FIRE

ES Panel
Programmer's Manual

574-849
Rev. U

Simplex

Copyrights and Trademarks

Cautions and Warnings

Cautions and Warnings

READ AND SAVE THESE INSTRUCTIONS- Follow the instructions in this installation manual. These instructions must be followed to avoid damage to this product and associated equipment. Product operation and reliability depend upon proper installation.

DO NOT INSTALL ANY SIMPLEX® PRODUCT THAT APPEARS DAMAGED- Upon unpacking your Simplex product, inspect the contents of the carton for shipping damage. If damage is apparent, immediately file a claim with the carrier and notify an authorized Simplex product supplier.

ELECTRICAL HAZARD - Disconnect electrical field power when making any internal adjustments or repairs. All repairs should be performed by a representative or authorized agent of your local Simplex product supplier.

STATIC HAZARD - Static electricity can damage components. Handle as follows:

- Ground yourself before opening or installing components.
- Prior to installation, keep components wrapped in anti-static material at all times.

EYE SAFETY HAZARD - Under certain fiber optic application conditions, the optical output of this device may exceed eye safety limits. Do not use magnification (such as a microscope or other focusing equipment) when viewing the output of this device.

FCC RULES AND REGULATIONS – PART 15 - This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

SYSTEM REACCEPTANCE TEST AFTER SOFTWARE CHANGES - To ensure proper system operation, this product must be tested in accordance with NFPA 72 after any programming operation or change in site-specific software. Reacceptance testing is required after any change, addition or deletion of system components, or after any modification, repair or adjustment to system hardware or wiring.

All components, circuits, system operations, or software functions known to be affected by a change must be 100% tested. In addition, to ensure that other operations are not inadvertently affected, at least 10% of initiating devices that are not directly affected by the change, up to a maximum of 50 devices, must also be tested and proper system operation verified.

IMPORTANT: Verify FACP System Programmer, Executive, and Slave Software compatibility when installing, or replacing system components. Refer to the Technical Support Information and Downloads website for compatibility information.

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How to Use this Publication

Introduction

Before you start using the ES Panel Programmer's Manual, it's important to understand the typographic conventions used in this publication.

General Conventions

The following conventions are used in this publication to identify special names or text..

Convention	Meaning
Bold type	Indicates words or characters that you type or selections that you must make. Unless it is specifically noted, you can type the text in lowercase or uppercase characters. For example, **cd access** means that you type the lowercase letters "cd" followed by a space and the lowercase word "access."
Italic type	Indicates information that the user must supply, such as filenames. For example, **cd** *directory_name* means that you type the letters "cd" followed by a space and a directory name. Indicates important terms or titles of publications.
"Text in quotes"	Indicates the title of a chapter or section of the manual, such as "How to Use This Publication."
• Bulleted lists	Provides you with information. They are also used to indicate alternatives in numbered procedural steps.
1. Numbered lists	Indicates procedures that you must carry out sequentially.

Keyboard Conventions

The following conventions are used to describe keys and key combinations.

Convention	Meaning
SHIFT	Key names appear in bold type and in capital letters and are referred to by their names only, without the word "key." For example, "press SHIFT" means press the key labeled "Shift."
CTRL+ALT+DEL	A plus sign (+) between two key names means that you hold down the first key while pressing the second key. For example, "press SHIFT+F1" means hold down the SHIFT key while pressing the F1 key. If the key sequence includes three or more key names, hold down all of the keys except for the last one, and then press and release the last key. For example, "press CTRL+ALT+DELETE" means hold down the CTRL and ALT keys, and then press the DELETE key.
ALT,F,P	A comma between key names means that you press and release the first key, and then press and release the second key, and so on. For example, "press ALT, F, P" means press ALT and release it, press F and release it, then press P and release it.
Arrow keys	Arrow keys refers to the UP ARROW, DOWN ARROW, LEFT ARROW, and RIGHT ARROW keys.

Using the Mouse

The following table lists four common terms related to mouse operation that you should know. Use the left mouse button for all actions unless instructed otherwise.

Note: When using the mouse button to point, click, or drag, keep the mouse steady; otherwise, you may select the wrong item.

Term	Function
Point	Move the mouse until the tip of the mouse pointer rests on the screen object or area that you wish to select.
Click	Point to the item you want to select, then press and immediately release the mouse button.
Double-click	Point to the item you want to select, then press and immediately release the mouse button twice in rapid succession.
Drag	Point to the item you want to move, then press and hold down the mouse button while you move the mouse to the desired location. Once you have moved the mouse pointer to the position you want, release the mouse button.

Chapter 1
Installing the PC Programmer

Introduction

This chapter describes installing the PC Programmer application.

In this Chapter

This chapter covers the following topics:

System Requirements

System Requirements

The PC on which the programmer is to be installed must meet the following minimum hardware requirements.

- Windows XP with SP3 or later
- Removable media for job archives and backups
- 1 CD-ROM drive for program installation
- 1 Ethernet port or optionally 1 serial port & assorted cable for communication with the ES Panel
- 1 parallel port or 1 USB port for the software key
- Network card (for certain operations)

Other Required Components

- A 740-989 software key or 741-727 USB software key. (See Field Service Bulletin *FSB-549* for the ordering procedure).
- 741-213 CD-ROM, containing ES Panel Programmer software.

Attaching the Software Key

Overview

Access to the ES Panel Programmer is controlled by the Security Service (separate install, available from the Tech Support web site) and a USB (741-727) or Parallel Port (740-989) key. When the panel programmer application is started, the service performs a check to see if there is a USB or Parallel Port key attached to the PC. If a key is not detected, a message box is displayed noting there is a missing key. Access is not allowed into the ES Panel Programmer.

Installation

Use the following procedure to install a parallel port key. For instructions on installing the Security Service, please refer to *Installing the Software Security System*, 579-825.

1. Turn OFF power to your computer.
2. Remove your printer cable from your parallel port (if installed). Connect the software key to your parallel port and reconnect your printer cable to the software key. (See Figure 2-1.)
3. Turn ON power to your computer.

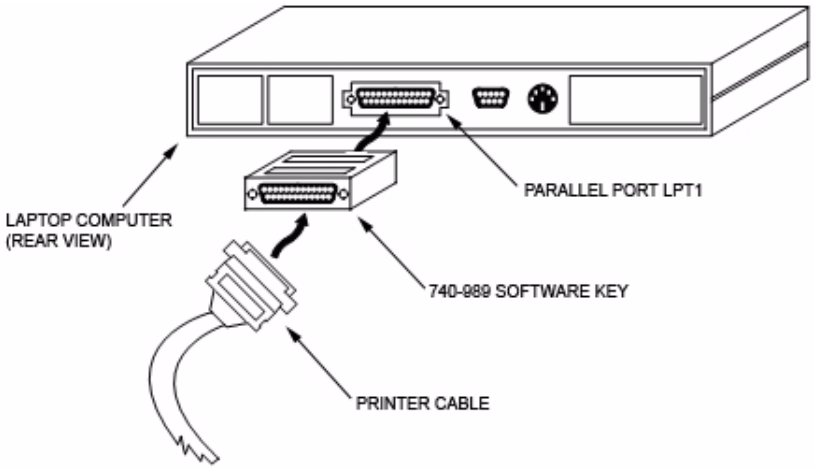

Figure 1-1. Software Key Installation

For a USB key installation, simply plug your USB key into an available slot.

Installing the Programmer

Introduction

The ES Panel PC Programmer is typically installed from one of two sources:

- Distribution CD containing the programmer application software.
- Technical Support Web Site. Contact Simplex Service Support for information on theTechnical Support Web Site and instructions for downloading the programmer's executable file.

Installation Procedure

1. Double click on the **ES Panel Programmer** icon to launch the PC Programmer's installation script. The screen shown in Figure 2-2 appears.

Figure 1-2. Initial Installation Screen

2. Click **Next** to continue the installation. The screen shown in Figure 2-3. appears, displaying the Software License Agreement.

Figure 1-3. Software License Agreement

Continued on next page

Installation Procedure

3. Click **Yes** to accept the agreement and to continue with the installation. The screen in Figure 2-4 appears, prompting you to specify the destination folder to which the programmer files should be installed.

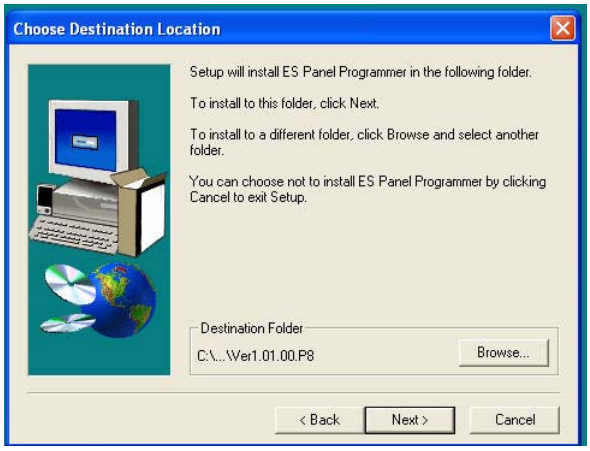

Figure 1-4. Destination Directory Dialog

4. Click the **Next** button to accept the default destination. Otherwise, click the Browse button, select the directory to which software should be installed, and then click on the Next button. In most cases, it is suggested that you use the default directory location.

5. The next screen, shown in Figure 2-5, prompts you for the name of the folder in which the programmer's startup icon should be stored. It is recommended that you choose the default folder Simplex. When the correct entry is specified, click **Next** to continue.

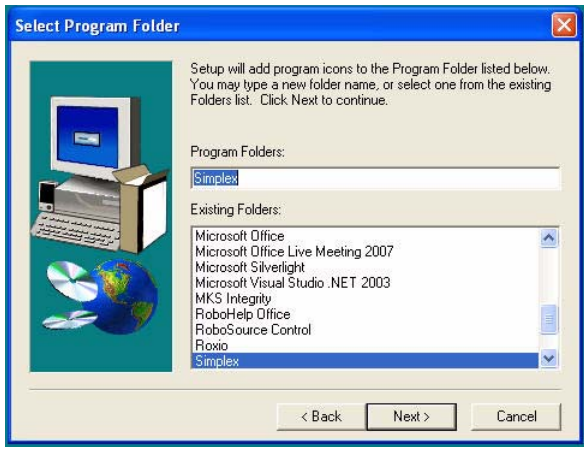

Figure 1-5. Select Folder

Continued on next page

Installation Procedure

6. A series of progress indicators appear, displaying the progress of the file copy operations. The next prompt, shown in Figure 2-6, directs you to restart your computer.

Figure 1-6. Reboot System Prompt

7. To complete the installation click Finish.

Chapter 2
Overview

Introduction

This chapter provides an overview of the process required to program a ES Panel job and introduces you to the general features of the ES Panel PC Programmer application, which is the Windows-based application used to program a ES Panel FACP.

In this Chapter

This chapter covers the following topics:

Notice to Users, Installers, Authorities Having Jurisdiction, and Other Involved Parties

This product incorporates field programmable software. In order for the product to comply with the Standard for Control Units and Accessories for Fire alarm systems, UL864, certain programming features or options must be limited to specific values or not used at all as indicated below.

Table 2-1. Programming features or options

Program Feature or Option	Permitted in UL864? (Y/N)	Possible Settings	Settings Permitted by UL
Editing amplifier properties (Table 8-2) data entry tab	Yes	Depleted Battery Cutout Insuite Devices Used Backup Amp Address NAC Options	Depleted Battery Cutout Backup Amp Address NAC Options
Editing group properties (Table 9-2) DC group tab	Yes	ON until completion ON until RESET ON until SILENCE	ON until completion
Specify Abort Switch operation (Fig. 16-5)	Yes	Immediate 10 second delay 10 second remaining IRI Abort NYC Abort	Immediate 10 second delay 10 second remaining
Editing Custom Control equations that change sensitivity levels (set Alarm Thresholds) for ISN-550 Photo smoke detectors	Yes	3.1 2.6 2.2 1.8 1.4 1.0	3.1 2.6 2.2
LVSUPV - Latching Verified Supervisory Smoke Detector	No		
LVSDUCT - Latching Verified Supervisory Duct Smoke Detector	No		

Programming Overview

Typical Programming Process

This manual describes the general process used to program a new ES Panel job or edit an existing ES Panel job. A *job* refers to the file containing all of the panel's programming information. A job can be either a *standalone job*, meaning the panel (which may consist of multiple back boxes) contains only a single CPU, or a *network job* - which contains the programming information for multiple panels (i.e., multiple CPUs) linked to one another via a Simplex 4120 fire network.

The job programming process typically falls into one of the three categories outlined in Figure 1-1. This figure also identifies the general process required to program each type of job.

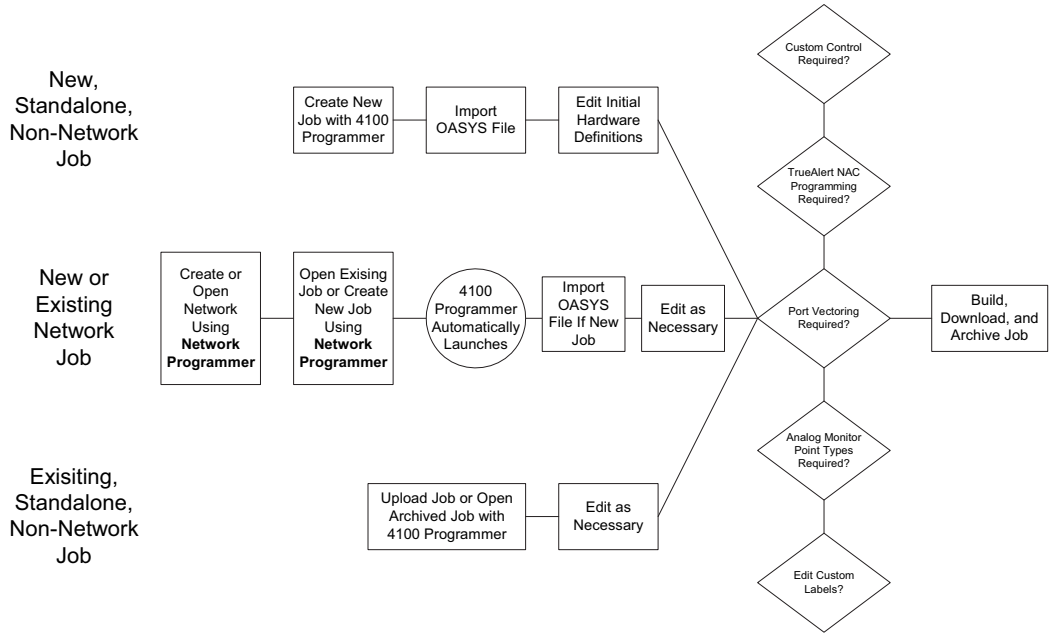

Figure 2-1. Programming Process Overview

As shown in the figure above, each of the three job types requires a slightly different process at the beginning and a similar process towards the end. Keep the following tips in mind when programming a job.

- **New (Standalone or Network) Jobs** - Whenever possible, use the OASYS transfer database file to import the hardware definitions and module placement information for the job. Doing this limits the amount of programming required to specify job-specific hardware.

- **Network Jobs** - Refer to Simplex publication 579-166 for information on using the network programmer to do the following:
  - Create or open an existing network.
  - Open an existing job or create a new job. Once the network is created or opened, you must create or edit a job for each panel on the network. The network programmer automatically launches the PC Programmer, where each panel's job can be created or edited.

  After these tasks are complete, follow the procedures in this manual to edit and program the job for each panel on the network.

- **Existing Jobs** - Whenever possible, always use an archived or backed up version of the job as the starting point for editing the job. This helps assure the version of the job currently executing on the panel and the job loaded on the programmer are the same. If necessary, the job file for an installed panel can be uploaded to the PC from the panel.

Interface Overview

Introduction

The ES Panel Programmer application provides a graphical interface for programming a ES Panel job. This application contains the following major components.

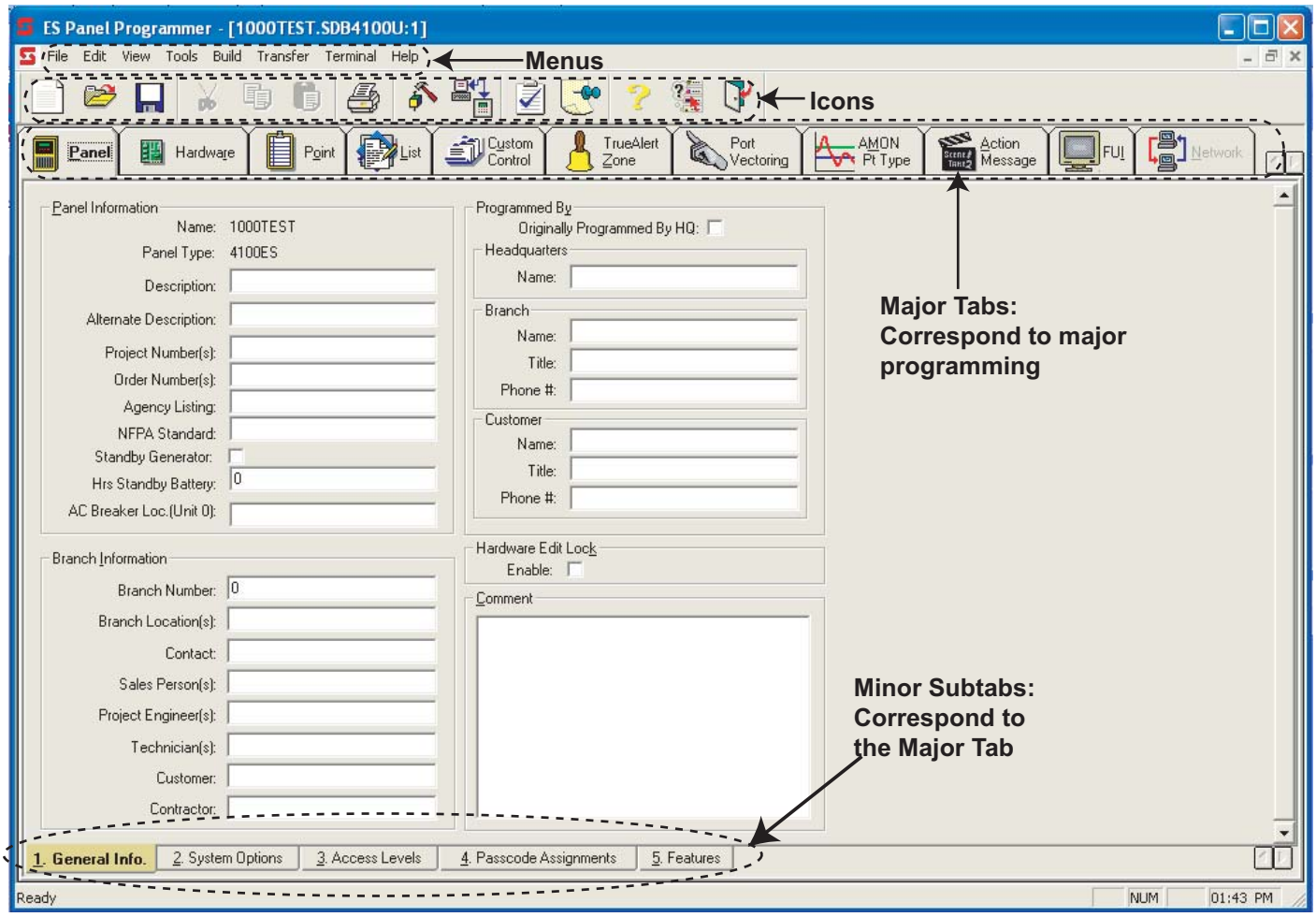

Figure 2-2. Main Programming Screen with Panel Tab Selected

- **Tabs** are used throughout the programmer. Two types of tabs are used:
  - **Major Tabs** - The major tabs run along the top of the screen, just below the row of icons, and are always present. Clicking on a major tab gains access to a window that allows you to program a specific component or feature of the job. When viewed from left to right, these tabs identify the programming sequence used to create a ES Panel job. It is strongly recommended that a left to right pattern be used when programming a new job. Refer to "Tabs" later in this section for specific information on each tab.
  - **Minor Sub Tabs** - Some of the major tabs, such as the Panel Tab shown in Figure 1-2, have a set of minor tabs associated with them. Minor tabs are used to break down the major tab into specific programming areas, and only appear when the associated major tab is selected.

- **Icons** allow you to quickly perform routine tasks - such as printing, saving a job, etc. Refer to “Icons” below for a quick reference of each icon's function.

- **Menus** contain groups of similar choices. All menu choices have a counterpart on the icon bar.

- **Task Checklists**, shown on the left side of the figure below, provide a means of tracking progress through the programming process. Each major programming task can be expanded to view its subtasks. As you complete each subtask, use its checkbox to indicate that it is complete. The programmer divides tasks into two major groups - mandatory and optional - allowing you to easily determine whether all of the basic programming tasks have been completed for a given job.

Continued on next page

Introduction

You can configure the programmer to prompt you when you exit a programming tab with an incomplete (unchecked) task checkbox. Reminders can be programmed to appear during the programming session or only at build time. Use the Edit Menu, Preferences option to enable or disable reminder messages.

Display of the checklist can be toggled on and off using either the X control on the top right of the checklist, or by clicking on the View menu and selecting Checklist, or by pressing the F10 function key.

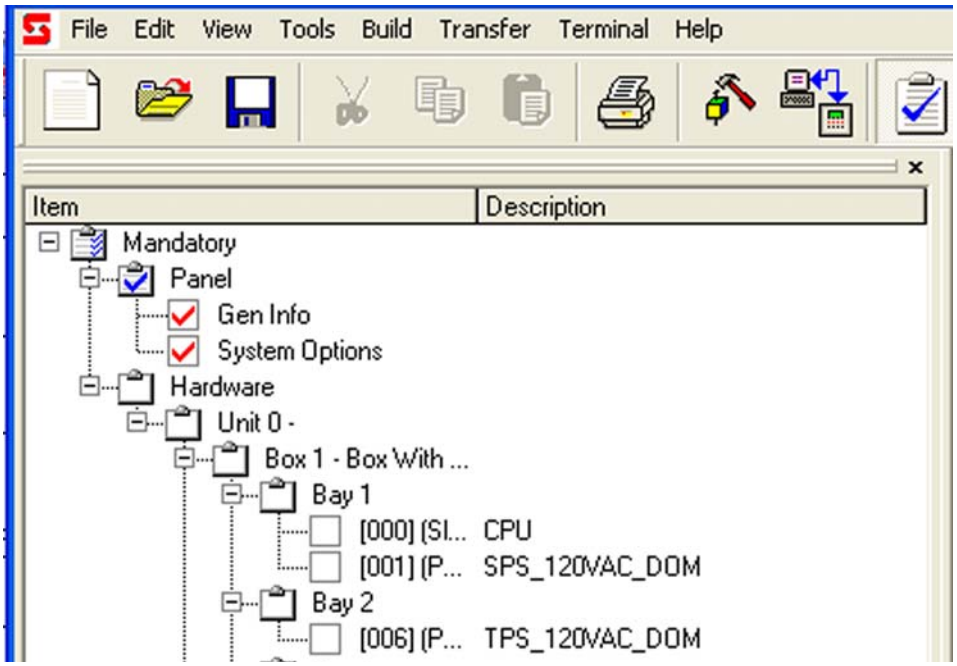

Figure 2-3. Programmer Checklist On

Tabs

Each of the major tabs running along the top of the programmer contains a group of related programming functions.

- **Panel Tab** - Five subtabs appear along the bottom of the screen when the Panel tab is selected. These subtabs allow you to do the following:
  - Identify the panel's general information (branch, panel, customer information, etc.)
  - Enable system options -- which are common programming tasks, such as choosing whether door relays drop on AC power failure. These options are typically check boxes or list boxes that allow you to choose how a common task is performed. Chapter 4 discusses system options.
  - Restrict access to specific panel functions by associating the function with a passcode.
  - Specify the CPU card's serial number.

- **Hardware Tab-** This tab uses a two dimensional work area in which icons represent the customer-specific components of the fire alarm system. Available icons include units (which represent locations in the building), boxes, and cards. Chapter 5 discusses Adding and Editing the system's hardware components.

- **Point Tab** - This tab allows you to specify the custom label and point type for each point in the system. Points are the discrete components of the system, such as pull stations, NACs, and relays. Programming a point consists of defining its hardware device type, which identifies the specific type of equipment being programmed, and its software point type, which defines the way in which the system responds to a change in the point's electrical state. Every point in the system also includes a custom label field. These fields are typically specified in conjunction with the building's maintenance personnel and the local fire department. The Point Tab allows the system's points to be sorted, filtered and searched in a range of ways, allowing you to quickly locate specific points.

Continued on next page

Tabs

- **List Tab** - Lists have a variety of uses within the 4100U system. The programmer automatically creates *System Lists*. These lists define the *default* operation of the system, allowing groups of devices to be controlled in a specific manner following a specific system event. Points are assigned to specific system lists based on the point type assigned to the point. *User Defined Lists* allow custom operation ofthe system, using either Custom Control equations or by associating the list with a switch or LED (e.g., if a point within the user-defined list goes "On", illuminate a specific LED to indicate a specific condition has occurred).
- **Custom Control Tab** - New "wizard-style" dialogs have beenadded to Custom Control. These wizards step you through the process of creating custom control equations, which allow you to customize the operation of the system.
- **TrueAlert Zone Tab** - TrueAlert NACs are not hardwired to theES Panel, but instead are connected via TrueAlert communication channels in the system. This tab allows you to specify which remote devices comprise which TrueAlert zones.
- **Port Vectoring Tab** - This tab allows you to specify which of the system's events are routed to the service modem or to an RS-232 card.
- **AMON Point Type Tab** - Use this tab to configure the system's Analog Monitor ZAMs.
- **Action Message Tab** - Use this tab to set messages to direct the user during an alarm condition.
- **FUI Tab** - This tab configures the language and display settings of the InfoAlarm.
- **Network Point Tab** - Use this tab to declare the panel's public points and to identify which external points are to annunciate their status on the panel. A ***public point*** is a point connected to this panel that you want to be visible to other nodes on the network. In other words, when the status of the point changes, you want it to annunciate its status on the other node. An ***external point*** is a point on another node. Declaring it to be an external point allows its status to be annunciated on this panel.

Icons

The icon bar contains a set of icons that allow you to quickly perform basic tasks, such as creating a new job or building a job. Figure 2-4. shows the location of the icon bar and identifies the function of each icon.

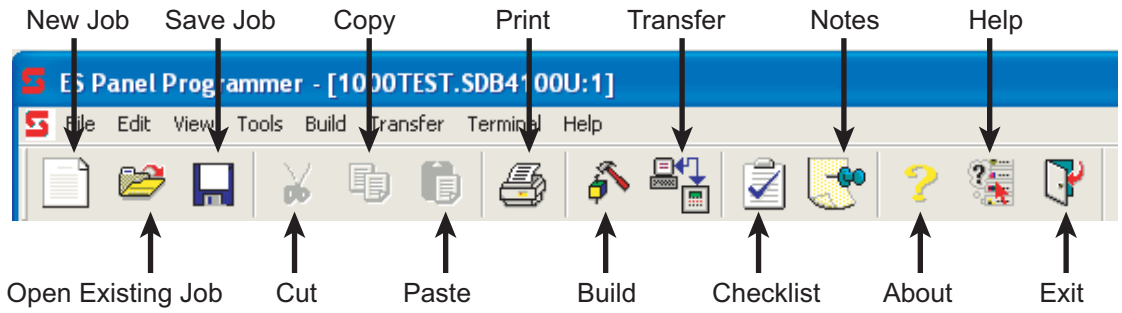

Figure 2-4. . Icon Bar

Chapter 3
Basic Operations

Introduction

This chapter discusses the basic operations - such as starting the application, uploading a job from an existing panel, creating a new job, etc. - related to using the programmer.

In this Chapter

Refer to the page number listed in this table for information on a specific topic.

Starting the Programmer

Procedure

1. Click the **Start** button. Move the pointer to the **Programs** option. When the list of choices appears, move the pointer to the **Simplex** option and click on **ES Panel Programmer**.

   A screen similar to the one shown in Figure 3-1 appears. At this point, you need to either create a new job or open an existing job. Refer to either Creating a New Job or Opening an Existing Job later in this chapter for specific information on doing this.

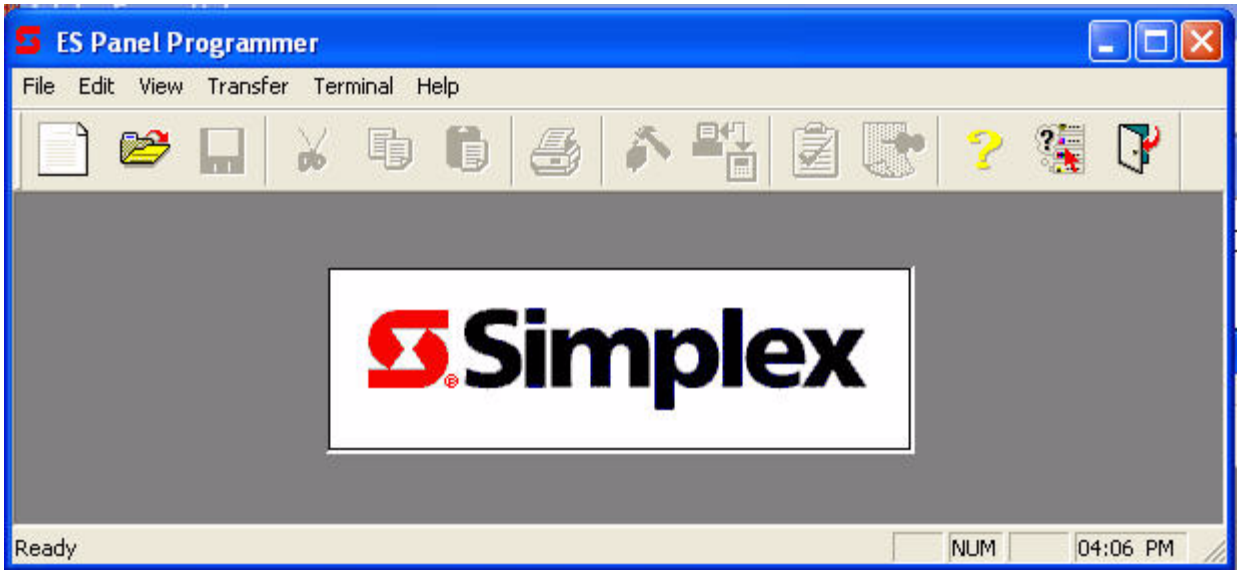

Figure 3-1. Initial Programmer Screen

Creating a New Job

Starting a New Job

1. You can start a new job in one of two ways:

   - Click on the **File** menu and select the **New** option.
   - Move the cursor to the toolbar at the top of the programmer and select the icon.

A dialog similar to the one shown in Figure 3-2 appears.

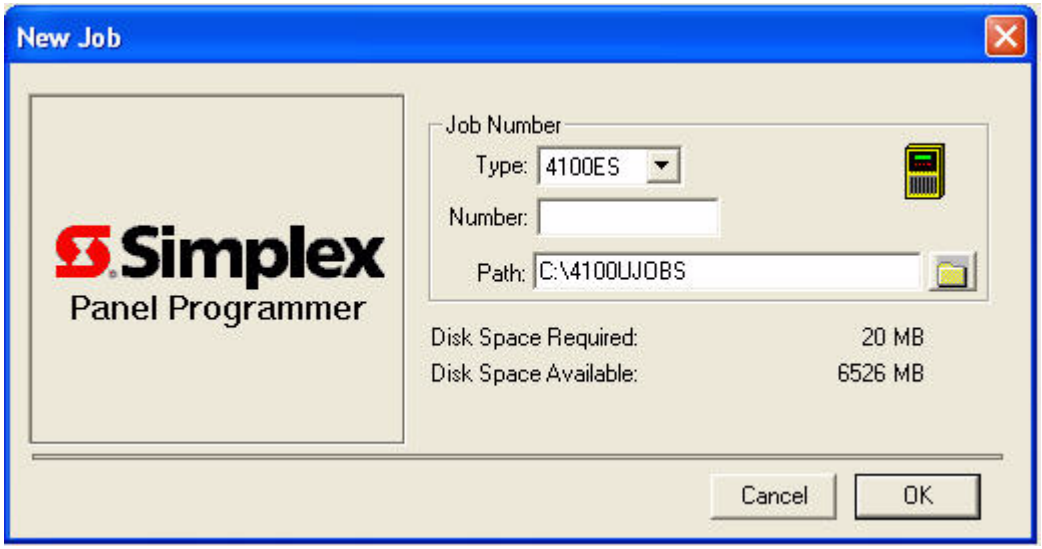

Figure 3-2. Create a New Job Dialog

2. Click on the **Type** drop down list box. Two selections appear, each of which corresponds to a specific type of ES Panel.

   - ES. Specifies the panel is a 4100ES (networked or standalone).
   - NDU. Specifies the panel is a Network Display Unit.

3. Enter the job number in the **Number** field. The ES Panel job naming convention is a five-field, eight-digit code, consisting of the following fields. (A file number is assigned to every job at order entry. In most cases, this number should be taken from the electronic project folder.) See Table 3-1.
   - **Year**. This is a two-digit field. Use the last two digits of the current year to indicate the year in which the job was programmed.
   - **Month**. This is a single character field. Use the numbers and letters shown in the example below to indicate the month in which the job was programmed. See Table 3-1.
   - **File Type**. This field is a single letter, used to indicate the panel type. There is currently only a single supported type.
   - **Number**. This is a three-digit field used to track how many of a specific job type have been programmed during the month. For example, if the File type is 4100ES, enter the number of 4100ES jobs programmed during the month.
   - **Job Version**. When archiving a job, you can use letters to differentiate the jobs once they have been archived. For example, once job 103U123A is archived, new edits should be saved to 103U123B.

Starting a New Job

Example. Table 3-1 describes the format.

Table 3-1 Job Naming Convention

YEAR	MONTH	FILE TYPE	NUMBER	JOB VERSION
	1 = Jan	ES = 4100ES		
	2 = Feb			
	3 = Mar			
	4 = Apr			
	5 = May			
	6 = Jun			
	7 = Jul			
	8 = Aug			
	9 = Sep			
	A = Oct			
	B = Nov			
	C = Dec			
00	**5**	**ES**	**01**	**A**

4. In the **Path** field of the Create New Job dialog (refer back to Figure 3-2), specify the directory path to which the job file should be stored. The default directory for a standalone panel is \4100UJOBS. (Network jobs default to \NETJOBS*SITENAME*, where *SITENAME* represents the job's directory.) If necessary, use the folder icon to the right of the text entry field to specify an alternative directory or drive.

5. Click **Finish**.

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Importing an OASYS Transfer File

Simplex sales personnel use a Windows application named OASYS to generate a quote for the fire alarm system. OASYS has the capability of exporting a transfer database file containing the panel's hardware information and module placement locations. This file is typically passed from the salesperson to the person responsible for programming the job via email or network transfer.

1. Select the button labeled **Import from Transfer File**.

2. Click on the folder to the right of the field labeled Order Number. A standard windows dialog appears, allowing you to search for .OAT (OASYS transfer) files. The default location for these files is .../4100UJOBS

Opening an Existing Job

Guidelines

By default, previously programmed jobs are stored in either the \4100UJOBS or the \NETJOBS*SITENAME* directory (where *SITENAME* represents the directory in which the network job is stored). Use the procedure described in this section to open a previously saved job stored on your PC.

Note: You should only do this if you are sure that the job on the PC is exactly the same as the programming (CFIG) currently in use on the panel.

Procedure

1. Open the 400UJOBS folder by doing either of the following:

   - Move the cursor to the toolbar at the top of the programmer and select the  icon.
   - Click on the **File** menu and select **Open**.

   In both cases, a window similar to the following appears.

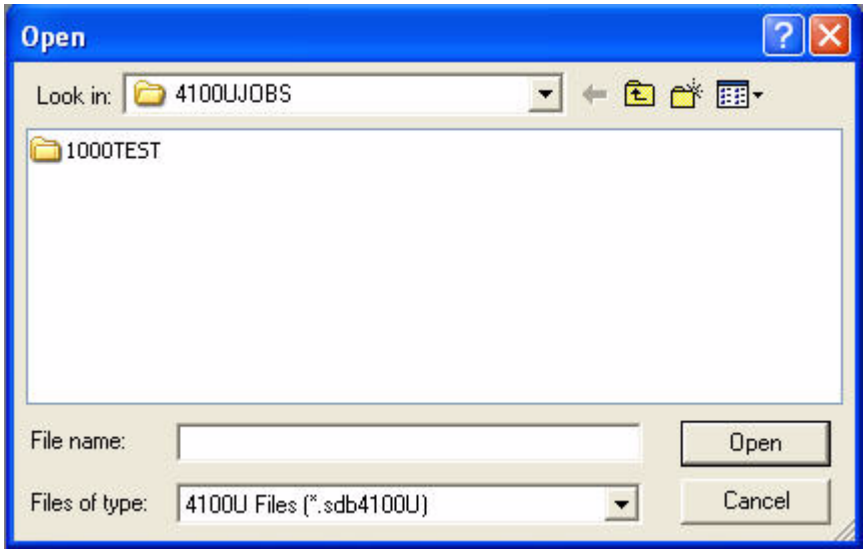

Figure 3-3. Open Job Window

2. Open the folder containing the job that corresponds to the panel you are currently programming.

3. Select the job name and click on the **Open** button. One of the following occurs, depending on whether the job has been previously archived.

   - **Non-Archived Jobs**. A series of messages appear, indicating that the programmer is loading the job and updating links. The main PC Programmer screen follows these messages.

   - **Archived Jobs**. A prompt appears, indicating that the job has been previously archived and changes will be saved to a new revision of the job. Click **OK** to continue. The next screen displays the main PC Programmer screen.

Entering the Panel CPU Number

Entering the Panel CPU Serial Number

The panel CPU serial number must be entered before the job can be downloaded to the panel.

Note: If you do not know the panel CPU serial number, apply power to the panel and observe the initial screens that appear on the display. Record the CPU Serial Number that appears.

To enter the panel CPU serial number, do the following:

1. Click on the **Panel** tab at the top of the programmer.
2. Click on the **Features** tab at the bottom of the programmer.

A screen similar to the one shown in Figure 3-4 appears.

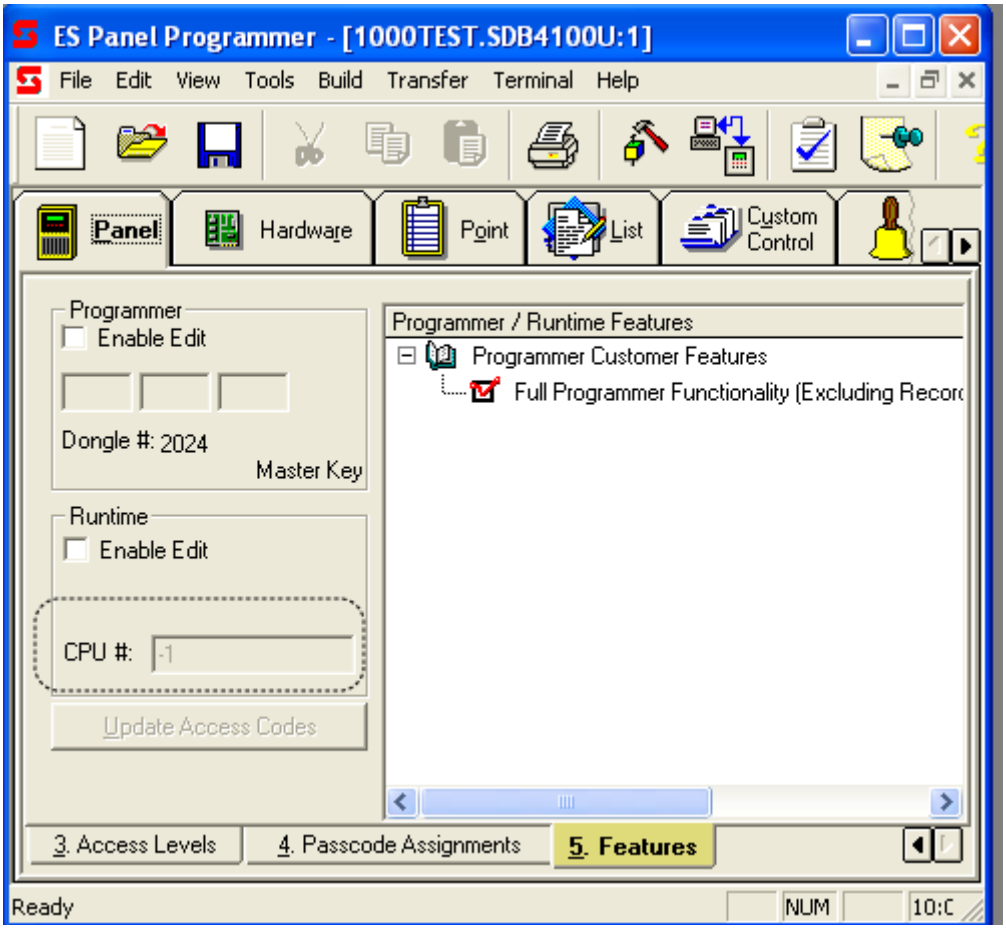

Figure 3-4. Enabling System Features Screen

3. Click on the **Runtime Enable Edit** check box. Enter the serial number of the panel CPU in the text entry field located beneath the button, and then click on **Update Access Codes**.

Building a Job

Overview

When you are finished programming a job, you must first build the job before downloading it. Building a job takes the .SDB file (the uncompiled, "working" file) and creates a CFIG file (compiled version of job, usable by panel) that can be downloaded to the panel.

If errors are detected by the build operation, they are flagged and the build operation aborts. These errors must be resolved before the build can be performed and the CFIG can be created. Contact Simplex Service Support for help in resolving build errors.

Procedure

1. Start the programmer and open the job that you want to build. Refer to Chapter 3 forinformation on opening an existing job if necessary.

2. Start the build utility, using either of the following methods.

   - Click on the **Build** menu and select the **Build** menu option.
   - Click on the **Build** icon.

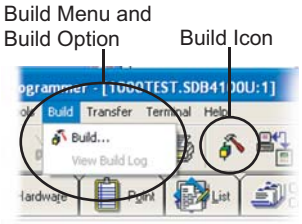

Figure 3-5. Build Icon

3. When the Revision History dialog appears, enter the name of the job in the Name field (or the name of the person making the changes). Enter the modifications made to the job in the Enter Modifications text box. Click **OK**.

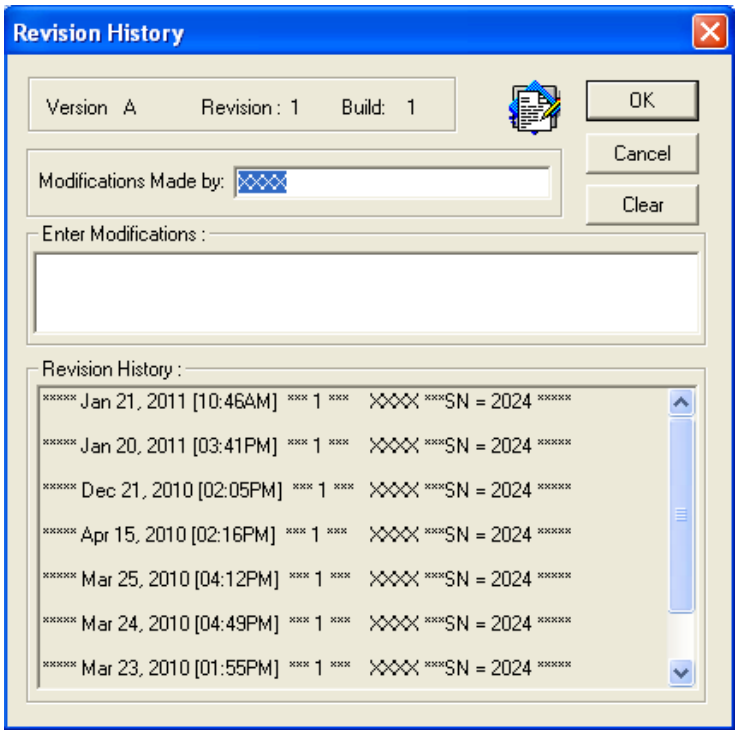

Figure 3-6. Revision History

Continued on next page

Procedure

The ES Panel Job Builder dialog appears. It contains messages, including errors, related to the creation of the downloadable CFIG file.

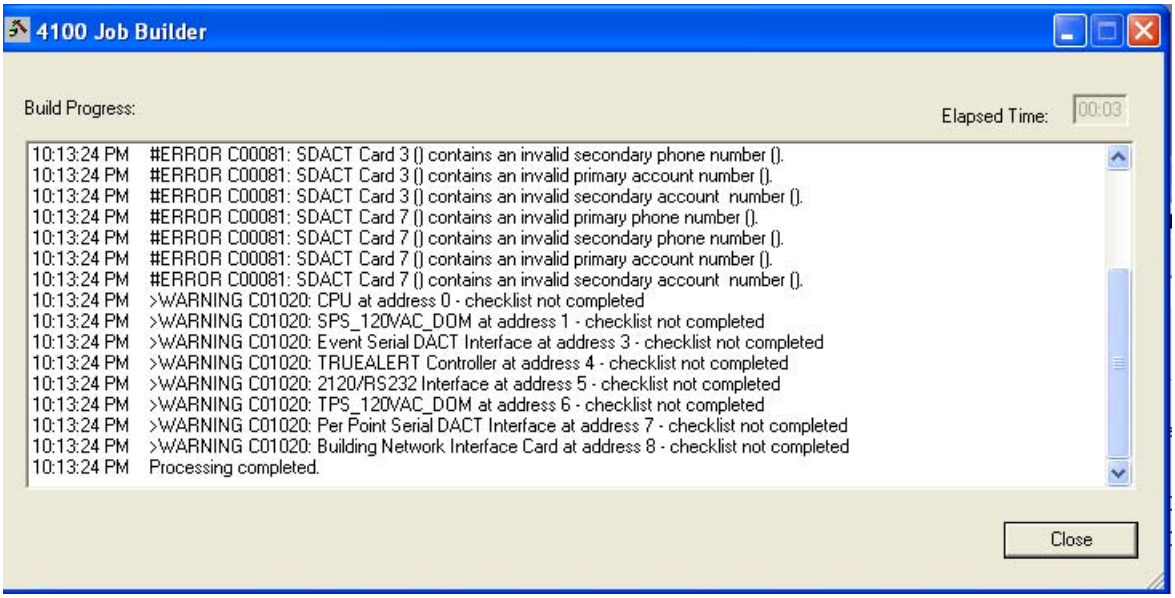

Figure 3-7. Job Builder

4. If the dialog says “Build Complete,” you are ready to download the file to the panel. If error messages appear, along with a “Build Aborted” message, you must first resolve the errors before rebuilding the job. Contact Simplex Service Support for information on resolving build errors. Click **Close** to close the dialog.

Saving a Job

Save Option

When programming a large job, it is recommended that you periodically save the job to avoid losing changes should problems occur.

You can gain access to the Save option in one of two ways.

- Click on the **File** menu and select **Save**.
- Click on the  icon on the programmer's toolbar.

The Revision History window, shown in Figure 3-8, appears. Enter information in the window's fields, as follows:

- **Name**. Name of the person editing the job.
- **Enter Modifications**. Type a specific description of the changes that you have made. For example, "Updated the custom labels of points M1-1 through M1-5, per customer request."

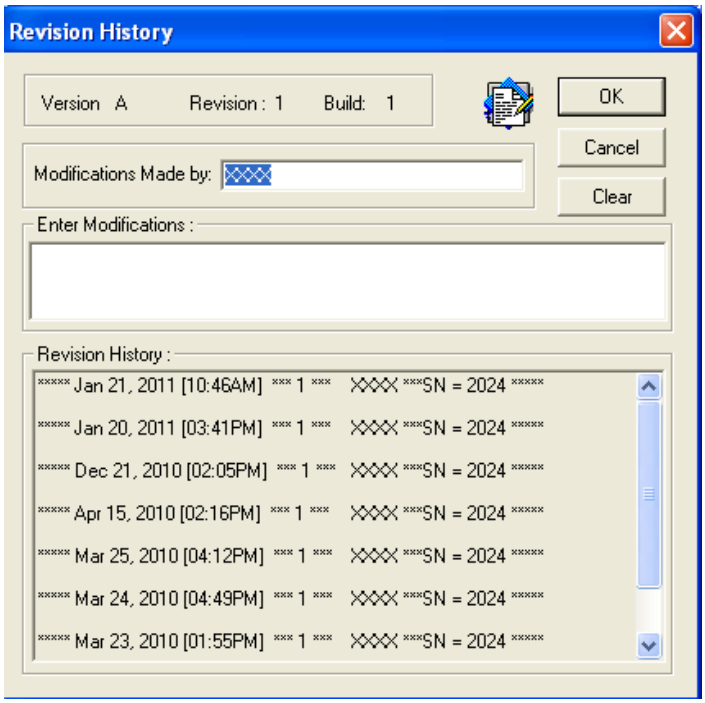

Figure 3-8. Revision History Window

Using the Save As Option

The Save As option is most commonly used to save the current job as a new revision letter.

Scenario:

- You are given a customer job file to which you will be making changes. The first step should be to save the job (using the Save As command) incrementing the revision letter.

Reasoning:

- If there are problems with the changes the previous file could be reloaded.

1. Click the **File** menu and choose **Save As**. A cascade menu appears to the right, containing the **Copy** and **Rename** choices. Click on the appropriate choice, using the following guidelines. A dialog similar to the one shown in Figure 3-9 appears.

   - **Copy** saves a copy of the currently open job, using the name you specify, in a new directory that uses the same name as the job.
   - **Rename** changes the name of the open job to the name you specify, creates a new directory with that name, and deletes the original job from its directory.

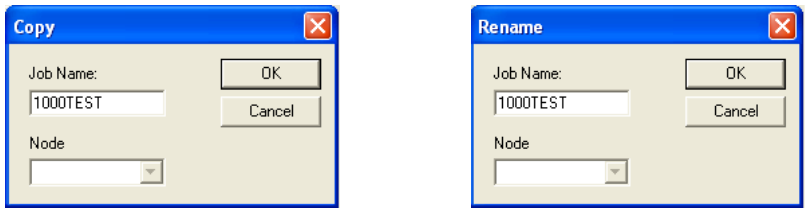

Figure 3-9. Save As Dialogs

2. Enter the new name in the Job Name field. If the job is a network job, use the drop down list box to select the node number of the job.

Archiving, Backing Up, and Restoring Jobs

Introduction

This section discusses the programmer's file management tools - Archive, Backup, and Restore. Refer to the appropriate section below for additional information.

Always backup and archive a job following editing and successful download. Doing this allows you to return to a known state should critical problems occur with an edited job file or any future changes to a job are required.

Archiving a Job

The Archive Utility creates a compressed, *permanent* copy of a job, marks the job as read only, and saves it to the drive you specify (for example, floppy, networked drive, hard drive, removable drive). This copy can be restored at a later date, using the Restore command.

Follow district office procedures for submitting the archive file to the central server on which the files are stored.

To archive a job, follow these steps:

1. Make sure the job has been saved before archiving.
2. Click on the **File** menu and select the **Archive** option. A dialog similar to Figure 3-10 appears.

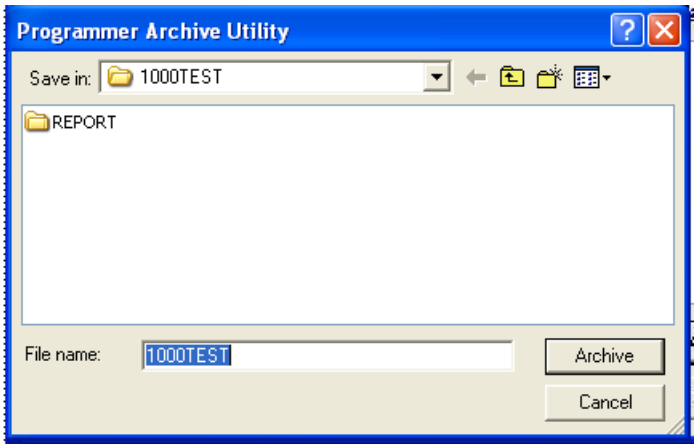

Figure 3-10. Archive Dialog

3. Click on the **Save In** drop down list to select a destination drive and folder. By default, the Archive Utility uses the name of the job for the archive directory and file name.
4. Click on the **Archive** button.

A progress meter appears, showing the progress of the archive operation. When this bar disappears, the archive operation is complete.

Backing Up a Job

Backup creates a compressed version of the job and stores it as a *read/writable* version of the job on either a removable storage medium or a remote disk. Follow these steps to back up a job.

1. Click on the **File** menu and select the **Backup** option.

A dialog similar to Figure 3-11 appears.

2. Click on the **Save In** drop down list to select a destination drive and folder. By default, the Backup Utility uses the name of the job for the archive directory and file name.

3. Click on the **Backup** button.

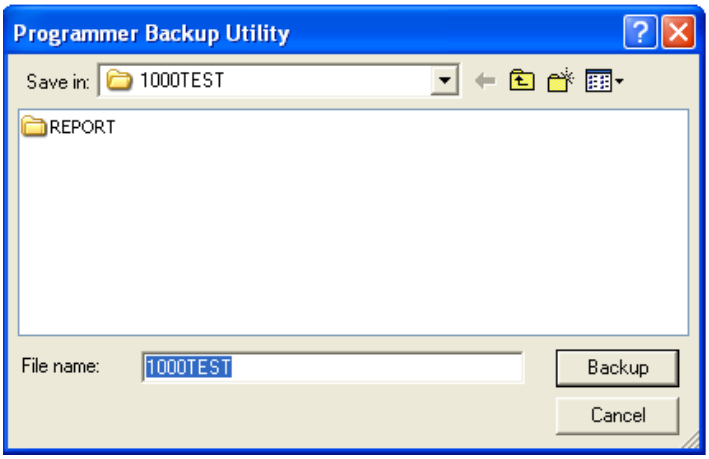

Figure 3-11. Backup Dialog

Restoring a Backed Up or Archived Job

Restore allows previously backed up or archived jobs to be retrieved for subsequent viewing or editing.

To restore a backed up or archived job, follow these steps:

1. Click on the **File** menu and select the **Restore** option.

A dialog similar to the one shown in Figure 3-12 appears.

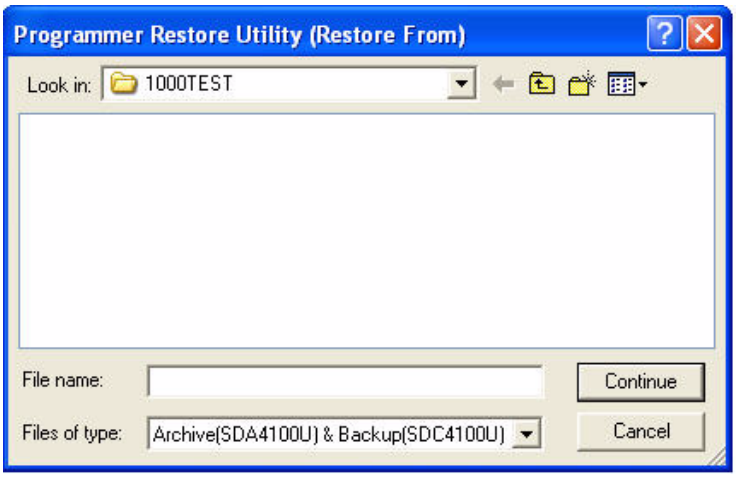

Figure 3-12. Restore Dialog

2. Click on the **Look In** Select the drive and directory containing the Backup or Archive files.

Restoring a Backed Up or Archived Job

3. Click on the **Files of Type** list box and choose the file type (archive or backup). In the list of files that appears, choose the file to restore and click on the **Continue** button. Archived files are listed with an SDA4100U file extension, and Backup files are listed with an SDC4100U file extension.

   A dialog similar to the one shown in Figure 3-13 appears, prompting you to specify the hard drive (typically C:) to which the file should be restored. (Make sure to specify only the hard drive here. The Restore Utility restores the job to the directory from which it was originally backed up or archived.)

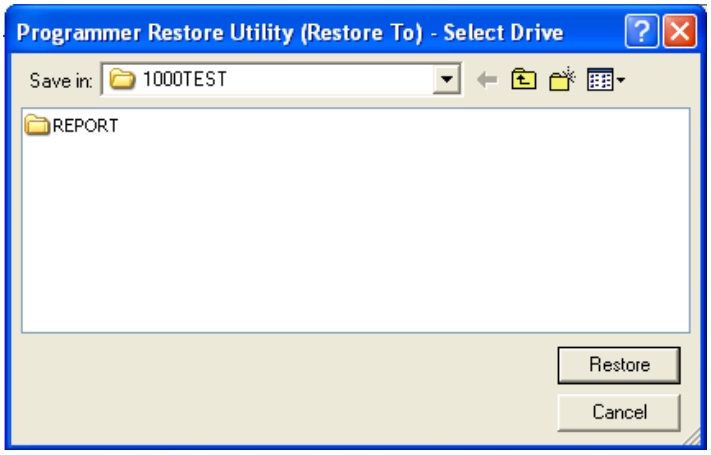

Figure 3-13. Programmer Restore Utility Screen

4. Select the drive and directory to which the file should be restored and click **Restore**.

Note: If a file by the same name exists in the target directory, a prompt appears asking if you want to overwrite the file.

Converting a 4100 Job to an ES Panel Job

Guidelines

This section describes converting an existing 4100 job to an ES job. Adhere to the following guidelines before beginning the conversion.

- Make a backup of the original job or network job before any changes are made. Refer to the previous section in this chapter for information on doing this.
- If the revision level of the system software is lower than Revision 9, the job must first be loaded, built, and verified at each revision up to and including Revision 9.
- If you are converting a network job, the job must be converted and saved in the current network directory to remain part of the network.
- If possible, obtain a default configuration report print out of the existing Rev. 9 job configuration.

Converting a Job

1. Click the **Start** button. Move the pointer to the **All Programs** option. When the list of choices appears, move the pointer to the **Simplex** option and click on the option containing the programmer. A list of options appears. Click on **Converter**. A screen similar to the following appears.

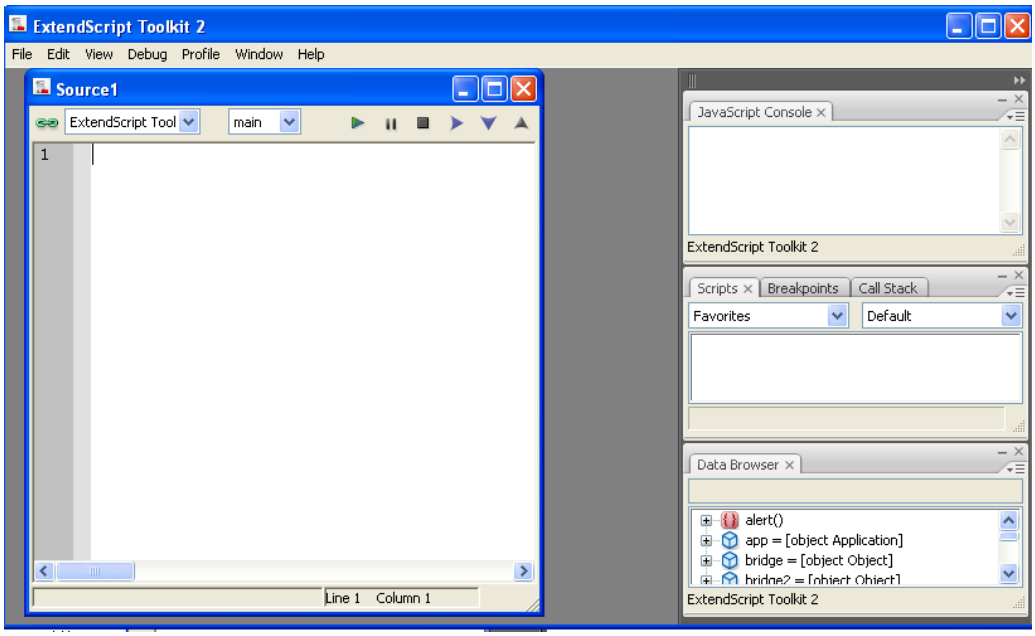

Figure 3-14. DBF to SDB Conversion Utility

Converting a Job

2. Click on the **Load DBF** button. Use the standard Windows dialog that appears to locate the.DBF file you want to convert. Click **Open** in the Windows dialog to load the.DBF file.

   A series of messages appear in the Convert Utility window, followed by a prompt that asks you if you want to start the translation.

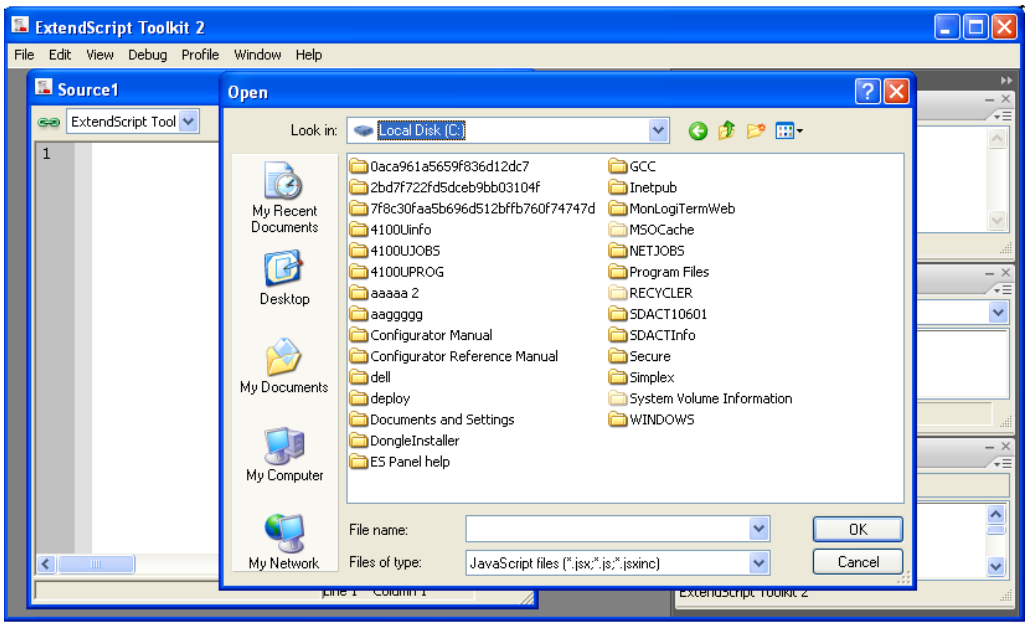

Figure 3-15. Starting the Translation

3. Click Yes to start the translation of the job.

   Important Note: The translation process can take several minutes to complete. At times, the process may appear to be stalled and the amount of time required to convert a job depends on the size of the job. Do NOT press the Abort key. This could cause the file to become corrupt.

   When the translation is complete, "**Translation Complete**" appears at the bottom of the window.

4. The old *JOBNAME*.DBF file is converted to *JOBNAME*.SDB4100U and is stored in the c:\4100JOBS*JOB_DIRECTORY* folder. Move the job.directory folder from the C:4100Jobs to the c:\4100UJOBS\ folder. Use Windows Explorer to move the folder. Click on **Close** to close the conversion utility.

5. Open the translated job (new.SDB4100 file) within the 4100 Programmer.

Reviewing and Verifying the Job

Review and verify the job to ensure that all hardware and system functions converted properly, as follows:

1. Take a physical inventory of the job.

   - **Boxes**. Record location information for each box, as well as the number of bays associated with each box.
   - **Cards.** Record the card type and physical location (box, bay, and slot) for each card. The slot information is critical, as the DOS programmer does not reference slot information whereas the Windows programmer does.

Reviewing and Verifying the Job

2. Open the Hardware tab and expand all boxes so that the card level information is visible. (Information on using the Hardware Tab is contained in Chapter 5 of this manual). Be aware of the following in the hardware tab.

   - The system assumes each box in the converted job is a 3-bay (6 unit) box. To change a box type, right click on the box and choose Properties. Click on the Type drop down list box and choose the correct box type.
   - Additional boxes may be added to the job configuration when no box physically exists. You will need to delete these extra boxes after moving cards from them. To delete an extra box, right click on the box and choose **Delete**.
   - Cards should be added to the proper box, bay, and slot by clicking and dragging the card to the proper location. In some cases, the card's slot information will need to be changed **before** moving the card to its new location.
   - All cards should be allowed to be located to the correct slot location.

3. Verify all programming. Make sure to review the job configuration thoroughly for program errors and deletions. Key areas to focus on include:

   - System Modules. Verify all modules converted properly and are present in the new configuration. There should be no deletions. Verify each module's programmed information. Refer to the subsequent chapters in this book for information on programming for specific modules
   - Custom Control. Verify each module's programmed information. Verify all program names (blocks) and equation names are correct. Verify the programming information within each equation.
   - If TrueAlert addressable controllers are installed, verify all point and zone information for the controller.
   - Access Levels. The default access level for several functions is no longer access level 1 and has been changed to access level 2. Access levels that are not valid after conversion will be set to the default access level for the function.
   - The panel serial number needs to be entered. Refer to Entering the Panel CPU Number earlier in this chapter for information on doing this, the information is also available through the main menu. The panel serial number appears when the panel is first started.
   - Verify all point list information, including alarm verification, coding, WalkTest, and elevator recall.
   - Verify all network information.

4. Save, build, and download the new job configuration.

5. Verify system operation. **A 100% system test must be completed to ensure proper system operation.**

Entering Notes/Setting Preferences

Entering Notes

The Notes window is a blank screen in which you can input any notes, reminders, etc. related to the job. Access this window by clicking on the **Tools** menu and selecting **Notes**, or by clicking on the **Notes** icon on the toolbar.

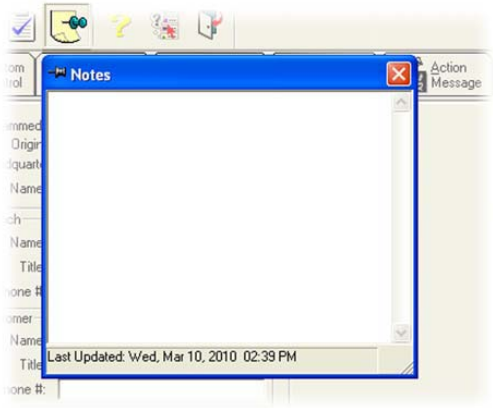

Figure 3-16. Note Utility

Setting Preferences

The preferences dialog, shown in the figure below, allows you to control general system behavior and appearance. Click the **Edit** menu and select **Preferences** to gain access to this dialog.

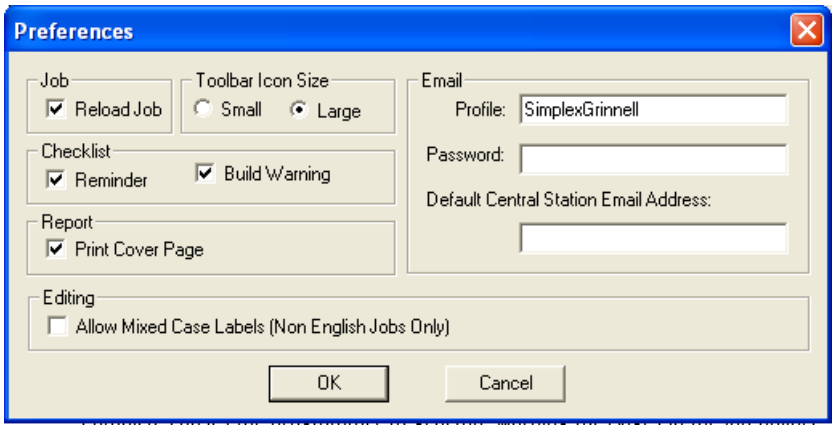

Figure 3-17. Preferences Dialog

Set the options in this dialog as follows:

- **Job**. Click on the Reload Job checkbox to automatically reload the last saved job each time you start the programmer.
- **Toolbar Icon Size**. Use to select large or small icons on the programmer toolbar.
- **Checklist**. Two preference settings exist for this option.
  - Reminder. If this box is checked, the programmer generates a reminder dialog each time you exit a screen whose corresponding entry in the Programmer Task Checklist has not been marked as complete. For example, if you view the General Information tab and its checklist entry is not marked as complete, the programmer will ask whether you want to mark the task as complete when you exit the screen.
  - Build Warning. Attempting to build a job when all mandatory checklist tasks are not marked as complete causes the programmer to generate warning messages in the job builder screen.
- **Default Central Station Email Address**. This option allows you to set the default central station email address used by a per point SDACT. The address that you enter here will automatically appear in the email address field of the SDACT card's programming screen.
- **Print Cover page.**
- **Allow mixed case labels (non English jobs only).**

Chapter 4
Panel Information, System Options, and Restricting Access to Display Functions

Introduction

This chapter describes programming the following information and options.

- **Panel Information** consists of the fields used to record panel-, branch-, and customer-specific information.
- **System Options** are pre-programmed, application-specific features of the PC Programmer.
- **Access Levels/Passcodes** restrict access to the features and functions of the panel, and prevent unauthorized users from controlling the devices attached to the ES Panel.

In this Chapter

Refer to the page number listed in this table for information on a specific topic.

Entering General Information

Open General Information Screen

Use the General Information screen, shown in Figure 4-1, to document information about the panel, branch, person who programmed the system, and customer.

To open the General Information screen, do the following:

1. Click on the **Panel** tab at the top of the programmer.
2. Click on the General Info. tab at the bottom of the programmer.
3. Enter the appropriate information in the fields shown below.

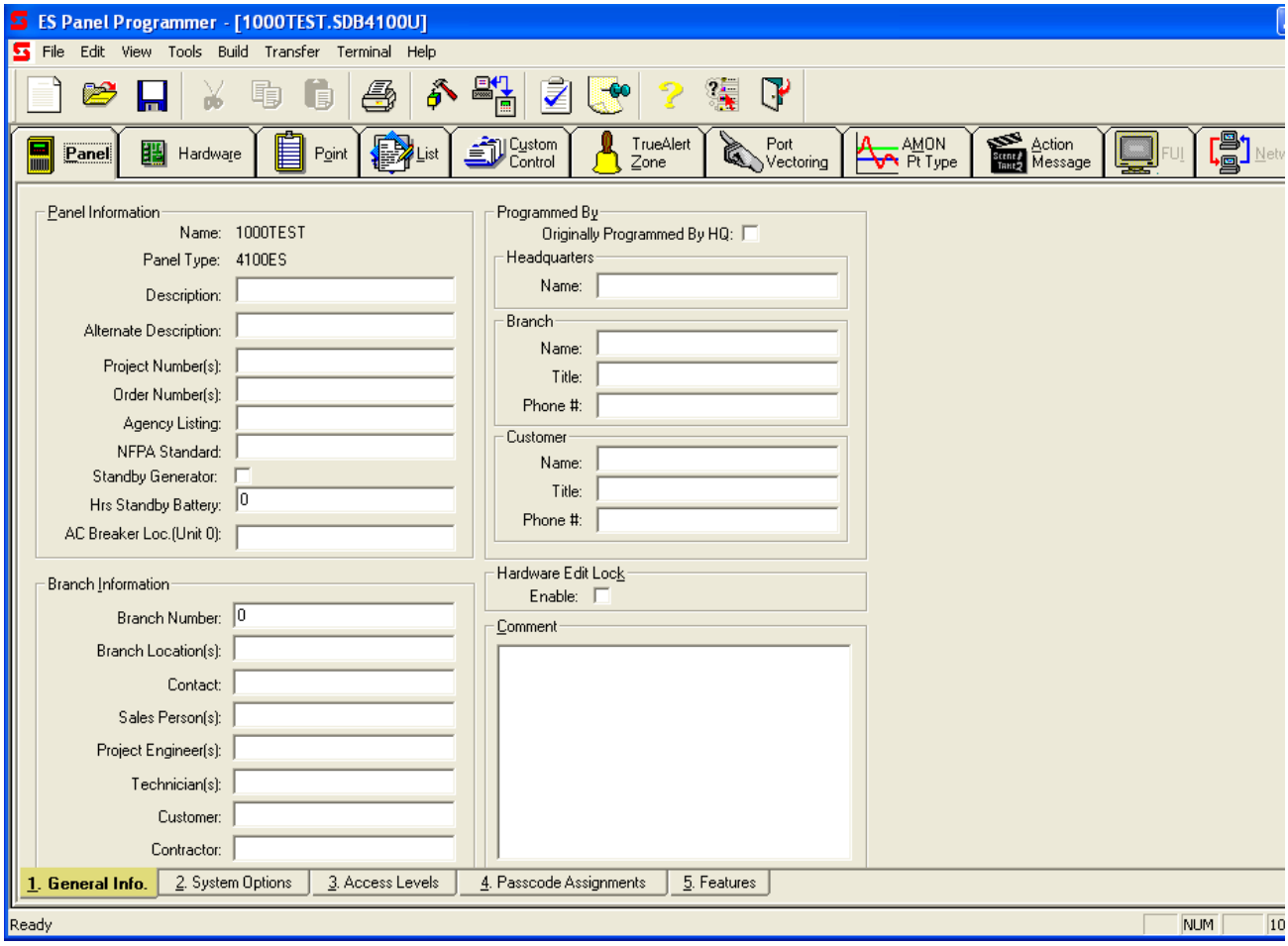

Figure 4-1. General Information Fields

Enabling and Disabling System Options

Introduction

ES Panel System Options are global attributes that control the following:

- They allow you to control the appearance of some information on the panel's display. For example, whether the temperature displays in Celsius or Fahrenheit.
- They allow you to control whether specific application options (such as Door Drop on AC Fail) are enabled or disabled.

To open the System Options screen, do the following:

1. Click on the Panel tab at the top of the programmer. Click on the System Options tab at the bottom of the programmer. A screen similar to the one shown in Figure 4-2 appears.

    - Refer to Table 4-1 for specific details on each option.

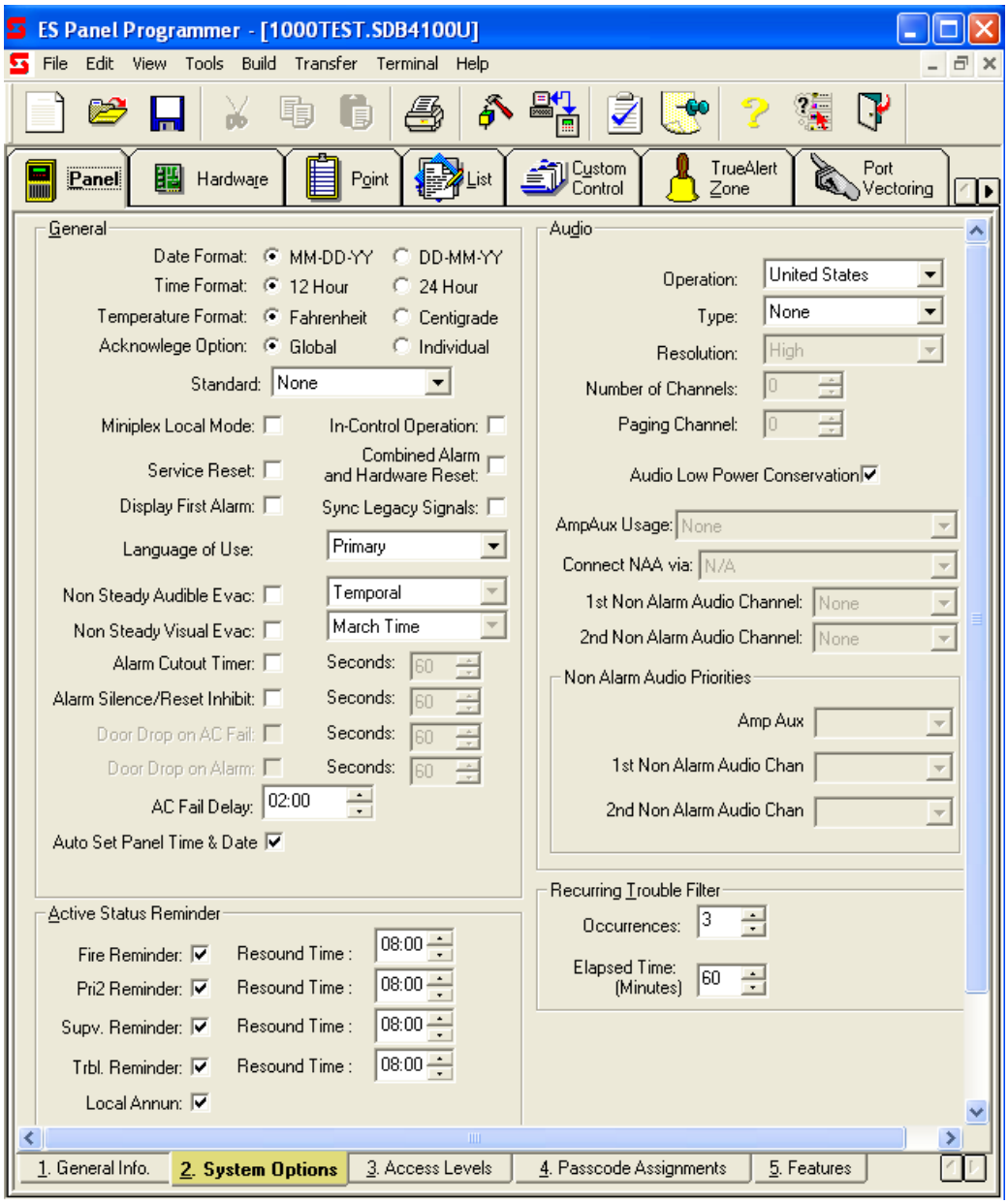

Figure 4-2. System Options

Continued on next page

Detailed System Option Descriptions

Table 4-1: Summary of System Options

Type	Option	Description
General	Date Format	Choose MM-DD-YY to see the date expressed on the panel's display and in the historical logs as Month-Day-Year (for example January 4th would display as 01-04-01). Choose DD-MM-YY to see the date expressed as Day-Month-Year (for example January 4th would display as 04-01-01). The default is MM-DD-YY.
	Time Format	Choose 12 Hour to see time expressed on the panel's display and in the historical logs as a.m. and p.m. (for example 12:00 a.m. versus 12:00 p.m.) Choose 24 Hour to see time expressed as "military time" (for example 10:00 in the evening is expressed as 22:00). The default is 12 Hour.
	Temperature Format	Choose either Centigrade or Fahrenheit, depending on the customer's preference (typically international customers require Centigrade and domestic customers require Fahrenheit). The default is Fahrenheit.
	Acknowledge Option	Global acknowledge. When this option is enabled, one press of the appropriate acknowledge key (Alarm Ack, Trouble Ack, Priority 2 Ack, Supervisory Ack) acknowledges ***every*** point currently reporting the alarm, trouble, priority 2, or supervisory condition. For example, if 5 alarms are present on the system and global acknowledge is enabled, one press of the Alarm Ack key acknowledges all five alarms at the same time. Individual Acknowledge. When enabled, it means every alarm, trouble, etc. must be individually acknowledged. For example, if five alarms are present, you first press the Alarm Ack button five times to acknowledge each alarm, and then as each alarm condition clears, you need to press the Alarm Ack button again.
	Standard	Choose the standard that the system must be listed with. The three options are: None, UL (US), and ULC (Canada)
	Service Reset	If this option is enabled, an operator can reset the system even though the device causing the alarm has not restored to normal. The typical application for this would be the case where a malfunctioning initiating device (detector or sensor consisting of a base and removable head) causes an alarm, but will not reset even though the off-normal condition is no longer present. With this option enabled, the head can be removed and the system (including the local energy masterbox, if provided) can be reset. Without this option enabled, removing the head will cause the system to abort the reset because it will not have seen the alarmed point/zone having restored to a normal state, and it will not be possible to reset the local energy masterbox. The default setting for this option is disabled.

Continued on next page

Detailed System Option Descriptions

Table 4-1: Summary of System Options, *continued*

Type	Option	Description
General	Miniplex Local Mode	When the Miniplex Local Mode system option is enabled on a panel whose job type is 4100T (4100 Universal Transponder), it allows the panel to operate on its own following loss of communication with the "master" panel. If the master contains the custom programming for the 4100 UT panel's NACs, the 4100T signals a general alarm if any of its initiating devices enter the alarm state.
	Display First Alarm	If this option is enabled, the display alternates between two screens similar to Screen 1 and Screen 2 below. Screen 1 is a summary screen containing information on the number of active alarms, troubles, etc. Screen 2 shows detailed information on the first alarm received by the system. Screen 1 **FIRE** Press (ACK) to review. FIRE = 1 PRI2=0 SUPV=0 TRBL=0 Screen 2 FIRST FLOOR EAST WING ROOM 31 PULL STATION If Display 1st Alarm Option is not enabled, only a screen similar to Screen 1 appears, indicating the total number of alarm conditions present on the system.
	In-Control Operation	Programs the system for annunciator "in-control" operation. This allows the annunciation of which unit is in control and provides the ability to take control or to prevent another annunciator from taking control.
	Combined Alarm and Hardware Reset	If checked, pressing the Reset button performs an alarm reset followed by a hardware reset. If this option is not selected, an alarm reset is performed if there are fire alarms or supervisories in the system. Otherwise, a hardware reset is performed.
	Language of Use	The pull down listbox contains two options, Primary and Alternate. Use Alternate only when you download an alternate msglib file, containing alternate language text, to the panel. If no alternate msglib file is downloaded, you must use the English option.

Continued on next page

Detailed System Option Descriptions

Table 4-1: Summary of System Options, *continued*

Type	Option	Description
General	Sync Legacy Signals	This option is for systems that are configured with legacy signals (e.g. 4100-4021) **and** newer style signal circuits (4009A, Quick-Alert, etc). If the SMPL opcodes MARCH60, MARCH120, AND TEMPORAL are used to code signals and this option is checked, legacy signals will be synchronized with the new signals (note this only applies to the SMPL opcodes listed above). The reason for not always having this option set is that the activation of legacy signals can be delayed up to 4 seconds in order to synchronize them with the new signal circuits.
	Non Steady Audible Evac	When enabled, this option allows you to select the type of operation for Non Steady Audible Evacuation Signals. The term Non Steady Audible Evacuation Signal refers to any Notification Appliance capable of sounding a coded signal. The default setting for this option is not enabled. Choices are: • March Time. A coded signal that uses 120 beats per minute. Each beat consists of 1/4 second pulse on, 1/4 second off. Pattern repeats until alarm silence. • Slow March Time. A coded signal that uses 20 beats per minute. Each beat consists of 1.5 second pulse on, 1.5 second off. Pattern repeats until alarm silence. • Temporal. A three-pulse coding pattern consisting of three ½ second pulses, each separated by a ½ second silence. Each three pulse group is separated by 1 ½ seconds of silence. Pattern repeats until alarm silence. • California Code 1. A coding pattern consisting of 12 beats within a 10 second span of time, followed by a 2 and ½ second pause. This sequence repeats four times (four rounds) and then terminates (i.e., the total coding pattern lasts approximately one minute). • California Code 3. Same coding pattern as California Code 1, however the sequence repeats 12 times (12 rounds) and then terminates (i.e., the total coding pattern lasts approximately three minutes).

Continued on next page

Detailed System Option Descriptions

Table 4-1: Summary of System Options, *continued*

Type	Option	Description
General	Non Steady Visual Evac	When enabled, this option allows you to select the flash pattern output by Non Steady Visual Signals. The term Non Steady Visual Signal refers to any Visual Notification Appliance capable of emitting a pattern of flashes (such as incandescent visuals). The default setting for this option is not enabled. Choices are: • March Time. A coded signal that uses 120 beats per minute. Each beat consists of 1/4 second pulse on, 1/4 second off. • Slow March Time. A coded signal that uses 20 beats per minute. Each beat consists of 1.5 second pulse on, 1.5 second off. • Temporal. A three-pulse coding pattern consisting of three ½ second pulses, each separated by a ½ second silence. Each three pulse group is separated by 1 ½ seconds of silence. **Note:** This option cannot be used for public mode signaling as defined in Section 4-4 of NFPA 72-99.
	Alarm Cutout Timer	This option allows you to set a duration (up to 60 minutes) that specifies how long signals sound following an alarm. For example, with this option set at two minutes, building signals sound for two minutes and then automatically stop. After the signals stop, the alarm condition remains active at the panel. If Alarm Silence/Reset Inhibit option is active, it takes precedence over this option. See description of Alarm Silence/Reset Inhibit below for more information The range for this option is 60-3600 seconds. The default setting for this option is not enabled. Set the point type for visual NACS to SVISUAL to have them turn off at the same time as the audible signals.

Continued on next page

Detailed System Option Descriptions

Table 4-1: Summary of System Options, *continued*

Type	Option	Description
General	AC Failure Delay	Specifies the time delay in reporting an AC failure trouble to the city circuit (if AC fail is the only trouble).
	Alarm Silence/ Reset Inhibit	This option disables the Alarm Silence and System Reset keys for a user-definable duration that ranges from 1 to 60 minutes. The timer is activated only by the first alarm (i.e., subsequent alarms do not reset the timer). If this option and the Alarm Cutout Timer are both enabled, this option takes precedence. For example, if the Alarm Cutout Timer is set to one minute and this option is set to 2 minutes, signals continue to sound after one minute. The default setting is not enabled. **Note:** This option must be enabled for Canadian jobs.
	Door Drop on AC Fail	Enabling this option programs the ES Panel to provide DC battery power to magnetic door holders following an AC Power Loss at the panel. The duration of time for which the panel powers the door holders following a power loss is between 0 and 600 seconds. It is recommended that this option be set to 60 seconds. This allows the system to hold open the doors following a short, momentary power outage, eliminating the need to reset door holders in this type of situation. If, however, the power outage is significant, setting the value to 60 seconds ensures that the panel's batteries are not drawn down too far. The default setting is not enabled.
	Door Drop on Alarm	Enabling this option programs the ES Panel to hold magnetic door holders open for a set duration during an alarm condition. When the timer expires, the ES Panel de-energizes the door holder relays and the doors close. The range for the timer is 0 to 600 seconds. To have the door holders drop the doors immediately, make sure no check appears in the checkbox. The default setting is not enabled.
	Auto Set Panel Time and Date	The time and date that appeared on the panel before the CFIG DOWNLOAD are automatically set after download is complete. This option will not work if the time/date was not set prior to the download (i.e. system time/date invalid trouble at the panel).

Continued on next page

Detailed System Option Descriptions

Table 4-1: Summary of System Options, *continued*

Type	Option	Description
Active Status Reminder	Fire Reminder	The Fire Reminder option programs the system to periodically sound the piezo if an uncleared Alarm condition exists at the panel, thereby reminding system operators about the uncleared condition. To enable Active Status Reminder, do the following: 1. Check the box labeled **Enabled**. By default, this option is enabled. 2. Set the interval at which the piezo should sound. The range is from 0 to 18 hours. The default is 8 hours.
	Pri2 Reminder	The PRI2 Reminder option programs the system to periodically sound the piezo if an uncleared Priority 2 Alarm (security) condition exists at the panel, thereby reminding system operators about the uncleared condition. To enable Active Status Reminder, do the following: 1. Check the box labeled **Enabled**. By default, this option is enabled. 2. Set the interval at which the piezo should sound. The range is from 0 to 18 hours. The default is 8 hours.
	Supv. Reminder	The Supv Reminder option programs the system to periodically sound the piezo if an uncleared supervisory condition exists at the panel, thereby reminding system operators about the uncleared condition. To enable Active Status Reminder, do the following: 1. Check the box labeled **Enabled**. By default, this option is enabled. 2. Set the interval at which the piezo should sound. The range is from 0 to 18 hours. The default is 8 hours.
	Trbl. Reminder	The Trbl Reminder option programs the system to periodically sound the piezo if an uncleared trouble condition exists at the panel, thereby reminding system operators about the uncleared condition. To enable Active Status Reminder, do the following: 1. Check the box labeled **Enabled**. By default, this option is enabled. 2. Set the interval at which the piezo should sound. The range is from 0 to 18 hours. The default is 8 hours.
	Local Annunciation	If there is a per point serial DACT in the system, this setting specifies whether the piezo on the local panel will sound. This option is useful in situations where the panel is located in a public area (such as a lobby) and the occupant does not want the piezo repeatedly sounding.

Continued on next page

Detailed System Option Descriptions

Table 4-1: Summary of System Options, *continued*

Type	Option	Description
Audio	Operation	Use the two options, United States and Canadian, to set the default audio operation required by the local AHJ. This option controls which of the two default audio programs is loaded.
	Type	If you have a network audio system and the panel whose job you are editing contains amplifiers *but no local audio controller*, you need to set this option to reflect the type of audio controller installed in the node supplying the audio signal to your amplifiers. If you have a local audio controller, this selection is not editable.
	Resolution	Select the appropriate choice as follows: • High Resolution (applies to 4100-1211 only). Indicates that the sampling rate for audio messages is 16K. When you select this option, the quality of audio messages is better, but twice as much storage is required. **Note:** When high resolution is used, only four audio channels are available. • Normal Resolution (applies to 4100-1211 only). Indicates the sampling rate for audio messages is 8K. When 8K is used, all eight audio channels are available.
	Number of Channels	Specify the number of audio channels included on the system's signal cards.
	Paging Channel	Specify the audio channel used for the paging (talk) function. For single channel systems, this is Channel 1. For multi channel systems, this is typically Channel 3.
Recurring Trouble Filter	This option will stop a recurring trouble event from continuously dialing the central station or from generating SafeLINC email events if the programmed criteria are met (number of occurrences of that point in the trouble log within the specified elapsed time frame).	
	Occurrences	Number of times the point is found in the trouble log (0=no filtering;default for pre-existing jobs upgraded to 12.06). Value is selectable from 0 and 2 to 10.
	Elapsed Time	Number of minutes in which the troubles must be found. Value is selectable from 1 to 1440 minutes.

Continued on next page

Detailed System Option Descriptions

Table 4-1: Summary of System Options, *continued*

Type	Option	Description
Audio	AmpAux Usage	Available only for single channel analog or a multi-channel digital audio system. Specifies how the AmpAux input on the amplifiers is to be used. Choices include none (i.e., no connection), non-alarm audio, or Degraded Fail Safe Microphone.
	Connect NAA via	Indicates the means by which non-alarm audio is routed to the amplifiers. For a digital system, you must use either a Non Alarm Audio (NAA) card (head end) or a TIC card (transponder only), and the choices are greyed out. For an analog system, NAA connects to one of the option card inputs on the Analog audio controller.
	1st Non Alarm Audio Channel	Applies to digital systems only. Specifies the first channel being used for non-alarm audio.
	2nd Non Alarm Audio Channel	Applies to digital systems only. Specifies the second channel being used for non-alarm audio.
	Amp Aux	Specifies the priority level of the AmpAux in relation to the 1st and second non-alarm audio channels. Applies to Digital audio systems only.
	1st Non Alarm Audio Channel	Specifies the priority level of the 1st non-alarm audio channel in relation to the AmpAux channel and the second non-alarm audio channels. Applies to Digital audio systems only.
	2nd Non Alarm Audio Channel	Specifies the priority level of the second non-alarm audio channel in relation to the AmpAux channel and the first non-alarm audio channels. Applies to Digital audio systems only.

Restricting Access to Operator Interface Functions

Introduction

Restricting access to the functions that can be performed from the front panel of the ES Panel is a two-step process:

1. Associate each display function with an ***access level***, which is a numerical designation from one to four. Basic display functions, such as System Reset and Change Time and Date, are usually assigned to Access Level 1. More sensitive display functions, such as Remote Download, are typically assigned to Access Level 3 or 4.
2. Associate each access level with a four-digit ***passcode***.

This restricts the display functions that a TR or system operators can execute to only those associated with their passcode.

Step 1. Edit Access Levels

To open the Access Levels screen, do the following:

1. Click on the **Panel** tab at the top of the programmer.
2. Click on the **Access Levels** tab at the bottom of the programmer. A screen similar to the one shown in Figure 4-3 appears.

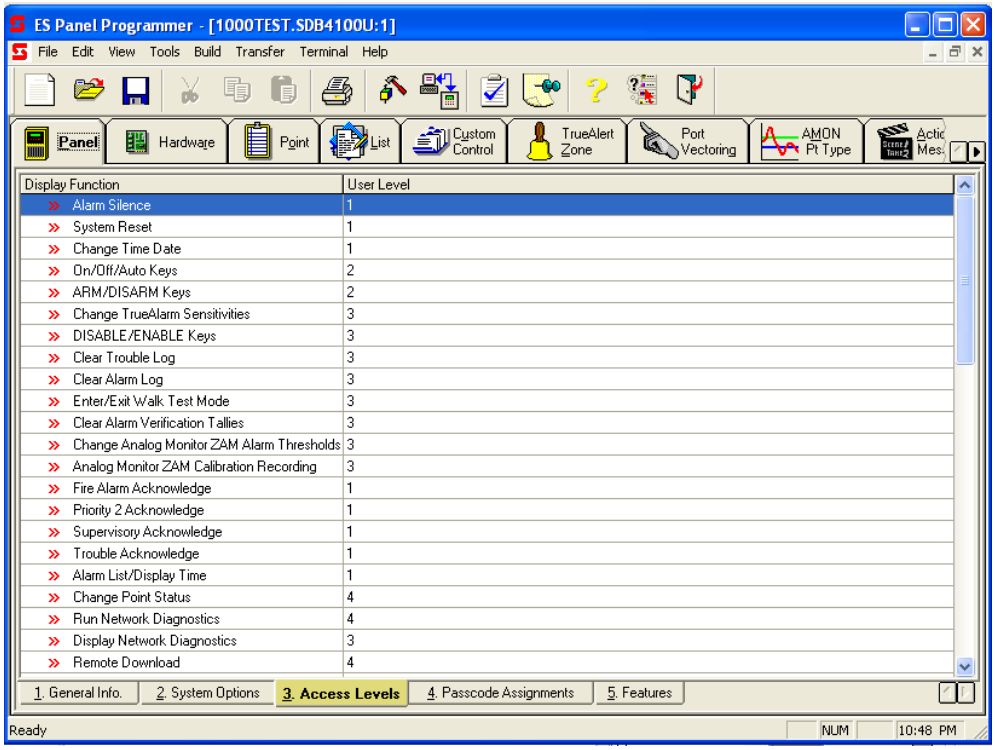

Figure 4-3. Access Levels Screen

3. Double click on the display function whose access level you want to change. A dialog similar to the one shown in Figure 4-4. appears.

Continued on next page

Step 1. Edit Access Levels

4. Click on the **User Level** control to increment or decrement the access level. Click on the Apply button to apply the setting. Click OK to close the dialog.
5. To edit the access level setting for a different display function, use the **First**, **Previous**, **Next**, and **Last** buttons to scroll through the list of display functions. Repeat Step 3 to change the setting.

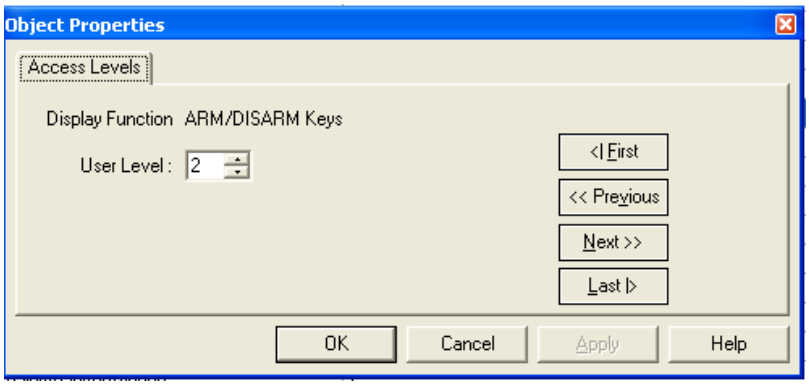

Figure 4-4. Access Level Object Properties Dialog

Step 2. Edit Passcodes

Up to 20 passcodes can be created. To open the Passcodes Screen and define or edit a passcode, do the following:

1. Click on the **Panel** Tab at the top of the programmer.
2. Click on the **Passcodes** Tab at the bottom of the programmer. A screen similar to the one shown in Figure 4-5. appears.

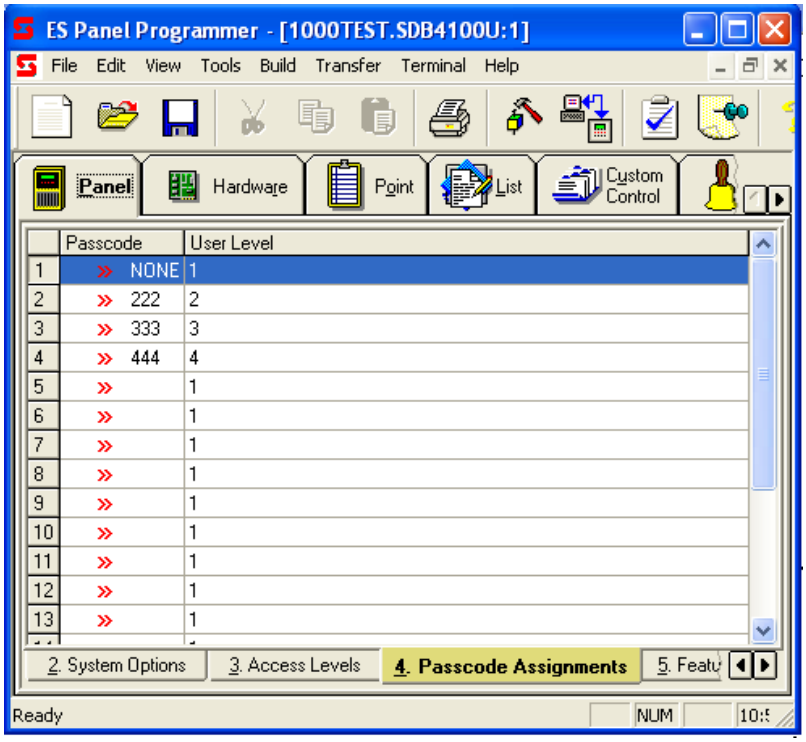

Figure 4-5. Passcodes Screen

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Step 2. Edit Passcodes

3. Double click on the line corresponding to the passcode you want to add or edit. A screen similar to the one shown in Figure 4-6 appears.

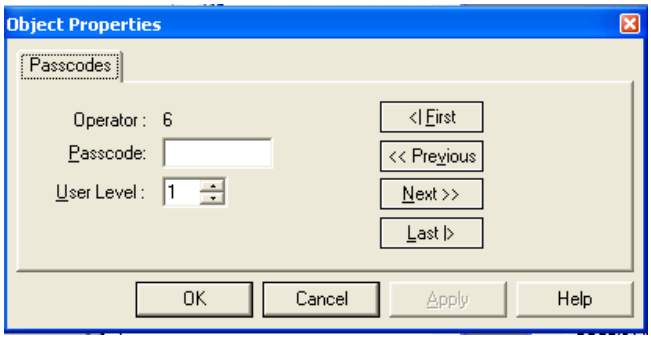


Figure 4-6. Passcode Dialog

4. Enter the passcode in the **Passcode** field. Limit the passcode to 10 or fewer numbers.

   - Move to the User Level control and set a corresponding user level for the passcode. The acceptable range is between 1 and 4.

Chapter 5
Specifying Hardware Components

Introduction

This chapter describes specifying the customer-specific hardware components of the job.

In this Chapter

Refer to the page number listed in this table for information on a specific topic.

Overview

Introduction

Use the Hardware Tab Window, accessed via the Hardware Tab, to add and edit the hardware components of the job. The hardware tab has the following capabilities.

- Allows you to add and delete hardware components.
- Allows you to program points on a card-by-card basis. Information on programming points is discussed in Chapter 7 of this manual.
- Allows you to edit the card properties. These can be either basic properties that are common to every card, or they can be card-specific properties (DACT setup information, for example). Setting the basic properties of a card is discussed in this chapter. Setting card-specific properties is discussed in Chapter 6 of this manual.

Hardware Tab Window

Click on the **Hardware** Tab, located at the top of the screen just beneath the toolbar, to view the Hardware Tab Window.

The Hardware Tab Window uses a drag and drop interface, consisting of a palette of available icons on the right hand side of the screen and a work area on the left hand side of the screen. Refer to Figure 5-1 for an example of the palette and work area. Icons representing the various components of the system are moved from the palette to the work area to form a two dimensional view of the job's hardware elements.

See Table 5-1 for descriptions of the available icons.

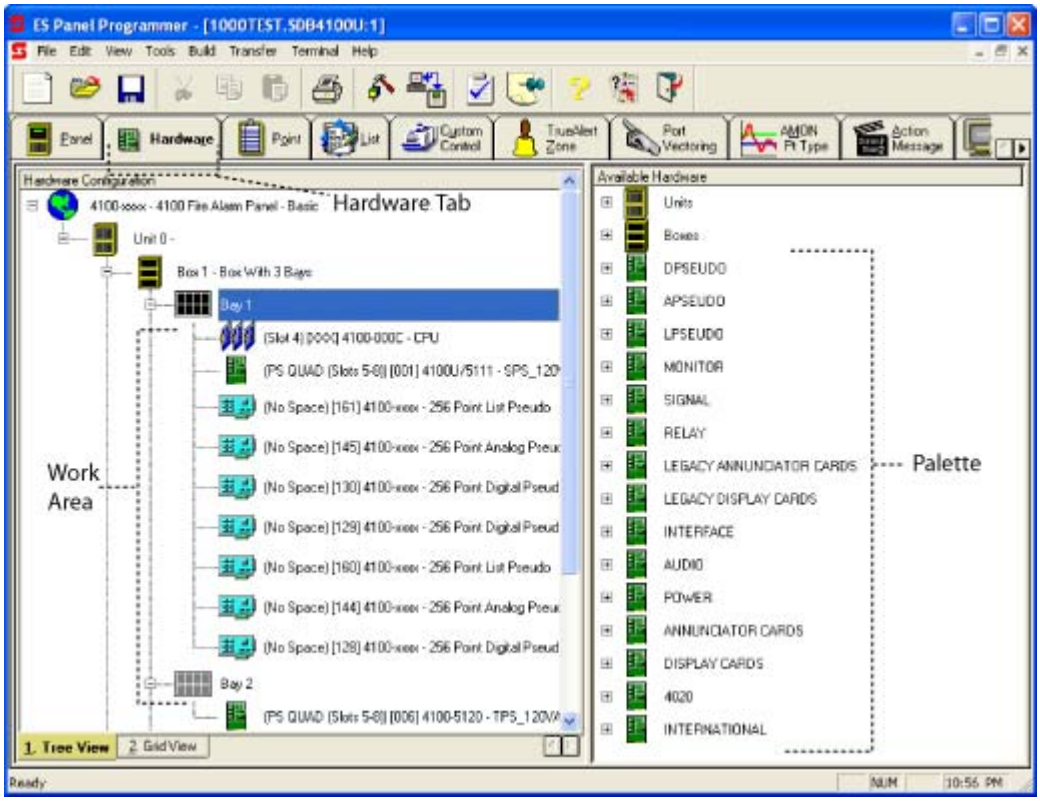


Figure 5-1. Hardware Tab Window, Showing Work Area and Palette

Continued on next page

Hardware Tab Window

The Hardware Tab uses the icons listed in Table 5-1 to represent the system's hardware components.

