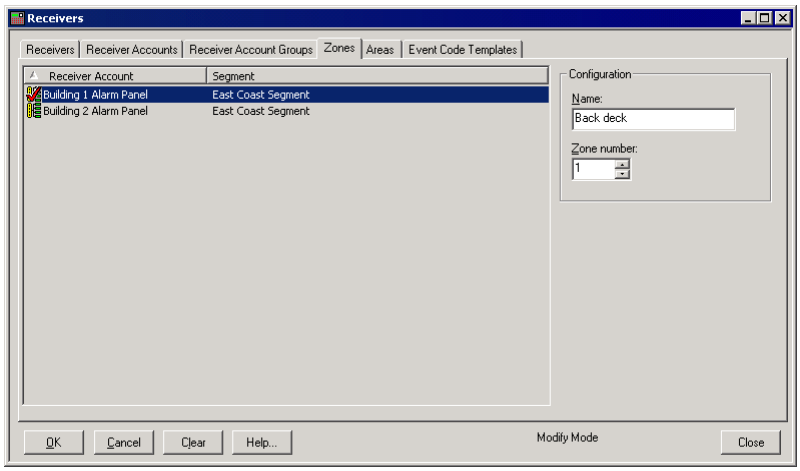
Delete a Receiver Account Group

1. From the **Additional Hardware** menu, select **Receivers**.
2. Click the Receiver Account Groups tab.
3. Select the Receiver Account Group entry you want to delete.
4. Click [Delete].
5. Click [OK].
6. A prompt to confirm that you want to make the deletion will be displayed. Click [OK].

Zones Form (View Mode)



Zones Form (Modify Mode)



Zones Form Overview

Various receiver accounts allow you to define zones. When an event occurs on a receiver account, the receiver account reports up its account number, the event that occurred, the zone information, and any additional information that may be supported by the receiver account. Zones can be configured in the access control software and given an appropriate name. When the access control software receives a receiver account event with this information, Alarm Monitoring will display the names associated with a particular zone. If a zone does not have a name defined for it, then the access control software will use the raw hardware ID it received.

Zones Form Field Table

Receivers Folder - Zones Form

Form Element	Comment
Listing window (view mode)	Lists currently defined areas as well as the **Area number**, **Receiver Account**, and **Segment** (if segmentation is enabled) they are associated with. An  icon precedes each entry.
Listing window (modify mode)	Lists currently defined receiver accounts that you can assign to an area or areas. An  icon precedes each entry.
Configuration	Includes the **Name** field and **Area number** spin button field.
Name	The name of the **Area**. This is the name that will be displayed in Alarm Monitoring. If the access control software receives an account event with area information in it but the area doesn't have a name, the raw hardware ID will be used instead.
Area number	Each area is assigned a number.
Add (view mode)	Click this button to add an area.
Modify (view mode)	Click this button to change an area.
Delete (view mode)	Click this button to delete an area.
OK (modify mode)	Click the [OK] button once you are finished to apply the changes that were made.
Cancel (modify mode)	Cancels any action initiated and reverts to the previously saved values.
Clear (modify mode)	Clears the current form.
Help	Displays online help for this form.
Multiple Selection	If selected, more than one Area entry in the listing window can be selected and deleted simultaneously.
Close	Closes the Receivers folder

Zones Form Procedures

Add a Zone

1. From the **Additional Hardware** menu, select **Receivers**.
2. Add any Receiver Accounts you want to create zones for. For more information, refer to Add a Receiver Account on page 1131.
3. Click the Zones tab.
4. Click [Add].
5. All receiver accounts will be displayed in the listing window.
6. Select the Receiver Account entry you want to create a zone for.
7. In the **Name** field, type the name of the Zone. This is the name that will be displayed in Alarm Monitoring.

Note: If the access control software receives an account event with zone information in it but the zone doesn't have a name, the raw hardware ID will be used instead.

8. Select the **Zone number**. A **Zone number** is individual input point on a receiver account, and each zone must have one. More than one receiver account can be assigned to the same zone number.

Note: Unless you are using Osborne-Hoffman OH2000 hardware, ReadkeyPRO does not support zone numbers that are set to 0 and should not be configured as such. If a panel treats a zone as zero it will not be reported on correctly. If you are using Osborne-Hoffman OH2000 hardware a zone 0 event will be reported as zone 32767.

9. Click [OK].

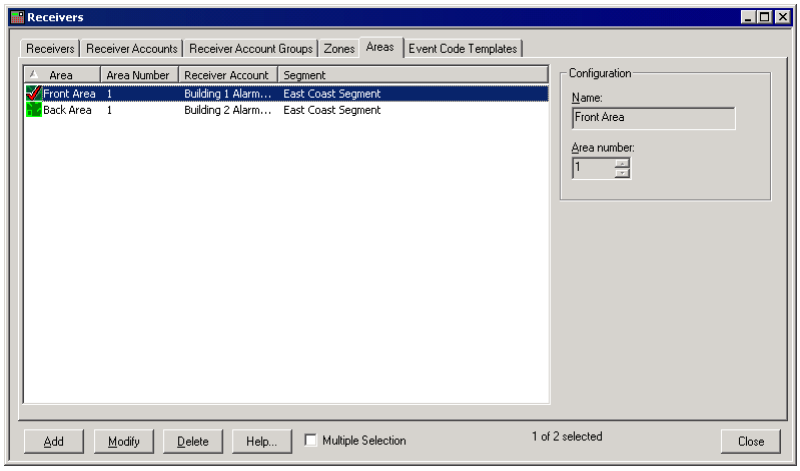
Modify a Zone

1. From the **Additional Hardware** menu, select **Receivers**.
2. Click the Zones tab.
3. Select the Zone entry you want to modify.
4. Click [Modify].
5. Make any desired changes.
6. Click [OK].
7. A prompt to confirm that you want to make the modification will be displayed. Click [OK].

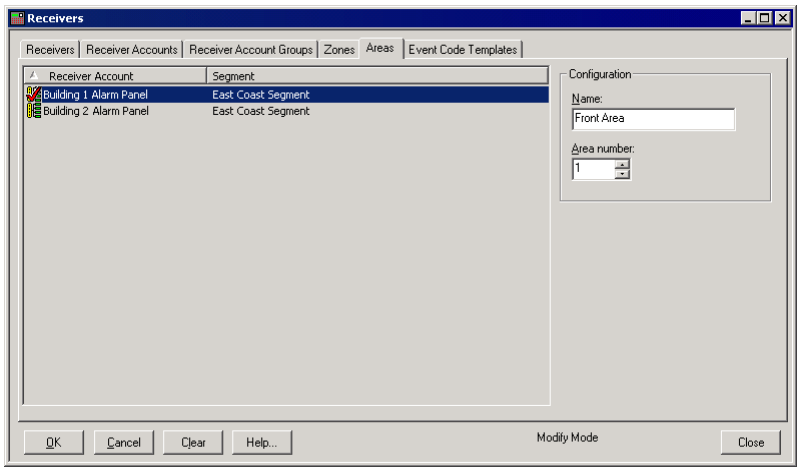
Delete a Zone

1. From the **Additional Hardware** menu, select **Receivers**.
2. Click the Zones tab.
3. Select the **Multiple Selection** check box if you want to delete more than one Zone entry. If not, leave it deselected.
4. Select the Zone entry you want to delete. If the **Multiple Selection** check box is selected, you can select more than one Zone entry.
5. Click [Delete].
6. Click [OK].
7. A prompt to confirm that you want to make the deletion will be displayed. Click [OK].

Areas Form (View Mode)



Areas Form (Modify Mode)



Areas Form Overview

Various receiver accounts allow you to define areas. When an event occurs on a receiver account, the receiver account reports up its account number, the event that occurred, the area information, and any additional information that may be supported by the receiver account. Areas can be configured in the access control software and given an appropriate name. When the access control software receives a receiver account event with this information, Alarm Monitoring will display the names associated with a particular area. If an area does not have a name defined for it, then the access control software will use the raw hardware ID it received.

Areas Form Field Table

Receivers Folder - Areas Form

Form Element	Overview
Listing window (view mode)	Lists currently defined areas as well as the **Area number**, **Receiver Account**, and **Segment** (if segmentation is enabled) they are associated with. An  icon precedes each entry.
Listing window (modify mode)	Lists currently defined receiver accounts that you can assign to an area or areas. An  icon precedes each entry.
Configuration	Includes the **Name** field and **Area number** spin button field.
Name	The name of the **Area**. This is the name that will be displayed in Alarm Monitoring. If the access control software receives an account event with area information in it but the area doesn't have a name, the raw hardware ID will be used instead.
Area number	Each area is assigned a number.
Add (view mode)	Click this button to add an area.
Modify (view mode)	Click this button to change an area.
Delete (view mode)	Click this button to delete an area.
OK (modify mode)	Click the [OK] button once you are finished to apply the changes that were made.
Cancel (modify mode)	Cancels any action initiated and reverts to the previously saved values.
Clear (modify mode)	Clears the current form.
Help	Displays online help for this form.
Multiple Selection	If selected, more than one Area entry in the listing window can be selected and deleted simultaneously.
Close	Closes the Receivers folder

Areas Form Procedures

Add an Area

1. From the **Additional Hardware** menu, select **Receivers**.
2. Add any Receiver Accounts you want to create areas for. For more information, refer to Add a Receiver Account on page 1131.
3. Click the Areas tab.
4. Click [Add].
5. All receiver accounts will be displayed in the listing window.
6. Select the Receiver Account entry you want to create an area for.
7. In the **Name** field, type the name of the Area.

Note: If the access control software receives an account event with area information in it but the area doesn't have a name, the raw hardware ID will be used instead.

8. Select the **Area number**.
9. Click [OK].

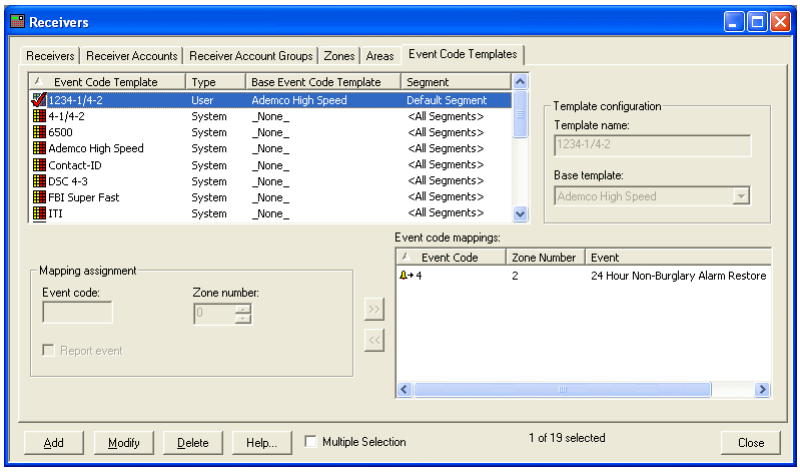
Modify an Area

1. From the **Additional Hardware** menu, select **Receivers**.
2. Click the Areas tab.
3. Select the Area entry you want to modify.
4. Click [Modify].
5. Make any desired changes.
6. Click [OK].
7. A prompt to confirm that you want to make the modification will be displayed. Click [OK].

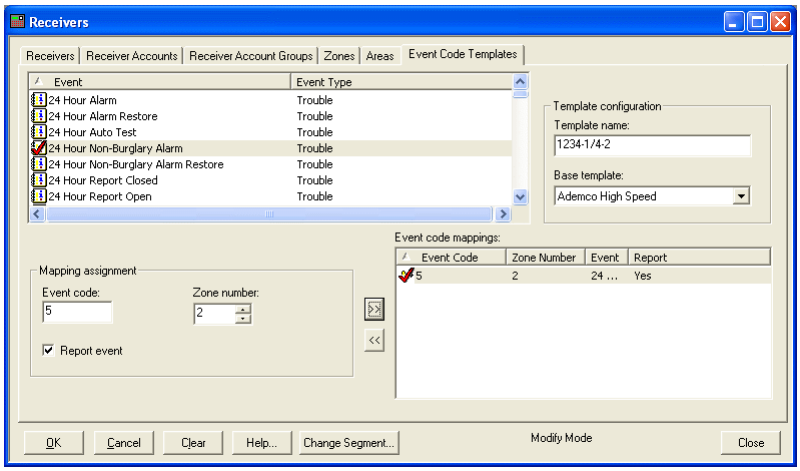
Delete an Area

1. From the **Additional Hardware** menu, select **Receivers**.
2. Click the Areas tab.
3. Select the **Multiple Selection** check box if you want to delete more than one Area entry. If not, leave it deselected.
4. Select the Area entry you want to delete. If the **Multiple Selection** check box is selected, you can select more than one Area entry.
5. Click [Delete].
6. Click [OK].
7. A prompt to confirm that you want to make the deletion will be displayed. Click [OK].

Event Code Templates Form (View Mode)



Event Code Templates Form (Modify Mode)



Event Code Templates Form Overview

On the Event Code Templates form, you can define mappings from event codes to access control system events. A table (called an Event Code Template) of such mappings can be defined and then assigned to the given account zone(s).

- Several system default mappings come with the access control software.
- New templates can be added.
- Existing mappings (including default ones) can be customized by defining a new template, basing it off an existing one, and then defining overrides. The mapping can be done down to the zone level.

Event Code Templates Form Field Table

Receivers Folder - Event Code Templates Form

Form Element	Comment
Listing window (view mode)	Lists currently defined event code templates as well as the **Type** and **Base event code template** they are associated with. A  icon precedes each entry. Event code templates with a **Type** of "System" cannot be modified, but event code templates with a **Type** of "User" can be modified.
Listing window (modify mode)	Lists currently defined events as well as the **Event Type** they are associated with. A  icon precedes each entry.
Template configuration	Includes the **Template name** field and **Base template** drop-down list.
Template name	The name of the **Event code template**, which is a table of mappings from *event codes* to access control system events
Base template	The original template that a new template is derived from
Mapping assignment	Includes the **Event code** field, the **Zone number** spin-button field, and the **Report event** check box.
Event code	An alphanumeric value reported from the receiver for the given receiver account to access control system event definitions. An event code can have a space at the beginning or anywhere in it, but it cannot have a trailing space. For example, "A D01" and " AS" are valid event codes, but "A " is not a valid event code because it has a space at the end.
Zone number	Each zone, or individual input point on a receiver account, is assigned a number. When the **Zone number** is zero (0), any zone will match if a search is done.
Report event	If selected, events will be reported to the access control software and logged. If not selected, events will not be reported to the access control software and will not be logged.
Event code mappings	Displays the **Event Code**, **Zone number**, and **Event** pairings, as well as whether the mapping is reported or not.
	When clicked, the selected Event, the **Event code** specified and the **Zone number** selected are linked and added to the **Event code mappings** display
	When clicked, the **Event code mapping** that is selected is removed
Add (view mode)	Click this button to add an event code template.
Modify (view mode)	The **Type** of the Event Code Template (displayed in the listing window) determines whether it can be modified - "System" event code templates cannot be modified, but "User" event code templates can be.
Delete (view mode)	The **Type** of the Event Code Template (displayed in the listing window) determines whether it can be deleted - "System" event code templates cannot be deleted, but "User" event code templates can be.
OK (modify mode)	Click the [OK] button, once you are finished, to apply the changes that were made.
Cancel (modify mode)	Cancels any action initiated and reverts to the previously saved values.

Receivers Folder - Event Code Templates Form (Continued)

Form Element	Comment
Clear (modify mode)	Clears the current form.
Help	Displays online help for this form.
Multiple Selection	If selected, more than one entry in the listing window with the **Type** "User" can be checked simultaneously. The changes made on this form will apply to all selected event code templates. The **Multiple Selection** check box cannot be used for entries with the **Type** "System", since those entries cannot be modified or deleted. **Note:** If segmentation is enabled, the event code templates must be in the same segment to be able to use the Multiple Selection feature.
Close	Closes the Receivers folder.

Event Code Templates Form Procedures

Add a Custom Event Code Template

The access control software comes with the most commonly used event code templates. There are three instances where you might want to add a custom event code template:

- Scenario 1: If your receiver account uses an event code template other than the default ones, you will have to add a new event code template that specifies the event code mappings. If you do not do this, then any events that the receiver account sends will be listed as "Unknown" in Alarm Monitoring.
- Scenario 2: The default event code templates that come with the access control software have a **Type** of "System". System event code templates cannot be modified. To override one of the event code mappings present in a system event code template, you can add a new event code template based on that same system account.
- Scenario 3: If you do not want an event to be reported that is included in a system event code template, then you can add a new event code template in which the **Report event** check box is deselected for that event.

To add a custom event code template:

1. From the **Additional Hardware** menu, select **Receivers**.
2. Click the Event Code Templates tab.
3. In the Event Code Template listing window, select the template you want to base your new template on. Make note of the event code mappings that you

wish to override. (If you are adding a completely new event code template, as in Scenario 1 above, you do not have to select a template.)

4. Click [Add].
5. If segmentation is not enabled, skip this step. If segmentation is enabled:
   a. The Segment Membership window will open. Select the segment that this event code template will be assigned to.
   b. Click [OK].
6. In the **Template name** field, type a new name for the template.
7. In the **Base template** field, select the template that the new event code template will be derived from. In most cases, this will be the template that you selected in step 3.
8. In the Event listing window, select the event you want to be paired with the event code and zone number.
9. In the **Event code** field, specify the event code. Usually this is an event code that is listed in the **Base template** that you want to reassign. An event code can have a space at the beginning or in the middle, but it cannot have a space at the end.
10. Enter the **Zone number**.
11. Select the **Report event** check box if you want events to be reported to Alarm Monitoring and logged, or deselect it to not have events reported or logged.
12. Click the  button, and the event code mapping will be added.

For more information, refer to Event Logging and Reporting Overview on page 1117.

- Default system event code templates have a **Type** of “System”.
- Custom event code templates have a **Type** of “User”.

Modify an Event Code Template

User-defined event code templates can be modified, but the default event code templates that come with the access control software cannot. To modify an event code template:

1. From the **Additional Hardware** menu, select **Receivers**.
2. Click the Event Code Templates tab.
3. Select the **Multiple Selection** check box if you want to modify more than one Event Code Template entry. If not, leave it deselected.
4. In the Event Code Template listing window, select the template with a **Type** of “User” that you want to modify. If the **Multiple Selection** check box is

selected, you can select more than one Event Code Template entry. Make note of the event code mappings that you wish to override.

5. Click [Modify].
6. Make any desired changes.
7. Click [OK].
8. A prompt to confirm that you want to make the modification will be displayed. Click [OK].

Delete an Event Code Template

User-defined event code templates can be deleted, but the default event code templates that come with the access control software cannot. To delete an event code template:

1. From the **Additional Hardware** menu, select **Receivers**.
2. Click the Event Code Templates tab.
3. Select the **Multiple Selection** check box if you want to delete more than one Event Code Template entry. If not, leave it deselected.
4. In the Event Code Template listing window, select the template with a **Type** of "User" that you want to delete. If the **Multiple Selection** check box is selected, you can select more than one Event Code Template entry.
5. Click [Delete].
6. Click [OK].
7. A prompt to confirm that you want to make the deletion will be displayed. Click [OK].

Chapter 48: Intrusion Detection Devices Folder

The Intrusion Detection Devices folder contains forms with which you can:

- Add, modify, and delete intrusion panels.
- Define objects (zones, onboard and offboard relays, doors, and areas) relating to each intrusion panel.
- Add, modify, and delete panel user groups.

The Intrusion Detection Devices folder contains the Intrusion Panels form, Zones form, Onboard Relays form, Offboard Relays form, Doors form, Areas form, and the Panel User Groups form.

Toolbar Shortcut

This folder is displayed by selecting **Intrusion Detection Devices** from the **Additional Hardware** menu, or by selecting the Intrusion Detection toolbar button.

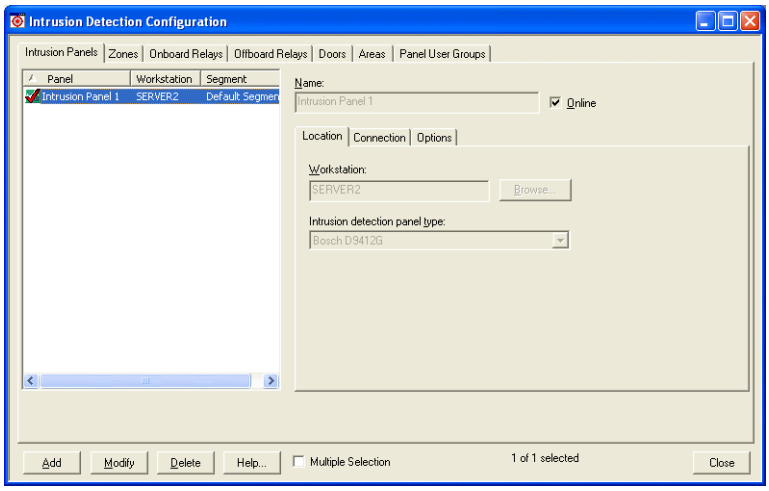
Intrusion Detection Overview

ReadkeyPRO is designed to interface with intrusion controllers and to request the controllers to perform supported actions (such as bypass/unbypass zone, activate/deactivate an output and arm/disarm an area).

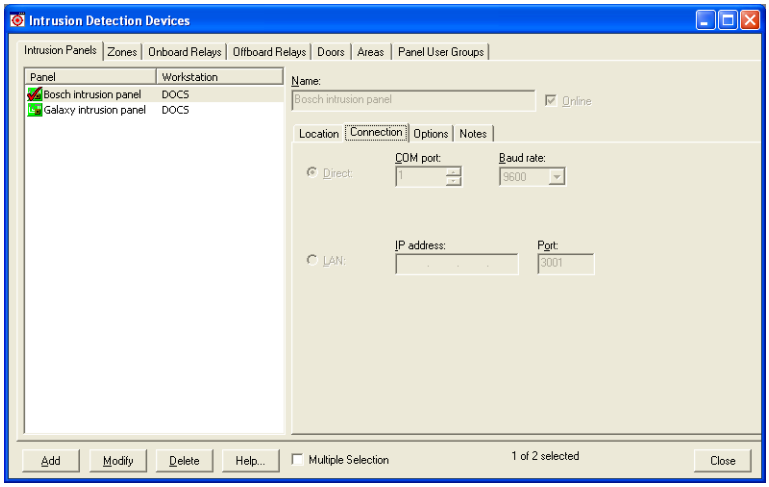
Implementation of Detection System products and Galaxy products requires the configuration using their respective keypads as well as the configuration of ReadkeyPRO components using ReadkeyPRO software. Refer to the manufacturer manuals when configuring the panel with the keypad.

Implementation of Bosch products requires the configuration of the Bosch components using Bosch software as well as the configuration of ReadkeyPRO components using ReadkeyPRO software. Refer to the Bosch manuals when working with Bosch software.

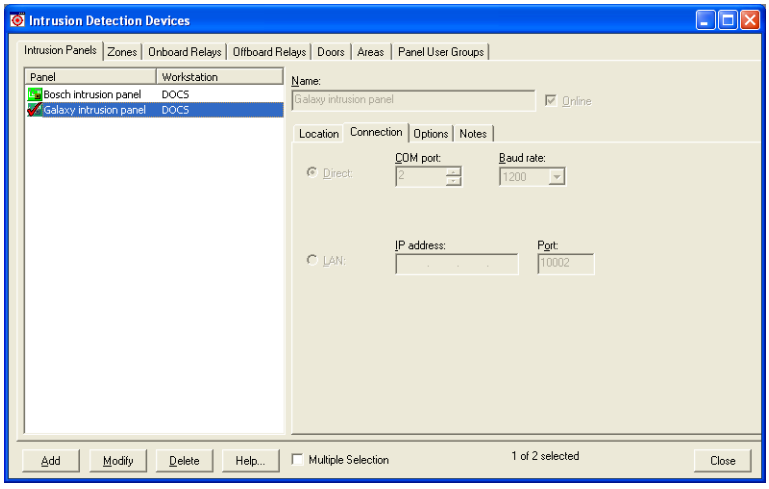
Intrusion Panels Form (Location Sub-tab)



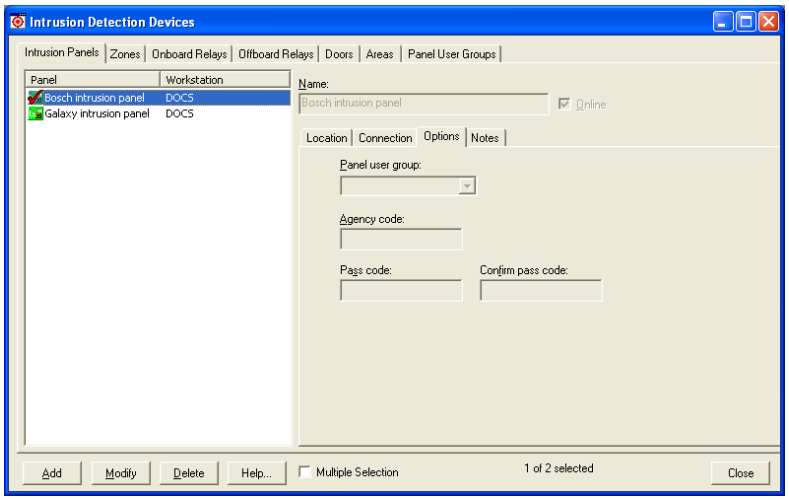
Intrusion Panels Form (Connection Sub-tab)



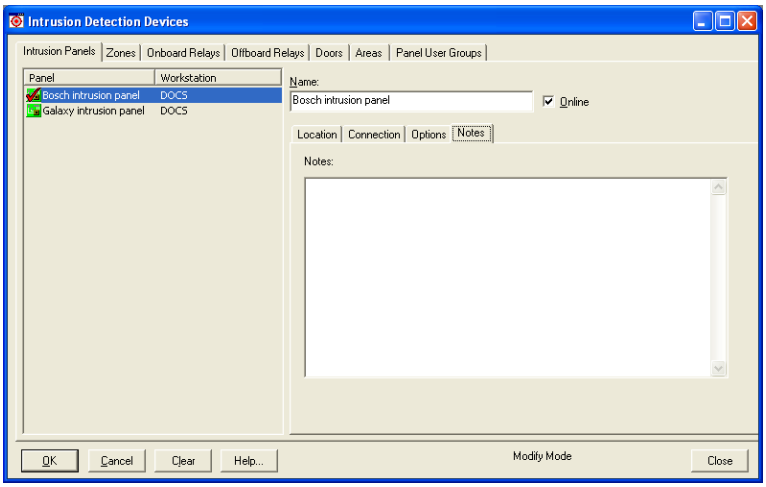
Intrusion Panels Form (Connection Sub-tab for Galaxy)



Intrusion Panels Form (Options Sub-tab)

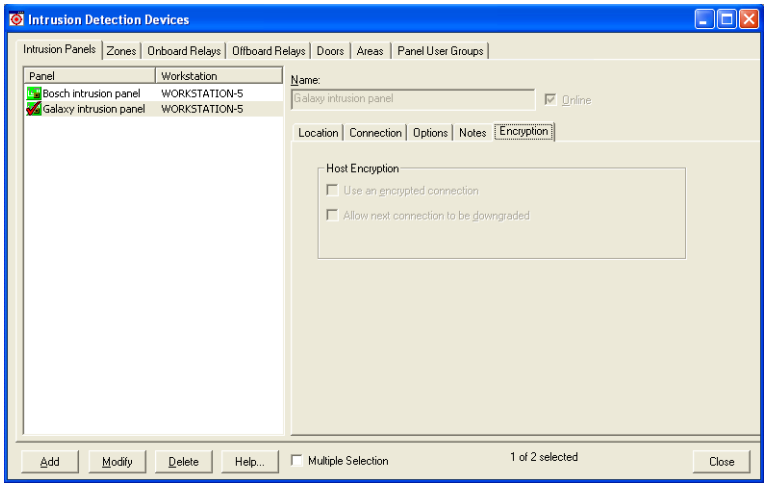


Intrusion Panels Form (Notes Sub-tab)



Intrusion Panels Form (Encryption Sub-tab)

Note: Configuration on this tab will be disabled unless the panel is configured for a LAN connection type on the Connection sub-tab.



Intrusion Detection Devices Folder - Intrusion Panels Form

Form Element	Comment
Listing window	Lists currently defined intrusion panels and the name of the workstation connected to each. A  icon precedes each entry.
Name	Identifies the name of the intrusion panel. This is a "friendly" name assigned to each intrusion panel to make it easy to identify. Each name must be unique and can be up to 32 characters long.
Online	If selected, the intrusion panel will be online. Online indicates that the intrusion panel is ready for use, and that the Communication Server will attempt to communicate with the device. If the intrusion panel is not marked as online, the Communication Server will not attempt to communicate with the device.
Add	Click this button to add an intrusion panel.
Modify	Click this button to modify an intrusion panel.
Delete	Click this button to delete an intrusion panel.
Help	Click this button to display online help for this form.
Multiple Selection	If selected, more than one intrusion panel entry in the listing window can be selected and modified or deleted simultaneously. Options that cannot be modified simultaneously will appear grayed out.
Change Segment	In modify mode, click this button to display the Segment Membership window from where you can change the selected intrusion panel's segment.
Close	Click this button to close the Intrusion Detection Devices folder.
Location Sub-tab	
Workstation	Select the workstation the intrusion panel is connected to. The Communication Server must be present on the specified workstation. You can either type the name in the field, or use the [Browse] button to view a list of available workstations. **Note:** You are required to enter the workstation's NetBIOS name. (The NetBIOS name is specified when Windows networking is installed/configured.)
Browse	Opens a Browse for Computer window from which you can select a workstation.
World time zone	Select the world time zone for the selected access panel's geographical location. The selections in the drop-down list are listed sequentially, and each includes: • The world time zone's clock time relative to Greenwich Mean Time. For example, (GMT+05:00) indicates that the clock time in the selected world time zone is 5 hours ahead of the clock time in Greenwich, England. • The name of one or more countries or cities that are located in that world time zone.
Daylight savings	Select this check box if Daylight Savings Time is enforced in the selected access panel's geographical location.
Intrusion detection panel type	Displays a list of intrusion detection panel types.

Intrusion Detection Devices Folder - Intrusion Panels Form (Continued)

Form Element	Comment
Connection Sub-tab	
Direct	Select this radio button if workstation will communicate with the intrusion panel over a direct serial connection.
COM port	If you selected the **Direct** radio button, specify the port that's on the serial expansion unit or the back of the workstation. To each port you can assign only one intrusion panel. Choose a value in the range of 1 through 256.
Baud rate	If you selected the **Direct** radio button, enter the speed (in bits per second) at which information is transferred between the workstation and the intrusion panel.
LAN	Select this radio button if the workstation will communicate with the intrusion panel over a Local Area Network. You must also specify the workstation's IP address.
IP Address	If you selected the **LAN** radio button, enter here the Internet Protocol (TCP/IP) address for the intrusion panel, as provided by your LAN Network Administrator.
Port	Only available if a Galaxy **Intrusion detection panel type** is chosen. When configuring a Galaxy panel with a LAN connection type, a port number must be assigned. The port number must be different from other panels that are used on the same workstation. **Note:** The Port number is only utilized when configuring a Galaxy panel that is communicating using the Galaxy Ethernet module. If the Galaxy panel is using the Lantronix adapter, the port number will not be needed. The Galaxy Ethernet module is not supported for Galaxy Dimension panels. When using a Lantronix device with Galaxy Dimension panels, this port value has no effect; port 3001 is always used.
Options Sub-tab	
Panel user group	Select the panel user group assigned to the panel. The panel user group is used to map the user ID in the panel to a cardholder.
Agency code	Enter the agency code for the panel. The agency code is a five digit hexadecimal code (similar to a login ID). **Note:** This field applies only to Detection Systems intrusion detection panel types.
Onboard input / output module uses line 0 addressing	For Galaxy 3-144, 3-520, and Dimension GD520 only. This must match the Dip Switch 8 setting on the panel. Unchecked, this option equals DIP Switch 8 is off. Checked, the option equals DIP Switch 8 = on. If the **Onboard input/output module uses line 0 addressing** check box is not checked then a number of zones, onboard relays, and offboard relays will be non-configurable.
Pass code	Enter the pass code for the panel. This field applies to Detection Systems and Galaxy panel types only. • **Detection Systems** - The pass code is a 5-digit hexadecimal code (similar to a password). • **Galaxy** - The pass code can be up to 24 characters long.
Confirm pass code	Confirm the pass code entered in the Pass code field.
Dongle number	If using an Guardall EMEA panel, enter the dongle number. The dongle number can be any number up to 10 digits. The dongle number must also be programmed in each PX panel that will be connected to ReadkeyPRO.
Panel model	Select the panel model that is being used.

Intrusion Detection Devices Folder - Intrusion Panels Form (Continued)

Form Element	Comment
Panel feature	
Notes Sub-tab	
Notes	Enter information about the panel. This field is limited to less than 2000 characters. Any text that is entered here will be displayed in Alarm Monitoring. For more information, refer to the procedure to View Notes in the Monitor Devices chapter in the Alarm Monitoring User Guide.
Encryption Sub-tab	
Use an encrypted connection	Determines whether the connection to the controller is encrypted or not. If not selected (the default), a plain connection is used. If selected, the connection is encrypted.
Allow next connection to be downgraded	Determines whether the system will attempt a downgrade the next time it connects to the controller and there are encryption problems. If not selected (the default), the system will not attempt to downgrade the connection, even if the configured encrypted connection fails. If selected, the system will attempt to downgrade the connection if the encrypted connection fails. The system attempts downgrades by trying encryption with the inactive master key and then by trying a plain connection. Note that if the controller requires encryption, a plain connection is not possible. This check box displays only if the controller exists in an automatic key management system/ segment.

Intrusion Panels Form Procedures

Add an Intrusion Panel

1. From the **Additional Hardware** menu, select **Intrusion Detection Devices**. The Intrusion Detection Configuration folder opens.
2. On the Intrusion Panels tab, click [Add].
3. If segmentation is enabled:
   a. The Segment Membership window opens. Select the segment that this intrusion panel will be assigned to.
   b. Click [OK].

Intrusion panel names can be up to 32 characters.

4. In the **Name** field, type an intrusion panel name.
5. Select whether the receiver is online or offline.When an intrusion panel is online, the Communication Server attempts to communicate with the device.

6. On the Location sub-tab:
   a. Select the **Workstation** to which the intrusion panel is connected to. The Communication Server must be running on the specified workstation.
   b. Select the world time zone from the **World time zone** drop-down list.
   c. Select whether **Daylight savings** is used or not.

Note: The workstation name is obtained from Microsoft Windows by right-clicking the My Computer desktop icon and selecting **Properties**. The workstation name is located on the Computer Name tab.

7. Select an intrusion panel type that is valid for the installed software license.
8. Click the **Connection** sub-tab.
9. Select the method that will be used to communicate with the intrusion panel.
   - Select the **Direct** radio button if the workstation will communicate with the intrusion panel through a direct serial connection. You must also specify the workstation's COM port and baud rate.

Important: Bosch panels (DS7400Xi Version 3+ and 4+) both have 2400 and 9600 baud rates, with 2400 being the default. Bosch panels (D7412 and D9412) have a fixed baud rate of 9600. Galaxy default baud rate is 1200 and supports baud rates of 1200, 2400, 4800, 9600, 19200, and 38400.

   - Select the **LAN** radio button if the workstation will communicate with the intrusion panel through a Local Area Network. You must also specify the panel or Lantronix IP address.
10. Click the **Options** sub-tab.
11. Select the **Panel user group** assigned to the panel. The panel user group is used to map the user ID in the panel to a cardholder. For more information, refer to Add a Panel User Group on page 1176.
12. **Bosch only** - require the Agency and Pass code. These fields are automatically populated with default values when you click [OK]. It is recommended you use the default values.
    Galaxy is capable of a Pass code but it is not required. If the panel has been configured with a pass code then the pass code entered must matched the pass code in the panel in order to communicate with the panel. Configure the Galaxy panel pass code using the Ademco Galaxy Gold software application.
    Galaxy 3-144, 3-520, and Dimension GD520 only: Check or uncheck the **Onboard input/output module uses line 0 addressing** check box. This much match the Dip Switch 8 setting on the panel. Unchecked, this option equals DIP Switch 8 is off. Checked, the option equals DIP Switch 8 = on.
    - If the **Onboard input/output module uses line 0 addressing** check box is not checked then a number of zones, onboard relays, and offboard relays will be non-configurable.

Note: The agency and pass code are five digit hexadecimal codes (similar to a login ID) used by the LS Communication server. For Galaxy panels the pass code can include any characters and be 24 characters long.

13. Click [OK].

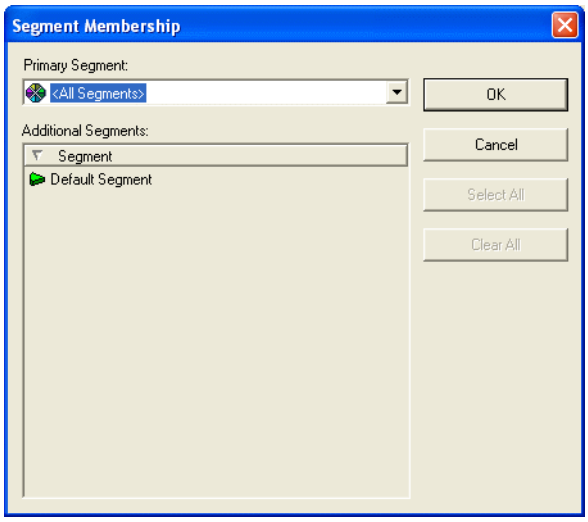
Modify an Intrusion Panel

1. From the **Additional Hardware** menu, select **Intrusion Detection Devices**.
2. On the Intrusion Panels tab, select the entry you want to modify. If the **Multiple Selection** check box is selected, you can select more than one intrusion panel entry.
3. Click [Modify].
4. Make any desired changes.
5. Click [OK].
6. A prompt to confirm that you want to make the modification will be displayed. Click [OK].

Modify an Intrusion Panel's Segment

Note: This procedure applies only to segmented systems.

1. From the **Additional Hardware** menu, select **Intrusion Detection Devices**.
2. Click the Intrusion Panels tab.
3. Select (place a checkmark beside) the entry you want to modify.
4. Click [Modify].
5. Click [Change Segment]. The Segment Membership window opens.
6. Select a segment to move the intrusion panel to.



7. Click [OK].

Delete an Intrusion Panel

1. From the **Additional Hardware** menu, select **Intrusion Detection Devices**.
2. On the Intrusion Panels tab, select the entry you want to delete. If the **Multiple Selection** check box is selected, you can select more than one intrusion panel entry.
3. Click [Delete].
4. Click [OK].
5. A prompt to confirm that you want to make the deletion will be displayed. Click [OK].

Enable an Intrusion Panel for Encryption

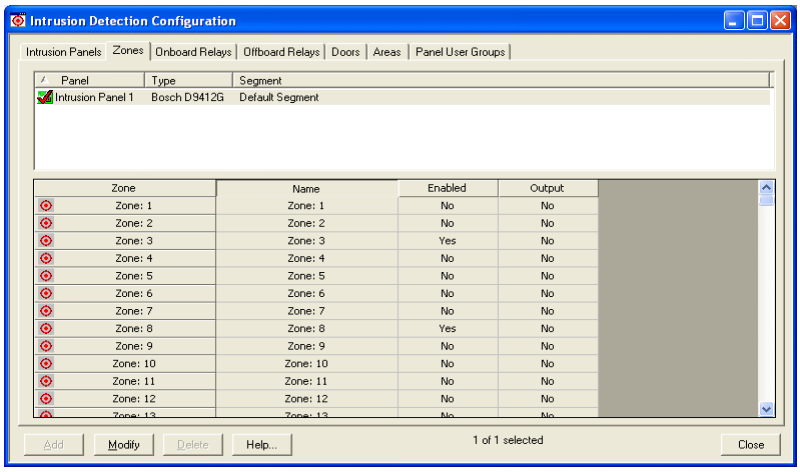
The encryption modify/export permission is required to complete this procedure. Also, encryption must be enabled and the proper encryption key configured in the communication device before enabling the panel for encryption.

1. From the **Additional Hardware** menu, select **Intrusion Detection Devices**.
2. On the Intrusion Panels form, click the Encryption sub-tab.
3. In the listing window, select the Intrusion Panels entry you wish to enable encryption for.
4. Click [Modify].
5. Select the **Use an encrypted connection** check box.
6. If automatic encryption is used, you can also select the **Allow next connection to be downgraded** check box, if you want the connection downgraded if the encrypted connection fails.
7. Click [OK].
8. Acknowledge any messages that display.

Enter Notes for a Panel

1. In the listing window, select the entry you want to edit.
2. Click [Modify].
3. Type the information in the Notes field. This note will be able to be displayed in Alarm Monitoring.
4. Click [OK].

Zones Form



Note: The information displayed in the **Zone** and **Name** columns depends on the type of panel selected.

Intrusion Detection Devices Folder - Zones Form

Form Element	Comment
Listing window	Lists currently defined intrusion panels. A icon precedes each entry.
Zone	Displays the pre-configured intrusion zone names.This field cannot be changed.
Name	Displays the user-configured intrusion zone names. Each name can be up to 64 characters long. **Note:** The zone must be enabled before you can save changes to the zone name.
Enabled	Indicates if the zone name is enabled or disabled. • If enabled, the user-configured zone name displays in Alarm Monitoring. • If disabled, the pre-configured zone name displays in Alarm Monitoring.
Output	Indicates if the zone is being used as an output. This field applies only to Detection Systems intrusion detection panel types.
Add	This button is not used.
Modify	Click this button to configure intrusion zones.
Delete	This button is not used.
Help	Click this button to display online help for this form.
Close	Click this button to close the Intrusion Detection Devices folder.

Maximum Number of Zones

A zone is an input to a panel and is sometimes referred to as a point (e.g. smoke detector or motion detector).

The number of zones you can configure per panel depends on the panel type. Refer to the following table.

Zones per panel	Panel type
128	Bosch DS7400Xi Version 3+
248	Bosch DS7400Xi Version 4+
75	Bosch D7412
246	Bosch D9412
8	Galaxy 8
18	Galaxy 18
48	Galaxy 3-48
60	Galaxy 60
128	Galaxy 128
144	Galaxy 3-144
504	Galaxy 500
512	Galaxy 504 and 512
520	Galaxy 3-520
48	Galaxy Dimension GD48
520	Galaxy Dimension GD520

Zones Form Procedures

Intrusion detection zones are configured in both Bosch software and Bosch software (ReadkeyPRO). Configuring intrusion detection zones in ReadkeyPRO allows you to view the zones in the Alarm Monitoring system hardware tree as well as view zone names (instead of the Bosch zone number) when the zone is in alarm.

Configure Intrusion Zones

1. From the **Additional Hardware** menu, select **Intrusion Detection Devices**.
2. Click the Zones tab.
3. Select the intrusion panel that you want to configure.
4. Click [Modify].
5. In the table located on the bottom half of the form:

Intrusion zone names can be up to 64 characters.

   a. Double-click a cell in the **Name** column to activate the field. A cursor appears in the active field. Enter the name of this intrusion zone.
   b. Double-click the **Enabled** cell to toggle between Yes (enabled) and No (disabled). If you enable the zone, its name appears (instead of its Bosch configured number) in Alarm Monitoring when the zone is in alarm.
   c. **Bosch Systems only**. Double-click the **Output** cell to toggle between Yes and No. Yes indicates the zone is an output zone and has hardware associated with it. No indicates the zone is an input.

Note: If the zone is an output zone then you can activate the output from Alarm Monitoring.

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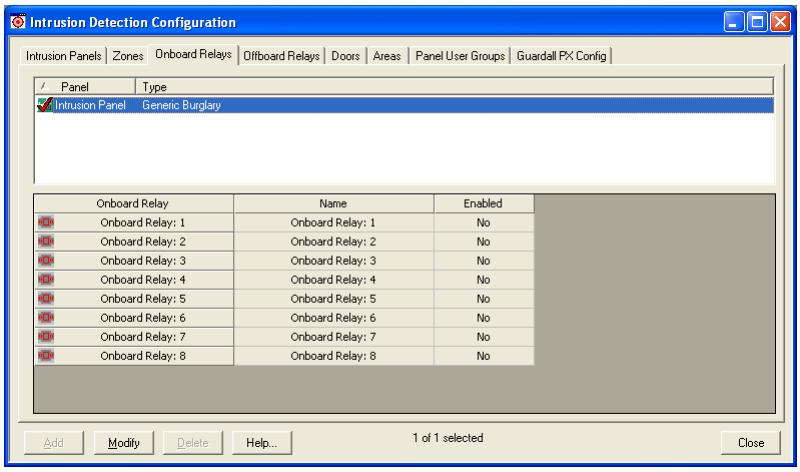
   d. Repeat step 5 for each zone you want to configure.
6. Click [OK].

Onboard Relays Form



Note: The information displayed in the **Onboard Relay** and **Name** columns depends on the type of panel selected.

Intrusion Detection Devices Folder - Onboard Relays Form

Form Element	Comment
Listing window	Lists currently defined intrusion panels. A icon precedes each entry.
Onboard Relay	Displays the pre-configured onboard relay names.This field cannot be changed.
Name	Displays the user-configured onboard relay names. Each name can be up to 64 characters long. **Note:** The onboard relay must be enabled before you can save changes to the relay name.
Enabled	Indicates if the relay name is enabled or disabled. • If enabled, the user-configured relay name displays in Alarm Monitoring. • If disabled, the pre-configured relay name displays in Alarm Monitoring.
Add	This button is not used.
Modify	Click this button to configure onboard relays.
Delete	This button is not used.
Help	Click this button to display online help for this form.
Close	Click this button to close the Intrusion Detection Devices folder.

Maximum Number of Onboard Relays

The number of relays you can configure per panel depends on the panel type. Refer to the following table.

Onboard relays per panel	Panel type
5	Bosch DS7400Xi Version 3+
5	Bosch DS7400Xi Version 4+
3	Bosch D7412
3	Bosch D9412
6	Galaxy 8, 18, and 60
4	Galaxy 128, 500, 504, and 512
8	Galaxy 3-48, 3-144, 3-520
8	Galaxy Dimension GD48
12	Galaxy Dimension GD520

Onboard Relays Form Procedures

Onboard relays are configured in both Bosch software and Bosch software (ReadkeyPRO). Configuring onboard relays in ReadkeyPRO allows you to view the relay in the Alarm Monitoring system hardware tree as well as view relay names (instead of the Bosch relay number) when the onboard relay is in alarm.

Configure Onboard Relays

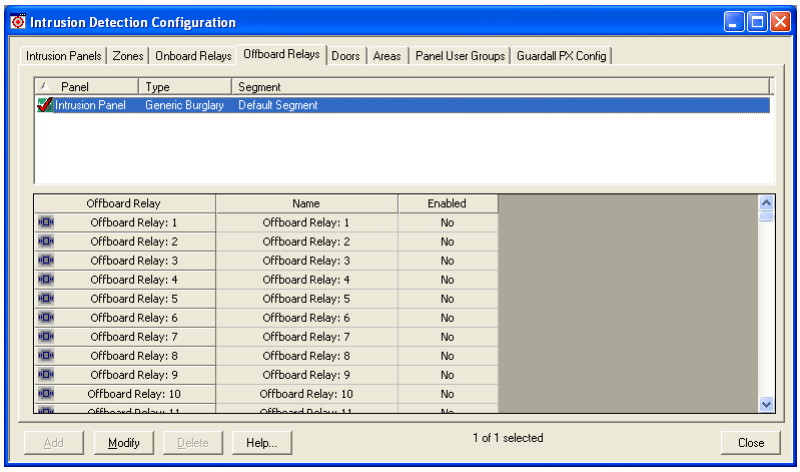
1. From the **Additional Hardware** menu, select **Intrusion Detection Devices**.
2. Click the Onboard Relays tab.
3. Select the intrusion panel you want to configure.
4. Click [Modify].
5. In the table located on the bottom half of the form:

Onboard relay names can be up to 64 characters.

   a. Double-click a cell in the **Name** column to activate the field. A cursor appears in the active field. Enter the name of this onboard relay.
   b. Double-click the **Enabled** cell to toggle between Yes (enabled) and No (disabled). If you enable the relay, its name appears (instead of its Bosch configured letter) in Alarm Monitoring when the relay is in alarm.

6. Repeat step 5 for each relay that you want to configure.
7. Click [OK]

Offboard Relays Form



Note: The information displayed in the **Offboard Relay** and **Name** columns depends on the type of panel selected.

Intrusion Detection Devices Folder - Offboard Relays Form

Form Element	Comment
Listing window	Lists currently defined intrusion panels. A icon precedes each entry.
Offboard Relay	Displays the pre-configured offboard relay names.This field cannot be changed.
Name	Displays the user-configured offboard relay names. Each name can be up to 64 characters long. **Note:** The offboard relay must be enabled before you can save changes to the relay name.
Enabled	Indicates if the relay name is enabled or disabled. • If enabled, the user-configured relay name displays in Alarm Monitoring. • If disabled, the pre-configured relay name displays in Alarm Monitoring.
Add	This button is not used.
Modify	Click this button to configure offboard relays.
Delete	This button is not used.
Help	Click this button to display online help for this form.
Close	Click this button to close the Intrusion Detection Devices folder.

Maximum Number of Offboard Relays

The number of relays you can configure per panel depends on the panel type. Refer to the following table.

Offboard relays per panel	Panel type
16	Bosch DS7400Xi Version 3+, Bosch DS7400Xi Version 4+
64	Bosch D7412
128	Bosch D9412
0	Galaxy 8
3	Galaxy 18
4	Galaxy 60, Galaxy 3-48
8	Galaxy 128, Galaxy 3-144
16	Galaxy 500
32	Galaxy 504, 512
252	Galaxy 3-520
16	Galaxy Dimension GD48
252	Galaxy Dimension GD520

Offboard Relays Form Procedures

Offboard relays are configured in both Bosch software and Bosch software (ReadkeyPRO). Configuring offboard relays in ReadkeyPRO allows you to view the relay in the Alarm Monitoring system hardware tree as well as view relay names (instead of the Bosch relay number) when the offboard relay is in alarm.

Configure Offboard Relays

1. From the **Additional Hardware** menu, select **Intrusion Detection Devices**.
2. Click the Offboard Relays tab.
3. Select the intrusion panel you want to configure.
4. Click [Modify].
5. In the table located on the bottom half of the form:

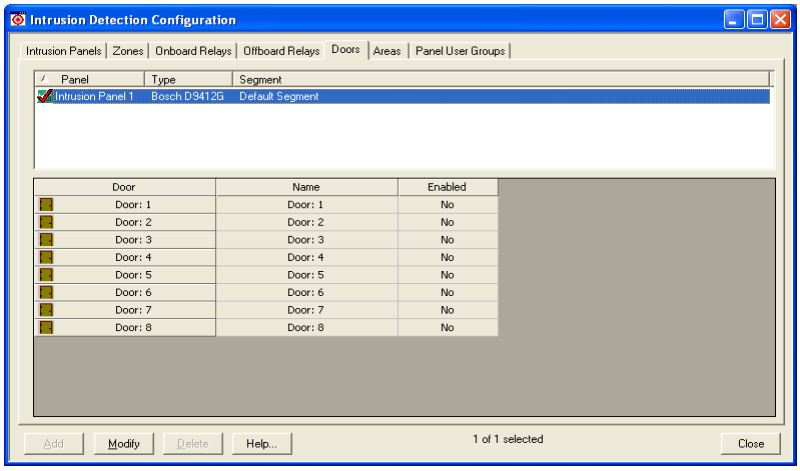
Offboard relay names can be up to 64 characters.

   a. Double-click a cell in the **Name** column to activate the field. A cursor appears in the active field. Enter the offboard relay name.
   b. Double-click the **Enabled** cell to toggle between Yes (enabled) and No (disabled). If you enable the relay, its name appears in Alarm Monitoring instead of its pre-configured relay name.
6. Repeat step 5 for each relay that you want to configure.
7. Click [OK].

Doors Form

The Doors form applies to **Generic and Bosch devices only**. You can configure up to eight (8) doors with Generic and Bosch 9412 devices, and up to two (2) doors with Bosch 7412 devices.

Note: The Door Control Module (DCM) for Galaxy Dimension panels is not supported.



Intrusion Detection Devices Folder - Doors Form

Form Element	Comment
Listing window	Lists currently defined intrusion panels. A icon precedes each entry
Door	Displays the pre-configured door names. This field cannot be changed.
Name	Displays the user-configured door names. Each name can be up to 64 characters long. **Note:** The door must be enabled before you can save changes to the door name.
Enabled	Indicates if the door name is enabled or disabled. • If enabled, the user-configured door name displays in Alarm Monitoring. • If disabled, the pre-configured door name displays in Alarm Monitoring.
Add	This button is not used.
Modify	Click this button to configure a door.
Delete	This button is not used.
Help	Click this button to display online help for this form.
Close	Click this button to close the Intrusion Detection Devices folder.

Doors Form Procedures

Intrusion detection doors are configured in both RAM IV software and Bosch software (ReadkeyPRO). Configuring doors in ReadkeyPRO allows you to view the door in the Alarm Monitoring system hardware tree as well as view the name of the door (instead of its Bosch number) when the door is in alarm.

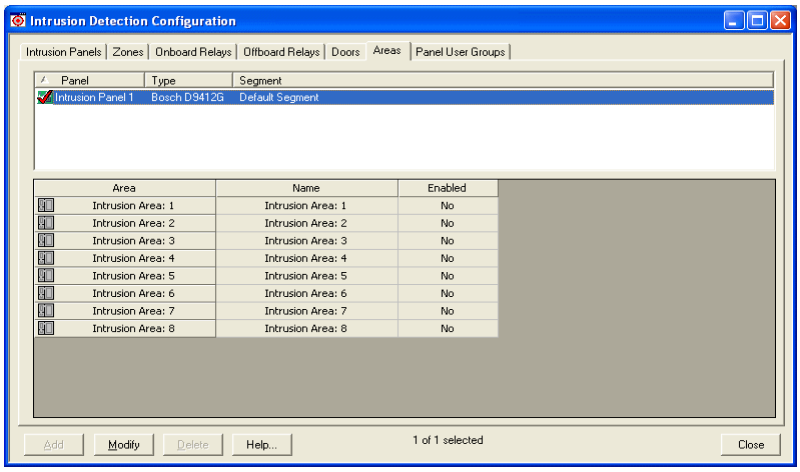
Configure Intrusion Doors

1. From the **Additional Hardware** menu, select **Intrusion Detection Devices**.
2. Click the Doors tab.
3. Select the intrusion panel you want to configure.
4. Click [Modify].
5. In the table located on the bottom half of the form:

Names of Intrusion doors can be up to 64 characters.

   a. Double-click a cell in the **Name** column to activate the field. A cursor appears in the active field. Enter the intrusion door name.
   b. Double-click the **Enabled** cell to toggle between Yes (enabled) and No (disabled). If you enable the door, its user-configured name appears in Alarm Monitoring instead of its pre-configured door name.
6. Repeat step 5 for each intrusion door that you want to configure.
7. Click [OK].

Areas Form



Intrusion Detection Devices Folder - Areas Form

Form Element	Comment
Listing window	Lists currently defined intrusion panels. A icon precedes each entry.
Area	Displays the pre-configured intrusion area names. This field cannot be changed.
Name	Displays the user-configured intrusion area names. Each name can be up to 64 characters long. **Note:** The area must be enabled before you can save changes to the area name.
Enabled	Indicates if the area name is enabled or disabled. • If enabled, the user-configured area name displays in Alarm Monitoring. • If disabled, the pre-configured area name displays in Alarm Monitoring.
Add	This button is not used.
Modify	Click this button to configure an intrusion area.
Delete	This button is not used.
Help	Click this button to display online help for this form.
Close	Click this button to close the Intrusion Detection Devices folder.

Maximum Number of Areas

An area is a separately configurable section of the panel, referred to as partitions in Detection Systems and Bosch panels.

Areas can have multiple zones assigned to them. The number of configurable areas available depend on the panel type. Refer to the following table.

Areas per panel	Panel type
8	Bosch DS7400Xi Version 3+
8	Bosch DS7400Xi Version 4+
8	Bosch D7412
8	Bosch D9412
0	Galaxy 8
3	Galaxy 18
4	Galaxy 60, 3-48
8	Galaxy 128, 3-144
16	Galaxy 500
32	Galaxy 54, 512, 3-520
8	Galaxy Dimension GD48
32	Galaxy Dimension GD520

Areas Form Procedures

Configure an Area

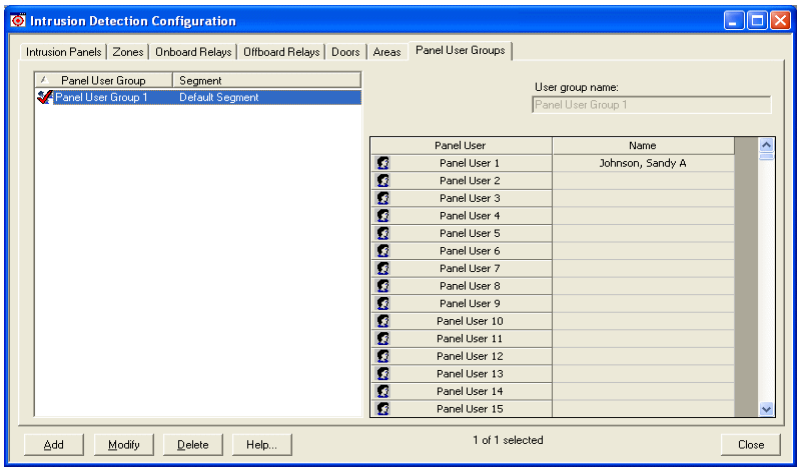
Intrusion detection areas are configured in both Bosch software and Bosch software (ReadkeyPRO). Configuring areas in ReadkeyPRO allows you to view the area in the Alarm Monitoring system hardware tree as well as view area names (instead of the Bosch area number) when the area is in alarm.

1. From the **Additional Hardware** menu, select **Intrusion Detection Devices**.
2. Click the Areas tab.
3. Select the intrusion panel that you want to configure.
4. Click [Modify].
5. In the table located on the bottom half of the form:
   a. Double-click a cell in the **Name** column to activate the field. A cursor appears in the active field. Enter the name of the intrusion area. Each name can contain no more than 64 characters.
   b. Double-click the **Enabled** cell to toggle between Yes (enabled) and No (disabled). If you enable the area, its name appears (instead of its Bosch configured number) in Alarm Monitoring when the area is in alarm.
6. Repeat step 5 for each intrusion area that you want to configure.
7. Click [OK].

Panel User Groups Form

The Panel User Groups link cardholders to user events.

ReadkeyPRO cardholders can be assigned to panel user groups. Each panel user group can store up to 1000 panel users. Detection Systems and Bosch support up to 300 panel users; Galaxy supports up to 1000 panel users.



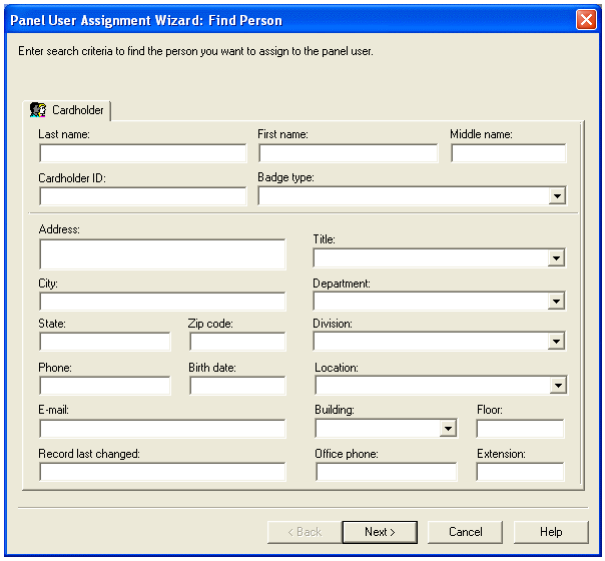
Intrusion Detection Devices Folder - Panel User Groups Form

Form Element	Comment
Listing window	Lists currently defined panel user groups. A icon precedes each entry.
User group name	Identifies the name of the panel user group. This is a “friendly” name assigned to each panel user group to make it easy to identify. Each name can be up to 64 characters long.
Panel User	Displays the default description of the panel user.
Name	Identifies the name of the cardholder that is linked to the panel user.
Add	Click this button to add a panel user group.
Modify	Click this button to modify a panel user group.
Delete	Click this button to delete a panel user group.
Help	Click this button to display online help for this form.
Change Segment	In modify mode, click this button to display the Segment Membership window from where you can change the selected panel user group’s segment.
Close	Click this button to close the Intrusion Detection Devices folder.

Panel User Assignment Wizard: Find Person Form

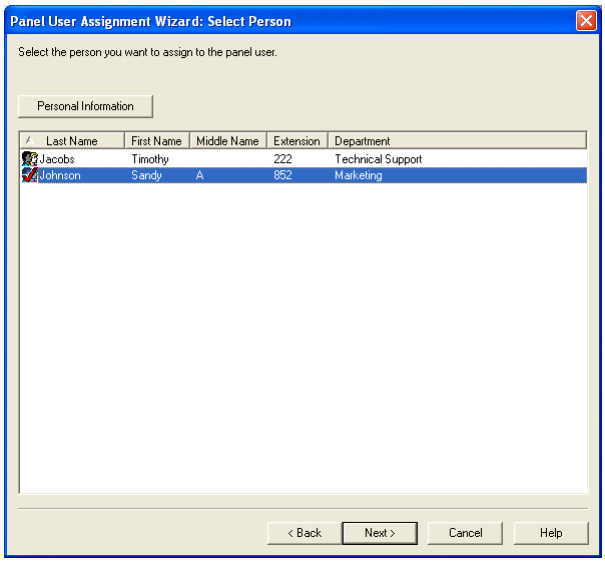
Note: If the FormsDesigner application has been used to customize your cardholder data, the elements on your Panel User Assignment Wizard: Find Person form will be different. The default fields are pictured in the following graphic.

*This form is displayed when you double-click on a cell in the **Name** column in the table on the Panel User Groups form in add or modify mode.*



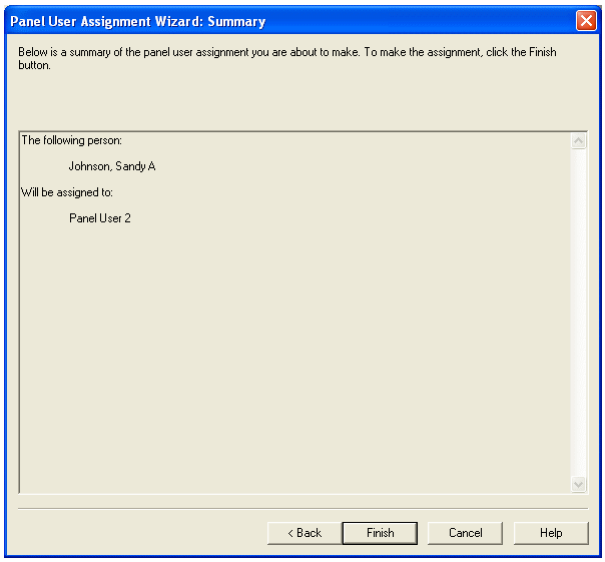
Panel User Assignment Wizard: Select Person Form

This form is displayed when you click the [Next] button on the Panel User Assignment Wizard: Find Person form and the system locates more than one record matching your search criteria.



Panel User Assignment Wizard: Summary Form

This form is displayed when you click the [Next] button on the Panel User Assignment Wizard: Find Person form and the system locates only one record matching your search criteria or when you click the [Next] button on the Panel User Assignment Wizard: Select Person form.



Panel User Assignment Wizard Field Table

Intrusion Detection Devices Folder - Panel User Assignment Wizard

Form Element	Comment
Cancel	Click this button to close the wizard and return to the Panel User Groups form.
Help	Click this button to display online help for this form.
Panel User Assignment Wizard: Find Person Form	
Last name	Indicates cardholder's last name.
First name	Indicates cardholder's first name.
Middle name	Indicates cardholder's middle initial.
Cardholder ID	Indicates cardholder's ID number.
Badge type	Selects which of the cardholder's badges (if he or she has more than one) is to be the active one.
User-defined fields	All fields below the Cardholder ID and Badge type fields are considered user-defined fields. The default fields are pictured, but your form may be different if the FormsDesigner application has been used to customize your cardholder data.
Back	This button is not used.
Next	*When clicked:* • If the system locates more than one record matching your search criteria, the wizard will proceed to the Panel User Assignment Wizard: Select Person form. • If the system locates only one record matching your search criteria, the wizard will proceed to the Panel User Assignment Wizard: Summary form.
Panel User Assignment Wizard: Select Person Form	
Personal Information	Click this button to display information on the cardholder selected in the listing window.
Listing window	Lists all cardholder records that match the search criteria that you entered on the Panel User Assignment Wizard: Find Person form.
Back	Click this button to return to the Panel User Assignment Wizard: Find Person form.
Next	When you select a cardholder in the listing window and clicks this button, the wizard proceeds to the Panel User Assignment Wizard: Summary form.
Panel User Assignment Wizard: Summary Form	
Summary window	Displays a summary of the panel user assignment that you are about to make.
Back	Click this button to return to the Panel User Assignment Wizard: Select Person form.
Finish	Click this button to make the assignment displayed in the summary window.

Panel User Groups Form Procedures

Add a Panel User Group

The Panel User Groups link cardholders to user events.

1. From the **Additional Hardware** menu, select **Intrusion Detection Devices**.
2. Click the Panel User Groups tab.
3. Click [Add].
4. If segmentation is enabled:
   a. The Segment Membership window opens. Select the segment that this panel user group will be assigned to.
   b. Click [OK].
5. In the **User group name** field, type a name for the panel user group.
6. In the table located on the right half of the form, double-click a panel user.
7. The Panel User Assignment Wizard: Find Person window opens.
8. Specify your search criteria by typing full or partial entries in the fields. For more information, refer to Panel User Assignment Wizard Field Table on page 1175.
9. Click [Next]. One of the following happens:
   - If the system locates only one cardholder record based on your search criteria, the Panel User Assignment Wizard: Summary form opens.
   - If the system locates more than one cardholder record matching your search criteria, the Panel User Assignment Wizard: Select Person window opens.
     a. Select a cardholder from the listing window.
     b. Click [Personal] to display information on the selected cardholder. Click [OK] to return to the Wizard.
     c. Click [Next]. The Panel User Assignment Wizard: Summary form opens.
10. Click [Finish] to make the assignment display in the summary window.
11. Repeat steps 6 - 10 for each panel user name you want to configure.
12. Click [OK].

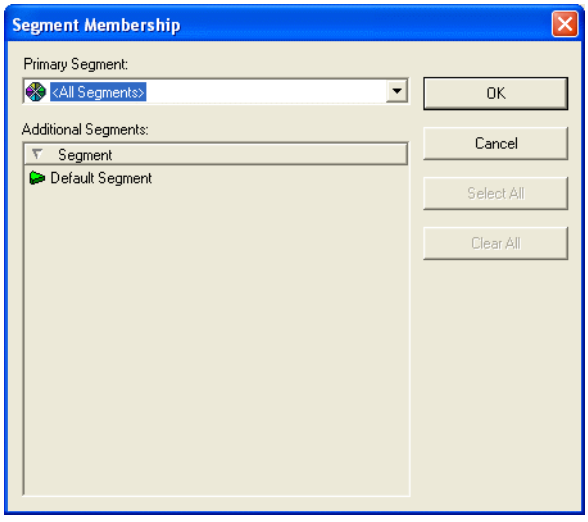
Modify a Panel User Group

1. From the **Additional Hardware** menu, select **Intrusion Detection Devices**.
2. Click the Panel User Groups tab.
3. Click the panel user group entry you want to modify from the listing window to select it.
4. Click [Modify].
5. Make any desired changes.
6. Click [OK].
7. A prompt to confirm that you want to make the modification will be displayed. Click [OK].

Modify a Panel User Group's Segment

Note: This procedure applies only to segmented systems.

1. From the **Additional Hardware** menu, select **Intrusion Detection Devices**.
2. Click the Panel User Groups tab.
3. Click the panel user group entry you want to modify from the listing window to select it.
4. Click [Modify].
5. Click [Change Segment]. The Segment Membership window opens.



6. Select a segment to move the panel user group to.
7. Click [OK].

Delete a Panel User Group

A panel user group cannot be deleted if it is currently assigned to one or more intrusion panels.

1. From the **Additional Hardware** menu, select **Intrusion Detection Devices**.
2. Click the Panel User Groups tab.
3. Click the panel user group entry you want to delete from the listing window to select it.
4. Click [Delete].
5. Click [OK].
6. A prompt to confirm that you want to make the deletion will be displayed. Click [Yes].

Chapter 49: POS Devices Folder

The POS (Point of Sale) Devices folder contains forms with which you can:

- Configure POS devices to communicate with the ReadkeyPRO software.
- Associate multiple registers with a POS device.

The POS Devices folder contains the POS Devices and POS Register form.

Toolbar Shortcut

This folder is displayed by selecting **POS Devices** from the **Additional Hardware**, or selecting the POS Devices toolbar button.

POS Devices Overview

POS devices, also known as video text inserters or cash register/point of sale video interfaces, are used in conjunction with video devices to monitor transactions at cash registers and ATM machines. POS devices translate transactions into events or activity alarms. Although they can also superimpose transaction information (insert text) directly onto corresponding video, ReadkeyPRO does not currently support this.

Using ReadkeyPRO with POS Devices

You can configure ReadkeyPRO to receive cash register transactions (events) from POS devices and store individual transactions in a database. Furthermore, the ability to associate video cameras with hardware devices and couple hardware events with digital video clips, extends to POS devices. For example, when an item is voided or an employee signs on to a register, you can configure ReadkeyPRO to record video at that register and generate an alarm in Alarm Monitoring.

The procedures you would follow to link POS devices to a camera, generate alarms, record and lock video events have not changed.

Hardware Setup and Configuration

In order for ReadkeyPRO to receive events from cash register transactions, you must connect each register to a POS device and then connect the POS device to the ReadkeyPRO workstation. Currently, ReadkeyPRO supports the **TVC-2100 Series** POS device which interfaces with up to 10 registers.

The POS device is configured in System Administration through the POS Devices folder. To configure the POS device, you identify the ReadkeyPRO workstation it connects to and the mode of communication it uses (direct or LAN). To differentiate events between registers, each register is assigned a

number in the ReadkeyPRO software. The register number must match the number reported to the database during transactions.

Note: For hardware installation information refer to the Hardware Installation User Guide.

Storing Transactions

ReadkeyPRO stores every transaction separately. For example, the sale of individual items, calculating the tax for a bill and calculating the total bill are considered separate transactions. If a person purchases a carton of eggs and a gallon of milk, five transactions are recorded:

1. Eggs $1.55
2. Milk $1.98
3. Subtotal $3.53
4. Tax $0.25
5. Total $3.78

The data returned in each transaction includes the register number, a description of the register activity, an action code that identifies the item purchased, the quantity purchased and dollar amount.

License and User Permissions

Licenses Required

Two types of license options are required to use POS devices. The “Maximum Number of Points of Sale Registers” license is for the number of registers you plan to use. The “Maximum Number of Point of Sale Devices (SWG-1380)” is based on the POS device. These license options are listed in License Administration under Access Control Options. Licenses are based, not on the type of controller, but instead the number of controllers for a given panel class.

User Permissions Required

Add, Modify, and Delete POS Devices

User permissions are required to add, modify and delete POS devices. The permissions are set on the Additional Data Sources sub-tab of the System Permission Groups form.

Trace POS Devices

In addition, user permissions are required to trace POS devices in Alarm Monitoring. This permission is set in System Administration on the Monitor sub-tab of the Monitor Permission Groups form.

POS Devices Folder

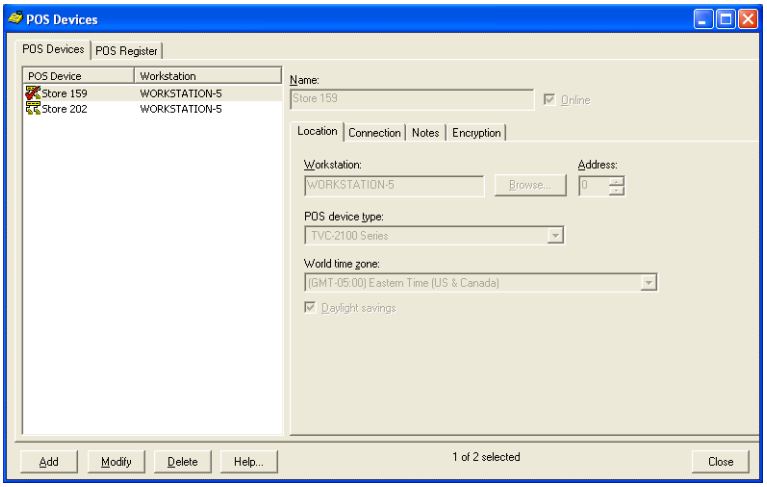
The following table lists the fields found on every form and sub-tab in the POS Devices folder.

POS Devices Folder - Common fields

Form Element	Comment
Add	Adds a POS device or register.
Modify	Changes the settings of a selected POS device or register.
Delete	Deletes the selected POS device or register.
Help	Displays online help for this form.
Close	Closes the POS Devices folder.

POS Devices Form (Location Sub-tab)

The POS Devices form enables a POS device to communicate with the ReadkeyPRO software. The Location sub-tab identifies the workstation that will receive events from the POS device.

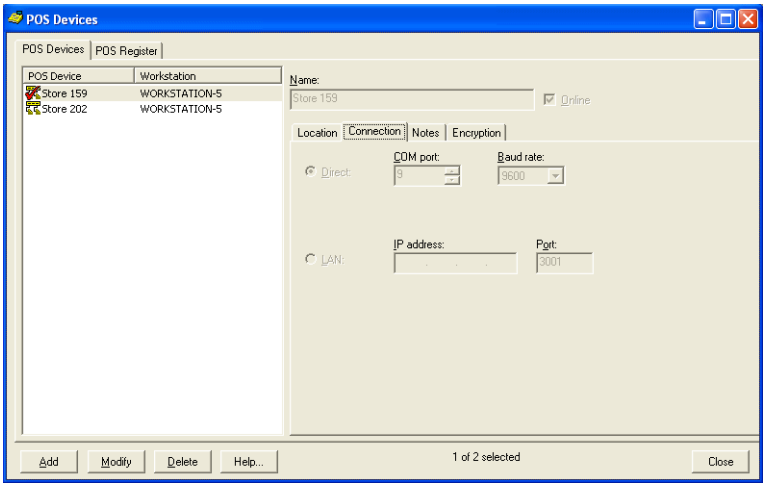


POS Devices Form - Location Sub-tab

Form Element	Comment
Listing Window	Displays POS devices and the workstations associated with them.
Name	A descriptive name of the POS device.
Online	Places the POS device online.
Workstation	The workstation POS device connects to in order to transfer events. The Communication Server must be present of the specified workstation. You can either enter the workstation name or browse the workstations available on the network. **Note:** You are required to enter the workstation's NetBIOS name. (The NetBIOS name is specified when Windows networking is installed/configured.)
Browse	Displays a Browse for Computer window from which you can select a workstation.
Address	The POS device box number.
POS device type	Select the POS device type.
World time zone	Select the world time zone for the selected access panel's geographical location. The selections in the drop-down list are listed sequentially, and each includes: • The world time zone's clock time relative to Greenwich Mean Time. For example, (GMT+05:00) indicates that the clock time in the selected world time zone is 5 hours ahead of the clock time in Greenwich, England. • The name of one or more countries or cities that are located in that world time zone.
Daylight savings	Select this check box if Daylight Savings Time is enforced in the selected access panel's geographical location.

POS Devices Form (Connection Sub-tab)

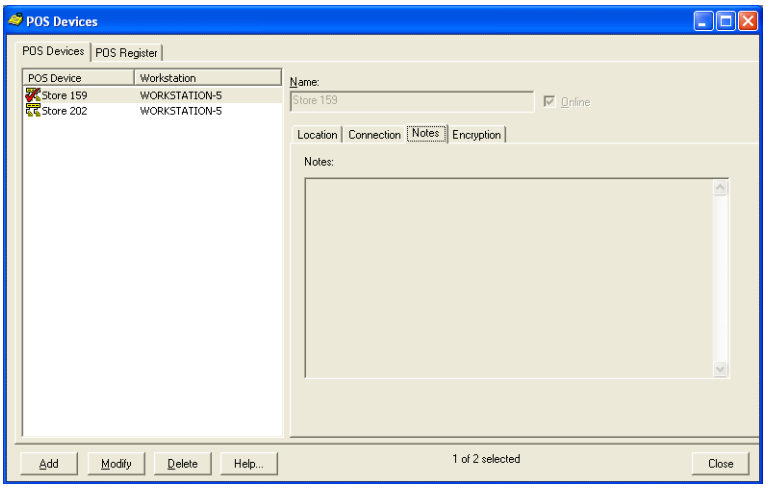
The Connection sub-tab identifies the mode of communication as either direct or over the network.



POS Devices Folder - Connection Sub-tab

Form Element	Comment
Direct	Identifies the mode of communication between the POS device and the workstation as being direct.
COM port	The COM port used to connect the POS device to the workstation, if the mode of communication is direct.
Baud rate	The baud rate is the rate (in bits per second) at which data is transferred from the POS device to the workstation, if the mode of communication is direct.
LAN	Identifies the mode of communication between the POS device and the workstation as being through the internet.
IP address	The Internet Protocol (TCP/IP) address for the POS device. The POS device itself must be configured to have the same IP address as what you enter in this field.

POS Devices Form (Notes Sub-tab)



POS Devices Folder - Notes Sub-tab

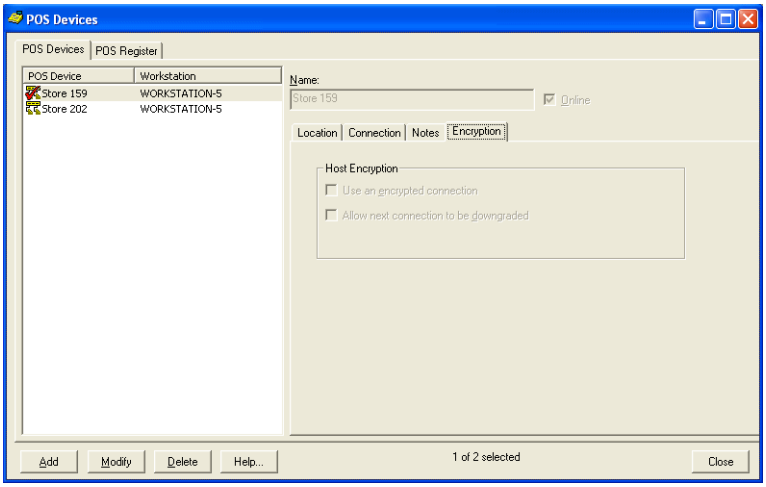
Form Element	Comment
Notes	Enter information about the panel. This field is limited to less than 2000 characters. Any text that is entered shere will be displayed in Alarm Monitoring. For more information, refer to the procedure to View Notes in the Alarm Monitoring User Guide in Chapter 5, “Monitor Devices.”

POS Devices Form (Encryption Sub-tab)

This view displays when the system/segment (the panel is associated with) uses automatic encryption. The same fields display when the system/segment is configured for manual encryption, except for the **Allow next connection to be downgraded** check box.The Encryption sub-tab does not display if a system/segment uses a plain connection.

Note: The system/segment the controller belongs to must be configured for encryption in order for this tab to display. This tab will be disabled unless the panel is configured for a LAN connection type on the Connection sub-tab. The user must also have the correct user permissions.

For more information about encryption, refer to the Encryption for Controllers User Guide.



POS Devices Folder - Encryption Sub-tab

Form Element	Comment
Use an encrypted connection	Determines whether the connection to the controller is encrypted or not. If not selected (the default), a plain connection is used. If selected, the connection is encrypted.
Allow next connection to be downgraded	Determines whether the system will attempt a downgrade the next time it connects to the controller and there are encryption problems. If not selected (the default), the system will not attempt to downgrade the connection, even if the configured encrypted connection fails. If selected, the system will attempt to downgrade the connection if the encrypted connection fails. The system attempts downgrades by trying encryption with the inactive master key and then by trying a plain connection. Note that if the controller requires encryption, a plain connection is not possible. This check box displays only if the controller exists in an automatic key management system/segment.

POS Devices Form Procedures

Configure a POS Device

1. From the **Additional Hardware** menu, select **POS Devices**.
2. The POS Devices form opens. Click [Add].
3. Enter a descriptive name for the POS device and select the **Online** check box.
4. On the Location sub-tab:
   - Enter the workstation the POS device connects to.
   - Enter the POS device box number in the **Address** field.
   - Select the POS device type.
   - Select the world time zone from the **World time zone** drop-down list.
   - Select whether **Daylight savings** is used or not.
5. On the Connection sub-tab, complete one of the following:
   - Select the **Direct** radio button and enter the COM port and baud rate.
   - Select the **LAN** radio button and enter the IP address.
6. Click [OK].

Enable a POS Device for Encryption

The encryption modify/export permission is required to complete this procedure. Also, encryption must be enabled and the proper encryption key configured in the communication device before enabling the panel for encryption.

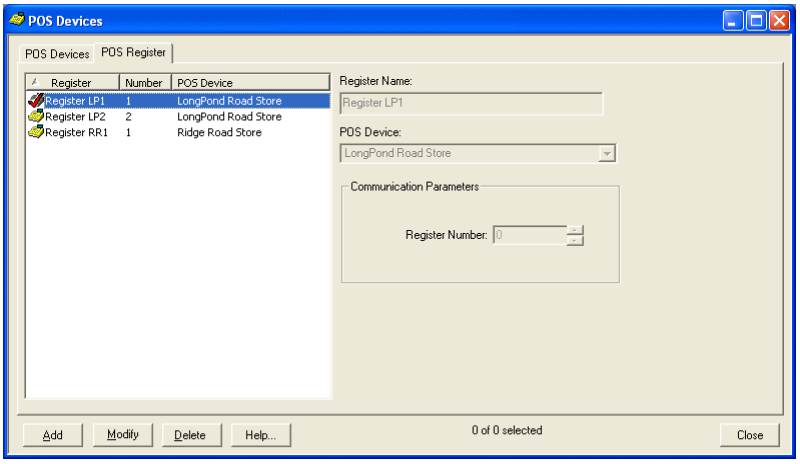
1. From the **Additional Hardware** menu, select **POS Devices**.
2. On the POS Devices form, click the Encryption sub-tab.
3. In the listing window, select the POS Device entry you wish to enable encryption for.
4. Click [Modify].
5. Select the **Use an encrypted connection** check box.
6. If automatic encryption is used, you can also select the **Allow next connection to be downgraded** check box, if you want the connection downgraded if the encrypted connection fails.
7. Click [OK].
8. Acknowledge any messages that display.

Enter Notes for a POS Device

1. In the listing window, select the entry you want to edit.
2. Click [Modify].
3. Type the information in the Notes field. This note will be able to be displayed in Alarm Monitoring.
4. Click [OK].

POS Register Form

The POS Register form is used to identify the registers associated with the POS device.



POS Devices Folder - POS Devices Form

Form Element	Comment
Listing Window	Displays previously configured registers, their number and the POS devices associated with them.
Register Name	A descriptive name of the register.
POS Device	The POS device that is connected to the specified register.
Register Number	The register number enables ReadkeyPRO to differentiate events received from the POS devices, since several registers are connected to the same POS device. **Note:** The register number must match the number reported to the database during transactions.

POS Register Form Procedures

Associate a POS Register with a POS Device

The register name must be unique even if you are working with registers connected to different POS devices. However, you can have the same register

number assigned to different registers, as long as the registers are associated with different POS devices.

1. Select **POS Devices** from the **Additional Hardware** menu. The POS Devices folder opens.
2. Click the POS Register tab.
3. On the POS Register form, click [Add].
4. Enter a descriptive name for the POS register.
5. Select the POS device connected to the register.
6. Select or enter a register number.
7. Click [OK].

Chapter 50: DataConduIT Sources Folder

DataConduIT Overview

DataConduIT is an advanced application integration service that allows real time, bidirectional integration between ReadkeyPRO and third party IT sources. DataConduIT allows System Administrators to develop scripts and/or applications that allow events in one domain (security or IT) to cause appropriate actions in the other.

For more information, refer to the DataConduIT User Guide available through

DataConduIT Sources Folder

The DataConduIT Sources folder allows System Administrators to add, modify and delete third-party DataConduIT Sources, Devices, and Sub-Devices. After third-party sources are added, users can send the incoming events to ReadkeyPRO via DataConduIT and view third party events in Alarm Monitoring.

To send an event to ReadkeyPRO via DataConduIT, System Administrators must:

- Define the incoming source in the DataConduIT Sources folder
- Use the Lnl_IncomingEvent::SendIncomingEvent method

Note: The DataConduIT method has four parameters: the source, description, device (optional), and subdevice (optional). The source of the DataConduIT method must match the source name on the DataConduIT Sources form. If the optional parameters are used, the device of the DataConduIT method must match the device name on the DataConduIT Devices form, and the subdevice must match the sub-device name on the DataConduIT Sub-Devices form.

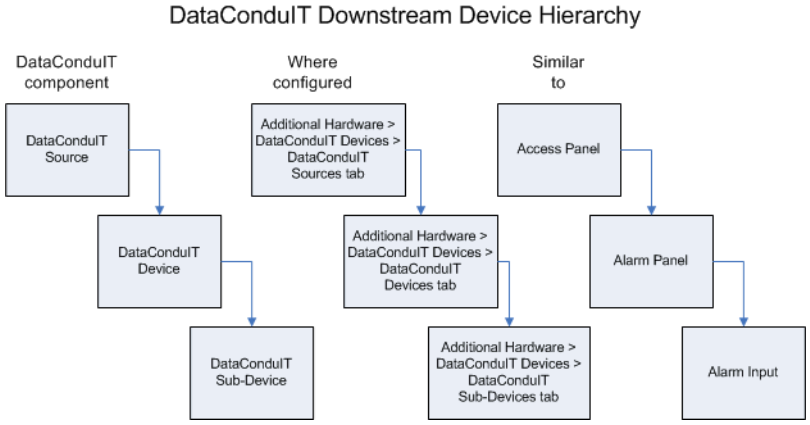
- Have at least one panel (non-system DataConduIT Source) configured and *marked online* so that the Communications Server will work properly with DataConduIT Sources. The panel does not need to exist or actually be online in Alarm Monitoring, it simply needs to exist and show up in the System Status view. Once this is set up, events can be successfully received by Alarm Monitoring from DataConduIT Sources.

Toolbar Shortcut

This folder is displayed by selecting **DataConduIT Sources** from the **Additional Hardware** menu, or by selecting the DataConduIT Sources toolbar button.

DataConduIT Source Downstream Devices

A DataConduIT Source may have DataConduIT Device or DataConduIT Sub-Device downstream devices. A DataConduIT Device is a child of a DataConduIT Source, similar to how an alarm panel is a child of an access panel. A DataConduIT Sub-Device is a sub-child device of a DataConduIT Device, similar to how an alarm input is a sub-child of an alarm panel. The diagram that follows illustrates this hierarchy.



DataConduIT Devices and DataConduIT Sub-Devices also display in Alarm Monitoring in the System Status Tree. For example, a DataConduIT Device named “Tivoli” with a DataConduIT Device named “Tivoli device” and a DataConduIT Sub-Device named “Tivoli sub-device” would display in Alarm Monitoring in the following manner:

License and User Permissions

Licenses Required

No additional license is required to use the DataConduIT Sources folder other than the “Maximum Number of DataConduIT Clients” license to use DataConduIT in general.

User Permissions Required

DataConduIT Service Permission

The permission required to use DataConduIT in general is the DataConduIT service user permission. This permission is located in **Administration** > **Users** > System Permission Groups tab > Software Options sub-tab in System Administration or ID CredentialCenter.

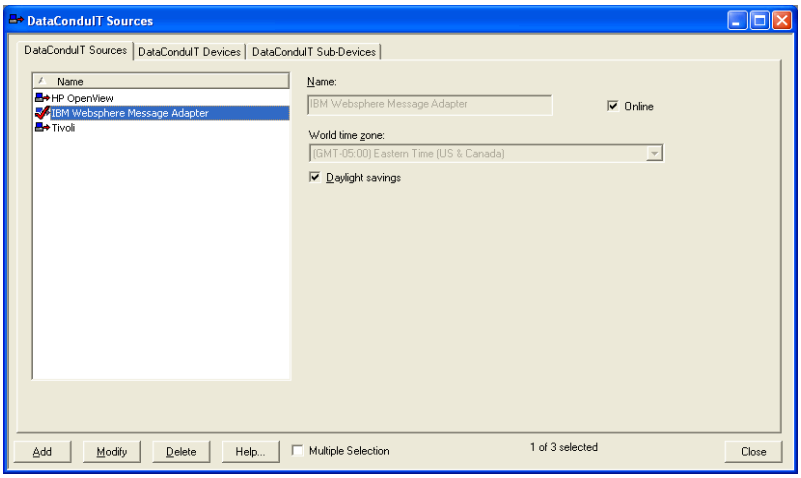
Add, Modify, and Delete DataConduIT Sources, Devices, and Sub-Devices

The add, modify, and/or delete DataConduIT Sources permissions determine what functions a user can perform on DataConduIT Sources, DataConduIT Devices, and DataConduIT Sub-Devices in the DataConduIT Sources folder. These permissions are located in **Administration** > **Users** > System Permission Groups tab > Additional Data Sources sub-tab in System Administration or ID CredentialCenter.

Trace DataConduIT Sources, Devices, and Sub-Devices

In addition, user permissions are required to trace DataConduIT Sources, DataConduIT Devices, and DataConduIT Sub-devices in Alarm Monitoring. These permissions are located in **Administration** > **Users** > Monitor Permission Groups tab > Monitor sub-tab in System Administration or ID CredentialCenter.