Table 5-1: Hardware Tab Icons

Icon	Meaning
Panel Icon 	This is a non-editable icon that permanently resides in the top left corner of the work area. The panel icon represents all of the non-networked, RUI-linked components controlled by a single CPU. A single panel may, for example, actually be multiple boxes, some residing at one location and some at another location, **Note:** Highlighting this icon and hitting Shift-Right Arrow at the same time expands the entire hardware tree.
Unit Icon 	The unit icon does not actually represent equipment. It corresponds to a location at which one or more boxes reside. For example, in a multi-floor building, one box containing the CPU may be on Floor 1 and two separate, close-nippled boxes, containing NAC cards for the floor, may be on Floor 2. In this case, both the box on Floor 1 and the boxes on Floor 2 are referred to as Units. Click on the + sign to expand the contents of a unit and see its boxes.
Box Icon  Bay Icon 	The box icon typically represents a standard single bay, double bay, or triple bay box. Additional box types available include: External charger, 8 Point RCU, 16 Point SCU, External LCD, Custom, TrueAlert, and FUI. After adding a box to the work area, click on the + sign to the left of the box to see the bays that make up the box. The bay icon represents the standard card cage in which option cards, power supplies, and audio components are installed. The programmer automatically adds this icon and it is not necessary to drag these icons from the palette to the work area. Click on the + sign to the left of the box to see the cards that make up the bay.
Logical Card Icon  Physical Card Icon 	The hardware tab uses two card icons to represent the system's logical and physical cards. Logical cards are not hardware; instead they represent all of the analog pseudo points, digital pseudo points, or lists used on the system. Physical cards are actual hardware, including for example: monitor, signal, relay, annunciator, display, interface, audio, and power cards.

Adding and Editing Units

Introduction

A unit represents an area of a facility in which one or more boxes are installed. Examples of typical areas include a building floor or a part of a building, such as the manufacturing or office area.

A panel can contain multiple Units, but there can only be one CPU managing all of the panel's units. All units must be linked by RUI.

Adding a Unit

Add units to the work area of the Hardware Tab in either of the following ways:

- **Drag and Drop**. Move to the Available Hardware portion of the Hardware Tab. Click on the + sign to expand the Units icon. Three additional icons, representing the unit types, appear. Click the left mouse button on the appropriate icon. Hold down the mouse button, drag the icon over to the work area, place it on top of the Panel (Earth) icon, and release the button. The Unit Properties dialog appears. Refer to "Editing Unit Properties" below for information on this dialog.

- **Right Click**. Move the pointer over the work area and right click. A menu, containing several choices, appears. Select **Add Unit**. The Unit Properties dialog appears. Refer to "Editing Unit Properties" below for information on this dialog.

Editing Unit Properties

The Unit Properties dialog, shown in Figure 5-2, appears immediately after a Unit is added to the work area. To access this dialog at any time, right click on a Unit icon in the work area and then click on the Properties choice.

Specify information in this dialog, as follows:

- RUI #. Enter the RUI channel on which the unit communicates with other units.
- Description. Enter descriptive text for the unit.
- AC Breaker Location. Enter the location of the breaker to which the power supplies within the unit's boxes connect.

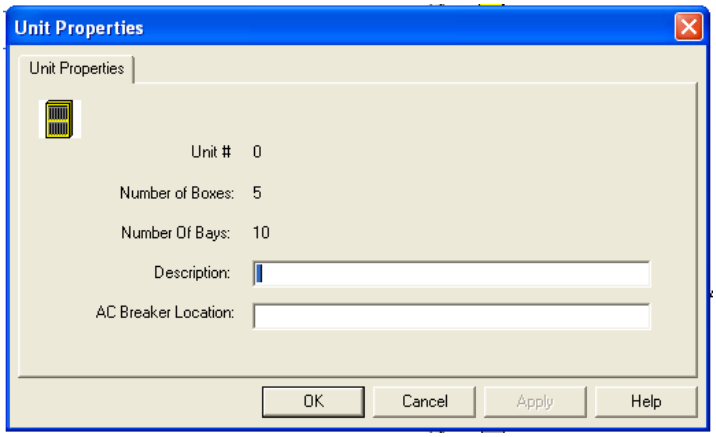
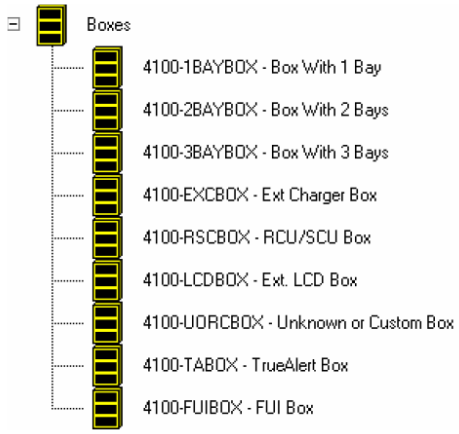


Figure 5-2. Unit Properties Dialog

Adding and Editing Boxes and Bays

Introduction

A box represents a back box in which an external charger or the system electronics are installed. Nine types of boxes are available with the ES Panel.



Adding a Box

Add boxes to the work area of the Hardware Tab in either of the following ways. Use the Right Click method to add multiple boxes at one time.

- **Drag and Drop**. Move to the Available Hardware portion of the Hardware Tab. Click on the + sign to expand the Boxes icon. Four additional icons, representing the box types, appear. Click the left mouse button on the appropriate icon. Hold down the mouse button, drag the icon over to the work area, place it on top of its corresponding unit, and release the button. Refer to "Editing Box Properties" below for information on editing the box's properties.
- **Right Click**. Move the pointer over the appropriate unit icon in the work area and right click. A menu, containing several choices, appears. Select **Add Box**. The Add Box dialog appears. Click on the Type drop down list box to specify the type (one bay, two bay, etc.) of box to add. Specify the number of boxes to add in the Quantity field.

Editing/Viewing Box and Bay Properties

Use the following procedures to edit and view box and bay properties.

- **Editing Box Properties**. Move the pointer over the appropriate box icon and click theright mouse button. When the list of choices appears, select **Properties**. Non-editable information includes: the unit number, box number within the unit, and thenumber of bays. The Type drop down list allows you to select the type of box (one bay, two bay, three bay, or external charger), if necessary.

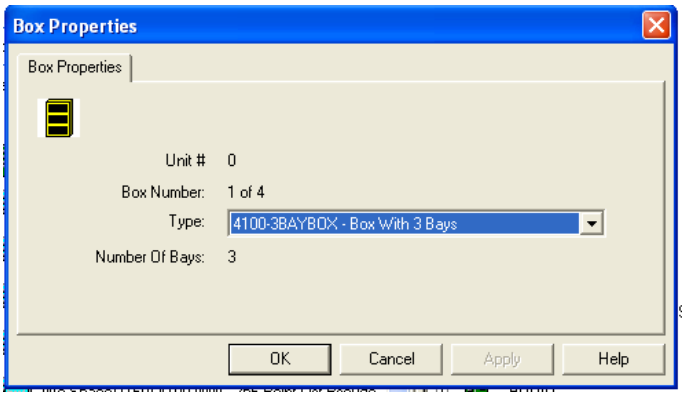


Figure 5-3. . Box Properties Dialog

Continued on next page

Editing/Viewing Box and Bay Properties

- **Viewing Bay Properties**. Click on the + sign to the left of the appropriate Box icon to expand it. Right click on a bay icon and then click on the **Properties** choice. The properties dialog shown below appears. The Bay # field indicates the number of the bay within the selected box. The Type field shows the bay type currently assigned to the bay.

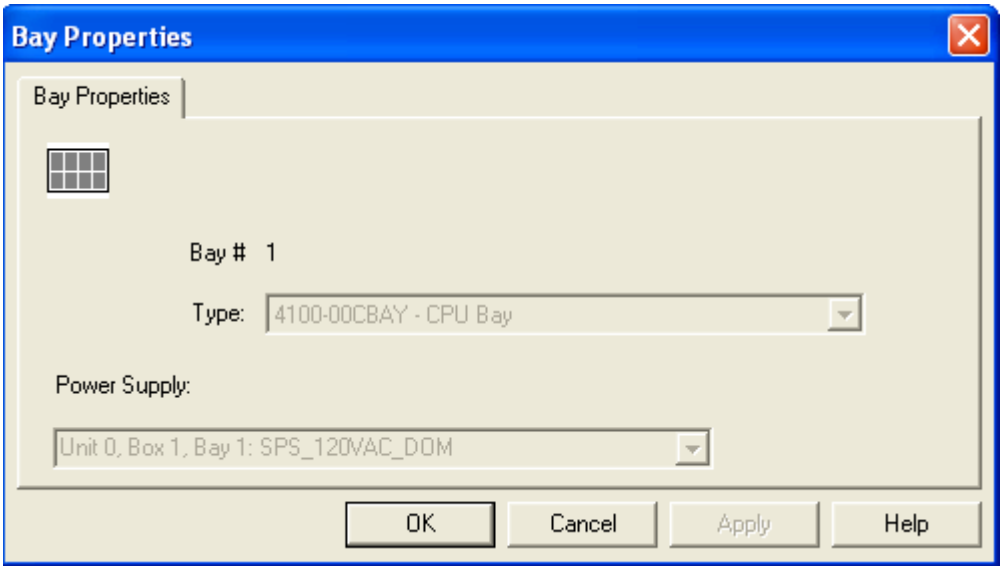


Figure 5-4. Bay Properties Dialog

Adding Cards

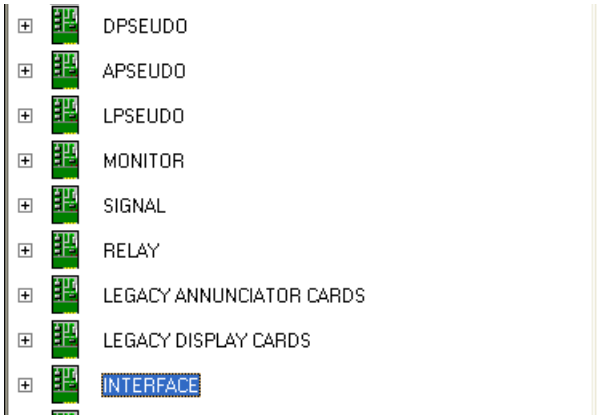
Introduction

This section describes adding option cards to the system. Editing the card properties is discussed in the next chapter.

Adding Option Cards

Add cards to the work area of the Hardware Tab in either of the following ways. Use the Right Click method to add multiple cards at one time.

- **Drag and Drop**. Move to the Available Hardware Palette of the Hardware Tab. Click on the + sign to expand the appropriate card icon. (The example below shows the relay card group. Additional icons, representing specific system cards, appear. Click the left mouse button on the appropriate icon. Hold down the mouse button, drag the icon over to the work area, place it on top of the appropriate bay, and release the button.



- **Right Click**. Expand the appropriate unit, box, and bay combination. (Cards can only be added to a bay, which only appears when the corresponding unit and box are expanded.) In the work area, move the pointer over the appropriate bay icon and right click. A menu, containing several choices, appears. Select **Add Card**. The Add Card dialog appears. Select the appropriate card and quantity.

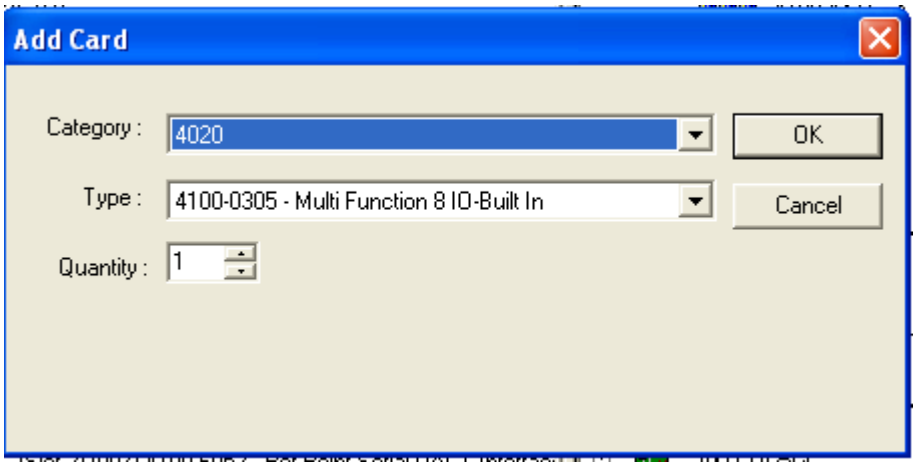


Figure 5-5. Add Card Dialog

Continued on next page

Annunciator Numbers

Every card in a ES Panel job must have an associated annunciator number, whether it is an annunciator or not. Annunciator numbers are assigned in the following manner. When a new unit is added to a job, the unit is assigned the next available annunciator number. Any non-annunciator cards added to this unit also share this number with the unit.

When the first annunciator card is added to such a unit, it also assumes the unit's annunciator number.

As additional annunciators are added to the unit, there are several cases where the annunciators will share their annunciator numbers. Any additional annunciator cards of the same type added to the same unit also share this number. When an additional annunciator card of a different type is added to the unit, that annunciator card is given an annunciator number distinct from the number assigned to the earlier annunciator type. Non-annunciator cards continue to use the unit's annunciator number.

Exceptions to the rules above:

- Internal and external LCD Annunciators require their own annunciator number and will not share numbers even with their own kind.
- The InfoAlarm shares annunciators numbers with ES Panel LEDSW annunciators.

The InfoAlarm or Legacy LEDSW card which enters into a sharing arrangement with a CPU or ES Panel card is determined by the lowest addressed card among the competitors.

Annunciator Number Sharing Rules

These rules apply to the annunciator sharing arrangement:

AN Rule 1- The CPU is annunciator number 0.

AN Rule 2 - Legacy LEDSW64 and ES Panel LEDSW64 Annunciator types can not be in the same unit.

AN Rule 3 - Annunciators of the same type in the same unit share annunciator numbers (except those in AN Rule 4 - i.e. LCD and InfoAlarm).

AN Rule 4- LCD and InfoAlarm Annunciators do NOT ever share annunciator numbers with others of their own kind.

AN Rule 5 - The CPU will always share annunciator number 0 with any and all ES Panel LEDSW64 annunciator cards in the CPU unit.

AN Rule 6 - The CPU can share annunciator number 0 with the lowest addressed InfoAlarm or Legacy LEDSW64 annunciator card. The presence of ES Panel LEDSW64 cards in the CPU bay does not prevent this sharing with a InfoAlarm. The presence of ES Panel LEDSW64 cards in the CPU bay does exclude Legacy LEDSW64 cards (see AN Rule 2).

AN Rule 7 - If the CPU is sharing annunciator number 0 with a Legacy LEDSW64 card, all other Legacy LEDSW64 cards in the unit are also annunciator 0 (see AN Rule 3).

AN Rule 8 - The InfoAlarm can NOT share an annunciator number with the Legacy LEDSW64.

AN Rule 9 - In non-CPU units, the lowest addressed InfoAlarm can share an annunciator number with any ES Panel LEDSW64 cards. If there are no ES Panel LEDSW64 cards, the InfoAlarms have no opportunity to share an annunciator number with another card.

Continued on next page

Annunciator Number Sharing Examples

CPU Bay/Box:

Scenario A (ES Panel LEDSW64): CPU + ES Panel LEDSW64 and InfoAlarms in Unit 0.

The CPU can share annunciator number 0 with all the ES Panel LEDSW64s in Unit 0. Only the lowest addressed InfoAlarm in Unit 0 can share with the CPU. The higher addressed InfoAlarms must have their own annunciator numbers. Note that once a ES Panel LEDSW64 is installed in a unit, no Legacy LEDSW64 cards can be added.

Scenario B (Legacy LEDSW64): CPU + Legacy LEDSW64 and InfoAlarms in Unit 0.

Legacy LEDSW64 and ES Panel LEDSW64 cards cannot be in the same unit. Also, Legacy LEDSW64 and InfoAlarm cards cannot share annunciator numbers.

The lowest Legacy LEDSW64 or InfoAlarm card will share the CPU number. All Legacy LEDSW64s will share a unique annunciator number in the unit. If it has the lowest number, all Legacy LEDSW cards will share the CPU annunciator number. If the lowest card is a InfoAlarm, all other InfoAlarms will have separate annunciator numbers.

Non-CPU Units:

This is a simplified version of Unit 0. The same rules apply, except for the CPU, and the annunciator numbers will be other than 0.

Scenario A (ES Panel LEDSW64): ES Panel LEDSW64 and InfoAlarms in Unit x.

A InfoAlarm can share an annunciator number with all the ES Panel LEDSW64s in the unit. But if there are multiple InfoAlarm cards in the unit, only the lowest addressed InfoAlarm can share with the ES Panel LEDSW64s. The higher addressed InfoAlarms must have distinct annunciator numbers.

Note: ES Panel LEDSW64 and Legacy LEDSW64 cards can not be in the same unit.

Scenario B (Legacy LEDSW64): Legacy LEDSW64 and InfoAlarms in Unit x.

Legacy LEDSW64 and InfoAlarms cards cannot share annunciator numbers.

All Legacy LEDSW64s share a unique annunciator number. The Legacy LEDSW64 in the unit blocks any ES Panel LEDSW64 cards from being added.

Card Manipulation Considerations

The annunciator number assignment and sharing relations mentioned above need to account for various manipulations of a job's cards. Adding, deleting, and moving cards will require the assignments to be re-evaluated, as do relative address changes.

Continued on next page

Editing Basic Card Properties

All cards, regardless of whether they are the standard system cards (such as the system power supply) or an option card - include the basic properties. The basic card properties are listed below. (See Chapter 6 for information on setting card-specific properties.

- **Card Address**. A unique number used to identify the card within the system. This number must correspond to the card address dip switch settings on the card.

  Note: It is usually easier to first add the card to the job with the programmer and then set the dip switches with the address automatically assigned by the programmer.

- **Card Custom Label**. This field describes the card's function, location, or some other descriptive text.
- **Card Alternate Custom Label**. This field permits an alternative description of the card, its function, or location.
- **Unit, Box, Bay, and Slot (location)**. The values shown in the fields reflect the location in which the card icon was placed when you added it with the programmer. It is possible to change these values; however, the new values must reflect the new physical location of the card.

To gain access to the Card Properties dialog, do ***either*** of the following:

- Double click on any card icon in the work area.
- Right click on any card in the work area. When the list of choices appears, click on the Properties choice.

A dialog similar to the one shown below appears. Edit these fields as follows:

- Enter a descriptive name in the Card Custom Label field.
- Use the Unit, Box, Bay, and Location (slot) fields to change this information if necessary. If you specify invalid information (for example, attempt to assign a card to a fully populated bay), the programmer outputs an error message to indicate the problem.

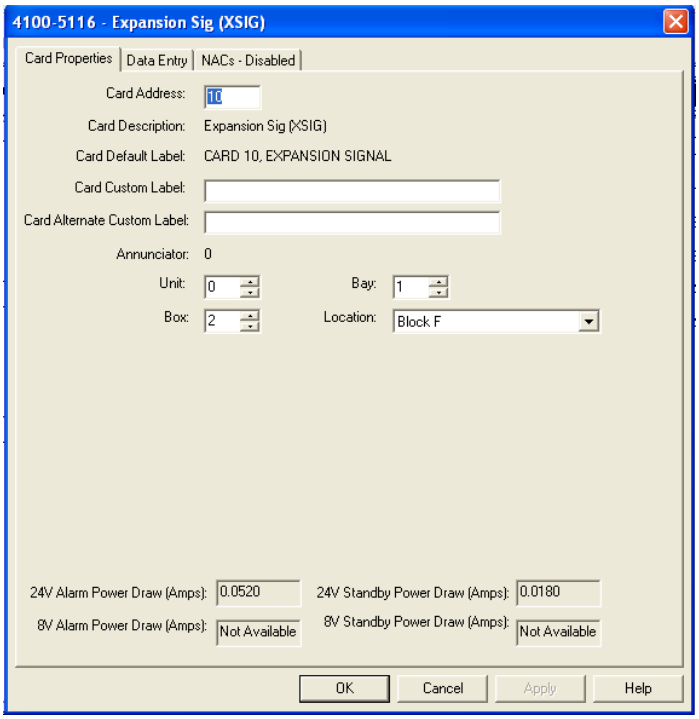


Figure 5-6. Typical Card Properties Dialog

Chapter 6
Editing Non-Audio Card Properties

Introduction

There are two types of card properties.

- **Basic Card Properties**. All ES Panel cards have basic card properties (address, custom label, location) associated with them. Setting a card's basic properties is discussed in the previous chapter.
- **Card-Specific Properties**. In addition, some cards have card-specific properties. These properties are used to define facility- and application-specific information.

This chapter describes setting the card-specific properties for non audio cards. Information on configuring audio card properties is contained in Chapter 7.

In this Chapter

Refer to the page number listed in this table for information on a specific topic.

Editing RUI-Specific Property Settings

Accessing the RUI-Specific Settings

The Remote Unit Interface (RUI) properties include the basic property settings common to all cards, as well as a series of RUI-specific settings. The RUI comes in two forms:

- A standard RUI interface is located on the ES Panel CPU card
- Additional RUI ports can be added to the system by adding an optional RUI card.

To access the RUI-specific settings, follow these steps.

1. Expand the Unit/Box/Bay icons containing the CPU or RUI card
2. If you are editing the properties for the RUI located on the CPU card, double click on the CPU card icon. Otherwise, double click on the card icon labeled Remote Unit Interface (RUI). A dialog similar to the following appears.

Note: The CPU card properties sheet has additional tabs.

3. Click on RUI Info tab.

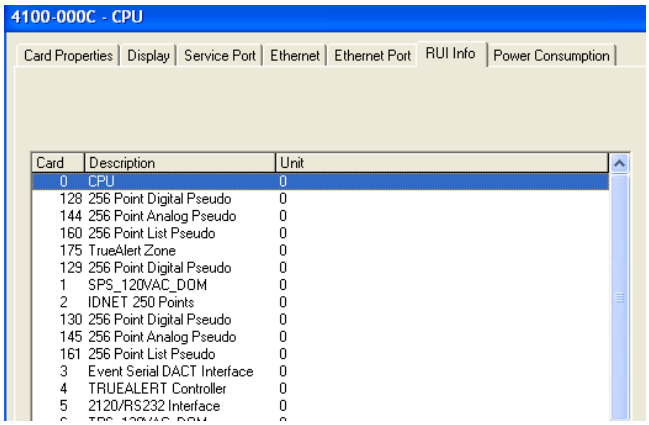


Figure 6-1. CPU RUI Tab

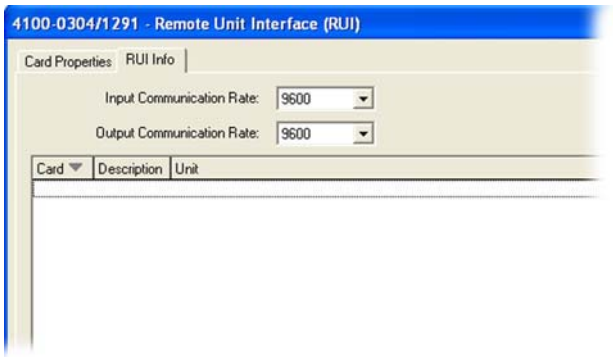


Figure 6-2. Added RUI Tab

Editing Settings

The RUI properties on the ES Panel CPU card are read-only and cannot be edited.

The properties on the added RUI are as follows:

- Input Communication Rate. It is **strongly recommended** that the RUI input communication rate be left at its default setting, 9600 baud.
- Output Communication Rate. It is **strongly recommended** that the RUI output communication rate be left at its default setting, 9600 baud.
- Card Descriptions. This field is read-only. It lists the cards linked to the CPU by the RUI.

Editing Service Port-Specific Settings

Accessing the Service Port

The Service Port is a component of both the CPU card and the 4120 Network Card. The service port allows a directly or remotely connected PC to determine the status of panel components and to perform system diagnostics.

- To access the Service Port on the CPU card, expand the Unit 0, Box 1, and Bay 1 icons, double click on the CPU Card icon, and select the Service Port tab. A window similar to the one shown in Figure 6-3 appears.
- To access the Service Port on the 4120 Network Card, expand the Unit, Box, and Bay icon combination containing the network card, double click on the network card icon, and select the Service Port tab. A window similar to the one shown in Figure 6-3 appears.

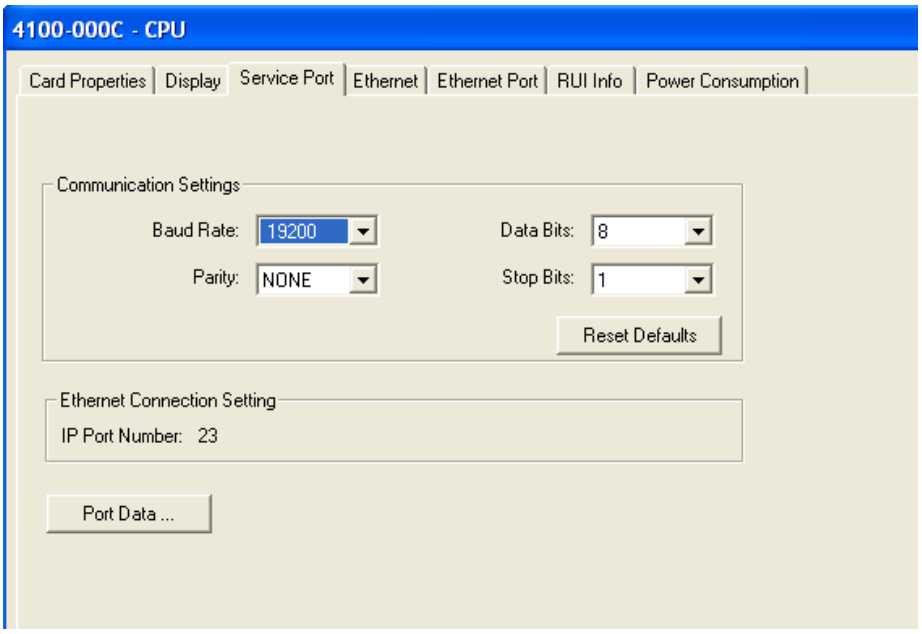


Figure 6-3. Service Port Card Properties Dialog

Setting Communication Settings

Set the Baud Rate, Parity, Data Bits, and Stop Bit fields to the values required by the attached device. It is recommended that you use the following default settings whenever possible.

- Baud Rate: 19,200
- Data Bits: 8
- Stop Bits: 1
- Parity: None

Continued on next page

Port Data - General Info. Tab

Click on the Port Data button (refer back to Figure 6-3) and select the Gen. Info tab. This tab, shown below, includes the following six fields.

- **Device Type**. For a CPU card service port, this field is permanently set to COMMAND. If you are using the service port on the network card, click on the drop down list box and select the type of device connected to the port (80 character CRT, unsupervised AC printer, etc.)
- **Header Label**. This field specifies the first line of banner text that appears at the top of the CRT screen.
- **Port ID Label**. This field specifies the second line of banner text that appears at the top of the CRT screen. It is typically used to designate the port connection. For example, "Port 2, Command Center."
- **Port ID Alt. Label**. This field specifies the alternate text for the Port ID label (see Port ID Label description above).
- **Port Default Set Priority (CPU Card Only)**. This is the system priority level assigned to commands issued from the service port. The range is 2 to 15 and the default is 9.
- **CPU Modem Card (CPU Card Only)**. Click this check box if a 4100-6030 modem card is attached to the CPU card. Check the Modem Enabled check box, located beneath the CPU Modem Card checkbox, to activate the modem. No modifications to the initialization string are required.

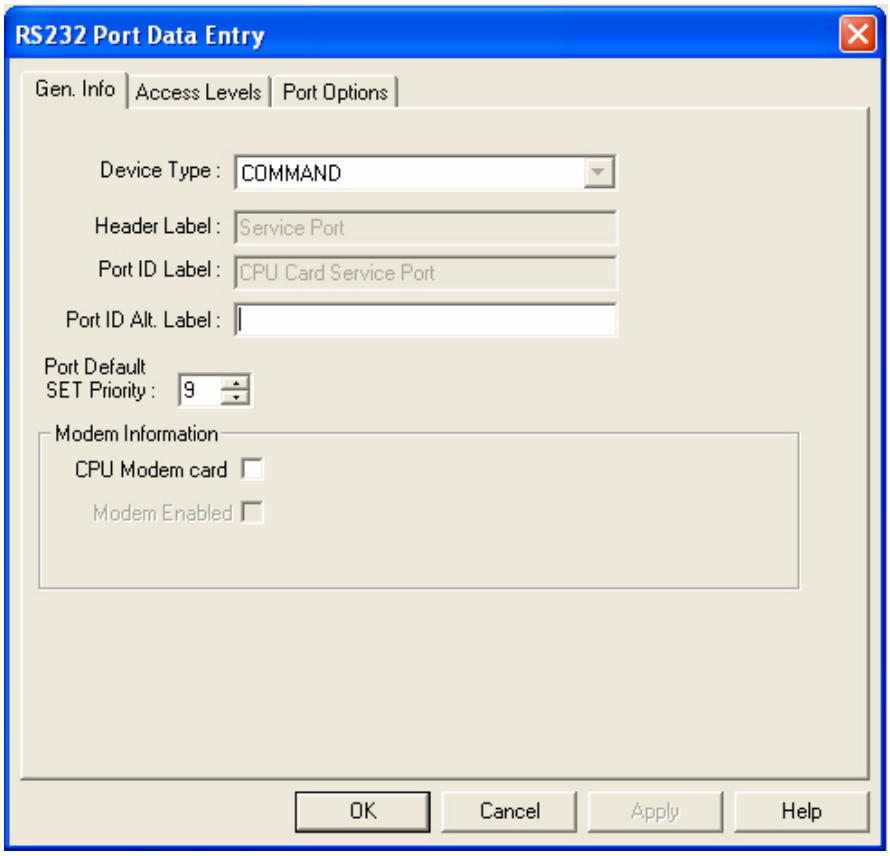


Figure 6-4. Port Data - General Information Tab

Continued on next page

Port Data - Access Levels Tab

Click on the **Port Data** button (refer back to Figure 6-3) and select the **Access Levels** tab. This tab allows you to set the access level for the various system operations that can be carried out via the service port.

Note: These access levels apply only to actions performed through the service port. Refer to "Restricting Access to Display Functions," in Chapter 4 for information on setting access levels and passcodes for front panel display functions.

When you click on this tab, a window similar to the one shown in Figure 6-5, appears. To set an access level for one of the service port operations, first scroll through the list of functions and highlight the function. (As shown in Figure 6-5, the text to the left of the control changes.) Use this control to associate an access level with the function.

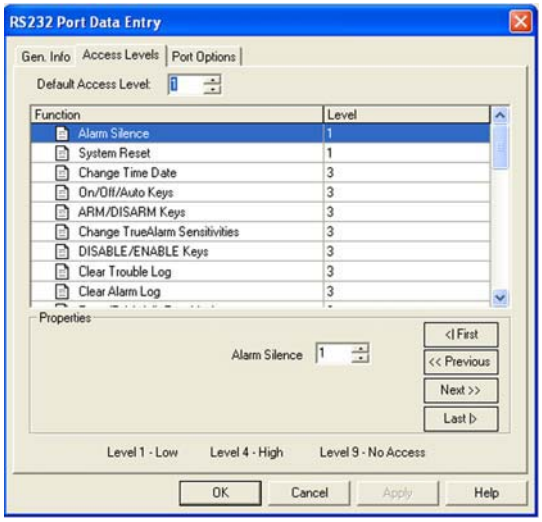


Figure 6-5. Port Data - Access Levels Tab

Port Data - Port Options Tab

Click on the **Port Data** button (refer back to Figure 6-3) and select the **Port Options** tab. This tab, shown in Figure 6-6, contains options that apply to the way data appears on the display connected to the service port. These are read only fields.

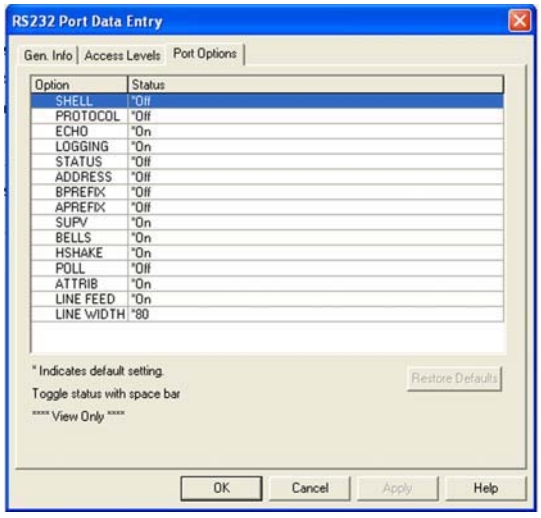


Figure 6-6. Port Data - Port Options Tab

Editing 4120 NIC/4120 Network Repeater Property Settings

Introduction

This section describes setting the network information for the 4120 NIC or 4120 Network Repeater card. Refer back to “Editing Basic Card Properties” for information on setting the card properties for the 4120 card. Refer to “Editing Service Port Specific Settings” for information on programming the card's service port.

Accessing the Network Information

To access the 4120 card's network information, expand the Unit, Box, and Bay icon combination containing the network card, double click on the network card icon, and select the Network Info tab. A window similar to the one shown in Figure 6-7 appears.

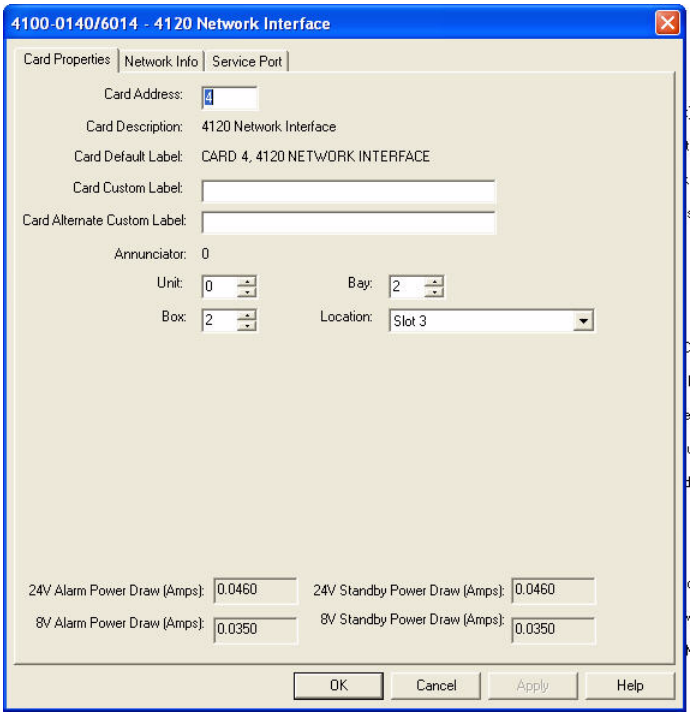


Figure 6-7. Network Interface Properties Dialog

Setting Network Information

Set the fields within the Network Info tab as follows:

Note: Comm Style is not a valid selection for the network repeater card.

- **Comm Style**. Style 4 networks represent a single line or star topology. With these types of networks, a single short, ground fault, or open circuit on the network communication channel causes a trouble and all nodes beyond the fault operate in local (standalone) mode. Style 7 networks represent a closed loop ring. With these types of networks, any single open, short, or ground fault on the communication channel will not interrupt communication between nodes on the network.

- **Left Port/Right Port**. The NIC card contains two ports, one marked left and one marked right. Each can have one of the following types of media connected to it - RS485, Fiber, or Modem. The setting must agree with the type of media module installed on the port.

Editing Power Supply Property Settings

Introduction

This section describes editing power supply-specific information for the following standard and optional power supplies. Power supplies intended for Canadian use are designated as such.

- 4081-9306 - External Charger, 120 VAC. Card-specific properties only
- 4081-9308 - External Charger, 240 VAC. Card-specific properties only
- 4100-5101 - Expansion Power Supply (XPS), 120 VAC
- 4100-5102 - Expansion Power Supply (XPS), 240 VAC
- 4100-5103 - Expansion Power Supply (XPS), 120 VAC, Canadian Version
- 4100-5111 - System Power Supply (SPS), 120 VAC
- 4100-5112 - System Power Supply (SPS), 120 VAC, Canadian Version
- 4100-5113 - System Power Supply (SPS), 240 VAC
- 4100-5120 - TrueAlert Power Supply (TPS), 120 VAC
- 4100-5121 - TrueAlert Power Supply (TPS), 120 VAC, Canadian Version
- 4100-5122 - TrueAlert Power Supply (TPS), 240 VAC
- 4100-5125 - Remote Power Supply (RPS), 120 VAC
- 4100-5126 - Remote Power Supply (RPS), 120 VAC, Canadian Version
- 4100-5127 - Remote Power Supply (RPS), 240 VAC
- 4100-6005 - Power Supply/Charger. Card-specific properties only

Accessing Power Supply-Specific Information

Follow these steps to gain access to the power supply-specific information.

- **Standard System Power Supply (SPS)**. To access the System Power Supply located in the CPU bay, click on the Hardware Tab and expand the Unit 0, Box 1, and Bay 1 icons, double click on the icon labeled **PS QUAD (Slots 5-8) (001) 4100-xxxx** (where xxxx corresponds to the last four digits of the PID for the specific power supply installed).
- **Optional Power Supplies (TPS, XPS, RPS)**. To access an optional System Power Supply, expand the Unit, Box, and Bay icon combination containing the power supply, double click on the power supply's icon.

Refer to the appropriate table below for specific information.

Continued on next page

System Power Supply Options

Table 6-1: SPS Options

Tab	Option
Card Properties	Refer to "Editing Basic Card Properties" in Chapter 5 for information on setting the card properties for the power supply.
Data Entry - Use this tab to specify general information and options for the SPS	**Battery Type** High - Select this radio button if the battery is rated between 18 and 50 Ah. Low - Select this button if the battery is rated between 6.2 and 12.7 Ah.
	Optional Card None - Indicates that no optional card is connected to the SPS. City Connect- Select this radio button if a city connect module is connected to the power supply. Relay - Select this radio button if an alarm relay card is connected to the power supply.
	NAC Options Indicates the number and type (Class A or B) of NACs connected to the power supply. The SPS and RPS power supplies can have either 3 class A or Class B NACs. The XPS can have 3 Class A, 3 Class B, 6 Class A, or 6 Class B NACs.
	Options Low Battery Cutout - Select this option to enable the low battery cutout option. THIS OPTION MUST BE SELECTED FOR ALL CANADIAN INSTALLATIONS. External Battery Charger - Select this check box if an external battery charger is connected to the power supply. (Not available for the XPS.) Insuite Protection Devices Installed - Checking this option allows multiple rooms to be wired off a single circuit. In this case, a short can be seen by the card but the circuit will still turn on in an alarm condition. The NAC with Insuite enabled will then isolate the room with the short. Wheelock Horn/Strobe appliances - Checking this option causes all NACs with point type SQALERT on the selected power supply to send Wheelock Sync Protocol instead of TrueAlert Non-Addressable protocol. TrueAlert Non-Addressable appliances cannot be mixed with Wheelock Sync Protocol appliances on the same power supply.
IDNet	Use this tab to configure addressable IDNet points connected to the IDNet channel on the power supply. Refer to "Programming IDNet and MAPNET Points" in Chapter 7 for specific information.
NACs	Use this tab to configure the point type and custom label for the NACs on the power supply. Refer to "Programming NAC and Signal Points" in Chapter 7 for specific information.
AUX. Relay	Aux. Relay - Use this tab to define the point type and custom label of the Aux. Relays on the power supply. Refer to "Programming Relay Points" in Chapter 7 for specific information.

Continued on next page

RPS Options

Table 6-2: RPS Options

Tab	Option
Card Properties	Refer to “Editing Basic Card Properties” in Chapter 5 for information on setting the card properties for the power supply.
Data Entry - Use this tab to specify general information and options for the RPS	**Battery Type** High - Select this radio button if the battery is rated between 18 and 50 Ah. Low - Select this button if the battery is rated between 6.2 and 12.7 Ah.
	Optional Card None - Indicates that no optional card is connected to the SPS. City Connect- Select this radio button if a city connect module is connected to the power supply. Relay - Select this radio button if an alarm relay card is connected to the power supply.
	NAC Options Indicates the number and type (Class A or B) of NACs connected to the power supply. The RPS power supplies can have either 3 class A or Class B NACs.
	Options Low Battery Cutout - Select this option to enable the low battery cutout option. THIS OPTION MUST BE SELECTED FOR ALL CANADIAN INSTALLATIONS. External Battery Charger - Select this check box if an external battery charger is connected to the power supply. Insuite Protection Devices Installed - Checking this option allows multiple rooms to be wired off a single circuit. In this case, a short can be seen by the card but the circuit will still turn on in an alarm condition. The NAC with Insuite enabled will then isolate the room with the short. Wheelock Horn/Strobe appliances - Checking this option causes all NACs with point type SQALERT on the selected power supply to send Wheelock Sync Protocol instead of TrueAlert Non-Addressable protocol. TrueAlert Non-Addressable appliances cannot be mixed with Wheelock Sync Protocol appliances on the same power supply.
NACs	Use this tab to configure the point type and custom label for the NACs on the power supply. Refer to “Programming NAC and Signal Points” in Chapter 7 for specific information.
AUX. Relay	Aux. Relay - Use this tab to define the point type and custom label of the Aux. Relays on the power supply. Refer to “Programming Relay Points” in Chapter 7 for specific information.

Continued on next page

TPS Options

Table 6-3: TPS Options

Tab	Option
Card Properties	Refer to "Editing Basic Card Properties" in Chapter 5 for information on setting the card properties for the power supply.
Data Entry	**Battery Type** High - Select this radio button if the battery is rated between 18 and 50 Ah. Low - Select this button if the battery is rated between 6.2 and 12.7 Ah.
	Options Low Battery Cutout - Select this option to enable the low battery cutout option. THIS OPTION MUST BE SELECTED FOR ALL CANADIAN INSTALLATIONS. Disable Charger - Select this check box to disable the charger connected to the power supply.
Point Editing	Select this tab to configure the NAC devices attached to the TPS. Refer to "Editing TrueAlert Controller Options" later in this chapter for specific information.

XPS Options

Table 6-4: XPS Options

Tab	Option
Card Properties	Refer to "Editing Basic Card Properties" in Chapter 5 for information on setting the card properties for the power supply.
NAC Options	This tab allows you to set the number and type (Class A or B) of NACs connected to the power supply. The XPS can have 3 Class A, 3 Class B, 6 Class A, or 6 Class B NACs. Check the appropriate radio button.
Data Entry	Insuite Protection Devices Installed - Checking this option allows multiple rooms to be wired off a single circuit. In this case, a short can be seen by the card but the circuit will still turn on in an alarm condition. The NAC with Insuite enabled will then isolate the room with the short. Wheelock Horn/Strobe appliances - Checking this option causes all NACs with point type SQALERT on the selected power supply to send Wheelock Sync Protocol instead of TrueAlert Non-Addressable protocol. TrueAlert Non-Addressable appliances cannot be mixed with Wheelock Sync Protocol appliances on the same power supply.

Editing DACT Card Property Settings

Introduction

This section describes programming the DACT interface cards. The ES Panel supports both per point cards (changes to a specific point's status are transmitted to the central station via the DACT) and event reporting DACT (events of a specific type are reported to the central station via the DACT).

To open the DACT properties screen, expand the Unit, Box, and Bay icon combination containing the DACT and double click on the icon for the DACT. A window similar to the one shown in Figure 6-7 appears. (If you are programming a per point DACT, several additional tabs appear as well.)

Basics Tab

Use the Basics tab, shown in Figure 6-8, to setup the basic communication information for the DACT to DACR link.

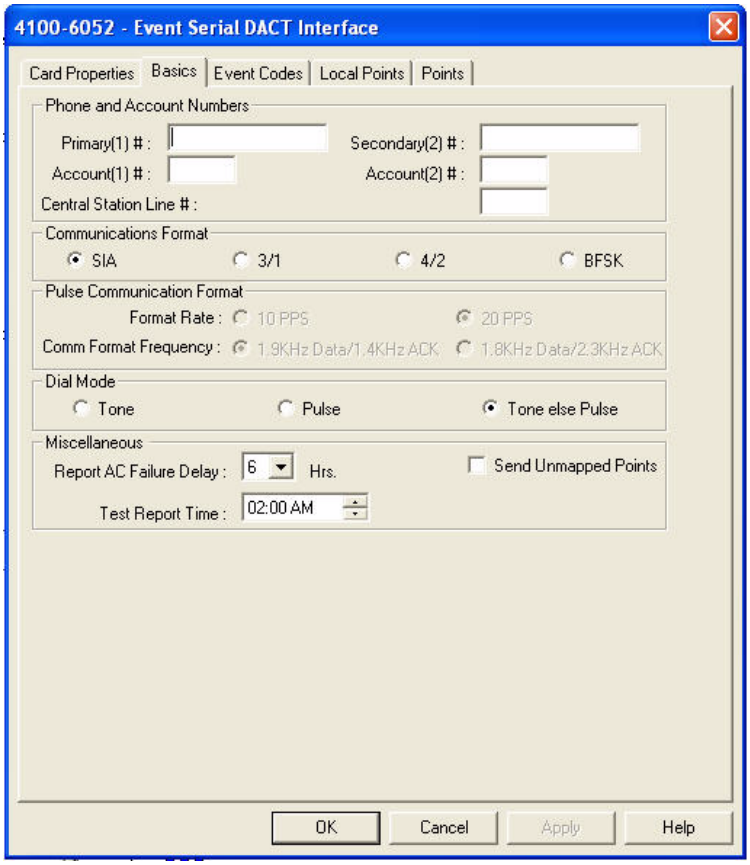


Figure 6-8. Basics Tab

- **Phone and Account Numbers**. The phone numbers are the numbers of the central station or the facility at which the DACR resides. (For example, on a campus, the DACT may connect to a DACR at a campus-wide dispatch facility.) The account numbers are typically provided by the central station provider and serve to identify the location or the customer to the central station.

Continued on next page

Basics Tab

- **Communication Format (Event DACT only)**. Prior to selecting the Comm Format Codes, determine the required reporting format from an authorized person at the central station. Choices are:
  - **3/1 pulse** = Three-digit account code followed by one-digit reporting code, double round at 20 pulses per second (PPS). Programmable reporting codes.
  - **4/2 pulse** = Four-digit account code followed by two-digit reporting code, double round at 20 PPS. Programmable reporting codes. (Default account code.)
  - **BFSK** = Three-digit account code followed by two-digit reporting code, single transmission of constant tones. Features built-in error checking and fixed reporting codes.
  - **SIA** = Three-digit account code followed by two-digit reporting code, Level 1 compatibility. Features tonal acknowledge, basic reports, and fixed reporting codes.

- **Pulse Comm Format (Event DACT only)**. Prior to selecting the Pulse Comm format, determine the required format from an authorized person at the central station.
  - **Format Rate**. Choices are 10 PPS and 20 PPS.
  - **Comm Format Frequency**. Choices are 1.9 Khz Data/1.4 Khz ACK and 1 Khz Data/2.3 Khz ACK.
  - **Dial Mode**. Possible choices are Tone, Pulse, or Tone else Pulse (meaning check for tone and use the pulse mode if tone is not present). Ifyou are sure you don't have Tone service in your area, you should select Pulse.

- **Miscellaneous**. Set as follows:
  - Report AC Failure Delay. Use the control to specify the amount of time that should pass following an AC Power Failure before the DACT dials in to the central station to report the AC failure. This setting is intended to prevent the central station from being overloaded with AC power failure events following a power outage.
  - Test Report Time. Specify the time at which the DACT should dial in to the DACR to report the status (normal or off normal) of the panel.
  - Send Unmapped Points (Per Point DACT only). Mapped points are those which have been selected to report status changes to the DACR. Unmapped points are new points which have been added to the system, but have not been selected. Choosing this checkbox allows these points to report a generic status code to the DACR.

Event Codes Tab

The **Event Codes** tab, shown in Figure 6-8, allows you to edit the event codes associated with each of the ES Panel point types. Should an event (alarm, trouble, supervisory) occur to a point associated with one of the point types, the DACT sends the specified event code to the central station.

Note: Do not edit event codes without prior authorization and direction from the central station.

To edit a code, do the following.

1. Click on the **Point Types** drop down list box and select the point type whose event codes you want to change. (The Next and Previous buttons allow you to scroll through the list without clicking on the drop down list box.)

2. Click on the **Enable Edit** button at the bottom of the screen (refer toFigure 6-9).

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Event Codes Tab

3. Define the appropriate event codes for both the Event (code sent to the DACR when the event occurs) and Restoral (code sent when system reset occurs).

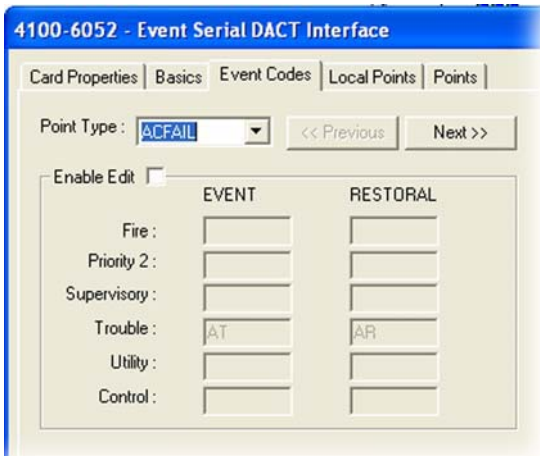

Figure 6-9. Event Codes Tab

Local Points Tab

The Local Points tab allows you to set the event codes received by the central station when problems occur to the DACT or its phone line.

Note: Do not edit event codes without prior authorization and direction from the central station.

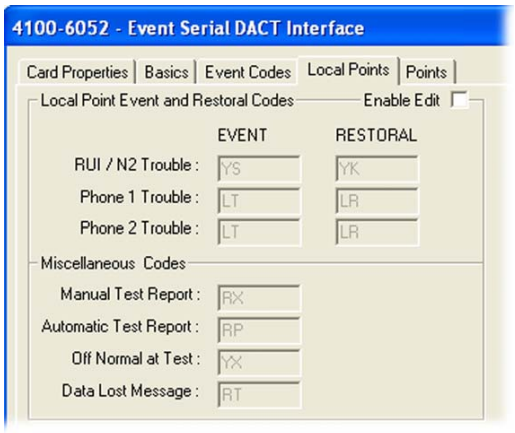

Figure 6-10. Local Points Tab

1. Click on the **Enable Edit** checkbox at the bottom of the screen (refer to Figure 6-11).
2. Edit the event codes as directed by the central station.

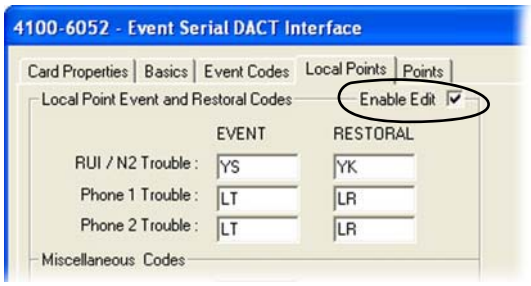

Figure 6-11. Enable Edits on Local Points Tab Window

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Point Types Tab (Per Point DACT Only)

The Point Types tab allows you to define unique SDACT point types for use in reporting event codes to the central station. A unique point type allows the central station to identify a specific point (for example, a single smoke detector) from within a large group of similar points (for example, all of a building's smoke detectors).

Once you have defined a unique point type, use the Points Tab to assign the point type to a specific point. See "Points Tab" later in this section for information. Be certain to work in conjunction with the central station and advise them regarding any new event codes that have been created.

To define a point type, follow these steps. Refer to Figure 6-11.

1. Click on the **Add** button.
2. Enter a unique name for the point type in the **SDACT Point Type Name** field.
3. Enter descriptive text in the **SDACT Point Type Description** field.
4. Edit the Event and Restoral codes to be sent to the central station.

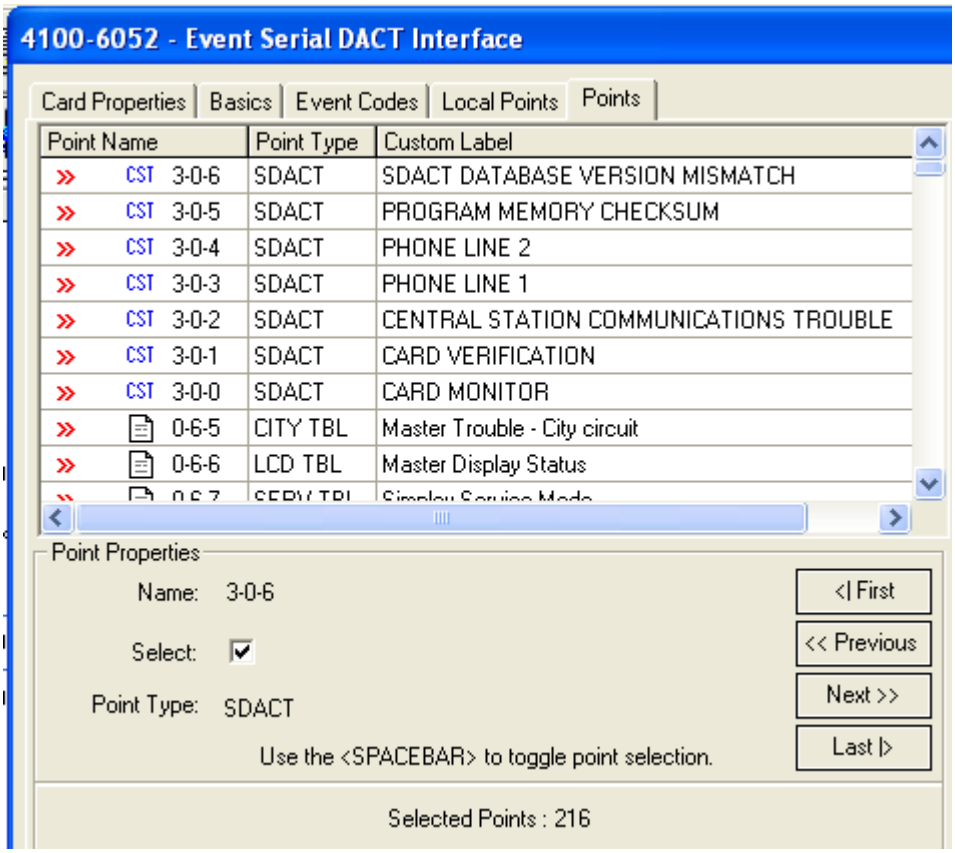

Figure 6-12. Point Tab

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Points Tab (Per Point DACT Only)

The Points tab (shown in Figure 6-12) allows you to do the following:

- Select which points have their events routed to the central station. By doing this, you can prevent unnecessary messages (such as when a pseudo point turns on and off) from being sent to the central station.
- Assign points to Groups. Groups allow a large number of points (such as all of a building's smoke detectors) to be split into subgroups. Groups are typically used to group points by location. For example, each floor in a building can be a group. The central station can then use the group information to provide the fire department with an approximate location of the point in alarm.

To select points and assign points to groups, follow the steps below.

1. Use the scrollbar or the up and down arrow keys to highlight a point.
2. Select the points that should send events to the DACT by checking the Select checkbox. See Figure 6-13 for the location of the Select checkbox.
3. Enter the group number of the point in the CID Group text field.
4. To change the point's identifier (CID Number) within the group, enter a new number in the CID Number field.

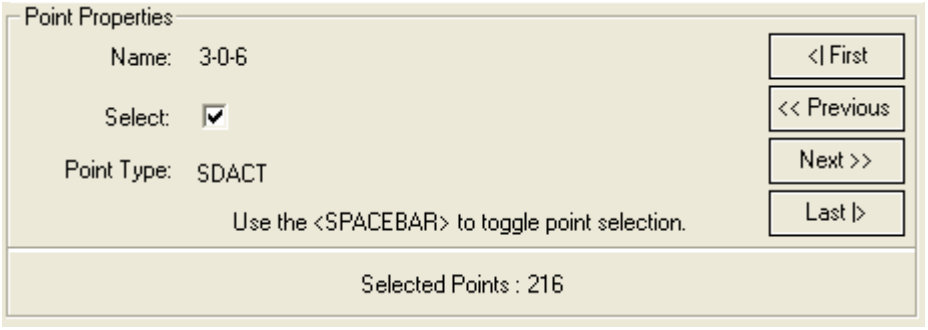

Figure 6-13. Select Box on the Point Tab

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Overview

Per Point SDACT Automatic Email (Auto Email) provides a means of automatically notifying the central station when the programming definition of an SDACT point or ES Panel point is changed.

Operation of Auto Email is as follows:

- After editing a job, the programmergenerates a Comma Separated Values (CSV) file when saving the job. Note: The CSV file is generated for any point changes. There is no distinction between points mapped to the SDACT and non-mapped points.
- When you build the job, the Build utility generates a progress message indicating it is attempting to send an email containing the CSV file to the central station(s). Depending on the configuration of the system, this can be quick or slow, and is entirely dependent on the operating system and email configuration.
- If the email cannot be sent, a warning appears indicating the file could not be sent. If this occurs, the user should send the CSV the next time they connect to the email system. (If the email is not sent because the PC is offline, the unsent email is placed in the Outbox queue.) Depending on how the email system is configured, unsent emails may be automatically sent the next time the system is connected to its mail server. In some cases, you may need to manually send an unsent CSV file to the central station. The location of an unsent CSV file is always the reports subdirectory of the job directory.

Perform the steps listed in this section on the PC on which the programmer resides. These steps assume you are using a Windows-based OS with Microsoft Outlook.

Step 1. Verify Outlook Profile Name, Password, and Default Email Profile

Profiles contain settings for your information service provider, access to your Inbox, address books, sets of folders, and other features. Typically, you need only one profile. The Outlook Profile Name and Password are required fields when configuring the programmer's SDACT email information and default preferences screens. To verify what is currently set for these properties, follow these steps.

1. Click the **Start** menu on the taskbar, move the pointer to Settings and then choose Control Panel and clickon the **Mail** icon.

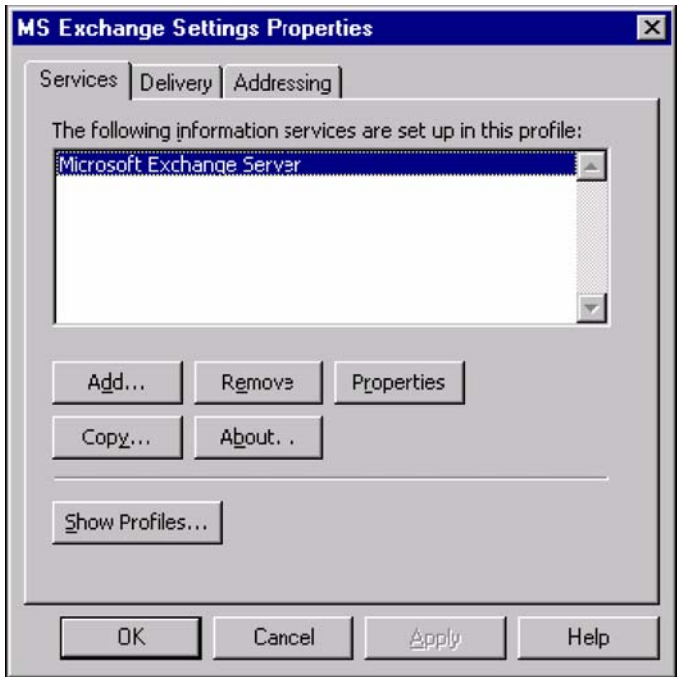

Figure 6-14. Mail Setup

Step 1. Verify Outlook Profile Name, Password, and Default Email Profile

2. The profile name is usually Microsoft Exchange Server, Simplex Grinnell, or Simplex. Click on the profile name in the list and then click on the **Show Profiles** button. A dialog similar to the following appears.

3. Make sure the field labeled "When starting Microsoft Outlook, use this Profile," which specifies the default profile, contains the name of the correct profile.

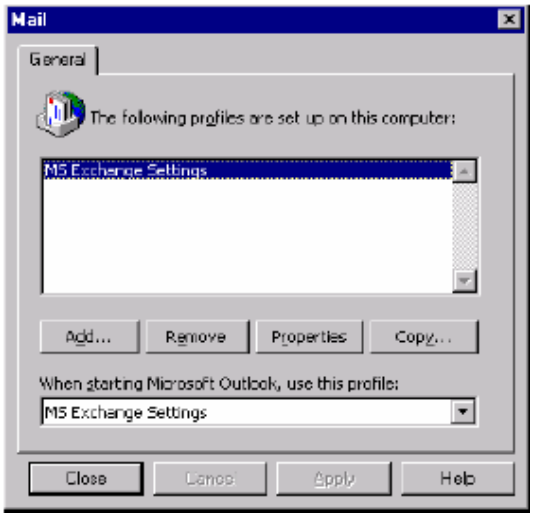

Figure 6-15. Dialog Showing Default Profile

4. Click on **Properties** button in the screen shown in Figure 6-14. The screen shown inFigure 6-13 reappears.
5. Click on the **Properties** button in this screen. A screen similar to the one shown in Figure 6-15 appears.
6. Click on the **Advanced** tab in this screen.

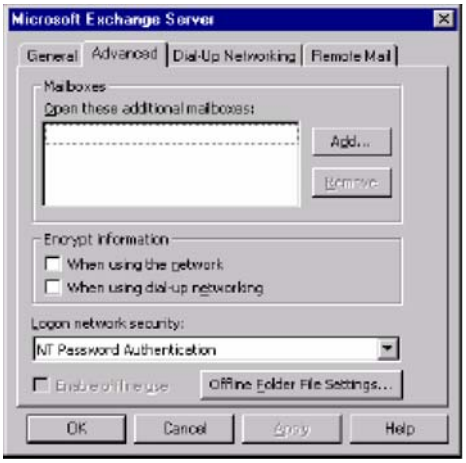

Figure 6-16. Dialog Showing Password

7. Examine the entry in the Logon NetworkSecurity field. If this field contains a password, make sure tomake a note of it. If this field contains "NT Password Authentication," your password is the one that you use to access the network when you log on to the PC.

8. Close all open dialogs.

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Step 2. Add Central Station Entry to Address Book

The steps in this section add the central station email address to the address book and setup the mail program to queue unsent CSV files to the Outbox. In the event that you are offline when you build a job, the Outbox will then automatically send any CSV files contained in it to the central station when you connect back up to the network.

1. Run Outlook. Click on the **Tools** menu and select **Address Book**. When the Address Book appears, click on the **File** menu and select **New Entry**. A dialog similar to the one shown below appears.

   Note: The dialog you see may not have all of the choices shown in the figure below until you complete Step 2.

2. Click on the list labeled "Put this Entry." Make sure the choice reads "Personal Address Book".

3. In the list labeled "Select the Entry Type," click on the entry labeled "Internet Address."

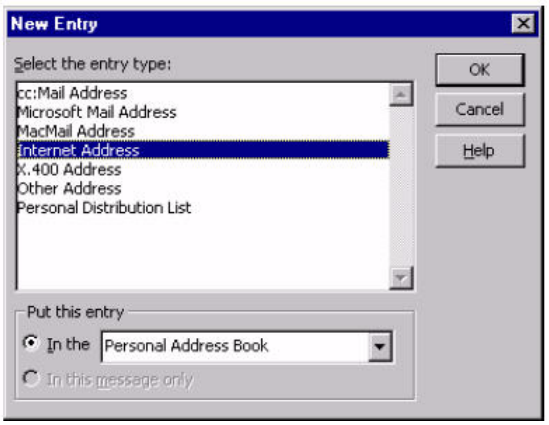

Figure 6-17. Selecting Entry Type

4. Press **OK**. A dialog similar to the following appears, allowing you to enter a new Internet Address (in this case, the email address of the Central Station). Enter a display name for the central station (this is the name that you select in the address book) and then enter the email address of the central station in the E-Mail Address field.

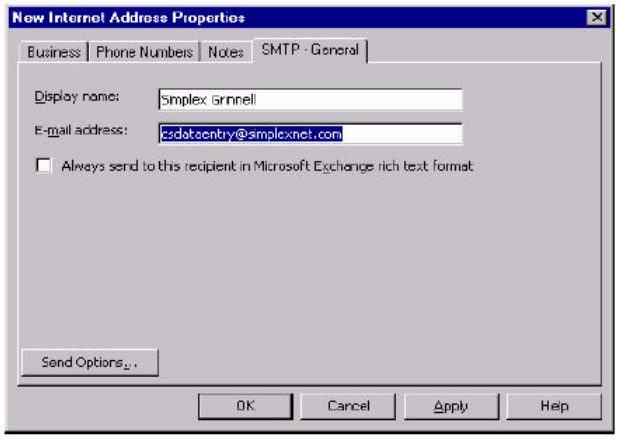

Figure 6-18. New Internet Address Properties

5. Click the **Apply** button and then **OK**.

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Step 2. Add Central Station Entry to Address Book

6. Make the personal address book the first address list that Outlook searches. Use the following steps to do this.

   a. Click on the **Tools** menu in Outlook and select **Services**. A dialog similar to the following appears. Click on the **Addressing** tab.

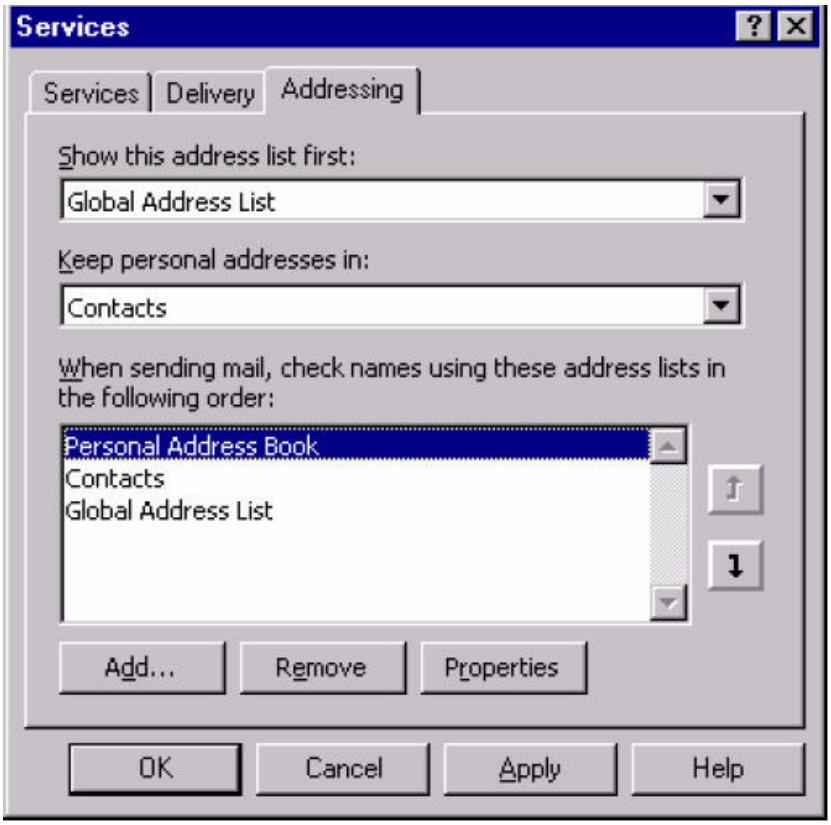

Figure 6-19. Services Dialog

   b. If the Personal Address Book entry appears in the list shown above, skip to Step C. If the Personal Address Book entry does not appear in the list, click on the **Add** button. Another dialog, containing address lists appears. Scroll through the entries that appear, select **Personal Address Book** and press the **Add** button and then the **Close** button.

   c. Move the Personal Address Book entry to the top of the list. To do this, highlight the entry and click on the up arrow, located on the right side of the dialog, until the entry appears at the top of the dialog, as shown in the previous figure.

7. Press **Apply** and **OK** to save the changes.

Continued on next page

Step 3. Make Sure Email Preferences are Set Correctly

The Email preferences settings, contained within the ES Panel preferences dialog, determine the default email entry contained in the SDACT programming dialog. To set the default SDACT email address, do the following:

1. Click on the **Edit** menu and choose **Preferences**. A dialog similar to the following appears.

Figure 6-20. Preferences Dialog

2. Enter information in this dialog as follows:
   - Profile.
   - Password.
   - Default Central Station Email Address.

Continued on next page

Editing TrueAlert Controller and Power Supply Options

Introduction

4009T TrueAlert controller and TrueAlert Power Supply (TPS) are remotely located controllers linked to the ES Panel via RUI communication lines. They are capable of managing up to three separate channels of audible, visual and combination (A/V) TrueAlert NAC appliances and isolator.

Programming a TrueAlert controller consists of setting Card Properties, Card Options, and Device Properties. Card Properties are the card address, description, location (unit, box, bay), etc. Click on the Card Properties tab and refer to Chapter 5 for information on setting these properties. Card Options are global and apply to all devices connected to the TrueAlert controller. Device properties specify the type of device, its coding pattern and its power consumption when it is active. In the case of the TPS, the user can also select the candela rating of the device.

Refer to Chapter 11 for information on creating TrueAlert Zones.

Opening TrueAlert Controller Window

To open the 4009T TrueAlert Controller properties screen, expand the Unit, Box, and Bay icon combination containing the controller and double click on its icon.

There are a total of three tabs on this window:

- **Card Properties** tab
- **Point Editing** tab
- **Power consumption** tab

TrueAlert Controller: Card Properties Tab

The Card Property tab will be open by default when you open the The fields on this tab will be filled with the default settings provided by the programmer. These settings can be edited if necessary.

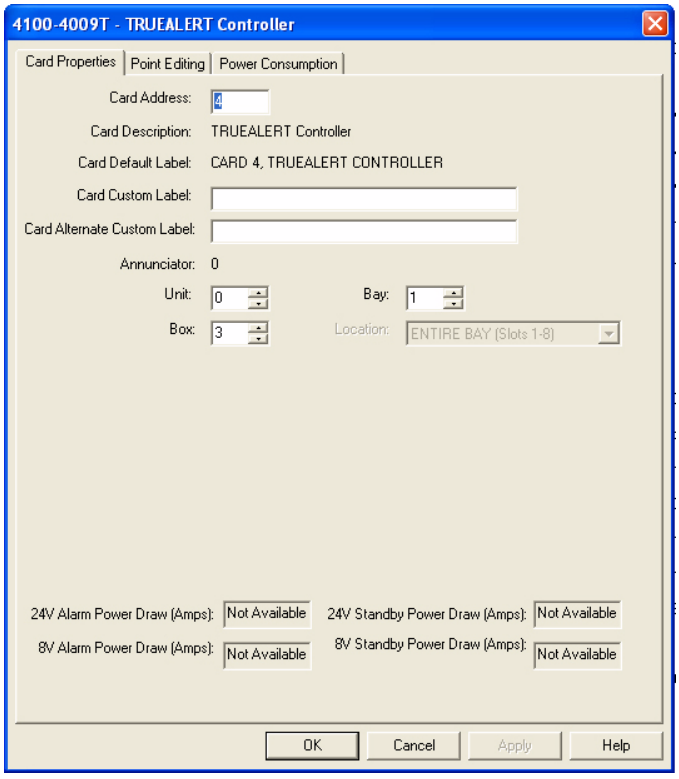

Figure 6-21. TrueAlert Controller Properties Tab

TrueAlert Controller: Point Editing Tab

Class A Option Board. Check this box if you are using Class A option cards on the 4009T controller or TPS.

LEDs Blink when Polled. Check this box if you want the LED on each device to flash when the device is polled by the 4009T controller or TPS. This option will disable TrueAlert diagnostics that use the LEDs (e.g.: activate all LEDs diagnostics).

For TPS only, this extra option is available.

Code Candela Rating on Magnet with Test Mode Off. Check this box if you want the LED to code the candela rating of the device when it is configured via the candela rating option (with jumper in the FACP position) and a magnet is placed in front of the device's magnetic switch. The feature is available when neither diagnostic mode is activated and the system is not in alarm condition.

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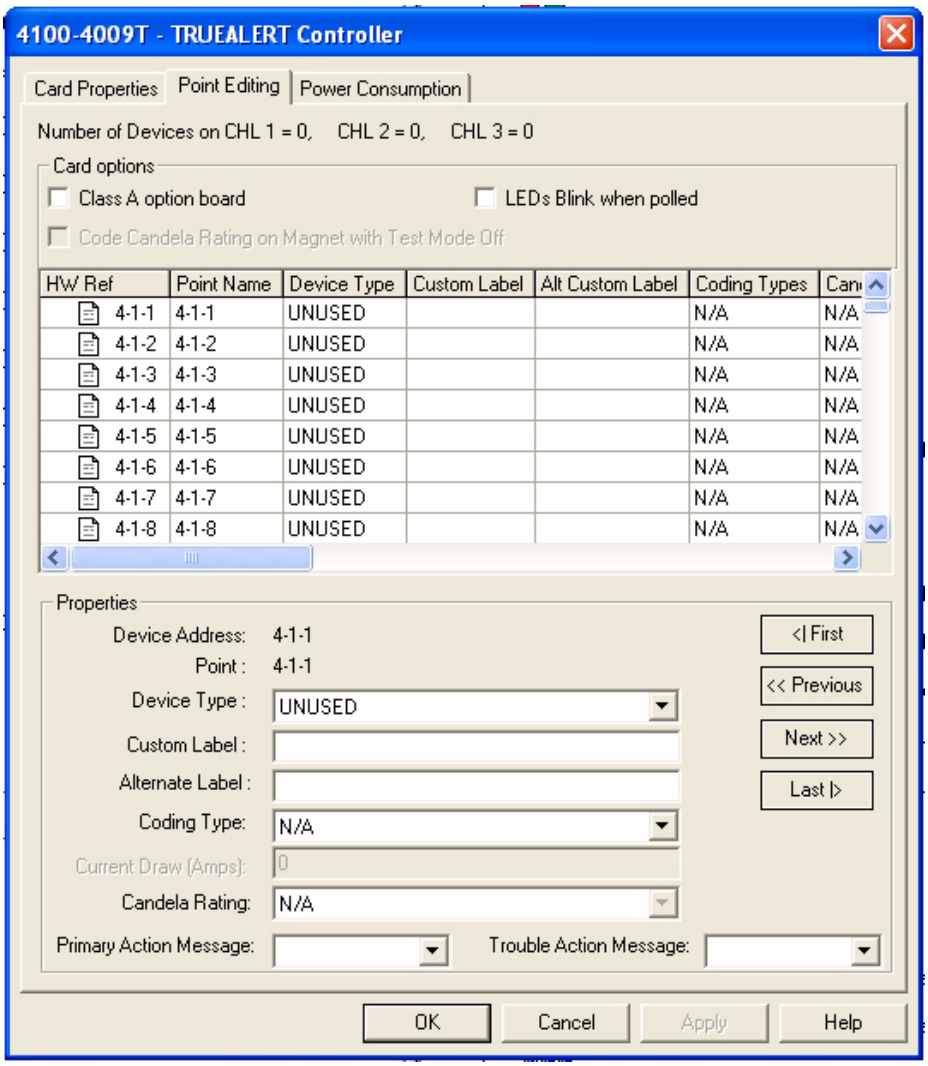

Figure 6-22. TrueAlert Controller Point Editing Tab

Device properties are located at the bottom of the TrueAlert Point Editing screen. They allow you to set the manner in which the device operates when activated.

Continued on next page

TrueAlert Controller: Point Editing Tab

To set a device's properties, first highlight the device whose properties you want to set and then enter information for its properties as follows:

- **Device Type**. Assign the device type to the NAC appliance based on the following:
  - A/V. Use this device type for combination TrueAlert Audible/Visual (AV) devices. All A/V devices use 4903-xxxx or 4906-xxxx series PIDs.
  - ASTRB. Use this device type for amber strobe-only TrueAlert Mass Notification devices (i.e. non-fire warnings). Amber strobe-only devices use 4906-xxxx series PIDs.
  - HORN. Use this device type for horn-only TrueAlert devices. Horn-only devices use 4901-xxxx series PIDs.
  - ISO. Use this device type for a TrueAlert Isolator device. The isolator device has a PID beginning with 4905-xxxx.
  - STRB. Use this device type for strobe-only TrueAlert devices. Strobe-only devices use 4904-xxxx or 4906-xxxx series PIDs.
  - UNUSED. Use this device type for unused devices.
- **Custom Label.** Enter descriptive text, up to 40 characters, for the device. In many cases, this label identifies the location of the device and its device number in a single label. Consult facility management for the building before defining a custom label.
  - **Coding Type**. Assign a coding type to the NAC appliance based on the following:
  - LMARCH120. Plays a low volume tone consisting of 120 beats per minute (1/4 second on, followed by a 1/4 second pause).
  - LMARCH60. Plays a low volume tone consisting of 60 beats per minute (1/2 second on, followed by a 1/2 second pause).
  - LONSTEADY. Plays a continuous low volume tone.
  - LTEMPORAL. Plays a low volume, three pulse coding pattern, consisting of three 1/2 second pulses, each separated by 1/2 second silence. Each group of three pulses is separated by 1.5 seconds of silence.
  - MARCH120. Plays a high volume tone consisting of 120 beats per minute (1/4 second on, followed by a 1/4 second pause).
  - MARCH60. Plays a high volume tone consisting of 60 beats per minute (1/2 second on, followed by a 1/2 second pause).
  - ONSTEADY. Plays a continuous high volume tone.
  - TEMPORAL. Plays a high volume, three pulse coding pattern, consisting of three ½ second pulses, each separated by 1/2 second silence. Each group of three pulses is separated by 1.5 seconds of silence.
- **Current Draw.** Gives the current drawn by the device. The current draw is based on the device PID. To access the Power table and to select the device, the user must press on F11. Once the correct device is selected, and the quantity entered (see Step 4. Use the NAC Power Consumption Calculator in Chapter 7), the correct power rating for this device will appear in this box.
- **Primary Action Message**. Assign Primary state Action Message to use for the device.
- **Trouble Action Message**. Assign Trouble state Action Message to use for the device.

For TPS only, an extra column is available:

- **Candela Rating.** The column of the Candela Rating lists the candela value for the Multi-candela TrueAlert Appliances. The candela values are associated with the Current Draws. You can select another candela value by using the Filter button to bring up the taglist. In the taglist, the Muti-candela TrueAlert Appliances are modifiable which allows you to change to another candela value. You can assign the candela rating to the NAC appliance based on the following:
  - Hardware: Select this option if the device's candela rating has been set to a fixed value via its jumper.

To allow the device's candela rating to be set via the programmer, its jumper has to be set to the FACP position. If this is not the case, then a trouble will be declared for this device.

15 Candelas: Set the device's candela rating to 15Cd.

30 Candelas: Set the device's candela rating to 30Cd.

75 Candelas: Set the device's candela rating to 75Cd.

110 Candelas: Set the device's candela rating to 110Cd.

Click the **OK** button to save the changes to the TrueAlert controller.

TrueAlert Controller: Power Consumption Tab

Column on the left (Available Power) gives the total current capacity that the TPS can supply.

- 24V NAC is the total current a TPS can supply to Notification Appliances.
- AUX Power is the total current a TPS can supply on its Auxiliary Power terminal
- 24V Card is the total current a TPS can supply to cards populated in its bay or on other bays, depending on how they are configured through the Power supply drop down menu in the bay properties.
- The "Total Available" that the 4009T can produce is 8A of bulk 24V for system use.

Column on the right (Power in Use) gives the total current consumption from devices hooked to the TPS.

- 24V NAC is the total current drawn by the Notification Appliances based on which devices have been selected in the Power Consumption Calculator via the Point Editing tab. If the Calculator is not used, this box will remain at zero.
- AUX Power is the total current drawn through the Auxiliary Power terminal. This field must be zero at all times because the TrueAlert card does not contain any AUXPWR points.
- 24V Card is the total current drawn from the other cards in the bay(s) powered by this TPS. To make use of this box, the Supply Card Power checkbox has to be selected, thus indicating that the TPS is the source of power for other cards.

Total in Use gives the total current drawn from the TPS by all external devices.

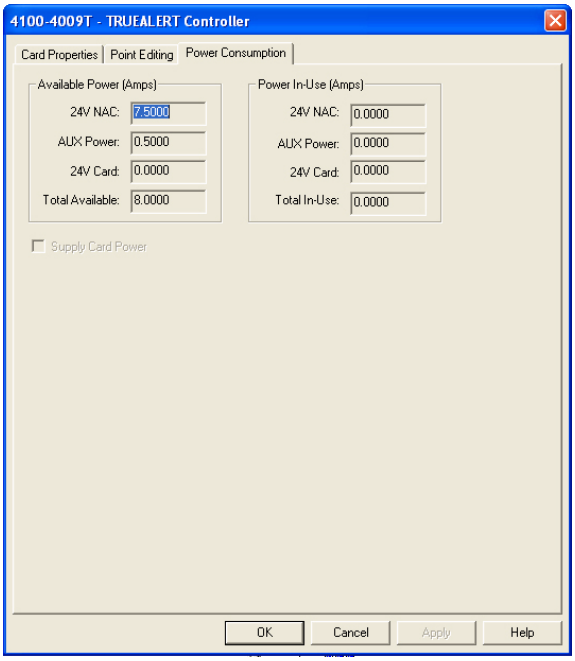

Figure 6-23. TrueAlert Controller Power Consumption Tab

Continued on next page

Opening TrueAlert Power Supply Window

To open the TrueAlert Power Supply (TPS) properties screen, expand the Unit, Box, and Bay icon combination containing the controller and double click on its icon.

There are a total of three tabs on this window:

- **Card Properties** tab
- **Data Entry** tab
- **Point Editing** tab
- **Power consumption** tab

TrueAlert Power Supply: Card Properties Tab

The Card Property tab will be open by default when you open the The fields on this tab will be filled with the default settings provided by the programmer. These settings can be edited if necessary.

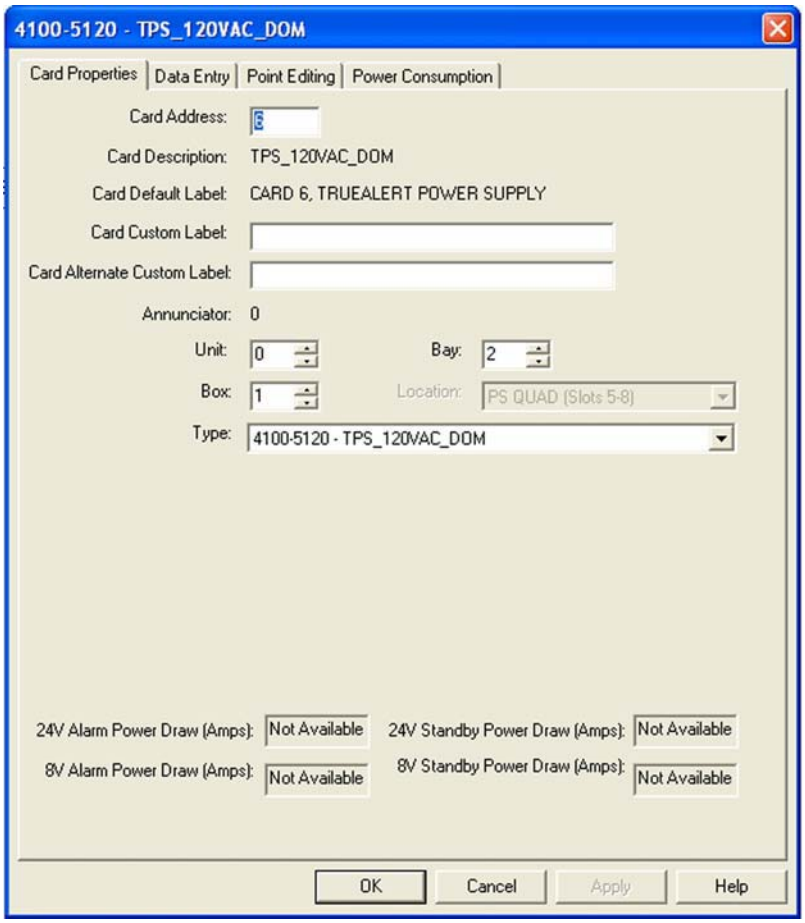

Figure 6-24. TrueAlert Power Supply Properties Tab

Continued on next page

TrueAlert Power Supply: Data Entry

Select and checkoff the following radio buttons and checkboxes that appear on this tab. See Figure 6-25.

Battery Type:

Select the charge of the battery the FACP is using:

- **High** (greater than 18AH)
- **Low** (6.2 AH - 12.7 AH)

Options:

- **Depleted Battery Cutout.** This option determines the behavior of the TPS when a Depleted Battery and AC Failure condition exists. For the Canadian version of the TPS, when this condition occurs, the system will log a message and shut itself off. For the non-Canadian version, if no alarm was active prior to the Depleted Battery condition, VNACs will not activate if this option is enabled. This operation is intended to be identical to the depleted battery cutout operation of the other ES Panel power supplies (e.g. SPS).
- **Disable Charger.** Disables the Charger.

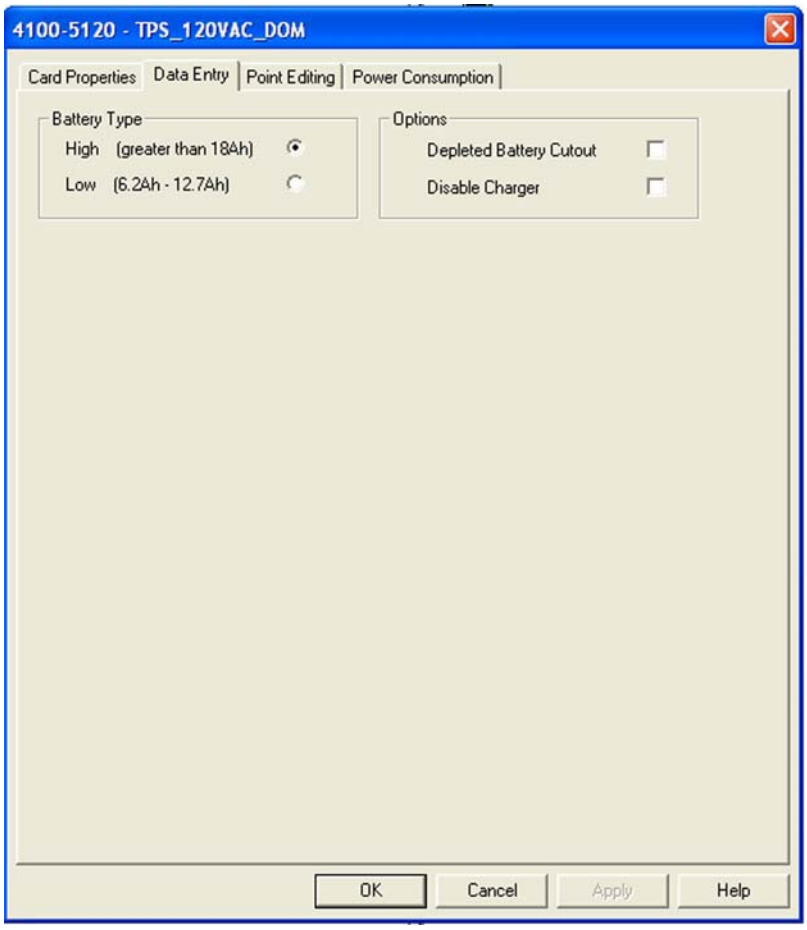

Figure 6-25. TrueAlert Power Supply Data Entry Tab

Continued on next page

TrueAlert Power Supply: Point Editing

Class A Option Board. Check this box if you are using Class A option cards on the 4009T controller or TPS.

LEDs Blink when Polled. Check this box if you want the LED on each device to flash when the device is polled by the 4009T controller or TPS. This option will disable TrueAlert diagnostics that use the LEDs (e.g.: activate all LEDs diagnostics).

For TPS only, this extra option is available.

Code Candela Rating on Magnet with Test Mode Off. Check this box if you want the LED to code the candela rating of the device when it is configured via the candela rating option (with jumper in the FACP position) and a magnet is placed in front of the device's magnetic switch. The feature is available when neither diagnostic mode is activated and the system is not in alarm condition.

Device properties are located at the bottom of the TrueAlert Point Editing screen. They allow you to set the manner in which the device operates when activated.

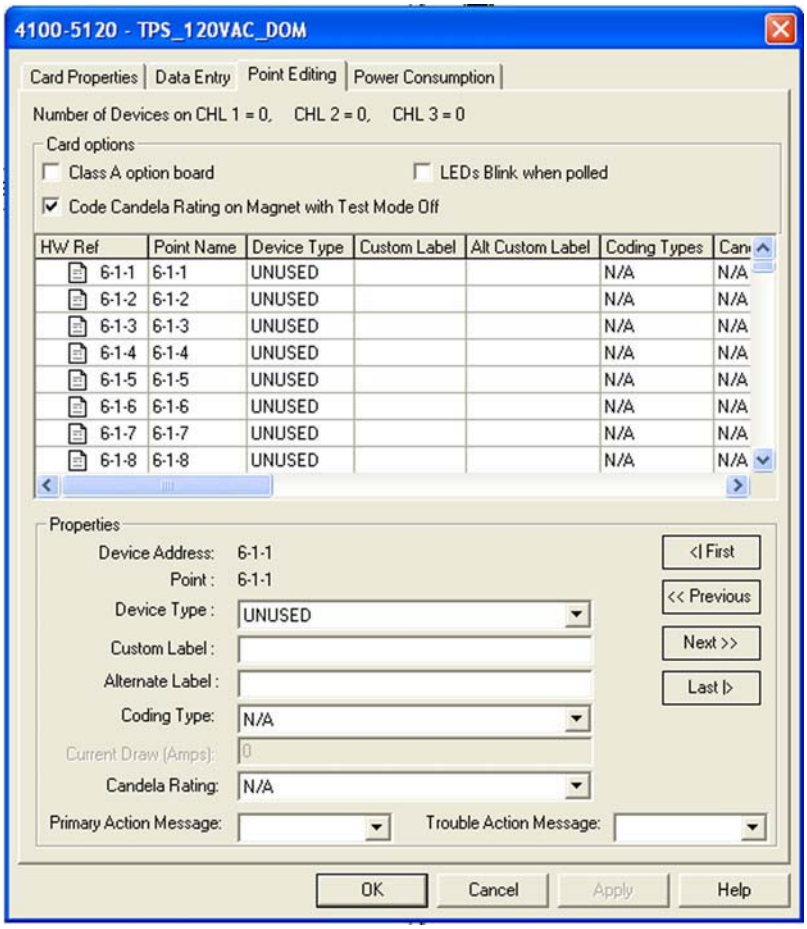

Figure 6-26. TrueAlert Power Supply Point Editing Entry Tab

Continued on next page

TrueAlert Power Supply: Point Editing

To set a device's properties, first highlight the device whose properties you want to set and then enter information for its properties as follows:

- **Device Type**. Assign the device type to the NAC appliance based on the following:
  - A/V. Use this device type for combination TrueAlert Audible/Visual (AV) devices. All A/V devices use 4903-xxxx or 4906-xxxx series PIDs.
  - ASTRB. Use this device type for amber strobe-only TrueAlert Mass Notification devices (i.e. non-fire warnings). Amber strobe-only devices use 4906-xxxx series PIDs.
  - HORN. Use this device type for horn-only TrueAlert devices. Horn-only devices use 4901-xxxx series PIDs.
  - ISO. Use this device type for a TrueAlert Isolator device. The isolator device has a PID beginning with 4905-xxxx.
  - STRB. Use this device type for strobe-only TrueAlert devices. Strobe-only devices use 4904-xxxx or 4906-xxxx series PIDs.
  - UNUSED. Use this device type for unused devices.
- **Custom Label**. Enter descriptive text, up to 40 characters, for the device. In many cases, this label identifies the location of the device and its device number in a single label. Consult facility management for the building before defining a custom label.
  - **Coding Type**. Assign a coding type to the NAC appliance based on the following:
  - LMARCH120. Plays a low volume tone consisting of 120 beats per minute (1/4 second on, followed by a 1/4 second pause).
  - LMARCH60. Plays a low volume tone consisting of 60 beats per minute (1/2 second on, followed by a 1/2 second pause).
  - LONSTEADY. Plays a continuous low volume tone.
  - LTEMPORAL. Plays a low volume, three pulse coding pattern, consisting of three 1/2 second pulses, each separated by 1/2 second silence. Each group of three pulses is separated by 1.5 seconds of silence.
  - MARCH120. Plays a high volume tone consisting of 120 beats per minute (1/4 second on, followed by a 1/4 second pause).
  - MARCH60. Plays a high volume tone consisting of 60 beats per minute (1/2 second on, followed by a 1/2 second pause).
  - ONSTEADY. Plays a continuous high volume tone.
  - TEMPORAL. Plays a high volume, three pulse coding pattern, consisting of three ½ second pulses, each separated by 1/2 second silence. Each group of three pulses is separated by 1.5 seconds of silence.
- **Current Draw.** Gives the current drawn by the device. The current draw is based on the device PID. To access the Power table and to select the device, the user must press on F11. Once the correct device is selected, and the quantity entered (see Step 4. Use the NAC Power Consumption Calculator in Chapter 7), the correct power rating for this device will appear in this box.
- **Primary Action Message**. Assign Primary state Action Message to use for the device.
- **Trouble Action Message**. Assign Trouble state Action Message to use for the device.

For TPS only, an extra column is available:

- **Candela Rating.** The column of the Candela Rating lists the candela value for the Multi-candela TrueAlert Appliances. The candela values are associated with the Current Draws. You can select another candela value by using the Filter button to bring up the taglist. In the taglist, the Muti-candela TrueAlert Appliances are modifiable which allows you to change to another candela value. You can assign the candela rating to the NAC appliance based on the following:
  - Hardware: Select this option if the device's candela rating has been set to a fixed value via its jumper.

To allow the device's candela rating to be set via the programmer, its jumper has to be set to the FACP position. If this is not the case, then a trouble will be declared for this device.

15 Candelas: Set the device's candela rating to 15Cd.

30 Candelas: Set the device's candela rating to 30Cd.

75 Candelas: Set the device's candela rating to 75Cd.

110 Candelas: Set the device's candela rating to 110Cd.

Click the **OK** button to save the changes to the TrueAlert controller.

Continued on next page

TrueAlert Power Supply: Power Consumption

Column on the left (Available Power) gives the total current capacity that the TPS can supply.

- 24V NAC is the total current a TPS can supply to Notification Appliances.
- AUX Power is the total current a TPS can supply on its Auxiliary Power terminal
- 24V Card is the total current a TPS can supply to cards populated in its bay or on other bays, depending on how they are configured through the Power supply drop down menu in the bay properties.
- The "Total Available" that the TPS can produce is 9A of bulk 24V for system use.

Column on the right (Power in Use) gives the total current consumption from devices hooked to the TPS.

- 24V NAC is the total current drawn by the Notification Appliances based on which devices have been selected in the Power Consumption Calculator via the Point Editing tab. If the Calculator is not used, this box will remain at zero.
- AUX Power is the total current drawn through the Auxiliary Power terminal. This field must be zero at all times because the TrueAlert card does not contain any AUXPWR points.
- 24V Card is the total current drawn from the other cards in the bay(s) powered by this TPS. To make use of this box, the Supply Card Power checkbox has to be selected, thus indicating that the TPS is the source of power for other cards.

Total in Use gives the total current drawn from the TPS by all external devices.

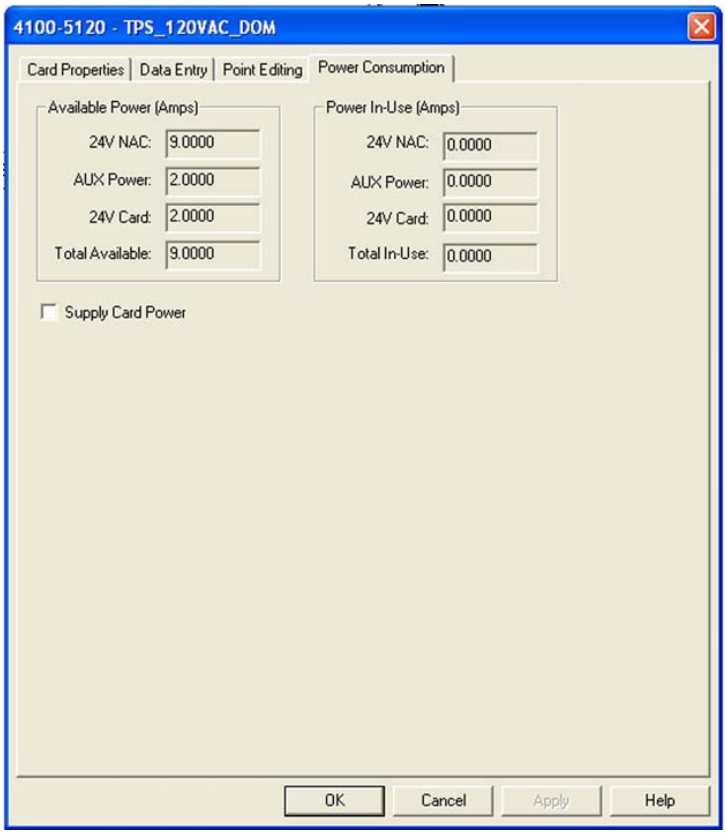

Figure 6-27. TrueAlert Power Supply Power Consumption Entry Tab

Continued on next page

TrueAlert Power Supply: Point Editing

Class A Option Board. Check this box if you are using Class A option cards on the 4009T controller or TPS.

LEDs Blink when Polled. Check this box if you want the LED on each device to flash when the device is polled by the 4009T controller or TPS. This option will disable TrueAlert diagnostics that use the LEDs (e.g.: activate all LEDs diagnostics).

For TPS only, this extra option is available.

Code Candela Rating on Magnet with Test Mode Off. Check this box if you want the LED to code the candela rating of the device when it is configured via the candela rating option (with jumper in the FACP position) and a magnet is placed in front of the device's magnetic switch. The feature is available when no other diagnostic mode is activated and the system is not in alarm condition.

Device properties are located at the bottom of the TrueAlert Controller properties screen. They allow you to set the manner in which the device operates when activated.

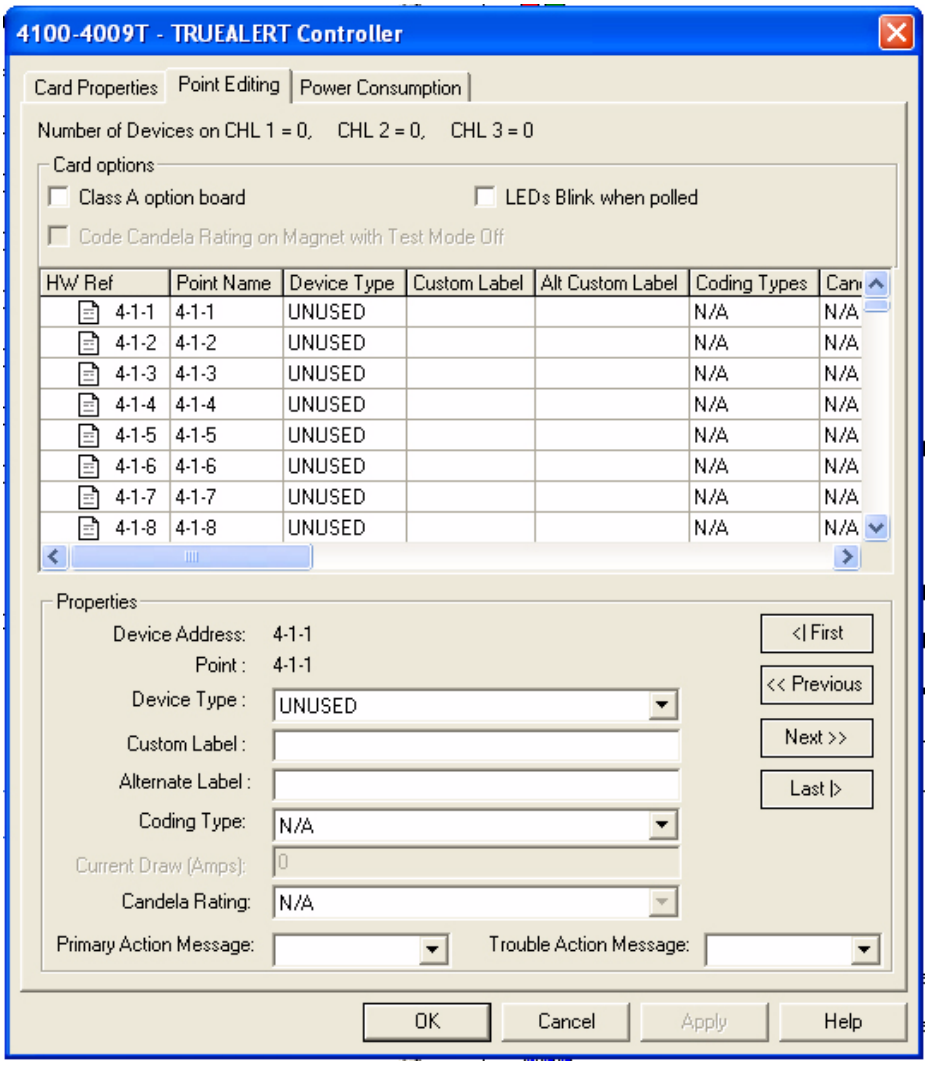

Figure 6-28. TrueAlert Power Supply Point Editing tab

To set a device's properties, first highlight the device whose properties you want to set and then enter information for its properties as follows:

TrueAlert Power Supply: Point Editing

- **Device Type**. Assign the device type to the NAC appliance based on the following:
  - A/V. Use this device type for combination TrueAlert Audible/Visual (AV) devices. All A/V devices use 4903-xxxx or 4906-xxxx series PIDs.
  - ASTRB. Use this device type for amber strobe-only TrueAlert Mass Notification devices (i.e. non-fire warnings). Amber strobe-only devices use 4906-xxxx series PIDs.
  - HORN. Use this device type for horn-only TrueAlert devices. Horn-only devices use 4901-xxxx series PIDs.
  - ISO. Use this device type for a TrueAlert Isolator device. The isolator device has a PID beginning with 4905-xxxx.
  - STRB. Use this device type for strobe-only TrueAlert devices. Strobe-only devices use 4904-xxxx or 4906-xxxx series PIDs.
  - UNUSED. Use this device type for unused devices.
- **Custom Label.** Enter descriptive text, up to 40 characters, for the device. In many cases, this label identifies the location of the device and its device number in a single label. Consult facility management for the building before defining a custom label.
- **Coding Type.** Assign a coding type to the NAC appliance based on the following:
  - LMARCH120. Plays a low volume tone consisting of 120 beats per minute (1/4 second on, followed by a 1/4 second pause).
  - LMARCH60. Plays a low volume tone consisting of 60 beats per minute (1/2 second on, followed by a 1/2 second pause).
  - LONSTEADY. Plays a continuous low volume tone.
  - LTEMPORAL. Plays a low volume, three pulse coding pattern, consisting of three 1/2 second pulses, each separated by 1/2 second silence. Each group of three pulses is separated by 1.5 seconds of silence.
  - MARCH120. Plays a high volume tone consisting of 120 beats per minute (1/4 second on, followed by a 1/4 second pause).
  - MARCH60. Plays a high volume tone consisting of 60 beats per minute (1/2 second on, followed by a 1/2 second pause).
  - ONSTEADY. Plays a continuous high volume tone.
  - TEMPORAL. Plays a high volume, three pulse coding pattern, consisting of three ½ second pulses, each separated by 1/2 second silence. Each group of three pulses is separated by 1.5 seconds of silence.
- **Current Draw.** Gives the current drawn by the device. The current draw is based on the device PID. To access the Power table and to select the device, the user must press on F11. Once the correct device is selected, and the quantity entered (see Step 4. Use the NAC Power Consumption Calculator in Chapter 7), the correct power rating for this device will appear in this box.
- **Primary Action Message**. Assign Primary state Action Message to use for the device.
- **Trouble Action Message**. Assign Trouble state Action Message to use for the device.

For TPS only, an extra column is available:

- **Candela Rating.** The column of the Candela Rating lists the candela value for the Multi-candela TrueAlert Appliances. The candela values are associated with the Current Draws. You can select another candela value by using the Filter button to bring up the taglist. In the taglist, the Muti-candela TrueAlert Appliances are modifiable which allows you to change to another candela value. You can assign the candela rating to the NAC appliance based on the following:
  - Hardware: Select this option if the device's candela rating has been set to a fixed value via its jumper.

To allow the device's candela rating to be set via the programmer, its jumper has to be set to the FACP position. If this is not the case, then a trouble will be declared for this device.

15 Candelas: Set the device's candela rating to 15Cd.

30 Candelas: Set the device's candela rating to 30Cd.

75 Candelas: Set the device's candela rating to 75Cd.

110 Candelas: Set the device's candela rating to 110Cd.

Click the **OK** button to save the changes to the TrueAlert controller.

Continued on next page

TCODE

Note that on Revision 12.04 systems and higher it is possible to change the coding type on the fly using the TCODE SMPL op code. When executed on an activated VNAC, this op code changes the default coding specified in this section to a different code specified by the TCODE command. TCODE only works on activated VNACs, and once the VNAC is deactivated the coding reverts back to the programmed default. TOCDE is intended for operations like recall, where the cadence of the horns is changed when the incident is over to recall people into the building. It should be noted that when a TCODE command is executed the VNAC stays in that state until another TCODE command is executed, or until the VNAC is deactivated. Thus, if override of the TCODE induced cadence is required on activation of a subsequent alarm that must be programmed using another TOCDE command. Setting TCODE to OFF causes the coding type to revert back to the original coding type.

Continued on next page

Editing Annunciator-Specific Properties

Internal, External, and LCD Annunciator Properties

The following annunciators, most of which are remotely connected to the panel via RUI, all use the same property sheet for configuring what an operator can do from the remote location.

- 4604-9201 External Graphical LCD Annunciator
- 4603-9101 LCD Annunciator
- 4120 Graphical LCD Annunciator

To set the annunciator properties for one of these annunciators, do the following:

1. Click on the **Hardware** Tab to open the Hardware Window.
2. Expand the unit, box, and bay combination in which the annunciator resides.
3. Double click on the annunciator's icon. When the properties sheet appears, click on the LCD Annunciator tab. A dialog similar to the one shown below appears.

   Note: Alternatively, right click on the icon of the annunciator, and select "Properties" from the pop up window.

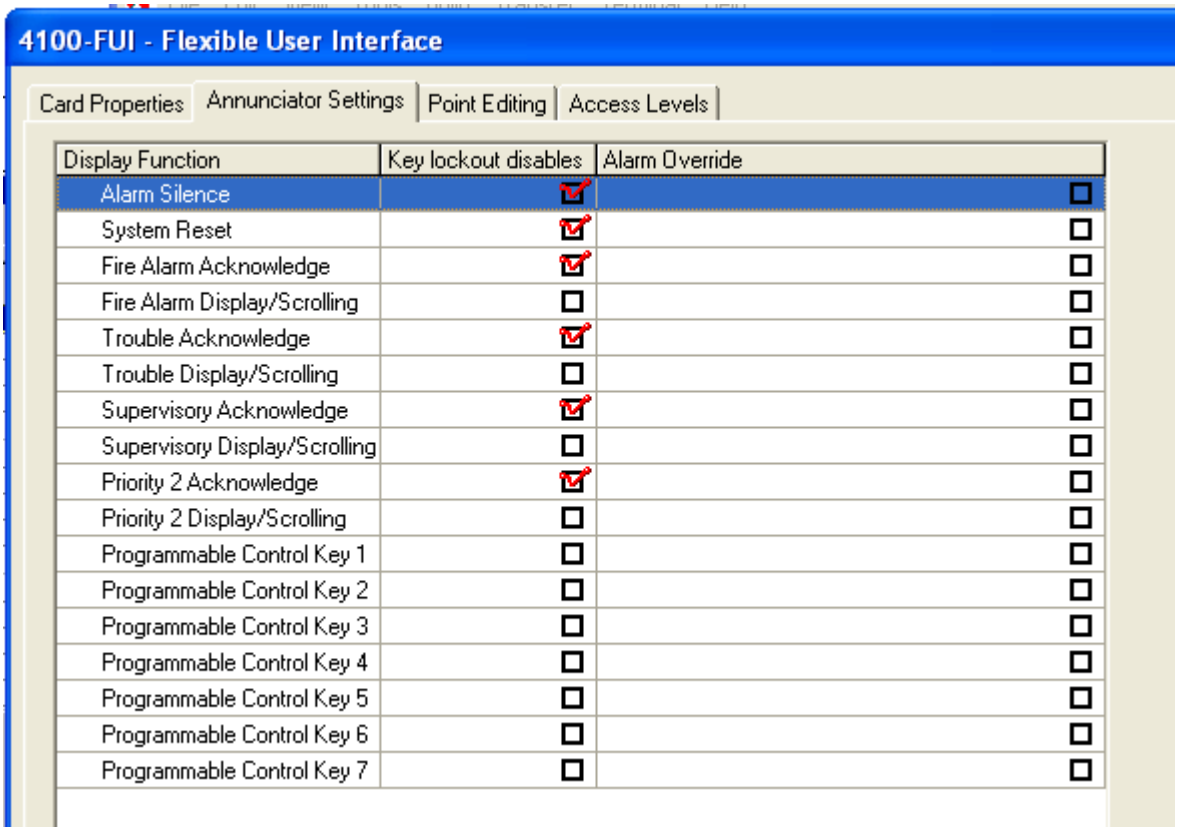

Figure 6-29. Annunciator Property Sheet

4. This sheet has a series of rows on the left, identifying the functions that can be performed from the annunciator. Each row hastwo checkboxes, Keyswitch Required and Override onAlarm. Check oruncheck these boxes, using the following guideline.

   - **Keyswitch Required**. A checkmark in the Keyswitch Required box to the right of a function's row indicates the function is ignored unless a key is inserted in the annunciator's key switch and the position of the key is on.
   - **Override on Alarm**. A checkmark in the Override on Alarm box to the right of a function's row indicates that if the Key Switch Required box is checked, the key switch is not required during an alarm situation.

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4100-7402 Graphic LED/ Switch Controller

The standard 4100-7402 Graphic LED/Switch Controller ships with 32 LEDs. An optional 32 LEDs, and up to 64 optional switches, can be connected to the 4100-7402 annunciator. Use the annunciator property sheet, as described below, to specify if any optional LEDs or switches are connected to the controller.

To see the annunciator properties for the 4100-7402 Graphic LED/Switch Controller, do the following:

1. Click on the **Hardware** Tab to open the Hardware Window.
2. Expand the unit, box, and bay combination in which the annunciator resides.
3. Double click on the annunciator's icon. The Properties sheet for the annunciator appears. Click on the **Configure** Tab. A dialog similar to the one shown below appears.

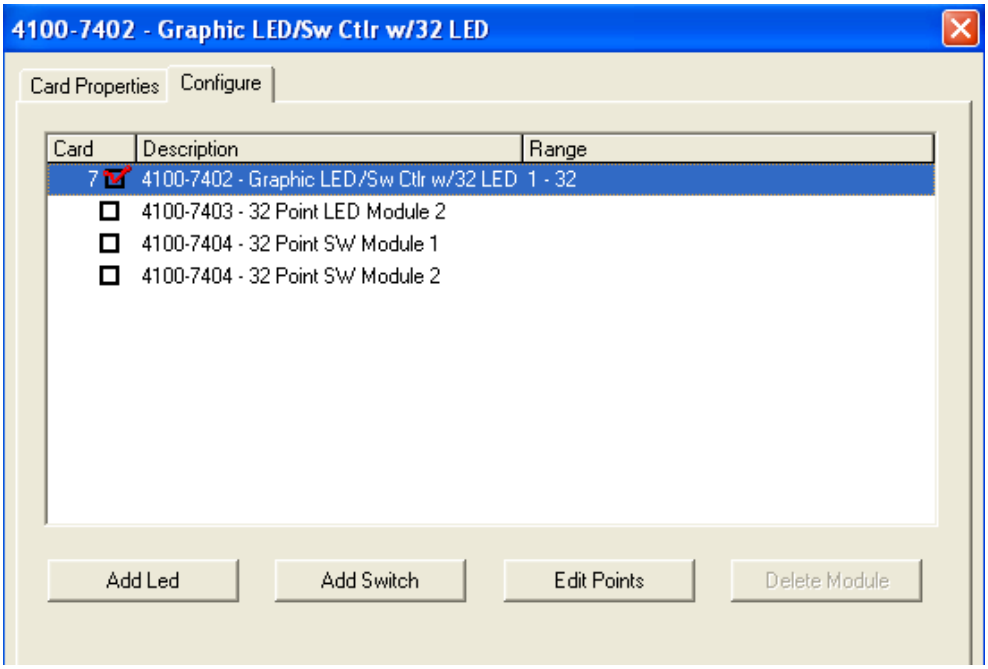

Figure 6-30. Annunciator Specific Properties

4. Check the boxes on the left that correspond to the optional LED and switch modules connected to the controller. The box at the top represents the standard LEDs that accompany the controller.

4100-FUI - InfoAlarm

The InfoAlarm shares the properties of the other remote annunciator cards, and also features configurable pseudo points similar to the standard 2X40 operator interface. As with other annunciator cards, right-click on the Front Display InfoAlarm card icon, and select Properties. The InfoAlarm properties window contains four tabs: Card Properties, Annunciator Settings, Point Editing, and Access Levels. Refer to Chapter 7 for instructions on how to configure keys, switches and LEDs.

In the Card Properties tab, there is a checkbox for "Memory Expansion Card Installed". Check this box if the memory expansion card is present on your InfoAlarm card. A mismatch between this checkbox and the actual hardware will cause a Configuration mismatch trouble in the system.

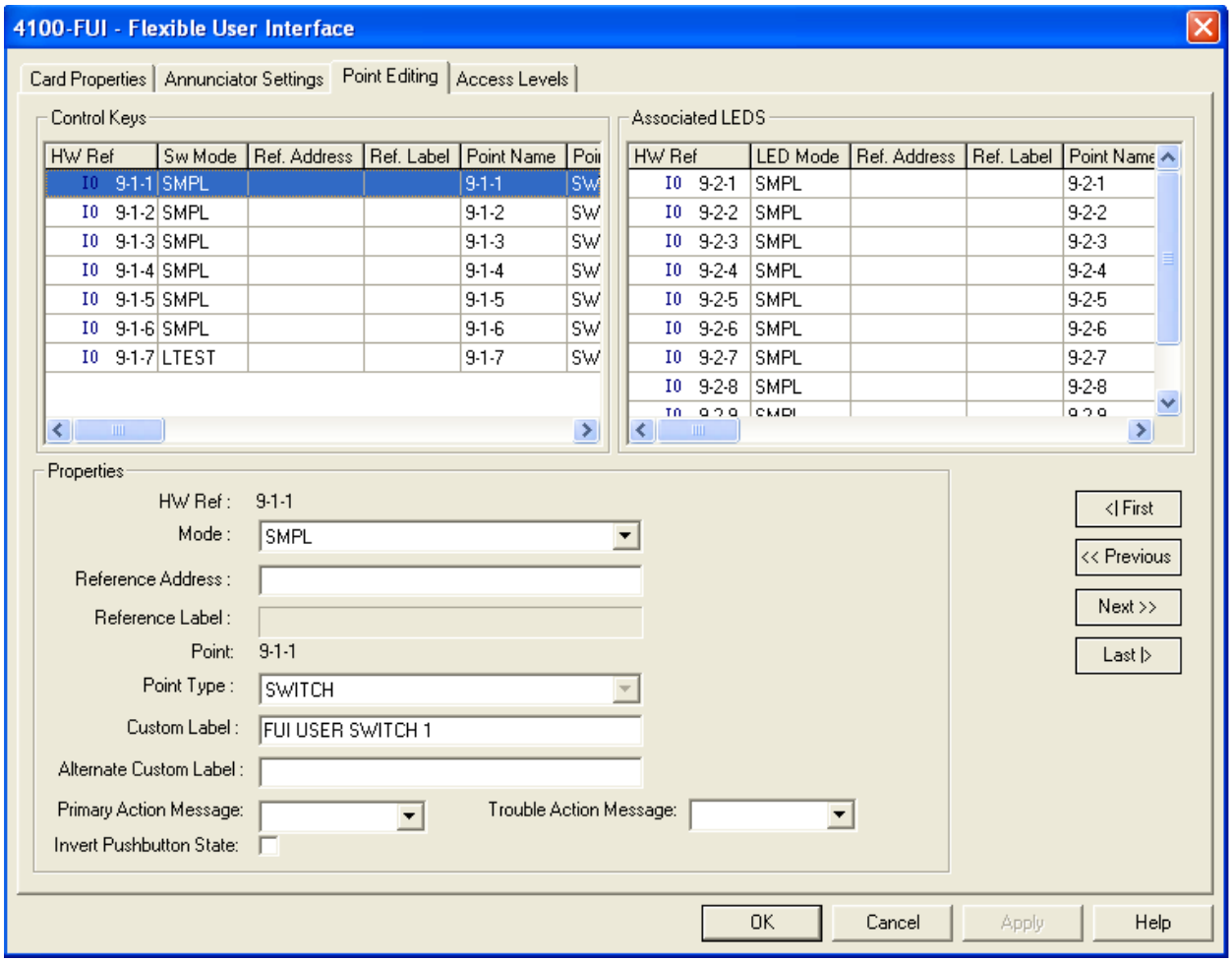

Figure 6-31. InfoAlarm Specific Properties

Note: You cannot write custom control on InfoAlarm switches and LEDs.

Continued on next page

Editing 2120 Interface Properties

Terms and Concepts

The ES Panel's 2120 interface provides the physical interface between a ES Panel and a 2120 channel. Connecting the ES Panel to the 2120 channel allows the 2120 system to activate ES Panel signals or annunciate events when alarm, trouble, and supervisory conditions occur on 2120 initiating devices. Additionally, it allows the 2120 to monitor ES Panel initiating devices and activate 2120 signals if a ES Panel initiating device activates. Information on connecting the ES Panel's 2120 interface to the 2120 channel is contained in 579-221. This section describes the programming required to identify the ES Panel initiating devices, signals, etc. Key terms and concepts that you should be aware of include:

- **2120 Channel.** The channel is the physical connection between the 2120 BMUX (master at the head end) and the 2120 transponders (slave devices). When a 2120 interface is installed in a ES Panel, it functions as a 2120 transponder. At its most basic level, the channel carries status information from the monitor devices on the channel to the BMUX. The BMUX processes the status information received from the monitor devices and sends commands to the control devices attached to the channel. In this type of system, monitor devices never directly communicate with control devices. A 2120 system can support 2 communication channels.
- **Transponder.** Each 2120 channel can have up to 63 transponders, each of which is referenced by an address, ranging from one to 63. For the ES Panel, a transponder does not refer to a single piece of equipment, such as a single ES Panel, but instead refers to a logical group of devices, such as a group of monitor or control points. These groups are known as *slots* and each transponder can have between one and eight slots.
- **Slots.** Each slot in turn has one of the following types:
  - Monitor. A Monitor Slot is a group of up to eight 4100 points whose status you want to be monitored by the 2120 BMUX.
  - Control. A control slot refers to a group of up to 4 devices on a 4100 that you want the 2120 BMUX to be able to control.
  - Broadcast. Broadcast slots identify devices (up to eight) on the 4100 that you want the 2120 BMUX to be able to control. Typically these slots are only used to link 2120 devices to 4100 annunciator pseudo points.

Note: A 2120 software reburn is required to interface a 4100 to a 2120. The 4100 transponder address, monitor, and control slot information must match the 2120 CMS file configuration.

Determine the Number of Transponder Addresses Required

Before you begin programming the 2120 interface, it is critical that you determine how many transponder addresses you will require for the ES Panel and also which addresses are currently being used on the 2120 channel. To determine the number of transponder addresses, do the following:

1. First determine the total number of points on the 4100 whose status the 2120 will be monitoring. Divide this number by eight. This is the number of monitor slots required. Divide the number of monitor slots required by eight to determine the number of transponder addresses required for the monitor slots.
2. Determine the number of 4100 points that the 2120 will be controlling. Divide this number by four. This is the number of control slots required. Divide the number of control slots by eight to determine the number of transponders required for the control slots.
3. Add the number of transponder addresses from Step 1 to the number from Step 2.

Continued on next page

Editing 2120 Interface Properties, *Continued*

Opening 2120 Interface Properties Screen

Follow these steps to open the interface properties screen for the 2120 interface card (4100-0113 or 4100-6038)

1. Click on the **Hardware** Tab to open the Hardware Window.
2. Expand the unit, box, and bay combination in which the 2120 interface resides.
3. Double click on the interface card's icon. The Properties sheet for the card appears.

Define General Settings

1. Click on **Port A**. (The 2120 interface can use only Port A of a 2120/RS232 card.)
2. Click on **Port Type** and choose the **2120 Interface** setting.
3. Set the communication settingsto the settings being used on the 2120 channel. In most cases, if DC COMM is being used, the baud rate is 4800 baud. Note that if **any** of the 2120 transponders are connected to the BMUX via a modem, the baud rate **must be set to 1200 baud**.

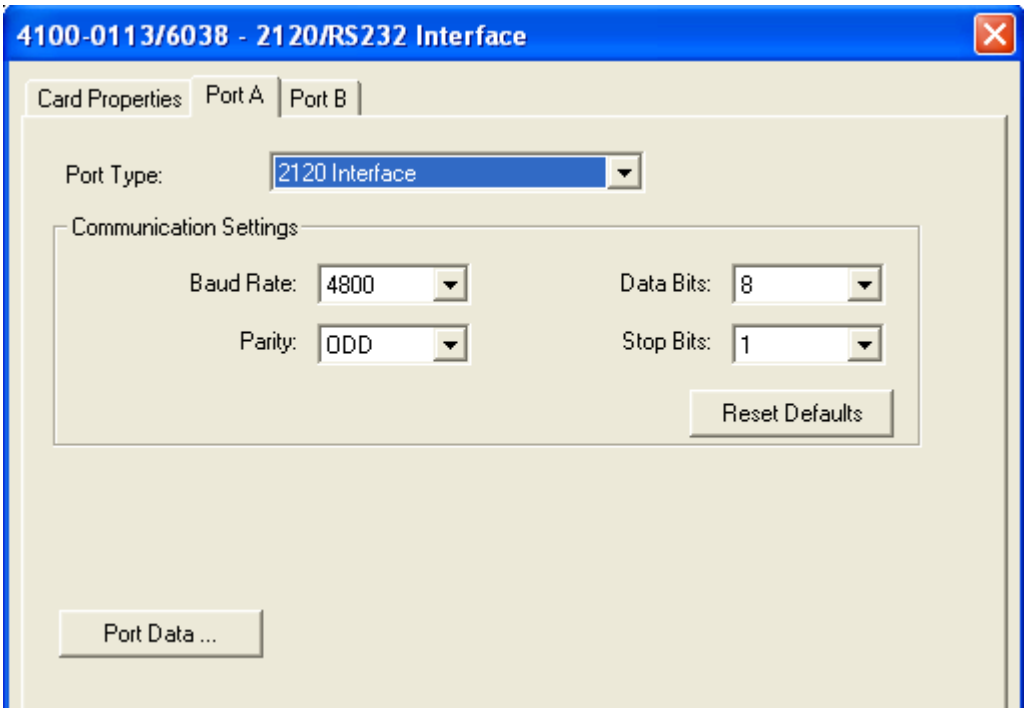

Figure 6-32. 2120 Interface, Port A Settings

Continued on next page

Editing 2120 Interface Properties, *Continued*

Data Entry Fields

Click on the **Port Data** button. The screen shown in Figure 6-33 appears.

- **2120 File Number**. This is the eight-digit, alphanumeric file number of the 2120 configuration loaded on the 2120 BMUX.
- **Base Transponder**. See "Automatically Adding Monitor and Control Slots" below for information on this field.
- **Relocatable Transponders**. Check this box to permit editing of the transponder addresses assigned to the 4100.
- **Positive Indication**. Indicates whether Positive Indication is enabled.
- **Time Sync**. When checked, the 2120 updates the 4100 with its time. This ensures that the time on both systems is identical.
- **Automap**. See "Automatically Adding Monitor and Control Slots" below for information on this field.

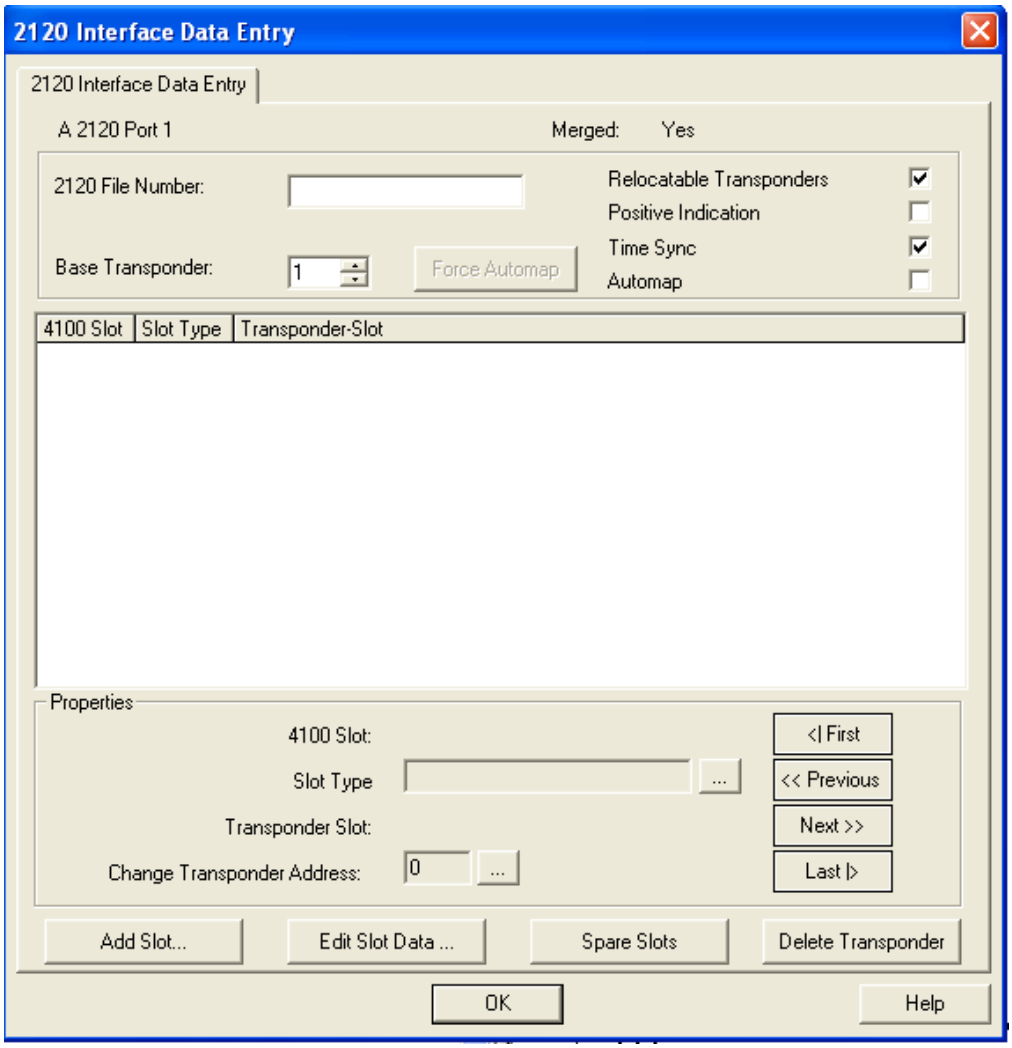

Figure 6-33. Port Data Screen, 2120 Interface

Automatically Defining Monitor and Control Slots

Before attempting to automatically define monitor and control slots, first calculate the total number of transponder addresses required for the ES Panel and identify which transponder addresses are already in use on the channel. Next, determine whether a large enough block of free, contiguous addresses exists. For example, if you need 10 addresses for the ES Panel, you would look for a block of ten free addresses that are all next to one another.

If an appropriately sized block of free addresses exists, do the following to automatically define the monitor and control slots.

1. Click in the **Base Transponder** field and set the value of this field to the lowest number in the block. For example, if you need 10 addresses and addresses 10 through 20 are not being used, set the value of this field to 10.
2. Click on the **Automap** field. The programmer automatically adds the appropriate number of monitor and control slots.

Manually Defining Monitor and Control Slots

In some cases, you may need to manually add the monitor and control slots. To do this, the **Automap** field must not be selected.

- If you will be monitoring or controlling only a subset of the ES Panel points. (When you automatically add monitor and control slots, the programmer reserves enough slots for all of the ES Panel monitor and control points.)
- If you are editing an existing job and you need to add a limited number of slots to the job.
- If you need to fit the monitor and control slots into a range of transponder addresses that are not adjacent to one another. For example, if you want to add 32 monitor and control slots, you need four transponder addresses. Suppose, however, there are four free addresses, but they are adjacent to one another. In this situation, you could manually add the slots, and manually specify the transponder addresses.

To manually add a monitor or control slot, do the following:

1. Click on the **Add Slot** button. Refer to Figure 6-33 for the location of this button. A dialog similar to the following appears.

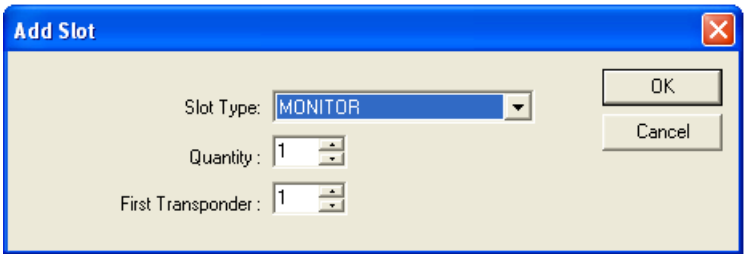

Figure 6-34. Add Slot Dialog

2. Click on the **Slot Type** field and select the appropriate type of slot - monitor or control.

3. Click on the **Quantity** field and specify the number of slots you want to add.

   Note: If you specify more than 8, the First Transponder field is the transponder address of the first eight slots. The next highest transponder addresses will then be automatically assigned to the next 8 slots, etc. Make sure these addresses are free and not being used by other slots somewhere on the channel.

4. Click on the **First Transponder** field and set the address of the first transponder for the group of slots you are defining.

Continued on next page

Editing Monitor Slot Data

Editing the monitor slot data allows you to specify the 4100 points and modes that the 2120 will monitor. Note that the Point column in this dialog shows the point address of the 2120 point that will be monitoring the ES Panel reference address.

To edit the monitor slot data, do the following:

1. In the 2120 Interface Data Entry screen (Figure 6-33), click on the slot whose data you want to define and then click on the **Edit Slot Data** button. A screen similar to the one shown in Figure 6-35 appears.

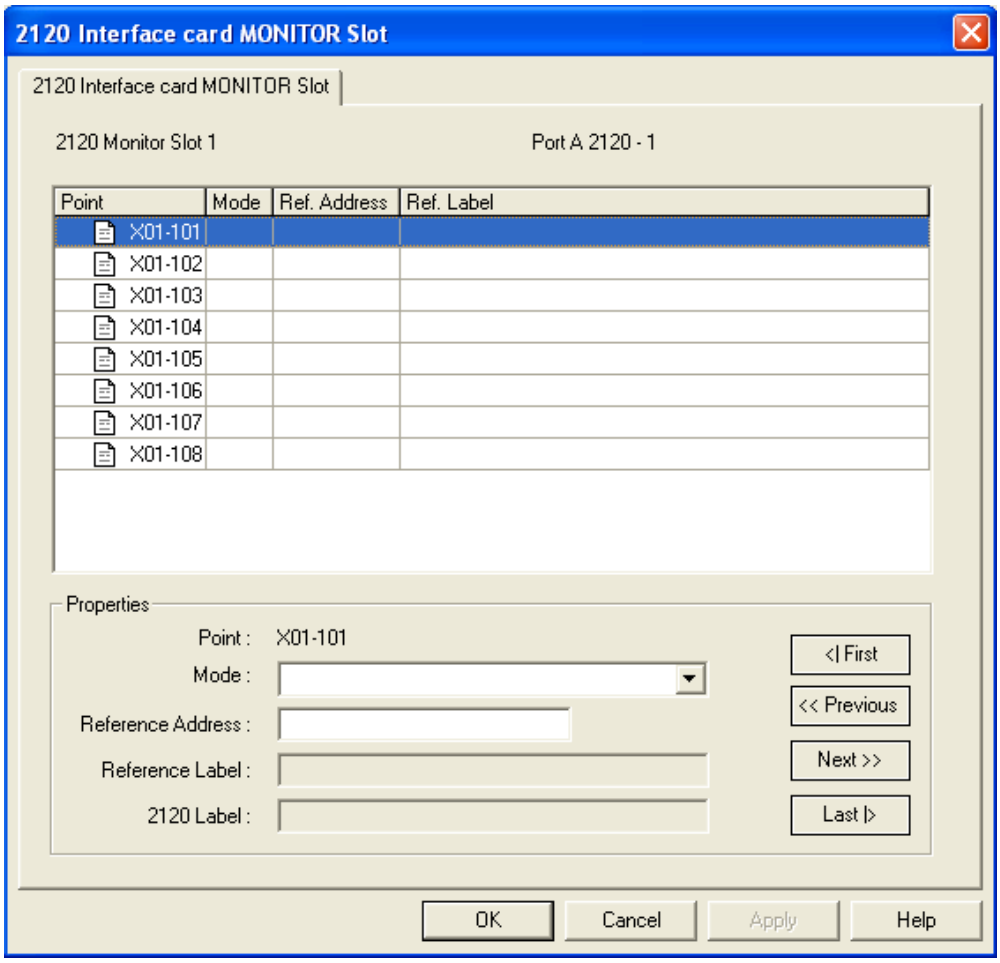

Figure 6-35. Editing Monitor Slot Data

2. Position the cursor in the **Ref. Address** field, located at the bottom part of the screen. Press the **F9** key to see a tag list of the 4100 points. Position the cursor on the point you want to select and press the space bar. A >> symbol appears to the left of the point to indicate that it is selected.
3. Click on the **Mode** drop down list box and choose one of the modes. Refer to Table 6-5.

Continued on next page

Editing Monitor Slot Data

In this table, the resulting state (normal, current limited, open, short) of the 2120 point is listed at the top and the ES Panel states are listed underneath the 2120 states. For example, if you assign the DUAL mode to a ES Panel list pseudo, turning the pseudo OFF will be interpreted by the 2120 as Normal, turning the pseudo ON will be interpreted as Current Limited, etc.

Table 6-5: Monitor Slot Modes

	Type of ES Panel Reference Point	Resulting State of 2120 Point			
		Normal	Current Limited	Open	Short
Dual - Multi Channel Signal Status	Multi Channel Signal	Off	Channel 1 and On	Trouble	Channel 2 and On
	List Pseudo	Off	Channel 1 and On	Trouble	Channel 2 and On
Fire - 2120 Fire Alarm Mode	Analog	Normal	Alarm	Trouble	
	Digital	Off	Alarm		
	List Pseudo	Off	Alarm	Trouble	
	Mapnet	Normal	Alarm	Trouble	
	Monitor	Normal	Alarm	Trouble	
Monitor - 2120 Monitor Point	Analog Device	Normal	Current Limited	Disable Offauto (if any)	
	Analog Pseudo	Off	On		
	Aux. Relay	Off	On	Disable Manual Override	
	Digital Pseudo	Off	On		
	Feedback	Off	On		
	Graphic Input	Normal	Current Limited	Open Disable	Short
	Graphic Output	Off	On	Open Disable Manual Override	Short
	List Pseudo	Off	On		
	Mapnet Input	Normal	Current Limited	Open Disable	
	Mapnet Output	Off	On	Open Relay Fault disable	
	Monitor	Normal	Current Limited	Open Disable	Short
	Switch	Center	Up		Down

Continued on next page

Editing Control Slot Data

Editing the control slot data allows you to specify the 2120 points and modes that the 4100 will monitor.

To edit the control slot data, do the following:

1. In the 2120 Interface Data Entry screen (Figure 6-33), click on the control slot whose data you want to define and then click on the **Edit Slot Data** button. A screen similar to the one shown in Figure 6-36 appears.

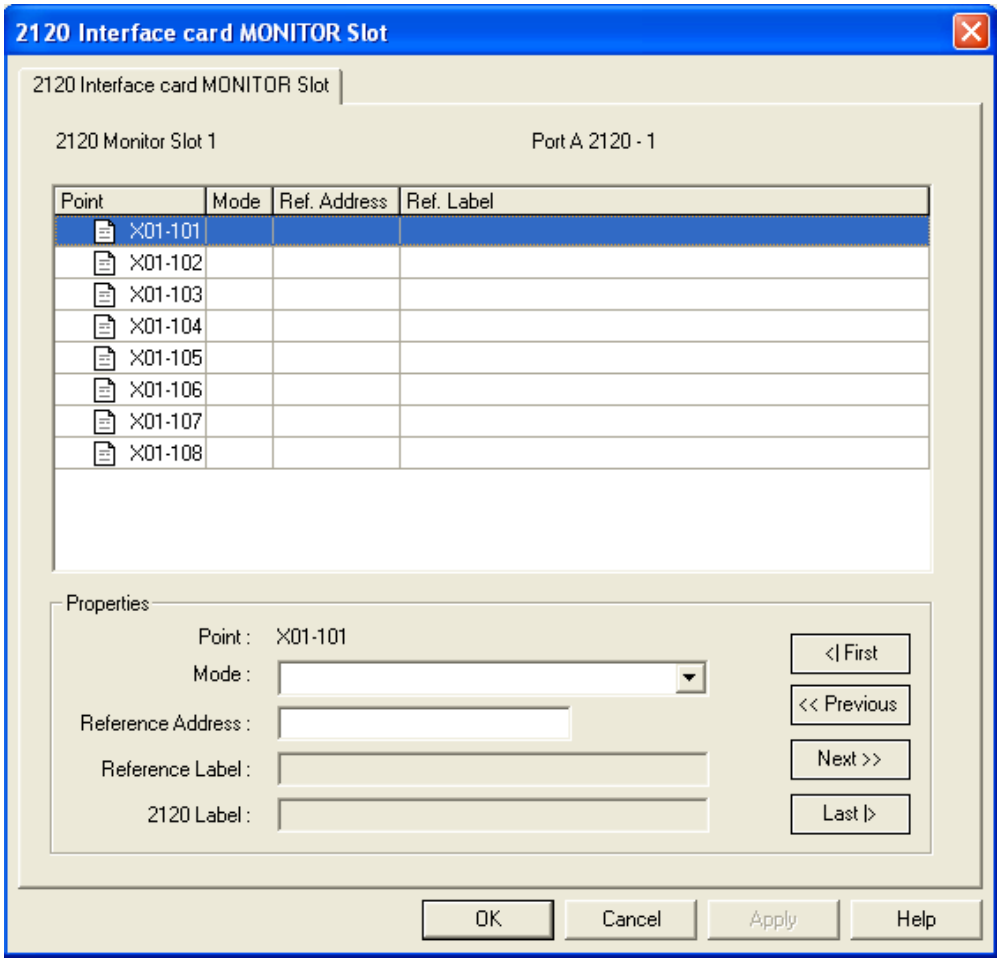

Figure 6-36. Defining Control Slot Data

2. Position the cursor in the **Ref. Address** field, located at the bottom part of the screen. Press the **F9** key to see a tag list of the 4100 points. Position the cursor on the point you want to select and press the space bar. A >> symbol appears to the left of the point to indicate that it is selected.

3. Click on the **Mode** drop down list box and choose one of the modes. Refer to Table 6-6.

Continued on next page

Editing Control Slot Data

Table 6-6: Control Slot Modes

ES Panel Mode	Valid ES Panel Reference Point
Control	Analog devices with outputs Auxiliary Relay Points Digital Pseudo Points Graphic Output List Pseudo Points MAPNET Output Master Controller Signal Points
DE	Analog Device Graphic Input Output
ONOFF	Analog device Digital Pseudo Points Graphic Output List Pseudo Points MAPNET Output Master Controller Monitor Points Signal Points
PBH	Analog device Digital Pseudo Points Graphic Output List Pseudo Points MAPNET Output Master Controller Signal Points Power Supply Points
LAACK	None required
LSACK	None required
LTACK	None required
LSS	None required
OFF	Analog devices with outputs Digital Pseudo Point Graphic Output List Point Pseudo MAPNET Output Master Controller Signal Points Power Supply Points

Continued on next page

Editing Control Slot Data

Table 6-6: Control Slot Modes, *continued*

ES Panel Mode	Valid ES Panel Reference Point
S1	List Pseudo Point MAPNET Outputs Signal Points
S2R	List Pseudo Point MAPNET Outputs Signal Points
SON	List Pseudo Point MAPNET Outputs Signal Points
GAACK	None Required
GSACK	None Required
GTACK	None Required

Continued on next page

Editing ES Panel BMUX Interface Properties

Overview

The BMUX card is used to interface the existing 2120 transponders to the ES Panel. The card is essentially a physical media and protocol converter, from 4100 Comms (RUI) to 2120 (20mA DC Loop). The BMUX card is installed into a ES Panel and is designed to communicate to 2120 transponders through the DC loop communications peripherals such as the DC Loop to RS-232 converters. There is one DC loop Comms Channel per BMUX card, and two cards are required for a two-channel system.

The 2120 Comms loop is a two-wire interface with the BMUX card acting as a master transmitter. The protocol is designed to have the slave transponders respond to their address match by replying to the BMUX card command. The protocol is half-duplex, and the slaves respond to the master transmitter by reversing the bus data direction. The card includes primary and secondary DC loop drivers, so that a single open on any line does not prevent communications to the transponders.

The BMUX card is a flat-form factor ES Panel card in the 4” x 10” (double slot) format. The BMUX card supports the following communication performance styles for Signaling Line Circuits (SLC):

- Class B -- Style 4 (Single line)
- Class A -- Style 6 (McCulloh Loop)
- Class A -- Style 7 (McCulloh Loop - enhanced with the use of 2120 Style 7 interface card)

The DC Loop communication supports the same baud rates that are supported by the 2120 DC Loop card. The DC Loop communication rate is as follows:

- 1200 bps, Baud Rate
- 4800 bps, Baud Rate

The BMUX card supports the following ES Panel generic slave features including, but not limited to:

- 4100 Comms interface
- Slave Exec Download
- Slave CFIG download
- Earth Fault Search

Except for:

- Transponder Local Mode

The BMUX card can report the following card status troubles to the ES Panel master:

- Earth Fault
- DC Loop Communication Channel troubles
- Abnormal condition of the slave executive
- Wrong Address
- DC Loop Class
- Extra Transponder
- BMUX CFIG Version Mismatch

In addition, the ES Panel master can report a BMUX card missing/failed trouble.

Continued on next page

Editing ES Panel BMUX Interface Properties, *Continued*

Accessing the ES Panel BMUX Interface Properties Screen

Follow these steps to access the interface properties screen for the ES Panel (4100-6065) BMUX Interface card.

1. Click on the Hardware tab to open the Hardware window.
2. Expand the unit, box, and bay combination by clicking on the plus signs.
3. Add a second bay to the box if it does not already contain one.
4. From the Available Hardware pane, expand the INTERFACE components, select 4100-6065 BMUX Interface, and move the interface card to bay two.
5. Double click on the interface card's icon. The Properties sheet for the card appears as shown in Figure 6-37

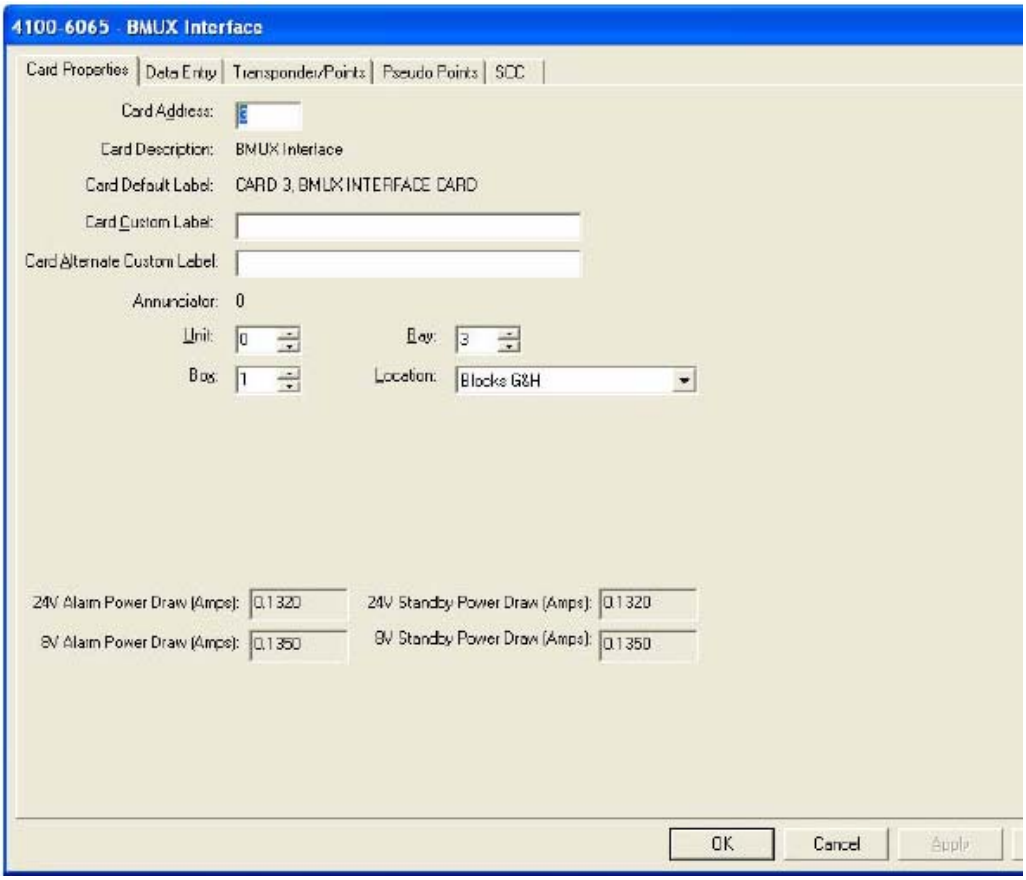

Figure 6-37. BMUX Card Properties Dialog Tab

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Editing ES Panel BMUX Interface Properties, *Continued*

General Settings

The Card Properties tab allows you to edit the general settings for the ES Panel (4100-6065) BMUX Interface.

1. Click on the **Card Properties**. This tab is default to open when you first access the ES Panel (4100-6065) BMUX Interface. The card properties appear as follows:
   - **Card Address.** To change the card address, click in the Card Address field and enter a numerical value.
   - **Card Custom Label.** You can change the information of the Card Custom Label or the Card Alternate Custom Label by clicking on their fields and entering a text string.
   - **Unit, Box, and Bay.** The Unit, Box, and Bay fields are set with the current configuration values. However, you can change these values by clicking in their fields and entering a numerical value.
   - **Location.** From the drop-down list, select the location where the (4100-6065) BMUX Interface card is physically located in the bay.

Data Entry

To change the baud rate and the channel style (Style 4, Style 6/7) for the ES Panel (4100-6065) BMUX Interface, follow these steps.

1. Click on the **Data Entry** tab of the 4100 6065 BMUX Interface. A dialog box appears as shown in Figure 6-38.

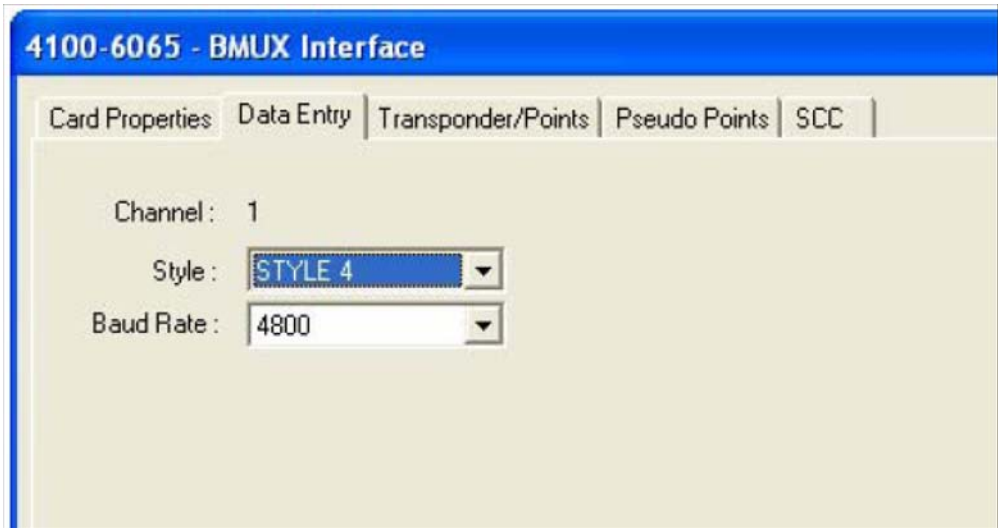

Figure 6-38. BMUX Card Data Entry Tab

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Data Entry

2. To change the style, click on the drop-down box and select one of the following styles:
   - STYLE 4
   - STYLE 6/7
3. To change the baud rate, click on the drop-down box and select one of the following baud rates:
   - 1200
   - 4800

Transponder/ Points

The Transponder/Points tab allows editing of a transponder's properties and the properties of any slots belonging to a particular transponder. The transponders and any of their slots are presented in a grid format. If a transponder has slots, the slot information can be expanded and collapsed into view by clicking the + or - sign next to the transponder.

As the highlight is moved over the transponders and slots, their properties are mirrored in controls below the grid. These controls allow the properties to be modified. The nature of the controls and their enable state will be modified to fit the context indicated by the position of the highlight bar. For example, when a transponder is highlighted, the transponder type drop down will be enabled, while the slot type control is disabled. If a transponder is 'opened' with the '+' element, its slots and their types are displayed. Moving the highlight over the slots enables the slot type control, if modifications are allowed.

1. Click on the **Transponder/Point** tab of the 4100 6065 BMUX Interface. A dialog box appears as shown in Figure 6-39.

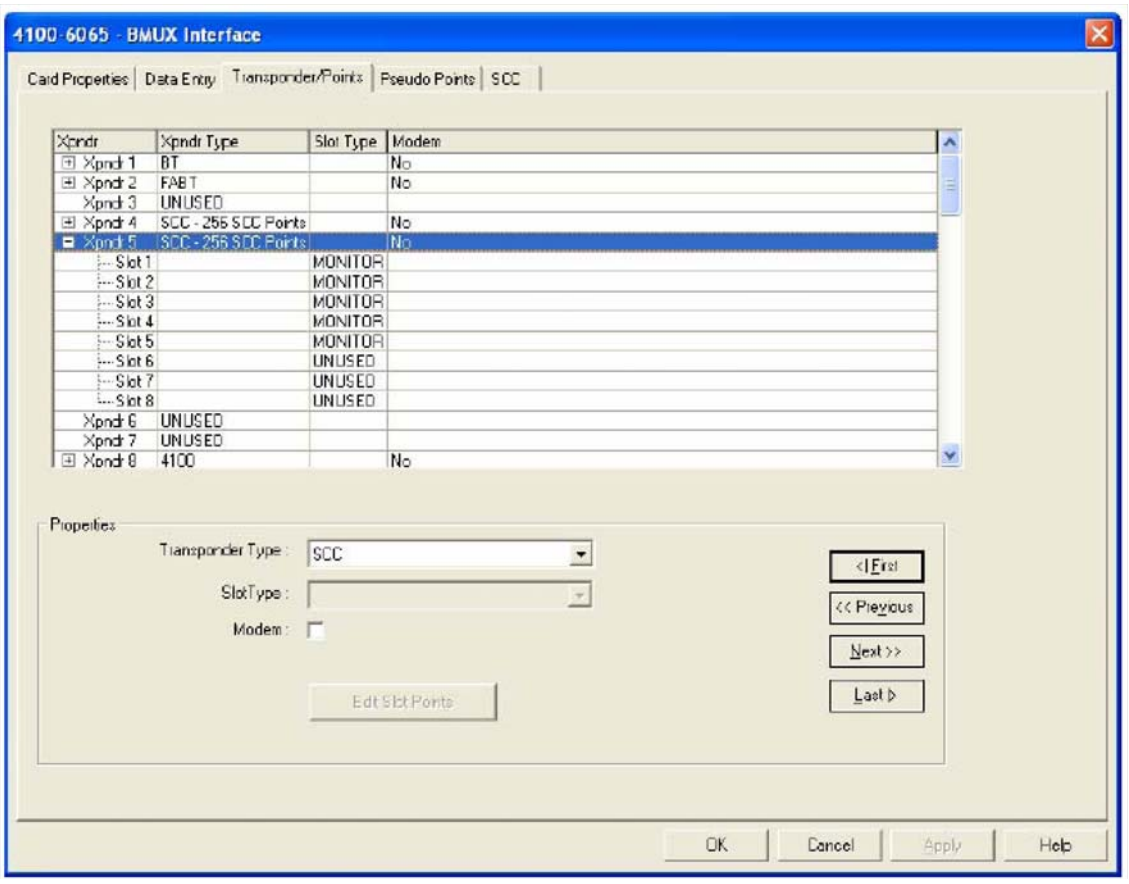

Figure 6-39. Transponder/Points Dialog

Continued on next page

Transponder/ Points

1. Highlight a transponder field by clicking on an **Xpndr** in the Transponder/Points screen.
2. Modify the properties of the transponder as follows:
   a.From the Transponder Type, select a transponder. See Table 6-7 for a list of transponders.
   b.A plus sign now appears in front of the selected transponder.
   c.Expand the tree by clicking on the plus sign.
   d.Select a slot by clicking and highlighting one of the eight slots.
   e.From the Slot Type, select UNUSED, MONITOR, or CONTROL.
3. You can enable the modem option by clicking on the modem selection.
4. Use the First, Previous, Next, and Last buttons to navigate and find a transponder.

Table 6-7: Transponders

UNUSED	CDT ANALOG
SCC	ET
SCC (102)	4100UT
BT	4100
FABT	4100+
DABT	4100U
VPBT	4020
CDT II	4002
	ES

Editing Transponder Slot Points

You can edit the data of an existing transponder's slot as indicated below. The Edit button opens a dialog box for the highlighted slot. It has the standard ES Panel programmer point editing features. The editing features may be restricted based on the transponder type.

1. Expand the tree of a transponder by clicking on the "+" sign in front of its **Xpndr**, followed by selecting a transponder's slot.
2. From the Properties section of the Transponder/Points screen, select the Edit Slot Point button. A dialog box appears as shown in Figure 6-40. (Or double-click any slot.)
3. From the Device Type, click on the drop-down list and select one of the following options:

MONITOR	CONTROL
UNUSED	UNUSED
MONB	Relay
	SIGB

4. If MONB is selected for the device type, the following options are available for the Point Type:

Fire	SPR12
STYLEC	MPR12
Trouble	UTILITY

Editing Transponder Slot Points

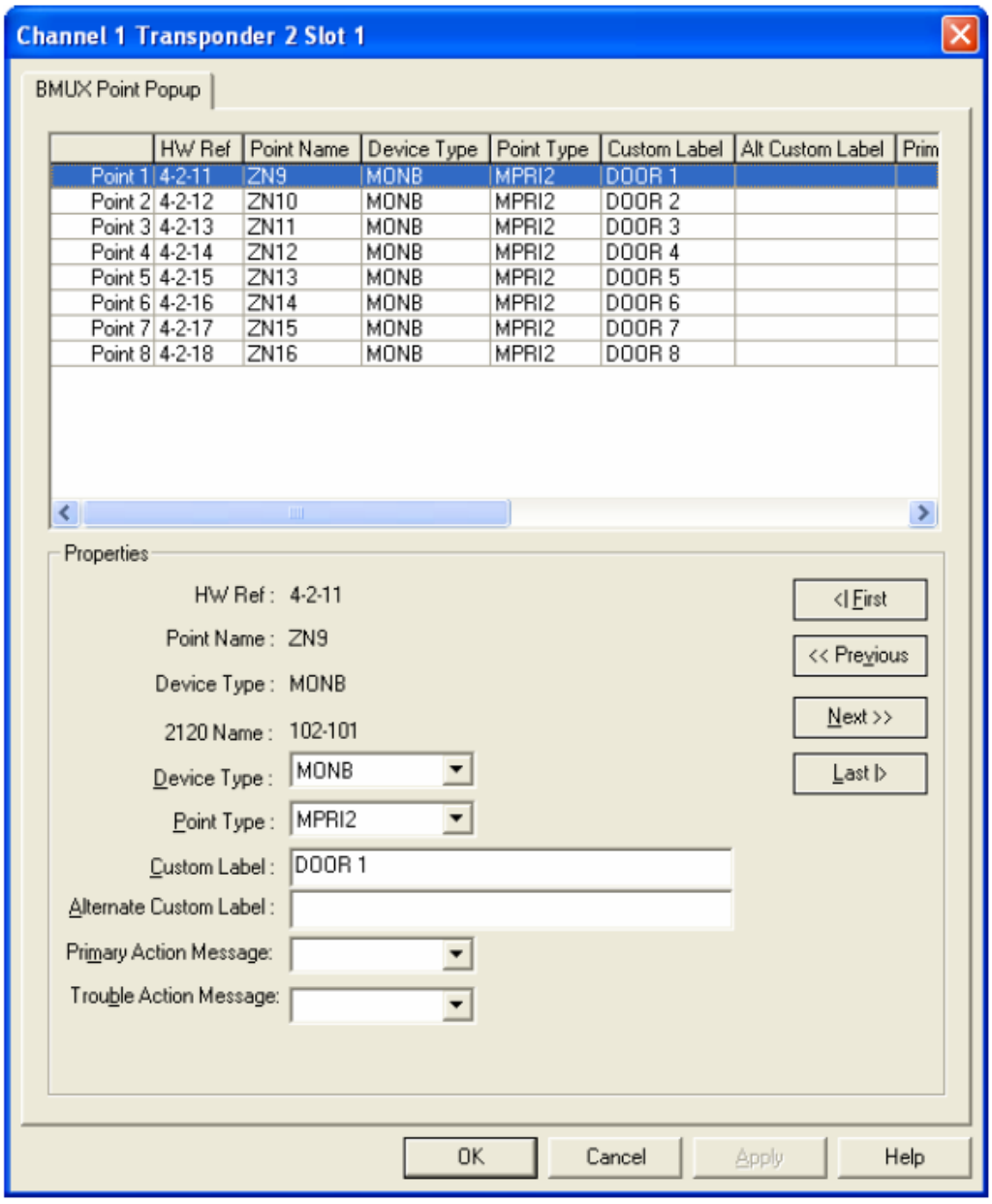

Figure 6-40. Transponder-Slot Point Editing Popup Dialog

5. You can enter a text string in the Custom Label and Alternate Custom Label fields.
6. From the Primary Action Message drop-down list, select one of the following options:
   - No Option
   - 1: Fire
   - 2: Priority
   - 3: Supervisory
   - 4: Trouble

Continued on next page

Editing Transponder Slot Points

7. From the Trouble Action Message drop-down list, select one of the following options:
   - No Option
   - 1: Fire
   - 2: Priority
   - 3: Supervisory
   - 4: Trouble
8. Use the First, Previous, Next, and Last buttons to move up and down the BMUX points.
9. Click **Apply** followed by clicking **OK** to register the changes.

BMUX Pseudo Points

The pseudo points tab displays the BMUX channel 0 transponders and their slots. Editing a slot opens a pop-up dialog for the slot's points that displays the point number and corresponding ES Panel pseudo points. This tab is present on both channels 1 and 2 of the BMUX cards. However, on each card this tab references common channel 0.

1. Click on the **Pseudo Points** tab on the 4100 6065 BMUX Interface. A dialog box appears as shown in Figure 6-41.

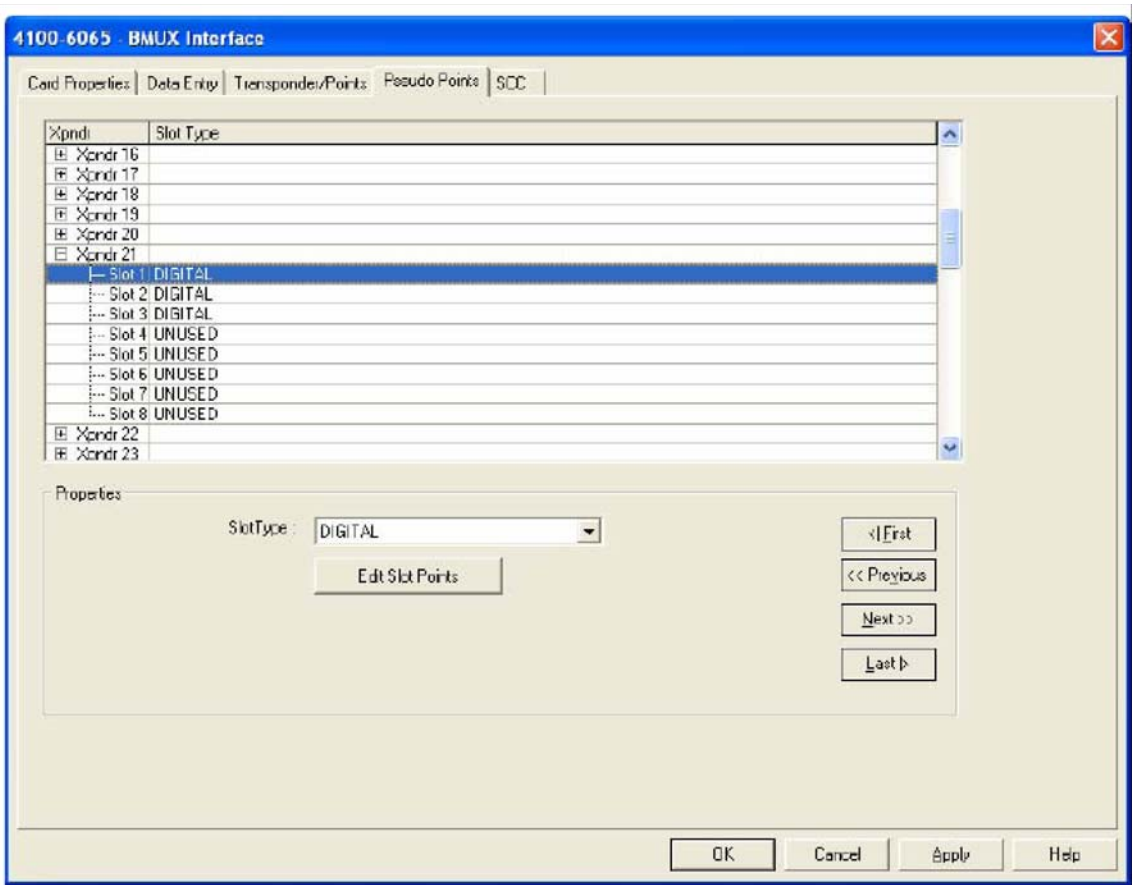

Figure 6-41. Pseudo Point Tab

2. Expand the **Xpndr** (transponder) tree by clicking on the plus sign.
3. Click on a slot and highlight its field.
4. From the Properties section, select UNUSED or DIGITAL option. If the DIGITAL option is selected, the Edit Slot Point button becomes enabled.
5. To edit a slot, click on the Edit Slot Points button or double-click its transponder's slot. See Figure 6-42.

Continued on next page

BMUX Pseudo Points

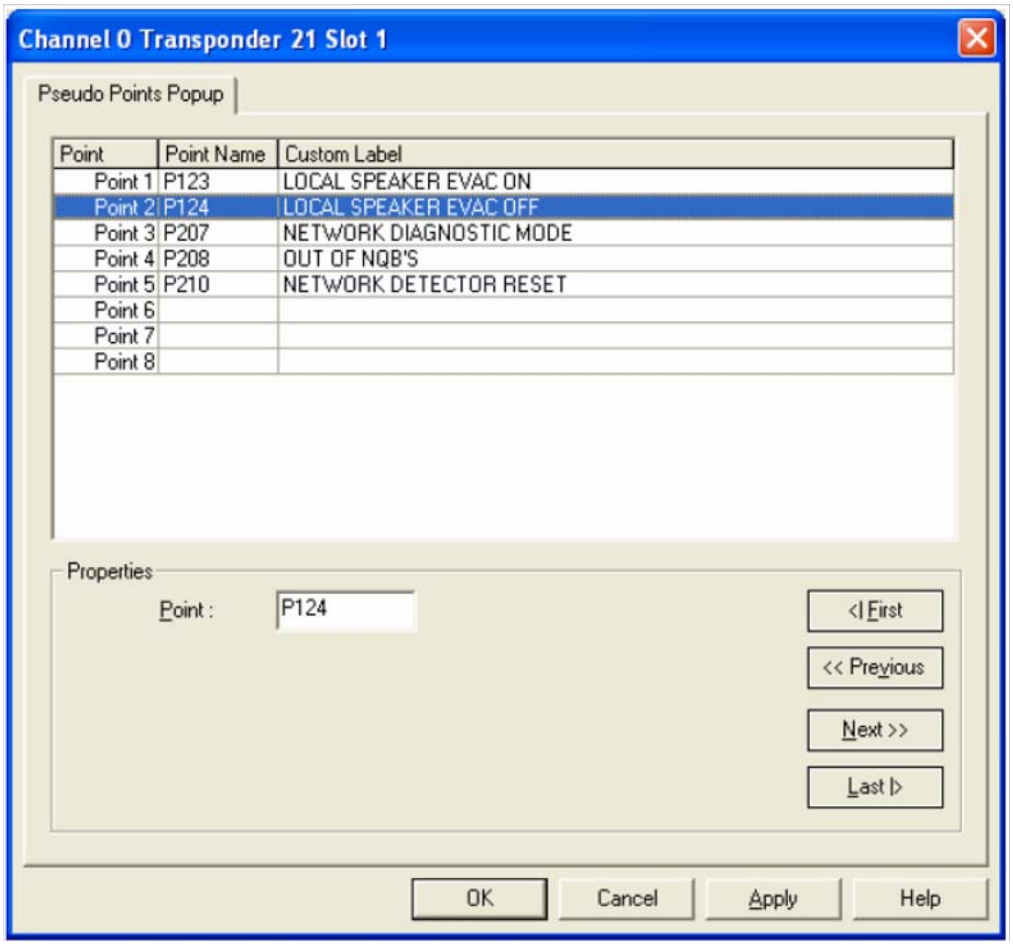

Figure 6-42. Pseudo Point Editing

6. From the Properties section, click on the Point field and press F9. A TagList dialog box appears.
7. Highlight any point whose device type is DIGITAL by clicking on its field. Press the space bar followed by clicking **OK**.
8. Click **Apply** followed by clicking **OK** to register the changes.

SCC Editing Tab

The data of the status command center (SCC) is displayed in a simple grid format. Any transponder marked as an SCC will have entries in the grid format. The SCC points shown in the grid format use the SCC addressing tradition of transponder (1-63) and point (1-255) rather than the non-SCC transponder (1-63), slot (1-8), and point (1-8) scheme as shown in the Transponder/Point tab.

Fields that are editable for the current SCC entries are displayed in the Properties control and they can be modified through those controls. The grid displays entries equal to the number of points entered for the transponder as shown in the Transponder/Points tab. The SCC2 are displayed under the preceding SCC1 transponder.

The module type can only be edited on the first point of the module. The module type determines the number of points. It also determines the type of points that occupies the module. This in turn restricts the kind of modes allowed. The Pnt Type column displays blocks of LED or SW, depending on the SCC module. A NULL module displays '---' for its points, sets its mode to 'E', and disables other property controls. When switch modules are added, the SCC monitor slots and points are configured. (These points are shown in the Transponder/Points tab.)

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SCC Editing Tab

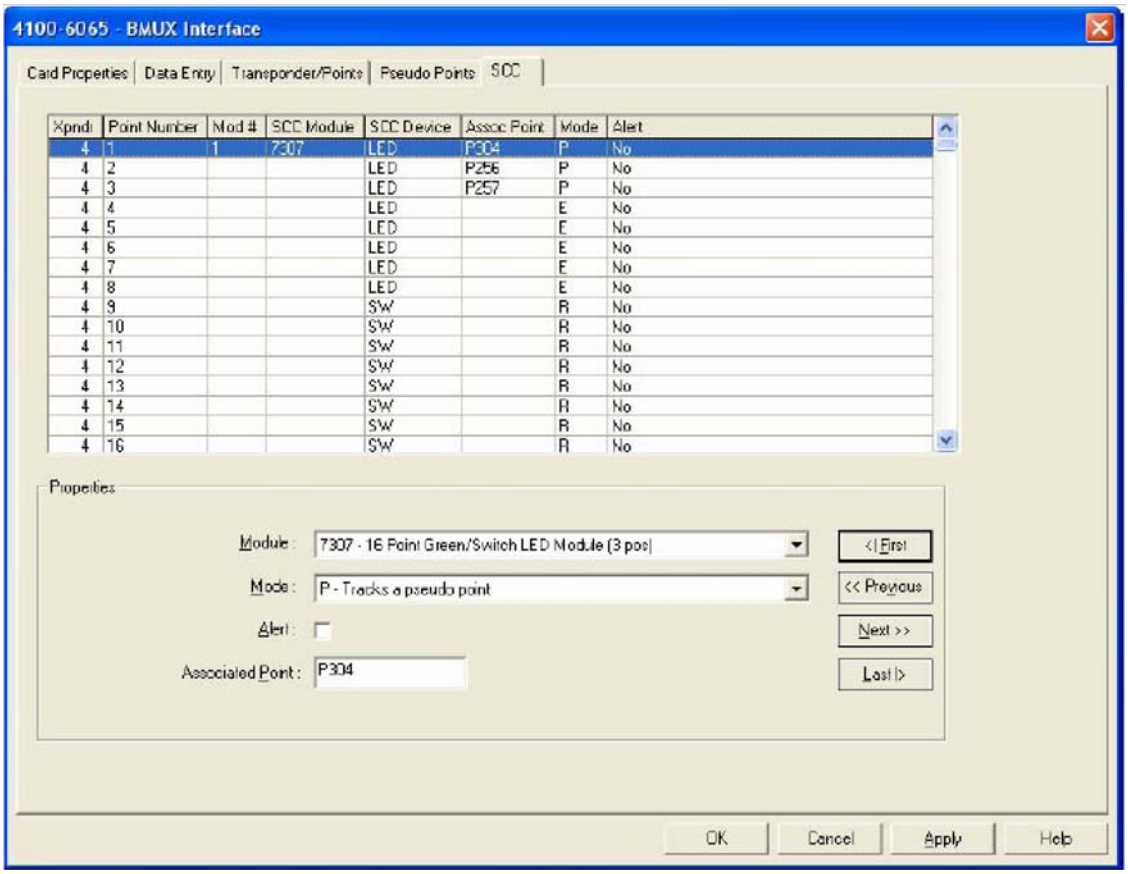

Figure 6-43. SCC Editing Tab

Note: This dialog box is used only for the SCC and SCC (1-2) transponders (Xpndr).

1. After the SCC and SCC (1-2) transponders have been entered using the Transponder/Point, click the **Apply** button in the SCC dialog box. For more information, see the Transponder/Points tab.
2. Click on the SCC tab on the 4100 6065 BMUX Interface. A dialog box appears as shown in Figure 6-43.
3. From the displayed grid shown above the Properties section, highlight a given **Xpndr** and **Mod**# by clicking on the field. You can use the First, Previous, Next, and Last buttons to scroll through the rows in the grid display to find a given **Xpndr** and **Mod**#.
4. Select a module from the Module drop-down list. See Table 6-8 for a list of modules.

Continued on next page

SCC Editing Tab

Table 6-8: SCC Modules

0000-8 Point Place Keeper only	6407 16 Point Green/Switch Module (3 pos)
0305-16 Point Graphic Lamp Driver	6408 16 Point Red/Switch Module (3 pos)
0306-8 Point Graphic SPDT Relay	6410 16 Point Red/Switch Module (2 pos)
0307-16 Point Graphic Switch	6411 16 Point Red/Switch Module (3 pos)
0308-8 Point Graphic Remote Switch	7301-8 Point Red LED Module
0402-16 Point Graphic Lamp Drive	7302-8 Point Yellow LED Module
0403-8 Point Graphic SPDT Relay	7303-8 Point Green LED Module
0404-16 Point Graphic Switch	7304-8 Point Switch Module (3 pos)
0405-8 Point Graphic Remote Switch	7305-16 Point Red LED Module
6401-8 Point Red LED Module	7306-16 Point Red/Yellow LED Module
6402-8 Point Yellow LED Module	7307-16 Point Green/Switch LED Module (3 pos)
6403-8 Point Green LED Module	7308-16 Point Red/Switch LED Module (3 pos)
6404-8 Point Switch Module (3 pos)	7310-16 Point Red/Switch LED Module (2 pos)
6405 16 Point Red LED Module	7311-16 Point Red/Switch LED Module (3 pos)
6406 16 Point Red/Yellow Module	9999-Expansion Slot Place Keeper

5. Select a mode from the Mode drop-down list. See the list shown below.

E — Empty
A — Track alarm condition of a monitor point
B — Track bypass condition of a monitor point
T — Track trouble condition of a monitor point
X — Track a transponder trouble
S — Track system trouble
C — Track a control point
P — Track a pseudo point
D — Disable
K — Track transponder control point trouble

6. To allow the LED to flash, check the Alert check box.
7. Enter an associated point in the Associated Point field. For more information on how to enter a value, see the BMUX Pseudo Points, steps 6 to 8.
8. To enable the update option, check the Update check box. Or you can reset the update option by clicking on the Reset Updates button.
9. Complete the remaining point numbers for the given **xpndr** and **Mod**# by repeating steps 5 to 8.

Continued on next page

Editing TFX Loop Interface Card Properties

Overview

The ES Panel TFX Loop card is a ES Panel slave that provides a means to replace a TFX/Minerva series control panel with a ES Panel Master. The card allows for the existing TFX/Minerva Loop addressable devices from former TFX/Minerva panel configurations to interface with a newly integrated ES Panel. Each TFX Loop card accommodates a single TFX/Minerva loop. The card's loop circuitry is electrically isolated from the ES Panel Master panel.

The card is a flat, 4"x 5" form-factor module that plugs into the ES Panel power distribution interface.

Accessing the ES Panel TFX Loop Card Properties Screen

Follow these steps to access the interface properties screen for the ES Panel (4100-6066) TFX Loop Interface card.

1. Click on the Hardware Tab to open the Hardware Window.
2. Expand the Unit, Box, and Bay combination by clicking on the plus signs.
3. Add a second bay to the box if it does not already contain one.
4. From the Available Hardware pane, expand the INTERFACE components, select 4100-6066 TFX Loop Interface (TFX/Minerva), and move the interface card to bay two.
5. Double click on the interface card's icon. The Properties sheet for the card appears as shown in Figure 6-44.

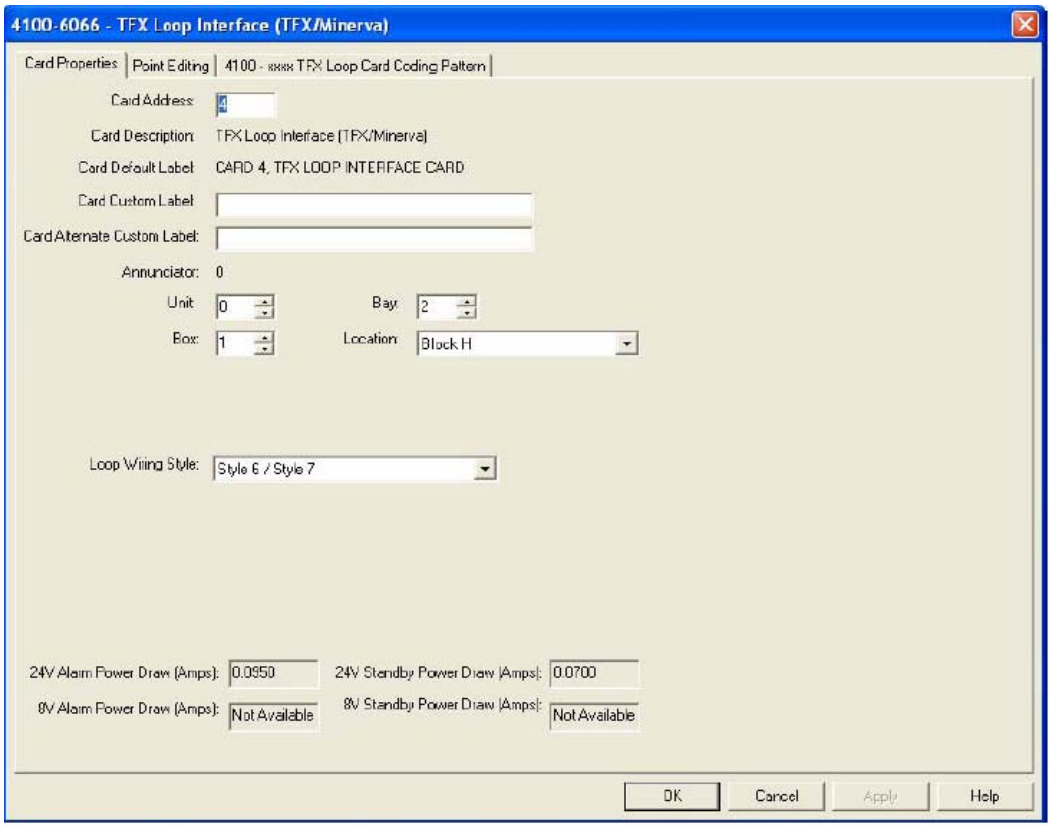

Figure 6-44. TFX Loop Card Properties Dialog Tab

Continued on next page

Editing TFX Loop Interface Card Properties, *Continued*

General Settings

The Card Properties tab allows you to edit the general settings for the ES Panel (4100-6066) TFX Loop Card.

1. Click on the **Card Properties**. This tab is default to open when you first access the ES Panel (4100-6066) TFX Loop Interface card. The card properties appear as follows:

   - **Card Address.** To change the card address, click in the Card Address field and enter a numerical value.
   - **Card Custom Label.** You can change the information of the Card Custom Label or the Card Alternate Custom Label by clicking on their fields and entering a text string.
   - **Unit, Box, and Bay.** The Unit, Box, and Bay fields are set with the current configuration values. However, you can change these values by clicking in their fields and entering a numerical value.
   - **Location.** From the drop-down list, select the location where the (4100-6066) TFX Interface Loop card is physically located in the bay.
   - **Loop Wiring Style.** From the drop-down list, select the channel style (Style 4, Style 6/7) for the ES Panel (4100-6066) TFX Loop Interface card.

Point Editing

You can edit the data of an existing TFX Interface Loop point as indicated below. Click and highlight a TFX device slot. You can click directly on any device slot or browse the list of devices as follows:

- **<| First.** Select the first device slot in the list.
- **<< Previous.** Select the previous device slot in the list.
- **Next >>.** Select the next device slot in the list.
- **Last |>.** Select the last device slot in the list..

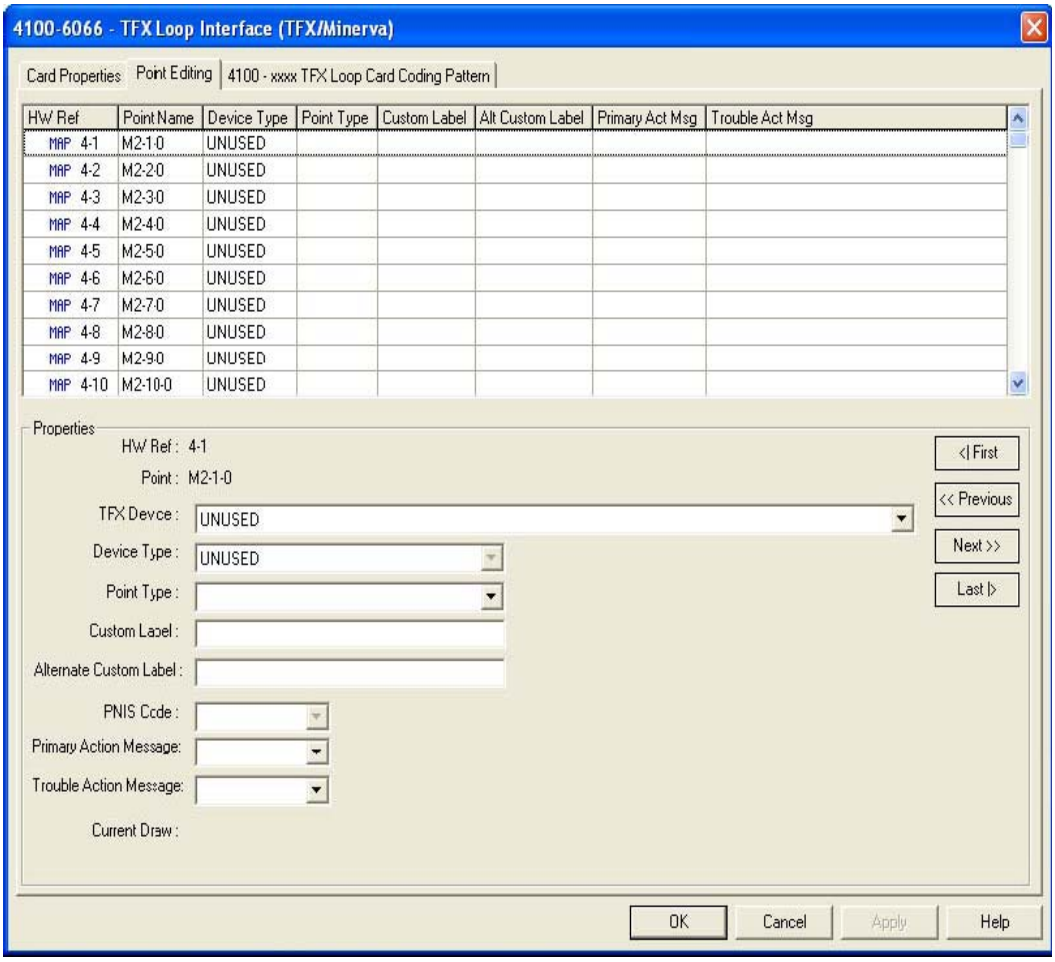

Figure 6-45. TFX Loop Card Point Editing Dialog Tab

Editing TFX Voltage Regulator Module Properties

Point Editing

1. From the TFX Device Type, click on the drop-down list and select one of the options listed.
2. Depending on the device type you selected, you can choose different options in the Point Type drop-down list. The point type determines the function of the point and the message displayed on the system's annunciators. For the TFX monitor device (non analog device) such as a contact module, its active status (for example: contact closed for fire) is mapped to the "current limit" physical status of the ES Panel point type. Refer to Appendix A for a complete list of the ES Panel point types.
3. From the PNIS Code drop-down list, enter the PNIS code for the monitor point.
4. You can enter a text string in the Custom Label and Alternate Custom Label fields.
5. From the Primary Action Message drop-down list, select one of the available options.
6. Front he Trouble Action Message drop-down list, select one of the available options.

TFX Limitations

The following are limitations that you should be aware of when editing TXF devices within the ES Panel Programmer:

1. Parent points of TFX multipoint devices cannot be made public on the network.
2. The TFX signal driver modules (such as SDA505, SDA506) do not support any kind of synchronized coding directly from the programmer. All coding must be done using a third party module. These signal driver can de set to on or off.

4100-6066 TFX Loop Card Coding Pattern

The 4100-6066 TFX Loop Card Coding Pattern tab allows you to set two channel pattern signals for signal control devices as well as sounder/relay base of the monitor devices associated with the TFX Interface Loop card.

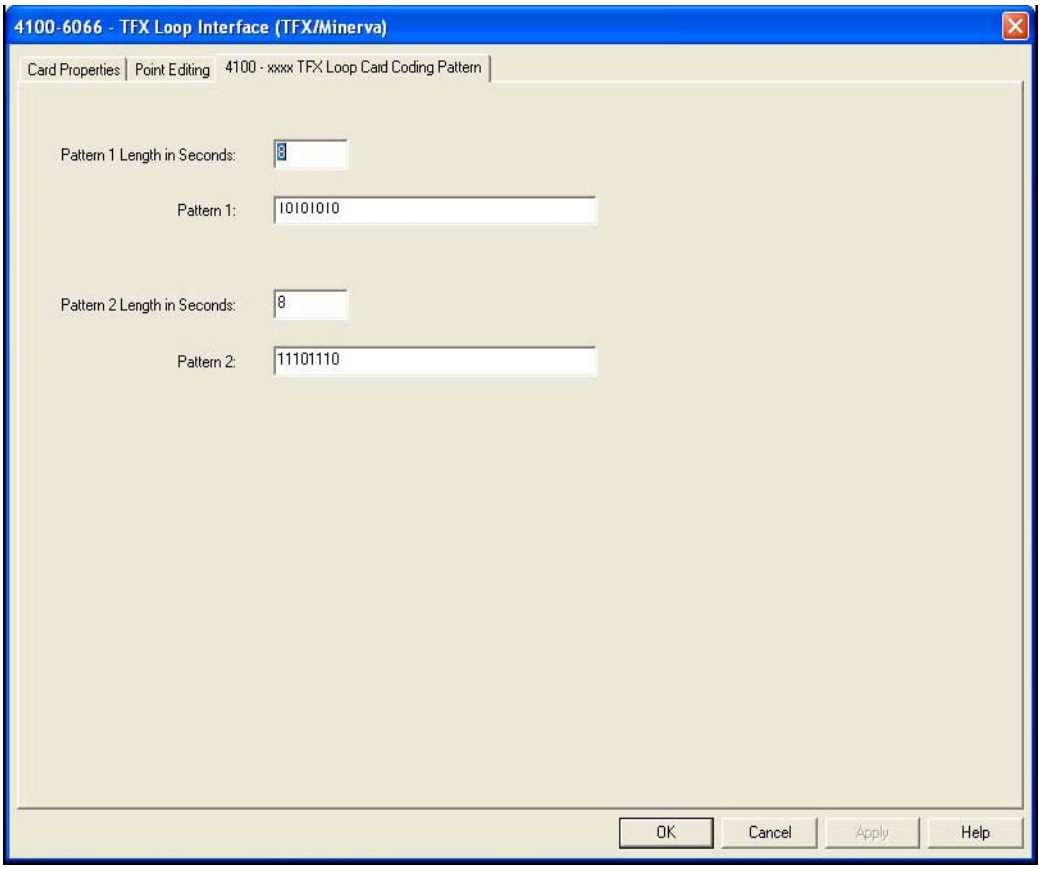

Figure 6-46. TFX Loop Card Coding Pattern Dialog Tab

4100-6066TFX Loop Card Coding Pattern

1. In the Pattern (1 or 2) Length in Seconds textbox, enter an integer value between 8 and 32. This value in unit Seconds determines thesignal length of the corresponding pattern. This is the total length ofthe pulsing cycle. It will be repeated until the output is turned off.
2. Depending on the length of the pattern you entered in the Pattern (1or 2) Length textbox, enter a pattern string composed of 0's and 1's. The most left bit is the pattern start bit, the number of characters must match the integer provided in the Pattern (1or 2) Length in Seconds field.
3. SMPL program opcode CHLCODE provides user with a way to select the coding pattern 1 or coding pattern 2 for the TFX Loop, the opcode DEVCODE can be used for the TFX device (signal or the monitor device with the Relay/Sounder base) to do the channel coding selected.

Note: If user does not send down the coding pattern using the CHLCODE to the slave, the default operation for the TFX loop Slave to do channel coding is just to turn the coding devices to stead on.

TFX SMPL Pre-Alarm Programming

The ES Panel panel does not directly support the pre-alarm event. By using SMPL programming, a PR12 digital alarm can be turned on when the condition current of the TFX analog device reached the pre-alarm threshold or falls within certain range.

Note: For the comparison of the analog condition current, the SMPL Wizard only accepts integer inputs. To input a decimal value, you must manually edit the condition current value directly from the SMPL editor. Below is an example.

The procedure described subsequently produces the following equation:

```
[INPUTS]
    IF ANALOG>CONSTANT 1.000000mA
        M2-2-0| Compare Analog| 912HEAT| HEAT|
[END INPUTS]
[OUTPUTS]
    HOLD ON PRI=9,9
        P512| DIGITAL| PR12|
[END OUTPUTS]
```

If you want the analog value to be 1.2mA, then manually change the **1.000000mA to 1.2mA.** This gives the following final equation:

```
[INPUTS]
    IF ANALOG>CONSTANT 1.2mA
        M2-2-0| Compare Analog| 912HEAT | HEAT|
[END INPUTS]
[OUTPUTS]
    HOLD ON PRI=9,9
        P512| DIGITAL| PR12
[END OUTPUTS]
```

1. In the CC Input/Output dialog, select "Compare analog/heat sensor" option in the input dropdown list, then click **Next**.

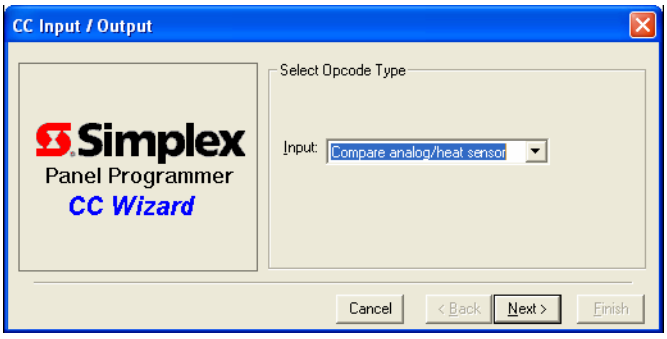

Figure 6-47. CC Input/Output Dialog

TFX SMPL Pre-Alarm Programming

2. The CC Point Qualifier dialog appears. Click and select the OR radio Button, then click **Next**.

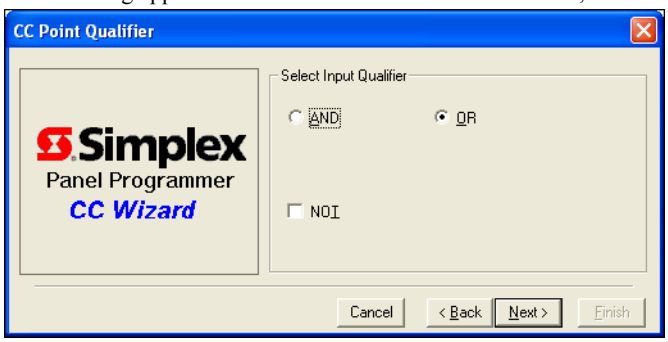

Figure 6-48. CC Point Qualifier Dialog

3. In the Point Selection dialog, enter the string "M2-2-0" in the Point Name text field, then click **Next.**

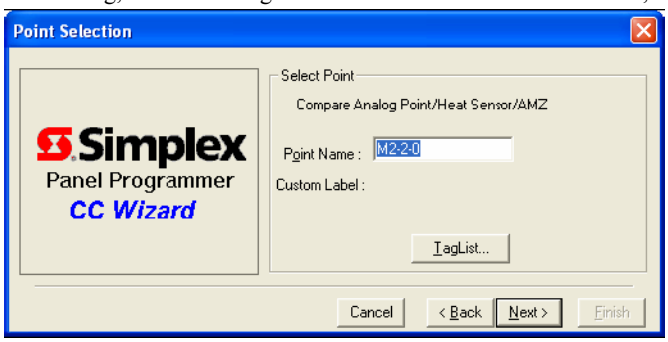

Figure 6-49. Point Selection

4. In the Qualifier dialog, selectthe "greater than" option fromthe Selected Qualifier dropdown list, then click **Next.**

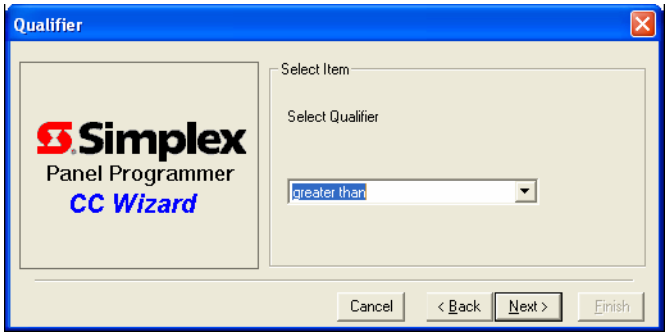

Figure 6-50. Qualifier Dialog

5. In the Analog Or Constant dialog, click and select the CONSTANT radio button, then click **Next**

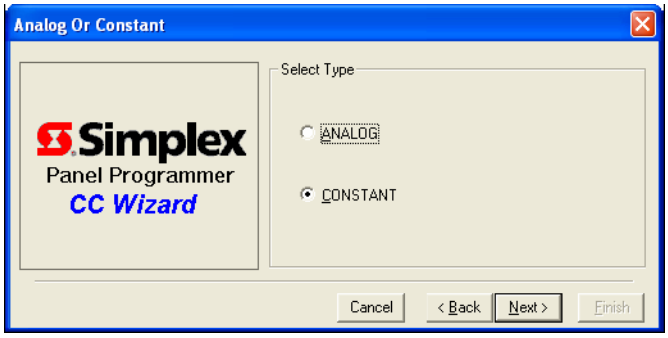

Figure 6-51. Analog Or Constant Dialog

TFX SMPL Pre-Alarm Programming

6. The Enter Value dialog appears. Set the Value field to 1 by either manual insertion of by using the spinner buttons. After setting the value, click **Next.**

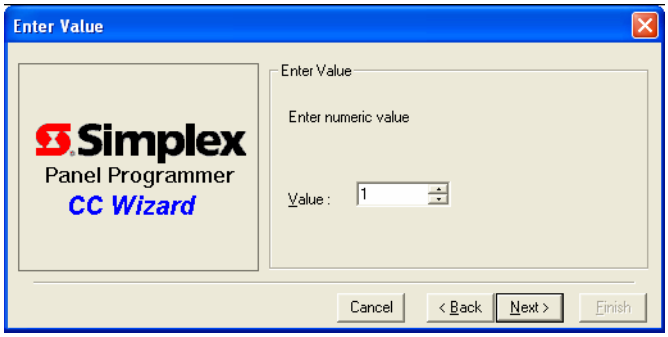

Figure 6-52. Enter value Dialog

7. The Qualifier dialog appears: Select the "mA" option from the Select Qualifier field, then click **Next.**

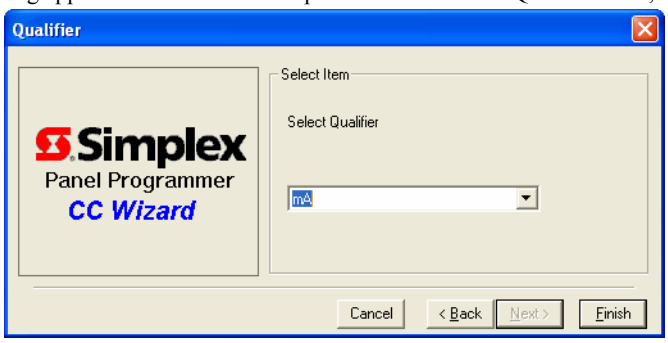

Figure 6-53. Qualifier Dialog

8. In the CC Input / Output dialog, select "Hold Point" option in the Output dropdown list, then click **Next.**

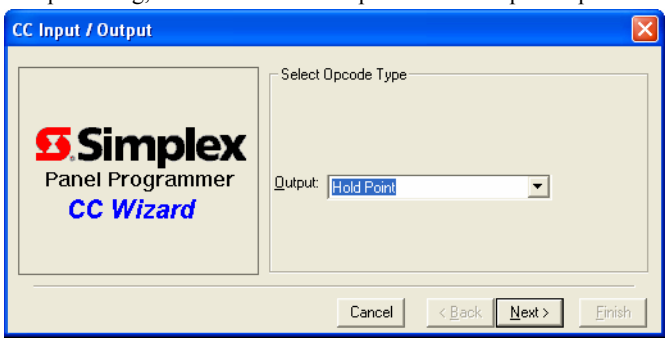

Figure 6-54. CC Input/Output Dialog

9. The Qualifier dialog appears: select "ON" in the Select Qualifier dropdown list, then click **Next.**

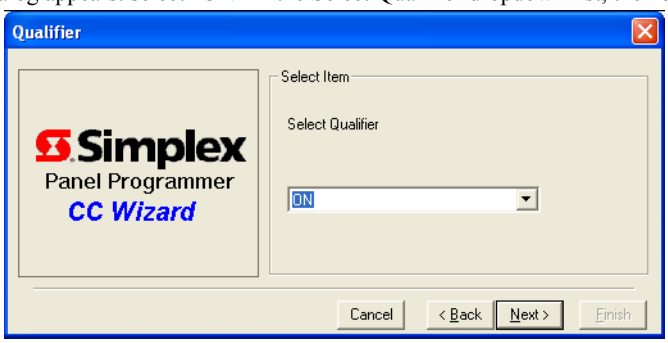

Figure 6-55. Qualifier Dialog

TFX SMPL Pre-Alarm Programming

10. In this dialog, configure the Set Priority and Reset Priority values by either using manual insertion or through the spinner buttons. Set both values to 9, then click **Next.**

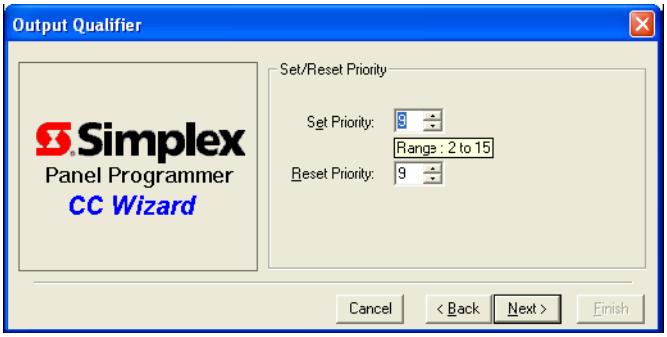

Figure 6-56. Output Qualifier Dialog

11. The Point Selection dialogue appears. Enter"P512" in the Point Name field, then click Finish.

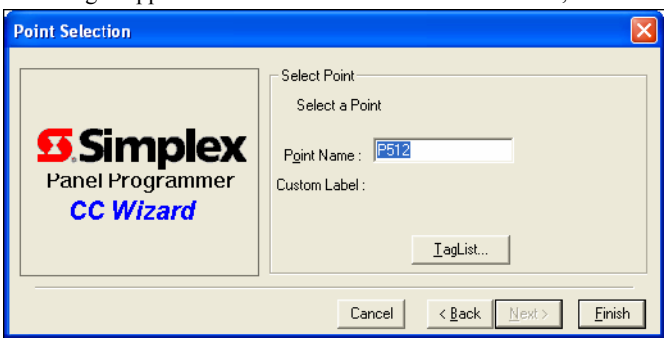

Figure 6-57. Point Selection Dialog

The SMPL equation is configured.

Editing TFX Voltage Regulator Module Properties, *Continued*

Overview

The ES Panel TFX Voltage Regulator module provides a regulated 24V output that is compatible with PSM800/RPS424 power supply 24V outputs used in TFX/Minerva systems. The regulated 24V output is used to power devices on the TFX loop that require 24V power. The Voltage Regulator module, used un conjunction with the ES Panel TFX Loop card provides the means to replace TFX-500, -800 and Minerva series control panels with a ES Panel while retaining the existing loop wiring and devices.

The output is isolated from the ES Panel. It complies with power-limited requirements. The output is a "resetable" output allowing use with addressable loop modules that interface to conventional detectors.

The card is a flat 4"x 5" form-factor module that plugs into the ES Panel power distribution interface. Adding the TFX Voltage regulator requires the addition of a SPS or XPS power supply in the same bay, the power consumption of the TFX Power regulator card is added to the corresponding SPS or XPS in the same bay.

Accessing the ES Panel TFX Voltage Regulator Card Properties Screen.

Follow these steps to access the interface properties screen for the ES Panel (4100-5130) TFX Loop Voltage Regulator card.

1. Click on the Hardware tab to open the Hardware Window.
2. Expand the Unit, Box, and Bay combination by clicking on the plus signs.
3. Add a second bay to the box if it does not already contain one.
4. From the Available Hardware pane, expand the INTERFACE components, select 4100-5130 TFX Loop Voltage Regulator card, and move the voltage regulator card to bay two.
5. Double click on the interface card's icon, The Properties sheet for the card appears as shown in Figure 6-54.

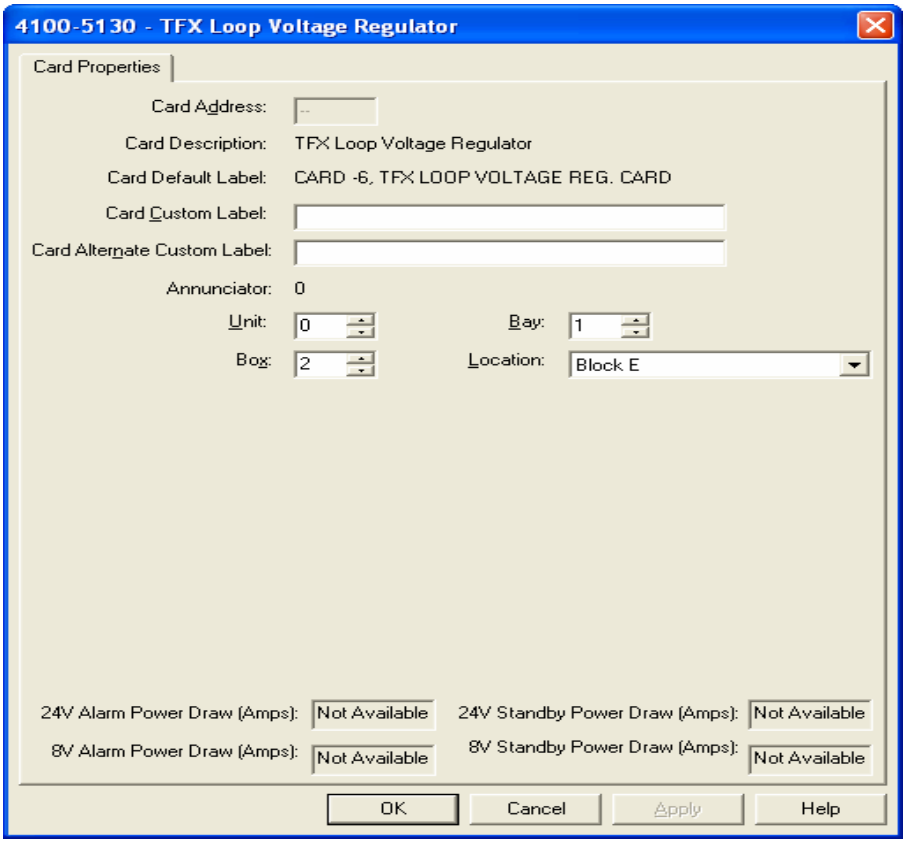

Figure 6-58. TFX Loop Voltage Regulator Dialog Tab

Editing TFX Voltage Regulator Module Properties, *Continued*

General Settings

Follow these steps to access the interface properties screen for the ES Panel (4100-5130) TFX Loop Voltage Regulator card.

The Card Properties tab allows you to edit the general settings for the ES Panel (4100-5130) TFX Loop Voltage Regulator card.

1. Click on the **Card Properties.** This tab is default to open when you first access the ES Panel (4100-5130) TFX Loop Voltage Regulator card. The card properties appear as follows:

    - **Card Address.** The card address is set to none (empty space) by the Programmer automatically and cannot be changed.

    - **Card Custom Label.** You can change the information of the Card Custom Label or the Card Alternate Custom Label by clicking on their fields and entering a text string.

    - **Unit, Box, and Bay.** The Unit, Box, and Bay fields are set with the current configuration values. However, you can change these values by clicking in their fields and entering a numerical value.

    - **Location.** From the drop-down list, select the location where the (4100-5130) TFX Loop Voltage Regulator card is physically located in the bay.

Chapter 7
Programming Non-Audio Points

Introduction

This chapter describes programming the job's non-audio points. There are two types of non-audio points used by the ES Panel.

- **Non-Audio Hardware Points**, such as Monitor points, Relay points, etc.
- **Pseudo Points**, which are memory locations on the ES Panel, capable of storing either digital (on/off) or analog values.

In this Chapter

Refer to the page number listed in this table for information on a specific topic.

Overview

Introduction

The Point Tab, shown in Figure 7-1, allows you to view all points in the system, and to add and edit point information, such as the point type, custom label, and PNIS message.

Important Note: A point's device type can only be changed from the Hardware Tab. To do this, open the Hardware Tab and expand the unit, box, and bay containing the point. Double click on the card with which the point is associated. When the Properties dialog appears, click on Point Editing tab. Scroll through the list of points and highlight the point whose device type you want to change. Click on the Device Type drop down list box and select the appropriate device type for the point.

This section describes the general features - AutoFill, Search, Spell Check, Filter etc. - of the Point Tab screen. These features are available for use with all points, regardless of point type.

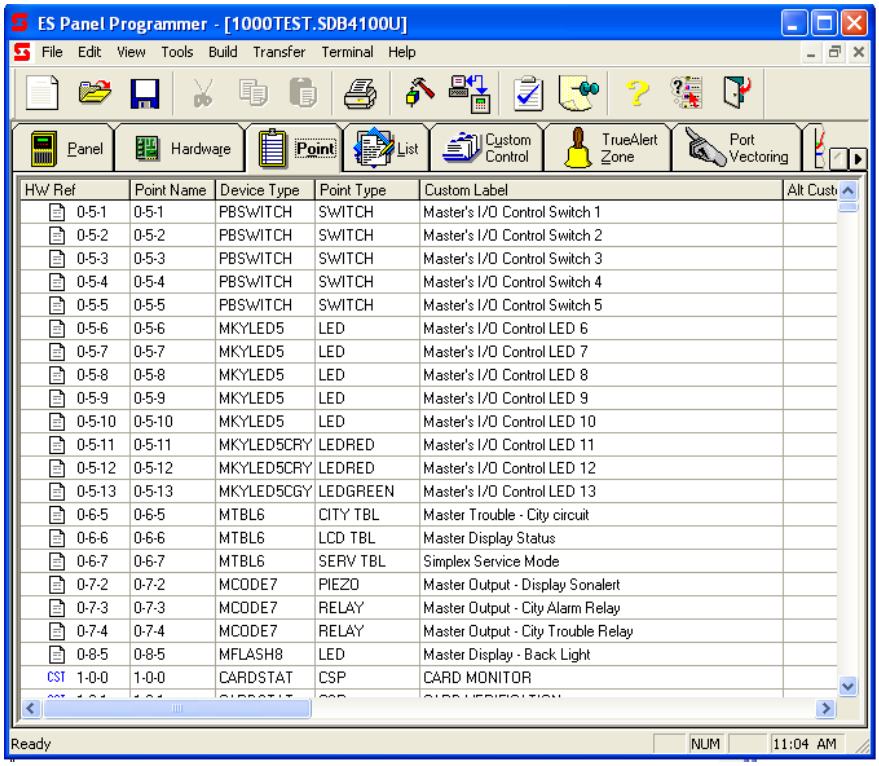

Figure 7-1. Point Tab

Point, Card, and Unit Views

The Point Tab allows you to sort and view points in any one of the three ways listed below.