DataConduIT Sources Form



DataConduIT Sources Folder - DataConduIT Sources Form

Form Element	Comment
Listing window	Lists DataConduIT Source names.
Name	Identifies the name of the DataConduIT Source. This is a “friendly” name assigned to each DataConduIT Source to make it easy to identify.
Online	If selected, the DataConduIT Source is online and ready for use. To suspend the DataConduIT Source deselect this box.
World time zone	Select the world time zone for the selected access panel’s geographical location. The selections in the drop-down list are listed sequentially, and each includes: • The world time zone’s clock time relative to Greenwich Mean Time. For example, (GMT+05:00) indicates that the clock time in the selected world time zone is 5 hours ahead of the clock time in Greenwich, England. • The name of one or more countries or cities that are located in that world time zone.
Daylight savings	Select this check box if Daylight Savings Time is enforced in the selected access panel’s geographical location.
Add	Click this button to add a DataConduIT Source.
Modify	Click this button to modify a DataConduIT Source.
Delete	Click this button to delete a DataConduIT Source.
Help	Click this button to display online help for this form.
Multiple Selection	If selected, more than one entry in the listing window can be selected simultaneously. The changes made on this form will apply to all selected DataConduIT Sources.
Close	Click this button to close the DataConduIT Sources folder.

DataConduIT Sources Form Procedures

Add a DataConduIT Source

1. From the **Additional Hardware** menu, select **DataConduIT Sources**. The DataConduIT Sources folder opens.
2. On the DataConduIT Sources tab, click [Add].
3. If segmentation is not enabled, skip this step. If segmentation is enabled:
   a. The Segment Membership window opens. Select the segment that this DataConduIT Source will be assigned to.
   b. Click [OK].
4. In the **Name** field, type a name for the DataConduIT Source.
5. Select whether the DataConduIT Source will be online.
6. Select the world time zone and daylight savings options as you see fit.
7. Click [OK].

Important: In addition to having a DataConduIT Source configured, there must be at least one panel (non-system DataConduIT Source) configured and marked online so that the Communications Server will work properly with DataConduIT Sources. The panel does not need to exist or actually be online in Alarm Monitoring, it simply needs to exist and show up in the System Status view. Once this is set up, events can be successfully received by Alarm Monitoring from DataConduIT Sources.

Modify a DataConduIT Source

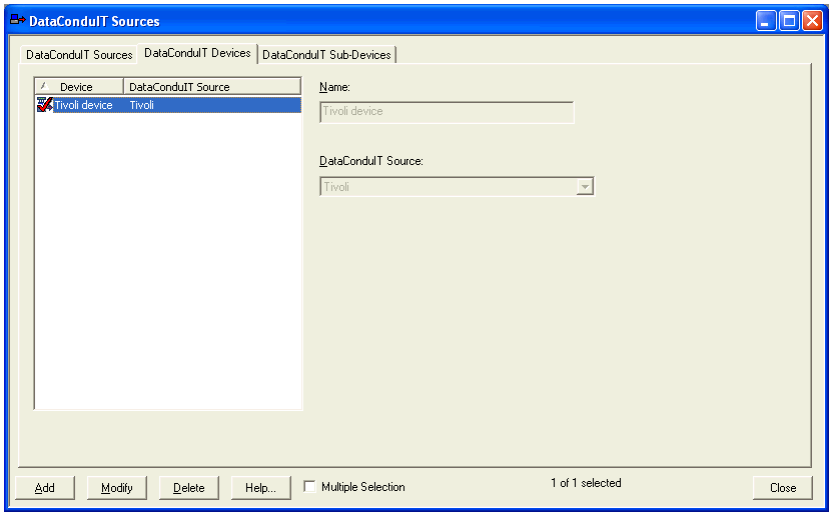
1. From the **Additional Hardware** menu, select **DataConduIT Sources**.
2. On the DataConduIT Sources tab, select the entry you want to modify from the listing window.
3. Click [Modify].
4. Make any changes.
5. Click [OK].
6. A prompt to confirm that you want to make the modification displays. Click [OK].

Delete a DataConduIT Source

To suspend a DataConduIT Source without deleting it, take it offline.

1. From the **Additional Hardware** menu, select **DataConduIT Sources**.
2. On the DataConduIT Sources tab, select the entry you want to delete from the listing window.
3. Click [Delete].
4. Click [OK].
5. A prompt to confirm that you want to make the deletion will be displayed. Click [OK].

DataConduIT Devices Form



DataConduIT Sources Folder - DataConduIT Devices Form

Form Element	Comment
Listing window	Lists DataConduIT Device names.
Name	Identifies the name of the DataConduIT Device. This is a “friendly” name assigned to each DataConduIT Device to make it easy to identify.
DataConduIT Source	Select the DataConduIT Source that is the parent of the child device being configured. DataConduIT Sources are configured on the DataConduIT Sources tab (**Additional Hardware** > **DataConduIT Sources** > DataConduIT Sources tab).
Add	Click this button to add a DataConduIT Device.
Modify	Click this button to modify a DataConduIT Device.
Delete	Click this button to delete a DataConduIT Device.
Help	Click this button to display online help for this form.

DataConduIT Sources Folder - DataConduIT Devices Form (Continued)

Form Element	Comment
Multiple Selection	If selected, more than one entry in the listing window can be selected simultaneously. The changes made on this form will apply to all selected DataConduIT Devices.
Close	Click this button to close the DataConduIT Sources folder.

DataConduIT Devices Form Procedures

Add a DataConduIT Device

Prerequisite: Before a DataConduIT Device can be configured, its parent DataConduIT Source must first be configured.

Note: If segmentation is enabled, the segment of the DataConduIT Source will be used as the segment for the DataConduIT Device.

1. From the **Additional Hardware** menu, select **DataConduIT Sources**. The DataConduIT Sources folder opens.
2. Click the DataConduIT Devices tab.
3. Click [Add].
4. In the **Name** field, type a name for the DataConduIT Device.
5. Select the DataConduIT Source that is the parent of the DataConduIT Device.

Note: The DataConduIT Source must be configured on the DataConduIT Sources tab.

6. Click [OK].

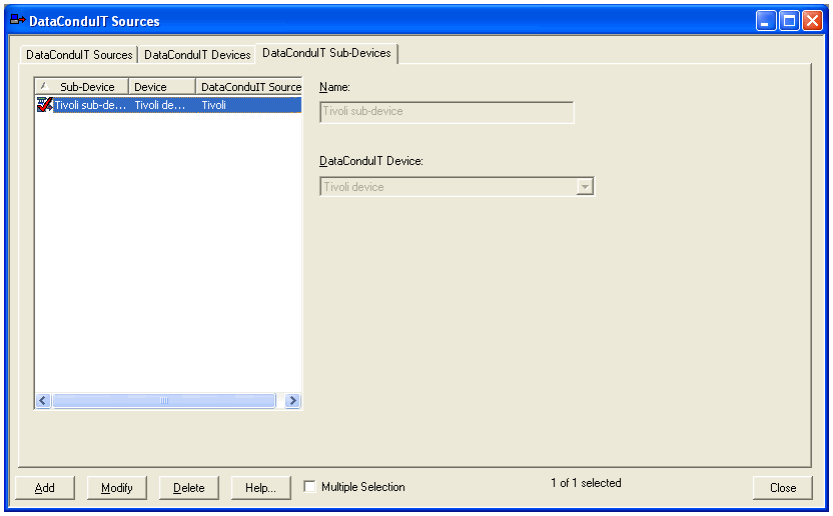
Modify a DataConduIT Device

1. From the **Additional Hardware** menu, select **DataConduIT Sources**.
2. Click the DataConduIT Devices tab.
3. Select the entry you want to modify from the listing window.
4. Click [Modify].
5. Make any changes.
6. Click [OK].
7. A prompt to confirm that you want to make the modification displays. Click [OK].

Delete a DataConduIT Device

1. From the **Additional Hardware** menu, select **DataConduIT Sources**.
2. Click the DataConduIT Devices tab.
3. Select the entry you want to delete from the listing window.
4. Click [Delete].
5. Click [OK].
6. A prompt to confirm that you want to make the deletion will be displayed. Click [OK].

DataConduIT Sub-Devices Form



DataConduIT Sources Folder - DataConduIT Sub-Devices Form

Form Element	Comment
Listing window	Lists DataConduIT Sub-Device names, along with the parent DataConduIT Device and DataConduIT Source.
Name	Identifies the name of the DataConduIT Sub-Device. This is a “friendly” name assigned to each DataConduIT Sub-Device to make it easy to identify.
DataConduIT Device	Select the DataConduIT Device that is the parent of the child Sub-Device being configured. DataConduIT Devices are configured on the DataConduIT Devices tab (**Additional Hardware** > **DataConduIT Sources** > DataConduIT Devices tab).
Add	Click this button to add a DataConduIT Sub-Device.
Modify	Click this button to modify a DataConduIT Sub-Device.
Delete	Click this button to delete a DataConduIT Sub-Device.
Help	Click this button to display online help for this form.

DataConduIT Sources Folder - DataConduIT Sub-Devices Form (Continued)

Form Element	Comment
Multiple Selection	If selected, more than one entry in the listing window can be selected simultaneously. The changes made on this form will apply to all selected DataConduIT Sub-Devices.
Close	Click this button to close the DataConduIT Sources folder.

DataConduIT Sub-Devices Form Procedures

Add a DataConduIT Sub-Device

Prerequisite: Before a DataConduIT Sub-Device can be configured, its parent DataConduIT Source and DataConduIT Device must be configured.

Note: If segmentation is enabled, the segment of the DataConduIT Source will be used as the segment for the DataConduIT Sub-Device.

1. From the **Additional Hardware** menu, select **DataConduIT Sources**. The DataConduIT Sources folder opens.
2. Click the DataConduIT Sub-Devices tab.
3. Click [Add].
4. In the **Name** field, type a name for the DataConduIT Sub-Device.
5. Select the DataConduIT Device that is the parent of the DataConduIT Sub-Device.

Note: The DataConduIT Device must be configured on the DataConduIT Devices tab.

6. Click [OK].

Modify a DataConduIT Sub-Device

1. From the **Additional Hardware** menu, select **DataConduIT Sources**.
2. Click the DataConduIT Sub-Devices tab.
3. Select the entry you want to modify from the listing window.
4. Click [Modify].
5. Make any changes.
6. Click [OK].
7. A prompt to confirm that you want to make the modification displays. Click [OK].

Delete a DataConduIT Sub-Device

1. From the **Additional Hardware** menu, select **DataConduIT Sources**.
2. Click the DataConduIT Sub-Devices tab.
3. Select the entry you want to delete from the listing window.
4. Click [Delete].
5. Click [OK].
6. A prompt to confirm that you want to make the deletion will be displayed. Click [OK].

Chapter 51: OPC Connections Folder

OPC Client Overview

The ReadkeyPRO OPC Client is a solution for integrating ReadkeyPRO with existing third party OPC Servers. The ReadkeyPRO OPC Client is an OPC-Alarms and Events client that can connect to any OPC Alarms and Events server. The purpose of the ReadkeyPRO OPC Client is to allow OPC Servers to send event and alarm notifications to ReadkeyPRO using the OLE for Process Control (OPC) industry standard format.

The ReadkeyPRO OPC Client consists of an user interface component to configure OPC Connections and a service component that subscribes to specified OPC Servers to receive event and alarm notifications.

OPC Client Functions

The purpose of the ReadkeyPRO OPC Client is to:

- Provide real time communication with any compatible OPC source
- Monitor events and alarms shared by the ReadkeyPRO OPC Client and compatible OPC sources

Note: Events and alarms sent by an OPC Server can be viewed, logged and even used to trigger specific actions.

OPC Connections Folder

The OPC Connections folder contains the OPC Connections form and the OPC Sources form from which you can:

- Add, modify or delete OPC Connections
- Test OPC Connections
- Modify the OPC Source name

Toolbar Shortcut

This folder is displayed by selecting **OPC Connections** from the **Additional Hardware** menu, or by selecting the OPC Connections toolbar button.

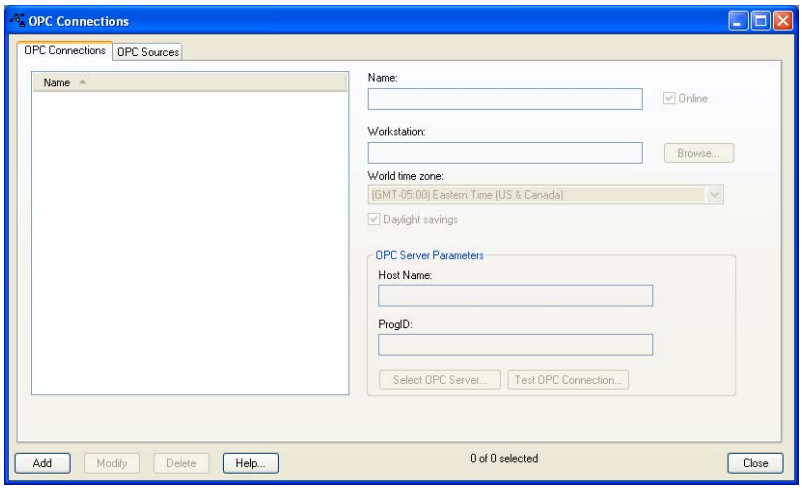
Note: To use this folder an OPC Client support license is required and you must have the correct permissions.

OPC Connections Form

In order to obtain data from an OPC Server, the ReadkeyPRO OPC Client must first establish a connection to the OPC Server using standard COM object installation routines. Clients set up two-way communication using connection point interfaces. This communication can be suspended by clients at any time.

The OPC Server can either be local or it can be accessed via DCOM on a remote machine. *DCOM* (Distributed Component Object Model) is a set of Microsoft concepts and program interfaces in which client program objects can request services from server program objects on other computers in a network.

Note: In order to view, add, modify or delete the OPC connection users must have the correct permissions. For more information, refer to System Permission Groups Form Procedures on page 424.



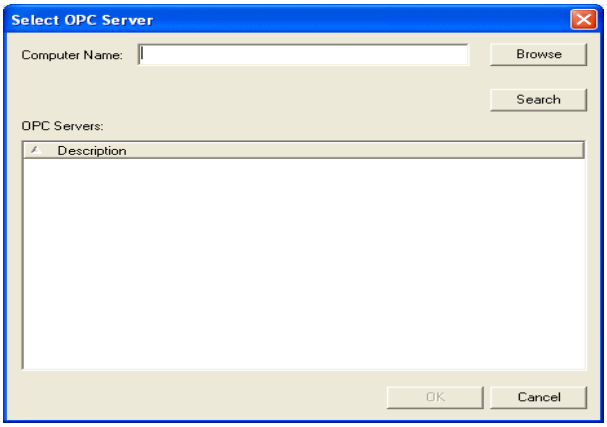
OPC Connections Folder - OPC Connections Form

Form Element	Comment
Listing window	Displays the names of OPC connections.
Name	Identifies the name of the OPC connections. This is a "friendly" name assigned to each connection to make it easy to identify. After the OPC Client is added, users can overwrite the default name.
Online	If selected, the OPC connection will be online. To suspend the OPC connection, deselect this box. **Note:** Select this check box to place the OPC Client online with the OPC Server. This does NOT necessarily mean the OPC Client is online with the actual hardware panel.
Workstation	This is the workstation running the Communication Server. **Note:** The ReadkeyPRO OPC Client is implemented as a device translator. Therefore it is active when the Communication Server is running.
Browse	Browse for the workstation the ReadkeyPRO OPC Client is on.
World time zone	Select the world time zone for the selected access panel's geographical location. The selections in the drop-down list are listed sequentially, and each includes: • The world time zone's clock time relative to Greenwich Mean Time. For example, (GMT+05:00) indicates that the clock time in the selected world time zone is 5 hours ahead of the clock time in Greenwich, England. • The name of one or more countries or cities that are located in that world time zone.
Daylight savings	Select this check box if Daylight Savings Time is enforced in the selected access panel's geographical location.

OPC Connections Folder - OPC Connections Form (Continued)

Form Element	Comment
OPC Server Parameters	Includes the Host Name and ProgID fields and the [Select OPC Server] and [Test OPC Connection] push buttons.
Host Name	The computer the OPC Server is on. To populate the Host Name and ProgID fields, click the [Select OPC Server] button.
ProgID	The OPC Server's global unique identifier. To populate the Host Name and ProgID fields, click the [Select OPC Server] button.
Select OPC Server	Displays the Select OPC Server window which enables you to select the OPC Server by searching for it or manually entering it.
Test OPC Connection	Tests a specified OPC Connection. When the OPC connection is successful the OPC Server Properties window displays the current OPC Server status. **Note:** The client to server connection is tested. The client to alarm panel connection is NOT tested.
Add	Adds an OPC connection.
Modify	Modifies or suspends an OPC connection.
Delete	Deletes an OPC connection.
Help	Displays online help for this form.
Close	Closes the OPC Connections folder.

Select OPC Server Window



Form Element	Comment
Computer Name	Enter the name of the computer the OPC Server is on.
Browse	Browse all available computers on the network.
Search	Searches the specified computer for OPC Servers that are on it.

Form Element	Comment
OPC Servers Listing Window	Displays the OPC Servers on the specified computer.
OK	Adds the OPC Server parameters to the OPC Connections form.
Cancel	Cancels the current selection and closes the Select OPC Server window.

OPC Connections Form Procedures

Add an OPC Connection

1. From the **Additional Hardware** menu, select **OPC Connections**. The OPC Connections folder opens.
2. On the OPC Connections tab, click [Add].
3. If segmentation is not enabled, skip this step. If segmentation is enabled:
   a. The Segment Membership window opens. Select the segment that this OPC connection will be assigned to.
   b. Click [OK].
4. In the **Name** field, type a name for the OPC connection.
5. Select whether the OPC connection will be online.

Important: When the OPC connection shows up as online, that means it is online with the OPC Server and **NOT** necessarily online with the actual hardware panel.

6. Select or enter the workstation the Communication Server is running on.
7. Click [Select OPC Server]. The Select OPC Server window displays.
   a. Enter or browse the name of the computer the OPC Server is on.
   b. Click [Search]. The OPC Servers on the specified computer display.
   c. Select (place a checkmark beside) the correct OPC Server and click [OK].
8. Select the world time zone and daylight savings options as you see fit.
9. The Host Name and Program ID fields automatically populate on the OPC Connections form.
10. Click [Test OPC Connection] to verify the OPC connection is successful and to view the current OPC Server status.
11. Click [OK].

Modify an OPC Connection

1. From the **Additional Hardware** menu, select **OPC Connections**.
2. On the OPC Connections tab, select the entry you want to modify from the listing window.
3. Click [Modify] and make the appropriate modifications. To suspend an OPC Connection take it offline.
4. Click [OK].
5. A prompt to confirm that you want to make the modification will be displayed. Click [OK].

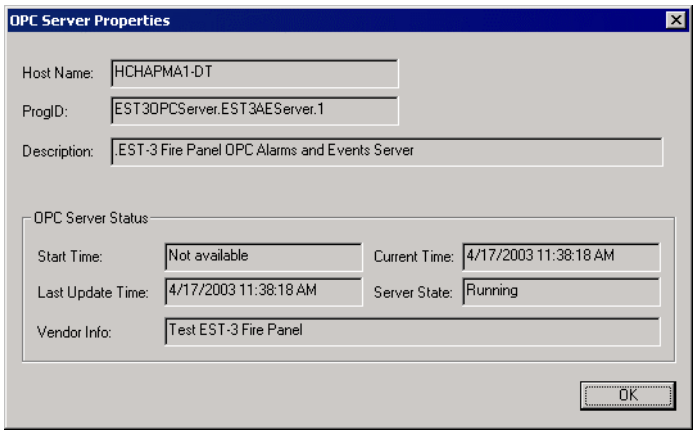
Delete an OPC Connection

To suspend an OPC Connection without deleting it, take it offline.

1. From the **Additional Hardware** menu, select **OPC Connections**.
2. On the OPC Connections tab, select the entry you want to delete from the listing window.
3. Click [Delete].
4. Click [OK].
5. A prompt to confirm that you want to make the deletion will be displayed. Click [OK].

Test OPC Connection

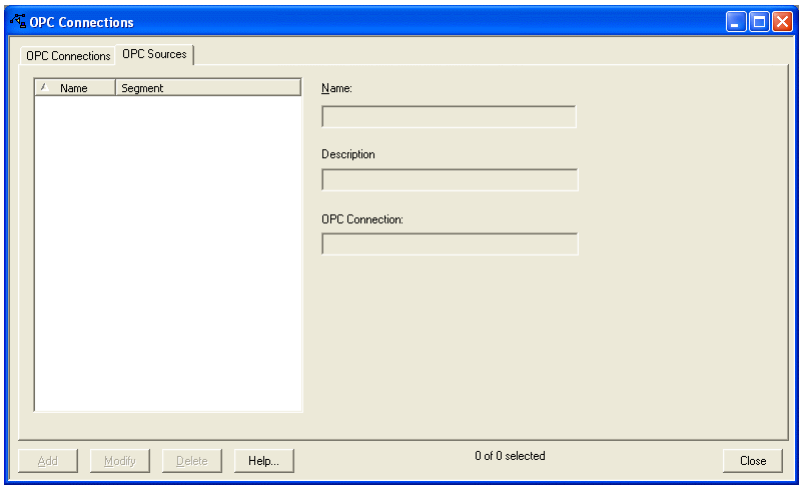
1. From the **Additional Hardware** menu, select **OPC Connections**.
2. Open the OPC Connections tab and select the OPC Client.
3. Click [Modify].
4. Click [Test OPC Connection].
5. If the test is successful the OPC Server Properties window displays and contains real time data about the OPC Server.



OPC Sources Form

While the ReadkeyPRO OPC Client is connected to a particular OPC Server, it can receive event notifications from that server and send event information to monitoring stations. When the ReadkeyPRO OPC Client receives an event from the OPC Server the source is automatically added to the OPC Sources form listing window.

System Administrators cannot manually add OPC Sources to the OPC Sources form listing window. The [Add] button will always be grayed out. System Administrators can however, modify the OPC Source name. This is also the name that displays in Alarm Monitoring under the Device column of the alarm view as well as in the system status tree.



OPC Connections Folder - OPC Sources Form

Form Element	Comment
Listing window	Lists the active OPC connections.
Name	The name for the selected OPC source. Users can modify this name which also displays in Alarm Monitoring.
Description	The original name of the OPC source. The description is read only.
OPC Connection	Identifies the OPC Server the client is connected to. This is a read only field.
Add	Does not apply. For more information, refer to OPC Client Overview on page 1201.
Modify	Click this button to modify the OPC source name
Delete	Click this button to delete the OPC source.
Help	Click this button to display online help for this form.
Close	Click this button to close the OPC Connections folder.

OPC Sources Form Procedures

Modify OPC Source Name

1. From the **Additional Hardware** menu, select **OPC Connections**.
2. Open the OPC Sources tab.
3. Select an OPC Source.
4. Click [Modify].
5. Edit the OPC Source Name.
6. Click [OK].

Delete OPC Source

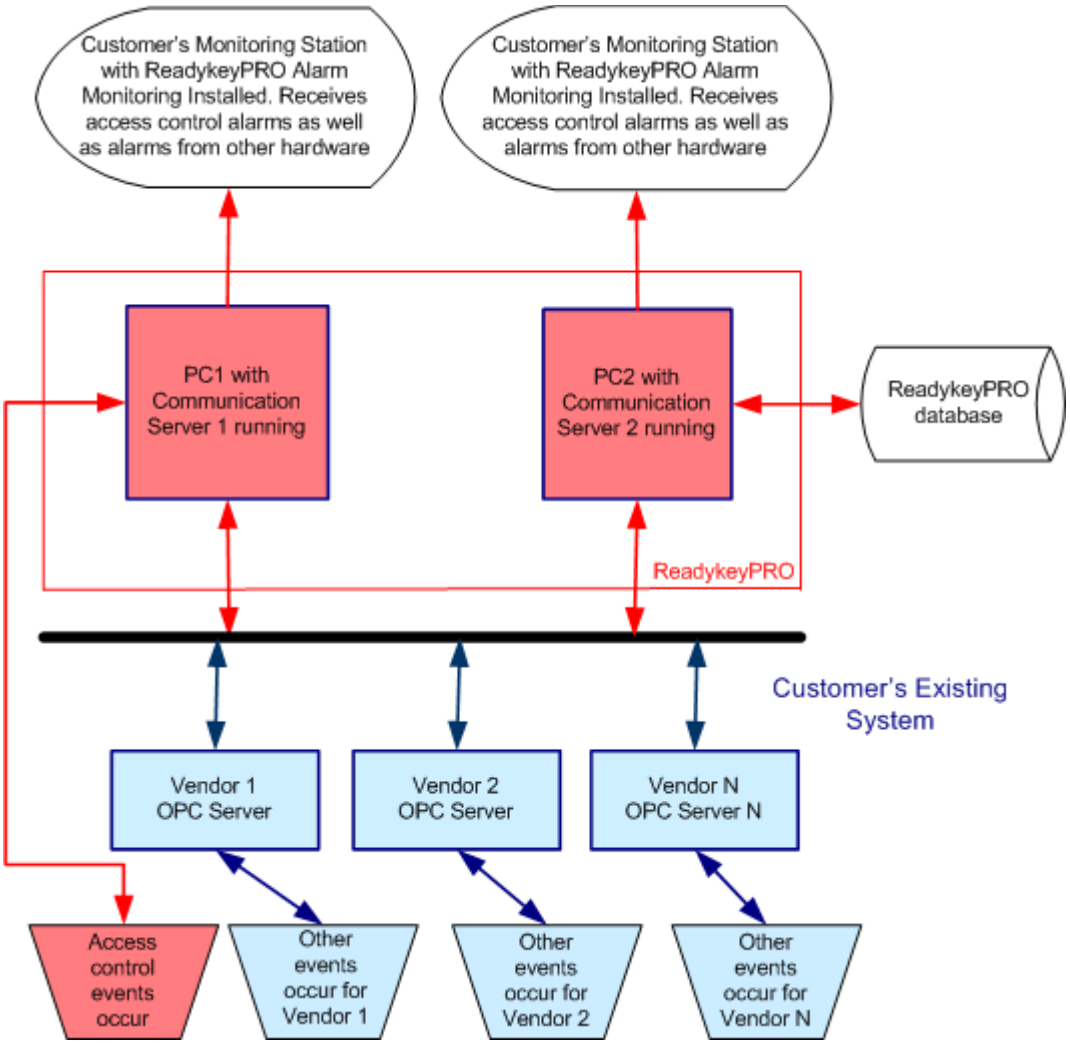
1. From the **Additional Hardware** menu, select **OPC Connections**.
2. Click the OPC Sources form/tab.
3. Select an OPC Source.
4. Click [Delete] to temporarily discontinue the OPC connection.

ReadkeyPRO OPC Client Scenario

Let's look at a hypothetical customer in the airline industry. This customer has an existing central control room with several OPC compliant servers monitoring every flight and traveler information.

New high security access control card readers, cameras and motion detectors have been installed and the customer wants to integrate this with their existing systems and monitor access control alarms and events from the same control room.

How does the customer monitor the access control alarms and events using the existing OPC Servers?



By making ReadkeyPRO an OPC Client, the customer can use ReadkeyPRO to communicate directly with their existing OPC Servers. To make ReadkeyPRO an OPC Client the OPC support license must be purchased.

The ReadkeyPRO OPC Client, receives and translates alarms and events from the OPC Server and outputs them in the Alarm Monitoring application along with the alarm and events received from the newly installed access control system.

Displaying Data

The ReadkeyPRO OPC Client supports every event attribute required by OPC specifications. The following table indefinites how OPC event attributes are mapped to ReadkeyPRO events. Note that the source name attribute can be modified to a user-friendly name.

OPC event attribute	Description	ReadkeyPRO event attribute in Alarm Monitoring alarm view
OPC Connection Description	Identifies the OPC Server that the ReadkeyPRO OPC Client is communication with.Text description of the OPC connection configured in System Administration. This is also the name of the controller when configuring monitor zones.	“Controller” field in alarm view
Source	The object which generated the event.	“Device” field in alarm view
Message	Text which describes the event.	“Event description” field in alarm view
Event Category	The vendor-specific category which this event belongs.	Part of the “Associated Text” field in alarm view
Severity	The urgency of the event.	Alarm priority
Condition Name	The name of the OPC condition/alarm related to the event notification.	Part of the “Associated Text” field in alarm view
Quality	The current quality of the data.	Part of the “Associated Text” field in alarm view

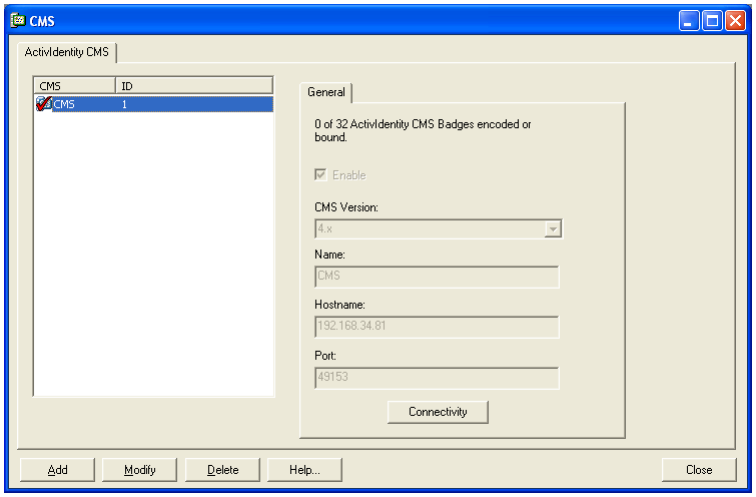
Logical Access

Chapter 52: CMS Folder

The CMS folder contains one form, which is the ActivIdentity CMS form. For detailed information about the CMS feature, refer to Appendix I: Integrating ActivIdentity CMS with ReadkeyPRO on page 1501.

This folder is displayed by selecting **ActivIdentity** from the **Logical Access** menu in System Administration or ID CredentialCenter.

ActivIdentity CMS Form



CMS Folder - ActivIdentity CMS Form

Form Element	Comment
Listing window	Lists the name and ID of currently defined ActivIdentity CMS systems.
Enable	If the CMS server is online and you wish to connect to it, leave the **Enable** check box selected. If not, deselect the **Enable** check box. The **Enable** check box must be selected in order to enter the name, hostname, and port for the CMS server.
CMS Version	Select the major version of the CMS server.
Name	A unique name that you specify to identify the CMS with. This name does not have to correlate to any name used in CMS.
Hostname	Name of the machine hosting CMS.
Port	Port on which CMS is listening for requests.

CMS Folder - ActivIdentity CMS Form

Form Element	Comment
Connectivity	Before clicking [Connectivity], you must either add a new CMS and fill in the **CMS Version**, **Name**, **Hostname**, and **Port** fields, or select an existing CMS record in the listing window. When you click [Connectivity], the ReadkeyPRO system will attempt to connect to the desired CMS. **Note:** SSL protocol with mutual authentication is used during interactions between ReadkeyPRO and CMS. In order to connect to CMS, an operator must have valid credentials (a certificate). This certificate must be enrolled in CMS as the operator's certificate. Upon receiving requests for operations from ReadkeyPRO, CMS verifies that the role assigned to the operator's credential is allowed to perform this operation.
Add	Click this button to add a CMS.
Modify	Click this button to change a CMS.
Delete	Click this button to delete a CMS.
Help	Displays online help for this form.
Close	Closes the CMS folder.

CMS Folder Procedures

For instructions on how to configure and use CMS, refer to Appendix I: Integrating ActivIdentity CMS with ReadkeyPRO on page 1501. The following procedures in that section are performed in this folder:

- Add a CMS Connection on page 1507
- Verify Connectivity to the Selected CMS on page 1507

Appendices

Appendix A: Actions

Actions can be added (configured) through the Action Group Library, Scheduler, Guard Tour, Acknowledgment Actions, or Global I/O folders in System Administration. Actions can also be added through the Scheduler in Alarm Monitoring.

If you add an action through the Scheduler or Guard Tour folder, you can also schedule the action to execute routinely or once. To manually execute an action you can right-click a device in Alarm Monitoring > System Status window.

This appendix describes how to add (configure) an action to your ReadkeyPRO system.

Important: For the Scheduler to be able to execute actions the Linkage Server must be configured and running. You can configure the Linkage Server host on the General System Options form in the System Options folder. For more information, refer to General System Options Form on page 456.

General Actions Procedures

Specify the Number of Simultaneous Actions

Important: Some operating systems require you to run the **ACS.INI** file as the administrator to modify it.

Occasional problems may occur when running a large number of actions at once. ReadkeyPRO defaults the limit of simultaneous actions to fifty but that can be changed in the **ACS.INI** file.

To change the ACS.INI file to override the default limit on simultaneous actions:

1. In the Windows start menu click run.
2. In the Run dialog box type “ACS.INI” without the quotes.
3. In the ACS.INI file find the [Service] section and add the line: “MaxNumberActionThreads=<Number of actions>” without the quotes and where the “Number of actions” equals the number of simultaneous actions you want to occur.

Open an Action Properties Window

Refer to the following procedures to open an action properties window through various folders in System Administration and Alarm Monitoring.

Using Action Group Library

The Action Group Library folder can be used to group actions. For more information, refer to Chapter 23: Action Group Library Folder on page 611.

Note: To schedule a group of actions or configure a group of actions based on incoming events, guard tour related conditions, or acknowledged alarms, you can use the action type called "Action group" which is available using the Scheduler, Guard Tour, Acknowledgment Actions, or Global I/O folders. For more information, refer to Add an Action Group on page 1222.

1. In System Administration, select **Action Group Library** from the **Administration** menu.
2. Click [Add].
3. The Action Group Properties window displays.
4. Enter an action group name and click [Add].
5. The Select Action Type window opens. Select the appropriate action and click [Next]. The Action Properties window opens.

Using the Scheduler

The Scheduler folder can be used to configure actions to occur on a schedule (reoccurring or one time only). For more information, refer to Chapter 22: Scheduler Folder on page 599.

Toolbar Shortcut

1. In System Administration, select **Scheduler** from the **Administration** menu. In Alarm Monitoring, click the Scheduler toolbar button.
2. Click [Add]. The Add Action Wizard window displays.
3. In the Category listing window, select "Action Types" and in the Objects listing window, select the appropriate action.
4. Click [Next]. The Action Properties window opens.

Using Global I/O

The Global I/O folder can be used to configure actions to occur based on an incoming event. For more information, refer to Chapter 35: Global I/O Folder on page 927.

1. In System Administration, select **Global I/O** from the **Access Control** menu.
2. Select a global linkage.
3. Click [Modify].
4. On the Output Action tab, click [Add].
5. The Add Action Wizard window displays. In the Category listing window, select “Action Types” and in the Objects listing window, select the appropriate action.
6. Click [Next]. The Action Properties window opens.

Using Guard Tour

The Guard Tour folder can be used to configure actions to occur under certain conditions related to a guard tour. For more information, refer to Chapter 42: Guard Tour Folder on page 1035.

1. In System Administration, select **Guard Tour** from the **Monitoring** menu. You cannot configure an action using the Guard Tour option available in Alarm Monitoring.
2. On the Tours tab, highlight a tour.
3. Click [Modify].
4. The Tour Wizard window opens. Select (place a checkmark beside) an ID/ hardware device.
5. Click [Next].
6. Click [Add].
7. The Add Action Wizard window displays. In the Category listing window, select “Action Types” and in the Objects listing window, select the appropriate action.
8. Click [Next]. The Action Properties window opens.

Using Acknowledgment Actions

The Acknowledgment Actions folder can be used to configure actions to occur when an alarm is acknowledged. For more information, refer to Chapter 40:

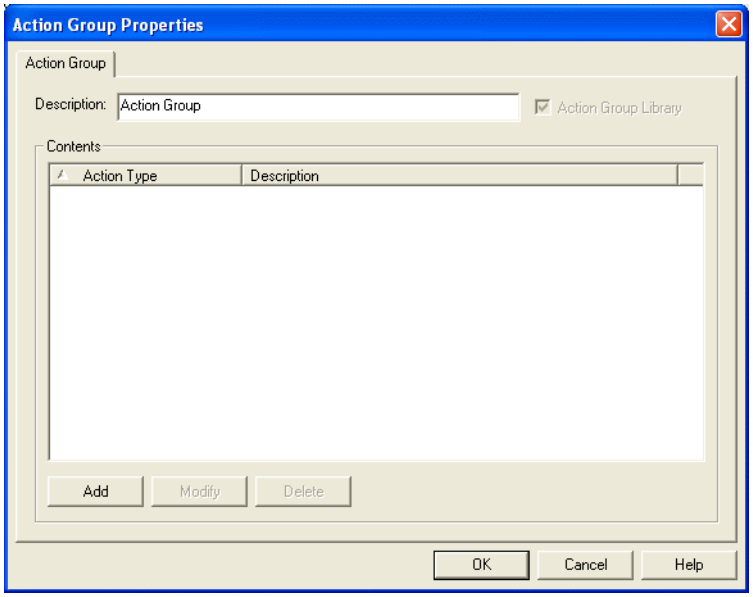
Alarm Configuration Folder on page 981.

1. In System Administration, select **Alarms** from the **Monitoring** menu.
2. Click the Acknowledgment Actions tab.
3. Select (place a checkmark beside) an alarm.
4. Click [Modify].
5. In the Actions section, click [Add].
6. The Add Action Wizard window displays. In the Category listing window, select “Action Types” and in the Objects listing window, select the appropriate action.
7. Click [Next]. The Action Properties window opens.

Action Group Properties Window

The Action Group Properties action executes multiple actions simultaneously.

You can display the Action Group Properties window using the Scheduler, Guard Tour, Acknowledgment Actions, or Global I/O forms. For more information, refer to Open an Action Properties Window on page 1217.



Note: If you have accessed this window via the Scheduler folder, the window will also contain the Schedule tab. For more information, refer to Chapter 22: Scheduler Folder on page 599.

Action Group Properties Window Field Table

Form Element	Comment
Description	When adding or modifying an action group, you can enter a description of the action group that is being configured.
Action Group Library	When selected, the action group that you are adding or modifying will be available for selection in the Action Group Library. For more information, refer to Chapter 23: Action Group Library Folder on page 611.
Action Type listing window	Displays the action types which have been assigned to the selected action group.
Add	Click this button to add an action type.
Modify	Click this button to modify the action type that is selected in the Action Type listing window.
Delete	Click this button to delete the action type that is selected in the Action Type listing window from the selected action group.
OK	Click this button to save your changes and exit out of the Action Group Properties window.
Cancel	Click this button to exit the Action Group Properties window without saving your changes.
Help	Click this button to display online help for this window.

Action Group Properties Window Procedures

Add an Action Group

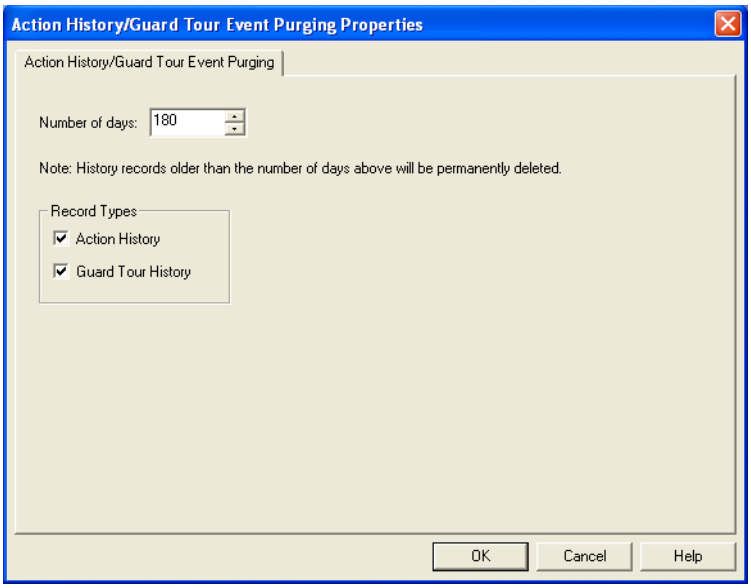
1. Open the Action Group Properties window using the Scheduler, Guard Tour, Acknowledgment Actions, or Global I/O. For more information, refer to Open an Action Properties Window on page 1217.
2. In the **Description** field, enter a description of the action group that is being configured.
3. Select the **Action Group Library** check box if you want this action group to be available for selection in the Action Group Library. For more information, refer to Action Groups Overview on page 611.
4. Click [Add]. The Select Action Type window opens.
5. Select an action type and then click [Next]. Depending on which action type you chose, a corresponding action properties window will open.
6. Configure the action type you selected in step 5. To do this, you must refer to the action properties windows sections in this chapter for information on each action properties window.
7. Repeat steps 4-6 for each action type you want to assign to this group.
8. Click [OK].

Action History/Guard Tour Event Purging Properties Window

The Action History/Guard Tour Event Purging action allows you to create an action that will automatically delete certain records after they are a specified number of days old. For example, you can have all Guard Tour History record types deleted when they are 180 days old.

You can display the Action History/Guard Tour Event Purging Properties window using the Action Group Library or Scheduler. For more information, refer to Open an Action Properties Window on page 1217.

Note: In segmented systems, the Action History/Guard Tour Event Purging action must be applied to all segments.



Action History/Guard Tour Event Purging Properties Window

Form Element	Comment
Number of Days	The history records older than the number of days selected will be permanently deleted when the action runs.
Action History	Select this check box if you want Action History records deleted that are older than the Number of days setting.
Guard Tour History	Select this check box if you want Guard Tour History records deleted that are older than the Number of days setting.
OK	Click this button to add the action and exit out of the Action History/Guard Tour Event Purging Properties window.
Cancel	Click this button to exit the Action History/Guard Tour Event Purging Properties window without adding the action.

Action History/Guard Tour Event Purging Properties Window

Form Element	Comment
Help	Click this button to display online help for this window.

Action History/Guard Tour Event Purging Properties Window Procedures

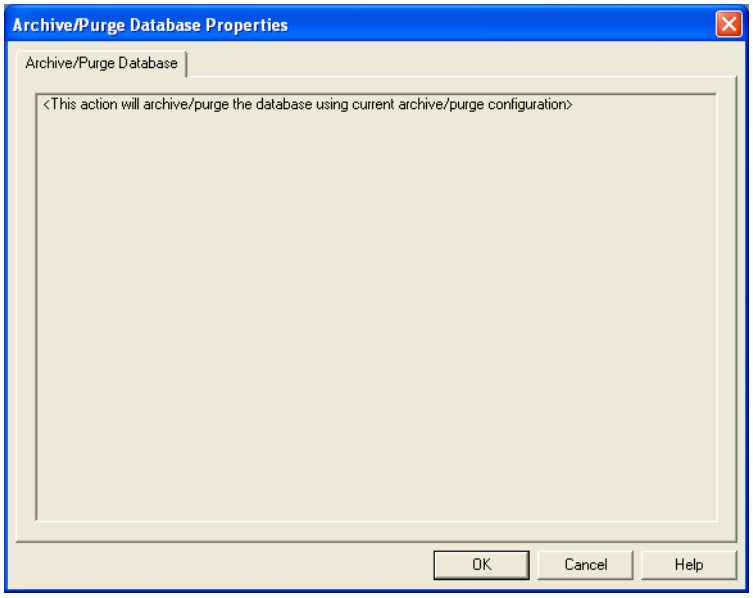
Add an Action History/Guard Tour Event Purging Action

1. Open the Action History/Guard Tour Event Purging Properties window using the Scheduler. For more information, refer to Open an Action Properties Window on page 1217.
2. Enter how old (number of days) records can be before they are purged.
3. Choose the type of records you want to delete.
4. Click [OK]. This action is now configured to archive/purge the database using your current archive/purge configurations.

Archive/Purge Database Properties Window

You can display the Archive/Purge Database Properties window using the Action Group Library or Scheduler. For more information, refer to Open an Action Properties Window on page 1217.

Note: In segmented systems, the Archive/Purge Database Properties action must be applied to all segments.



Note: If you have accessed this window via the Scheduler folder, the window will also contain the Schedule tab. For more information, refer to Chapter 22: Scheduler Folder on page 599.

Archive/Purge Database Properties Window Field Table

Form Element	Comment
Listing window	Displays the following message: "<This action will archive/purge the database using current archive/purge configuration>"
OK	Click this button to add the action and exit out of the Archive/Purge Database Properties window.
Cancel	Click this button to exit the Archive/Purge Database Properties window without adding the action.
Help	Click this button to display online help for this window.

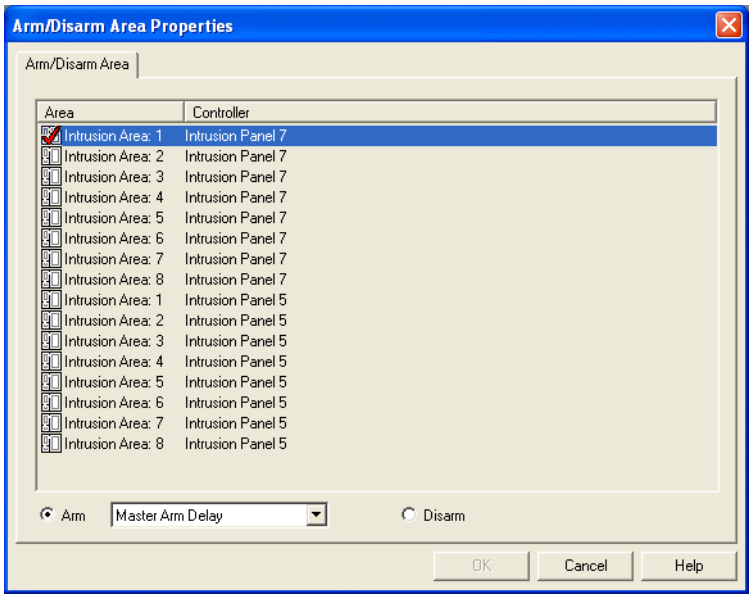
Archive/Purge Database Properties Window Procedures

Add an Archive/Purge Database Action

1. Open the Archive/Purge Database Properties window using the Scheduler. For more information, refer to Open an Action Properties Window on page 1217.
2. Click [OK]. This action is now configured to archive/purge the database using your current archive/purge configurations. For more information, refer to Chapter 21: Archives Folder on page 583.

Arm/Disarm Area Properties Window

You can display the Arm/Disarm Area Properties window using the Action Group Library, Scheduler, Guard Tour, Acknowledgment Actions, or Global I/O. For more information, refer to Open an Action Properties Window on page 1217.



Note: If you have accessed this window via the Scheduler folder, the window will also contain the Schedule tab. For more information, refer to Chapter 22: Scheduler Folder on page 599.

Arm/Disarm Area Properties Window Field Table

Form Element	Comment
Listing window	Lists currently enabled intrusion areas. Intrusion areas are configured on the Areas form in the Intrusion Detection Configuration folder. For more information, refer to Areas Form on page 1169.
Arm	When configuring an area as an action, select this radio button if you want the action to be that the area will be armed. When an area is armed, protection for this area is "turned on." Alarms will be reported within the area (the zones within the area will report alarms when activated). For example, consider a home burglar system that has sensors on the windows and doors and motion detectors inside. When the owner leaves the home, they arm the system. Alarms will be reported if those windows/doors are opened or if motion is detected.
Arm	You must also select an option from the drop-down list. The following terms will help you choose an option. *Instant arm* - some intrusion panels support the notion of both delay arm and instant arm. With instant arm, the area is armed immediately. *Interior* and *Perimeter*- in higher end intrusion panels, there is the concept of an interior and a perimeter of an area. Various zones within the area are associated with either the interior or the perimeter. Zones that might be associated with the interior are motion detectors placed in the hallways of an office building. Zones that might be associated with the perimeter are sensors on external windows and doors. *Master arm* - when an area is master armed, the entire area is armed. This includes both the perimeter and the interior. *Perimeter arm* - when an area is perimeter armed, only the perimeter is armed. This means that those zones associated with the interior will continue to generate alarms, but those associated with the perimeter will not. This type of arming may be used when an authorized person is inside a building at off hours. They don't want the interior armed and reporting alarms since they will be moving throughout the interior. However, if somebody else breaches the perimeter of the building (forces open a door, breaks a window, etc.), alarms will be reported. (*continued on next page*) *Partial arm* - arms only those zones that have been configured for partial arming. All other zones in the area will not be armed.

Form Element	Comment
Arm (continued)	For Detection Systems intrusion detection panel types, choices include: • Arm Entire Partition - arms both the interior and perimeter of the area. • Perimeter Arm - arms the perimeter of the area. For Bosch intrusion detection panel types, choices include: • Master Arm Delay - master (both perimeter and interior) arm (with exit and entry delays) the area. • Master Arm Instant - master (both perimeter and interior) arms (no delays) the area. • Perimeter Delay Arm - delay arms all perimeter points in the area. • Perimeter Instant Arm - instantly arms all perimeter points (no delays) in the area. For Galaxy intrusion detection panel types, choices include: • Arm Entire Partition - arms both the interior and perimeter of the area. • Partial Arm - arms only those zones that have been configured for partial arming. All other zones in the area will not be armed.
Disarm	When configuring an area as an action, select this radio button if you want the action to be that the area will be disarmed. When an area is disarmed, protection for this area is "turned off." Alarms will not be reported within the area. For example, consider a home burglar system that has sensors on the windows and doors and motion detectors inside. When the owner arrives home, he/she disarms the system so that alarms won't be reported as they walk around the house.
OK	Click this button to add the action and exit out of the Arm/Disarm Area Properties window.
Cancel	Click this button to exit the Arm/Disarm Area Properties window without adding the action.
Help	Click this button to display online help for this window.

Arm/Disarm Area Properties Window Procedures

Add an Arm/Disarm Area Action

1. Open the Arm/Disarm Area Properties window using the Action Group Library, Scheduler, Guard Tour, Acknowledgment Actions, or Global I/O.

For more information, refer to Open an Action Properties Window on page 1217.

2. From the listing window, click on an entry to select it.
3. Do one of the following:
   - Select the **Arm** radio button if you want the action to be that the area will be armed. You must also select an option from the drop-down list.
   - Select the **Disarm** radio button if you want the action to be that the area will be disarmed.

Important: Refer to the Arm/Disarm Area Properties Window Field Table table on page 1228 for detailed information on arming and disarming areas.

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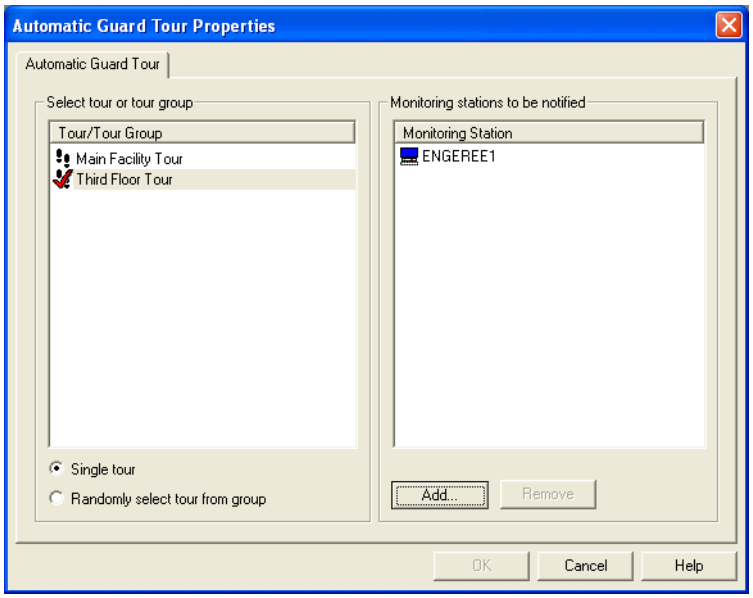
4. Click [OK].

Automatic Guard Tour Properties Window

You can display the Automatic Guard Tour Properties window using the Action Group Library or Scheduler. For more information, refer to Open an Action Properties Window on page 1217.



Note: If you have accessed the Automatic Guard Tour Properties window via the Scheduler form, the window will contain both the Automatic Guard Tour form and the Scheduler form.

Automatic Guard Tour Properties Window Field Table

Form Element	Comment
Tour/Tour Group listing window	Displays a list of the tours and tour groups which have been configured in the system. Tours and tour groups are configured in the Guard Tour folder.
Single tour	Select this radio button if you want to configure an automatic guard tour for a single tour. When selected, only single tours will be listed in the Tour/Tour Group listing window.
Randomly select tour from group	Select this radio button if you want to configure an automatic guard tour that will be randomly selected from a tour group. When selected, only tours groups that are configured as random tour lists will be listed in the Tour/Tour Group listing window. Tour groups are configured on the Tour Groups form of the Guard Tour folder. A tour group is considered a random tour list when the **Random Tour List** check box is selected on the Tour Groups form.
Monitoring Station listing window	Displays a list of the monitoring stations which are assigned to the selected tour. These monitoring stations will be notified when the automatic guard tour is scheduled to begin.
Add	Click this button to display the Select Monitoring Station window and add a monitoring station to the Monitoring Station listing window.
Remove	Click this button to remove the selected monitoring station from the Monitoring Station listing window.
OK	Click this button to add the action and exit out of the Automatic Guard Tour Properties window.
Cancel	Click this button to exit the Automatic Guard Tour Properties window without adding the action.
Help	Click this button to display online help for this window.

Automatic Guard Tour Properties Window Procedures

Add an Automatic Guard Tour Action

1. Open the Automatic Guard Tour Properties window using the Action Group Library or Scheduler. For more information, refer to Open an Action Properties Window on page 1217.
2. Do one of the following:
   - Select the **Single Tour** radio button if you want to configure an automatic guard tour for a single tour. When selected, only single tours will be listed in the Tour/Tour Group listing window.
   - Select the **Randomly select tour from group** radio button if you want to configure an automatic guard tour that will be randomly selected from a tour group. When selected, only tours groups that are configured

as random tour lists will be listed in the Tour/Tour Group listing window.

3. The monitoring stations that have been assigned to the selected tour or tour group will be displayed in the Monitoring Station listing window. Do one of the following:
   - If no monitoring stations have been assigned or if you want to assign an additional monitoring station, then click [Add]. The Select Monitoring Station window opens.
   - If you do not want to assign a monitoring station, proceed to step 7.
4. Click on a monitoring station to select it.
5. Click [OK]. The monitoring station you selected will be listing in the Monitoring Station listing window. All monitoring stations in the Monitoring Station listing window will, in the Alarm Monitoring application, receive a notification message when the tour is scheduled to begin.
6. Repeat steps 3-5 for each monitoring station you want to add.

Note: If you want to remove a monitoring station from the Monitoring Station listing window, click on an entry to select it and then click [Remove].

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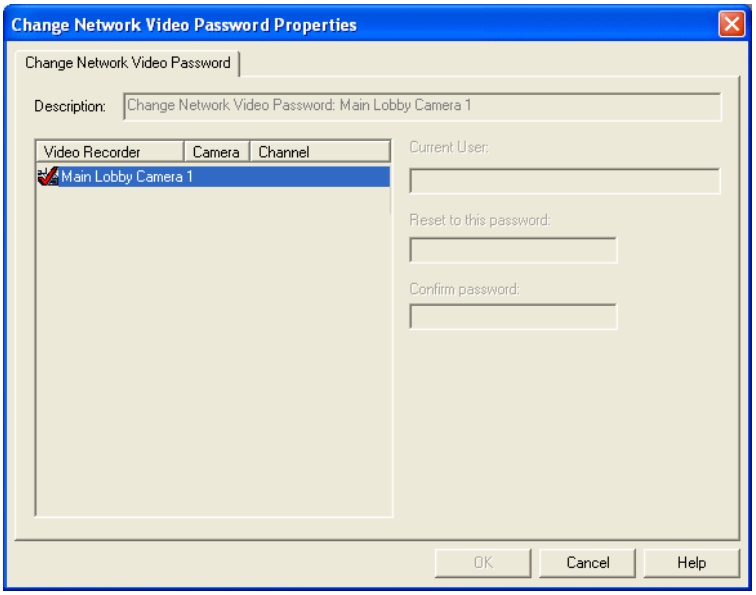
7. Click [OK].

Note: If you have accessed the Automatic Guard Tour Properties window via the Scheduler folder or the Scheduler form in the Guard Tour folder, the window will contain both the Automatic Guard Tour form and the Schedule form. For more information, refer to Chapter 22: Scheduler Folder on page 599.

Change Network Video Password Properties Window

The Change Network Video Password action allows you to schedule automatic password changes for video recorders. You can make the change a one-time event or to schedule it daily, weekly, or monthly with the Edit Recurring Action Schedule. For more information, refer to Chapter 22: Scheduler Folder on page 599.

You can display the Change Network Video Password Properties window using the Action Group Library, Scheduler, or Global I/O. Only the Scheduler will let you set up the password to be changed at a later date. For more information, refer to Open an Action Properties Window on page 1217.



Note: If you have accessed this window via the Scheduler folder, the window will also contain the Schedule tab. For more information, refer to Chapter 22: Scheduler Folder on page 599.

Change Network Video Password Properties Window Field Table

Form Element	Comment
Description	Names the video device you are currently changing the password for.
Listing Window	Select the recorders and/or cameras you want to modify.
Current User	The name of the user account. This field automatically populates if a user name was initially populated on the Video Recorder/Camera forms.

Change Network Video Password Properties Window Field Table

Form Element	Comment
Reset to this password	Enter the password in the text box. The following restrictions apply: • Axis cameras allow up to 10 character passwords using A through Z, a through z, 0 - 9, !, #' - ', -, ., ^, _, ~, $ • Sony cameras allow up to 16 character passwords using A through Z, a through z, 0 - 9 **Note:** In addition to these restrictions, ReadkeyPRO includes strong password enforcement, which checks the user's password against password standards. For more information, refer to Introduction on page 75.
Confirm password	Enter the password a second time for verification.
OK	Adds the action and exits out of the Change Network Video Properties window.
Cancel	Exits the Change Network Video Password Properties window without adding the action.
Help	Displays online help for this window.

Change Network Video Password Properties Window Procedures

Change the Network Video Password

1. Open the Change Network Video Password Properties window using the Action Group Library or Global I/O. For more information, refer to Open an Action Properties Window on page 1217.
2. On the Change Network Video Password tab, enter the new password and confirm the password by typing it again.
3. Click [OK].

Schedule a One-Time Password Change

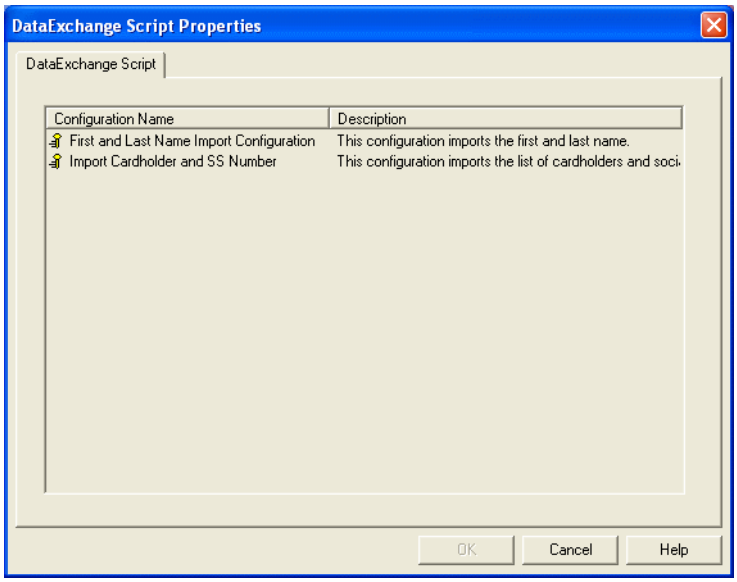
1. Open the Change Network Video Password Properties window using the Scheduler. For more information, refer to Open an Action Properties Window on page 1217.
2. On the Change Network Video Password tab, enter the new password and confirm the password by typing it again.
3. On the Schedule tab, select the **One time** radio button.
4. Select the date and time you wish the password to change.
5. Click [OK].

Schedule a Recurring Password Change

1. Open the Change Network Video Password Properties window using the Scheduler. For more information, refer to Open an Action Properties Window on page 1217.
2. On the Change Network Video Password tab, enter the new password and confirm the password by typing it again
3. On the Schedule sub-tab, select the **Recurring** radio button.
4. Click [Change]. The Edit Recurring Action Schedule form displays.
5. Choose the time and date intervals that best suit your needs.
6. Click [OK] on the Edit Recurring Action Schedule form.
7. Click [OK] on the Change Network Video Password Properties window.

DataExchange Script Properties Window

You can display the DataExchange Script Properties window using Scheduler. For more information, refer to Open an Action Properties Window on page 1217.



Note: If you have accessed this window via the Scheduler folder, the window will also contain the Schedule tab. For more information, refer to Chapter 22: Scheduler Folder on page 599.

DataExchange Script Properties Window Field Table

Form Element	Comment
Configuration Name listing window	Displays a list of the DataExchange configurations that have been configured in the system. DataExchange configurations are created in FormsDesigner.
OK	Click this button to add the action and exit out of the **DataExchange Script Properties** window.
Cancel	Click this button to exit the **DataExchange Script Properties** window without adding the action.
Help	Click this button to display online help for this window.

DataExchange Script Properties Window Procedures

Add a DataExchange Script Action

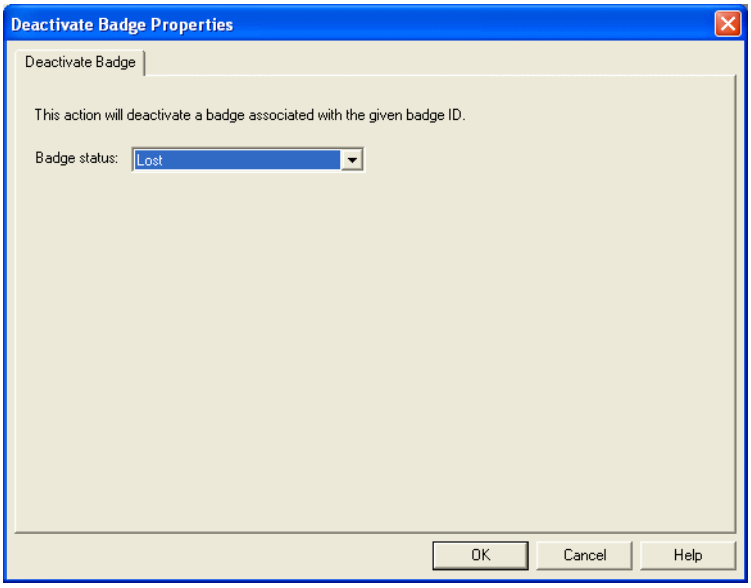
1. Open the DataExchange Script Properties window using the Scheduler. For more information, refer to Open an Action Properties Window on page 1217.
2. Select (place a checkmark beside) a configuration in the Configuration Name listing window.
3. Click [OK].

Deactivate Badge Properties Window

The Deactivate Badge action allows you to deactivate a cardholder's badge when it is either lost or returned.

You can display the Deactivate Badge Properties window using Global I/O. For more information, refer to Open an Action Properties Window on page 1217.

Note: In segmented systems, the Action History/Guard Tour Event Purging action must be applied to all segments.



Deactivate Badge Properties Window Field Table

Form Element	Comment
Badge Status	Use to select the status of a badge that will be deactivated. Choices are Lost and Returned.
OK	Click this button to add the action and exit out of the Deactivate Badge Properties window.
Cancel	Click this button to exit the Deactivate Badge Properties window without adding the action.
Help	Click this button to display online help for this window.

Deactivate Badge Properties Window Procedures

Add a Deactivate Badge Action

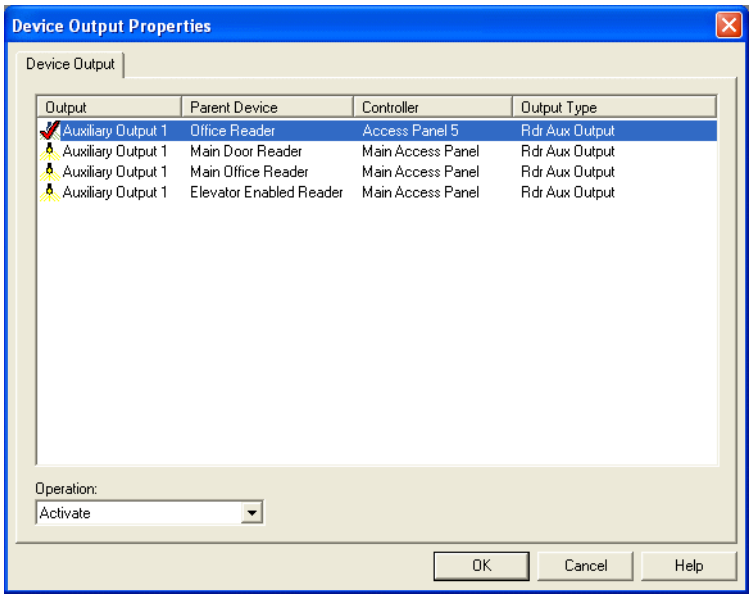
1. Open the Deactivate Badge Properties window using Global I/O. For more information, refer to Open an Action Properties Window on page 1217.

Note: In order to execute the action, Global I/O should have a linkage configured on a device, event, and badge ID that is passed to the action at runtime.

2. Click [Add].
3. Click the Output Action sub-tab.
4. Click [Add]. The Add Action Wizard window opens.
5. Select “Deactivate Badge” from the Objects listing window.
6. Click [Next]. The Deactivate Badge Properties window appears.
7. Choose the type of badge you want to deactivate.
8. Click [OK].
9. Click [OK] again.

Device Output Properties Window

You can display the Device Output Properties window using Action Group Library, Scheduler, Acknowledgment Actions, or Global I/O. For more information, refer to Open an Action Properties Window on page 1217.



Note: If you have accessed this window via the Scheduler folder, the window will also contain the Schedule tab. For more information, refer to Chapter 22: Scheduler Folder on page 599.

Form Element	Comment
Output listing window	Displays a list of available device outputs which have been configured in the system.
Activate	When configuring a device output as an action, select this from the drop-down menu if you want the action to be that the device output will activate. When a device output is activated, that means it is in an “on” state.
Deactivate	When configuring a device output as an action, select this from the drop-down menu if you want the action to be that the device output will deactivate. When a device output is deactivated, that means it is in an “off” state.
Pulse	When configuring a device output as an action, select this from the drop-down menu if you want the action to be that the device output will pulse (turn on and then turn off again).

Form Element	Comment
Toggle	When configuring a device output as an action, select this from the drop-down menu if you want to toggle the state of the relay. For example, if the relay is on (activated), toggling deactivates it. If the relay is off (deactivated), toggling activates it. **Note:** Only offboard relays on the Bosch (7412 and 9412) intrusion panels support the toggle option.
OK	Click this button to add the action and exit out of the Device Output Properties window.
Cancel	Click this button to exit the Device Output Properties window without adding the action.
Help	Click this button to display online help for this window.

Device Output Properties Window Procedures

Add a Device Output Action

1. Open the Device Output Properties window using the Action Group Library, Scheduler, Acknowledgment Actions, or Global I/O. For more information, refer to Open an Action Properties Window on page 1217.
2. Select (place a checkmark beside) an entry in the Output listing window.
3. Do one of the following:
   - Select **Activate** from the drop-down menu if you want this action to be that the device output will activate. When a device output is activated, that means it is in an “on” state.
   - Select **Deactivate** from the drop-down menu if you want this action to be that the device output will deactivate. When a device output is deactivated, that means it is in an “off” state.
   - Select **Pulse** from the drop-down menu if you want this action to be that the device output will pulse (turn on and then turn off again).
   - Select **Toggle** from the drop-down menu in you want this action to be that the device output will toggle the state of the relay. For example, if the relay is on (activated), toggling deactivates it. If the relay is off (deactivated), toggling activates it.

Note: Only offboard relays on the Bosch (7412 and 9412) intrusion panels support the toggle option.

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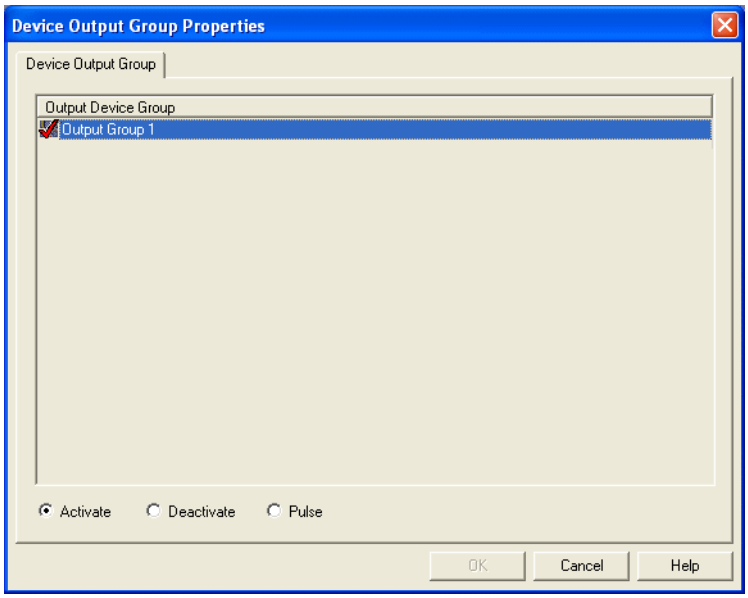
4. Click [OK].

Device Output Group Properties Window

You can display the Device Output Group Properties window using the Action Group Library, Scheduler, Guard Tour, Acknowledgment Actions, or Global I/O. For more information, refer to Open an Action Properties Window on page 1217.



Note: If you have accessed this window via the Scheduler folder, the window will also contain the Schedule tab. For more information, refer to Chapter 22: Scheduler Folder on page 599.

Device Output Group Properties Window Field Table

Form Element	Comment
Output Device Group listing window	Displays a list of available output device groups which have been configured in the system.
Activate	When configuring an output device group as an action, select this radio button if you want the action to be that the device outputs in the group will activate. When device outputs are activated, that means they are in an “on” state.
Deactivate	When configuring an output device group as an action, select this radio button if you want the action to be that the device outputs in the group will deactivate. When device outputs are deactivated, that means they are in an “off” state.
Pulse	When configuring an output device group as an action, select this radio button if you want the action to be that the device outputs in the group will pulse (they will turn on and then turn off again).
OK	Click this button to add the action and exit out of the Device Output Group Properties window.
Cancel	Click this button to exit the Device Output Group Properties window without adding the action.
Help	Click this button to display online help for this window.

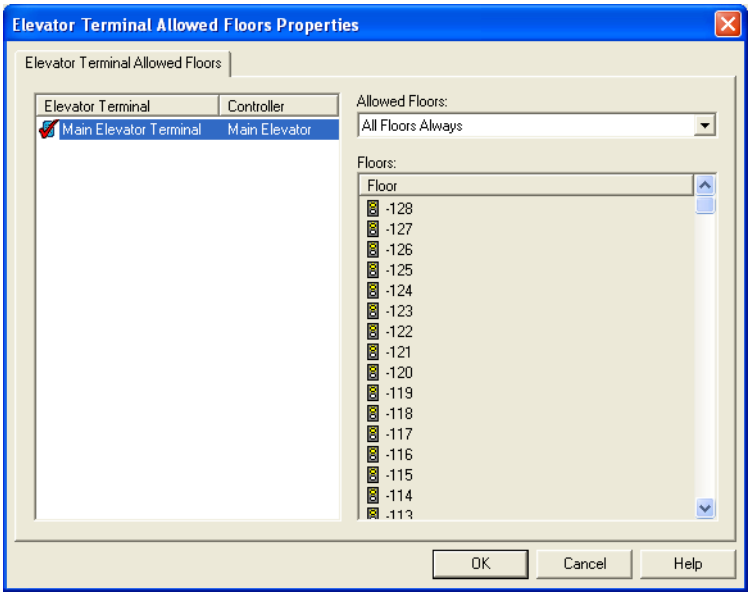
Device Output Group Properties Window Procedures

Add a Device Output Group Action

1. Open the Device Output Group Properties window, using the Action Group Library, Scheduler, Guard Tour, Acknowledgment Actions, or Global I/O. For more information, refer to Open an Action Properties Window on page 1217.
2. Select (place a checkmark beside) a group in the Output Device Group listing window.
3. Do one of the following:
   - Select the **Activate** radio button if you want this action to be that the device outputs in the group will activate. When device outputs are activated, that means they are in an “on” state.
   - Select the **Deactivate** radio button if you want this action to be that the device outputs in the group will deactivate. When device outputs are deactivated, that means they are in an “off” state.
   - Select the **Pulse** radio button if you want this action to be that the device outputs in the group will pulse (they will turn on and then turn off again).
4. Click [OK].

Elevator Terminal Allowed Floors Properties Window

You can display the Elevator Terminal Allowed Floors Properties window using the Action Group Library, Scheduler, Guard Tour, Acknowledgment Actions, or Global I/O. For more information, refer to Open an Action Properties Window on page 1217.



Note: If you have accessed this window via the Scheduler folder, the window will also contain the Schedule tab. For more information, refer to Chapter 22: Scheduler Folder on page 599.

Elevator Terminal Allowed Floors Properties Window Field Table

Form Element	Comment
Allowed Floors	Allowed floors are floors that can be accessed via the elevator terminal without supplying security credentials. Your options include: • **All Floors Always** - the elevator is allowed to all floors no matter the security credentials presented. • **No Floors** - The elevator is allowed to no floors without security credentials being presented.
Floors	Lists the floors the elevator is capable of traveling to.

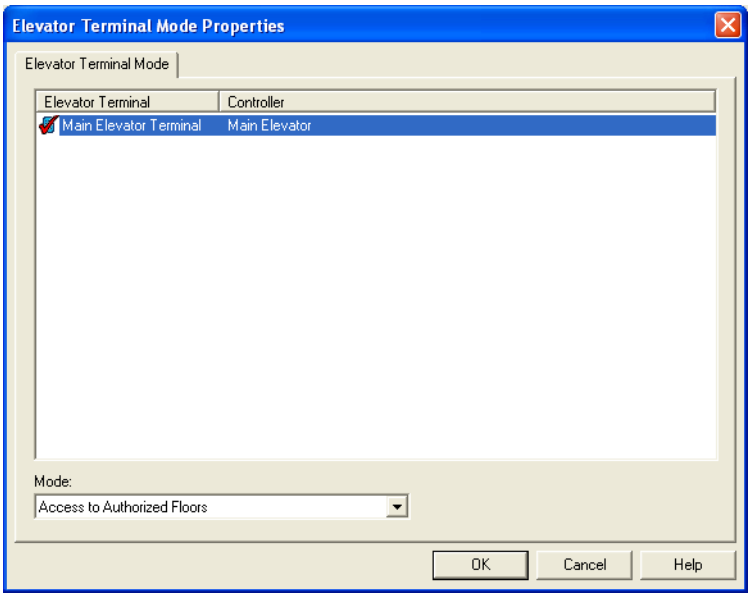
Elevator Terminal Allowed Floors Properties Window Procedures

Add an Elevator Terminal Allowed Floors Action

1. Open the Elevator Terminal Allowed Floors Properties window using the Action Group Library or Scheduler. For more information, refer to Open an Action Properties Window on page 1217.
2. Select an elevator terminal in the listing window.
3. Select an option in the **Allowed Floors** drop-down box.
4. Click [OK].

Elevator Terminal Mode Properties Window

You can display the Elevator Terminal Mode Properties window using the Action Group Library, Scheduler, Guard Tour, Acknowledgment Actions, or Global I/O. For more information, refer to Open an Action Properties Window on page 1217.



Note: If you have accessed this window via the Scheduler folder, the window will also contain the Schedule tab. For more information, refer to Chapter 22: Scheduler Folder on page 599.

Elevator Terminal Mode Properties Window Field Table

Form Element	Comment
Elevator Terminal Mode listing window	Lists the current elevator terminals and elevator controllers.
Mode	Refers to operational modes which dictate how the terminal interacts with the cardholder. Choose from: • Access to Authorized Floors • Default Floor Only • Default Floor or User Entry of Destination Floor • User Entry of Destination Floor

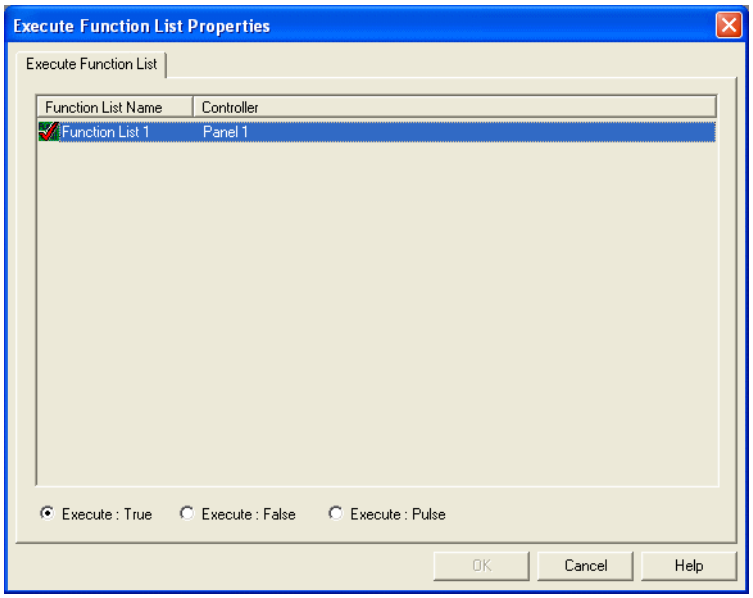
Elevator Terminal Mode Properties Window Procedures

Add an Elevator Terminal Mode Action

1. Open the Elevator Terminal Mode Properties window using the Action Group Library or Scheduler. For more information, refer to Open an Action Properties Window on page 1217.
2. Select an elevator terminal in the listing window.
3. Select an option in the **Mode** drop-down box.
4. Click [OK].

Execute Function List Properties Window

You can display the Execute Function List Properties window using the Action Group Library, Scheduler, Guard Tour, Acknowledgment Actions, or Global I/O. For more information, refer to Open an Action Properties Window on page 1217.



Note: If you have accessed this window via the Scheduler folder, the window will also contain the Schedule tab. For more information, refer to Chapter 22: Scheduler Folder on page 599.

Execute Function List Properties Window Field Table

Form Element	Comment
Function List listing window	Displays a list of available function lists which have been configured in the system.
Execute: True	When configuring a function list as an action, select this radio button if you want the action to execute the function list with an argument of "True."
Execute: False	When configuring a function list as an action, select this radio button if you want the action to execute the function list with an argument of "False."
Execute: Pulse	When configuring a function list an action, select this radio button if you want the action to execute the function list with an argument of "Pulse."
OK	Click this button to add the action and exit out of the Execute Function List Properties window.
Cancel	Click this button to exit the Execute Function List Properties window without adding the action.
Help	Click this button to display online help for this window.

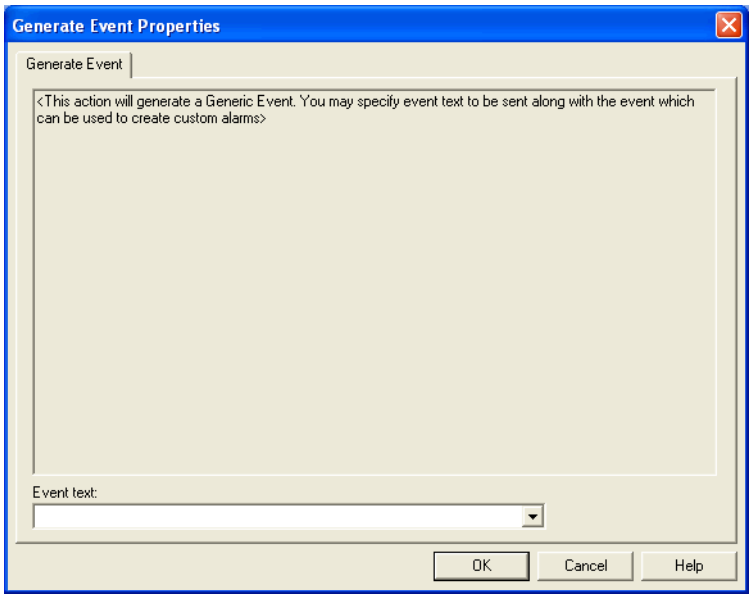
Execute Function List Properties Window Procedures

Add an Execute Function List Action

1. Open the Execute Function List Properties window, using the Action Group Library, Scheduler, Guard Tour, Acknowledgment Actions, or Global I/O. For more information, refer to Open an Action Properties Window on page 1217.
2. Select (place a checkmark beside) an entry in the Function List listing window.
3. Do one of the following:
   - Select the **Execute: True** radio button if you want this action to execute the function list with an argument of "True."
   - Select the **Execute: False** radio button if you want this action to execute the function list with an argument of "False."
   - Select the **Execute: Pulse** radio button if you want this action to execute the function list with an argument of "Pulse."
4. Click [OK].

Generate Event Properties Window

You can display the Generate Event Properties window using the Action Group Library or Scheduler. For more information, refer to Open an Action Properties Window on page 1217.



Generate Event Properties Window Field Table

Form Element	Comment
Event text	Type your custom event text here. You must create your own event text for this event.
OK	Click this button to add the action and exit out of the window.
Cancel	Click this button to exit the window without adding the action.
Help	Click this button to display online help for this window.

Elevator Terminal Mode Properties Window Procedures

Add an Elevator Mode Action

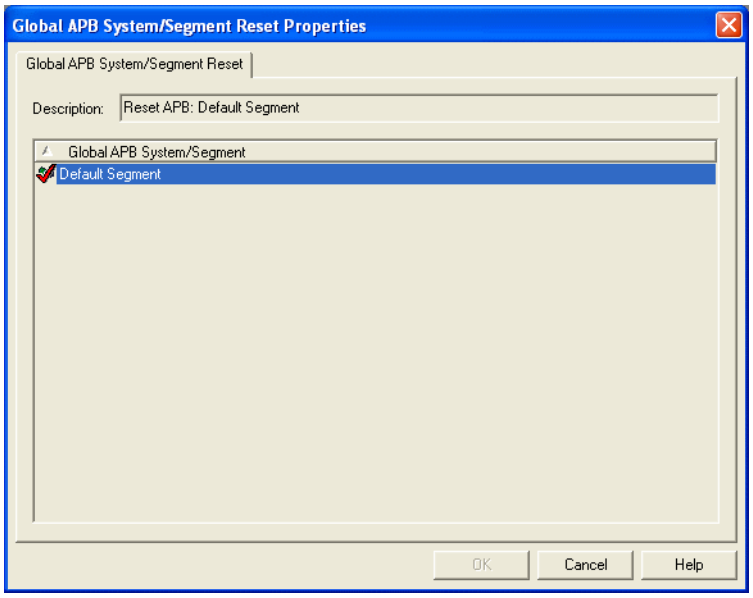
1. Open the Elevator Terminal Mode Properties window using the Action Group Library or Scheduler. For more information, refer to Open an Action

Properties Window on page 1217.

2. Select an elevator terminal in the listing window.
3. Select an option in the **Mode** drop-down box.
4. Click [OK].

Global APB System/Segment Reset Properties Window

You can display the Global APB System/Segment Reset Properties window using the Action Group Library or Scheduler. For more information, refer to Open an Action Properties Window on page 1217.



Global APB System/Segment Reset Properties Window Field Table

Form Element	Comment
Description	Displays a description of the selected global APB system/segment.
Global APB System/Segment listing window	Displays a list of the segments available for this action.
OK	Click this button to add the action and exit out of the Global APB System/Segment Reset Properties window.
Cancel	Click this button to exit the Global APB System/Segment Reset Properties window without adding the action.
Help	Click this button to display online help for this window.

Global APB System/Segment Reset Properties Window Procedures

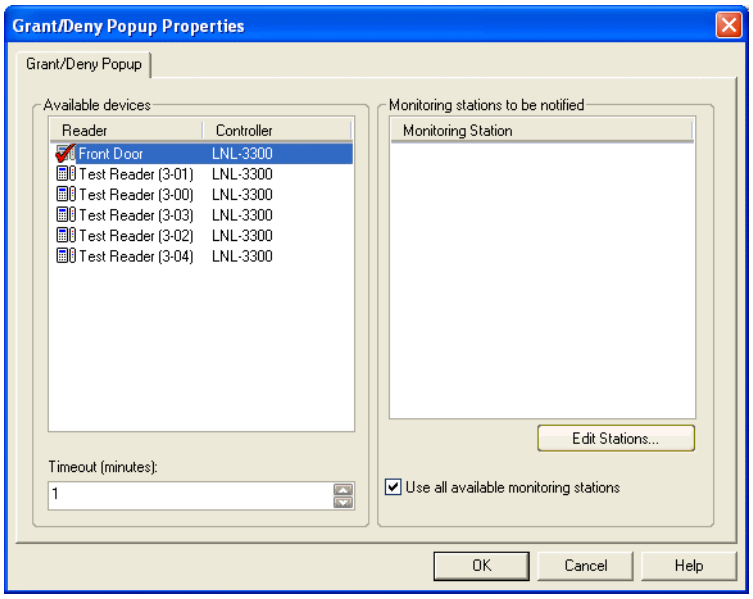
Add a Global APB System/Segment Reset Action

Note: Global APB must be configured on your system in order to add this action.

1. Open the Global APB System/Segment Reset Properties window, using the Action Group Library or Scheduler. For more information, refer to Open an Action Properties Window on page 1217.
2. Select (place a checkmark beside) a segment from the Global APB System/Segment listing window.
3. Click [OK]. If segmentation is enabled, this action will reset APB for the selected segment. If segmentation is not enabled, this action will reset APB for your entire system.

Grant/Deny Popup Properties Window

You can display the Grant/Deny Popup Properties window using the Global I/O. For more information, refer to Open an Action Properties Window on page 1217.



Grant/Deny Popup Properties Window Field Table

Form Element	Comment
Available devices listing window	Displays a list of readers that are available for selection and the controllers that are associated with each.
Timeout (minutes)	When a grant/deny popup action is executed, a notification is displayed in Alarm Monitoring. The notification informs the Alarm Monitoring operator that a request has been made to access a door. The operator will then have the ability to issue a grant (open door request) or a deny. In this field, enter the number of minutes that you want the grant/deny popup notification to be displayed in Alarm Monitoring. You can enter a minimum of 1 and a maximum of 60 minutes.
Monitoring stations to be notified listing window	Displays a list of monitoring stations that are available for selection.
Edit Stations	Click to open the Select Monitoring Stations To Be Notified window. Here you can select specific monitoring stations to be notified instead of all monitoring stations.
Use all available monitoring stations	Enable to notify all available monitoring stations in the database.
OK	Click this button to add the action and exit out of the Grant/Deny Popup Properties window.
Cancel	Click this button to exit the Grant/Deny Popup Properties window without adding the action.
Help	Click this button to display online help for this window.

Grant/Deny Popup Properties Window Procedures

Add a Grant/Deny Popup Action

1. Open the Grant/Deny Popup Properties window, using the Global I/O. For more information, refer to Open an Action Properties Window on page 1217.
2. When a grant/deny popup action is executed, a notification is displayed in Alarm Monitoring. The notification informs the Alarm Monitoring operator that a request has been made to access a door. The operator will then have the ability to issue a grant (open door request) or a deny. From the Reader/

Controller listing window, select the door that you want to configure for this grant/deny popup action.

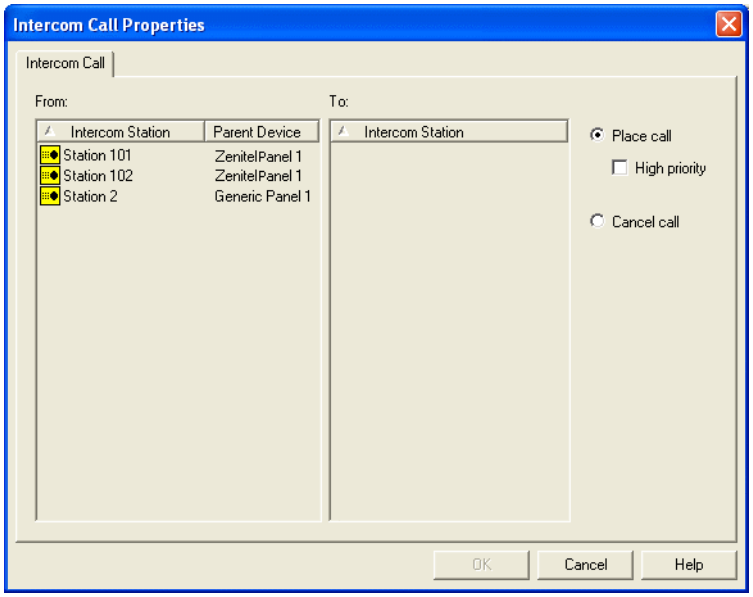
3. In the **Timeout (minutes)** field, enter the number of minutes that you want the grant/deny popup notification to be displayed in Alarm Monitoring. You can enter a minimum of 1 and a maximum of 60 minutes.
4. In the Monitoring stations to be notified listing window select the monitoring stations to be notified of a grant/deny popup action.
   a. Click [Edit Stations] to select specific monitoring stations or select the **Use all available monitoring stations** check box to select all of the monitoring stations.
5. Click [OK].

Intercom Call Properties Window

You can display the Intercom Call Properties window using Global I/O. For more information, refer to Open an Action Properties Window on page 1217.

The Intercom Call action is available from the Global I/O only. If you create an action group that includes the Intercom Call action, you will not be able to add this group to the Scheduler, Guard tour, or Acknowledgment Actions. This group can only be added to the Global I/O.

Note: In order to execute the action, Global I/O should have a linkage configured on a device, event, and badge ID that is passed to the action at runtime.