- Unit View sorts the points by the unit with which they are associated.
- Card View breaks down the points by card, listing each card's points beneath an icon that represents the card.
- Point View allows you to see a listing of all points in the system, arranged numerically.

To select one of these views, position the mouse cursor in the point list and click the right mouse button. When the list of options appears, select **View By** and then select **Unit**, **Card**, or **Point**.

Continued on next page

Sort Function

The Sort function allows you to sort and display points in ascending or descending order based on the Hardware Reference number, Point Name, Device Type, Point Type, Custom Label, Alternate Custom Label, Primary Action Message, Trouble Action Message, or PNIS code. To sort points, do one of the following:

- **Press F5 function key**. When the Sort Dialog (shown below) appears, click on the Column drop down list box to select the criteria (Point Name, Custom Label, etc.) to use for the sort. Next, select whether the sort should be in Ascending or Descending order and click on OK.

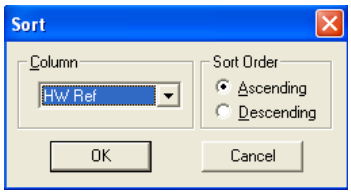

Figure 7-2. Sort Dialog

- **Click on a Column**. Clicking on one of the column titles (Point Ref, Custom Label, etc.) in the Point Tab window automatically sorts the point list in descending order. Clicking on the same column title again sorts the points in ascending order.

HW Ref	Point Name	Device Type	Point Type	Custom Label
0-5-1	0-5-1	PBSWITCH	SWITCH	Master's I/O Control Switch 1
0-5-2	0-5-2	PBSWITCH	SWITCH	Master's I/O Control Switch 2
0-5-3	0-5-3	PBSWITCH	SWITCH	Master's I/O Control Switch 3

Figure 7-3. Location of Column Titles

- **Right Click in the Point List**. Right Click in the point list. When the list of options appears, select Sort. The Sort Dialog shown above appears. Click on the Column drop down list box to select the criteria (Point Name, Custom Label, etc.) to use for the sort. Next, select whether the sort should be in Ascending or Descending order and click on OK.

AutoFill

AutoFill allows you to automatically add text to the Custom Label field. It is possible to select a single point, all points, or the points forward of the currently selected point.

1. Press the **F4 button** or right click in the point list and select AutoFill from the list of options. A dialog similar to the one shown below appears.

Figure 7-4. Auto Fill Dialog

2. If you want to use Auto Fill for a specific point or for all of the points forward of a specific point, click on the point in the list of points.
3. Click on the Auto Fill drop down list box. Select All, Selected, or Point Forward.
4. Enter the text for the Custom Label in the Custom Label field and select OK.

Continued on next page

Custom Label Spell Check

Spell Check allows you to validate the spelling of custom labels. Using Spell Check, incorrectly spelled words can then be automatically corrected or suggested alternatives can be substituted.

1. Position the pointer in the point list and press the F7 button. (Alternatively, you can right click in the point list and select Spell Check when the list of options appears.)

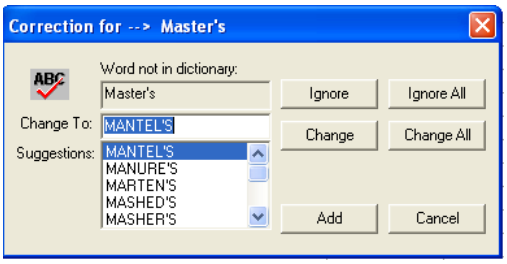

Figure 7-5. Spell Check

2. Correct the misspelled word in any of the following ways. (**Note**: Use the Ignore and Ignore All buttons to ignore the misspelled word.)

   - Click on the Change or Change All button to accept the suggested spelling in the Change to field.
   - Type the correct spelling in the Change to field and press the Change or Change All button.
   - Scroll through the Suggestions drop downlist, click on oneof the entries, and then click on theChange or Change All field.

Search

The Search function allows you to specify a search criteria (such as a specific custom label) and then searches the point list for the selected data.

1. Position the pointer in the point list and press the CTRL + F key combination. (Alternatively, you can right click in the point list and select Search from the list that appears.)

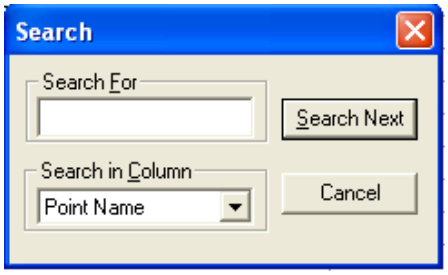

Figure 7-6. Search Dialog

2. Enter the search text in the **Search What** field. Click on the **Search in Column** field and select the point list column (Hardware Ref., Custom Label, etc.) in which to search. Click on Search Next to start the search.

3. To continue searching the point list for another occurrence of the item you selected in Step 2, press the F3 function key.

Continued on next page

Filter

Filter is useful for when you just want to see a specific subset of the system points. For example, all smoke detectors with a custom label of "First Floor" or all door holder relays (i.e., points with a point type of DH).

1. Position the pointer in the point list and press the**F8** key. (Alternatively, you can right click in the point list and select **Filter** from the list that appears.)

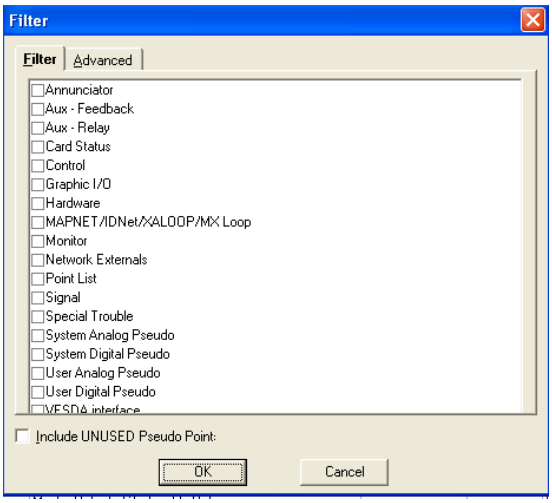

Figure 7-7. Filter Tab

2. Select the type of points you want to see in the filtered point list in either of the following ways:

   - **Filter Tab**. The Filter Tab (shown above) contains check boxes that allow you to select groups of points. For example, if you click on only the Aux Relay check box and click **OK**, the filtered point list contains only Aux Relay points. If you select the Aux Relay and Annunciator check boxes, the filtered list contains only these types of points.

   - **Advanced Tab**. The Advanced Tab (shown below) allowsyou to filter the point list by three specific criteria: Device Type, Point Type, or Custom Label. Specify the criteria and click **OK** to see the filtered list.

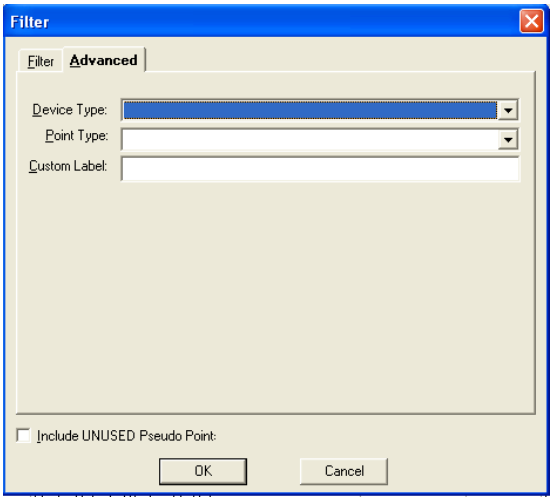

Figure 7-8. Advanced Tab

Importing/Exporting a CSV File Containing Point Definitions

Overview

Exporting and importing files containing the panel's point definitions provides a convenient way for Technical Representatives, Project Engineers, and facility management personnel to edit point information remotely from the panel or programmer. For example, a TR may perform the initial point programming using the ES Panel programmer, export the file in a Comma Separated Value (CSV) format, and email it to the building's facility maintenance personnel for custom label editing using the Excel spreadsheet application. The facility maintenance representative then emails the file containing changes back to the TR, who in turn imports the CSV file back into the programmer.

Exporting a CSV File

To export a CSV file for editing, follow these steps:

1. Click on the **File** menu and choose **Export**.

2. In the list of Export options, choose **Export User Points to Text File**. A dialog similar to the following appears.

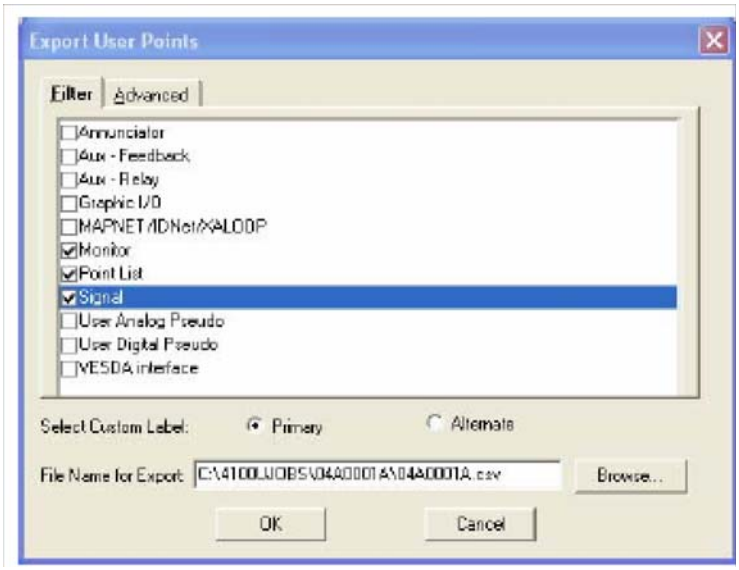

Figure 7-9. Export Points

3. Check the boxes corresponding to the type of points you want to export.

4. Enter a filename for the CSV file in the File Name for text box. Use a file extension of.CSV

5. Click **OK**. The programmer generates a message indicating that the export operation successfully completed. The CSV file is stored in the directory corresponding to the jobname. For example, *drive*:\4100UJOBS*JOBNAME* (where *JOBNAME* is the 8 digit code for the job).

Continued on next page

Exporting a CSV File

Use Excel to open the CSV file. The file appears similar to the one shown in the figure below

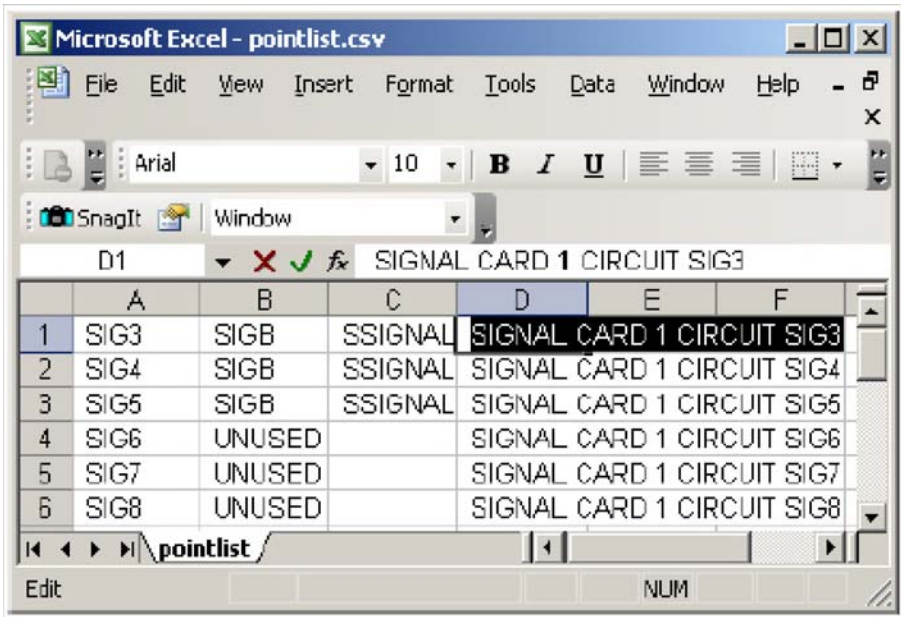

Figure 7-10. Excel Pointlist

Note: It is recommended that you do not edit any fields other than the Custom Label field, which appears in Columns D, E, and F above.

After making edits, save the file. Use a filename.csv format and choose a file type of CSV. Excel may generate a message similar to the following. There are no incompatible fields within the programmer's CSV file. Click on Yes to continue saving the file.

Figure 7-11. Saving the CSV File

Importing a CSV File

To load a CSV file, follow these steps.

Important Note: You should only import CSV files that have been created by the export operation.

1. Click on the **File** menu and choose **Import**.

2. A standard Windows dialog appears, prompting you to identify the CSV file to import. Locate and select the file and click on Open.

Programming Function Keys, Switches, and LEDs

Introduction

This section describes programming the function keys, LEDs and switches located on the system CPU card, display cards, and annunciator cards. See “Programming 24 Point I/O Points” later in this chapter for information on programming a 24 Point I/O Input or Output. LEDs and Switches perform the following functions:

- LEDs can be used to annunciate changes to the status of specific system components (for example, LED lights when power supply detects an Earth ground).
- Switches allow components of the building's fire, audio, HVAC, and security systems to be manually controlled.

Step 1. Choose LED or Switch to Program

Function Keys (CPU Card only), LED and Switch points can be programmed from either the Hardware Tab or the Point Tab. The Hardware tab lists points on a per-card basis, whereas the Point Tab lists all points in the system. (Figure 7-12 shows the Hardware Tab point editing screen; the Point Tab programming screen is similar. Some fields, such as device type, may only be available from the Hardware Tab point editing screen.)

Table 7-1: Selecting LED or Switch

Location	Tab	Procedure
CPU Card LEDs and Function Keys	Point Tab	1. Click on the **Point** Tab. The programmer lists all points in the system. 2. Locate the LED or switch to be programmed, using either the window's scroll bar or the Search, Filter, or Sort options. 3. Double click on the LED or Switch point. A properties window similar to the one shown in Figure 7-12 appears.
	Hardware Tab	1. Click on the **Hardware** Tab. Click on the + signs to the left of the Unit 0, Box1, and Bay1 icons. 2. Double click on the card icon labeled **(slot4) (xxx) 4100-000-CPU**. A card-specific dialog box, containing four tabs, appears. 3. Click on the **Display** tab. A window similar to the one shown in Figure 7-12 appears. Click on the **Display** checkbox. 4. Click on the LED or Switch point.
Display Card and Annunciator LEDs and Switches	Point Tab	1. Click on the **Point** Tab. The programmer lists all points in the system. 2. Locate the LED or switch to be programmed, using either the window's scroll bar or the Search, Filter, or Sort options. 3. Double click on the LED or Switch point. A properties window similar to the one shown in Figure 7-12 appears.
	Hardware Tab	1. Click on the **Hardware** Tab. Click on the + signs to the left of the appropriate Unit, Box, and Bay icons. 2. Double click on the card icon (LED and Switch Display Card, LCD Annunciator, RCU, SCU, InfoAlarm or 24 I/O) containing the LED or switch point you want to edit. A properties window similar to the one shown in Figure 7-12 appears. 3. Click on the LED or Switch point.

Continued on next page

Step 1. Choose LED or Switch to Program

Figure 7-12. Typical Programming Screen for LEDs/Switches

Click on the LED or switch you want to program.

Step 2. Select Switch or LED Mode

Click on the **Mode** drop down list box and select a Mode for the switch or LED. The mode determines what the switch or LED does (for example, toggle the enable/disable state of a point). Refer to Appendix B for a list of the switch and LED modes.

Step 3. Choose Reference Address

How the system uses the reference address depends on whether you are programming a switch or LED. If you are programming a switch, the reference address is the system function (system reset for example) or output device (relay point, for example) controlled by the switch. If you are programming an LED, the reference address refers to the point whose state change triggers the LED to illuminate. For example, if you choose an LED mode of ON, the LED lights when the state of the referenced point changes to On.

To set the reference address, click on the Reference Address field and select a point.

Continued on next page

High-Level Mode Programming for Display Cards

The 4100-0403, 4100-0404, and 4100-0405 display cards allow high-level programming. This type of programming allows multiple switches and LEDs to controlled by a single high-level mode, eliminating the need to complete Custom Control equations to perform the function.

Follow these steps to perform high-level programming on the 4100-0403, 4100-0404, or 4100-0405 display cards.

1. Double click on the card's icon in the Hardware window. A window similar to the one shown in Figure 7-12 appears.
2. Click on the **High Level** button in the upper right corner of the window. A window similar to the one shown below appears.

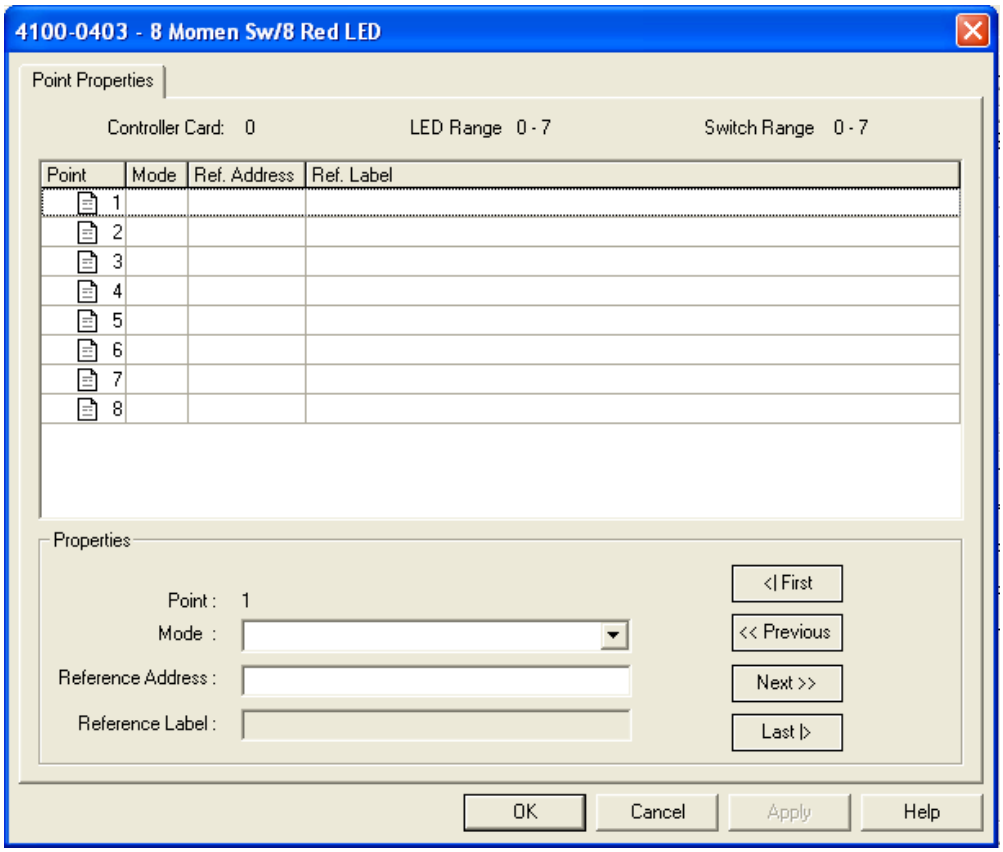

Figure 7-13. Setting High Level Mode

3. Click on the **Mode** drop down list box and select a Mode for the switch or LED. The mode determines what the LED/Switch pair does (for example, toggle the enable/disable state of a point and light the LED). Refer to Appendix B for a list of the high-level modes.

4. Click on the reference address and specify the control point that will be controlled by the switch portion of the LED/Switch pair.

Programming Monitor Points

Introduction

Monitor points can be used to observe the status of the following types of devices.

- Fire alarm initiating devices, including pull stations, smoke detectors, etc.
- Critical components of the fire system, such as waterflow switches and fire pumps.
- Security alarm initiating devices, such as glass break detectors and motion detectors.

Step 1. Choose Monitor Point to Program

Monitor points can be programmed from either the Hardware Tab or the Point Tab. The Hardware Tab lists points on a per-card basis and allows editing of both the point type and device type. The Point Tab lists all points in the system, but allows only the Point Type to be edited.

Use the following procedures to edit the attributes for a specific monitor point.

Table 7-2: Selecting Monitor Point

Tab	Procedure
Point Tab	1. Click on the **Point** Tab. The programmer lists all points in the system. 2. Locate the monitor point to be programmed. One easy way to do this is to use the **Filter** option. Right click in the Point Window. When the Filter option appears, click on the **Monitor** checkbox and select **OK**. The Point Window then displays only monitor points. 3. Double click on the monitor point. A properties window similar to the one shown in Figure 7-14 appears. The Device Type field, which is shown as an active field in the figure, is not available in the Point Tab. Use the Hardware Tab if you need to edit the monitor point's device type.
Hardware Tab	1. Click on the **Hardware** Tab. Click on the + signs to the left of the Unit, Box, and Bay icons containing the monitor card. 2. Double click on the monitor card icon. A window similar to the one shown in Figure 7-14 appears. 3. Click on the monitor point.

Continued on next page

Step 1. Choose Monitor Point to Program

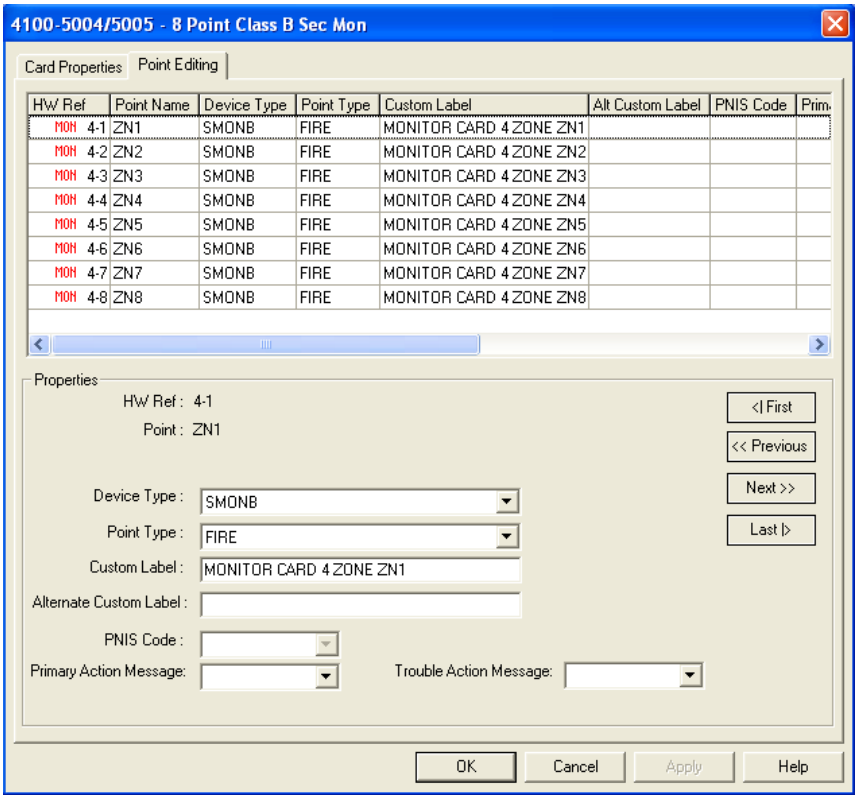

Figure 7-14. Monitor Point Programming

Step 2. Define Device Type

The device type identifies the specific type of Monitor Device being programmed. Available choices are listed in the table below. The Device Type field is editable only when the monitor point is selected using the Hardware Tab.

Click on the Device Type field and specify one of the device types listed in the following table.

Table 7-3: Monitor Device Types

Device Type	Description
SMONB	Identifies the signal point as a Class B Monitor/Security Device.
SCAN50	Identifies the signal point as a 0 - 50% Detection/Scanning Device.
SMONA	Identifies the signal point as a Class A Monitor/Security Device.
MONA	Identifies the point as a Class A monitor device such as a pull station, smoke detector, etc.
MONB	Identifies the point as a Class A monitor device such as a pull station, smoke detector, etc.

Continued on next page

Step 3. Define Point Type

Click on the **Point Type** drop down list box and select a point type for the monitor point. The point type determines the function of the point and the message displayed on the system annunciators. Refer to Appendix A for a complete list of the point types

Step 4. Define Custom Label

The Custom Label field provides a way to associate descriptive text with the point. When changes to the state of the point occur (i.e. monitor point experiences a trouble), this text and the associated message appear at the system's annunciators. Typically, Custom Labels are developed in conjunction with the building's facility management personnel.

The Point Tab includes two useful features for editing custom labels: Autofill and Spellcheck. Refer back to the "Overview" at the beginning of this chapter for specific information on these features.

To edit the Custom Label, simply replace the default text located in the Custom Label field with the text you want to associate with the point.

Configurations Where a Relay is Used to Provide Abnormal Indication

In configurations where a relay is used to provide an abnormal indication when the fire panel is powered down do the following:

1. Use the Normally Open contacts on the relay.
2. Program the relay with the RELAY point type.
3. Add the following equation to a Custom Control program:

```
IN:
    NOT A2 ON
OUT:
    TRACK ON AUXn PRI=9,9
END:
```

Programming NAC and Signal Points

Overview

Notification Appliances and Signal points are programmable outputs -- such as bells, horns, and strobes -- used to alert building personnel and occupants to the presence of an alarm, trouble, or supervisory condition.

Step 1. Choose NAC or Signal Point to Program

Signal and NAC points can be programmed from either the Hardware Tab or the Point Tab. The Hardware tab lists points on a per-card basis, whereas the Point Tab lists all points in the system. Use the following procedures to edit the attributes for a specific point.

Table 7-4: Selecting NAC or Signal Point

Location	Tab	Procedure
Signal	Point Tab	1. Click on the **Point** Tab. The programmer lists all points in the system. 2. Locate the Signal Point to be programmed, using either the window's scroll bar or the Search, Filter, or Sort options. (For example, selecting the **Signal** checkbox within the Filter option displays only the system's Notification appliance and signal points.) 3. Double click on the Signal Point. A properties window similar to the one shown in Figure 7-15 appears.
	Hardware Tab	1. Click on the **Hardware** Tab. Click on the + signs to the left of the appropriate Unit, Box, and Bay icons. 2. Double click on the Signal card icon containing the signal point you want to edit. A window similar to the one shown in Figure 7-15 appears.
NAC	Point Tab	1. Click on the **Point** Tab. The programmer lists all points in the system. 2. Locate the NAC Point to be programmed, using either the window's scroll bar or the Search, Filter, or Sort options. (For example, selecting the **Signal** checkbox within the Filter option displays only the system's Notification appliance and signal points.) 3. Double click on the NAC Point. A window similar to the one shown in Figure 7-15 appears.
	Hardware Tab	1. Click on the **Hardware** Tab. Click on the + signs to the left of the unit, box, and bay containing the appropriate power supply or TrueAlert controller. 2. Double click on the icon for the power supply or controller. If you are programming the NACs on a power supply, click on the NACs tab. If you are programming the NACs on a TrueAlert controller, click on the Point Editing tab.

Continued on next page

Step 1. Choose NAC or Signal Point to Program

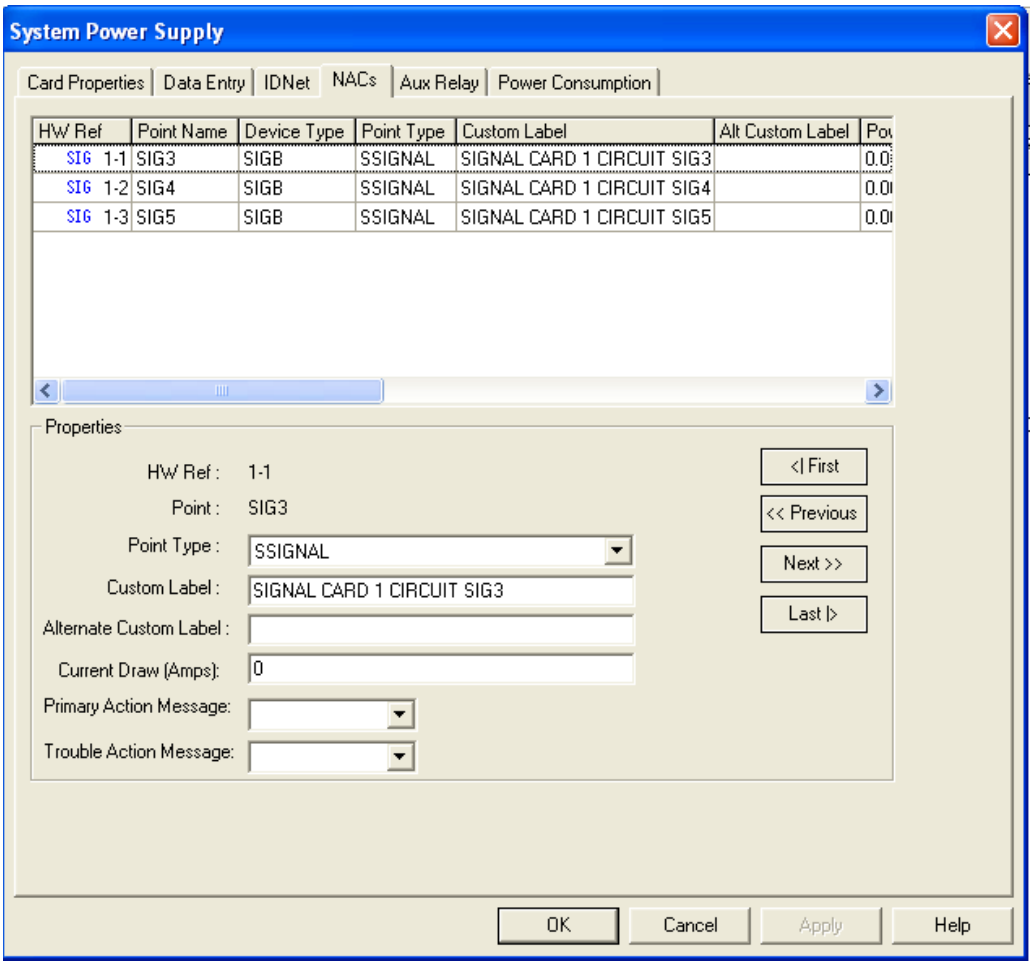

Figure 7-15. Typical Signal/NAC Point Editing Window

Step 2. Define Point Type

Click on the **Point Type** drop down list box and select a point type for the signal/NAC point. The point type determines the function of the point and the message displayed on the system annunciators. Refer to Appendix A for a complete list of the point types.

Step 3. Define Custom Label

The Custom Label field provides a way to associate descriptive text with the point. When changes to the state of the point occur (i.e. Signal point experiences a trouble), this text and the associated message appear at the system's annunciators. Typically, Custom Labels are developed in conjunction with the building's facility management personnel.

The Point Tab includes two useful features for editing custom labels: Autofill and Spellcheck. Refer back to the Overview at the beginning of this chapter for specific information on these features.

To edit the Custom Label, simply replace the default text located in the Custom Label field with the text you want to associate with the point.

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Step 4. Use the NAC Power Consumption Calculator

The NAC Power Consumption Calculator allows you to calculate the load that a combination of notification appliances will have on the NAC. To use the calculator, do the following:

1. In the **Current Draw Amps** field (see Figure 7-15), enter the existing current draw for all devices currently installed on the NAC. Keep the cursor in this field and press **F11**. The Power Consumption Calculator shown in the figure below appears.

2. Scroll through the list of appliances and identify how many of each device are to be placed on the NAC. Enter the quantity for each device in the **Quantity** field. (To do this, either type the number or double click on the Quantity field and use the controls that appear to set the number.)

Note: You can control which devices appear in the calculator list by using the Filter button. When you click the Filter button, a taglist containing the entire list of available notification appliances appears. The space bar toggles whether an entry is selected to appear in the calculator. If a >> appears to the left of the entry, it is selected and will appear in the calculator. Sort through the list and use the space bar to toggle the entries until only the devices you want to appear in the calculator are marked by a >> symbol.

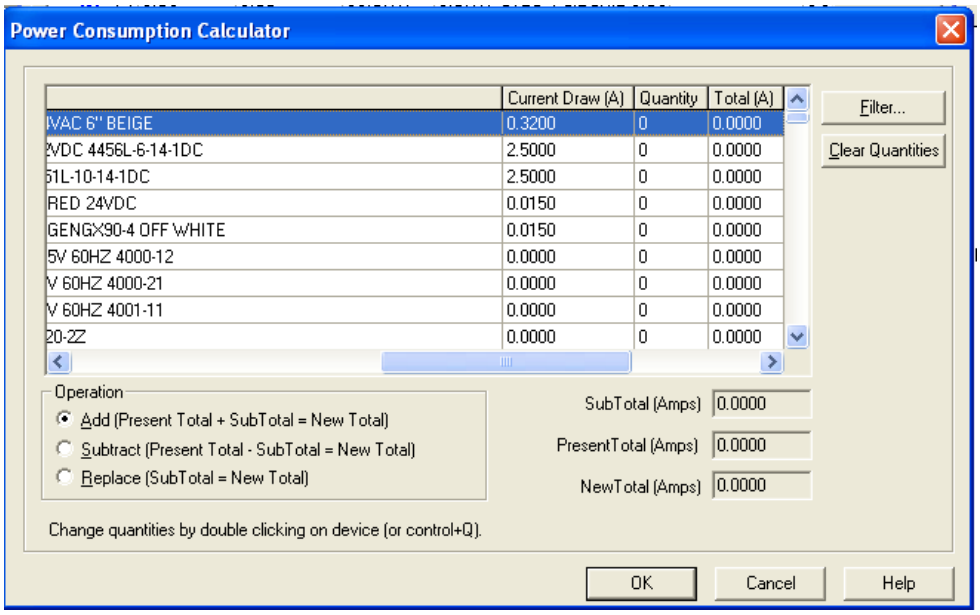

Figure 7-16. Power Consumption Calculator

3. Select an operation for the calculator to perform as follows:

   - Add (Present Total + Subtotal = New Total). Adds the total current draw for all specified devices to any existing current draw value. Use this when adding devices for the first time, or when adding devices to a NAC that is already populated with devices.
   - Subtract (Present Total - Subtotal = New Total). Subtracts the total for the entries you have just made in the calculator from any existing current draw value. Use this when removing devices from a NAC that is already populated with devices.
   - Replace. Replaces any existing current draw value with the value for the entries you have just made in the calculator.

4. Click **OK**. The total current draw determined by the calculator appears in the Current Draw (Amps) field.

Continued on next page

Power Consumption Build Warnings

The warnings listed below are example warnings for each type of power consumption warning that may occur. The card number and actual values will differ depending on the configuration.

In some cases it is possible a power source that cannot be configured in the Programmer could be used to supply power in a panel. If that is the case it is recommended the consumption be calculated manually. If the power consumption is not being exceeded when these external sources are taken into consideration the warning can be ignored. See below for solutions using the configuration choices known to the ES Panel Programming software.

WARNING: Power Supply (Card 8) -- Present 24V card power (2.7500) is greater than maximum (2.0000). (Amps)

SOLUTION: You may need to add an additional power supply; or move cards to another bay. Each power supply provides 2.0 Amps of 24V card power.

WARNING: Power Supply (Card 12) -- Present 24V NAC power (9.4500) is greater than maximum (9.000). (Amps)

SOLUTION: You may need to hang less peripherals off a circuit; or add more power supplies and/or cabinets. Most power supplies provide 9.0 Amps of NAC power.

WARNING: Power Supply (Card 5) -- Present 24V AUX power (8.2000) is greater than maximum (8.000). (Amps)

SOLUTION: You may need to use less AUX Power peripherals on a given power supply; or add an additional power supply. Most power supplies provide 8.0 Amps for AUX power.

WARNING: Power Supply (Card 10) -- Present 24V total power (9.2755) is greater than maximum (9.000). (Amps)

SOLUTION: Total power includes NAC Power, AUX Power, and 24V Card power. You will need to decrease one of these values; or add an additional power supply. Each power supply provides 9.0 Amps of total power.

WARNING: 8V Power Resource (Card 1) -- Present 8V card power (3.3750) is greater than maximum (3.000). (Amps)

SOLUTION: The CPU Card provides 3.0 Amps of 8V power for unit 0. If this value is exceeded, you can increase available 8V power by adding TIC cards. Each TIC card provides an additional 1.0 Amps of 8V power. A network TIC may be added to Unit 0 (Box 1, Bay 2.) Additional TIC cards may be added to other units. (1 per Unit).

WARNING: Amplifier (Card 13) -- Present audio power (100.7000) is greater than maximum (100.000). (Watts)

SOLUTION: Flex 50 Amps provide 50 Watts of power. 100 W Amps provide 100 Watts of power. If these values are exceeded, you may need to add additional Amplifier cards, or use less devices on the Amplifier NAC's.

WARNING: True Alert (Card 16) -- Present 24V NAC power (3.6500) on CHL 1 is greater than maximum (3.000). (Amps)

SOLUTION: For TrueAlert controllers and TrueAlert Power Supplies, each channel provides 3.0 Amps of NAC power for a total of 9.0 Amps. If you exceed 3.0 on a given channel, you may need to move peripherals to a different channel; or add an additional TrueAlert card.

Programming Relay Points

Overview

Relays provide a means of switching current on or off to a load. Fire alarm systems make extensive use of relays, using them to control fans, dampers, door magnets, motors, and control panel inputs.

Step 1. Choose Relay Point to Program

Relay points can be programmed from either the Hardware Tab or the Point Tab. The Hardware tab lists points on a per-card basis, whereas the Point Tab lists all points in the system. Use the following procedures to edit the attributes for a specific point.

Table 7-5: Selecting Relay Point

Point Type	Tab	Procedure
AUX Relay	Point Tab	1. Click on the **Point** Tab. The programmer lists all points in the system. 2. Locate the Relay Point to be programmed, using either the window's scroll bar or the Search, Filter, or Sort options. (For example, selecting the **AUX Relay** checkbox within the Filter option displays only the system's relay points.) 3. Double click on the relay point. A properties window similar to the one shown in Figure 7-17 appears.
	Hardware Tab	1. Click on the **Hardware** Tab. Click on the + signs to the left of the appropriate unit, box, and bay. 2. Double click on the icon for the power supply containing the AUX relay you want to program. 3. Click on the **Aux Relay** tab. A window similar to the one shown in Figure 7-17 appears.
4100-3001 4100-3002 4100-3003 Relays	Point Tab	1. Click on the **Point** Tab. The programmer lists all points in the system. 2. Locate the Relay Point to be programmed, using either the window's scroll bar or the Search, Filter, or Sort options. (For example, selecting the **Aux Relay** checkbox within the Filter option displays only the system's relay.) 3. Double click on the relay point. A properties window similar to the one shown in Figure 7-17 appears.
	Hardware Tab	1. Click on the **Hardware** Tab. Click on the + signs to the left of the appropriate Unit, Box, and Bay icons. 2. Double click on the Relay card icon containing the relay point you want to edit. A window similar to the one shown in Figure 7-17 appears.

Continued on next page

Step 1. Choose Relay Point to Program

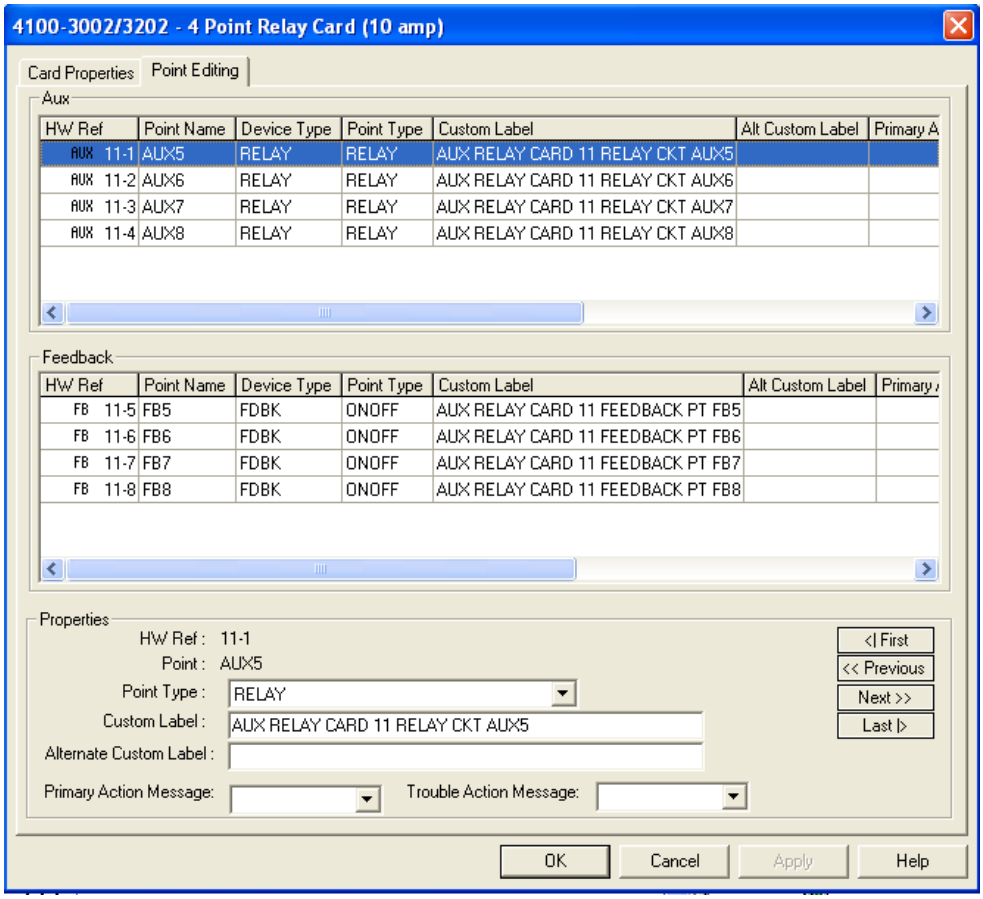

Figure 7-17. Typical Relay Point Editing Window

Step 2. Define Point Type

Click on the **Point Type** drop down list box and select a point type for the relay point. The point type determines the function of the point and the message displayed on the system annunciators. Refer to Appendix A for a complete list of the point types.

Step 3. Define Custom Label

The Custom Label field provides a way to associate descriptive text with the point. When changes to the state of the point occur (i.e. Relay point experiences a trouble), this text and the associated message appear at the system's annunciators. Typically, Custom Labels are developed in conjunction with the building's facility management personnel.

The Point Tab includes two useful features for editing custom labels: Autofill and Spellcheck. Refer back to the Overview at the beginning of this chapter for specific information on these features.

To edit the Custom Label, simply replace the default text located in the Custom Label field with the text you want to associate with the point.

Programming IDNet and MAPNET Points

Introduction

IDNet and MAPNET points consist of both automatic and manual initiating devices used to detect the presence of a fire condition.

Step 1. Choose IDNet/MAPNET Point to Program

IDNet and MAPNET points can be programmed from either the Hardware Tab or the Point Tab. The Hardware tab lists points on a per-card basis, whereas the Point Tab lists all points in the system. Use the following procedures to edit the attributes for a specific point.

Table 7-6: Selecting IDNet or MAPNET Point

Point Type	Tab	Procedure
IDNet	Point Tab	1. Click on the **Point** Tab. The programmer lists all points in the system. 2. Locate the IDNet point to be programmed, using either the window's scroll bar or the Search, Filter, or Sort options. (For example, selecting the **MAPNET/IDNET** checkbox within the Filter option displays only the system's IDNet and MAPNET points.) 3. Double click on the point. A properties window similar to the one shown in Figure 7-18 appears. The device type cannot be edited here. The device type can be edited via the Hardware tab.
	Hardware Tab	**IDNet Points on a Power Supply** 1. Click on the **Hardware** Tab. Click on the + signs to the left of the appropriate unit, box, and bay. 2. Double click on the icon for the appropriate power supply card. A dialog for the power supply appears. 3. Click on the **IDNet** tab. A window similar to the one shown in Figure 7-18 appears.
		IDNet Points on an IDNet Option Card 1. Click on the **Hardware** Tab. Click on the + signs to the left of the appropriate Unit, Box, and Bay icons. 2. Double click on the IDNet card icon containing the point you want to edit. A window similar to the one shown in Figure 7-18 appears.
MAPNET	Point Tab	1. Click on the **Point Tab**. The programmer lists all points in the system. 2. Locate the MAPNET point to be programmed, using either the window's scroll bar or the Search, Filter, or Sort options. (For example, selecting the **MAPNET/IDNET** checkbox within the Filter option displays only the system's MAPNET and IDNet points.) 3. Double click on the point. A properties window similar to the one shown in Figure 7-18 appears. The device type cannot be edited here. The device type can be edited via the Hardware tab.
	Hardware Tab	1. Click on the **Hardware** Tab. Click on the + signs to the left of the appropriate Unit, Box, and Bay icons. 2. Double click on the MAPNET card icon containing the point you want to edit. A window similar to the one shown in Figure 7-18 appears.

Continued on next page

Step 1. Choose IDNet/MAPNET Point to Program

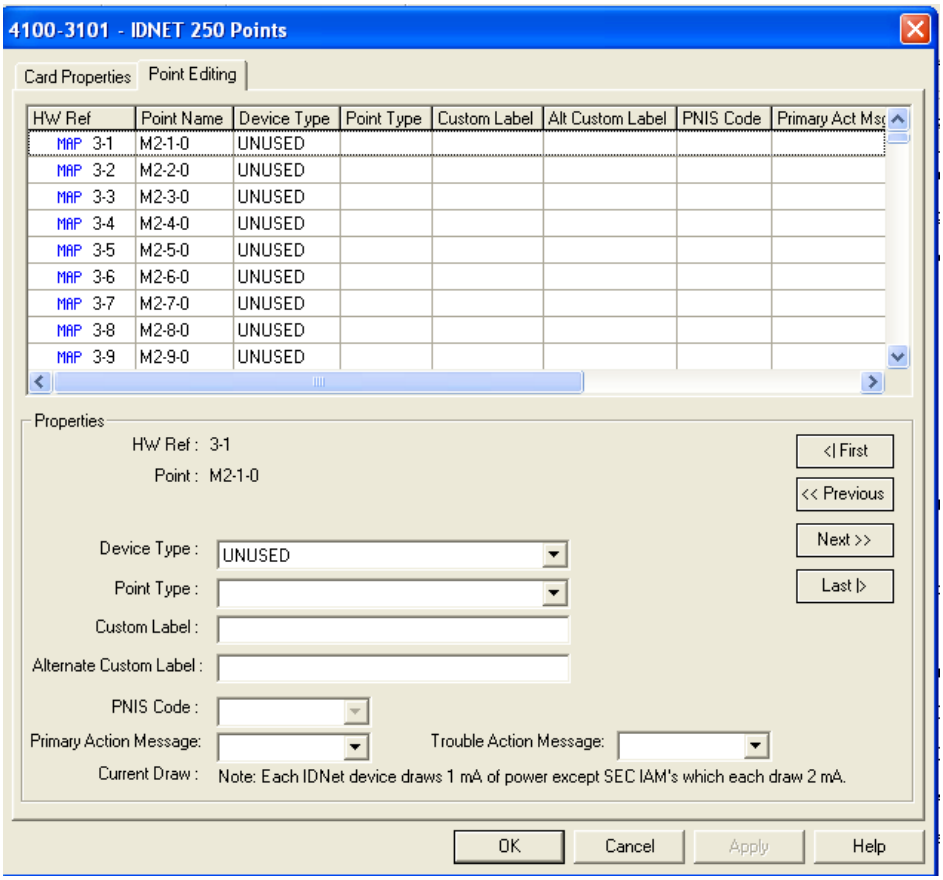

Figure 7-18. Defining IDNet Points

Step 2. Define Device Type

Click on the Device Type drop down list box and select a device type for the IDNet/MAPNET point.The device type determines the physical device hardware connected to the channel. Refer to Appendix A for a complete list of device types.

Step 3. Define Point Type

Click on the **Point Type** drop down list box and select a point type for the IDNet/MAPNET point. The point type determines the function of the point and the message displayed on the system's annunciators. Refer to Appendix A for a complete list of the point types.

Step 4. Define Custom Label

The Custom Label field provides a way to associate descriptive text with a point. When changes to the state of the point occur (i.e. point experiences a trouble), this text and the associated message appear at the system's annunciators. Typically, Custom Labels are developed in conjunction with the building's facility management personnel.

The Point Tab includes two useful features for editing custom labels: Autofill and Spellcheck. Refer back to the Overview at the beginning of this chapter for specific information on these features.

To edit the Custom Label, simply replace the default text located in the Custom Label field with the text you want to associate with the point.

Programming the 4098 CO Detectors/Sensors

Introduction

Their are two CO sensor base types: CO Normal and CO Sounder. One of the following sensors can be fitted on each base: a TrueAlarm ion sensor head, a TA photo sensor head, a TA heat sensor head, or a photo/heat sensor combo head.

Their are 8 programmer's models for CO bases: MCOP (multi-point CO with photo sen head), MCOH (heat sensor head), MCOI (ion head), MCOPH (photo-heat head), MCOPS (photo head with sounder base), MCOHS (heat sensor head with sounder base), MCOIS (ion head with sounder base), and MCOPHS (photo-heat head with sounder base). Each variation have multiple sensors (multipoint).

Note: The underlined point types in Table 7-7 are default point types

Table 7-7: Programmer's Models for CO Base

Device	Point Name	ES Panel Device Type	Point Type	Description
MCOI	MX-Y-0	MCOI	FIRE SUPERV LATSUPV UTILITY	Common subpoint
	MX-Y-1	MION	GVMON LATSUPV **SMOKE** SUPDET SUPERV UTILITY	Ion sensor subpoint
	MX-Y-2	MCOGAS MAOFF	COGASPRI2 COGASSUPV **UTILITY**	UL2075 CO gas sensor subpoint
	MX-Y-3	MACOFIRE	COPRI2 COSUPV **UTILITY** **UTILITY**	CO fire algorithm subpoint
MCOIS	MX-Y-0	MCOIS	FIRE SUPERV LATSUPV UTILITY	Common subpoint
	MX-Y-1	MION	GVMON LATSUPV **SMOKE** SUPDET SUPERV UTILITY	Ion sensor subpoint
	MX-Y-2	MCOGAS	COGASPRI2 COGASSUPV **UTILITY**	UL2075 CO gas sensor subpoint
	MX-Y-3	MACOFIRE MAOFF	COPRI2 COSUPV **UTILITY** **UTILITY**	CO fire algorithm subpoint

Continued on next page

Table 7-7: Programmer's Models for CO Base (Continued)

Device	Point Name	ES Panel Device Type	Point Type	Description
MCOIS	MX-Y-4	MCOI	BSIGNAL RELISIG RELSIG RELWVIS RSIGNAL SIGNAL SSBASE **SSIGNAL** SUPERV TSIGNAL	Sounder subpoint
MCOH	MX-Y-0	MCOH	FIRE SUPERV LATSUPV **UTILITY**	Common subpoint
	MX-Y-1	MHEAT MOHEAT	**HEAT** LATSUPV SUPDET SUPERV UTILITY	Heat sensor subpoint
	MX-Y-2	MCOGAS	COGASPRI2 COGASSUPV **UTILITY**	UL2075 CO gas sensor subpoint
	MX-Y-3	MACOFIRE MAOFF	COPRI2 COSUPV **UTILITY** **UTILITY**	CO fire algorithm subpoint
MCOHS	MX-Y-0	MCOHSCOMBO (MCOHS)	FIRE SUPERV LATSUPV **UTILITY**	Common subpoint
	MX-Y-1	MHEAT MOHEAT	**HEAT** LATSUPV SUPDET SUPERV UTILITY	Heat sensor subpoint
	MX-Y-2	MCOGAS	COGASPRI2 COGASSUPV **UTILITY**	UL2075 CO gas sensor subpoint
	MX-Y-3	MACOFIRE MAOFF	COPRI2 COSUPV **UTILITY** **UTILITY**	CO fire algorithm subpoint

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Table 7-7: Programmer's Models for CO Base (Continued)

Device	Point Name	ES Panel Device Type	Point Type	Description
MCOHS	MX-Y-4	MSOUND	BSIGNAL RELISIG RELSIG RELWVIS RSIGNAL SIGNAL SSBASE **SSIGNAL** SUPERV TSIGNAL	Sounder subpoint
MCOP	MX-Y-0	MCOPCOMBO (MCOP)	FIRE SUPERV LATSUPV **UTILITY**	Common subpoint
	MX-Y-1	MPHOTO MXPHOTO	GVMON LATSUPV SUPDET **SMOKE** SUPERV UTILITY VSMOKE	Photo sensor subpoint
	MX-Y-2	MCOGAS	COGASPRI2 COGASSUPV **UTILITY**	UL2075 CO gas sensor subpoint
	MX-Y-3	MACOFIRE MAOFF	COFIRE (If Photo is config as fire alarm pt type) COPRI2 COSUPV **UTILITY** **UTILITY**	CO fire algorithm subpoint
	MX-Y-4	MACOFAST MACOFALSE (MACOFLSE) MAOFF	FCORFAST SCORFAST PCORFAST **UCORFAST** FCORFALSE SCORFALSE PCORFALSE **UCORFALSE** **UTILITY**	Algorithm subpoint
MCOPS	MX-Y-0	MCOPS-COMBO (MCOPS)	FIRE SUPERV LATSUPV **UTILITY**	Common subpoint

Continued on next page

Table 7-7: Programmer's Models for CO Base (Continued)

Device	Point Name	ES Panel Device Type	Point Type	Description
MCOPS	MX-Y-1	MPHOTO MXPHOTO	GVMON LATSUPV SUPDET **SMOKE** SUPERV UTILITY VSMOKE	Photo sensor subpoint
	MX-Y-2	MCOGAS	COGASPRI2 COGASSUPV **UTILITY**	UL2075 CO gas sensor subpoint
	MX-Y-3	MACOFIRE MAOFF	COFIRE (If Photo is config as fire alarm pt type) COPRI2 COSUPV **UTILITY** **UTILITY**	CO fire algorithm subpoint
	MX-Y-4	MACOFAST MACOFALSE (MACOFLSE) MAOFF	FCORFAST SCORFAST PCORFAST **UCORFAST** FCORFALSE SCORFALSE PCORFALSE **UCORFALSE** **UTILITY**	Algorithm subpoint
	MX-Y-5	MSOUND	BSIGNAL RELISIG RELSIG RELWVIS RSIGNAL SIGNAL SSBASE **SSIGNAL** SUPERV TSIGNAL	Sounder subpoint
MCOPH	MX-Y-0	MCOPH-COMBO (MCOPH	FIRE SUPERV LATSUPV **UTILITY**	Common subpoint
	MX-Y-1	MPHOTO MXPHOTO	GVMON LATSUPV SUPDET **SMOKE** SUPERV UTILITY VSMOKE	Photo sensor subpoint

Continued on next page

Table 7-7: Programmer's Models for CO Base (Continued)

Device	Point Name	ES Panel Device Type	Point Type	Description
MCOPH	MX-Y-2	MHEAT MOHEAT	**HEAT** LATSUPV SUPDET SUPERV UTILITY	Heat sensor subpoint
	MX-Y-3	MCOGAS	COGASPRI2 COGASSUPV **UTILITY**	UL2075 CO gas sensor subpoint
	MX-Y-4	MACOFIRE MAOFF	COFIRE (If Photo is config as fire alarm pt type) COPRI2 COSUPV **UTILITY** **UTILITY**	CO fire algorithm subpoint
	MX-Y-5	MACOFAST MACOFALSE (MACOFLSE) MAOFF MARCOR	FCORFAST SCORFAST PCORFAST **UCORFAST** FCORFALSE SCORFALSE PCORFALSE **UCORFALSE** **UTILITY** FCOR PCOR SCOR UCOR	Algorithm subpoint
MCOPHS	MX-Y-0	MCOPH-SCOMBO (MCOPHS)	FIRE SUPERV LATSUPV **UTILITY**	Common subpoint
	MX-Y-1	MPHOTO MXPHOTO	GVMON LATSUPV SUPDET **SMOKE** SUPERV UTILITY VSMOKE	Photo sensor subpoint
	MX-Y-2	MHEAT MOHEAT	**HEAT** LATSUPV SUPDET SUPERV UTILITY	Heat sensor subpoint
	MX-Y-3	MCOGAS	COGASPRI2 COGASSUPV **UTILITY**	UL2075 CO gas sensor subpoint

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Table 7-7: Programmer's Models for CO Base (Continued)

Device	Point Name	ES Panel Device Type	Point Type	Description
MCOPHS	MX-Y-4	MACOFIRE MAOFF	COFIRE (If Photo is config as fire alarm pt type) COPRI2 COSUPV **UTILITY** **UTILITY**	CO fire algorithm subpoint
	MX-Y-5	MACOFAST MACOFALSE (MACOFLSE) MAOFF MARCOR	FCORFAST SCORFAST PCORFAST **UCORFAST** FCORFALSE SCORFALSE PCORFALSE **UCORFALSE** **UTILITY** FCOR PCOR SCOR UCOR	Algorithm subpoint
	MX-Y-6	MSOUND	BSIGNAL RELISIG RELSIG RELWVIS RSIGNAL SIGNAL SSBASE **SSIGNAL** SUPERV TSIGNAL	Sounder subpoint

Common Point Configurations

Each device's common point (MCOPH, MCO, MCOI, MCOH, MCOP, …) can be configured as UTILITY, FIRE, SUPV, or LATSUP. Since the common point's alarm is the sum of all its sub-points' statuses (excluding CO gas and sounder sub-points), if the common points are set to another type than UTILITY, all sub-points are configured as UTILITY, except for the CO gas sub-point and the Sounder sub-point.

Refer to the following sections to configure the CO sensor bases for gas sensing, fewer nuisance alarms, fast fire detection, and CO fire detection.
Refer to Table 2-4 for a list of configuration options. The ion, photo, and heat sub-points are configured the same way as the True Alarm sub-points.

Continued on next page

MCOGAS – CO Toxic Gas Sub-Point

Update the CO toxic gas sub-point's point type. The available alarm options are summarized in Table 7-8.

Table 7-8: Alarm options

Sub-Point Type	Description
Description	The SUPV Alarm is generated based on the CO exposure level over time.
COGASPRI2	The PRI2 Alarm is generated based on the CO exposure level over time.
Utility	No Alarm is generated but SMPL can be used on this point (refer to note below).

Note: If the Utility sub-point type is selected, custom control will most likely be written to monitor when the CO level matches an analog value set by the user. For example, a fan relay turns ON when the CO level exceeds a particular concentration in PPM set by the user.

MACOFIRE – CO-enhanced Fire Detection Sub-Point

This sub-point can raise an expiry trouble if the CO sensor has reached its end-of-life. If P463 and P464 are toggled ON, this sub-point can also raise a 6 or a 12 month trouble prior to the device's expiration date.

This algorithm uses CO concentration and temperature to raise an alarm.

Table 7-9: Sub-point Types Description

Device Type	Sub-Point Type	Description
MACOFIRE	COGASSUPV	The SUPV Warning is generated.
MACOFIRE	COGASPRI2	The PRI2 Alarm is generated.
MACOFIRE	COFIRE	FIRE Alarm is generated. Only valid when the Photo sub point is configured as FIRE alarm point type.
MACOFIRE	Utility	No Alarm is generated. But SMPL can be written to generate an alarm
MAOFF	Utility	No Alarm is generated. Algorithm is not functional.

Continued on next page

CO/Photo Algorithm Sub-Point

The CO/photo algorithm sub-point uses the CO concentration and the photo detector to minimize false alarms or to help with the fire detection.
MACOFALSE uses CO to help minimize false alarms.
MACOFAST uses CO to detect a fire faster.
MARCOR is the R correlation algorithm and MAOFF is used to disable the algorithm.
MACOFALSE can only be configured if the photo sub-point is not configured as a FIRE type.

Table 7-10: CO/Photo Algorithm Sub-point

Device Type	Sub-Point Type	Description
MACOFAST	SCORFAST	The SUPV Warning is generated.
MACOFAST	PCORFAST	The PRI2 Alarm is generated.
MACOFAST	FCORFAST	FIRE Alarm is generated.
MACOFAST	UCORFAST	No Alarm is generated, but SMPL can be written to generate an alarm
MACOFALSE	SCORFALSE	The SUPV Warning is generated.
MACOFALSE	PCORFALSE	The PRI2 Alarm is generated.
MACOFALSE	FCORFALSE	FIRE Alarm is generated.
MACOFALSE	UCORFALSE	No Alarm is generated, but SMPL can be written to generate an alarm
MARCOR	SCOR	The SUPV Warning is generated.
MARCOR	PCOR	The PRI2 Alarm is generated.
MARCOR	FCOR	FIRE Alarm is generated.
MARCOR	UCOR	No Alarm is generated, but SMPL can be written to generate an alarm
MAOFF	Utility	No Alarm is generated. Algorithm is not functional.

Programming Pseudo Points

Overview

Pseudo points are memory locations within the system designed to store specific types of information. The ES Panel system includes the following three types of pseudo points.

- Analog Pseudo Points store analog values - such as a counter or timer - for use within user-defined Custom Control equations. User analog pseudo points start at A256.
- Digital Pseudo Points are used with user-defined Custom Control equations and can have one of several functions, depending on the point type assigned to the point. Alarm, supervisory, or trouble pseudo points generate an alarm, supervisory, or trouble event when turned on. Utility pseudo points hold a value of on or off and are typically used as an on/off switch within a custom control equation. User digital pseudo points start at P512.
- List Pseudo Point are typically used for custom control programming and for grouping multiple points for LED and switch control. User list pseudo points start a L256.

Step 1. Choose Pseudo Point to Program

Pseudo points can be programmed from either the Hardware Tab or the Point Tab. The Hardware tab lists points on a per-card basis, whereas the Point Tab lists all points in the system. Use the following procedures to edit the attributes for a specific pseudo point.

Table 7-11: Selecting Pseudo Point

Point Type	Tab	Procedure
Analog or Digital Pseudo Point	Point Tab	1. Click on the **Point** Tab. The programmer lists all points in the system. 2. Locate the Pseudo point to be programmed, using either the window's scroll bar or the Search, Filter, or Sort options. (For example, selecting the **User Digital Pseudo** checkbox within the Filter option displays only the system's user-defined digital pseudo points.) The first available user digital pseudo point is P512. 3. Double click on the Pseudo Point. A properties window similar to the one shown in Figure 7-19 appears.
	Hardware Tab	1. Click on the **Hardware** Tab. Click on the + signs to the left of the appropriate Unit, Box, and Bay icons in which the CPU Card resides. 2. Double click on the card icon containing the pseudo point you want to edit. A window similar to the one shown in Figure 7-19 appears.

Continued on next page

Step 1. Choose Pseudo Point to Program

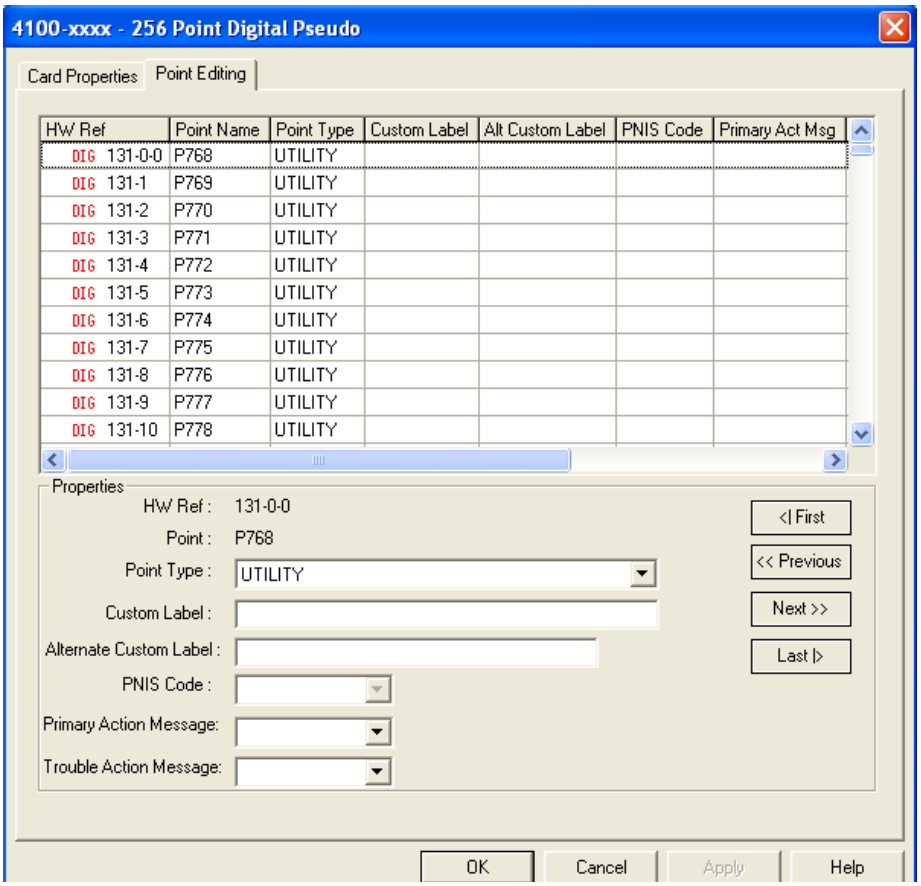

Figure 7-19. Programming Pseudo Points

Step 2. Define Custom Label

The Custom Label field provides a way to associate descriptive text with the point. When changes to the state of the point occur (i.e., the pseudo point turns On, for example), this text and the associated message appear at the system's annunciators. Typically, Custom Labels are developed in conjunction with the building's facility management personnel.

The Point Tab includes two useful features for editing custom labels: Autofill and Spellcheck. Refer to "Overview" at the beginning of this chapter for specific information on these features.

To edit the Custom Label, simply replace the default text located in the Custom Label field with the text you want to associate with the point.

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Step 3. Define Analog Pseudo Point Type

If the selected point is an analog pseudo point, click on the Point Type drop down list box and select one of the following point types.

Table 7-12: Defining Analog Pseudo Points

Point Type	Description
ANALOG	Stores a static, analog value between 0 and 65,535.
COUNTER	Allows custom control to increment the point's analog value. This is typically used to track the number of some system condition and trigger some action when the threshold is reached.
TIMER	Allows you to set an analog value between 0 and 65,535 for use as a Custom Control countdown timer. A timer can be used to delay some action until a specified amount of time passes.

Step 4. Programming Digital Pseudo Point Type

If the selected point is a digital pseudo point, click on the Point Type drop down list box and select one of the following point types.

Table 7-13: Defining Digital Pseudo Points

Point Type	Description
FIRE	Turning on a pseudo point whose point type is ALARM causes an alarm condition on the system.
SUPV	Turning on a pseudo point whose point type is SUPV causes a supervisory condition on the system.
PRI2	Turning on a pseudo point whose point type is PRI2 causes a priority 2 alarm on the system.
TROUBLE	Turning on a pseudo point whose point type is TROUBLE causes an trouble condition on the system.
UTILITY	A pseudo point whose point type is UTILITY can hold a value of On or Off, and is typically used as an on/off switch within a custom control equation.

Chapter 8
Audio Programming

Introduction

Programming the ES Panel audio components involves the following.

- **Specifying Audio Controller Properties.** These properties allow you to specify what audio equipment is attached to the audio controller.
- **Programming Manual Audio Functions**. Programming these functions involves creating custom control equations and associating those equations with a switch and LED. Turning on the switch triggers the custom control equation, which in turn plays a facility-specific, pre-recorded message on a selected speaker list.
- **Programming Automatic Audio Functions**. The audio system automatically plays pre-recorded messages (such as an evacuation message, etc.) when an alarm condition occurs.

Before beginning to program the audio components, make sure all audio hardware (controllers, amplifiers, option cards) are added to the job as described in Chapter 5 of this manual.

In this Chapter

Refer to the page number listed in this table for information on a specific topic.

Programming Guidelines

Guidelines and Restrictions

Be aware of the following guidelines when programming 10.5 audio components. These guidelines are important to understand **before** programming switches for control of speaker circuits or creating custom control applications that select specific groups of speakers (such as floor above and floor below). Ignore these guidelines if the panel is operating as a general alarm panel.

- The 100 Watt amplifier iscapable of routing the message from one channel to the speakers at any point in time. The Flex50 amplifier is capable of routing the message from two channels to any combination of speakers at any point in time.

- It is recommended that lists be created to group the amplifier circuits. Individual speaker circuits should not be controlled. Custom control or annunciators used to change the channel on which speakers are playing should use lists to prevent problems. The following is the recommended way of breaking up speaker circuits into each list.

- - **One Channel System**. Individual speakers on either the Flex 50 or 100W amplifier can be turned on or off without any problems.
- - **Two Channel System**. Speakers connected to a Flex 50 amplifier can be routed individually to either channel. Speakers connected to a 100W amplifier can be turned on or off individually, but all speakers that are on **must be playing the same message**. To avoid problems and simplify the application, it is recommended that all speakers on the amplifier be controlled via a single list.

  In most cases, Flex 50 amplifiers can be used across multiple signaling areas, but 100W amplifiers should be restricted to a single area. For example, a 100W amplifier could be used to drive speaker circuits in a perimeter area. Flex 50 amplifiers could be used across floors or areas of a building that may be playing an evacuation message or paged independently.

- - **Three to Eight Channel Systems**. Speakers connected to a Flex 50 amplifier can be turned on or off independently but only two channels can be active at any point in time. To avoid problems, the speaker circuits should be divided into two lists and controlled via those lists. Speakers connected to a 100W amplifier can be turned on or off individually, but all speakers that are on **must be playing the same message**. To avoid problems and simplify the application, it is recommended that all speakers on the amp be controlled via a single list.

  On three to eight channel systems, Flex 50 amplifiers can be used across two signaling areas. 100W amplifiers should be contained to one signaling area. For example, a Flex 50 amplifier could be used to control two floors of a multi-store anchor store in a mall, and 100 W amplifiers could be used for the single floor mall area.

Setting Audio Card Properties

Add Controllers and Amplifiers to the Job

1. Click on the **Hardware** tab.
2. In the Available Hardware List, click on the Audio entry to expand the list of available audio cards.
3. Drag the icons for the appropriate equipment to the Unit/Box/Bay icon in which the card/amplifier is installed.
4. After placing the icon in the correct location, double click on it.

Analog or Digital Audio Controller Properties

The audio controller card properties are shown in the figure below. Refer to Table 8-1 for information on these fields.

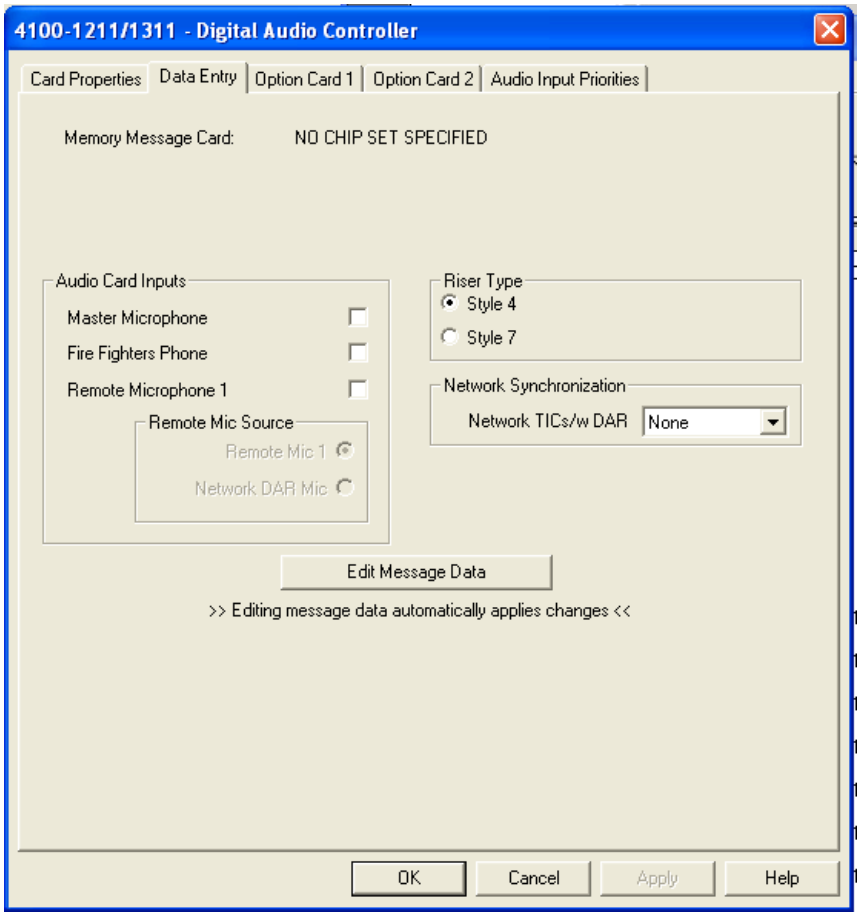

Figure 8-1. Audio Controller Properties Example

Continued on next page

Analog or Digital Audio Controller Properties

Table 8-1: Analog/Digital Controller Properties

Tab	Description
Card Properties Tab	The Card Properties, selected by clicking on the Card Properties tab, allow you to set the basic properties of the audio controller card. These properties include the card's address, slot, unit, and bay designation.
Data Entry Tab	Audio Card Inputs. Check the boxes that correspond to the input devices connected to the controller.
	Riser Type. Selections differ depending on controller: • Analog Controller. Select whether the audio riser uses Class A or Class B wiring. • Digital Controller. Select whether the audio riser uses Style 4 or Style 7 wiring.
	Remote Mic Source. This option is available only when Remote Microphone 1 is checked.
	Message Data. Refer to "Specify Initial Audio Library" later in this chapter for information on this option.
	Network Synchronization.
Option Card 1 Tab Option Card 2 Tab	Select the Option Card 1 or Option Card 2 tab, click on the Enable checkbox, and set the options as follows: • 25 V Audio. Select this radio button if a 25V audio input source is attached to the input connection of the option board. • 70 V Audio. Select this radio button if a 75V audio input source is attached to the input connection of the option board. • Line Level Audio. Select this radio button if a line level audio input source is attached to the input connection of the option board. • Remote Microphone 2. • Network DAR Microphone.
Audio Input Priorities Tab	The Audio Input Priorities allow you to specify the priority level of each audio input source. This is important when the maximum number of audio inputs are active and an additional **live** input is activated. If the priority level of the additional input is higher than one of the inputs currently playing, the higher level input interrupts the lower level priority and begins to play. To select the priority of an input, click on it and then press the Increase or Decrease button.

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Editing Amplifier Properties

Table 8-2: Amplifier Properties

Tab	Description
Card Properties Tab	The Card Properties, selected by clicking on the Card Properties tab, allow you to set the basic properties of the audio controller card. These properties include the card's address, slot, unit, and bay designation.
Data Entry Tab	Depleted Battery Cutout. Check to enable depleted battery cutout. Insuite Devices Used. Checking this option allows multiple rooms to be wired off a single circuit. In this case, a short can be seen by the card but the circuit will still turn on in an alarm condition. The amplifier with Insuite enabled will then isolate the room with the short. Backup Amp Address. Address of amplifier used as a backup to this one. NAC Options. Select the choice corresponding to the type and number of NACs connected to the Amplifier.
NAC Tab	All amplifiers include a NAC's tab, used to specify the attributes of the amplifier's NAC outputs. Editable fields include: Custom Label - Use this field to add a descriptive label to the point. Point Type. Set this field to Signal, Speaker, XSNAC1, or XSNAC2.

Specify Initial Audio Library

Introduction

The Audio Library includes the audio data (phrases and tones) for all standard messages required by the audio system. This section describes the process required to import the default audio library into the message editor. This is a **required** step the first time you program the audio controller.

Procedure

1. Click on the Data Entry tab in the property sheetfor the 4100-1210 or 4100-1211 audio controller and click on the box labeled **Edit Message Data**. A screen similar to the following appears.

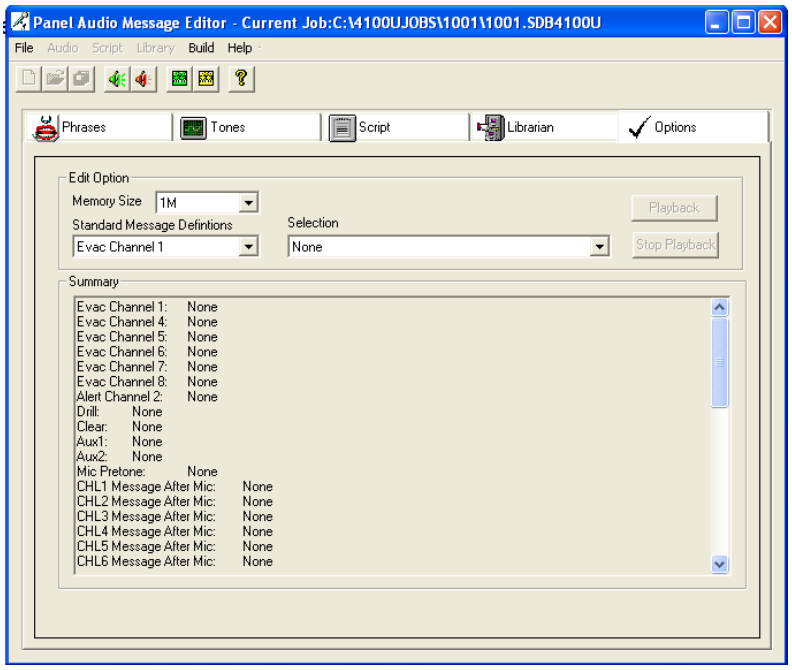

Figure 8-2. Audio Message Editor

2. Click on the tab labeled **Librarian**. A screen similar to the following appears.

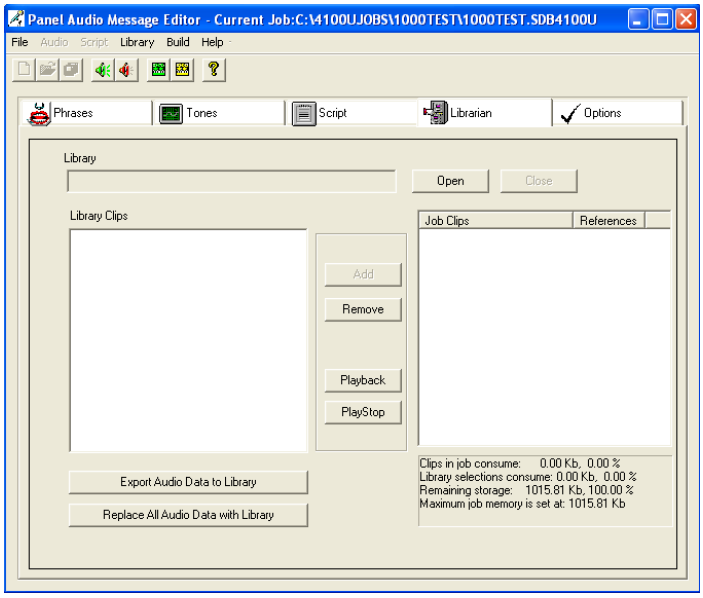

Figure 8-3. Librarian Tab

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Procedure

3. Click on the button labeled **Replace All Audio Data with Library**. A dialog box appears, allowing you to locate and select the audio library file. Once you locate and open this file, the screen shown below appears. The listing of Job Clips on the right hand side of the screen lists all of the phrases and tones contained in the library.

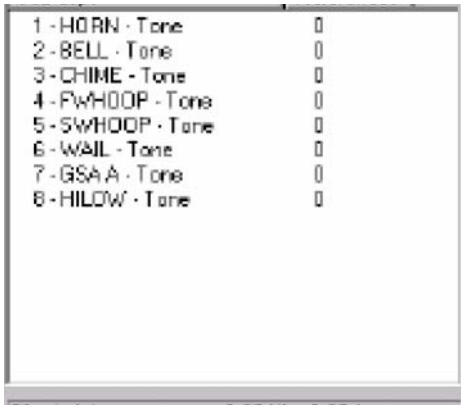

Figure 8-4. Library Dialog Showing Library Loaded

Specify Audio Options

Introduction

The Audio Options allow you to specify which audio scripts (combinations of phrases and tones) are associated with the system's standard message definitions. For example, when the appropriate system condition (general alarm, pushing the EVAC switch, user-defined custom control) triggers a primary EVAC, the script that you choose in this tab plays.

Procedure

1. Click on the Options tab. A screen similar to the following appears.

2. Click on the drop down list box labeled **Standard Message Definitions** and choose one of the standard audio messages.

3. Click on the **Selection** drop down list box and associate one of the scripts with the standard audio message selected in Step 2. If the system on which the programmer resides has a standard windows sound card, you can press Playback to listen to the selection.

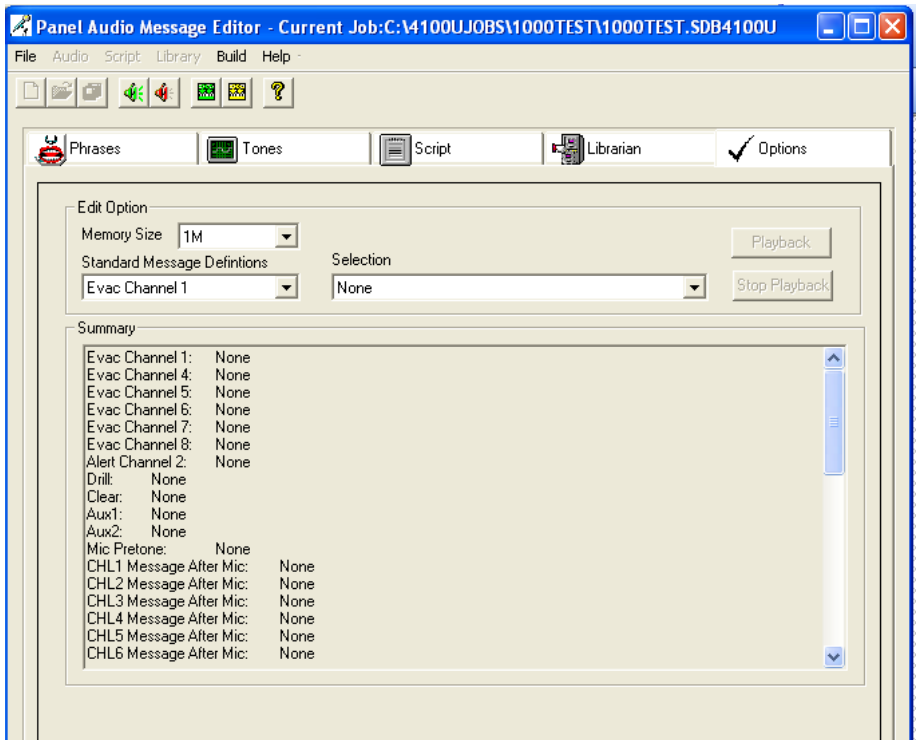

Figure 8-5. Options Tab

Build Job and Download Files

Procedure

When you are satisfied with the programming of your audio job, you must do the following:

Table 8-3: Building Job and Downloading File

Step	Action
Step 1 -- Build the job	Use the Build menu, located at the top of the Audio Message Editor to build the job for download. Note that this menu contains two choices, check and full. Use the Check option to error check the audio job before performing the build. When no errors are detected within the job, use the Build option to create the .MSB and .CFG4100 files.
Step 2-- Download the .MSB file to the audio slave	The .MSB file, which contains all of the audio definitions, is located in the AUDIO subdirectory of the job subdirectory. For example: C:\4100UJOBS\0104U001A\AUDIO\0104U001A.MSB Refer to Chapter 14 of this manual for information on downloading the .MSB file to the audio slave.
Step 3 -- Download the Master to the panel.	The master and the audio slave file must be synchronized with one another. Always make sure to perform a download to the master after downloading a new .MSB file to the audio slave.

Creating Custom Scripts

Introduction

A script (Revision 10 and higher term) is analogous to a message (pre-Revision 10 term). A script is made up of the following building blocks.

- **Phrases**. These are .WAV files containing spoken audiodata. Phrases can either be the generic ones provided with the default audio library, or they can be facility-specific phrases.
- **Tones**. These are .WAV files containing tones, such as a whoop, bell, horn, etc.
- **Statements**. These are the programming statements associated with the script. The editor contains a range of statements that, for example, allow you to repeat a phrase or tone, initiate march time coding, etc.

The audio message editor allows you to edit existing scripts and create new scripts. This allows you to create facility-specific scripts that can then be associated with either automatic (for example, message automatically plays following a fire alarm) or manual (message plays when a switch is activated) audio functions. For example, you might want to edit a script so that the phrase "Attention" is repeated three times before a standard announcement is made.

Creating a New Script

1. Click on the **Script** tab and then click on the **Script** menu. When the list of options appears, select **New**. A dialog similar to the one shown below appears.

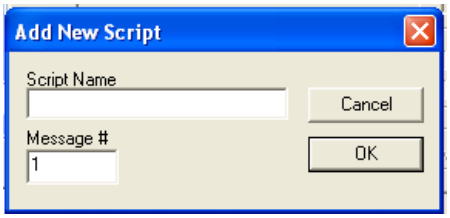

Figure 8-6. Add New Script Dialog

2. Enter a name for the script in the **Script Name** field and click on **OK**. The audio message editor updates the fields in the Script Tab. The window appears similar to the one shown below. Refer to the example figure for an explanation of the window's fields.

Continued on next page

Creating a New Script

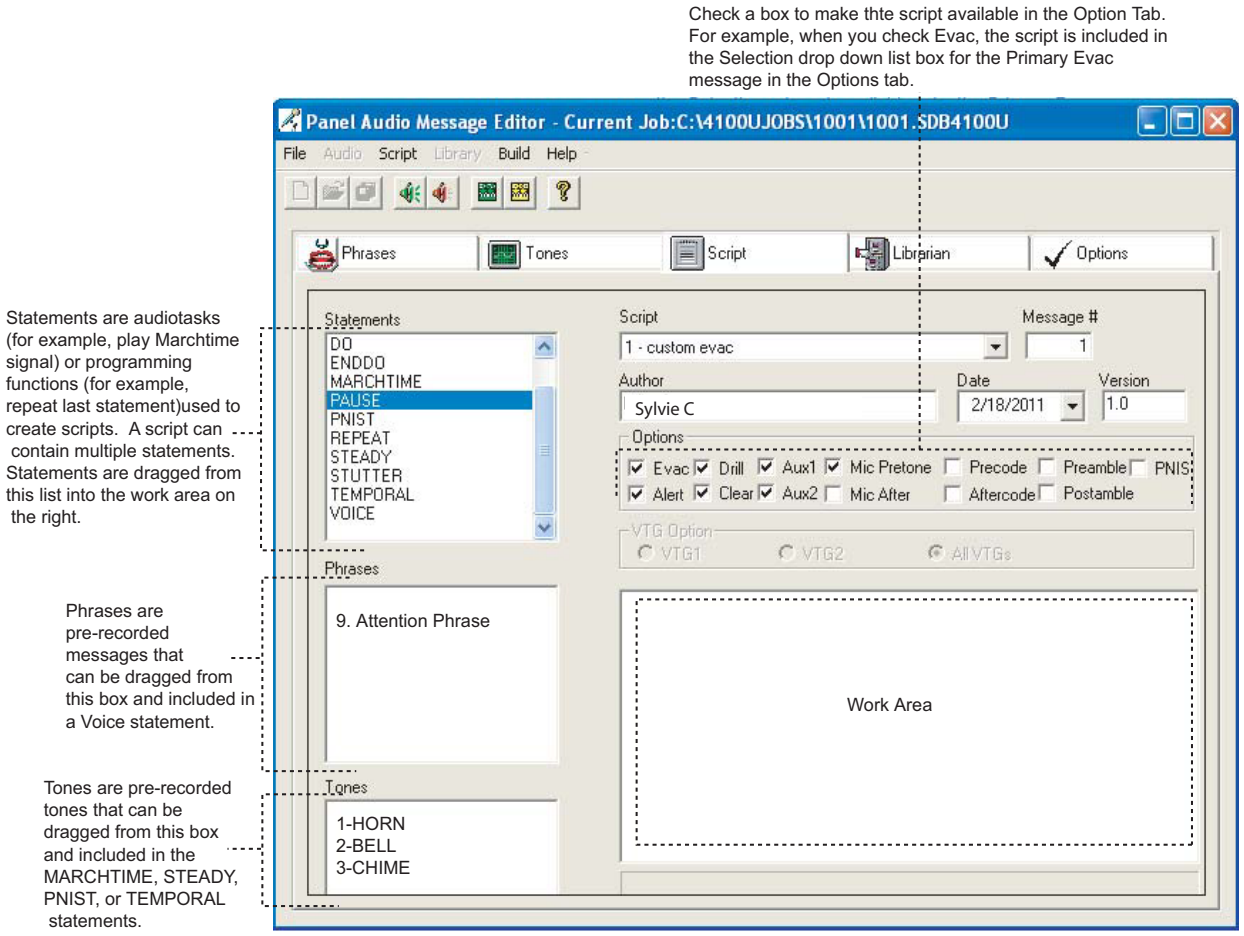

Figure 8-7. Script Tab

3. Enter a name for the script in the Script field. Identify the author of the script in the Author field.

4. Select the Option Check boxes as required. Selecting an option field makes the script available for that function in the Options Tab.

5. Click and hold the left mouse button while dragging statements from the Statements box into the Work Area and release the mouse button. See Table 8-4 for an explanation of each statement. Each time you drag a statement to the work area, the statement appears in the Work Area, followed by the statement's arguments. For example:

   BEEP (SECONDS =) <NUMBER>

   Required arguments are enclosed within the <> brackets. A word enclosed within parentheses must be included in the statement. The BEEP statement shown above, for example, must have a number to specify the number of times the beep should occur and the word seconds must be included in the statement. For example:

   BEEP SECONDS = 2

Continued on next page

Creating a New Script

Use the following table for an explanation of each audio script statement and its arguments.

Table 8-4: Script Statements

Statement	Description	Syntax/Arguments	Example
BEEP	Plays a beep on the audio channel. To use this statement, delete the parentheses surrounding SECONDS and substitute the number of seconds in place of NUMBER.	BEEP (SECONDS =) <NUMBER>	BEEP SECONDS = 2
DO ENDO	Allows multiple statements to be linked together in a loop. NUMBER equals the number of times the group of statements should execute. STATEMENTS is any of the valid statements in this table.	DO <NUMBER> <STATEMENTS> ENDDO	DO 2 VOICE PHRASE = Attention Phrase REPEAT = 2 ENDDO
MARCHTIME	Allows you to insert a marchtime coded signal into the script. Substitute the number assigned to a tone for the first argument	MARCHTIME TONE = <NUMBER or TONE> SECONDS = <NUMBER> FREQUENCY = <NUMBER>	MARCHTIME TONE = 3 SECONDS = 2 FREQUENCY = 60
PAUSE	Allows you to insert a pause, measured in tenths of a second, into a script.	PAUSE (TENTHS =) <NUMBER>	PAUSE TENTHS = 2
PNIST	Allows you to insert a PNIS coded signal into the script.	PNIST TONE = <NUMBER or TONE> ROUNDS = <NUMBER> FREQUENCY = <NUMBER> DIGITS = <NUMBER> - <NUMBER> - <NUMBER> - <NUMBER>	

Continued on next page

Creating a New Script

Table 8-4: Script Statements, *continued*

Statement	Description	Arguments	Example
REPEAT	Allows you to repeat one of the statements in the script. The number of times the statement is repeated is specified by the <NUMBER> argument.	REPEAT = <NUMBER>	REPEAT = 2
STEADY	Allows you to insert a steady tone into the script.	STEADY TONE = <NUMBER or TONE> (SECONDS = <NUMBER>)	STEADY TONE = HORN SECONDS = 2
STUTTER		STUTTER (SECONDS =) <NUMBER>	STUTTER SECONDS = 2
TEMPORAL	Allows you to insert a temporally coded tone into the script.	TEMPORAL TONE = <NUMBER or TONE> (SECONDS = <NUMBER>)	TEMPORAL TONE = HORN SECONDS = 2
VOICE	Allows you to specify a pre-recorded voice message into the script. CAN USE NUMBER.	VOICE PHRASE = <NUMBER or PHRASE> (REPEAT = <NUMBER>)	VOICE PHRASE = 2 Phrase REPEAT = 2

Example - Programming LED/Switch for Audio

Overview

This section provides a programming example that illustrates how to associate a display card switch and LED with a custom message.

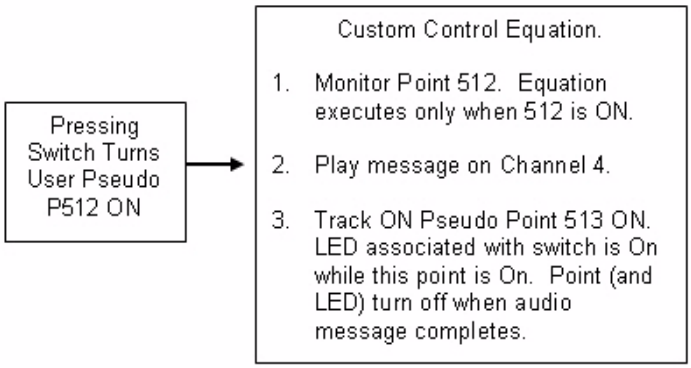

Figure 8-8. Associating Switch with Message

Programming the Example Switch and LED

The switch is used to trigger the audio message. The mode for the switch is ON/OFF and the reference point is user-defined, digital pseudo point 512. This means the first press of the switch turns on pseudo point 512 and causes the associated custom control equations to execute. The second press of this switch turns the point OFF.

Each switch has a corresponding LED. In this example, the LED illuminates while the audio message is playing and turns off when the message is done playing. The mode for the LED is ON and the reference address is user-defined pseudo point 513.

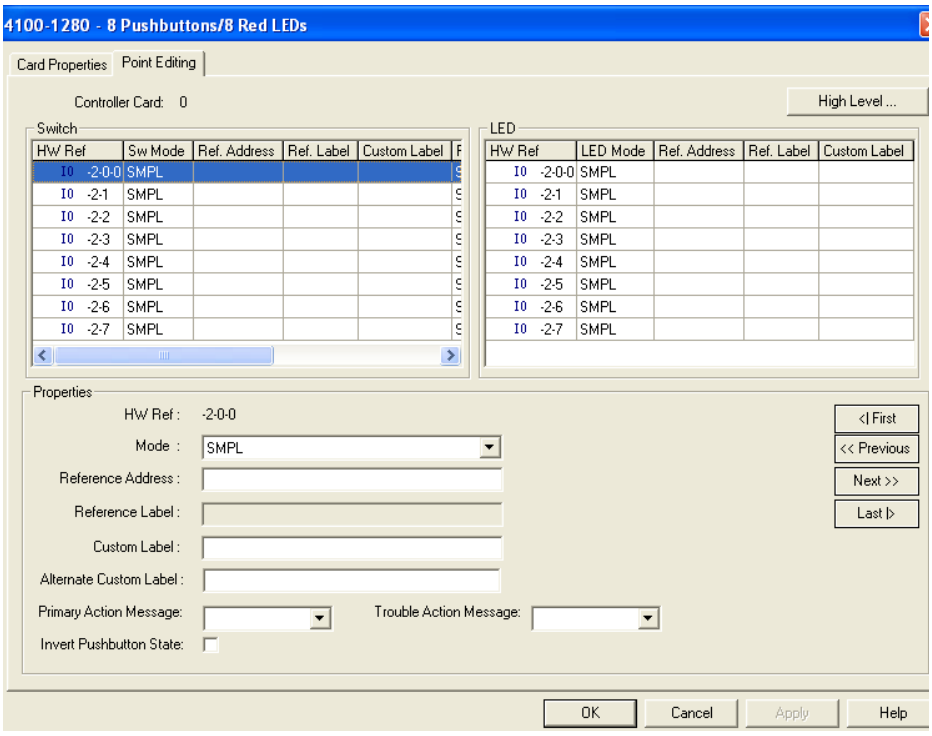

Figure 8-9. Point Editing for Switches

Continued on next page

Example - Programming LED/Switch for Audio, *Continued*

Programming the Example Custom Control Equations

The Custom Control equation shown below can be interpreted as follows:

- **Input Side**. The STATUS ON opcodemonitors the state of P512, which isturned on when the switch associated with the equation turns ON. When P512 turns on, the input side of the equation is true and the output side executes.
- **Output Side**. The UPLAY opcode (used only with a ES Panel system) allows the fullrange of output parameters (channel, volume level, speaker list, tracking LED) to be set.

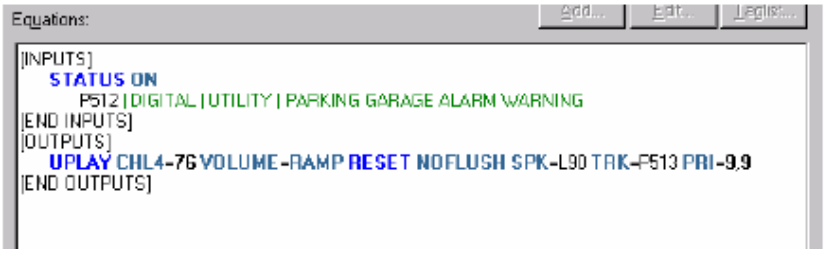

Figure 8-10. Example Custom Control

Editing Loop TFX Audio Interface Module Properties

Overview

The ES Panel TFX Audio Interface module is designed to interface the ES Panel Analog Audio Controller with the existing TFX Amp96 amplifier. The TFX Audio Interface module provides an AMP96 compatible audio riser interface to feed the AMP96s. The Audio Interface module converts the 10Vrms audio signal received from the PDI to a 0.77Vrms signal, providing a compatible riser signal to the TFX amplifier. The card is similar to the TFX Riser Driver 2 board in that it allows the user to adjust the desired output via a trim pot.

The card is a flat, 4”x5” form-factor module that plugs into the ES Panel power distribution interface.

Accessing the ES Panel TFX Audio Interface Module Properties Screen

Follow these steps to access the interface properties screen for the ES Panel (4100-1340) TFX Loop Audio Interface card.

1. Click on the Hardware Tab to open the Hardware Window.
2. Expand the unit, box, and bay combination by clicking on the plus signs.
3. Add a second bay to the box if it does not already contain one.
4. From the Available Hardware pane, expand the INTERFACE components, select 4100-1340 TFX Loop Audio Interface card, and move interface card to bay two. Please note the ES Panel Analog Audio Controller must be added to the system first before adding the TFX Audio Interface card.
5. Double click on the interface card’s icon. The Properties sheet for the card appears as shown in Figure 8-11.

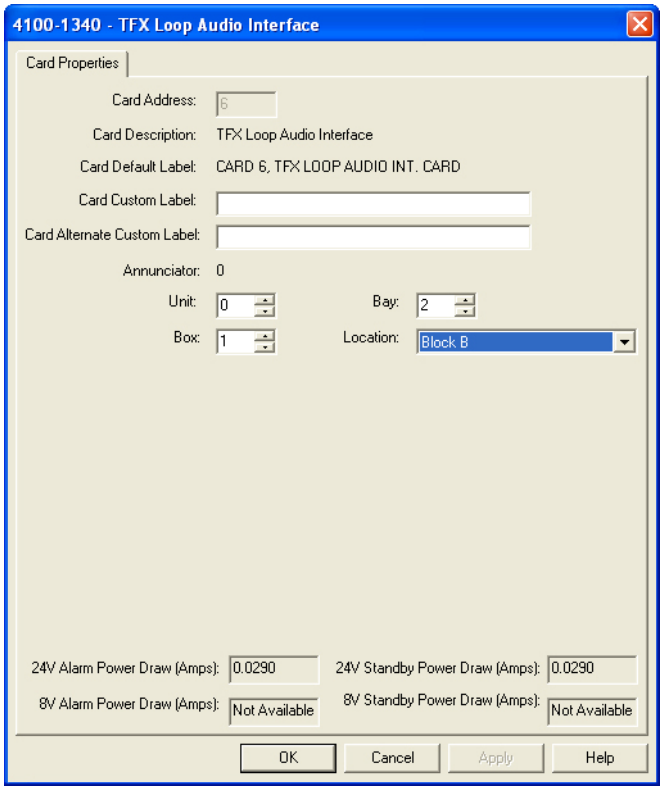

Figure 8-11. TFX Audio Interface Card Properties Dialog Tab

Continued on next page.

Editing Loop TFX Audio Interface Module Properties, *Continued*

General Settings

The Card Properties tab allows you to edit the general settings for the ES Panel (4100-1340) TFX Loop Audio Interface Card.

1. Click on the **Card Properties**. This tab is default to open when you first access the ES Panel (4100-1340) TFX Loop Audio Interface card. The card properties appear as follows:
   - **Card Address.** The address is set to the same address as the ES Panel Analog Audio controller by the programmer and can not be changed.
   - **Card Custom Label.** You can change the information of the Card Custom Label or the Card Alternate Custom Label by clicking on their fields and entering a text string.
   - **Unit, Box, and Bay.** The Unit, Box, and Bay fields are set with the current configuration values. However, you can change these values by clicking in their fields and enter a numerical value.
   - **Location.** From the drop-down list, select the location where the (4100-1340) TFX Loop Audio Interface card is physically located in the bay.

Programming the TFX Loop AMP96 Audio Application

Overview

The AMP96 riser point type must be set to "SIGNAL" in order to play the audio. The other point types are used for driving the TFX notification appliances. If there are other signal driver modules such as SDA505/ SDA506 (point type SIGNAL) used for the audio applications, you must create a user list to include these points as well as the AMP96 riser input point. The AMP96 riser input point feeds the riser to signal driver modules. The signal that will play over the speaker of the AMP96 is determined by the audio signals on Channel 1 of the PDI bus. The objective of using SMPL programming for the AMP96 audio application is to allow the ES Panel Audio Controller to play the required audio message on Channel 1. Subsequently, this allows the AMP96 riser input point to pick up the message through the TFX audio interface. The procedures for the different cases are described in the subsequent sections

AMP96 Plays its own DV2/Tone card

If the AMP96 plays its own DV2/Tone card signal, then write SMPL to turn on the AMP96 DV2/Tone card control subpoint.

Example: When there is a fire, play the DV2/Tone card audio message. Stop the audio message when the alarm silence key is pressed.

Equation 1:
[INPUTS]
STATUS ON
P3 | DIGITAL | UTILITY | FIRE ALARM DETECT
[END INPUTS]
[OUTPUTS]
HOLD ON PRI=9,9
M2-4-6 | MSIGB | SIGNAL | DV2/TONE SIGNAL
[END OUTPUTS]

Equation 2:
[INPUTS]
STATUS ON
P6 | DIGITAL | UTILITY | ALARM SILENCE
[END INPUTS]
[OUTPUTS]
HOLD OFF PRI=9,9
M2-4-6 | MSIGB | SIGNAL | DV2/TONE SIGNAL
[END OUTPUTS]

AMP96 Plays the ES Panel Analog Audio Channel 1 Message

If the ES Panel Amplifier is installed in the system, develop the SMPL equations to do the following:

A. AMP96 riser input points (or list) to track the status of a ES Panel speaker point which is playing the channel 1 message

B. When playing the supervision message, turn off the AMP96 riser input points (or list)

C. When playing the silence, turn off the AMP96 riser input points (or list)

Examples:

Equation 1: AMP96 track a ES Panel speaker point
[INPUTS]
STATUS ON
SIG9 | SPEAKERB | SPEAKER | SIGNAL CARD 7 CIRCUIT SIG9
AND STATUS CHL1
SIG9 | SPEAKERB | SPEAKER | SIGNAL CARD 7 CIRCUIT SIG9
[END INPUTS]
[OUTPUTS]
TRACK ON PRI=9,9
M2-4-5 | MSIGB | SIGNAL | RISER INPUT SIGNAL
[END OUTPUTS]

Continued on next page.