Note: If you have accessed this window via the Scheduler folder, the window will also contain the Schedule tab. For more information, refer to Chapter 22: Scheduler Folder on page 599.

Form Element	Comment
From listing window	Displays a list of available intercom stations which have been configured in the system.
To listing window	Lists the intercom stations that have the same parent device as the intercom station which is selected in the **From** listing window. **Note:** This field is only enabled when the **Place call** radio button is selected.

Form Element	Comment
Place call	When configuring an intercom call as an action, select this radio button if you want the action to place an intercom call.
High priority	When configuring an intercom call as an action, select this check box if you want the action to be a high priority. **Note:** This field is only enabled when the **Place call** radio button is selected.
Cancel call	When configuring an intercom call as an action, select this radio button if you want the action to cancel a call.
OK	Click this button to add the action and exit out of the **Intercom Call Properties** window.
Cancel	Click this button to exit the **Intercom Call Properties** window without adding the action.
Help	Click this button to display online help for this window.

Intercom Call Properties Window Procedures

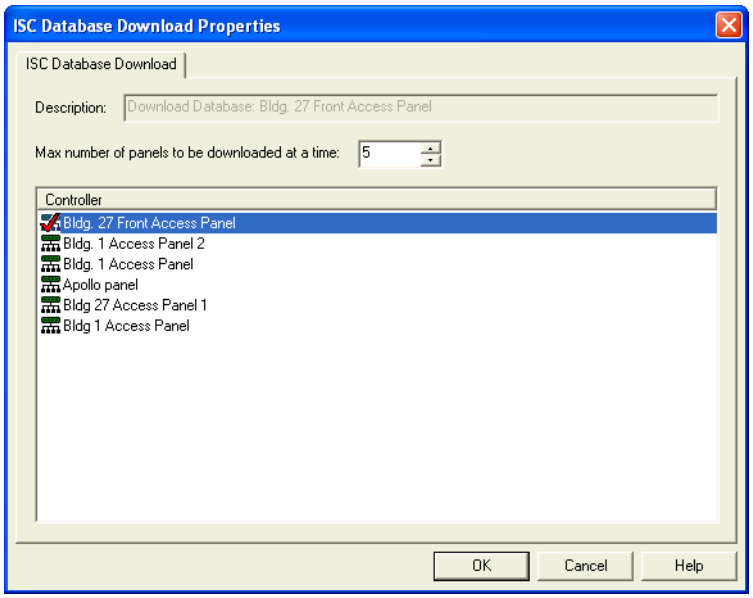
Add an Intercom Call Action

The Intercom Call action is available from the Global I/O only. If you create an action group that includes the Intercom Call action, you will not be able to add this group to the Scheduler or Guard tour.

1. Open the **Intercom Call Properties** window using Global I/O. For more information, refer to Open an Action Properties Window on page 1217.
2. Select (place a checkmark beside) an intercom station in the From listing window. This is the intercom station where the call will be sent from.
3. Do one of the following:
   - If you want the action to place a call:
     a. Select the **Place call** radio button if you want this action to place an intercom call.
     b. Select the **High priority** check box if you want this action to be a high priority.
   - If you want the action to cancel a call:
     a. Select the **Cancel call** radio button.
     b. Proceed to step 5.
4. Click on an intercom station in the To listing window to select it. This is the intercom station where the call will be received.
5. Click [OK].

ISC Database Download Properties Window

You can display the ISC Database Download Properties window using the Action Group Library or Scheduler. For more information, refer to Open an Action Properties Window on page 1217.



Note: If you have accessed this window via the Scheduler folder, the window will also contain the Schedule tab. For more information, refer to Chapter 22: Scheduler Folder on page 599.

ISC Database Download Properties Window Field Table

Form Element	Comment
Description	Displays a description of the access panel which is selected in the Access Panel listing window. **Note:** This field only displays a description when one and only one access panel is selected.
Max number of panels to be downloaded at a time	When configuring a database download as an action, select the maximum number of access panels that can be downloaded at a time.
Controller listing window	Displays a list of available controllers that have been configured in the system.
OK	Click this button to add the action and exit out of the ISC Database Download Properties window.
Cancel	Click this button to exit the ISC Database Download Properties window without adding the action.
Help	Click this button to display online help for this window.

ISC Database Download Properties Window Procedures

Add an ISC Database Download Action

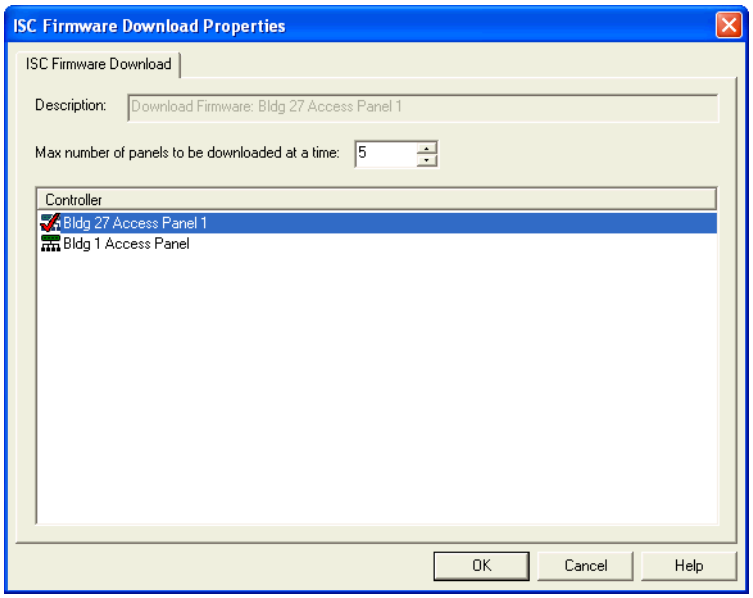
1. Open the ISC Database Download Properties window using the Action Group Library or Scheduler. For more information, refer to Open an Action Properties Window on page 1217.
2. Select the max number of panels to be downloaded at a time.
3. From the Access Panel listing window, click on an entry to select it.

Note: You can select multiple entries.

4. Click [OK].

ISC Firmware Download Properties Window

You can display the ISC Firmware Download Properties window using the Action Group Library or Scheduler. For more information, refer to Open an Action Properties Window on page 1217.



Note: If you have accessed this window via the Scheduler folder, the window will also contain the Schedule tab. For more information, refer to Chapter 22: Scheduler Folder on page 599.

ISC Firmware Download Properties Window Field Table

Form Element	Comment
Description	Displays a description of the access panel which is selected in the Access Panel listing window. **Note:** This field only displays a description when one and only one access panel is selected.
Max number of panels to be downloaded at a time	When configuring a firmware download as an action, select the maximum number of access panels that can be downloaded at a time.
Controller listing window	Displays a list of available controllers that have been configured in the system.
OK	Click this button to add the action and exit out of the ISC Firmware Download Properties window.
Cancel	Click this button to exit the ISC Firmware Download Properties window without adding the action.
Help	Click this button to display online help for this window.

ISC Firmware Download Properties Window Procedures

Add an ISC Firmware Download Action

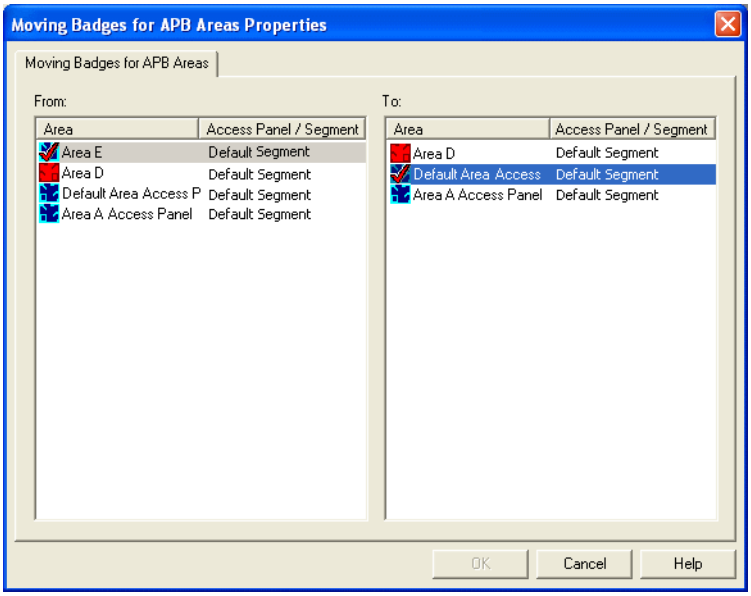
1. Open the ISC Firmware Download Properties window, using the Action Group Library or Scheduler. For more information, refer to Open an Action Properties Window on page 1217.
2. Select the max number of panels to be downloaded at a time.
3. From the Access Panel listing window, click on an entry to select it.

Note: You can select multiple entries.

4. Click [OK].

Moving Badges for APB Areas Properties Window

You can display the Moving Badges for APB Areas Properties window using Action Group Library, Scheduler, or Global I/O. For more information, refer to Open an Action Properties Window on page 1217.



Note: If you have accessed this window via the Scheduler folder, the window will also contain the Schedule tab. For more information, refer to Chapter 22: Scheduler Folder on page 599.

Form Element	Comment
From listing window	Displays a list of areas that are available for selection.
To listing window	Displays a list of areas that are available for selection.
OK	Click this button to add the action and exit out of the Moving Badges for APB Areas Properties window.
Cancel	Click this button to exit the Moving Badges for APB Areas Properties window without adding the action.
Help	Click this button to display online help for this window.

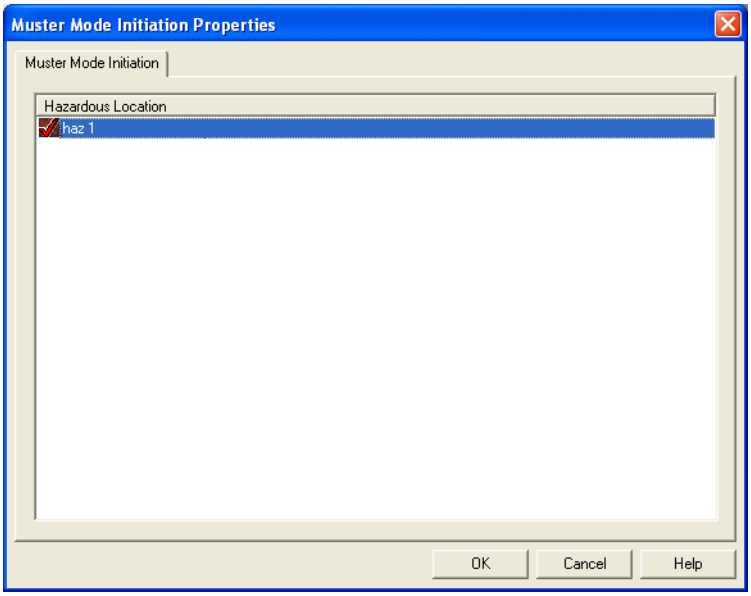
Moving Badges for APB Areas Properties Window Procedures

Add a Moving Badges for APB Areas Action

1. Open the Moving Badges for APB Areas Properties window using the Action Group Library, Scheduler, or Global I/O. For more information, refer to Open an Action Properties Window on page 1217.
2. In the From listing window, select (place a checkmark beside) the area that you want to move badges from when this action is executed.
3. In the To listing window, select (place a checkmark beside) the area that you want to move badges to when this action is executed.
4. Click [OK].

Muster Mode Initiation Properties Window

You can display the Muster Mode Initiation Properties window using the Global I/O. For more information, refer to Open an Action Properties Window on page 1217.



Form Element	Comment
Hazardous Location listing window	Displays a list of available hazardous locations that have been configured in the system.
OK	Click this button to add the action and exit out of the Muster Mode Initiation Properties window.
Cancel	Click this button to exit the Muster Mode Initiation Zone Properties window without adding the action.
Help	Click this button to display online help for this window.

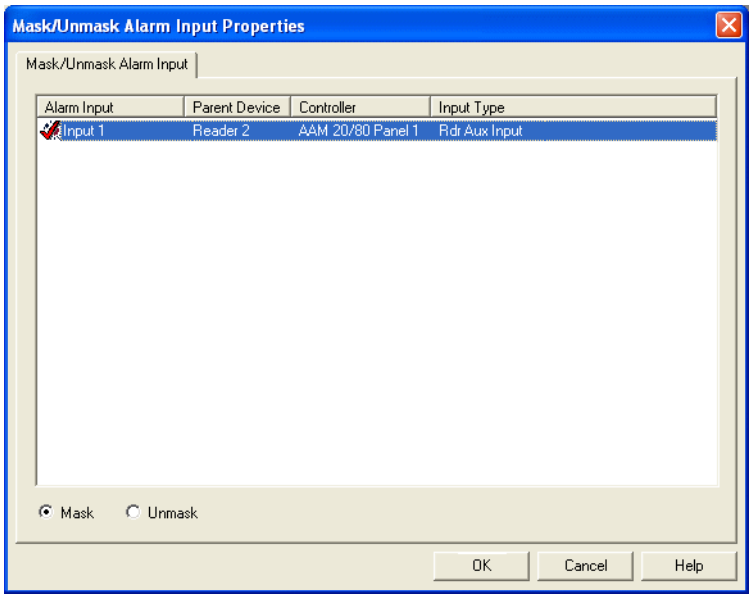
Muster Mode Initiation Properties Window Procedures

Add a Muster Mode Initiation Action

1. Open the Muster Mode Initiation Properties window using Global I/O. For more information, refer to Open an Action Properties Window on page 1217.
2. From the listing window, click on an entry to select it.
3. Click [OK]. This action is now configured to initiate muster mode in the selected hazardous location. (Refer to the Areas folder chapter in this user guide for more information on mustering.)

Mask/Unmask Alarm Input Properties Window

You can display the Mask/Unmask Alarm Input Properties window using the Action Group Library, Scheduler, Guard Tour, Acknowledgment Actions, or Global I/O.



Note: If you have accessed this window via the Scheduler folder, the window will also contain the Schedule tab. For more information, refer to Chapter 22: Scheduler Folder on page 599.

Mask/Unmask Alarm Input Properties Window Field Table

Form Element	Comment
Alarm Input listing window	Displays a list of available alarm inputs which have been configured in the system.
Mask	When configuring a mask/unmask alarm input action, select this radio button if you want the alarm input to be masked. When alarm inputs are masked, they are not reported to the Alarm Monitoring application or stored in the database for later event reporting.
Unmask	When configuring a mask/unmask alarm input action, select this radio button if you want the alarm input to be unmasked. When alarm inputs are unmasked, they are reported to the Alarm Monitoring application and are stored in the database for later event reporting.
OK	Click this button to add the action and exit out of the Mask/Unmask Alarm Input Properties window.
Cancel	Click this button to exit the Mask/Unmask Alarm Input Properties window without adding the action.
Help	Click this button to display online help for this window.

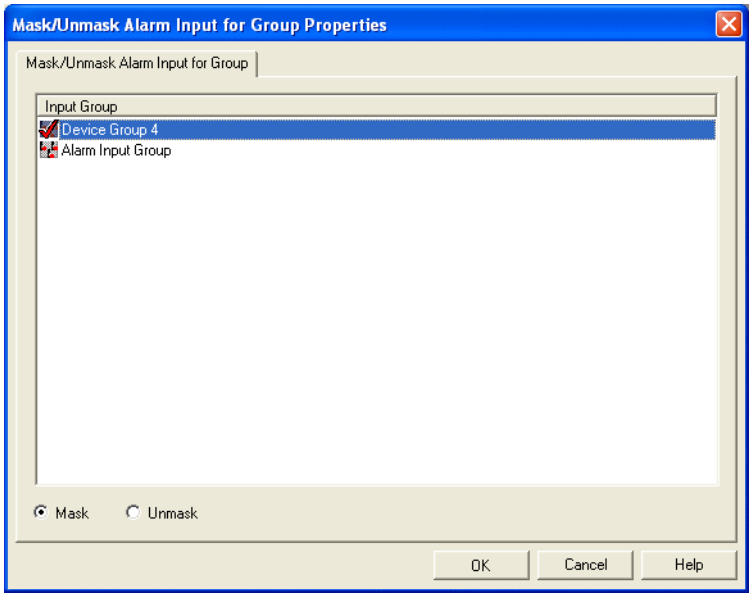
Mask/Unmask Alarm Input Properties Window Procedures

Add a Mask/Unmask Alarm Input Action

1. Open the Mask/Unmask Alarm Input Properties window using the Action Group Library, Scheduler, Guard Tour, Acknowledgment Actions, or Global I/O. For more information, refer to Open an Action Properties Window on page 1217.
2. From the Alarm Input listing window, click on an entry to select it.
3. Do one of the following:
   - Select the **Mask** radio button if you want the alarm input to be masked. When alarm inputs are masked, they are not reported to the Alarm Monitoring application or stored in the database for later event reporting.
   - Select the **Unmask** radio button if you want the alarm input to be unmasked. When alarm inputs are unmasked, they are reported to the Alarm Monitoring application and are stored in the database for later event reporting.
4. Click [OK].

Mask/Unmask Alarm Input for Group Properties Window

You can display the Mask/Unmask Alarm Input for Group Properties window using the Action Group Library, Scheduler, Guard Tour, Acknowledgment Actions, or Global I/O. For more information, refer to Open an Action Properties Window on page 1217.



Note: If you have accessed this window via the Scheduler folder, the window will also contain the Schedule tab. For more information, refer to Chapter 22: Scheduler Folder on page 599.

Mask/Unmask Alarm Input for Group Properties Window Field Table

Form Element	Comment
Input Group listing window	Displays a list of available alarm input groups which have been configured in the system.
Mask	When configuring a mask/unmask alarm input for group action, select this radio button if you want the group of alarm inputs to be masked. When alarm input groups are masked, they are not reported to the Alarm Monitoring application or stored in the database for later event reporting.
Unmask	When configuring a mask/unmask alarm input for group action, select this radio button if you want the group of alarm inputs to be unmasked. When alarm input groups are unmasked, they are reported to the Alarm Monitoring application and are stored in the database for later event reporting.
OK	Click this button to add the action and exit out of the Mask/Unmask Alarm Input for Group Properties window.
Cancel	Click this button to exit the Mask/Unmask Alarm Input for Group Properties window without adding the action.
Help	Click this button to display online help for this window.

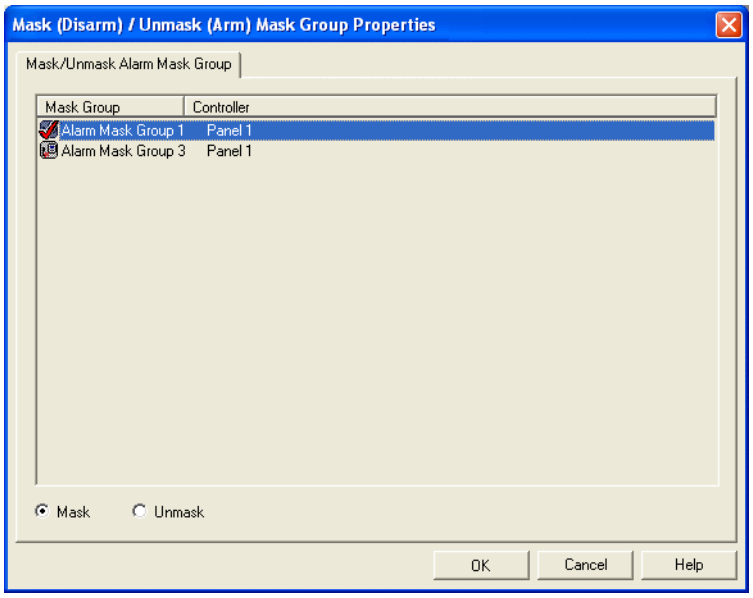
Mask/Unmask Alarm Input for Group Properties Window Procedures

Add a Mask/Unmask Alarm Input for Group Action

1. Open the Mask/Unmask Alarm Input for Group Properties window using the Action Group Library, Scheduler, Guard Tour, Acknowledgment Actions, or Global I/O. For more information, refer to Open an Action Properties Window on page 1217.
2. From the Input Group listing window, click on an entry to select it.
3. Do one of the following:
   - Select the **Mask** radio button if you want the alarm inputs in the group to be masked. When alarm inputs are masked, they are not reported to the Alarm Monitoring application or stored in the database for later event reporting.
   - Select the **Unmask** radio button if you want the alarm inputs in the group to be unmasked. When alarm inputs are unmasked, they are reported to the Alarm Monitoring application and are stored in the database for later event reporting.
4. Click [OK].

Mask (Disarm) / Unmask (Arm) Mask Group Properties Window

You can display the Mask/Unmask Alarm Mask for Group Properties window using the Action Group Library, Scheduler, Guard Tour, Acknowledgment Actions, or Global I/O. For more information, refer to Open an Action Properties Window on page 1217.



Note: If you have accessed this window via the Scheduler folder, the window will also contain the Schedule tab. For more information, refer to Chapter 22: Scheduler Folder on page 599.

Mask(Disarm)/Unmask(Arm) Mask Group Properties Window Field Table

Form Element	Comment
Mask Group listing window	Displays a list of available alarm mask groups which have been configured in the system.
Mask	When configuring a Mask (Disarm) / Unmask (Arm) Mask Group action, select this radio button if you want the mask group to be masked. When alarms are masked, they are not reported to the Alarm Monitoring application or stored in the database for later event reporting.
Unmask	When configuring a Mask (Disarm) / Unmask (Arm) Mask Group action, select this radio button if you want the mask group to be unmasked. When alarms are unmasked, they are reported to the Alarm Monitoring application and are stored in the database for later event reporting.
OK	Click this button to add the action and exit out of the Mask (Disarm) / Unmask (Arm) Mask Group Properties window.
Cancel	Click this button to exit the Mask (Disarm) / Unmask (Arm) Mask Group Properties window without adding the action.
Help	Click this button to display online help for this window.

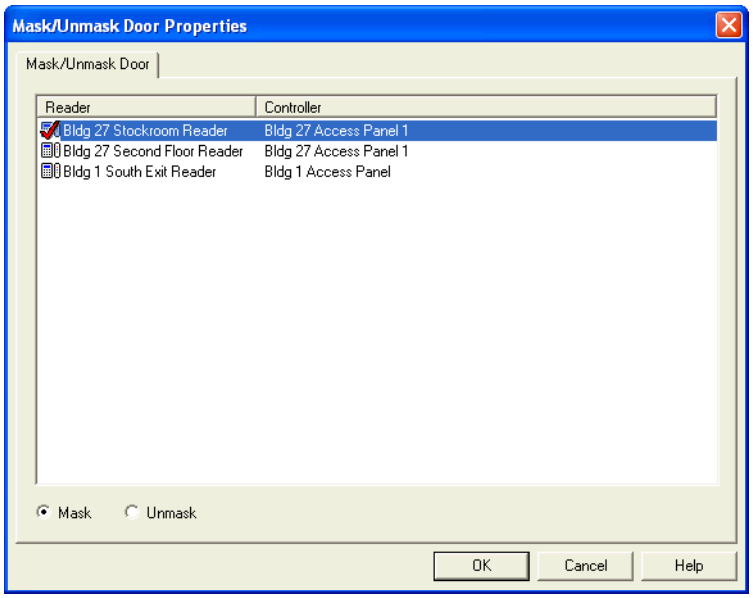
Mask (Disarm) / Unmask (Arm) Mask Group Properties Window Procedures

Add a Mask (Disarm) / Unmask (Arm) Mask Group Action

1. Open the Mask/Unmask Alarm Mask for Group Properties window using the Action Group Library, Scheduler, Guard Tour, Acknowledgment Actions, or Global I/O. For more information, refer to Open an Action Properties Window on page 1217.
2. Select (place a checkmark beside) and entry in the Mask Group listing window.
3. Do one of the following:
   - Select the **Mask** radio button if you want the mask group to be masked. When alarms are masked, they are not reported to the Alarm Monitoring application or stored in the database for later event reporting.
   - Select the **Unmask** radio button if you want the mask group to be unmasked. When alarms are unmasked, they are reported to the Alarm Monitoring application and are stored in the database for later event reporting.
4. Click [OK].

Mask/Unmask Door Properties Window

You can display the Mask/Unmask Door Properties window using the Action Group Library, Scheduler, Guard Tour, Acknowledgment Actions, or Global I/O. For more information, refer to Open an Action Properties Window on page 1217.



Note: If you have accessed this window via the Scheduler folder, the window will also contain the Schedule tab. For more information, refer to Chapter 22: Scheduler Folder on page 599.

Mask/Unmask Door Form Properties Window Table

Form Element	Comment
Reader/Controller listing window	Displays a list of readers that are available for selection and the controllers that are associated with each.
Mask	When configuring a mask/unmask door action, select this radio button if you want the action to be that the door is masked. When masked doors generate alarms, they are not reported to the Alarm Monitoring application or stored in the database for later event reporting.
Unmask	When configuring a mask/unmask door action, select this radio button if you want the action to be that the door is unmasked. When unmasked doors generate alarms, they are reported to the Alarm Monitoring application and are stored in the database for later event reporting.
OK	Click this button to add the action and exit out of the Mask/Unmask Door Properties window.
Cancel	Click this button to exit the Mask/Unmask Door Properties window without adding the action.
Help	Click this button to display online help for this window.

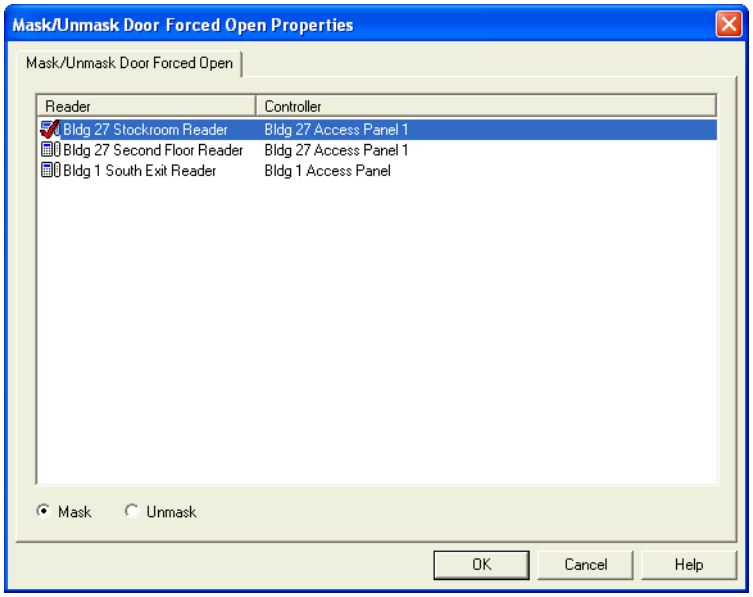
Mask/Unmask Door Properties Window Procedures

Add a Mask/Unmask Door Action

1. You can display the Mask/Unmask Door Properties window using the Action Group Library, Scheduler, Guard Tour, Acknowledgment Actions, or Global I/O. For more information, refer to Open an Action Properties Window on page 1217.
2. Select (place a checkmark beside) and entry in the Reader/Controller listing window.
3. Do one of the following:
   - Select the **Mask** radio button if you want the action to be that the door is masked. When masked doors generate alarms, they are not reported to the Alarm Monitoring application or stored in the database for later event reporting.
   - Select the **Unmask** radio button if you want the action to be that the door is unmasked. When unmasked doors generate alarms, they are reported to the Alarm Monitoring application and are stored in the database for later event reporting.
4. Click [OK].

Mask/Unmask Door Forced Open Properties Window

You can display the Mask/Unmask Door Forced Open Properties window using the Action Group Library, Scheduler, Guard Tour, Acknowledgment Actions, or Global I/O. For more information, refer to Open an Action Properties Window on page 1217.



Note: If you have accessed this window via the Scheduler folder, the window will also contain the Schedule tab. For more information, refer to Chapter 22: Scheduler Folder on page 599.

Mask/Unmask Door Forced Open Properties Window Field Table

Form Element	Comment
Reader/Controller listing window	Displays a list of available readers which have been configured in the system and the controllers that are associated with each.
Mask	When configuring a mask/unmask door forced open action, select this radio button if you want the door forced open alarm to be masked. When door forced open alarms are masked, they are not reported to the Alarm Monitoring application or stored in the database for later event reporting.
Unmask	When configuring a mask/unmask door forced open action, select this radio button if you want the door forced open alarm to be unmasked. When door forced open alarms are unmasked, they are reported to the Alarm Monitoring application and are stored in the database for later event reporting.
OK	Click this button to add the action and exit out of the Mask/Unmask Door Forced Open Properties window.
Cancel	Click this button to exit the Mask/Unmask Door Forced Open Properties window without adding the action.
Help	Click this button to display online help for this window.

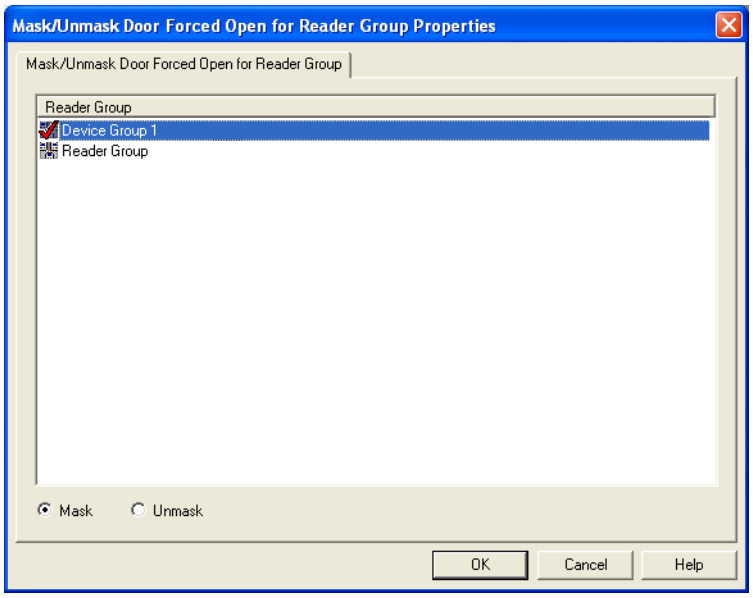
Mask/Unmask Door Forced Open Properties Window Procedures

Add a Mask/Unmask Door Forced Open Action

1. Open the Mask/Unmask Door Forced Open Properties window using the Action Group Library, Scheduler, Guard Tour, Acknowledgment Actions, or Global I/O. For more information, refer to Open an Action Properties Window on page 1217.
2. Select (place a checkmark beside) and entry in the Reader/Controller listing window.
3. Do one of the following:
   - Select the **Mask** radio button if you want door forced open alarms for the selected reader to be masked. When door forced open alarms are masked, they are not reported to the Alarm Monitoring application or stored in the database for later event reporting.
   - Select the **Unmask** radio button if you want the door forced open alarms for the selected reader to be unmasked. When door forced open alarms are unmasked, they are reported to the Alarm Monitoring application and are stored in the database for later event reporting.
4. Click [OK].

Mask/Unmask Door Forced Open for Reader Group Properties Window

You can display the Mask/Unmask Door Forced Open for Reader Group Properties window using the Action Group Library, Scheduler, Guard Tour, Acknowledgment Actions, or Global I/O. For more information, refer to Open an Action Properties Window on page 1217.



Note: If you have accessed this window via the Scheduler folder, the window will also contain the Schedule tab. For more information, refer to Chapter 22: Scheduler Folder on page 599.

Mask/Unmask Door Forced Open for Reader Group Field Table

Form Element	Comment
Reader Group listing window	Displays a list of available reader groups which have been configured in the system.
Mask	When configuring a mask/unmask door forced open for reader group action, select this radio button if you want the door forced open alarms to be masked. When door forced open alarms are masked, they are not reported to the Alarm Monitoring application or stored in the database for later event reporting.
Unmask	When configuring a mask/unmask door forced open for reader group action, select this radio button if you want the door forced open alarms to be unmasked. When door forced open alarms are unmasked, they are reported to the Alarm Monitoring application and are stored in the database for later event reporting.
OK	Click this button to add the action and exit out of the Mask/Unmask Door Forced Open for Reader Group Properties window.
Cancel	Click this button to exit the Mask/Unmask Door Forced Open for Reader Group Properties window without adding the action.
Help	Click this button to display online help for this window.

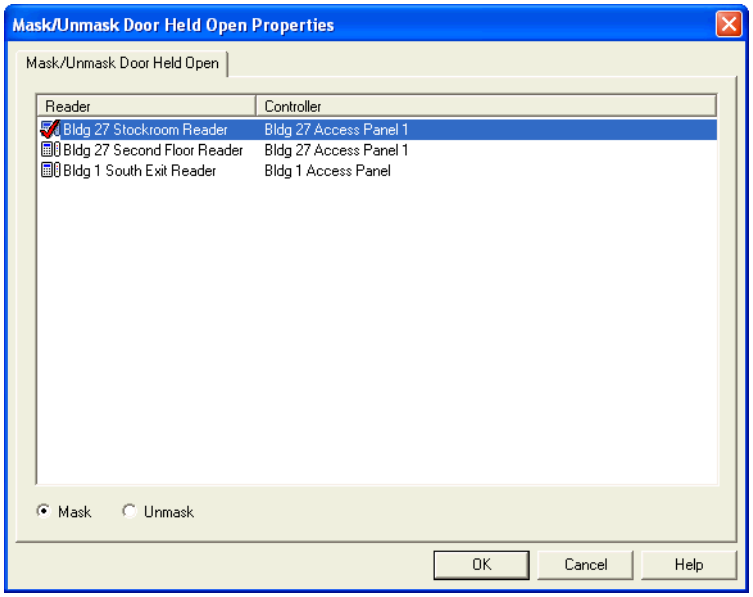
Mask/Unmask Door Forced Open for Reader Group Properties Window Procedures

Add a Mask/Unmask Door Forced Open for Reader Group Action

1. Open the Mask/Unmask Door Forced Open for Reader Group Properties window using the Action Group Library, Scheduler, Guard Tour, Acknowledgment Actions, or Global I/O. For more information, refer to Open an Action Properties Window on page 1217.
2. Select (place a checkmark beside) and entry in the Reader Group listing window.
3. Do one of the following:
   - Select the **Mask** radio button if you want door forced open alarms for the selected reader group to be masked. When door forced open alarms are masked, they are not reported to the Alarm Monitoring application or stored in the database for later event reporting.
   - Select the **Unmask** radio button if you want the door forced open alarms for the selected reader group to be unmasked. When door forced open alarms are unmasked, they are reported to the Alarm Monitoring application and are stored in the database for later event reporting.
4. Click [OK].

Mask/Unmask Door Held Open Properties Window

You can display the Mask/Unmask Door Held Open Properties window using the Action Group Library, Scheduler, Guard Tour, Acknowledgment Actions, or Global I/O. For more information, refer to Open an Action Properties Window on page 1217.



Note: If you have accessed this window via the Scheduler folder, the window will also contain the Schedule tab. For more information, refer to Chapter 22: Scheduler Folder on page 599.

Mask/Unmask Door Held Open Properties Window Field Table

Form Element	Comment
Reader/Controller listing window	Displays a list of available readers which have been configured in the system and the controllers that are associated with each.
Mask	When configuring a mask/unmask door held open action, select this radio button if you want the door held open alarm to be masked. When door held open alarms are masked, they are not reported to the Alarm Monitoring application or stored in the database for later event reporting.
Unmask	When configuring a mask/unmask door held open action, select this radio button if you want the door held open alarm to be unmasked. When door held open alarms are unmasked, they are reported to the Alarm Monitoring application and are stored in the database for later event reporting.
OK	Click this button to add the action and exit out of the Mask/Unmask Door Held Open Properties window.
Cancel	Click this button to exit the Mask/Unmask Door Held Open Properties window without adding the action.
Help	Click this button to display online help for this window.

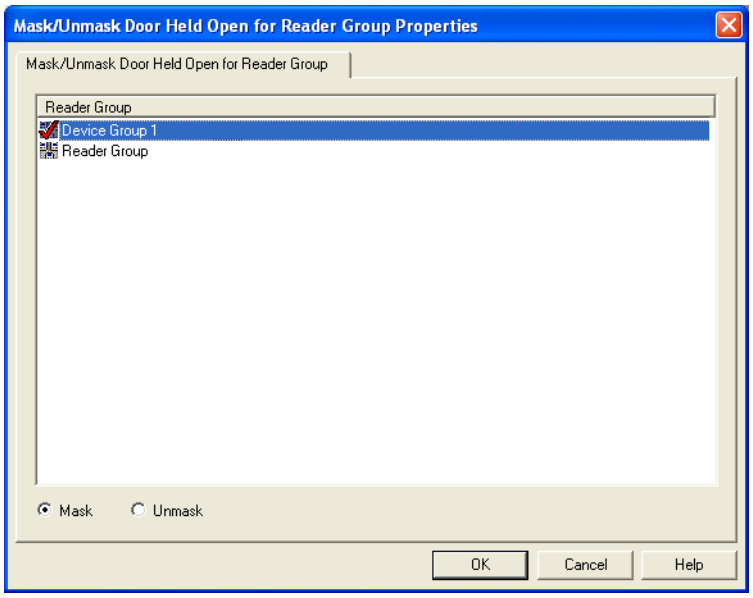
Mask/Unmask Door Held Open Properties Window Procedures

Add a Mask/Unmask Door Held Open Action

1. Open the Mask/Unmask Door Held Open Properties window using the Action Group Library, Scheduler, Guard Tour, Acknowledgment Actions, or Global I/O. For more information, refer to Open an Action Properties Window on page 1217.
2. Select (place a checkmark beside) and entry in the Reader/Controller listing window.
3. Do one of the following:
   - Select the **Mask** radio button if you want door held open alarms for the selected reader to be masked. When door held open alarms are masked, they are not reported to the Alarm Monitoring application or stored in the database for later event reporting.
   - Select the **Unmask** radio button if you want the door held open alarms for the selected reader to be unmasked. When door held open alarms are unmasked, they are reported to the Alarm Monitoring application and are stored in the database for later event reporting.
4. Click [OK].

Mask/Unmask Door Held Open for Reader Group Properties Window

You can display the Mask/Unmask Door Held Open for Reader Group Properties window using the Action Group Library, Scheduler, Guard Tour, Acknowledgment Actions, or Global I/O. For more information, refer to Open an Action Properties Window on page 1217.



Note: If you have accessed this window via the Scheduler folder, the window will also contain the Schedule tab. For more information, refer to Chapter 22: Scheduler Folder on page 599.

Mask/Unmask Door Held Open for Reader Group Field Table

Form Element	Comment
Reader Group listing window	Displays a list of available reader groups which have been configured in the system.
Mask	When configuring a mask/unmask door held open for reader group action, select this radio button if you want the door held open alarms to be masked. When door held open alarms are masked, they are not reported to the Alarm Monitoring application or stored in the database for later event reporting.
Unmask	When configuring a mask/unmask door held open for reader group action, select this radio button if you want the door held open alarms to be unmasked. When door held open alarms are unmasked, they are reported to the Alarm Monitoring application and are stored in the database for later event reporting.
OK	Click this button to add the action and exit out of the Mask/Unmask Door Held Open for Reader Group Properties window.
Cancel	Click this button to exit the Mask/Unmask Door Held Open for Reader Group Properties window without adding the action.
Help	Click this button to display online help for this window.

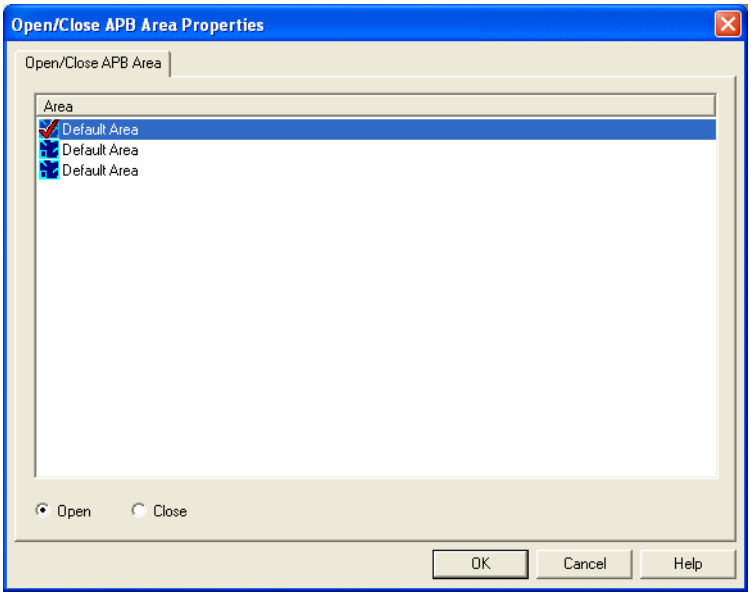
Mask/Unmask Door Held Open for Reader Group Properties Window Procedures

Add a Mask/Unmask Door Held Open for Reader Group Action

1. Open the Mask/Unmask Door Held Open for Reader Group Properties window using the Action Group Library, Scheduler, Guard Tour, Acknowledgment Actions, or Global I/O. For more information, refer to Open an Action Properties Window on page 1217.
2. From the Reader Group listing window, click on an entry to select it.
3. Do one of the following:
   - Select the **Mask** radio button if you want door held open alarms for the selected reader group to be masked. When door held open alarms are masked, they are not reported to the Alarm Monitoring application or stored in the database for later event reporting.
   - Select the **Unmask** radio button if you want the door held open alarms for the selected reader group to be unmasked. When door held open alarms are unmasked, they are reported to the Alarm Monitoring application and are stored in the database for later event reporting.
4. Click [OK].

Open/Close APB Area Properties Window

You can display the Mask/Unmask Door Held Open Properties window using the Action Group Library, Scheduler, Guard Tour, Acknowledgment Actions, or Global I/O. For more information, refer to Open an Action Properties Window on page 1217.



Note: If you have accessed this window via the Scheduler folder, the window will also contain the Schedule tab. For more information, refer to Chapter 22: Scheduler Folder on page 599.

Form Element	Comment
Area listing window	Displays a list of areas that are available for selection.
Open	When configuring an open/close APB area action, select this radio button if you want the action to be that the APB area opens.
Close	When configuring an open/close APB area action, select this radio button if you want the action to be that the APB area closes.
OK	Click this button to add the action and exit out of the Open/Close APB Area Properties window.
Cancel	Click this button to exit the Open/Close APB Area Properties window without adding the action.
Help	Click this button to display online help for this window.

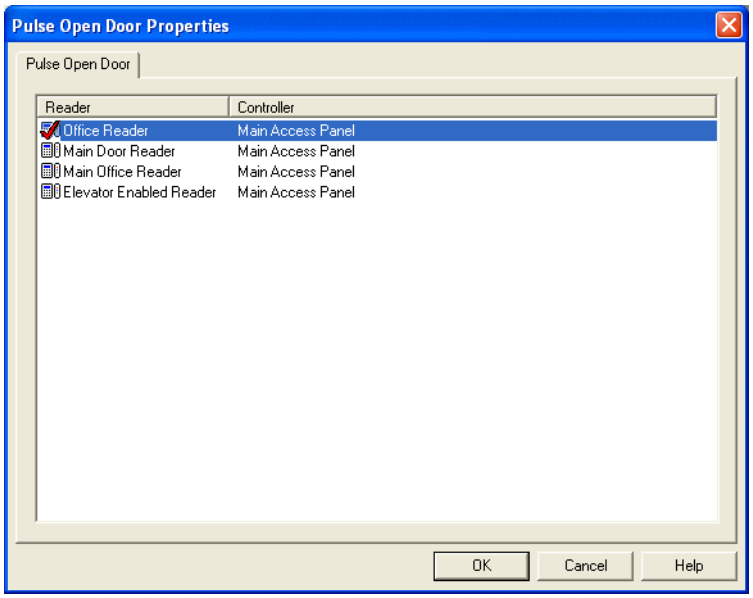
Open/Close APB Area Properties Window Procedures

Add an Open/Close APB Area Action

1. Open the Mask/Unmask Door Held Open Properties window using the Action Group Library, Scheduler, Guard Tour, Acknowledgment Actions, or Global I/O. For more information, refer to Open an Action Properties Window on page 1217.
2. Select an area from the listing window.
3. Do one of the following:
   - Select the **Open** radio button if you want the action to be that the APB area opens.
   - Select the **Close** radio button if you want the action to be that the APB area closes.
4. Click [OK].

Pulse Open Door Properties Window

You can display the Pulse Open Door Properties window using the Action Group Library, Scheduler, Guard Tour, Acknowledgment Actions, or Global I/O. For more information, refer to Open an Action Properties Window on page 1217.



Note: If you have accessed this window via the Scheduler folder, the window will also contain the Schedule tab. For more information, refer to Chapter 22: Scheduler Folder on page 599.

Pulse Open Door Properties Window Field Table

Form Element	Comment
Reader/controller listing window	Displays a list of available readers which have been configured in the system and the controllers that are associated with each.
OK	Click this button to add the action and exit out of the Pulse Open Door Properties window.
Cancel	Click this button to exit the Pulse Open Door Properties window without adding the action.
Help	Click this button to display online help for this window.

Pulse Open Door Properties Window Procedures

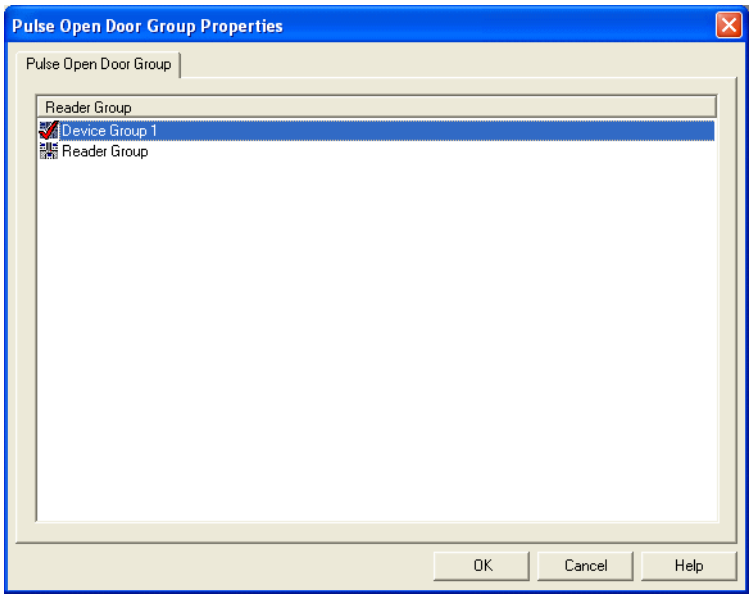
Add a Pulse Open Door Action

Note: The open door commands will not be available for those using Schlage Wireless Access readers, because those types of readers are not in constant communication with the PIM device.

1. Open the Pulse Open Door Properties window using the Action Group Library, Scheduler, Guard Tour, Acknowledgment Actions, or Global I/O. For more information, refer to Open an Action Properties Window on page 1217.
2. Select (place a checkmark beside) and entry in the listing window.
3. Click [OK]. The pulse open door action (the door opens and then closes) is now configured for the selected reader.

Pulse Open Door Group Properties Window

You can display the Pulse Open Door Group Properties window using the Action Group Library, Scheduler, Guard Tour, Acknowledgment Actions, or Global I/O. For more information, refer to Open an Action Properties Window on page 1217.



Note: If you have accessed this window via the Scheduler folder, the window will also contain the Schedule tab. For more information, refer to Chapter 22: Scheduler Folder on page 599.

Pulse Open Door Group Properties Window Field Table

Form Element	Comment
Reader Group listing window	Displays a list of available readers groups which have been configured in the system.
OK	Click this button to add the action and exit out of the Pulse Open Door Group Properties window.
Cancel	Click this button to exit the Pulse Open Door Group Properties window without adding the action.
Help	Click this button to display online help for this window.

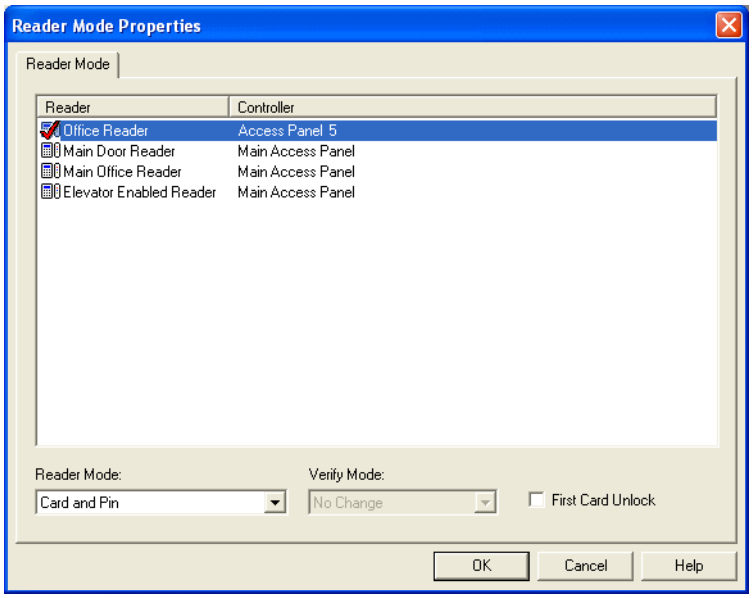
Pulse Open Door Group Properties Window Procedures

Add a Pulse Open Door Group Action

1. Open the Pulse Open Door Group Properties window using the Action Group Library, Scheduler, Guard Tour, Acknowledgment Actions, or Global I/O. For more information, refer to Open an Action Properties Window on page 1217.
2. Select (place a checkmark beside) and entry in the Reader Group listing window.
3. Click [OK]. The pulse open door group action (the doors open and then close) is now configured for the selected reader.

Reader Mode Properties Window

You can display the Reader Mode Properties window using the Action Group Library, Scheduler, Guard Tour, Acknowledgment Actions, or Global I/O. For more information, refer to Open an Action Properties Window on page 1217.



Note: If you have accessed this window via the Scheduler folder, the window will also contain the Schedule tab. For more information, refer to Chapter 22: Scheduler Folder on page 599.

Reader Mode Form Properties Window Table

Form Element	Comment
Reader/Controller listing window	Displays a list of available readers which have been configured in the system and the controllers that are associated with each.
Reader Mode	When configuring a reader mode action, select a mode from this drop-down list. Choices include: • Card Only • Facility Code Only • Locked • Card and Pin • Pin or Card • Unlocked • Default Reader Mode - Used to return a reader to its default online access mode.
Verify Mode	When configuring a reader mode action for a reader on a Bosch controller that is a primary reader to an alternate biometric reader, you can select a verify mode. When verify mode is enabled, for alternate reader support, the primary reader will ask for verification from the alternate reader. When configuring a reader mode action for a reader that is not a primary reader to an alternate biometric reader, this field is disabled.
First Card Unlock	Select this check box if you want the reader mode action to be that first card unlock mode is enabled. Doors configured with first card unlock will not unlock until valid personnel arrives. For example, rather than setting a lobby door to unlock at 9:00 am, you can leave it in a secure mode (i.e., card only, card and pin, etc.) and set the first card unlock to 9:00 am. The first person that comes in the door after 9:00 am will have to present their card. Once access is granted, the reader mode will change to unlocked. This feature is useful for days like “snow days” when employees can’t make it to work on time. **Note:** If the reader is in “Facility code only” mode, the first card unlock feature does not work.
OK	Click this button to add the action and exit out of the Reader Mode Properties window.
Cancel	Click this button to exit the Reader Mode Properties window without adding the action.
Help	Click this button to display online help for this window.

Reader Mode Properties Window Procedures

Add a Reader Mode Action

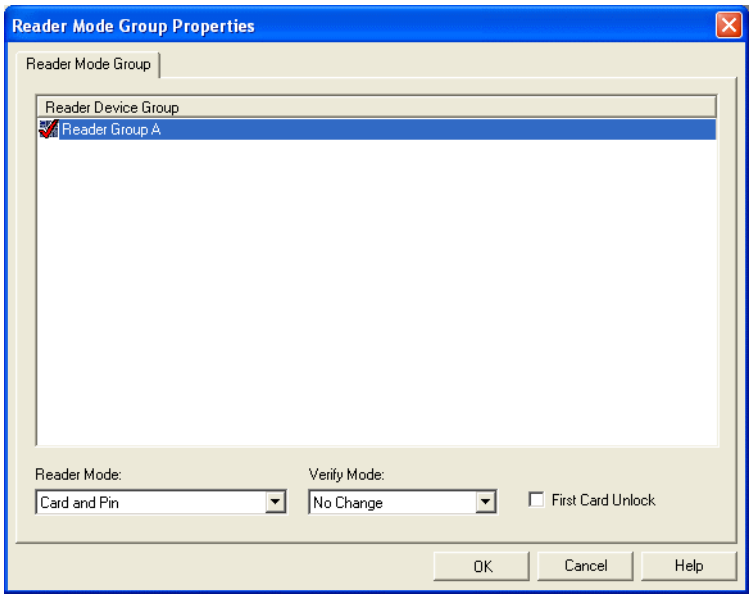
1. Open the Reader Mode Properties window using the Action Group Library, Scheduler, Guard Tour, Acknowledgment Actions, or Global I/O. For more

information, refer to Open an Action Properties Window on page 1217.

2. Select (place a checkmark beside) an entry in the Reader/Controller listing window.
3. From the **Reader Mode** drop-down list, select a reader mode for the selected reader/controller.
4. When configuring a reader mode action for a reader on a Bosch controller that is a primary reader to an alternate biometric reader, you can select a **Verify Mode**. When verify mode is enabled, for alternate reader support, the primary reader will ask for verification from the alternate reader.
5. Select the **First Card Unlock** check box if you want this reader mode action to enable first card unlock.
6. Click [OK].

Reader Mode Group Properties Window

You can display the Reader Mode Group Properties window using the Action Group Library, Scheduler, Guard Tour, Acknowledgment Actions, or Global I/O. For more information, refer to Open an Action Properties Window on page 1217.



Note: If you have accessed this window via the Scheduler folder, the window will also contain the Schedule tab. For more information, refer to Chapter 22: Scheduler Folder on page 599.

Reader Mode Group Properties Window Field Table

Form Element	Comment
Reader Device Group listing window	Displays a list of available reader groups which have been configured in the system.
Reader Mode	When configuring a reader mode action, select a mode from this drop-down list. Choices include: • Card Only • Facility Code Only • Locked • Card and Pin • Pin or Card • Unlocked • Default Reader Mode - Used to return a reader to its default online access mode.
Verify Mode	When configuring a reader mode group action for a group of readers on a Bosch controller that are primary readers to alternate biometric readers, you can select a verify mode. When verify mode is enabled, for alternate reader support, the primary reader will ask for verification from the alternate reader. When configuring a reader mode group action for readers that are not primary readers alternate biometric readers, this field is disabled.
First Card Unlock	Select this check box if you want the reader mode group action to be that first card unlock mode is enabled. Doors configured with first card unlock will not unlock until valid personnel arrives. For example, rather than setting a lobby door to unlock at 9:00 am, you can leave it in a secure mode (i.e., card only, card and pin, etc.) and set the first card unlock to 9:00 am. The first person that comes in the door after 9:00 am will have to present their card. Once access is granted, the reader mode will change to unlocked. This feature is useful for days like “snow days” when employees can’t make it to work on time. **Note:** If the reader is in “Facility code only” mode, the first card unlock feature does not work.
OK	Click this button to add the action and exit out of the Reader Mode Group Properties window.
Cancel	Click this button to exit the Reader Mode Group Properties window without adding the action.
Help	Click this button to display online help for this window.

Reader Mode Group Properties Window Procedures

Add a Reader Mode Group Action

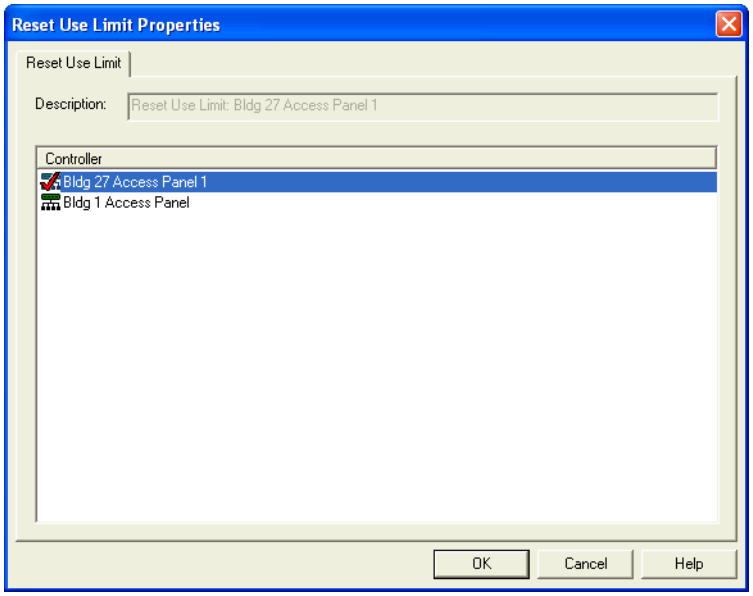
1. Open the Reader Mode Group Properties window using the Action Group Library, Scheduler, Guard Tour, Acknowledgment Actions, or Global I/O. For more information, refer to Open an Action Properties Window on

page 1217.

2. Select (place a checkmark beside) and entry in the Reader Device Group listing window.
3. From the **Reader Mode** drop-down list, select a reader mode for the selected reader group.
4. When configuring a reader mode group action for readers on a Bosch controller that are primary readers to alternate biometric readers, you can select a **Verify Mode**. When verify mode is enabled, for alternate reader support, the primary reader will ask for verification from the alternate reader.
5. Select the **First Card Unlock** check box if you want this reader mode group action to enable first card unlock.
6. Click [OK].

Reset Use Limit Properties Window

You can display the Reset Use Limit Properties window using the Action Group Library, Scheduler, Acknowledgment Actions, or Global I/O. For more information, refer to Open an Action Properties Window on page 1217.



Note: If you have accessed this window via the Scheduler folder, the window will also contain the Schedule tab. For more information, refer to Chapter 22: Scheduler Folder on page 599.

Reset Use Limit Form Properties Window Table

Form Element	Comment
Description	When one controller is selected in the listing window, displays the text “Reset Use Limit:” followed by the controller name. For example, “Reset Use Limit: Front Door Bldg 1.” When more than one controller is selected in the listing window, this field is activated. Type in a descriptive name to identify the selected group of controllers.
Controller listing window	Displays a list of available controllers.
OK	Click this button to add the reset use limit action for the selected controller(s) and exit out of the Reset Use Limit Properties window. **Note:** Each time a use-limited badge is used at a reader, the badge’s use limit is decremented for the associated controller. A cardholder’s use limit is specified on the Badge form of the Cardholders folder. Whenever the cardholder swipes their badge at a reader where use limits are enforced, the cardholder’s use limit is reduced by one (1). When the use count reaches zero (0), the cardholder is unable to access use limit-enforced card readers on that controller.
Cancel	Click this button to exit the Reset Use Limit Properties window without adding the action.
Help	Click this button to display online help for this window.

Reset Use Limit Properties Window Procedures

Add a Reset Use Limit Action

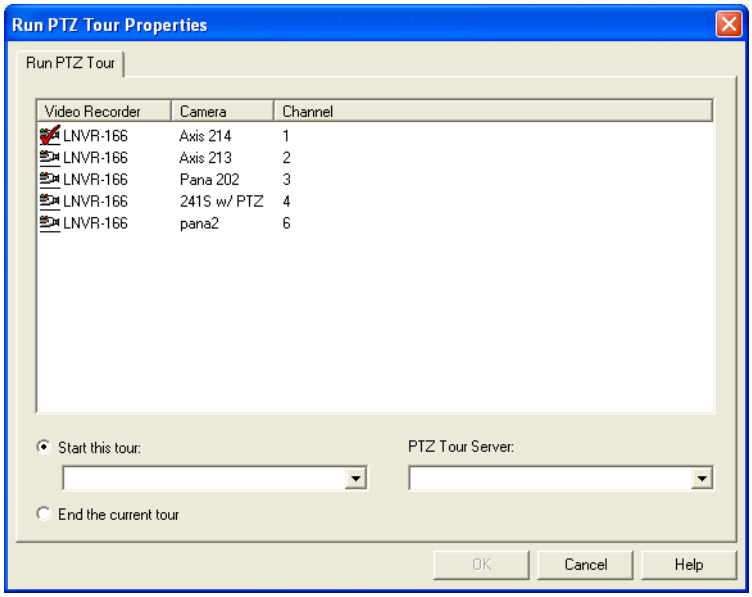
1. Open the Reset Use Limit Properties window using the Action Group Library, Scheduler, Acknowledgment Actions, or Global I/O. For more information, refer to Open an Action Properties Window on page 1217.
2. Select (place a checkmark beside) one or more controller from the listing window.
3. If you selected one controller from the listing window, skip this step. If you selected more than one controller from the listing window, type a descriptive name to identify the selected group of controllers in the **Description** field.
4. Click [OK].

Run PTZ Tour Properties Window

The Run PTZ Tour action type allows the user to start or end a continuous background PTZ tour. To use this action, a PTZ Tour Server must be configured in System Administration and a PTZ tour must be created in Alarm Monitoring.

Background PTZ tours can be interrupted by a user with a higher priority or by the user that started the tour. If a background PTZ tour is interrupted by the user that started it, the tour may fail to stop and control may not become available to the user. This issue will occur for any user of the same priority as the user who created the tour. In order for this not to occur, the user who creates the tour must have a priority lower than that of any user wishing to interrupt it.

You can open the Run PTZ Tour Action window using Scheduler or Global I/O. For more information, refer to Open an Action Properties Window on page 1217.



Form Element	Comment
Listing window	To display only PTZ cameras, add the following line to the **ACS.INI** file in the `[DigitalVideo]` section: `TestForPTZOnStartUp=1`
Start this tour	To begin a tour, select the radio button and choose a tour from the drop-down list.
PTZ Tour Server	Select the PTZ tour server that should run this tour.
End the current tour	Select this radio button to stop a tour that is currently running on the selected camera.

Run PTZ Tour Properties Window Procedures

Add a Run PTZ Tour Action

1. Open the Run PTZ Tour Action window using the Scheduler or Global I/O. For more information, refer to Open an Action Properties Window on page 1217.
2. Select (place a checkmark beside) the camera from the listing window.
3. To start a tour:
   a. Select the **Start this tour** radio button and select the tour from the drop-down list.
   b. Select the server to run the tour from the **PTZ Tour Server** drop-down list.

Note: Separate actions must be added to start and to end a PTZ tour. To end a tour, select the **End the current tour** radio button.

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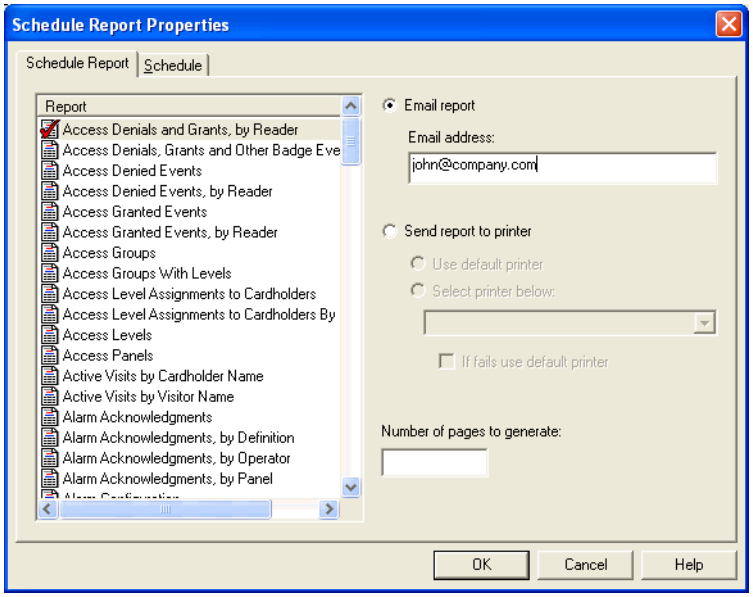
4. Click [OK].

Schedule Report Properties Window

The Schedule Report action type allows the user to either print a report or send a report in an email.

You can open the Schedule Report action window using Scheduler or Global I/O. For more information, refer to Open an Action Properties Window on page 1217.



Form Element	Comment
Report listing window	Displays a list of available reports.
Email report	Select this radio button if you want the scheduled report to be sent in an email. E-mail notification requires the GOS module to be configured and running. For more information, refer to the Global Output Devices Folder chapter in the System Administration User Guide.
Email address	Enter the email address where the scheduled report is to be sent.
Send Report to printer	Select this radio button if you want the scheduled report to print.
Use default printer	Select this radio button if you want the scheduled report to print from the workstation's default printer.
Select printer below	Select this radio button and choose a printer from the drop-down list if you want the scheduled report to print to a printer other than the workstation's default printer. **Note:** The choices in the drop-down list are printers that are available for the computer running the linkage server and not for the workstation that the action is being configured on.

Form Element	Comment
If fails use default printer	If you selected the **Select printer below** radio button, select this check box if you want to print from the default printer if the selected printer does not exist. **Note:** Due to a limitation of Crystal Reports this setting is not enforced if the printer exists but is not accessible under the linkage server account. When this occurs the report will automatically be printed from the default printer regardless of this setting. For more information, refer to Request Print Action Flowchart on page 1299.
Number or pages to generate	When configuring a scheduled report action, you can enter the number of pages that you want the report to have. This can be helpful when only a small section of a large report is needed.

Schedule Report Properties Window Procedures

Add a Schedule Report Action

1. Open the Schedule Report Properties window using the Action Group Library, Scheduler, Guard Tour, Acknowledgment Actions, or Global I/O. For more information, refer to Open an Action Properties Window on page 1217.
2. Select the report from the listing window.
3. Select whether the report is to be printed or sent in an email.
   - If the report is being sent in an email, select the **Email report** radio button and add an email address to the **Email Address** field.

Important: E-mail notification requires the GOS module to be configured and running. For more information, refer to the Global Output Devices Folder chapter in the System Administration User Guide.

   - If the report is being printed, select the **Send report to printer** radio button and select the printer to be used.
4. Select how many pages will be sent in an email or printed by entering a number in the **Number of pages to generate** field.
5. Click [OK].

Important: The Scheduled Report Action will not run unless the user who creates the action has an internal account. This is because the user account that creates the action is used to generate the report, and might not be configured for Single Sign-on at every workstation.

Request Print Action Flowchart

This flowchart shows how a report may get printed from the default printer although the **If fails use default printer** check box is NOT selected in the Report Print Properties window.

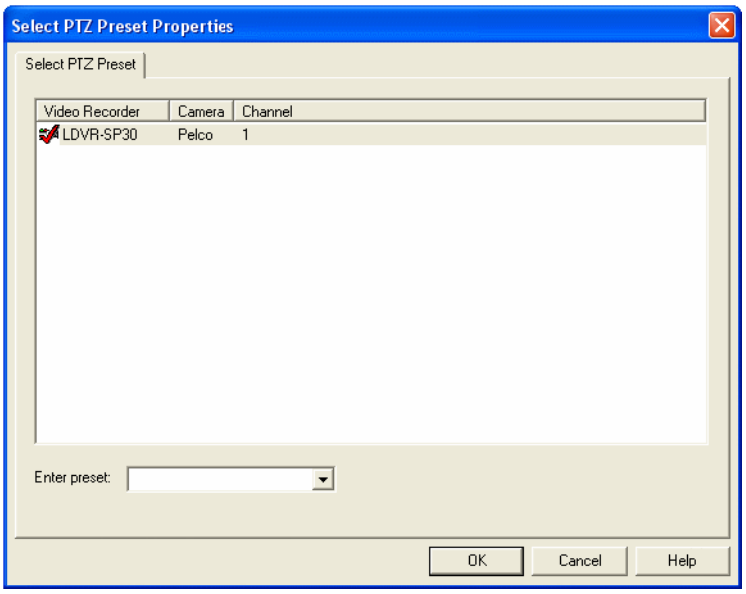
Select PTZ Preset Properties Window

The Select PTZ Preset action type allows users to select a preset for a PTZ camera to move to when the action is executed.

Notes: The camera must be online when you configure the action.

The camera must be online when the action executes.

You can display the Select PTZ Preset Properties window using the Action Group Library, Scheduler, Guard Tour, Acknowledgment Actions, or Global I/O. For more information, refer to Open an Action Properties Window on page 1217.



Note: If you have accessed this window via the Scheduler folder, the window will also contain the Schedule tab. For more information, refer to Chapter 22: Scheduler Folder on page 599.

Form Element	Comment
Listing window	To display only PTZ cameras, add the following line to the **ACS.INI** file in the `[DigitalVideo]` section: `TestForPTZOnStartUp=1` **Note:** The camera must be online when you configure the action and the camera must be online when the action executes.
Enter preset	Enter the camera side preset number or select a client side preset from the drop-down list.

Select PTZ Preset Properties Window Procedures

Add a Select PTZ Preset Action

1. Open the Select PTZ Preset Properties window using the Action Group Library, Scheduler, Guard Tour, Acknowledgment Actions, or Global I/O. For more information, refer to Open an Action Properties Window on page 1217.
2. Select (place a checkmark beside) the video recorder/camera/channel option from the listing window.

Note: The camera must be online when you configure the action and the camera must be online when the action executes.

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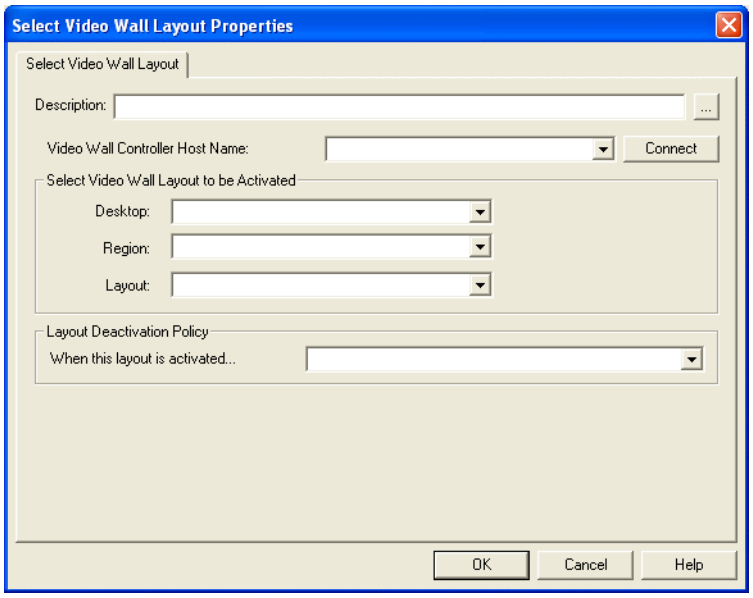
3. Enter a camera side preset value or select a client side preset from the drop-down list.
4. Click [OK].

Select Video Wall Layout Properties Window

The Select Video Wall Layout action type allows users to activate and deactivate pre-configured layouts on the Barco video wall. Before this action is configured, video wall layouts must be defined using external software such as the Barco Apollo Explorer.

You can display the Select Video Wall Layout Properties window using the Action Group Library, Scheduler, Guard Tour, Acknowledgment Actions, or Global I/O. For more information, refer to Open an Action Properties Window on

page 1217.



Note: If you have accessed this window via the Scheduler folder, the window will also contain the Schedule tab. For more information, refer to Chapter 22: Scheduler Folder on page 599.

Select Video Wall Layout Properties Window Field Table

Form Element	Comment
Description	A descriptive name for the action. After the Select Video Wall Layout to be Activate section of the dialog is configured, [...] can be used to automatically generate a name based on the controller, desktop, region, and layout names.
Video Wall Controller Host Name	Host name or IP address of the Barco Apollo server that controls the video wall. The drop-down list is populated by controller names that have been configured in other instances of the Select Video Wall Layout action.
Connect	Click to retrieve video wall layout information from the video wall controller to populate the drop-down lists in the Select Video Wall Layout to be Activated section.
Desktop	Identifies which physical video wall is being configured.
Region	If regions are enabled on the video wall, select one from the **Region** drop-down list. **Note:** Regions are used to logically separate content so that multiple users can work in parallel without affecting each other.
Layout	Identifies the layout to be activated by the action. Layouts are configured in the Barco Apollo Explorer.

Select Video Wall Layout Properties Window Field Table

Form Element	Comment
When this layout is activated...	Specifies the policy for deactivation of a layout that may be already active on the video wall. • Deactivate All Layouts - Deactivates all layouts that are active on the video wall regardless of region. • Deactivate Layouts in the Current Region - Deactivates layouts that are active in the region indicated in the **Region** drop-down list. • Do Not Deactivate Any Layouts - Adds the new layout without deactivating any currently active layouts.

Select Video Wall Layout Properties Window Procedures

Add a Select Video Wall Layout Action

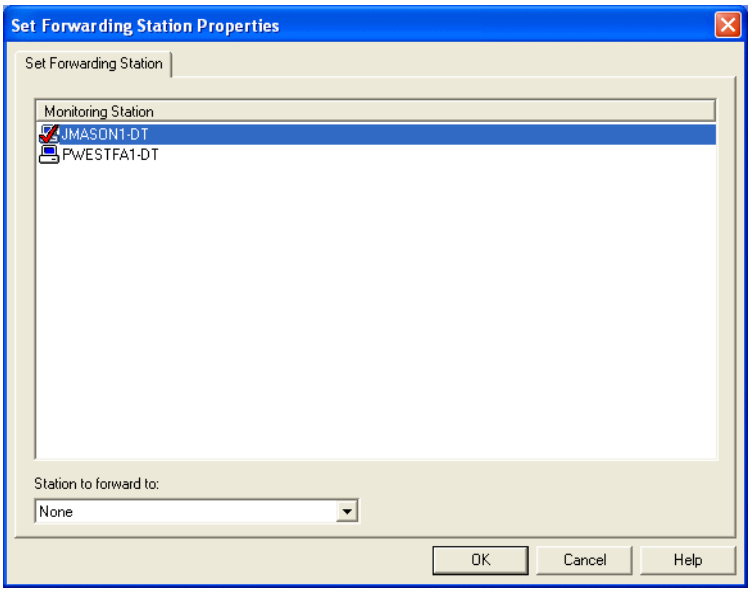
Before configuring this action, the video wall must be fully configured. For more information, refer to the Digital Video Hardware User Guide

1. Open the Select Video Wall Layout Properties window using the Action Group Library, Scheduler, Guard Tour, Acknowledgment Actions, or Global I/O. For more information, refer to Open an Action Properties Window on page 1217.
2. Enter the host name or IP address of the Barco Apollo server that controls the video wall in the **Video Wall Controller Host Name** field or select a controller from the drop-down list.
3. Select the **Desktop** name from the drop-down list.
4. If your Barco configuration utilizes regions, select the appropriate one from the **Region** drop-down list.
5. Select the **Layout** to activate from the drop-down list.
6. Specify the Layout Deactivation Policy by selecting an action for currently active layouts from the **When this layout is activated...** drop-down list.
   - Deactivate All Layouts - Deactivates all layouts that are active on the video wall regardless of region.
   - Deactivate Layouts in the Current Region - Deactivates layouts that are active in the region indicated in the **Region** drop-down list.
   - Do Not Deactivate Any Layouts - Adds the new layout without deactivating any currently active layouts.
7. Enter a descriptive name for the action or use [...] to generate a name for the **Description** field based on the selected desktop, region, and layout names.
8. Click [OK] to save the action.

Set Forwarding Station Properties Window

The Set Forwarding Station action allows you to change where a monitor station forwards its alarms. Using this action allows a monitor station to be configured to forward its alarms to a different monitoring station.

Note: The action is only valid for a scheduler invocation.



Set Forwarding Station Properties Window Field Table

Form Element	Comment
Monitor Station listing window	Lists the monitoring stations available. Select the monitoring station that is having its alarms forwarded.
Station to forward to	Select the monitor station you would like the alarms forwarded to.
OK	Click this button to add the action and exit out of the Set Forwarding Station properties window.
Cancel	Click this button to exit the Set Forwarding Station properties window without adding the action.
Help	Click this button to display online help for this window.

Set Forwarding Station Properties Window Procedures

Add a Set Forwarding Station Action

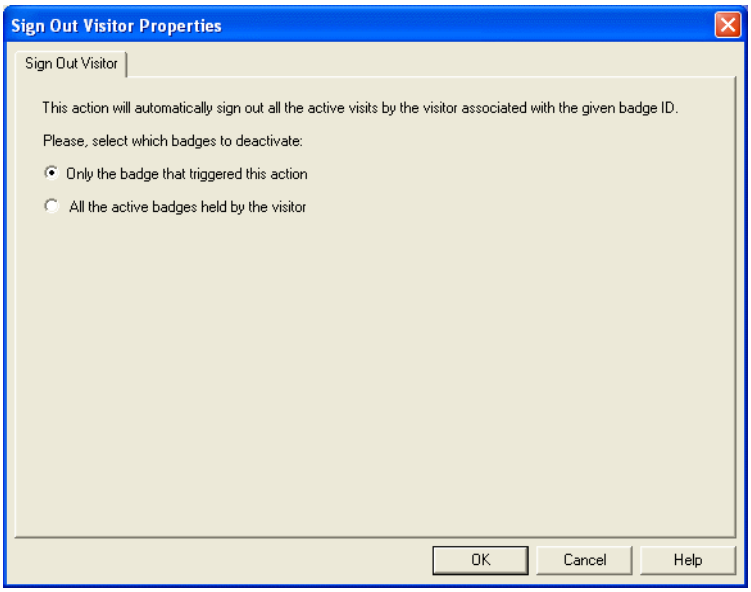
1. Open the Set Forwarding Station Properties window, using Global I/O. For more information, refer to Open an Action Properties Window on page 1217.
2. Choose the monitor station in the **Monitoring Station** list window. This will be the monitor station that has its alarms forwarded to another monitoring station.
3. In the **Station to forward to** drop-down box, choose the monitoring station that the alarms will be forwarded to.
4. Click [OK].

Sign Out Visitor Properties Window

The Sign Out Visitor action allows you to deactivate the badges of cardholders who have signed out of the system. You can further modify this action by choosing which of the cardholder's badges will be signed out, just the badge that triggered the action or all badges belonging to that cardholder.

You can display the Sign Out Visitor Properties window using Global I/O. For more information, refer to Open an Action Properties Window on page 1217.

Note: In segmented systems, the Sign Out Visitor Properties action must be applied to all segments.



Sign Out Visitor Properties Window Field Table

Form Element	Comment
Only the badge that triggered this action	Select if you want to deactivate only the badge that caused the visitor to sign out.
All the active badges held by the visitor	Select if you want all the badges belonging to the visitor to deactivate once the visitor is signed out.
OK	Click this button to add the action and exit out of the Sign Out Visitor properties window.
Cancel	Click this button to exit the Sign Out Visitor properties window without adding the action.
Help	Click this button to display online help for this window.

Sign Out Visitor Properties Window Procedures

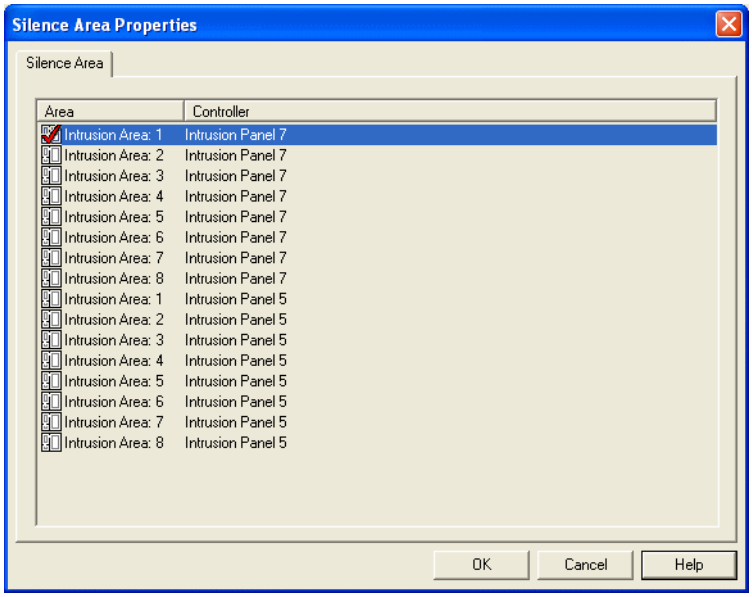
Add a Sign Out Visitor Action

1. Open the Sign Out Visitor Properties window, using Global I/O. For more information, refer to Open an Action Properties Window on page 1217.
2. Choose the options that suit your needs.
3. Click [OK].

Silence Area Properties Window

The Silence Area action allows an area (that uses a Bosch intrusion panel) to be silenced during an alarm from that panel.

You can display the Silence Area Properties window using the Action Group Library, Scheduler, Guard Tour, Acknowledgment Actions, or Global I/O. For more information, refer to Open an Action Properties Window on page 1217.



Note: If you have accessed this window via the Scheduler folder, the window will also contain the Schedule tab. For more information, refer to Chapter 22: Scheduler Folder on page 599.

Silence Area Properties Window Field Table

Form Element	Comment
Listing window	Lists currently enabled intrusion areas. Intrusion areas are configured on the Areas form in the Intrusion Detection Configuration folder. For more information, refer to Areas Form on page 1169.
OK	Click this button to add the action and exit out of the Silence Area Properties window.
Cancel	Click this button to exit the Silence Area Properties window without adding the action.
Help	Click this button to display online help for this window.

Silence Area Properties Window Procedures

Add a Silence Area Action

1. Open the Silence Area Properties window using the Action Group Library, Scheduler, Guard Tour, Acknowledgment Actions, or Global I/O. For more information, refer to Open an Action Properties Window on page 1217.
2. From the listing window, click on an entry to select it. The area you selected will now be silenced during an alarm from that panel.

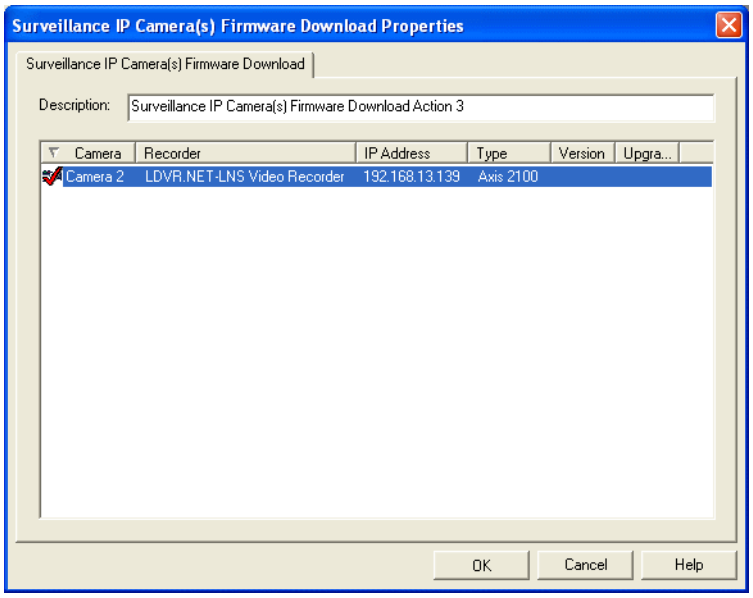
Important: The silence area action can only be used with Bosch intrusion panels.

3. Click [OK].

Surveillance IP Camera(s) Firmware Download Properties Window

The Surveillance IP Camera(s) Firmware Download action is for upgrading the firmware on surveillance only cameras in.

You can display the Surveillance IP Camera(s) Firmware Download Properties window using the Action Group Library or Scheduler.



Note: If you have accessed this window via the Scheduler folder, the window will also contain the Schedule tab. For more information, refer to Chapter 22: Scheduler Folder on page 599.

Surveillance IP Camera(s) Firmware Download Field Table

Form Element	Comment
Description	Displays a descriptive name for this action. A default name is automatically entered in this field, however, in modify mode you can enter any name you choose.
Camera listing window	Displays the names of the IP cameras that are available for selection.
OK	Click this button to add the action and exit out of the **Surveillance IP Camera(s) Firmware Properties** window.
Cancel	Click this button to exit the **Surveillance IP Camera(s) Firmware Properties** window without adding the action.
Help	Click this button to display online help for this window.

Surveillance IP Camera (s) Firmware Download Properties Window Procedures

Add a Surveillance IP Camera(s) Firmware Download Action

1. Open the **Surveillance IP Camera(s) Firmware Download Properties** window using the Action Group Library or Scheduler. For more information, refer to Open an Action Properties Window on page 1217.
2. In the **Description** field, enter a descriptive name for this action. If you would like to use the default name (which is automatically entered when you display the Surveillance IP Camera(s) Firmware Download Properties window), you can skip this step.
3. From the Camera listing window, select an IP camera.
4. Click [OK].

Appendix B: Alarm/Event Descriptions

Alarm	Event	Event Type	Description	Duress*
24 Hour Alarm	24 Hour Alarm	Trouble	A 24 hour alarm condition has been detected.	
24 Hour Alarm Restore	24 Hour Alarm Restore	Trouble	A 24 hour alarm condition has been restored.	
24 Hour Auto Test	24 Hour Auto Test	Trouble		
24 Hour Non-Burglary Alarm	24 Hour Non-Burglary Alarm	Trouble	A 24 hour non-burglary alarm condition has been detected.	
24 Hour Report Closed	24 Hour Report Closed	Trouble	A 24 Hour report on a closed zone	
24 Hour Report Open	24 Hour Report Open	Trouble	A 24 Hour report on an open zone	
24 Hour Zone Bypassed	24 Hour Zone Bypassed	Trouble	A 24 hour zone has been bypassed.	
24 Hour Zone Unbypassed	24 Hour Zone Unbypassed	Trouble	A 24 hour zone has been unbypassed.	
30 Minutes Since Fallback Command	30 Minutes Since Fallback Command	Trouble	30 minutes have passed since fallback command.	
32 Hour Event Log Marker	32 Hour Event Log Marker	System		
Abort	Abort	System	An event message was not sent due to User action	
AC Restore	AC Restore	System	AC power trouble has been restored.	
AC Trouble	AC Trouble	System	An AC power trouble condition has been detected.	
Accepted Biometric Score	Accepted Biometric Score	Biometric	This event returns the accepted biometric score. The actual access granted event is sent separately. This event is mainly used for diagnostic purposes.	
Access Closed	Access Closed	Denied	Access for all users prohibited.	
Access Code Used	Access Code Used	Denied	Access code was used.	
Access Denied	Access Denied	Denied	Access was denied.	

Alarm	Event	Event Type	Description	Duress*
Access Denied to Destination Floor	Access Denied to Destination Floor	Denied	Generated when a card was presented to a reader associated with an elevator terminal but the elevator assignment was not performed; used when elevator dispatching devices are present.	
Access Denied: Access Control Format Not Found	Access Denied: Access Control Format Not Found	Denied	Generated when there are no ACFs (Access Control Formats) stored at the lock.	
Access Denied: Area Empty	Access Denied	Denied	An event indicating that access was denied due to the room being empty.	Yes
Access Denied: Area Occupied	Access Denied	Denied	An event indicating that access was denied due to the room being empty.	Yes
Access Denied: Asset Required	Access Denied	Denied	An event indicating that access was denied since no asset was presented for the access attempt.	Yes
Access Denied: Biometric Reader Offline	Access Denied: Biometric Reader Offline	Denied	Generated when the alternate biometric reader could not be contacted for verification (was offline).	Yes
Access Denied: Card Expired	Access Denied: Card Expired	Denied	Card has expired.	
Access Denied: Escort Timeout Expired	Access Denied: Escort Timeout Expired	Denied	This event indicates that access was denied because a person requiring an escort attempted access but an escort did not present their credentials in the time period.	Yes
Access Denied: Door Secured	Access Denied: Door Secured	Denied	Access denied because door was secured.	
Access Denied: Interlock	Access Denied: Interlock	Denied	An access request was denied because the doors associated Interlock point is open.	
Access Denied: Invalid Access Control Data	Access Denied: Invalid Access Control Data	Denied	Failed to process Integra card data.	

Alarm	Event	Event Type	Description	Duress*
Access Denied: Invalid Access Control Data Length	Access Denied: Invalid Access Control Data Length	Denied	The length of the retrieved data did not match the length specified in selected ACF (Access Control Format).	
Access Denied: Invalid Access Control Data Parity	Access Denied: Invalid Access Control Data Parity	Denied	Parity calculations for retrieved data failed for selected ACF (Access Control Format).	
Access Denied: Invalid Access Control Data Type	Access Denied: Invalid Access Control Data Type	Denied	The type of retrieved data (Wiegand/Integra) did not match the ACF (Access Control Format) type.	
Access Denied: Invalid Smart Card Authentication	Access Denied: Invalid Smart Card Authentication	Denied	Failed to authenticate to the application specified by the selected SCF (Smart Card Format).	
Access Denied: Invalid Smart Card Data	Access Denied: Invalid Smart Card Data	Denied	Failed to retrieve HID application data; invalid header, invalid data length.	
Access Denied: Invalid Smart Card Location	Access Denied: Invalid Smart Card Location	Denied	Application data could not be located on the card based on the selected SCF (Smart Card Format).	
Access Denied: Invalid Smart Card Type	Access Denied: Invalid Smart Card Type	Denied	Either the card was not found in the field or the card failed to respond to the requested RF (Radio Frequency) protocol.	
Access Denied: No Biometric Template	Access Denied: No Biometric Template	Denied	Generated when the cardholder did not have a biometric template loaded in the database, so a verification could not be done.	Yes
Access Denied: No Occupant Approval	Access Denied: No Occupant Approval	Denied	An event indicating that access was denied due to no occupant approval.	Yes
Access Denied: Passback	Access Denied: Passback	Denied	Access was denied because the credential has not exited the area before attempting to re-enter same area.	
Access Denied: Reader Locked	Access Denied: Reader Locked	Denied	Generated when access was denied because the reader was locked.	Yes

Alarm	Event	Event Type	Description	Duress*
Access Denied: Secured Mode	Access Denied: Secured Mode	Denied	Lock is in secured mode; no users will be allowed access.	
Access Denied: Smart Card Format Not Found	Access Denied: Smart Card Format Not Found	Denied	No SCFs (Smart Card Formats) stored at the lock.	
Access Denied: Unauthorized Arming State	Access Denied: Unauthorized Arming State	Denied	An access request was denied because the user was not authorized in this area when the area was armed.	
Access Denied: Unauthorized Entry Level	Access Denied: Unauthorized Entry Level	Denied	An access request was denied because the user is not authorized in this area.	
Access Denied: Unauthorized Time	Access Denied: Unauthorized Time	Denied	An access request was denied because the request is occurring outside the user's authorized time window(s).	
Access Door Propped	Access Door Propped	System		
Access Door Status Monitor Shunt	Access Door Status Monitor Shunt	System		
Access Door Status Monitor Trouble	Access Door Status Monitor Trouble	System		
Access Granted	Access Granted	Granted	Access was granted.	Yes
Access Granted	Granted Access	Granted	Access was granted.	
Access Granted to Destination Floor	Access Granted to Destination Floor	Granted	Generated when a card was presented to a reader associated with an elevator terminal and the elevator cab assignment was performed; used when elevator dispatching devices are present.	
Access Granted - Entry Made	Access Granted - Entry Made	Granted	Access granted and door opened; used when latch or door sensor monitoring is present.	
Access Granted - No Entry Made	Granted No Entry	Granted	Access was granted but door not opened; used when latch or door sensor monitoring is present.	
Access Granted on Facility Code	Granted Facility Code	Granted	Access was granted based on a valid facility code.	Yes

Alarm	Event	Event Type	Description	Duress*
Access Granted on Facility Code, No Entry Made	Granted Facility Code, No Entry	Granted	Access was granted on facility code but no entry was made at the door.	Yes
Access Granted: Reader Unlocked	Access Granted: Reader Unlocked	Granted	Generated when access was granted because the reader was unlocked.	Yes
Access Granted Under Duress	Access Granted Under Duress	Duress	Indicates that the cardholder was granted access under duress.	Yes
Access Granted Under Duress - No Entry Made	Access Granted Under Duress - No Entry Made	Duress	Access Granted Under Duress - No Entry Made	Yes
Access Level Change	Access Level Change	System		
Access Lockout	Access Lockout	System	Access denied, known code	
Access Open	Access Open	System	Access for authorized users in now allowed	
Access Point Bypass	Access Point Bypass	System		
Access Program Exit	Access Program Exit	System		
Access Relay/Trigger Fail	Access Relay/ Trigger Fail	System		
Access Request to Exit Shunt	Access Request to Exit Shunt	System		
Access Schedule Change	Access Schedule Change	System	The access schedule has changed.	
Access Trouble	Access Trouble	System	An access system trouble condition has been detected.	
Access Zone Shunt	Access Zone Shunt	System	An access zone is put in the shunted state.	
Account Status Failure	Account Status Failure	System		
Account Status Restore	Account Status Restore	System		
Acknowledgment Action Executed	Acknowledgment Action Executed	System	Generated when an alarm is acknowledged and actions associated with the alarm are executed.	
Acknowledgment Action Failed	Acknowledgment Action Failed	System	Generated when there is a failure to execute actions associated with an alarm acknowledgment.	

Alarm	Event	Event Type	Description	Duress*
Activate Output	Activate Output	System		
Activity Resumed	Activity Resumed	System	A zone has detected activity after an alert.	
ACU Firmware Upgraded	ACU Firmware Upgraded	System	Lock firmware was updated.	
Air Flow Loss	Air Flow Loss	Trouble	An air flow loss condition has been detected.	
Air Flow Loss Restore	Air Flow Loss Restore	Trouble	An air flow loss condition has been restored.	
Alarm	Alarm	System		
Alarm Active	Alarm Active	System	Generated when an alarm has become active.	
Alarm Canceled	Alarm Restored	System	A device has come online or an alarm condition has been restored.	
Alarm Mask Group Armed			This event is generated when the alarm mask group is armed.	
Alarm Mask Group Disarmed			This event is generated when the alarm mask group is disarmed.	
Alarm Mask Group Force Armed			This event is generated when the alarm mask group is force armed.	
Alarm Mask Group Mask Count Incremented			This event is generated when a disarm command is issued and the alarm mask group is already disarmed, causing the alarm mask count to get incremented. The alarm mask group will still remain disarmed.	
Alarm Mask Group Mask Count Decremented			This event is generated when an arm or force arm command is issued and the alarm mask group has a mask count greater than 1, causing the mask count to be decremented. The alarm mask group will still remain disarmed.	

Alarm	Event	Event Type	Description	Duress*
Alarm Mask Group Arming Failure, Active Points			The following command is used to indicate an arming failure due to active points. This command should be hard to generate because currently the only way to issue the standard arm command is from the command keypad and this should only be available if there are no active points.	
Alarm Monitoring Action Group Executed	Alarm Monitoring Action Group Executed	System	Generated when the action group is executed.	
Alarm Monitoring Action Group Failed	Alarm Monitoring Action Group Failed	System	Generated when the action group execution fails.	
Alarm Relay Disable	Alarm Relay Disable	System		
Alarm Relay Disable Restored	Alarm Relay Disable Restored	System		
Alarm/Restore	Alarm/Restore	System	Generated when a device has come online or an alarm condition has been restored.	
Alarm Silenced	Alarm Silenced	System		
Alarm Tamper Loop	Alarm Tamper Loop	Trouble		
All Points Tested	All Points Tested	System	All points have been tested.	
All Systems Normal	All Systems Normal	Fire	Generated when the Notifier AM-2020 panel is booted up. This alarm may also be sent when all existing alarm conditions are resolved.	
Analog Restore	Analog Restore	Fire		
Analog Restored	Analog Restored	System		
Analog Service Requested	Analog Service Requested	System		
Analog Service Required	Analog Service Required	Fire	An analog fire sensor needs to be cleaned or calibrated.	
Anti-Passback Violation	Anti-Passback Violation	Area Control	Generated when the cardholder was denied access because the entry would have violated the anti-passback rules for the area.	Yes

Alarm	Event	Event Type	Description	Duress*
Archive Server Failure	Archive Server Failure	Video	Generic error indicating a failure on the archive server. This error indicates that the archive server could not move any more data from the video recorders to the archive server. The user will have to go to the physical archive server computer and review the remote storage application and logs, ReadkeyPRO log files in the ReadkeyPRO\logs directory, and also follow general trouble shooting techniques as outlined in the archive server manual to determine the specific cause of the alarm.	
Archive Server Failure Archive Location Full	Archive Server Failure	Video	This error indicates that the archive location is full and no further data can be moved from the video recorders to the archive server. If this issue is not resolved, it is possible events may be purged before they are archived.	
ARDIS Module Communication Loss	ARDIS Module Communication Loss	Trouble		
ARDIS Module Communication Restored	ARDIS Module Communication Restored	Trouble		
Area Closed	Area Closed	Area Control	Generated when access was denied because the area being entered is closed.	Yes
Area Limit Exceeded	Area Limit Exceeded	Area Control	Generated when access was denied because the area limit would have been exceeded.	Yes
Armed Perimeter Delay	Armed Perimeter Delay	System		
Armed Perimeter Instant	Armed Perimeter Instant	System		
Armed Stay	Armed Stay	System		

Alarm	Event	Event Type	Description	Duress*
Asset Denied - Invalid Access	Asset Denied - Invalid Access	Asset	Generated when the asset was denied because the cardholder had invalid access levels.	Yes
Asset Denied - Invalid Asset	Asset Denied - Invalid Asset	Asset	Generated when the asset was denied because of an invalid asset (the asset was not found in the controller).	Yes
Asset Denied - Invalid Cardholder	Asset Denied - Invalid Cardholder	Asset	Generated when the asset was denied because of an invalid cardholder.	Yes
Asset Denied - No Asset Privileges	Asset Denied - No Asset Privileges	Asset	Generated when the asset was denied because the cardholder had no asset privileges.	
Asset Granted - Asset Owner	Asset Granted - Asset Owner	Asset	Generated when the asset was granted because the cardholder was the asset owner.	Yes
Asset Granted - Asset Privileges Only	Asset Granted - Asset Privileges Only	Asset	Generated when the asset was granted because the cardholder had asset privileges.	Yes
Audible Alarm	Audible Alarm	Trouble	An audible alarm condition has been detected.	
Audible Alarm Restore	Audible Alarm Restore	Trouble	An audible alarm condition has been restored.	
Audibles Silenced	Audibles Silenced	Fire	Generated when all the alarm bells have been turned off on the controller.	
Audibles Unsilenced	Audibles Unsilenced	Fire	Generated when all the alarm bells have been turned back on for the controller.	
Audit Trail Cleared	Audit Trail Cleared	System	Generated when the audit (event) log is cleared.	
Audit Trail Limit Reached	Audit Trail Limit Reached	System	Informs ReadkeyPRO the audit (event) log is becoming full and will be overwritten.	
Auto Arming Time Changed	Auto Arming Time Changed	System		
Auto-Arm Failed	Auto-Arm Failed	Trouble	An automatic arm has failed.	

Alarm	Event	Event Type	Description	Duress*
Automatic Closing	Automatic Closing	Open/Close	The system was armed automatically.	
Automatic Opening	Automatic Opening	Open/Close	The system has disarmed automatically.	
Automatic Phone Test	Automatic Phone Test	System		
Automatic Test	Automatic Test	System	Automatic communication test report	
Auxiliary Power Fault	Auxiliary Power Fault	Trouble		
Auxiliary Power Supply AC Loss	Auxiliary Power Supply AC Loss	Trouble		
Auxiliary Power Supply AC Restored	Auxiliary Power Supply AC Restored	Trouble		
Auxiliary Power Supply Communication Loss	Auxiliary Power Supply Communication Loss	Trouble		
Auxiliary Power Supply Communication Restored	Auxiliary Power Supply Communication Restored	Trouble		
Auxiliary Power Supply Communication Restored	Auxiliary Power Supply Communication Restored	Trouble		
Auxiliary Power Supply Fault Restored	Auxiliary Power Supply Fault Restored	Trouble		
Auxiliary Power Supply Output Low	Auxiliary Power Supply Output Low	Trouble		
Auxiliary Power Supply Output Low Restored	Auxiliary Power Supply Output Low Restored	Trouble		
Background Map Found	Background Map Found	Video	Generated when background stickers are detected.	

Alarm	Event	Event Type	Description	Duress*
Background Map Not Found	Background Map Not Found	Video	Generated when the engine cannot detect the background stickers. This may be caused when there is poor contrast or the stickers are improperly shaped/separated.	
Background Scene Changed	Background Scene Changed	Video	Indicates that part of the background has changed. This can be from something added to the scene or something removed from the scene.	
Background Scene Change Restored	Background Scene Change Restored	Video	The alarm is restored.	
Bad 9112 Packet	Bad 9112 Packet	System		
Battery Test Fail	Battery Test Fail	System	A battery test fail condition has been detected.	
Battery Test Fail Restore	Battery Test Fail Restore	System	A battery test fail condition has been restored.	
Bell # Disable	Bell # Disable	Relay/ Sounder	Bell # has been disabled.	
Bell # Disable Restore	Bell # Disable Restore	Relay/ Sounder	Bell # has been restored.	
Bell Fault	Bell Fault	Relay/ Sounder	A trouble condition has been detected on a local bell, siren, or annunciator.	
Bell Restore	Bell Restore	Relay/ Sounder	A trouble condition has been restored on a local bell, siren, or annunciator.	
Biometric Mismatch	Biometric Mismatch	Denied	Generated when the cardholder has a biometric template and the alternate reader was utilized to capture a template to match, but the captured template did not match the stored template.	Yes
Biometric Verify Mode Disabled	Biometric Verify Mode Disabled	System	Generated when biometric verify mode is disabled.	
Biometric Verify Mode Enabled	Biometric Verify Mode Enabled	System	Generated when biometric verify mode is enabled.	

Alarm	Event	Event Type	Description	Duress*
Blind Camera (AI)	Blind Camera (AI)	Video	Indicates that level of camera blindness (covered by some sort of obstacle) exceeded configured threshold.	
Blind Camera (AI) Restored	Blind Camera (AI) Restored	Video	The alarm is restored.	
Block Acknowledge	Block Acknowledge	Fire	Generated when a block acknowledge command is sent. This command acknowledges any existing unacknowledged alarms in the system all at once.	
Brightness Change	Brightness Change	Video	Generated when a change in overall brightness level of the scene is detected.	
Brightness Change Restored	Brightness Change Restored	Video	Generated when changes in brightness level are no longer exceeding the user defined threshold.	
Burglary Alarm	Burglary Alarm	Burglary	A burglary alarm condition has been detected.	
Burglary Alarm Cross Point	Burglary Alarm Cross Point	Burglary		
Burglary Alarm Restore	Burglary Alarm Restore	Burglary	A burglary alarm condition has been restored.	
Burglary Bypass	Burglary Bypass	Burglary	A burglary zone has been bypassed.	
Burglary Cancel	Burglary Cancel	Burglary	A burglary zone has been cancelled by an authorized user.	
Burglary Close	Burglary Close	Open/Close		
Burglary Inactive	Burglary Inactive	Burglary		
Burglary Open	Burglary Open	Open/Close		
Burglary Restore	Burglary Restore	Burglary	A burglary alarm/trouble condition has been eliminated.	
Burglary Supervisory	Burglary Supervisory	Burglary	An unsafe intrusion detection system condition has been detected.	
Burglary Test	Burglary Test	Burglary	A burglary zone has been activated during testing.	
Burglary Trouble	Burglary Trouble	Burglary	A burglary trouble condition has been detected.	

Alarm	Event	Event Type	Description	Duress*
Burglary Trouble Restore	Burglary Trouble Restore	Burglary	A burglary trouble condition has been restored.	
Burglary Unbypass	Burglary Unbypass	Burglary	Burglary zone bypass has been removed.	
Burglary Verified	Burglary Verified	Burglary	A burglary alarm has occurred and been verified within programmed conditions.	
Busy Seconds	Busy Seconds	System	The percent of time the receiver's line card is online.	
Bypass - Closed	Bypass - Closed	Open/Close		
Bypass Restore	Bypass Restore	System		
C900 Battery Low	C900 Battery Low	C900		
C900 Battery Restore	C900 Battery Restore	C900		
C900 Input Open	C900 Input Open	C900		
C900 Input Restored	C900 Input Restored	C900		
C900 Input Shorted	C900 Input Shorted	C900		
C900 Intercepted Disabled	C900 Intercepted Disabled	C900		
C900 Intercepted Enabled	C900 Intercepted Enabled	C900		
C900 Output Activated	C900 Output Activated	C900		
C900 Output Deactivated	C900 Output Deactivated	C900		
C900 Reboot	C900 Reboot	C900		
C900 Switched to Fallback	C900 Switched to Fallback	C900		
C900 Switched to Intercept	C900 Switched to Intercept	C900		
Cabinet Tamper Active	Cabinet Tamper	System	Generated when a cabinet tamper condition has been detected.	
Cabinet Tamper Restored	Cancelled Cabinet Tamper	System	Generated when a cabinet tamper condition has been restored.	
Callback Request	Callback Request	System		

Alarm	Event	Event Type	Description	Duress*
Callback Request	Call Conferenced	Intercom		
Call Disconnected	Call Disconnected	Intercom	Generated when an intercom call has been disconnected.	
Call Ended	Call Ended	Intercom	Generated when a call has ended.	
Call Established	Call Established	Intercom	Generated when an intercom call is answered.	
Call Failed	Call Failed	Intercom	Generated when an intercom call fails.	
Call to a busy subscriber	Call to a busy subscriber	Intercom	Generated when an intercom call has been placed to a busy subscriber.	
Call to an open subscriber	Call to an open subscriber	Intercom	Generated when an intercom call has been placed to an open subscriber.	
Call to a private subscriber	Call to a private subscriber	Intercom	Generated when a call has been placed to a private subscriber.	
Call Transferred	Call Transferred	Intercom	Generated when a call was transferred.	
Camera Enabled	Camera Enabled	NetDVMS	The camera is enabled in the NetDVMS Administrator.	
Camera Disabled	Camera Disabled	NetDVMS	The camera is disabled in the NetDVMS Administrator.	
Camera Motion	Camera Motion	NetDVMS	Generated when motion has been detected on a given input channel (camera). Motion is considered any change in the environment within the field of view of the camera. Sensitivity is determined by the motion detection settings in the NetDVMS Administrator.	

Alarm	Event	Event Type	Description	Duress*
Camera Tamper Active	Camera Tamper Active	Video	Indicates that IP Camera configuration was changed bypassing the ReadkeyPRO software. (It is possible if the user knows password to access the IP Camera and connect to it directly using IP Camera provided Web-interface.)	
Camera Tamper Restored	Camera Tamper Restored	Video	The alarm is restored.	
Cancel Alarm	Cancel Alarm	System		
Cancel Entire Sale	Cancel Entire Sale	POS	Generated when a transaction is used to indicate that an entire sale was cancelled.	
Cancel Report	Cancel Report	System	Untyped zone cancel.	
Cannot Open Door: Interlock Area Busy	Cannot Open Door: Interlock Area Busy	Area Control	An attempt to open the door in Alarm Monitoring was denied because a door is open or the door strike is active within an interlocked area.	
Capture Source Mismatch	Capture Source Mismatch	Video	Indicates that user-specified IP Camera type in ReadkeyPRO does not match actual IP Camera type.	
Carbon Monoxide Detected	Carbon Monoxide Detected	Gas	Generated when carbon monoxide has been detected by an alarm.	
Card Added	Card Added	System	Generated when a card has been added.	
Card Assigned	Card Assigned	System	An access ID has been added to the controller.	
Card Deleted	Card Deleted	System	An access ID has been deleted from the controller.	
Card Only Mode Denied: Blocked Mode	Card Only Mode Denied: Blocked Mode	System	Automatic scheduled change to card only mode was denied because lock is in blocked mode.	
Card Only Mode Denied: Secured Mode	Card Only Mode Denied: Secured Mode	System	Automatic scheduled change to card only mode was denied because lock is in secured mode.	

Alarm	Event	Event Type	Description	Duress*
Cash Amount Tendered	Cash Amount Tendered	POS	Generated when an event is used to indicate that a cash amount has been tendered	
Cash or Safe Drop	Cash or Safe Drop	POS	Generated when a transaction indicating a cash or safe drop has occurred.	
Change Due	Change Due	POS	Generated when a transaction indicating the change due has occurred.	
Change of State	Change of State	System	An expansion/peripheral device is reporting a new condition or state change.	
Charge Account Tender	Charge Account Tender	POS	Generated when a charge account was used as tender.	
Check Tender	Check Tender	POS	Generated when a check was used as tender.	
Checksum Fail	Checksum Fail	System	A checksum failure has been detected.	
Cipher Mode Disabled	Cipher Mode Disabled	System	Generated when Cipher mode is disabled for a reader.	
Cipher Mode Enabled	Cipher Mode Enabled	System	Generated when cipher mode is enabled for a reader. When this occurs card data can be entered via the keypad.	
Clerk Name or Number	Clerk Name or Number	POS	A transaction that reports the clerk's name or number.	
Close Area	Close Area	Open/Close	The system has been partially armed	
Close by User	Close by User	Open/Close	The area has been armed by a user.	
Close Exception	Close Exception	Open/Close		
Close Out of Window	Close Out of Window	Open/Close		
Closing	Closing	Open/Close		
Closing Delinquent	Closing Delinquent	Open/Close		
Closing Extend	Closing Extend	Open/Close	The closing time has been extended.	
Closing Out of Window by User	Closing Out of Window by User	Open/Close		

Alarm	Event	Event Type	Description	Duress*
Closing Report	Closing Report	Open/Close	The system is armed and normal	
Closing Switch	Closing Switch	Open/Close		
Closing Time Changed	Closing Time Changed	Open/Close		
Combustion Alarm	Combustion Alarm	Open/Close	A combustion alarm condition has been detected.	
Combustion Alarm Restore	Combustion Alarm Restore	Open/Close	A combustion alarm condition has been restored.	
Command (#) Set From Reader	Command (#) Set From Reader	System	Generated when the reader keypad command "(#)" was executed.	
Command Pin +10 Set From Reader	Command Pin +10 Set From Reader	System	Indicates the reader command "Pin +10" was executed.	
Command Pin +20 Set From Reader	Command Pin +20 Set From Reader	System	Indicates the reader command "Pin +20" was executed.	
Command Sent	Command Sent	System	A command has been sent to an expansion/peripheral device.	
Communication Access Denied	Communication Access Denied	System	Indicates that a wrong password has been entered while logging on to a communication device.	
Communication Initialization Failed	Communication Initialization Failed	System	Generated when the Communication Server fails to initialize communications. For example if you are using RS-232 and have hyperterminal running and using COM1 and then you start up the Communication Server and it needs to use COM1 to communicate to a panel, it will fail to open up the serial port and this event will be logged.	
Communication Trouble Restore	Communication Trouble Restore	System	A communication trouble has been restored.	
Communications Fail	Communications Fail	System	A communication has failed.	
Communications Lost	Communications Lost	System	Generated when communications to the device have been lost.	

Alarm	Event	Event Type	Description	Duress*
Communications Lost - Primary Path	Primary Communication Path Lost	System	Generated when the primary path lost communication with the host.	
Communications Lost - Secondary Path	Secondary Communication Path Lost	System	Generated when the secondary path loses communication with the host.	
Communications Path Switched - Primary to Secondary	Communications Path Switched - Primary to Secondary	System	Generated when the communication path has been switched from the primary path to the secondary path.	
Communications Path Switched Secondary to Primary	Communications Path Switched Secondary to Primary	System	Generated when the communication path has switched from the secondary path to the primary path.	
Communications Restore	Communications Restore	System	Generated when communications have been restored.	
Communications Restored	Communications Restored	System	Generated when communications to the device have been restored.	
Communications Restored - Primary Path	Primary Communication Path Restored	System	Generated when the primary path restored communication with the host.	
Communications Restored - Secondary Path	Secondary Communication Path Restored	System	Generated when the secondary path restored communication with the host.	
Communications Trouble	Communications Trouble	System	A communications trouble has been detected.	
Communications With Host Lost	Communications With Host Lost	System	An event was generated by the hardware when communications with the host was lost.	
Communications With Host Restored	Communications With Host Restored	System	An event was generated by the hardware when communications with the host was restored.	
Complimentary Tender	Complimentary Tender	POS	Generated when the tender was complimentary.	
Computer Trouble	Computer Trouble	System		

Alarm	Event	Event Type	Description	Duress*
Conferenced Call		Intercom	Generated if a call is conferenced together with another call.	
Congestion	Congestion	Video	Generated when the user-specified level and pattern of congestion is detected within a region of interest.	
Congestion Restored	Congestion Restored	Video	Generated 8 seconds after last detection of a Congestion event.	
Controller Connection Mismatch	Controller Connection Mismatch	System	Generated when the ReadkeyPRO attempts to make a connection to a controller by upgrading or degrading the connection while the controller is online.	
Controller Encryption Error	Controller Encryption Error	System	Generated in several instances, including when: • A controller is configured for a plain connection when it requires encryption. • An encrypted controller is online, but its configuration is changed to a plain connection. • A controller is configured for a plain connection, but then a physical controller swap is made where the new controller requires encryption. • A controller that supports encryption is currently online with a plan connection, and then the DIR switch 8 is turned on.	
CPU Data Error	CPU Data Error	System	A CPU data error was detected.	
Credit Card Tendered	Credit Card Tendered	POS	Generated when a credit card was used as tender.	
Cross Zone Trouble	Cross Zone Trouble	Trouble		

Alarm	Event	Event Type	Description	Duress*
Current Time	Current Time	POS	An event that reports the current time.	
Database Error Event Polling Stopped	Database Error Event Polling Stopped	System	Generated by the communication server when there is a problem writing events to the database. This event is not written to the database but is sent to Alarm Monitoring clients. Polling of the events from the various hardware devices is stopped until the events can be written to the database.	
Database Error in Panel Download	Database Error in Panel Download	System	Generated by the communication server when the database cannot be opened at the start of a database download to a controller.	
Data Lost	Data Lost	System	The dialer data has been lost and there is a transmission error.	
Date Changed	Date Changed	System	The date was changed.	
Day Trouble	Day Trouble	Trouble	A day trouble condition has been detected.	
Day Trouble Restore	Day Trouble Restore	Trouble	A day trouble condition has been restored.	
Day/Night Alarm	Day/Night Alarm	Trouble	A day/night alarm condition has been detected.	
Day/Night Alarm Restore	Day/Night Alarm Restore	Trouble	A day/night alarm condition has been restored.	
Daylight Saving Time Audit	Daylight Saving Time Audit	System	Start of DST (Daylight Saving Time) or end of DST has occurred.	
Deactivate Output	Deactivate Output	System		
Dealer ID	Dealer ID	System		
Debit, ATM, Check Card Tender	Debit, ATM, Check Card Tender	POS	Transaction that indicated that a debit, ATM, or check card was used as tender.	
Deferred Close	Deferred Close	Open/Close		
Deferred Open/Close	Deferred Open/ Close	Open/Close		

Alarm	Event	Event Type	Description	Duress*
Denied, Badge Not in Panel	Denied, Badge Not in Panel	Denied	Generated when a badge is denied at a reader because it is not in the system.	Yes
Denied Count Exceeded	Denied Count Exceeded	Denied		Yes
Denied Low Battery	Denied Low Battery	Denied	Generated when access is denied because the battery on the device is low.	
Denied, No Command Authority	Denied, No Command Authority	Denied	Generated when a reader command function was denied because the user did not have the command authority to execute the function.	
Denied - No Host Approval	Denied - No Host Approval	Denied	Generated when access was denied because the host did not grant approval. This can happen because the host response did not come back in a timely fashion or the controller is offline with the host.	Yes
Denied, Not Authorized	Denied, Not Authorized	Denied	Generated when access was denied because user authorization did not match authorization assigned to the reader (lock).	
Denied, PIN Only Request	Denied, PIN Only Request	Denied	Generated when access was denied for a pin only request (either an invalid pin code or pin support is not enabled for the panel).	Yes
Denied - Unauthorized Assets	Denied - Unauthorized Assets	Denied	Generated when access was denied because of unauthorized assets.	Yes
Denied Under Duress	Access Denied Under Duress	Duress	Generated when the cardholder was denied access under duress.	Yes
Denied Unmask, Active Zones in Group	Denied Unmask - Active Zones in Group	Denied	Generated when the unmask command failed because there are still active zones in the group.	
Deny Count Exceeded	Deny Count Exceeded	Denied	Generated when a specified number of invalid attempts are made in a row at a reader.	

Alarm	Event	Event Type	Description	Duress*
Deposit Amount Paid Pending Purchase	Deposit Amount Paid Pending Purchase	POS	Event indicating that a deposit amount paid pending purchase has occurred.	
Deposit Return	Deposit Return	POS	Transaction for a deposit return.	
Detector High Sensitivity	Detector High Sensitivity	Trouble	A detector high sensitivity condition has been detected.	
Detector High Sensitivity Restore	Detector High Sensitivity Restore	Trouble	A detector high sensitivity condition has been restored.	
Detector Low Sensitivity	Detector Low Sensitivity	Trouble	A detector low sensitivity condition has been detected.	
Detector Low Sensitivity Restore	Detector Low Sensitivity Restore	Trouble	A detector low sensitivity condition has been restored.	
Detector Test	Detector Test	Fire	Generated when the fire detection test is initiated.	
Detector Test Fail	Detector Test Fail	Fire	Generated when the fire detection test fails.	
Detector Test OK	Detector Test OK	Fire	Generated when the fire detection test is successfully completed.	
Device Turned Off	Device Turned Off	Trouble	A device turned off.	
Device Turned On	Device Turned On	Trouble	A device turned on.	
Device Type Mismatch	Device Type Mismatch	System	Generated when the device is of a different type than what it has been configured for.	
Diagnostic	Diagnostic	System	A diagnostic report was requested.	
Diagnostic Error	Diagnostic Error	System	A device is reporting a diagnostic error.	
Dial Out Method	Dial Out Method	System		
Dialer Disabled	Dialer Disabled	Trouble	The dialer has become disabled.	
Dialer Disabled Restore	Dialer Disabled Restore	Trouble	The dialer has been restored from being disabled.	
Dialer Shutdown	Dialer Shutdown	Trouble	The dialer has shutdown.	

Alarm	Event	Event Type	Description	Duress*
Dialing Error	Dialing Error	Trouble	An error has been detected when dialing.	
Dialup Last Connection Time Expired	Dialup Last Connection Time Expired	System	Generated by the communication server for dialup panels that have exceeded the set number of hours since their last connection. When this event is generated, the communication server will attempt to connect to the panel. If the dialup panel repeatedly receives this event, the panel should be investigated to see why it is not calling back.	
Dialup Stored Command Limit Exceeded	Dialup Stored Command Limit Exceeded	System	Generated by the communication server for dialup panels that have exceeded their stored command limit. When this event is generated, the communication server will attempt to connect to the panel. If the dialup panel repeatedly receives this event, the panel should be investigated to see why it is not calling back.	
Digital Dialer Daily Test Fail	Digital Dialer Daily Test Fail	System	Digital dialer failed to report its daily test.	
Disable Intercept Mode	Disable Intercept Mode	System		
Directional Motion	Directional Motion	Video	Generated when an object moving in a pre-specified direction is detected.	
Directional Motion Restored	Directional Motion Restored	Video	Generated 8 seconds after last detection of a Directional Motion event.	
Disarm From Alarm	Disarm From Alarm	System	An account in alarm was reset/disarmed.	
Discount Entered as Absolute Amount	Discount Entered as Absolute Amount	POS	Generated when a discount was entered as an absolute amount.	
Discount Entered as Percentage	Discount Entered as Percentage	POS	Generated when a discount was entered as a percentage.	
Door Close	Door Close	System	Generated when a door closes.	

Alarm	Event	Event Type	Description	Duress*
Door Contact Tamper Active	Door Contact Tamper	System	Generated when the door contact tamper has gone active.	
Door Contact Tamper Restored	Door Contact Tamper Cancelled	System	Generated when the door contact tamper has been restored.	
Door Cycled	Door Cycled	System	Generated when momentary access is granted to a door. This is a temporary door state in which the door initiates the door sequence as if a valid card was read. Door cycled cannot be scheduled.	
Door Forced	Door Forced	Trouble	The door was forced open without an access request.	
Door Forced Open	Door Forced Open	System	Generated when a “Door Forced Open” condition has been detected.	
Door Forced Open Masked	Door Forced Open Masked	System	Generated when the “Door Forced Open” event has become masked for the device.	
Door Forced Open Restored	Door Forced Open Cancelled	System	Generated when a “Door Forced Open” condition has been restored.	
Door Forced Open Unmasked	Door Forced Open Unmasked	System	Generated when the “Door Forced Open” event has become unmasked for the device.	
Door Forced Trouble	Door Forced Trouble	Trouble	An access point has been forced open in an unarmed area.	
Door Held Open	Door Held Open	System	Generated when a “Door Held Open” condition has been detected.	
Door Held Open Masked	Door Held Open Masked	System	Generated when the “Door Held Open” event has become masked for the device.	
Door Held Open Restored	Door Held Open Cancelled	System	Generated when a “Door Held Open” condition was restored.	

Alarm	Event	Event Type	Description	Duress*
Door Held Open Unmasked	Door Held Open Unmasked	System	Generated when the “Door Held Open” event has become unmasked for the device.	
Door Left Open	Door Left Open	Trouble	An access point was open when the door cycle time expired.	
Door Left Open Alarm	Door Left Open Alarm	Trouble	An open access point was open when the open time expired in an armed area.	
Door Left Open Restore	Door Left Open Restore	Trouble	An access point in a door left open state has restored.	
Door Left Open Trouble	Door Left Open Trouble	Trouble	An open access point was open when the open time expired in an unarmed area.	
Door Locked	Door Locked	Trouble	Generated when a door returns to its normal door state (locked). When a door is in the lock door state, you can initiate the door sequence using schedules, command center functions, door requests, or valid card requests. Door locked is similar to a reader being in card and pin mode.	
Door Open	Door Open	System	An event indicating that the door has opened.	
Door Open From Inside	Door Open From Inside		Door opened from inside, only when not in unlocked mode.	
Door Request	Door Request	System	This event is generated from Bosch intrusion panels when a door is manually activated to open without the presentation of an ID.	
Door Restore	Door Restore	Trouble	An access alarm/trouble condition has been eliminated.	

Alarm	Event	Event Type	Description	Duress*
Door Secured	Door Secured	System	Generated when no access is allowed to a door. When a door is in a secure state, no access is allowed through the door until it is returned to the locked state. Door secured is similar to a reader being in locked mode.	
Door Shunt Command Executed From Reader	Door Shunt Command Executed From Reader	System	Generated when the door shunt command was executed from the reader.	
Door Shunt Command Results - Cancelled	Door Shunt Command Results - Cancelled	System	Generated when the door is closed while the door shunt command is executing.	
Door Station	Door Station	Trouble	Identified door for next report.	
Door Unlocked	Door Unlocked	System	Generated when there is free access to a door. When a door is unlocked, the door is shunted and the strike does not prevent the door from opening. In this state, you do not need to activate a door request or present a valid card to gain access. Door unlocked is similar to a reader being in unlocked mode.	
Drift Compensation Error	Drift Compensation Error	Trouble		
Driver Error in Panel Download	Driver Error in Panel Download	System	Generated by the communication server when an error occurs during a database download to a controller.	
Duct Alarm	Duct Alarm	Trouble	A duct alarm condition has been detected.	
Duct Alarm Restore	Duct Alarm Restore	Trouble	A duct alarm condition has been restored.	
Duress Access Grant	Duress Access Grant	Duress		
Duress Egress Grant	Duress Egress Grant	Duress		
DURESS - Interlock Area Busy	DURESS - Interlock Area Busy	Duress	Access was requested to an interlocked area while under duress.	Yes

Alarm	Event	Event Type	Description	Duress*
Egress Denied	Egress	Egress	A user presented a badge to an out reader (reader leaving the area) and was denied access.	
Egress Granted	Egress	Egress	A user presented a badge to an out reader (reader leaving the area), was granted access and opened the door after the grant.	
Elevator Terminal Mode Access to Authorized Floors	Elevator Terminal Mode Access to Authorized Floors	System	Generated when the elevator terminal mode has changed to “Access to Authorized Floors.”	
Elevator Terminal Mode Default Floor	Elevator Terminal Mode Default Floor	System	Generated when the elevator terminal mode has changed to “Default Floor Only.”	
Elevator Terminal Mode Default Floor or User Entry of Destination Floor	Elevator Terminal Mode Default Floor or User Entry of Destination Floor	System	Generated when the elevator terminal mode has changed to “Default Floor or User Entry of Destination Floor.”	
Elevator Terminal Mode User Entry of Destination Floor	Elevator Terminal Mode User Entry of Destination Floor	System	Generated when the elevator terminal mode has changed to “User Entry of Destination Floor.”	
Embedded Analytics Failure	Embedded Analytics Failure	System	Generated when embedded analytics fail to initialize.	
Embedded Analytics Restored	Embedded Analytics Restored	System	Generated when embedded analytics initialize successfully following a failure.	
Employee Sign Off	Employee Sign Off	POS	Generated when an employee signs off.	
Employee Sign On	Employee Sign On	POS	Generated when an employee signs on.	
Exit Request Denied: Interlock Area Busy	Exit Request Denied: Interlock Area Busy	Area Control	A request to exit made via REX button was denied because a door is open or the door strike is active within an interlocked area.	
Extended Held Command Denied	Extended Held Command Denied	System	Generated when an extended held command is denied.	

Alarm	Event	Event Type	Description	Duress*
Extended Held Command Set From Reader	Extended Held Command Set From Reader	System	Generated when an extended held command is entered at the reader.	
Extended Held Open Mode Disabled	Extended Held Open Mode Disabled	System	Generated when extended held open mode is disabled.	
Extended Held Open Mode Enabled	Extended Held Open Mode Enabled	System	Generated when extended held open mode is enabled.	
Facial Detection	Facial Detection	Video	Generated when one or several faces are detected.	
Facial Detection Restored	Facial Detection Restored	Video	Generated 8 seconds after last detection of a face.	
Facility Code Only Mode Denied: Blocked Mode	Facility Code Only Mode Denied: Blocked Mode	System	Automatic scheduled change to facility code only mode was denied because lock is in blocked mode.	
Facility Code Only Mode Denied: Secured Mode	Facility Code Only Mode Denied: Secured Mode	System	Automatic scheduled change to facility code only mode was denied because lock is in secured mode.	
Facility Occupancy Too Low	Facility Occupancy Too Low	Video	Generated when the occupancy falls below the user-specified limit.	
Facility Occupancy Too Low Restored	Facility Occupancy Too Low Restored	Video	Generated when the occupancy returns to a value above the lower limit.	
Facility Occupancy Too High	Facility Occupancy Too High	Video	Generated when the occupancy rises above the user-specified limit.	
Facility Occupancy Too High Restored	Facility Occupancy Too High Restored	Video	Generated when the occupancy returns to a value below the upper limit.	
Failed to Report Expected Event	Failed to Report Expected Event	System	Generated when a device that is supposed to report an event within a certain period of time fails to report an event during this time period.	
Fire Alarm	Fire Alarm	Fire	Generated when a fire device is in alarm.	
Fire Alarm Acknowledge	Fire Alarm Acknowledge	Fire	Generated when a fire alarm has been acknowledged.	
Fire Alarm Acknowledged Clear	Fire Alarm Acknowledged Clear	Fire	Generated when a fire alarm has been acknowledged and cleared.	

Alarm	Event	Event Type	Description	Duress*
Fire Alarm Block Acknowledge	Fire Alarm Block Acknowledge	Fire	Generated when all fire alarms have been acknowledged at the fire panel.	
Fire Alarm In	Fire Alarm In	Fire	Generated when a new fire alarm has been detected for the device.	
Fire Alarm Out	Fire Alarm Out	Fire	Generated when a device with a previous fire alarm has returned to its normal state.	
Fire Button Set	Fire Button Set	Fire	The reported fire button has been set.	
Fire Missing	Fire Missing	Fire		
Fire Walk Test Ended	Fire Walk Test Ended	Fire	A fire walk test has ended.	
Fire Walk Test Started	Fire Walk Test Started	Fire	A fire walk test has started.	
Fire Zone Walk Tested	Fire Zone Walk Tested	Fire	A fire zone has been tested.	
Firmware Download Started	Firmware Download Started	System	Generated when the firmware download has started.	
Firmware Download Completed	Firmware Download Completed	System	Generated when the firmware download has completed.	
Firmware Download Failed	Firmware Download Failed	System	Generated when the firmware download has failed.	
First Card Unlock Mode Denied: Blocked Mode	First Card Unlock Mode Denied: Blocked Mode	System	Automatic scheduled change to first card unlock mode was denied because lock is in blocked mode.	
First Card Unlock Mode Denied: Secured Mode	First Card Unlock Mode Denied: Secured Mode	System	Automatic scheduled change to first card unlock mode was denied because lock is in secured mode.	
First Card Unlock Mode Disabled	First Card Unlock Mode Disabled	System	Generated when first card unlock mode is disabled for a door.	
First Card Unlock Mode Enabled	First Card Unlock Mode Enabled	System	Generated when first card unlock mode is enabled for a door.	

Alarm	Event	Event Type	Description	Duress*
Foil Break Alarm	Foil Break Alarm	Trouble	Generated when a break in a foil circuit occurs. This is most commonly used to trigger an alarm when glass being protected with the foil circuit is broken.	
Foil Break Restore	Foil Break Restore	Trouble	Generated when a foil break alarm condition has been restored.	
Foodstamps Tender	Foodstamps Tender	POS	Indicates that food stamps were used as tender.	
Gasoline Prepayment	Gasoline Prepayment	POS	Transaction for a gasoline prepayment	
Gasoline Prepayment Refund	Gasoline Prepayment Refund	POS	Transaction for a gasoline prepayment	
Generic Event	Generic Event	Generic	A generic event exists with more specific information in the event text.	
Global Linkage Action Executed	Global Linkage Action Executed	System	Generated when a global I/O linkage has executed.	
Global Linkage Action Failed	Global Linkage Action Failed	System	Generated when a global I/O linkage has failed.	
Granted Access	Access Granted	Granted	Generated when access was granted.	
Granted APB Violation, Entry Made	Access Granted Anti-Passback Used	Area Control	Generated when an anti-passback violation occurred but access was granted and entry was made. This can happen when using soft anti-passback.	
Granted APB Violation, No Entry Made	Access Granted Anti-Passback Not Used	Area Control	Generated when an anti-passback violation occurred and access was granted but no entry was made. This can happen when using soft anti-passback.	
Granted Facility Code	Access Granted On Facility Code	Granted	Generated when access was granted based on a valid facility code.	
Granted Facility Code, No Entry	Access Granted On Facility Code No Entry Made	Granted	Generated when access was granted on facility code but no entry was made at the door.	
Granted No Entry	Access Granted No Entry Made	Granted	Generated when access was granted but no entry was made at the door.	Yes

Alarm	Event	Event Type	Description	Duress*
Granted Under Duress	Access Granted Under Duress	Emergency	Generated when the cardholder was granted access under duress.	
Granted Under Duress, No Entry	Access Granted Under Duress - No Entry Made	Emergency	Generated when the cardholder was granted access under duress but no entry was made.	
Grounded Loop Active	Grounded Loop Alarm Active	System	Generated when a grounded loop fault condition has been detected.	
Grounded Loop Restored	Cancelled Grounded Loop	System	Generated when the grounded loop fault condition was restored.	
Guard Tour Action Executed	Guard Tour Action Executed	System	Generated when a guard tour action has executed.	
Guard Tour Action Failed	Guard Tour Action Failed	System	Generated when a guard tour action has failed.	
History Report End	History Report End	System		
History Report Start	History Report Start	System		
Hold	Hold	Intercom	Generated when a phone call is placed on hold.	
Holdup Alarm Restore	Holdup Alarm Restore	Emergency	Holdup alarm was restored.	
Host Executed Function List	Host Executed Function List	System	Generated when a function list has been executed from the host.	
Host Open Door - Door Used	Host Open Door - Door Not Used	System	When the host issued an open door command and the door was opened.	
Host Open Door - Door Not Used	Host Open Door - Door Not Used	System	When the host issued an open door command and the door was not opened.	
In-Camera-Memory Download Completed	In-Camera-Memory Download Completed	System	Generated when the process of retrieving the files from the camera memory is completed.	
In-Camera-Memory Download Failed	In-Camera-Memory Download Failed	System	Generated when the process of retrieving the files from the camera memory is failed.	
In-Camera-Memory Download Restored	In-Camera-Memory Download Restored	System	Generated when the process of retrieving the files from the camera memory is restored.	

Alarm	Event	Event Type	Description	Duress*
In-Camera-Memory Download Started	In-Camera-Memory Download Started	System	Generated when the process of retrieving the files from the camera memory is started.	
Inactive Badge	Inactive Badge	Denied	Generated when access was denied because the badge was inactive.	Yes
Incoming Call	Incoming Call	Intercom	Generated when there is an incoming call.	
Information Message	Information Message	POS	Used to report information messages	
Initiated	Initiated	Intercom	Generated when a phone call is initiated.	
Input Bypassed	Input Bypassed	System	Generated when an input has been temporarily bypassed from detecting changes in state and reporting alarms. Typically, you would specify to bypass the input in order to troubleshoot an input issue without reporting the alarms for it. This is often done during an armed state. After the system enters the disarmed state, the input normally leaves the bypassed state.	
Input Disabled	Input Disabled	System	This is similar to Input Bypassed except the input has been permanently disabled from detecting and reporting activity until the operator specifically enables it.	
Input Masked	Input Masked	System	Generated when an input has become masked.	
Input Restored	Input Restored	System	An input has been returned to the normal mode of operation after being in either a bypassed or disabled state.	
Input Unmasked	Input Unmasked	System	Generated when an input has become unmasked.	
Intercom Function	Intercom Function	Intercom	Generated when an intercom function has been executed.	

Alarm	Event	Event Type	Description	Duress*
Interlock Area Busy	Interlock Area Busy	Area Control	Access requested by presenting a badge was denied because a door is open or the door strike is active within an interlocked area.	
Insufficient Frame Rate Detected	N/A	N/A	This warning appears when the analytics are not receiving the required minimum frame rate for the events configured on the video channel.	
Insufficient Frame Rate Restored	N/A	N/A	Generated when the frame rate reaches a value sufficient for the events configured on the video channel.	
Intrusion Command Accepted	Intrusion Command Accepted	Generic	An intrusion command was successfully executed.	
Intrusion Command Denied	Intrusion Command Denied	Denied	An attempt to execute an intrusion command was denied, either the command is not allowed at the reader, the user is not authorized for this command, or invalid command arguments were supplied.	
Invalid Access Level	Invalid Access Level	Denied	Generated when access was denied because of an invalid access level.	Yes
Invalid Badge	Invalid Badge	Denied	Generated when access was denied because the badge ID was unknown to the controller.	Yes
Invalid Camera	Invalid Camera	Video	Generated when the camera is tampered with (covered, moved, or out-of-focus).	
Invalid Camera Restored	Invalid Camera Restored	Video	Generated 8 seconds after the camera becomes valid again or in the case of camera covered or moved, when the background is relearned.	
Invalid Card Format	Invalid Card Format	Denied	Generated when the badge contained a card format that was not recognized by the reader.	

Alarm	Event	Event Type	Description	Duress*
Invalid Device Serial Number	Invalid Device Serial Number	System	Generated when the device does not have a valid serial number.	
Invalid Facility Code	Invalid Facility Code	Denied	Generated when access was denied because the badge had an invalid facility code.	Yes
Invalid Issue Code	Invalid Issue Code	Denied	Generated when access was denied because the issue code read from the badge did not match the current issue code stored in the database for the badge.	Yes
Invalid OEM Code	Invalid OEM Code	System	Indicates that the hardware did not contain the expected OEM (Original Equipment Manufacturer) code.	
Invalid PIN Number	Invalid PIN Number	Denied	Generated when access was denied because an invalid PIN was entered.	Yes
Item Correct of Previously entered Item	Item Correct of Previously entered Item	POS	Generated to indicate that an item was corrected.	
Item Sold	Item Sold	POS	Indicates an item was sold.	
IVS Channel Processing Failed	IVS Channel Processing Failed	Video	Generated by the IntelligentVideo Server when video processing is terminated due to an error or lost connection.	
IVS Channel Processing Restarted	IVS Channel Processing Restarted	Video	Generated when the IntelligentVideo Server re-establishes a connection to a channel that previously reported failure.	
IVS Connection Lost	IVS Connection Lost	Video	Generated when the camera is configured to analyze video on a remote IntelligentVideo Server and connection to the IntelligentVideo Server is lost.	
IVS Connection Restored	IVS Connection Restored	Video	Generated when the connection to the IntelligentVideo Server was lost and has been restored.	

Alarm	Event	Event Type	Description	Duress*
IVS Engine Connection Lost	IVS Engine Connection Lost	Video	Generated when the IntelligentVideo Server looses connection to the LpsSearchSvc service and video processing of all channels fails.	
IVS Engine Connection Restored	IVS Engine Connection Restored	Video	Generated when the IntelligentVideo Server reconnects to the LpsSearchSvc service after the connection has been lost.	
Key Override	Key Override	System	Generated when the key override is used in a Mortise lockset. Not supported in Cylindrical lockset.	
Keypad Fire	Keypad Fire	Fire	A fire alarm has been generated from a keypad.	
Lamp Test Activated	Lamp Test Activated	Fire	Generated when the lamp test is activated. When a lamp test is activated the AM-2020 will send out a command sequence to display a set of solid blocks on the hardware's LCD.	
Lamp Test Completed	Lamp Test Completed	Fire	Generated when the lamp test successfully completes.	

Alarm	Event	Event Type	Description	Duress*
License Will Soon Expire - X Days Left	License Will Soon Expire - X Days Left	System	Generated when the system license is reaching its expiration date. This alarm is dependent on linkage server being configured and running on a host workstation. It is advised that this alarm be configured to be e-mailed to the system administrator. For more information, see the Acknowledge Alarms chapter in the Alarm Monitoring user guide. **Note:** In order for the alarm to be reported to monitoring stations there must be at least one panel configured and marked online. The panel does not need to exist or actually be online in Alarm Monitoring, it simply needs to exist in the System Status view. **Note:** This event must be available as an input event to use the Global I/O output action. Make sure it is available to be sent out via DataConduIT.	
Line Error Active	Line Error Active	System	Generated when a line error fault condition has been detected.	
Line Error Restored	Cancelled Line Error	System	Generated when the line error fault condition was restored.	
Local I/O Executed Function List	Local I/O Executed Function List	System	Generated when a local I/O function list has been activated.	

Alarm	Event	Event Type	Description	Duress*
Loitering	Loitering	Video	Generated when a loiterer is detected.	
Loitering Restored	Loitering Restored	Video	Generated 8 seconds after the last detection of a Loitering event.	
Lock Initialized	Lock Initialized	System	Lock was initialized using the PP (Portable Programmer) application.	
Lock Updated	Lock Updated	System	Lock was updated.	
Lock Powered Up by Portable Programmer	Lock Powered Up by Portable Programmer	System	Generated after a power up by the portable programmer.	
Locked Under AFC	Locked Under AFC	System	End of AFC state.	
Locked Under First Card Unlock	Locked Under First Card Unlock	System	First card unlock mode; door is relocked.	
Lottery Pay Out	Lottery Pay Out	POS	Generated when a lottery pay out has occurred.	
Low Battery	Low Battery	System	Low battery alarm.	
Low Battery Restored	Low Battery Restored	System	Generated when a low battery is restored.	
Lottery Sale	Lottery Sale	POS	Generated when an event for a lottery sale has occurred.	
Low Voltage	Low Voltage	System	Generated when a low voltage condition has been detected at the device.	
Low Voltage Restored	Low Voltage Restored	System	Generated when a device resumes its proper voltage.	
Manufacturer Coupon	Manufacturer Coupon	POS	Indicates a manufacturer coupons.	
Manufacturer Coupon Redemption	Manufacturer Coupon Redemption	POS	Transaction generated for a manufacturer coupon redemption.	
Max Assets Reached	Max Assets Reached	System	Generated during a download when the number of assets exceeds the maximum value configured for the controller. Only the maximum number of assets will be downloaded (all others will be ignored).	

Alarm	Event	Event Type	Description	Duress*
Max Biometric Templates Reached	Max Biometric Templates Reached	System	Generated during a download when the number of biometric templates exceeds the maximum value configured for the controller. Only the maximum number of templates will be downloaded (all others will be ignored).	
Max Cardholders Reached	Max Cardholders Reached	System	Generated during a download when the number of cardholders exceeds the maximum value configured for the controller. Only the maximum number of cardholders will be downloaded (all others will be ignored).	
Merchandise Returned	Merchandise Returned	POS	Generated when merchandise is returned.	
Miscellaneous Tender	Miscellaneous Tender	POS	Generated when miscellaneous tender is used.	
Module Active	Module Active	Fire	Generated when a monitor or control module connected to the system becomes active. The device label assigned to this device and the zone label assigned to the first zone programmed for this device will be included with the event.	
Module Clear	Module Clear	Fire	Generated when a monitor or control module connected to the system is no longer active. The device label assigned to this device and the zone label assigned to the first zone programmed for this device will be included with the event.	
Motion Detected (AI)	Motion Detected (AI)	Video	Generated when motion has been detected on a given input channel (camera). Motion is considered any change in the environment within the field of view of the camera.	

Alarm	Event	Event Type	Description	Duress*
Motion Detected (AI) Restored	Motion Detected (AI) Restored	Video	Generated when motion has been restored (is no longer detected) on a given input channel (camera). Motion is considered any change in the environment within the field of view of the camera.	
Muster Mode Reset	Muster Mode Reset	Mustering	Generated when muster mode is reset.	
Muster Mode Start	Muster Mode Start	Mustering	Generated when muster mode is started.	
Negative Tax	Negative Tax	POS	Generated when negative tax is used.	
Negative Total	Negative Total	POS	Generated when there is a negative total.	
No Biometric Template Data	No Biometric Template Data	Biometric	Generated when no biometric template data was available from the biometric reader at the end of a verification sequence.	
No Blocking Override	No Blocking Override		User does not have Blocked override privilege.	
Non-Fire Active	Non-Fire Active	System	An event indicating a non fire related alarm condition is active.	
Non-Fire Active Cleared	Non-Fire Active Cleared	System	An event indicating a non fire related alarm condition is no longer active.	
Not Configured	Not Configured	System	Generated when a device has not been configured or defined by the host.	
No Sale	No Sale	POS	Transaction generated for a no sale.	
Object Crosses a Region	Object Crosses a Region	Video	Generated when an object is detected in the process of crossing a user-specified region.	
Object Crosses a Region Restored	Object Crosses a Region Restored	Video	Generated 8 seconds after the last detection of an Object Crosses a Region event.	
Object Detection	Object Detection	Video	Generated when an object complying with user-specifications is detected.	

Alarm	Event	Event Type	Description	Duress*
Object Detection Restored	Object Detection Restored	Video	Generated 8 seconds after the last detection of an Object Detection event.	
Object Left Behind	Object Left Behind	Video	Generated when a foreground object is left for more than a pre-specified duration.	
Object Left Behind Restored	Object Left Behind Restored	Video	Generated when the left object was taken or the background (after a certain time interval) is relearned.	
Object Lurking	Object Lurking	Video	Generated when a moving object stops or slows down for at least 7 seconds.	
Object Lurking Restored	Object Lurking Restored	Video	Generated 8 seconds after the last detection of an Object Lurking event.	
Object Moves Too Fast	Object Moves Too Fast	Video	Generated when a moving object is detected in a scene with a speed that exceeds the user-specified rate.	
Object Moves Too Fast Restored	Object Moves Too Fast Restored	Video	Generated 8 seconds after the last detection of an Object Moves Too Fast event.	
Object Starts to Move	Object Starts to Move	Video	Generated when a monitored object begins moving.	
Object Starts to Move Restored	Object Starts to Move Restored	Video	Generated 8 seconds after last detection of an Object Starts to Move event.	
Object Removed	Object Removed	Video	Generated when a background object is removed.	
Object Removed Restored	Object Removed Restored	Video	Generated when the object is returned to its original location or the background (after a certain time interval) is relearned.	
Object Stops	Object Stops	Video	Generated when a foreground object stops.	
Object Stops Restored	Object Stops Restored	Video	Generated 8 seconds after the last detection of an Object Stops event.	

Alarm	Event	Event Type	Description	Duress*
Open Door Command Issued - Door Used	Open Door Command Issued - Door Used	System	Indicates that a command was issued to open the door and the door was used. This can be for a locally generated open door command or one from the host.	
Open Door Command Issued - Door Not Used	Open Door Command Issued - Door Not Used	System	Indicates that a command was issued to open up the door and the door was not used. This can be for a locally generated open door command or one from the host.	
Open Line Active	Open Line Active	System	Generated when an open line fault condition has been detected.	
Open Line Restored	Cancelled Open Line	System	Generated when the open line fault condition was restored.	
Override Preprogrammed Price	Override Preprogrammed Price	POS	Generated when the preprogrammed price is overridden.	
Panel Download Completed	Full Panel Download Completed	System	Generated when a database download to the controller has completed.	
Panel Download Started	Full Panel Download Started	System	Generated when a database download to the controller has started.	
Panel Event Capacity Exceeded - Events Overwritten	Panel Event Capacity Exceeded - Events Overwritten	System	Generated when the event log in the panel fills up and starts overwriting old events.	
Panel Free Memory Low	Panel Free Memory Low	System	Generated when the free memory in the panel (controller) is below what is determined to be a safe value.	
Panel ID Mismatch	Panel ID Mismatch	System	Generated when the panel (controller) has a different ID than what is in the database. This can happen if a new panel or replacement panel is placed out in the field. A download to the panel should correct the problem.	

Alarm	Event	Event Type	Description	Duress*
Panel Marked Offline After Timeout	Panel Marked Offline After Timeout	System	Generated when the video recorder is automatically placed offline because a connection cannot be made after the user specified amount of time.	
Panel Options Mismatch	Panel Options Mismatch	System	Generated when the options inside of the panel differ from what the panel is currently configured for in the database. This can happen if the panel options change and a download is not issued to the panel. To correct this situation, a download should be issued to the panel.	
Panel Power Up Complete	Panel Power Up Complete	System	Generated when the panel power up is complete.	
Panic Abort	Panic Abort	Trouble	Generated when a panic alarm has been manually aborted/canceled.	
Panic Alarm	Panic Alarm	Trouble	Generated when emergency assistance has been manually requested.	
Panic Alarm Restore	Panic Alarm Restore	Trouble	Generated when the panic alarm has been restored.	
Pay Out	Pay Out	POS	Generated when a payout takes place.	
Payment of Refund to Customer	Payment of Refund to Customer	POS	Generated when a payment or refund is given to a customer.	
Payment Toward Charge Account Balance	Payment Toward Charge Account Balance	POS	Generated when a payment toward an account balance.	
People Counting	People Counting	Video	Generated when the count was updated (usually within a short delay after an individual passes).	
People Entry Rate Too High	People Entry Rate Too High	Video	Generated when the number of entering people rises above the limit during the specified time interval.	

Alarm	Event	Event Type	Description	Duress*
People Entry Rate Too High Restored	People Entry Rate Too High Restored	Video	Generated when the number of entering people returns to a value below the limit during the specified time interval.	
People Entry Rate Too Low	People Entry Rate Too Low	Video	Generated when the number of entering people falls below the limit during the specified time interval.	
People Entry Rate Too Low Restored	People Entry Rate Too Low Restored	Video	Generated when the number of entering people returns to a value above the limit during the specified time interval.	
People Exit Rate Too High	People Exit Rate Too High	Video	Generated when the number of exiting people rises above the limit during the specified time interval.	
People Exit Rate Too High Restored	People Exit Rate Too High Restored	Video	Generated when the number of exiting people returns to a value below the limit during the specified time interval.	
People Exit Rate Too Low	People Exit Rate Too Low	Video	Generated when the number of exiting people falls below the limit during the specified time interval.	
People Exit Rate Too Low Restored	People Exit Rate Too Low Restored	Video	Generated when the number of exiting people returns to a value above the limit during the specified time interval.	
Pick Up	Pick Up	POS	Transaction indicating a pick up has occurred.	
Point Enabled	Point Enabled	System		
Point Disabled	Point Disabled	System		
Poor Video Visibility Restored	N/A	N/A	Generated when the video quality returns to an acceptable level.	
Power Failure Active	Power Failure	System	Generated when a power failure condition has been detected.	
Power Failure Restored	Cancelled Power Failure	System	Generated when the power failure condition was restored.	

Alarm	Event	Event Type	Description	Duress*
Pre-Alarm	Pre-Alarm	System	An event indicating a pre-alarm condition is active.	
Pre-Alarm Clear	Pre-Alarm Clear	System	An event indicating a pre-alarm condition is no longer active.	
Price Lookup	Price Lookup	POS	Generated when a price lookup has taken place.	
Quantity or Weight	Quantity or Weight	POS	An event indicating a quantity or weight.	
Reader Input Tamper Active	Reader Input Tamper	System	Generated when the reader input tamper has gone active.	
Reader Low Battery	Reader Low Battery	System	Reader low battery alarm.	
Reader Low Battery Restored	Reader Low Battery Restored	System	Generated when a reader low battery is restored.	
Reader Input Tamper Restored	Reader Input Tamper Cancelled	System	Generated when the reader input tamper was restored.	
Reader Mode Blocked	Reader Mode Blocked	System	Lock has entered blocked mode.	
Reader Mode Secured	Reader Mode Secured	System	Lock has entered secured mode.	
Reader Mode Unsecured	Reader Mode Unsecured	System	Lock has entered unsecured mode.	
Reader Mode Card and Pin	Reader Mode Card and Pin	System	Generated when the reader mode has changed to “Pin and Card” for the device.	
Reader Mode Card Only	Reader Mode Card Only	System	Generated when the reader mode has changed to “Card Only.”	
Reader Mode Facility Code	Reader Mode Facility Code	System	Generated when the reader mode has changed to “Facility Code Only.”	
Reader Mode First Card Unlock	Reader Mode First Card Unlock	System	Generated when the reader mode has changed to “First Card Unlock.”	
Reader Mode Locked	Reader Mode Locked	System	Generated when the reader mode has changed to “Locked.”	
Reader Mode Pin or Card	Reader Mode Pin or Card	System	Generated when the reader mode has changed to “Pin or Card” for the device.	

Alarm	Event	Event Type	Description	Duress*
Reader Mode Unlocked	Reader Mode Unlocked	System	Generated when the reader mode has changed to "Unlocked."	
Reader Module Firmware Upgraded	Reader Module Firmware Upgraded	System	Reader firmware has been updated.	
Reader Motor Stalled	Reader Motor Stalled	System	Generated when the motor stalls on a reader.	
Reader Motor Stalled Restored	Reader Motor Stalled Restored	System	Generated when a motor stalled condition has been restored.	
Reader Reset	Reader Reset	System	Generated when the firmware resets the reader. This can happen if the reader is brand new or in the case of a failed/ incomplete download. Internal conditions, such as a possible corrupt memory, can also cause the firmware to reset. In these cases, the firmware will rewrite its entire storage with default values, overwriting the downloaded values. When this happens, the user must reprogram the lockset.	
Realtime Clock Updated	Realtime Clock Updated	System	The Real Time Clock (RTC) was updated.	
Register X Report	Register X Report	POS	Indicates a X report was generated. X reports are financial, end of day, clerk, etc. reports.	
Register Z Report	Register Z Report	POS	Indicates a Z report was generated. Z reports are the same as X reports, but resets totals to zero.	
Rejected Biometric Score	Rejected Biometric Score	Biometric	This event returns the rejected biometric score (the actual denied event is sent separately).	
Relay Contact Activated	Relay Contact Activated	System	Generated when a relay contact was activated.	
Relay Contact Deactivated	Relay Contact Deactivated	System	Generated when a relay contact was deactivated.	

Alarm	Event	Event Type	Description	Duress*
Removed Object	Removed Object	Video	Generated when an object which was part of the background is detected as missing.	
Removed Object Restored	Removed Object Restored	Video	Generated when the object is returned to its original location or the background (after a certain time interval) is relearned.	
Request to Exit - Door Used	Request to Exit - Door Used	System	Generated when the request to exit is granted and the door is used. **Note:** If the **Assumed Door Used** checkbox is selected on the Readers form, then the door is assumed to be used. This might interfere with this event.	
Request to Exit - Door Not Used	Request to Exit - Door Not Used	System	Generated when the request to exit is granted and the door is not used. **Note:** If the **Assumed Door Used** checkbox is selected on the Readers form, then the door is assumed to be used. This might interfere with this event.	
Retrieved	Retrieved	Intercom	Generated when a phone call is retrieved/answered.	
Ringing	Ringing	Intercom	Generated when an intercom station/phone is ringing.	
Runaway Device	Runaway Device	System	Generated when the conditions specified for a runaway state are met. These conditions are configured on the System Options > Runaway Detection tab in System Administration.	

Alarm	Event	Event Type	Description	Duress*
Runaway Device Restored	Runaway Device Restored	System	Generated when the conditions configured for runaway detection are no longer true.	
Running Out of Disk Space	Running Out of Disk Space	NetDVMS	Generated when the live recording drive for the camera is running low on disk space. The criteria for generating this alarm is determined by the size of the drive and where the archive drive is located. For more information, refer to the NetDVMS documentation.	
Sales Subtotal	Sales Subtotal	POS	A transaction that reports the sale subtotal	
Schedule Change	Schedule Change	System	Generated when a schedule, added in the Scheduler, is changed.	
Schedule Executed	Schedule Executed	System	Generated when a schedule, added in the Scheduler, is executed.	
Scheduler Action Executed	Scheduler Action Executed	System	Generated when a scheduler action has executed.	
Scheduler Action Failed	Scheduler Action Failed	System	Generated when a scheduler action has failed.	
Security Alarm Acknowledge	Security Alarm Acknowledge	Fire	Generated when a security alarm has been acknowledged.	
Security Alarm Block Acknowledge	Security Alarm Block Acknowledge	Fire	Generated when all security alarms have been acknowledged at the fire panel.	
Security Alarm In	Security Alarm In	Fire	Generated when a new security alarm has been detected for the device.	
Security Alarm Out	Security Alarm Out	Fire	Generated when a device with a previous security alarm has returned to its normal state.	
Shorted Line Active	Shorted Line Alarm Active	System	Generated when a shorted line fault condition has been detected.	

Alarm	Event	Event Type	Description	Duress*
Shorted Line Restored	Canceled Shorted Line	System	Generated when a device with a shorted line fault condition has returned to its normal state.	
Signal Silence	Signal Silence	Fire	Generated when the alarm signal on the hardware has been silenced.	
Smart Card Authentication Failed	Smart Card Authentication Failed	System	Generated when a smart card authentication failed.	Yes
Smart VMD	Smart VMD	Video	Generated when a change is detected.	
Smart VMD Restored	Smart VMD Restored	Video	Generated 8 seconds after the last detection of a Smart VMD event.	
Status In	Status In	Fire	Generated when a status reporting device is active.	
Status - Missing Fire Supervision	Status - Missing Fire Supervision	Fire	Fire supervision is missing.	
Status Out	Status Out	Fire	Generated when a status reporting device has returned to the inactive state.	
Storage Failure	Storage Failure	Video	Indicates that something is wrong related to recording/ retrieving video to/from hard drives.	
Store Coupon	Store Coupon	POS	Indicates a store coupon.	
Supervisory Acknowledge	Supervisory Acknowledge	Fire	Generated when a supervisory condition has been acknowledged.	
Supervisory Block Acknowledge	Supervisory Block Acknowledge	Fire	Generated when all supervisory conditions have been acknowledged at the fire panel.	
Supervisory In	Supervisory In	Fire	Generated when a new supervisory condition has been detected for the device.	
Supervisory Out	Supervisory Out	Fire	Generated when a device with a previous supervisory condition has returned to its normal state.	
System Reset	System Reset	Fire	Generated when the fire panel has been reset.	

Alarm	Event	Event Type	Description	Duress*
Tax Amount	Tax Amount	POS	Event that indicates the tax amount.	
Taxable Subtotal	Taxable Subtotal	POS	Transaction that reports the taxable subtotal	
Timeout Exceeded - No Second Card	Timeout Exceeded - No Second Card	Area Control	Generated when no second card was presented within the time limit for the area/ reader using two-man control.	Yes
Time Out-Of-Sync	Time Out-Of-Sync	Video	Generated when the time stamp feature is enabled and the time on the camera has a difference of 20 seconds or more from the video recorder time.	
Time Out-Of-Sync Restored	Time Out-Of-Sync Restored	Video	Generated when the time difference between the camera and video recorder returns to less than 20 seconds.	
Total Amount Due	Total Amount Due	POS	Transaction indicating the total amount due.	
Transaction Number	Transaction Number	POS	Event Generated that indicates the transaction number of the sales transaction.	
Transfer, Diagnostics	Transfer, Diagnostics	System	Generated when a user is connected to the device for diagnostic purposes.	
Transfer, History	Transfer, History	System	Generated when a history data was transferred from the device to the parent device.	
Transfer, PDA To Lock	Transfer, PDA To Lock	System	Generated when the device (lockset) is programmed/ reprogrammed through a download from a Mobile Configurator.	
Transferred Call		Intercom	Generated if an intercom call is transferred.	
Transmitter Alarm	Transmitter Alarm	Transmitter	Generated when the button or input on a transmitter has been activated.	
Transmitter Alarm Restored	Transmitter Alarm Restored	Transmitter	Generated when the transmitter alarm has been restored.	

Alarm	Event	Event Type	Description	Duress*
Transmitter Inactivity	Transmitter Inactivity	Transmitter	Transmitter has been inactive longer than the supervision interval	
Transmitter Low Battery	Transmitter Low Battery	Transmitter	Transmitter low battery alarm	
Transmitter Low Battery Restored	Transmitter Low Battery Restored	Transmitter	Generated when a transmitter low battery has been restored.	
Transmitter Pre-Tilt	Transmitter Pre-Tilt	Transmitter	Generated when the transmitter is in the pre-tilt state.	
Transmitter Pre-Tilt Restored	Transmitter Pre-Tilt Restored	Transmitter	Generated when the transmitter has returned to normal from the pre-tilt state.	
Transmitter Pull Cord Alarm	Transmitter Pull Cord Alarm	Transmitter	Generated when the pull cord on a transmitter has been pulled and is in alarm.	
Transmitter Pull Cord Restored	Transmitter Pull Cord Restored	Transmitter	Generated when the transmitter pull cord alarm has been restored.	
Transmitter Tamper	Transmitter Tamper	Transmitter	Transmitter tamper alarm.	
Transmitter Tamper Restored	Transmitter Tamper Restored	Transmitter	Generated when a transmitter tamper has been restored.	
Transmitter Temporary Tilt Disable	Transmitter Temporary Tilt Disable	Transmitter	Generated when the transmitter temporary tilt has been disabled.	
Transmitter Tilt	Transmitter Tilt	Transmitter	Generated when a tilt condition on the transmitter has been detected.	
Transmitter Tilt Disabled	Transmitter Tilt Disabled	Transmitter	Generated when the transmitter tilt function has been disabled.	
Transmitter Tilt Enabled	Transmitter Tilt Enabled	Transmitter	Generated when the transmitter tilt function has been enabled.	
Transmitter Tilt Restored	Transmitter Tilt Restored	Transmitter	Generated when the tilt condition on the transmitter has been restored.	
Transmitter Acknowledge	Transmitter Acknowledge	Transmitter	This event is reported when an alarm generated by a transmitter has been acknowledged.	

Alarm	Event	Event Type	Description	Duress*
Transmitter No Response	Transmitter No Response	Transmitter	This event is reported when an alarm generated by a transmitter has not been acknowledged.	
Transmitter Touch Alarm	Transmitter Touch Alarm	Transmitter	Alarm generated by a transmitter when the item it is protecting is touched.	
Transmitter Removal Alarm	Transmitter Removal Alarm	Transmitter	Alarm generated by a transmitter when an item it is protecting is removed.	
Trouble Acknowledge	Trouble Acknowledge	Fire	Generated when the trouble condition has been acknowledged.	
Trouble Acknowledge Clear	Trouble Acknowledge Clear	Fire	Generated when a trouble condition that has been cleared from the system has been acknowledged by a user.	
Trouble Bell #	Trouble Bell 1 or 2	Relay/ Sounder	Generated when Trouble bell 1 or 2 is in alarm.	
Trouble Bell # Restore	Trouble Bell 1 or 2 Restore	Relay/ Sounder	Generated when Trouble bell 1 or 2 is restored.	
Trouble Block Acknowledge	Trouble Block Acknowledge	Fire	Generated when all trouble conditions have been acknowledged at the fire panel.	
Trouble In	Trouble In	Fire	Generated when a new trouble condition has been detected for the device.	
Trouble Out	Trouble Out	Fire	Generated when a device with a previous trouble condition has returned to its normal state.	
Unanswered Call	Unanswered Call	Intercom	Generated if a ringing intercom call goes unanswered.	
Unexpected Access	Unexpected Access	System	Generated when a user successfully exits using an unexpected exit reader, after gaining access to a specific entry reader, and the “must proceed to exit readers” option is enabled.	

Alarm	Event	Event Type	Description	Duress*
Unexpected Access Attempt	Unexpected Access Attempt	System	Generated when a user attempts to exit using an unexpected exit reader, after gaining access to a specific entry reader, and the “must proceed to exit readers” option is enabled.	
Unknown Elevator Terminal	Unknown Elevator Terminal	System	Generated when an elevator terminal is detected that has not been configured in the system.	
Unknown User Command	Unknown User Command	System	Generated when an unknown user command is entered through a reader. For example, if a cardholder enters the command *1234# (where that command means nothing) an unknown user command alarm is sent to Alarm Monitoring. The numbers entered as the command are used as the event text for the alarm.	
Unlocked Under AFC	Unlocked Under AFC	System	Lock has entered AFC state.	
Unlocked Mode Change Denied: Blocked Mode	Unlocked Mode Change Denied: Blocked Mode	System	Automatic scheduled change to unlocked mode was denied because lock is in blocked mode.	
Unlocked Mode Change Denied: Low Battery	Unlocked Mode Change Denied: Low Battery	System	Automatic scheduled change to unlocked mode was denied due to low battery condition.	
Unlocked Mode Change Denied: Secured Mode	Unlocked Mode Change Denied: Secured Mode	System	Automatic scheduled change to unlocked mode was denied because lock is in secured mode.	
Unlocked Under First Card Unlock	Unlocked Under First Card Unlock	System	First card unlock mode; door is unlocked.	
Unsupported Hardware	Unsupported Hardware	System	Generated when hardware that is not supported is added to the system.	
Untyped Abort	Untyped Abort	Trouble	Generated when an alarm for a device of an unknown type has been aborted/ canceled.	

Alarm	Event	Event Type	Description	Duress*
Untyped Alarm	Untyped Alarm	Trouble	Generated when an alarm for a device of unknown type occurs.	
Untyped Alarm Restore	Untyped Alarm Restore	Trouble	Generated when the device of an unknown type is restored.	
Untyped Bypass	Untyped Bypass	Trouble	Generated when a device of an unknown type has been bypassed.	
Use Limit Exceeded	Use Limit Exceeded	Denied	Access was denied because the use limit for the badge has been exceeded.	Yes
User Failed to Reach Destination	User Failed to Reach Destination	System	Generated when a user fails to exit at a specific exit reader, after gaining access to a specific entry reader, before the timeout value expires.	
User Generated Video Event	User Generated Video Event	Video	Video events are typically created automatically by the system based on an event from an external device. This allows the user to generate an event that is not tied to any device. It can be created from any camera with any user defined time limit from within the video player window in Alarm Monitoring. This event can then be included in reports, or have a trace performed like any other event in the system.	
Value Added	Value Added	POS	Event that indicates value added.	
Video Event Threshold Reached	Video Event Threshold Reached	Video	Generated when the user-defined event threshold has been reached and exceeded. (The percent of disk space used by video events has been reached, typically signaling the archive server to start archiving or purging.)	
Video Failover Failed	Video Failover Failed	Video	Generated when the camera is configured for failover and failover cannot be activated on this camera.	

Alarm	Event	Event Type	Description	Duress*
Video Failover Restored	Video Failover Restored	Video	Generated when the camera is configured for failover and secondary recorder is currently recording video from the camera and secondary recorder determined that the primary recorder came back online and started recording video from the camera. Secondary recorder will stop recording video from the camera. Alarm Monitoring users should log off of the application and back on when the primary recorder comes back online.	
Video Failover Started	Video Failover Started	Video	Generated when the camera is configured for failover and secondary recorder determined that the primary recorder is not recording video from the camera, so secondary recorder starts recording from this camera. Alarm Monitoring users should log off of the application and back on when failover occurs.	
Video Graininess Restored	N/A	N/A	Displayed after noise (graininess) in the video has been reduced.	
Video Overflow Restored	Video Overflow Restored	Video	Generated when the recorder is no longer having troubles handling incoming video.	
Video Overflow Started	Video Overflow Started	Video	Generated when the recorder determined that it cannot handle incoming video. Usually it happens when hard drive or CPU utilization is close to 100%, so recorder cannot keep up with amount of video.	

Alarm	Event	Event Type	Description	Duress*
Video Server Disk Full	Video Server Disk Full	Video	Generated when the user-defined event threshold has been exceeded by 5% or more. (The percent of disk space used by video events has been exceeded by at least 5%, typically signaling the archive server to start archiving or purging.) If a user-defined event threshold has not been defined, this alarm/event will be generated when the video server disk space is 75% full of video events.	
Video Server is Not Recording	Video Server is Not Recording	Video	Generated when it has been detected that the video recorder is no longer recording. A check is done periodically (default is every 10 minutes) to check to make sure that video is still being recorded. This event is generated when the check fails.	
Video Source Signal Lost	Video Source Signal Lost	Video	Generated when the video signal from a channel is lost from the video server. This alarm may be accompanied by a Communications Lost alarm.	
Video Source Signal Restored	Video Source Signal Restored	Video	Generated when the video signal from a channel is restored to the video server. This alarm maybe accompanied by a Communications Restored alarm.	
Video Storage Unavailable	Video Storage Unavailable	Video	Generated when the recorder cannot record video to a drive.	
Void or Error Correction	Void or Error Correction	POS	Transaction that indicates a void or error correction	

Alarm	Event	Event Type	Description	Duress*
Walk Test ##	Walk Test ##	Fire	Generated when walk test ## is initiated. A walk test is used to test devices in the system and report devices addressed incorrectly. The device and the first zone programmed for this device are reported with each message.	
Walk Test Uninstalled	Walk Test Uninstalled	Fire	Generated when the reported device was part of a walk test and has been physically disconnected from the system.	
Walk Test Unprogrammed	Walk Test Unprogrammed	Fire	Generated when the reported device was part of a walk test and has been removed from the system (it is not longer configured in the system).	
Walk Test Untest	Walk Test Untest	Fire	Generated when the reported device is no longer being tested (part of a walk test).	
Warning: Poor Visibility	N/A	N/A	This warning appears when the camera's view of a scene is impaired by glare, fog, etc. The sensitivity of the Poor Visibility warning can be adjusted in the Channel Configuration dialog.	
Warning: Video Graininess	N/A	N/A	This warning appears when the video is noisy (grainy.) The alarm may also be generated in scenes with very fine detail, such as heavy vegetation.	
Wireless Smoke Detector	Wireless Smoke Detector	Fire	A wireless smoke detector has generated an alarm.	
WLM Firmware Upgraded	WLM Firmware Upgraded	System	Radio module firmware was updated	

* The duress column marks which alarm events can be used as duress events if your system is configured for duress.

Appendix C: Multimedia Capture

Multimedia Capture contains forms with which you can:

- Capture a cardholder or visitor's photo
- Import an existing photo
- Optimize photo image quality
- Record a cardholder's signature
- Capture and define cardholder biometric templates

Multimedia Capture contains up to nine forms: the Photo form, the Signature form, the Hand Geometry form, the Fingerprint (Bioscrypt) form, the OpenCapture form, the Iris (IrisAccess 3000) form, and the Iris (IrisAccess iCAM) form.

In the System Administration, Alarm Monitoring, ID CredentialCenter, and Visitor Management applications, Multimedia Capture is opened by selecting the [Capture] button when adding or modifying a record in the Cardholders folder.

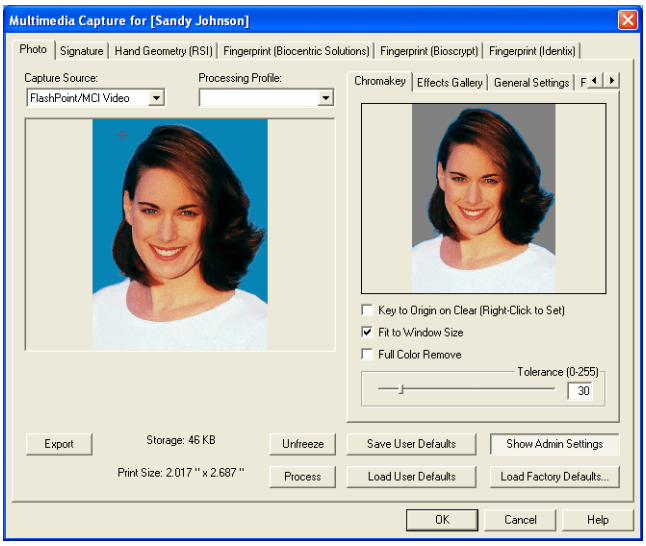
Required Licenses and Permissions

The availability of certain features in Multimedia Capture are subject to licensing restrictions. A user's permissions must also be set on the Cardholder Permission Groups form in the Users folder. For more information, refer to Cardholder Permission Groups Form Overview on page 425.

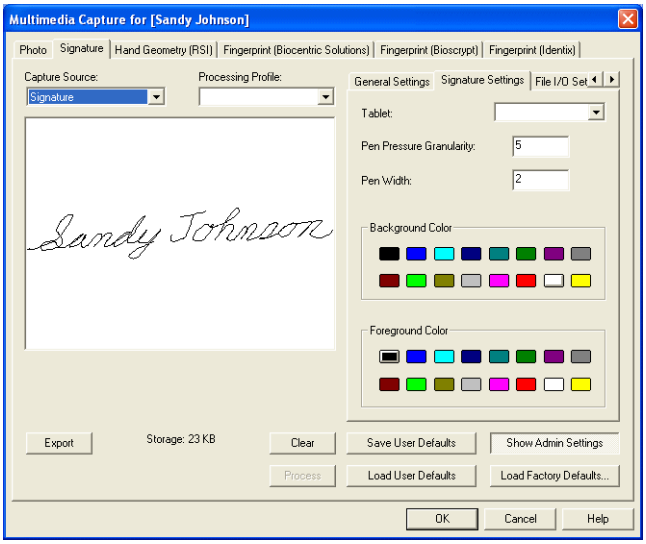
Multimedia Capture feature	Required license	Required Cardholder Level capture permission
Image Processing window	Image Capture (STD)	Image Processing
WDM Video capture source	Image Capture (STD)	Photo
FlashPoint/MCI Video capture source	Image Capture (STD)	Photo
WDM Video Settings, FlashPoint/MCI Video Settings and FlashPoint/MCI Video I/O Settings sub-tabs	Image Capture (STD)	Photo and Advanced
Scanner & Digital Camera capture sources	Image Capture (STD)	Scanner
Scanner & Digital Camera Settings sub-tabs	Image Capture (STD)	Scanner and Advanced
Signature capture source	Image Capture (STD)	Signature
Signature Settings sub-tab	Image Capture (STD)	Signature and Advanced
Hand Geometry form	HandKey Hand Geometry Hardware Support (SWG-1400)	Biometrics

Multimedia Capture feature	Required license	Required Cardholder Level capture permission
Fingerprint (Bioscrypt) Form	Bioscrypt Veri-Series Hardware Support (SWG-1402)	Biometrics
OpenCapture Form	OpenCapture Recognition Hardware Support (Cross Match ID 500, Cross Match Verifier 300, and Sagem Morpho Smart Optical scanners)	Biometrics
Iris (IrisAccess 3000) Form	IrisAccess Application Support (SWG-LGxxx)	Biometrics
Iris (IrisAccess iCAM) Form	IrisAccess Application Support (SWG-LGxxx)	Biometrics

Photo Form



Signature Form



Signature Form Overview

The Signature form is used for capturing cardholder's signatures. Signatures can be captured via the mouse or signature tablet (vector), via file import (bitmapped and/or vector), or via video cameras or scanners (bitmapped).

Multimedia Capture - Photo and Signature Form

Form Element	Comment
Capture Source	Select the type of information you want to capture. Choices include: • WDM Video - the cardholder's photo is captured from live video. When you select the WDM Video capture source, the WDM Video Settings sub-tab becomes available. • Flashpoint/MCI Video - the cardholder's photo is captured from live video. When you select the FlashPoint/MCI Video capture source, the FlashPoint/MCI Video Settings sub-tab becomes available. • Signature - the cardholder enters his or her signature using a signature capture tablet and stylus. (This option is only available when Signature form is selected.) • Scanner - a scanner device creates a computer image file from an existing hardcopy photo. When you select the Scanner capture source, the Scanner Settings sub-tab becomes available. • Digital Camera - a digital camera is attached to the computer so that images stored in the camera can be transferred to the system. When you select the Digital Camera capture source, the Digital Camera Settings sub-tab becomes available. • File Import - an existing computer image file is added to the system.
Processing Profile	Select an effect profile for the selected image. Effect profiles are defined in the Image Processing window. Click [Process] to open the Image Processing window. They system is configured with a set of default image processing profiles that can be applied.
Multimedia window	Depending on your selection from the **Capture Source** drop-down list, this window displays either live video, signature input, scanner input, a digital camera image or an imported file.

Export	Click this button to save the current captured image as an image file on a disk. Minimal compression will be used so that the image is stored in the best possible quality. The crop window will be used when exporting if an image is bitmapped. The following default filename and extensions apply when exporting:
	When the Photo form is selected:
	• If the photo is bitmapped and the crop window is in use, the portion of the image within the crop window will be saved. Otherwise, the whole photo will be saved.
	• The photo will be stored in:
	  • JPG format if it is bitmapped and has more than 256 colors.
	  • PNG format if it is bitmapped and has 256 colors or less.
	  • EMF format if it is vector.
	• If the current record has no name assigned to the cardholder, the filename default is "no_name Photo." Otherwise, the filename will default to the cardholder's name.

Multimedia Capture - Photo and Signature Form (Continued)

Form Element	Comment

Export (Continued)	When the Signature form is selected:
	• If the signature is bitmapped and the crop window is in use, the portion of the signature within the crop window will be saved. Otherwise, the whole signature will be saved.
	• The signature will be stored in:
	  • JPG format if it is bitmapped and has more than 256 colors.
	  • PNG format if it is bitmapped and has 256 colors or less.
	  • EMF format if it is vector.
	• If the record has no cardholder name, the filename default is “no_name Sig” plus the filename extension. Otherwise, it defaults to the cardholder name plus the filename extension.
	When the Graphic form is selected:
	• If the graphic is bitmapped and the crop window is in use, the portion of the graphic within the crop window will be saved. Otherwise, the whole graphic will be saved.
	• The graphic will be stored in:
	  • JPG format if it is bitmapped and has more than 256 colors.
	  • PNG format if it is bitmapped and has 256 colors or less.
	  • EMF format if it is vector.
	• If the graphic is a new one being imported into the database, the filename default is “New Layout Graphic” plus the filename extension. Otherwise, it defaults to the graphic name plus the file extension.

Freeze	Select this button to freeze the live video in order to capture a cardholder's photo. This button is displayed only when either “WDM Video” or “FlashPoint/MCI Video” is selected from the **Capture Source** drop-down list.
Unfreeze	Select this button to resume live video. This button is displayed only when either “WDM Video” or “FlashPoint/MCI Video” is selected from the **Capture Source** drop-down list.
Open	Click this button to display an Open window from where you can select a drive, directory and filename to import an existing photo. **Note:** This button is displayed only when “File Import” is selected from the **Capture Source** drop-down list.
Clear	Click this button to clear the contents of the multimedia window. **Note:** This button is displayed only when “Signature,” “Scanner,” “Digital Camera”, or “File Import” is selected from the **Capture Source** drop-down list.
Sign	Click this button to activate the signature pad so that the cardholder can enter his or her signature. **Note:** This button is displayed only when “Signature” is selected from the **Capture Source** drop-down list.

Multimedia Capture - Photo and Signature Form (Continued)

Form Element	Comment
Stop	Click this button to notify the system that the cardholder has finished entering his or her signature and deactivate the signature pad. **Note:** This button is displayed only when "Signature" is selected from the **Capture Source** drop-down list.
Preview	Click this button to activate the scanner, so that the existing image can be digitized (scanned) into the system. **Note:** This button is displayed only when "Scanner" is selected from the **Capture Source** drop-down list.
Scan	Click this button to activate the scanner, so that the existing image can be digitized (scanned) into the system. **Note:** This button is displayed only when "Scanner" is selected from the **Capture Source** drop-down list.
Process	Click this button to open the Image Processing window from where you can manipulate the captured photo to improve its quality.
Save User Defaults	Click this button to save the current settings as the default settings on this workstation. The settings will be applied to all Multimedia Capture forms and sub-tabs; however, they do not include the set of image processing profiles, which are maintained separately by the Image Processing window.
Show Admin Settings	Select this button to view all the forms and sub-tabs applicable to the current capture source. When not selected, only the Chromakey and Effects Gallery sub-tabs will be displayed.
Load User Defaults	Click this button to display the previously saved (default) settings for this workstation. The settings will be applied to all Multimedia Capture forms and sub-tabs.
Load Factory Defaults	Click this button to open the Load Factory Defaults window where you can reset the capture settings back to the default values for your specific capture hardware.
OK	Saves your changes and closes Multimedia Capture.
Cancel	Closes the window and returns you to the Cardholder, Badge or Access Levels form. Does not save any changes made in Multimedia Capture.
Help	Displays online assistance for Multimedia Capture.

General Capture Procedures

Open Multimedia Capture

Multimedia Capture opens when you click [Capture] while adding or modifying a record in the Cardholders folder.

1. In Alarm Monitoring, select **Badge Info** from the **View** menu. In all other applications, select **Cardholders** from the **Administration** menu. The Cardholders folder opens.
2. Display a cardholder record. To do this, you can either add a cardholder record or search for an existing record. For more information, refer to Add a Cardholder Record on page 133 or Search for a Cardholder Record on page 117.
3. Click [Modify].

Note: Although you can see both cardholders and visitors in Visitor Management, the [Modify] button is only active for visitors.

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4. Click [Capture]. Multimedia Capture opens.

Load (User or Factory) Default Settings

1. Open Multimedia Capture. For more information, refer to Open Multimedia Capture on page 1375.
2. Click the Photo, Signature, or Graphic tab.
3. Click [Load Factory Defaults] or [Load User Defaults].
4. If you are loading user defaults, the settings automatically populate.
5. If you are loading factory default settings, the Load Factory Defaults dialog opens.
   a. Select the profile for the hardware capture device.

Note: The difference between Hi-Res and Low Res digital camera profiles is that they have different default crop window sizes.

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   b. Click [OK].

Export an Image

ReadkeyPRO exports the most recently saved image. Even if you are displaying live video or recording a signature at the time you initiate export, ReadkeyPRO

exports the last image saved. If the image is cropped, only the cropped portion is exported.