AMP96 Plays the ES Panel Analog Audio Channel 1 Message

Equation 2: turn off the AMP96 riser input point when playing silence

[INPUTS]
IF ANALOG = CONSTANT 0.000000 CNTS
A49 | Compare Analog | ANALOG | ANALOG | CHANNEL 1 ROUTING
AND STATUS ON
M2-4-5 | MSIGB | SIGNAL | RISER INPUT SIGNAL
[END INPUTS]
[OUTPUTS]
HOLD OFF PRI=3,9
M2-4-5 | MSIGB | SIGNAL | RISER INPUT SIGNAL
[END OUTPUTS]

Equation 3: turn off the AMP96 riser input point when playing the supervision

[INPUTS]
STATUS ON
P375 | DIGITAL | UTILITY | CHL1 - AUDIO SUPERVISION ACTIVE
AND STATUS ON
M2-4-5 | MSIGB | SIGNAL | RISER INPUT SIGNAL
[END INPUTS]
[OUTPUTS]
HOLD OFF PRI=3,9
M2-4-5 | MSIGB | SIGNAL | RISER INPUT SIGNAL
[END OUTPUTS]

If ES Panel Amplifier is not installed in the system and there are no ES Panel speaker points in the ES Panel, then write the SMPL equations for the AMP96 to play the ES Panel analog audio message. The following procedures are the general steps to make the AMP96 play default audio similar to that of the ES Panel audio system:

Note: In this case select the system option:
Number of Channels: 1
Paging channel: 1

A. Write an equation to disable the default ES Panel audio program at system startup, in this equation also turn on P398 to disable the supervision not active trouble on channel 1.

B. Copy these equations to another SMPL program (for example programmer 7) as templates. (actually it is recommended to copy all the default equations.

C. Modify the templates for the AMP96 SMPL application programs if any equation statement contains the ES Panel speaker circuit list (L80/L90/L83/L84). Follow these rules to change the SMPL statement:

- For USPEAKER statement, change the ES Panel speaker circuit list (L80/L90/L83/L84) L90 to the Amp96 riser circuit points (or create a List to hold these points), and use the HOLD statement instead, use the same control priority.
- For the UPLAY or UPLAQ statement, if the SPK is neither “NONE” nor “Local”, set the SPK to “NONE” and add additional HOLD statement to turn the desired AMP96 riser points (or list) ON, use the same control priority
- Change the input statement of detecting the ON/OFF on channel 1 of the ES Panel speaker list (L80/L90/L83/L84) to simply detecting the ON/OFF status of the AMP96 points (or list)
- Delete the UVOLUME statement from all the equations
- The template “STOP SUPERVISION TONE” equation can be deleted or leave it unchanged
- Leave other template equations the same as the original

D. Add a new equation to turn off AMP96 riser circuit (or the point list) when the silence message is playing on channel 1.

E. If necessary, develop other audio application SMPL equations for the cases of specific application.

Continued on next page

AMP96 Plays the ES Panel Analog Audio Channel 1 Message

L256 contains the all the AMP96 riser input points to play the ES Panel channel 1 audio in the examples below .

Example 1: Disable the default program 1 and turn on the P373 at system start-up

[INPUTS]
STATUS ON
A34 | ANALOG | TIMER | SYSTEM STARTUP PULSE TIMER
[END INPUTS]
[OUTPUTS]
HOLD ON PRI=9,9
P17 | DIGITAL | UTILITY | SMPL PROGRAM 1 - DEFAULT AUDIO
HOLD ON PRI=3,3
P398 | DIGITAL | UTILITY | CHL & AMPLIFIER TROUBLE ENABLE
[END OUTPUTS]

Example 2: Modify the template examples

Template equation 1:

Original: EVAC MESSAGE ON ALL SPEAKERS
[INPUTS]
STATUS ON
P141 | DIGITAL | UTILITY | MANUAL AUDIO EVAC ON
OR STATUS ON
P35 | DIGITAL | UTILITY | MANUAL EVACUATION SWITCH INPUT
SAVE 1
[END INPUTS]
[OUTPUTS]
USILENCE CHL1 PRI=15,15
USPEAKER CHL1 PRI=3,3
L90 | LIST | EMPTY | ALL SPEAKERS - NON EDITABLE
UVOLUME VOLUME=A208
L90 | LIST | EMPTY | ALL SPEAKERS - NON EDITABLE
[END OUTPUTS]

New: EVAC MESSAGE ON ALL SPEAKERS
[INPUTS]
STATUS ON
P141 | DIGITAL | UTILITY | MANUAL AUDIO EVAC ON
OR STATUS ON
P35 | DIGITAL | UTILITY | MANUAL EVACUATION SWITCH INPUT
SAVE 1
[END INPUTS]
[OUTPUTS]
USILENCE CHL1 PRI=15,15
HOLD ON PRI=3,3
L256 | LIST | CONTROL | AMP96
[END OUTPUTS]

Template equation 2:

Original: START EVAC MESSAGE IF NOT PLAYING
[INPUTS]
NOT ANY ALL ON
L90 | LIST | EMPTY | ALL SPEAKERS - NON EDITABLE
OR NOT STATUS ON
P89 | DIGITAL | UTILITY | EVACUATION MESSAGE LED
AND RECALL 1
[END INPUTS]
[OUTPUTS]
USILENCE CHL1 PRI=15,15
UPLAY CHL1=A55 VOLUME=NOEFFECT NORESET NOFLUSH SPK=NONE TRK=P89 PRI=9,9
[END OUTPUTS]

Continued on next page

AMP96 Plays the ES Panel Analog Audio Channel 1 Message

New: START EVAC MESSAGE IF NOT PLAYING
[INPUTS]
NOT ANY ALL ON
L256 | LIST | CONTROL | AMP96
OR NOT STATUS ON
P89 | DIGITAL | UTILITY | EVACUATION MESSAGE LED
AND RECALL 1
[END INPUTS]
[OUTPUTS]
USILENCE CHL1 PRI=15,15
UPLAY CHL1=A55 VOLUME=NOEFFECT NORESET NOFLUSH SPK=NONE TRK=P89
PRI=9,9
[END OUTPUTS]

Template equation 3:
Original: PLAY AUX 1 MESSAGE ON L83
[INPUTS]
STATUS ON
P99 | DIGITAL | UTILITY | AUX MSG 1 ON
AND NOT STATUS ON
P101 | DIGITAL | UTILITY | AUX MSG 1 LED
[END INPUTS]
[OUTPUTS]
UPLAY CHL1=A59 VOLUME=A208 RESET NOFLUSH SPK=L83 TRK=P101 PRI=9,9
[END OUTPUTS]

Template equation 4:
Original: ALL SPEAKERS TALK SWITCH ON
[INPUTS]
STATUS ON
P129 | DIGITAL | UTILITY | ALL SPEAKERS TALK ON
[END INPUTS]
[OUTPUTS]
USILENCE CHL1 PRI=15,15
HOLD ON PRI=9,9
P131 | DIGITAL | UTILITY | ALL SPEAKERS TALK LED
USPEAKER CHL1 PRI=9,9
L90 | LIST | EMPTY | ALL SPEAKERS - NON EDITABLE
UVOLUME VOLUME=A208
L90 | LIST | EMPTY | ALL SPEAKERS - NON EDITABLE
[END OUTPUTS]

New: ALL SPEAKERS TALK SWITCH ON
[INPUTS]
STATUS ON
P129 | DIGITAL | UTILITY | ALL SPEAKERS TALK ON
[END INPUTS]
[OUTPUTS]
USILENCE CHL1 PRI=15,15
HOLD ON PRI=9,9
P131 | DIGITAL | UTILITY | ALL SPEAKERS TALK LED
HOLD ON PRI=9,9
L256 | LIST | CONTROL | AMP96
[END OUTPUTS]

Continued on next page

AMP96 Plays the ES Panel Analog Audio Channel 1 Message

Template equation 5:

Original: ALL SPEAKERS TALK SWITCH OFF

[INPUTS]
STATUS ON
P130 | DIGITAL | UTILITY | ALL SPEAKERS TALK OFF
AND STATUS ON
P131 | DIGITAL | UTILITY | ALL SPEAKERS TALK LED
[END INPUTS]
[OUTPUTS]
HOLD OFF PRI=9,9
P131 | DIGITAL | UTILITY | ALL SPEAKERS TALK LED
USPEAKER OFF PRI=9,9
L90 | LIST | EMPTY | ALL SPEAKERS - NON EDITABLE
[END OUTPUTS]

New: ALL SPEAKERS TALK SWITCH OFF

[INPUTS]
STATUS ON
P130 | DIGITAL | UTILITY | ALL SPEAKERS TALK OFF
AND STATUS ON
P131 | DIGITAL | UTILITY | ALL SPEAKERS TALK LED
[END INPUTS]
[OUTPUTS]
HOLD OFF PRI=9,9
P131 | DIGITAL | UTILITY | ALL SPEAKERS TALK LED
HOLD OFF PRI=9,9
L256 | LIST | CONTROL | AMP96
[END OUTPUTS]

Example 3:

Turn off the L256 when the silence message is playing on channel .

[INPUTS]
IF ANALOG = CONSTANT 0.000000 CNTS
A49 | Compare Analog | ANALOG | ANALOG | CHANNEL 1 ROUTING
AND STATUS ON
L256 | LIST | CONTROL | AMP96
[END INPUTS]
[OUTPUTS]
HOLD OFF PRI=3,9
L256 | LIST| CONTROL | AMP96
[END OUTPUTS]

Continued on next page

The Microphone of the AMP96 Operation

The microphone signal can only be heard from the AMP96 speakers. Other AMP96(s) and signal driver modules (such as SDA505/506) that are setup to receive the audio riser signal from the AMP96 (the one with the microphone) can play the voice via SMPL control programming.

Example: the configuration is described as follows:

M2-4: AMP96 with Microphone

M2-5: 505SDA, audio input from the AMP96 (M2-4)

M2-6: 506SDA, audio input from the AMP96 (M2-4)

Equation 1:

[INPUTS]
STATUS ON
M2-4-4 | MINPUT | UTILITY | INPUT POINT (MIC KEYED MONITOR)
[END INPUTS]
[OUTPUTS]
TRACK ON PRI=9,9
M2-5-0 | 500SDM | SIGNAL |
TRACK ON PRI=9,9
M2-6-0 | 500SDM | SIGNAL |
TRACK ON PRI=9,9
M2-6-5 | MSIGB | SIGNAL | RISER INPUT SIGNAL
[END OUTPUTS]

Phone Paging Operation for the AMP96 Speakers

The operation is similar to the audio playing as long as the ES Panel master phone page channel is selected Channel 1.

Equation 1: START PHONE PAGING

[INPUTS]
STATUS ON
P107 | DIGITAL | UTILITY | PHONE PAGING LED
AND NOT STATUS ON
P437 | DIGITAL | UTILITY | PHONE PAGING STATUS LED
[END INPUTS]
[OUTPUTS]
UPLAY CHL1=PHONE VOLUME=NOEFFECT NORESET NOFLUSH SPK=NONE
TRK=NONE PRI=4,4
HOLD ON PRI=9,9
M2-4-5 | MSIGB | SIGNAL | RISER INPUT SIGNAL
[END OUTPUTS]

Equation 2: STOP PHONE PAGING

[INPUTS]
NOT STATUS ON
P107 | DIGITAL | UTILITY | PHONE PAGING LED
AND STATUS ON
P437 | DIGITAL | UTILITY | PHONE PAGING STATUS LED
[END INPUTS]
[OUTPUTS]
USILENCE CHL1 PRI=3,9
HOLD OFF PRI=9,9
M2-4-5 | MSIGB | SIGNAL | RISER INPUT SIGNAL
[END OUTPUTS]

Programming the TFX Loop ATM500 Phone Application

Programming the TFX ATM500 Phone Operation

The ES Panel TFX Phone Riser card provides the interface for the communication between ES Panel Master phone and the TFX ATM500 modules. Please verify the following before any SMPL programming:

- The ES Panel TFX Phone Riser card is configured
- The point type for the signal points on this ES Panel TFX Phone Riser card must be configured as “RISER” or “SIGNAL”.
- The Maximum number of the ATM500 modules supported by this module is limited to be 30.
- The points on this card must be always turned on from the systems startup by using the SMPL equation, if the point type is “RISER”, the higher control priority (priority 2) is required to override the default operation.

The ATM500 phone module has 2 TFX addressable loop devices, a contact used to detect the phone off hook condition and a relay used to control the phone riser.

The point type for the contact: **UTILITY**
The point type for the Relay module: **RELAY**

ATM500 Phone SMPL Programming Examples

System configuration (only the modules directly to the examples are listed):

ES Panel TFX Phone Riser card: SIG9 – 11 (point type: RISER, L257 contains SIG10 and SIG11)

ES Panel TFX Loop Interface: AMP96 - M2-8, L256 contains the riser input point M2-8-5AMT500 – M2-39(500RM) and M2-40(502CMA style B)

ES Panel 64Led/64Switch controller, see windows below for the point configurations:

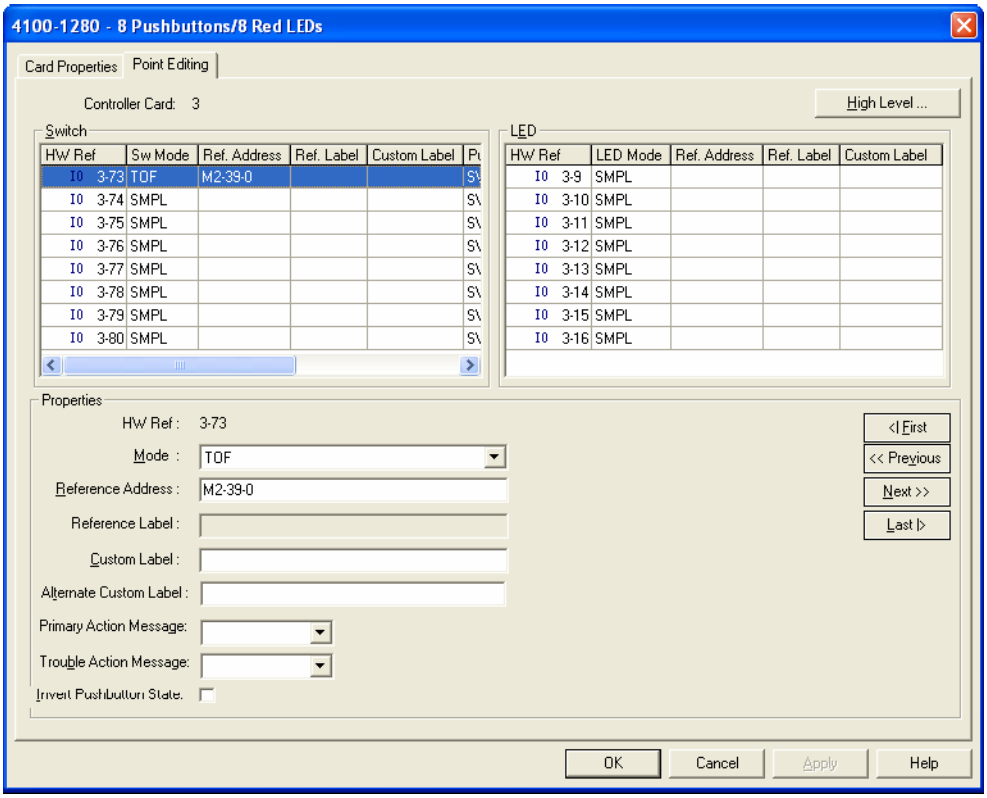

Figure 8-12. Phone Configuration (1)

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ATM500 Phone SMPL Programming Examples

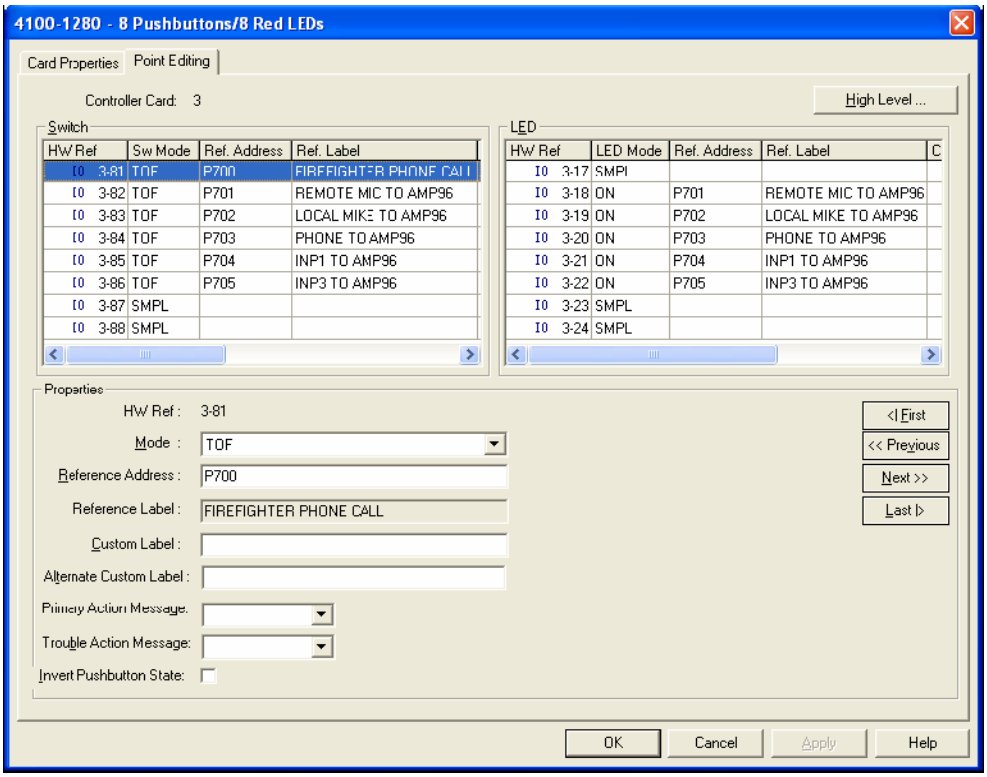

Figure 8-13. Phone Configuration (2)

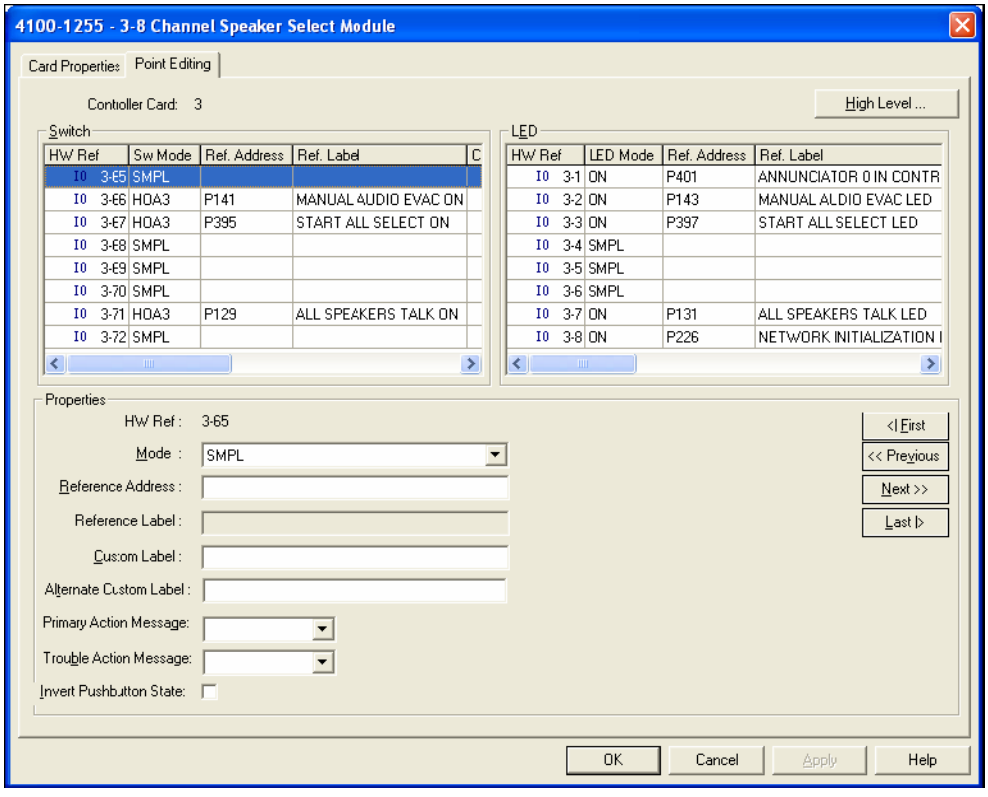

Figure 8-14. Phone Configuration (3)

Continued on next page

ATM500 Phone SMPL Programming Examples

1. Turn on the points on the ES Panel TFX Riser card when system starts up.

```
[INPUTS]
   STATUS ON
      A34 | ANALOG | TIMER | SYSTEM STARTUP PULSE TIMER
[END INPUTS]
[OUTPUTS]
   HOLD ON PRI=2,2
      L257 | LIST | CONTROL | GENERIC LIST
   HOLD ON PRI=2,2
      SIG9 | PHONEB | RISER | SIGNAL CARD 5 CIRCUIT SIG9
[END OUTPUTS]
```

2. Fast flash the phone LED when the ATM500 phone is off-hook and the phone circuit is not connected.

```
[INPUTS]
   STATUS ABNORM
      M2-40-0 | 500CMAB | UTILITY |
   AND NOT STATUS ON
      M2-39-0 | 500RM | RELAY |
[END INPUTS]
[OUTPUTS]
   FLASH FAST
      3-9 | LED | LED |
[END OUTPUTS]
```

3. Turn the phone LED steady on when ATM500 phone is jacked in and the phone circuit is connected.

```
[INPUTS]
   STATUS ON
      M2-39-0 | 500RM | RELAY |
   AND STATUS ABNORM
      M2-40-0 | 500CMAB | UTILITY |
[END INPUTS]
[OUTPUTS]
   FLASH ON
      3-9 | LED | LED |
[END OUTPUTS]
```

4.Turn the phone LED off when ATM500 phone is on-hook and the phone circuit is disconnected.

```
[INPUTS]
   NOT STATUS ON
      M2-39-0 | 500RM | RELAY |
   AND NOT STATUS ABNORM
      M2-40-0 | 500CMAB | UTILITY |
[END INPUTS]
[OUTPUTS]
   FLASH OFF
      3-9 | LED | LED |
[END OUTPUTS]
```

ATM500 Phone SMPL Programming Examples

5. Turn off the ATM500 phone circuit if local master phone has been inactive for 10 seconds.

```
[INPUTS]
   STATUS ON
      M2-39-0 | 500RM | RELAY |
   AND NOT STATUS ON
      L164 | LIST | MIXED | LOCAL MASTER PHONES HANDSET OFF HOOK
   DELAY CONSTANT 10
      A256 | Analog Timer | ANALOG | TIMER | CUSTOM CONTROL - TIMER
[END INPUTS]
[OUTPUTS]
   HOLD OFF PRI=9,9
      M2-39-0 | 500RM | RELAY |
      [END OUTPUTS]
```

6. Turn on P703 to start phone page on the AMP96.

```
[INPUTS]
```

Chapter 9
Viewing, Adding, and Editing Lists

Introduction

A *list* is a group of similar points, sharing a common name, that can be monitored or controlled as if they were a single point. For example, when you use a switch to turn on a list populated with control points, all of the points in the list turn on.

The ES Panel includes the following types of list.

- **Automatically Generated, Read-Only System Lists**. These lists are created based on the point type assigned to the point. Points cannot be manually added or deleted from these lists.
- **Automatically Generated, Editable System Lists**. These are lists created based on the point types you assign to the point. These lists are only editable after the automatic list generation property is turned off for the list.
- **User-Defined Lists**. Switches, LEDs, and Custom Control equations all make use of these types of lists. Switches typically control lists made up of control points (relays), audio NACs, or standard NACs (horns/strobes). LEDs can be programmed to monitor a list and turn ON when any point in the list activates. Custom Control equations typically use lists of monitor points to indicate when a specific output action should occur, and the points affected by the output action are typically specified in a user-defined list of control points.

This chapter describes programming the five list categories, General Lists, Alarm Verification Lists, WalkTest Lists, Coding Lists, and Elevator Recall Lists, used by the ES Panel FACP.

Note: For information on using lists for the *Install Mode* feature, consult the *4100ES Operator's Manual* (579-197)

In this Chapter

Refer to the page number listed in this table for information on a specific topic.

Overview - List Tab

Introduction

Select the **List** Tab to display the List Tab window, shown in Figure 9-1. By default when you select the List Tab, the **General List** subtab, located on the bottom right of the window, is selected. This window contains an entry for every list in the system.

The subtabs running across the bottom of the window allow you to display only the lists associated with a specific system category. For example, clicking on the alarm verification subtab displays only the lists associated with alarm verification.

This section describes the general features of the List Tab. These features are available for use with all categories of list.

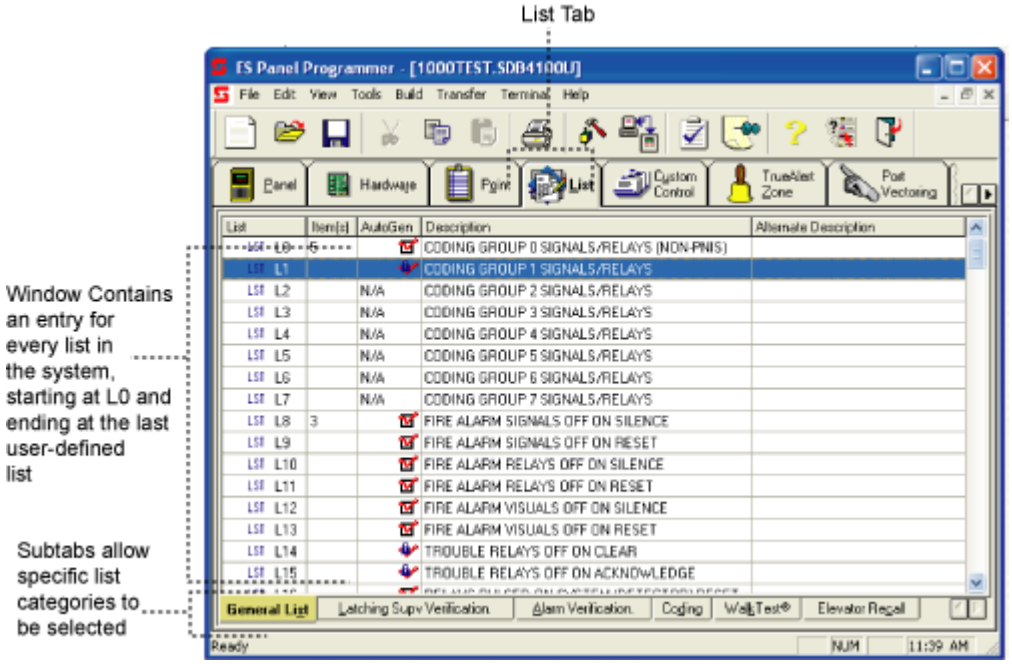

Figure 9-1. General List

Sort Function

The Sort function allows you to sort and display lists in ascending or descending order based on list-specific criteria (the criteria shown in the Sort Dialog is different for each type of list). To sort lists, do one of the following:

- **Press F5 function key**. When the Sort Dialog (shown below) appears, click on the Column drop down list box to select the criteria touse for the sort operation. Next, select whether the sort should be in Ascending or Descending order and click on **OK**.

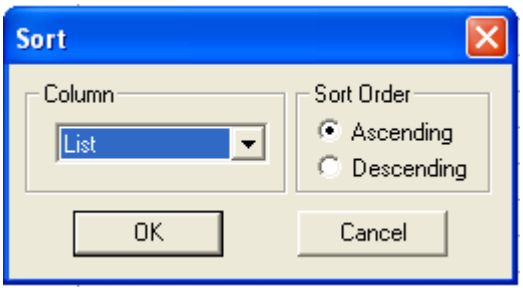

Figure 9-2. Sort Dialog

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Sort Function

- **Click on a Column**. Clicking on one of the column titles in the List Tab window automatically sorts the list in descending order. Clicking on the same column title again sorts the lists in ascending order.

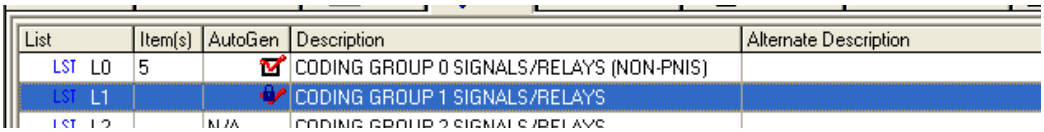

Figure 9-3. Column Titles

Right Click in the List Window. Right Click in the list window. When the list of options appears, select Sort. The Sort Dialog shown above appears. Click on the Column drop down list box to select the criteria to use for the sort. Next, select whether the sort should be in Ascending or Descending order and click on **OK**.

Custom Label Spell Check

Spell Check allows you to validate the spelling of custom labels. Using Spell Check, incorrectly spelled words can then be automatically corrected or suggested alternatives can be substituted.

1. Position the pointer in the point list and press the F7 button. (Alternatively, you can right click in the List window and select Spell Check when the list of options appears.)

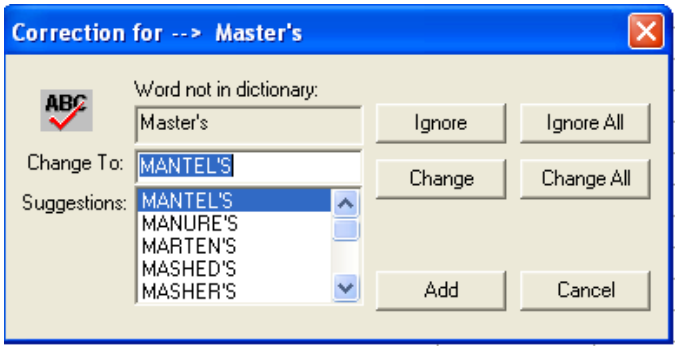

Figure 9-4. Spell Check

2. Correct the misspelled word in any of the following ways. (Use the Ignore and Ignore All buttons to ignore the misspelled word.)

   - Click on the Change or Change All button to accept the suggested spelling in the Change to field.
   - Type the correct spelling in the Change to field and press the Change or Change All button.
   - Scroll through the Suggestions drop downlist, click on oneof the entries, and then click on theChange or Change All field.

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Search

The Search and Find functions allow you to specify a specific search criteria (such as a specific custom label) and then search the List Window for the selected data.

1. Position the pointer in the List Window and press the CTRL + F key combination. (Alternatively, you can right click in the List Window and select Search or Find from the list that appears.)

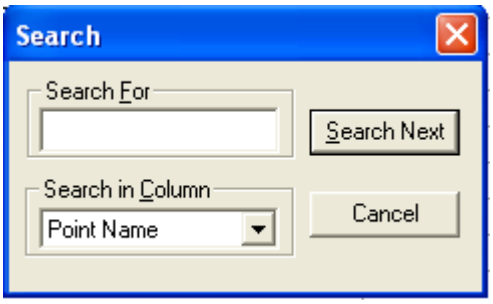

Figure 9-5. Search Dialog

2. Enter the Search text in the Search What field. Click on the **Search in Column** field and select the column in which to search. Click on Search Next to start the search.

3. Press the F3 key to continue searching the List Window for another occurrence of the item you are searching.

Editing System Lists

Overview

Default custom control programming within the system automatically adds points to system lists based on their point type, a process known as *auto list generation*, or *autogen*. For example, adding a signal point with the SSIGNAL point type automatically adds the point to system list L8, Fire Alarm Points Off on Silence.

In some applications, however, you need to turn a system list's autogen property off, so that you can manually move points into or out of the system list. This is particularly true when editing Alarm Verification, WalkTest, Coding, and Elevator Recall groups.

Be aware that when working with the system lists, four icons are used to indicate the status of the system list.

 This symbol represents an auto-generated list with the autogen property turned on. When autogen is turned on, points cannot be manually moved into or out of the list.

 This symbol represents an auto-generated list whose autogen property cannot be altered. The list is permanently set to autogen on and cannot be edited.

 This symbol represents an auto-generated list with the autogen property turned off.

 Indicates that the list is not automatically generated.

A system list's autogen property can be turned on and off in one of two places:

- **General List Tab**. Clicking on the General List tab displays all lists (system and user) currently defined on the panel. Refer to "Turning Autogen Off and On from the General List Tab" below for specific information on doing this.
- **Alarm Verification, WalkTest, Coding, Elevator Recall Tabs**. Each of these tabs displays a window that allows you to move points into theappropriate lists. Within each window, you can toggle the autogen property to allow points to be moved into and out of the lists. Refer to the specific section later in this chapter for information on turning off autogen for alarm verification, WalkTest, coding, or elevator recall.

Turning Autogen Off and On from the General List Tab

1. Click on the **List** tab at the top of the programmer.
2. Click on the **General List** subtab at the bottom of the window.
3. Right click on the list whose autogen property you want to change. Select Properties from the list that appears. A dialog similar to the following appears.

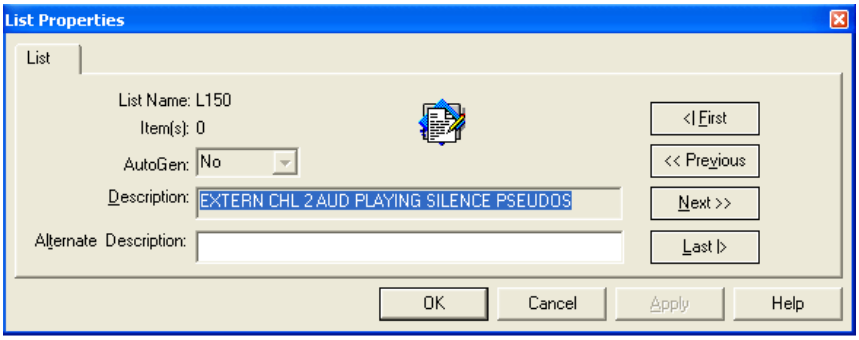

Figure 9-6. List Properties

4. Click on the AutoGen field and change the setting.

Adding and Editing User-Defined Lists

Introduction

This section describes the basic operations - add list, tag points, delete points, and view list properties - that can be performed on a user-defined list.

User-defined lists allow a range of points to be controlled (turned on or off, for example) by turning a switch on, or via a Custom Control command. Lists associated with LEDs allow the status of system attributes or components to be monitored.

Adding a User-Defined List

To add a general-purpose list and populate it with points, follow these steps.

1. Open the List Window by selecting the List Tab at the top of the Programmer. See Figure 9-1 for the location of this tab.
2. Open the TagList window by either pressing the Insert key or right clicking in the List Window and selecting **Add List**. A TagList window, similar to the one shown in Figure 9-7, appears.

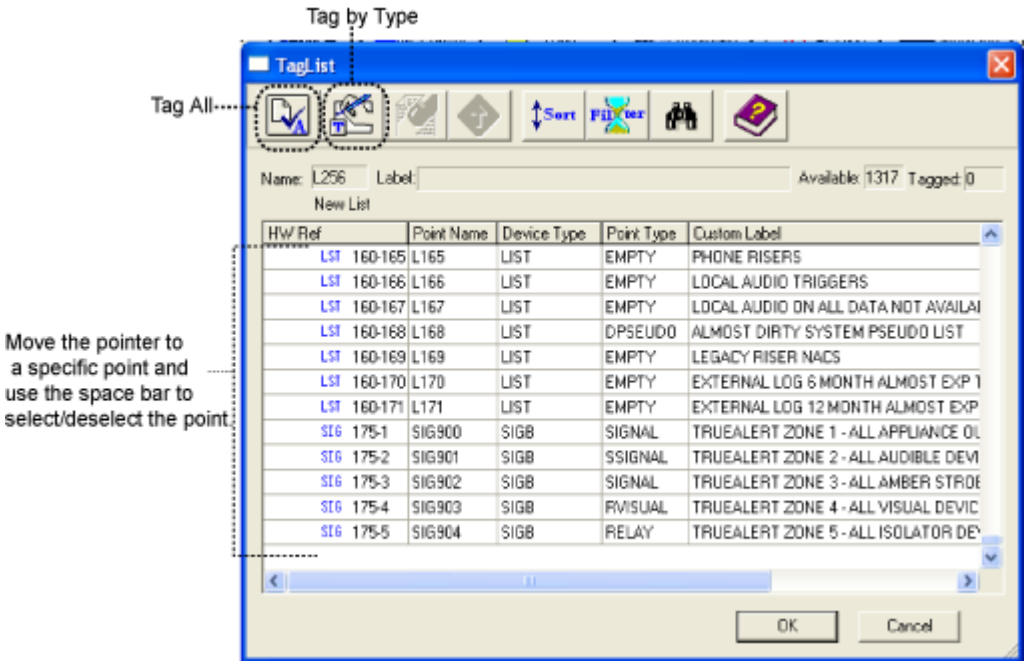

Figure 9-7. Taglist Window

3. You can select points for the list using a combination of the following three methods. When you select points, the TagList window adds the >> character to the left of the point to indicate that the point is tagged.
   - Use the spacebar to select/deselect specific points. Click on the point you want to select and then press the spacebar once to tag the point; press it again to deselect the point.
   - Click on the Tag All icon, located at the top of the TagList window. This selects every point in the Taglist.
   - Click on the Tag by Type dialog to tag points based on their point type or device type.

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Adding a User-Defined List

4. Click on the **OK** button in the TagList window. The dialog shown below appears, prompting you to name the list. Enter descriptive text and click on **OK**.

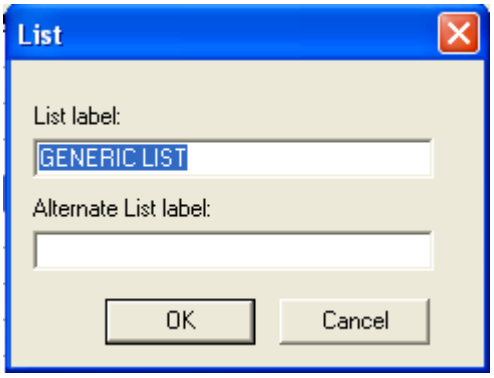

Figure 9-8. List Label Dialog

Editing an Existing User-Defined List

To edit an existing list (i.e., add additional points or delete points from the list), follow these steps.

1. Open the list's Tag List by either right clicking on the list and selecting Tag List from the menu that appears, or click on the list and press the F9 key.
2. When the tag list appears, click on the point you want to add or delete. Press the spacebar to toggle whether the point is tagged (included in the list) or not. Tagged points are identified by the >> to the left of the point name.

Editing Alarm Verification Groups

Alarm Verification Overview

The ES Panel's alarm verification feature reduces unwanted alarms caused by smoke detectors. Alarm verification uses the following three-stage process to verify the presence of an alarm condition.

- **Stage 1**. **Retard**. An activated smoke detector (which must have an alarm verification point type) starts a timer in the FACP that usually lasts 30 seconds (15 seconds for Canadian systems).
- **Stage 2**. **Reset**. After the retard timer expires, power is temporarily dropped to the device and the detector resets itself.
- **Stage 3**. **Confirmation**. After the detector is restored, the system starts a new timer (10 seconds for Canadian systems; up to 120 seconds for domestic systems). At this point, if the original detector (or another detector within the same alarm verification group) alarms before the timer expires, the signals activate and all other system alarm functions occur. Otherwise, if no detectors within the alarm verification group activate, no NAC signals sound.

The ES Panel FACP supports both Domestic (United States) and Canadian versions of alarm verification. Refer to “Selecting Canadian or Domestic (US) Operation” later in this chapter for information on enabling the Canadian or domestic version of alarm verification.

The alarm verification list consists of seven alarm verification groups. These groups allow you to segment the premises protected by the FACP into distinct areas. Doing this allows the alarm verification process in each area of the building to run independently. For example, when a smoke detector in the Area A group enters an alarm state, the system does not abort the verification process and activate building signals if a smoke detector in the Area B group enters an alarm state. Compare this to the case where one smoke detector in the Area A group enters an alarm state, triggering its alarm verification process. If another smoke detector in the Area A group then enters an alarm state, the alarm verification process aborts and the building's signals sound.

Moving Points between Groups

By default, all smoke detectors with a verification point type are initially put in Alarm Verification Group 0. Follow these steps to put points into other alarm verification groups.

1. Open the List Window by selecting the **List** Tab at the top of the Programmer. See Figure 9-1 for the location of this tab.
2. Click on the **Alarm Verification** tab at the bottom of the List Window. A screen similar to the one shown in Figure 9-9 appears.

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Moving Points between Groups

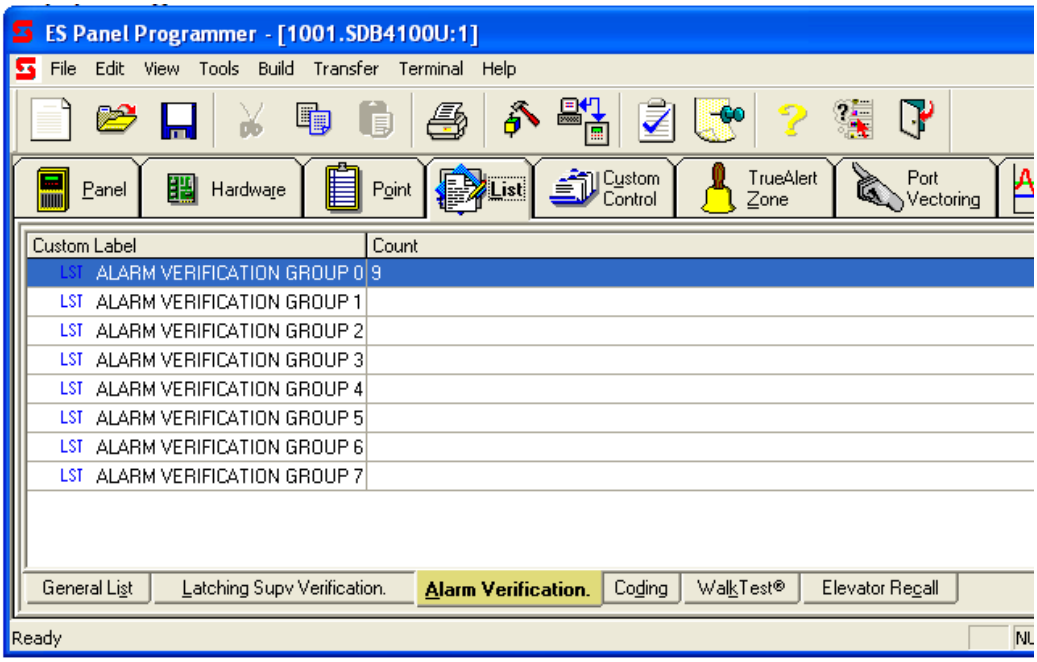

Figure 9-9. Alarm Verification Tab

3. Click on the Alarm Verification group into which you want to move points. Right click and select **Tag List**. A screen similar to the one shown in Figure 9-10 appears.

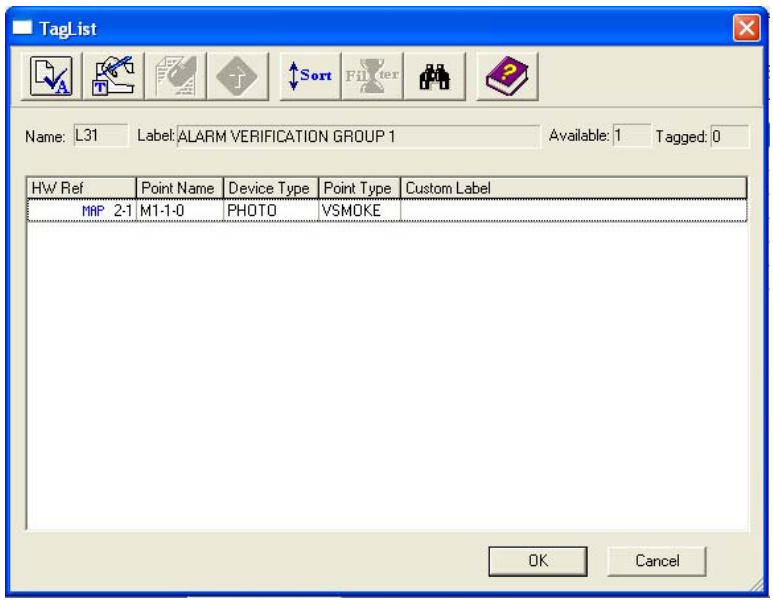

Figure 9-10. Sample Tag List for Alarm Verification Group

4. Use the mouse or arrow keys to highlight each point you want to move into the group. A point is selected when a >> appears to the left of the point. Repeat this step to select other points.

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Selecting Canadian or Domestic (US) Operation

Canadian alarm verification works somewhat differently from the domestic (US) version. When you select Canadian operation for the alarm verification feature, the system operates as follows:

Table 9-1: Canadian / Domestic Operation

Type	Operation
Canadian Operation	Retard Stage. If a point specified within one of the alarm verification lists enters an alarm state, the system delays the annunciation of the alarm for 15 seconds
	Reset Stage. When the 15 second timer expires, the system attempts to reset the initiating device for five seconds.
	Confirmation Stage. After the five second timer expires, the system evaluates the state of the initiating device for 10 additional seconds. After 10 seconds, if the device is still in alarm, the system immediately annunciates the alarm.
Domestic (US) Operation	Retard Stage. If a point specified within one of the alarm verification lists enters an alarm state, the system delays the annunciation of the alarm for 30 seconds
	Reset Stage. When the timer expires, the system attempts to reset the initiating device for five seconds.
	Confirmation Stage. After the timer expires, the system evaluates the state of the initiating device for up to 120 additional seconds. After this duration, if the device is still in alarm, the system immediately annunciates the alarm.

To select Canadian or Domestic (US) operation, follow these steps.

1. Right click on one of the groups and select **Properties**. The Alarm Verification Properties dialog shown below appears.

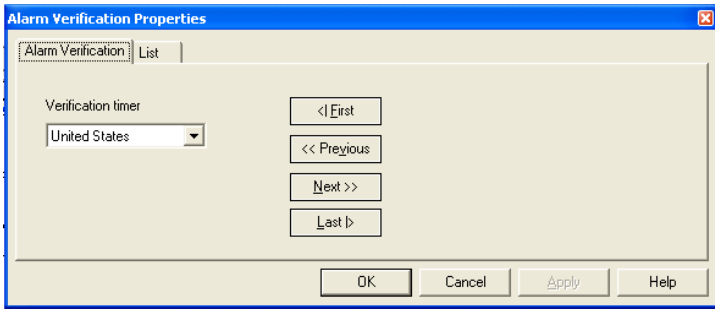

Figure 9-11. Alarm Verification Properties Dialog

2. Click on the **Alarm Verification** tab.
3. Click on the drop down list box and select Canadian or Domestic operation.

Note: You only need to set the Verification Timer field for one of the alarm verification groups. The programmer sets this field to the same value for all other groups.

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Editing Alarm Verification Groups, *Continued*

Renaming a Group

The default names for the groups are Alarm Verification Group 0 through Alarm Verification Group 7. To add a more descriptive name to the group, follow these steps.

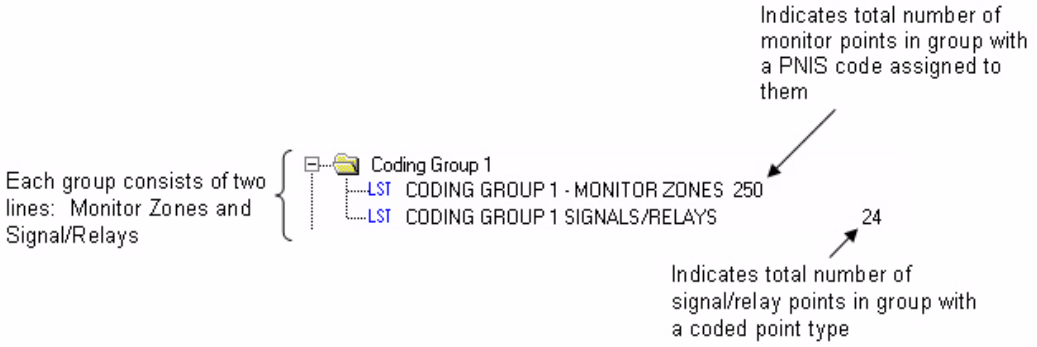
1. Right Click on the group whose name you want to change and select Properties. The Alarm Verification Properties dialog shown in Figure 9-11 appears.
2. Click on the List tab in the dialog.
3. Enter a name for the group in the **Description** field.

Editing Coding Groups

Introduction

The Coding list consists of eight groups. The purpose of these groups is to allow different areas of a building (or different buildings) to play different codes on their NAC appliances, allowing the area containing the activated initiating device to be determined by the code being played.

Coding Group 1 initially contains all of the signal points with a coded point type and all of the monitor points with a PNIS code assigned to them. Each coding group consists of two lines: one for monitor zones and one for signal/relays.



Moving Points between Groups

Follow these steps to move points from Coding Group 1 (where they are initially placed) into other coding groups. Monitor points can exist in multiple groups, but signals/relays can be in only one group at a time.

1. Open the List Window by selecting the **List** Tab at the top of the Programmer.
2. Click on the **Coding** tab at the bottom of the List Window. A screen similar to the one shown in Figure 9-12 appears.

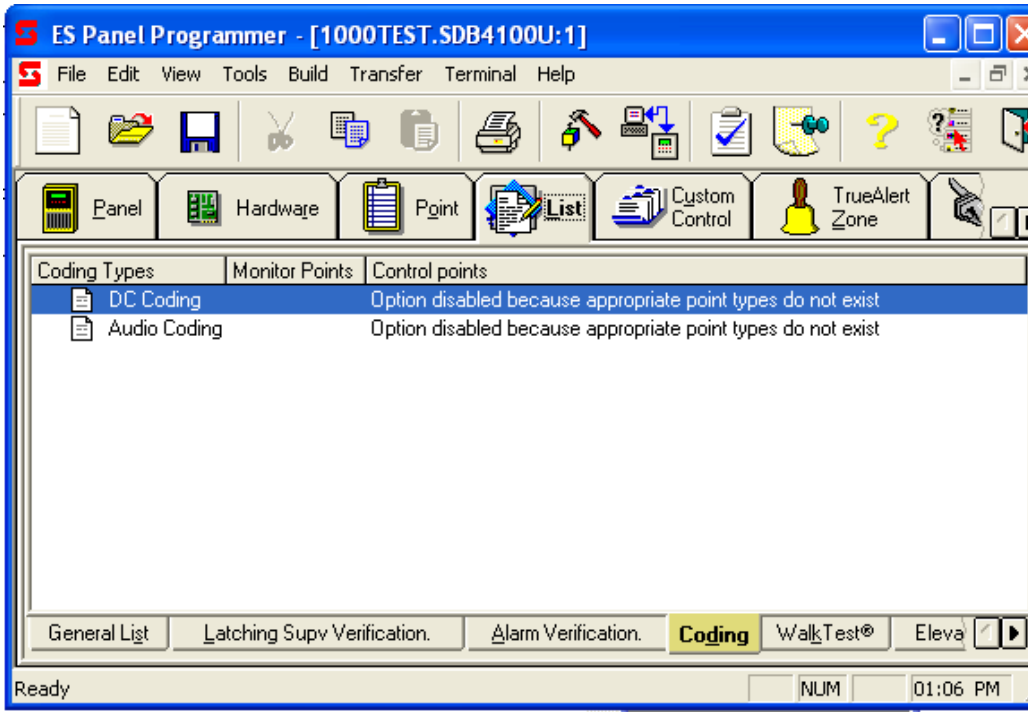


Figure 9-12. Coding Tab

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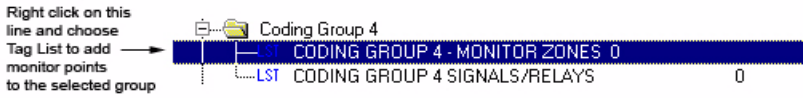
Moving Points between Groups

3. Right click on Coding Group 1 and select **Properties**. A properties dialog appears. Click on the DCCoding tab in the dialog. Remove the checkmarks from the Monitor and Control checkboxes. Click the **Apply** button, followed by the **OK** button to close the dialog.

4. Select the monitor points to move as follows:

   a. Move the pointer to the Coding group into which you want to move monitor points and right click on the line similar to the one shown in the example below. When the list of options appears, select **Tag List**. In the example below, the points are being moved into Coding Group 4.



   b. In the Tag List use the mouse or arrow keys to highlight each monitor point you want to move into the group. A point is selected when a >> symbol appears to the left of the point.

   c. Repeat these steps to move other monitor points into the group.

   d. The points that you selected in Step b above are not automatically deleted from Coding Group 1 - Monitor Zones list. If you do not want these points to be in both groups, you need to open up the Coding Group 1 - Monitor Zones list and delete the points. To do this, right click on Coding Group 1 - Monitor Zones list. Select Tag List. When the list of points appears, use the mouse or arrow keys to highlight each point you want to unselect from Coding Group 1. Press the space bar to deselect the highlighted point. Points do not have the >> symbol to their left when they are unselected.

5. Select the signal/relay points to move as follows:

   a. Move the pointer to the appropriate Coding group andright click on the lineshown in the example below. When the list of options appears, select **Tag List**. In the example below, the points are being moved into Coding Group 4.

   b. In the Tag List, use the mouse or arrow keys to highlight each signal/relay point you want to move into the group. A point is selected when a >> symbol appears to the left of the point.

   c. Repeat these steps to move other signal/relay points into the group. When you do this, points are automatically unselected in Group 1 - Signals/Relays and moved into the group you chose.

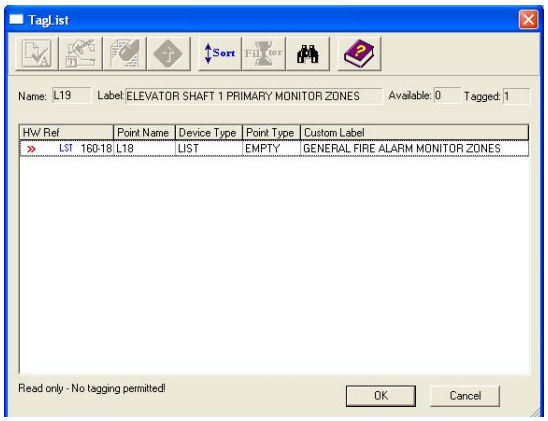


Figure 9-13. Sample TagList for Coding Group

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Editing Group Properties

Each Coding Group includes a set of properties that allow you to control the way in which points within the group operate. Follow these steps to edit the properties for a group.

1. Right click on the group and select Properties from the menu that appears. A screen similar to the one shown in Figure 9-14 appears.

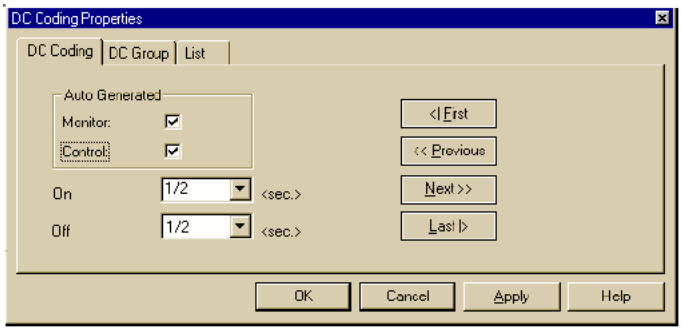


Figure 9-14. Coding Group Properties

2. Use the guidelines listed in set the properties for the Coding group.

Continued on next page

Editing Group Properties

Table 9-2: Group Properties

Tab	Properties
DC Coding	**Note:** Any changes made to the options in the DC Coding tab apply to all of the coding group lists. **Monitor.** A check in this box means monitor points with a PNIS code are automatically inserted in Group 1 - Monitor Zones. You must unselect this check box if you want to move monitor points to another group. Note that if you uncheck this box, move points, and then check the box at a later point, all of the points you moved will be placed back in Group 1. **Control.** A check in this box means control points (signals/relays) with a coded point type are automatically inserted in Group 1 - Signals/Relays. You must unselect this check box if you want to move relay points to another group. Note that if you uncheck this box, move points, and then check the box at a later point, all of the points you moved will be placed back in Group 1. **On.** Allows you to set the duration of each tone within the PNIS code. **Off.** Allows you to set the duration of silence between tones of the PNIS code.
DC Group	When you change these options, the change only affects the selected group. **Track Coded Input.** This field only applies to an upgraded ES Panel that uses older, mechanical pull stations. Selecting this checkbox allows the ES Panel to play the mechanical code enabled on the pull station. **On Til.** This field has three selections: Completion, Reset, and Silence. It allows you to specify how long the code plays before it shuts off. Select Completion to play all rounds of the code. Select Reset to play the code until the system is reset. Select Silence to play the code until an Alarm Silence occurs. **Number of Rounds.** Specifies the number of code rounds that the system should play. Specifying 0 means continuous.
List	**Description.** Allows you to change the description of the selected coding group list (monitor zones or signal relay list). For example, you can change the name of the Coding Group 1 - Monitor Zones or Coding Group 1 - Signals/Relays to a more descriptive name.

3. After making changes to the Coding Group properties, click on the **Apply** button to apply the changes and then click on **OK** to close the Coding Group window.

Editing WalkTest Groups

Overview

WalkTest allows the function of the system's initiating devices and signals to be tested by a single person. Conducting a WalkTest requires you to perform the following general steps.

- **Step 1. Create WalkTest Groups**. The ES Panel supports up to eight Walk Test™ groups. This allows the building to be divided into small portions for the Walk Test™, and allows the rest of the building to be protected by the fire alarm panel. Each group has a list of monitor points (initiating devices) and a list of the signal circuits that activate when one of the monitor points within the group activates.

- **Step 2. Enable WalkTest Options from Front Panel**. These options include the following. Refer to the "Setting WalkTest Options" in the *4100ES Operator's Manual* for information on setting these options.

  -Which WalkTest Group is enabled.

  -Whether the group's signals turn on when a monitor point in the same group activates. Turn this option off to perform a silent WalkTest on the system.

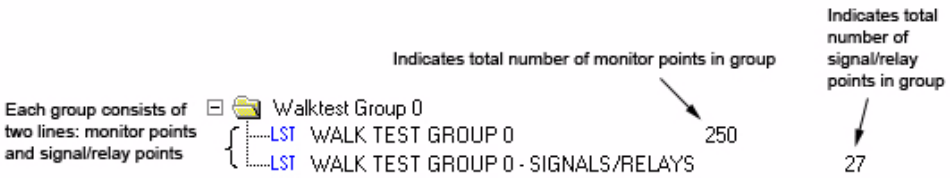
  -Whether logging of WalkTest information is enabled or not. (Enable this option to perform a silent WalkTest.)

- **Step 3. Manually Activate Initiating Devices in Each Group and Interpret Signals**. Individually activate each initiating device in the group, using the manufacturer's recommended test equipment. Make sure to proceed in a logical manner (i.e., start with the lowest IDNet or MAPNET address and work toward the highest). Each time youactivate an initiating device, the system's signals pulse a code that allows you to verify exactly which initiating device triggered the signals. For hardwired monitor zones, the signal code corresponds to the number of the zone. (For example, if the zone number is eight, the signals pulse eight times to indicate zone eight.) For IDNet and MAPNET devices, the first set of pulses from the signals correspond to the channel. The signals then pause momentarily and the next set of pulses corresponds to the number of the device on the channel. For example, if you activate an IDNet smoke detector with an address of M1-25, the signals would sound once to indicate channel one, pause for a short duration, and then sound two pulses followed by a pause and then five pulses to indicate device 25. In some cases, immediately after verifying the function of an initiating device, you may also want to verify its ability to generate a trouble condition. To do this, cause a trouble on the device and then listen to the signals. The signals sound steady for 4 seconds to indicate trouble conditions, and then reset.

Moving Points between Groups

The WalkTest list consists of eight groups. The purpose of these groups is to allow a technician to conduct a WalkTest in a specific area of a building (or different buildings), and limit the activation of the building signals to only the intended area.

WalkTest Group 0 initially contains all of the monitor points and all of the signal points wired to the panel. Each WalkTest group consists of two lines: one for monitor zones and one for signal/relays.



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Moving Points between Groups

Follow these steps to move points from WalkTest Group 0 (where they are initially placed) into other WalkTest groups. Signal/relay points can exist in multiple groups, but monitor points can be in only one group at a time.

1. Open the List Window by selecting the List Tab at the top of the Programmer.
2. Click on the WalkTest tab at the bottom of the List Window. A screen similar to the one shown in Figure 9-15 appears.

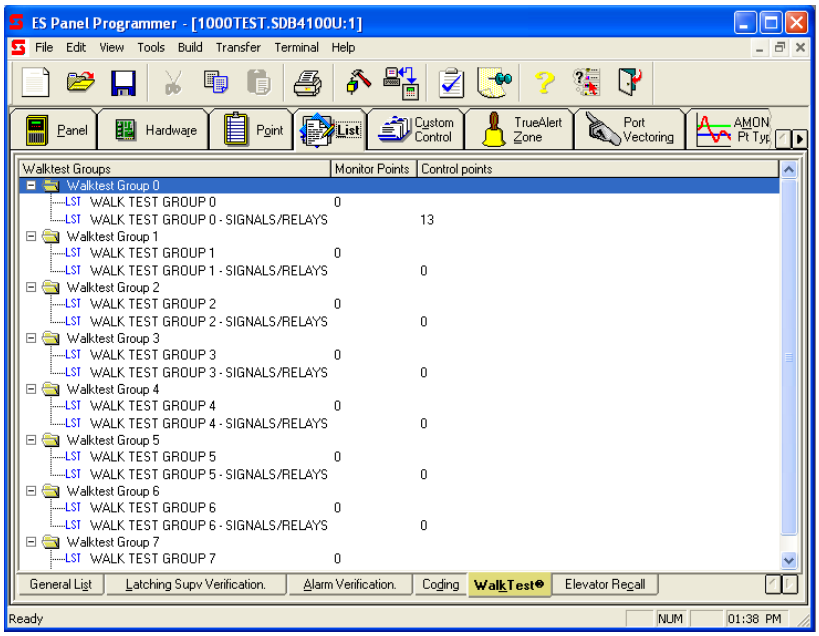
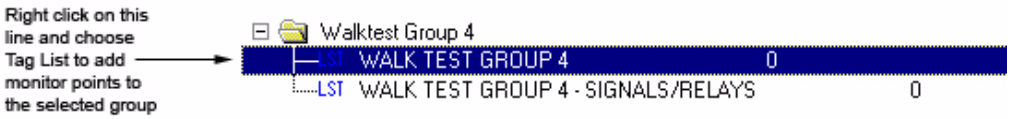


Figure 9-15. WalkTest Tab

3. Right click on WalkTest Group 0 and select Properties. A properties dialog appears. Click on the WalkTest tab in the dialog. Remove the checkmarks from the Monitor and Control checkboxes. Click the **Apply** button, followed by the **OK** button to close the dialog.

4. Select the monitor points to move as follows:

   a. Move the pointer to the WalkTest group into which you want to move the points. Right click on the line shown in the example below. When the list of options appears, select **Tag List**. In the example below, the points are being moved into WalkTest Group 4.



   b. In the Tag List (see figure below), use the mouse or arrow keys to highlight each monitor point you want to move into the group. A point is selected when a >> symbol appears to the left of the point.

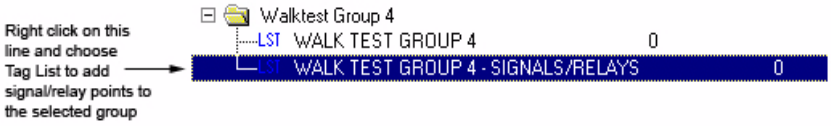
   c. Repeat these steps to move other monitor points into the group. When you move points, the points are automatically unselected in WalkTest Group 1 - Monitor Points and moved into the group you chose.

Continued on next page

Moving Points between Groups

5. Select the signal/relay points to move as follows:

   a. Move the pointer to the appropriate WalkTest group and right click on the line shown in the example below. When the list of options appears, select **Tag List**. In the example below, the points are being moved into WalkTest Group 4.



   b. In the Tag List, use the mouse or arrow keys to highlight each signal/relay point you want to move into the group. A point is selected when a >> symbol appears to the left of the point.

   c. Repeat these steps to move other signal/relay points into the group.

   d. The points that you selected in Step b above are not automatically deleted from WalkTest Group 1 - Signals/Relays list. If you do not want these points to be in both groups, you need to open up the WalkTest Group 1 - Signals/Relays list and delete the points. To do this, right click on WalkTest Group 1 - Signals/Relays list. Select Tag List. When the list of points appears, use the mouse or arrow keys to highlight each point you want to unselect from WalkTest Group 1. Press the space bar to deselect the highlighted point. Points do not have the >> symbol to their left when they are unselected.

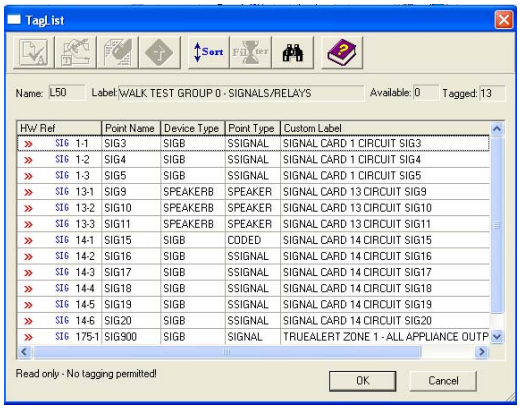


Figure 9-16. Sample TagList for WalkTest Groups

Editing Group Properties

Each WalkTest group includes a set of properties that allow you to control the way in which points within the group operate. Follow these steps to edit the properties for a group.

1. Click on the WalkTest tab at the bottom of the List Window.
2. Double click on one of the WalkTest groups to view its properties window. (Alternatively, you can right click on the group and select Properties from the menu that appears.) A screen similar to the one shown in Figure 9-17 appears.

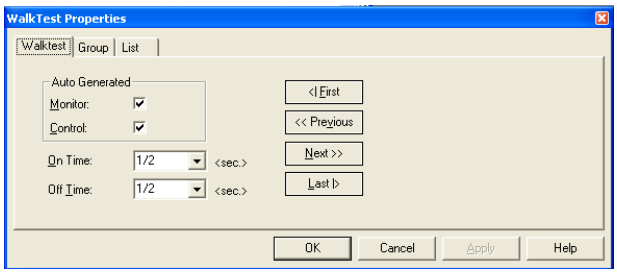


Figure 9-17. WalkTest Group Properties

Continued on next page

Editing Group Properties

3. Use the guidelines listed below to set the properties for the WalkTest group.

Table 9-3: WalkTest Group Property Guidelines

Tab	Properties
WalkTest	Setting the properties in this tab affects **all** WalkTest groups. Monitor. A check in this box means monitor points are automatically inserted in Group 1 - Monitor Zones. If you uncheck this box, you can move points from one group to another. However, at a later point, if you recheck this box, the points you previously moved to other groups will be moved back to Group 1. Control. A check in this box means control points (signals/relays) are automatically inserted in Group 1 - Signals/Relays. If you uncheck this box, you can move points from one group to another. However, at a later point, if you recheck this box, the points you previously moved to other groups will be moved back to Group 1. On. Allows you to set the duration of each tone within the PNIS code. Off. Allows you to set the duration of silence between tones of the PNIS code.
Group	Setting the properties in this tab affects only the selected group. Monitor. A counter that tracks the number of devices in the group. Control. A counter that tracks the number of devices in the group. Voice. Check this box to play tonesor messages rather than the standard WalkTest tones. Reset Delay. Allows you to shorten or lengthen the reset time used by the monitor device. For example, increase the delay in cases where canned smoke does not clear from a smoke detector quickly enough.
List	Description. Allows you to change the description of the group's monitor or control lists. For example, you can change the name of the WalkTest Group 0 - Signals/Relays to a more descriptive name, if necessary.

4. After making changes to the WalkTest Group properties, click on the **Apply** button to apply the changes and then click on **OK** to close the window.

Editing Elevator Recall Lists

Introduction

The Elevator Recall list is made up of five groups, each corresponding to an elevator shaft numbered from one to five. Each shaft group contains three lists - one for the primary recall points, one for the alternate recall points, and one for the shutdown points.

The Elevator Shaft 1 group initially contains all of the system's monitor points and all relays with the following point types - PRIMARY, ALTERN, and SHAFT (shutdown).

Moving Points between Groups

Follow these steps to move points from Elevator Shaft 1 group (where they are initially placed) into other elevator shaft groups. Signal/relay points and monitor points can exist in multiple groups at the same time.

1. Open the List Window by selecting the **List** Tab at the top of the Programmer.
2. Click on the Elevator Recall tab at the bottom of the List Window. A screen similar to the one shown in Figure 9-18 appears.

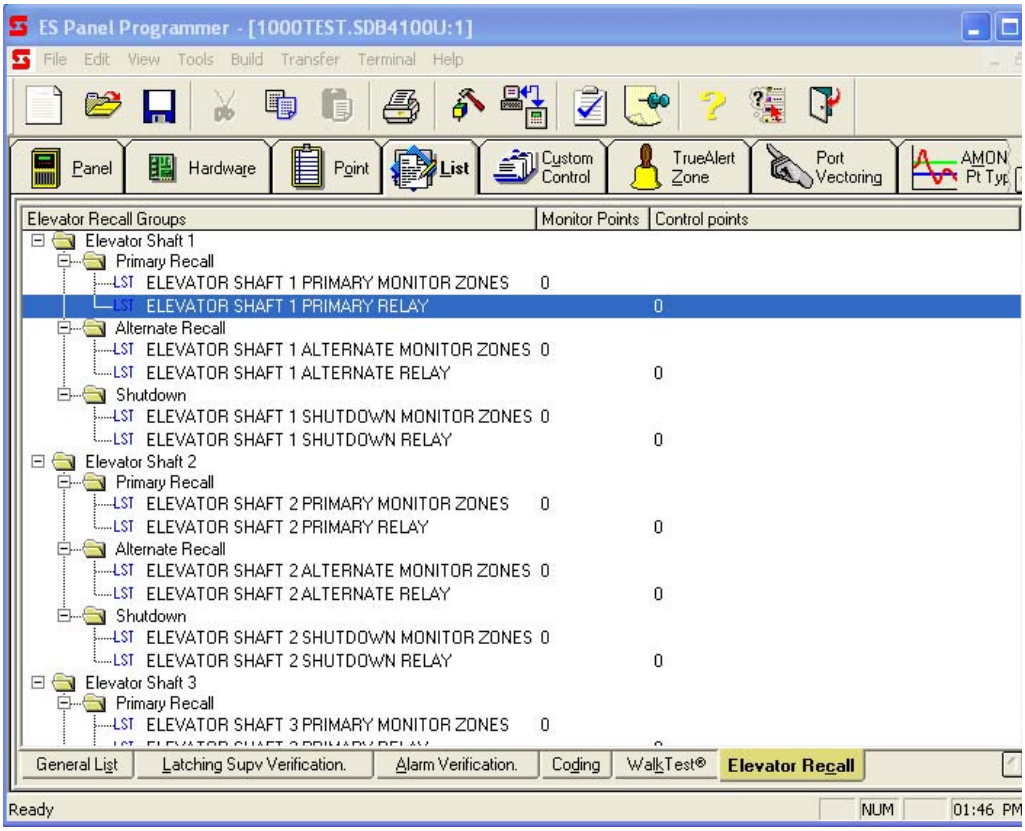


Figure 9-18. Elevator Recall Tab

Continued on next page

Moving Points between Groups

3. Select the monitor points to move as follows:

   a. Move the pointer to the appropriate Elevator Shaft group and right click on the line shown in the example below. When the list of options appears, select **Tag List**. In the example below, the points are being moved into Elevator Shaft 4 -- Primary Monitor Zone list.

   b. In the Tag List use the mouse or arrow keys to highlight each monitor point you want to move into the group. A point is selected when a >> symbol appears to the left of the point.

   c. Repeat these steps to move other monitor points into the group.

   d. Points that you move from Elevator Shaft 1 Primary Monitor Zones list to another group are not automatically deleted from Elevator Shaft 1 Primary Monitor Zones list. To delete points from this list, you need to highlight the Elevator Shaft 1 Primary Monitor Zones list, press F9 to see the tag list, and then highlight the point you want to delete and hit the space bar.

4. Select the signal/relay points to move as follows.

   a. Move the pointer to the appropriate Elevator Shaft group and right click on the line shown in the example below. When the list of options appears, select **Tag List**. In the example below, the points are being moved into Elevator Shaft 4 -- Primary Relay group.

   b. In the Tag List, use the mouse or arrow keys to highlight each signal/relay point you want to move into the group. A point is selected when a >> symbol appears to the left of the point.

   c. Repeat these steps for the Alternate and Shaft lists within the selected group.

   d. If you want to delete relay points from the Elevator Shaft 1 Primary Relay list, you need to first right click on the Elevator Shaft 1 Primary Relay list, select Properties, and set the AutoGen field to No. Next, press F9 to see the tag list, and then highlight the point you want to delete and hit the space bar.

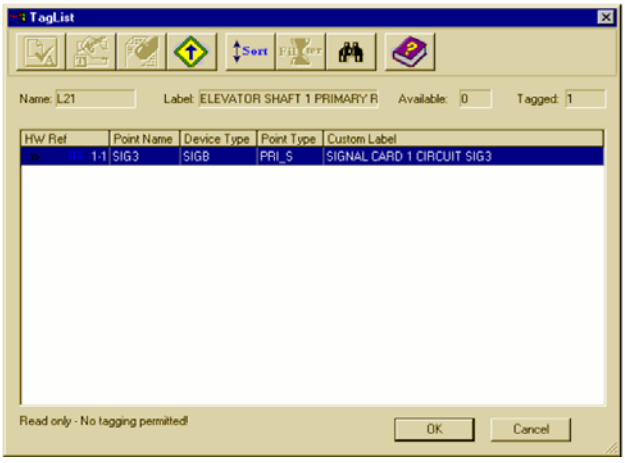


Figure 9-19. Sample TagList for Elevator Recall Group

Continued on next page

Editing Elevator Recall Lists, *Continued*

Editing Group Descriptions

Each Elevator Recall group includes a description property that allows you to change the label of the group. Follow these steps to edit the group's description.

1. Click on the Elevator Recall tab at the bottom of the List Window. Double click on the appropriate Elevator Recall list, and a screen similar to the one shown in Figure 9-20 appears.
2. Edit the description field and click on the **Apply** button. Click **OK** to close the screen.

Figure 9-20. Elevator Recall Description Property

Chapter 10
Custom Control

Introduction

Custom control allows the components of the ES Panel FACP—hardware points, pseudo points, and lists—to be controlled with user-definable custom control "equations."

This chapter describes using Custom Control to create custom programming applications for the ES Panel FACP.

In this Chapter

Refer to the page number listed in this table for information on a specific topic.

Custom Control Overview

What is Custom Control?

ES Panel Custom Control -- which is a wizard-based application used to create *Custom Control Equations* -- provides a way to override the ES Panel's default operation and allows the ES Panel to function in a facility-specific way. Each Custom Control equation has a similar form: one half of the equation, called the *input side*, is used to monitor the state of specific system inputs (initiating devices, for example). The other half of the equation, called the *output side*, is used to control specific system outputs (relays, notification appliances, etc.). The output side executes only when the state of the input side is true. Another way to think about Custom Control equations is to consider them as If/Then commands. If the input side of the equation is true, then execute the output side.

Note: You cannot write custom control on InfoAlarm switches and LEDs.

The following examples help explain the way custom control is typically used with a ES Panel FACP.

- **Selective Signaling**. Selective signaling replaces the system's general alarm NAC operation - which activates all NACs in response to any alarm condition -- with selective NAC control. This type of control allows you to program the system so that only specific NACs respond to specific initiating devices.

- **Fan and Damper Control following an Alarm**. Controlling a building's HVAC system following an alarm condition prevents supply fans from feeding a potential fire and also allows the HVAC system to exhaust smoke from the area in alarm. In this case, custom control equations are used to monitor the initiating devices in a given area and control the HVAC system's dampers and air handling units to provide the correct supply and exhaust pressurization.

Role of Lists and Pseudo Points

Using lists and pseudo points (both user-defined and system) improves the efficiency of Custom Control equations and allows a range of facility-specific operations to be programmed.

- **Digital Pseudo Points**. Digital pseudo points store a value of ON or OFF.
- -*System Digital Pseudo Points* allow you to track when common actions (such as a system reset, for example) have occurred and activate facility-specific output(s) as necessary.
- -*User-defined digital pseudo points* can be used to signal that a specific event has occurred. (For example, turn on a user-defined pseudo point to indicate when a water tank is full.)

- **Analog Pseudo Points**. Analog Pseudo Points store analog values that can be used in Custom Control equations.
- -*System Analog Pseudo Points* store analog values (the number 128, for example), and can be used as a threshold value within a Custom Control equation. (For example, perform some output action when the value of the Number of System Troubles analog pseudo point (A2) reaches a specific value.)
- -*User Analog Pseudo Points* store user-defined analog values. The exact function of an analog user pseudo depends on its point type—counter, timer, or analog value.

- **List Pseudo Points**. *User-Defined Lists* allow you to refer to a specific group of devices using a single reference. For example, creating a user-defined list called "Floor 1 Pull Stations," and populating it with only the pull stations from floor 1 provides a way to monitor all of the pull stations on the floor without writing an equation for each pull station.

Continued on next page

Custom Control Overview, *Continued*

Anatomy of a Custom Control Equation

As mentioned above, every Custom Control equation has an input side, consisting of *input statements*, and an output side, consisting of *output statements*.

Input Statements are typically used to monitor the status of a point or list, or perform an action such as delay, cycle, compare two values, or save/recall values. Every input statement begins with an *Opcode*, which is the action that the input is performing (for example, monitor point status, recall memory register, etc.). The Custom Control wizard then displays a series of opcode-specific dialogs. For example if the Opcode is Point Status, the dialogs prompt the user for information about the condition (alarm, trouble, etc.) and point being monitored.

Output Statements are the actions that occur only when the input side of the equation is true. Every output statement begins with an *Opcode*, which is the general action that occurs when the input side is true. The opcode is followed by a series of opcode-specific dialogs, which allow you to specify exactly how the selected opcode functions. For example, if you are using the Set Opcode, the wizard displays a series of dialogs that allow you to specify a qualifier (on, off, etc.) and the point (a signal, for example) on which you want the output action to execute.

Continued on next page

Custom Control Overview, *Continued*

Anatomy of a Custom Control Equation

Logical Operators (AND, OR, NOT) allow you to link multiple input statements to form logical expressions. Logical operators are only used with input statements and are not used with Output statements. ES Panel Custom Control uses the following logical operators.

- **AND Operator**. The AND logical operator allows you to put a group of points in series so that only the activation of ***all*** *points at the same time* causes the Output side of the equation to occur. In the following example, Zone1 and Zone2 must both be in alarm (FRE) before the output (Hold ON SIG3) executes.

```
[INPUTS]
    STATUS FIRE
        ZN1 | MONB | FIRE | MONITOR CARD 3 ZONE ZN1
    AND STATUS FIRE
        ZN2 | MONB | FIRE | MONITOR CARD 3 ZONE ZN2
[END INPUTS]
[OUTPUTS]
    HOLD ON PRI=9,9
        SIG3 | SIGB | SSIGNAL | SIGNAL CARD 1 CIRCUIT SIG3
[END OUTPUTS]
```

- **OR Operator**. The OR operator allows you to put a group of points in parallel, *meaning the activation of* ***any*** *one of the points causes the output side of the equation to execute.* In the following example, if either Zone1 **or** Zone2 enters an alarm state, the output (Hold ON SIG3) executes.

```
[INPUTS]
    STATUS FIRE
        ZN1 | MONB | FIRE | MONITOR CARD 3 ZONE ZN1
    OR STATUS FIRE
        ZN2 | MONB | FIRE | MONITOR CARD 3 ZONE ZN2
[END INPUTS]
[OUTPUTS]
    HOLD ON PRI=9,9
        SIG3 | SIGB | SSIGNAL | SIGNAL CARD 1 CIRCUIT SIG3
[END OUTPUTS]
```

- **NOT Operator**. Use the NOT Operator to specify that a condition must not be true in order for the output to execute. In the following example, the output side of the equation (print message "Smoke not dirty" executes only if the condition of M1-1 is NOT dirty.

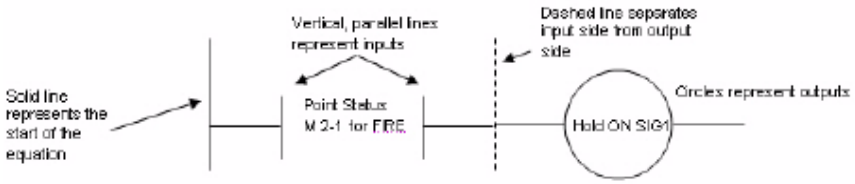
```
[INPUTS]
    NOT STATUS DIRTY
        M1-1 | PHOTO | SMOKE | LAB1-SMOKE1
[END INPUTS]
[OUTPUTS]
    PRINT ALL "SMOKE NOT DIRTY"
[END OUTPUTS]
```


Continued on next page

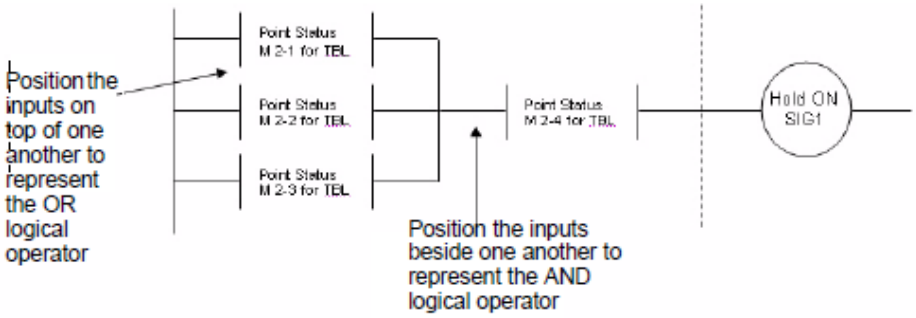
Using a Ladder Logic Diagram to Evaluate an Equation

A ladder logic diagram is a "sketch" of the equation used to evaluate (predict the outcome) of a custom control equation before it is entered into the programmer. Use the following conventions when creating ladder logic diagrams.

- Draw a solid, vertical line on the left side of the sketch to represent the starting point for the equation. Use a vertical dashed line to divide the sketch into an input side and an output side.
- Use two vertical, parallel lines to represent each input statement. Add text between the lines to describe the input statement.
- Use a circle to represent each output statement. Add text within or beside the circle to describe the output statement. In the following example, the output side of the equation contains a single output statement, HOLD ON SIG 1. This action only occurs if the input side of the equation, which monitors point M 2-1 for the presence of a fire condition, is true.



- Represent the **OR** logical operator by positioning inputs on top of one another as shown in the example below. Represent the **AND** logical operator by positioning the inputs beside one another.



The example shown above can be interpreted as: If point M2-1 **or** M2-2 **or** M2-3 **and** M2-4 are in a trouble state, hold on signal 1. M2-4 is the key here. At least one of the three on the left (M2-1, M2-2, and M2-3) must be in a trouble state AND M2-4 must also be in a trouble state.

Overview Custom Control Window

Custom Control Window

Selecting the Custom Control tab from the main programmer window displays the Custom Control Window shown in the figure below. This window contains two halves.

- The left half lists user-defined and system-only (non-editable) equations. Click on the + sign to the left of an entry to expand the contents of that entry.
- The right half of the window is used for creating user-defined Custom Control equations. The Equation Comment text entry box allows you to enter descriptive text explaining the operation of the equation. The Equations Area contains a text entry box for creating and editing an equation's input and output statements. The Add Button starts the Custom Control Wizard and is used to create new equations. The Edit Button is used to edit existing equations. The Taglist Button starts a taglist that can be used for selecting/deselecting points in an existing equation.

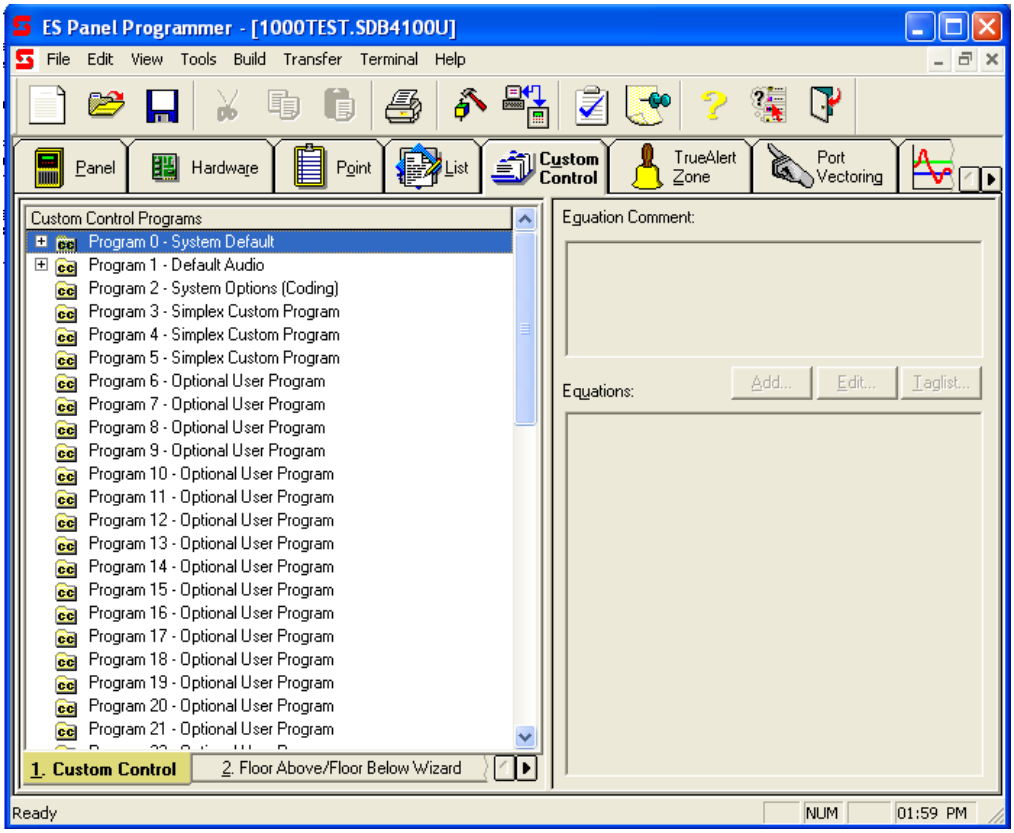


Figure 10-1. Custom Control Window

Creating a New Equation

Step 1. Select User Program

The first step in defining a new custom control equation is to add the equation to either one of the five User Programs -- Program 3 through Program 7. Follow these steps to do this.

1. **Right click** on one of the user programs (Program 3 through Program 7), located at the bottom of the program list, and select Add Equation from the list of options.

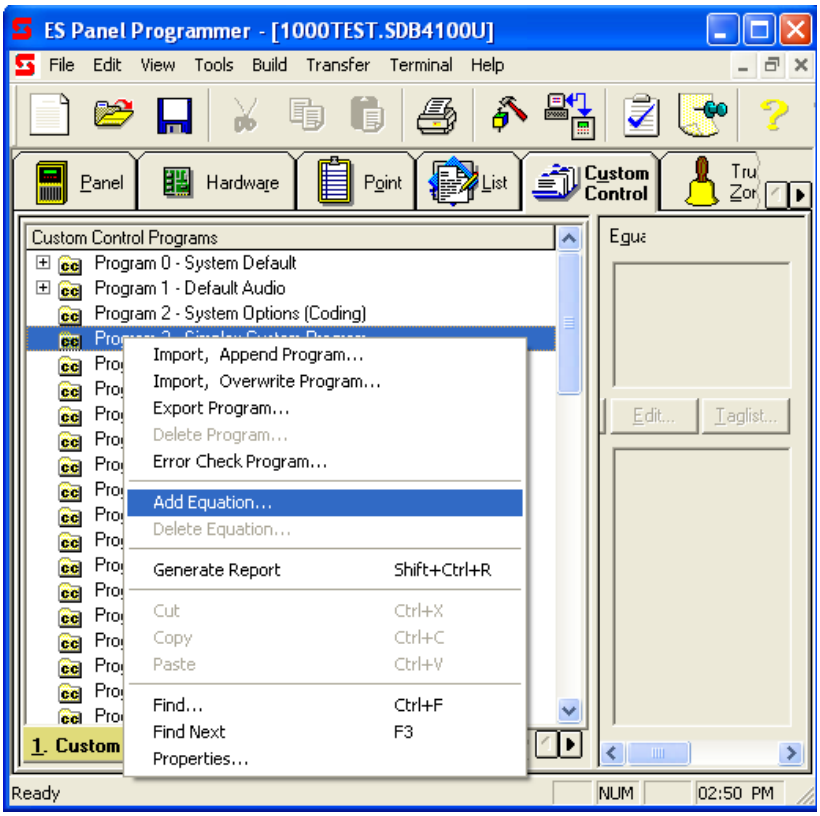


Figure 10-2. Add Equation

2. The properties dialog shown below appears. Enter a name for the equation in the Label field and click on **OK**.

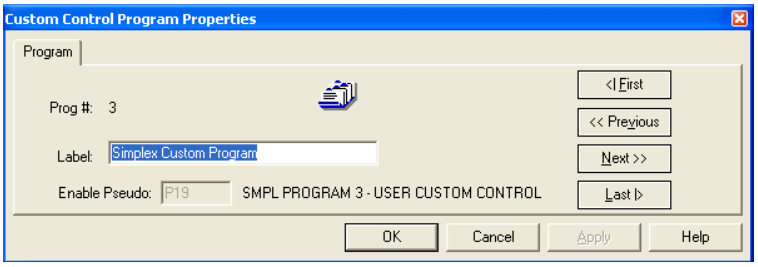


Figure 10-3. Equation Properties

The Equations section of the Custom Control window updates to include the [INPUTS], [END INPUTS], etc entries.

Continued on next page

Step 2. Add Input Statements

The second step in creating a new Custom Control equation is to add input statements to the equation. Repeat the steps in this section until all input statements in the equation have been defined.

1. In the Equations box, position the cursor just to the right of [INPUTS].

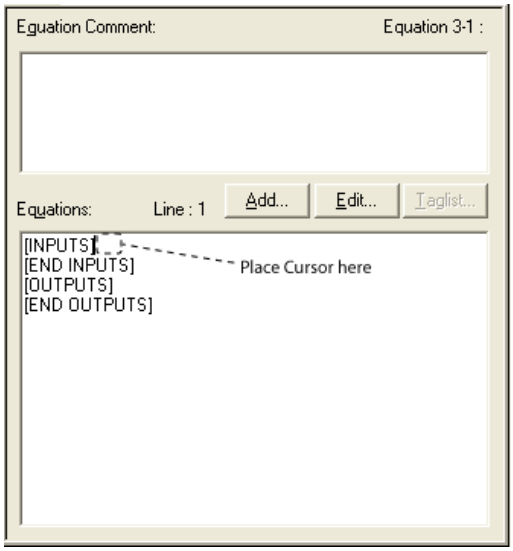


Figure 10-4. Positioning the Cursor

2. Click on the **Add** button. The dialog shown in Figure 10-5 appears.

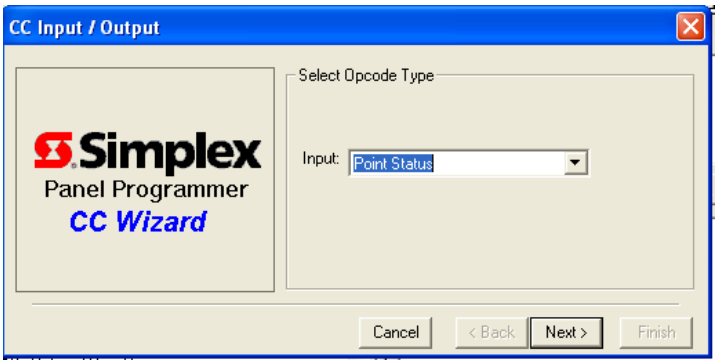


Figure 10-5. Select Input Opcode Dialog

3. Click on the drop down list box, select one of the Opcodes, and click the Next button.

4. The next dialogs displayed by the wizard depend on the Opcode you selected in Step 3.

5. The Finish button becomes available when all dialogs related to the input opcode have appeared. Click it to finish defining the input statement.

Continued on next page

Step 3. Add Output Statements

The third step in creating a new Custom Control equation is to add output statements to the new equation. Repeat the steps in this section until all output statements in the equation have been defined.

1. In the Equations box, position the cursor just to the right of [OUTPUTS].

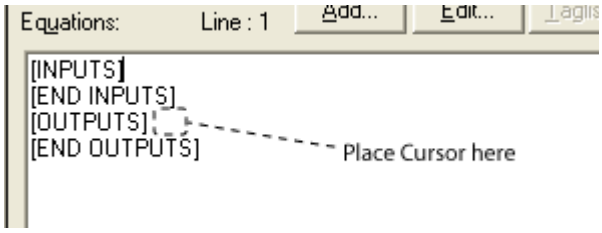


Figure 10-6. Positioning the Cursor

2. Click on the **Add** button. The dialog shown in Figure 10-7 appears.

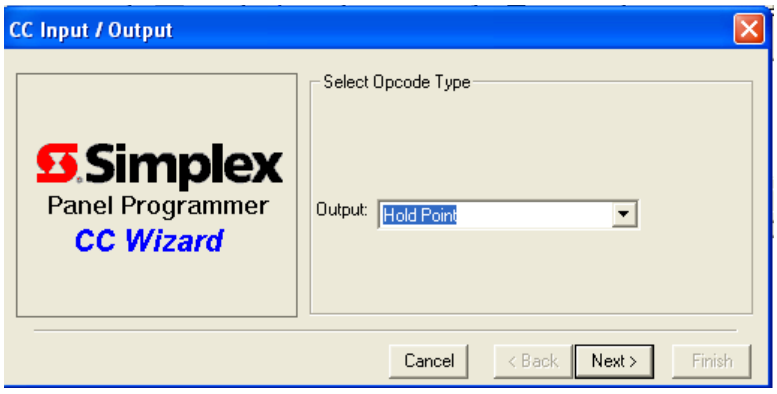


Figure 10-7. Select Output Opcode Dialog

3. Click on the drop down list box, select one of the output Opcodes, and click the Next button.

4. The next dialogs displayed by the wizard depend on the Opcode you selected in Step 3. Refer to the Opcode's entry in Appendix D for specific information on the dialogs that appear for specific opcodes.

5. The Finish button becomes available when all dialogs related to the output opcode have appeared. Click it to finish defining the output statement.

Using the Floor Above/Floor Below Wizard

Overview

This application limits the activation of NACs to the floor on which the activated initiating device is located, referred to as the fire floor, and the floors immediately above and below the fire floor.

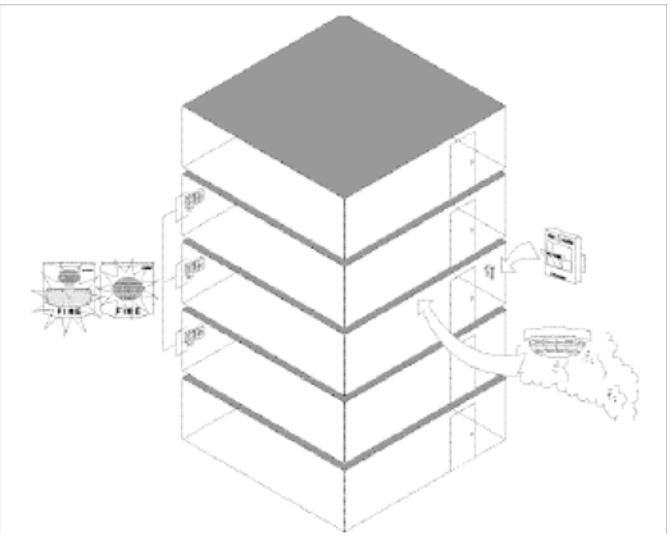


Figure 10-8. Floor Above/Below

In the figure above, an activated smoke detector or pull station on Floor 3 activates the NACs on Floors 2, 3, and 4.

Step 1. Select Floor Above and Below Tab

1. Start the Floor Above/Below Wizard by clicking on the Floor Above/Floor Below Wizard tab, which is located along the bottom left part of the CC window.
2. Right click in the blank area above the tab. When the list of options appears, select **Create Floor Group**. (The ES Panel refers to each set of floor above/below equations as a Floor Group. This is the name of the group or area that the floor above/below program has control over.) Enter a name for the Floor Group in the dialog that appears.

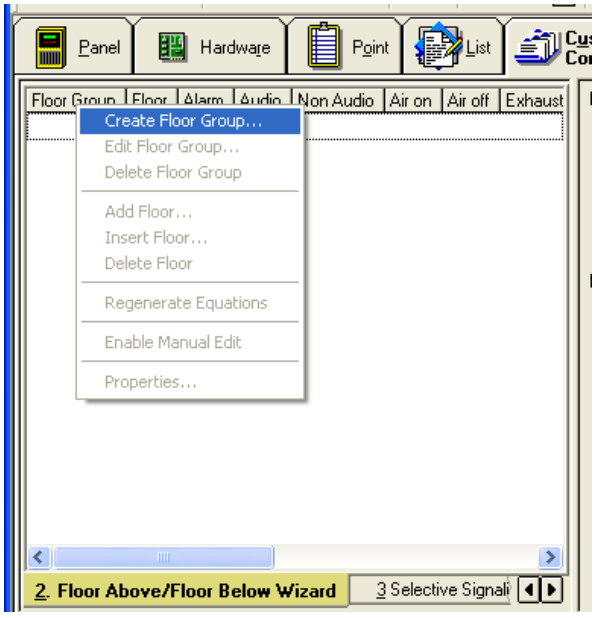


Figure 10-9. Create Floor Group

Continued on next page

Step 1. Select Floor Above and Below Tab

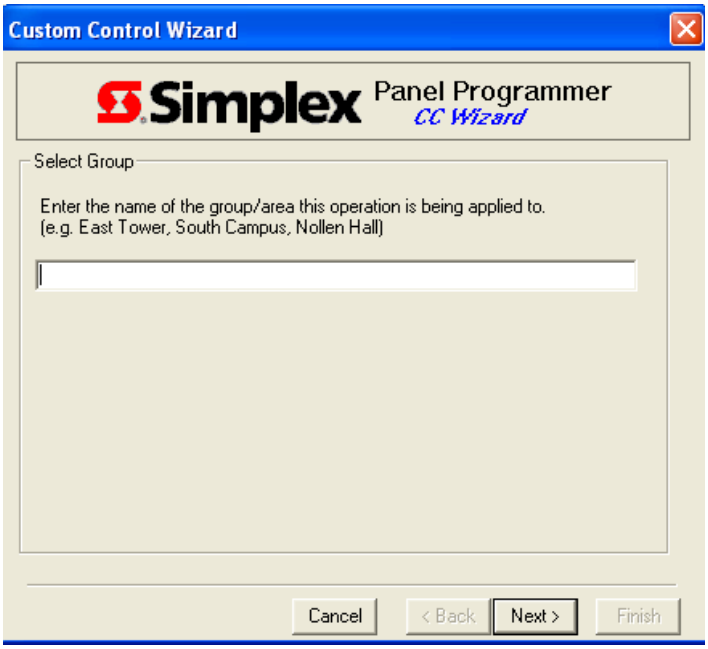


Figure 10-10. Select Group

Step 2. Specify General Information

After you enter a name for the floor group, click the **Next** button. A dialog appears, allowing you to specify general information about the application.

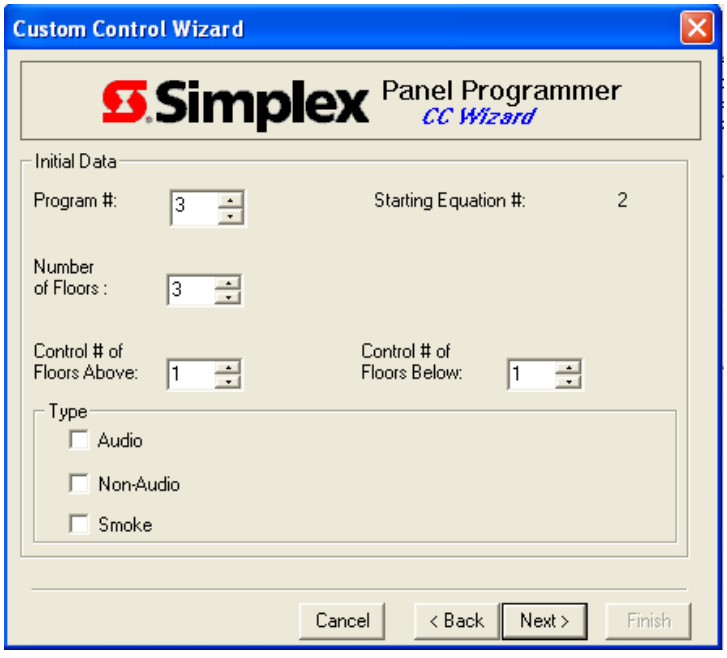


Figure 10-11. Floor Above/Below Data

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Step 2. Specify General Information

Specify this information as follows:

- Program #. Use this entry to specify the Custom Control user program in which this application is to be stored. Programs 3 - 7 are available for user programs.
- Number of Floors. This specifies the total number of floors controlled by the floor above/below equations.
- Control # of Floors Above. When a fire occurs, this setting determines how many floors above the fire floor are notified.
- Control # of Floors Below. When a fire occurs, this setting determines how many floors below the fire floor are notified.
- Type (select all that apply)

  -Audio. Select if using speaker circuits

  -Non-Audio. Select if using non-audio notification appliances

  -Smoke. Select this option to control smoke control (damper/AHU) points.

Click **Next** when you are finished. The next dialog allows you to specify custom names for the floors.

Step 3. Specify Floor Names

The Floor drop down list box contains an entry for all floors (i.e., if you set number of floors to 10 in the previous screen, there are 10 entries). To enter a floor's name, first click on the drop down list box to select the floor and then enter a descriptive label in the Floor Label text box. Enter any comments in the Comment box at the bottom of the dialog.

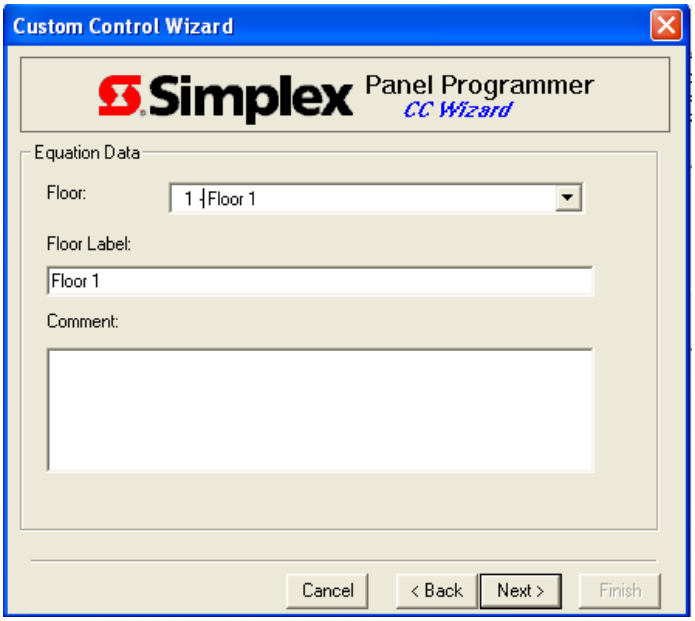

Figure 10-12. Specify Floor Names

Continued on next page

Step 4. Specify Input and Static Points.