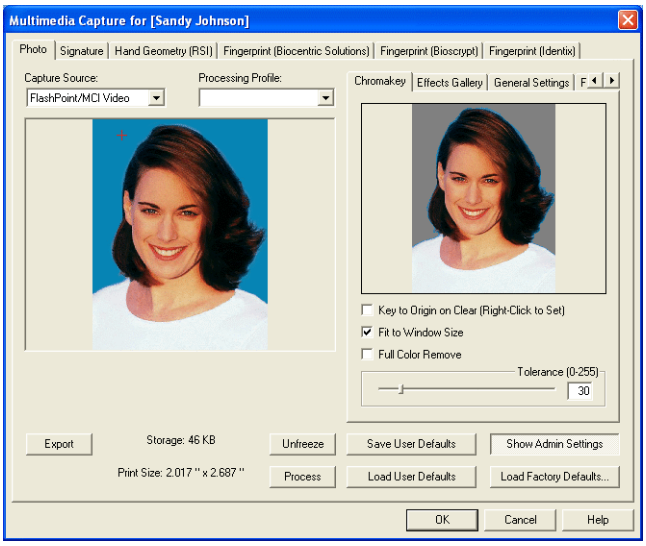
1. Open Multimedia Capture. For more information, refer to Open Multimedia Capture on page 1375.
2. Click the Photo, Signature or Graphic tab.
3. Display the image and click [Export].
4. Depending on how the system is configured, the Save As window opens. Enter the filename and click [Save]. Otherwise, the file is automatically named and exported to the default directory set up in the Multimedia Capture admin settings (File I/O Settings sub-tab).

Formats Exported

ReadkeyPRO exports images in the following formats:

- JPG format if the image is bitmapped and has more than 256 colors.
- PNG format if the image is bitmapped and has 256 colors or less.
- EMF format if the image is vector.

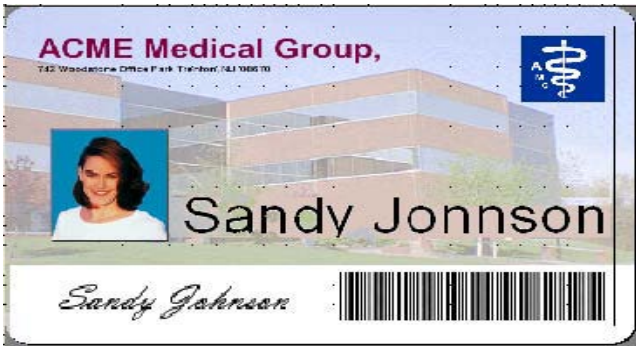
Chromakey Sub-tab



Chromakey Sub-tab Overview

The Chromakey sub-tab allows you to control if and how the system determines background transparency information for bitmapped images. Chromakey does not apply to non-bitmapped (vector) images.

A typical application of chromakey is to capture cardholder/visitor images using a solid color backdrop. Then, apply chromakey to the images (remove the background color) and print the badge. The cardholder/visitor's image displays over the background image.


ACME Medical Group,
Sandy Jonnson
Sandy Johnson

Chromakey Sub-tab Field Table

Multimedia Capture - Chromakey Sub-tab

Form Element	Comment
Chromakey output	Displays the image with the current Chromakey settings applied. When printing a badge, you may want to first preview the badge and zoom in to enlarge the display, to make sure that your Chromakey settings produced the desirable result.
Key to Origin on Clear (Right-Click to Set)	Controls the position of the key (red cross-hairs) upon loading of a new image. The key position is selected using the mouse to right-click over the image. When this check box is selected, when the current image is cleared, the key position is reset to the origin (at the top left corner of the crop window). When this check box is not selected, when the current image is cleared, the key position is preserved.
Fit to Window Size	When this check box is selected, the current image is scaled to fit within the available viewing area. Depending on the size of the image, it will be reduced or enlarged to fit the window.
Full Color Remove	When this check box is selected, the chromakey feature will determine which pixels are background pixels strictly by color matching alone. Every pixel of the image is compared against the key color, from left-to-right, top-to-bottom. Each pixel that differs from the key color is determined to be a background pixel. The tolerance setting determines how much the colors have to differ from the key color to be considered as background. When this check box is not selected, the chromakey feature will determine which pixels are background pixels in the same manner as a drawing program's flood-fill feature. The filling starts at the origin and spreads outward, stopping at parts of the image that differ from the key color. The tolerance setting determines how much the colors have to differ to stop the fill. **Note:** Full color remove works well with graphic images but not with photos when the color of the person's eyes or clothing is very similar to the background color.
Tolerance (0-255)	Determines how much deviation from the exact chromakey color match is tolerable. Choose a value in the range of 0-100. The higher the tolerance value the more colors that will be chromakeyed out (the more colors that will be converted to background).

Chromakey Sub-tab Procedures

Apply Chromakey to an Image

Note: Chromakey is available only when the captured image is bitmapped.

1. Open Multimedia Capture and display an image. For more information, refer to Open Multimedia Capture on page 1375.
2. On the Photo or Graphic tab, click the Chromakey sub-tab.
3. In the main window, identify the color you want to make transparent by right-clicking the mouse over the original image (and inside the crop window if there is one). When you right-click, a red cross hair displays or repositions itself. The red cross hair identifies the color the chromakey tolerance value applies to.

4. On the Chromakey sub-tab:
   a. Select the **Fit to Window Size** check box if you want to view the entire image in the Chromakey window.
   b. Select the **Full color Remove** check box to remove the selected color from the entire screen. This feature works well with graphic images but not photos where the person's eye color may match the background you are trying to remove.
   c. Use the **Tolerance** slider to control the depth of the chromakey effect. The Chromakey window displays the changes.
   d. Use the **Key to Origin on Clear (Right-Click to Set)** check box to reset the cross hair position to the top left corner of the image when you click [Clear].
5. Click [OK].

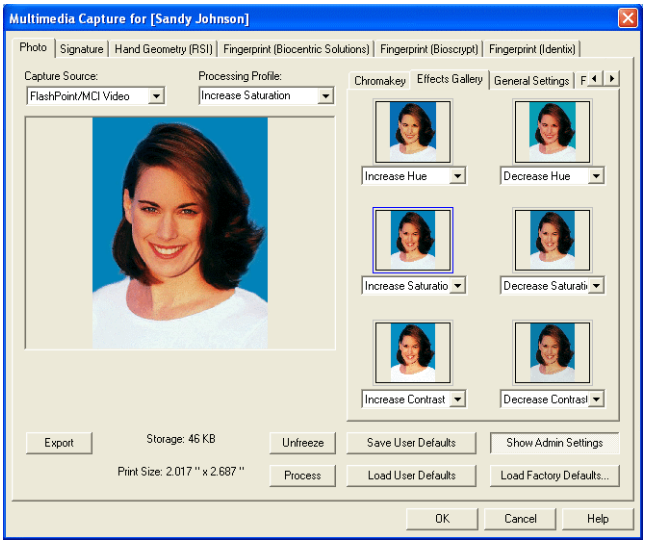
Chromakey Tips

The following characteristics produce the best chromakey results:

- High quality images
- Deep blue or green (highly saturated) backgrounds (light gray and white do not work well)

- Uniform background lighting
- No shadows
- Background color significantly different than the subject's eye and clothing color

Effects Gallery Sub-tab



Effects Gallery Sub-tab Overview

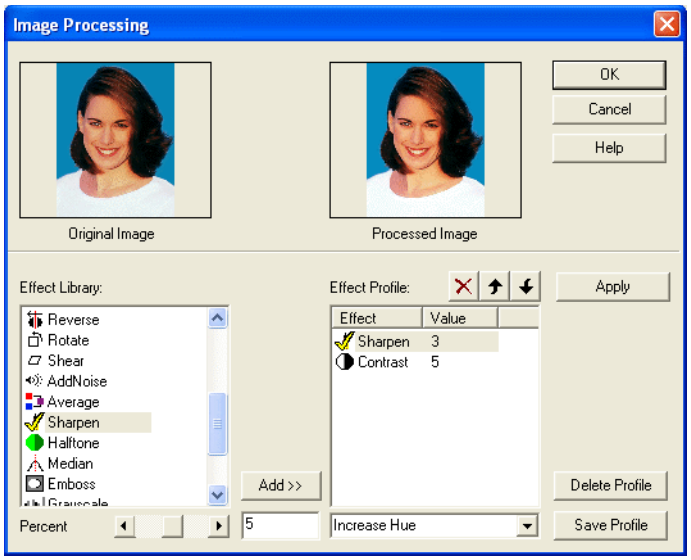
The Effects Gallery displays up to six pre-defined effect profiles. Choices include: increase or decrease hue, increase or decrease saturation, increase or decrease contrast, and sharpen. An *effect profile* contains special effects that can be applied to bitmapped images only.

You can also customize an effect profile. When you customize an effect profile you can choose from 21 different effects. Furthermore, many of these effects have settings that allow you to increase or decrease the intensity of that effect. Multiple effects can be combined to achieve the desired result. For more information, refer to Create an Effect Profile on page 1385.

Use the Effects Gallery

1. Open Multimedia Capture and display an image. For more information, refer to Open Multimedia Capture on page 1375.
2. On the Photo or Graphic tab, click the Effects Gallery sub-tab.
3. Select an effect profile from the drop-down list.
4. To apply the effect on the currently displayed image, select the thumbnail image such that a blue line encompasses the perimeter of the thumbnail.

Image Processing Window



Multimedia Capture - Effects Gallery Sub-tab

Form Element	Comment
Preview boxes	Any of the six boxes each containing a thumbnail of the captured image with an effect profile applied.
Effect profile	Choices in these drop-down lists (located below the six thumbnails of the captured image) include the names of all currently defined effect profiles. Select a profile to be applied to each thumbnail.
Image Processing Window	
Original Image	Displays a miniature view of an original (unprocessed) captured image.
Processed Image	Displays a miniature view of an image with an effect profile applied. This enables you to preview the outcome of combined image effects.

Multimedia Capture - Effects Gallery Sub-tab (Continued)

Form Element	Comment
Effect Library	Lists the available effects you can apply to the captured image. Choices include: • None - applies no effects to the image. • Intensity - increases or decreases the overall intensity level of the light in the image. Adjust the brighter areas by making them brighter or darker. You can choose a value in the range of -100% to +100%. Negative values make the image darker; positive values lighten the image. • Contrast - increases or decreases the range of gray levels contained in the image, adjusting the distinction between the lightest and darkest tones in the image. You can choose a value in the range of -100% to +100%. The higher the positive value the lighter the light areas become and the darker the dark areas become.
Effect Library (continued)	• Saturation - adjusts the purity of color (the number of colors used to create a particular color). You can choose a value in the range of -100% to +100%. Positive values increase the saturation (purity); negative values decrease the saturation. • GammaCorrect - enhances detail in the image by adjusting the middle tones without affecting the darkest and lightest areas. You can choose a gamma value in the range of 1 to 499. The larger the number, the greater the adjustment will be. • HistoContrast - adjusts the number of pixels per gray level to create a linear relationship between gray levels. This effect can bring out the detail in dark areas of the image. You can choose a value in the range of -100% to +100%.
Effect Library (continued)	• Hue - adjusts the main characteristic of a particular color that distinguishes it from other colors. You can choose a value in the range of -360 to +360. • HistoEqualize - redistributes shades of colors to adjust imbalances. It makes the darkest colors black and the lightest colors white and stretches the colors in between. It is often best to equalize a scanned image first to improve its appearance before applying other effects. • Flip - flips the image horizontally (the image will appear upside down).
Effect Library (continued)	• Reverse - flips the image vertically, creating a mirror image of the original. • Rotate - you can choose a value in the range of -360 to +360. Negative values rotate the image counterclockwise. Positive values rotate the image clockwise. • Shear - applies the look of three-dimensionality to the image, while maintaining the original size and shape. You can choose a value in the range of -45 to +45. Negative values apply the effect to the top and left directions, positive values apply the effect to the bottom and right directions. Shear applies its effect only along the horizontal and vertical planes.
Effect Library (continued)	• AddNoise - creates a granular effect that adds texture to a flat or overly blended picture. You can choose a value in the range of 0 to 100. • Average - converts each pixel in the image to the average of itself and the pixels to the right and bottom. The result is a blurring of the image. You can choose a value in the range of 1 to 100. • Sharpen - enhances the edges and brings out detail. The higher the number, the greater the sharpening. You can choose a value in the range of -100 to +100.

Multimedia Capture - Effects Gallery Sub-tab (Continued)

Form Element	Comment
Effect Library (continued)	• Halftone - converts the image to a black and white (1 bit/pixel) image in which different shades of gray (luminances) are represented by different patterns of back and white pixels. Denser dot patterns of white represent higher luminances (lighter areas of the image). Denser dot patterns of black dots are used represent lower luminances (dark areas of the image). Adjusting the slider adjusts the angle of the dot patterns (from 0 to 360 degrees). Simulates the image's continuous tone quality using varying hues and combinations of the process (subtractive) colors. You can choose a value in the range of -360 to +360. • Median - reduces the amount of graininess in an image. It does so by converting each pixel in the image to the midpoint of itself and some number of pixels to the right and bottom. The result is a blurring of the image. You can choose a value in the range of 1 to 100. • Emboss - converts the image to a raised relief style with its light source directed from the top left. The slider adjusts the depth of the embossing. You can choose a value in the range of 0 to 100.
Effect Library (continued)	• Grayscale - represents the image using up to 256 shades of gray. • Invert - inverts the colors in the image as on a photographic negative. • Mosaic - converts the image to a grid of square blocks of color. You can choose a value in the range of 1 to 100. The higher the number, the larger the blocks will be. • Posterize - reduces the color resolution, which is the number of shades of color that can be displayed simultaneously. Gradations are removed, creating areas of solid colors or gray shades. You can choose a value in the range of 2 to 64. The lower the number, the more pronounced the effect will be.
Value type	Use the slider to adjust the value of the effect selected in the Effect Library listing window. You can also type in a numeric value. Note that some effects are not adjustable.
Add	Click this button to add the item to the Effect Profile listing window.
	Click this button to remove the effect from the Effect Profile listing window
	Click this button to move the effect up one position in the effect profile.
	Click this button to move the effect down one position in the effect profile.
Effect Profile listing window	Lists the sequence of effects that will be performed to produce the combined effect selected in the profile list.
Profile list	Lists all currently defined effect profiles.
OK	Saves your changes and close the Image Processing window.
Cancel	Closes the Image Processing window without saving your changes.
Help	Displays online assistance for this window.
Apply	Applies the current effect profile to the original image and display the results in the Processed Image window for comparison.
Delete Profile	Removes the selected profile from the profile list

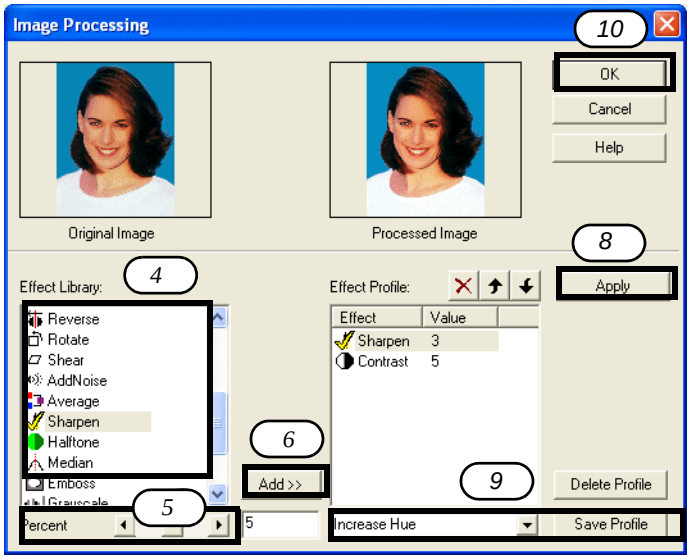
Multimedia Capture - Effects Gallery Sub-tab (Continued)

Form Element	Comment
Save Profile	Saves the current profile and add it to the profile list.

Effects Gallery Sub-tab Procedures

Create an Effect Profile

1. Open Multimedia Capture and display an image. For more information, refer to Open Multimedia Capture on page 1375.
2. Verify the **Processing Profile** drop-down list (upper right) is empty. Otherwise, you will be modifying an existing profile instead of creating a new one.
3. On the Photo or Graphic tab, click [Process]. The Image Processing window opens.



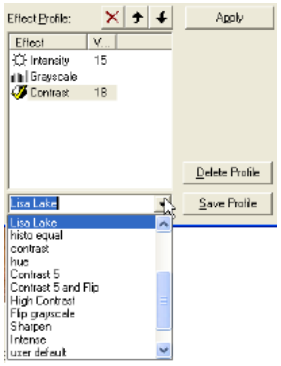
4. Select an entry in the Effect Library listing window. If the effect is adjustable, proceed to step 5. If the effect is not adjustable, proceed to step 6.

Note: The effect is adjustable if one or more fields display below the Effect Library listing window.

5. Adjust the intensity of the effect.
6. Click [Add] to add this effect to your new profile.
7. Repeat steps 4-6 for each effect you want to add to the new profile.
8. To view the result of the entire effect profile, click [Apply].
9. Enter the name of the new profile and click [Save Profile].
10. Click [OK].

Modify an Existing Effect Profile

1. Open Multimedia Capture and display an image. For more information, refer to Open Multimedia Capture on page 1375.
2. On the Photo or Graphic tab, click [Process]. The Image Processing window opens.
3. Select the effect profile from the drop-down list.



4. To delete the effect, click  .
5. To change the value of the effect, you must delete the effect first and then add the effect with a new value.
   For example, if you have an effect that sharpens an image by a value of 10 and you want to modify it to sharpen the image by a value of 12, you cannot

simply change the value of the effect. You must first delete the sharpen effect with a value of 10 and then add the sharpen effect with the value of 12.

6. To change the order effects display, select an effect, and click the correct button.

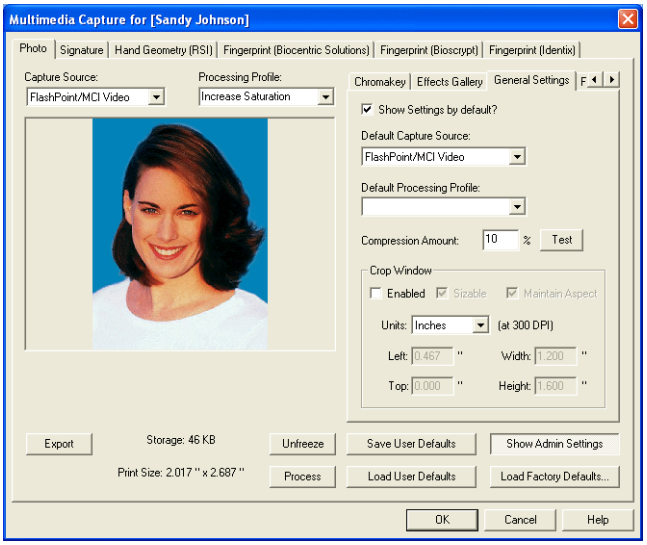
   -  Moves the entry up one position in the list.
   -  Moves the entry down one position in the list.

7. Click [Save Profile].

Delete an Effect Profile

1. Open Multimedia Capture and display an image. For more information, refer to Open Multimedia Capture on page 1375.
2. On the Photo or Graphic tab, click [Process]. The Image Processing window opens.
3. Select an entry from the profile list drop-down list.
4. Click [Delete Profile].

General Settings Sub-tab



General Settings Sub-tab Overview

The General Settings sub-tab allows you to configure:

- Which capture source (view) is automatically selected when the capture window is launched.

- Whether or not the settings will be automatically shown when the capture window is launched.
- Whether automatic cropping will be used.
- Whether manual cropping will be used.
- For automatic cropping: whether cropped images will be automatically rotated so that the eyes are level in the photograph.
- The amount of compression to be applied to bitmapped images with more than 256 colors before they are stored in the database.

Note: Image cropping only applies to bitmapped images (also known as raster images). It is NOT recommended to crop vector images.

- The size, location, and behavior of the crop window (the rectangle used for specifying which rectangular portion of the current image will be stored into the database or exported to an image file on disk).
- The units used when displaying the width and height of the portion of the image that will be stored in the database or exported to an image file on disk.
- The aspect ratio of the automatic crop window.

General Settings Sub-tab Field Table

Multimedia Capture - General Settings Sub-tab

Form Element	Comment
Show Settings by default	When this check box is selected, all settings sub-tabs applicable to the current capture source will be displayed. When this check box is not selected, only the Chromakey and Effects Gallery sub-tabs will be displayed. If you change the value of this field, you must click [Save User Defaults] button for the change to take effect.
Default Capture Source	From the drop-down list, choose which capture source you want the system to automatically default to when Multimedia Capture opens.
Default Processing Profile	From the drop-down list, choose which effect profile you want to apply to the captured image when no effect profile is chosen. Effect profiles are defined in the Image Processing window.
Compression Amount ___%	Enter the amount of compression to be applied to the captured bitmapped image (i.e. cardholder photo, bitmapped signature or layout graphic). A captured photo contains a great deal of color information so a large amount of computer disk space is required to store the photo. Compression is the process of reducing the disk space requirement. You can choose a number between 0 and 100 to balance compression and image quality. Entering 0 (minimal compression) will yield the highest quality image with the largest disk space requirement. Entering 100 (maximum compression) will result in the poorest quality image, but it will take up very little disk space. Refer also to the **Test** push button. The default value for this field is 10. Compression applies only to bitmapped images with more than 256 colors. A different compression (PNG) is used for bitmapped images with 256 colors or less, which has a fixed quantity.
Test	Click this button to open the Test Compression window from where you can adjust the captured bitmapped image to achieve the best balance of image quality and disk space required. This applies only to bitmapped images with more than 256 colors.
Crop Window	The crop window displays as a rectangle superimposed over the multimedia window. It is used to select the portion of the captured image that will be saved or exported. With manual cropping, you can change the size and position of the crop window to best frame the subject. With automatic cropping, the frame is automatically sized and positioned to produce a well cropped image. However, you can override the cropped window using the manual crop sizing functions. **Note:** Image cropping applies only to bitmapped images. It is not recommended for vector images.
Enable automatic cropping	When this check box is selected, the crop window is automatically displayed, cropping the captured photograph to frame the face and shoulder area of the subject. The cropped image area is pre-configured based on the default **Aspect ratio** setting. During automatic cropping, each photograph is analyzed to ensure that it satisfies the conditions required to produce a well cropped image. For more information, refer to Image Requirements for Automatic Cropping on page 1392.

Multimedia Capture - General Settings Sub-tab (Continued)

Form Element	Comment
Aspect ratio	Select the aspect ratio (height-to-width) for the crop window or create a custom setting. Aspect ratios can be expressed as ratios, such as 4:3, or as numbers, such as 1.33. Available options include: • Badge - select to use an **Aspect ratio** of 1.33 for badge images and several types of driver's licenses. • Passport - select to use an **Aspect ratio** of 1.28 to satisfy requirements for other types of driver's licenses and numerous international passport agencies. • Mugshot - select to use an **Aspect ratio** of 1.25. • Custom (User defined) - When this option is selected, the field containing the value of the **Aspect ratio** is enabled allowing you to type in your desired aspect ratio (may be configured within a range of 1.25 to 1.34).
Rotate image	For automatic cropping: select to enable automatic image rotation. If needed, the captured image will be automatically rotated such that the eyes are level in the photograph.
Enable manual cropping	When this check box is selected, the crop window is displayed. Otherwise, the crop window is hidden, the whole captured image is saved or exported, and the **Sizable** and **Maintain Aspect** fields is dimmed.
Sizable	When this check box is selected, the crop window can be resized. This means that the values of the **Width** and **Height** fields can be changed. **Note:** Manual crop adjustment may be used in conjunction with automatic cropping.
Maintain Aspect	When this check box is selected, the width-to-height ratio of the crop window will remain consistent (when you change the width, the height changes proportionally and vice versa). For example, if the width and height of the crop window are in the ratio of 2:3 and you enter a value of 67 for the width, the height will automatically become 100 if the **Maintain Aspect** check box is selected. This is because 67 and 100 have a 2 to 3 relationship. **Note:** For more information, refer to the topic "Set Aspect Ratio Attributes" in the BadgeDesigner User Guide.
Units	Select the measurements in which the size is displayed. Choices include pixels, inches or millimeters.
Left	Sets the position of the left border of the crop window. You can also move the left border directly and this value will be automatically updated to reflect the change.
Top	Sets the position of the top border of the crop window. You can also move the top border directly and this value will be automatically updated to reflect the change.
Width	Sets the width of the crop window. You can also move the left or right border directly and this value will be automatically updated to reflect the change.
Height	Sets the height of the crop window. You can also move the top or bottom border directly and this value will be automatically updated to reflect the change.

General Settings Sub-tab Procedures

Enable Automatic Cropping

Automatic cropping places the crop window to automatically frame the face and shoulder region in the cardholder's photograph. Green crosshairs are displayed to mark the eye locations in the photo.

With automatic cropping, cropped image resolution is based on a selectable, pre-configured aspect ratio which provides standardized cropping across all cardholders and requires less time and effort from the badge operator.

To enable automatic cropping, select the **Enable automatic cropping** check box on the General Settings sub-tab.

Assumptions:

- Photos are captured of the cardholder's head including at least the top of the shoulders.
- The cardholder’s eyes must be visible.
- There is only one face in the image.
- The background is not too busy.
- The image is in color.

Automatic Image Rotation

If the **Rotate image** check box is selected, the captured image is automatically rotated such that the eyes are level in the photograph.

Image Requirements for Automatic Cropping

If a captured image meets the requirements for automatic cropping, the crop window is displayed. However, if the requirements for automatic cropping are not met, an error message is displayed describing the adjustments which need to be performed. Additionally, the crosshairs used to locate the eyes are red rather than green to indicate an error has occurred. For example, if the cardholder is too close to the capture device an error is generated.

- The image dimensions must not be too small.
  Minimum image resolution for automatically cropped images must be no less than 242 x 322 pixels (width x height). Typically, smaller images have been imported. In practice, a minimum image resolution of 640 x 480 is recommended.
- The image dimensions must not be too large.
  A warning is reported if the image resolution is greater than two (2) megapixels (e.g., 1600 x 1200 pixels). Large images require a considerable amount of time to process and it is recommended to decrease the image resolution. The operator is given the option to continue or to stop processing.
- The eyes of the cardholder must be located in the image.
- The cardholder's head must not be too close to the left or right edge of the photograph.
- The cardholder's head must not be too close to the top or bottom edge of the photograph.
- The cardholder must not be too far away from the capture device.
  The farther the cardholder is located from the capture device, the less the distance between the eyes. There must be a minimum eye separation of 60 pixels to produce acceptable quality images.
- The cardholder must not be too close to the capture device.
  You must be able to fit the crop window within the image.
- The cardholder's head must not be tilted side-to-side more than 17º for eye location.

Correct Imperfect Eye Detection

The crosshairs displayed on the eye locations allow you to accurately correct imperfect eye detection by re-sizing the crop window. For more information, refer to Resize the Crop Window on page 1393.

Important: Manual adjustment of the crop window may be done using the **Height** and **Width** controls but this will cause the default aspect ratio to be overridden. For more information, refer to Prevent Manual Crop Adjustment on page 1394.

Enable Manual Cropping

You can manually crop images if manual cropping is enabled and the image is bitmapped. To enable manual cropping, select the **Enable manual cropping** check box on the General Settings sub-tab. The crop window will display in the image.

If you cannot see the crop window, it may be so large that it encompasses the entire image. Simply resize the crop window.

Resize the Crop Window

To resize the crop window, the **Sizable** check box must be selected on the General Settings sub-tab.

You can resize the crop window using your mouse or, if more accuracy is required, you can enter the exact width and height of the crop window on the General Settings sub-tab.

To resize the crop window using your mouse, hover the mouse over the perimeter of the crop window. In some cases, the crop window encompasses the entire image you so may need to hover the mouse over the perimeter of the image. When the cursor changes to a double arrow, left-click on the crop window and drag it to the desired size.

Move the Crop Window

If the crop window is enabled, you can move the crop window using your mouse. Simply place the cursor inside the crop window, left-click and drag the crop window to the new location.

If more accuracy is required, you can enter the exact coordinates of the crop window on the General Settings sub-tab. Crop window coordinates are relative to the distance from the left side of the image and the distance from the top of the image. Crop window coordinates and unit of measure are entered on the General Settings sub-tab.

Adjust Image Compression

The following procedure applies only to images that are bitmapped and contain more than 256 colors.

1. Open Multimedia Capture and display an image. For more information, refer to Open Multimedia Capture on page 1375.
2. On the Photo, Signature or Graphic tab, click the General Settings sub-tab.

Note: The [Show Admin Settings] button must be depressed in order to view the General Settings sub-tab.

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3. If your capture source is live video, click [Freeze] because compression can be applied only to still images. Otherwise, skip to step 4.
4. On the General Settings sub-tab, click [Test]. The Test Compression window opens. The left image is uncompressed and the right image is compressed.
5. Adjust the **Compression Amount** slider to achieve the optimal balance between the amount of compression and image quality. Moving the slider to the right (higher numbers) increases the amount of compression and lowers both the image quality and the database space required. Each time you reposition the slider, click [Compress] to see the effect on the image.
6. When you find the best balance between image quality and disk space, click [OK].

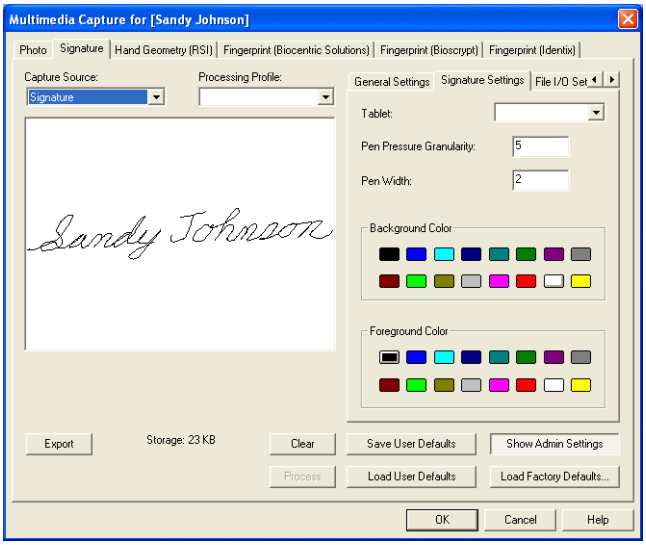
Prevent Manual Crop Adjustment

Permissions must be set to allow the badge operator to manually adjust the crop window.

To prevent operators from manually performing crop adjustment, and thereby overriding the crop window, permissions are provided to lock the usage of the **Manual crop** function. The **Advanced** option of the Capture Cardholder Permission Groups may be used to control access to all settings of the General Settings tab. The automatic cropping feature options are placed on the same tab so that enabling or disabling of automatic cropping can be controlled via permissions.

Signature Settings Sub-tab

Note: This sub-tab is displayed only when the Signature form is displayed and the "Signature" capture source is selected.



Signature Settings Sub-tab Overview

The Signature Settings sub-tab allows you to capture cardholder's signatures.

Signature Settings Sub-tab Field Table

Multimedia Capture - Signature Settings Sub-tab

Form Element	Comment
Tablet	Select the type of signature tablet you are using. Most signature tablets are of the “Wintab” type. Choices include tablet families supported by the system.
Pen Pressure Granularity	Enter the number of colors in the gradient between the darkest and the lightest colors in the signature. A granularity of 1 causes the signature to have no color variation. The maximum granularity (120) will provide the smoothest color transitions.
Pen Width	Enter the base width for either pen strokes or mouse strokes. The larger the number, the wider the line. Because this is just a base value, you can still vary the width of the stroke by varying the writing pressure. Pressing very hard causes the stroke to be a little thicker; pressing very lightly makes the stroke a little narrower.
Background Color	Select the “paper” color for signature capture. This is the color of the multimedia window in which the signature is written. The background color does not get stored with the signatures in the database; it is only used in the multimedia window.
Foreground Color	Select the “pen” color for signature capture. This is the actual pen color for the cardholder signature stored in the database. It is also the color used to print the signature in the cardholder’s screen if the badge layout is configured to use the captured color.

Signature Settings Sub-tab Procedures

Record a Signature

Note: If the signature will be captured using a signature tablet and stylus, make sure that they are attached to your computer and properly configured.

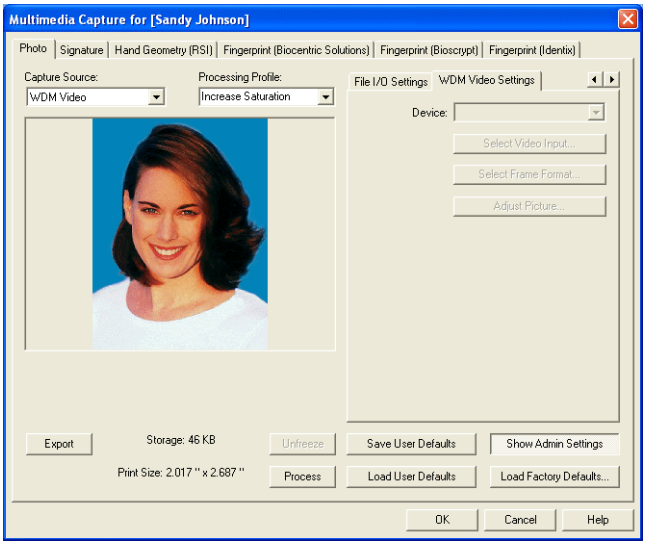
1. Open Multimedia Capture. For more information, refer to Open Multimedia Capture on page 1375.
2. Click the Signature tab.
3. Select “Signature” from the **Capture Source** drop-down list.
4. Click the General Settings sub-tab.

Note: The [Show Admin Settings] button must be depressed in order to view the General Settings sub-tab.

5. If it is not already checked, select the **Maintain Aspect** check box.
6. Click the Signature Settings sub-tab.
   a. Select the signature tablet from the **Tablet** drop-down list.
   b. Adjust the pen pressure granularity, pen width and color settings. For more information, refer to Signature Settings Sub-tab on page 1395.
7. On the Signature form, click [Sign]. If a previous signature exists you need to click [Clear] first.
8. Do one of the following:
   - If you are using a signature tablet and stylus, apply your signature to the table as you would use a pen on paper.
   - If you are using the mouse, write your signature by clicking/dragging the mouse. Just as you might lift the pen from the paper when signing your name, press and release the left mouse button as needed.
9. Click [Stop] when you finish entering your signature. The system will enlarge or reduce the signature display to fit the multimedia window while maintaining the aspect ratio.
10. Do one of the following:
    - If you are not satisfied with the results, click [Clear] and change the pen pressure granularity or pen width if necessary. Repeat steps 7-9 to capture the signature again.
    - If you are satisfied with the results, click [OK] to save the signature.

WDM Video Settings Sub-tab

Note: This sub-tab is displayed only when the "WDM Video" capture source is selected.



WDM Video Settings Sub-tab Overview

The WDM Video Settings sub-tab allows you to configure the main set of options for the "WDM Video" capture source. When the "WDM Video" capture source is selected, live video from the currently selected video input of the currently selected WDM video capture device will be displayed in the multimedia window.

WDM Video Settings Sub-tab Field Table

Multimedia Capture - WDM Video Settings Sub-tab

Form Element	Comment
Device	Choose a specific WDM video capture device. Choices include all WDM video capture devices that are currently installed on this workstation. Live video from the currently selected video input will then be displayed in the multimedia window.
Select Video Input	Click this button to open the Select Video Input window from where you can select which video input to use.
Select Frame Format	Click this button to select a frame format. For some WDM devices, a window will open from where you can select the spatial resolution (number of pixels across and down) and the pixel format of captured video frames. For devices that do not allow you to adjust the frame format, the system automatically selects the frame format that has the largest spatial resolution and a pixel format with the most color information.
Adjust Picture	Click this button to adjust picture quality attributes such as hue, brightness and contrast. Depending on which WDM device you are configuring, a properties window will be displayed from where you can adjust these settings.

WDM Video Settings Sub-tab Procedures

Configure WDM Video Settings

Notes: You should first complete this procedure using a test subject (person). Once you have optimized the settings for your physical environment, you shouldn't need to modify them unless you change the surroundings. Adjustments for an individual's skin tone, hair color or clothing color can be made using the Image Processing window after the image has been captured.

Before you begin, make sure that your camera and flash unit are powered on and properly configured for use.

1. Open Multimedia Capture. For more information, refer to Open Multimedia Capture on page 1375.
2. On the Photo, Signature or Graphic tab, select "WDM Video" from the **Capture Source** drop-down list.
3. Click the WDM Video Settings sub-tab.

Note: The [Show Admin Settings] button must be depressed in order to view the WDM Video Settings sub-tab.

4. From the **Device** drop-down list, select the WDM video capture device that you want to configure settings for.
5. Click [Select Video Input]. The Select Video Input window opens.
6. In the Select Video Input window, choose which video input you want to use.
7. Click [Select Frame Format]. For some WDM devices, a window will open from where you can select the spatial resolution (number of pixels across and down) and the pixel format of captured video frames. For devices that do not allow you to adjust the frame format, the system automatically selects the frame format that has the largest spatial resolution and a pixel format with the most color information.
8. Click [Adjust Picture]. Depending on which WDM device you are configuring, a properties window opens, from where you can adjust these settings. From this window, adjust picture quality attributes such as hue, brightness and contrast.
9. If you want to save your settings so that they will be automatically displayed each time you select the WDM Settings sub-tab, click [Save User Defaults].

Note: If you want to use the factory-set values for these fields, click [Load Hardware Defaults] button. The sliders will be repositioned accordingly.

Capture an Image Using Live Video

1. Open Multimedia Capture. For more information, refer to Open Multimedia Capture on page 1375.
2. On the Photo or Graphic tab, select either “FlashPoint/MCI Video” or “WDM Video” from the **Capture Source** drop-down list.

Note: The [Show Admin Settings] button must be depressed in order to view the sub-tab.

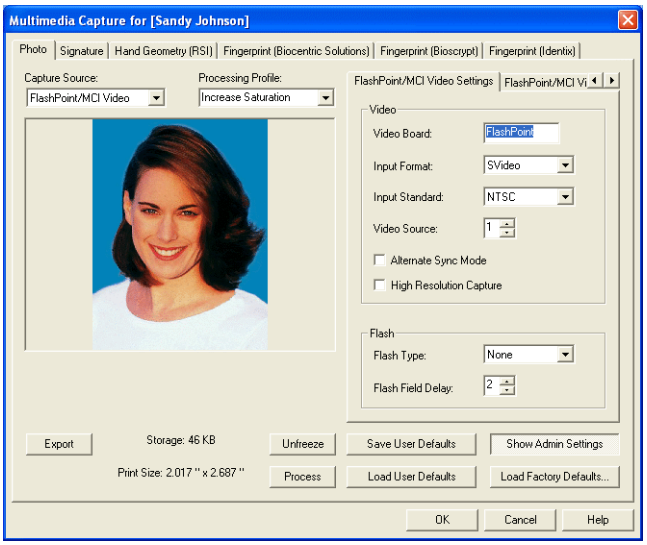
3. Click the General Settings sub-tab.
4. If an image displays, click [Clear].
5. Physically position the test subject so their head and shoulders appear in the Multimedia Capture window. Click [Freeze].
6. Using your mouse, adjust the crop window to frame the subject. If the crop window is enabled, it displays as a rectangle over the image. For more information, refer to Enable Manual Cropping on page 1393 and Resize the

Crop Window on page 1393.

7. If you want to retake the photo, click [Unfreeze] and repeat steps 4-5.
8. When you are satisfied with the image, click [OK].
9. If you want to adjust the photo quality, click [Process].

FlashPoint/MCI Video Settings Sub-tab

Note: This sub-tab is displayed only when the "FlashPoint/MCI Video" capture source is selected.



FlashPoint/MCI Video Settings Sub-tab Overview

The FlashPoint/MCI Video Settings sub-tab allows you to configure the main set of options for the "FlashPoint/MCI Video" capture source. When the "FlashPoint/MCI Video" capture source is selected, live video from the FlashPoint/MCI video device will be displayed in the multimedia window.

FlashPoint/MCI Video Settings Sub-tab Field Table

Multimedia Capture - FlashPoint/MCI Video Settings Sub-tab

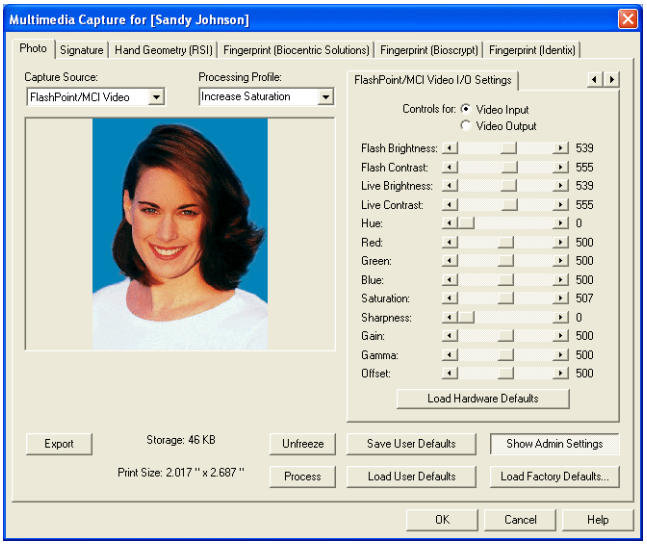
Form Element	Comment
Video Board	Enter the name of the driver for your video capture board. The default is “FlashPoint.” Contact your Bosch representative for assistance if you have a video board that is not an Integral Technologies FlashPoint board.
Input Format	Select the format of the incoming video signal. Choices include: • RGB - accepts separate inputs for the red, green and blue components. • Composite - mixes the red, green and blue signals to produce a color image. • SVideo - an analog video interface standard that separates the signal into two components, brightness and color.
Input Standard	Select the incoming video signal standard. Choices include: • NTSC - the U.S. standard • PAL - the European standard
Video Source	Select which video connector the incoming video signal is to be captured from. (Video connectors are numbered starting with zero.)
Alternate Sync Mode	When this check box is selected, incoming video is routed through special video stabilizer circuitry in the FlashPoint video capture board. This allows you to capture video from video sources emitting “messy” video signals. For example, video that comes from a VCR may constantly jump around on the screen if the VCR has a dirty play head, poor tracking or a worn-out tape in it. If the **Alternate Sync Mode** check box is selected, the video will stop jumping around and settle down to a stable picture, although there is usually a band of static (snow) at the bottom because some rows of the incoming video frames are lost during the stabilization process.
High Resolution Capture	When this check box is selected, you can capture photos at the maximum resolution of 640 by 480 pixels instead of 320 by 240 pixels. (The high resolution photos will print on the cards at sizes larger than 0.6” by 0.8” with better quality, but at the price of a 300 to 400% increase in disk storage requirements.) To use high resolution capture you must: • Use a Flashpoint board. Users with FlashPoint boards can now capture photos at a maximum resolution of 640 by 480 pixels instead of 320 by 240 pixels. • Have a Desktop area that is at least 1024 by 768 pixels. Users who want to use high resolution capture must have a Windows desktop area that is at least 1024 by 768 pixels because a 640 by 480 pixel capture window and capture window user interface will not fit onto a 800 by 600 pixel desktop at the same time. • Use a flash type other than “Universal.” To capture in high resolution, a flash type other than “Universal” must be used because Universal flash is capable of illuminating only one video field, i.e. every other row of pixels or 240 lines, within a high resolution video frame.

Multimedia Capture - FlashPoint/MCI Video Settings Sub-tab (Continued)

Form Element	Comment
Flash Type	Select the type of flash unit connected. Your selection must match the jumper settings on the FlashPoint video capture board. For more information, refer to the your FlashPoint user guide for jumper information. Choices include: • None - no flash unit connected. If you do not have a flash unit, you must make sure that the video capture environment contains sufficient light for the process. The maximum height is 480 when the capture is made in high resolution mode. • Universal - triggers any standard photographic flash unit. The video capture board triggers the flash unit directly. • CCD - flash trigger specifically for the Kodak CCD4000 camera. Instead of the flash being fired directly, the system triggers flash through the camera, a process called frame integrated flash. The maximum height is 480 when the capture is made in high resolution mode. If you choose this option, you must first configure your hardware for this capability. **Note:** When capturing with a universal flash or in low resolution capture mode, the maximum unscaled video frame height for the FlashPoint board is 240 lines of pixels.
Flash Field Delay	Enter the number of video fields you want the system to wait after it has fired the flash before it freezes (captures) video. This is used to synchronize a flash with the freeze-frame process so that frames will be captured while the light emitted from the flash is at its brightest. Live video consists of pixels arranged in lines called fields. Each frame of video contains one even field and one odd field. The even field is composed of every odd numbered line of pixels, beginning with the first (top) line. The other lines in the frame constitute the odd field. Therefore, the incoming video signal alternates between the even and the odd fields at twice the video frame rate (60 fields per second for the NTSC video standard, 50 fields per second for the PAL video standard).

FlashPoint/MCI Video I/O Settings Sub-tab

Note: This sub-tab is displayed only when the "FlashPoint/MCI Video" capture source is selected.



FlashPoint/MCI Video I/O Settings Sub-tab Overview

The FlashPoint/MCI Video I/O Settings sub-tab allows you to adjust the color, intensity and contrast of video captured with the "FlashPoint/MCIVideo" capture source.

FlashPoint/MCI Video I/O Settings Sub-tab Field Table

Multimedia Capture - FlashPoint/MCI Video I/O Settings Sub-tab

Form Element	Comment
Controls for Video Input	When this radio button is selected, the slider field settings adjust characteristics of the incoming video signal. These settings affect how the video is captured. The fields are board-dependent. A dimmed field means that your video capture board does not support the corresponding characteristic. Possible values for all slider fields are in the range of 0 through 1000.
Controls for Video Output	When this radio button is selected, the slider field settings adjust the output video display. These settings will affect only how the video is displayed. The fields are board-dependent. A dimmed field means that your video capture board does not support the corresponding characteristic. Possible values for all slider fields are in the range of 0 through 1000.
Flash Brightness	Increases or decrease the value of all color components for the flash.
Flash Contrast	Increases or decreases the differences in brightness between the image's brightest and darkest elements for the flash.
Live Brightness	Controls the brightness for live video. Live video is darker with flash due to the reduced iris setting needed to prevent the flash from overpowering the camera. When the image is captured (by clicking the [Freeze] button), the controls switch over to the **Flash Brightness** setting.
Live Contrast	Controls the contrast for live video. When the image is captured (by clicking the [Freeze] button), the controls switch over to the **Flash Contrast** setting.
Hue	Adjusts the aspect of a color that distinguishes it from other colors. This field is useful to achieve accurate skin tones in the image.
Red	Increases or decreases the global value of the image's red component
Green	Increases or decreases the global value of the image's green component
Blue	Increases or decreases the global value of the image's blue component.
Saturation	Adjusts the amount of color (intensity) to accommodate stronger and weaker input color signals.
Sharpness	Adjusts the image to be either more focused or more blurry.
Gain	Boosts the weak input signal or decreases noise coming from a strong but noisy source, helping to enhance details.
Gamma	Provides a nonlinear contrast adjustment. A higher gamma value produces a brighter image that has less contrast. A lower gamma value produces a darker image that has more contrast.
Offset	Moves the input signal level up or down without changing the signal size, helping to enhance details. This field is useful if your camera has a nonstandard output or has a direct current offset.
Load Hardware Defaults	Click this button to change the values of all slider fields to the factory defaults set by the video board manufacturer. (If you are using a FlashPoint board, this button loads the settings last saved with the FPG application that Integral ships with their boards.)

FlashPoint/MCI Video Settings Procedures

Configure FlashPoint/MCI Video Capture Settings

Notes: You should first complete this procedure using a test subject (person). Once you have optimized the settings for your physical environment, you shouldn't need to modify them unless you change the surroundings. Adjustments for an individual's skin tone, hair color or clothing color can be made using the Image Processing window after the image has been captured.

Before you begin, make sure that your camera and flash unit are powered on and properly configured for use.

1. Open Multimedia Capture. For more information, refer to Open Multimedia Capture on page 1375.
2. On the Photo, Signature or Graphic tab, select “FlashPoint/MCI Video” from the **Capture Source** drop-down list.
3. Click the FlashPoint/MCI Video Settings sub-tab.

Note: The [Show Admin Settings] button must be depressed in order to view the FlashPoint/MCI Video Settings sub-tab.

4. In the Video section, choose the settings for your video source. For more information, refer to FlashPoint/MCI Video Settings Sub-tab on page 1401.
5. In the Flash section, choose flash settings. For more information, refer to FlashPoint/MCI Video Settings Sub-tab on page 1401.
6. If you want to save your settings so that they will be automatically displayed each time you select the FlashPoint/MCI Video Settings sub-tab, click [Save User Defaults].
7. Click the FlashPoint/MCI Video I/O Settings tab to display the FlashPoint/MCI Video I/O Settings sub-tab.

Note: The [Show Admin Settings] button must be depressed in order to view the FlashPoint/MCI Video I/O Settings sub-tab.

8. Select the **Video Input** radio button, then adjust the slider controls to optimize the incoming video signal. You can also do the same for video output (by selecting the **Video Output** radio button and adjusting the slider controls) to optimize the video display, although these settings are typically not adjusted.

Note: If you want to use the factory-set values for these fields, click [Load Hardware Defaults] button. The sliders will be repositioned accordingly.

9. If you want to save your settings so that they will be automatically displayed each time you select the FlashPoint/MCI Video I/O Settings sub-tab, click [Save User Defaults].

Use High Resolution Analog Video Capture

To capture analog video in high resolution, you must:

- **Use a Flashpoint board.** Users with FlashPoint boards can capture photos at a maximum resolution of 640 by 480 pixels instead of 320 by 240 pixels. (The high resolution photos will print on the cards at sizes larger than 0.6" by 0.8" with better quality, but at the price of a 300 to 400% increase in disk storage requirements.)
- **Have a Desktop area that is at least 1024 by 768 pixels.** Users who want to use high resolution capture must have a Windows desktop area that is at least 1024 by 768 pixels because a 640 by 480 pixel capture window and capture window user interface won't fit onto a 800 by 600 pixel desktop at the same time.
- **Use a flash type other than "Universal".** To capture in high resolution, a flash type other than "Universal" must be used because Universal flash is capable of illuminating only one video field (every other row of pixels or 240 lines) within a high resolution video frame.

The size of the image/video display in the multimedia window varies depending on the Windows desktop area. The following applies:

- Windows desktop areas smaller than 800 by 600 pixels are no longer supported by the capture window.
- When the Windows desktop area between 800 by 600 pixels and 1024 by 768 pixels (as with the case with many laptops running mobile badging) the multimedia window is at a smaller size so everything will fit onto the screen. In this situation the image display area is 320 by 240 pixels and thus the user is unable to set analog video capture to high resolution mode.

Note: Although high resolution analog video capture is not available when the desktop area is less than 1024 by 768 pixels, the **High Resolution Capture** check box remains visible. If an attempt to select high resolution capture is made, a message will be displayed that explains why it is not available.

- When the Windows desktop area is 1024 by 768 pixels or larger the capture window is now bigger so that the image display area (the area on the left hand side) and hence the multimedia window, can be 640 by 480 pixels,

allowing for high resolution analog video capture. It will be 320 by 240 pixels if the **Flash Type** is “Universal.”

Windows desktop area (pixels)	Image display description	High resolution analog video capture supported
Smaller than 800 by 600	No longer supported	No
Between 800 by 600 and 1024 by 768	320 by 240 image display (smaller)	No
1024 by 768 and larger	640 by 480 image/video display (larger)	Yes, if **Flash Type** is **not** “Universal”

To capture high resolution analog video:

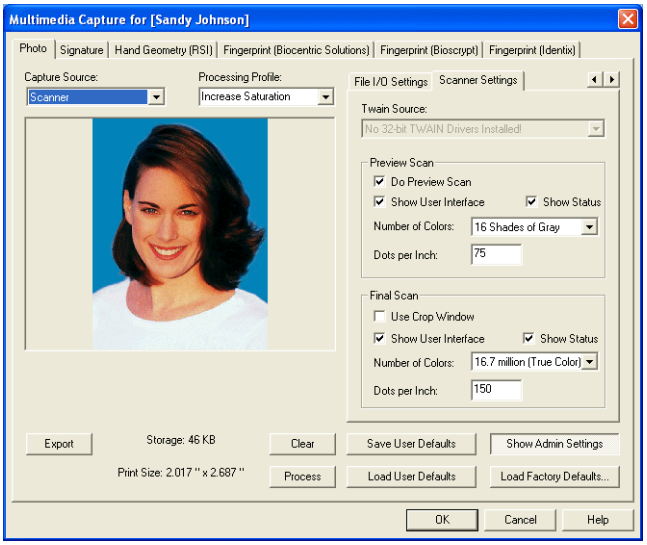
1. Make sure that the desktop area is at least 1024 pixels by 768 pixels.
2. Open Multimedia Capture.For more information, refer to Open Multimedia Capture on page 1375.
3. On the Photo, Signature or Graphic tab, select “FlashPoint/MCI Video” from the **Capture Source** drop-down list.
4. Click the FlashPoint/MCI Video Settings sub-tab.

Note: The [Show Admin Settings] button must be depressed in order to view the FlashPoint/MCI Video Settings sub-tab.

5. Select the **High Resolution Capture** check box.
6. Make sure that “Universal” is **not** selected in the **Flash Type** field.

Scanner Settings Sub-tab

Note: This sub-tab is displayed only when the "Scanner" capture source is selected.



Scanner Settings Sub-tab Overview

The Scanner Settings sub-tab allows you to configure how images are scanned.

Scanner Settings Sub-tab Field Table

Multimedia Capture - Scanner Settings Sub-tab

Form Element	Comment
Twain Source	Select the name of your scanner. In order for your scanner to be listed, you must have first attached the scanner to your computer, installed the device's Twain driver software and configured it for use. For more information, refer to your scanner's user guide. **Note:** The **Twain Source** drop-down list will list the names of both scanners and digital cameras that are configured on your system.
Preview Scan	Includes the **Do Preview Scan** check box and the upper **Show User Interface**, **Show Status**, **Number of Colors** and **Dots per Inch** fields.
Do Preview Scan	When this check box is selected, you can scan the entire original page, then position the crop window and perform a final scan on only the area enclosed by the crop window. When this check box is not selected, you can bypass the preview scan and perform only a final scan. If you deselect this check box, you can ignore the other settings in the Preview Scan section.
Show User Interface	Select this check box to be allowed to utilize the Twain driver's default user interface instead of bypassing it.
Show Status	When this check box is selected and the Twain driver supports this option, a status bar is displayed showing the status of the scan. This does not apply if you are using your Twain driver's default user interface.
Dots per Inch	Specify the final scanning resolution, expressed in dots per inch.
Number of Colors	Specify the final pixel type of the image to be scanned.
Dots per Inch	Specify the resolution for preview scanning, expressed in dots per inch.
Final Scan	Includes the **Use Crop Window** check box and the lower **Show User Interface**, **Show Status**, **Number of Colors** and **Dots per Inch** fields.
Use Crop Window	When this check box is selected, you can perform a full (final) scan of the area enclosed by the specified crop window. When this check box is not selected, you can perform a scan using the default size set by the Twain driver. If the **Do Preview Scan** check box is selected, the crop window set there is used and this option has no effect.
Show User Interface	When this check box is selected, you can utilize your Twain driver's default user interface. When this check box is not selected, your Twain driver's default user interface is bypassed.
Show Status	When this check box is selected and your Twain driver supports this option, a status bar is displayed showing the status of the scan. This does not apply if you are using your Twain driver's default user interface.
Number of Colors	Specify the final pixel type of the image to be scanned.

Scanner Settings Sub-tab Procedures

Preview and Scan an Image

In most situations, this is the basic process for scanning an image. Before you proceed, make sure that your scanner hardware is attached to your computer and the scanner software is installed and configured for use.

1. Open Multimedia Capture. For more information, refer to Open Multimedia Capture on page 1375.
2. Click the Photo, Signature or Graphic tab.
3. Select “Scanner” from the **Capture Source** drop-down list.
4. Click the Scanner Settings sub-tab.

Note: The [Show Admin Settings] button must be depressed in order to view the Scanner Settings sub-tab.

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5. Select the name of your scanner’s drive from the **Twain Source** drop-down list.
6. In the Preview Scan section:
   a. Select the **Do Preview Scan** check box.
   b. Enter values in the **Number of Colors** and **Dots per Inch** fields. It is recommended that you choose low values such as “16 Shades of Gray” and “75” dots per inch because the preview scan records the entire flatbed surface, performing a preview scan at a high resolution. A large amount of color information would require a huge amount of memory and hard disk space.
7. Position the photograph on the scanner by placing the photo flush with the corner of the scanning surface. It the photograph is oriented incorrectly, the scanned image will appear crooked in the multimedia window. If this happens, to correct the problem, you’ll need to either rescan the original image or manipulate the image using the Image Processing window.
8. Click [Preview]. The entire contents of the scanning surface will be scanned and displayed in the multimedia window (the image in the window will look mostly blank except for a small photo).
9. In the Final Scan section:
   a. Click the **Use Crop Window** check box.
   b. Enter values in the **Number of Colors** and **Dots per Inch** fields. It is recommended that you choose high values such as “16.7 million (True Color)” and “300” dots per inch, ensuring that the final captured image is of the highest possible quality.
10. Move and resize the crop window to frame the image. If the crop window is enabled, it displays as a rectangle on the image. For more information, refer to Enable Manual Cropping on page 1393 and Resize the Crop Window on

page 1393.

11. Click [Scan]. The system scans the contents of the crop window.
12. To adjust the photo quality, click [Process]. For more information, refer to Image Processing Window on page 1382.

Bypass the Preview Scan Step

The following procedure is useful if you have multiple hard copies that are the same size and you want to skip multiple preview scan steps. With this procedure, you preview the first hardcopy only.

1. Open Multimedia Capture. For more information, refer to Open Multimedia Capture on page 1375.
2. Click the Photo, Signature or Graphic tab.
3. Select "Scanner" from the **Capture Source** drop-down list.
4. Click the Scanner Settings sub-tab.

Note: The [Show Admin Settings] button must be depressed in order to view the Scanner Settings sub-tab.

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5. Select the **Use Crop Window** check box.
6. Position a photograph on the scanner and click [Preview].
7. Move and resize the crop window to frame the photograph. If the crop window is enabled, it displays as a rectangle on the image. For more information, refer to Enable Manual Cropping on page 1393 and Resize the Crop Window on page 1393.
8. Deselect the **Do Preview Scan** check box.
9. Click [Save User Defaults].
10. Click [Scan]. The system scans the contents of the crop window.
11. To scan another hardcopy, place it on the scanner in the same position as the first hardcopy and click [Scan]. All subsequent scans use the crop window position you specified in step 7.

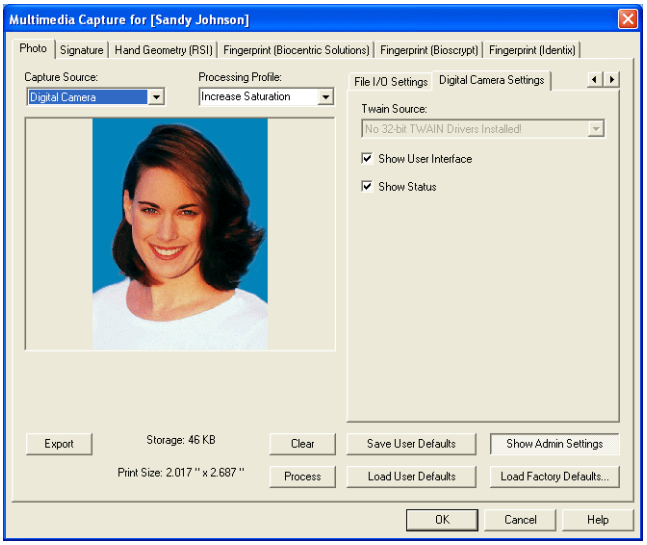
Notes: If you have a batch of photos to scan and all but a few of them are the same size, you can deselect the **Use Crop Window** check box just prior to scanning an odd-sized photo. Then move and resize the crop window and do the scan. After scanning the odd-sized photo, reselect the **Use Crop**

Window check box to return to using the crop window settings you saved as the default.

Many Twain drivers for scanners ignore dots per inch and number of color settings. For this reason, it is highly recommended that you select the **Show User Interface** check box.

Digital Camera Settings Sub-tab

Note: This sub-tab is displayed only when the "Digital Camera" capture source is selected.



Digital Camera Settings Sub-tab Overview

The Digital Camera Settings sub-tab allows you to configure how images are downloaded from digital cameras with the "Digital Camera" capture source.

Digital Camera Settings Sub-tab Field Table

Multimedia Capture - Digital Camera Settings Sub-tab

Form Element	Comment
Twain Source	Select the name of your digital camera. In order for your digital camera to be listed, you must have first attached the camera to your computer, installed the device's Twain driver software and configured it for use. For more information, refer to your digital camera's user guide. **Note:** The **Twain Source** drop-down list will list the names of both scanners and digital cameras that are configured on your system.
Show User Interface	When this check box is selected, you can utilize your Twain driver's default user interface instead of bypassing it. **Note:** It is highly recommended that you select this option.
Show Status	When you select this check box and the Twain driver supports this option, a status bar is displayed showing the status of the scan. This does not apply if you are using your Twain driver's default user interface.

Digital Camera Settings Sub-tab Procedures

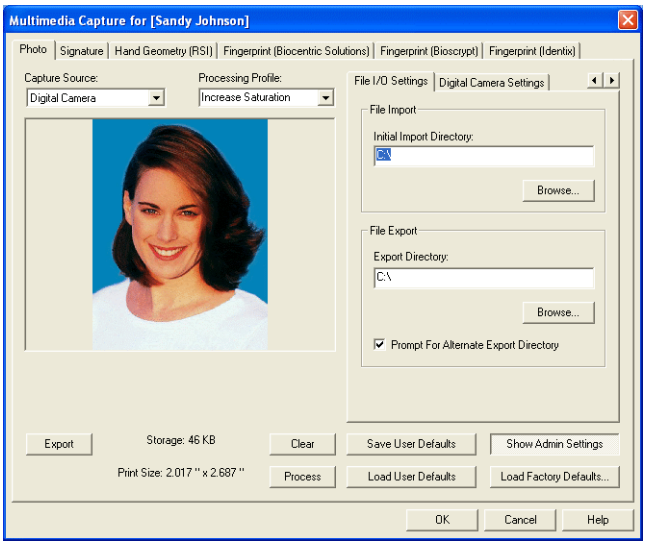
Capture Digital Images

1. Open Multimedia Capture. For more information, refer to Open Multimedia Capture on page 1375.
2. Click the Photo tab or Graphic tab.
3. Select "Digital Camera" from the **Capture Source** drop-down list.
4. Click the Digital Camera Settings sub-tab.

Note: The [Show Admin Settings] button must be depressed in order to view the Digital Camera Settings sub-tab.

5. On the Digital Camera Settings sub-tab:
   a. Select the name of your digital camera from the **Twain Source** drop-down list.
   b. It is recommended that you select the **Show User Interface** check box. Otherwise, you will just download the first photo that is in the camera.
6. Click [Get Photo]. If an image displays, you need to click [Clear] first.
7. If the user interface for the digital camera software opens, adjust any settings. Otherwise, continue with the next step.
8. Take a picture of the cardholder/visitor. The image displays in Multimedia Capture.
9. Move and resize the crop window to frame the image. If the crop window is enabled, it displays as a rectangle on the image. For more information, refer to Enable Manual Cropping on page 1393 and Resize the Crop Window on page 1393.
10. To adjust the image quality, click [Process].

File I/O Settings Sub-tab



File I/O Settings Sub-tab Overview

The File I/O Settings sub-tab allows you to configure the default file import directory for the "File Import" capture source and the default file export directory for all of the capture sources.

Multimedia Capture - File I/O Settings Sub-tab

Form Element	Comment
Initial Import Directory	Enter the first place (drive and directory) in which to look when importing an image file into the database.
Browse	Opens the Browse for Folder window from where you can select an initial import directory.
Export Directory	Enter the drive and directory into which image and signature files are saved when you click [Export].
Browse	Opens the Browse for Folder window from where you can select an export directory.
Prompt for Alternate Export Directory	When this check box is selected, you will be prompted with the standard File Save window when you click [Export]. The window is initialized to point to the file export directory. When this check box is not selected, the image is exported without the user being prompted for the export filename and path unless the file already exists.

File I/O Settings Sub-tab Procedures

Configure Multimedia Capture for File Import

1. Open Multimedia Capture. For more information, refer to Open Multimedia Capture on page 1375.
2. On the Photo, Signature or Graphic tab, select “File Import” from the **Capture Source** drop-down list.
3. Click the File I/O Settings sub-tab.

Note: The [Show Admin Settings] button must be depressed in order to view the File I/O Settings sub-tab.

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4. Complete the File Import section.
5. If you want to save your settings so that they will be automatically display, click [Save User Defaults].

Import a Supported Image File

1. Open Multimedia Capture. For more information, refer to Open Multimedia Capture on page 1375.
2. On the Photo, Signature or Graphic tab, select “File Import” from the **Capture Source** drop-down list.
3. Click the File I/O Settings sub-tab.

Note: The [Show Admin Settings] button must be depressed in order to view the File I/O Settings sub-tab.

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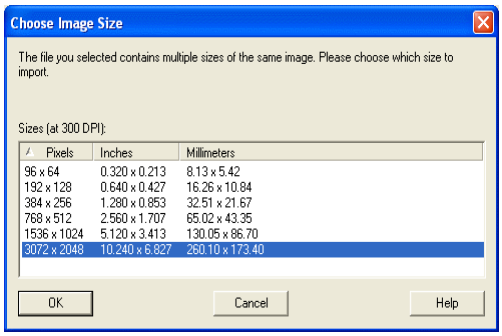
4. If an image or signature displays in the multimedia window, click [Clear]. Click [Open].
5. Select the file you want to import and click [Open]. The image displays in Multimedia Capture.
6. If the image is bitmapped and the crop window is enabled, adjust the crop window to frame the portion of the image that you want to save. To adjust the crop window, refer to Resize the Crop Window on page 1393.
7. Click [OK] twice.

Import a Multi-Resolution Image File

If the image file you are importing is a multi-resolution image the following dialog box will appear. Here you can choose what resolution you would like the image to be imported as.



Import a Non-Supported Image File

A large number of image file formats are supported. However, you may encounter a format that you wish to import that is not supported. Contact your Bosch representative for assistance if you would like support for a non-supported image file format to be added. This procedure details how to import an image that is in a file format that is not supported. For more information, refer to Supported Image Formats on page 1419.

1. Save a temporary copy of the image in a supported format. Do this using a third party graphics editor/conversion application, preferably the one used to create the image.
   It is strongly suggested that you create the temporary file in a format that preserves original image quality. Here are a few guidelines to accomplish this:
   - If the image is non-photographic and doesn't look jagged when scaled larger (i.e., not a bitmap):
     - Use EMF if you can otherwise, use WMF or DXF.
     - Images created with CAD programs (like floor plans for buildings) and drawn images (like company logos) fall into this category.
   - If the image is photographic or is known to have more than 256 colors:
     - Use 16.7 million color BMP (i.e., 24-bits/pixel or true color BMP)
     - Use JPEG with a minimal amount compression if you have low disk space.
     - Scanned images and images captured from a video camera or digital camera fall into this category.
   - Otherwise, use 16 color or 256 color BMP (i.e., 4 or 8 bits/pixel BMP).
     - The number of BMP colors should be greater than or equal to the number of colors used in the image.

– Hand-drawn bitmapped images and photographic GIF images fall into this category.

2. Import the temporary file. For more information, refer to Import a Supported Image File on page 1417.
3. Delete the temporary file.

Supported Image Formats

The following table lists the image formats that you can import. If the file format you are working with is not identified by bits per pixel, refer to the Bits Per Pixel and Number of Colors Information on page 1421 to determine color information.

Supported Image Formats

Format name	Common file extension(s)	Sub-formats supported (compression type/bits per pixel)
Adobe Photoshop	PSD	None/1, 8, 24
Auto CAD	DXF	
CALS Raster	CAL	CCITT Group 4/1
Delrina WinFax Group 3	FAX	CCITT Group 3/1
Delrina WinFax Group 4	FAX	CCITT Group 4/1
Encapsulated PostScript	EPS	• PostScript Raster images/1,8 • Embedded TIFF images/(See TIFF format) Raster image information only, vector image information is ignored
FAX Group 3	FAX	• 1-Dimensional Group 3 without header (raw)/1 • 2-Dimensional Group 3 without header (raw)/1
FAX Group 4	FAX	CCITT Group 4 without header (raw)/1
GEM Image	IMG	NONE/1
IOCA or IBM Image Object Content Architecture	ICA	• MO:DCA wrapper with embedded CCITT Group 3/1 • MO:DCA wrapper with embedded CCITT Group 4/1 • No MO:DCA wrapper/1
JFIF or JPEG File Interchange Format	JPG/JIF	• Progressive JPEG/8 (YUV 4:0:0 grayscale), 24 (YUV 4:4:4, 4:2:2, 4:1:1 color) • Non-progressive JPEG/8 (YUV 4:0:0 grayscale), 24 (YUV 4:4:4, 4:2:2, 4:1:1 color)
JPEG Tagged Interchange Format	JTIF	Non-progressive JPEG/8 (YUV 4:0:0 grayscale), 24 (YUV 4:4:4, 4:2:2, 4:1:1 color)
Kodak FlashPix	FPX	• NONE/8, 24 • JPEG
Kodak Photo CD	PCD	NONE/8, 24

Supported Image Formats (Continued)

Format name	Common file extension(s)	Sub-formats supported (compression type/bits per pixel)
LEAD CMP	CMP	• Progressive CMP/1,8,24 • Non-progressive CMP/1,8,24
Macintosh Pict Format	PCT	NONE/1, 4, 8, 24
MacPaint	MAC	NONE/1
Microsoft Paint	MSP	NONE/1
OS/2 Bitmap	BMP	1.x and 2.x formats/1, 4, 8, 24
Portable Network Graphics	PNG	PNG/1, 4, 8, 16, 24, 32
SUN Raster Format	RAS	NONE/1, 4, 8, 24, 32
TIFF or Tagged Interchange File Format/Multipage TIFF	TIF/MPT	• Uncompressed/1, 2, 3, 4, 5, 6, 7, 8, 16, 24, 32 • RLE/1, 2, 3, 4, 5, 6, 7, 8, 16, 24, 32 • CCITT/1 • 1-dimensional CCITT Group 3/1 • CCITT Group 4/1 • JTIF (Non-progressive JPEG)/8 (YUV 4:0:0 grayscale), 24 (YUV 4:4:4, 4:2:2 or 4:1:1 color)
Truevision TARGA	TGA	• Uncompressed/8, 16, 24, 32 • RLE/8, 16, 24, 32
Windows Bitmap	BMP/DIB	• Uncompressed/1, 4, 8, 16, 24, 32 • RLE/1, 4, 8
Windows Enhanced Metafile	EMF	• Uncompressed/1, 4, 8, 16, 24, 32 • RLE/1, 4, 8
Windows Metafile	WMF	• Uncompressed/1, 4, 8, 16, 24, 32 • RLE/1, 4, 8
WordPerfect Format	WPG	RLE/1, 4, 8 (Raster image information only, vector image information is ignored)
Zsoft PCX / Multipage PCX	PCX/DCX	RLE/1, 4, 8, 24

Bits Per Pixel and Number of Colors Information Table

Bits Per Pixel and Number of Colors Information

Bits per pixel	Number of colors	Description
1	2	Monochrome
2	4	CGA
3	8	
4	16	EGA/VGA
5	32	
6	64	
7	128	
8	256	256 color VGA/256 gray levels
16	65,536	High Color
24	16,777,216	True Color
32	16,777,216	True Color with 8 bits of alpha information. The alpha information is ignored.

Notes About Specific Image Formats

- **EPS & WPG Image Formats**
  ReadkeyPRO provides partial support for the EPS (Encapsulated PostScript) and WPG (WordPerfect Format) formats. While EPS and WPG files can contain raster (bitmap) and vector (text, line, and shape drawing commands) information, ReadkeyPRO applications can only read raster information.

  If you want to import EPS or WPG files that contain vector information you should convert the files to EMF (Windows Enhanced Metafile) or WMF (Windows Metafile) format and import those files instead.

- **EMF, WMF, & DXF Image Formats**
  EMF and WMF files contain raster (bitmaps) and/or vector (text, line, and shape drawing commands) data. DXF files contain vector data only.

  ReadkeyPRO supports EMF, WMF, and DXF file import. This means that:

  – Badge layout graphics, cardholder photos, and cardholder signatures can be imported as WMF, EMF, and DXF files.
  – Vector images can be imported and remain vector images instead of being converted to bitmaps. However, the signature settings, image processing, chromakey, and the crop window are disabled when a vector image is imported.

- **GIF & LZW Image Formats (Not Supported)**
  As the result of Unisys licensing the LZW compression technology, GIF (Graphics Interchange Format), and LZW compressed TIFF formats are not supported.

Hand Geometry Overview

The access control hand readers supported by ReadkeyPRO include the HandKey II, HandKey (ID3D), and HandKey-CM readers.

Hand Geometry License and Permissions

To use Hand Geometry hardware for enrollment, a support license (SWG-1400) and biometrics capture permissions are required. A user's capture permissions are set on the Cardholder Permission Groups form in the Users folder. For more information, refer to Cardholder Permission Groups Form Overview on page 425.

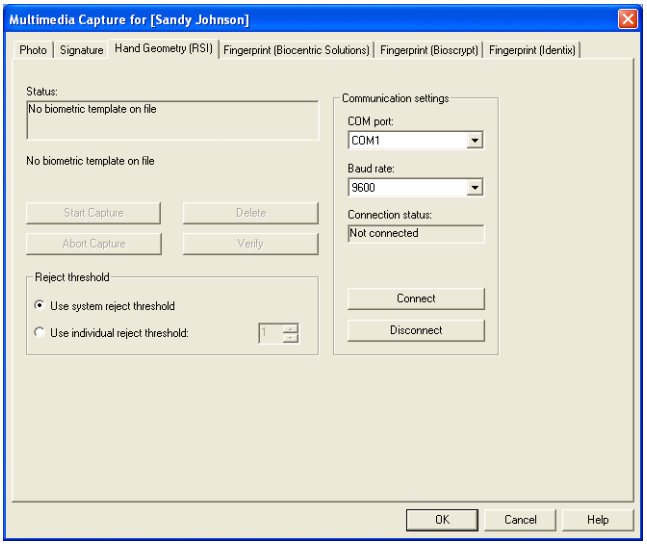
HandKey Functionality

The HandKey readers capture three-dimensional images (templates) of a cardholder's hand. To do this, hand readers record 96 measurements including length, width and height of the fingers. These measurements are converted by mathematical algorithms into a 9-byte template.

The template of the cardholder's hand print is stored on the controller. When a badge or pin is presented to a reader, the controller downloads the template to the reader. The cardholder is then prompted to present his or her hand to the hand print reader for verification. The reader compares the stored template(s) with the cardholder's actual hand print. If the cardholder's hand print matches the template, the controller grants the cardholder access.

The HandKey reader is the only biometric reader supported by ReadkeyPRO that sends the biometric score data to Alarm Monitoring. If the Alarm Monitoring alarm filter includes biometric events and the column configuration includes biometric score, the following alarms will display in Alarm Monitoring: accepted biometric score, access granted or rejected biometric score, and biometric mismatch.

Hand Geometry Form



Multimedia Capture - Hand Geometry Form

Form Element	Comment
Status	Displays the status of the enrollment/capture process and prompts the user for specific action.
Start Capture	Initiates the capture procedure.
Abort Capture	Terminates the capture procedure. This button is only enabled when a hand print is being captured.
Delete	Deletes the displayed template.
Verify	Compares the live template with the stored template. The result of the comparison, the score, displays in the status field. The greater the difference between the two templates, the greater the score. **Note:** In segmented systems, default minimum scores required to accept a template match are set on the Biometrics sub-tab of the Segments form in the Segments folder. In non-segmented systems, default minimum scores are set on the Biometrics form in the System Options folder.
Use system reject threshold	Uses the administrator-defined minimum score required for biometric verification. In segmented systems, administrators define this value on the Biometrics sub-tab of the Segments form in the Segments folder. In non-segmented systems administrators define this value on the Biometrics form in the System Options folder
Use individual reject threshold	Uses the minimum score you enter to determine hand print verification. Scores range from 1-255. The higher the value the better the hand to template match.
COM Port	Choose the number of the port that will be used to communicate with the hand reader.

Multimedia Capture - Hand Geometry Form (Continued)

Form Element	Comment
Baud Rate	Enter the speed (in bits per second) at which information is transferred between the workstation and the hand reader.
Connection Status	Displays the connection status of the hand geometry reader. When the system tries to connect to the reader using the stored COM Port and Baud Rate settings, this field will display whether or not the reader is connected
Connect	Connects the hand geometry reader to the ReadkeyPRO system.
Disconnect	Disconnects the hand geometry reader from the ReadkeyPRO system.

Hand Geometry Procedures

Capture Hand Print Templates

1. Open Multimedia Capture. For more information, refer to Open Multimedia Capture on page 1375.
2. Click the Hand Geometry tab.
3. Verify the reader is connected to the workstation. If not, click [Connect].
4. Verify the Communication settings (COM port and Baud rate) are correct.
5. If you want to use the system's rejection threshold, select the **Use system reject threshold** radio button. If you want to override the system's rejection threshold with an individual threshold value, select the **Use individual reject threshold** radio button and enter a value.
6. Click [Start Capture].
7. The status box in the Hand Geometry form provides instructions. Place your hand on the reader then remove it. The reader prompts you to do this three times in order to get a more accurate reading of your hand.
8. Once the template capture is complete, click [OK]. The Hand Geometry Form closes. Click [OK] on the Cardholders Form to end the process.

Note: When placing your hand on the Hand Geometry reader you must make sure to align your hand to the device. Light indicators will tell you your hand is being read. The lights will stay on if the device cannot read your hand geometry.

Verify Hand Print Templates

To verify that the user's hand geometry matches what is on record:

1. Open Multimedia Capture. For more information, refer to Open Multimedia Capture on page 1375.
2. Click the Hand Geometry tab.
3. Verify the reader is connected to the workstation. If not, click [Connect].
4. Verify the Communication settings (COM port and Baud rate) are correct.
5. Click [Verify].
6. You are asked to place your hand in the reader. After doing so, a number will appear in the status box. The lower the number the more likely the person verified is the same person whose hand was originally read.

Modify Hand Print Templates

Since you cannot modify someone's hand print template. The only way to modify what you have on record is to recapture the hand print template. To do this delete the record on the Hand Geometry form and repeat the capture process.

About Fingerprints

Every fingerprint is considered unique because of its pattern of ridges (raised skin) and furrows (lowered skin).

When you enroll a cardholder, you capture an image of their fingerprint as well as create and store a fingerprint template.

Fingerprint Images

A *fingerprint image* is a picture of a fingerprint.

With some biometric readers, you can store fingerprint images in the database when you enroll cardholders. Often this is not desirable for security reasons.

Fingerprint Templates

A *fingerprint template* is a series of points (minutiae points), that define fingerprint patterns. A fingerprint template is useless without a live image to compare it to. For this reason, storing fingerprint templates on smart cards, readers or controllers does not pose a security threat.

How Fingerprint Enrollment and Verification Works

Multimedia Capture and biometric hardware is used to capture a template of a cardholder's fingerprint. Depending on the type of hardware used, the template is stored either on a card, controller, or reader.

When a badge or pin number is presented to a reader, the cardholder is prompted to present his or her finger to a fingerprint reader for verification. The system then compares the stored template(s) with the cardholder's actual fingerprint. If the cardholder's fingerprint matches the stored template, the cardholder is granted access.

Fingerprint (Bioscrypt) Overview

ReadkeyPRO supports the following Bioscrypt products:

- V-Smart - fingerprint and smart card (MIFARE or iCLASS) reader
- V-Flex - fingerprint reader that works in conjunction with any type of access control reader
- V-Station - fingerprint and PIN reader that works in conjunction with any type of access control reader
- MV-1200 - OEM module used with the LNL-BIO007-xxx
- V-Prox - fingerprint and proximity card reader
- V-Pass - standalone fingerprint reader

Fingerprint (Bioscrypt) License and Permissions

To use Bioscrypt hardware for enrollment, a support license (SWG-1402) and biometric capture permissions are required. A user's capture permissions are set on the Cardholder Permission Groups form in the Users folder. For more information, refer to Cardholder Permission Groups Form Overview on page 425.

Bioscrypt Functionality

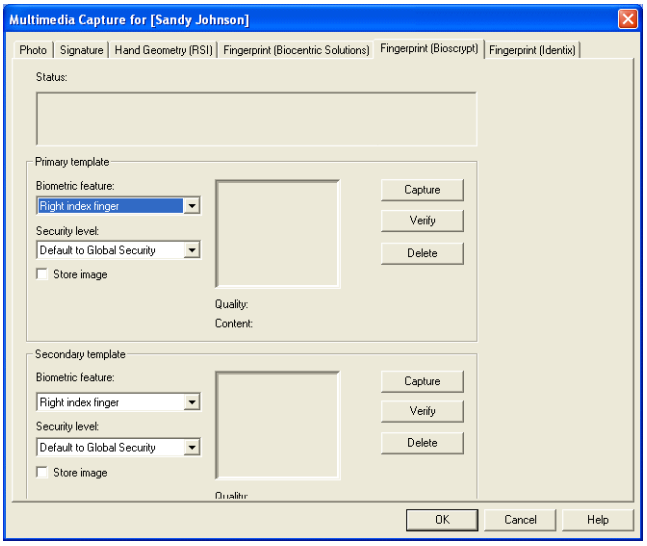
Bioscrypt hardware stores two fingerprint templates (primary and secondary) on the controller or smart card, depending on the type of hardware.

Secondary templates are added the same way primary templates are.

Note: Secondary templates are optional unless you use them for duress fingerprints or in the verification process if the primary template verification fails.

Additionally, **before** capturing an image, you can store fingerprint images in the database by selecting the **Store image** check box or you can designate the secondary fingerprint as duress by selecting the **Make duress finger** check box.

Fingerprint (Bioscrypt) Form



Multimedia Capture - Fingerprint (Bioscrypt) Form

Form Element	Comment
Status	Displays the fingerprint capture/enrollment status and prompts the user for specific action.
Fingerprint window	Displays the live image of the finger that is currently placed on the fingerprint sensor.
Biometric feature	Select which biometric feature you are capturing.
Security level	Select the security level which identifies the level of accuracy acceptable for template verification. "Default to Global Security" uses the default system level set in the System Options folder (for non-segmented systems) or the Segments folder (segmented systems). The level you set here may be overridden, depending on the system default settings. For more information refer to the Biometrics form in the System Options or Segments folder.
Store image	Stores the image in the database. **Note:** You must select this check box prior to capturing the fingerprint template.
Make duress finger	Specifies the second finger is designated as a duress finger. When that finger is presented, the system reports events as duress rather than normal.
Capture	Captures and displays the live image in the fingerprint window. If the **Store image** check box is selected prior to clicking [Capture], the image is also saved in the database.
Verify	Compares the live image with the stored template. The result of the comparison, whether the cardholder was verified or not, displays in the status window.
Delete	Deletes the selected fingerprint template.
COM Port	Choose the number of the port that will be used to communicate with the fingerprint reader.

Multimedia Capture - Fingerprint (Bioscrypt) Form (Continued)

Form Element	Comment
Baud rate	Enter the speed (in bits per second) at which information is transferred between the workstation and the fingerprint reader.

Fingerprint (Bioscrypt) Procedures

Capture Fingerprint (Bioscrypt) Templates

1. Open Multimedia Capture. For more information, refer to Open Multimedia Capture on page 1375.
2. Click the Fingerprint (Bioscrypt) tab.
3. In the Sensor settings section, set up your workstation communication parameters.
   a. Select the COM port.
   b. Select the baud rate. This rate must match the baud rate configured at the enrollment Bioscrypt reader.
4. In the Settings section:
   a. Select the **Store image** check box if you want to store the fingerprint image in the database as well as view it in the Cardholders folder. The image is automatically sent to the controller through the workstation's Communication Server.
   b. Select the security level. "Default to Global Security" use the default system level.

Note: The level you set here may be overridden if your system is configured to use the default security level.

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5. In the Fingerprint template sections:
   a. Select the biometric features to capture.
   b. To capture fingerprints using the duress option:
      - In the Secondary template section, select the finger you want to use as the duress finger. The Primary fingerprint is then used as the standard, non-duress fingerprint.
      - Select the **Make duress finger** check box. When a Bioscrypt fingerprint is captured, if the second fingerprint is specified as

duress, the “Access Granted - Duress” event is reported when the duress finger is presented.

c. Click [Capture] and place your finger on the biometric reader.

d. Look at the Status field. If it states that a high quality and high content biometric template was captured, you are ready to verify the biometric capture. Otherwise, click [Delete] and recapture the fingerprint.

6. Click [OK].

Verify Fingerprint (Bioscrypt) Templates

Verifying the fingerprint template during the enrollment process prevents headaches later on. The verification process occurs after the fingerprint template is captured.

To verify the quality and content of the fingerprint template, click [Verify] (in Multimedia Capture) and refer to the status field for further instruction. The status field prompts the cardholder to place their finger on the reader as well as displays results of the verification process. If the fingerprint matches the template, the cardholder is identified/verified. Click [OK] when you are finished.

If you are working with V-Smart G or H hardware, you need to encode your smart card after you verify the quality and content of the fingerprint template.

Duress Fingerprint (Bioscrypt) Template

Normally, Bioscrypt hardware stores two fingerprint templates (primary and secondary) on the controller or smart card, depending on the type of hardware. For duress, the primary fingerprint template is presented as the standard (normal) fingerprint and the secondary as the duress fingerprint.

When a Bioscrypt fingerprint is captured, and the second fingerprint template is configured as secondary, normal access is granted if the second finger is presented. When the second fingerprint template is configured for duress, duress access is granted if the second finger is presented.

Encode Smart Cards with Bioscrypt Templates

For more information on encoding, refer to “Encoding Prerequisites” in the Workstations Folder chapter, Card formats Folder chapter, or Badge Types Folder chapter. The same information is available in each of these chapters.

Note: When you position the card near the encoder, make sure to hold the card steady and within one inch of the encoder. If you encounter problems encoding, reposition the way you hold the card in front of the encoder.

Note: The card format settings **Reversed Bit Order** and **Duress** are ignored when badges are encoded. For more information, refer to Wiegand Card Format

Form on page 286 or Magnetic Card Format Form on page 282.

1. With the Cardholder form displayed click [Encode]. You may have to click [OK] before you can see the encode button.
2. The Encode Badge window opens. Select the Bioscrypt card format and the V-Smart (iCLASS) or V-Smart (MIFARE) encoder.
3. Click [Encode].
4. When prompted, present your card to the encoder.
5. When ReadkeyPRO displays the message that the encoding process was successful, click [OK]. If you get an error message, encode the card again. Make sure to review the tips at the beginning of this procedure.

OpenCapture Overview

The OpenCapture line of physical security fingerprint readers supported by ReadkeyPRO is limited to the following devices:

- Cross Match ID 500 Fingerprint Scanner
- Cross Match Verifier 300 Fingerprint Scanner
- Sagem Morpho Smart Optical Fingerprint Scanners

Note: Refer to the OEM Device Configuration Guide for information on hardware installation.

OpenCapture Licenses and Permissions

To use OpenCapture for enrollment, a support license and biometrics capture permissions are required. A user's capture permissions are set on the Cardholder Permission Groups form in the Users folder. For more information, refer to Chapter 13: Users Folder on page 399.

Hardware support for the Cross Match ID 500, Cross Match Verifier 300, and Sagem Morpho Optical scanners are licensed features. Contact your Bosch representative for more information.

OpenCapture Functionality

Depending on which OpenCapture fingerprint scanner is used, the functionality of OpenCapture varies as follows:

- For the Cross Match ID 500: Capable of scanning multiple fingers at a time (4): Left Slap fingers, Right Slap fingers, and Double Thumb slap. The captured fingerprint images will store one set (ten individual prints) of finger data per enrollee. The Cross Match ID 500 scans fingerprint images only which are captured at 500 *ppi* (pixels per inch).
- For the Cross Match Verifier 300: Capable of scanning one finger at a time. Captures fingerprint images with vertical and horizontal resolutions of 500 ppi. The Verifier 300 fingerprint scanner is only capable of capturing a "flat" or "slap" image of a finger. It does not capture "roll" images.

Notes: ReadkeyPRO supports slap images, only.

Primary and secondary fingerprints captured using the Cross Match ID 500 or the Cross Match Verifier 300 are stored in the ReadkeyPRO database as ANSI-INCITS 378 minutiae templates.

- For the Sagem Morpho Smart Optical scanners: Capable of scanning one finger at a time. Captures fingerprint images with vertical and horizontal resolutions of 500 ppi. The MSO fingerprint scanner is only capable of capturing a "flat" or "slap" image of a finger. It does not capture "roll" images.

Note: Primary and secondary fingerprints captured with the Sagem MSO scanners are stored in the ReadkeyPRO database in two formats, Sagem Morpho PK_COMP v2 and ANSI-INCITS 378 minutiae templates.

ReadkeyPRO supports five models of the Sagem MSO scanners:

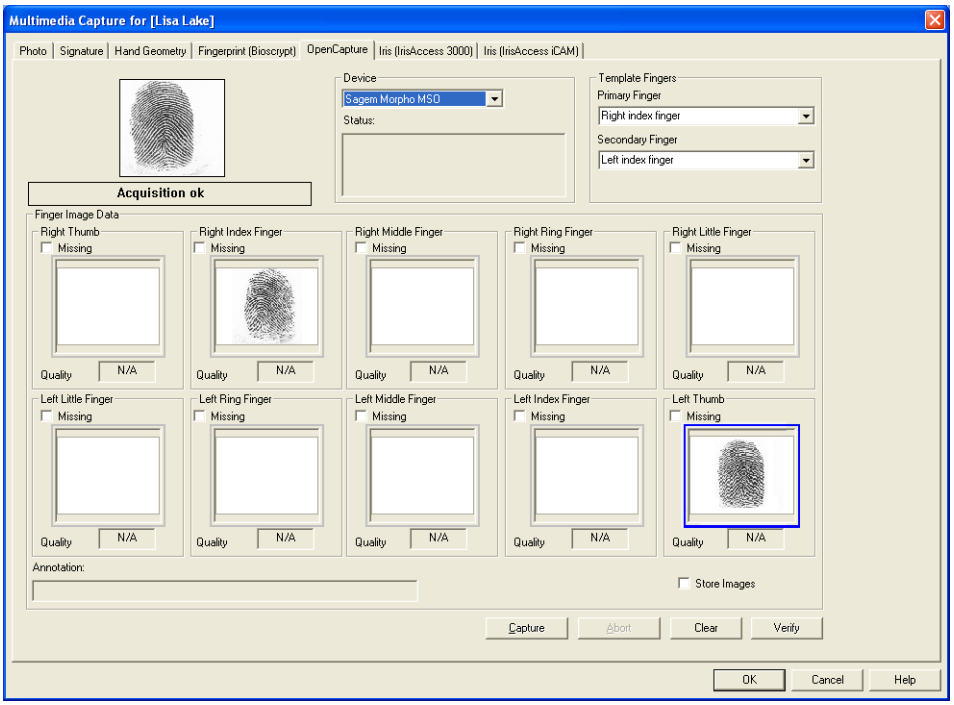
Model	Description
MSO 300	Provides images of 500 ppi with a larger form factor unit giving 416 x 416 pixel images.
MSO 350	Provides images of 500 ppi with a larger form factor unit giving 416 x 416 pixel images. Has an integrated contact PC/SC card reader.
MSO 350 PIV	Provides images of 500 ppi with a larger form factor unit giving 416 x 416 pixel images. Has an integrated contact PC/SC smart card reader which is approved for PIV applications. For more information, refer to PIV Card on page 131.
MSO 1300	Equivalent to the MSO 300 but at a smaller form factor and lower cost point than the MSO 300.
MSO 1350	Equivalent to MSO 350 but at a smaller form factor and lower cost than the MSO 350. Retains integrated smart card reader.

Fingerprint Verification

Primary and secondary fingerprints which are captured and saved in the template formats may be verified. The cardholder presents a finger on the scanner and the live fingerprint image is compared to the saved fingerprint template. If these match, verification is successful.

Note: Fingerprint verification is performed twice. The cardholder presents the same finger to the scanner to be verified first against the fingerprints stored in the Sagem Morpho PK_COMP v2 template and then against the ANSI-INCITS 378 minutiae template.

OpenCapture Form



Multimedia Capture - OpenCapture Form

Form Element	Comment
Live image	At the upper left of the form, the live fingerprint image is displayed as it is being captured if the device supports it. **Note:** Device status is reported below the live fingerprint display.
Device	Select the device used to capture the fingerprint.
Status	Displays the current status of the scanning process, any messages, or instructions.
Primary Finger Secondary Finger	Select a finger/thumb from the **Primary Finger** and **Secondary Finger** drop-down lists. When capturing a fingerprint specified as the **Primary Finger** or **Secondary Finger**, you must also select the corresponding finger/thumb group box. For example, if "Right Index" is selected for the **Primary Finger**, select the Right Index Finger group box as well. **Note:** For encoding DESFire (TWIC 1.02 Data Model) smart cards, both the right and left index fingerprints are required. To capture the right index fingerprint, the Right Index Finger group box and **Store Images** check box must be selected. To capture the left index finger, the Left Index Finger group box and **Store Images** check box must be selected. **Note:** Primary and secondary fingerprints are also used for encoding other smart cards such as PIV cards.
Missing	Select if the cardholder has that particular finger/thumb missing.

Multimedia Capture - OpenCapture Form (Continued)

Form Element	Comment
Finger Image Data	Contains the finger/thumb group boxes. Each box displays the captured fingerprint image for the individual finger data. Before capturing a fingerprint, select the finger/thumb group box associated with the finger/thumb print you wish to capture.
Quality	Measures the quality of the capture. A high quality image is at least 60. **Note:** **Quality** is only applicable to the Cross Match ID 500 scanner. For other scanners, "N/A" is displayed.
Annotation	Add notes (up to 128 characters) here for individual fingerprints. For example, a note might be added to indicate that an injury prevented the capture of the left index finger.
Store Images **Warning**	Select to enable the saving of fingerprint images for the cardholder. **Note:** To prevent casual database observers from looking at the raw fingerprint data it is stored as encrypted data in the database. The option to disable fingerprint storage is provided for organizations that do not wish to store fingerprint images for security and privacy considerations. A 416 x 416, 8-bit per pixel image is stored for each fingerprint in the fingerprint record for the cardholder. For example: If two (2) prints are captured for the cardholder, approximately 338 KB of disk space is required for the fingerprint record. However, if all 10 prints are saved in the fingerprint record, approximately 1.7 MB of disk space is required. Additionally, due to the size of such a fingerprint record, it may take a long time to save it over a WAN system. Therefore it is suggested that the enrollment workstation be connected via a high speed connection to the database server.
[Capture]	Click to begin the capture process.
[Abort]	Click to cancel the capture process.
[Clear]	Click to clear the finger/thumb print image and its associated information. If no finger is selected, all fingerprint images will be cleared. Before the image data is cleared, a prompt is displayed to confirm that the data is about to be deleted. **Note:** Clearing all fingers will also delete the fingerprint templates from the database.
[Verify]	Click to perform fingerprint verification. The [Verify] button is enabled if you select a finger/thumb group box which corresponds to the selection in **Primary Finger** or **Secondary Finger**.

OpenCapture Procedures

Note: Installation instructions for the fingerprint enrollment scanner devices are provided in the OEM Device Configuration Guide.

Capture Multiple Fingers

1. When enrolling a cardholder, click [Capture]. For more information, refer to Open Multimedia Capture on page 1375.
2. From the OpenCapture tab:
   a. Select the fingerprint scanner you are using from the **Device** drop-down.
   b. Check that the device status indicates it is connected. If this is not indicated, check your connection.
   c. If required, select a finger/thumb for the **Primary Finger** and **Secondary Finger**.
   d. If there are any fingers NOT being enrolled, select the **Missing** check box for that finger.

Note: Do NOT select any of the finger/thumb group boxes.

   e. Click [Capture]. Follow the on-screen prompts provided in the **Status** display. It will guide you through the process of capturing fingerprints and the using correct finger positions. First the right hand is captured, then the left hand, and last, both thumbs.
   f. If you wish to add an annotation for individual fingerprints, select the finger/thumb group box and type the information (up to 128 characters of data per finger).
   g. To verify the fingerprints, click [Verify]. For more information, refer to Verify Fingerprint Templates on page 1437.
   h. Click [OK] when you are done.

Capture Individual Finger

This procedure is used for scanners which capture a single finger at a time or if you need to re-scan a single finger during a multiple finger capture.

1. When enrolling a cardholder, click [Capture]. For more information, refer to Open Multimedia Capture on page 1375.
2. From the OpenCapture tab:
   a. Select the fingerprint scanner you are using from the **Device** drop-down.
   b. Ensure the device is connected. If this is not indicated, check the connection from the scanner to the workstation.
   c. If required, select a finger/thumb for the **Primary Finger** and **Secondary Finger**.
   d. Select the finger/thumb group box you will scan. A blue box is displayed around the selected group box.
   e. Click [Capture] to begin the capture process. Follow the on-screen prompts provided in the **Status** display. It will guide you through the process of capturing the fingerprint(s).
   f. Have the cardholder place a finger on the sensor. The cardholder will be prompted to do this a number of times to ensure a quality print is captured.
   g. Add an annotation for individual fingerprint(s) if you wish (up to 128 characters of data per finger).
   h. To verify the fingerprints, click [Verify]. For more information, refer to Verify Fingerprint Templates on page 1437.
   i. Click [OK] when you are done.

Verify Fingerprint Templates

1. From the OpenCapture tab, select the group box which corresponds to the finger/thumb specified for the **Primary Finger** or **Secondary Finger**.
2. Click [Verify]. Follow the on-screen prompts provided in the **Status** display.
3. The cardholder is prompted to place a finger on the sensor. The cardholder will be prompted to this a number of times.

Note: If a PK_COMP fingerprint template is present for the specified finger, the live fingerprint is tested against this template first and then the 378 minutiae fingerprint template.

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4. When the verification is complete, click [OK] to close the OpenCapture form.

About Iris Patterns

The *iris* is the colorful portion of your eye that surrounds the pupil. Each iris is unique because it contains patterns such as collarettes, ciliary areas, pupilary areas, radial furrows, pigment frills and crypts.

Minutiae point algorithms capture this uniqueness by locating ridge bifurcations (where ridges join) and terminations (where ridges end) and mapping them numerically onto an iris template.

IrisAccess 3000 Overview

The IrisAccess line of physical security iris readers supported by ReadkeyPRO include the ROU3000 (Remote Optical Unit) and the EOU3000 (Enrollment Optical Unit). In addition, the ICU3000 (Identification Control Unit) and extra boards are required for enrollment and access control.

License and Permissions

You do **not** need a special support license to use the IrisAccess 3000 hardware for enrollment or access control. The IrisAccess (iCLASS) application is licensed by the number of cardholders who have their irises captured.

However, biometrics capture permissions are required. A user's capture permissions are set on the Cardholder Permission Groups form in the Users folder.

Functionality

IrisAccess 3000 enrollment readers (EOU3000) do not store iris images or iris data. Instead, they send iris images to the ICU3000 where they are converted to 512-byte IrisCode ®. Then, using an HID (iCLASS) encoder, you can encode iCLASS smart cards with the iris data. IrisCode can also be encrypted prior to storing it to the smart card, using AES, DES or DES3 encryption methods.

ReadkeyPRO can optionally store iris images in the database. IrisCode is not stored in the ReadkeyPRO application.

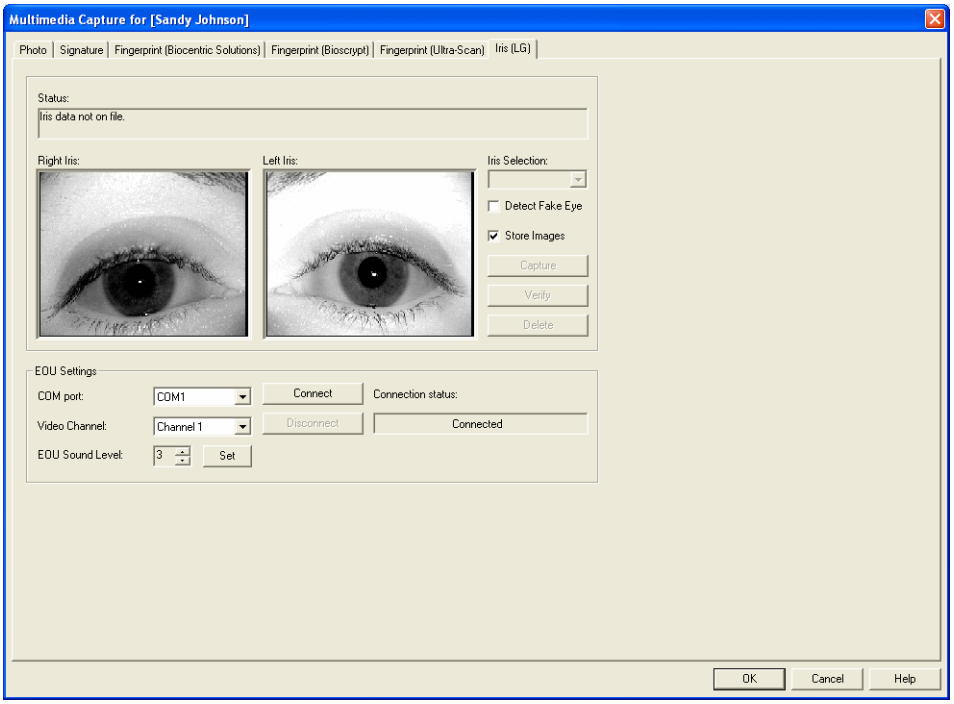
Enrollment Process

During the enrollment process, iris data is stored in a biometric container on smart cards. The biometric container is a part of the Lenel Open Card initiative. The system utilizes data from two applications stored on the card: access control data and the biometric container. Access control data can either be HID Access Control (iCLASS) data or IrisAccess (iCLASS) data.

Verification Process

1. An iCLASS card, with an HID Access Control application and biometric container, is presented to an HID iCLASS reader.
2. The reader (RW400) reads the access control data on the card and sends it up to the ICU.
3. The arrival of Wiegand data prompts the ICU to read the biometric container on the card.
4. After iris data is read, the ICU communicates to EOU3000, and the EOU3000 prompts the user to present their iris for verification.
5. The live image is compared to iris templates retrieved from the card.
6. If biometric verification is successful, access is granted or denied based on the cardholder's access levels. If biometric verification fails, access is denied.

Iris (IrisAccess 3000) Form



Iris (IrisAccess 3000) Form Field Table

Multimedia Capture - Iris (IrisAccess 3000) Form

Form Element	Comment
Status	Displays the status of the capture procedure, including whether a capture is completed or failed, the number of failed attempts, and the amount (%) of information captured. A high quality image is at least 60%
Right Iris / Left Iris	Displays the live image of the iris as it is scanned and captured. **Note:** Right and left images appear in this order to simulate a face to face appearance, instead of displaying the left image on the left side and the right image on the right side.
Iris Selection	Select which eye you are capturing. Choices are “Right” and “Left”.
Detect Fake Eye	Select this check box to utilize additional security against using fake eyes. When this check box is selected, ReadkeyPRO engages the fake eye detection mechanism during iris capture and verification.
Store Images	Select this check box to store graphic images in the ReadkeyPRO database.
Capture	Click this button to initiate the capture procedure. The system makes three attempts to capture iris data. The status field displays the number of failed attempts and whether the capture is completed or failed.
Verify	Click this button to compare the live template with the stored template. The result of the comparison, a percentage, is displayed in the status window. A high quality image is at least 60%.
Delete	Click this button to delete both iris templates.
COM port	Choose the COM port (1 through 4) that will be used to communicate with the EOU3000.
Video Channel	Choose the channel (1 through 4) that the EOU3000 is connected to on the workstation’s PC.
EOU Sound Level	The volume of the voice prompts and messages. Volume ranges from 0 to 8 (loudest).
Set	Click this button to set the volume of voice prompts and messages.
Connect	Click this button to connect the workstation to the EOU3000. The **Connection status** field displays “Connected” if a connection is established. Otherwise, “Not connected” displays in the **Connection status** field.
Disconnect	Click this button to disconnect the workstation from the EOU3000.
Connection status	Displays the connection status of the EOU3000.
OK	Saves your changes and closes Multimedia Capture. **Note:** Don’t forget to also click [OK] on the Cardholder form to save the biometric information.
Cancel	Closes the window and returns you to the Cardholder, Badge, or Access Levels form. Does not save any changes made in Multimedia Capture.
Help	Displays online help for this form.

Iris (IrisAccess 3000) Procedures

Capture Tips

- Although iris images can be captured through contact lenses, glasses, protective shields, and masks, it is highly recommended that cardholders remove their glasses, shields, or masks during enrollment. Cardholders do not need to remove contact lenses unless they have printed pattern contacts. Contact lenses, glasses, shields, and masks can be worn for enrollment verification and future readings.
- Inform cardholders that no lasers or bright lights are used to illuminate their eyes. Instead, a low level infrared light ray is used. The intensity of the ray is similar to rays used in a wireless television remote.
- Ask cardholders to sit down. There is less variance and movement during the capture process if the cardholder views the reader while seated.
- Ask cardholders to look into the reader from a distance of 3 to 10 inches (76.2 to 254 mm).
- Instruct cardholders to open their eye as wide as possible.
- When setting up the capture station, avoid bright lights in front or behind the reader.
- Take advantage of the visual signals on the reader that communicate its status.

Solid blue light - means the unit is on

Solid white/clear light - means the unit is off

Blinking green light - means the unit is capturing an image

Solid green light - means the image is accepted

Blinking red light - means the unit is inactive

Solid red - image rejected

Capture IrisAccess Templates

1. Open Multimedia Capture. For more information, refer to Open Multimedia Capture on page 1375.
2. Click the Iris (IrisAccess 3000) tab.
3. Verify the EOU3000 reader is connected. If not, click [Connect].
4. Verify the EOU settings (COM port, video channel, and EOU sound level) are correct.
5. If you want to store the fingerprint image in the ReadkeyPRO database, select the **Store image** check box.
6. For additional security, select the **Detect Fake Eye** check box.
7. Select which eye you are enrolling (left or right), from the **Iris Selection** drop-down list.
8. Ask the cardholder to look into the enrollment reader. Cardholders should position themselves 3 to 10 inches (76.2 to 254 mm) away from the reader.
9. While the cardholder is looking into the reader, click [Capture].

Note: Verbal commands let the cardholder know if they are too close or too far from the reader.

10. The status field identifies the capture quality. If the template is high quality (60% or greater) repeat the capture process for the other eye. If only one eye is available, you should capture that eye twice. If the template is low quality, recapture an image of the same eye.

Verify IrisAccess Templates

Verifying iris templates during the enrollment process prevents headaches later on. The verification process occurs after the iris image is captured.

To verify the quality and content of the iris image, click [Verify] (in Multimedia Capture). The reader prompts the cardholder to look into the reader. If the iris pattern matches the template, the reader announces that the cardholder is identified/verified.

Note: It is not necessary to select which eye you are verifying. During verification, the system will search through all of the cardholder's iris templates for a match.

Encode Smart Cards with IrisAccess Templates and Access Control Information

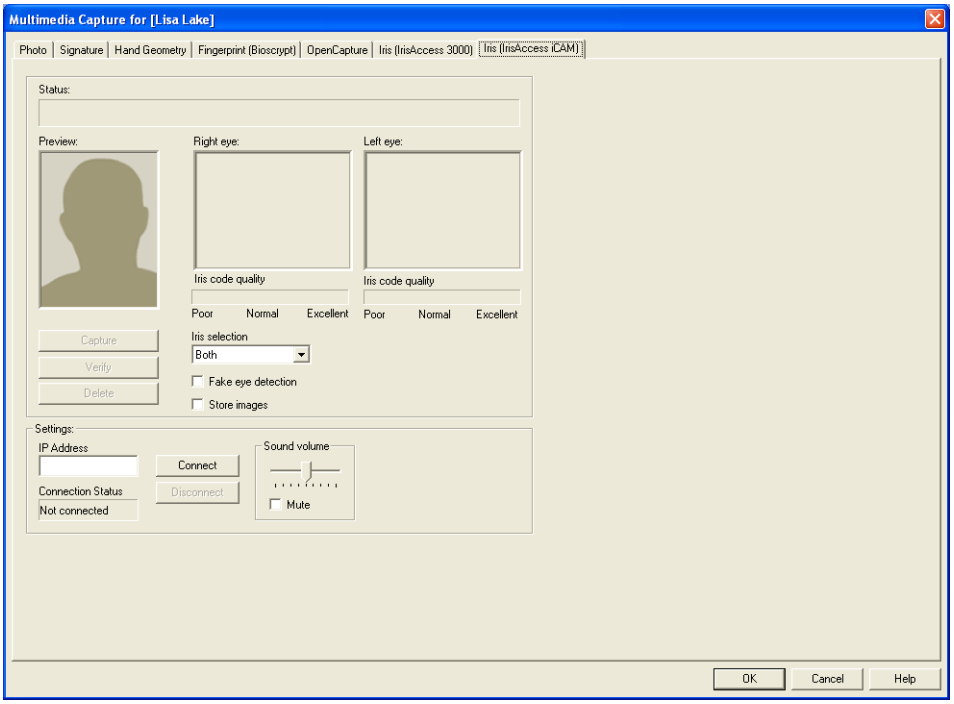
For more information on encoding, refer to "Encoding Prerequisites" in the Workstations Folder chapter, Card formats Folder chapter, or Badge Types Folder chapter. The same information is available in each of these chapters.

Note: When you place the card near the encoder be sure to keep the card steady and within 1 inch (2.54 cm) of the encoder. If you encounter problems encoding, reposition the way you hold the card in front of the encoder.

1. With the Cardholder form displayed click [Encode].
2. The Encode Badge window opens. Select the HID (iCLASS) smart card format and HID (iCLASS) encoder to encode the cardholder's access control data.
3. Click [Encode].
4. When prompted, present your card to the HID iCLASS encoder and click [OK].
5. When ReadkeyPRO displays the message that the encoding process was successful, click [OK]. If you get an error message, encode the card again.
6. In the Cardholder form, click [Encode].
7. The Encode Badge window opens. This time, select the Iris Access (iCLASS) card format and HID iCLASS encoder.
8. When prompted, present your card to the HID iCLASS encoder and click [OK].
9. When ReadkeyPRO displays the message that the encoding process was successful, click [OK]. If you get an error message, repeat steps 6-8.

Iris (IrisAccess iCAM) Form

Note: Two workstations cannot be connected to iCAM network devices at the same time.



Iris (IrisAccess iCAM) Form Field Table

Multimedia Capture - Iris (IrisAccess iCAM) Form

Form Element	Comment
Status	Displays the status of the capture procedure, including whether a capture is completed or failed, the number of failed attempts, and the amount (%) of information captured. A high quality image is at least 60%
Preview	Displays the live preview of the camera.
Right eye/ Left eye	Displays the live image of the eye as it is scanned and captured. The field below each eye show the quality of the capture. **Note:** Right and left images appear in this order to simulate a face to face appearance, instead of displaying the left image on the left side and the right image on the right side.
Iris Selection	Select which eye you are capturing. Choices are “Right”, “Left”, and “Both”.
Fake eye detection	Select this check box to utilize additional security against using fake eyes. When this check box is selected, ReadkeyPRO engages the fake eye detection mechanism during iris capture and verification.
Store Images	Select this check box to store graphic images in the ReadkeyPRO database.
Capture	Click this button to initiate the capture procedure. The status field displays “Capture successful”" and the voice on the reader informs you when the procedure is finished.
Verify	Click this button to compare the live template with the stored template. The result of the comparison, a percentage, is displayed in the status window. A high quality image is at least 60%.
Delete	Click this button to delete both iris templates.
IP Address	Enter the IP address you used during the setup the Iris (IrisAccess iCAM) ICU controller and camera.
Connection Status	Displays current connection status of the IrisAccess iCAM.
Connect	Click this button to connect the workstation. The **Connection status** field displays “Connected” if a connection is established. Otherwise, “Connection failed” displays in the **Connection status** field.
Disconnect	Click this button to disconnect the workstation.
Sound volume	Regulates the volume of the voice prompts and messages.
Mute	Mutes the sound from the reader.
OK	Saves your changes and closes Multimedia Capture. **Note:** Don’t forget to also click [OK] on the Cardholder form to save the biometric information.
Cancel	Closes the window and returns you to the Cardholder, Badge, or Access Levels form. Does not save any changes made in Multimedia Capture.
Help	Displays online help for this form.

Capture IrisAccess Templates

1. Open Multimedia Capture. For more information, refer to Open Multimedia Capture on page 1375.
2. Click the Iris (IrisAccess iCAM) tab.
3. Verify the reader is connected. If not, enter the IP address and click [Connect].
4. If you want to store the fingerprint image in the ReadkeyPRO database, select the **Store image** check box.
5. For additional security, select the **Detect Fake Eye** check box.
6. Select which eye you are enrolling (left, right, or both), from the **Iris Selection** drop-down list.
7. Ask the cardholder to look into the enrollment reader. Cardholders should position themselves 3 to 10 inches (76.2 to 254 mm) away from the reader.
8. While the cardholder is looking into the reader, click [Capture].

Note: Verbal commands let the cardholder know if they are too close or too far from the reader.

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9. The status field identifies the capture quality. If the template is high quality (60% or greater) repeat the capture process for the other eye. If only one eye is available, you should capture that eye twice. If the template is low quality, recapture an image of the same eye.

Verify IrisAccess Templates

Verifying iris templates during the enrollment process prevents headaches later on. The verification process occurs after the iris image is captured.

To verify the quality and content of the iris image, click [Verify] (in Multimedia Capture). Select which eye you are verifying, (left, right, or both) from the **Iris Selection** drop-down list. The reader prompts the cardholder to look into the reader. If the iris pattern matches the template, the reader announces that the cardholder is identified/verified.

Encode Smart Cards with IrisAccess Templates and Access Control Information

For more information on encoding, refer to “Encoding Prerequisites” in the Workstations Folder chapter, Card formats Folder chapter, or Badge Types Folder chapter. The same information is available in each of these chapters.

Note: When you place the card near the encoder be sure to keep the card steady and within 1 inch (2.54 cm) of the encoder. If you encounter problems encoding, reposition the way you hold the card in front of the encoder.

1. With the Cardholder form displayed click [Encode].
2. The Encode Badge window opens. Select the HID (iCLASS) smart card format and HID (iCLASS) encoder to encode the cardholder's access control data.
3. Click [Encode].
4. When prompted, present your card to the HID iCLASS encoder and click [OK].
5. When ReadkeyPRO displays the message that the encoding process was successful, click [OK]. If you get an error message, encode the card again.
6. In the Cardholder form, click [Encode].
7. The Encode Badge window opens. This time, select the IrisAccess (iCLASS) card format and HID iCLASS encoder.
8. When prompted, present your card to the HID iCLASS encoder and click [OK].

When ReadkeyPRO displays the message that the encoding process was successful, click [OK]. If you get an error message, repeat steps 6-8.

Appendix D: Reports

Reports are installed when Database Setup is run. All reports are installed on the database server under the ReportTemplates subdirectory in the ReadkeyPRO installation path. By default, this location is **C:\Program Files\ReadkeyPRO\ReportTemplates**.

Note: For custom reports you must use the actual data field and not the internal database ID.

Note: Refer to the release notes for the versions of Seagate Crystal Reports that are supported. The release notes are located on the root of the ReadkeyPRO installation disc.

Report name	Description
Access Denials and Grants, by Reader	Badge-related events, grouped by reader.
Access Denials, Grants and Other Badge Events	All badge-related events, including time, reader, badge and cardholder name. All badge events will be shown.
Access Denied Events	All Access Denied events, including time, reader, badge, and cardholder name.
Access Denied Events, by Reader	Access Denied Events, grouped by reader.
Access Granted Events	All Access Granted events, including time, reader, badge, and cardholder name.
Access Granted Events, by Reader	Access Granted events, grouped by reader.
Access Groups	Lists all Access Groups and the Access Levels contained in each group.
Access Groups With Levels	Access Group definitions including access level details.
Access Level Assignments to Cardholders	Listing of each Access Level, with each cardholder that has that access level assigned to them. Also summarizes the total number of badges that need to be downloaded.
Access Level Assignments to Cardholders, by Segment	Listing of each Access Level by Segment, with each cardholder that has that access level assigned to them. Also summarizes the total number of badges that need to be downloaded to each segment. This report is valid only for systems using Segmentation.
Access Levels	Access Level definitions.
Access Panels	Access Panel definitions.
Active Visits, by Host Name	Lists all visits that are currently active (not signed out), grouped by host name.

Report name	Description
Active Visits, by Visitor Name	Lists all visits that are currently active (not signed out), grouped by visitor name.
Alarm Acknowledgments	All alarm acknowledgments, including the alarm information and acknowledgment notes.
Alarm Acknowledgments, by Definition	All alarm acknowledgments, grouped by alarm definition.
Alarm Acknowledgments, by Operator	All alarm acknowledgments, grouped by system operator.
Alarm Acknowledgments, by Panel	All alarm acknowledgments, grouped by panel.
Alarm Configuration	Alarm configuration summary.
Alarm Input Events	All alarm input events by date.
Alarm Panel Inputs	Lists all alarm panel inputs, grouped by main panel and alarm panel.
Alarm Panel Local Linkage	Lists alarm input/output local links on alarm panels.
Alarm Panel Outputs	Lists all alarm panel outputs, grouped by access panel and alarm panel.
Alarm Panels	Lists all alarm panels, grouped by parent panel.
All Cardholders With Logical Access	Lists all cardholders that have linked logical access accounts.
All Events Over Time	A listing of all event types over time.
All Events Over Time With Local Panel Time	Lists all event types over time. This report also shows the time an event occurred in the panel's time. **Note:** This report might generate slowly.
All Events Over Time With Unique Alarm ID	A listing of all event types over time with unique alarm IDs.
All Events Over Time With Unique Alarm ID	A listing of all event types over time with their unique alarm IDs included. This report displays the selected event types that occurred over a specific time and the unique alarm ID associated with each event type.
Anti-Passback Events	All anti-passback events over time.
Area Configuration	Lists all areas, including the reader entrances and exits.
Area Entrance History	History of all cardholders entering areas, sorted by area and date.
Asset Classes	Lists all asset classes and the asset groups to which they belong.
Asset Events	All events having to do with assets.

Report name	Description
Asset Groups	Lists all asset groups and the classes they contain.
Asset Types	Lists all defined asset types and their subtypes.
Assets, by Scan ID	Lists all assets, sorted by Scan ID.
Assets, by Type	Lists all assets, sorted by type and subtype.
Assigned Assets by Type, Scan ID	Lists all currently assigned assets, sorted by type and Scan ID.
Assigned Assets, by Cardholder	Lists all currently assigned assets, sorted by cardholder.
Assigned Assets, by Scan ID	Lists all currently assigned assets, sorted by Scan ID.
Audio Notifications and Instructions	Lists all audio notifications and instructions in the database.
Badge Type Configuration	Lists all badge types that have been configured in the system.
Badges Without Access Levels	Lists all badges with no assigned access levels.
Badges, by Deactivate Date	Listing of all badges by deactivate date. Can be used to determine which badges are about to expire.
Card Formats	Definitions of all Magnetic and Wiegand card formats in the system. This combined report replaces the Magnetic Card Formats and Wiegand Card Formats reports that were available with previous software releases.
Cardholder Access to Readers	Listing of each reader, and which cardholders have access to that reader. Includes the associated access level and timezone.
Cardholder Exit/ Entry	Displays user-defined Exit/Entry on a per-cardholder basis. To run this report, readers must be designated as ‘Time and Attendance’ Entrance or Exit readers on the Readers/Controls page. This is not an Area report.
Cardholder Photo Gallery	All cardholder photos, sorted by name.
Cardholder Precision Access to Readers	Listing of each reader, and which cardholders have precision access to that reader. Includes the associated precision access and time zone.
Cardholder Time and Attendance	Pairs each in-time with an out-time for cardholders gaining entry to time and attendance readers.
Cardholders Located in Each Area, by Date	List of the cardholders located in each area, sorted by area and date.
Cardholders Located in Each Area, by Name	List of the cardholders located in each area, sorted by area and cardholder name.
Cardholders With Access, by Badge Type	All cardholders with active badges that have access, sorted by badge type. Includes access level assignments.

Report name	Description
Cardholders With Access, by Last Name	All cardholders with active badges that have access, sorted by last name. Includes access level assignments.
Cardholders With Precision Access, by Badge Type	All cardholders with active badges that have access, sorted by badge type. Includes precision access level assignments.
Cardholders With Precision Access, by Last Name	All cardholders with active badges that have access, sorted by last name. Includes precision access level assignments.
Cardholders, by Badge Type	All cardholders sorted by badge type, no access levels shown. **Note:** Only personnel with badges assigned will be included in this report.
Cardholders, by Last Name	All cardholders sorted by last name, with badges but no access levels. **Note:** Only personnel with badges assigned will be included in this report.
CCTV Instructions	Summary of all CCTV instructions in the database.
Continuous Video	Lists all of the times that there has been continuous video archived.
Current Visits	Lists all currently signed in visits.
Destination Assurance Configuration	Lists all entrance readers, their settings, and the associated exit readers.
Destination Assurance Exempt Cardholders	Lists all cardholders who have a badge that is exempt from destination assurance.
Device Status Events	Status events for all devices.
Dialup Events, by Panel	Lists all dialup events, grouped by panel.
Dialup Last Connect Time	Lists online dialup panels, and the last time they were connected.
Elevator Access Denied and Granted Events	All Access Denied and Granted events for elevator readers with the Track Floors option enabled. Includes time, reader, badge, cardholder name, and the floor to which access was attempted. All access denials and grants are shown.
Elevator Dispatching Devices and Terminals	Lists all elevator dispatching devices with the configured terminals.
Elevator Floor Assignments to Cardholders	Lists all cardholders that have access to a particular elevator floor list.
Emergency Events	All emergency events over time.
Event Codes	Event code templates and event code mapping configuration.
Event Count, by Panel	A count of all events, grouped by panel. Includes a pie chart graphic of the event counts.

Report name	Description
Fire Device Input/ Outputs	Lists all fire input/outputs, grouped by panel and fire device.
Global Area/ Occupancy, by Date	Shows the last known area accessed by each cardholder, sorted by date and time.
Global Area/ Occupancy, by Name	Shows the last known area accessed by each cardholder, sorted by name.
Global I/O Linkages	Lists all of the global I/O linkages, including the input events and output actions.
Guard Tour Configuration	Lists all of the configured guard tours including checkpoints, actions, and messages.
Guard Tour History	Lists all of the events, associated with checkpoints, that happened for each guard tour.
Hardware Panels	Lists all top-level hardware panels by category, including access, fire, intercom, and personal safety.
Holidays	Lists all system holiday definitions.
ILS Lock Battery Status, by Status	Lists ILS lock battery status, grouped by battery status (Low to High), wireless gateway, and battery percent.
Intercom Functions	Lists all defined intercom functions.
Intercom Stations	Lists all intercom stations, grouped by intercom exchange.
Intrusion Command Authority - Advanced	Lists all cardholders that have access level assignments configured to use advanced intrusion command authority.
Intrusion Command Authority - Global	Lists all cardholders who are assigned access levels with global intrusion command authority.
Intrusion Command Events	Lists all events associated with intrusion commands, including device, cardholder name, and badge.
Intrusion Detection Areas	Lists all intrusion areas grouped by panel.
Intrusion Detection Devices	Lists all of the intrusion detection devices grouped by panel.
Intrusion Panel User Groups	Lists all panel users grouped by panel user groups.
Last Location of Cardholders	Shows the last reader accessed by each cardholder, sorted by cardholder name.
Locked Video Events	Lists all system events with associated locked video events.
Maps	List of available maps in the database.
Module Details	Lists all module definitions, grouped by parent panel.
Module Summary	Lists all modules, grouped by parent panel.
Monitor Stations	Lists all alarm monitoring stations defined in the system, including which monitor zones and access panels they are monitoring.
Monitor Zones	Lists all Monitoring Zone definitions.

Report name	Description
Overdue Visits	Lists all scheduled visits that have not signed in.
Overstayed Visits	Lists all visitors logged into the facility, but whose badge or visit has expired.
Permission Profiles	Lists all permission profile definitions.
Personal Safety Transmitter Assignments	Lists all assignments of personal safety transmitters to cardholders, assets, and so on.
Personal Safety Transmitters	Lists all personal safety transmitters.
Personnel Without an Active Badge	Lists all personnel in the database who do not have an active badge assigned to them.
Personnel, by Last Name	Lists all personnel in the database, with basic information only.
Personnel, Organization Details	Lists all personnel in the database, with organization details. This report is designed for the standard cardholder layout. It might not work with user-customized cardholder layouts.
Personnel, Personal Details	Lists all personnel in the database, with personal details. This report is designed for the standard cardholder and visitor layout. It might not work with user-customized cardholder and visitor layouts.
Point of Sale Registers	Lists all point of sale registers by point of sale device.
Precision Access Groups	Precision Access Group definitions.
Reader Assignments to Cardholders	Lists all cardholders that have access to a particular reader.
Reader Command Programming Configuration	Lists all command programming readers along with the associated user and instant commands.
Reader Precision Access Assignments to Cardholders	Lists all cardholders that have precision access to a particular reader.
Reader Status Events	All reader status events, grouped by reader.
Reader Timezone Schedules	Reader timezone scheduling for reader modes.
Readers	Reader definitions, grouped by access panel.
Receiver Account Alarm Activity	Lists all alarm activity for receiver accounts including notes and elapsed times.
Receiver Account Areas	Lists all receiver account areas, grouped by receiver account.
Receiver Account Groups	Lists all receiver account groups and the receiver accounts contained in each group.
Receiver Account Zones	Lists all receiver account zones, grouped by receiver account.

Report name	Description
Receiver Accounts	Lists all receiver accounts.
Receiver Accounts That Failed to Report	Lists all of the receiver accounts that failed to report during their duration.
Receiver and Receiver Account Events	Lists all the events that occurred on a receiver or receiver account.
Segment Badge Download Summary	For each segment, lists the count of badges that must be downloaded to the access panels in that segment. This report is valid only for systems that use the Segmentation feature.
Segments	Lists all segments defined on the system and their options. This report is valid only for systems that use the Segmentation feature.
SNMP Agents	Lists all SNMP agents sorted by segment and name.
SNMP Management Information Base Configuration	Lists all MIB data, grouped by enterprise.
System Servers	Lists all servers defined on the system.
Text Instructions and Acknowledgment Notes	Lists all text instructions and acknowledgment notes.
Timezones	Lists all timezone definitions.
User Permissions	Lists all system users and their permissions.
User Transaction Log	Chronological log of all transactions performed on the system by users.
User Transaction Log, by User ID	Chronological log of all transactions performed on the system, grouped by User ID.
Users With Area Access Levels to Manage	Lists all Area Access Manager users and the access levels they manage.
Video Camera Device Links	Lists the device links for each camera.
Video Cameras	Lists all video cameras, grouped by video server.
Video Servers	Lists all video servers.
Visit History	History of all visits in the system.
Visit History With Host	History of all visitors that visited the facility with their host.
Visitors	Lists all visitors in the system. **Note:** This report might not run properly if you have deleted the default visitor fields using FormDesigner.

Appendix E: Segmentation

The Segmentation feature offers several significant advantages, including:

- **Extended Hardware Limitations**. Access control hardware has limited memory. There is a limited amount of access levels, badges, access level assignments to badges, timezones, and other database components that the access control hardware can store. Segmentation provides a logical way to group hardware so that these limits exist only on a per-segment basis. For example, instead of having a maximum of six access levels per badge system-wide, a segmented system can have six access levels per segment per badge.
- **Ability to Manage User Access to the System**. In a segmented system, users are assigned to one or more segments. All segmented objects in the system are filtered appropriately so that a user only sees objects that are in their segment(s) and objects that are system-wide. For example, a user might be granted administrative permissions, but only in one segment.
- **More Efficient Cardholder Downloads**. In a segmented system, only badges that have access to a particular segment are downloaded to the hardware in that segment. This reduces hardware memory requirements for segments that do not require a high cardholder population. For example, a badge record is downloaded to access levels in a segment only if the badge record has at least one access level in that segment. Therefore, a segmented installation that has 30,000 cardholders does not necessarily need to have on each of its access panels the memory capacity for 30,000 cardholders.

Notes: For users with access to only one segment, ReadkeyPRO will behave essentially the same as it would in a non-segmented system (records they create will automatically be placed in their segment). Users who have access to multiple segments will need to specify which segment(s) a record belongs to.

Not all object types can be segmented. Objects that cannot be segmented are considered system-wide objects.

Segments and Segment Groups

A *segment* is the basic unit of segmentation, and is a “partition” or a “subset” of the entire ReadkeyPRO system. A segment provides various options that apply to any device that belongs in that segment. When a segment is added to the system, a user can copy records and move devices from a source segment, providing an effective means for splitting an existing system into smaller, distinct segments.

A *segment group* is a simple collection of one or more segments. It is highly recommended that you use segment group assignments where possible, especially for users and cardholders. Using segment groups reduces management effort and complexity. For example, when a new segment is added to the system, the administrator simply adds it to the appropriate segment group and users and cardholders with those groups assigned are granted access to the new segment. A segment may belong to multiple segment groups. For example, one group may contain segments A and B, another group C and D, and another group segments

A, B, C, and D. Currently, one segment group cannot contain another segment group.

Segment Rules and Multiple Segment Assignments

Users may be granted access to multiple segments via multiple segment assignments, a segment group assignment, or both.

Note: For ease of management in multiple segment cases, it is recommended that you use one or more segment group assignment rather than assign multiple individual segments to a user.

Some objects in the system can belong to multiple segments, by allowing the assignment of a segment group or multiple segment assignments.

The general rules of multiple segment assignments are:

- To view an object, the user must have access to one common segment of the object. For example, if a monitoring zone belongs to segment group ABC, a user with access only to segment A would be able to see the monitoring zone. However, the user would only be able to see the devices in the monitoring zone that belong to segment A.
- To edit an object, the user must have access to all the segments assigned to the object. For example, if a monitoring zone belongs to segment group ABC, a user assigned to segment group ABC or ABCD would be able to edit the object. However, a user assigned to segment group AB would not be able to edit the object.

Segment Users and <All Segments> Assignments

In a segmented system, there are two types of users, segment users and <All Segments> users. A *segment user* is restricted to working within one segment only. For segment users, the user interface differences between a non-segmented and a segmented system are negligible. The user's segment is added to the title bar, and for segmentable objects they will only see records that exist in their segment. When they add a record, it is automatically assigned to their segment if it is a segmentable object.

A segment user cannot:

- Add or delete segments. The person can modify only the segment to which he or she has been assigned.
- Perform transaction/event purging and archiving. Because purging is a system-wide process, only <All Segments> Users can do this.
- Log in to the FormsDesigner or BadgeDesigner applications.

<All Segments> is a special segment assignment that can be assigned to some object types. An <All Segments> assignment means system-wide access, regardless of how many segments are in the system. When assigned to a user, the user will always have access to any segment and any object in the system.

Note: A segment group that currently contains every segment in the system will not behave the same way as an <All Segments> assignment.

The general rules of <All Segments> assignments are:

- Any user can view an <All Segments> record; however, if the object contains assignments of other segmented objects, they can only view those that exist within their segments. For example, any user can see an access group that belongs to <All Segments>. However, the user can only see and assign the access level members of that group that are in segments to which they have access.
- Only users with <All Segments> access can add, modify, and delete records that are <All Segments>.

Note: Users that do not have <All Segments> access cannot view other users that do have <All Segments> access. This includes records related to those users, such as user transactions.

Primary Segments

The concept of a primary segment applies to the advanced segmentation options of segmenting badge types and cardholders and was introduced to allow more precise control over objects that can now belong to multiple segments. The primary segment assignment can be either an individual segment or a segment group.

The primary segment determines who can add, modify, and delete a badge of that type; a user only needs access to the primary segment of the badge type to do so. However, a user must have access to all segments that a badge type belongs to in order to modify or delete the badge type itself.

The primary segment determines which users can add, modify, and delete a cardholder, as well as edit any other assignment to the cardholder. A user only needs access to the primary segment of the cardholder to do so.

Notes: Although a primary segment is selected for card formats when they are segmented, it currently has no practical implications. A user only needs access to one of the card format's segments in order to assign it to a badge type or reader, and a user must have access to all segments assigned to a card format in order to edit it.

Users currently are not assigned a primary segment. However, a user must have access to all segments that a user record has in order to edit that record.

This is consistent with the current rules that you cannot edit a user that has more access than you.

Advanced Segmentation

Choosing to segment an object affects its eligibility to be assigned to other objects, its eligibility to have other objects assigned to it, and a user's ability to view, assign, and edit the object. The following segmentation objects can optionally be enabled:

- **Segment Card Formats**. This feature allows systems that require many different card formats to grow beyond the normal maximum number of card formats that can be stored in access control hardware. A card format can be system-wide, or belong to one or more segments. For each card format available in a segment, a unique hardware ID is maintained. A card format's segment membership filters the readers to which the format may be assigned, based on the segment of the reader's parent panel.
- **Segment Badges via Badge Types**. Badge types can be segmented and badges are therefore segmented by nature of their type. Depending on other segment option settings, a badge type's segment membership can determine eligibility for card formats, access level assignments to badges, and badge type assignments to cardholders.
- **Segment Cardholders**. A cardholder's segment assignment affects which users can view and edit the cardholder, which access levels can be assigned to the cardholder, and if the badge types are also segmented, which badge types can be assigned to the cardholder.
- **Segment Visitors**. If cardholders are segmented, visitors can optionally be segmented as well. Segmenting visitors restricts which users can view and edit them, as well as which cardholders they can be assigned to visit.
- **Allow Segments to Belong to More than one Segment Group**. This setting is enabled by default. It can be disabled to enforce a rule that a segment can belong to one and only one segment group.
- **Allow Access Levels to be Configured as Assignable by Users in Other Segments**. This option is intended for tenant/landlord scenarios, allowing a landlord to designate a subset of access levels for common readers to be assignable by tenants without having to give tenants full access to the landlord segment.

Usage Scenarios

Many of the advanced segmentation features such as cardholder and badge type segmentation are intended for tenant/landlord scenarios. In such scenarios, a landlord organization runs one or more buildings that house tenants from different organizations. Depending on the situation, a landlord may wish to give tenants varying degrees of access and control into the ReadkeyPRO system,

allowing flexibility in the level of services that can be provided to tenants without the need for direct landlord involvement.

The design of these features allows for a powerful and flexible approach to segmentation that can be utilized in many diverse scenarios, for example:

- A single company can choose to segment card formats only, to accommodate a large number of card formats and facility codes.
- A university can choose to segment only cardholders, while keeping common badge types and card formats, to manage user access to view and edit various groups of students and faculty.
- A large conglomerate can segment cardholders, badge types and formats, using different segments and segment groups for each company that is part of the conglomerate. This allows a central security organization to seamlessly manage a diverse set of companies. Segment filtering means that each company will only see their own employees, which not only restricts access but also filters out superfluous records. The flexibility of segmentation allows employees to belong to multiple segments and segment groups, making it easy to accommodate employees needing access to more than one company.

The following table shows some of the common combination of segmentation options and example applications. The table provides some possible applications; however, the needs of each system must always be thoroughly evaluated when considering configuration options, so that the optimal solution is implemented in each case.

Card Formats	Badge Types, Badges	Cardholders	Visitors	Example Application
Yes	No	No	No	Simply allows for more card formats. Typically for a single organization needing many different card formats.
Yes/No	No	Yes	No	Single organization with common badge types and visitors. Cardholders are segmented in order to manage user access to cardholders and restrict cardholder access level eligibility. For example, a university might use segments to categorize faculty, students, and other people by school, dormitory, and other criteria.

Card Formats	Badge Types, Badges	Cardholders	Visitors	Example Application
Yes/No	Yes	Yes	No	Segmented badge types and cardholders, but common visitors that any user can see and can visit any cardholder. This could be used for: • A single organization that wishes to control user and cardholder access to various badge types. • A tenant/landlord situation where policy dictates that any tenant user is allowed to see any outside visitors enrolled in the system. Also allows simplified tracking of the same person visiting multiple tenants. **Note:** A tenant user would not be able to see visit records for other tenants even though they can view the same visitors.
Yes/No	No	Yes	Yes	Common badge types, but segmented cardholders and visitors. Could be used in a tenant/landlord situation where the landlord does not require the additional maintenance of segmented badge types for every tenant. A few common badge types with common layouts are used.
Yes/No	Yes	Yes	Yes	Full segmentation that is well suited to a fully featured tenant/landlord application.

Card Format Segmentation

When card format segmentation is enabled, a format can be assigned to <All Segments> (system-wide), or one or more individual segments. Access control hardware typically has a maximum number of card format IDs it supports. For example, RKP-1000 access panel supports up to eight formats with IDs 1-8. Therefore, the system ensures that the next available unique hardware ID is assigned to a card format for each segment in which it belongs. For example, assume:

- An <All Segments> card format exists, using hardware ID 1 system-wide.
- Segment A has one card format with hardware ID 2.
- Segment B has two card formats, with hardware IDs 2 and 3.
- Segment C has three card formats, with hardware IDs 2, 3, and 5.

If a new card format is added and assigned to segments A, B, and C:

- Hardware ID 3 will be assigned for segment A.

- Hardware ID 4 will be assigned for segments B and C.

Note: Only individual segments can be assigned to a card format, not segment groups.

The rules for card format segmentation are:

- A user can only place a card format into segments to which they have access. Only an <All Segments> user can place a format into <All Segments>.
- A user must have access to all segments to which a card format belongs in order to modify or delete it. Only an <All Segments> user may modify or delete a card format assigned to <All Segments>.
- A user can view any card format that belongs to at least one segment to which the user has access. Any user can view an <All Segments> card format.
- A user can assign any card format that they can view to a badge type and a reader.

Badge Type Segmentation

If badge types are segmented, badges are also segmented by virtue of their type. If not segmented, badges and badge types are considered system-wide and available to all cardholders and users. A badge type is assigned a primary segment that can be <All Segments>, an individual segment, or a segment group. It can also be assigned additional segments and segment groups.

The rules of badge type segmentation are:

- A user can only place a badge type into segments for which they have access. Only an <All Segments> user can place a badge type into <All Segments>.
- A user must have access to all segments in which a badge type belongs in order to modify or delete it. Only an <All Segments> user may modify or delete a badge type assigned to <All Segments>.
- A user can view any badge type that belongs to at least one segment to which the user has access. Any user can view an <All Segments> badge type.
- A user must have access to the primary segment of the badge type in order to assign it to a badge, modify a badge, or delete a badge with that type. Only an <All Segments> user can assign an <All Segments> badge type, or modify or delete a badge having an <All Segments> badge type.
- A user can view any badge having a badge type that belongs to at least one segment to which the user has access. Any user can view a badge having an <All Segments> badge type format.
- A user can modify access level assignments to any badge that they can view.
- A badge can only be assigned access levels that belong in segments to which its badge type also belongs.

Notes: If a user attempts to remove a badge type from a segment, all existing badges having that type are no longer eligible to have access levels in that segment.

If you are using a segmented system, for the badge type to appear as a selection in Visitor Administration, its primary segment should be **All Segments**.

Cardholder Segmentation

When cardholders are segmented, they are assigned a primary segment that can be <All Segments>, an individual segment, or a segment group. A cardholder can also be assigned additional segments and segment groups. Since a cardholder's primary segment assignment dictates the segment access necessary to edit the cardholder, it should fully represent the true organizational membership of the cardholder in terms of segments. Additional segment assignments outside of the primary segment are useful for accommodating common landlord segment access in a tenant/landlord scenario, and other specialized cardholder access needs.

The rules of cardholder segmentation are:

- A user can view any cardholder that belongs to at least one segment to which the user has access. Any user can view an <All Segments> cardholder.
- A user can only place a cardholder into segments to which they have access. Only an <All Segments> user can place a cardholder into <All Segments>.
- A user must have access to a cardholder's primary segment in order to do any of the following operations:
  - Modify or delete a cardholder.
  - Add, modify, or delete badges for the cardholder.
  - Assign assets, modify and delete asset assignments.
  - Capture multimedia and biometrics.
  - Link directory accounts to the cardholder.
  - Print or encode badges.

Note: Only an <All Segments> user may perform these operations for a cardholder assigned to <All Segments>.

- A user who can view a cardholder can perform the following operations on any cardholder they can view; however, they can only affect assignments for segments to which the user has access:
  - Modify access and precision access levels.
  - Modify guard tour group assignments.
  - Issue “one free pass” for anti-passback.
  - Do an anti-passback move badge.
  - Display global anti-passback areas.
- Any badge owned by the cardholder can only be assigned access levels that belong in segments to which the cardholder also belongs.

- If badge types are also segmented, a cardholder can only be assigned a badge type with which it has at least one segment in common. Only an <All Segments> cardholder can be assigned an <All Segments> badge type.

When a user attempts to remove a cardholder from one or more segments:

- If the cardholder is no longer eligible to own one of the badges they currently own (due to badge type segmentation), the change is not allowed. The user must either delete the badge that is in violation or adjust the cardholder or badge type segment assignments.
- Any access levels from the removed segments must be unassigned from all badges owned by the cardholder.

Visitor Segmentation

If cardholders are segmented, visitors can optionally be segmented as well. If they are not segmented, they are considered system-wide and available to all cardholders and users. In a single organization, it may make sense not to segment visitors to reduce the chances of the same visitor being entered multiple times in the system. For a tenant/landlord system, it would make sense to segment visitors.

When visitors are segmented, they follow the same rules as for cardholders in regards to which users can edit them, which badge types can be assigned, and what access levels can be assigned. In addition:

- If a user can view a cardholder and a visitor, they are allowed to assign a visit between them. A user does not need access to the primary segment of either cardholder or visitor to setup a visit between them.
- A cardholder and a visitor must have at least one segment in common in order to establish a visit between them. If an existing visitor is visiting a new cardholder that has different segment assignments, one common segment must be established between them.
- A user must have segment access to view both the cardholder and the visitor in order to view individual visit records.
- When a user is adding a visitor in the context of adding a visit to a cardholder, the visitor’s default segment assignments will be set to those of the cardholder being visited for which the user also has access. The user will be able to edit the segment assignments with proper permissions. If the user does not have access to the cardholder's primary segment, they must assign a different primary segment to the visitor so that they can edit the visitor later.
- The same access level availability rules must be enforced for segmented visitors; they can only have access levels in the segments assigned to them. Therefore, if reusable access control badges are being used, the currently assigned access levels for those badges may need to be adjusted upon assignment to a visitor.

When cardholders are segmented but visitors are not:

- All users can view and edit any visitor.
- Even though the user can view a visitor, a user can only see visits to cardholders that they are allowed to view.

- Any cardholder can have any visitor visit them.
- A visitor can have any badge type and access levels assigned to them.
- If a user can view a cardholder, they can assign a visit to them. A user does not need access to the primary segment of the cardholder to be able to setup a visit for them.

Allowing Access Levels to Be Assigned by Users in Other Segments

This feature gives a landlord a flexible per access level and per segment granularity of control. A typical tenant/landlord scenario includes common readers for areas that every tenant must have access to, such as front doors for entrance into a building. One way to approach this is:

- The landlord creates one or more “landlord segments” in which common devices are placed. Access levels for these segments are also created, such as “Building 1 Lobby Doors”.
- A landlord segment group is created to contain the one or more landlord segments.
- The landlord segment group is assigned as an additional segment assignment to all applicable tenant badge types (if segmented) and tenant cardholders. This allows access levels from the common landlord segments to be assigned to tenant badges.

In some scenarios, only landlord personnel are allowed to assign and remove access levels from tenant badges. However, what if the landlord wishes to allow tenants to control their cardholder's access to common areas? The landlord cannot give tenant users access to landlord segments. Since all cardholders will be assigned landlord segments in order to gain access, this would allow tenants to see each others' cardholders.

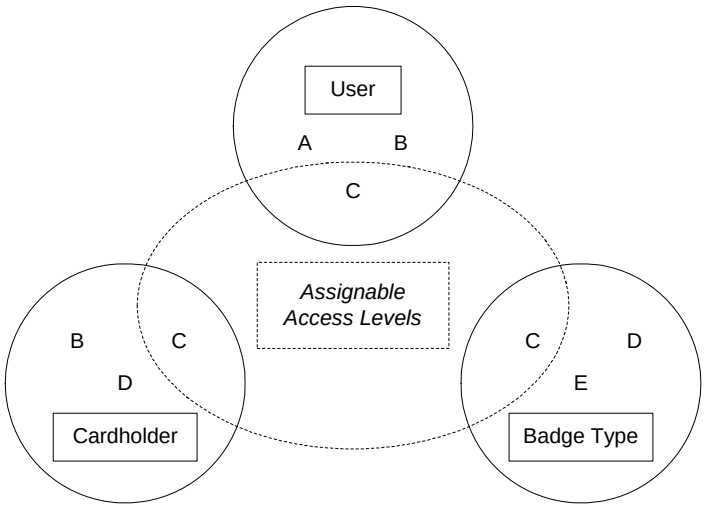
To accommodate this need, landlords have the option of allowing access levels to be configured as assignable by users in other segments. The landlord can use this option to make individual access levels from landlord segments assignable by tenant users. For example, the landlord can make “Building 1 Lobby Doors” assignable by any tenants in building 1 by selecting those tenant segments as being allowed to assign that level.

Note: The cardholder still must have access to the segment in order for a level to be assigned. Currently, this requires landlord involvement when a new cardholder record is first added. The landlord must grant the cardholder access to the appropriate landlord segments.

Assigning Access Levels Example

One of the key features of cardholder segmentation is controlling which access levels can be assigned to a badge based on the segment membership of users, badge types (if also segmented), and cardholders. For example, assuming that both badge types and cardholders are segmented and:

- The user belongs to segment group ABC only.
- The cardholder's primary segment is group BCD with no additional assignments.
- The badge type's primary segment is group CDE with no additional assignments.



The user can only assign and remove access levels in segment C, since it is the only common segment between the user, the cardholder, and the badge type.

Note: In this scenario, the user cannot do anything to this cardholder but assign/remove access levels since the user does not have full access to the cardholder's primary segment assignment.

Choosing Segmentation - Ramifications and Process Flow

Segmentation is an option that is system-wide for a single database. Ideally, new installations that intend to use segmentation will configure their systems for segmentation prior to going online in a “live” (i.e., real data) environment.

Warning

Existing installations can convert to segmentation mode. However, once segmentation has been enabled, it PERMANENTLY changes the database, and CANNOT be disabled. YOUR ORGANIZATION SHOULD BE CERTAIN THAT YOU WISH TO USE SEGMENTATION BEFORE YOU INITIATE THE CONVERSION.

Process Outline - New Installations

If you are a new customer, it's best to create your segmented system methodically, as follows:

1. **Decide whether segmentation is appropriate for your environment**. If it is, it is strongly recommended that you first read through this entire chapter to fully comprehend the impact of segmentation.
2. **Enable segmentation**.
3. **Define segments**.
4. **Configure your system, adding users, cardholders, and hardware and other objects**. Refer to the previous, numbered chapters in this user guide for assistance. As you add objects, you will be prompted to choose a segment if the object is affected by segmentation.

Note: For more information, refer to Chapter 17: Segments Folder on page 533.

Process Outline - Existing Installation

If you already have a non-segmented system in place, you can convert it to a segmented system in the following manner:

1. **Decide whether segmentation is appropriate for your environment**. If it is, it is strongly recommended that you first read through this entire chapter to fully comprehend the impact of segmentation. Then:
2. **Enable segmentation**.
3. **Define segments**.
4. **Move access panels and copy objects to the new segments**. When adding a segment, you have the opportunity to move access panels and copy related objects from the current database and assign them to the new segment. It is assumed that the access panels and objects you select for this process are all currently in the same segment.

Important: If you move access panels from one segment (for example, Segment A) but copy objects from a different segment (such as Segment B), all links between the selected access panels and their related objects will be LOST. This is something that you will probably never want to do.

5. **Assign each user to a specific segment**.

Note: For more information, refer to Chapter 17: Segments Folder on page 533.

Object Segmentation Table

The following table lists all ReadkeyPRO objects and their segmentation characteristics. There are several types of segmentation, including:

- **Single** - Contain one segment assignment and cannot be a segment group. Depending on the object, <All Segments> may be allowed.
- **Implicit** - Segmented based on its parent object (sharing the same characteristics of parent object.)
- **Single assignment, multiple via segment groups**. Users can choose only one segment assignment. However, the segment assignment can be a segment group (indirectly allowing multiple segment assignments).
- **Multiple assignments, which may or may not be segment groups**. Most objects that allow multiple assignments allow both segments and segment groups to be assigned, with the exception of card formats which only allow segments to be assigned.

Object	Can be Segmented?	Type of Segmentation	<All Segments> Allowed?	Comments	Segmented Objects Assigned/Linked
Access Groups	Yes	Single	Yes		Access Levels
Access Levels	Yes	Single	No		Readers, Timezones
Access Panels	Yes	Single	No		Timezones (dialup)
Action Groups	Yes	Single assignment, multiple via Segment Group	Yes		Actions
Actions	Yes	Single assignment, multiple via Segment Group	Yes	Segment restrictions may depend on the type of action.	Dependent on the type of action
Alarm Acknowledgments	Yes	Implicit	NA		NA
Alarm Inputs	Yes	Implicit	NA		Timezones, Outputs
Alarm Mask Groups	Yes	Implicit	NA		NA
Alarm Outputs	Yes	Implicit	NA		NA
Alarm Panels	Yes	Implicit	NA		NA
Alarm Priority Range/ Colors	No	NA	NA		NA
Alarms	Yes	Single	Yes		Devices, Function Lists (for acknowledgment actions)
Archive Configurations	No	NA	NA		NA

Object	Can be Segmented?	Type of Segmentation	<All Segments> Allowed?	Comments	Segmented Objects Assigned/Linked
Archive History	No	NA	NA		NA
Areas (APB)	Yes	Implicit	NA		NA
Asset Classes	No	NA	NA		NA
Asset Groups	No	NA	NA		NA
Asset Subtypes	No	NA	NA		NA
Asset Types	No	NA	NA		NA
Assets	No	NA	NA		NA
Audio for Alarms	No	NA	NA		NA
Authorization Options for Login	No	NA	NA		NA
Badge Access Level Assignments	Yes	Implicit	NA		NA
Badge Layout Graphics	No	NA	NA		NA
Badge Layouts	No	NA	NA		NA
Badge Precision Access Level Assignments	Yes	Implicit	NA		NA
Badge Status List	No	NA	NA		NA
Badge Types	Yes	Optional, multiple and segment groups	Yes		Access Group, Card Formats
Badges	Yes	Implicit via badge type	NA		Access Levels, Precision Access Groups
Card Formats	Yes	Optional, multiple, but no segment groups.	Yes		NA
Cardholder Last Location	No	NA	NA		NA
Cardholder Multimedia Objects	Yes	Implicit	NA		NA
Cardholder	Yes	Optional, multiple and segment groups	Yes		Badges
CCTV	No	NA	NA		NA
Device Group	Yes	Single	Yes		Devices, based on panel type
Downloadable Reader Formats	Yes	Single	No		NA

Object	Can be Segmented?	Type of Segmentation	<All Segments> Allowed?	Comments	Segmented Objects Assigned/Linked
Elevator Control Levels	Yes	Single	No		Timezones
EOL Resistor Tables	Yes	Single	No		NA
Encoders	No	NA	NA		NA
Event History	Yes	Implicit	NA		NA
Event Routing Groups	Yes	Single	Yes		Timezones
Event Types	No	NA	NA		NA
Event Definitions	No	NA	NA		NA
Failed Panel Downloads	No	NA	NA		NA
Fire Devices	Yes	Implicit	No	Based on panel	NA
Fire Panels	Yes	Single	No		NA
Global I/O Function Lists	Yes	Implicit	NA		NA
Global I/O Programming	Yes	Implicit	NA		NA
Global Linkages	Yes	Single assignment, multiple via Segment Group	Yes	Affects which segmented items can be linked.	Any device, action, etc., supported.
GOS Alarm Messages	No	NA	NA		NA
GOS Device	No	NA	NA		NA
GOS Messages	No	NA	NA		NA
GOS Recipient Address	No	NA	NA		NA
GOS Recipients	No	NA	NA		NA
Holidays	Yes	Single	No		NA
Holiday Types	No	NA	NA		NA
Intercom Exchanges	Yes	Implicit	NA		NA
Intercom Stations	Yes	Single	No		NA
Intrusion Areas	Yes	Implicit	No	based on intrusion panel	NA
Intrusion Doors	Yes	Implicit	No	based on intrusion panel	NA
Intrusion Offboard Relays	Yes	Implicit	No	based on intrusion panel	NA
Intrusion Onboard Relays	Yes	Implicit	No	based on intrusion panel	NA

Object	Can be Segmented?	Type of Segmentation	<All Segments> Allowed?	Comments	Segmented Objects Assigned/Linked
Intrusion Panels	Yes	Single	No		Intrusion Panel User Groups
Intrusion Panel User Groups	Yes	Single	Yes		NA
Intrusion Zone	Yes	Implicit	Yes	Based on intrusion panel	NA
Local I/O Function Lists	Yes	Implicit	No	Based on parent panel	NA
Local I/O Programming	Yes	Implicit	No	Based on parent panel	NA
Map Icons	No	NA	NA		NA
Maps	Yes	Single assignment, multiple via segment group	Yes		Devices (based on parent panel), other maps
Monitor Station Saved Events	No	NA	NA		NA
Monitor Stations	No	NA	NA		NA
Monitor Zones	Yes	Single assignment, multiple via segment group	Yes		Devices, Event Routing Group
Multimedia Object Types	No	NA	NA		NA
OPC Connections	Yes	Single	No		NA
OPC Sources	Yes	Implicit	No	Based on OPC Connection	NA
DataConduIT Sources	Yes	Single	No		NA
Personal Safety Panels	Yes	Single	No		NA
Personal Safety Transmitters	No	NA	NA		NA
Precision Access Groups	Yes	Single	No		Readers, Timezones
Reader/Timezone Modes	Yes	NA	No		NA
Readers	Yes	NA	No		Card Formats, Timezones, Elevator Levels, Downloadable Reader Formats

Object	Can be Segmented?	Type of Segmentation	<All Segments> Allowed?	Comments	Segmented Objects Assigned/Linked
Receiver Accounts	Yes	Single	No		Event Code Templates and Receiver Account Groups
Receiver Account Groups	Yes	Single	No		Receiver Accounts
Receiver Event Code Templates	Yes	Single assignment, multiple via Segment Group	Yes		NA
Receivers	Yes	Single	No		NA
Receivers Areas	Yes	Implicit	NA	Based on receiver account	NA
Receiver Zones	Yes	Implicit	NA	Based on receiver account	NA
Reports	No	NA	NA		NA
Restored Alarm Acknowledgments	Yes	Implicit	NA		NA
Restored Event History	Yes	Implicit	NA		NA
Restored User Transactions	Yes	Implicit	NA		NA
Segments	Yes	Single	Yes		NA
SNMP Agents	Yes	Single	No		NA
SNMP Management Base	Yes	Single	Yes		NA
SNMP Managers	Yes	Single	No		NA
System Cardholder Configuration	No	NA	NA		NA
System Configuration	Yes	Some system configuration is per-segment when segmentation is enabled	NA		NA
Text Objects for Alarm Monitoring	No	NA	NA		NA
Tour Groups	Yes	Single	No		NA
Tours	Yes	Single	No		NA
Timezones	Yes	Single	No		NA
UDF drop-down lists	No	NA	NA		NA

Object	Can be Segmented?	Type of Segmentation	<All Segments> Allowed?	Comments	Segmented Objects Assigned/Linked
UDF Layouts (includes database table/field definitions, pages, and UI layouts for cardholders, visitors, and assets	No	NA	NA		NA
User Permission Groups	Yes	Single	Yes		NA
User Transactions	Yes	Implicit based on user in transaction	NA		Permission Groups, Area Access Manager Levels
Users	Yes	Multiple and segment groups	Yes		NA
Video Cameras	Yes	Implicit	NA		Device/Camera Links, Matrix Switchers
Video Matrix Switchers	Yes	Single	No		NA
Video Monitors	Yes	Implicit	No		NA
Video Servers	Yes	Single	No		NA
Visitors	Yes	Optional, multiple and segment groups	Yes		Cardholders (for visitor visits)
Workstations	No	NA	NA		NA

Appendix F: ASCII Character Chart

ASCII Values 0-127

ASCII Value	Control Character	Control Action
0	NUL	Null character
1	SOH	Start of heading, = console interrupt
2	STX	Start of text, maintenance mode on HP console
3	ETX	End of text
4	EOT	End of transmission, not the same as ETB
5	ENQ	Enquiry, goes with ACK; old HP flow control
6	ACK	Acknowledge, clears ENQ logon hang
7	BEL	Bell, rings the bell
8	BS	Backspace, works on HP terminals/computers
9	HT	Horizontal tab, move to next tab stop
10	LF	Line Feed
11	VT	Vertical tab
12	FF	Form Feed, page eject
13	CR	Carriage Return
14	SO	Shift Out, alternate character set
15	SI	Shift In, resume default character set
16	DLE	Data link escape
17	DC1	XON, with XOFF to pause listings; "okay to send"
18	DC2	Device control 2, block-mode flow control
19	DC3	XOFF, with XON is TERM=18 flow control
20	DC4	Device control 4
21	NAK	Negative acknowledge
22	SYN	Synchronous idle
23	ETB	End transmission block, not the same as EOT
24	CAN	Cancel line, MPE echoes!!!
25	EM	End of medium, Control-Y interrupt
26	SUB	Substitute
27	ESC	Escape, next character is not echoed
28	FS	File separator
29	GS	Group separator

ASCII Values 0-127 (Continued)

ASCII Value	Control Character	Control Action
30	RS	Record separator, block-mode terminator
31	US	Unit separator
32	SP	Space
33	!	Exclamation mark
34	"	Quotation mark (" in HTML)
35	#	Cross hatch (number sign)
36	$	Dollar sign
37	%	Percent sign
38	&	Ampersand
39	‘	Closing single quote (apostrophe)
40	(	Opening parentheses
41	)	Closing parentheses
42	*	Asterisk (star, multiply)
43	+	Plus
44	,	Comma
45	-	Hyphen, dash, minus
46	.	Period
47	/	Slant (forward slash, divide)
48	0	Zero
49	1	One
50	2	Two
51	3	Three
52	4	Four
53	5	Five
54	6	Six
55	7	Seven
56	8	Eight
57	9	Nine
58	:	Colon
59	;	Semicolon
60	<	Less than sign (< in HTML)

ASCII Values 0-127 (Continued)

ASCII Value	Control Character	Control Action
61	=	Equals sign
62	>	Greater than sign (> in HTML)
63	?	Question mark
64	@	At-sign
65	A	Uppercase A
66	B	Uppercase B
67	C	Uppercase C
68	D	Uppercase D
69	E	Uppercase E
70	F	Uppercase F
71	G	Uppercase G
72	H	Uppercase H
73	I	Uppercase I
74	J	Uppercase J
75	K	Uppercase K
76	L	Uppercase L
77	M	Uppercase M
78	N	Uppercase N
79	O	Uppercase O
80	P	Uppercase P
81	Q	Uppercase Q
82	R	Uppercase R
83	S	Uppercase S
84	T	Uppercase T
85	U	Uppercase U
86	V	Uppercase V
87	W	Uppercase W
88	X	Uppercase X
89	Y	Uppercase Y
90	Z	Uppercase Z
91	[	Opening square bracket

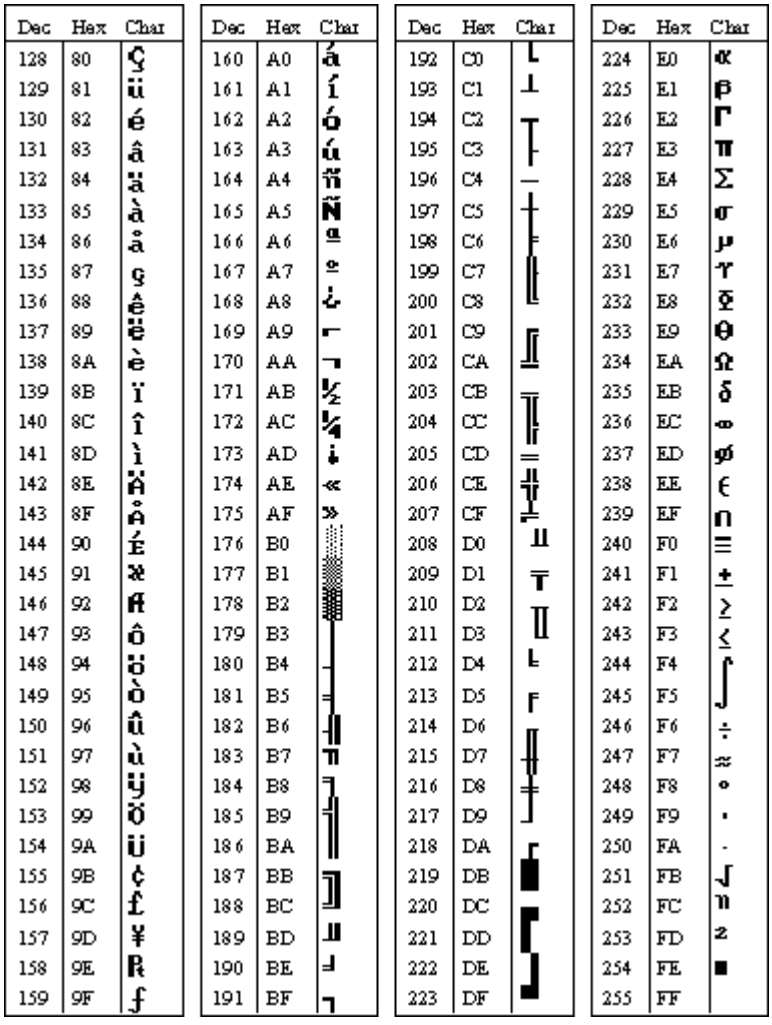
ASCII Values 0-127 (Continued)

ASCII Value	Control Character	Control Action
92	\	Reverse slant (Back slash)
93	]	Closing square bracket
94	^	Caret (Circumflex)
95	_	Underscore
96	‘	Opening single quote
97	a	Lowercase a
98	b	Lowercase b
99	c	Lowercase c
100	d	Lowercase d
101	e	Lowercase e
102	f	Lowercase f
103	g	Lowercase g
104	h	Lowercase h
105	i	Lowercase i
106	j	Lowercase j
107	k	Lowercase k
108	l	Lowercase l
109	m	Lowercase m
110	n	Lowercase n
111	o	Lowercase o
112	p	Lowercase p
113	q	Lowercase q
114	r	Lowercase r
115	s	Lowercase s
116	t	Lowercase t
117	u	Lowercase u
118	v	Lowercase v
119	w	Lowercase w
120	x	Lowercase x
121	y	Lowercase y
122	z	Lowercase z

ASCII Values 0-127 (Continued)

ASCII Value	Control Character	Control Action
123	{	Opening curly brace
124	|	Vertical line
125	}	Closing curly brace
126	~	Tilde (approximate)
127	DEL	Delete (rub out), cross-hatch box

ASCII Values 128-255



Dec	Hex	Char	Dec	Hex	Char	Dec	Hex	Char	Dec	Hex	Char
128	80	Ç	160	A0	á	192	C0	└	224	E0	α
129	81	ü	161	A1	í	193	C1	┴	225	E1	ß
130	82	é	162	A2	ó	194	C2	┬	226	E2	Γ
131	83	â	163	A3	ú	195	C3	├	227	E3	π
132	84	ä	164	A4	ñ	196	C4	─	228	E4	Σ
133	85	à	165	A5	Ñ	197	C5	┼	229	E5	σ
134	86	å	166	A6	ª	198	C6	╞	230	E6	µ
135	87	ç	167	A7	º	199	C7	╟	231	E7	τ
136	88	ê	168	A8	¿	200	C8	╚	232	E8	Φ
137	89	ë	169	A9	⌐	201	C9	╔	233	E9	Θ
138	8A	è	170	AA	¬	202	CA	╩	234	EA	Ω
139	8B	ï	171	AB	½	203	CB	╦	235	EB	δ
140	8C	î	172	AC	¼	204	CC	╠	236	EC	∞
141	8D	ì	173	AD	¡	205	CD	═	237	ED	ø
142	8E	Ä	174	AE	«	206	CE	╬	238	EE	ε
143	8F	Å	175	AF	»	207	CF	╧	239	EF	∩
144	90	É	176	B0	▒	208	D0	╨	240	F0	≡
145	91	æ	177	B1	▒	209	D1	╤	241	F1	±
146	92	Æ	178	B2	▒	210	D2	╥	242	F2	≥
147	93	ô	179	B3	│	211	D3	╙	243	F3	≤
148	94	ö	180	B4	┤	212	D4	╘	244	F4	⌠
149	95	ò	181	B5	╡	213	D5	╒	245	F5	⌡
150	96	û	182	B6	╢	214	D6	╓	246	F6	÷
151	97	ù	183	B7	╖	215	D7	╫	247	F7	≈
152	98	ÿ	184	B8	╕	216	D8	╪	248	F8	°
153	99	Ö	185	B9	╣	217	D9	┘	249	F9	∙
154	9A	Ü	186	BA	║	218	DA	┌	250	FA	·
155	9B	¢	187	BB	╗	219	DB	█	251	FB	√
156	9C	£	188	BC	╝	220	DC	▄	252	FC	ⁿ
157	9D	¥	189	BD	╜	221	DD	▌	253	FD	²
158	9E	₧	190	BE	╛	222	DE	▐	254	FE	■
159	9F	ƒ	191	BF	┐	223	DF	▀	255	FF	

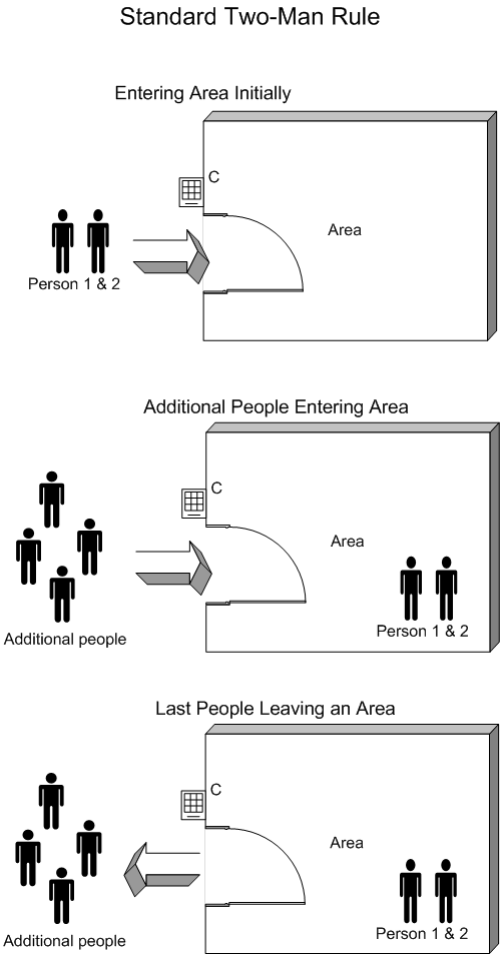
Appendix G: Special Two-Man Rule

The Special Two-Man Rule is an extension of the existing Two-Man Rule that exists for local anti-passback (APB). The special functionality is designed to control who has access to special areas when in the special two-man control modes.

Standard Two-Man Rule Overview

In Standard Two-Man Rule, when an area is empty two people are required to enter the area at the same time and after additional people can enter the area. When leaving, the last two people must leave the room at the same time. This is so there are always at least two people in the room at the same time.

The following diagram illustrates how Standard Two-Man Rule works:



Special Two-Man Rule Overview

Special Two-Man Rule adds two additional special modes to how Standard Two-Man Rule works: Special 1-Man Mode and Special 2-Man Mode. These special modes use different classifications of individuals: Team Members, Supervisors, and Others.

Definitions

- **Area Owner** - The area owner is a team member who, once in the area, allows the other team members to enter without approval from inside.
- **Team Member** - Team members are the cardholders allowed into the areas that are configured for the special 1-man or 2-man rules.
- **Supervisors** - Supervisors are individuals who are allowed inside of areas that are configured for the special 1-man or 2-man rules but need approval from someone inside of the area.
- **Others** - Others are individuals who are not allowed inside of areas that are configured for the special 1-man or 2-man rules.

Special 1-Man Mode

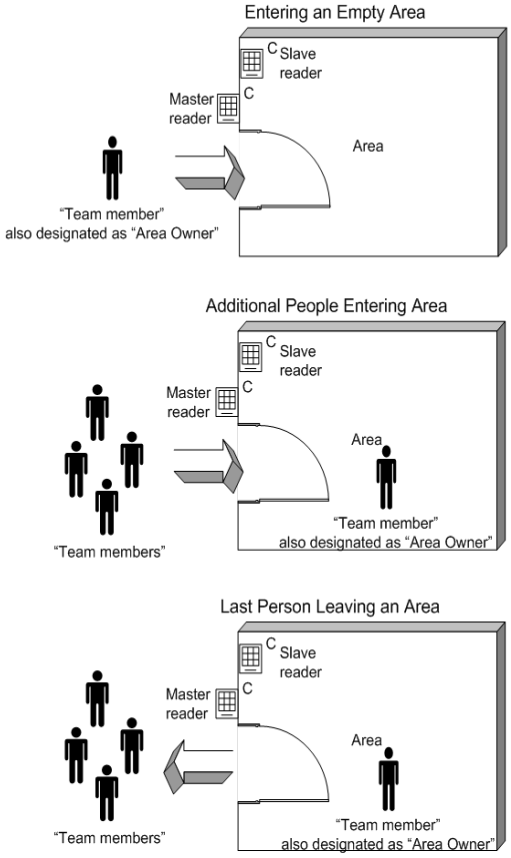
In the Special 1-Man Mode, a special “Team Member” is configured to be the “Area” or “Assigned” owner to a specific area. This “Area Owner” must be the first individual to enter the area and the last individual to exit the area. Once the assigned Area Owner is inside the area, other Team Members or Supervisors are allowed to enter the area.

When the assigned Area Owner is in the area and a Supervisor attempts access, a strobe inside the area fires and enables the door release push-button within the room.

Individuals who are classified as Others are not allowed access to the area when in this mode.

The following diagram illustrates how Standard Two-Man Rule: 1-Man Mode works:

Special Two Man Rule: Special 1-Man Mode



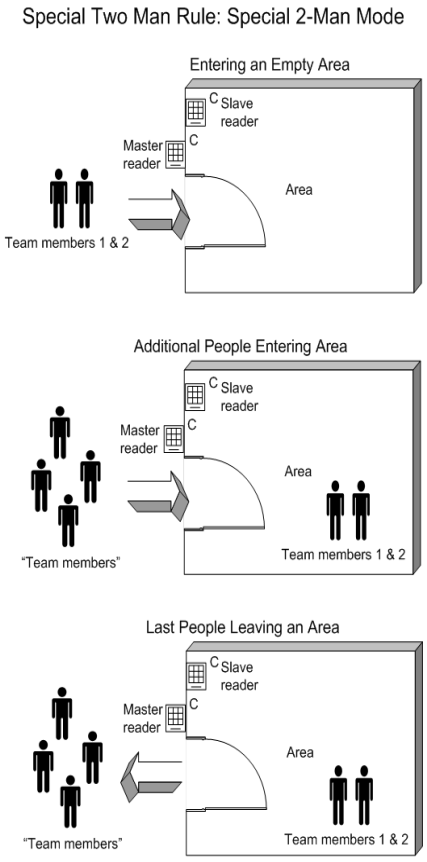
Special 2-Man Mode

In the Special 2-Man Mode, the first two individuals into the area must be Team Members and the last two individuals to leave the area must also be Team Members. Once two Team Members are inside the area, additional Team Members or Supervisors are allowed access.

When a Supervisor attempts access and there are at least two Team Members in the area, a strobe inside the area fires and enables the door release push-button within the room.

Individuals who are classified as Others are not allowed access to the area when in this mode. The last two individuals who leave the area must be Team Members.

The following diagram illustrates how Standard Two-Man Rule: 2-Man Mode works:



Note: The first two Team members that enter do not have to be the same two Team members that leave.

Special Two-Man Rule Configuration Instructions

Before configuring Special Two-Man Rule in the ReadkeyPRO software, you must configure the readers for Special Two-Man Rule.

- The Master reader is the reader being used to enter the area.
- The Slave reader is the reader being used to exit the area.

For more information, refer to the Hardware Configuration Guide.

To complete the software configuration, do the following steps or consult the quick-configuration table below:

Configuration step	Software location
1. Configure the Access Panels for Special Two-Man Rule.	Access Control > Access Panels > *Access panel type* > Options form

Configuration step	Software location
2. Configure the Areas for Special Two-Man Rule for Special 1-Man Mode or Special 2-Man Mode.	Access Control > Areas > Anti-Passback Areas form
3. Configure the Readers for Special Two-Man Rule to configure the readers as master and slave.	Access Control > Readers > Settings form
4. Optional: Configure the List Builder for Special Two-Man Rule. By default, there are two badge types: "Supervisor" and "Team Member". You may configure additional badge types if necessary.	Administration > List Builder
5. Optional: Configure the Timezone for Special Two-Man Rule.	Access Control > Timezones > Timezone/Area Modes form

Configure the Access Panels for Special Two-Man Rule

In the System Administration menu bar select **Access Control** > **Access Panels**. Choose your access panel and go to its Options form. A **Special area rules** check box is present on the form. Select it to enable the Two-Man Rule on the access panel.

Note: This feature is only available for Bosch access panels

After the **Special area rules** check box has been checked for the first time, you will receive the following message:

Configure the Areas for Special Two-Man Rule

In the System Administration menu bar select, **Access Control** > **Areas**. On the **Anti-Passback Areas** sub-tab, the **Two man control** drop down box allows you to configure areas so they adhere to the Special 1-Man or Special 2-Man rules.

For more information, refer to Areas Form (General Sub-tab) on page 880.

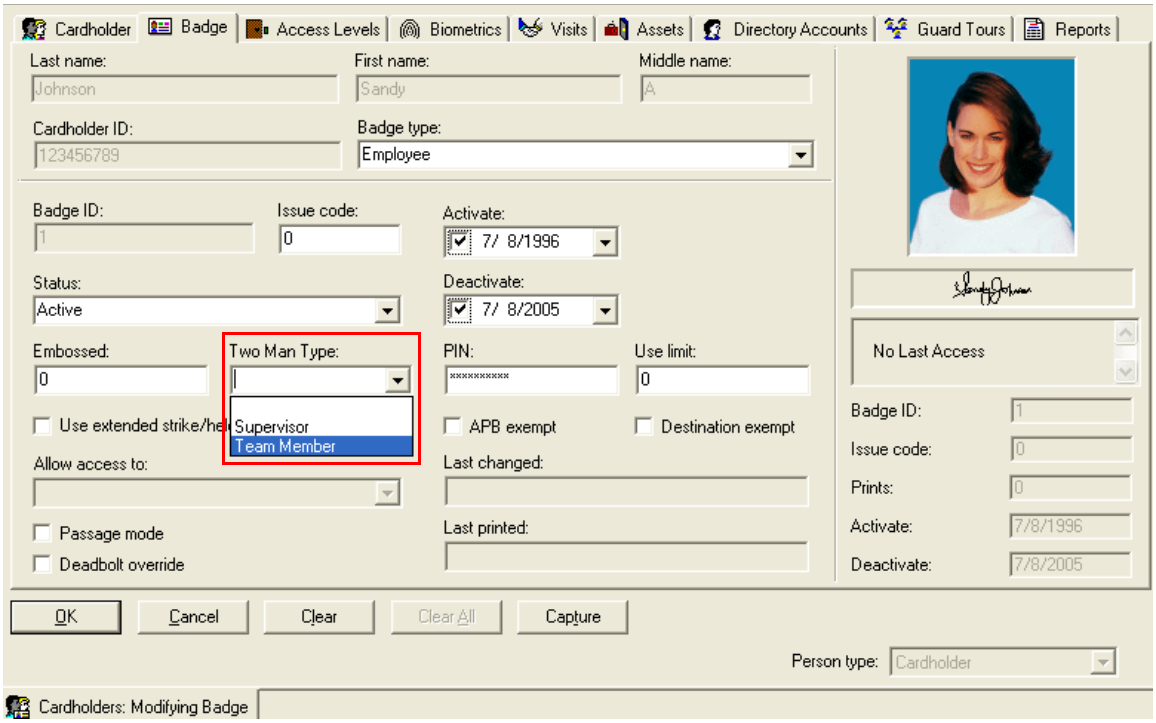
With the access panels configured a new sub-tab appears in the Areas folder. This Special Two Man sub-tab allows you to configure the timeout used for the strobe by changing the **Occupant approval timeout** spin button, which can be configured between 1 and 255 seconds.

The area owner can also be configured in the Assigned owner section when the area is in 1-man mode. The area owner is a team member who, once in the area, allows the other team members to enter without approval from inside.

For more information, refer to Special Two Man Form on page 890.

Configure the Badges for Special Two-Man Rule

In the System Administration menu bar select **Administration > Cardholders**. On the Badge tab, assign the appropriate **Two Man Type** designation for specific cardholders



Configure the Readers for Special Two-Man Rule

To configure the readers you must configure them to be master and slave. The entering reader must be configured as a “paired master” and the exit reader must be a “paired slave”

In the System Administration menu select **Access Control** > **Readers**. In the Settings tab, select the reader and select the appropriate (Paired Master and Paired Slave) check box in the settings section of the form.

For more information, refer to Settings Form on page 754.

Configure the List Builder for Special Two-Man Rule

This step is optional and does not have to be done.

To configure lists for the Two Man Type badge types select **Administration** > **List Builder**. You cannot delete or modify the default list items but you can add list items, which will be treated as “Others” who are usually not allowed in special areas.

For more information, refer to List Builder Folder on page 569.

Configure the Timezone for Special Two-Man Rule

This step is optional and does not have to be done.

To change the Special Two-Man Rule based on date and time you must use the Timezone/Area Modes sub-tab. This is found by selecting **Access Control** > **Timezones** in the System Administration menu bar.

By modifying the Timezone/Area you can select what area is going to be changed according to a Timezone you specify.

For more information, refer to Timezone/Area Modes Form Overview on page 836.

Appendix H: Inline Encoding

Windows is capable of handling standard print information sent by ReadkeyPRO to the printer. When added information is needed for special functions such as magnetic and smart card encoding, special commands are required. Mapping of the printer driver name to the printer type name is necessary for ReadkeyPRO to send the appropriate commands for that printer. This appendix contains advanced information for system administrators. General users of ReadkeyPRO will not need to reference this section.

Note: Fargo printers require mapping to the printer type name for all badge printing.

To configure the system for printing with smart card encoders, refer to the section Direct Printers with Inline Encoders on page 1497.