Enter information for the other fields in this screen as follows:

- Alarm Points. Identifies the floor's input points (detectors, pull stations, etc.).
- Audio Points. Identifies the floor's audio speaker points.
- Non-Audio Points. Identifies the floor's non-audio (horns, strobes) notification points.
- Air ON Points. Identifies the pressurization fan and damper ON points.
- Exhaust ON Points. Identifies the exhaust fan and damper ON points.
- Air OFF Points. Identifies the pressurization fan and damper OFF points.
- Exhaust OFF Points. Identifies the exhaust fan and damper OFF points.

For each of these selections, when you click on the button, a taglist appears, allowing you to select specific points. Press the space bar to select a point. A >> symbol appears to the left of the point to indicate that it is selected.

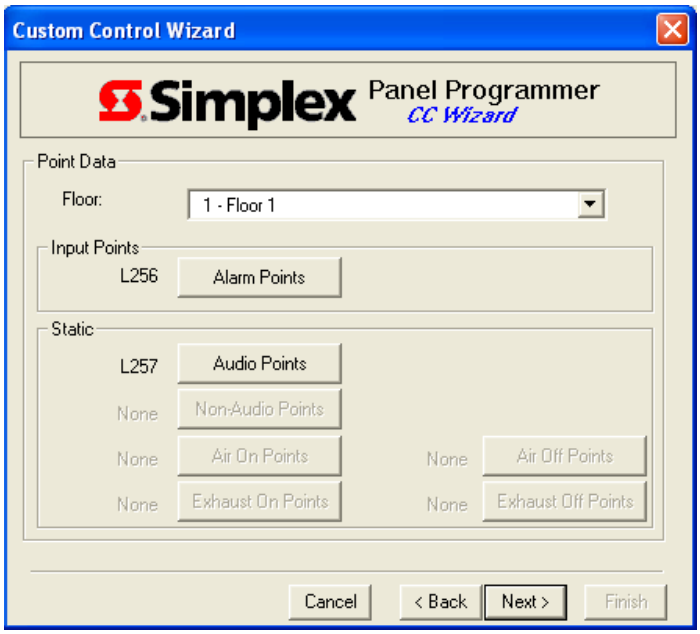

Figure 10-13. Input and Static Points

Click **Next**. A dialog containing the Custom Control equations generated by the wizard appears. Click Finish.

Using the Selective Signaling Wizard

Overview

Selective Signaling is typically used to limit the activation of NACs to the area or floor on which an activated initiating device(s) is located. In the following example, an activated initiating device on Floor 2 triggers only the NACs located on Floor 2.

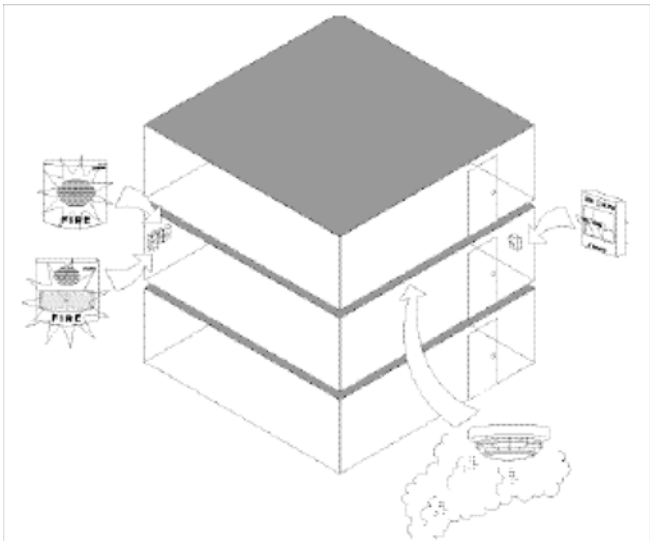

Figure 10-14. Selective Signaling

Step 1. Select Selective Signaling Wizard Tab

1. Start the Selective Signaling Wizard by clicking on the Selective Signaling Wizard tab, which is located along the bottom left part of the CC window.
2. Right click in the blank area above the tabs. When the list of options appears, select **Create Group**. (See figure below).

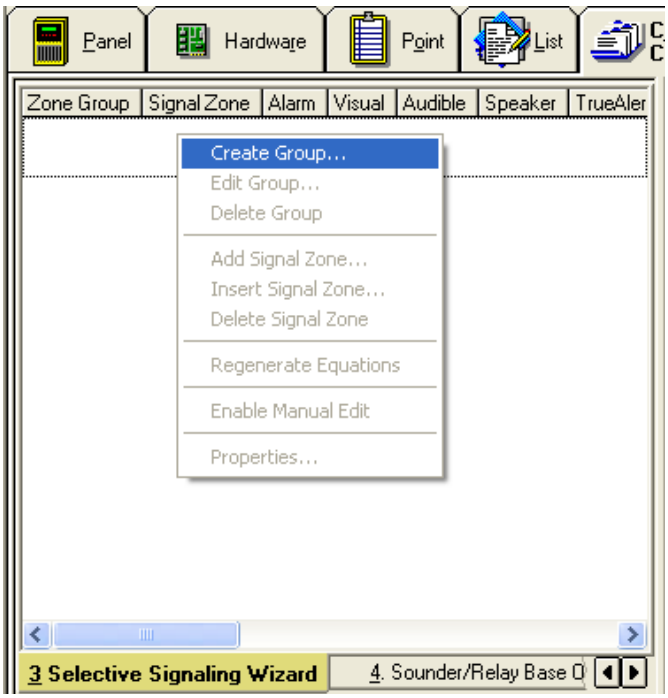

Figure 10-15. Create Selective Signaling Group

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Step 1. Select Selective Signaling Wizard Tab

The dialog shown below appears, prompting you for the name of the area/group. Enter a name for the group in the dialog and press **Next**.

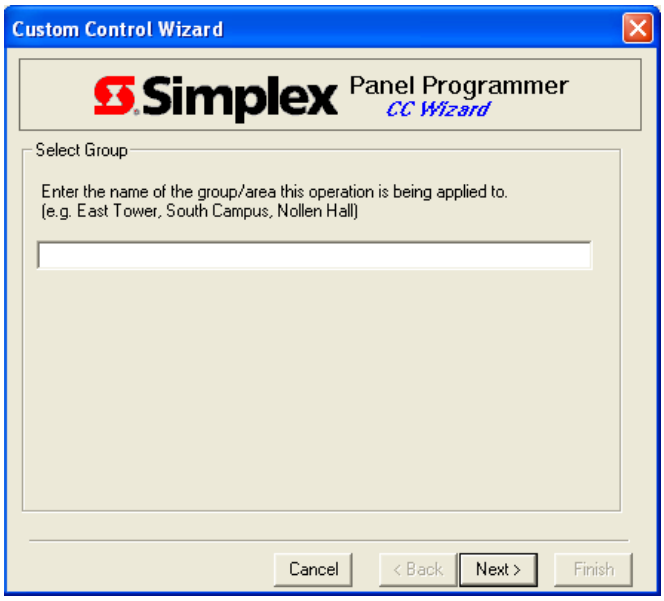

Figure 10-16. Naming Group

Step 2. Set General Options

After you enter a name for the group, click the Next button. A dialog appears, allowing you to specify general information about the application.

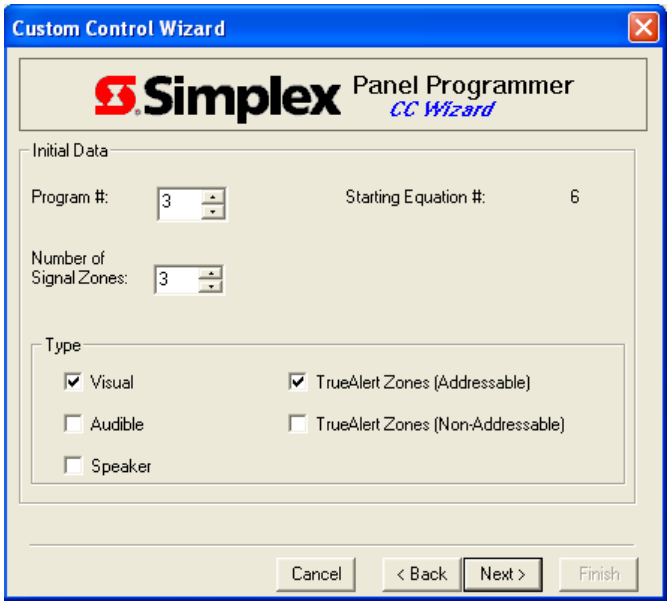

Figure 10-17. General Information

Continued on next page

Step 2. Set General Options

Specify the following:

- Program #. If necessary, specify an alternate program number for the selective signaling application.
- Number of Signal Zones. Enter the total number of signal zones affected by the application.
- Type (select all that apply).

  -Visual. Select to use visual notification appliances in the application.

  -Audible. Select to use audible notification appliances in the application.

  -Speaker. Select to use speaker circuits in the application.

  -TrueAlert Zones (Addressable). Select to use addressable TrueAlert zones (wired to 4009T or TrueAlert Power Supply) in the application.

  -TrueAlert Zones (Non-Addressable). Select to use non-addressable TrueAlert appliances (2-wire with independent control of audibles and visuals) in the application.

Step 3. Set Zone Names

Click the **Next** button. A dialog appears, allowing you to specify general information about the application.

Click on the **Zone** drop down list box and select the zone number. Enter a label for the zone in the Signal Zone Label box. Click on **Next** to continue.

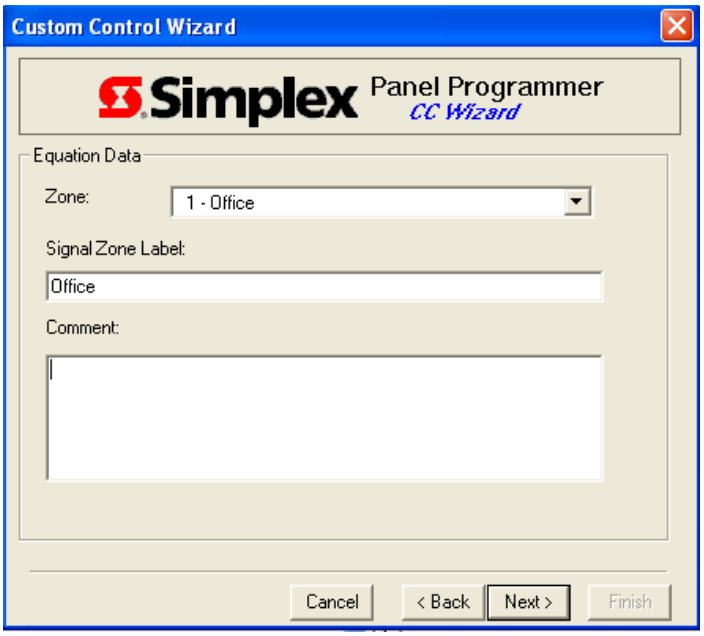

Figure 10-18. Zone Names

Continued on next page

Step 4. Link Initiating and Notification Points

The screen shown below allows you to link initiating and notification points to one another. If one of the specified initiating devices activates, only the notification appliances linked to the initiating device will activate.

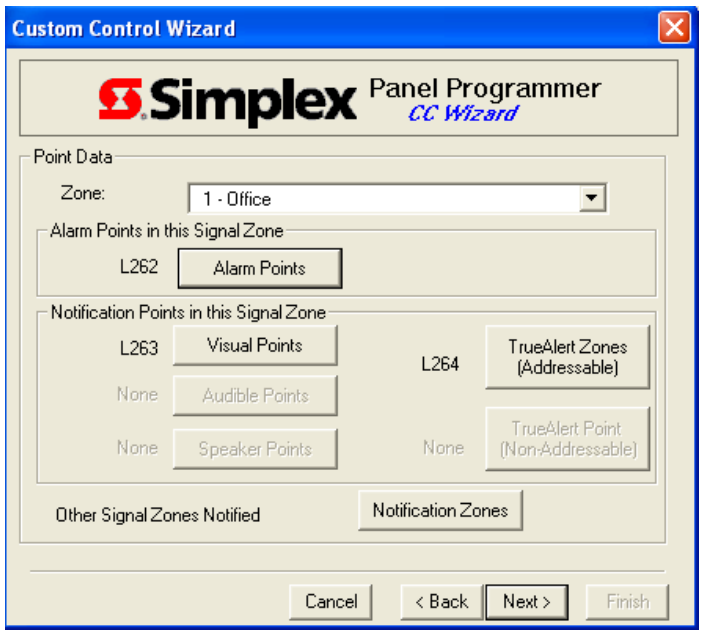

Figure 10-19. Linking Initiating and Notification Devices

1. Click on the button labeled **Alarm Points**. A tag list appears. Use the up and down arrow keys to move through the list. Use the space bar to tag (select) a point. A >> symbol appears to the left of the pointwhen it is selected. Click **OK** to continue. The previous screen appears.

2. In the "Notification Points in this Signal Zone" area of the screen, click on the button corresponding to the type of notification appliance you want to turn on when the tagged initiating devices activate. The choices are: Visual Points, Audible Points, Speaker Points, TrueAlert Zones (Addressable), and TrueAlert Zones (Non-Addressable). A tag list appears. Use the up and down arrow keys to move through the list. Use the space bar to tag (select) a point. A >> symbol appears to the left of the point when it is selected. Click **OK** to continue. The previous screen appears.

3. You can also activate other notification signal zones when a tagged initiating device activates. To do this, click on the Notification Zones button to the right of the "Other Signal Zones Notified" label. A tag list appears. Use the up and down arrow keys to move through the list. Use the space bar to tag (select) a point. A >> symbol appears to the left of the point when it is selected. Click **OK** to continue. The previous screen appears.

4. Click **Next** to continue. A screen showing the equations created by the wizard appears. Click Finish.

Using the Sounder/Relay Base Wizard

Overview

The Sounder/Relay Base Wizard allows you to change the default operation of single station smoke detectors. Note that the default operation—sounder activates when the alarm threshold is passed and deactivates when the smoke level drops back below the threshold—is programmed using the TPHOTO device type. To use the wizard to change the default operation, you must assign a device type of SPHOTO to the device.

The wizard allows two types of custom operations—Activate the Base on Alarm and Activate the Base Prior to Alarm (Alert). Refer to the appropriate section below for specific information.

1. Start the Sounder/Relay Base Wizard by clicking on the Sounder/Relay Base Operation Wizard tab, which is located along the bottom left part of the CC window.

2. Right click in the blank area above the tabs. When the list ofoptions appears, select Create Point Group. A figure similar to the following appears.

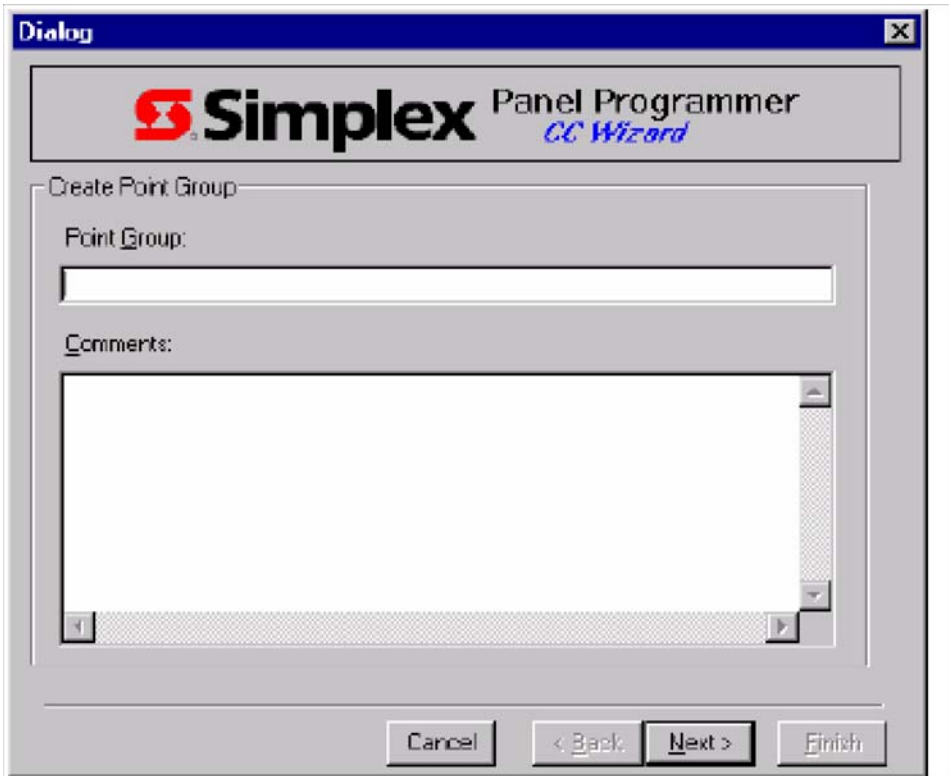

Figure 10-20. Creating Point Group

Enter a Name for the group in the Point Group field and enter any comments in the Comments box. Click **Next** to continue. The screen that appears contains two choices—Activate the Base on Alarm and Activate the Base Prior to Alarm (Alert). Refer to the appropriate section below for specific information.

Continued on next page

Activate Base on Alarm

Activate base on Alarm configures the single station detectors to activate when the alarm threshold is reached and to turn off on either reset or silence.

1. To select this option, click on the radio button labeled "Alarm—Activate Base on Alarm."
2. If necessary, you can select a different Custom Control user program. To do this, click on the control to the right of Program # and select the appropriate program number. Press Next to continue.

Figure 10-21. Sounder/Relay Base Information

3. A dialog similar to the following appears. Select the operation for the device as either "Hold Device ON until Reset" (sounder or relay remains activated until reset) or "Hold Device on until Silence" (sounder or relay remains activated until signal silence).

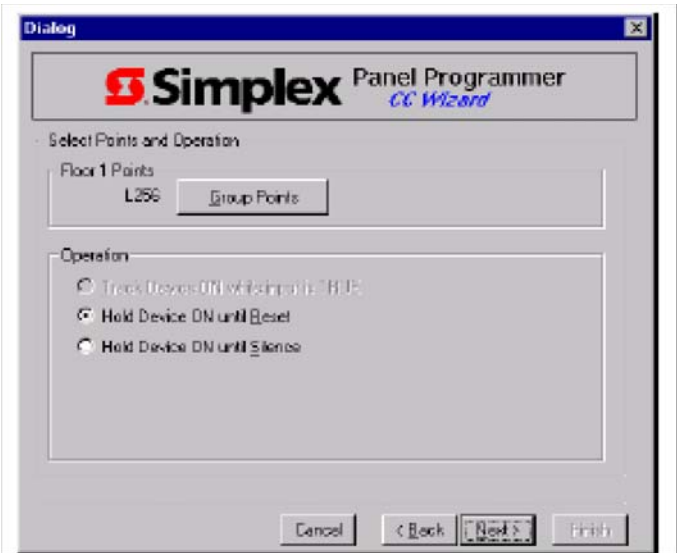

Figure 10-22. Specifying Device Operation

Continued on next page

Activate Base on Alarm

4. Click on the **Group Points** button. A tag list, containing single station points, similar to the following appears. Use the up and down arrow keys to move through the list. Use the space bar to tag (select) a point. A >> symbol appears to the left of the point when it is selected.

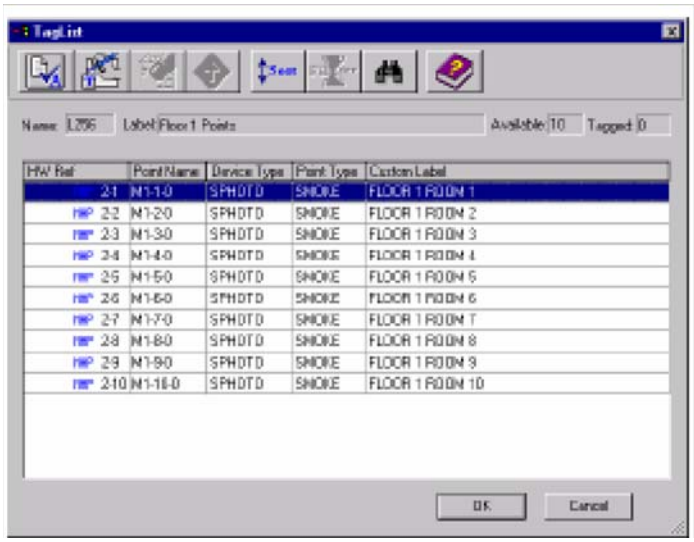

Figure 10-23. Tagging Points

5. Click **OK** to continue. The previous screen appears. Press Next to continue. A screen showing the Custom Control statements appears. Click **Finish**.

Alert—Activate Base Prior to Alarm

If you select the radio button labeled "Activate base prior to alarm," the sounder or relay on the single station detector activates when the detector passes a threshold below the alarm level.

1. To select this option, click on the radio button labeled "Alert—Activate Base Prior to Alarm."
2. If necessary, you can select a different Custom Control user program.To do this, click on the control to the right of Program # and select the appropriate program number.
3. Press **Next** to continue.

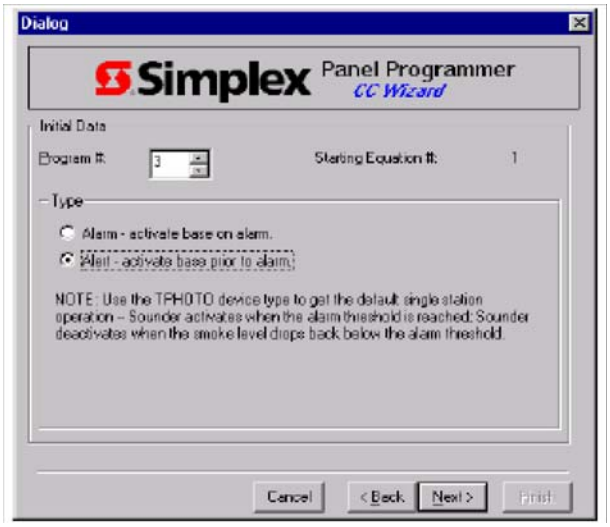

Figure 10-24. Activate Base Prior to Alarm

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Alert—Activate Base Prior to Alarm

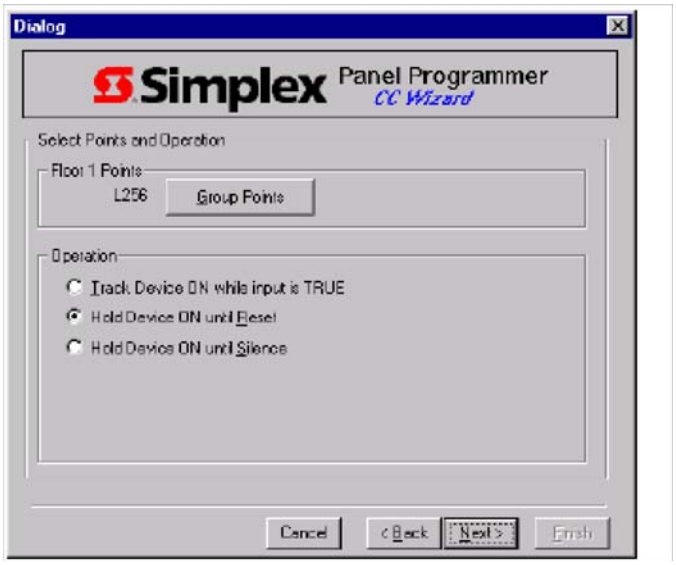

Figure 10-25. Operation

4. Click on one of these options to configure the operation of the single station device:
   - Track Device On while input is TRUE. The sounder or relay remains active while the smoke condition is above the threshold, but turns off when the condition drops below the threshold.
   - Hold Device ON until Reset. The sounder or relay remains activated until a system reset occurs.
   - Hold Device ON until Silence. The sounder or relay remains activated until a Signal Silence occurs.

5. Click on the Group Points button. A tag list, containing single station points, similar to the following appears. Use the up and down arrow keys to move through the list. Use the space bar to tag (select) a point. A >> symbol appears to the left of the point when it is selected.

6. Press Next. A dialog similar to the following appears.

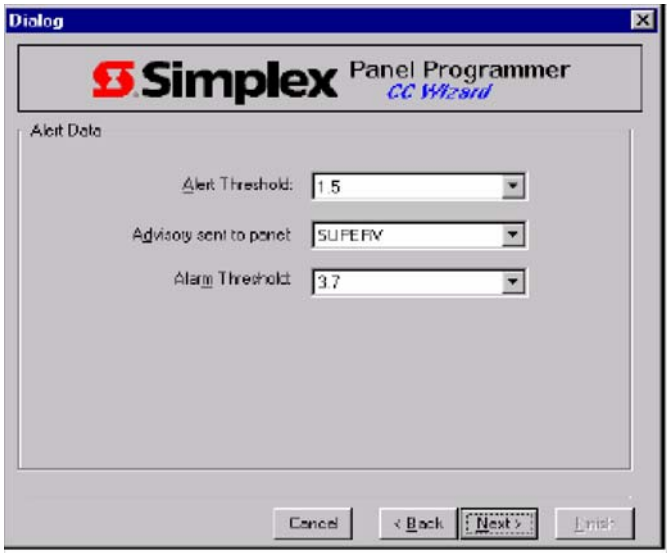

Figure 10-26. Options

Continued on next page

Alert—Activate Base Prior to Alarm

7. Select these options as follows:
   - Alert Threshold. This is the smoke obscuration value at which the alert is generated and the device activates.
   - Advisory Sent to Panel. The setting of this option determines the type of event (Fire, None, Priority 2 Alarm, Supervisory, or Trouble) sent to the panel when the alert condition occurs.
   - Alarm Threshold. Specifies the smoke obscuration level that must be present at the single station detector to trigger an alarm condition.

8. Press **Next** to continue. A screen showing the Custom Control statements generated by the wizard appears. Click **Finish**.

Suppression Release

Introduction

This section describes how to configure Suppression Release Hazard Areas using the programmer.

Suppression Release refers to the release of water or chemical agents in response to alarm conditions. Suppression Release operation is limited to hazard areas, which are collections of initiating devices, signaling appliances, monitor ZAMs, and releasing peripherals, powered by NACs, that are set up to respond to alarm conditions.

General Capabilities

The ES Panel is capable of controlling either a preaction/deluge sprinkler system or an agent release extinguishing system.

- The number of hazard areas that the ES Panel is capable of monitoring is restricted only by the amount of memory available for Custom Control equations (each hazard is defined as a separate area containing its own 4090-9005 or -9006 releasing peripheral and solenoid).
- Each hazard area requires four to five Notification Appliance Circuits (NACs).
  - -One NAC controls Notification Appliance visuals. This circuit is ON when the releasing output activates and OFF on System Reset.
  - -One NAC controls Notification Appliance audibles. This circuit provides an audible indication of the release sequence.
  - -One NAC provides a "warning circuit." This circuit may be wired to a bell, horn, or strobe in the hazard area. It activates during the first stage of a cross-zoned releasing sequence and can be used to alert system operators when the initial alarm occurs.
  - -One NAC provides power to the 4090-9005 or -9006 releasing peripheral for the hazard area.
  - -One NAC provides power for "NYC Abort Investigation Appliances." Note that this NAC is only used when NYC Abort operation is selected. This NAC allows bells and strobes to be tied to the same circuit. These devices activate when the NYC investigation timer activates and turn off when the investigation timer reaches zero. The NYC Abort option does not comply with UL 864.
- The releasing peripheral activates its output (which attaches to the solenoid) only when the designated initiating device(s) and the NAC connected to the release peripheral are active at the same time. This prevents a malfunctioning input from triggering a release.
- Releasing signaling patterns are as follows:
  - -Dual Detector Application. Temporal on first alarm (can also be configured as 20 or 120 beats per minute). Signal changes to 120 BPM on second alarm. When the releasing appliances activate, the tone changes to Steady.
  - -Single Detector Application. When an initiating device in the hazard area activates, the system does one of two things: If a delay timer is used, the NACs play a 120 BPM signal as the timer counts down. This changes to a Steady pattern when release occurs. If no delay timer is used, the releasing appliances activate as soon as a single detector enters an alarm state. In this case, the NACs sound a Steady tone pattern and no distinct pre-discharge tone pattern plays.
  - -Alarm Triggered by Activation of Manual Release Switch. If a delay timer is used, the system plays a 120 BPM signal on the NACs as the timer counts down. When the releasing outputs activate, the signal changes to a steady tone.

General Capabilities

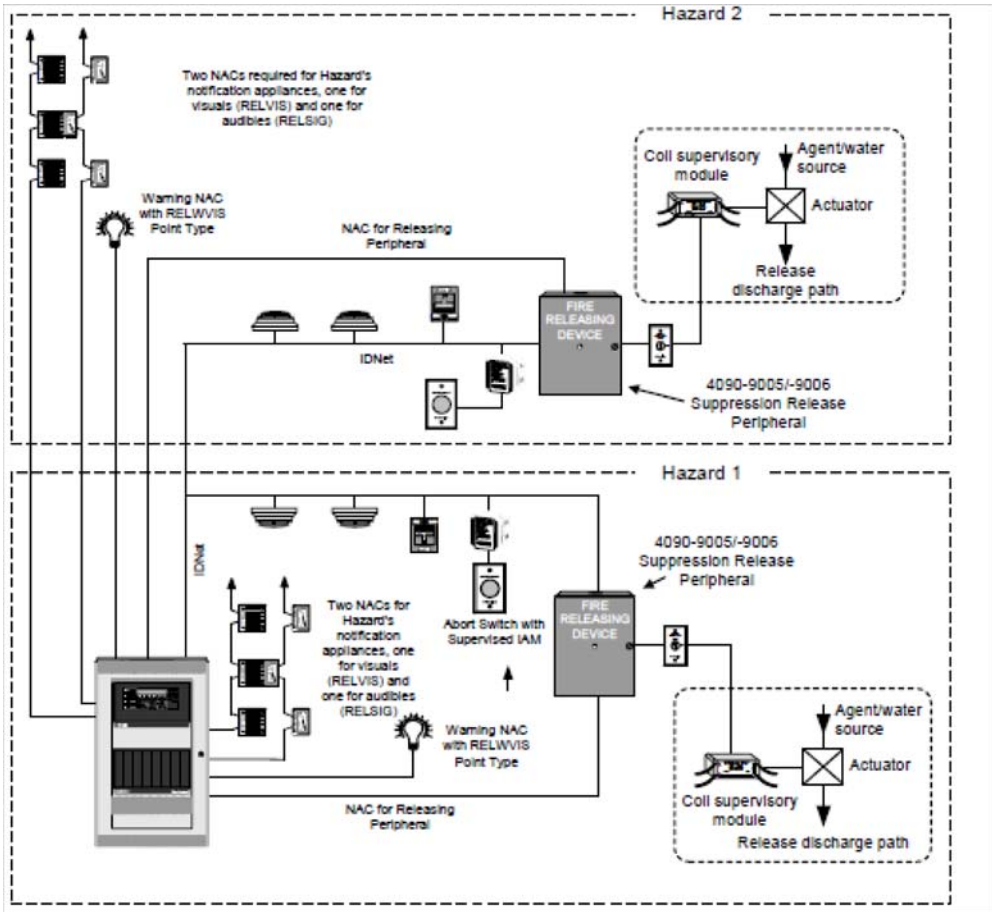

Figure 10-27. Suppression Release Overview

Applying Applique

The ES Panel ships with a self-adhesive appliqué that must be applied to the front door of the unit when it is used as a suppression release system. This label (526-200 domestic/526-262 Canadian) is used to indicate that the ES Panel has been programmed to work as a releasing panel and all releasing circuits must be disabled prior to servicing. This label can be applied to any area of the front door.

Device and Point Types

Suppression release device and point types are shown in the table below. Assign the applicable device and point types to the suppression points **before** programming hazard area information.

Refer to Chapter 7 of this manual for information on programming points.

Table 10-1: Valid Device and Point Types

Point Type	Description	Valid Device Types	AutoGenerates to Following Lists:
RELSIG	Releasing audible circuit	SIGA, SIGB, CHAN2A, CHAN2B, CHAN4A, CHAN4B, PCHAN4A, PCHAN4B, SBZAM, SAZAM, NULLSIG, PS_SIGA, PS_SIGB, MFIO_SIGA, MFIO_SIGB, MSOUND, MSIGA, MSIGB	L0 - Coding Group 0 L1 - Coding Group 1 L50 - Walk Test Group 0 - signals/relays L139- Local Mode Operation Points
RELISIG	NYC investigation bell/ strobe circuit	SIGA, SIGB, CHAN2A, CHAN2B, CHAN4A, CHAN4B, PCHAN4A, PCHAN4B, SBZAM, SAZAM, NULLSIG, PS_SIGA, PS_SIGB, MFIO_SIGA, MFIO_SIGB, MSOUND, MSIGA, MSIGB, VNAC	L0 - Coding Group 0 L1 - Coding Group 1 L48 - TrueAlert Zone OFF on SILENCE L50 - Walk Test Group 0 - signals/relays L139- Local Mode Operation Points
RELVIS	Release visual circuit	SIGA, SIGB, CHAN2A, CHAN2B, CHAN4A, CHAN4B, PCHAN4A, PCHAN4B, SBZAM, SAZAM, NULLSIG, PS_SIGA, PS_SIGB, MFIO_SIGA, MFIO_SIGB, MSOUND, MSIGA, MSIGB, VNAC	L0 - Coding Group 0 L13 - Fire Alarm Visuals OFF on RESET L49 - TrueAlert Zone OFF on RESET L50 - Walk Test Group 0 - signals/relays L139- Local Mode Operation Points
RELWVIS	Releasing warning visual signal	SIGA, SIGB, CHAN2A, CHAN2B, CHAN4A, CHAN4B, PCHAN4A, PCHAN4B, SBZAM, SAZAM, NULLSIG, PS_SIGA, PS_SIGB, MFIO_SIGA, MFIO_SIGB, MSOUND, MSIGA, MSIGB, VNAC	L0 - Coding Group 0 L13 - Fire Alarm Visuals OFF on RESET L49 - TrueAlert Zone OFF on RESET L50 - Walk Test Group 0 - signals/relays L139- Local Mode Operation Points
SSABRT	Shorted Suppression Agent Abort Zone	MONA, MONB, SMONA, SMONB, SCAN50, 4002MA, 4002MB, IAM, SECIAM, MAZAM, MBZAM	
SSDUMP	Shorted Suppression Agent Manual Dump	MONA, MONB, SMONA, SMONB, SCAN50, 4002MA, 4002MB, IAM, SECIAM, MAZAM, MBZAM, ADRPUL, CANPUL	L18 - General Fire Alarm Monitor Zones L30 - Alarm Verification Group 0 L61 - Coding Group 1 - Monitor Zones L81 - Audio Coding Group 1- Monitor Zones L139- Local Mode Operation Points
SUPRELS	Halon Release output	RELEASE, SIGA, SIGB, CHAN2A, CHAN2B, CHAN4A, CHAN4B, PCHAN4A, PCHAN4B, SBZAM, SAZAM, NULLSIG, PS_SIGA, PS_SIGB, MFIO_SIGA, MFIO_SIGB	

Device and Point Types

Table 10-1: Valid Device and Point Types, *continued*

Point Type	Description	Valid Device Types	AutoGenerates to Following Lists:
SUPRELS (Graphic24)	Halon (Agent Discharge) Release Output	OUTPUT	
SUPDET	Suppression Agent Monitor Zone	MONA, MONB, SMONA, SMONB, SCAN50, 4002MA, 4002MB, IAM, SECIAM, MAZAM, MBZAM, ADRDET, GENIAM, NULLMON,500PSM, APM500, CM520, DM520, DMC520, IHN135, IHN200, 500CMB, 500CMC, 500CMAB, 500CMAC, 500CMAD, 500CMAE, TFXCDM, 501CMB, LPBD520, MD501, MD501EX, MD901, MDR901,MDS901, MF401, MF501,MF501HA, MF501EX, MF901, MF901HA, MFR901HA, MFS901HA,MER901, MFS901, MR501, MR501EX, MR501T, MR501TEX, MR901, MRR901, MRS901, MS502EX, MU901, MU912, S251, S252PLUS, All PHOTO Device types, All ION Device types, all HEAT Device types	L18 - General Fire Alarm Monitor Zones L30 - Alarm Verification Group 0 L61 - Coding Group 1 - Monitor Zones L81 - Audio Coding Group 1- Monitor Zones L139- Local Mode Operation Points
SUPDUMP	Suppression Agent Manual Dump	MONA, MONB, SMONA, SMONB, SCAN50, 4002MA, 4002MB, IAM, SECIAM, MAZAM, MBZAM, ADRPUL, CANPUL	L18 - General Fire Alarm Monitor Zones L30 - Alarm Verification Group 0 L61 - Coding Group 1 - Monitor Zones L81 - Audio Coding Group 1- Monitor Zones L139- Local Mode Operation Points
SUPABRT	Suppression Agent Abort Zone	MONA, MONB, SMONA, SMONB, SCAN50, 4002MA, 4002MB, IAM, SECIAM, MAZAM, MBZAM	
SUPPRES	Suppression Agent Pressure Mon	MONA, MONB, SMONA, SMONB, SCAN50, 4002MA, 4002MB, IAM, SECIAM, MAZAM, MBZAM	L18 - General Fire Alarm Monitor Zones L30 - Alarm Verification Group 0 L61 - Coding Group 1 - Monitor Zones L81 - Audio Coding Group 1- Monitor Zones L139- Local Mode Operation Points

Note: The VNAC device type is allowed on RELVIS, RELWVIS, RELISIG points, but not on RELSIG points because neither temporal nor marchtime coding can be done on True Alert devices.

Step 1. Define Hazard Area

1. Click on the **Custom Control** Tab.
2. Click on the **Suppression Release** Subtab. A screen similar to the one shown in the figure below appears.

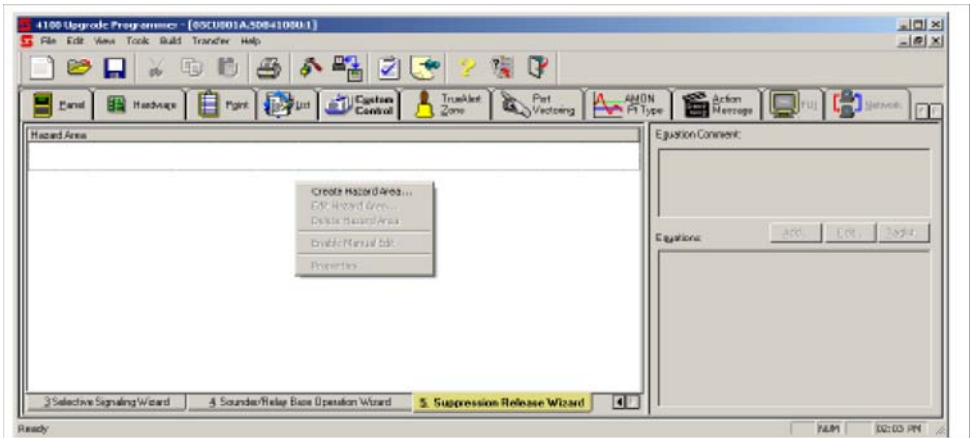

Figure 10-28. Create Hazard Area Menu Choice

3. Right click on the blank area of the screen labeled “Hazard Area”.
4. Click on **Create Hazard Area** from the menu that appears. A screen similar to the one shown below appears.
5. Enter a name for the hazard area in the Hazard Area Name field and enter any applicable comments. Click **Next** to continue.

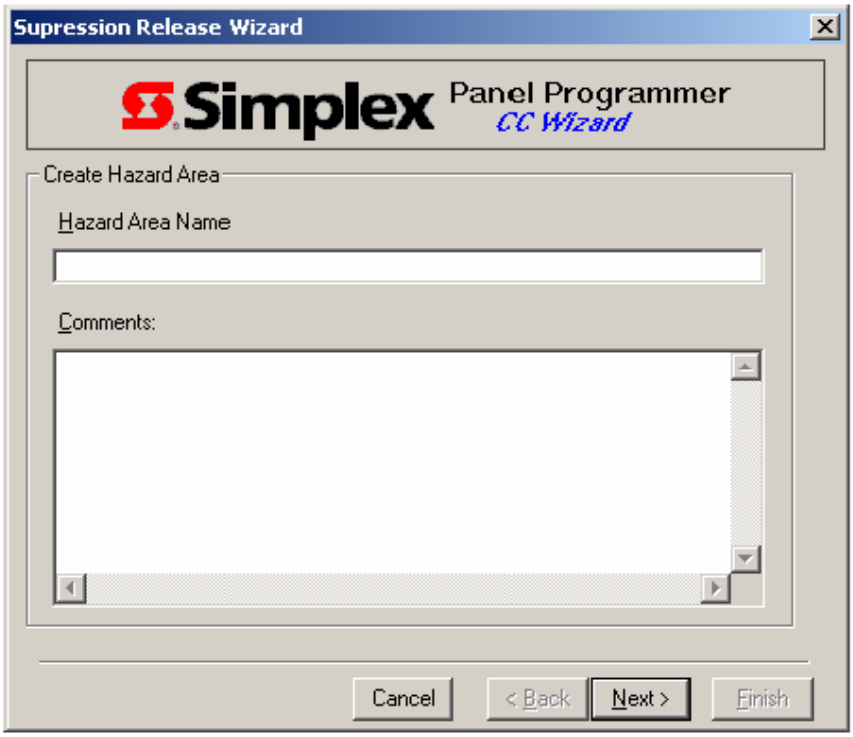

Figure 10-29. Naming Hazard Area

Step 2. Specify Initial Data and Options

The next screen, shown in the figure below, prompts you to specify the following information.

- **Custom Control Program Number.** This is the program number under which the suppression release custom control equations created by the wizard will be stored. No specific program number is reserved for use by suppression release equations. The programmer automatically picks the next available number, but you may optionally specify a specific number.
- **Cross Zone (Dual Detector).** Check this box to enable cross-zoned (dual detector) operation. Cross-zoned applications require that two automatic initiating devices on different zones enter an alarm state before the releasing appliance can activate.

  Note: To achieve true cross zoning, the initiating devices must be wired to either Monitor cards or ZAMs. Dual detector operation, which simply requires two detectors to activate, can use TrueAlarm initiating devices.

- **First Stage Audible Notification.** Click on the drop down list box and set theaudible notification appliance pattern used for the first stage of a cross-zone (dual detector) alarm. Choices include Slow March Time, Temporal, or Fast March time. When cross-zoned (dual detector) is enabled, this is the audible NAC tone pattern that will play following activation of the first detector. When the second detector activates, the pattern is always Fast March. This option is not applicable if Cross Zone (Dual Detector) check box is not selected.

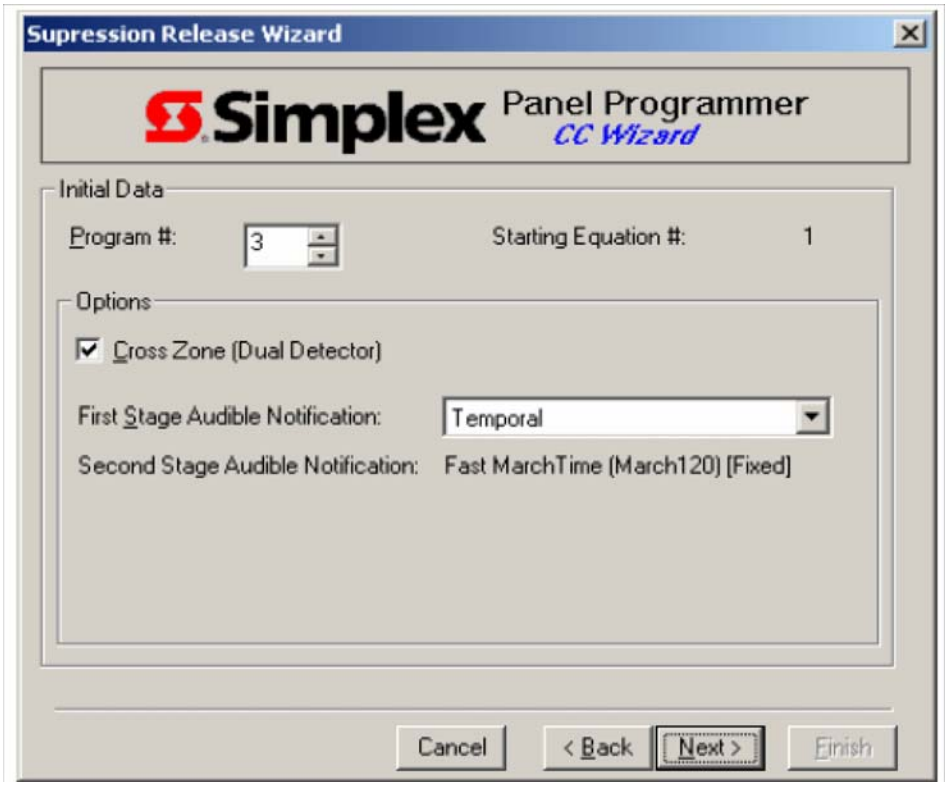

Figure 10-30. Cross Zone (Dual Detector) Options

Click **Next** to continue programming when you have set these options to the appropriate values.

Step 3. Specify Abort Switch Operation

The next screen allows you to specify the action that occurs when the abort switch is released.

Important Note: For all choices except IRI Abort, pressing and holding the abort switch prevents agent release for as long as the switch is held in, unless a Manual Release switch is operated, which will override the Abort Switch operation. For IRI Abort, the abort switch must be pressed and held before the second alarm activation occurs to prevent release.

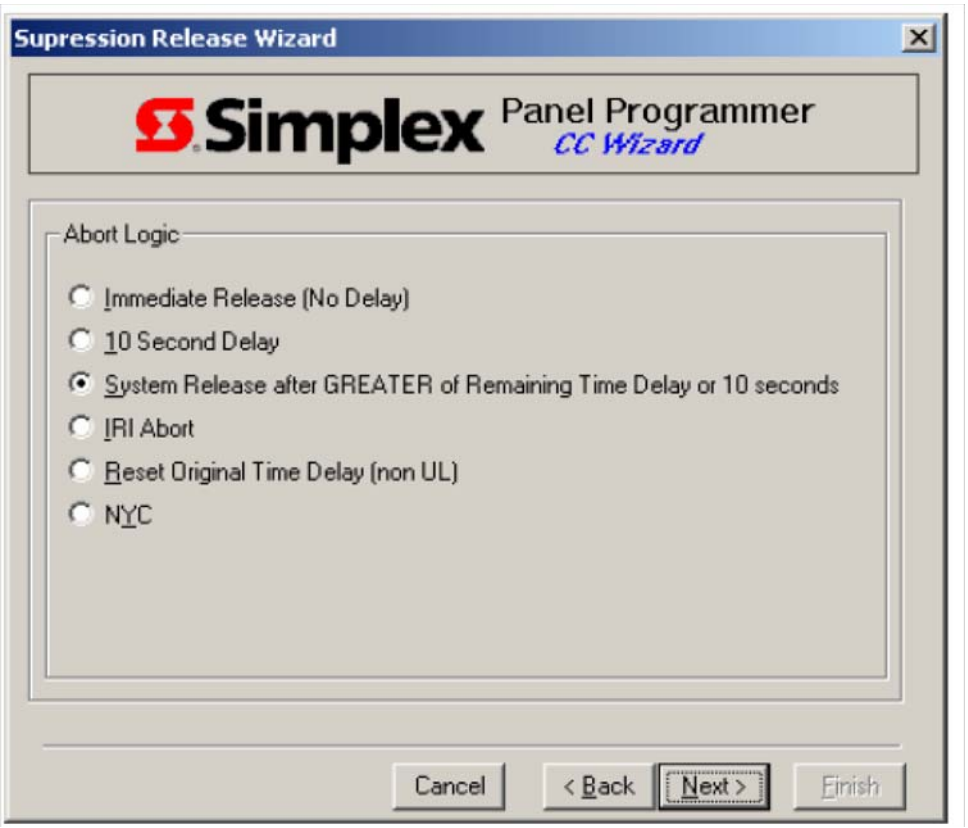

Figure 10-31. Abort Switch Options

Set this option to one of the following choices:

- **Immediate**. If a confirmed alarm exists (i.e., two detectors on separate zones for a crosszoned system or a single detector in a single alarm system), the Suppression Release peripheral activates its output immediately upon release of the abort switch.
- **10 Second Delay**. When the abort switch is released, the delay is 10 seconds.
- **10s/Remaining**. When the abort switch is released, the delay used is whichever is greater -- the remaining time left on Automatic Release Delay Timer or 10 seconds.
- **IRI Abort -- Cross Zoned System Only (Does not comply with UL 864)**. When a single alarm is present, pressing the abort switch prevents the output on the Suppression Release Peripheral from activating. If a second alarm condition occurs while the Abort switch is still pressed, the automatic release timer resets to whatever value has been configured for it and begins to count down, stopping at 10 seconds. When the abort switch is released, the panel starts the release timer countdown.
- **Original Delay (Does not comply with UL 864)**. Releasing the abort switch resets the delay timer interval to the value set for the Automatic Release Delay Timer.

Step 3. Specify Abort Switch Operation

- **NYC Abort (Does not comply with UL 864)**. Pressing the Abort switch does the following:

  a. Bell and bell strobe turn on (NAC associated with RELISIG point type).
  b. Evacuation visuals turn off (NAC associated with RELWVIS point type).
  c. Evacuation audibles turn off (NAC associated with RELSIG point type).
  d. Automatic Release Timer countdown stops at its current value.

  Releasing the Abort switch starts the 90-second Investigate Timer. When the Investigative Timer expires, the following occurs:

  a. Bell and bell strobe turn off
  b. Evacuation visuals turn on
  c. Evacuation audibles turn on at 120 BPM
  d. Reload the Automatic Release Timer with the programmed value

  Subsequently pressing/releasing the abort switch repeats the process (silencing the NACs, activating the bell, starting the 90 second investigation timer, etc.) until the Release Timer expires and the output on the Suppression Release Peripheral activates.

  Pressing/releasing the Abort switch while the Investigation Timer counts down has no effect.

Click **Next** to continue.

Set Timer Options

The next screen allows you to set values for the Manual Release, Detector Release, and the Releasing Cutout.

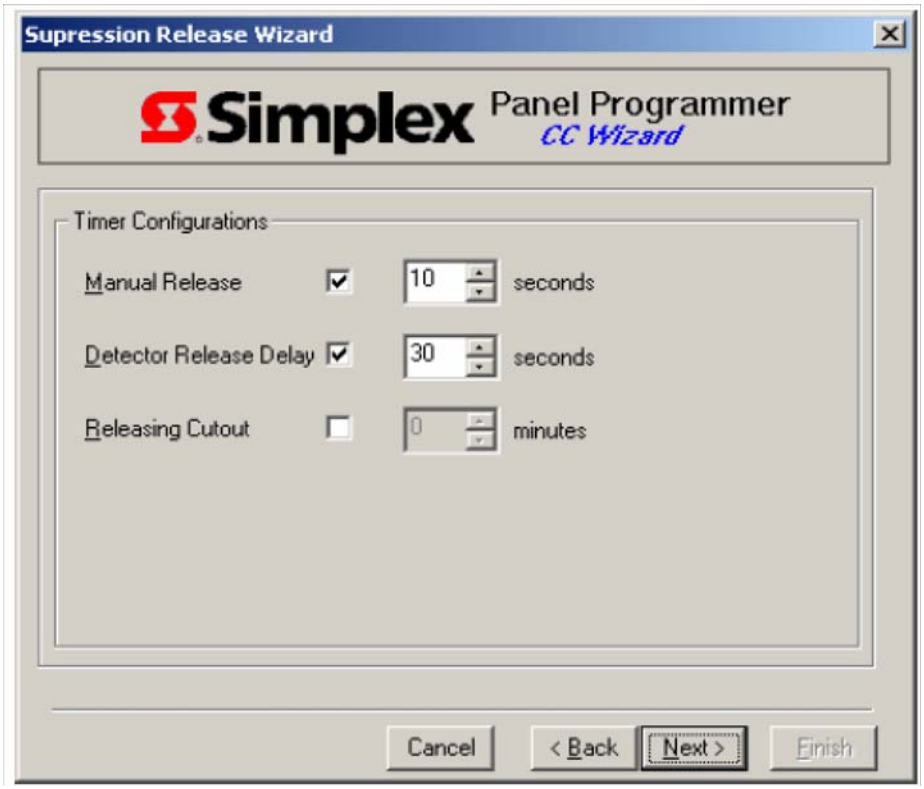

Figure 10-32. Timer Configuration Options

Set Timer Options

Use the following guidelines when setting these values:

- **Manual Release**. The Manual Release Time Delay is a programmable timer that specifies the delay between the activation of a manual release switch and the activation of releasing appliances. The default setting for this timer is 10 seconds. A setting of 0 causes the releasing appliances to immediately activate after a manual release switch activates. This delay is programmable from 0-30 seconds.
- **Detector Release Delay**. The Automatic Release Time Delay is a programmable timer that delays the activation of the releasing appliance circuits. This timer starts immediately after receiving a confirming alarm (cross zoned system) or a first alarm (single alarm system). When the timer expires, the releasing appliances activate (assuming the abort switch is not active). This delay is programmable from 0-60 seconds.

  This delay allows evacuation of the protected space before release of the agent. A delay timer should be considered if occupants might possibly be present in the protected space.

  -**Cross-Zoned System**. The occupants may or may not receive an evacuation signal depending on the interval between the first and second alarms. Implementing a delay in this case ensures that an interval of time passes between when the signals sound and the agent releases.

  -**Single Alarm System**. A selection of "0" seconds activates the releasing circuit at the same time as when the NACs signal an initial warning. A delay provides a configurable amount of time for the signals to sound and warn occupants to leave the protected space.

- **Releasing Cutout**. The Releasing Cutout Timer is a programmable timer that specifies the length of time the output on the Suppression Release Peripheral is held on. When the timer expires, the solenoid turns off (or cuts out), which stops the water flow or release of the extinguishing agent. This option is typically used on Deluge systems, and does not work with all releasing systems and/or releasing devices. A selection of "0" means the solenoid does not "cut out" and remains on until the system is reset.

Step 5. Specify Hazard Area Points

The next screen, shown in the figure below, contains seven buttons, each corresponding to one of the suppression-release system lists. Points are automatically assigned to the appropriate list based on the suppression release point type assigned to the point.

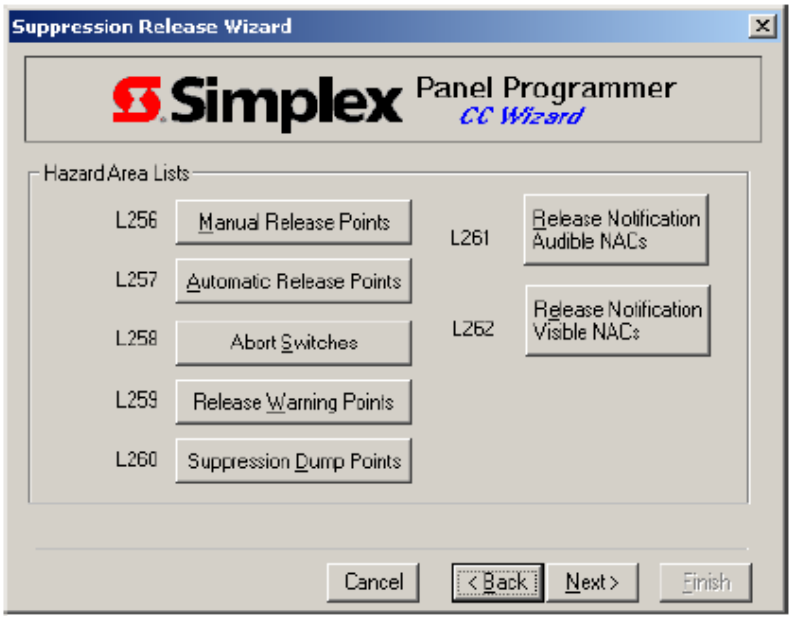

Figure 10-33. Tag List Buttons

Step 5. Specify Hazard Area Points

Each button accesses a tag list, which then allows you to select (tag) the specific points to associate with the hazard. Follow these steps to tag points.

1. Click on the button corresponding to the type of suppression points you want to select. The Tag List screen shown in Figure 17-8 appears.

2. The Tag List screen displays all points with the relevant suppression release point type. To select a specific point for inclusion in the hazard area being programmed, click on the point to highlight it and then press the space bar.

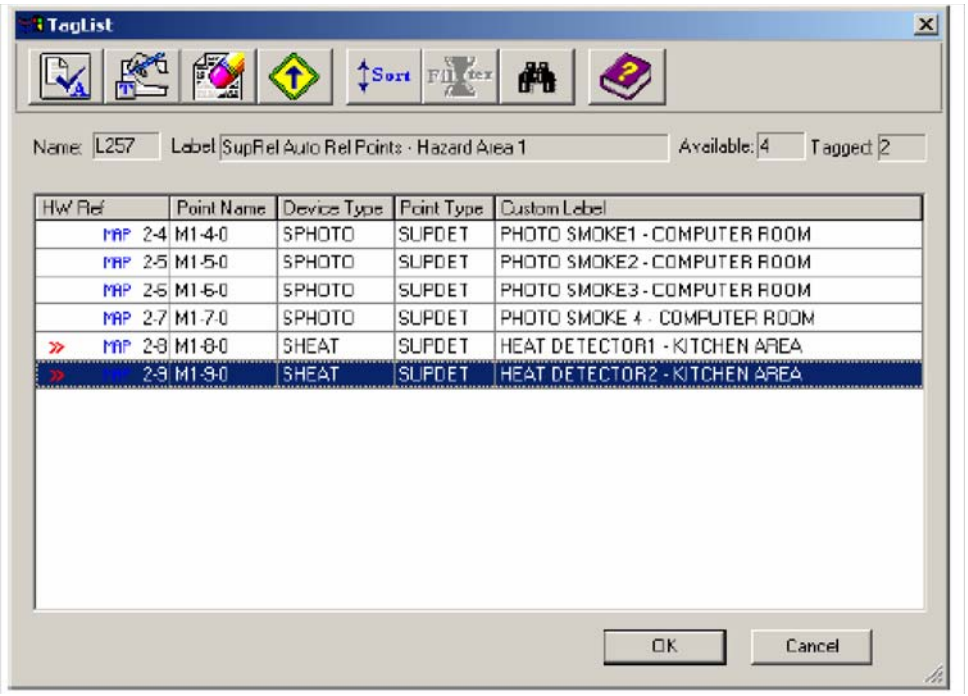

Figure 10-34. Tagging Points

3. Click **OK** when you are finished selecting points. The screen containing the Tag List buttons (Figure 10-33) reappears. Click the **Next** button at the bottom of this screen when all points associated with this hazard area have been chosen.

Step 5. Specify Hazard Area Points

The last screen, shown in Figure 17-9, allows you to review the options you have set for the hazard area. Use the scroll bar to check the selections for all options. If necessary, use the **Back** button to return to one of the option selection screens to change a choice. When all of the options are set correctly, click **Finish**.

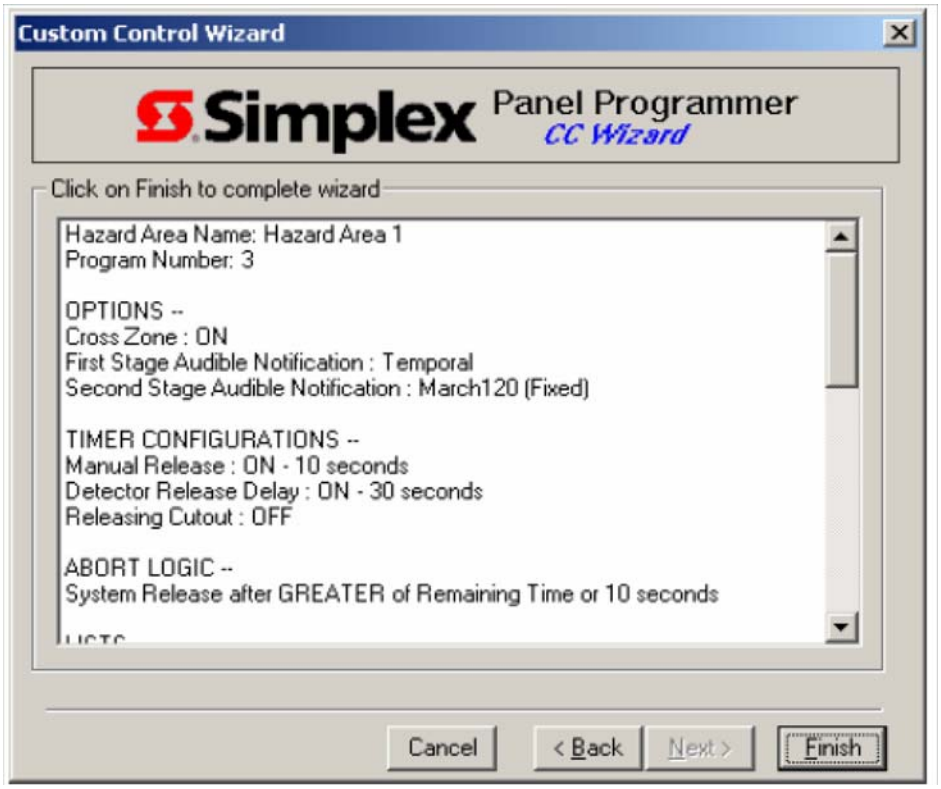

Figure 10-35. Reviewing Options

When you click on **Finish**, an icon and label appear in the list of hazard areas shown in Figure 17-10.

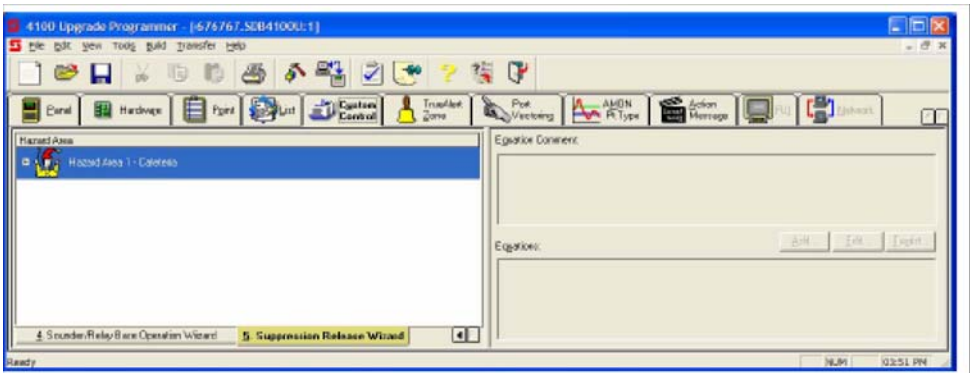

Figure 10-36. Icon Added Following Programming

Deleting Hazard Area

To delete an existing Hazard Area, right click on the name of the hazard area (see Figure 17-10) and select the Delete Hazard Area option. A dialog appears warning you that all Custom Control equations associated with the hazard area will be deleted. The dialog also allows you to delete the list and pseudo points associated with the hazard area.

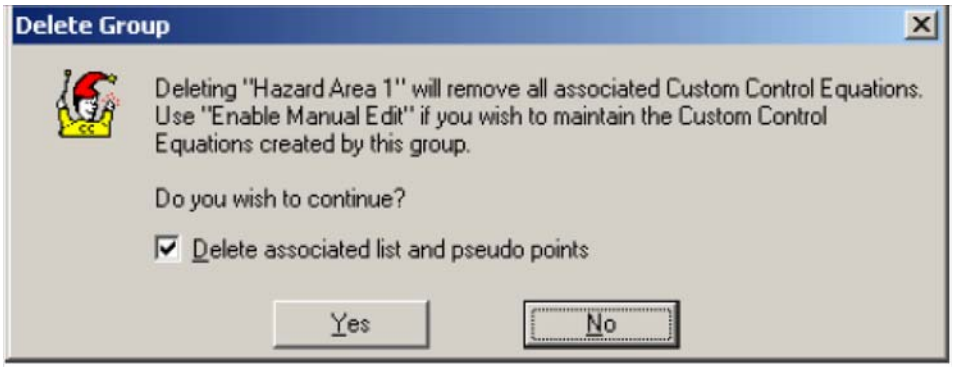

Figure 10-37. Deleting Hazard Areas

Editing Existing Hazard Area

Existing hazard areas can be edited in the following ways:

- **Using the Wizard**. Right Click on the name of an existing equation (see Figure 17-10) and select Edit Hazard Area. The wizard screens reappear in sequence. Reselect the options for the hazard area as necessary.
- **Properties**. Right click on the name of an existing equation (see Figure 17-10) and select Properties. A properties sheet, containing a series of tabs across the top, appears. Each tab corresponds to one of the groups of suppression options. Click on each tab and reselect the options for the hazard area as necessary.
- **Custom Control Equations**. Right click on the name of an existing equation (see Figure 17-10) and select Manual Edit. This allows you to edit the Custom Control equations, but it also eliminates the ability to use the wizard to edit the equations. After selecting this option, click on Custom Control subtab on the far left at the bottom of the Custom Control window. Select the program containing the hazard area's equations. Refer to Chapter 10 for information on editing Custom Control.

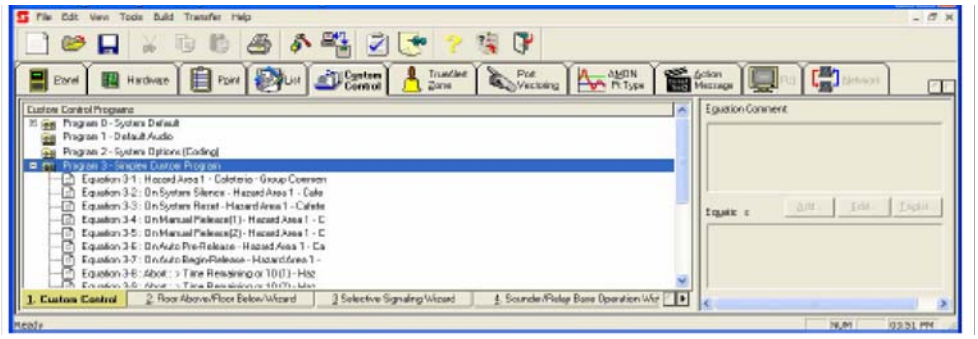

Figure 10-38. Manual Edit

Chapter 12
Port Vectoring

Introduction

The term *port vectoring* refers to the way in which certain cards can be programmed to output only specific groups of events. For example, it is possible to have the service modem card route only the alarm, trouble, and supervisory events that occur and to ignore the pseudo events (pseudo point turns on or off), etc.

This section describes programming the ES Panel's port vectoring option.

In this Chapter

Refer to the page number listed in this table for information on a specific topic.

Selecting Event Groups

UL Disclaimer

User editing of the DACT port vectoring is not permitted in UL864.

Choosing Event Groups to Route

Click on the **Port Vectoring** tab, located just beneath the row of icons, to view the window used to route events to the service modem, RS-232 port, or DACTs. A window similar to the one shown in Figure 12-1 below appears.

1. In the **Available Ports** list, located on the left side of the window, click on the line containing the port you want to program. If you choose a Service Modem or RS-232, all of the event types shown in the figure are available for routing. If you choose one of the DACTs, the following event types are **not** available.
   - System Reset
   - Alarm Silence
   - SMPL Print Statements
   - Walk Test Events
   - ACTIVE State Events
   - Time/Date Updates

2. In the Event Types list, located on the right side of the window, click on the checkboxes corresponding to the event types that you want to route to the device selected in Step 1.

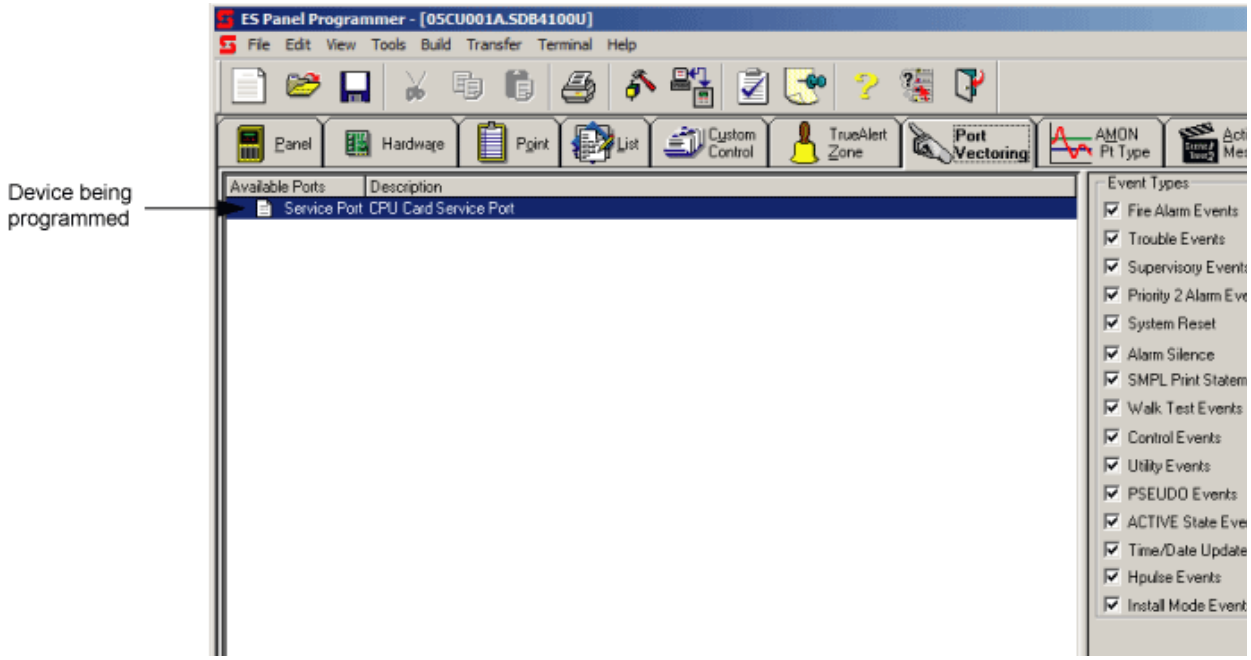

Figure 12-1. Port Vectoring Window

Chapter 11
Programming TrueAlert Zones

Introduction

This chapter describes creating TrueAlert zones, which are groups of NAC devices attached to the panel via a 4009T TrueAlert NAC controller.

In this Chapter

Refer to the page number listed in this table for information on a specific topic.

Overview

TrueAlert Zone Description

Power, control, and supervision of TrueAlert devices (horns, strobes, or A/V combinations) occurs over a single pair of wires, referred to as a TrueAlert channel. The TrueAlert Zone tab provides a way to group TrueAlert NAC devices into zones, regardless of the channel on which they reside. Grouping TrueAlert devices allows you to do the following:

- Create logical groups of TrueAlert NACs for use within Custom Control equations. For example, when doing a "Floor Above/Floor Below" application within Custom Control, you might put the audibles and visuals for each floor in a separate TrueAlert zone. These zones can then be referenced by their point name (SIG908, for example) within a Custom Control equation.

- Assign a different point type to groups of similar devices. For example, you may have some audible devices (horns) that sound when an alarm occurs and others (bells) that should sound when a trouble occurs. To accomplish this type of functionality, you could create one group that includes all of the horns and has an RSIGNAL (on until reset) or SSIGNAL (on until silence) point type, and another group that contains the bells and is assigned a TSIGNAL (on until trouble acknowledged) point type.

- If selective signaling is used, SIG-901 (TrueAlert Zone 2) and SIG-903 (TrueAlert Zone 4) point types need to be changed to the generic "SIGNAL" point type.

TrueAlert Zone Window

The TrueAlert Zone window, accessed by clicking on the TrueAlert Zone tab, allows up to 56 user-defined TrueAlert Zones to be created. The first eight groups are reserved by the programmer. Figure 11-1 shows the TrueAlert Zone window and identifies some of its key elements.

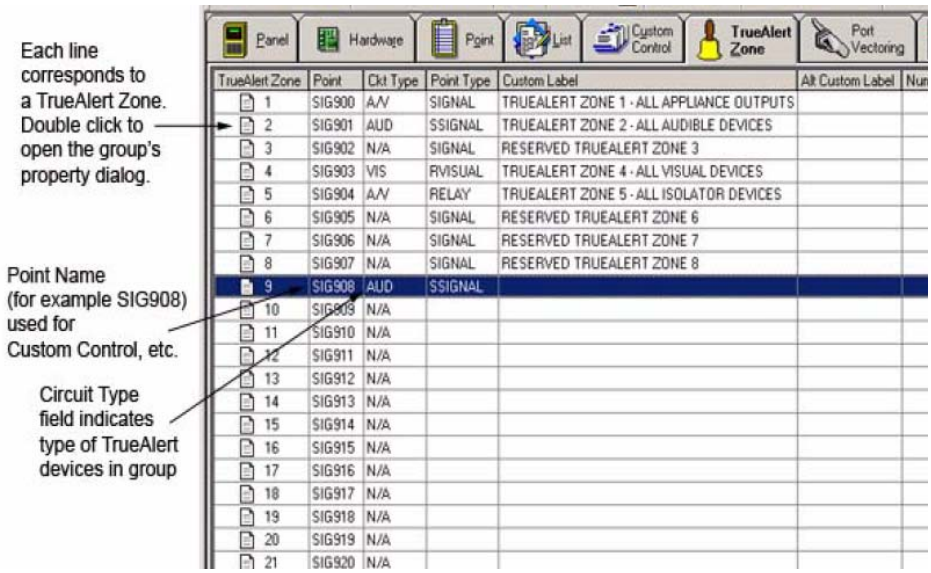

Figure 11-1. TrueAlert Zone Window

Creating and Editing TrueAlert Zones

Setting TrueAlert Zone Properties

Each TrueAlert Zone uses a property dialog similar to the one shown in Figure 11-2. Access this dialog for a specific group by double clicking on the group's line within the TrueAlert Zone window.

1. Edit the properties of the TrueAlert Zone, as follows:

   - Circuit Type. Use this list box to specify what type of TrueAlert devices are contained in the zone. Choices are AUD (group contains audible TrueAlert devices, VIS (group contains visual TrueAlert devices), or A/V (group contains both portions, audible and visual, of TrueAlert device).
   - Point Type. Controls the way in which the system reacts when a member of the TrueAlert zone enters an alarm, trouble, or supervisory state. Refer to Appendix A for a listing of point types.
   - Custom Label. Text you specify inthis field appears on the LCD display when a point withinthe zone enters an alarm, supervisory, or trouble state.

2. Click on the **Apply** button to save the changes.

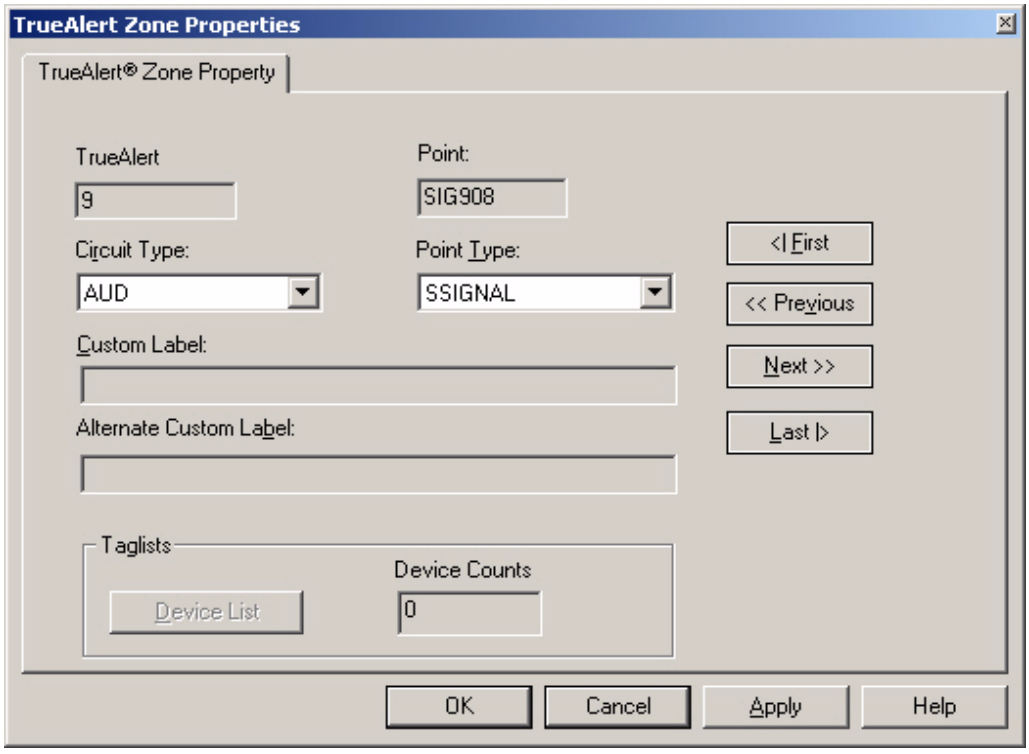

Figure 11-2. Setting Properties for a VNAC Group

Continued on next page

Using the Taglist to Add Devices to the Zone

Click on the **Device List** button to see the list of TrueAlert devices that can be added to the zone. The list of devices that you see depends on what you chose for the group's Circuit Type **and** the way in which the Device Types were programmed for the TrueAlert controller points. For example, if the TrueAlert controller contains no points with a Device Type of Horn and the group's Circuit Type is Aud, no devices will appear in the taglist.

Highlight the point you want to include in the zone, using either the arrow keys or the mouse pointer. Press the Space bar to tag the point. A >> symbol appears to the left of the point to indicate that it is selected and the Tagged field updates to indicate the total number of tagged points in the list.

Click **OK** to close the tag list. The TrueAlert Zone window reappears. The number of devices field, located on the far right of the window, updates to show the total number of devices in the group.

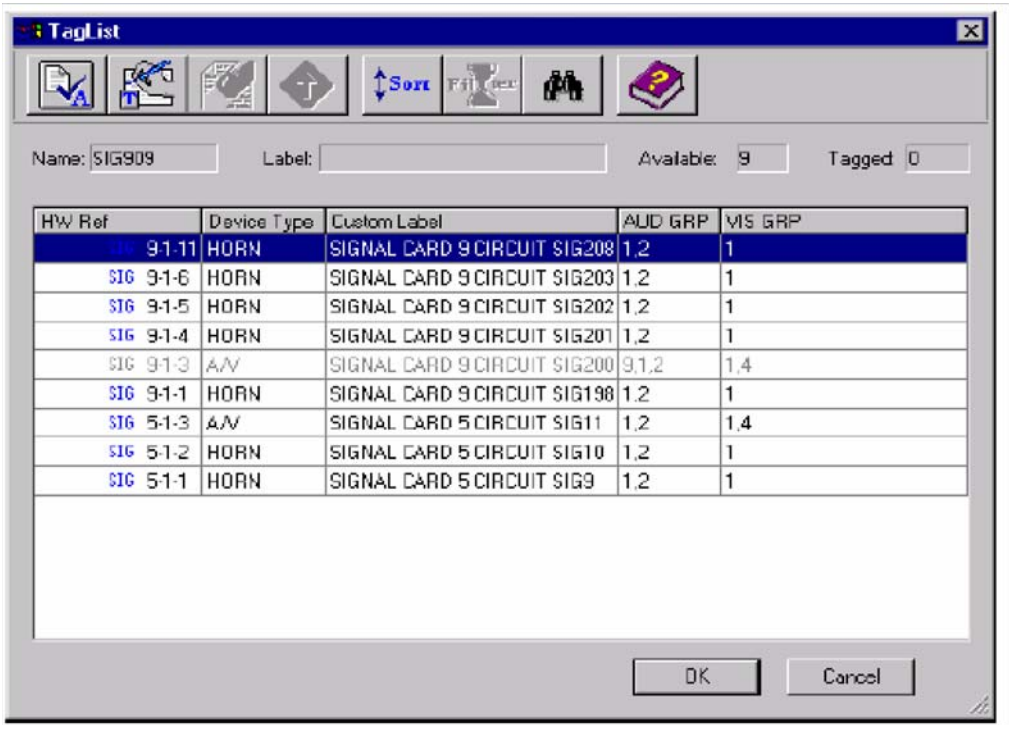

Figure 11-3. Taglist for TrueAlert Zone Devices

Chapter 13
AMON Point Types

Introduction

This chapter describes creating custom point types (referred to as AMON point types) for use with analog monitor ZAMs. These point types allow descriptive text and device-specific settings to be associated with a point name.

In this Chapter

Refer to the page number listed in this table for information on a specific topic.

Adding or Editing an AMON Point Type

Overview

This tab shown in Figure 13-1 is for use only with MAPNET and IDNET analog monitor ZAMs. It allows you to create a custom point type that specifies how the ES Panel system should interpret (i.e., react to) incoming analog data from the device attached to the ZAM. This point type can then be assigned to the ZAM using the IDNET point editing screen, which is accessible through either the Hardware or Point tab. For example, if you have an analog device that measures the amount of liquid within a tank, you can use this tab to create a point type that specifies what the unit of measurement is (gallons, for example) and what the threshold value(s) for an alarm should be (generate an alarm when the tank is half empty, for example).

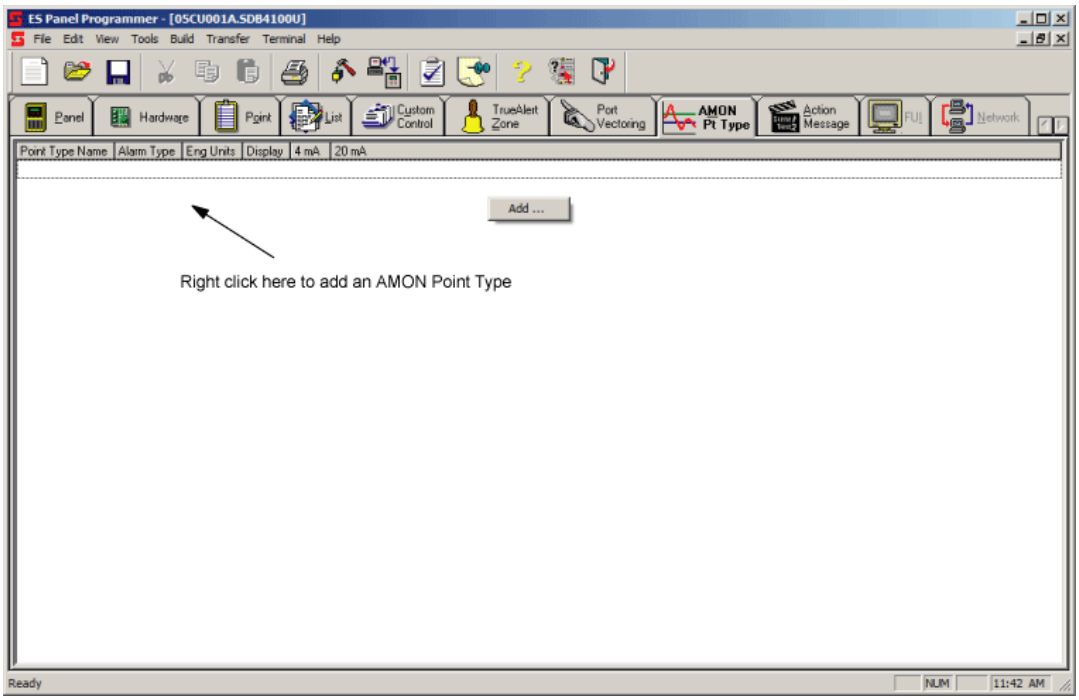

Figure 13-1. AMON Point Type Tab

Adding a Point Type

The AMON Point Type Tab uses a wizard-style interface that guides you through the process of creating an AMON point type.

1. To start this wizard, right click in the blank space just below the Point. When the menu appears, click on **Add**. A dialog similar to the one shown in Figure 13-2 appears.

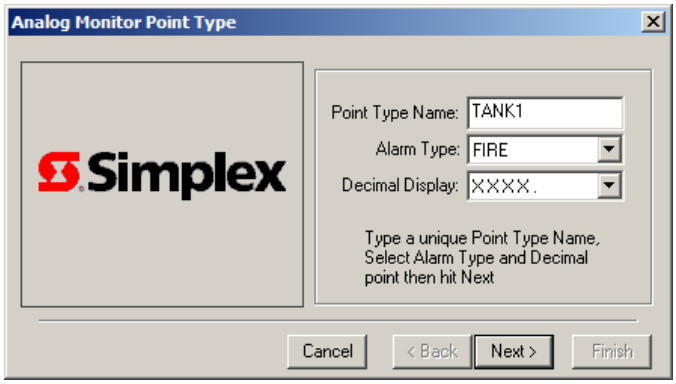

Figure 13-2. Initial AMON Point Type Dialog

Continued on next page

Adding a Point Type

2. Enter data in the initial dialog's fields, as follows.
   - **Point Type Name**. Enter a seven-character name for the point in this text entry field. This point name can then be assigned to the analog ZAM via the MAPNET point editing screen. The point editing screen is accessible through either the Hardware Tab (double click on the MAPNET card's icon) or the Point Tab (scroll through the points and locate the MAPNET point for the analog ZAM).
   - **Alarm Type**. The alarm type you choose determines how the ES Panel reacts when the device attached to the ZAM crosses the threshold that you define for it. (The threshold is defined in a step described below.) Choices for this field are as follows.

Table 13-1: Alarm Type

Alarm Type	Description
FIRE	Causes the system to generate a fire alarm when the device crosses the threshold.
LATSUPV	Creates a latching supervisory condition when the device crosses the threshold. This means that the supervisory condition on the panel does not clear until the point restores to normal and a system reset is performed.
MPRI2	Generates a priority 2 alarm when the device crosses the threshold.
SUPERV	Generates a Supervisory condition when the device crosses the threshold.
TROUBLE	Generates a trouble condition when the device crosses the threshold.
UTIL	Defines the point to be a pseudo point, having a value of either ON or OFF. Typically used as a trigger for custom control (i.e., perform some action if the point turns ON.

   - **Decimal Display**. This field specifies the degree of precision for the device reporting data (how many digits after the decimal place does the device report). If the device reportsdata one unit at a time, choose the XXXX. choice. If the device reports data in 10ths of a unit, choose the XXXX.X selection. If the device reports data in 100ths of a unit, choose the XXXX.XX choice.

3. Click the **Next** button to view the dialog shown in Figure 13-3.

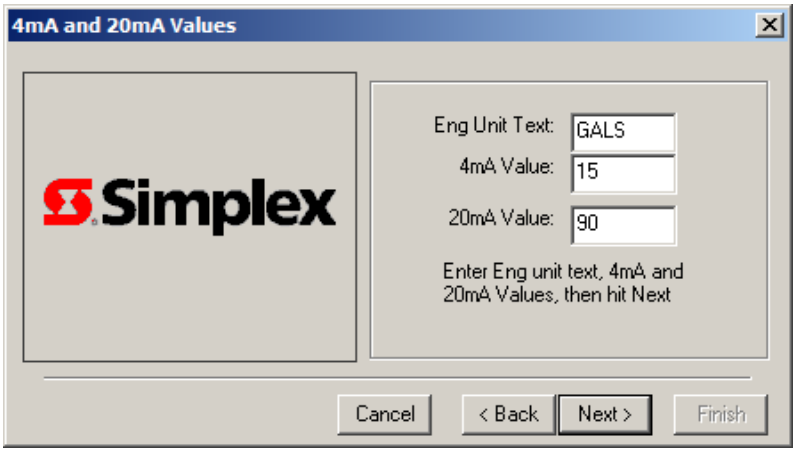

Figure 13-3. 4mA and 20 mA Values Dialog

Continued on next page

Adding a Point Type

4. Enter data in the 4mA and 20mA Values dialog, as follows.

Table 13-2: 4mA and 20mA Values

Field	Description
Eng Unit Text	The "unit" (ppm, gal, psi, etc.) text that appears on the front panel display when you display the current value of the device via the front panel. For example, if a monitor device with a monitoring capability of parts per million is attached to the ZAM, you might put **ppm** in this field.
4mA Value	This is the lowest value that the device reports. When the device is at this value, it draws 4mA of current from the ZAM.
20mA Value	This is the highest value that the device reports. When the device is at this value, it draws 20mA of current from the ZAM.

5. Click the **Next** button at the bottom of Figure 13-3 to continue. A dialog similar to the one shown in the next figure appears

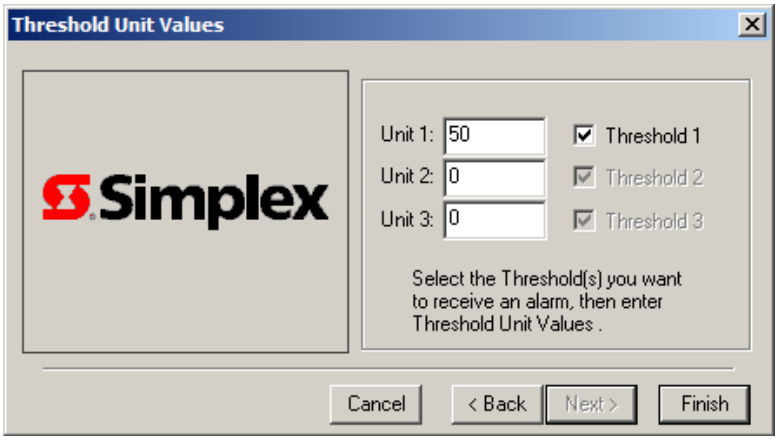

Figure 13-4. Threshold Unit Values Dialog

6. In the Threshold Unit Values Dialog, you can specify up to three thresholds.

   - **Threshold Checkbox**. Place a check in this box if you want the system to generate an event (the specific type of event depends on what you chose for Alarm Type in Step 2) when the device being measured **goes above** the value that you specify in the Unit field.
   - **Unit Field**. This is the value that the device must pass to trigger the alarm condition.

7. Click **Finish**.

Chapter 14
Programming the InfoAlarm

Introduction

This chapter describes programming a InfoAlarm through the FUI tab.

In this Chapter

Refer to the page number listed in this table for information on a specific topic.

FUI Tab Overview

Introduction

The ES Panel programmer's FUI tab, located on the top right of the programmer (see Figure 14-1), contains all the visual configuration options for the InfoAlarm. The FUI tab can only be accessed once either a InfoAlarm annunciator or a box with a InfoAlarm has been installed in the hardware settings.

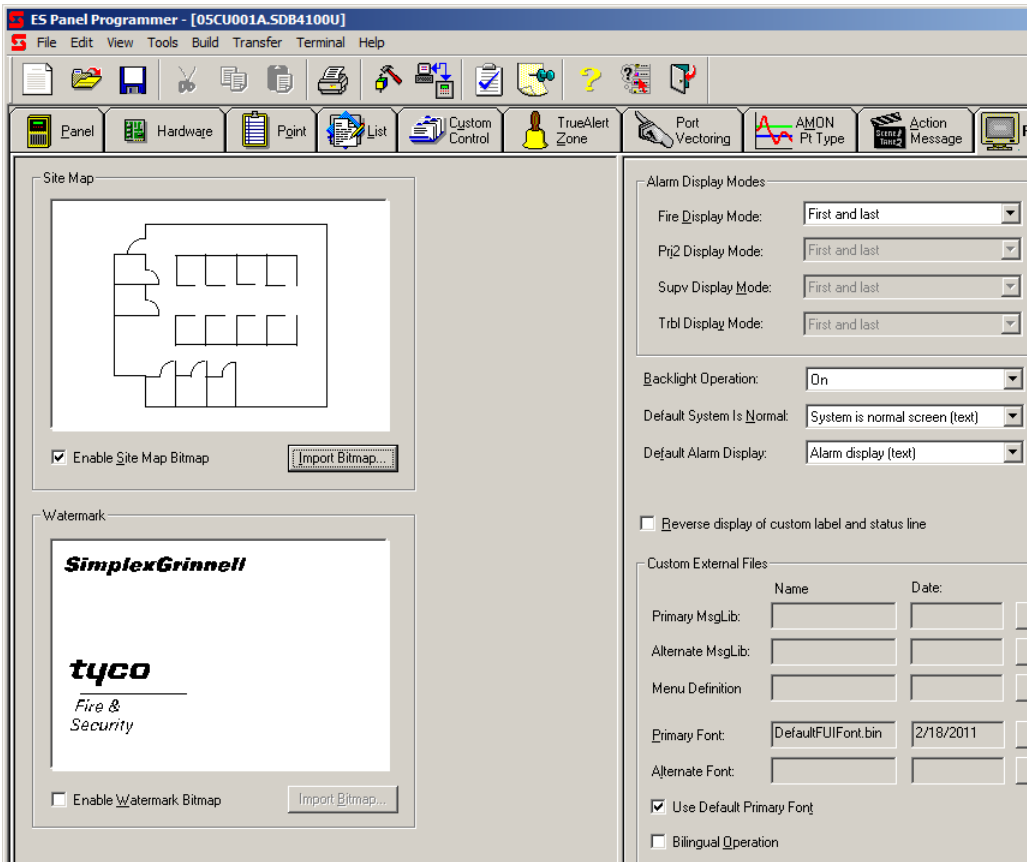

Figure 14-1. FUI Tab

Specifying Bitmap for use with Site Map

The InfoAlarm display can be configured to display either a text-based status screen or a site-specific bitmap. If you choose to use the sitemap, follow the directions in this section to create and configure the bitmap.

1. Use a drawing program to create a black and white bitmap image (BMP) that measures 281 (W) by 192 (H) pixels. Larger images will be clipped, while smaller images will be centered.

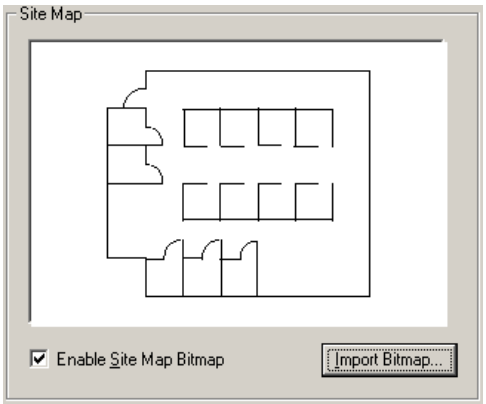

Figure 14-2. Site Map Option

Continued on next page

Specifying Bitmap for use with Site Map

2. Make sure that the box to the left of "Enable Site Map Bitmap" is checked.
3. Click on the "Import Bitmap" button. A dialog appears, allowing you to specify the location and the name of the sitemap's bitmap file.

Figure 14-3. Default Screen Settings

4. Click on the pull down menus beside either Default System Is Normal or Default Alarm Display, and select Site Map in order for the image to appear during normal operation or an alarm mode respectively.

Specifying Watermark Text

Watermark text displays as a ghosted bitmap image in the background of the InfoAlarm screen. To specify a watermark, do the following:

1. Use a drawing program to create a black and white bitmap (BMP) image measuring 281 (W) by 192 (H) pixels.

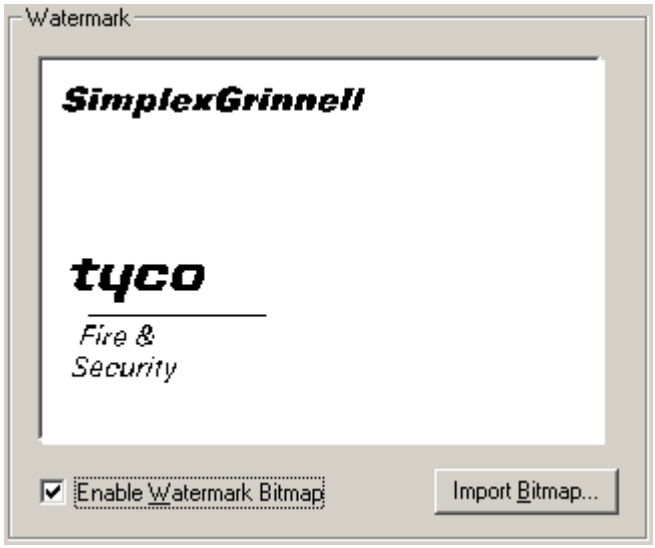

Figure 14-4. Watermark Option

2. Check the box labeled "Enable Watermark Bitmap" to enable display of the watermark.
3. Click on the "Import Bitmap" button. A dialog appears, allowing you to select the location and the name of the watermark's bitmap file.

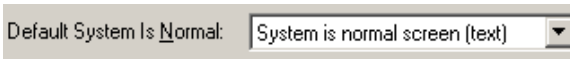

Figure 14-5. Configuring Watermark Display

4. Select the pull down menu beside "Default System Is Normal" and choose the "System is normal screen (text)" option.

Note: The watermark will appear in grey behind the text during normal operation only. It can not be viewed in any other mode.

Contihued on next page

Setting General Options

Set the InfoAlarm's general options as described below:

- **Alarm Display Mode.** Different displays can be selected for the four event types:
  -**First and Last**. Displays first and last unacknowledged alarms in the alarm list.
  -**First 5 and Last.** Displays first five unacknowledged alarms, plus the last alarm in the alarm list.
  -**First Eight**. Displays the first eight unacknowledged alarms in the alarm list.
  -**Direct to List**. Displays the active alarm list.
  -**Generic Alarm Display**. Displays a generic alarm message with no details regarding points. To obtain point information, press ACK to go to the list.

Note: All Alarm Modes can be set identically by checking the box "Use Fire Alarm Setting for All Alarms".

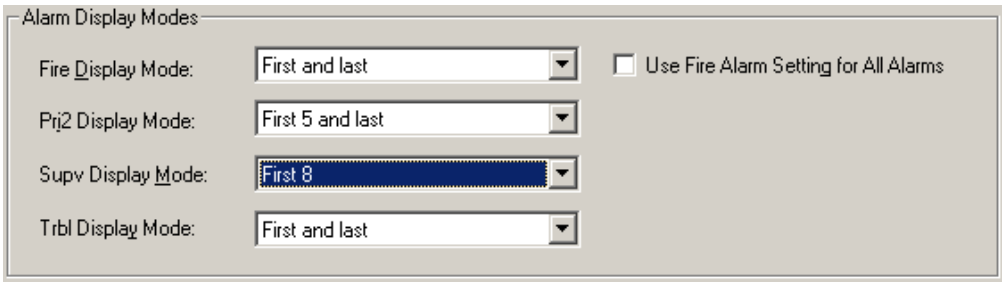

Figure 14-6. Alarm Display Modes

- **Backlight Operation.** Determines whether the InfoAlarm operates with the backlight on or off.
- **Default System Is Normal.** Determines the appearance of the InfoAlarm when no alarm, trouble, or supervisory conditions are present. Two choices are available: System is Normal Screen (text) or Site Map.
- **Default Alarm Display.** Determines the appearance of the InfoAlarm when an alarm is active. Two choices are available: Alarm Display (text) or Site Map.
- **Reverse Display of Custom Label and Status Line.** When checked, the custom label will appear above the status line on the InfoAlarm display.

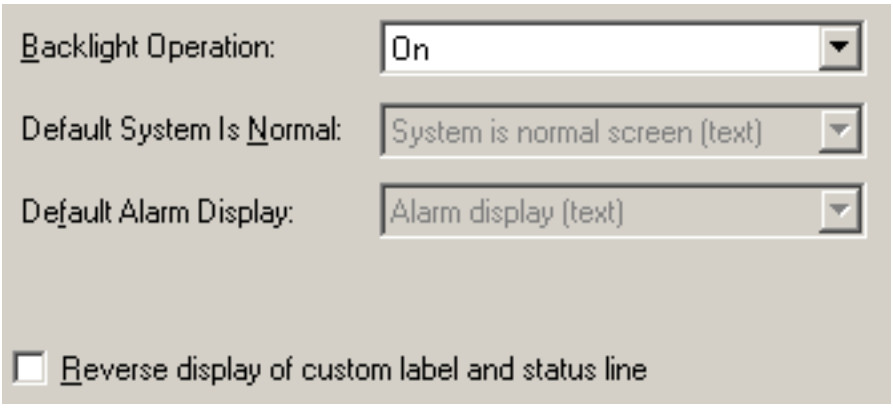

Figure 14-7. Default Screen Configurations

Continued on next page

Advanced FUI Options

Click on the **Advanced** button at the bottom of the InfoAlarm tab. A pop up window appears with the following options:

- **Unsolicited Event Format**. This feature is intended for future use.
- **Use local Menu customization**. Check this box to permit user defined menus in the InfoAlarm.
- **Create separate binary files for direct download on job build**. Check this box when downloading directly to the InfoAlarm. The InfoAlarm binary files will not be included with the CFIG file when building the project. This permits the InfoAlarm files to be downloaded separately from the master CFIG file.

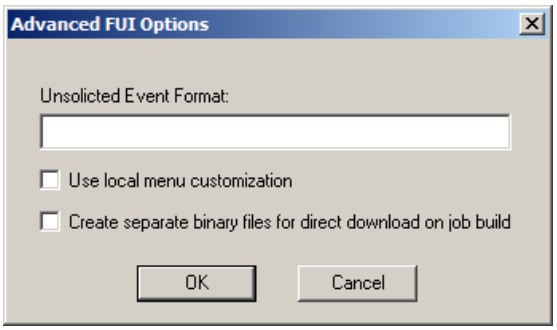

Figure 14-8. Advanced InfoAlarm Options

Setting Site Point Coordinates

Icons representing all points can be placed on the sitemap in the FUI tab. Once a sitemap has been imported the point list can be accessed by clicking on the "Site Point Coordinates" sub-tab at the bottom of the screen. A screen like figure 14-9 will appear.

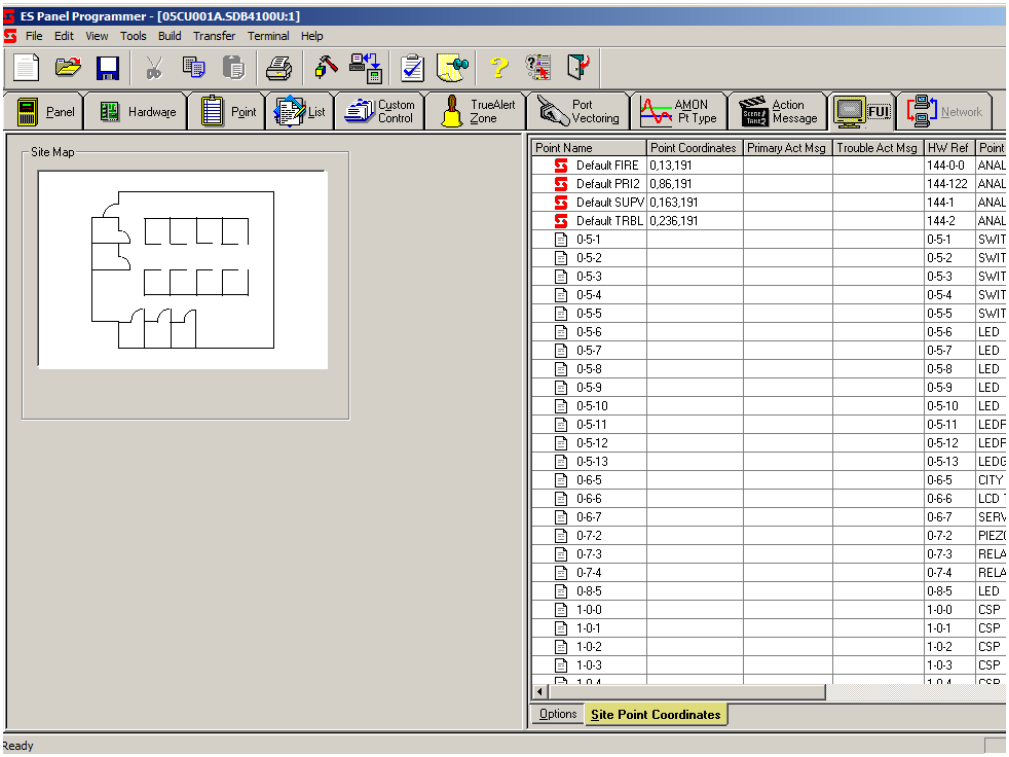

Figure 14-9. Site Point Coordinate Screen

Continued on next page

Setting Site Point Coordinates

Click on the row of the point you want to display on the site map. The row will appear highlighted in grey. Click the row and drag the cursor to a spot on the sitemap. A circular icon will appear. You can repeat this process for as many points as you desire. Highlighting the row again will show the point on the site map.

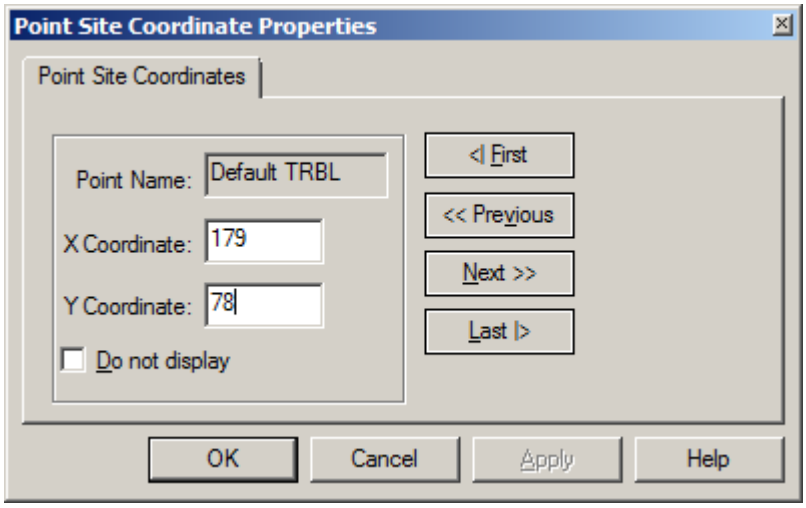

Figure 14-10. Point Site Coordinates Dialog Box

The site point coordinates can be adjusted at any time by double clicking on the desired row. A dialog box will appear with the following options:

- **X Coordinate**. The horizontal position of the point. It must be a number between 1 and 255.
- **Y Coordinate**. The vertical position of the point. It must be a number between 1 and 255.
- **Checkbox for "Use Default Location" for user points; or "Do Not Display" for system points**.
  - **User Points:** If a user wants a point to use the DEFAULT location, click on this checkbox instead of entering 0,0. If the user checks this box, then the X and Y input fields will be disabled. If the user unchecks this box, then the X and Y input fields will be editable. If a point is dropped on the site map, the coordinates will still be automatically assigned and the "Use Default" checkbox will be unchecked the next time the properties are displayed for that point.
  - **System Points:** If the user clicks on the "Do Not Display" for one of the system points (FIRE, PRI2, SUPV, TRBL), the grid will display "NOT DISPLAYED" in the point coordinate field for this point and the X and Y input controls shall be disabled.
- **First**. Selects the first point on the list.
- **Previous**. Selects the point on the list that appears above the selected point.
- **Next**. Select the point on the list that appears below the selected point.
- **Last**. Selects the last point on the list.

Note: On the table, the z coordinate is placed in the x position, while the x coordinate is in the y position, and the y coordinate is in the z position. The z coordinate is always zero.

Programming the InfoAlarm Language

Overview

The InfoAlarm can display two languages to suit local needs. Depending on the language, the steps taken to translate the InfoAlarm commands will differ. At all times, the MsgLib file must be updated. The MsgLib contains every command and text string used in the InfoAlarm. Directions on how to configure the MsgLib can be found later in the chapter.

Standard MsgLib

Version 12.01 and later of the firmware contain three Msglib files: primary, alternative, and a standard English Msglib. The standard English Msglib ensures that traditional English commands can be used to communicate with the InfoAlarm, even if two non-English languages are used as primary and alternate.

Select FUI fonts

The section of the FUI tab labeled Custom External Files allows you to specify the name of the font to be used with the primary and (if necessary) the alternate language. If you are using a primary and an alternate language, click on the checkbox labeled “Bilingual Operation”. If all the characters for the primary and alternate language are contained in the primary font, select only the primary font and check the box labeled “Use Primary Font for Alternate Language”.

If you are using the default English font, select the “Use Primary Default Font” option to insure that your job will include any future changes to the default font.

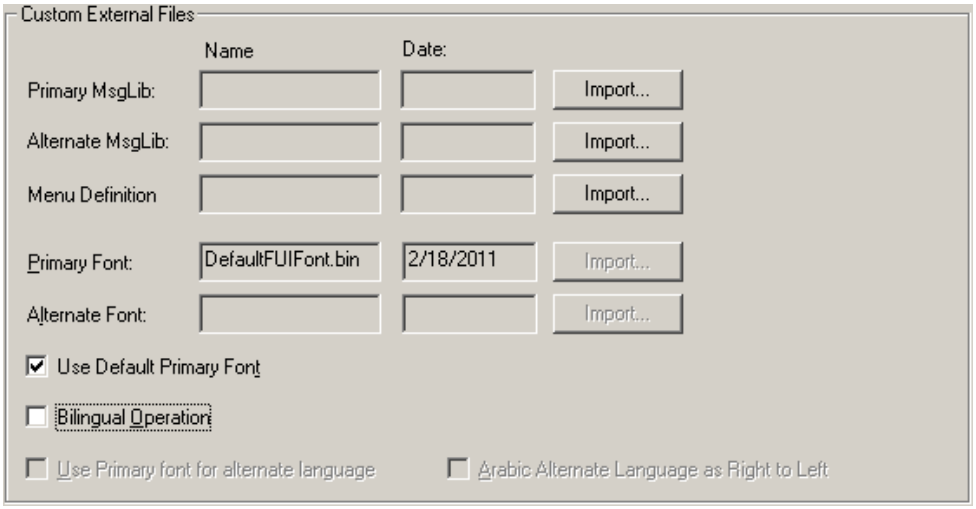

Figure 14-11. Font Selection

To specify the name of either the primary or alternate font, click on the Import button to the right of the field labeled Primary or Alternate. Use the dialog that appears to select the appropriate binary font file.

If you need to create a new binary font file for the InfoAlarm, use the FUI Font builder. Refer to the steps required to cofigure the languages displayed on the next page.

Continued on next page

Programming the InfoAlarm Language, *Continued*

English

The panel ships with a standard English language font and message library file (msglib.dat). This file contains all of the panel's messages (for example, "System Reset in Progress") in English.

- No changes to the msglib.dat are necessary if you are planning to use English as either the primary or alternate language.
- You must set the InfoAlarm options, contained in the FUI tab of the ES Panel programmer.

French/Spanish

The default English language font shipped with the ES Panel contains the standard English language characters, plus additional language-specific characters for the Spanish and French languages.

To use French or Spanish as either the primary or alternate language, keep the following in mind:

- You do not need to create a language-specific font, but you must create and edit an alternate message file that uses French or Spanish phrases in place of the English phrases.

Other Languages

You also need to set the InfoAlarm options, contained in the FUI tab of the ES Panel Programmer.

To use another language as the primary or alternate language, you will need to do the following:

1. Use the provided FUI font utility to capture and edit a language-specific font file. The FUI font utility allows you to scroll through the characters and make minor edits if necessary.
2. Copy and edit the msglib.dat message file, substituting country-specific phrases (using the edited font) for the standard English phrases. Rename the file when you are finished editing.
3. Create country-specific point labels. Use the programmer to edit the panel's custom labels so that point names display in the country-specific font.
4. Set InfoAlarm Options, which control the way in which the InfoAlarm operates.
5. Download message library files to the InfoAlarm.
6. Download job changes to panel.

Editing Country-Specific Font

If the language you wish to use does not use the default English language font shipped with the InfoAlarm, you must first import, verify and (if necessary) edit the characters of the font you wish to use. The FUI font utility samples pre-existing fonts in order to create the font displayed on the panel. Some fonts may be copyrighted, and require permission for use outside of the Windows environment. Be sure to verify that you can legally import your selected font.

Continued on next page

Starting the FUI Font Utility

1. Click Start. Use the pointer to select Programs > Simplex > ES > FUI Font Utility. The Font Utility appears as shown in Figure 14-12.

Figure 14-12. Font Utility Screen

2. The first prompt directs you to choose one of the following options:

   - **Select Windows Font to Create an Intermediate Text File**. Choose this option if youwant to edit one of the Windows fonts installed on your computer to create a InfoAlarm compatible font.
   - **Build InfoAlarm Binary Font File**. Choose this option if you have already created and edited a text font file and you want to build it into a InfoAlarm binary font file.

Continued on next page

Creating and Editing a Text Font File

A text font file is an editable text file created by the InfoAlarm font utility. After creating this file, you can use Windows Notepad to verify and modify each character in the font.

1. Choose the button labeled, "Select Windows Font to Create an Intermediate Text File", as described in the previous section.

   A screen similar to the one shown in Figure 14-13 appears, allowing you to select the source font for the text font file. The screen permits you to choose fonts for the main font and the small font. The main font is the set of characters used for system messages. The small font is the set of characters used with the context sensitive softkey keys. You can also set the height and width of the font.

Figure 14-13. Select the Source Font

2. Click on the **Select** button under the heading Main Font. A window appears allowing you to scroll through a list of the fonts installed on your computer. Locate the font you want to use, and click on the **OK** button. Do the same for the box under the Small Font heading.

Note: The FUI Font Creator does not scale the size of the imported font. Depending on the size of the font selected, some of the characters might appear clipped.

3. Set values for the boxes labeled Font Width and Font Height, as follows:

   a. Determining the proper size for your country-specific font may require some experimentation. The font size determines the number of lines and characters available per line on the InfoAlarm screen. If a font is too large certain features will not display. The standard English font is 5x9 pixels, and has 40 characters per line. To select your font size use the following formulas:

   • **The Number of Available Lines** = 240/(*fontheight* + 3) — 4

   • If the font widthy is 14 pixels or less,

   The Number of Characters per Line = 280/(*fontwidth* + 2)

   • If the font width is greater than 14 pixels,

   The Number of Characters per Line = 280 — [(*fontwidth* — 14) x 2]/(*fontwidth* + 2)

Continued on next page

Creating and Editing a Text Font File

b.The following features require a specific number of lines or characters per line:

Table 14-1: Lines Required for InfoAlarm Features

Feature	Minimum Requirements
First and Last Alarm mode	8 lines
First 5 and Last Alarm mode	14 lines
First 8 Alarm mode	16 lines
Time/date strings	17 characters

c.Make sure the box(es) labeled Generate contains a check for the font(s).

d.Check the "Use main font for both" box to use the main font as both the main and small fonts.

4. Click **Next** to continue. A screen similar to the one shown in Figure 14-14. appears

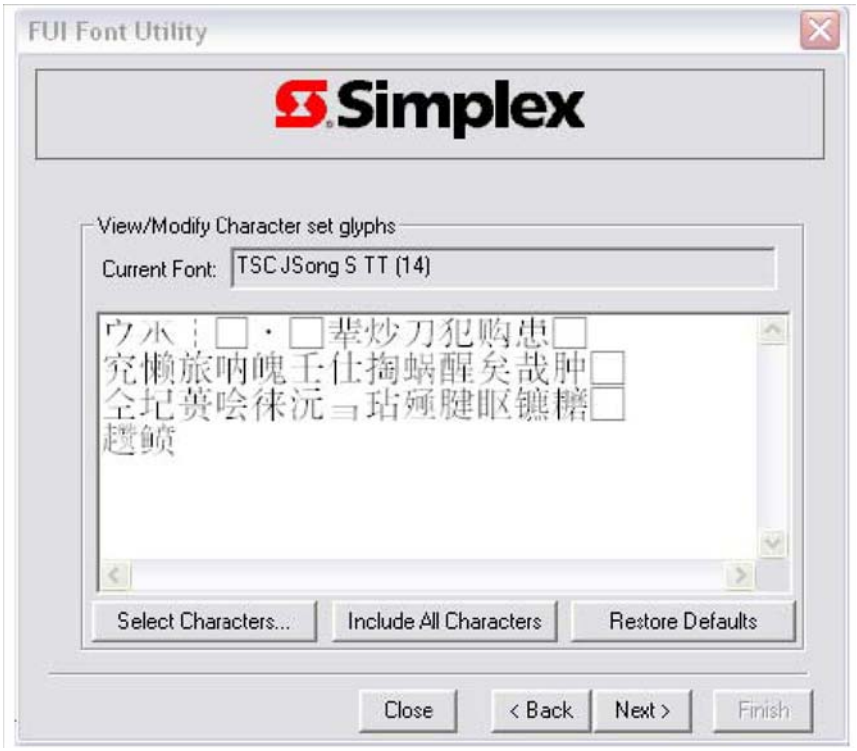

Figure 14-14. Selecting Characters

5. Highlight and delete all unwanted characters. Use the buttons shown in Figure 14-14 as follows:

- **Select Characters**. Choose this button to specify a text file containing characters to include in the font.
- **Include All Characters**. Click this button to select all of the characters in the font.
- **Restore Defaults**. Select this button if you have added characters, using the "Select Characters" button, and you want to restore the font to its original set of characters.

Continued on next page

Creating and Editing a Text Font File

6. Click **Next** to continue. A screen similar to the one shown in Figure 14-15 appears.

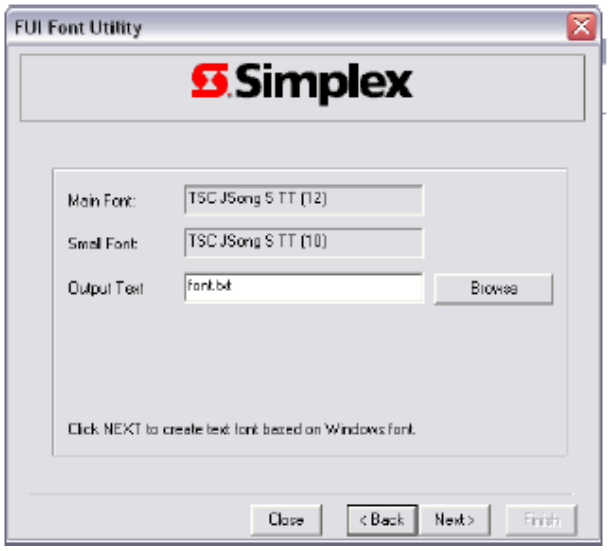

Figure 14-15. Specifying Output Text

7. Use the fields and buttons shown in Figure 14-15 as follows:

   - **Output Text**. This is the name of the file that will be generated. The default name is font.txt. Use the Browse button to select the directory in which the file will be stored.

8. Click **Next** to continue. A screen similar to the one shown in Figure 14-16 appears.

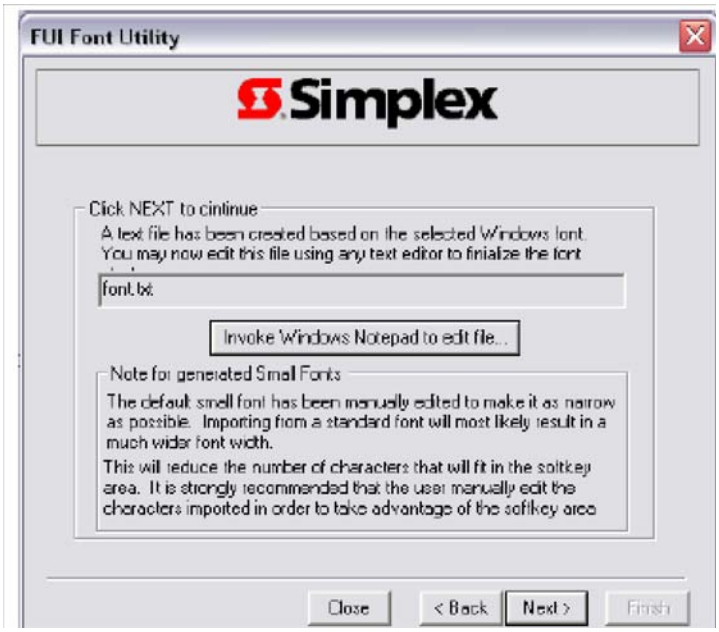

Figure 14-16. Invoking Windows Notepad Screen

Continued on next page

Using Notepad to Verify and Edit Font Characters

After you click on the button labeled “Invoke Windows Notepad to Edit File”, shown in Figure 14-17, the Windows Notepad text editor appears, containing the output of the text font file.

Font characters appear within Notepad as shown below .

Figure 14-17. Editing Font with Notepad

Each character within the file contains the number of rows and columns that you specified when you set the width and height.

Examine each character in the font carefully. Make sure that the characters are not truncated on either the top or the sides. Also make sure that there is not too much space surrounding each character.

If you need to edit a character, you can do so using the period and pound sign keys. Place a period at any point in the character's grid where nothing should appear. Place a pound sign at any point in the grid where a portion of the character should appear.

If you make edits, make sure to click on the “File” menu and select “Save” after editing the file. Close Notepad when you are done.

Continued on next page

Building the Text Font File

After closing Notepad, the screen shown in Figure 14-16 reappears. Click Next to continue. The screen shown in Figure 14-18 appears. This screen allows you to build a binary font file, which is the file used to alter the panel's message library file, from a text font file.

- Use the **Browse** button, located to the right of the input text or the output binary field to select the source input text font file or to specify a name for the output binary font file.
- To build the binary font file now, click the **Finish** button. To skip building the file, click on **Close**.

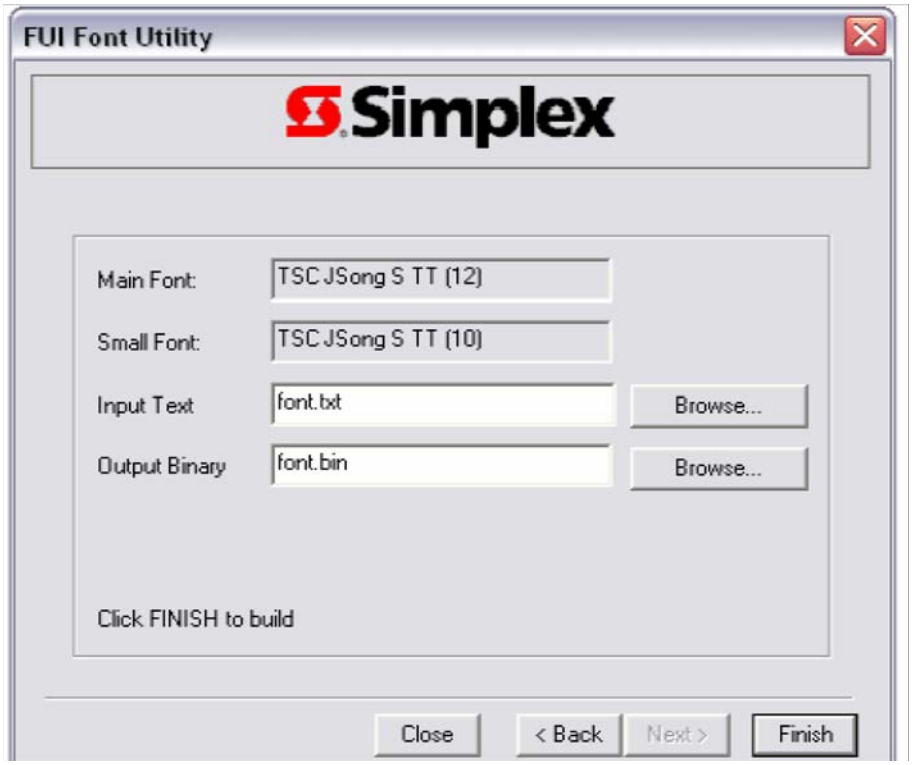

Figure 14-18. Building Binary Font File

Importing Binary File

In the FUI tab, choose either the primary or alternate language for your font, and click on the **Import** button beside the language designation. A window appears allowing you to locate the new binary file. Select the correct bin file and click Open. The file name will appear in the InfoAlarm to indicate that it is ready to download to the panel.

Chapter 15
Adding or Editing Network Information

Introduction

This chapter describes the following network-related procedures.

- Defining the panel's Public and External points.
- Setting the Network Information fields for the panel.

In this Chapter

Refer to the page number listed in this table for information on a specific topic.

Overview

Role of the Network Programmer

Programming a network of ES Panel FACPs requires the use of two programmers, as follows.

- Simplex New Network Programmer. Use this programmer to create a new network or edit an existing network. Opening an existing network job with the network programmer spawns the ES Panel programmer, which can then be used to declare the public and external points for that node.
- ES Panel Programmer. The ES Panel programmer works along with the Simplex Network Programmer. It allows you to specify the panel's public and external points.

Public Versus External Points

A ***public point*** is a point connected to this panel that you want to be visible to other nodes on the network. In other words, when the status of the point changes, you want it to annunciate its status on the other node.

An ***external point*** is a point on another node. Declaring it to be an external point allows its status to be annunciated on this panel.

For example, when you want changes to the status of the panel's points to report to a central annunciator, such as a GCC, you would use the ES Panel programmer to declare the panel's points (or a subset of its points) public. Likewise, on the GCC, you would declare the panel's points as external.

General Network Programming Guidelines

Use the following guidelines when programming

- All nodes must have the same version or a compatible version of software and firmware.
- All nodes must use the same baud rate.
- To reduce Net activity and increase efficiency, it is recommended that you do the following:

  -Avoid making control points Public.

  -Program all control functions in the node that contains the control points.

  -Use Lists to minimize the network traffic. (Nest only one list within a main list.) Do not make a list Public that already contains External Points.

  -Do not use the SET command when writing Custom Control for a Network node unless absolutely necessary. It acts on every poll cycle and slows down the network response time. Use TRACK rather than SET whenever possible.
- Do not make an NDU point Public above offset 1535.
- Never set the value of an External Analog Pseudo Point through the Network.
- Do not use P212, P210 or P211 at the same time for Network System Reset. Refer to Pages B7 and B8 for correct programming.
- Use P217 for Network Signal Silence. Refer to Pages B7 and B8 for correct programming.
- Avoid Version Mismatch. If you change a label or device type or point type on a point that is EXTERNAL to other nodes, you must build and download all affected nodes. If you change the Job Title in the General Info screen, or the Network Prefix in the Network Points in the Info Screen, you must build all nodes and download all nodes.

ES Panel Programmer Network Tab

The Network Tab, shown in Figure 15-1, provides access to the dialogs used to add and edit the lists of public and external points. Click on the Network Tab to see the screen shown in Figure 15-1.

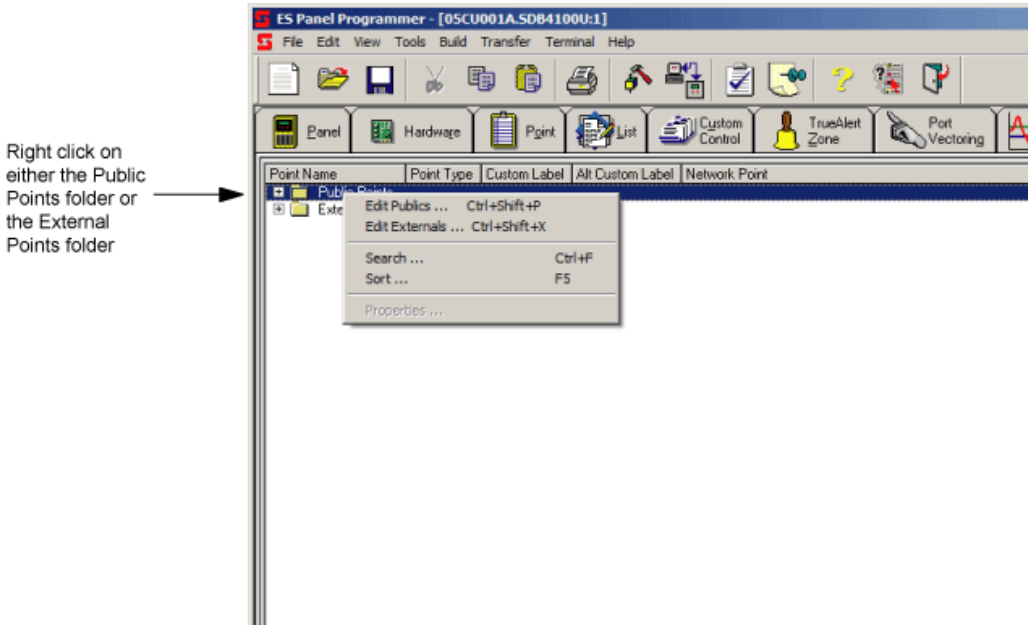

Figure 15-1. Network Tab

Continued on next page

Declaring Public Points

Procedure

Use the following procedure to define the panel's public points.

1. Right click on the Public Points folder and select the **Edit Public** choice. The tag list is shown in Figure 15-2.

2. Position the highlight on a point and press the space bar to tag the point. A >> symbol is shown to the left of the point to indicate that it is selected. (To remove this symbol and deselect a point, highlight the point and press the space bar again.)

   To select a contiguous group of points, click on the first point in the group, press the SHIFT key and click on the last point in the group you want to select.

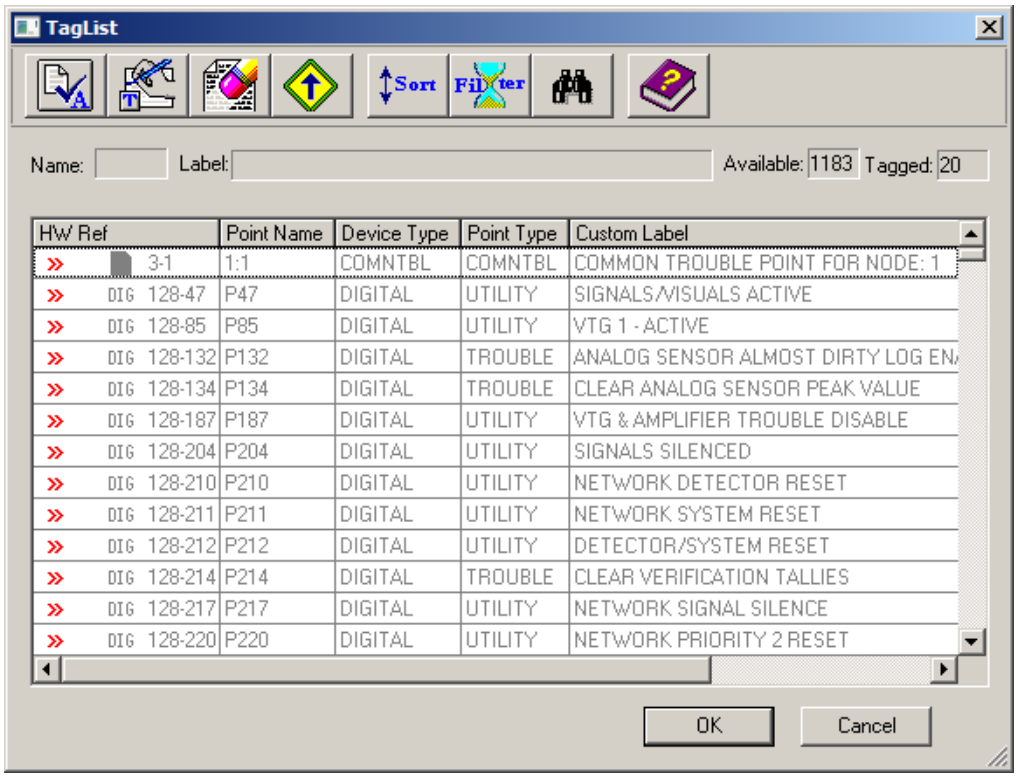

Figure 15-2. Public Points Tag List.

Declaring External Points

Procedure

Use the following procedure to define the panel's external points.

1. Right click on the External Points folder and select the **Edit Externals** choice. The dialog shown below appears. Click on the drop down list box and select the number of the node containing the points you want to declare external.

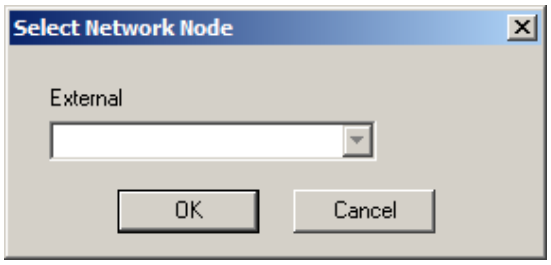

Figure 15-3. Select Network Node

2. Click **OK**. The tag list shown in Figure 15-4 appears. This taglist contains all of the points that are currently declared public on the node selected in Step 1 above.

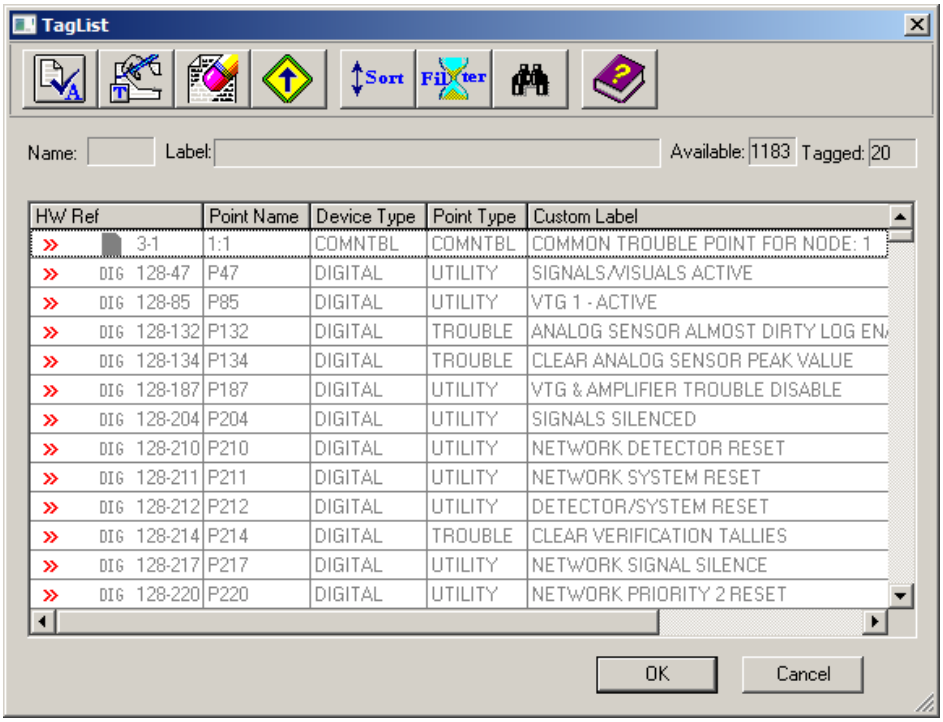

Figure 15-4. Tag List for External Points

3. Position the highlight on a point and press the space bar to tag the point. A >> symbol is shown to the left of the point to indicate that it is selected. (To remove this symbol and deselect a point, highlight the point and press the space bar again.)

   To select a contiguous group of points, click on the first point in the group, press the SHIFT key and click on the last point in the group you want to select.

Editing Network Information

Gaining Access to the Network Information

The network information fields are contained within the Panel tab. To access these fields, do the following:

1. Click on the **Network** tab, shown in the upper right corner of Figure 15-5.

2. Click on the **Network Information** subtab on the bottom right of the window.

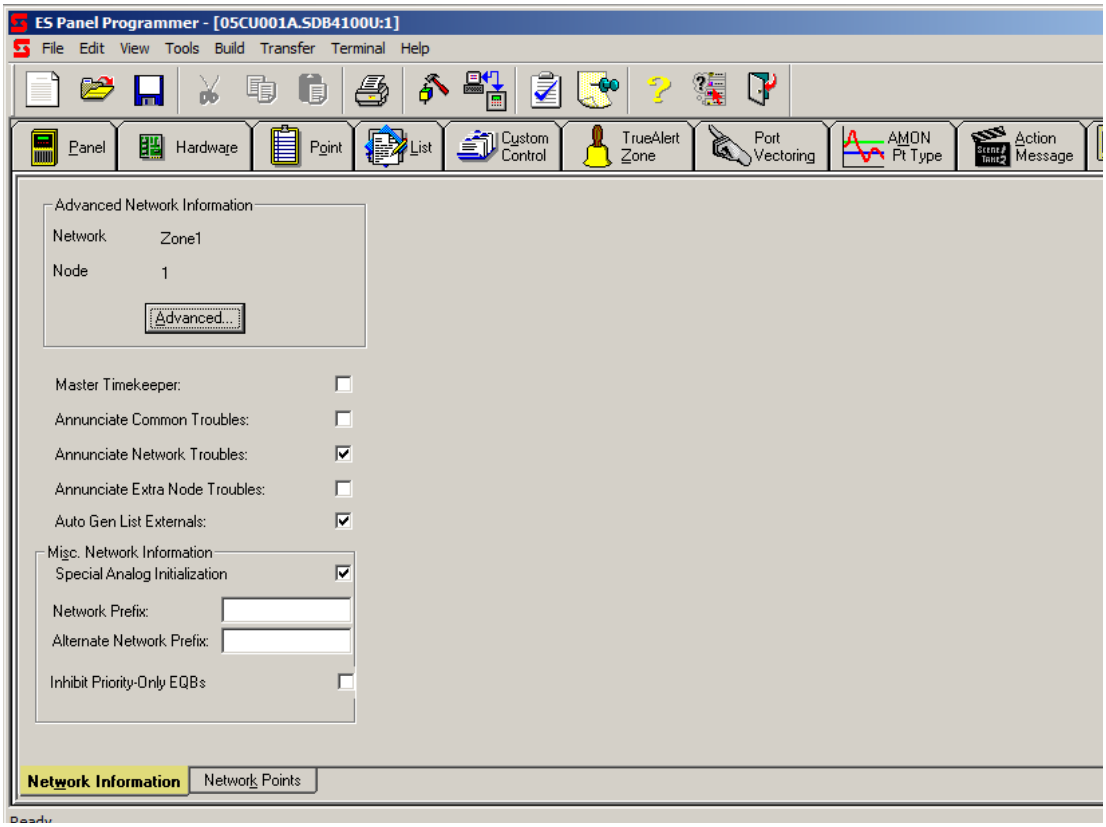

Figure 15-5. Network Tab, Showing Network Information

Editing the Network Name and Node Number

The Network Information tab includes the following fields. Use the guidelines outlined in the table when setting these fields.

Continued on next page

Editing the Network Name and Node Number

Table 15-1: Network Information

	Field	Guidelines
Advanced Network Information	Network	Click on the Advanced button and use the dialog that appears to change the network to which the ES Panel is assigned.
	Node	Click on the Advanced button and use the dialog that appears to change the node number of the ES Panel.
Misc. Network Information	Master Timekeeper	Select to use this panel as the network's master timekeeper.
	Annunciate Common Troubles	Select if you wish to have other panel's common trouble messages annunciated on this panel.
	Annunciate Extra Node Troubles	The Annunciate Extra Node Option prevents a node from annunciating an Extra Node Trouble following the addition of a new node. Guidelines for setting this option are as follows: • Set this option to No on nodes without a need to annunciate events from the new node. • Set this option to Yes on the node that functions as the network's central annunciator.
	Annunciate Network Troubles	Select if you wish to have this panel's Network messages sent to the system's annunciators.
	Auto Gen List Externals	When selected, this option adds the external points from other nodes to the system lists on this node. When it does this, it adds the points to the list based on the point type of the point.
	Network Prefix	Enter descriptive text in this field. This text appears when the more info. field is selected on a GCC.
	Special Analog Initialization	Checking this option prevents analog detectors from sending status on initialization if the value is not an alarm or trouble condition. However, if the analog value indicates an alarm or trouble condition exists, the detector will send its state. If you select this option and you have Custom Control equations that contain the Compare Opcode and Current Value qualifier, be aware that the equation will not trigger on network initialization, but will trigger on subsequent value changes. Also, if analog detectors have a numeric value on a GCC screen, the screen will not update until the point's value changes after network initialization.

Continued on next page

Programming Network Alarm Silence

Introduction

This section describes programming Network Silence and Network Reset. These options can be configured to work in either of the following ways:

- **Central Network Silence and Reset**. With this type of configuration, only one node (known as the Central Network Silence/Reset Node) is capable of initiating a Network Silence or Network Reset.
- **Distributed Network Silence and Reset**. This setup allows a Network Silence or Network Reset to be initiated from any node on the network.

Programming Central Network Silence

Any ES Panel node can be configured as the Central Network Silence Node. Programming Central Network Silence does not invalidate inhibit and cutout timers on each node. Each node handles these functions locally. The figure below provides an overview of Central Network Silence. In this figure, Node 1 serves as the Central Network Silence Node. Each node's P217 pseudo has been declared external on Node 1 and L106 on this node has been edited to include the external points.

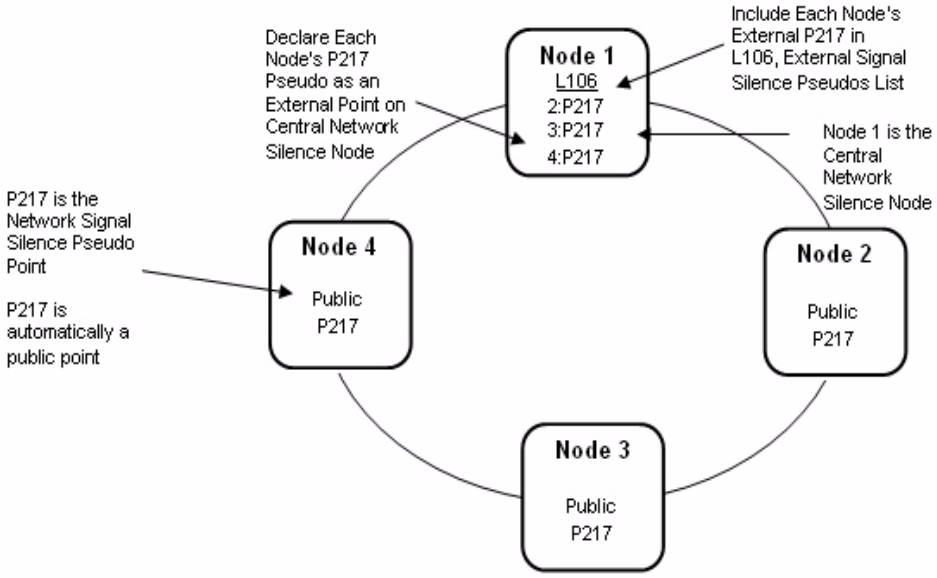

Figure 15-6. Central Network Silence

Follow these steps to program Central Network Silence.

1. Open the **network job**, using the network programmer. Open the job for the node you have designated as the Central Network Silence Node.

2. When the ES Panel programmer appears, click on the **Network** Tab at the top of the programmer. When the Network Window appears, click on the **Network Points** subtab at the bottom of the Network Window.

3. Right click in the **Network Window**. When the choices appear, click on **Edit Externals**. A dialog similar to the following appears. Click on the drop down list box and choose one of the nodes on the network.

Figure 15-7. Select Network Node

Programming Central Network Silence

4. Click **OK** to close the dialog. When you do this, a tag list containing the public points from the selected node appears. Click on **P217 Network Signal Silence** and press the space bar to select the point. Click OK to close the taglist.
5. Repeat Steps 3 and 4 for every node on the network.
6. Click on the List Tab at the top of the programmer. When the List Window appears, click on the General List subtab at the bottom of the window. Scroll through the list, right click on **L106 - External Alarm Silence Points** and select **Tag List**.
7. Click on the **Filter** icon at the top of the Tag List. When the list of choices appears, click on the **Network Externals** check box. All of the External Points appear.
8. Click on each entry for **P217 - Network Signal Silence** (each node on the network should have an entry) and press the space bar to add the entry to L106.

Distributed Network Silence

This setup allows a Network Silence to be initiated from any node on the network. The figure below provides an overview of Distributed Network Silence. In this figure, each node's P217 pseudo has been declared external on the other nodes and L106 on each node has been edited to include the external points.

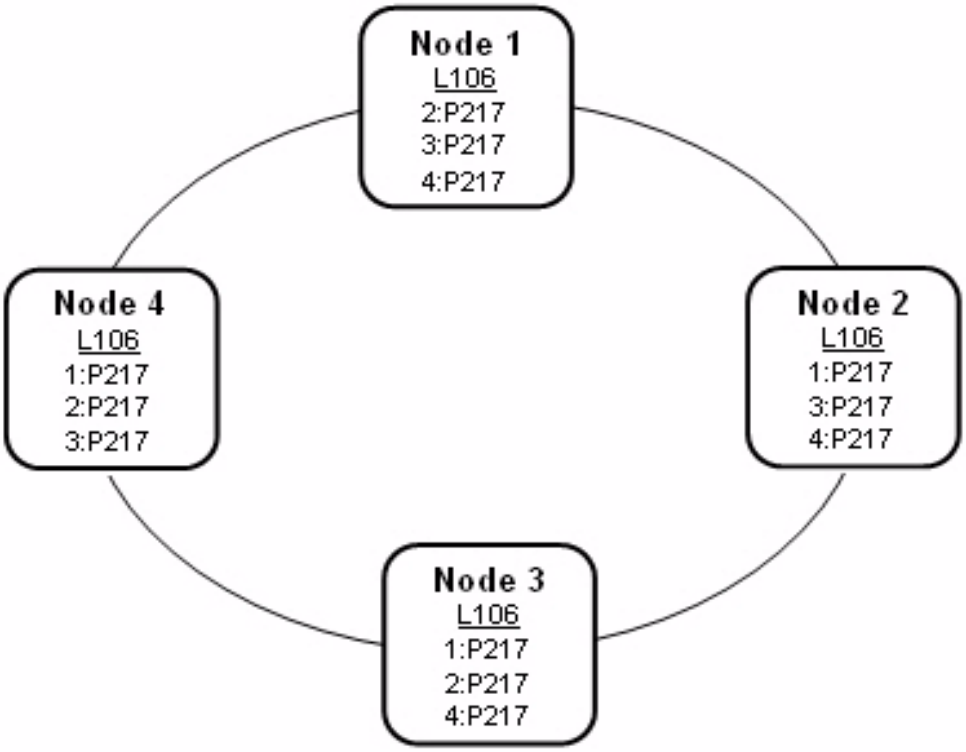

Figure 15-8. Distributed Network Silence

Continued on next page

Distributed Network Silence

To configure Distributed Network Silence, do the following **on each node**.

1. Open the **network job**, using the network programmer. Open the job for one of the nodes.

2. When the ES Panel programmer appears, click on the **Network** Tab at the top of the programmer. When the Network Window appears, click on the **Network Points** subtab at the bottom of the Network Window.

3. Right click in the **Network Window**. When the choices appear, click on **Edit Externals**. A dialog similar to the following appears. Click on the drop down list box and choose one of the nodes on the network.

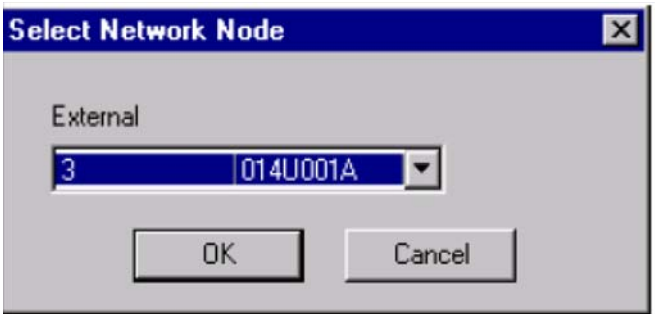

Figure 15-9. Select Network Node

4. Click **OK** to close the dialog. When you do this, a tag list containing the public points from the selected node appears. Click on **P217 Network Signal Silence** and press the space bar to select the point. Click OK to close the taglist.

5. Click on the List Tab at the top of the programmer. When the List Window appears, click on the General List subtab at the bottom of the window. Scroll through the list, right click on **L106 - External Alarm Silence Points** and select **Tag List**.

6. Click on the **Filter** icon at the top of the Tag List. When the list of choices appears, click on the **Network Externals** check box. All of the External Points appear.

7. Click on every entry for **P217 - Network Signal Silence** and press the space bar to add the entry to L106.

8. Repeat Steps 3 through 7 for every node on the network.

Continued on next page

Programming Network System Reset

Central Network Reset

Any ES Panel node can be configured as the Central Network Reset Node. Keep the following in mind when programming Central Network Reset.

- This application performs separate internal Detector Reset and System Reset.
- All General Alarm Points are being monitored and SMPL-controlled by the Central Node.
- System Points involved:
  - -P210 Network Detector Reset/L103 External Detector Reset Points
  - -P211 Network System Reset/L104 External Control Reset Points

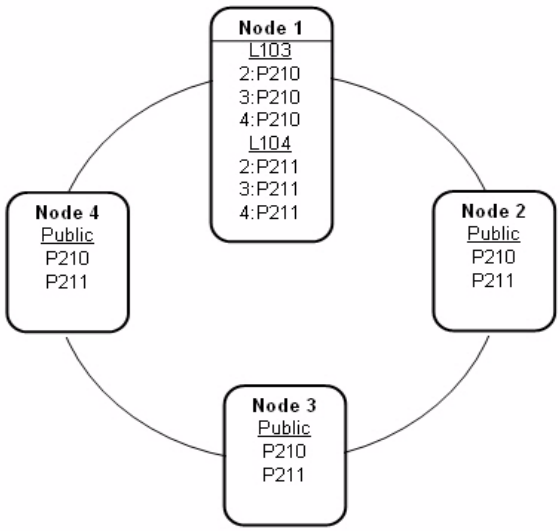

Figure 15-10. Central Network Reset

1. Open the **network job**, using the network programmer. Open the job for the node that will serve as the Central Reset Node.

2. When the ES Panel programmer appears, click on the **Network** Tab at the top of the programmer. When the Network Window appears, click on the **Network Points** subtab at the bottom of the Network Window.

3. Right click in the **Network Window**. When the choices appear, click on **Edit Externals**. A dialog appears. Click on the drop down list box and choose one of the nodes on the network.

4. Click **OK** to close the dialog. When you do this, a tag list containing the public points from the selected node appears. Click on **P210** and press the space bar to select the point. Click on **P211** and press the space bar to select the point. Click **OK** to close the taglist.

5. Repeat Steps 3 and 4 for every node on the network.

6. Click on the **List** Tab at the top of the programmer. When the List Window appears, click on the **General List** subtab at the bottom of the window. Scroll through the list, right click on **L103** and select **Tag List**.

7. Click on the **Filter** icon at the top of the Tag List. When the list of choices appears, click on the **Network Externals** check box. All of the External Points appear.

8. Click on the entry for **P210** and press the space bar.

9. Repeat Steps 6 through 8 for every node on the network.

10. Click on the List Tab at the top of the programmer. When the List Window appears, click on the General List subtab at the bottom of the window. Scroll through the list, right click on **L104** and select **Tag List**.

Central Network Reset

11. Click on the **Filter** icon at the top of the Tag List. When the list of choices appears, click on the **Network Externals** check box. All of the External Points appear.

12. Click on the entry for **P211** and press the space bar.

13. Repeat Steps 10 through 12 for every node on the network.

Distributed Network Reset

With Distributed Network Reset, the following occurs:

- Each node controls its own General Alarm Points.
- System Reset can be initiated from any node and all other nodes may also experience the reset operation.
- System Points involved: P212 Detector/System Reset, and 105 External Entire System Reset Points.

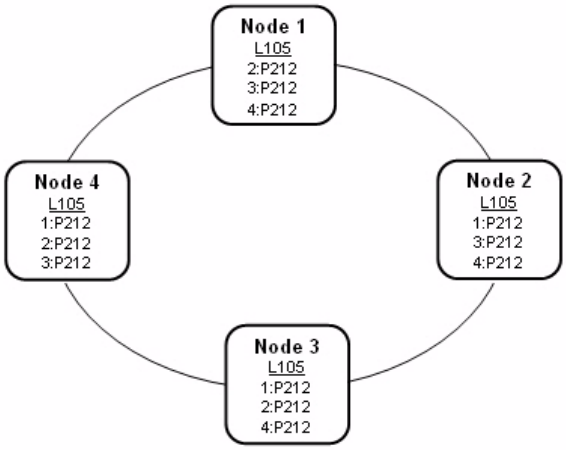

Figure 15-11. Distributed Network Reset

To configure Distributed Network Silence, do the following **on each node**.

1. Open the **network job**, using the network programmer.Open the job for one of the nodes.

2. When the ES Panel programmer appears, click on the **Network** Tab at the top of the programmer. When the Network Window appears, click on the **Network Points** subtab at the bottom of the Network Window.

3. Right click in the **Network Window**. When the choices appear, click on **Edit Externals**. A dialog similar to the following appears. Click on the drop down list box and choose one of the nodes on the network.

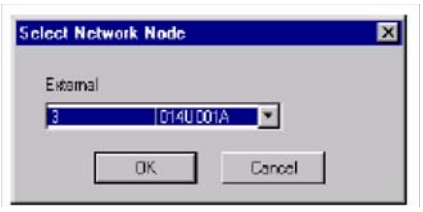

Figure 15-12. Choose Node

4. Click **OK** to close the dialog. When you do this, a tag list containing the public points from the selected node appears. Click on **P212** and press the space bar to select the point. Click **OK** to close the taglist.

5. Click on the **List** Tab at the top of the programmer. When the List Window appears, click on the **General List** subtab at the bottom of the window. Scroll through the list, right click on **L105** and select **Tag List**.

Continued on next page

Distributed Network Reset

6. Click on the **Filter** icon at the top of the Tag List. When the list of choices appears, click on the **Network Externals** check box. All of the External Points appear.
7. Click on every entry for **P212** and press the space bar to add the entry to L106.
8. Repeat Steps 3 through 7 for every node on the network.

Programming the Digital Pseudo Points P463 and P464

Distributed Configuration

The digital pseudo points P463 and P464 are used to raise a trouble when a CO sensor is within 6 or 12 month of its expiration date. A transition from off to on of the digital pseudo point will trigger a check on all CO sensors within the local panel. On site, where multiple panels are linked together over the network, it is possible to synchronize the 2 digital pseudo points on every node. To do so, the remote node must declare the local node's P463 as External, since P463 and P464 are always public by default. Once P463 is imported to the remote node's job, its L170 is automatically updated to include the imported digital pseudo point. The same applies to P464 and L171. So when the remote node P463 is turned on, default SMPL equation 0-164 will turn the local node's P463 to on. To declare an external point, refer to the section "Declaring External Points" in Chapter 15.

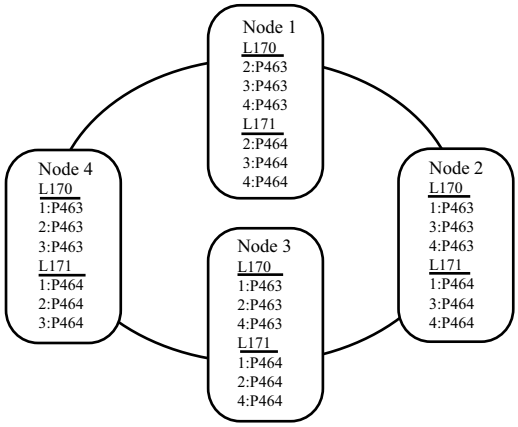

Figure 15-13. Distributed Configuration

1. Open the **network job** by using the network programmer.
2. Open the job for the node that will serve as the central reset node.
3. When the ES Panel programmer appears, click on the **Network Tab** at the top of the programmer.
4. When the Network Window appears, click on the **Network Points** subtab at the bottom of the Network Window.
5. Right click in the **Network Window**.
6. When the choices appear, click on **Edit Externals**. A dialog box appears.
7. Click on the drop-down list box and choose one of the nodes on the network.
8. Click on OK to close the dialog. A tag list containing the public points from the selected node appears.
9. Click on **P463** and press the space bar to select the point.
10. Click on **P464** and press the spacebar to select the point.
11. Click OK to close the taglist.
12. Repeat Steps 5 to 11 for every node on the network.

Chapter 16
File Transfer

Introduction

This chapter describes features associated with IP and Serial File Transfer.

In this Chapter

Refer to the page number listed in this table for information on a specific topic.

IP File Transfer Utility / Connection to the PC

IP File Transfer

The IP file transfer operates exclusively over the Ethernet service port and provides a faster and more fully featured file transfer.

This is how the IP File Transfer works. First, the files that the user transfers are saved in the compact flash that is on-board the NXP CPU board. When the panel is restarted, the CPU bootloader copies the changed files into the operating flash memory in the master. New Slave Exec or Audio data is downloaded by the master once it is running.

IP File Transfer Connection to the PC

The Ethernet service port connects to the front panel Ethernet connection through a standard straight (non-crossover) Ethernet Patch Cable. The service technician should connect his PC to the CPU card through this front panel connection with a standard straight Ethernet cable (see Figure 16-1). If this connection is not available, you may plug directly into the CPU Card connector J1 to the PC with a standard straight Ethernet cable.

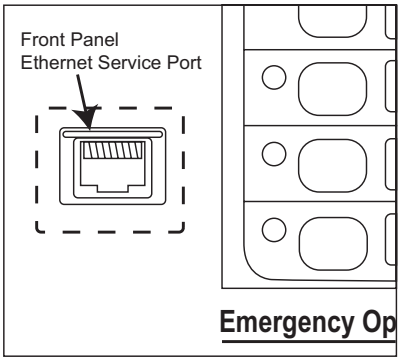

Figure 16-1. Front Panel Ethernet Service Port

Continued on next page

Starting the IP File Transfer Utility

Starting the IP File Transfer Utility

The ES Panel IP File Transfer utility can be started from within the ES Panel Programmer or from the Windows Start menu.

To start the File Transfer:

- **From within the Programmer.** While the programmer is already running, click on the Transfer menu, located along the menu bar at the top of the programmer window. When the options appear, click on **Local Panel**.

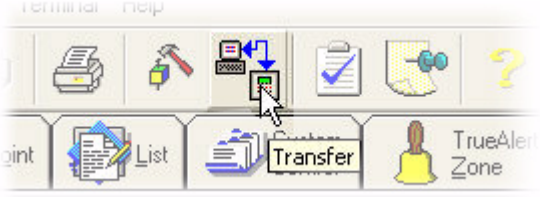

Figure 16-2. Transfer Icon

- **From the Start Menu.** Click the Start button. Move the pointer to the Programs option. When the list of choices appears, move the pointer to the Simplex option and click on the option containing the programmer. A list of options appears. Click on **File Transfer**.

When either one of the start-up procedures has been completed the File Transfer Utility appears.

IP Communication Parameter Settings

Click on the **Settings** button near the top of the IF File Transfer Window to access the Settings Window.

The settings window shows you the IP address the program is currently using working and allows you to change it if necessary.

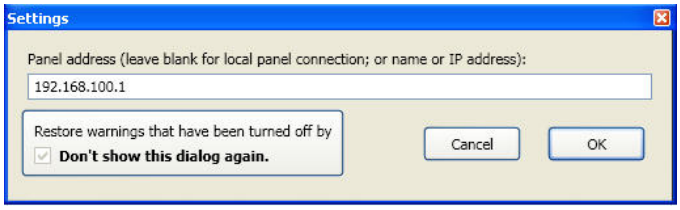

Figure 16-3. File Transfer Settings Window

Click on **OK** to confirm your selection or **Cancel** to erase any modification you made.

Continued on next page

Starting the IP File Transfer Utility, *Continued*

Overview

This feature enables a user to download all Fire Alarm Control Panel (FACP) software features (Panel Exec, Slave Exec, etc.). All files are first downloaded to the Compact Flash Memory card on the Master Controller card before being activated. This provides a means for recovering previous configurations (via the File Transfer "History/Undo" tab). It also allows the FACP to continue operating during file download operation. FACP down-time is minimal. This feature allows for file transfers speeds between 60 kbps and 100 kbps. Job configuration files are typically between 1 MB and 2 MBs.

Network Downloads

If the FACP has is equipped with a Building Network Interface Card (BNIC), it is possible to download files through the building network. For more information see the *BNIC Installation and Programming Guide (579-949).*

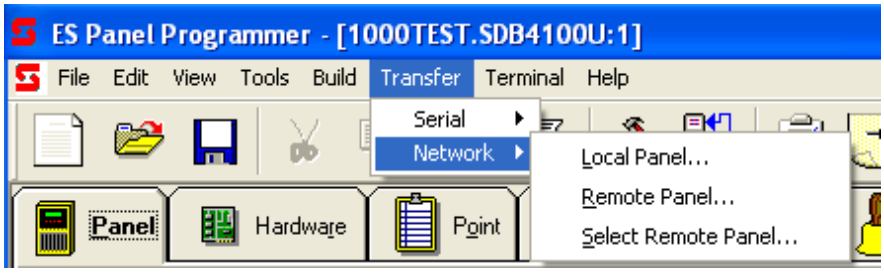

Figure 16-4. Network Download

IP File Transfer Download

Downloadable Files

The following types of files can be downloaded to the ES Panel FACP through its file transfer utility.

- **CFIG File**. This is the built job file, consisting of all programming definitions in a binary format, that the panel's CPU can execute.
- **Slave Exec**. Module-specific slave Exec files execute on intelligent slave modules (listed below) and define the way in which the slave module operates. Occasionally changes to the functionality of a slave module may require you to download a new slave Exec file. (For example, a change to the IDNet Slave Exec file may be necessary to provide support for new, additional device types.) The following 4100ES modules are "intelligent" slave devices that use a module-specific Slave Exec file.

  -System Power Supply (SPS)

  -IDNet Module (IDNET)

  -Expansion Power Supply (XPS)

  -Remote Power Supply (RPS)

  -Transponder Interface Card (TIC)

  -External Battery Charger (XBC)

  -Transponder Interface (Local Mode) (TIC_LM)

  -Phone Card (PHONE)

  -TrueAlert Power Supply (TPS)

  -Audio Amplifier (AUDIO_AMP)

  -Digital Audio Controller (AUDIO_DIG)

  -Analog Audio Controller (AUDIO_ANA)

  -InfoAlarm (FUI)

  -Bootloader (BOOT)

  -Operating System (EOS)

  -BNIC application (BNIC)

- **CPU Bootloader Files**. The ES Panel uses the following three types of bootloader files.

  Note: To make a blank system operational, load both a CFIG text file (job containing programming definitions) and a Panel Exec file.

  -**CFIG Text File**. A panel with a missing or corrupt CFIG file can be restored to proper operation by downloading a CFIG text file to the panel. The CFIG text file is automatically built and placed in the same job directory as the "executable" CFIG file (file ending in .CFG extension).

  -**Panel Exec (Master)**. The Panel Exec file is the "operating system" that runs on the panel's CPU module. It manages interactions between system components. Occasionally changes to the functionality of the operating system may require that a new Panel Exec file be downloaded.

  -**Alternate Msglib**. The alternate msglib file is used in non-English ES Panel jobs (e.g., French). It contains all the alternate language text that appears in the ES Panel. It must be downloaded when the "Language of Use" option in the programmer is selected to "alternate." If the alternate language option is selected and the file is not downloaded, the ES Panel displays text in English and an unclearable trouble exists, indicating the panel is running in the non-configured language.

Download Tab

To download a software feature:

1. Click on the Download tab near the top of the IP File Transfer window. See Figure 16-5.
2. Select the type of file that is being download.
   - •CFIG and all Execs
   - •CFIG
   - •Slave Exec
   - •CPU Bootloader
   - •Primary MSGlib
   - •Alternate MSGlib
3. Check the corresponding box if you want the download to be made to a running panel.

Note: This will result in a slower download.

4. Check the corresponding box if you want the program to apply the download changes after the download.
5. Check off the corresponding box if you to exclude the Job recovery file from the latest download.

Warning: Checking this box will render job recovery impossible and will create a trouble on the panel.

6. Enter the name of the file to download in the **File name box** or search for it using the browse button.
7. Click on the **Download** button to start the download.

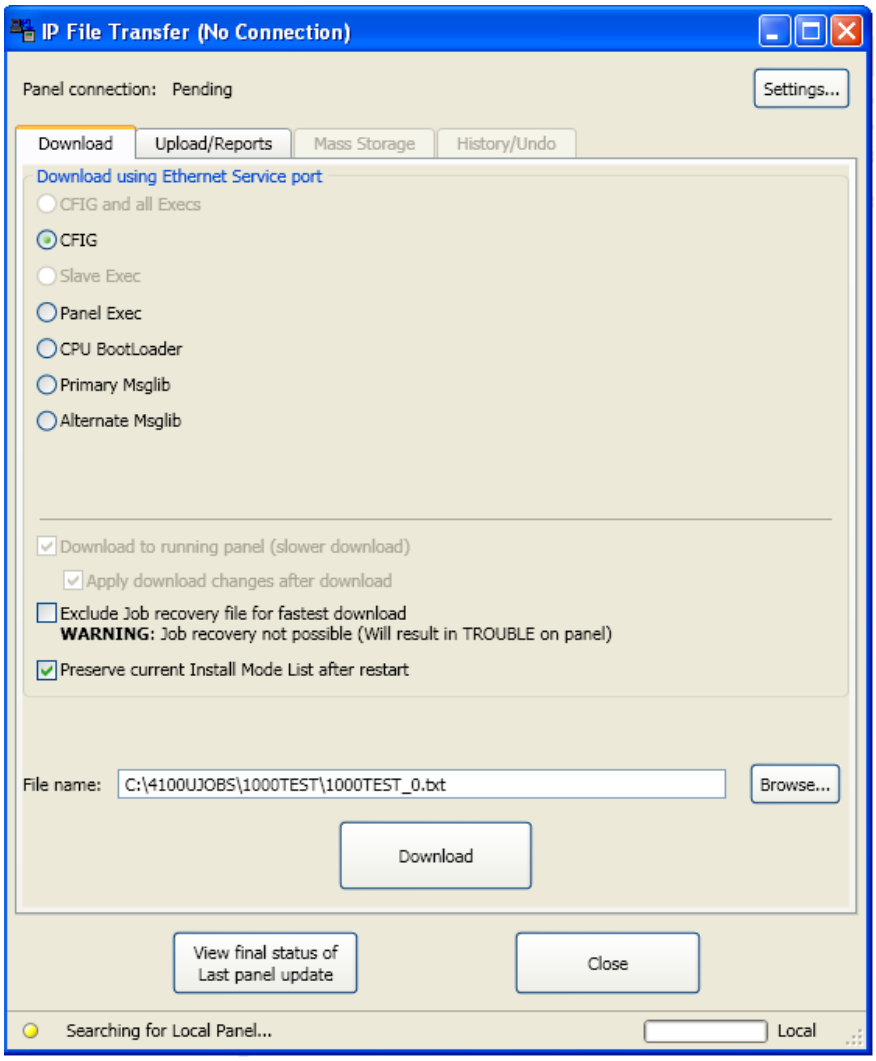

Figure 16-5. File Transfer Utility

IP File Transfer Download

By default, the IP File TRansfer window will open to the Download tab.

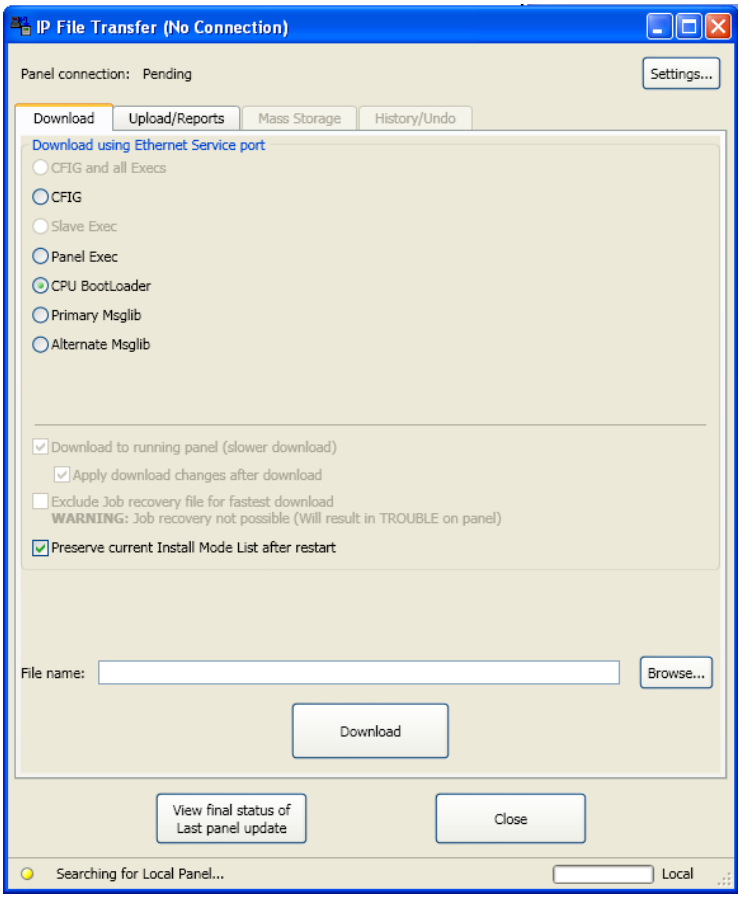

Figure 16-6. IP File Transfer Download tab

1. Select the type of file you want to download by clicking on the radio button next to the file you want to download. The options are:
   - **CFIG and all Execs**
   - **CFIG**
   - **Slave Exec**
   - **Panel Exec**
   - **CPU Bootloader**
   - **Primary Msglib**
   - **Alternate Msglib**

2. Once the selection has been made, use the checkboxes to make the file transfer:
   - **Download to a running panel.** This is a slower download option but selecting this option will give you the choice to select the Apply download changes after download box.
   - **Exclude the recovery file.** This box option can be used when downloading a CFIG, it will result in a faster download.

3. Use the File name box to select the file you want to download to the panel.

4. Click on Download to start the process.

IP File Transfer Upload/Reports

Upload/Reports Tab

The default option for this feature is to upload the job that is currently running in the FACP. The file that is uploaded is a compressed image of the programmer job file. Therefore, there is no need for an "unbuild." The file is uploaded to its default location (C:\4100UJOBS\JobName). This tab also has options for uploading all FACP reports. The reports are uploaded to the "reports" subdirectory of the current job directory. The report file is given a descriptive name, appended with the current date (e.g., AlarmLog_2010_3_11.txt).

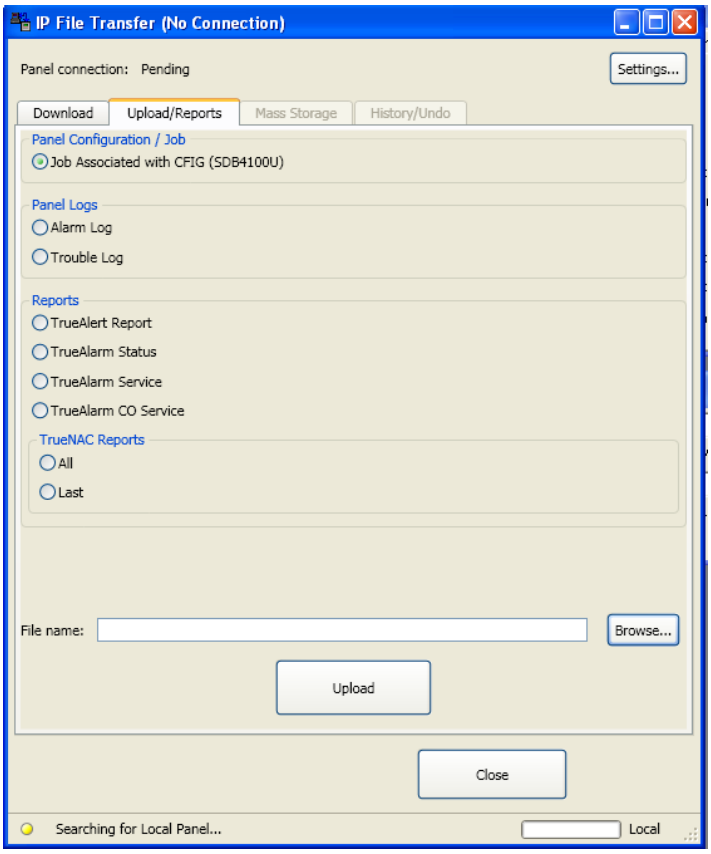

Figure 16-7.Upload/Reports Tab

To upload a file or a report:

1. Click on the Upload/Reports tab near the top of the IP File Transfer window. See Figure 16-7.
2. Select the type of file you want to upload by clicking on the radio button next to the item.
3. Chose one of the following:

   Panel Configuration/ Job
   •Job Associated with CFIG (SDB4100U

   Panel Logs
   •Alarm Log
   •Trouble Log

   Reports
   •TrueAlert Report
   •TrueAlarm Status
   •TrueAlarm Service
   •TrueAlarm CO Service

   TrueNAC Reports
   •All
   •Last

4. Use the File name box to select the directory on your PC you want to upload the report to.
5. Click on Upload to start the upload.

Continued on next page

IP File Transfer Upload/Reports, *Continued*

Types of Transfer

In addition to the upload of the CFIG file, other types of information from the Panel can also be uploaded to the ES Panel Programmer.

- **TrueAlert Report:** It is a report generated by the panel and provides information such as Point ID, Device Type and Candela rating for all TrueAlert devices.
- **TrueNAC Report:** It is a report generated by the panel following the completion of a TrueNAC diagnostic test. The report indicates all devices pass or fail status along with nominal current, predicted worst case current and predicted worst case voltage threshold at the minimum TPS operating voltage. Selecting this option allows one to choose between downloading the report for All TrueAlert devices on all TPSs or only for the Last TrueNAC diagnostics performed on a specific TPS and SLC.
- **Panel Logs:** It is a selection which allows one to select between uploading an Alarm Log or the Trouble Log, produced as a result of Alarm or Trouble conditions reported to the Control Panel, onto the ES Panel Programmer.
- **TrueAlarm Status Report**: A report providing the following information for each point:
  - Device Number
  - Custom Label
  - Current Sensitivity of the Point
  - Point Status: Normal, Trouble, Alarm
  - Almost Dirty Status: Points that are almost dirty have an asterisk in this field to denote this status.
- **TrueAlarm Service Report**: A report providing the following information for each point:
  - Device Number
  - Custom Label
  - Alarm Level (sensitivity level of the device)
  - Average Value
  - Current Value
  - Percent of Alarm: Shows the current value for the sensor. Value is shown as a percentage of 100 percent (alarm). For example, if the value shown is 9%, it means that the sensor is currently at 9% of the value required to trigger an alarm.
  - Peak Value: Shows the highest value that the sensor has reached. Value is shown as a percentage of 100 percent (alarm). For example, if the value shown is 9%, it means that the peak value experienced by the sensor was 9% of the value required to trigger an alarm.
  - Current State: Possible values include Normal, Trouble, Dirty, Excessively Dirty, and Almost Dirty.
- **TrueAlarm CO Service Report**: This report provides the following information regarding the CO devices:
  - Device Number (on the network)
  - Custom Label (custom description of device)
  - Current Device Value (PPM)
  - End-of-Life Date

Device Status (Normal, Trouble)

Mass Storage Tab

This feature allows a user to copy job related files to the 4100ES Master Controller Card's Compact Flash Memory. It also allows the user to copy file from the Panel to the PC and from the PC to the Panel easily.

To use the Mass Storage:

1. Open the 4100ES Programmer and perform a File Backup – creating an .SDC file. The .SDC file is then stored in the Jobs Folder.
2. Open File Transfer software and click the Mass Storage Tab
3. Browse the PC Files or the Panel Files and select the appropriate .SDC file
   - •The upper portion of the window displays the Panel Files.
   - •The lower portion of the window displays the PC Files.
4. Click the "Copy FROM PC" to copy a selected file from the PC to the Panel to the Panel or click on "Copy TO PC" to copy a selected file from the Panel to the PC.
5. Follow District Procedures for storing backup copies of job(s)

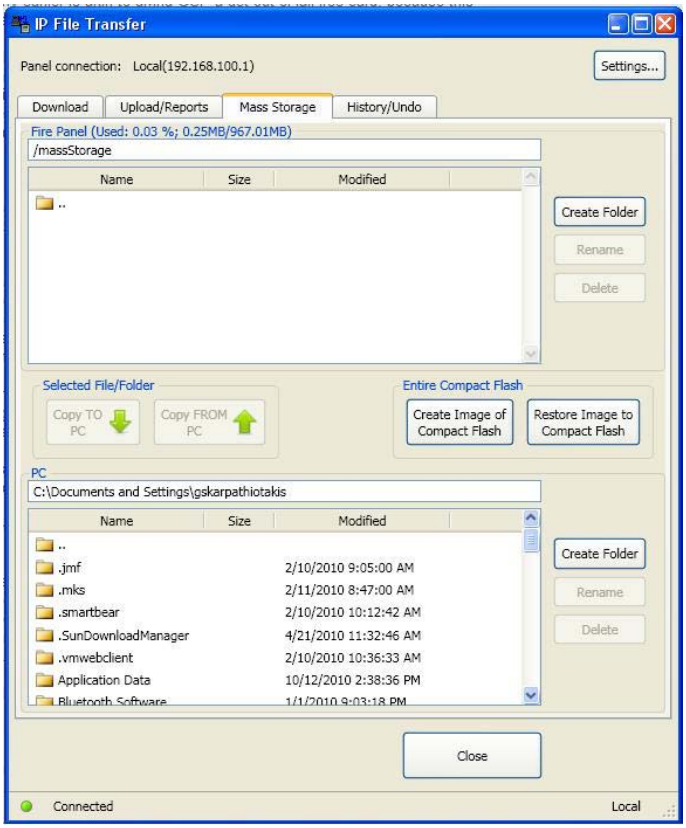

Figure 16-8.Mass Storage Tab

To copy the Entire Compact Flash:

Click on the **Create Image of Compact Flash** it will copy the entire content of your Compact Flash to a .zip folder.

To return previously saved Compact Flash Contents to the Pane:

Click on the **Restore Image to Compact Flash**, and select the Compact Flash File you want to restore to the Panel.

Continued on next page

History/Undo Tab

Each time a 4100ES FACP initializes, it checks versions of any active software (e.g., Panel Exec, Slave Exec, CFIG, etc.). If a new software version is detected, a snapshot of the current configuration is taken. File Transfer software retrieves the FACP snapshots and displays a list of the configuration snapshots within the History/Undo tab. You can manage the number of snapshots – with a limit of 1 GB available memory.

By selecting a snapshot from the list, the user is shown an overview of the differences from the active configuration. For a detailed description of job configuration changes, the user has the option of uploading the job configurations and automatically running the Compare utility. An option also exists to restore the FACP to any of the listed snapshots. Workflow: Explains how to compare versions of 4100ES jobs based on operation differences and then restore a previous job, including .BIN files.

To use this option do the following:

1. Open File Transfer Software and click the History/Undo Tab
2. Click the revision of the job file you want to compare with the active revision. If you want to use another revision for you compare, click on the **Select Compare Base File** button.
3. The bottom half of the screen highlights the differences between the two job revisions
4. Verify what has changed between revisions at a high level – i.e., (Slave Execs, Panel Execs, and CFIG)

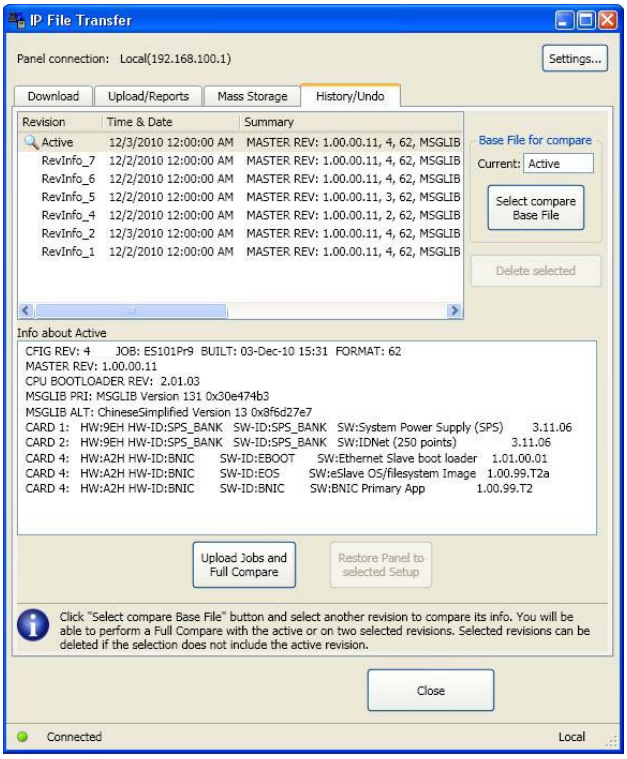

Figure 16-9.History/Undo Tab

To upload a job to you PC and perform a Full compare:

1. Click on the Upload Jobs and Full Compare button.
2. This will upload the File to the PC and will launch the Database compare tool that comes with the programmer.

To Restore an earlier revision of the job file to the Panel:

1. Select the revision you want to restore form the top window

Click on the **Restore Panel to Selected Setu**p button

Serial File Transfer

Starting the Serial Transfer Utility

The ES Panel Serial File Transfer utility, shown in Figure 16-10, can be started from within the ES Panel Programmer.

IMPORTANT: The Serial Download should only be used for Audio Data and FUI Data. Serial file transfer CFIG/Slave/network/bootloader should only be performed when there is an issue with IP file transfer.

- While the programmer is already running, click on the Transfer menu, located along the menu bar at the top of the programmer window. When the options appear, click on **Serial,** and the select the connection you want to make.See Figure 16-10.

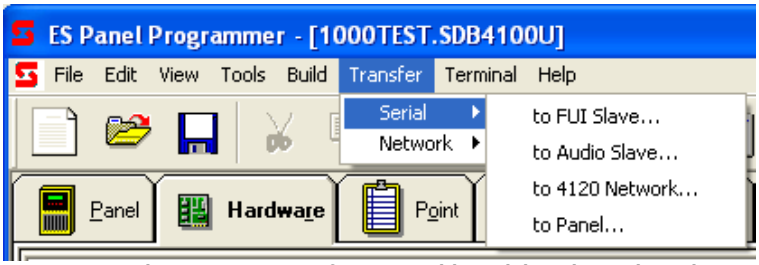

Figure 16-10. Transfer Menu with Serial Option Selected

The File Transfer Utility, shown in Figure 16-11, appears.

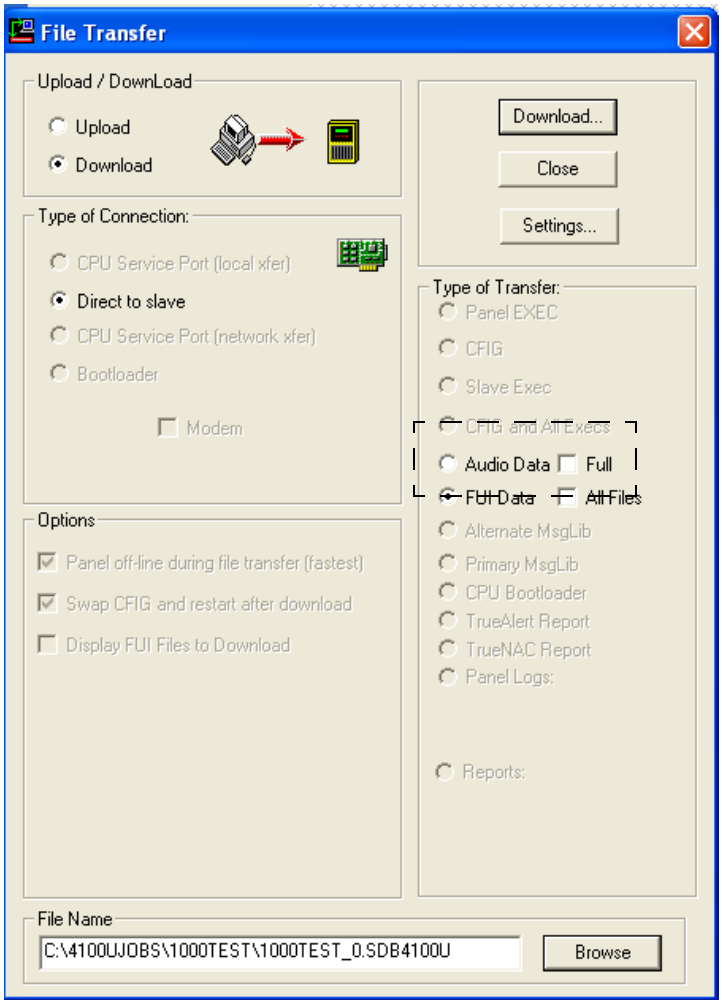

Figure 16-11. File Transfer Utility

Setting Serial Communication Parameter Settings

The serial communication parameters allow you to set the port, baud rate, parity, and stop bits used by thePC. In most cases (see note below), **it is recommended that you use the default settings for these parameters**.

Note: If you connect the serial cable (733-794) to a port other than COM1, make sure to open the Port Settings dialog and change the default (COM1) to the port being used.

1. In the File Transfer utility screen, click on the **Settings** button. A window similar to the following appears. This window allows you to specify the settings for the serial communication parameters used by the PC.

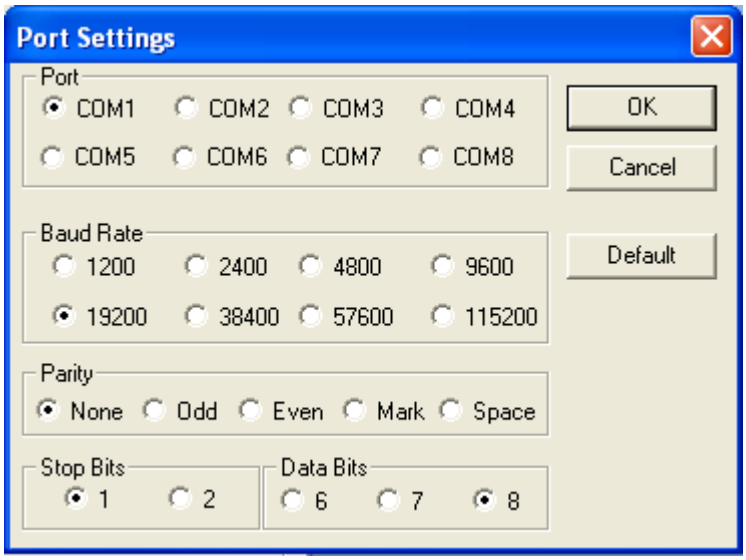

Figure 16-12. Port Settings

2. Change the Settings as required and click **OK** to close the Port Settings window. Introduction

This section describes connecting the service PC to the panel -- via a direct connection, network connection, or modem connection -- and specifying the type of connection in the File Transfer utility. Refer to the appropriate section below for specific information.

Direct Connection to a Panel

A direct connection between the PC and panel is shown in Figure 16-13. This type of connection can be used to download any of the supported files (CFIG, Slave Exec, Bootloader Files) from the PC to the panel.

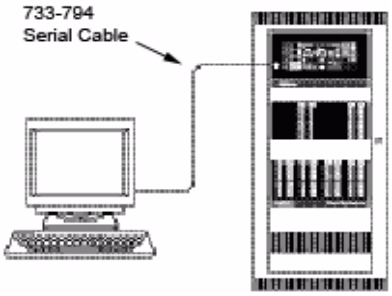

Figure 16-13. Direct Connection to a Panel

Follow these steps to connect the 733-794 serial cable between the PC and the panel.

1. Locate the PC within 6 feet of the ES Panel FACP and connect a 733-794 serial cable to a free serial port (typically COM1) on the PC. (**Note:** If you connect the cable to a port other than COM1, make sure to alter the serial communication settings to reflect this. See "Setting Serial Communication Settings" earlier in this chapter for information on doing this.)

2. Connect the other end of the cable directly to the Serial Service Port P5 on the FACP CPU card.

3. Move to the File Transfer utility and select the **CPU Service Port (local xfer)** radio button.

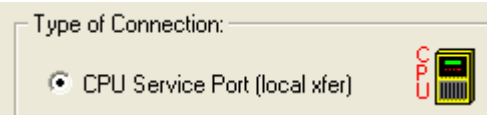

Figure 16-14. CPU Service Port (Network Xfer)

Network Connection

A network connection can be used to download a CFIG file (file with extension .CFG4100) to a ES Panel node on a 4120 network. Keep the following guidelines in mind when downloading a CFIG.

1. Connect the service PC to the Service Port of a node on the network. Follow these steps to connect the 733-794 serial cable between the PC and the panel.
   a. Locate the PC within 6 feet of the ES Panel FACP and connect a 733-794 serial cable to a free serial port (typically COM1) on the PC. (**Note:** If you connect the cable to a port other than COM1, make sure to alter the serial communication settings to reflect this. See "Setting Serial Communication Settings" earlier in this chapter for information on doing this.)
   b. Connect the other end of the cable to the service port on the ES Panel FACP. The service port is located on the front panel of the ES Panel, to the left of the operator interface. Make sure the red stripe is aligned to the left as you connect the cable.

2. Move to the File Transfer utility and select the **CPU Service Port (network xfer)** radio button.

Figure 16-15. CPU Service Port (Network Xfer)

Note: When performing a network transfer, you can only download to the indirectly connected, ES Panel, networked nodes. For example, in the figure below, you cannot download to Node A, but you can download to Nodes B, C, and D. (To download to Node A, you would need to select the CPU Service Port (local xfer) radio button instead of the CPU Service Port (network xfer) radio button.) Be aware that Rev. 8 or Rev. 9 jobs must be downloaded via the network card service port.

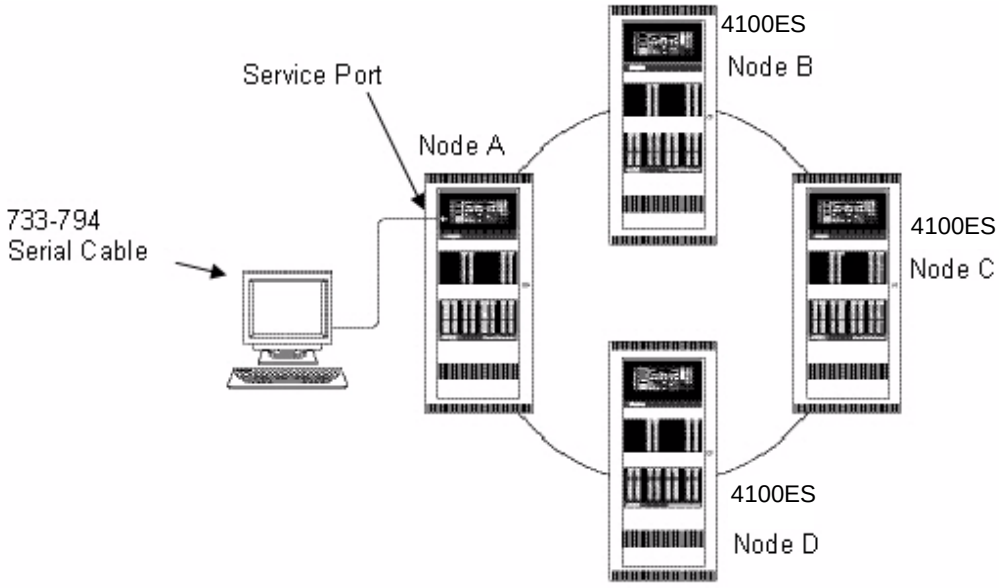

Figure 16-16. Network Connection to a Panel

Modem Connection to Remote Panel

A modem connection can be used to download a CFIG file (file with extension .CFGES) or a Slave Exec file to a functional (i.e., operational), remote ES Panel node. In order to authorize and initiate a remote download, a person must be present at the fire panel. To perform a remote download via modem, you must do the following:

1. **Make sure the PC has a Modem**. Refer to the modem's installation instructions for information on setting up the modem, etc.
2. **Install and configure a 4100-6030 Service Modem in the Remote Panel**. Refer to 579-194 for information on installing the 4100-6030 modem.
3. **Enable the Remote Panel for Remote Download**. To do this, follow these steps at the remote panel.
   a. Login to the panel at Level 4.
   b. Press the panel's Menu button and use the Next and Prev keys to scroll through the menu options. When "Enable Remote Download" appears, press the Enter button. The following prompt appears: "1 = Enable Remote Download for this node".
   c. Press the 1 key to enable the node for remote download.

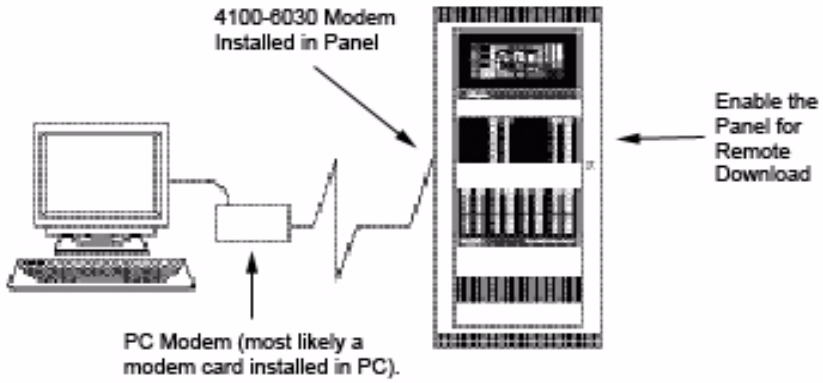

Figure 16-17. Remote Download

4. In the Transfer Utility, select the **CPU Service Port (local xfer)** radio button and check the Modem checkbox. Enter the phone number of the modem in the remote panel in the text entry box.

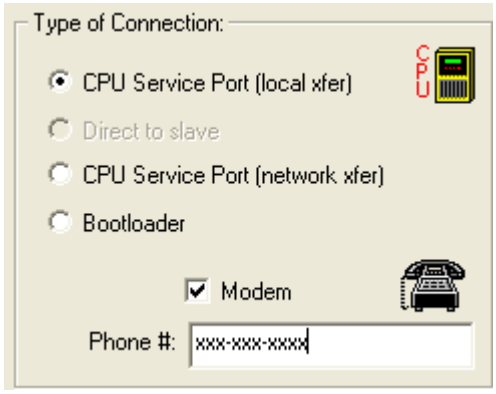

Figure 16-18. Service Port (Local Xfer)

5. In the Transfer Utility, click on the **Settings** button and set the port to the one being used by the PC's modem.

Serial File Transfer-Download

Overview

The procedure required to download a file to the ES Panel differs slightly depending on whether the file is a CFIG, Slave Exec, or Bootloader file. Refer to the appropriate section below for specific information.

Procedure - Downloading a CFIG File

Do the following in the File Transfer Utility dialog to download a CFIG file.

1. Click on the **Download** radio button (not the Download button on the right side of the File Transfer window).
2. Set the radio button for Type of Connection (local, network, modem) to the appropriate setting and connect the panel to the Service PC (refer to Figure 16-1l). Refer to the previous section for information on setting up a local, network, or modem connection to the panel.
3. Click on the **CFIG** radio button.
4. Set the options to use during the download.
   - Panel Off-Line During File Transfer (Fastest). Select this option when downloading a large job (thousands of points, complicated custom control equations). Note that the panel is non-functional for the duration of the download when this option is selected.
   - Swap CFIG and restart after download. In most cases, this option should be selected. When selected, the existing CFIG is automatically replaced with the CFIG being downloaded and the panel is automatically restarted following download.
5. Click the **Browse** button and use the standard Windows dialog to open the folder containing the built job file (.CFGES). When the folder containing the CFIG is open, click on the filename and click **Open** to select the file and close the dialog box.
6. Click the **Download** button. The dialog shown in Figure 16-19 appears.

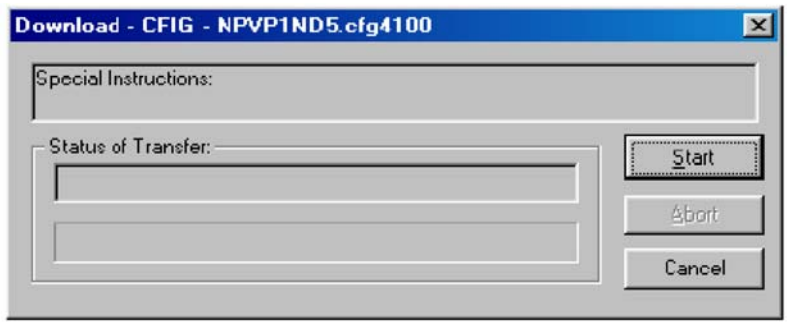

Figure 16-19. Download Start Dialog

7. Click the **Start** button to begin the download. The display on the front panel of the ES Panel shows the progress of the download.

Procedure - Downloading Slave Exec Files

Do the following in the File Transfer Utility dialog to download a Slave Exec file.

Note: The SPS.BIN will automatically update the IDNet software. A separate download for IDNet slave is not required for the IDNet channel that resides on the SPS power supply.

1. Click on the **Download** radio button (not the Download button on the right side of the File Transfer window).
2. Click on the **CPU Service Port (local xfer)** or **CPU Service Port (network xfer)** radio button (refer to Figure 16-11). Refer to the previous section in this chapter for information on setting up a connection to the panel.
3. Click on the **Slave Exec** radio button.

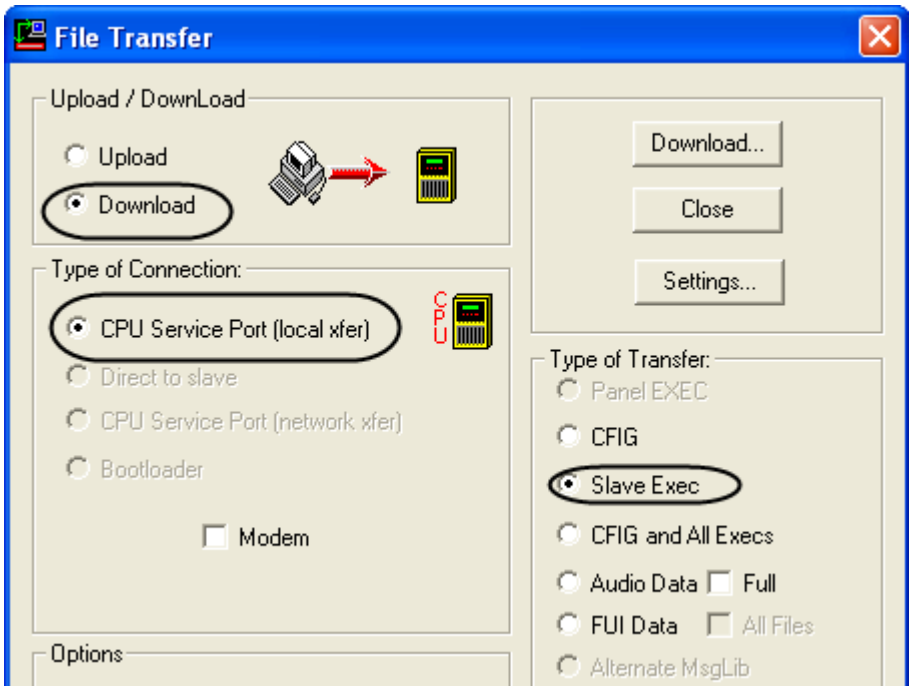

Figure 16-20. Slave Exec Download Dialog

4. Do one of the following:
   - Option 1 -- Browse for the Slave Exec BIN File
     a. Click the **Browse** button and use the standard Windows dialog to open the folder containing the Slave Exec BIN file.
     b. When the folder containing the BIN file is open, first click on the filename and then click **Open** to select the file and close the dialog.
     c. Click the **Download** button, located on the right side of the Slave Exec Download dialog box.

   - Option 2 - View Available Slaves and then Browse
     a. Click the **Download** button, located on the right side of the dialog. The Slave Exec download screen displays a list of all the available slaves.
     b. Click the **Browse** button and use the standard Windows dialog to open the folder containing the Slave Exec BIN file.
     c. When the folder containing the BIN file is open, first click on the filename and then click **Open** to select the file and close the dialog.
5. The Slave Exec Download screen now displays a list of the valid slaves to which the selected BIN file can be downloaded. In this list, the empty card slots are listed as NOT AVAILABLE.

Continued on next page

Procedure - Downloading Slave Exec Files

6. Click the card addresses of the target slave cards (the ones you want to download the BIN file to). Hold down the CTRL key and click the left mouse button to select multiple slaves. To select a range of slave devices, hold down the SHIFT key and click the left mouse button.
7. Click on the **Download** button.The system displays a Start dialog.
8. Click the **Start** button to begin the download.The system displays a progress bar for the download operation.

Figure 16-21. Start Button

Downloading Bootloader Files

The CPU Bootloader files (Panel Master and the CFIG.TXT file) allow a blank panel or a corrupt system to be restored to normal operation. Unless otherwise directed by Technical Services, these are typically the only situations in which these files should be downloaded to the panel.

Note: Alternate Msglib files can also be downloaded via the Bootloader. The alternate Msglib file is used in non-English ES Panel jobs (e.g., French). It contains all the alternate language text that appears in the ES Panel. It must be downloaded when the Language of Use option in the programmer is set to Alternate. If the alternate language option is selected and the file is not downloaded, the ES Panel will operate in English and an unclearable trouble will exist, indicating that the panel is running in the non-configured language.

Do the following in the File Transfer Utility dialog to download one of the CPU Bootloader files.

1. Click on the **Download** radio button (not the Download button on the right side of the File Transfer window).
2. Click on the **Bootloader** radio button (refer to Figure 16-11). Refer to "Connecting the Service PC to the Panel", earlier in this chapter for information on setting up a direct connection to the panel.
3. Click the **Browse** button and use the standard Windows dialog to open the folder containing the master (.BIN), the Alternate Msglib (.BIN), or the CFIG.TXT file that you want to download. When the folder containing the file is open, first click on the filename and then click **Open** to select the file and close the dialog box. The name of the file appears in the File Name field of the File Transfer Utility.
4. Click the **Download** button. The system displays a Start dialog similar to the following.

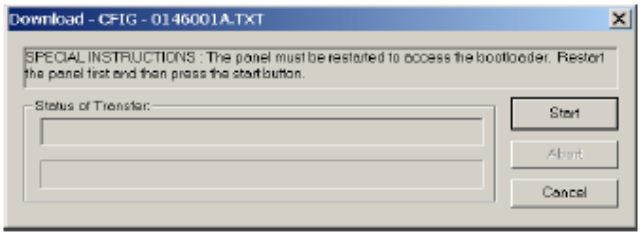

Figure 16-22. Download Dialog for Bootloader Files

5. Press the **Warm Start** button, located on the CPU Motherboard, and then immediately click the **Start** button in the Download dialog shown in Figure 16-23. The panel LCD displays messages describing the progress of the download operation.

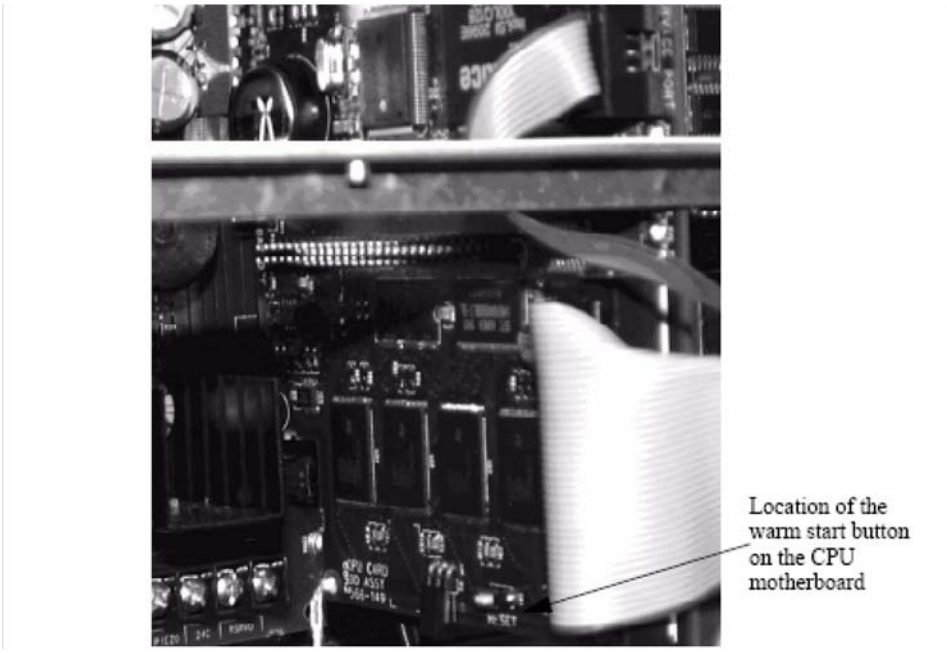

Figure 16-23. Location of Warm Start Button

Downloading Files to InfoAlarm

Information can be downloaded to the InfoAlarm in two ways. The InfoAlarm can retrieve system info from the ES Panel master (recommended) or can connect directly with the ES Panel Programmer, which may be required for larger jobs.The following bin files can be downloaded directly to the InfoAlarm:

- InfoAlarm bootloader
- InfoAlarm bootloader status bitmap
- InfoAlarm slave executive
- Primary font definition
- Alternate font definition
- Primary MsgLib
- Alternate MsgLib
- Primary custom label
- Alternate custom label
- Point configuration
- Menu definition
- Site info
- Site bitmap
- Watermark bitmap
- SMPL print statements

To download files directly to the InfoAlarm, you must first do the following.

- Physically connect the PC containing the bin files to the InfoAlarm panel.
- Start the ES Panel PC Programmer's file transfer utility.

Build File for the FUI

All InfoAlarm files are downloaded to the panel via the File Transfer Utility. First, the InfoAlarm files must be built. In the FUI tab of the ESPanel Programmer, click on the “Advance” button found at the bottom of the screen. Make sure that the box beside “Create separate binary files for direct download on job build” contains a check mark. Click **OK**. Follow the instructions to build a file found earlier in this chapter.

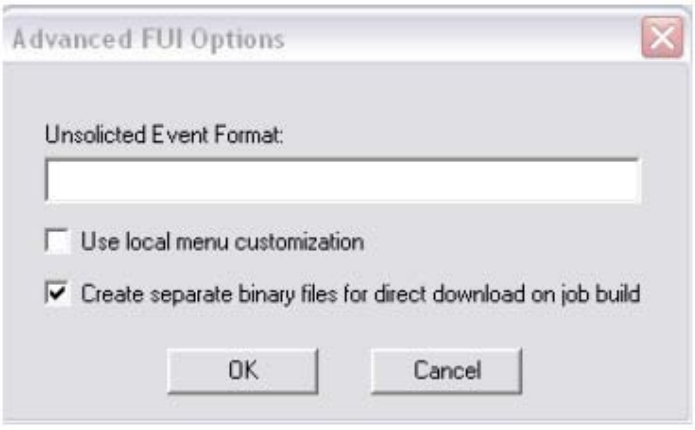

Figure 16-24. Advanced Features Box

Connect the PC to the FUI panel

1. Open the InfoAlarm panel, by pressing the latches located at the top of the InfoAlarm, and pulling the panel forward.
2. Connect the harness to plug P5 on the InfoAlarm controller card.
3. Move switch SW1-1 to the OFF position.