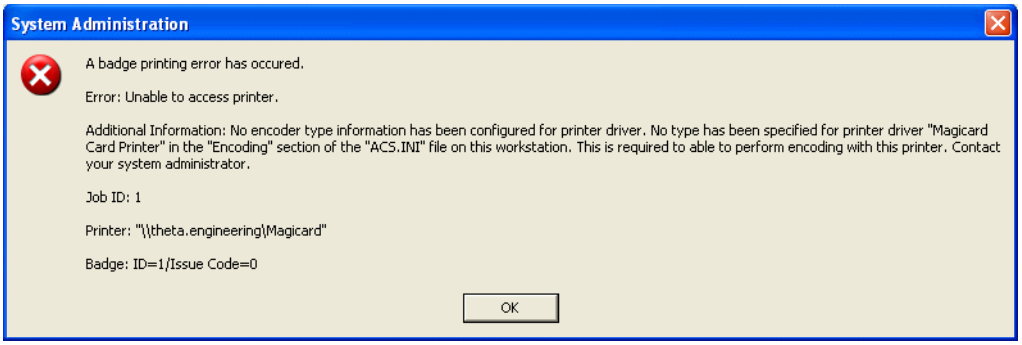
Modify the Encoding section of ACS.INI

Important: Some operating systems require you to run the **ACS.INI** file as the administrator to modify it.

When encoding via a card printer, there must be an entry in the Encoding section of the **ACS.INI** file for the printer driver of the card printer. This entry specifies the driver name and the ReadkeyPRO printer type. The Encoding section is

populated with common print driver versions however, when new driver versions are released, it may be necessary to add new entries.

1. A badge printing error will be displayed when encoded information is sent to a print driver not listed in the **ACS.INI** file:



2. Note printer driver name in quotes. This name is specific to the printer you are using and will be part of the line that needs to be added to the **ACS.INI** file.
3. Click the Start menu, select **Run**.
4. In the Run dialog, type `ACS.INI`. Click [OK].
5. Find the section labeled [Encoding] and add the line: `<printer driver>=<printer type name>` where <*printer driver*> equals the name from the error message above and <*printer type name*> equals the Printer type name from the following table (for example, Magicard Card Printer=MagicCard).

Printer Type Name	Applicable Card Printer Models
DataCard	Discontinued DataCard models where the driver name is not “SmartDriver”
Evolis	All Evolis printers
Digid	All Magicard Prima models except Prima 4
GenericISO7811	Kodak/JVC/Fargo/Eltron GenericISO7811 should only be used for legacy Eltron models using a driver named “PRIV300” or “PRIV400”
ImageCardExpress	All DataCard models using a driver named “SmartDriver”
MagicCard	All Magicard models except Prima
Nisca	All NiSCA models
Persona	All Fargo models
PrivilegeNT	All Zebra (formerly called Eltron) models except for drivers named “PRIV300” or “PRIV400”

Standard Magnetic Format Attributes

The following set of attributes are used for magnetic track encoding:

1. Magnetic format: bits/inch, bits/character, character parity, use of an LRC and LRC parity.
   a. The standard magnetic format for IATA is 210 bits/inch, 7 bits/character, odd character parity and LRC with even parity.
   b. The standard magnetic format for ABA is 75 bits/inch, 5 bits/character, odd character parity and LRC with even parity.
   c. The standard magnetic format for TTS is 210 bits/inch, 5 bits/character, odd character parity and LRC with even parity.
2. Sentinel characters:
   a. The standard start sentinel character for IATA is the percent sign (%).
   b. The standard start sentinel character for ABA and TTS is the semi-colon (;).
   c. The standard end sentinel character for IATA, ABA and TTS is the question mark (?).

By default, the standard ISO7811 track configurations for magnetic stripe encoding are used by ReadkeyPRO:

- Track 1: IATA magnetic format with standard IATA sentinel characters
- Track 2: ABA magnetic format with standard ABA sentinel characters
- Track 3: TTS magnetic format with standard TTS sentinel characters

Using Non-Standard Track Configurations

ReadkeyPRO can vary the magnetic format and sentinel characters encoded on each track for some supported printers. The amount of control over the track configuration varies by printer type, and not all printer types can use a non-standard track configuration. Modification to the **ACS.INI** file is necessary to use this special feature. Each printer type has specific instructions for setting up a non-standard track configuration.

Information Specific to Magicard Card Printer Drivers

The following non-standard track configurations are supported for card printers whose card printer drivers are assigned to the type “MagicCard” in the Encoding section of the **ACS.INI** file:

- Track 1: ABA magnetic format with standard ABA sentinel characters
- Track 1: TTS magnetic format with standard TTS sentinel characters
- Track 2: IATA magnetic format with standard IATA sentinel characters
- Track 2: TTS magnetic format with standard TTS sentinel characters
- Track 3: IATA magnetic format with standard IATA sentinel characters
- Track 3: ABA magnetic format with standard ABA sentinel characters

Additional optional parameters must be appended to the appropriate **ACS.INI** Encoding section entry when any of these track configurations are to be used for one of these drivers. They specify which values ReadkeyPRO uses for the following track configuration attributes:

- bits/character, listed as **Mode** in the printer driver
- bits/inch, listed as **Density** in the printer driver
- start sentinel character, listed as **Start Character** in the printer driver
- end sentinel character, listed as **Stop Character** in the printer driver

The track configurations default to IATA, ABA and TTS for tracks 1, 2, and 3 respectively. Alternate configurations of these parameters are specified in the **ACS.INI** file in the following syntax: <printer driver>=<print driver type>, <track_1_config>,<track_2_config>,<track_3_config>.

For example: Magicard Card Printer=MagicCard,ABA,TTS,IATA

Note: If fewer than three (3) configurations are specified in the **ACS.INI** file, the default shall be used for the remaining unspecified tracks.

The standard magnetic format attributes (bits/inch, bits/character, character parity, use of an LRC and LRC parity) will be used for each track configuration specified in the **ACS.INI** file. ReadkeyPRO uses the current driver settings specified via the printer driver for the remaining track configuration attributes except for coercivity (always specified by ReadkeyPRO as “high”).

ReadkeyPRO specifies values for the following attributes regardless of whether or not track configurations are specified in the **ACS.INI** file. These attributes must have the default value of “User specify” in the Magicard printer properties:

- Encoding coercivity
- Mode
- Density
- Start character
- Stop character

Information Specific to DNP Magicard (e.g. Prima 4) Printer Drivers

The following non-standard track configurations are supported for card printers whose card printer drivers are assigned to the type “DnpMagicard” in the Encoding section of the ACS.INI file:

- Track 1: NTT magnetic format with standard NTT sentinel characters
- Track 3: NTT magnetic format with standard NTT sentinel characters

Additional optional parameters must be appended to the appropriate ACS.INI Encoding section entry when any of these track configurations are to be used for one of these drivers. They specify which values ReadkeyPRO uses for the start sentinel characters and end sentinel characters. Other track configuration attributes (bits/inch, bits/character, character parity, use of an LRC and LRC parity) are specified through the printer driver.

The track configurations default to IATA, ABA and TTS for tracks 1, 2 and 3 respectively. Alternate configurations of the start sentinel characters and end sentinel characters are specified in the ACS.INI file in the following syntax:

<printer driver>=<print driver type>,
<track_1_config>,<track_2_config>,<track_3_config>.

For example: CX-D80 U1=DnpMagicard,IATA,ABA,NTT

Note: If fewer than three (3) configurations are specified in the ACS.INI file, the default shall be used for the remaining unspecified tracks.

Information Specific to Fargo/Kodak/JVC Card/Legacy Eltron Card Printer Drivers

The following non-standard track configurations are supported for card printers whose card printer drivers are assigned to the type “Persona” or “GenericISO7811” in the Encoding section of the **ACS.INI** file:

- Track 1: Magnetic format specified for track 1 via the print driver properties with standard ABA/TTS sentinel characters
- Track 2: Magnetic format specified for track 2 via the print driver properties with standard IATA sentinel characters
- Track 3: Magnetic format specified for track 3 via the print driver properties with standard IATA sentinel characters

Additional optional parameters must be appended to the appropriate **ACS.INI** Encoding section entry when any of these track configurations are to be used for one of these drivers. They specify which values ReadkeyPRO uses for the start sentinel characters and end sentinel characters. Other track configuration attributes (bits/inch, bits/character, character parity, use of an LRC and LRC parity) are specified through the printer driver.

The track configurations default to IATA, ABA and TTS for tracks 1, 2 and 3 respectively. Alternate configurations of the start sentinel characters and end sentinel characters are specified in the **ACS.INI** file in the following syntax:
<printer driver>=<print driver type>,
<track_1_config>,<track_2_config>,<track_3_config>.

For example: DTC520_525 Card Printer=Persona,ABA,TTS,IATA

Note: If fewer than three (3) configurations are specified in the **ACS.INI** file, the default shall be used for the remaining unspecified tracks.

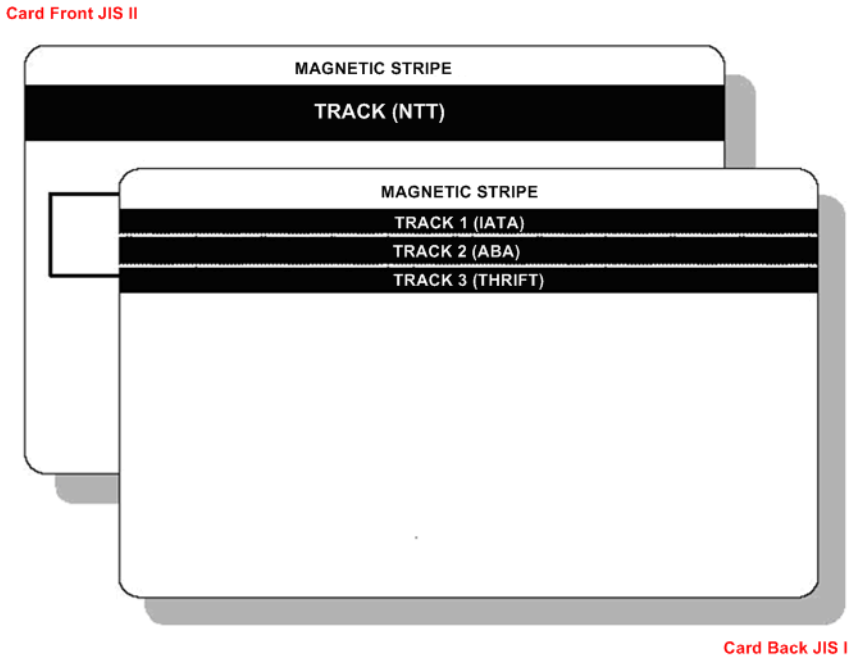
JIS II Encoding (Fargo)

JIS refers to several Japanese Industrial Standards for encoding the Japanese language. JIS II magnetic card encoding standards (JIS X6301, X6302) provide encoding compatibility with the JIS X 0201 Type II cards commonly used in Japan.

The JIS II data format is used to encode the single track on the magnetic stripe located on the front of the Japanese card. The JIS II track is wider than the ISO track (approximately as wide as ISO Tracks 1 and 2).

Notes: The JIS I data formats are the Japanese equivalent to those of ISO/IEC 7811. JIS I uses Track 2.

The JIS II data format is based on the “Roman” character set of JIS X 0201 which is identical to the 7-bit ASCII table except for a few entries representing Japanese kanji characters.



Magnetic Stripe Data Format

Card Type	Track	BPI	Bits/Character	Number of Characters	Character Type
ISO/JIS I	TRACK 1 (IATA)	210	7	79	Alphanumeric
	TRACK 2 (ABA)	75	5	40	Numeric
	TRACK 3 (THRIFT)	210	5	107	Numeric
JIS II	TRACK (NTT)	210	8 (7 bits plus 1 even parity bit per character)	72 (maximum character is 69, plus the start and end sentinels, and an 8-bit LRC character with even parity)	Alphanumeric

Configure a Badge Layout to Encode Data onto a JIS II Magnetic Stripe

Rather than using the magnetic card format to encode the JIS II magnetic stripes, a special text object is used on the front badge layout for specifying both the magnetic encoding command and the JIS II magnetic data.

Important: The badge layout that follows is recommended for use with JIS II-capable Fargo printers including the Persona C30, Persona M30, DTC400, DTC550, HDP600, and HDP5000.

Prerequisites:

- MLE support must be enabled.
- The JIS II magnetic encoding mode must be selected in the current Windows user's Printing Preferences for your printer. Click the Start button, then select **Control Panel** > **Printers and Faxes**. Right-click on the printer, then select **Printing Preferences**.

Important: Do NOT assign a magnetic card format to any badge type that is going to use this badge layout. It will conflict with the special text object.

In BadgeDesigner, complete the following steps:

1. Add a text object to the badge layout. The size and position of the object does not matter right now.
2. Give the object a name that is indicative of its purpose, such as “JIS II Magnetic Data” or “Amano Magnetic Data.”
3. Set the object's **Text** property to the same data expression you would specify as the track data for a magnetic card format on the Custom Encoding form in the Card Formats folder:
   a. At the beginning, type `~2` where “~2” is track 2 followed by `«{127}»` where “«{127}»” is an ASCII code field with its code set to 127.
   b. Type the data.
   c. At the end, type `«{127}»`.

Example 1: To encode the data for “ABCDEFGHIJKLMNOPQRSTUVWXYZ” (26 characters), set the **Text** property to the following:

~2«{127}»ABCDEFGHIJKLMNOPQRSTUVWXYZ«{127}»

Example 2: To encode the data for the 21 characters of Amano Time and Attendance Data, set the **Text** property to the following (provided you have added a user-defined badge field named “Amano Card Type” with a single character as its length):

~2«{127}»A«’Activate Date’,CDT,”%y%m%d”»000«’Amano Card Type’,F,1L,{48}»«’Cardholder ID’,F,10L,{48}»«{127}»

This would encode the following sequence of characters on a badge with an activation date of “12/25/2007”, an Amano Card Type field value of “G”, and a Cardholder ID of “1234567890”:

A071225000G1234567890

4. Leave the object's **Font** property set to its default value of “Arial 10 pt.”
5. Now move and size the object so that it is large enough to completely display the data expression and also spans, but does not extend beyond the entire width of, the printable page region.
6. Set the object's **Text Foreground Color** property to white so that the contents of the Text object are not displayed during print preview.
7. Ensure the object remains positioned beneath any other object that intersects it. To do this:
   a. Use the Badge Objects list to select the special text object.
   b. From the **Edit** menu, select **Move to Back**.

Important: Do not set object’s **Visible** property to “No.” Doing so will cause the object to be completely ignored during printing, and therefore cause no magnetic command or data to be sent to the printer driver.

Information Specific to DataCard Card Printer Drivers

It is not necessary to specify magnetic track configurations in the Encoding section of the **ACS.INI** file to encode magnetic track configurations other than the standard ISO7811 track configurations via DataCard drivers. ReadkeyPRO specifies only the data to encode with these drivers and relies upon the magnetic track formats, start sentinel characters and end sentinel characters specified for these printers in the print driver properties.

Information Specific to Zebra (formerly Eltron) Card Printer Drivers

It is not necessary to specify magnetic track configurations in the Encoding section of the **ACS.INI** file to encode magnetic track configurations other than the standard ISO7811 track configurations via a Zebra driver with the type name of "PrivilegeNT." ReadkeyPRO specifies only the data to encode and relies upon the magnetic track formats, start sentinel characters and end sentinel characters specified for the printer in the print driver properties. For legacy Eltron printers with a driver named "PRIV300" or "PRIV400", refer to section: Information Specific to Fargo/Kodak/JVC Card/Legacy Eltron Card Printer Drivers on page 1493.

Information specific to NiSCA Card Printer Drivers

The encoding of magnetic track configurations other than the standard ISO7811 track configurations is currently not supported for NiSCA card printers. There is currently no way to specify the magnetic track formats, start sentinel characters or end sentinel characters for NiSCA card printers in the print drivers.

Direct Printers with Inline Encoders

Direct printers can be upgraded with various card encoding modules (contact and contactless) as well as for magnetic stripe.

Note: Setup for a printer with an inline proximity encoder, such as the DigiOn24, is different than for a printer with an integrated magnetic encoder in that the inline encoder must be connected directly to the workstation as it does not communicate with the printer.

Configure a Direct Printer for Inline Encoding

Prerequisites:

- Before you install the printer, refer to the Badge Printers Compatibility Chart. Please contact the ReadykeyPRO Technical Support department at 800-289-0096.

- Ensure that you have two (2) connections from the printer to the workstation:
  - one (1) for the printer (either USB or parallel)
  - one (1) for the encoder (typically a DB9 serial connection)

To configure a direct card printer for inline encoding, complete the following steps:

1. Install the printer with its supported drivers on a Windows workstation and print a test page to verify functionality.
2. Add the workstation connected to the encoder:
   a. If your encoder is a Magstripe Swipe Reader/Writer, configure it via the Windows printer driver then skip to step 3.
   b. In System Administration or ID CredentialCenter:
      - From the **Administration** menu, select **Workstations**. The Workstations folder is displayed.
      - Select the Encoders/Scanners tab and then click [Add].
   c. On the General sub-tab:
      - In the **Name** field, enter a descriptive name for the encoder/scanner.
      - From the **Workstation** drop-down, select the workstation to which this encoder/scanner is attached.
      - Select the **Device type**. For more information, refer to the Badge Printers Compatibility Chart which cross-references ReadkeyPRO versions with supported devices and software.
      - The **Credential technology** field is automatically populated. However, if more than one technology is supported, you can select a different technology from the drop-down.
   d. On the Location sub-tab:
      - Select the **This is an inline device that resides within a card printer attached to this workstation <*name*>** radio button.
      - In the **Card printer** drop-down, select the printer.
      - In the **Encoder station** drop-down, select “Contactless.”
   e. On the Communications sub-tab, select values for the fields that display and then click [OK].

Note: If you are configuring a DigiOn24 encoder, ensure **Baud rate** is set to `9600`.

3. Create a card format that will contain the data to be encoded on the badge. For more information, refer to Assign an Encoding Format to a Badge Type on page 371.
4. Modify the Badge Type for printing and inline encoding:
   a. From the **Administration** menu, select **Badge Types**. The Badge Types folder is displayed.
   b. Select the badge type in the listing window and then select the Printing sub-tab on the right.
   c. Click [Modify].
   d. In the **Printer to use for this workstation (overrides default)** drop-down, select the printer and then click [OK].
   e. On the Encoding tab:
      - Select a card format. If the card format you want to use is not available in the listing window, add it.
      - Ensure "Always" is selected in the **Inline encode** drop-down
      - Click [OK].

Appendix I: Integrating ActivIdentity CMS with ReadkeyPRO

The ActivIdentity Card Management System (CMS) handles card management of a individual's smart card for logical access. CMS cards can be "issued" (local issuance or binding for self-enrollment with My Digital ID) from the ReadkeyPRO software.

Important: If the CMS card is not issued from ReadkeyPRO then the card cannot be synchronized with ReadkeyPRO badge.

Once the card is issued, the ReadkeyPRO badge is associated with the ActivIdentity card, and any changes to the ReadkeyPRO badge record will automatically update the status of the individual's CMS record. If the badge is suspended or revoked in ReadkeyPRO, then the person's logical account access in CMS will be suspended.

Note: ActivIdentity Card Management System (CMS) is also known as ActivIdentity Identity Management System (AIMS).

A plug-in is available from Bosch that enables changes in ActivIdentity records to automatically be reflected in the status of the ReadkeyPRO badge. The plug-in also allows for event notification in Alarm Monitoring. For more information, refer to ActivIdentity CMS Events Displayed in Alarm Monitoring on page 1513. This plug-in can only be implemented by a Bosch representative.

CMS Feature Summary

Feature	Location	Licensed?	Professional Engineering Services required?
Issuance	General ReadkeyPRO product	Yes	No
Changes in ReadkeyPRO badge state reflected in ActivIdentity CMS credential state	General ReadkeyPRO product	Yes	No
Changes in ActivIdentity CMS credential reflected in ReadkeyPRO badge state	CMS plug-in	No	Yes
CMS event notification in Alarm Monitoring	CMS plug-in	No	Yes

Referenced ActivIdentity Documents

This documentation focuses on the ReadkeyPRO side of the ActivIdentity CMS integration. For more information about ActivIdentity, please refer to the following documents that came with your ActivIdentity system:

- ActivIdentity Card Management System (CMS) Operator Guide
- MDIDC (My Digital ID Card) User Portal Guide
- ActivClient Installation Guide
- ActivClient User Guide
- ActivClient Overview

Terminology

- **ActivClient.** The ActivIdentity client software, which must be installed on all ID CredentialCenter workstations and user workstations.
- **ActivIdentity Generated Client certificate.** A certificate that may be generated by the ActivIdentity system setup that contains the first operator credentials. It can be used to authenticate with the CMS as an operator so that additional operator and user credentials can be issued. After being used to create another operator's certificate, the ActivIdentity Generated Client should be removed from the system for security purposes.
- **Binding.** An option that may be used when enrolling badges in the ReadkeyPRO/ActivIdentity system that links the card to the user in CMS and allows the user to personalize the card using My Digital ID. Binding does not personalize the card (no data is written to the card).
- **Certificate.** A file or electronic document used to authenticate as an operator with the CMS server in order to enroll and encode badges (if local issuance is used).
- **CMS.** Card Management System. Typically provides management for card issuance, the card life cycle, and cardholder data for various card types.
- **Local issuance.** An option that may be used when enrolling badges in the ReadkeyPRO/ActivIdentity system that personalizes the smart card (writes data to the card).
- **Logical access.** Access control by which a system grants or restricts the right to access computer applications, networks, and data. Cardholders with the appropriate clearances or permissions are provided with smart identification (ID) cards that verify their rights and privileges. Once presented, scanned, or inserted into readers, these credentials permit access

to secure information which encompasses the data and intellectual property residing on computer networks.

Smart card logical access allows organizations to issue a single ID card that supports logical access, physical access, and secure data storage, along with other applications.

Additionally, logical access controls can be used to limit user access only to information which is appropriate for them. Logical access controls are often built into the operating system, or may be part of the “logic” of application programs or utilities, such as Database Management Systems. Logical access may also be implemented in add-on security packages that are installed into an operating system such as CMS.

- **Operator.** In CMS terminology, a trusted individual who has administrative rights to perform critical operations on the CMS that cannot be done by a user. Each operator’s permissions are defined by his or her assigned role.
- **Physical access.** Access control by which a system grants or restricts the right to access buildings and facilities in order to secure areas of the workplace such as parking garages, manufacturing facilities, and research and development laboratories.
- **PKI.** Public Key Infrastructure. A set of policies, processes, and technologies used to verify, enroll, and certify users of a security application. PKI uses public key cryptography and key certification practices to secure communications, including the Certificate Authority (CA), key directory, and management.

Using ActivIdentity CMS with ReadkeyPRO

Basic integration between ActivIdentity CMS with ReadkeyPRO enables you to:

- Perform local-issuance or binding for self-issuance of ActivIdentity smart cards, including PIV cards, during the badge issuance process in ID CredentialCenter.
- Propagate ReadkeyPRO badge life cycle events, such as badge encoding, activation, deactivation, and deletion to CMS.

If the optional CMS plug-in is used, you may also do the following:

- Propagate ActivIdentity CMS card life cycle events such as suspending, resuming, or terminating a card to the ReadkeyPRO software.
- Receive various ActivIdentity CMS events in Alarm Monitoring.

Badging operators using CMS with ReadkeyPRO will likely need to handle the following scenarios:

- Encode/Bind a CMS Card on page 1515
- Encode/Bind a PIV Card on page 1517
- Modify Badge Status on page 1518

- Delete a Badge on page 1519
- Delete a User or Cardholder on page 1519
- Manage Lost Badges on Systems Integrated with ActivIdentity CMS on page 1520
- Revoke a PKI Credential in ActivIdentity CMS on page 1520

Licensing Requirements for ActivIdentity CMS

Encoding an ActivIdentity CMS card in ReadkeyPRO requires the "ActivIdentity CMS integration" and "Maximum Number of ActivIdentity CMS Badges Encoded" licenses. Each time a badge is synchronized (encoded) with ActivIdentity CMS, an internal counter is incremented. The number of cards that have been encoded or bound for self-enrollment is displayed on the ActivIdentity CMS form (**Logical Access** > **ActivIdentity**). Once the counter reaches the maximum value specified in the license, you will receive notification and all future attempts to encode will fail until additional instances are purchased.

Setting up the ReadkeyPRO ActivIdentity CMS Client Computer

On the CMS client computer, do the following:

1. Install the ReadkeyPRO software. Refer to the Installation Guide for more information.
2. Install the ReadkeyPRO license. Refer to Install the ReadkeyPRO License on page 1504 and the Installation Guide for more information.
3. Install the ActivClient software. You must install "ActivClient" on any workstation that will be used to manage CMS badges. For more information, refer to Install ActivClient on page 1505.
4. Configure ActivIdentity CMS in the ReadkeyPRO software. For more information, refer to Configure ActivIdentity CMS in ReadkeyPRO on page 1505.

Install the ReadkeyPRO License

To use ActivIdentity CMS, you must have a ReadkeyPRO license that enables use of the ActivIdentity feature and specifies the number of card issuances (local or with self enrollment) purchased. For more information about the license, refer to Licensing Requirements for ActivIdentity CMS on page 1504. For specific

information on how to install the ReadkeyPRO license, refer to the Installation Guide.

Install ActivClient

The ActivClient software allows ReadkeyPRO and ActivIdentity CMS to work together. You must purchase "ActivClient" from ActivIdentity and then install it in the following locations:

- On any ID CredentialCenter workstation that will be used to issue or manage CMS badges.
- On each user workstation, so the workstation can interact with issued credentials.

ActivClient is required to be running on the ID CredentialCenter workstations and user workstations in order to:

- Log onto a computer using an issued card
- Issue and manage cards

Note: Once ActivClient is installed, it automatically starts up and runs when Windows starts up.

To install ActivClient, refer to the ActivClient Installation Guide for detailed instructions.

Configure ActivIdentity CMS in ReadkeyPRO

To accomplish this integration, complete the following configuration steps in the ReadkeyPRO software in the order listed:

1. Verify User Permissions on page 1506
2. Add a CMS Connection on page 1507
3. Verify Connectivity to the Selected CMS on page 1507
4. Configure ActivIdentity Cardholder Options on page 1508
5. Add a CMS Smart Card Format on page 1509
6. Add a Badge Type for CMS on page 1509
7. Configure a Workstation for CMS on page 1511
8. Configure an Encoder for CMS on page 1512
9. Add DataConduIT Sources for ActivIdentity (CMS Plug-in Users Only) on page 1512

Verify User Permissions

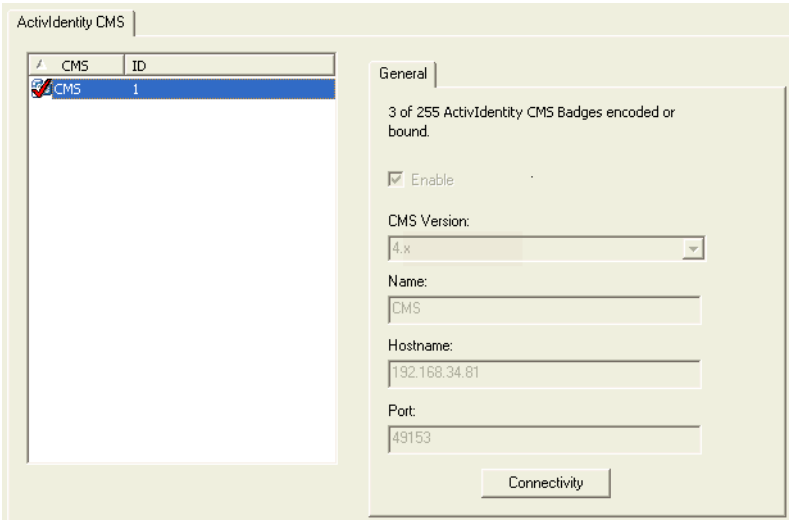
Verify that the user who will perform each of the following tasks has the necessary user permissions:

- **Add, modify, or delete a CMS connection**
  To perform any of these functions, the system permission group assigned to the user must have the respective CMS system permissions. These are configured from System Administration or ID CredentialCenter in **Administration** > **Users** > System Permission Groups tab > Users, Directories, Certification Authorities, Logical Access sub-tab > Logical Access category.
- **Bind/encode a CMS badge**
  In order to bind/encode a CMS badge, the user must have permission to encode badges. This is configured from System Administration or ID CredentialCenter in **Administration** > **Users** > Cardholder Permission Groups tab > Badge sub-tab > **Encode badges** check box.
- **Manage badges bound to CMS cards**
  The ReadkeyPRO user managing badges bound to CMS cards must be a registered operator in CMS with the appropriate permissions. The CMS operator authenticates to CMS using a digital certificate. CMS operator permissions are defined by a Role in CMS. For more information, refer to the ActivIdentity Card Management System (CMS) Operator Guide.

Add a CMS Connection

Note: Refer to Verify User Permissions on page 1506 for the user permissions required to perform this task.

1. From the **Logical Access** menu in System Administration or ID CredentialCenter, select **ActivIdentity**. The ActivIdentity CMS folder opens.
2. Click [Add].
3. From the **CMS Version** drop-down, select the major version of the CMS server.
4. In the **Name** field, enter a unique name that will be used to identify the CMS system in the ReadkeyPRO software.
5. In the **Hostname** field, type either the IP address or the full computer name of the machine hosting the CMS.
6. In the **Port** field type the port on which the CMS is listening for requests. Check the CMS Install Guide for the port number; historically it has been 49153.
7. If the CMS server is online and you wish to connect to it, leave the **Enable** check box selected. If not, deselect the **Enable** check box.
8. Click [OK]. Your CMS entry should resemble the following:



9. Verify connectivity to the selected CMS. For more information, refer to Verify Connectivity to the Selected CMS on page 1507.

Verify Connectivity to the Selected CMS

SSL protocol with mutual authentication is used during interactions between ReadkeyPRO and CMS. In order to connect to ActivIdentity CMS to perform card issuance and management, an operator must have valid CMS operator's

credentials (certificates) with the appropriate roles. Upon receiving requests for operations from ReadkeyPRO, CMS verifies that the role assigned to the operator's credential is allowed to perform the operations.

1. On the ActivIdentity CMS form (**Logical Access** > **ActivIdentity**), select the CMS connection you want to test. If the connection does not exist yet, you may add it and test the connection while adding it.

Note: The **Enable** check box must be selected for the CMS server connection in order to enable the [Connectivity] button. If it is not, connectivity cannot be tested.

---

2. Click [Connectivity].
3. The Choose a digital certificate window opens. Select a CMS operator's certificate. If no certificates are available then you will have to install one. Refer to the ActivClient Installation Guide for instructions on installing an operator's certificate.

Note: The ReadkeyPRO computer that is connecting to the CMS server must have the operator's certificate installed to connect successfully. If necessary, validate that the root certificate path is trusted.

Configure ActivIdentity Cardholder Options

In the Cardholder Options folder, you configure the Cardholder deletion behavior to define what happens to a logical user account when a cardholder is deleted in the ReadkeyPRO software. The available options are:

- Do nothing to the directory user account (This is the default option.)
- Delete the directory user account
- Terminate (delete) all of a user's logical badges

To configure ActivIdentity Cardholder Options:

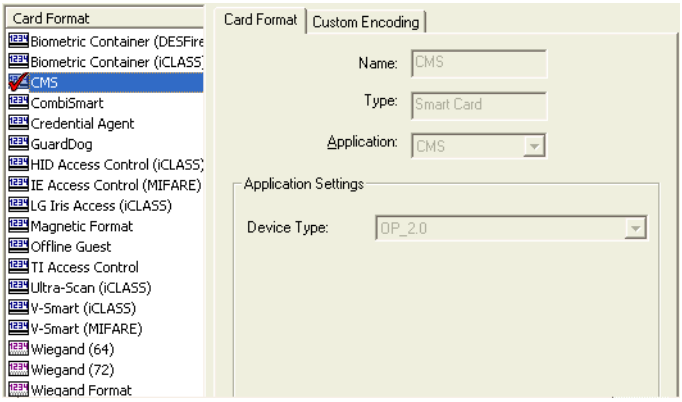
1. From the **Administration** menu in System Administration or ID CredentialCenter, select **Cardholder Options**.
2. Click the Logical Access tab.
3. Click [Modify].
4. In the **Cardholder deletion behavior** drop-down, select the desired behavior.
5. Click [OK].

Add a CMS Smart Card Format

1. From the **Administration** menu in System Administration or ID CredentialCenter, select **Card Formats**.
2. Click [Add].
3. The Choose Card Format Type dialog opens. Select “Smart Card”, and then click [OK].
4. In the **Name** field, type a unique name for the new card format.
5. In the **Application** field, select “CMS.”

Note: In the **Device Type** field**,** the CMS device type is pre-selected to “OP_2.0”.

6. Click [OK]. Your card format should resemble the following:

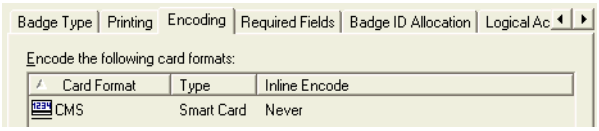


Add a Badge Type for CMS

In order for a badge to be encoded with CMS or be subject to lifecycle events, the badge’s badge type must be configured to be registered with ActivIdentity. To do this:

1. From the **Administration** menu in System Administration or ID CredentialCenter, select **Badge Types**.
2. Modify an existing badge type or add a new badge type. This badge type must have the following settings:
   a. On the Badge Type tab:
      1) If you are adding a badge type, in the **Class** drop-down, select “Standard.”
   b. On the Encoding sub-tab:
      1) Click [Add].

2) The Add Card Formats dialog displays. Select the CMS card format you created in Add a CMS Smart Card Format on page 1509.



Note: Any card format may be linked to a badge type.

---

3) Click [OK].

c. On the Logical Access sub-tab, complete the following steps:

1) Select the **Register badge with ActivIdentity** check box if you wish to do so.

2) Select an **Issuance action**. Choices include:

Local issuance - personalizes the smart card (writes data to the card).

Issuance with self-enrollment (binding) - does not personalize the card (no data is written to the card). Binding only links the card to the user in CMS and allows the user to personalize the card using CMS's My Digital ID.

Notes: To be able to perform Issuance with self-enrollment (binding) and Local issuance, simply add two badge types - one for each action. The same card format may be linked to both badge types.

For CMS version 4.0/4.1, Issuance with self-enrollment (binding) also includes the submission of a badge production request (to define the policy and other information required for self-enrollment).

---

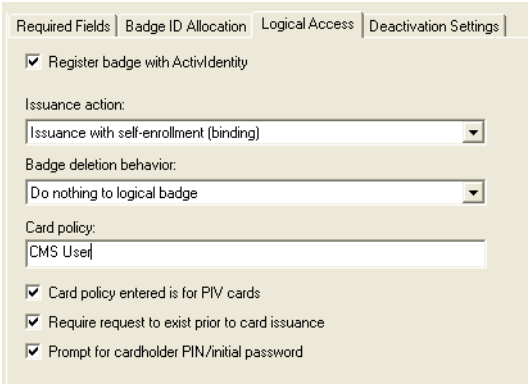
3) Select a **Badge deletion behavior**. Choices include:

Do nothing to logical badge

Suspend logical badge

Terminate logical badge

4) In the **Card policy** field, type the CMS card policy that will define what applications and credentials can be issued to bound cards by CMS.



Important: Take care to enter the policy name correctly in the **Card policy** field. This must be the same name that is used in CMS, and is case-sensitive.

5) Select the **Card policy entered is for PIV cards** check box if the Card policy entered is for the issuance of a PIV card.

Note: When this option is selected, fingerprint verification is performed immediately after the card is encoded. For more information, refer to Encode/Bind a PIV Card on page 1517.

6) Select the **Force request to exist prior to card issuance** check box if the production request will be submitted by a third party system before ReadkeyPRO performs the issuance.

Notes: For CMS version 4.0/4.1: If this option is not selected, then ReadkeyPRO will submit the production request and immediately execute it. However, to ensure compliance with FIPS standards, it is recommended that the production request comes from CMS. **Force request to exist prior to card issuance** must be selected.

For CMS version 3.8: ReadkeyPRO always submits the production request. Therefore, ensure that **Force request to exist prior to card issuance** is deselected.

7) Click [OK].

Configure a Workstation for CMS

You must first add a workstation before you can add an encoder. To do this, select **Workstations** from the **Administration** menu in System Administration or ID CredentialCenter. Refer to Add a Workstation Entry on page 444 for complete instructions.

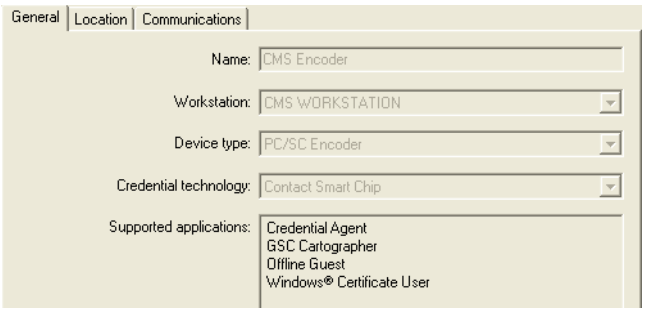
Configure an Encoder for CMS

Prerequisites:

- A workstation must be configured in the ReadkeyPRO software. For more information, refer to Configure a Workstation for CMS on page 1511.
- The encoder must be attached to the workstation. (If it is not, you can configure this later, but it must be configured in order for the CMS integration to work.)

To issue CMS badges, you must configure an encoder in the ReadkeyPRO software. Any supported PC/SC encoder configured for use with the CMS workstation can be utilized during the issuance of the CMS badge. To configure an encoder:

1. From the **Administration** menu in System Administration or ID CredentialCenter, select **Workstations**.
2. Click the Encoders/Scanners tab.
3. Click [Add]. For complete instructions, refer to Configure an Inline or Standalone Encoder/Scanner on page 453. For CMS integration, you must select the following settings:
   a. On the General tab, be sure to enter a **Name** and select "PC/SC Encoder" in the **Device type** field.



   b. On the Communications sub-tab, select the correct **PC/SC device**.
      - If you are at the workstation and the encoder is attached, simply select it in the drop-down list.
      - If you are not at the workstation, you cannot select the PC/SC device yet. You can add the encoder record, but an information message will be displayed, and you will need to go to the workstation and configure this later.

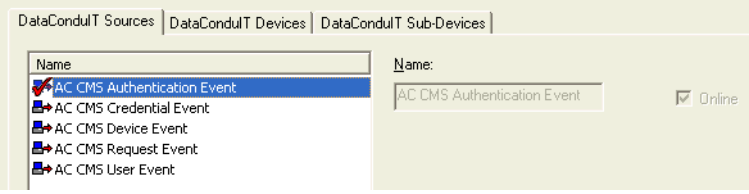
Add DataConduIT Sources for ActivIdentity (CMS Plug-in Users Only)

This procedure should only be performed on systems that will be using the optional CMS plug-in. In order to receive CMS events in Alarm Monitoring, you must add DataConduIT Sources in the ReadkeyPRO software. This is done in System Administration by selecting **DataConduIT Sources** from the **Additional Hardware** menu. For complete instructions, refer to Add a DataConduIT Source on page 1195.

From the DataConduIT Source items in the table, add those which describe the type of CMS events you wish to monitor:

DataConduIT Sources name	CMS event
AC CMS Device Event	Device Related
AC CMS User Event	User Related
AC CMS Request Event	Request Management Related
AC CMS Credential Event	Credential Management Related
AC CMS Authentication Event	Authentication Related

Your configured DataConduIT Sources should look like the following:



ActivIdentity CMS Events Displayed in Alarm Monitoring

Depending on which DataConduIT Sources you have configured, notification of different CMS events will be displayed in Alarm Monitoring and logged.

Several CMS events are listed in the following tables. (For a complete list of CMS events, refer to the ActivIdentity documentation).

CMS Event	Description
Device Related	
ActivateDevice	This event is generated upon the logical activation of a card in CMS
CardIssuance	Card encoding is complete. This event is generated after a smart card is issued to a cardholder/user:
CardBind	Card binding is complete. This event is generated after a card has been assigned to a user.
CardUnbind	A card has been unbound. This event is generated after a card is unassigned from a cardholder/user.
CardRecycle	This event is generated before a card is recycled.
Replace	This event is generated after a request for a replacement card is submitted.
RequestUnlock	This event is generated when a card is abut to be unlocked.
ResumeDevice	This event is generated after a card is resumed.
SuspendDevice	This event is generated after a card is suspended.

CMS Event	Description
Terminate	This event is generated after a card is terminated.
User Related	
CreateUser	This event is generated when a user is added to the directory with CMS.
DeleteUser	This event is generated when a cardholder/user is deleted from the directory with CMS.
TerminateUser	This event is generated when a cardholder/user is terminated.
WriteOperator	This event occurs when a CMS operator is enrolled or when the definition of an operator is updated.
DeleteOperator	This event occurs when a CMS operator is deleted.
Request Management Related	
WriteRequest	This event is generated just after a request is created.
ApproveRequest	This event is generated when a request is approved. **Note:** Notification occurs only if there is formal approval of the request. There is no event when the request is approved automatically by the system (for example unlock or post-issuance requests).
DenyRequest	This event is generated when a request is denied.
DeleteRequest	This event is generated when a request is deleted by the system, after the request is successfully processed (for example, after an unlock request is executed).
CancelRequest	This event is generated when a request is cancelled.
Credential Management Related	
CreateCredential	This event is generated before execution of a request to create a credential, just before it is sent to the credential provider.
CredentialIssued	This event is generated when a credential is issued.
CredentialRequest	This event is generated when a credential issuance request is created, just before it is sent to the repository, such as the CA server.
CertHold	This event is generated after a credential is suspended.
CertResume	This event is generated after a credential is resumed.
CertRevoke	This event is generated after a credential is revoked. For more information, refer to Revoke a PKI Credential in ActivIdentity CMS on page 1520.
Authentication Related	
AuthenticateUser	This event is generated when a user logs into My Digital ID Card.

CMS Event	Description
AuthenticateOperator	This event is generated when an operator logs into the CMS Operator Portal.

Badge Operations Using ActivIdentity CMS with ReadkeyPRO

Encode/Bind a CMS Card

Note: Refer to Verify User Permissions on page 1506 for the user permissions required to perform this task.

Prerequisite: Before performing this procedure, you must have an encoder properly configured in the ReadkeyPRO software. Any supported PC/SC encoder configured for use with the CMS workstation can be utilized during the issuance of the CMS badge. For more information, refer to Configure an Encoder for CMS on page 1512.

To bind/encode a CMS card:

1. Log into the ID CredentialCenter workstation, and then log into ReadkeyPRO.
   - If you log into the workstation using your smart card, then the certificate is automatically copied to the computer's personal store.
   - If you log into the workstation by typing your user name and password, you will need to manually install the certificate that has been granted

operator's privileges in the ActivIdentity system before you can authenticate with the server and perform encoding.

2. From the **Administration** menu, select **Cardholders**.
3. Search up an existing cardholder and click [Modify], or add a new cardholder by clicking [Add].
4. On the Badge tab:
   - In the **Badge type** field, select the badge type that you created in Add a Badge Type for CMS on page 1509.
   - Be sure the **Status** is "Active".
   - Click [OK].
5. From the Logical Access tab, link the user's logical account to the cardholder by doing the following:
   a. Select the **Issuing CMS**. This is the CMS that the user exists in. It is also the CMS that is connected to when issuing the badge to the cardholder.
   b. Enter the **User ID**, which is the cardholder's logical user account name.
   c. Click [OK].

Notes: The **Cards** listing window lists all cards/badges that have been encoded or bound to the cardholder. If the check box **Update list from server** is selected, then the list will also display badges which were issued to users outside of ReadkeyPRO.

Badges issued to users outside of ReadkeyPRO cannot be linked to a physical badge and thus do not support life cycle management.

Additional operations on the badge (such as resuming, suspending, terminating, or unlinking) can be performed by right-clicking on an entry in the list.

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6. Return to the Badge tab and click [Encode]. The Encode Badge window opens.
   a. Select the CMS card format you created in Add a CMS Smart Card Format on page 1509.
   b. Select the encoder that you configured in Configure an Encoder for CMS on page 1512.
   c. Click [Encode].

      If badge issuance is being used, the card is encoded based on the Card policy defined.

      If badge binding is being used, the badge is bound to the user. This behavior is dependent on the **Issuance action** configured in step 2 in Add a Badge Type for CMS on page 1509.

      The card and issuing/binding CMS information is then captured.

Note: A system check will be performed to validate the status of the badge being encoded/bound. For more information, refer to Issuance Validation on page 1517.

Encode/Bind a PIV Card

The issuance of PIV cards using ReadkeyPRO is almost identical to the issuance of non-PIV cards. However, PIV cards may contain several data elements such as fingerprints, facial images, the Cardholder Unique Identifier (CHUID), as well as multiple certificates that do not exist in ReadkeyPRO. Therefore, all data that will be encoded on the PIV card must be sent to CMS prior to PIV card issuance.

Important: The Badge Type used for PIV card issuance must specify that the **Card policy entered is for PIV cards**. For more information, refer to Add a Badge Type for CMS on page 1509.

Verify Fingerprint(s)

For PIV card issuance, FIPS 201 Specifications require 1:1 fingerprint verification prior to issuing a card to the cardholder/visitor. After you have personalized the PIV card, the Verify Fingerprint(s) dialog is displayed allowing you to verify the cardholder's fingerprint against those just encoded on the card. For more information, refer to Verify Fingerprint(s) Dialog on page 124.

1. Follow the on-screen prompts provided in the status box below the fingerprint image. You will be guided through the process of capturing the fingerprint(s).
2. From the **Capture Device** drop-down select the device you will use to capture the fingerprints.
3. When prompted, the cardholder presents his/her finger to the capture device.
4. Click [Capture].
5. If the fingerprints match, a successful issuance is registered with ReadkeyPRO. However, if fingerprint verification fails, the card is terminated and recycled.

Note: If the PIV card contains a facial image, it is displayed with the captured fingerprint image for additional verification of the cardholder.

6. To stop the capture operation, click [Abort].

Issuance Validation

When you encode or bind a badge, the state of the badge being encoded or bound is checked by the system to ensure it is in a valid state for issuance.

Badge Status?

If the badge is not in a valid state for issuance, then the various operations are executed automatically in an attempt to recover the badge into a valid state. A badge cannot be encoded or bound unless it is in such a state.

The following table lists the operation that will take place when the card is in a given state:

Badge status	Operation
Available: The badge is in a valid state for encoding/binding.	No operation needed as the badge is in a valid state for issuance.
Assigned: The badge is already bound to a user for self-issuance.	The operator is prompted to unbind the badge to return the card to the available state. **Note:** In the case of CMS 4.0/4.1, the issuance request for bound badges is also cancelled.
Issued: The badge is already issued and assigned to a user.	The operator is prompted to terminate the card. If the badge is terminated, it will automatically be recycled, returning the badge to the available state.
Produced: The badge was issued to a user but not assigned (it was not recycled).	The badge is automatically recycled, returning it to the available state.
Invalid: The badge is not in an valid state (it has been suspended, forgotten, damaged, stolen, or lost).	An error is reported and execution stops. The badge cannot be issued or bound to with ReadkeyPRO unless it is recovered to a valid state outside of ReadkeyPRO.

Badge Already Issued to the Cardholder?

After verifying the status of the card, if the status is available or returned to available, the system checks the status of the cardholder. If the cardholder already has an active card, then the operator is allowed to terminate the active card and continue encoding or binding the new card.

Modify Badge Status

When the status of a badge is changed in the ReadkeyPRO software, the change is propagated in CMS. The following describes what happens in the CMS system:

- Badge status is changed from “Active” to an inactive state such as “Lost” or ‘Returned”
  All credentials stored on the CMS badge are suspended.

Note: If a bound badge has not been issued using the self-issuance process, this operation will cause an error because the card is not in a “suspendable” state.

- Badge status is changed from an inactive state to “Active”
  All credentials stored on the user’s suspended badge are reactivated.

Note: If a bound badge has not been suspended, this operation will cause an error because the badge is not in a “resumable” state.

Delete a Badge

Depending on how **Badge deletion behavior** is configured, when you delete a badge in ReadkeyPRO, one of the following operations place in CMS:

- No action is taken on the logical badge.
- The user’s logical badge is suspended.

Note: If a bound card has not been issued using the self-issuance process, the suspend operation will cause an error because the card is not in a “suspendable” state. In this case, ReadkeyPRO should send an Unbind request to CMS.

- The user’s logical badge is terminated (unbound) and, if there are any, the credentials stored on the card are revoked.

For more information, refer to Add a Badge Type for CMS on page 1509.

Delete a User or Cardholder

Depending on how the **Cardholder deletion behavior** is configured, when you delete a user or cardholder in ReadkeyPRO, one of the following operations takes place in CMS:

- No action is taken to the directory user account.
- The directory user account is deleted.
- All of the logical badges assigned to the user in CMS are terminated or unbound.

For more information, refer to Configure ActivIdentity Cardholder Options on page 1508.

Manage Lost Badges on Systems Integrated with ActivIdentity CMS

If a cardholder loses their badge and your ReadkeyPRO system is integrated with CMS:

1. Log into the ID CredentialCenter workstation, and then log into ReadkeyPRO.
   - If you log into the workstation using your smart card, then the certificate is automatically copied to the computer's personal store.
   - If you log into the workstation by typing your user name and password, you will need to manually install a credential (generally a certificate) that has been granted operator's privileges in the ActivIdentity system before you can authenticate with the server and perform encoding.
2. From the **Administration** menu, select **Cardholders**.
3. Search up the cardholder whose badge is lost.
4. On the Badge tab:
   a. Click [Modify].
   b. In the **Status** field, select "Lost".
   c. Click [OK]. The event will automatically be propagated to CMS, and all credentials stored on the CMS card will then be suspended.

Revoke a PKI Credential in ActivIdentity CMS

If you are a CMS Administrator, you may revoke a PKI credential using the CMS portal. If you do this (and the ActivIdentity CMS plug-in is installed), a "PKI Credential Revoke" event is sent to Alarm Monitoring. For more information, refer to ActivIdentity CMS Events Displayed in Alarm Monitoring on page 1513.

Appendix J: Intrusion Command

Enhancements made to the LNL-CK reader now make it possible to arm and disarm alarm mask groups via the LNL-CK device itself.

Intrusion Command Overview

Once properly configured in System Administration, cardholders with the proper permissions are able to arm and disarm alarm mask groups using the LNL-CK reader.

The cardholder with proper permissions who has been granted access at the reader will be able to enter the command string for this new command followed by a two-digit ID of the alarm mask group they want to arm and disarm.

For example, if the user command code is 300, the cardholder would enter (after being granted access) "*30004#" where "300" is the selected command string and "04" is the alarm mask group ID.

To configure this new feature follow the steps below:

1. Configure the System/Segment User Commands
2. Configure the Access Levels
3. Configure the Reader
4. Arming and Disarming from the LNL-CK Reader Using Global Permission Control Only

Configure the System/Segment User Commands

1. In System Administration, select the **Administration** > **System Options** menu option, and select the User Commands sub-tab.

Note: If your system is segmented the User Commands sub-tab can be found in the **Administration** > **Segments** menu option on the Segments tab.

2. On the User Commands sub-tab select the **Global Permission Control Only** or **Advanced Permission Control** option from the **Intrusion command configuration** drop-down box.
3. Select the Intrusion command code you wish to use. This can be any 3 to 6 digit number. The cardholder enters this number as part of the command string. For example, if the command code is 123, the cardholder would enter "*12304#" where "123" is the selected command code.

Note: The command code can not match the command code that is used by the extended held command code.

Configure the Access Levels

In System Administration, go to the **Access Levels** menu option, and click the Access Levels tab.

1. Select the Access Level you wish to have intrusion command authority.
2. Click [Modify].
3. Select the appropriate readers and timezones.
4. Select the **Global Permission Control Only** or **Advanced Permission Control** option from the **Intrusion command configuration** drop-down box.

Notes: Based on what option you choose from the **Intrusion command configuration** drop-down box the LNL-CK will act differently when there are more than one zone in a fault condition.

If you choose **Global Permission Control Only** the cardholder is shown the first device by name on the LNL-CK screen indefinitely with no additional prompting. The cardholder must continue to press 4 on the keypad to view the other devices.

If you choose **Advanced Permission Control** the cardholder is shown the first device by name for 2-3 seconds before it automatically advances to the next. The cardholder may also press 4 on the keypad to immediately view the other devices.

5. Click [OK].
6. Configure the Reader

Configure the Reader

1. In System Administration, go to the **Access Control** > **Reader** menu option, and click the Reader sub-tab.
2. Select the reader you wish to add the intrusion command to.
3. Click [Modify].
4. Select the **Allow Intrusion Commands** check box.
5. Click [OK].

Note: While theoretically any reader can be used to arm and disarm alarm mask groups this feature is only truly useful with the LNL-CK reader because of its display output.

Arming and Disarming from the LNL-CK Reader Using Global Permission Control Only

1. Once the cardholder who has the correct permissions is granted access they are able to enter a command string into the reader.
2. start by pressing the "*" button. On the LNL-CK this is represented with the arrow key.
3. Follow it by the 3 to 6 digit command code you entered in the user Command sub-tab.
4. Follow that by the 2 digit ID of the particular alarm mask group you wish to arm or disarm.

Note: You can find the ID number in System Administration by going to the Alarm Mask Group sub-tab in **Access Control > Groups**. There is an ID column in the Alarm Mask Groups listing window. Remember if the ID is a single digit preface it with a zero (0). For example, an ID of 1 would be entered as 01.

5. End the command string by entering the "#" key. On the LNL-CK this is represented with the "Command" key.
   - If the alarm mask group you've selected is currently armed you will be prompted to press "1" to disarm it.
   - If the alarm mask group is currently disarmed and no points are active you will be prompted to press "2" to arm it.
   - If the alarm mask group is disarmed but there are points active you will receive a "NN zones faulted" display where "NN" is the number of points active. You can scroll through these active points by pressing "4". once all the points have been displayed you can press "3" to force-arm the alarm mask group.

Arming and Disarming from the LNL-CK Reader Using Advanced Permission Control

1. Start by pressing the "*" button. On the LNL-CK this is represented with the arrow key.
2. Follow it by the 3 to 6 digit command code you entered in the user Command sub-tab.
3. Follow that by the 1 digit of the particular command you selected.
4. End the command string by entering the "#" key. On the LNL-CK this is represented with the "Command" key.
5. Follow instructions displaying in the LNL-CK LCD.

Appendix K: ILS (Integrated Locking Solutions)

ReadkeyPRO allows you to set up and operate several Bosch locking solutions including ILS Integra, ILS offline, and ILS wireless locking systems. For more information, refer to the ILS Integra Locking System Overview on page 1527 and ILS Offline/Wireless Locking Systems Overview on page 1549.

Important: When ILS locks are installed in the doors, they are pre-configured with factory settings. The lock information (locking plan) is then configured in ReadkeyPRO and downloaded to the XPP or Bosch ILS Mobile Configurator portable device that is used to initialize the locks with the lock settings. For more information, refer to the Lock Configuration section in the ILS Lock Operation Guide.

The vocabulary used:

- **Access Control Card Formats.** A set of attributes that describe to the lock how to validate integrity and parse the access control data retrieved from the credentials. Access control card formats include ISO magnetic tracks (1,2, and 3), Wiegand, Integra, etc. For more information, refer to Lock Card Formats on page 1560.

- **ActiveSync.** A data synchronization program developed by Microsoft for use with its Microsoft Windows line of operating systems. It provides users of Microsoft Windows a means of transporting information between their desktop computer and a mobile device, such as a Mobile Configurator, mobile phone, or any other portable devices that support the ActiveSync protocol. ActiveSync is available as a free download from Microsoft's web site.

- **ACU.** Refers to the Access Control Unit. The ILS wireless lock contains two (2) micro-controllers (the ACU and WLM) and a reader unit. Firmware for the lock controllers and reader can be downloaded from Alarm Monitoring. For more information, refer to the Alarm Monitoring User Guide.

- **ADA.** Americans with Disabilities Act. In order to be ADA-compliant, extended strike and extended open time is assigned to cardholders with disabilities who require it. The ADA information is configured on the Wiegand card format form. For more information, refer to Add a Wiegand Card Format on page 293.

- **AFC.** Refers to Alternative Fire Code that is also known as Ontario Fire Code 3.4.4.5. This mode requires presentation of the card to relock the door upon exit.

- **Audit trail.** A log of event information that is recorded stored at the lock. "Audit" is used interchangeably with "event" in this document.

- **Heartbeat.** A signal transmitted by the lock's radio module (WLM) to the Wireless Gateway periodically indicating to the Wireless Gateway that the

communications link between the Wireless Gateway and the lock is open. Heartbeat frequency is specified by a parameter stored in the lock.

- **AWID.** AWID is the manufacturer of secure identity solutions including antenna, RF, and communication systems. ILS proximity locks support AWID Prox credentials based on 125 kHz RFID card technology.
- **CSN.** Refers to Card Serial Number. CSN card format types (ISO 14443 and ISO 15693) are used for credential identification. Each smart card contains a Unique permanent Identification Number (UID). This UID is also referred to as the Card Serial Number (CSN). The reader uses a compatible credential method to access the access control data encoded on the card.
- **HID.** HID Global is the manufacturer of secure identity solutions and contactless smart card technology for physical access control. ILS proximity locks supports HID Prox is based on 125 kHz RFID card technology; ILS iCLASS locks support HID iCLASS credentials based on 13.56 MHz RFID technology.
- **iCLASS.** 13.56 MHz read or write contactless smart card technology that is compliant with ISO 15693. For more information, refer to Card Formats Folder - Smart Card CSN Card Format Form on page 322.
- **ILS.** Refers to Bosch Integrated Locking Solutions.
- **LED.** Refers to Light Emitting Diode.
- **MC.** Refers to the Bosch ILS Mobile Configurator. Use this portable device to initially configure and manage ILS offline and ILS wireless locks. The MC allows you to initialize, download card holders, download and upload events, download lock scheduling information, download firmware updates, and run lock diagnostics. You can also use the MC to unlock the lock and change reader modes as needed.
- **Configurator adapter.** The Mobile Configurator communicates with the ACU via the Configurator power adapter. The Configurator adaptor can be used to provide auxiliary power to the ILS offline and ILS wireless locks in case the battery is low or has no power.
- **PP.** Refers to Portable Programmer also known as the “Mobile Configurator.”
- **RF.** Refers to Radio Frequency.
- **RTC.** Refers to Real-time Clock.
- **Smart Card Formats.** This card format describes how to retrieve access control data from the smart card credential and pertains to iCLASS locks only. For more information, refer to Lock Card Formats on page 1560.
- **WAP.** Acronym for a Wireless Access Point device that is also referred to as the ILS Wireless Gateway.

- **Wireless Gateway.** This is an ILS-specific Wireless Access Point (WAP) device; not a common access point. The ILS Wireless Gateway is used to communicate with its associated locks on the 900Mhz frequency range.
- **WLM.** Refers to the Wireless Lock Module, also known as the radio module, in the ILS wireless lock. Firmware for this module and the lock reader can be downloaded from Alarm Monitoring. For more information, refer to the Alarm Monitoring User Guide.
- **WMC.** Refers to the WAP Main Controller micro-controller. Firmware for this controller can be downloaded from Alarm Monitoring. For more information, refer to the Alarm Monitoring User Guide.
- **WWC.** Refers to the Wireless WAP Module micro-controller. Firmware for this controller can be downloaded from Alarm Monitoring. For more information, refer to the Alarm Monitoring User Guide.

ILS Integra Locking System Overview

ReadkeyPRO allows you to set up ILS Integra locking systems using Integra CT30 offline locks (commonly referred to in ReadkeyPRO as doors) and Integra offline controllers (XPP portable programmers) which are treated as access panels by ReadkeyPRO.

In Integra offline lock configurations, ReadkeyPRO acts as a front end to the data transferred between ReadkeyPRO and the Integra offline locks via the XPP. For more information, refer to Configure an ILS Integra Lock System on page 1534.

Important: ILS readers (locks) do not support assigning an access level to a cardholder (badge) if that access level contains a lock that is in an access level already assigned to the cardholder (badge).

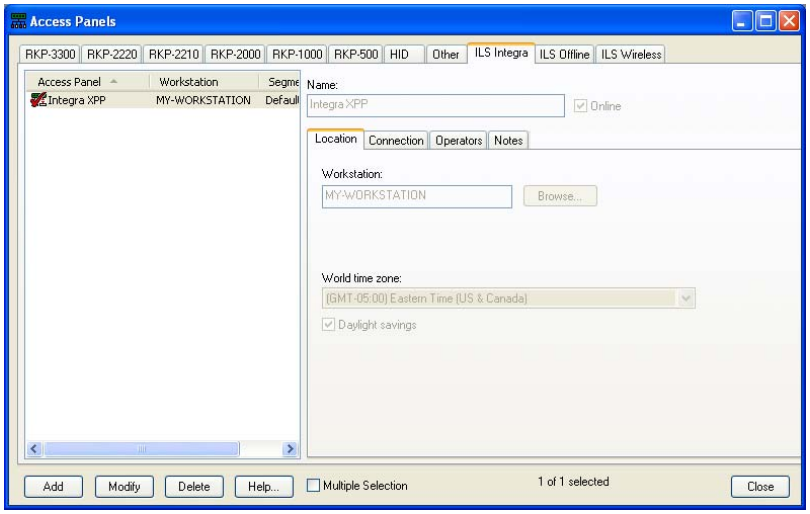
ILS Integra Form

Integra XPP devices are treated as access panels by the ReadkeyPRO software.

This form is used to:

- Assign names to Integra offline access panels in the software.
- Specify access panel setup parameters.
- Specify communication panel setup parameters, including the workstation associated with the panel.
- Add up to 16 Integra offline lock operators and their privileges.

Integra Offline Form (Location Sub-tab)



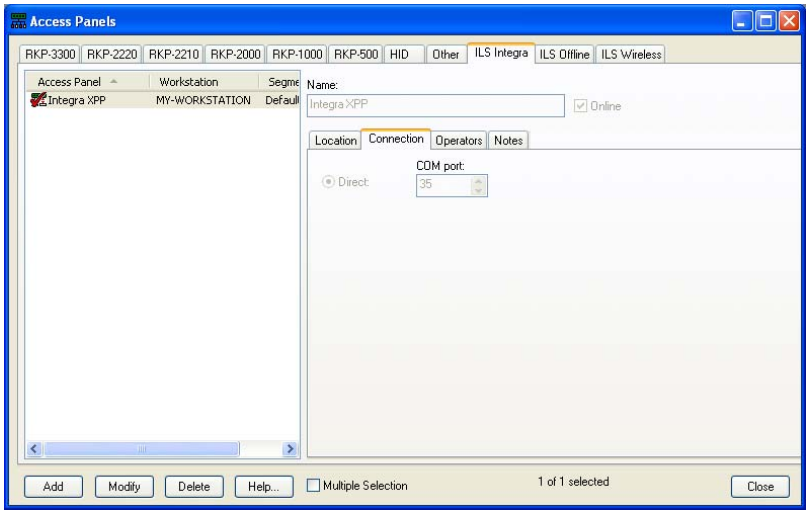
Integra Offline Form - Location Sub-tab

Form Element	Comment
Listing window	Lists currently defined access panels and the name of the workstation that is connected to each.
Name	Enter a name for the Integra offline panel type. This is a “friendly” name assigned to each panel to make it easy to identify. Each name must be unique and can contain no more than 32 characters.
Online	If selected, the panel is considered to be online. **Online** indicates that the panel is ready for use, and that the Communication Server will attempt to communicate with the panel. If the panel is not marked as online, the Communication Server will not attempt to communicate with the panel.

Integra Offline Form - Location Sub-tab

Form Element	Comment
Workstation	Select the workstation or server to which the XPP is or will be connected in order to transfer events/commands. The Communication Server must be present on the specified workstation. You can either type the name in the field, or use the [Browse] button to view a list of available workstations. **Note:** You are required to enter the workstation's NetBIOS name. (The NetBIOS name is specified when Windows networking is installed/configured.)
Browse	Displays a Browse for Computer window from where you can click on the name of a workstation to highlight the entry. Click the [OK] button to then enter the workstation name in the **Workstation** field.
World time zone	Select the world time zone for the selected access panel's geographical location. The selections in the drop-down list are listed sequentially, and each includes: • The world time zone's clock time relative to Greenwich Mean Time. For example, (GMT+05:00) indicates that the clock time in the selected world time zone is 5 hours ahead of the clock time in Greenwich, England. • The name of one or more countries or cities that are located in that world time zone.
Daylight savings	Select this check box if Daylight Saving Time is enforced in the selected access panel's geographical location.

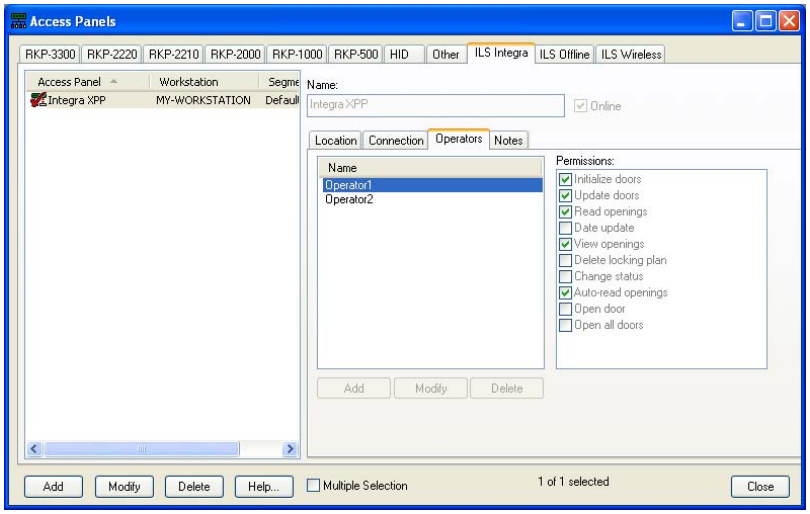
Integra Offline Form (Connection Sub-tab)



Integra Offline Form - Connection Sub-tab

Form Element	Comment
Direct	Select this radio button if for the secondary connection, communication with the access panel will be via a direct serial connection to the specified workstation. You must also specify the workstation's **COM port**.
COM port	If you selected the **Direct** radio button, specify the port that's on the serial expansion unit or the back of the workstation. To each port you can assign only one access panel. Choose a value in the range of 1 - 255.

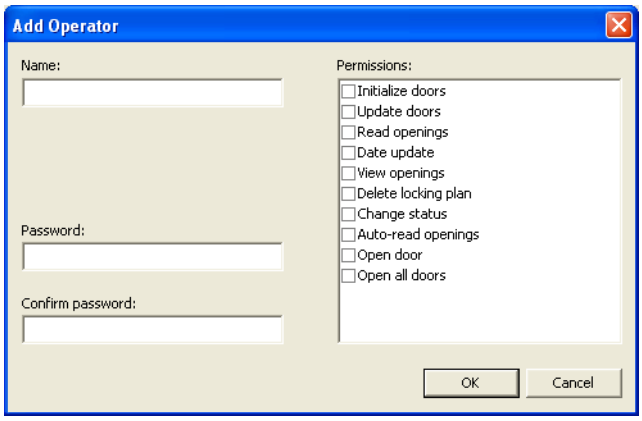
Integra Offline Form (Operators Sub-tab)



Integra Offline Form - Operators Sub-tab

Form Element	Comment
Operators listing window	Lists the operators currently assigned to the Integra offline access panel.
Permissions	Displays the privileges specified for the Integra XPP lock operator. For permission descriptions, refer to the Add Operator Dialog on page 1531.
Add	Click this button to add an Integra XPP operator. The Add Operator dialog is displayed.
Modify	Click this button to modify the information of the selected operator. The Add Operator dialog is displayed.
Delete	Click this button to remove an operator.

Add Operator Dialog



The Add Operator dialog is displayed when you click [Add] or [Modify] to add an operator or change an operator definition.

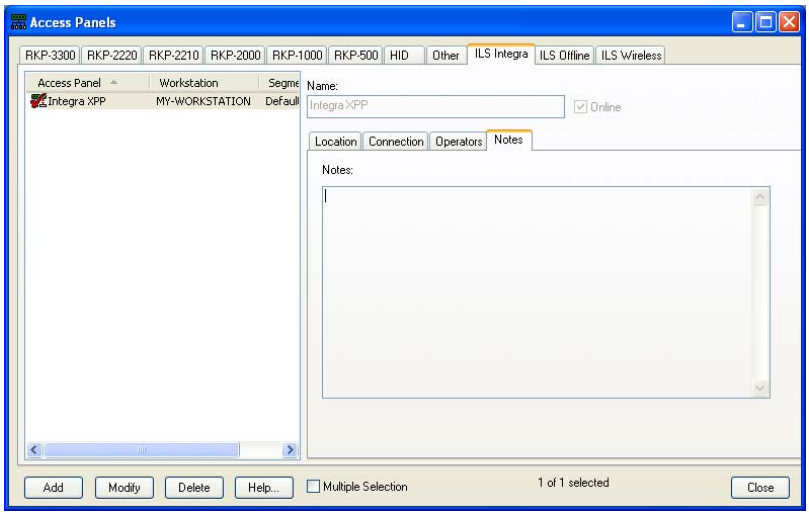
Integra Offline Form - Add Operator Dialog

Form Element	Comment
Name	Enter a name for the user who will operate the Integra XPP portable programmer. It is a good idea to choose a name that is meaningful to the user, such as the person's initials. Maximum **Name** length is 15 characters.
Password	Enter a password that will be used to access the XPP portable programmer. Maximum **Password** length is 10 characters.
Confirm password	Confirm the password that you entered in the **Password** field.

Integra Offline Form - Add Operator Dialog

Form Element	Comment
Permissions	Select the privileges for the Integra XPP operator. A check box is provided for each of the operations available on the portable programmer. Choices include: • **Initialize doors** - Allows the XPP operator to program a lock when it is first installed, the lock is reset, or there are system-wide changes. • **Update doors** - Allows the XPP operator to update the lock with the data downloaded to the XPP from ReadkeyPRO. • **Read openings** - Allows the XPP operator to retrieve lock audit data at the lock. • **Date update** - Allows the XPP operator to change the date and time within the XPP. This function is commonly used to change lock time for troubleshooting or to enter a time controlled mode of operation within the lock. • **View openings** - Allows the XPP operator to view the lock audit data on the XPP display. This does not affect the ability to view the lock audit data when it has been retrieved from the XPP by the computer. • **Delete locking plan** - Allows the XPP operator to delete the locking plan off of the XPP. This ensures that the XPP must be reloaded to allow updates to any lock data. • **Change status** - Allows the operator to change the operation mode of the lock. This function is most commonly used following initialization and testing to place the lock into the desired operating mode immediately rather than waiting for automatic scheduled timezone changes. • **Auto-read openings** - Allows the XPP operator to automatically retrieve the events from the lock. If you select this option, the XPP will automatically read openings during its Update function. If this option is not selected, you may still read openings from the locks by selecting **Read Openings** on the XPP main menu. • **Open door** - Allows the XPP operator to unlock a lock if that door's information has been loaded into the XPP. This will even open a lock if the batteries no longer have power. • **Open all doors** - Allows the XPP operator to unlock any door on the site, even if the batteries no longer have power.

Integra Offline Form (Notes Sub-tab)



Integra Offline Form - Notes Sub-tab

Form Element	Comment
Notes	Enter information about the panel. This field is limited to less than 2000 characters. Any text that is entered here will be displayed in Alarm Monitoring. For more information, refer to the procedure to View Notes in Monitor Devices chapter in the Alarm Monitoring User Guide.

Configure an ILS Integra Lock System

Configuring an Integra system in ReadkeyPRO requires the use of the Integra XPP portable programmer to transfer data from ReadkeyPRO to the Integra offline locks and vise versa as well as retrieve events (audits) from the locks.

To configure an Integra system in **ReadkeyPRO** you must first add an offline controller and define the locks by completing the following steps:

1. Add an ILS Integra Panel on page 1535.
2. Add an Integra XPP Lock Operator on page 1535.
3. Add an Integra Lock on page 1537.
4. Configure ILS System Options on page 1540.
5. Configure ILS Custom Encoding on page 1542.
6. Configure ILS Badge Types on page 1543.
7. Configure Blocking Cards for Integra Locks on page 1544.
8. Add an ILS Integra Timezone on page 1546.
9. Select Modes of Operation for Integra Locks during a Timezone on page 1546.
10. Configure the ILS Cardholder Authorization Assignments on page 1548.

ILS Integra Lock Processing

After your system is up and running…

You will also need to download the relevant configuration data stored in the ReadkeyPRO database to the ILS Integra hardware. For more information, refer to Download Integra Locks from System Administration on page 1537. To view Integra lock events in Alarm Monitoring, use the XPP to read the events at the lock and then upload the lock data to a workstation running ReadkeyPRO. For more information, refer to Upload Integra Lock Events Using the XPP on page 1539.

ILS Integra Lock Panel Overview

The Integra offline lock panel actually refers to an XPP portable programmer. The fields configured here deal directly with the XPP portable programmer. For example, the password defined here is then entered into the XPP portable programmer when it is in use.

When Integra offline hardware requires a download, a red downwards arrow is displayed over the panel/lock device in the system tree. For more information, refer to Download Panels and Locks Overview on page 1563.

Add an ILS Integra Panel

In System Administration, complete the following steps:

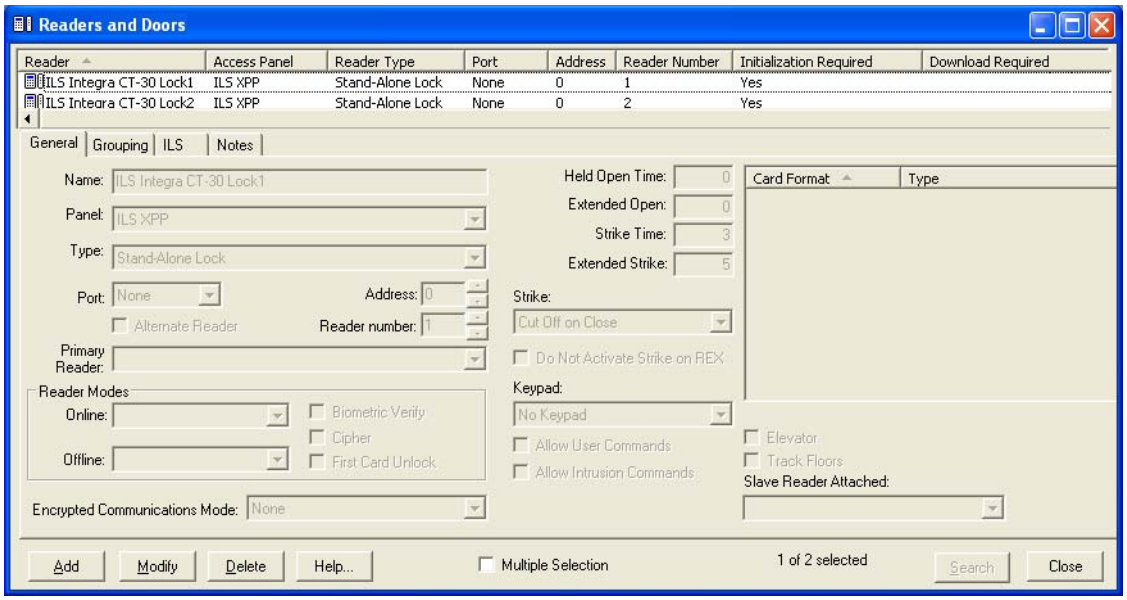
1. Select **Access Panels** from the **Access Control** menu, **then select** the Integra Offline tab.
2. Click [Add].
3. In the **Name** field, type a unique, descriptive name for the offline lock panel.
4. Configure the communication parameters on the Location and Connection sub-tabs. To review descriptions of these fields see the Integra Offline Form (Location Sub-tab) on page 1528 and the Integra Offline Form (Connection Sub-tab) on page 1529.
5. Add XPP lock operators. For more information, refer to Add an Integra XPP Lock Operator on page 1535.
6. Click [OK].

Add an Integra XPP Lock Operator

In System Administration, complete the following steps:

1. Select **Access Panels** from the **Access Control** menu**, and then select** the Integra Offline tab.
2. Click [Add] or [Modify] to add or modify the panel.
3. On the Operator sub-tab, click either [Add]. The Add Operator dialog is displayed.
4. Configure the settings for the Integra XPP operator: **Name**, **Password**, and select the operator **Permissions**. To review descriptions of these fields, refer to Add Operator Dialog on page 1531.
5. Click [OK].
6. Click [Add] to add another operator.

Integra Offline Lock Overview



In order to add an Integra offline lock you must first add an Integra offline controller. Adding an Integra offline lock is much like adding a reader for ReadkeyPRO with the exception of not having full access to all of the options as they are not supported by ILS locks. The fields that you cannot configure will not be available. The lock is added on the Readers folder General form. ILS-specific lock options are configured on the Readers folder ILS form. For more information, refer to ILS Form on page 794.

If you are adding an Integra offline lock, the **Name**, **Panel**, **Type**, **Strike Time**, and **Extended Strike** fields will be activated. **Strike Time** and **Extended Strike** can be configured from 1 - 120 seconds. Reader numbers (lock IDs) for ILS locks are unique across an Enterprise system.

Notes:

Although not available when adding a lock, reader (lock) modes of operation can be configured for the start and end of a timezone. For more information, refer to Select Modes of Operation for Integra Locks during a Timezone on page 1546.

However, if you change reader modes settings, you must download the lock information from ReadkeyPRO to the lock via the XPP. For more

information, refer to Download Integra Locks from System Administration on page 1537.

Add an Integra Lock

In System Administration, complete the following steps:

1. Select **Readers** from the **Access Control** menu. The Readers folder opens.
2. On the General tab, click [Add].
3. In the **Name** field, enter a unique, descriptive name for the lock.
4. In the **Panel** field, select the access panel the lock connects to. This was the ILS Integra panel (XPP portable programmer) you added in the step: Add an ILS Integra Panel on page 1535.

Note: When you select an ILS Integra panel, "Stand-Alone Lock" is automatically selected as the lock type, and the proprietary ILS card format is automatically assigned to the lock.

5. Configure the remaining options on this form as needed.
6. On the Grouping tab, configure the reader (lock) group settings. For more information, refer to Grouping Form on page 752. When reader group settings are configured, you can filter the locks displayed in the listing window using the reader search function. For more information, refer to Search for Readers by Groups on page 754.
7. On the ILS tab, configure the options as needed. For more information, refer to ILS Form on page 794.
8. Click [OK].

Download Integra Locks from System Administration

Note: Integra offline lock operators must have the **Initialize doors** and **Update doors** permissions enabled in ReadkeyPRO in order perform these operations at the door using the XPP application.

Prerequisites:

- The Integra XPP portable programmer is connected to the vacant COM port at a workstation where ReadkeyPRO and Communication Server are running.
- Unless you are familiar with the download process, first read the section Download Panels and Locks Overview on page 1563.

In System Administration, complete the following steps:

1. From the **Access Control** menu, select **Readers**.
   a. In the Readers listing window, sort the locks by the Initialization Required or Download Required column, and then select the locks accordingly.
   b. Select on one or more Integra locks, right-click on them, and then select **Download** to download the lock information to the XPP connected to the workstation.
2. (Optional) From the **Access Control** menu, select **Access Panels**.
   a. Click on the Integra Offline tab.
   b. In the panel listing window, right-click on the Integra panel, select **Download** to download the information from the panel, operators, and locks to the XPP connected to the workstation.
3. (Optional) Open the system tree.
   a. From the **View** menu, select **System Tree**, and then select an existing window or open a new one. Expand the Hardware node, and then the Integra offline panel to show the Integra locks assigned to it.
   b. Right-click on the Integra panel, and then select **Download** to download the lock information to the XPP connected to the workstation.

Note: Downloading from the Integra offline panel will download data from the panel, operators, and all locks assigned to that panel. This is done if there is a system-wide change such as the addition of new cardholders. However, if the only the settings for one lock have changed, right-click on the lock, and then select **Download** to download the data from that lock, exclusively.

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4. Disconnect the XPP from the workstation.
5. Connect the XPP to the Integra lock, and then open the XPP menu (no password is required):
   a. (Optional) If this is the first time the lock is updated, the lock was reset, or there were system-wide changes, select **Initialize Lock**. Choose the lock, and then press <Enter> to initialize the lock. For more information, refer to Download System Settings on page 1541.
   b. If the lock was previously initialized, select **Update Lock**, and then click [Enter]. Choose the lock, and then press <Enter> to transfer the data from the XPP to the lock.
6. Disconnect the XPP from the lock.

View Integra Offline Lock Events

In order to view Integra lock events in Alarm Monitoring, the lock operator must use the XPP to read the events at the lock. For more information, refer to Upload Integra Lock Events Using the XPP on page 1539.

When the XPP is connected to a workstation where Alarm Monitoring is running, the lock events will be displayed automatically.

Note: The proper permissions must be configured for the XPP operator to be able to retrieve the events at the lock. For more information, refer to Add an Integra XPP Lock Operator on page 1535.

Before using the XPP at the lock, the system information must be downloaded from ReadkeyPRO to the XPP in order to update the lock. For more information, refer to Download Integra Locks from System Administration on page 1537.

Upload Integra Lock Events Using the XPP

Prerequisites: The Integra XPP portable programmer is connected to the vacant COM port at a workstation where ReadkeyPRO and Communication Server are running.

From System Administration, complete the following steps:

1. From the **Access Control** menu, select **Access Panels**.
2. On the ILS Integra tab, select the Operators sub-tab.
3. Ensure at least one of the following read permissions is selected for the lock operator:
   a. **Read openings** - Select this permission in order to store events at the lock in the XPP.
   b. **Auto-read openings** - If your system has a limited number of locks, select this read permission to automatically retrieve events at the lock without entering a command. For large systems, you may want to deselect **Auto-read opening** to avoid uploading too much detail.

Note: As the lock operator, any operations you perform at the lock with the XPP require that the corresponding operator permissions are enabled in ReadkeyPRO such as **Initialize doors**, **Update doors**, or **View openings**.

4. Download the lock information. For more information, refer to Download Integra Locks from System Administration on page 1537.

Note: Downloading from the ILS Integra panel will download the data from all locks assigned to it. This is done if there is a system change such as the addition of new cardholders. However, if the only the settings for one lock have changed, select the lock icon to download the data from that lock exclusively.

5. Disconnect the Integra XPP from the workstation.
6. Connect the XPP to the Integra lock, and then open the Integra XPP menu (no password is required):
   a. (Optional) If this is the first time the lock is updated, the lock was reset, or system-wide changes were made, select **Initialize Lock**. Choose the

lock, and then press <Enter> to initialize the lock. For more information, refer to Download System Settings on page 1541.

b. If the lock was previously initialized, select **Update Lock**, and then click [Enter]. Choose the lock, and then press <Enter> to transfer the data from the XPP to the lock.

c. Select **Read Openings**, and then press <Enter> to transfer the lock information to the XPP.

Note: If the **Auto-read openings** permission is enabled for the operator, Read Openings does not need to be performed because it will be done automatically.

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d. Select **Show Openings**, and then press <Enter> to display the events on the XPP, and then verify that the information is valid.

7. Disconnect the XPP from the lock, and then connect it to the workstation.
8. Log into Alarm Monitoring. The lock events will be automatically displayed in the Main Alarm Monitor window.

System Options Folder - ILS Form Overview

After the ILS panel and reader (lock) have been added and configured, you must configure the ILS system options.

Use the ILS form to configure data elements that affect the programming of all ILS controllers and locks that exist in the system.

Important: When you modify certain system settings, you must download this information to the Mobile Configurator to update or initialize the lock. For more information, refer to Download System Settings on page 1541.

Configure ILS System Options

In System Administration, complete the following steps:

1. Select **System Options** from the **Administration** menu, and then select the ILS tab. For more information about the settings configured in this

procedure, refer to the ILS Form on page 494.

2. Click [Modify].
3. In the **System code** field enter the system code. This is simply a unique identifier much like a name.
4. In the **Codes look ahead** field, enter the number of codes you want to apply to all of the readers (locks) within the system.
5. Select the **Lock or card date precedence**.
6. Specify the format to **Store badge activate/deactivate dates**. Choices include:
   - None
   - Date only
   - Date and time
7. In the **Number of general authorizations** field, enter the number of authorizations that will be available for assignment.
8. (Optional) Double-click on any default Authorization item in the listing window, and then type a unique name if required.
9. To enable the Alternative Fire Code (AFC) functions on a door-by-door basis, select the **Manage Alternative Fire Code (AFC)** check box.
   a. To allow a relocking timer to be set to relock doors after they are unlocked, select the **Manage relock timer** check box.
   b. To allow individual locks to be locked automatically when the deadbolt is projected, select the **Relock with deadbolt mode** check box.
10. Click [OK].

Download System Settings

When you modify system-wide settings, you will need to perform either the initialization or update procedure at the lock depending on which settings are modified and the type of ILS lock.

Initialize the lock if the following settings are modified:

System Settings	ILS Offline and Wireless Locks	ILS Integra Locks
System code	X	X
Store badge activate/deactivate dates	X	
Maximum badge number length (Badge ID length) Configure this option in **System Options** > Hardware Settings (non-segmented systems) or the **Segments** > Segments > Hardware Settings sub-tab (segmented systems).	X	X

Update the lock if the following settings are modified:

System Settings	ILS Offline and Wireless Locks	ILS Integra Locks
Codes look ahead		X
AFC options	X	X
Lock or card date precedence	X	
Number of general authorizations or authorization names	X	X

Note: Locks that require initialization or updates after the ILS system options are changed are flagged for "Initialization Required" or "Download Required" in the readers listing window. You can sort the locks for downloading using the flagged columns. For more information, refer to Download Panels and Locks Overview on page 1563.

ILS Custom Encoding Overview

After the ILS system options have been configured, and if you are using a magnetic card format, you must configure the custom encoding of the magnetic card format. Doing this causes the ILS lock data to be encoded on track 3 of a magnetic card. For more information, refer to Custom Encoding Form on page 339.

For ILS Custom Encoding ensure the cardholder you are encoding the badge for has a badge PIN, badge ID, badge issue code, and proper activation and deactivation dates. For more information, refer to Badge Form on page 142.

Required Printers/Encoders

Use one of the following printer/encoders to print encoded cards:

- Fargo HDP5000 printer equipped with an ISO magnetic encoder, using driver version 2.0.0.5 or later
- Rio/Tango 2e card printer equipped with an ISO magnetic encoder, using driver version 1.3.4.0 or later
- MSR206 magnetic stripe encoder is used to encode the ILS card data

Configure ILS Custom Encoding

In System Administration, complete the following steps:

1. From the **Administration** menu, select **Card Formats.** The Card Formats folder opens. For more information, refer to Custom Encoding Procedures

on page 348.

2. In the listing window, select any magnetic card format**.**
3. Click [Modify].
4. Click the Custom Encoding sub-tab.
5. Select the **Track 3** radio button.
6. In the Edit Custom Field section, select the **ILS Magnetic Data (Track 3 Only)** radio button.
7. In the Edit Custom Field section, click [Add]. **Track 3** populates to read: "<<ILS Magnetic Data>>." Optionally, if you are configuring an existing card format and you want to preserve existing data located on track 1 and 2 then:
   a. Select the **Track 1** radio button and click [Delete].
   b. Select the **Track 2** radio button and click [Delete].
   c. Select the Card Format sub-tab.
   d. Change the **Total Characters on Track 2** field to "0".
   e. Change all of the **Access Control Fields on Track 2** fields to "0".
8. Click [OK].

ILS Badge Types Overview

Optionally, you can configure the ILS badge types so they allow you to encode authorizations to badge types that get assigned to cardholders.

Configure ILS Badge Types

In System Administration, complete the following steps:

1. From the **Administration** menu, select **Badge Type**, and then select the ILS tab.
2. In the listing window, select the badge type you want to configure.
3. Select the authorization you want to assign as the default to a cardholder badge of this ILS badge type.
4. Select the options that you want to enable in the Optional encoding fields section of the window. For more information, refer to ILS Form on page 425.
5. Click [OK].

Integra Blocking Cards Overview

Important: Blocking cards for Integra CT30 locks are not to be confused with blocking cards for ILS offline/wireless locks which have a different configuration. For information about configuring a blocking card for ILS wireless locks, refer to Configure Special Purpose Cards for ILS Offline/Wireless Locks on page

1576.

Integra blocking cards are used to deny access through doors, even to users with valid cards who would normally be able to open the locks on those doors. A blocking card allows personnel with the proper authority to limit traffic in certain areas, such as those under police investigation. A single blocking card can be used to block access to any number of locks.

In ReadkeyPRO, the system administrator creates a cardholder badge that is used as the blocking card.

Important: This card (badge) must be assigned to every lock to which it will be downloaded. To assign this card to the locks, an access level must be added that contains the locks, and then that access level is assigned to the card on the Cardholders folder > Access Level form. For more information, refer to Assign Access Levels to a Badge on page 152.

Note: If a cardholder is assigned to a badge configured to override blocking, that badge will unlock a door that is blocked by a blocking card. For more information, refer to Add a Badge Template on page 227.

Configure Blocking Cards for Integra Locks

Prerequisite: Ensure manual Badge ID entry is enabled.
(From the **Administration** menu, select either **Cardholder Options** or **Badge Types**. On the Badge ID Allocation form, select the ID Allocation tab, and then select “Manual Entry” from the **Generate Badge ID** drop-down.)

From System Administration, complete the following steps:

1. From the **Administration** menu, select **Cardholders**.
2. Click [Add].
3. On the Badge tab:
   a. The **Last name** field is required so you must enter something here (for example, “Blocking card”).
   b. Type “65001” in the **Badge ID** field.
   c. From the **Badge type** drop-down, select the ILS badge type you configured in Configure ILS Badge Types on page 1543.
   d. Click [OK].
4. On the Access Levels tab:
   a. Click [Modify].
   b. Assign an access level to the badge. This access level should contain the readers (locks) you want to block with the blocking card. For more information, refer to Assign Access Levels to a Badge on page 152.

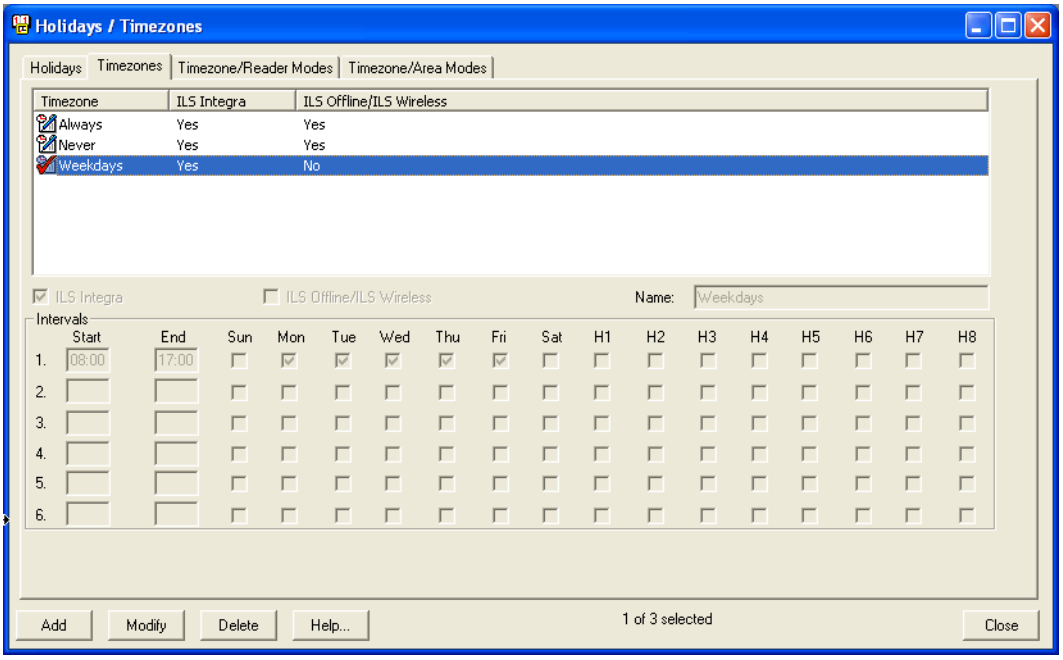
Note: ILS readers (locks) do not support assigning an access level to the card if that access level contains a lock that is in an access level already assigned to the card.

c. Click [OK].

5. Click [Print] to encode the blocking card using the printer/encoders listed in Required Printers/Encoders on page 1542.
6. Download the blocking card to the XPP programmer to update the locks in your system.

Note: If you need to create a new set of blocking cards, be sure to increment the **Issue code** by 1. When the **Issue code** is incremented, and new blocking cards are printed, this will make the previous set of blocking cards invalid.

ILS Integra Timezones Overview



Optionally, you can use the Timezones form to create timezones which will be downloaded to Integra CT30 locks. Each ILS Integra timezone consists of up to five (5) time range/day intervals. Up to a maximum of 32 Integra timezones are allowed including the two (2) system time intervals, Always and Never.

Note: An ILS Integra timezone must be associated with an ILS Integra reader (lock) in order to assign it to Timezone/Reader Modes or Access Level configurations.

Add an ILS Integra Timezone

In System Administration, complete the following steps:

1. Select **Timezones** from the **Access Control** menu, and then select the Timezones tab.
2. Click [Add].
3. Select the **ILS Integra** check box to indicate this timezone is to be downloaded to Integra offline locks.
4. Type a name for the timezone in the **Name** field.
5. Define each time interval in this timezone, including the start and end times, the specific days of the week, and the holiday types you want. Enter **Start** and **End** times, and then select the check boxes you want the time range to apply to.
6. Click [OK].

ILS Integra Timezones/Reader Modes Overview

Optionally, you can use the Timezones/Reader Modes form to configure up to 10 scheduled mode changes per lock. For more information, refer to Timezone/ Reader Modes Form (Modify Mode) on page 832.

Examples of possible ILS Integra configurations:

- 2 timezones containing 5 intervals each
- 5 timezones containing 2 intervals each
- 10 timezones containing 1 interval each

Select Modes of Operation for Integra Locks during a Timezone

In System Administration, complete the following steps:

1. Select **Timeszones** from the **Access Control** menu.
2. On the Timezone/s tab listing window, select the reader (lock) you want to control the operation of during a particular timezone. This was the Integra lock you added in the step: Add an Integra Lock on page 1537.
3. Click [Modify].
4. Choose the **Timezone** you want to configure for the selected reader (lock). This was the Integra timezone you added in the step: Add an ILS Integra

Timezone on page 1546.

5. In the Start section, from the drop-down, select the mode you want this lock to be placed in at the *beginning* of the selected timezone:
   - Card and Pin
   - Card and Pin Unlocked
   - Card Only
   - Cipher or Card
   - Unlocked
   - First Card Unlock
6. In the End section, from the drop-down, select the mode you want this lock to be placed in at the *end* of the selected timezone.
7. Click [Assign]. The following actions happen immediately:
   - The change is saved to the database.
   - The assignment window is updated.
   - The settings are not downloaded immediately. Instead, the lock's offline panel is flagged for a download to the XPP in the system hardware tree or the Readers and Doors folder.

   Functionally, at the start of the selected timezone, the selected reader (lock) will begin to function in the selected **Start mode**. The lock remains in that mode until the end of the timezone at which time the lock will be placed in the selected **End mode**.
8. Repeat steps 4 - 7 for each additional timezone you want to configure for this lock.
9. Click [OK] to return to view mode. The listing window will be updated to reflect your changes.
10. Repeat this procedure if you want to set up the operating modes of other locks.

Note: You will need to download the lock information to the lock via the XPP. For more information, refer to Download Integra Locks from System Administration on page 1537.

ILS Cardholder Authorization Assignments Overview

Optionally, you can configure ILS cardholder authorization assignments so that you can customize a cardholder's accessibility to locks and limit their access to areas without needing to update the locks.

Configure the ILS Cardholder Authorization Assignments

In System Administration, complete the following steps:

1. Select **Cardholders** from the **Administration** menu, then select the ILS Authorizations tab.
2. Locate the cardholder that you want to assign ILS authorization to.
3. Click [Modify].
4. In the authorization listing window, select the authorizations that you want the cardholder to have. For more information, refer to ILS Authorization Form on page 172.
5. Click [OK]. The cardholder now has access to the authorization levels you have selected.

ILS Badge Templates Overview

Optionally, you can configure ILS badge templates. Badge Templates can be downloaded to an ILS lock and assigned to an individual cardholder. Badge templates are ideally suited for dynamic environments where cardholders change frequently. Badge templates can be used to avoid numerous data downloads to the locks that are in such a dynamic environment.

For more information, refer to Chapter 6: Badge Templates Folder on page 223.

ILS Offline/Wireless Locking Systems Overview

ReadkeyPRO allows you to set up ILS offline locking systems using ILS wireless-capable locks (commonly referred to in ReadkeyPRO as readers) and ILS Offline controllers (Mobile Configurators) that are treated as access panels by ReadkeyPRO.

In an ILS offline lock configuration, ReadkeyPRO acts as a front end to the data transferred between ReadkeyPRO and the ILS offline locks via the Mobile Configurator. For more information, refer to Configure an ILS Offline Locking System on page 1557.

Note: ILS locks assigned to an ILS Offline controller (Mobile Configurator) can be re-assigned to a different ILS Offline controller or to an ILS Wireless controller (Wireless Gateway) within the same segment. For more information, refer to Modify ILS Offline Panel Assignment on page 1562.

ReadkeyPRO also allows you to set up ILS wireless locking systems using ILS wireless locks (commonly referred to in ReadkeyPRO as readers) and ILS Wireless Gateways that are treated as access panels by ReadkeyPRO.

In an ILS wireless configuration, the ILS Wireless controller, acting as an ILS Wireless Gateway, provides a communication link between ReadkeyPRO and the ILS wireless locks, allowing for an exchange of data between the two. For more information, refer to Configure an ILS Wireless Locking System on page 1585.

Up to 32 readers (locks) can be assigned to a Wireless Gateway device.

Note: ILS locks assigned to an ILS Wireless controller (Wireless Gateway) can be re-assigned to a different Wireless Gateway within the same segment. For more information, refer to Modify ILS Wireless Panel Assignment on page 1589.

Important: ILS readers (locks) do not support assigning an access level to a cardholder (badge) if that access level contains a lock that is in an access level already assigned to the cardholder (badge).

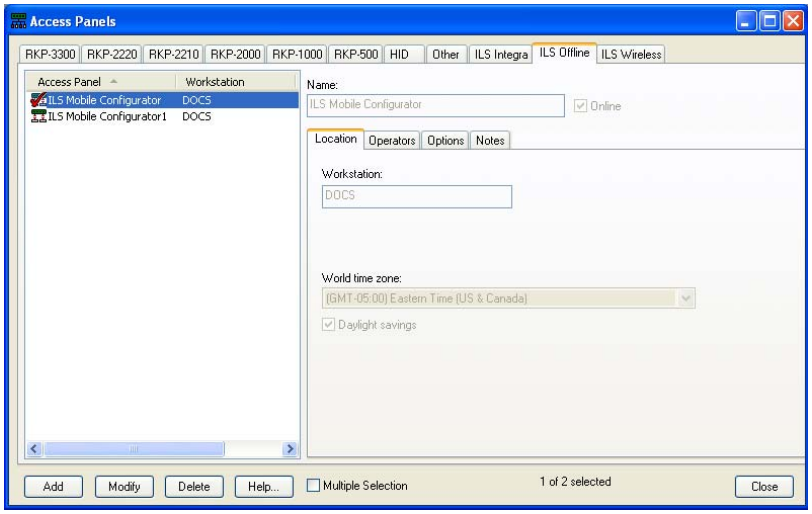
ILS Offline Form

The ILS offline controllers (Mobile Configurators) are treated the same as access panels by ReadkeyPRO.

This form is used to:

- Assign names to ILS offline controllers in the software.
- Specify ILS offline controller setup parameters.
- Add up to 100 ILS offline lock operators and their privileges.

ILS Offline Form (Location Sub-tab)



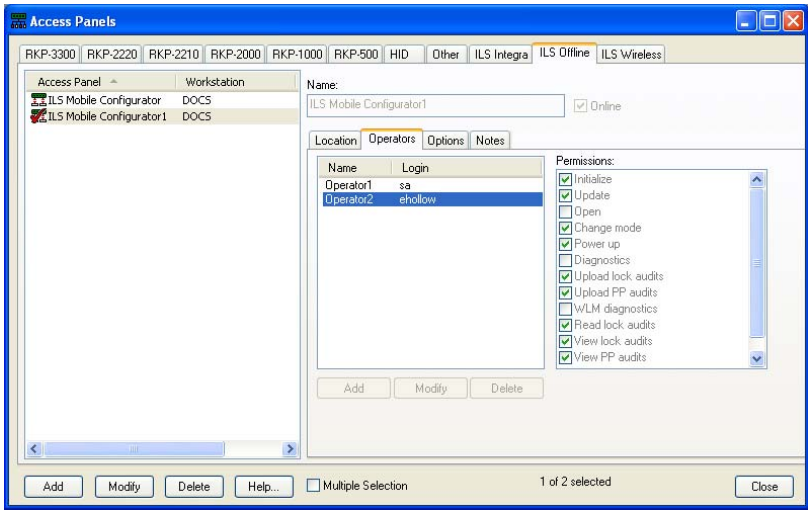
ILS Offline Form - Location Sub-tab

Form Element	Comment
Listing window	Lists currently defined access panels and the name of the workstation that is connected to each.
Name	Enter a name for the ILS offline panel type. This is a “friendly” name assigned to each panel to make it easy to identify. Each name must be unique and can contain no more than 32 characters.
Online	If selected, the panel is considered to be online. **Online** indicates that the panel is ready for use, and that the Communication Server will attempt to communicate with the panel. If the panel is not marked as online, the Communication Server will not attempt to communicate with the panel.

ILS Offline Form - Location Sub-tab

Form Element	Comment
Workstation	Displays the workstation to which the Mobile Configurator is connected in order to transfer events/commands. The Communication Server must be present on the specified workstation. **Note:** When you connect a Mobile Configurator to the workstation, the system enters the workstation's NetBIOS name. (The NetBIOS name is specified when Windows networking is installed/configured.) **Note:** It is not necessary to specify a workstation when configuring an ILS offline controller. The data is downloaded to the Mobile Configurator by connecting it to a workstation where System Administration is running. In addition, Communication Server must be installed and running on the workstation. For more information, refer to Download ILS Offline/Wireless Locks from System Administration on page 1566. **Note:** If you are using the Mobile Configurator with ReadkeyPRO on a Windows XP, Windows 2003, or Windows 2008 system, Communication Server must be run as an application.
World time zone	Select the world time zone for the selected access panel's geographical location. The selections in the drop-down list are listed sequentially, and each includes: • The world time zone's clock time relative to Greenwich Mean Time. For example, (GMT+05:00) indicates that the clock time in the selected world time zone is 5 hours ahead of the clock time in Greenwich, England. • The name of one or more countries or cities that are located in that world time zone.
Daylight savings	Select this check box if Daylight Saving Time is enforced in the selected access panel's geographical location.

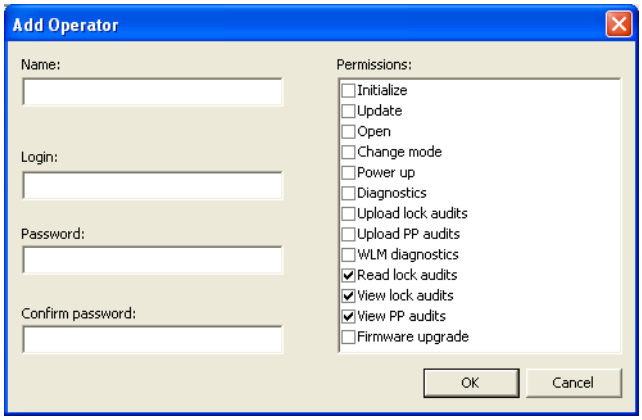
ILS Offline (Operators Sub-tab)



ILS Offline Form - Operators Sub-tab

Form Element	Comment
Operators listing window	Lists the operators currently assigned to the ILS offline access panel.
Permissions	Displays the privileges specified for the Mobile Configurator operator. Descriptions of each permission are provided in Add Operator Dialog on page 1531.
Add	Click this button to add a Mobile Configurator operator. The Add Operator dialog is displayed.
Modify	Click this button to modify the information of the selected operator. The Add Operator dialog is displayed.
Delete	Click this button to remove an operator.

Add Operator Dialog



The Add Operator dialog is displayed when you click [Add] or [Modify] to add an operator or change an operator definition. You can add up to 100 operators to an ILS offline panel (Mobile Configurator).

ILS Offline Form - Add Operator Dialog

Form Element	Comment
Name	Enter a name for the user who will operate the ILS Mobile Configurator. It is a good idea to choose a name that is meaningful to the user, such as the person's initials. Maximum Name length is 15 characters. **Note:** When events are uploaded from the Mobile Configurator to Alarm Monitoring, events that have an operator associated with them will be displayed with the operator name in the Operator column. For more information, refer to the Alarm Monitoring User Guide.
Login	Enter a login name for the user. Maximum **Login** is 10 characters.

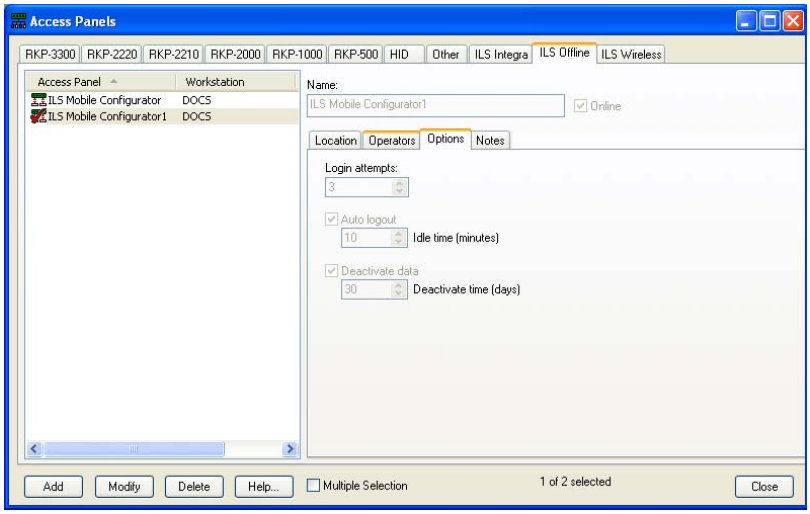
ILS Offline Form - Add Operator Dialog

Form Element	Comment
Password	Enter a password that will be used to access the ILS offline Mobile Configurator. Maximum **Password** length is 10 characters. **Note:** Password must contain at least one (1) number.
Confirm password	Confirm the password that you entered in the **Password** field.

ILS Offline Form - Add Operator Dialog

Form Element	Comment
Permissions	Select the privileges for the operator of the Mobile Configurator. Choices include the following (**Read lock audits**, **View lock audits**, and **View PP audits** are the default selections): • **Initialize** - Allows the operator to program a lock when it is first installed, the lock is reset, or when system-wide changes are made. • **Update** - Allows the operator to update the lock with the data downloaded from ReadkeyPRO to the Mobile Configurator. • **Open** - Allows the operator to unlock a lock if that door's information has been loaded into the Mobile Configurator. This will even open a lock if the batteries no longer have power. • **Change mode** - Allows the operator to change the reader mode of the lock to Card Only, Facility Code Only, Unlocked, First Card Unlock, Blocked, Secured, or Unsecured. This function is most commonly used following initialization and testing to place the lock into the desired operating mode immediately rather than waiting for scheduled timezone changes. In addition, this permission allows the operator to check the current operational mode of the lock. • **Power up -** Allows the operator to power up the lock from outside in case the battery power is low or the battery has no power. • **Diagnostics** - Allows the operator to perform diagnostics on the lock including the following options: – Switch test for the Handle, Card, Privacy, Mechanical Key Override, Clear, Latch Monitor, and Door Sensor switches. – LED and buzzer test. During this test, the lock LED alternates between Red and Green for five (5) seconds, followed by a high and low pitched beep sound. – Lock battery level test. When the battery level is low (18 percent or less), a warning message is displayed on the Mobile Configurator. – View the lock information such as lock date and time, firmware version, hardware version, manufacturing date, and the serial number of the circuit board. • **Upload lock audits** - Allows the operator to upload the lock events from the Mobile Configurator to Alarm Monitoring. • **Upload PP audits** - Allows the operator to upload events performed by the Mobile Configurator (Portable Programmer) on the lock or on the Mobile Configurator itself such as operator login, synchronizing the Mobile Configurator date and time, clearing locking plans in the Mobile Configurator, etc. • **WLM diagnostics** - Allows the operator to perform Wireless Lock Module (WLM) tests. • **Read lock audits -** Allows the operator to get the current audit trails of the lock and store them in the Mobile Configurator. After all of the data is transferred to the Mobile Configurator, the Real-Time Clock (RTC) of the lock is updated. • **View lock audits** - Allows the operator to view the lock audits of a specified lock on the Mobile Configurator. • **View PP audits** - Allows the operator to view the Mobile Configurator (Portable Programmer) events such as logging in and the Mobile Configurator operations on the lock such as initializing the lock, updating the lock, reading lock audits, running tests, etc. **Note:** For the audit permissions, the audit information includes operator name, date and time of the audit, operations/events, and the record number (lock ID). • **Firmware upgrade** - Allows the operator to upgrade the firmware on the lock.

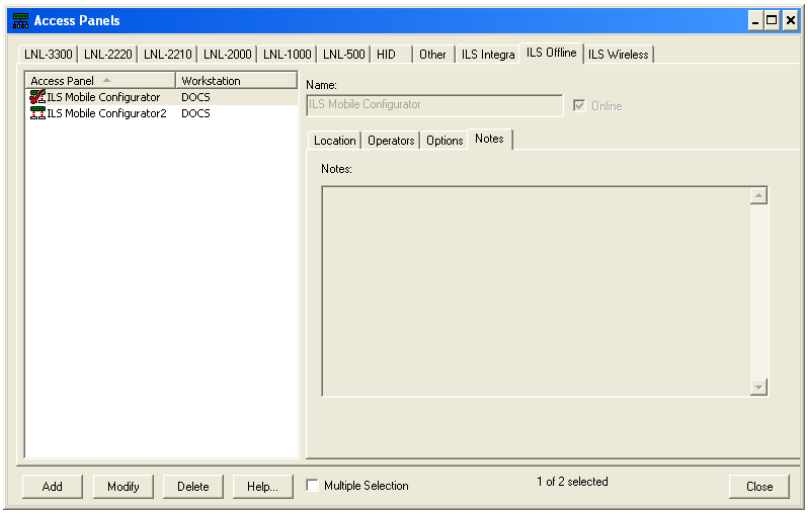
ILS Offline Form (Options Sub-tab)



ILS Offline Form - Options Sub-tab

Form Element	Comment
Login attempts	Specifies the maximum number of invalid login attempts allowed for the Mobile Configurator application. Maximum **Login attempts** is 20.
Auto logout	Select this check box to automatically log out of the Mobile Configuration application after a specified period of idle time.
Idle time (minutes)	Specifies the length of idle time after which the Mobile Configuration application is automatically logged off. Maximum **Idle time** is 120 minutes.
Deactivate data	Allows automatic deletion of the data downloaded to the Mobile Configurator after the specified **Deactivate time**.
Deactivate time (days)	Specify the number of days after which the data downloaded to the Mobile Configurator is automatically deleted provided the lock operator has not used the system for the time specified. Maximum **Deactivate time** is 120 days.

ILS Offline Form (Notes Sub-tab)



ILS Offline Form - Notes Sub-tab

Form Element	Comment
Notes	Enter information about the panel. This field is limited to less than 2000 characters. Any text that is entered here will be displayed in Alarm Monitoring. For more information, refer to the procedure to View Notes in the Monitor Devices chapter in Alarm Monitoring.

Configure an ILS Offline Locking System

Configuring an ILS offline locking system in ReadkeyPRO requires the use of the ILS offline controller (Mobile Configurator) to transfer data from ReadkeyPRO to the ILS locks and vice versa as well as retrieve events (audits) from the locks. For information on the Mobile Configurator, refer to the ILS Lock Operation User Guide.

To begin configuring the ILS offline locking system in ReadkeyPRO you must first add a Mobile Configurator and define the doors/locks by completing the following steps:

1. Add an ILS Offline Access Panel on page 1558.
2. Add a Mobile Configurator Lock Operator on page 1558.
3. Add an ILS Offline Lock on page 1561.
4. Modify ILS Offline Panel Assignment on page 1562.
5. Configure ILS System Options on page 1540.
6. Configure ILS Custom Encoding on page 1542.
7. Configure ILS iCLASS Printing and Encoding on page 1578.
8. Configure ILS Badge Types on page 1574.
9. Configure Special Purpose Cards for ILS Offline/Wireless Locks on page 1576.
10. Add an ILS Offline/ILS Wireless Timezone on page 1571.
11. Select Modes of Operation for ILS Locks during a Timezone on page 1572.
12. Configure the ILS Cardholder Authorization Assignments on page 1548.

ILS Offline Lock Processing

After your system is up and running...

You will also need to download the relevant configuration data stored in the ReadkeyPRO database to the ILS offline locks as needed. For more information, refer to Download ILS Offline/Wireless Locks from System Administration on page 1566. To view ILS offline lock events in Alarm Monitoring, the lock information is uploaded to the Mobile Configurator which is then connected to a workstation where ReadkeyPRO is running. For more information, refer to Upload ILS Offline Lock Events Using the Mobile Configurator on page 1569.

ILS Offline Lock Panel Overview

The ILS offline lock panel actually refers to a ILS Mobile Configurator. The fields configured here deal directly with the Mobile Configurator. For example, the password defined here is then entered into the Mobile Configurator when it is in use.

When ILS offline hardware requires a download, a red downwards arrow is displayed over the panel/lock device in the system tree. For more information, refer to Download Panels and Locks Overview on page 1563.

Add an ILS Offline Access Panel

In System Administration, complete the following steps:

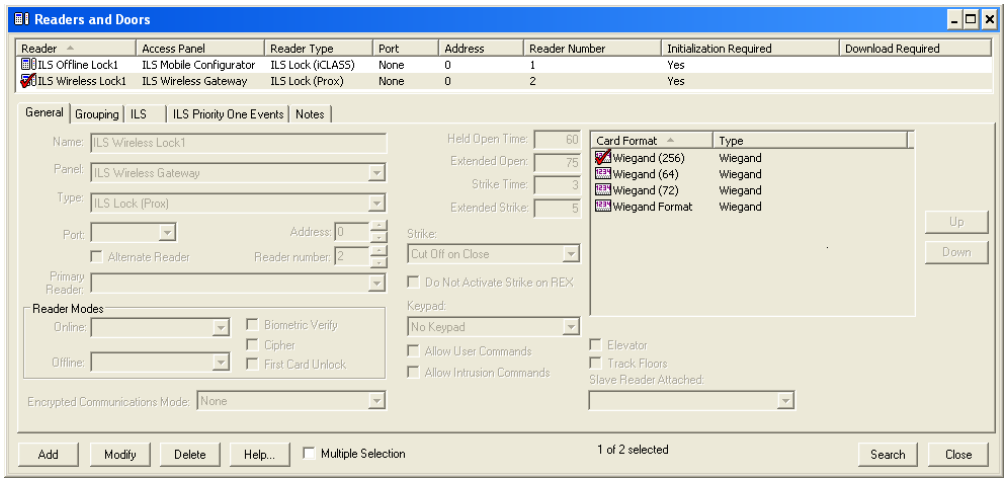
1. Select **Access Panels** from the **Access Control** menu, and then select the ILS Offline tab.
2. Click [Add].
3. In the **Name** field, type a unique, descriptive name for the ILS offline lock panel.
4. On the Location sub-tab, configure the **World time zone** and **Daylight savings** settings. To review the specifics regarding these fields, refer to the ILS Offline Form (Location Sub-tab) on page 1550.
5. On the Options sub-tab, configure the **Login attempts**, **Auto logout**, and **Deactivate time**. To review the specifics regarding these fields, refer to the ILS Offline Form (Options Sub-tab) on page 1555.
6. Add the Mobile Configurator lock operators. For more information, refer to Add a Mobile Configurator Lock Operator on page 1558.
7. Click [OK].

Add a Mobile Configurator Lock Operator

In System Administration, complete the following steps:

1. Select **Access Panels** from the **Access Control** menu**, and then se**lect the ILS Offline tab.
2. Click [Add] or [Modify].
3. On the Operator sub-tab, click [Add]. The Add Operator dialog is displayed.
4. Configure the ILS offline operator settings: **Name**, **Login**, **Password**, and select the operator **Permissions**. To review the specifics regarding these fields, refer to the Add Operator Dialog on page 1531.
5. Click [OK].
6. Click [Add] to add more operators.

ILS Offline Lock Overview



To add an ILS offline lock you must first add an ILS offline controller. Adding an ILS offline lock is much like adding a reader for ReadkeyPRO with the exception of not having full access to all of the options as they are not supported by ILS locks. The fields you cannot configure will not be available.

When you add ILS offline locks, the **Name**, **Panel**, **Type**, **Held Open Time**, **Extended Open**, **Strike Time**, and **Extended Strike** fields will be activated. **Extended Strike** and **Extended Open** are typically used with the ADA feature. However, if **Lock when lever is released** is enabled for the lock, the lock will re-engage after the cardholder turns the lever. This and the other ILS-specific lock options can be configured on the Readers and Doors Folder - ILS Form on page 794.

Card formats for ILS locks are selected for specific lock types, and can be prioritized and sorted. For more information, refer to Lock Card Formats on page 1560.

Note: Reader numbers (lock IDs) for ILS locks are unique across an Enterprise system.

Note: Although not available when adding a lock, reader (lock) modes of operation can be configured for the start and end of a timezone. For more information, refer to Select Modes of Operation for ILS Locks during a Timezone on page 1572.

Important: When you change the lock settings, this information must be downloaded from ReadkeyPRO to the lock using the Mobile Configurator. For more information, refer to Download ILS Offline/Wireless Locks from System Administration on page 1566.

Lock Card Formats

Identify the format(s) expected when a card is presented to a reader. Card formats are defined in the Card Formats folder.

For iCLASS lock types, the card format list is presented with two (2) sub-tabs:

- **Smart Card Formats:** Select this tab to assign up to four (4) smart card formats.
- **Access Control Card Formats:** Select this tab to assign up to four (4) Wiegand access control card formats.

Note: You must select at least one card format from the Smart Card Formats (iCLASS) AND one from the Access Control Card Formats (Prox).

For magnetic lock types, the card format is automatically assigned to the lock. The system uses a pre-defined, ILS-proprietary magnetic card format.

Note: ILS supports Magnetic, Prox (HID, AWID, Lenel Prox) and, depending on your version of ReadkeyPRO, Smart Card (Lenel iCLASS, HID iCLASS, CSN for iCLASS, and Lenel MIFARE and CSN for MIFARE).

Prioritize Card Formats

Card formats are sorted by priority, highest (top) to lowest (bottom), followed by unassigned card formats in ascending name order. Card formats can be moved up or down by using the priority [Up] or [Down] buttons. These buttons are only available for ILS iCLASS and proximity ILS locks.

The priority level determines the order in which card formats are used by the lock to access card data. When the lock retrieves the data from the card, it will attempt to use the card format with the highest priority, and then process the data according to that format. If the card format is successfully used to retrieve the data from the card, no other card format is attempted.

Sort Card Formats

Click on the Card Format column to sort the card formats. The order for selected and prioritized items will be preserved based on their priority. In addition, the list is dynamically sorted each time the following changes are made:

- When you select a card format, it is given the next priority.
- When you select a card format with a priority, and then click [Up] to raise it in the list or [Down] to lower its priority.
- When you unassign (deselect) a card format, its priority is removed and the other card formats are re-prioritized.

Multiple Selection

During multiple selection, the card format list is disabled unless the selected readers are of the same type or are Bosch readers.

Add an ILS Offline Lock

Note: Optionally, you can configure multiple ILS offline locks using the **Application** > **Wizards** menu option in System Administration. For more information, refer to Application Menu on page 90.

In System Administration, complete the following steps:

1. Select **Readers and Doors** from the **Access Control** menu. The Readers folder is opened.
2. On the General tab, click [Add].
3. In the **Name** field, enter a unique, descriptive name for the lock.
4. In the **Panel** field, select the access panel to which you want to connect the reader. This is the ILS offline panel (Mobile Configurator) you added in the step: Add an ILS Offline Access Panel on page 1558.
5. In the **Type** field, select an ILS lock type. Choices include:
   - ILS Lock (Magnetic)
   - ILS Lock (iCLASS)
   - ILS Lock (MIFARE)
   - ILS Lock (Prox)

Note: When the lock type is selected, this determines which card formats are available for assignment to the lock.

---

6. Select one or more card formats.

Note: ILS supports up to four (4) Wiegand card formats for iCLASS, MIFARE, and proximity type locks and, depending on your version of ReadkeyPRO, up to four (4) smart card formats for iCLASS and MIFARE locks, only.

   - If you selected “ILS Lock (Magnetic)” the card format is automatically assigned.
   - For iCLASS locks, you must select at least one iCLASS card format from the Smart Card Formats sub-tab AND the appropriate Wiegand card formats from the Access Control Card Formats sub-tab. Smart card formats supported by ILS iCLASS locks include Lenel (iCLASS). For more information, refer to Add a Lenel (iCLASS) Smart Card Format

on page 319.

- For proximity locks, select the appropriate Wiegand card formats from the Access Control Card Formats sub-tab, only.
- (Depending on your version of ReadkeyPRO, this option may not be available.) For MIFARE locks, you must select at least one MIFARE card format from the Smart Card Formats sub-tab AND the appropriate Wiegand card formats from the Access Control Card Formats sub-tab. Smart card formats supported by ILS MIFARE locks include Smart Card CSN and Lenel (MIFARE). For the Smart Card CSN card format, "ISO 14443A" must be configured as the **Credential Type**. For more information, refer to Add a Smart Card CSN Card Format on page 323 and Add a Lenel (MIFARE) Smart Card Format on page 321.

7. Prioritize the card formats as required. For more information, refer to Prioritize Card Formats on page 1560.
8. Configure the remaining settings as needed.
9. On the Grouping tab, configure the reader (lock) group settings. For more information, refer to Grouping Form on page 752. When group settings are configured, you can filter the locks displayed in the listing window using the reader search function. For more information, refer to Search for Readers by Groups on page 754.
10. On the ILS tab, configure the settings as needed. For more information, refer to ILS Form on page 794.
11. Click [OK]. The lock is added and automatically flagged in the Initialization Required column.

Modify ILS Offline Panel Assignment

Locks assigned to ILS offline panels can be reassigned to a different ILS offline or to an ILS wireless panel within the same segment. For more information, refer to Modify ILS Wireless Panel Assignment on page 1589.

Prerequisites: Ensure you are in single selection mode.

Note: Locks assigned to ILS offline panels can be reassigned to a different ILS offline or wireless panel within the same segment. However, locks assigned to ILS wireless panels can only be reassigned to a different ILS wireless panel.

In System Administration, complete the following steps:

1. From the **Access Control** menu, select **Readers**. The Readers folder opens.
2. From the list, select the lock you are changing.
3. On the General tab, click [Modify].
4. In the **Panel** field, select the ILS offline or ILS wireless panel to which you want to reassign the lock, and then click [OK].

Modify ILS Offline Lock Type

After a lock is added, you can modify the lock's **Type** to accommodate upgrades/changes to the lock's card technology such as changing from a magnetic lock to a proximity lock or from a proximity lock to an iCLASS lock. This change also requires that you select card formats for the new lock type.

Note: Reader (lock) type has an impact on battery life. Proximity and iCLASS reader field excitation enters a low power mode when no card is present.

Download Panels and Locks Overview

ILS Integra/offline panel and lock information can be downloaded from the Readers folder, the Access Panels folder, or the system tree. For more information, refer to Download ILS Offline/Wireless Locks from System Administration on page 1566 or Download Integra Locks from System Administration on page 1537.

ILS wireless locks are downloaded wirelessly. In addition, ILS wireless locks can be downloaded from the Alarm Monitoring system status tree. For more information, refer to Download ILS Wireless Locks in the Alarm Monitoring User Guide.

Note: Although ILS wireless locks are automatically downloaded to the Wireless Gateway, you may need to update the lock data using a Mobile Configurator if there is a communication problem or power is lost at the wireless lock. In addition, ILS wireless locks must be initialized via the Mobile Configurator.

Warning

The maximum number of cardholders (badges) that can be downloaded to an ILS offline/wireless lock is limited to 50,000 bytes based on the size of the cardholder (badge) information. An alarm will be generated if the maximum amount of cardholder data is exceeded. For more information, refer to Calculate Maximum Cardholders on page 1566.

The Readers folder listing window includes two (2) columns that indicate if a download action needs to be performed for the lock (marked "Yes"). After the action is completed at the lock, and the events are received at ReadkeyPRO, the indication will be cleared. The columns include:

- **Initialization Required.** Indicates the lock information needs to be downloaded to the Mobile Configurator or XPP (Integra), and then used to initialize the lock. All ILS locks must be initialized whenever certain system settings are changed. When a new lock is added, it is automatically marked "Initialization Required."

Note: Before initializing the lock, you must reset the lock to factory settings. For more information, refer to the ILS Lock Operation User Guide.

- **Download Required.** Indicates the ILS Integra/offline lock information needs to be downloaded to the XPP or Mobile Configurator, and then used to update the lock. ILS wireless locks do not require this operation because they are updated wirelessly. ILS Integra/offline locks must be updated whenever certain system settings are changed.

For more information, refer to Download System Settings on page 1541.

In the system tree, ILS Integra/offline panels and readers (locks) that require a download are flagged with a red downwards arrow in the system hardware tree.

Download Required Icons

	Access panel
	Reader (lock)

If an ILS Integra/offline lock requires a download, the panel device to which that lock is assigned will be flagged for a download as well.

Important: The download required icons for ILS Integra/offline locks are not cleared until the physical locks have been initialized or updated, and these events are communicated to ReadkeyPRO via the XPP or Mobile Configurator.

Available Download Commands

Reader (Lock)	Download Command	Download to Portable Device Command	Device
ILS Integra	X		XPP
ILS Offline	X	X	Mobile Configurator
ILS Wireless	X	X	Wireless Gateway or Mobile Configurator

Download Command

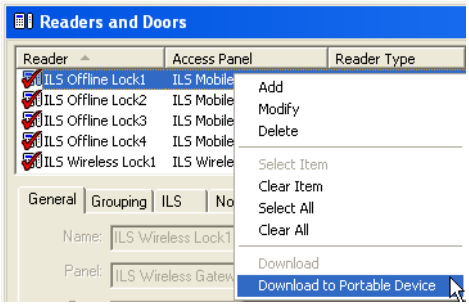
- If the locks belong to the one or more ILS wireless panels, the lock information is downloaded directly to the locks via their corresponding Wireless Gateway.
- If the locks belong to the same ILS offline panel, the lock information is downloaded to their corresponding Mobile Configurator.
- If the locks belong to the same ILS Integra panel, the lock information is downloaded to their corresponding XPP.

Note: For ILS Integra/offline locks, the lock information is downloaded with the panel and operator settings. For ILS wireless locks, the lock information is downloaded with the panel settings.

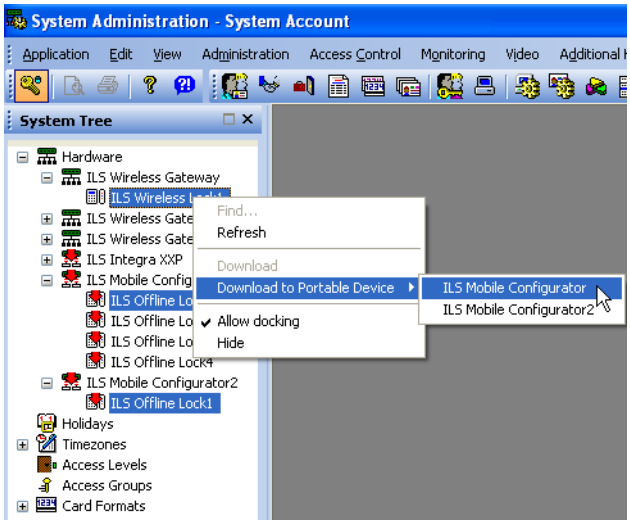
Download to Portable Device Command

Important: In order to **Download to a Portable Device**, the locks selected for the download must be in the same segment.

- If the locks belong to the same ILS offline panel (and optionally to one or more ILS wireless panels), the lock information will be downloaded to their corresponding Mobile Configurator (panel).



- If the locks belong to several ILS offline panels (and optionally to one or more ILS wireless panels), the system will prompt you to choose which ILS offline panel to use for downloading to the Mobile Configurator.



- If the locks belong to one or more ILS wireless panels, and there is only one ILS offline panel in the segment, the lock information will be downloaded to the ILS offline panel (Mobile Configurator) in the segment.

- If the locks belong to several ILS offline panels, and there are several ILS offline panels in the segment, the system will prompt you to choose which ILS offline panel to use for downloading to the Mobile Configurator.

Calculate Maximum Cardholders

ReadkeyPRO limits the number of cardholders downloaded to the Mobile Configurator or sent via the Wireless Gateway to the capacity of the lock. ILS offline/wireless locks support up to 50,000 bytes of data. An alarm will be generated if the maximum amount of cardholder data is exceeded.

Cardholder (badge) record size is calculated as follows:

Badge ID Length (2 - 8 bytes) + 2 * Activate/Deactivate Date Format (0, 2, 5 bytes) + Issue Code (4 bytes) + Configuration Parameters (3 bytes)

The Activate/Deactivation Date Format is taken from the **Store badge activate/ deactivate dates** system option:

- None (0 bytes)
- Date only (2 bytes)
- Date and time (5 bytes)

Badge IDs require 4 - 8 bytes of memory, depending on the number of digits in a badge.

- 7 - 9 digits require 4 bytes
- 10 - 12 digits require 5 bytes
- 13 - 14 digits require 6 bytes
- 15 - 16 digits require 7 bytes
- 17 - 18 digits require 8 bytes

Example:

If Badge ID length is 14 (6 bytes) and the Activate/Deactivate Date Format is “Date and time” (2 * 5 bytes), add 16 bytes to 4 bytes + 3 bytes (Issue Code + Configuration Parameters) = 23 bytes per record.

50,000/23 = 2173.91 maximum cardholders

Download ILS Offline/Wireless Locks from System Administration

Prerequisites:

- The Mobile Configurator is connected to a vacant USB port at a workstation where Microsoft Active Sync, ReadkeyPRO, and Communication Server are running.

Important: If you are using the Mobile Configurator with ReadkeyPRO on a Windows XP, Windows 2003, or Windows 2008 system, Communication Server must be run as an application.

- Unless you are familiar with the download process, first read the section Download Panels and Locks Overview on page 1563.

From System Administration, complete the following steps:

1. From the **Access Control** menu, select **Readers**.
   a. In the Readers listing window, sort the locks by the Initialization Required or Download Required columns, select one or more ILS offline/wireless locks, right-click on them, and then select **Download to Portable Device**.
   b. If the locks collectively belong to more than one (1) ILS offline panel, you will be prompted to select which panel to use for downloading to the Mobile Configurator.
2. (Optional) Select **Access Panels** from the **Access Control** menu.
   a. Click the ILS Offline or ILS Wireless tab.
   b. In the panel listing window, right-click on one (1) ILS panel, and then select **Download** to download the all of the locks assigned to that panel. ILS offline lock data is downloaded to the Mobile Configurator while ILS wireless lock data is sent to the locks via the Wireless Gateway.
3. (Optional) Open the system tree.
   a. From the **View** menu, select **System Tree**, and then select an existing window or open a new one. Expand the Hardware node, and then the ILS panel icon to show the locks assigned to it.
   b. Right-click on one (1) ILS panel, and then select **Download** to download all locks assigned to the panel.
   c. (Optional) Select one or more ILS locks, right-click on them, and then select either **Download** (only available for wireless locks) or **Download to Portable Device**.
      - **Download to Portable Device -** If the locks collectively belong to more than one ILS offline panel, you will be prompted to choose which ILS offline panel you want to use for downloading the lock information to the Mobile Configurator.
      - **Download** - The wireless lock data is sent directly to the locks via their corresponding Wireless Gateway.

Note: Use the <Ctrl> key to multiple select locks in the system tree.

4. If the lock data was downloaded to the Mobile Configurator:
   a. Disconnect the Mobile Configurator from the workstation, and then connect it to the physical lock.
   b. Log onto the Mobile Configurator application using your operator ID and password, and then open the Mobile Configurator menu. For more information, refer to Add a Mobile Configurator Lock Operator on page 1558.
   c. (Optional) If this is the first time the lock will be updated, the lock was reset, or system-wide changes were made, select **Initialize** from the **Lock** menu, choose the lock from the list, and then click [Initialize Lock]. For more information, refer to Download System Settings on page 1541.
   d. If the lock does not need to be initialized, select **Update** from the **Lock** menu, choose the lock from the list, and then click [Update Lock] to transfer the system data from the Mobile Configurator to the lock.

Note: As the lock operator, you must have the **Initialize** or **Update** permission in order to perform the Initialize or Update operation at the lock using the Mobile Configurator. Any operation performed at the lock must have the corresponding operator permission enabled in ReadkeyPRO.

   e. Power off the Mobile Configurator and the power adapter, and then disconnect them from the lock.

View ILS Offline Lock Events

In order to view ILS offline lock events in Alarm Monitoring, the ILS offline operator must retrieve the events from the lock using the Mobile Configurator. Before using the Mobile Configurator to read the data at the lock, the system information must be downloaded from ReadkeyPRO to the Mobile Configurator to update the lock. For more information, refer to Download ILS Offline/ Wireless Locks from System Administration on page 1566.

When the Mobile Configurator is then connected to a workstation where Alarm Monitoring and Communication Server are running, the Mobile Configurator is used to upload the lock data to ReadkeyPRO. When this is completed, the lock events display automatically. For more information, refer to Upload ILS Offline Lock Events Using the Mobile Configurator on page 1569.

Important: If you are using the Mobile Configurator with ReadkeyPRO on a Windows XP or Windows 2003 system, Communication Server must be run as an application.

Note: When you connect the Mobile Configurator to a workstation, that Mobile Configurator and all others, will show an online status in Alarm Monitoring.

In addition, the proper permissions must be configured for the Mobile Configurator operator to be able to upload the data from the lock. For more information, refer to Add a Mobile Configurator Lock Operator on page 1558.

Upload ILS Offline Lock Events Using the Mobile Configurator

Prerequisites: The Mobile Configurator is connected to a vacant USB port at a workstation where Microsoft Active Sync, ReadkeyPRO, and Communication Server are running.

Important: If you are using the Mobile Configurator with ReadkeyPRO on a Windows XP and Windows 2003 systems, Communication Server must be run as an application.

From System Administration, complete the following steps:

1. Verify the operator permissions:
   a. From the **Access Control** menu, select **Access Panels**.
   b. On the ILS Offline tab, select the Operators sub-tab.
   c. Ensure the **Read lock audits** permission is enabled for the ILS offline lock operator.

Note: As the lock operator, you must have the **Read lock audits** permission in order to get the events from the lock using the Mobile Configurator. Any operations performed at the lock must have the corresponding operator permissions enabled in ReadkeyPRO such as **Initialize, Update, Upload lock audits**, and **Upload PP audits** as well as **View lock audits** and **View PP audits**.

2. Download the lock information to the Mobile Configurator. For more information, refer to Download ILS Offline/Wireless Locks from System Administration on page 1566.
3. Use the Mobile Configurator to update the locks:
   a. Disconnect the Mobile Configurator from the workstation, and then connect the power adapter to the ILS lock. Log onto the Mobile Configurator.
   b. Log onto the Mobile Configurator application using your operator ID and password, and then open the Mobile Configurator menu. For more information, refer to Add a Mobile Configurator Lock Operator on

page 1558.

c. (Optional) If this is the first time the lock is initialized, the lock was reset, or there were system-wide changes, select **Initialize** from the **Lock** menu, select the lock from the list, and then click [Initialize Lock]. For more information, refer to Download System Settings on page 1541.

d. If the lock does not need to be initialized, select **Update** from the **Lock** menu, choose the lock from the list, and then click [Update Lock] to transfer the system data from the Mobile Configurator to the lock.

4. Use the Mobile Configurator to read the lock audits:

a. From the **Audits** menu, select **Read Audits** > **Read Lock Audits**:

- From the list, choose the lock you are reading, and then use the Filter options to specify event types and/or date range.
- Click [Read Audits]. Click [OK] when the read operation is completed.

Important: You must perform the Read Lock Audits operation in order to get the lock events.

---

b. From the **Audits** menu, select **View Audits** > **View Lock Audits** to ensure the information is valid. You can filter the lock audits such as Access Granted/Denied, and then click [View Audits] to display the events on the Mobile Configurator.

c. From the **Audits** menu, select **View Audits** > **View PP Audits** to ensure the information is valid. You can filter the controller lock audits such as mode changes, and then click [View Audits] to display the events on the Mobile Configurator.

d. Disconnect the Mobile Configurator from the lock, and then connect it to the monitoring station.

5. Use the Mobile Configurator to upload the lock events to Alarm Monitoring:

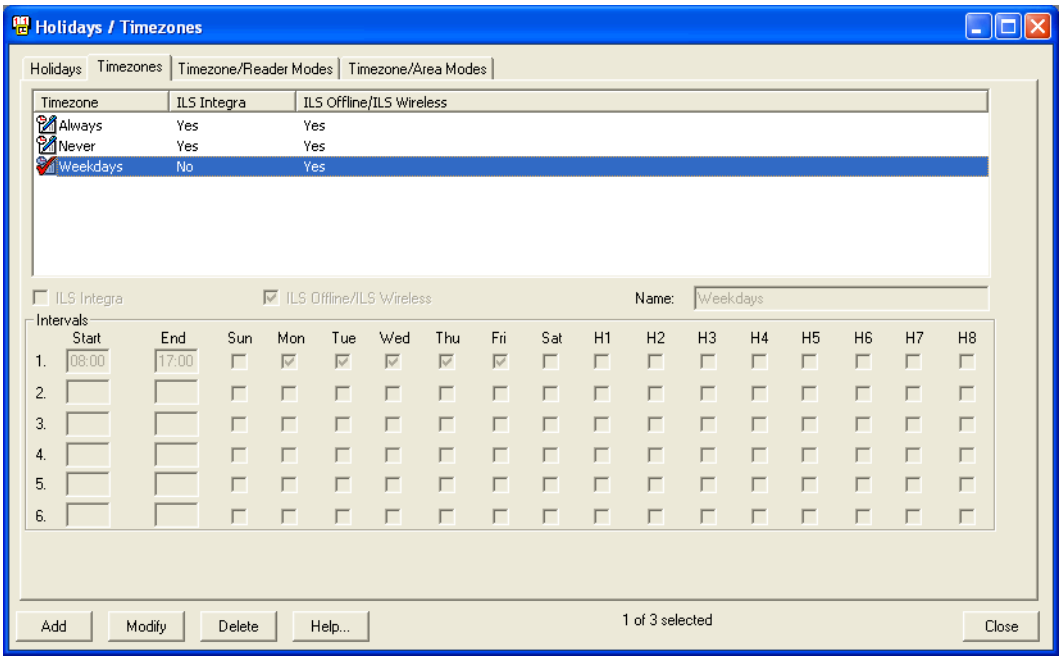
a. Connect the Mobile Configurator to a workstation where Alarm Monitoring and Communication Server are running.

b. From the **Upload** menu, select **Upload Audits** > **Upload PP Audits**, click [Upload], and then [OK] when the Mobile Configurator events are uploaded to the Mobile Configurator.

c. From the **Upload** menu, select **Upload Audits** > **Upload Lock Audits**, click [Upload], and then [OK] when the lock audits are uploaded to the Mobile Configurator.

d. Log onto Alarm Monitoring. The lock and Mobile Configurator events are automatically displayed in the Main Alarm Monitor window.

ILS Offline/ILS Wireless Timezones Overview



Optionally, you can use the Timezones form to create timezones which will be downloaded to ILS offline/wireless locks. Each ILS Offline/ILS Wireless timezone consists of up to five (5) time range/day intervals. A maximum of 64 ILS Offline/ILS Wireless timezones are supported including the two (2) system time intervals, Always and Never.

ILS offline/wireless locks support a maximum of 100 holidays.

Note: An ILS Offline/ILS Wireless timezone must be associated with an ILS offline/wireless reader (lock) in order to assign it to Timezone/Reader Modes or Access Level configurations.

Add an ILS Offline/ILS Wireless Timezone

In System Administration, complete the following steps:

1. Select **Timezones** from the **Access Control** menu, and then select the Timezones tab.
2. Click [Add].
3. Select the **ILS Offline/ILS Wireless** check box to indicate this timezone is to be downloaded to ILS offline/wireless locks.
4. Type a name for the timezone in the **Name** field.
5. Define each time interval in this timezone, including the start and end times, the specific days of the week, and the holiday types you want. Enter **Start**

and **End** times, and then select the check boxes you want the time range to apply to.

6. Click [OK].

ILS Timezone/Reader Modes Overview

Optionally, you can use the Timezones/Reader Modes form to configure up to 25 scheduled changes per lock. For more information, refer to Timezone/Reader Modes Form (Modify Mode) on page 832.

Examples of possible ILS offline/wireless configurations:

- 5 timezones containing 5 intervals each
- 10 timezones containing 2 intervals each and 1 timezone containing 5 intervals
- 25 timezones containing 1 interval each

Select Modes of Operation for ILS Locks during a Timezone

In System Administration, complete the following steps:

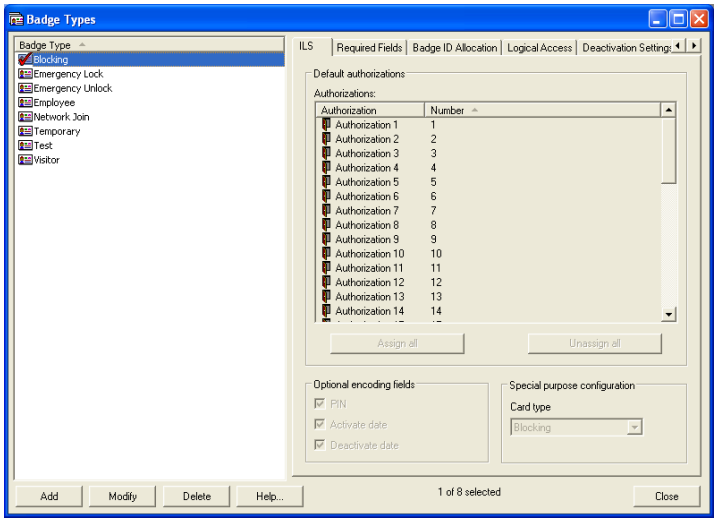
1. Select **Timeszones** from the **Access Control** menu.
2. On the listing window, select the reader (lock) you want to control the operation of during a particular timezone. This was the lock you added in the step: Add an ILS Offline Lock on page 1561 or Add an ILS Wireless Lock on page 1588.
3. Click [Modify].
4. Choose the timezone you want to configure for the selected reader (lock) such as an ILS Offline/ILS Wireless timezone you added in the step: Add an

ILS Offline/ILS Wireless Timezone on page 1571.

5. In the Start section, from the drop-down, select the mode you want this lock to be placed into at the **beginning** of the selected timezone:
   - Card Only
   - Facility Code Only
   - Unlocked
   - First Card Unlock
6. In the End section, from the drop-down, select the mode you want this lock to be placed into at the **end** of the selected timezone.
7. Click [Assign]. The following things happen immediately:
   - The change is saved to the database.
   - The assignment window is updated.
   - For ILS wireless locks, the changes are downloaded to the wireless locks via the Wireless Gateway.
   - For ILS offline locks, the changes are not automatically downloaded. Instead, the lock is flagged for a download in the system hardware tree and the Readers and Doors folder.

   Functionally, at the start of the selected timezone, the selected lock will begin to function in the selected **Start mode**. It will remain in that mode until the end of the timezone, at which time the lock will be placed in the selected **End mode**.
8. Repeat steps 4 - 7 for each additional timezone you want to configure for this lock.
9. Click [OK] to return to view mode. The listing window will be updated to reflect your changes.
10. Repeat this procedure if you want to set up the operating modes of other locks.
11. The changes must be downloaded from ReadkeyPRO to the ILS offline locks via the Mobile Configurator. For more information, refer to Download ILS Offline/Wireless Locks from System Administration on page 1566.
12. (Optional) For ILS wireless locks, you can update the lock directly via the Wireless Gateway from Alarm Monitoring. For more information, refer to Update Wireless Reader Access Modes in the Alarm Monitoring User Guide.

Badge Types Folder - ILS Form



ILS Badge Types Overview

Optionally, you can configure the ILS badge types to:

- Encode authorizations for badge types that get assigned to cardholders.
- Specify the function of special purpose cards such as blocking or emergency unlock cards.

Configure ILS Badge Types

In System Administration, complete the following steps:

1. Select **Badge Types** from the **Administration** menu, and then select the ILS **tab**.
2. In the listing window, select the badge type you want to configure.
3. Select the authorization you want to assign as the default to a cardholder badge of this ILS badge type.
4. Select the options that you want to enable in the Optional encoding fields section of the window. For more information, refer to ILS Form on page 425.
5. Click [OK].

Note: To configure ILS special purpose badge types, refer to Configure Special Purpose Cards for ILS Offline/Wireless Locks on page 1576.

ILS Special Purpose Cards

Important: Blocking cards for offline/wireless locks are not to be confused with blocking cards for Integra CT30 locks which have a different configuration. For more information about configuring an Integra blocking card, refer to Configure Blocking Cards for Integra Locks on page 1544.

Any card can be designated as a special purpose card. Special purpose cards are not added to the active badge count of the cardholder and all special purpose card types can be downloaded to the same lock.

ILS wireless locks support five (5) types of special purpose cards in the non-factory mode, including:

- **Blocking.** When presented to the lock, and **Blocking override** is not enabled for the user, places the lock into the Blocked mode (denies access) or removes the lock from Blocked mode. It is not required to use the same blocking card that placed the lock in Blocked mode to remove the lock from Blocked mode.

Note: If a cardholder is assigned to a badge configured to override blocking, that badge will unlock a door that is blocked by a blocking card. For more information, refer to Add a Badge Template on page 227.

- **Emergency Lock.** When presented to the lock, this card locks the lock and places the lock into Secured mode or removes the lock from Secured mode. It is not required to use the same Emergency Lock card that placed the lock into Secured mode to remove the lock from Secured mode.
- **Emergency Unlock.** When presented to the lock, unlocks the lock and places the lock into Unsecured mode or removes the lock from Unsecured mode. It is not required to use the same Emergency Unlock card that placed the lock into Unsecured mode to remove the lock from Unsecured mode.
- **Network Join.** When presented to the lock, prompts the lock to join the wireless network (Wireless Gateway).
- **Test.** When presented to the lock, prompts the lock to issue a heartbeat signal to the Wireless Gateway in order to test the communications link between the Wireless Gateway and its lock.

Important: The special purpose card needs to assigned to every lock to which it will be downloaded. To assign the card to the locks, an access level must be added that contains the locks, and then that access level is assigned to the card (badge) on the Cardholders folders > Access Level form. For more information, refer to Assign Access Levels to a Badge on page 152.

Configure Special Purpose Cards for ILS Offline/Wireless Locks

From System Administration, complete the following steps:

1. From the **Administration** menu, select **Badge Types**.
2. Click [Add].
3. On the Badge Type tab:
   a. Enter a **Name** that describes the special function of the card such as `Emergency Lock`.
   b. From the **Class** drop-down, select "Special Purpose" to specify a badge that serves a special function such as blocking or unlocking a door in an emergency.
4. On the ILS tab, select the badge special function from the **Card type** drop-down such as "Emergency Lock." For more information, refer to ILS Form on page 425.
5. Click [OK]. The special badge type is now added to the Badge Type listing window.
6. (Optional) Repeat steps 2 - 5 to add other types of special purpose cards.
7. From the **Administration** menu, select **Cardholders**.
8. Search for the cardholder record.
9. Add the special purpose card to the cardholder:
   a. From the **Badge type** drop-down, select the special purpose card.
   b. Select "Active" from the **Status** drop-down, and then click [OK].

Note: Special purpose cards are not added to the active badge count of the cardholder.

10. On the Access Levels tab:
    a. Click [Modify].
    b. Assign an access level to the special purpose card that contains the locks you want to block, put into the Secured or Unsecured mode, join to the Wireless Gateway, or test for Wireless Gateway communication.

Important: ILS readers (locks) do not support assigning an access level to the card if that access level contains a lock that is in an access level already assigned to the card.

Note: You can assign access levels containing non-ILS readers because special purpose cards download to ILS locks, only. This allows you to define access

levels for different locations, buildings, or regions, and create special purpose cards that will work for these areas.

c. Click [OK].

11. Click [Print] to encode the blocking card using the printer/encoders listed in Required Printers/Encoders on page 1542.
12. Download the special purpose card to the Mobile Configurator or Wireless Gateway and update the locks in your system. For more information, refer to Download Panels and Locks Overview on page 1563.

ILS iCLASS Printing and Encoding Overview

After the ILS system options have been configured, configure an encoder and a printer to print and encode the cards.

Important: If you are encoding the ILS data to Book 1, the Bosch (iCLASS) card format must be specified with 16KBits/2Application Areas (Inside) or 16KBits/16Application Areas (Inside) for the memory configuration. In addition, when you encode to Book 1, 32K iCLASS cards are required. For more information, refer to Lenel (iCLASS) Card Format Form on page 317.

Required Encoders

The following devices are supported for encoding the ILS card data using the Bosch (iCLASS) smart card format:

- HID (iCLASS) encoder

Note: If you are encoding the ILS data to Book 0, use a card printer equipped with the HID (iCLASS) PROG encoder Rev.A. The HID (iCLASS) PROG encoder Rev.B can be used for encoding the ILS data to either Book 0 or Book 1. However, Rev.B is required for Book 1.

- DigiOn24 (iCLASS) encoder
- OMNIKEY (iCLASS) encoder

Note: If you are encoding the ILS data to Book 0, you can use any iCLASS encoder, however, Rev.B or later is required for Book 1.

OMNIKEY Encoders and 16kBit Cards

OMNIKEY (iCLASS) encoders do not support setting the HID key on Book 0, Page 0, App 1.

OMNIKEY encoders do not support formatting 16kBit cards to have eight (8) pages. Therefore:

- **If you use pre-formatted cards:** Select the memory configuration of those cards. The OMNIKEY encoder will handle it just fine.
- **If you use blank cards:** Select either 16KBits/2Application Areas (Inside) for 16kBit cards or 2kBits//2Application Areas (Inside) for 2kBit cards.

For more information, refer to Configure ILS Custom Encoding on page 1542.

Configure ILS iCLASS Printing and Encoding

In System Administration, complete the following steps to set up the encoder:

1. Select **Workstations** from the **Administration** menu. The Workstations folder opens.
2. Add and configure the workstation, and then click [OK].
3. Select the Encoders/Scanners tab.
4. Add the HID (iClass) PROG Rev.A/Rev.B encoder, and then configure it:
   a. On the General sub-tab, specify the encoder **Device type** as “HID iCLASS.”
   b. On the Location sub-tab, select the **This is a standalone device attached to this workstation** radio button.
   c. On the Communications sub-tab, select a vacant COM port.
   d. Click [OK].
5. Connect the HID (iClass) PROG Rev.A/Rev.B encoder to COM port on your workstation with a serial cable.

Printer/Encoder Setup

Complete the following steps to set up the printer such as the Magicard Rio 2 with an inline encoder:

1. Install the proper printer driver.
2. Connect the printer to a vacant USB port on your workstation and to the COM port using a serial cable.
3. In System Administration, select **Workstations** from the **Administration** menu.
4. Add and configure the workstation, and then click [OK].
5. Select the Encoders/Scanners tab.
6. Add the encoder, and then configure it:
   a. On the General sub-tab, specify the printer **Device type** as "Digion24 (iCLASS)."
   b. On the Location sub-tab, select the **This is inline device that resides within a card printer attached to this workstation** radio button.
   c. Select "Printer Series" in the **Card Printer** drop-down and "Contactless" in **Encoder Station** drop-down.
   d. On the Communications sub-tab, select the COM port on your workstation where the printer is connected.
   e. Click [OK].

ILS Reports Overview

From the Reports folder, use the Report Configuration or Reader Reports form to view or print the following ILS offline/wireless reports:

Report	Description
ILS Lock Authorizations By Cardholder	Lists ILS lock authorization levels assigned to the cardholder/badge, sorted by cardholder.
ILS Authorizations By Level	Lists ILS lock authorization levels assigned to the cardholder/badge, sorted by level.
ILS Lock Battery Status by Status	Lists ILS lock battery status, grouped by battery status (Low to High), wireless gateway, and battery percent.
ILS Lock Characteristics	Lists ILS lock configuration details by lock name.
ILS Lock Communications	Lists ILS wireless lock diagnostics by lock name.
ILS Lock Ownership	Lists the ILS locks owned by a cardholder.

Toolbar Shortcut

This folder is displayed by selecting **Reports** from the **Administration** menu or by selecting the Reports toolbar button.

For more information, refer to Chapter 7: Reports Folder on page 233.

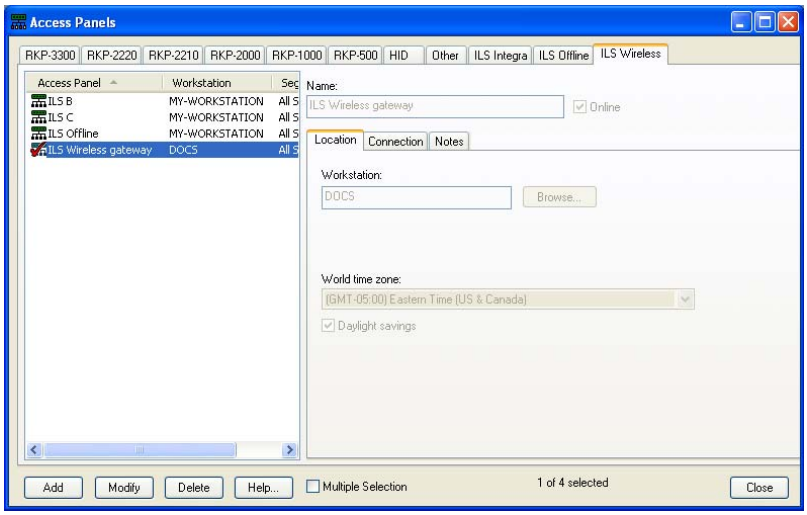
ILS Wireless Form

An ILS wireless device is a Wireless Gateway device that is treated as an access panel in ReadkeyPRO.

This form is used to:

- Assign names to ILS wireless access panels in the software.
- Specify access panel setup parameters.
- Specify communication panel setup parameters, including the workstation associated with the panel.

ILS Wireless Form (Location Sub-tab)



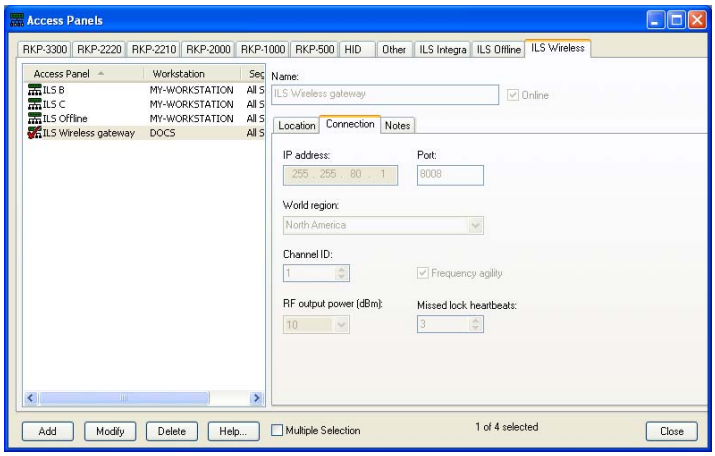
ILS Wireless Form - Location Sub-tab

Form Element	Comment
Listing window	Lists currently defined access panels and the name of the workstation that is connected to each.
Name	Enter a name the ILS Wireless access panel (Wireless Gateway). This is a “friendly” name assigned to each Wireless Gateway to make it easy to identify. Each name must be unique and can contain no more than 32 characters.
Online	If selected, the panel will be online. **Online** indicates that the panel is ready for use, and that the Communication Server will attempt to communicate with the panel. If the panel is not marked as online, the Communication Server will not attempt to communicate with the panel.

ILS Wireless Form - Location Sub-tab

Form Element	Comment
Workstation	Select the workstation or server to which the Wireless Gateway is or will be connected in order to transfer events/commands. The Communication Server must be present on the specified workstation. You can either type the name in the field, or use the [Browse] button to view a list of available workstations. **Note:** You are required to enter the workstation's NetBIOS name. (The NetBIOS name is specified when Windows networking is installed/configured.)
Browse	Displays a Browse for Computer window from where you can click on the name of a workstation to highlight the entry. Click the [OK] button to then enter the workstation name in the **Workstation** field.
Daylight savings	Select this check box if Daylight Saving Time is enforced in the selected access panel's geographical location.

ILS Wireless Form (Connection Sub-tab)



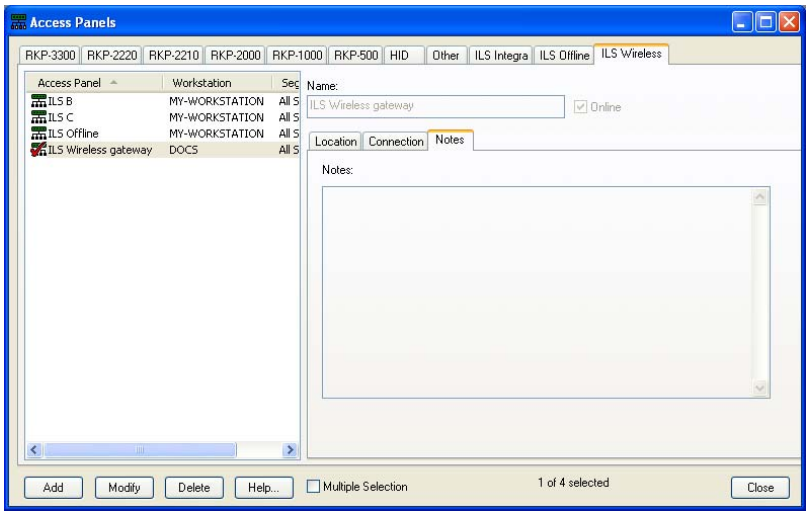
ILS Wireless Form - Connection Sub-tab

Form Element	Comment
IP Address	This is the Internet Protocol (TCP/IP) address of the Wireless Gateway device. The IP address entered here must be unique across all ILS wireless panels for both the primary and secondary IP addresses. An IP address consists of four (4) numbers, each in the range of 0 - 255. A period separates each number. The Mobile Configurator must be configured to have the same IP address as what you enter in this field. Refer to the ILS Lock Operation User Guide to program the IP address for the Mobile Configurator.
Port	The **Port** is pre-defined to `8008`. SSL (Secure Sockets Layer) protocol with mutual authentication is used during communications between ReadkeyPRO and the ILS Wireless Gateway device.
World region	Specifies the region where the Wireless Gateway is installed. The **World region** setting determines the frequency bands and, subsequently, the **Channel ID** values available for the Wireless Gateway. This information is derived from the varying standards and regulations for wireless communications in different regions of the world. • "North America" supports Channel IDs from 1 - 26. • "European Union" supports Channel IDs from 1 - 20. **Note:** Selecting the **World region** also ensures the appropriate firmware is downloaded to the WLM and WWM. If you modify **World region**, make sure to download the WLM and WWM firmware. For more information, refer to Download ILS Wireless Firmware on page 1593. **Note:** The **World region**, **Channel ID**, and **RF output power** settings apply to both the Wireless Gateway and its associated locks.

ILS Wireless Form - Connection Sub-tab (Continued)

Form Element	Comment
Channel ID	Specifies the channel number of the Wireless Gateway from 1 - 26 with a default value of 1. This channel is used by the Wireless Gateway to communicate to its associated locks. **Note:** When placing several Wireless Gateways in close proximity where there is overlapping RF coverage, make sure to configure each of the Wireless Gateways with a unique **Channel ID**. Even when **Frequency agility** is enabled, the locks will use the initial **Channel ID** of the Wireless Gateway to which they are assigned, and if multiple Wireless Gateways use the same **Channel ID**, and are in range of the locks, the locks will attempt to communicate to the Wireless Gateways using the same channel. This may cause the channel to become overcrowded resulting in unreliable communication (retries and frequency hopping). **Note:** If you change the **Channel ID**, this will affect the communication between the Wireless Gateway and its associated locks, so you should update the locks using the Mobile Configurator. Optionally, if you are only changing the **Channel ID**, and **Frequency agility** is enabled on all of the Wireless Gateway's locks, rather than updating the locks, you could allow the locks to find the new Wireless Gateway channel. However, whenever one of these locks tries to join a Wireless Gateway, it will always begin searching from the old channel. For more information, refer to Download ILS Offline/Wireless Locks from System Administration on page 1566.
Frequency agility	Allows the Wireless Gateway to self-adjust dynamically when RF (Radio Frequency) interference is encountered from another device by hopping (switching) to a "quieter" location in the bandwidth to transmit the data. The Wireless Gateway will hop to the next higher channel in the bandwidth after five (5) retries. RF interference may cause unreliable communication (retries and frequency hopping). **Note:** If you change the lock's **Frequency agility**, you will need to update the lock using the Mobile Configurator. For more information, refer to Download ILS Offline/ Wireless Locks from System Administration on page 1566.
RF output power (dBm)	Specifies the RF (Radio Frequency) power. Choices include: • 0 dBm • 5 dBm • 10 dBm • 15 dBm **Note:** *dBm* refers to the power level of the signal strength expressed in decibels above 1 milliwatt. **Note:** You may need to adjust the **RF output power** to achieve the signal strength required at your site. For example, higher power levels are required as the distance between the lock and Wireless Gateway is increased or if the signal must travel through a thick wall. However, lower power levels will extend the lock battery life. **Note:** If you change the lock's **RF output power**, you will need to update the lock using the Mobile Configurator. For more information, refer to Download ILS Offline/ Wireless Locks from System Administration on page 1566.
Missed lock heartbeats	Specifies the number of missed lock heartbeats allowed before an alarm generates. Missed lock heartbeats can be configured from 1 - 5 with a default value of 1.

ILS Wireless Form (Notes Sub-tab)



ILS Wireless Form - Notes Sub-tab

Form Element	Comment
Notes	Enter information about the panel. This field is limited to less than 2000 characters. Any text that is entered here will be displayed in Alarm Monitoring. For more information, refer to the View Notes procedure in the Monitor Devices chapter in the Alarm Monitoring User Guide.

Configure an ILS Wireless Locking System

Configuring an ILS wireless system in ReadkeyPRO requires the use of an ILS wireless device to transmit data from ReadkeyPRO to the ILS locks and vice versa. In order to configure an ILS wireless system in ReadkeyPRO you must first add an ILS wireless panel (Wireless Gateway), and then define the locks to which the data is downloaded and from which events are retrieved via the Wireless Gateway. For information on the Wireless Gateway, refer to the ILS Lock Operation User Guide.

To configure an ILS wireless system, complete the following steps:

1. Add an ILS Wireless Access Panel on page 1586.
2. Add an ILS Wireless Lock on page 1588.
3. Modify ILS Wireless Panel Assignment on page 1589.
4. Configure ILS System Options on page 1590.
5. Configure ILS Custom Encoding on page 1542.
6. Configure ILS iCLASS Printing and Encoding on page 1578.
7. Configure ILS Badge Types on page 1574.
8. Configure Special Purpose Cards for ILS Offline/Wireless Locks on page 1576.
9. Add an ILS Offline/ILS Wireless Timezone on page 1571.
10. Select Modes of Operation for ILS Locks during a Timezone on page 1572.
11. Configure the ILS Cardholder Authorization Assignments on page 1548.
12. Configure ILS Priority One Events on page 1592.

ILS Wireless Lock Processing

After your system is up and running...

When the configuration of an ILS wireless lock is changed in ReadkeyPRO (such as reader settings, cardholders, timezones, etc.) and the lock is currently offline, the lock will be automatically updated when it goes online. You will also need to download the relevant configuration data stored in the ReadkeyPRO database to the ILS hardware (Wireless Gateways and wireless locks) and upgrade the ILS wireless firmware as needed. For more information, refer to the sections Download ILS Offline/Wireless Locks from System Administration on page 1566 and Download ILS Wireless Firmware on page 1593.

From Alarm Monitoring, you can do the following:

- Update reader access modes.
- Issue a command to download ILS wireless locks.
- Monitor ILS wireless lock events that are sent wirelessly or retrieve these events by issuing a command to read the audits. For more information, refer

to the sections Monitor ILS Wireless Lock Events on page 1593 or Retrieve ILS Wireless Lock Events in the Alarm Monitoring User Guide.

- Check that the Wireless Gateway and its ILS wireless locks can communicate. For more information, refer to View Wireless Diagnostics Information in the Alarm Monitoring User Guide.
- View lock status information. For more information, refer to View Wireless Lock Information in the Alarm Monitoring User Guide.

ILS Wireless Lock Panel Overview

The ILS wireless lock panel actually refers to a Wireless Gateway device. The fields configured here deal directly with the ILS wireless device. These settings are communicated to the Wireless Gateway as well as each ILS wireless lock assigned to it except for **RF output power** which is independent of the Wireless Gateway and its locks.

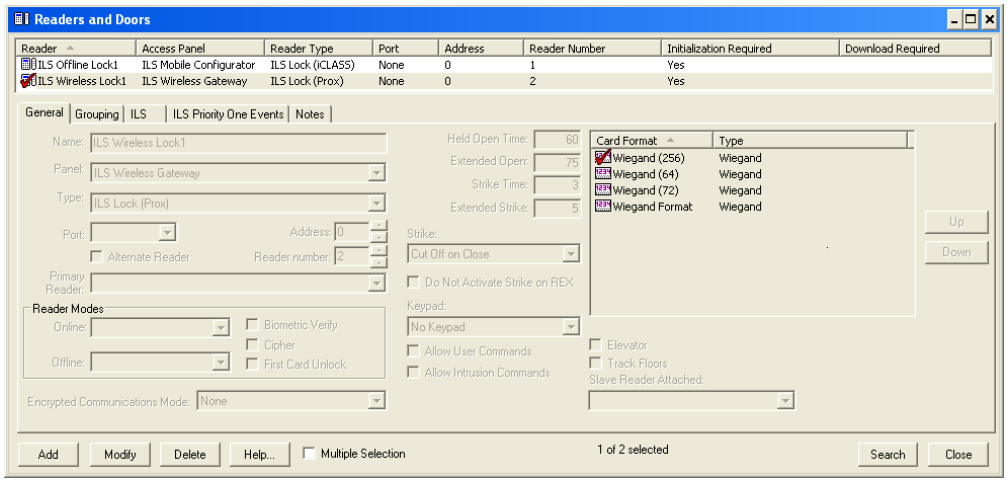
Important: Configure the Wireless Gateway panel settings before adding cardholder records to the database. Changing the Wireless Gateway panel settings after cardholder records are added will result in a full cardholder database download to the Wireless Gateway.

Add an ILS Wireless Access Panel

In System Administration, complete the following steps:

1. From the **Access Control** menu, select **Access Panels**, and then select the ILS Wireless tab.
2. Click [Add].
3. In the **Name** field, type a unique, descriptive name for the ILS wireless panel.
4. If you want to place the panel online immediately, select the **Online** check box. Typically, you wouldn't check this box when configuring the system or defining panels, but instead would wait until you're ready to put the panel into service.
5. On the Location sub-tab, configure the **Workstation**, **World time zone**, and **Daylight savings** settings. To review specifics regarding these fields see the ILS Wireless Form (Location Sub-tab) on page 1580.
6. On the Connections sub-tab, configure the **IP Address**, **SSL port**, **Channel ID**, **Frequency agility**, **RF output power**, and **Missed lock heartbeats** settings. To review specifics regarding these fields see the ILS Wireless Form (Connection Sub-tab) on page 1582.

ILS Wireless Lock Overview



To add an ILS wireless lock you must first add an ILS wireless lock panel. Adding an ILS wireless lock is much like adding a reader for ReadkeyPRO with the exception of not having full access to all of the options as they are not supported by ILS wireless locks. Fields not supported for ILS wireless locks will not be unavailable.

When you add an ILS wireless lock, the **Name**, **Panel**, **Type**, **Held Open Time**, **Extended Open**, **Strike Time**, and **Extended Strike** fields will be activated. **Extended Strike** and **Extended Open** are typically used with the ADA feature. However, if **Lock when lever is released** is enabled for the lock, the lock will re-engage after the cardholder turns the lever. Configure this and the other ILS-specific lock options on the Readers folder ILS form. For more information, refer to ILS Form on page 794.

Card formats for ILS locks are selected for specific lock types, and can be prioritized and sorted. For more information on card formats, refer to Lock Card Formats on page 1560.

Note: Reader numbers (lock IDs) are unique across an Enterprise system for ILS locks.

Notes: Although not available when adding the lock, reader (lock) modes can be configured for the start and end of a timezone. For more information, refer to Select Modes of Operation for ILS Locks during a Timezone on page 1572.

If you change reader mode settings, the lock must be updated from Alarm Monitoring. For more information, refer to Update Wireless Reader Access

Modes in the Alarm Monitoring User Guide. Alternatively, you can update the lock by downloading the lock information to the Mobile Configurator.

Add an ILS Wireless Lock

Note: Optionally, you can configure multiple ILS wireless locks using the **Application** > **Wizards** menu option in System Administration. For more information, refer to Application Menu on page 90.

In System Administration, complete the following steps:

1. Select **Readers and Doors** from the **Access Control** menu. The Readers folder opens.
2. On the General tab, click [Add].
3. In the **Name** field, enter a unique, descriptive name for the reader.
4. In the **Panel** field, select the access panel to which you want to connect the reader. This is the ILS Wireless access panel (Wireless Gateway) you added in the step: Add an ILS Wireless Access Panel on page 1586.
5. In the **Type** field, select the lock type. Choices include:
   - ILS Lock (Magnetic)
   - ILS Lock (iCLASS)
   - ILS Lock (MIFARE)
   - ILS Lock (Prox)

Note: When the lock type is selected, this determines which card formats are available for assignment to the lock.

6. Select one or more card formats.

Note: ILS supports up to four (4) Wiegand card formats for iCLASS, MIFARE, and proximity type locks and, depending on your version of ReadkeyPRO, up to four (4) smart card formats for iCLASS and MIFARE locks, only.

   - If you selected “ILS Lock (Magnetic)” the card format is automatically assigned.
   - For iCLASS locks, you must select at least one card format from the Smart Card Formats sub-tab (iCLASS) AND the appropriate Wiegand card formats from the Access Control Card Formats sub-tab. Smart card formats supported by the ILS ICLASS locks include Lenel (iCLASS). For more information, refer to Add a Lenel (iCLASS) Smart Card

Format on page 319.

- For proximity locks, select the appropriate Wiegand card formats from the Access Control Card Formats sub-tab, only.
- (Depending on your version of ReadkeyPRO, this option may not be available.) For MIFARE locks, you must select at least one MIFARE card format from the Smart Card Formats sub-tab AND the appropriate Wiegand card formats from the Access Control Card Formats sub-tab. Smart card formats supported by ILS MIFARE locks include Smart Card CSN and Lenel (MIFARE). For the Smart Card CSN card format, "ISO 14443A" must be configured as the **Credential Type**. For more information, refer to Add a Smart Card CSN Card Format on page 323 and Add a Lenel (MIFARE) Smart Card Format on page 321.

7. Prioritize the card formats as required. For more information, refer to Card Format on page 749.
8. Configure the remaining settings as required.
9. (Optional) On the Grouping tab, configure the reader (lock) group settings. For more information, refer to Grouping Form on page 752. When group settings are configured, you can filter the locks displayed in the listing window using the reader search function. For more information, refer to Search for Readers by Groups on page 754.
10. On the ILS tab, configure the options as required. For more information, refer to ILS Form on page 794.
11. (Optional) On the ILS Priority One Events tab, if you want to assign priority one events to the lock, complete the following steps. For more information, refer to Readers and Doors Folder - ILS Priority One Events Form on page 799.
    a. Click [Modify].
    b. From the Available list, select the events you want to specify as priority one.
    c. Click [Assign] to move the events to the Selected list.
    d. (Optional) From the Selected list, select priority one events, and then click [Remove] to remove these events from priority one status.
    e. Click [OK].

Note: After the lock is added, it will be flagged automatically for "Initialization Required."

Modify ILS Wireless Panel Assignment

Prerequisites: Ensure you are in single selection mode.

Note: Locks assigned to ILS wireless panels can be reassigned to a different ILS wireless panel within the same segment. When you reassign an ILS wireless lock to a different ILS wireless panel, the diagnostic information for the lock is cleared. For more information, refer to View Wireless Diagnostics Information in the Alarm Monitoring User Guide.

In System Administration, complete the following steps:

1. From the **Access Control** menu, select **Readers**. The Readers folder opens.
2. From the list, select the lock you are changing.
3. On the General tab, click [Modify].
4. In the **Panel** field, select the ILS wireless panel to which you want to reassign the lock.
5. Click [OK].

Modify ILS Wireless Lock Type

After a lock is added, you can modify the lock's **Type** to accommodate upgrades or changes to the lock's card technology such as changing from a magnetic lock to a proximity lock or from a proximity lock to an iClass lock. This change also requires that you select card formats for the new lock type.

Note: Reader (lock) type has an impact on battery life. Proximity and iCLASS reader field excitation enters a low power mode when no card is present.

System Options Folder - ILS Form Overview

After the ILS lock panel and reader (lock) have been added and configured, you must configure the ILS system options.

Use the ILS form to configure data elements that affect the programming of all ILS controllers and locks that exist in the system.

Important: When you modify certain system settings, you must download this information to the Mobile Configurator to update or initialize the lock. For more information, refer to Download System Settings on page 1541.

Configure ILS System Options

In System Administration, complete the following steps:

1. Select **System Options** from the **Administration** menu, and then select the ILS tab. For more information about the settings configured in this

procedure, refer to the ILS Form on page 494.

2. Click [Modify].
3. In the **System code** field enter the system code. This is simply a unique identifier much like a name.
4. In the **Codes look ahead** field, enter the number of codes you want to apply to all readers (locks) in the system.
5. Select the **Lock or card date precedence**.
6. Specify the format to **Store badge activate/deactivate dates**. Choices include:
   - None
   - Date only
   - Date and time
7. Specify the amount of days to keep old wireless diagnostics data in the **Clean up wireless diagnostics after (days)** field. For more information, refer to View Wireless Diagnostics Information in the Alarm Monitoring User Guide.
8. In the **Number of general authorizations** field, enter the number of authorization that will be available for assignment.
9. (Optional) Double-click on any default Authorization item in the list window, and then type a unique name if required.
10. To enable the Alternative Fire Code (AFC) functions on a door-by-door basis, select the **Manage Alternative Fire Code (AFC)** check box.
    a. To allow a relocking timers to be set to relock doors after they are unlocked, select the **Manage relock timer** check box.
    b. To allow individual locks to be locked automatically when the deadbolt is engaged, select the **Relock with deadbolt mode** check box.
11. Click [OK].

ILS Priority One Events Overview

You can specify up to 20 ILS wireless lock events as priority one events. Priority one events are transmitted immediately from the lock via the Wireless Gateway to Alarm Monitoring as these events occur.

- In the Alarm Configuration folder, use the ILS Priority One Events form to configure priority one events on a system-wide basis. By default, all ILS wireless locks use these system priority one events. For more information, refer to Alarm Configuration Folder - ILS Priority One Events Form on page 1021.
- In the Readers folder, use the ILS Priority One Events form to configure priority one events on a lock-by-lock basis. For more information, refer to Readers and Doors Folder - ILS Priority One Events Form on page 799.

Note: Some events are pre-defined as priority one and are therefore not in the Available list. These events include: Reader Firmware Upgraded, ACU

Firmware Upgraded, WLM Firmware Upgraded, and Audit Trail Limit Reached.

Important: Use care as to how many and which events you select as priority one events. With careful configuration of the priority one events, the lock's battery life may be extended by selecting events that are important but not frequently received. However, if you select events that are not critical and are likely to be generated frequently, the batteries will drain more quickly and need to be replaced more often.

Non-priority one events are sent at the heartbeat after the **Request audits** interval. For information on configuring the interval, refer to the Readers and Doors Folder - ILS Form on page 794. In addition, you can retrieve non-priority lock events by issuing the Read Audits command from Alarm Monitoring. For more information, refer to Retrieve Wireless Lock Events in the Alarm Monitoring User Guide.

Configure ILS Priority One Events

In System Administration, complete the following steps to configure the system priority one events:

1. Select **Alarms** from the **Monitoring** menu. The Alarm Configuration folder is displayed.
2. On the ILS Priority One Events tab:
   a. From the Available list, select the events you want to specify as priority one. For more information, refer to Alarm Configuration Folder - ILS Priority One Events Form on page 1021.
   b. Click [Assign] to move the events to the Selected list.
   c. (Optional) From the Selected list, select priority one events, and then click [Remove] to remove these events from priority one status.
   d. Click [OK].

In System Administration, complete the following steps to configure priority one events for the lock:

1. Select **Readers** from the **Access Control** menu. The Readers folder is displayed.
2. Select the ILS wireless lock for which you want to configure the priority one events.
3. On the ILS Priority One Events tab:
   a. From the Available list, select the events you want to specify as priority one. For more information, refer to Readers and Doors Folder - ILS

Priority One Events Form on page 799.

b. Click [Assign] to move the events to the Selected list.

c. (Optional) From the Selected list, select priority one events, and then click [Remove] to remove these events from priority one status.

d. Click [OK].

Download ILS Wireless Firmware

Important: Be sure to use the most current version of the firmware.

Wireless communication between ReadkeyPRO and ILS wireless locks is accomplished through the Wireless Gateway. Within the Wireless Gateway there are two (2) micro-controllers:

- Wireless WAP Module (WWM)
- WAP Main Controller (WMC)

The ILS wireless lock contains a reader unit and two (2) micro-controllers:

- Access Control Unit (ACU)
- Wireless Lock Module (WLM) - This is the radio unit.

The firmware for all of these controllers and the reader are downloaded from Alarm Monitoring. For more information, refer to Download ILS Wireless Lock Firmware in the Alarm Monitoring User Guide.

Note: Reader firmware is not available for magnetic type locks.

Monitor ILS Wireless Lock Events

ILS wireless lock events are reported in Alarm Monitoring by way of three (3) different mechanisms:

- Priority one events are sent immediately as soon as these events occur at the lock. For more information, refer to ILS Priority One Events Overview on page 1591.
- Non-priority events are retrieved at configurable intervals, and then sent at the next heartbeat. For more information, refer to the **Request audits** option in the Readers and Doors Folder - ILS Form on page 794.
- From Alarm Monitoring, you can request to have the non-priority events sent at the next heartbeat by issuing the Read Audits command. For more information, refer to Retrieve ILS Wireless Lock Events in Alarm Monitoring User Guide.

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Bosch Security Systems
130 Perinton Parkway
Fairport, NY 14450-9199
Customer Service: (800) 289-0096
Technical Support: (888) 886-6189