Downloading FUI Files

Once the job has been built, click on the **Download** radio button on the top, left of the file transfer window (not the Download button on the right side of the File Transfer window).

1. Click on the **FUI Data** radio button (refer to Figure 16-11). At this moment, "Direct to Slave" will be the only type of connection available. Refer to Figure 16-11 for details on setting up the file transfer window.
   a. Click on the "All Files" checkbox to automatically download all necessary bin files.
   b. When "All Files" is selected, you may also select the "Display FUI Files to Download" checkbox to allow the user to review files prior to download.
2. Click **Download**. The following window should appear.

Figure 16-25. InfoAlarm Warning

3. This is a warning box to confirm that you have fully prepared the binary file you wish to download. Click **OK**.
4. A file selection box appears. To select or deselect a file, click on the file name and press the spacebar. A red chevron indicates that the file is marked for download. After selecting the files, click **Download**.
   - Click **Specify/Replace External Files for Download** if one of the bin files can be found in a separate directory.
   - Select **Copy Specified files to the Alternate Subdirectory** if you wish to place a copy of the InfoAlarm files in the Alternate directory on your PC.

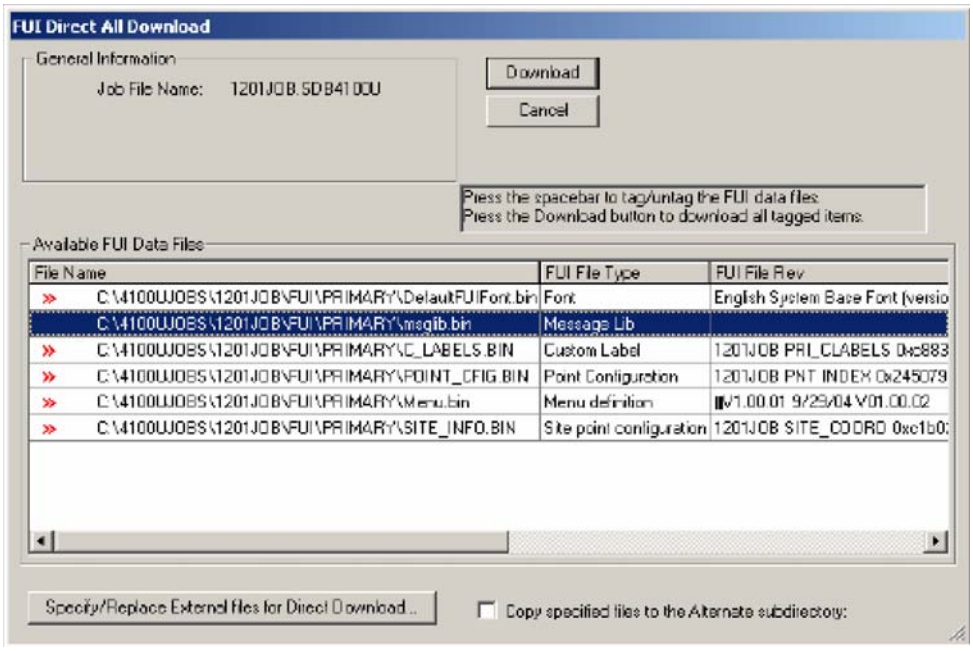

Figure 16-26. InfoAlarm Direct Download selection

Downloading FUI Files

5. When the Download screen appears, click **Start** to begin downloading the files to the InfoAlarm. The files will download individually.

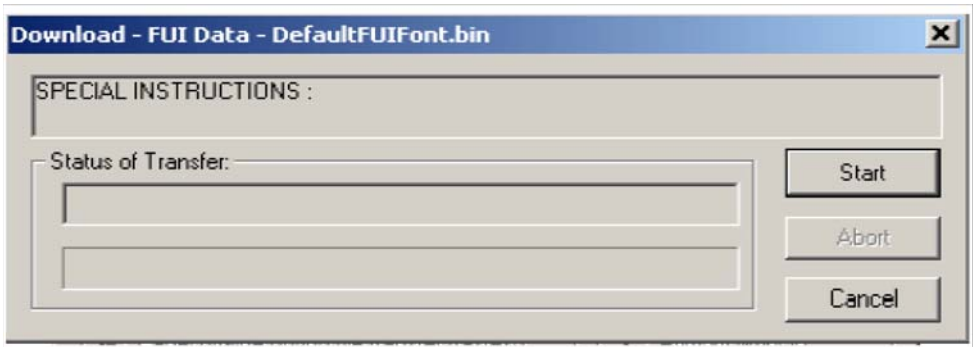

Figure 16-27. Transfer Status Dialog

Resetting the FUI

With all the files downloaded, the InfoAlarm must be reset to begin operating with the new files.

1. Remove the harness from plug P5.
2. Move switch SW1-1 back to the ON position. The InfoAlarm will restart with the new downloaded files.
3. Close the InfoAlarm panel assembly.
4.

Appendix A
Software Point Types

Introduction

The software point type that you choose for a point controls the following:

- The message displayed on the front panel display when the point activates.
- The system list to which the point is automatically assigned. (Generic point types such as RELAY and SIG are the exceptions to this rule. Generic points do not have any automatic operation and are the point types used for custom control.)
- The way in which the system responds when changes occur to the state of the point. For example, assigning a point type of SSIG causes the Signal or Notification Appliance point to activate when an input device (smoke detector, pull station) enters the alarm state and to turn off when the alarm is silenced. Contrast this to the TSIG point type. TSIG causes the Signal or Notification Appliance point to activate only when a trouble or supervisory condition occurs on an input point and to turn off when the trouble or supervisory condition clears.

In this Chapter

This appendix discusses the following topics:

Device Type and Point Types for IDNet/MAPNET

Monitor Device Types

Table A-1: Monitor Device Types

Monitor Device Types	Point Type (Default)	Available Point Types
4WZAM - MAPNET Only	SMOKE	DUCT, FIRE, GVMON, SDUCT, SMOKE, VSMOKE, LSDUCT
ADRDET -- MAPNET Only	SMOKE	DUCT, GVMON, HEAT, SDUCT, SMOKE, VSMOKE, LSDUCT
ADRPUL -- MAPNET and IDNet	PULL	PULL, BGLASS, CALLPT
CANPUL -- IDNET ONLY	PULL	S2STAGE
KACPUL -- IDNET ONLY	PULL	N/A
GENIAM - MAPNET Only	UTILITY	ABORT, DAMPER, DUCT, FIRE, FLAME, GENPRI2, GVMON, HEAT, LATSUPV, MPRI2, PULL, SDUCT, SMALARM, SMBREAK, SMDOOR, SMMOT, SMOKE, SMWIND, SO, SUPERV, TROUBLE, UTILITY, VSMOKE, WATER, LSDUCT
IAM - IDNet only	FIRE	ABORT, DAMPER, DUCT, EMERG, FIRE, FLAME, FPUMP, GENFS, GENMON, GVMON, HEAT, LATSUPV, PULL, S2STAGE, SDUCT, SFIRE, SFPUMP, SGENMON, SMOKE, SO, STYLEC, SUPERV, TDAMPER, TROUBLE, UTILITY, VSFIRE, VSPULL, WATER, WSO, LSDUCT, LVSUPV, LVSDUCT
IDNETISO -- IDNet only	ISO	ISO
ISO -- MAPNET Only	ISO	ISO
MAZAM -- IDNet Only	GENFS	ABORT, DAMPER, DUCT, EMERG, FIRE, FLAME, FPUMP, GENFS, GENMON, GVMON, HEAT, LATSUPV, PULL, S2STAGE, SDUCT, SFIRE, SFPUMP, SGENMON, SMOKE, SO, SPULL, STYLEC, SUPERV, TDAMPER, TROUBLE, UTILITY, VSFIRE, VSMOKE, VSPULL, WATER, WSO, BGLASS, CALLPT, LSDUCT, LVSUPV, LVSDUCT
MAZAM -- MAPNET Only	FIRE	ABORT, DAMPER, DUCT, FIRE, FLAME, GVMON, HEAT, LATSUPV, PULL, SDUCT, SMOKE, SO, SUPERV, TROUBLE, UTILITY, VSMOKE, WATER, BGLASS, CALLPT, LSDUCT, LVSUPV, LVSDUCT
MBZAM - IDNET	GENFS	ABORT, DAMPER, DUCT, EMERG, FIRE, FLAME, FPUMP, GENFS, GENMON, GENPRI2, GVMON, HEAT, LATSUPV, MPRI2, PULL, S2STAGE, SDUCT, SFIRE, SFPUMP, SGENMON, SMALARM, SMBREAK, SMDOOR, SMMOT, SMOKE, SMWIND, SO, SPULL, STYLEC, SUPERV, TDAMPER, TROUBLE, UTILITY, VSFIRE, VSMOKE, VSPULL, WATER, WSO, BGLASS, CALLPT, LSDUCT, LVSUPV, LVSDUCT

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Table A-1: Monitor Device Types (Continued)

Monitor Device Types	Point Type (Default)	Available Point Types
MBZAM -- MAPNET Only	FIRE	ABORT, DAMPER, DUCT, FIRE, FLAME, GENPRI2, GVMON, HEAT, LATSUPV, MPRI2, PULL, SDUCT, SMALARM, SMBREAK, SMDOOR, SMMOT, SMOKE, SMWIND, SO, SUPERV, TROUBLE, UTILITY, VSMOKE, WATER, BGLASS, CALLPT, LSDUCT, LVSUPV, LVSDUCT
POWERISO - IDNet Only	ISO	N/A
PSMON -- MAPNET Only	TROUBLE	N/A
SECIAM - IDNet Only	SMOKE	ABORT, DAMPER, DUCT, EMERG, FIRE, FLAME, FPUMP, GENFS, GENMON, GENPRI2, GVMON, HEAT, LATSUPV, MPRI2, PULL, S2STAGE, SDUCT, SECMON, SFIRE, SFPUMP, SGENMON, SMALARM, SMBREAK, SMDOOR, SMMOT, SMOKE, SMWIND, SO, SPRI2, SPULL, SSALARM, SSBREAK, SSDOOR, SSMOT, SSWIND, STYLEC, SUPERV, TDAMPER, TROUBLE, UTILITY, VSFIRE, VSMOKE, VSPULL, WATER, WSO, LSDUCT

Analog Device Types

Table A-2: Analog Device Type

Analog Device Types	Point Type (Default)	Available Point Types
ANAMON - IDNet Only	NONE	Point types for the ANAMON point type must be created by the user.
CPHOTO - IDNet and MAPNET	SMOKE	GVMON, SMOKE, UTILITY, VSMOKE, LVSUPV
COGAS – IDNet Only	UTILITY	COGASPRI2, COGASSUPV, UTILITY
CRPHOTO - IDNet and MAPNET	SMOKE	GVMON, SMOKE, UTILITY, VSMOKE, LVSUPV
CSPHOTO - IDNet and MAPNET	SMOKE	GVMON, SMOKE, UTILITY, VSMOKE, LVSUPV
CTPHOTO - IDNet and MAPNET	SMOKE	GVMON, SMOKE, UTILITY, VSMOKE, LVSUPV
HCL (TrueAlarm)	FIREHCL	PRI2HCL, SUPHCL, UTILHCL
HEAT - IDNet and MAPNET	HEAT	HEAT, UTILITY
IHEAT - IDNet Only	HEAT	HEAT, UTILITY
IION - IDNet Only	SMOKE	GVMON, SMOKE, UTILITY, VSMOKE, LVSUPV
IOHEAT - IDNet Only	HEAT	HEAT, UTILITY
ION - IDNet and MAPNET	SMOKE	GVMON, SMOKE, UTILITY, VSMOKE, LVSUPV
OHEAT - IDNet and MAPNET	HEAT	HEAT, UTILITY
IPHOTO - IDNet Only	SMOKE	DUCT, GVMON, SDUCT, SMOKE, UTILITY, VSMOKE, LSDUCT, LVSUPV, LVSDUCT

Continued on next page

Table A-2: Analog Device Type (Continued)

Analog Device Types	Point Type (Default)	Available Point Types
PHOTO - IDNet and MAPNET	SMOKE	DUCT, GVMON, SDUCT, SMOKE, UTILITY, VSMOKE, LSDUCT, LVSUPV, LVSDUCT
RHCL - IDNet Only	FIREHCL	FIREHCL, PRI2HCL, SUPHCL, UTILHCL
RHEAT - IDNet and MAPNET	HEAT	HEAT, UTILITY
RIAM IDNet Only	AHUO	AHUF, AHUO, AHUR, ALTERN, BRELAY, CDAMPER, CEXHAUS, CPRESS, DHOLDER, DRESET, PRIMARY, RELAY, RRELAY, RVISUAL, RWATER, SHAFT, SIGNAL, SRELAY, SUPERV, SVISUAL, SWATER, TRELAY
RION - IDNet and MAPNET	SMOKE	GVMON, SMOKE, UTILITY, VSMOKE, LVSUPV
ROHEAT - IDNet and MAPNET	HEAT	HEAT, UTILITY
RPHOTO - IDNet and MAPNET	SMOKE	DUCT, GVMON, SDUCT, SMOKE, UTILITY, VSMOKE, LSDUCT, LVSUPV, LVSDUCT
SHCL -IDNet Only	FIREHCL	FIREHCL, PRI2HCL, SUPHCL, UTILHCL
SHEAT - - IDNet and MAPNET	HEAT	HEAT, UTILITY
SION - - IDNet and MAPNET	SMOKE	GVMON, SMOKE, UTILITY, VSMOKE, LVSUPV
SOHEAT - IDNet and MAPNET	HEAT	HEAT, UTILITY
SPHOTO - IDNet and MAPNET	SMOKE	DUCT, GVMON, SDUCT, SMOKE, UTILITY, VSMOKE, LSDUCT, LVSUPV, LVSDUCT
TION - IDNet and MAPNET	SMOKE	GVMON, SMOKE, UTILITY, VSMOKE, LVSUPV
TPHOTO - IDNet and MAPNET	SMOKE	DUCT, GVMON, SDUCT, SMOKE, UTILITY, VSMOKE, LSDUCT, LVSUPV, LVSDUCT
UHEAT - IDNet and MAPNET	UTILITY	N/A
XIPHOTO - IDNet Only	SMOKE	DUCT, GVMON, SDUCT, SMOKE, UTILITY, VSMOKE, LSDUCT, LVSUPV, LVSDUCT
XPHOTO - IDNet and MAPNET	SMOKE	DUCT, GVMON, SDUCT, SMOKE, UTILITY, VSMOKE, LSDUCT, LVSUPV, LVSDUCT
XRPHOTO - IDNet and MAPNET	SMOKE	DUCT, GVMON, SDUCT, SMOKE, UTILITY, VSMOKE, LSDUCT, LVSUPV, LVSDUCT
XSPHOTO - IDNet and MAPNET	SMOKE	DUCT, GVMON, SDUCT, SMOKE, UTILITY, VSMOKE, LSDUCT, LVSUPV, LVSDUCT
XTPHOTO - IDNet and MAPNET	SMOKE	GVMON, SMOKE, UTILITY, VSMOKE, LVSUPV, LVSDUCT

Continued on next page

Control Device Types

Table A-3: Control Device Types

Control Device Types	Point Type (Default)	Available Point Types
NULAUX	RELAY	AHUF, AHUO, AHUR, ALTERN, BRELAY, CDAMPER, CEXHAUS, CPRESS, DHOLDER, DRESET, PRIMARY, RELAY, RRELAY, RSIGNAL, RVISUAL, RWATER, SHAFT, SRELAY, SSIGNAL, SUPERV, SVISUAL, SWATER, TRELAY
NULMON	FIRE	ABORT, DAMPER, DUCT, FIRE, FLAME, GVMON, HEAT, LATSUPV, PULL, SDUCT, SMOKE, SO, SUPERV, TROUBLE, UTILITY, VSMOKE, WATER, LSDUCT
NULSIG	SSIGNAL	AHUF, AHUO, AHUR, ALTERN, BSIGNAL, CDAMPER, CEXHAUS, CPRESS, DHOLDER, DRESET, PHONE, PRIMARY, RELAY, RSIGNAL, RVISUAL, RWATER, SHAFT, SIGNAL, SPEAKER, SSIGNAL, SUPERV, SVISUAL, SWATER, TSIGNAL
RZAM	RRELAY	AHUF, AHUO, AHUR, ALTERN, BRELAY, CDAMPER, CEXHAUS, CPRESS, DHOLDER, DRESET, PRIMARY, RELAY, RRELAY, RSIGNAL, RVISUAL, RWATER, SHAFT, SRELAY, SSIGNAL, SUPERV, SVISUAL, SWATER, TRELAY
SAZAM	SSIGNAL	AHUF, AHUO, AHUR, ALTERN, BSIGNAL, CDAMPER, CEXHAUS, CPRESS, DHOLDER, DRESET, PHONE, PRIMARY, RELAY, RRELAY, RSIGNAL, RVISUAL, RWATER, SHAFT, SIGNAL, SPEAKER, SRELAY, SSIGNAL, SUPERV, SVISUAL, SWATER, TSIGNAL
SBZAM	SSIGNAL	AHUF, AHUO, AHUR, ALTERN, BSIGNAL, CDAMPER, CEXHAUS, CPRESS, DHOLDER, DRESET, PHONE, PRIMARY, RELAY, RSIGNAL, RVISUAL, RWATER, SHAFT, SIGNAL, SPEAKER, SSIGNAL, SUPERV, SVISUAL, SWATER, TSIGNAL
SIGIAM	SIGNAL	All Signal except for CODED PHONE RISER RMPHONE QALERT SQALERT RSYNVIS SSYNVIS SYNVIS XSNAC1 XSNAC2
MLPTIO	UTILITY	UTILITY
MCOGAS	UTILITY	COGASPRI2, COGASSUPV, UTILITY
MCOI	UTILITY	FIRE, SUPERV, LATSUPV, UTILITY
MCOIS	UTILITY	FIRE, SUPERV, LATSUPV, UTILITY
MCOP	UTILITY	FIRE, SUPERV, LATSUPV, UTILITY
MCOPS	UTILITY	FIRE, SUPERV, LATSUPV, UTILITY
MCOH	UTILITY	FIRE, SUPERV, LATSUPV, UTILITY
MCOHS	UTILITY	FIRE, SUPERV, LATSUPV, UTILITY
MCOPH	UTILITY	FIRE, SUPERV, LATSUPV, UTILITY
MCOPHS	UTILITY	FIRE, SUPERV, LATSUPV, UTILITY

Continued on next page

Table A-3: Control Device Types (Continued)

Control Device Types	Point Type (Default)	Available Point Types
MINPUT	FIRE	UTILITY, FIRE, WATER, HEAT, DUCT, FLAME, PULL, SMOKE, VSMOKE, EMERG, SFIRE, VSFIRE, SPULL, VSPULL, GENMON, SGENMON, FPUMP, SFPUMP, S2STAGE, WSO, ABORT, SO, SUPERV, LATSUPV, TROUBLE, DAMPER, TDAMPER, GVMON, MPRI2, SMALARM, SMDOOR, SMBREAK, SMMOT, SDUCT, GENPRI2, STYLEC, GENFS, BGLASS, CALLPT, LWSO, LSDUCT
MION	SMOKE	GVMON, SMOKE, SUPDET, UTILITY, VSMOKE
MOUTPUT	RELAY	RRELAY, RELAY, PRIMARY, ALTERN, SHAFT, AHUR, AHUO, AHUF, CPRESS, CDAMPER, SRELAY, TRELAY, BRELAY, DRESET, DHOLDER, SVISUAL, RVISUAL, CEXHAUS, RWATER, SWATER, SUPERV, SSIGNAL
COMBO/ ICOMBO SCOMBO/ RCOMBO	UTILITY	UTILITY, FIRE
MPHOTO	SMOKE	SMOKE, VSMOKE, UTILITY, GVMON, DUCT, SDUCT, LSDUCT, LVSUPV
MXPHOTO	SMOKE	SMOKE, VSMOKE, UTILITY, GVMON, DUCT, SDUCT, LSDUCT
MHEAT	HEAT	HEAT, UTILITY
MOHEAT	HEAT	HEAT, UTILITY
MACO-FALSE	UCOR-FALSE	FCORFALSE, SCORFALSE, PCORFALSE, UCORFALSE
MACOFIRE	UTILITY	COPRI2, COSUPV, COFIRE, UTILITY
MACOFAST	UCOR-FAST	FCORFAST, SCORFAST, PCORFAST, UCORFAST
MARCOR	UCOR	UCOR, FCOR, SCOR, PCOR
MAOFF	UTILITY	UTILITY
MISO (ICOMBO ONLY)	ISOLATO	ISOLATO
MSOUND (SCOMBO ONLY)	SSIGNAL	SSIGNAL, TSIGNAL, RSIGNAL, SSBASE, SIGNAL, SUPERV, BSIGNAL
MRELAY (RCOMBO)	RELAY	RRELAY, RELAY, PRIMARY, ALTERN, SHAFT, AHUR, AHUO, AHUF, CPRESS, CDAMPER, SRELAY, TRELAY, BRELAY, DRESET, DHOLDER, SVISUAL, RVISUAL, CEXHAUS, RWATER, SWATER, SUPERV, SSIGNAL
FRIAM	UTILITY	UTILITY
MRELAY	RELAY	RRELAY, RELAY, PRIMARY, ALTERN, SHAFT, AHUR, AHUO, AHUF, CPRESS, CDAMPER, SRELAY, TRELAY, BRELAY, DRESET, DHOLDER, SVISUAL, RVISUAL, CEXHAUS, RWATER, SWATER, SUPERV, SSIGNAL
MFEED-BACK	UTILITY	UTILITY, DAMPER, TROUBLE, SUPERV
TRIAM	UTILITY	UTILITY

Continued on next page

Table A-3: Control Device Types (Continued)

Control Device Types	Point Type (Default)	Available Point Types
MRELAY	RELAY	RRELAY, RELAY, PRIMARY, ALTERN, SHAFT, AHUR, AHUO, AHUF, CPRESS, CDAMPER, SRELAY, TRELAY, BRELAY, DRESET, DHOLDER, SVISUAL, RVISUAL, CEXHAUS, RWATER, SWATER, SUPERV, SSIGNAL
MTSENSE		UTILITY, FIRE, WATER, HEAT, DUCT, FLAME, PULL, SMOKE, VSMOKE, EMERG, SFIRE, VSFIRE, SPULL, VSPULL, GENMON, SGENMON, FPUMP, SFPUMP, S2STAGE, WSO, ABORT, SO, SUPERV, LATSUPV, TROUBLE, DAMPER, TDAMPER, GVMON, MPRI2, SMALARM, SMDOOR, SMBREAK, SMMOT, SDUCT, GENPRI2, STYLEC, GENFS, BGLASS, CALLPT, LWSO, LSDUCT
4009A4/ 4009A8 R4009A/ R4009A8	SIGNAL	SIGNAL
MSIGA	SSIGNAL	AHUF, AHUO, AHUR, ALTERN, AUXPWR, BSIGNAL, CDAMPER, CEXHAUS, CODED, CPRESS, DHOLDER, DRESET, PRIMARY, QALERT, RELAY, RSIGNAL, RSYNVIS, RVISUAL, RWATER, SIGNAL, SQALERT, SSHAFT, SSIGNAL, SSYNVIS, SUPERV, SVISUAL, SWATER, SYNVIS, TSIGNAL
MSIGB	SSIGNAL	AHUF, AHUO, AHUR, ALTERN, AUXPWR, BSIGNAL, CDAMPER, CEXHAUS, CODED, CPRESS, DHOLDER, DRESET, PRIMARY, QALERT, RELAY, RSIGNAL, RSYNVIS, RVISUAL, RWATER, SIGNAL, SQALERT, SSHAFT, SSIGNAL, SSYNVIS, SUPERV, SVISUAL, SWATER, SYNVIS, TSIGNAL

Device Type and Point Types for TFX

TFX Device Types

Table A-4: TFX Device Types

TFX Device Types	Device Descsription	Allowed Point Types
500 PSM	Power Monitor with Contact	ABORT, BGLASS, CALLPT, DAMPER, DUCT, FIRE, FLAME, GENPRI2, GVMON, HEAT, LATSUPV, LSDUCT, MPRI2, PULL, SDUCT, SMALARM, SMBREAK, SMDOOR, SMMOT, SMOKE, SMWIND, SO, SUPDET, SUPERV, TROUBLE, UTILITY, VSMOKE, WATER
512ION	512 ION Detector	GVMON, SMOKE, SUPDET, UTILITY, VSMOKE
512 PHOTO	512 PHOTO Detector	DUCT, GVMON, LATSUPV, LSDUCT, SDUCT, SMOKE, SUPDET, SUPERV, UTILITY, VSMOKE
912HEAT	912 Heat Detector	HEAT, LATSUPV, SUPDET, SUPERV, UTILITY
912SHEAT	912 Heat with Sounder	HEAT, LATSUPV, SUPDET, SUPERV, UTILITY
912RHEAT	912 Photo with Relay	DUCT, GVMON, LATSUPV, LSDUCT, SDUCT, SMOKE, SUPDET, SUPERV, UTILITY, VSMOKE
912HPHOT	912HP Photo Detector	DUCT, GVMON, LATSUPV, LSDUCT, SDUCT, SMOKE, SUPDET, SUPERV, UTILITY, VSMOKE
912SHPHO	912HP Photo with Sound	DUCT, GVMON, LATSUPV, LSDUCT, SDUCT, SMOKE, SUPDET, SUPERV, UTILITY, VSMOKE
912RHPHO	912HP Photo with Relay	DUCT, GVMON, LATSUPV, LSDUCT, SDUCT, SMOKE, SUPDET, SUPERV, UTILITY, VSMOKE
912ION	912 ION Smoke Detector	GVMON, SMOKE, SUPDET, UTILITY, VSMOKE
912RION	912 ION with Relay	GVMON, SMOKE, SUPDET, UTILITY, VSMOKE
912PHOTO	912 Photo Detector	DUCT, GVMON, LATSUPV, LSDUCT, SDUCT, SMOKE, SUPDET, SUPERV, UTILITY, VSMOKE
912SPHOT	912 Photo with Sounder	DUCT, GVMON, LATSUPV, LSDUCT, SDUCT, SMOKE, SUPDET, SUPERV, UTILITY, VSMOKE
912RPHOT	912 Photo with Relay	DUCT, GVMON, LATSUPV, LSDUCT, SDUCT, SMOKE, SUPDET, SUPERV, UTILITY, VSMOKE
APM500	Power Monitor with Contact	ABORT, BGLASS, CALLPT, DAMPER, DUCT, FIRE, FLAME, GENPRI2, GVMON, HEAT, LATSUPV, LSDUCT, MPRI2, PULL, SDUCT, SMALARM, SMBREAK, SMDOOR, SMMOT, SMOKE, SMWIND, SO, SUPDET, SUPERV, TROUBLE, UTILITY, VSMOKE, WATER
IHN135	Heat Detector	HEAT, LATSUPV, SUPDET, SUPERV, UTILITY
IHN200	Heat Detector	HEAT, LATSUPV, SUPDET, SUPERV, UTILITY
412ION	412 ION Detector	GVMON, SMOKE, SUPDET, UTILITY, VSMOKE
412PHOTO	412 Photo Detector	DUCT, GVMON, LATSUPV, LSDUCT, SDUCT, SMOKE, SUPDET, SUPERV, UTILITY, VSMOKE
550ION	550 ION Detector	GVMON, SMOKE, SUPDET, UTILITY, VSMOKE
550PHOTO	550 Photo Detector	DUCT, GVMON, LATSUPV, LSDUCT, SDUCT, SMOKE, SUPDET, SUPERV, UTILITY, VSMOKE

Continued on next page

Table A-4: TFX Device Types (Continued)

TFX Device Types	Device Descsription	Allowed Point Types
TFXCDM	IXA500DM/MDM521 Detector	ABORT, BGLASS, CALLPT, DAMPER, DUCT, FIRE, FLAME, GENPRI2, GVMON, HEAT, LATSUPV, LSDUCT, MPRI2, PULL, SDUCT, SMALARM, SMBREAK, SMDOOR, SMMOT, SMOKE, SMWIND, SO, SUPDET, SUPERV, TROUBLE, UTILITY, VSMOKE, WATER
500CMB	Style B IXA-500CM Contact	ABORT, BGLASS, CALLPT, DAMPER, DUCT, FIRE, FLAME, GENPRI2, GVMON, HEAT, LATSUPV, LSDUCT, MPRI2, PULL, SDUCT, SMALARM, SMBREAK, SMDOOR, SMMOT, SMOKE, SMWIND, SO, SUPDET, SUPERV, TROUBLE, UTILITY, VSMOKE, WATER
500CMC	Style C IXA-500CM Contact	ABORT, BGLASS, CALLPT, DAMPER, DUCT, FIRE, FLAME, GENPRI2, GVMON, HEAT, LATSUPV, LSDUCT, MPRI2, PULL, SDUCT, SMALARM, SMBREAK, SMDOOR, SMMOT, SMOKE, SMWIND, SO, STYLEC, SUPDET, SUPERV, TROUBLE, UTILITY, VSMOKE, WATER
501CMB	Style B IXA-501CM Contact	ABORT, BGLASS, CALLPT, DAMPER, DUCT, FIRE, FLAME, GENPRI2, GVMON, HEAT, LATSUPV, LSDUCT, MPRI2, PULL, SDUCT, SMALARM, SMBREAK, SMDOOR, SMMOT, SMOKE, SMWIND, SO, SUPDET, SUPERV, TROUBLE, UTILITY, VSMOKE, WATER
500CMAB	Style B IXA-500CMA contact	ABORT, BGLASS, CALLPT, DAMPER, DUCT, FIRE, FLAME, GENPRI2, GVMON, HEAT, LATSUPV, LSDUCT, MPRI2, PULL, SDUCT, SMALARM, SMBREAK, SMDOOR, SMMOT, SMOKE, SMWIND, SO, STYLEC, SUPDET, SUPERV, TROUBLE, UTILITY, VSMOKE, WATER
500CMAC	Style C IXA-500CMA contact	ABORT, BGLASS, CALLPT, DAMPER, DUCT, FIRE, FLAME, GENPRI2, GVMON, HEAT, LATSUPV, LSDUCT, MPRI2, PULL, SDUCT, SMALARM, SMBREAK, SMDOOR, SMMOT, SMOKE, SMWIND, SO, SUPDET, SUPERV, TROUBLE, UTILITY, VSMOKE, WATER
500CMAD	Style D IXA-500CMA	ABORT, BGLASS, CALLPT, DAMPER, DUCT, FIRE, FLAME, GENPRI2, GVMON, HEAT, LATSUPV, LSDUCT, MPRI2, PULL, SDUCT, SMALARM, SMBREAK, SMDOOR, SMMOT, SMOKE, SMWIND, SO, SUPDET, SUPERV, TROUBLE, UTILITY, VSMOKE, WATER
500CMAE	Style E IXA-500CMA	ABORT, BGLASS, CALLPT, DAMPER, DUCT, FIRE, FLAME, GENPRI2, GVMON, HEAT, LATSUPV, LSDUCT, MPRI2, PULL, SDUCT, SMALARM, SMBREAK, SMDOOR, SMMOT, SMOKE, SMWIND, SO, STYLEC, SUPDET, SUPERV, TROUBLE, UTILITY, VSMOKE, WATER
IXARMS	IXA-RMS Pull Station	BGLASS, CALLPT, PULL, SUPDUMP, SSDUMP

Continued on next page

Table A-4: TFX Device Types (Continued)

TFX Device Types	Device Descsription	Allowed Point Types
500RM	QXA-500RM Relay	All RELAY points except: AUXPWR, CODED, RRELAY, BRELAY, SRELAY, TRELAY The default point type is: RELAY
500SDM	OXA-500SD Signal Drive Module	Same as SIGIAM The default point type: SIGNAL
AM521	Aspirating Interface	S3SMOKE, S3UTIL
CM520	CM520 Contact	ABORT, BGLASS, CALLPT, DAMPER, DUCT, FIRE, FLAME, GENPRI2, GVMON, HEAT, LATSUPV, LSDUCT, MPRI2, PULL, SDUCT, SMALARM, SMBREAK, SMDOOR, SMMOT, SMOKE, SMWIND, SO, SUPDET, SUPERV, TROUBLE, UTILITY, VSMOKE, WATER
CP520	CP520 Manual Callpoint	BGLASS, CALLPT, PULL, SUPDUMP, SSDUMP
CP540EX	CP540 EX Manual Callpoint	BGLASS, CALLPT, PULL, SUPDUMP, SSDUMP
DM520	Conventional Detector	ABORT, BGLASS, CALLPT, DAMPER, DUCT, FIRE, FLAME, GENPRI2, GVMON, HEAT, LATSUPV, LSDUCT, MPRI2, PULL, SDUCT, SMALARM, SMBREAK, SMDOOR, SMMOT, SMOKE, SMWIND, SO, SUPDET, SUPERV, TROUBLE, UTILITY, VSMOKE, WATER
DMC520	Conventional Detector	ABORT, BGLASS, CALLPT, DAMPER, DUCT, FIRE, FLAME, GENPRI2, GVMON, HEAT, LATSUPV, LSDUCT, MPRI2, PULL, SDUCT, SMALARM, SMBREAK, SMDOOR, SMMOT, SMOKE, SMWIND, SO, SUPDET, SUPERV, TROUBLE, UTILITY, VSMOKE, WATER
LPBB521	Line Powered Banshee	Same as SIGIAM Default point type: SIGNAL
LPS520	Line Powered Sounder	Same as SIGIAM Default point type: SIGNAL
LPBD520	Beam Detector	DUCT, GVMON, LATSUPV, LSDUCT, SDUCT, SMOKE, SUPDET, SUPERV, UTILITY, VSMOKE
MD501	Heat Detector	HEAT, LATSUPV, SUPDET, SUPERV, UTILITY
MD501EX	Heat Detector	HEAT, LATSUPV, SUPDET, SUPERV, UTILITY
MD901	Heat Detector	HEAT, LATSUPV, SUPDET, SUPERV, UTILITY
MDS901	Heat Detector with Sounder	HEAT, LATSUPV, SUPDET, SUPERV, UTILITY
MDR901	Heat Detector with Relay	HEAT, LATSUPV, SUPDET, SUPERV, UTILITY
MF401	ION Smoke Detector	GVMON, SMOKE, SUPDET, UTILITY, VSMOKE
MF501	ION Smoke Detector	GVMON, SMOKE, SUPDET, UTILITY, VSMOKE
MF501EX	ION Smoke Detector	GVMON, SMOKE, SUPDET, UTILITY, VSMOKE
MF901	ION Smoke Detector	GVMON, SMOKE, SUPDET, UTILITY, VSMOKE
MFS901	ION Detector with Sounder	GVMON, SMOKE, SUPDET, UTILITY, VSMOKE

Continued on next page

Table A-4: TFX Device Types (Continued)

TFX Device Types	Device Descsription	Allowed Point Types
MFR901	ION Detector with Relay	GVMON, SMOKE, SUPDET, UTILITY, VSMOKE
MF901HA	High Altitude ION Detecto	GVMON, SMOKE, SUPDET, UTILITY, VSMOKE
MFS901HA	High Altitude ION Detector with Sounder	GVMON, SMOKE, SUPDET, UTILITY, VSMOKE
MFR901HA	High Altitude ION Detector with Relay	GVMON, SMOKE, SUPDET, UTILITY, VSMOKE
MR501	Smoke Detector	DUCT, GVMON, LATSUPV, LSDUCT, SDUCT, SMOKE, SUPDET, SUPERV, UTILITY, VSMOKE
MR501EX	Smoke Detector	DUCT, GVMON, LATSUPV, LSDUCT, SDUCT, SMOKE, SUPDET, SUPERV, UTILITY, VSMOKE
MR501T	Smoke Detector	DUCT, GVMON, LATSUPV, LSDUCT, SDUCT, SMOKE, SUPDET, SUPERV, UTILITY, VSMOKE
MR501TEX	MR501T EX Smoke Detector	DUCT, GVMON, LATSUPV, LSDUCT, SDUCT, SMOKE, SUPDET, SUPERV, UTILITY, VSMOKE
MR901	Smoke Detector	DUCT, GVMON, LATSUPV, LSDUCT, SDUCT, SMOKE, SUPDET, SUPERV, UTILITY, VSMOKE
MRS901	Smoke Detector with Sounder	DUCT, GVMON, LATSUPV, LSDUCT, SDUCT, SMOKE, SUPDET, SUPERV, UTILITY, VSMOKE
MRR901	Smoke Detector with Relay	DUCT, GVMON, LATSUPV, LSDUCT, SDUCT, SMOKE, SUPDET, SUPERV, UTILITY, VSMOKE
MS502EX	Ion Smoke Detector	ABORT, BGLASS, CALLPT, DAMPER, DUCT, FIRE, FLAME, GENPRI2, GVMON, HEAT, LATSUPV, LSDUCT, MPRI2, PULL, SDUCT, SMALARM, SMBREAK, SMDOOR, SMMOT, SMOKE, SMWIND, SO, SUPDET, SUPERV, TROUBLE, UTILITY, VSMOKE, WATER
MU901	Carbon Monoxide Detector	GVMON, SMOKE, SUPDET, UTILITY, VSMOKE
MU912	Carbon Monoxide Detector	GVMON, SMOKE, SUPDET, UTILITY, VSMOKE
RM520	Relay Module	Same as 500RM
S251	S251i & S251f Flame Sensor	FIRE, FLAME, GVMON, SUPDET, UTILITY
S252+	S251i/S251f/S252F+ Flame Detector	Same as S251
SM520	Sounder Drive Module	Same as SIGIAM Default device type: SIGNAL

Continued on next page

TFX Multipoint Device Types

Table A-5: TFX Multipoint Device Types

TFX Multipoint Device Types	Point Name	ES Panel Device type	Point Types	Description
MAMP96	MX-Y-0	MAMP96	SIGNAL	AMP96
	MX-Y-1	MINPUT	TROUBLE	PS AC fail status
	MX-Y-2	MINPUT	TROUBLE	PS Earth fault status
	MX-Y-3	MINPUT	TROUBLE	Device Fault (DV/Tone, CS2, etc)
	MX-Y-4	MINPUT	UTILITY	Input point (Mic Keyed monitor)
	MX-Y-5	MSIGB	SIGNAL RSIGNAL SSIGNAL	Riser input signal
	MX-Y-6	MSIGB	SIGNAL RSIGNAL SSIGNAL	DV2/Tone signal
MCS2	MX-Y-0	MCS2	SIGNAL	CS2 Channel Select
	MX-Y-1	MINPUT	TROUBLE	Device Fault
	MX-Y-2	MSIGB	SIGNAL RSIGNAL SSIGNAL	Riser A input signal
	MX-Y-3	MSIGB	SIGNAL RSIGNAL SSIGNAL	DV2/Tone signal
	MX-Y-4	MSIGB	SIGNAL RSIGNAL SSIGNAL	Riser B input signal
MPSM	MX-Y-0	MPSM	UTILTY	Power Supply Monitor
	MX-Y-1	MINPUT	TROUBLE	PS AC fail monitor
	MX-Y-2	MINPUT	TROUBLE	Battery missing/flat
	MX-Y-3	MINPUT	TROUBLE	Ground fault
	MX-Y-4	MINPUT	TROUBLE	Mains failure
	MX-Y-5	MINPUT	TROUBLE	Wiring Fault (Short Circuit etc)

Continued on next page

Minerva Multipoint Device Types

Table A-6: Minerva Multipoint Device Type

Minerva Multipoint Device Types	Point Name	ES Panel Device type	Point Types	Description
MSDIO520	MX-Y-0	MSD520IO	UTILITY	SD520 Smoke Damper Interface (with 1 input, 1output)
	MX-Y-1	MINPUT	All MINPUT point types Default**: FIRE**	Sensor
	MX-Y-2	MOUTPUT	All point types for MOUTPUT Default**:RELAY**	Relay
MSD2I520	MX-Y-0	MSD520IO	UTILITY	SD520 Smoke Damper Interface (with 2 inputs)
	MX-Y-1	MINPUT	All MINPUT point types Default: **FIRE**	Sensor 1
	MX-Y-2	MINPUT	All MINPUT point types Default: **FIRE**	Sensor 2
MSU521	MX-Y-0	MSU521	UTILITY	SU521/PI521 (outputs First) SU521/PI521 (Input First)
	MX-Y-1	MINPUT	Point Types Default: **FIRE**	Sensor 1
	MX-Y-2	MINPUT	All MINPUT Point Types Default: **FIRE**	Sensor 2
	MX-Y-3	MOUTPUT	All MOUTPUT Point Types Default: **RELAY**	Relay 1
	MX-Y-4	MOUTPUT	All MOUTPUT Point Types Default: R**ELAY**	Relay 2
MVM520	MX-Y-0	MVM520	SIGNAL	VM520
	MX-Y-1	MSIGB	SIGNAL RSIGNAL SSIGNAL	Test Mode Tone signal
	MX-Y-2	MSIGB	SIGNAL RSIGNAL SSIGNAL	Fire Alarm Tone signal
	MX-Y-3	MSIGB	SIGNAL RSIGNAL SSIGNAL	Fire Evacuate Tone signal

4100 Hardwired Signal

Table A-7: ES Panel Hardwired Signal

4100 Hardwired Signal	Point Type (Default)	Available Point Types
Class B Signal Circuit Class A Signal Circuit	SSIGNAL	AHUF, AHUO, AHUR, ALTERN, BSIGNAL, CDAMPER, CEXHAUS, CODED, CPRESS, DHOLDER, DRESET, PHONE, PRIMARY, RELAY, RMPHONE, RSIGNAL, RVISUAL, RWATER, SHAFT, SIGNAL, SPEAKER, SSIGNAL, SUPERV, SVISUAL, SWATER, TSIGNAL

ES Panel Power Supply NACs Device Types

Table A-8: ES Panel Power Supply NACs Device Types

ES Panel Power Supply NACs Device Types	Point Type (Default)	Available Point Types
SIGB	SSIGNAL	AHUF, AHUO, AHUR, ALTERN, AUXPWR, BSIGNAL, CDAMPER, CEXHAUS, CODED, CPRESS, DHOLDER, DRESET, PRIMARY, QALERT, RELAY, RSIGNAL, RSYNVIS, RVISUAL, RWATER, SHAFT, SIGNAL, SQALERT, SSIGNAL, SSYNVIS, SUPERV, SVISUAL, SWATER, SYNVIS, TSIGNAL

XPS AUX Relay

Table A-9: XPS AUX Relay

XPS AUX Relay	Point Type (Default)	Available Point Types
AUXPWR	AUXPWR	AUXPWR, CODED, RELAY

SPS OR RPS AUX Relay

Table A-10: SPS OR RPS AUX Relay

SPS OR RPS AUX Relay	Point Type (Default)	Available Point Types
AUXPWR	AUXPWR	AUXPWR, CODED, RELAY
RELAY	RELAY	AHUF, AHUO, AHUR, ALTERN, BRELAY, CDAMPER, CEXHAUS, CODED, CPRESS, DHOLDER, DRESET, PRIMARY, RELAY, RRELAY, RSIGNAL, RVISUAL, RWATER, SHAFT, SRELAY, SSIGNAL, SUPERV, SVISUAL, SWATER, TRELAY

4100-3001/3002/3003 Relay

Table A-11: 4100-3001/3002/3003 Relay

4100-3001/3002/3003 Relay	Point Type (Default)	Available Point Types
RELAY	RELAY	AHUF, AHUO, AHUR, ALTERN, BRELAY, CDAMPER, CEXHAUS, CODED, CPRESS, DHOLDER, DRESET, PRIMARY, RELAY, RRELAY, RSIGNAL, RVISUAL, RWATER, SHAFT, SRELAY, SSIGNAL, SUPERV, SVISUAL, SWATER, TRELAY

PID

Table A-12: PID descriptions

PID	Description	Communication Channel
4090-9101	Class B IDC ZAM	ES Panel IDNet MAPNET II
4090-9106	Class A IDC ZAM	
4098-9713	QuickConnect sensor w/ sounder	
4098-9750	In-Duct sensor housing – no relay	
4098-9751	In-Duct sensor housing w/ relay	
4098-9755	Duct sensor housing w/o relay	
4098-9756	Duct sensor housing w/ relay	
4098-9788	Multi-purpose base	
4098-9789	Sensor base with remote connections	
4098-9791	Sensor base with supervised remote connections	
4098-9792	Standard sensor base	
4098-9794	Sounder base	
4099-9001	Addressable station, standard	
4099-9002	Addressable station, breakglass	
4099-9003	Addressable station, push	
4098-9795	Multi-sensor sounder base	MAPNET II or ES Panel
4098-9796	Multi-sensor base	
4090-9001	Supervised IAM	IDNet – Class B monitoring with T sense monitoring MAPNET II – Class B monitoring only
4090-9116	IDNet communications isolator	IDNet Only
4090-9117	Addressable power isolator	
4090-9121	Security monitor IAM	
4190-9050 & 51	4-20 mA AMZ	MAPNET II or IDnet
2099-9135	Double action, push pull no logo	MAPNET II Only
2099-9761	Double action, push pull	
2099-9795	Single action station	
2099-9796	Double action, breakglass	
2099-9797	Single action station, local cover	
2190-9153 & 54	Monitor ZAM, Style D IDC	
2190-9155 & 56	Monitor ZAM, Style B IDC	
2190-9157 & 58	4-wire detector ZAM, IDC	
2190-9159 & 60	Single ZAM, Style Z NAC	
2190-9161 & 62	Single ZAM, Style Y NAC	
2190-9163 & 64	Control Relay ZAM, DPDT contacts	
2190-9172	Supervised IAM	
2190-9173	2-point I/O module	
4098-9784	Standard sensor base	
4098-9785	Sensor base with remote connections	
4098-9786	Piezo sounder base	
4098-9787	Remote relay sensor base	
4090-9002	Relay IAM	
4090-9793	Isolator base	
4009-9401		

FCORFAST

Table A-13: Alarm CO/PHOTO

Circuit Status	LCD Readout	LED
Normal	FAST CORR MONITOR NORMAL	
Limited	FAST CORR MONITOR ALARM	F
Open	N/A	
Short	N/A	
Disabled tbl	FAST CORR MONITOR DISABLE TROUBLE	T
Class A tbl	N/A	

SCORFAST

Table A-14: SUPERV CO/Photo

Circuit Status	LCD Readout	LED
Normal	FAST CORR MONITOR NORMAL	
Limited	FAST CORR MONITOR ABNORMAL	S
Open	N/A	
Short	N/A	
Disabled tbl	FAST CORR MONITOR DISABLE TROUBLE	T
Class A tbl	N/A	

PCORFAST

Table A-15: PRI2 CO/PHOTO

Circuit Status	LCD Readout	LED
Normal	FAST CORR MONITOR NORMAL	
Limited	FAST CORR MONITOR PRI2 ALARM	P
Open	N/A	
Short	N/A	
Disabled tbl	FAST CORR MONITOR DISABLE TROUBLE	T
Class A tbl	N/A	

UCORFAST

Table A-16: UTILITY CO/PHOTO

Circuit Status	LCD Readout	LED
Normal	FAST CORR MONITOR NORMAL	
Limited	FAST CORR MONITOR ABNORMAL	
Open	N/A	
Short	N/A	
Disabled tbl	FAST CORR MONITOR DISABLE TROUBLE	T
Class A tbl	**N/A**	

SCORFALSE

Table A-17: UPERV CO/Photo

Circuit Status	LCD Readout	LED
Normal	FALSE CORR MONITOR NORMAL	
Limited	FALSE CORR MONITOR ABNORMAL	S
Open	N/A	
Short	N/A	
Disabled tbl	FALSE CORR MONITOR DISABLE TROUBLE	T
Class A tbl	**N/A**	

Continued on next page

PCORFALSE

Table A-18: PRI2 CO/PHOTO

Circuit Status	LCD Readout	LED
Normal	FALSE CORR MONITOR NORMAL	
Limited	FALSE CORR MONITOR PRI2 ALARM	S
Open	N/A	
Short	N/A	
Disabled tbl	FALSE CORR MONITOR DISABLE TROUBLE	T
Class A tbl	**N/A**	

UCORFALSE

Table A-19: UTILITY CO/PHOTO

Circuit Status	LCD Readout	LED
Normal	FALSE CORR MONITOR NORMAL	
Limited	FALSE CORR MONITOR ABNORMAL	
Open	N/A	
Short	N/A	
Disabled tbl	FALSE CORR MONITOR DISABLE TROUBLE	T
Class A tbl	**N/A**	

COFIRE

Table A-20: Alarm CO

Circuit Status	LCD Readout	LED
Normal	CO FIRE MONITOR NORMAL	
Limited	CO FIRE MONITOR ALARM	
Open	N/A	
Short	N/A	
Disabled tbl	CO FIRE MONITOR DISABLE TROUBLE	T
Class A tbl	**N/A**	

COPRI2

Table A-21: PRI2 CO

Circuit Status	LCD Readout	LED
Normal	CO FIRE MONITOR NORMAL	
Limited	CO FIRE MONITOR PRI2 ALARM	P
Open	N/A	
Short	N/A	
Disabled tbl	CO FIRE MONITOR DISABLE TROUBLE	T
Class A tbl	**N/A**	

Continued on next page

COSUPV

Table A-22: Supervisory CO

Circuit Status	LCD Readout	LED
Normal	CO FIRE MONITOR NORMAL	
Limited	CO FIRE MONITOR ABNORMAL	S
Open	N/A	
Short	N/A	
Disabled tbl	CO FIRE MONITOR DISABLE TROUBLE	T
Class A tbl	**N/A**	

COGASPRI2

Table A-23: Gas Detector

Circuit Status	LCD Readout	LED
Normal	CO GAS DETECTOR NORMAL	
Limited	CO GAS DETECTOR PRI2 ALARM	P
Open	CO GAS DETECTOR OPEN CKT TROUBLE	T
Short	CO GAS DETECTOR PRI2 ALARM	P
Disabled tbl	CO GAS DETECTOR DISABLE TROUBLE	T
Class A tbl	**CO GAS DETECTOR CLASS A TROUBLE**	**T**

COGASSUPV

Table A-24: Gas Detector

Circuit Status	LCD Readout	LED
Normal	CO GAS DETECTOR NORMAL	
Limited	CO GAS DETECTOR SUPV ALARM	S
Open	CO GAS DETECTOR OPEN CKT TROUBLE	T
Short	CO GAS DETECTOR SUPV ALARM	S
Disabled tbl	CO GAS DETECTOR DISABLE TROUBLE	T
Class A tbl	**CO GAS DETECTOR CLASS A TROUBLE**	**T**

FIRE

Table A-25: Generic Fire Alarm

Circuit Status	**LCD Readout**	**LED**
Normal	FIRE MONITOR ZONE NORMAL	
Limited	FIRE MONITOR ZONE ALARM	F
Open	FIRE MONITOR ZONE OPEN CKT TROUBLE	T
Short	FIRE MONITOR ZONE ALARM	F
Disabled tbl	FIRE MONITOR ZONE DISABLE TROUBLE	T
Class A tbl	FIRE MONITOR ZONE CLASS A TROUBLE	T
Description: A type FIRE zone is used for all fire alarm zones where more than one type of device may be connected. For example, smokes, pulls, waterflows, and heats are all connected to the same circuit. Shorts and current limited conditions activate alarms (general alarm).		

Continued on next page

WATER

Table A-26: Waterflow Switch

Circuit Status	LCD Readout	LED
Normal	WATERFLOW MONITOR ZONE NORMAL	
Limited	WATERFLOW MONITOR ZONE ALARM	F
Open	WATERFLOW MONITOR ZONE OPEN CKT TROUBLE	T
Short	WATERFLOW MONITOR ZONE ALARM	F
Disabled tbl	WATERFLOW MONITOR ZONE DISABLE TROUBLE	T
Class A tbl	WATERFLOW MONITOR ZONE CLASS A TROUBLE	T
Description: For hardwired zones, this point type is used when only waterflow devices are connected to the circuit. This point type is also used when the waterflow device is connected to an IDNet Zone Addressable Module (ZAM). Shorts and current limited conditions are treated the same (activate alarms).		

HEAT

Table A-27: Heat Detector

Circuit Status	LCD Readout	LED
Normal	HEAT DETECTOR NORMAL	
Limited	HEAT DETECTOR ALARM	F
Open	HEAT DETECTOR OPEN CKT TROUBLE	T
Short	HEAT DETECTOR ALARM	F
Disabled tbl	HEAT DETECTOR DISABLE TROUBLE	T
Class A tbl	HEAT DETECTOR CLASS A TROUBLE	T
Description: For hardwired zones, this point type is used when only heat detectors are connected to the zone. This point type is also used when an addressable heat detector is wired to an IDNet or MAPNET channel.		

DUCT

Table A-28: Duct Detector

Circuit Status	LCD Readout	LED
Normal	DUCT DETECTOR NORMAL	
Limited	DUCT DETECTOR ALARM	F
Open	DUCT DETECTOR OPEN CKT TROUBLE	T
Short	DUCT DETECTOR ALARM	F
Disabled tbl	DUCT DETECTOR DISABLE TROUBLE	T
Class A tbl	DUCT DETECTOR CLASS A TROUBLE	T
Description: For hardwired zones, this point type is used when only duct detectors are connected to the zone. This point type is also used when an addressable duct detector is wired to an IDNet or MAPNET channel.		

Continued on next page

FLAME

Table A-29: Flame Detector

Circuit Status	LCD Readout	LED
Normal	FLAME DETECTOR NORMAL	
Limited	FLAME DETECTOR ALARM	F
Open	FLAME DETECTOR OPEN CKT TROUBLE	T
Short	FLAME DETECTOR ALARM	F
Disabled tbl	FLAME DETECTOR DISABLE TROUBLE	T
Class A tbl	FLAME DETECTOR CLASS A TROUBLE	T
Description: For hardwired zones, this point type is used when only flame detectors are connected to the zone. This point type is also used when an addressable flame detector is wired to an IDNet or MAPNET channel.		

PULL

Table A-30: Pull (manual) Station

Circuit Status	LCD Readout	LED
Normal	PULL STATION NORMAL	
Limited	PULL STATION ALARM	F
Open	PULL STATION OPEN CKT TROUBLE	T
Short	PULL STATION ALARM	F
Disabled tbl	PULL STATION DISABLE TROUBLE	T
Class A tbl	PULL STATION CLASS A TROUBLE	T
Description: For hardwired zones, this point type is used when only pull stations are connected to the zone. This point type is also used when an addressable pull station is wired to an IDNet or MAPNET channel.		

SMOKE

Table A-31: Smoke Detector

Circuit Status	LCD Readout	LED
Normal	SMOKE DETECTOR NORMAL	
Limited	SMOKE DETECTOR ALARM	F
Open	SMOKE DETECTOR OPEN CKT TROUBLE	T
Short	SMOKE DETECTOR FIRE ALARM	F
Disabled tbl	SMOKE DETECTOR DISABLE TROUBLE	T
Class A tbl	SMOKE DETECTOR CLASS A TROUBLE	T
Description: For hardwired zones, this point type is used when only 2-wire or 4-wire smoke detectors are connected to the zone. This point type is also used when an addressable smoke detector is wired to an IDNet or MAPNET channel.		

Continued on next page

VSMOKE

Table A-32: Verified Smoke Detector Only

Circuit Status	LCD Readout	LED
Normal	SMOKE DETECTOR NORMAL	
Limited	SMOKE DETECTOR VERIFIED SMOKE ALARM	F
Open	SMOKE DETECTOR OPEN CKT TROUBLE	T
Short	SMOKE DETECTOR SHORT CKT ALARM	F
Disabled tbl	SMOKE DETECTOR DISABLE TROUBLE	T
Class A tbl	SMOKE DETECTOR CLASS A TROUBLE	T
Description: Used with smoke detectors for alarm verification applications.		

CODEDIN

Table A-33: Coded Input

Circuit Status	LCD Readout	LED
Normal	CODED INPUT NORMAL	
Limited	CODED INPUT ALARM	F
Open	CODED INPUT OPEN CKT TROUBLE	T
Short	CODED INPUT ALARM	F
Disabled tbl	CODED INPUT DISABLE TROUBLE	T
Class A tbl	CODED INPUT CLASS A TROUBLE	T
Description: Used to indicate that one of the monitor card circuits is connected to coded input devices. When first detected, the alarm is latched. This aborts PNIS and other coded inputs for 30 seconds after the system is returned to normal. Output signals are determined by the programmer.		

EMERG

Table A-34: Combination Fire/Emergency

Circuit Status	LCD Readout	LED
Normal	MONITOR ZONE NORMAL	
Limited	MONITOR ZONE EMERGENCY ALARM	S
Open	MONITOR ZONE TROUBLE	T
Short	MONITOR ZONE FIRE ALARM	F
Disabled tbl	MONITOR ZONE DISABLE TROUBLE	T
Class A tbl	MONITOR ZONE CLASS A TROUBLE	T
Description: Used to connect two types of Emergency Alarm devices on the same zone – for example, nurse call type devices and fire alarm devices. The Emergency Alarm devices require the use of a current limiting resistor. Emergency devices cause a supervisory service condition.		

Continued on next page

SFIRE

Table A-35: Combination Smoke/Fire

Circuit Status	LCD Readout	LED
Normal	MONITOR ZONE NORMAL	
Limited	MONITOR ZONE SMOKE ALARM	F
Open	MONITOR ZONE OPEN CKT TROUBLE	T
Short	MONITOR ZONE FIRE ALARM	F
Disabled tbl	MONITOR ZONE DISABLE TROUBLE	T
Class A tbl	MONITOR ZONE CLASS A TROUBLE	T
Description: Used when smoke detectors and other shorting type devices are on the same circuit. The current limited state of the smoke detector causes the display to indicate smoke alarm.		

VSFIRE

Table A-36: Verified Smoke/Fire Combination Zone

Circuit Status	LCD Readout	LED
Normal	MONITOR ZONE NORMAL	
Limited	MONITOR ZONE VERIFIED SMOKE ALARM	F
Open	MONITOR ZONE OPEN CKT TROUBLE	T
Short	MONITOR ZONE FIRE ALARM	F
Disabled tbl	MONITOR ZONE DISABLE TROUBLE	T
Class A tbl	MONITOR ZONE CLASS A TROUBLE	T
Description: Used to activate the alarm verification software for all smoke detectors connected to this circuit. All shorting type devices will cause an immediate alarm.		

SPULL

Table A-37: Smoke/Pull Combination Zone

Circuit Status	LCD Readout	LED
Normal	MONITOR ZONE NORMAL	
Limited	MONITOR ZONE SMOKE ALARM	F
Open	MONITOR ZONE OPEN CKT TROUBLE	T
Short	MONITOR ZONE MANUAL ALARM	F
Disabled tbl	MONITOR ZONE DISABLE TROUBLE	T
Class A tbl	MONITOR ZONE CLASS A TROUBLE	T
Description: Used when only smoke detectors and pull stations are connected to the same circuit.		

Continued on next page

VSPULL

Table A-38: Verified Smoke/Pull Combination Zone

Circuit Status	LCD Readout	LED
Normal	MONITOR ZONE NORMAL	
Limited	MONITOR ZONE VERIFIED SMOKE ALARM	F
Open	MONITOR ZONE OPEN CKT TROUBLE	T
Short	MONITOR ZONE MANUAL ALARM	F
Disabled tbl	MONITOR ZONE DISABLE TROUBLE	T
Class A tbl	MONITOR ZONE CLASS A TROUBLE	T
Description: Used when only smoke detectors and pull stations are connected to the same circuit and alarm verification operation is required.		

GENMON

Table A-39: Generator Monitor (No Supervisory)

Circuit Status	LCD Readout	LED
Normal	GENERATOR MONITOR NORMAL	
Limited	GENERATOR MONITOR RUNNING	
Open	GENERATOR MONITOR OPEN CKT TROUBLE	T
Short	GENERATOR MONITOR ABNORMAL	S
Disabled tbl	GENERATOR MONITOR DISABLE TROUBLE	T
Class A tbl	GENERATOR MONITOR CLASS A TROUBLE	T
Description: Used when emergency generator monitoring is required. The shorted condition of the circuit indicates an abnormal status and is indicated by the Supervisory Service LED. The current limited condition indicates the generator is running and can be tracked with a programmable LED, which must be programmed. A current limited resistor must be installed for this operation.		

SGENMON

Table A-40: Generator Monitor (Supervisory)

Circuit Status	LCD Readout	LED
Normal	GENERATOR MONITOR NORMAL	
Limited	GENERATOR MONITOR RUNNING	S
Open	GENERATOR MONITOR OPEN CKT TROUBLE	T
Short	GENERATOR MONITOR ABNORMAL	S
Disabled tbl	GENERATOR MONITOR DISABLE TROUBLE	T
Class A tbl	GENERATOR MONITOR CLASS A TROUBLE	T
Description: Same as GENMON, except generator running is automatically displayed and requires operator acknowledgement.		

Continued on next page

FPUMP

Table A-41: Fire Pump Monitor (No Supervisory)

Circuit Status	LCD Readout	LED
Normal	FIRE PUMP MONITOR NORMAL	
Limited	FIRE PUMP MONITOR RUNNING	
Open	FIRE PUMP MONITOR OPEN CKT TROUBLE	T
Short	FIRE PUMP MONITOR ABNORMAL	S
Disabled tbl	FIRE PUMP MONITOR DISABLE TROUBLE	T
Class A tbl	FIRE PUMP MONITOR CLASS A TROUBLE	T
Description: Used to monitor fire pump conditions. The shorted condition indicates Fire Pump Abnormal. A current limited condition indicates the fire pump is running.		

SFPUMP

Table A-42: Fire Pump Monitor (Supervisory)

Circuit Status	LCD Readout	LED
Normal	FIRE PUMP MONITOR NORMAL	
Limited	FIRE PUMP MONITOR RUNNING	S
Open	FIRE PUMP MONITOR OPEN CKT TROUBLE	T
Short	FIRE PUMP MONITOR ABNORMAL	S
Disabled tbl	FIRE PUMP MONITOR DISABLE TROUBLE	T
Class A tbl	FIRE PUMP MONITOR CLASS A TROUBLE	T
Description: Same as FPUMP, except Fire Pump Running is automatically displayed and operator acknowledgement is required.		

ABORT

Table A-43: Abort Zone (Pre-Signal) Supervisory

Circuit Status	LCD Readout	LED
Normal	ALARM ABORT NORMAL	
Limited	ALARM ABORT ACTIVATED	S
Open	ALARM ABORT OPEN CKT TROUBLE	T
Short	ALARM ABORT ACTIVATED	S
Disabled tbl	ALARM ABORT DISABLE TROUBLE	T
Class A tbl	ALARM ABORT CLASS A TROUBLE	T
Description: Used in conjunction with Stage 1 and Stage 2 operations to prevent timers from moving a condition from Stage 1 to Stage 2. The abort is a supervisory condition requiring acknowedgement.		

Continued on next page

S2STAGE

Table A-44: 2 Stage Monitor

Circuit Status	LCD Readout	LED
Normal	2 STAGE MONITOR NORMAL	
Limited	2 STAGE MONITOR STAGE 1 ALARM	F
Open	2 STAGE MONITOR OPEN CKT TROUBLE	T
Short	2 STAGE MONITOR STAGE 2 ALARM	F
Disabled tbl	2 STAGE MONITOR DISABLE TROUBLE	T
Class A tbl	2 STAGE MONITOR CLASS A TROUBLE	T
Description: Used for Stage 2 alarms. The current limited state of any device indicates a Stage 1 alarm. The shorting of the circuit, such as a key switch operation, causes a Stage 2 alarm.		

SO

Table A-45: Sprinkler Supv (Normally Open)

Circuit Status	LCD Readout	LED
Normal	SPRINKLER MONITOR NORMAL	
Limited	SPRINKLER MONITOR ABNORMAL	S
Open	SPRINKLER MONITOR OPEN CKT TROUBLE	T
Short	SPRINKLER MONITOR ABNORMAL	S
Disabled tbl	SPRINKLER MONITOR DISABLE TROUBLE	T
Class A tbl	SPRINKLER MONITOR CLASS A TROUBLE	T
Description: Used to indicate sprinkler abnormal conditions such as the operating of the PIV or OS&Y tamper switch. Used with normally open contacts only.		

SC

Table A-46: Sprinkler Supv (Normally Closed)

Circuit Status	LCD Readout	LED
Normal	SPRINKLER MONITOR ABNORMAL	S
Limited	SPRINKLER MONITOR NORMAL	
Open	SPRINKLER MONITOR OPEN CKT TROUBLE	T
Short	SPRINKLER MONITOR SHORT CKT TROUBLE	T
Disabled tbl	SPRINKLER MONITOR DISABLE TROUBLE	T
Class A tbl	SPRINKLER MONITOR CLASS A TROUBLE	T
Description: Used the same as SO, except the contacts monitored must be normally closed and a shunt resistor must be used. This point type assures the zone will not go into alarm when multiple tamper valves are activated.		

Continued on next page

WSO

Table A-47: Combination Waterflow/Sprinkler (Normally Open)

Circuit Status	LCD Readout	LED
Normal	SPRINKLER MONITOR NORMAL	
Limited	SPRINKLER MONITOR ABNORMAL	S
Open	SPRINKLER MONITOR OPEN CKT TROUBLE	T
Short	SPRINKLER MONITOR WATERFLOW ALARM	F
Disabled tbl	SPRINKLER MONITOR DISABLE TROUBLE	T
Class A tbl	SPRINKLER MONITOR CLASS A TROUBLE	T
Description: Where permitted by the AHJ, this circuit operates both waterflows and tampers on the same circuit. All tamper switches (N.O. contacts) must be connected with a current limiting resistor as described in the installation instructions for the monitor circuit, and will be indicated by the supervisory service LED. A short condition indicates a waterflow alarm.		

WSC

Table A-48: Sprinkler Supv (Normally Closed)

Circuit Status	LCD Readout	LED
Normal	SPRINKLER MONITOR ABNORMAL	S
Limited	SPRINKLER MONITOR NORMAL	
Open	SPRINKLER MONITOR OPEN CKT TROUBLE	T
Short	SPRINKLER MONITOR WATERFLOW ALARM	F
Disabled tbl	SPRINKLER MONITOR DISABLE TROUBLE	T
Class A tbl	SPRINKLER MONITOR CLASS A TROUBLE	T
Description: Same operation as the WSO point type, except all tamper switches must have nomally closed contacts. A 1K Ohm shunt resistor must be installed across the tamper switch and a 560 Ohm end-of-line resistor must also be used.		

GVMON

Table A-49: Generic Verified Smoke Detector

Circuit Status	LCD Readout	LED
Normal	MONITOR ZONE NORMAL	
Limited	MONITOR ZONE VERIFIED ALARM	F
Open	MONITOR ZONE OPEN CKT TROUBLE	T
Short	MONITOR ZONE FIRE ALARM	F
Disabled tbl	MONITOR ZONE DISABLE TROUBLE	T
Class A tbl	MONITOR ZONE CLASS A TROUBLE	T

SUPERV

Table A-50: Supervisory Monitor (No Alarm)

Circuit Status	LCD Readout	LED
Normal	SUPERVISORY MONITOR NORMAL	
Limited	SUPERVISORY MONITOR ABNORMAL	S
Open	SUPERVISORY MONITOR OPEN CKT TROUBLE	T
Short	SUPERVISORY MONITOR ABNORMAL	S
Disabled tbl	SUPERVISORY MONITOR DISABLE TROUBLE	T
Class A tbl	SUPERVISORY MONITOR CLASS A TROUBLE	T
Description: When a point assigned this point type enters a supervisory condition, the condition is cleared from the system at the time the point returns to normal operation.		

Continued on next page

LATSUPV

Table A-51: Latching Supervisory Monitor (No Alarm)

Circuit Status	LCD Readout	LED
Normal	SUPERVISORY MONITOR NORMAL	
Limited	SUPERVISORY MONITOR ABNORMAL	S
Open	SUPERVISORY MONITOR OPEN CKT TROUBLE	T
Short	SUPERVISORY MONITOR ABNORMAL	S
Disabled tbl	SUPERVISORY MONITOR DISABLE TROUBLE	T
Class A tbl	SUPERVISORY MONITOR CLASS A TROUBLE	T
Description: Using this point type requires a system reset once the point is returned to normal.		

UTILITY

Table A-52: Utility Monitor with Tri-State (No Alarm)

Circuit Status	LCD Readout	LED
Normal	UTILITY MONITOR NORMAL	
Limited	UTILITY MONITOR ABNORMAL	
Open	UTILITY MONITOR OPEN CKT TROUBLE	T
Short	UTILITY MONITOR ABNORMAL	
Disabled tbl	UTILITY MONITOR DISABLE TROUBLE	T
Class A tbl	UTILITY MONITOR CLASS A TROUBLE	T
Description: Used to monitor and supervise any condition; operator acknowledgement is not required.		

TROUBLE

Table A-53: Trouble Monitor (No Alarm)

Circuit Status	LCD Readout	LED
Normal	TROUBLE MONITOR NORMAL	
Limited	TROUBLE MONITOR ABNORMAL	T
Open	TROUBLE MONITOR OPEN CKT TROUBLE	T
Short	TROUBLE MONITOR ABNORMAL	T
Disabled tbl	TROUBLE MONITOR DISABLE TROUBLE	T
Class A tbl	TROUBLE MONITOR CLASS A TROUBLE	T
Description: Used to monitor and supervise any condition and has the device operation indicated as a trouble condition.		

Continued on next page

DAMPER

Table A-54: Damper Monitor (Open/Closed)

Circuit Status	LCD Readout	LED
Normal	DAMPER MONITOR OPEN	
Limited	DAMPER MONITOR CLOSED	
Open	DAMPER MONITOR OPEN CKT TROUBLE	T
Short	DAMPER MONITOR CLOSED	
Disabled tbl	DAMPER MONITOR DISABLE TROUBLE	T
Class A tbl	DAMPER MONITOR CLASS A TROUBLE	T
Description: Used for supervising smoke or fire damper open/closed status. The normal status of the circuit indicates damper open. The shorted and current limited operation indicates damper closed.		

TDAMPER

Table A-55: Tri-State Damper Monitor (Center/Open/Closed)

Circuit Status	LCD Readout	LED
Normal	DAMPER MONITOR PARTIALLY OPEN	
Limited	DAMPER MONITOR OPEN	
Open	DAMPER MONITOR OPEN CKT TROUBLE	T
Short	DAMPER MONITOR CLOSED	
Disabled tbl	DAMPER MONITOR DISABLE TROUBLE	T
Class A tbl	DAMPER MONITOR CLASS A TROUBLE	T
Description: Used for supervising smoke or fire damper open/closed status plus partially open status. In this circuit, the open damper contact is current limited. The closed damper contact shorts when the damper is closed. If neither condition is sensed, the partially open condition is sensed via end-of-line resistor. No operator acknowledgement or automatic display of information occurs with this point type or the DAMPER point type.		

MPRI2 (ARMED)

Table A-56: Class M Generic Priority 2 (Armed)

Circuit Status	LCD Readout	LED	Active Status
Normal	PRIORITY 2 MONITOR NORMAL		OFF
+ - 50%	PRIORITY 2 MONITOR PRI2 ALARM	A	ON
Open	PRIORITY 2 MONITOR PRI2 ALARM	A	ON
Short	PRIORITY 2 MONITOR PRI2 ALARM	A	ON
Disabled tbl	PRIORITY 2 MONITOR DISABLE TROUBLE	T	
Class A tbl	PRIORITY 2 MONITOR CLASS A TROUBLE	T	
Description:			

Continued on next page

MPRI2 (DISARMED)

Table A-57: Class M Generic Priority 2 (Disarmed)

Circuit Status	LCD Readout	LED	Active Status
Normal	PRIORITY 2 MONITOR NORMAL		OFF
+ - 50%	PRIORITY 2 MONITOR NORMAL		ON
Open	PRIORITY 2 MONITOR TROUBLE	T	ON
Short	PRIORITY 2 MONITOR NORMAL		ON
Disabled tbl	PRIORITY 2 MONITOR DISABLE TROUBLE	T	
Class A tbl	PRIORITY 2 MONITOR CLASS A TROUBLE	T	
Description:			

SMALARM (ARMED)

Table A-58: Class M General Security Alarm (Armed)

Circuit Status	LCD Readout	LED	Active Status
Normal	SECURITY MONITOR NORMAL		OFF
+ - 50%	SECURITY MONITOR PRI2 ALARM	A	ON
Open	SECURITY MONITOR PRI2 ALARM	A	ON
Short	SECURITY MONITOR PRI2 ALARM	A	ON
Disabled tbl	SECURITY MONITOR DISABLE TROUBLE	T	
Class A tbl	SECURITY MONITOR CLASS A TROUBLE	T	
Description:			

SMALARM (DISARMED)

Table A-59: Class M General Security Alarm (Disarmed)

Circuit Status	LCD Readout	LED	Active Status
Normal	SECURITY MONITOR NORMAL		OFF
+ - 50%	SECURITY MONITOR NORMAL		ON
Open	SECURITY MONITOR TROUBLE	T	ON
Short	SECURITY MONITOR NORMAL		ON
Disabled tbl	SECURITY MONITOR DISABLE TROUBLE	T	
Class A tbl	SECURITY MONITOR CLASS A TROUBLE	T	
Description:			

Continued on next page

SMDOOR (ARMED)

Table A-60: Class M Door Monitoring (Armed)

Circuit Status	LCD Readout	LED	Active Status
Normal	SECURITY DOOR NORMAL		OFF
+ - 50%	SECURITY DOOR PRI2 ALARM	A	ON
Open	SECURITY DOOR PRI2 ALARM	A	ON
Short	SECURITY DOOR PRI2 ALARM	A	ON
Disabled tbl	SECURITY DOOR DISABLE TROUBLE	T	
Class A tbl	SECURITY DOOR CLASS A TROUBLE	T	
Description:			

SMDOOR (DISARMED)

Table A-61: Class M Door Monitoring (Disarmed)

Circuit Status	LCD Readout	LED	Active Status
Normal	SECURITY DOOR NORMAL		OFF
+ - 50%	SECURITY DOOR NORMAL		ON
Open	SECURITY DOOR TROUBLE	T	ON
Short	SECURITY DOOR NORMAL		ON
Disabled tbl	SECURITY DOOR DISABLE TROUBLE	T	
Class A tbl	SECURITY DOOR CLASS A TROUBLE	T	
Description:			

SMWIND (ARMED)

Table A-62: Class M Window Monitoring (Armed)

Circuit Status	LCD Readout	LED	Active Status
Normal	SECURITY WINDOW NORMAL		OFF
+ - 50%	SECURITY WINDOW PRI2 ALARM	A	ON
Open	SECURITY WINDOW PRI2 ALARM	A	ON
Short	SECURITY WINDOW PRI2 ALARM	A	ON
Disabled tbl	SECURITY WINDOW DISABLE TROUBLE	T	
Class A tbl	SECURITY WINDOW CLASS A TROUBLE	T	
Description:			

SMWIND (DISARMED)

Table A-63: Class M Window Monitoring (Disarmed)

Circuit Status	LCD Readout	LED	Active Status
Normal	SECURITY WINDOW NORMAL		OFF
+ - 50%	SECURITY WINDOW NORMAL		ON
Open	SECURITY WINDOW TROUBLE	T	ON
Short	SECURITY WINDOW NORMAL		ON
Disabled tbl	SECURITY WINDOW DISABLE TROUBLE	T	
Class A tbl	SECURITY WINDOW CLASS A TROUBLE	T	
Description:			

Continued on next page

SMBREAK (ARMED)

Table A-64: Class M Break Glass (Armed)

Circuit Status	LCD Readout	LED	Active Status
Normal	BREAK GLASS NORMAL		OFF
+ - 50%	BREAK GLASS PRI2 ALARM	A	ON
Open	BREAK GLASS PRI2 ALARM	A	ON
Short	BREAK GLASS PRI2 ALARM	A	ON
Disabled tbl	BREAK GLASS DISABLE TROUBLE	T	
Class A tbl	BREAK GLASS CLASS A TROUBLE	T	
Description:			

SMBREAK (DISARMED)

Table A-65: Class M Break Glass (Disarmed)

Circuit Status	LCD Readout	LED	Active Status
Normal	BREAK GLASS NORMAL		OFF
+ - 50%	BREAK GLASS NORMAL		ON
Open	BREAK GLASS TROUBLE	T	ON
Short	BREAK GLASS NORMAL		ON
Disabled tbl	BREAK GLASS DISABLE TROUBLE	T	
Class A tbl	BREAK GLASS CLASS A TROUBLE	T	
Description:			

SMMOT (ARMED)

Table A-66: Class M Motion Detector (Armed)

Circuit Status	LCD Readout	LED	Active Status
Normal	MOTION DETECTOR NORMAL		OFF
+ - 50%	MOTION DETECTOR PRI2 ALARM	A	ON
Open	MOTION DETECTOR PRI2 ALARM	A	ON
Short	MOTION DETECTOR PRI2 ALARM	A	ON
Disabled tbl	MOTION DETECTOR DISABLE TROUBLE	T	
Class A tbl	MOTION DETECTOR CLASS A TROUBLE	T	
Description:			

Continued on next page

SMMOT (DISARMED)

Table A-67: Class M Motion Detector (Disarmed)

Circuit Status	LCD Readout	LED	Active Status
Normal	MOTION DETECTOR NORMAL		OFF
+ - 50%	MOTION DETECTOR NORMAL		ON
Open	MOTION DETECTOR TROUBLE	T	ON
Short	MOTION DETECTOR NORMAL		ON
Disabled tbl	MOTION DETECTOR DISABLE TROUBLE	T	
Class A tbl	MOTION DETECTOR CLASS A TROUBLE	T	
Description:			

SPRI2 (ARMED)

Table A-68: Class S Generic Priority 2 (Armed)

Circuit Status	LCD Readout	LED	Active Status
Normal	PRIORITY 2 MONITOR NORMAL		OFF
+ - 50%	PRIORITY 2 MONITOR PRI2 ALARM	A	ON
Open	PRIORITY 2 MONITOR PRI2 ALARM	A	ON
Short	PRIORITY 2 MONITOR PRI2 ALARM	A	ON
Disabled tbl	PRIORITY 2 MONITOR DISABLE TROUBLE	T	
Class A tbl	PRIORITY 2 MONITOR CLASS A TROUBLE	T	
Description:			

SPRI2 (DISARMED)

Table A-69: Class S Generic Priority 2 (Disarmed)

Circuit Status	LCD Readout	LED	Active Status
Normal	PRIORITY 2 MONITOR NORMAL		OFF
+ - 50%	PRIORITY 2 MONITOR NORMAL		ON
Open	PRIORITY 2 MONITOR TROUBLE	T	ON
Short	PRIORITY 2 MONITOR TROUBLE	T	ON
Disabled tbl	PRIORITY 2 MONITOR DISABLE TROUBLE	T	
Class A tbl	PRIORITY 2 MONITOR CLASS A TROUBLE	T	
Description:			

Continued on next page

SSALARM (ARMED)

Table A-70: Class S General Security Alarm (Armed)

Circuit Status	LCD Readout	LED	Active Status
Normal	SECURITY MONITOR NORMAL		OFF
+ - 50%	SECURITY MONITOR PRI2 ALARM	A	ON
Open	SECURITY MONITOR PRI2 ALARM	A	ON
Short	SECURITY MONITOR PRI2 ALARM	A	ON
Disabled tbl	SECURITY MONITOR DISABLE TROUBLE	T	
Class A tbl	SECURITY MONITOR CLASS A TROUBLE	T	
Description:			

SSALARM (DISARMED)

Table A-71: Class S General Security Alarm (Disarmed)

Circuit Status	LCD Readout	LED	Active Status
Normal	SECURITY MONITOR NORMAL		OFF
+ - 50%	SECURITY MONITOR NORMAL		ON
Open	SECURITY MONITOR TROUBLE	T	ON
Short	SECURITY MONITOR TROUBLE	T	ON
Disabled tbl	SECURITY MONITOR DISABLE TROUBLE	T	
Class A tbl	SECURITY MONITOR CLASS A TROUBLE	T	
Description:			

SSDOOR (ARMED)

Table A-72: Class S Door Monitoring (Armed)

Circuit Status	LCD Readout	LED	Active Status
Normal	SECURITY DOOR NORMAL		OFF
+ - 50%	SECURITY DOOR PRI2 ALARM	A	ON
Open	SECURITY DOOR PRI2 ALARM	A	ON
Short	SECURITY DOOR PRI2 ALARM	A	ON
Disabled tbl	SECURITY DOOR DISABLE TROUBLE	T	
Class A tbl	SECURITY DOOR CLASS A TROUBLE	T	
Description:			

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SSDOOR (DISARMED)

Table A-73: Class S Door Monitoring (Disarmed)

Circuit Status	LCD Readout	LED	Active Status
Normal	SECURITY DOOR NORMAL		OFF
+ - 50%	SECURITY DOOR NORMAL		ON
Open	SECURITY DOOR TROUBLE	T	ON
Short	SECURITY DOOR TROUBLE	T	ON
Disabled tbl	SECURITY DOOR DISABLE TROUBLE	T	
Class A tbl	SECURITY DOOR CLASS A TROUBLE	T	
Description:			

SSWIND (ARMED)

Table A-74: Class S Window Monitoring (Armed)

Circuit Status	LCD Readout	LED	Active Status
Normal	SECURITY WINDOW NORMAL		OFF
+ - 50%	SECURITY WINDOW PRI2 ALARM	A	ON
Open	SECURITY WINDOW PRI2 ALARM	A	ON
Short	SECURITY WINDOW PRI2 ALARM	A	ON
Disabled tbl	SECURITY WINDOW DISABLE TROUBLE	T	
Class A tbl	SECURITY WINDOW CLASS A TROUBLE	T	
Description:			

SSWIND (DISARMED)

Table A-75: Class S Window Monitoring (Disarmed)

Circuit Status	LCD Readout	LED	Active Status
Normal	SECURITY WINDOW NORMAL		OFF
+ - 50%	SECURITY WINDOW NORMAL		ON
Open	SECURITY WINDOW TROUBLE	T	ON
Short	SECURITY WINDOW TROUBLE	T	ON
Disabled tbl	SECURITY WINDOW DISABLE TROUBLE	T	
Class A tbl	SECURITY WINDOW CLASS A TROUBLE	T	
Description:			

Continued on next page

SSBREAK (ARMED)

Table A-76: Class S Break Glass (Armed)

Circuit Status	LCD Readout	LED	Active Status
Normal	BREAK GLASS NORMAL		OFF
+ - 50%	BREAK GLASS PRI2 ALARM	A	ON
Open	BREAK GLASS PRI2 ALARM	A	ON
Short	BREAK GLASS PRI2 ALARM	A	ON
Disabled tbl	BREAK GLASS DISABLE TROUBLE	T	
Class A tbl	BREAK GLASS CLASS A TROUBLE	T	
Description:			

SSBREAK (DISARMED)

Table A-77: Class S Break Glass (Disarmed)

Circuit Status	LCD Readout	LED	Active Status
Normal	BREAK GLASS NORMAL		OFF
+ - 50%	BREAK GLASS NORMAL		ON
Open	BREAK GLASS TROUBLE	T	ON
Short	BREAK GLASS TROUBLE	T	ON
Disabled tbl	BREAK GLASS DISABLE TROUBLE	T	
Class A tbl	BREAK GLASS CLASS A TROUBLE	T	
Description:			

SSMOT (ARMED)

Table A-78: Class S Motion Detector (Armed)

Circuit Status	LCD Readout	LED	Active Status
Normal	MOTION DETECTOR NORMAL		OFF
+ - 50%	MOTION DETECTOR PRI2 ALARM	A	ON
Open	MOTION DETECTOR PRI2 ALARM	A	ON
Short	MOTION DETECTOR PRI2 ALARM	A	ON
Disabled tbl	MOTION DETECTOR DISABLE TROUBLE	T	
Class A tbl	MOTION DETECTOR CLASS A TROUBLE	T	
Description:			

Continued on next page

SSMOT (DISARMED)

Table A-79: Class S Motion Detector (Disarmed)

Circuit Status	LCD Readout	LED	Active Status
Normal	MOTION DETECTOR NORMAL		OFF
+ - 50%	MOTION DETECTOR NORMAL		ON
Open	MOTION DETECTOR TROUBLE	T	ON
Short	MOTION DETECTOR TROUBLE	T	ON
Disabled tbl	MOTION DETECTOR DISABLE TROUBLE	T	
Class A tbl	MOTION DETECTOR CLASS A TROUBLE	T	
Description:			

STYLEC

Table A-80: Style C Monitor Point

Circuit Status	LCD Readout	LED
Normal	FIRE MONITOR ZONE NORMAL	
Limited	FIRE MONITOR ZONE ALARM	A
Open	FIRE MONITOR ZONE OPEN CKT TROUBLE	T
Short	FIRE MONITOR ZONE SHORT CKT TROUBLE	T
Disabled tbl	FIRE MONITOR ZONE DISABLE TROUBLE	T
Class A tbl	FIRE MONITOR ZONE CLASS A TROUBLE	T
Description:		

SDUCT

Table A-81: Supervisory Duct Detector

Circuit Status	LCD Readout	LED
Normal	DUCT DETECTOR NORMAL	
Limited	DUCT DETECTOR ABNORMAL	S
Open	DUCT DETECTOR OPEN CKT TROUBLE	T
Short	DUCT DETECTOR ABNORMAL	S
Disabled tbl	DUCT DETECTOR DISABLE TROUBLE	T
Class A tbl	DUCT DETECTOR CLASS A TROUBLE	T
Description:		

Continued on next page

GENPRI2 (ARMED)

Table A-82: Priority 2 with Open Trouble (Armed)

Circuit Status	LCD Readout	LED	Active Status
Normal	PRI2 MONITOR NORMAL		OFF
+ - 50%	PRI2 MONITOR PRI2 ALARM	A	ON
Open	PRI2 MONITOR OPEN CKT ALARM	T	ON
Short	PRI2 MONITOR PRI2 ALARM	A	ON
Disabled tbl	PRI2 MONITOR DISABLE TROUBLE	T	
Class A tbl	PRI2 MONITOR CLASS A TROUBLE	T	
Description:			

GENPRI2 (DISARMED)

Table A-83: Priority 2 with Open Trouble (Disarmed)

Circuit Status	LCD Readout	LED	Active Status
Normal	PRI2 MONITOR NORMAL		OFF
+ - 50%	PRI2 MONITOR NORMAL		ON
Open	PRI2 MONITOR OPEN CKT TROUBLE	T	ON
Short	PRI2 MONITOR NORMAL		ON
Disabled tbl	PRI2 MONITOR DISABLE TROUBLE	T	
Class A tbl	PRI2 MONITOR CLASS A TROUBLE	T	
Description:			

GENFS

Table A-84: Generic Normally Open Fire/Supervisory

Circuit Status	LCD Readout	LED
Normal	FIRE/SUPV MONITOR NORMAL	
Limited	FIRE/SUPV MONITOR SUPERVISORY	S
Open	FIRE/SUPV MONITOR OPEN CKT TROUBLE	T
Short	FIRE/SUPV MONITOR ALARM	F
Disabled tbl	FIRE/SUPV MONITOR DISABLE TROUBLE	T
Class A tbl	FIRE/SUPV MONITOR CLASS A TROUBLE	T
Description:		

Continued on next page

S3SMOKE

Table A-85: Three Stage Smoke Detector

Circuit Status	LCD Readout	LED
Normal	SMOKE DETECTOR NORMAL	
Abnormal	SMOKE DETECTOR ALARM	F
Disabled tbl	SMOKE DETECTOR DISABLE TROUBLE	T
Description:		

SUTIL

Table A-86: Three Stage Utility Monitor

Circuit Status	LCD Readout	LED
Normal	SMOKE DETECTOR NORMAL	
Abnormal	SMOKE DETECTOR ON	
Disabled tbl	SMOKE DETECTOR DISABLE TROUBLE	T
Description:		

LSDUCT

Table A-87: Latching Supervisory Duct Smoke Detector (No Alarm)

Circuit Status	LCD Readout	LED
Normal	DUCT DETECTOR NORMAL	
Limited	DUCT DETECTOR ABNORMAL	S
Open	DUCT DETECTOR OPEN CKT TROUBLE	T
Short	DUCT DETECTOR ABNORMAL	S
Disables tbl	DUCT DETECTOR DISABLE TROUBLE	T
Class A tbl	DUCT DETECTOR CLASS A TROUBLE	T
Description: Using this point type requires a system reset once the point is returned to normal.		

LVSUPV

Table A-88: Latching Verified Supervisory Smoke Detector Only

Circuit Status	LCD Readout	LED
Normal	SUPERVISORY MONITOR NORMAL	
Limited	SUPERVISORY MONITOR VERIFIED SMOKE ALARM	S
Open	SUPERVISORY MONITOR OPEN CKT TROUBLE	T
Short	SUPERVISORY MONITOR SHORT CKT ALARM	S
Disables tbl	SUPERVISORY MONITOR DISABLE TROUBLE	T
Class A tbl	SUPERVISORY MONITOR CLASS A TROUBLE	T
Description: Used with smoke detectors for latching verified supervisory applications. Using this point type requires a system reset once the point is returned to normal.		

Continued on next page

LVSDUCT

Table A-89: Latching Verified Supervisory Duct Smoke Detector Only

Circuit Status	LCD Readout	LED
Normal	DUCT DETECTOR NORMAL	
Limited	DUCT DETECTOR VERIFIED SMOKE ALARM	S
Open	DUCT DETECTOR OPEN CKT TROUBLE	T
Short	DUCT DETECTOR SHORT CKT ALARM	S
Disables tbl	DUCT DETECTOR DISABLE TROUBLE	T
Class A tbl	DUCT DETECTOR CLASS A TROUBLE	T
Description: Used with smoke detectors for latching verified supervisory duct applications. Using this point type requires a system reset		

SIGNAL

Table A-90: Generic Signal (No Default Operation)

Circuit Status	LCD Readout	LED
Normal	SIGNAL CIRCUIT ON	
Normal	SIGNAL CIRCUIT OFF	
Normal	SIGNAL CIRCUIT CODING	
Fault	SIGNAL CIRCUIT RELAY FAULT TROUBLE	T
Open	SIGNAL CIRCUIT OPEN CKT TROUBLE	T
Short	SIGNAL CIRCUIT SHORT CKT TROUBLE	T
Disabled tbl	SIGNAL CIRCUIT DISABLE TROUBLE	T
Offauto tbl	SIGNAL CIRCUIT MANUAL OVERRIDE TBL	T
Description: A generic point type used when the signal point is to be controlled using Custom Control equations.		

RELAY

Table A-91: Supervised Relay (No Default Operation)

Circuit Status	LCD Readout	LED
Normal	CONTROL CIRCUIT ON	
Normal	CONTROL CIRCUIT OFF	
Normal	CONTROL CIRCUIT CODING	
Fault	CONTROL CIRCUIT RELAY FAULT TROUBLE	T
Open	CONTROL CIRCUIT OPEN CKT TROUBLE	T
Short	CONTROL CIRCUIT SHORT CKT TROUBLE	T
Disabled tbl	CONTROL CIRCUIT DISABLE TROUBLE	T
Offauto tbl	CONTROL CIRCUIT MANUAL OVERRIDE TBL	T
Description: Used in applications where a supervised control circuit is required – for example smoke control operations.		

SSIGNAL

Table A-92: Alarm Signal (On Until Silence)

Circuit Status	LCD Readout	LED
Normal	SIGNAL CIRCUIT ON	
Normal	SIGNAL CIRCUIT OFF	
Normal	SIGNAL CIRCUIT CODING	
Fault	SIGNAL CIRCUIT RELAY FAULT TROUBLE	T
Open	SIGNAL CIRCUIT OPEN CKT TROUBLE	T
Short	SIGNAL CIRCUIT SHORT CKT TROUBLE	T
Disabled tbl	SIGNAL CIRCUIT DISABLE TROUBLE	T
Offauto tbl	SIGNAL CIRCUIT MANUAL OVERRIDE TBL	T
Description: Used for all audible or audible/visible units that are required to be ON until the alarm silence key is operated. A separate type for visuals only is available.		

Continued on next page

RSIGNAL

Table A-93: Alarm Signal (On Until Reset)

Circuit Status	LCD Readout	LED
Normal	SIGNAL CIRCUIT ON	
Normal	SIGNAL CIRCUIT OFF	
Normal	SIGNAL CIRCUIT CODING	
Fault	SIGNAL CIRCUIT RELAY FAULT TROUBLE	T
Open	SIGNAL CIRCUIT OPEN CKT TROUBLE	T
Short	SIGNAL CIRCUIT SHORT CKT TROUBLE	T
Disabled tbl	SIGNAL CIRCUIT DISABLE TROUBLE	T
Offauto tbl	SIGNAL CIRCUIT MANUAL OVERRIDE TBL	T
Description: Used for any signaling device that is required to be ON until the system reset key is operated.		

TSIGNAL

Table A-94: Trouble/Supervisory Signal (On Until Clear)

Circuit Status	LCD Readout	LED
Normal	TROUBLE SIGNAL ON	
Normal	TROUBLE SIGNAL OFF	
Normal	TROUBLE SIGNAL CODING	
Fault	TROUBLE SIGNAL RELAY FAULT TROUBLE	T
Open	TROUBLE SIGNAL OPEN CKT TROUBLE	T
Short	TROUBLE SIGNAL SHORT CKT TROUBLE	T
Disabled tbl	TROUBLE SIGNAL DISABLE TROUBLE	T
Offauto tbl	TROUBLE SIGNAL MANUAL OVERRIDE TBL	T
Description: Used when an audible signal should activate on any system trouble or supervisory condition and remain ON until the trouble or supervisory condition has cleared.		

BSIGNAL

Table A-95: Trouble/Supervisory Signal - Bell (On Until Acknowledged)

Circuit Status	LCD Readout	LED
Normal	TROUBLE SIGNAL ON	
Normal	TROUBLE SIGNAL OFF	
Normal	TROUBLE SIGNAL CODING	
Fault	TROUBLE SIGNAL RELAY FAULT TROUBLE	T
Open	TROUBLE SIGNAL OPEN CKT TROUBLE	T
Short	TROUBLE SIGNAL SHORT CKT TROUBLE	T
Disabled tbl	TROUBLE SIGNAL DISABLE TROUBLE	T
Offauto tbl	TROUBLE SIGNAL MANUAL OVERRIDE TBL	T
Description: Used when an audible signal should activate on any supervisory or trouble condition and remain ON until the condition has been acknowledged.		

Continued on next page

CODED

Table A-96: Coded Signal

Circuit Status	LCD Readout	LED
Normal	CODED SIGNAL ON	
Normal	CODED SIGNAL OFF	
Normal	CODED SIGNAL CODING	
Fault	CODED SIGNAL RELAY FAULT TROUBLE	T
Open	CODED SIGNAL OPEN CKT TROUBLE	T
Short	CODED SIGNAL SHORT CKT TROUBLE	T
Disabled tbl	CODED SIGNAL DISABLE TROUBLE	T
Offauto tbl	CODED SIGNAL MANUAL OVERRIDE TBL	T
Description: Used to indicate that circuit will track the PNIS code or coded input zone. By default all “C” devices go into one group (non-selection) and then they may be separated as required.		

SVISUAL

Table A-97: Visual (On Until Silence)

Circuit Status	LCD Readout	LED
Normal	VISUAL ON	
Normal	VISUAL OFF	
Normal	VISUAL CODING	
Fault	VISUAL RELAY FAULT TROUBLE	T
Open	VISUAL OPEN CKT TROUBLE	T
Short	VISUAL SHORT CKT TROUBLE	T
Disabled tbl	VISUAL DISABLE TROUBLE	T
Offauto tbl	VISUAL MANUAL OVERRIDE TBL	T
Description: Used only with visuals that are required to be ON until the alarm silence key is operated.		

RVISUAL

Table A-98: Visual (On Until Reset)

Circuit Status	LCD Readout	LED
Normal	VISUAL ON	
Normal	VISUAL OFF	
Normal	VISUAL CODING	
Fault	VISUAL RELAY FAULT TROUBLE	T
Open	VISUAL OPEN CKT TROUBLE	T
Short	VISUAL SHORT CKT TROUBLE	T
Disabled tbl	VISUAL DISABLE TROUBLE	T
Offauto tbl	VISUAL MANUAL OVERRIDE TBL	T
Description: Used only with visuals that are required to be ON until the system reset key is operated.		

Continued on next page

SWATER

Table A-99: Waterflow Signal (On Until Silence)

Circuit Status	LCD Readout	LED
Normal	WATERFLOW SIGNAL ON	
Normal	WATERFLOW SIGNAL OFF	
Normal	WATERFLOW SIGNAL CODING	
Fault	WATERFLOW SIGNAL RELAY FAULT TROUBLE	T
Open	WATERFLOW SIGNAL OPEN CKT TROUBLE	T
Short	WATERFLOW SIGNAL SHORT CKT TROUBLE	T
Disabled tbl	WATERFLOW SIGNAL DISABLE TROUBLE	T
Offauto tbl	WATERFLOW SIGNAL MANUAL OVERRIDE TBL	T
Description: Used in applications where a waterflow control circuit is required to be ON until signal silence. Activated by zone with Water point type		

RWATER

Table A-100: Waterflow Signal (On Until Reset)

Circuit Status	LCD Readout	LED
Normal	WATERFLOW SIGNAL ON	
Normal	WATERFLOW SIGNAL OFF	
Normal	WATERFLOW SIGNAL CODING	
Fault	WATERFLOW SIGNAL RELAY FAULT TROUBLE	T
Open	WATERFLOW OPEN CKT TROUBLE	T
Short	WATERFLOW SHORT CKT TROUBLE	T
Disabled tbl	WATERFLOW DISABLE TROUBLE	T
Offauto tbl	WATERFLOW MANUAL OVERRIDE TBL	T
Description: Used in applications where a waterflow control circuit is required to be ON until reset. Activated by zone with Water point type.		

SUPERV

Table A-101: Sprinkler Supervisory Signal (On Until Acknowledged)

Circuit Status	LCD Readout	LED
Normal	SUPERVISORY SIGNAL ON	
Normal	SUPERVISORY SIGNAL OFF	
Normal	SUPERVISORY SIGNAL CODING	
Fault	SUPERVISORY SIGNAL RELAY FAULT TROUBLE	T
Open	SUPERVISORY SIGNAL OPEN CKT TROUBLE	T
Short	SUPERVISORY SIGNAL SHORT CKT TROUBLE	T
Disabled tbl	SUPERVISORY SIGNAL DISABLE TROUBLE	T
Offauto tbl	SUPERVISORY SIGNAL MANUAL OVERRIDE TBL	T
Description: Used in applications where a supervisory control circuit is required to be ON until acknowledged.		

Continued on next page

PRIMARY

Table A-102: Primary Elevator Capture

Circuit Status	LCD Readout	LED
Normal	PRI ELEVATOR CAPTURE ON	
Normal	PRI ELEVATOR CAPTURE OFF	
Fault	PRI ELEVATOR CAPTURE RELAY FAULT TROUBLE	T
Open	PRI ELEVATOR CAPTURE OPEN CKT TROUBLE	T
Short	PRI ELEVATOR CAPTURE SHORT CKT TROUBLE	T
Disabled tbl	PRI ELEVATOR CAPTURE DISABLE TROUBLE	T
Offauto tbl	PRI ELEVATOR CAPTURE MANUAL OVERRIDE TBL	T
Description: Used with the primary elevator relay point or signal point. Points with this type are automatically include in L21.		

ALTERN

Table A-103: Alternate Elevator Capture

Circuit Status	LCD Readout	LED
Normal	ALT ELEVATOR CAPTURE ON	
Normal	ALT ELEVATOR CAPTURE OFF	
Fault	ALT ELEVATOR CAPTURE RELAY FAULT TROUBLE	T
Open	ALT ELEVATOR CAPTURE OPEN CKT TROUBLE	T
Short	ALT ELEVATOR CAPTURE SHORT CKT TROUBLE	T
Disabled tbl	ALT ELEVATOR CAPTURE DISABLE TROUBLE	T
Offauto tbl	ALT ELEVATOR CAPTURE MANUAL OVERRIDE TBL	T
Description: Used with the alternate elevator relay point or signal point. Points with this type are automatically include in L22.		

AHUR

Table A-104: AHU Signal

Circuit Status	LCD Readout	LED
Normal	AHU RELAY ON	
Normal	AHU RELAY OFF	
Fault	AHU RELAY RELAY FAULT TROUBLE	T
Open	AHU RELAY OPEN CKT TROUBLE	T
Short	AHU RELAY SHORT CKT TROUBLE	T
Disabled tbl	AHU RELAY DISABLE TROUBLE	T
Offauto tbl	AHU RELAY MANUAL OVERRIDE TBL	T
Description: Used where one auxiliary relay performs AHU ON and AHU OFF control.		

Continued on next page

AHUO

Table A-105: AHU On Signal

Circuit Status	LCD Readout	LED
Normal	AHU ON RELAY ON	
Normal	AHU ON RELAY OFF	
Fault	AHU ON RELAY RELAY FAULT TROUBLE	T
Open	AHU ON RELAY OPEN CKT TROUBLE	T
Short	AHU ON RELAY SHORT CKT TROUBLE	T
Disabled tbl	AHU ON RELAY DISABLE TROUBLE	T
Offauto tbl	AHU ON RELAY MANUAL OVERRIDE TBL	T
Description: Used when two auxiliary relays are used to perform AHU control. One relay is for ON and the other relay is for OFF. This point type is used with the ON relay. The point type is usually used with the AHUF point type.		

AHUF

Table A-106: AHU Off Signal

Circuit Status	LCD Readout	LED
Normal	AHU OFF RELAY ON	
Normal	AHU OFF RELAY OFF	
Fault	AHU OFF RELAY RELAY FAULT TROUBLE	T
Open	AHU OFF RELAY OPEN CKT TROUBLE	T
Short	AHU OFF RELAY SHORT CKT TROUBLE	T
Disabled tbl	AHU OFF RELAY DISABLE TROUBLE	T
Offauto tbl	AHU OFF RELAY MANUAL OVERRIDE TBL	T
Description: Used when two auxiliary relays are used to perform AHU control. One relay is for ON and the other relay is for OFF. This point type is used with the OFF relay. The point type is usually used with the AHUO point type.		

CPRESS

Table A-107: Pressurization

Circuit Status	LCD Readout	LED
Normal	PRESSURIZATION ON	
Normal	PRESSURIZATION OFF	
Fault	PRESSURIZATION RELAY FAULT TROUBLE	T
Open	PRESSURIZATION OPEN CKT TROUBLE	T
Short	PRESSURIZATION SHORT CKT TROUBLE	T
Disabled tbl	PRESSURIZATION DISABLE TROUBLE	T
Offauto tbl	PRESSURIZATION MANUAL OVERRIDE TBL	T
Description: Used to initiate smoke pressurization sequence in a smoke control application.		

Continued on next page

CEXHAUS

Table A-108: Exhaust

Circuit Status	LCD Readout	LED
Normal	EXHAUST ON	
Normal	EXHAUST OFF	
Fault	EXHAUST RELAY FAULT TROUBLE	T
Open	EXHAUST OPEN CKT TROUBLE	T
Short	EXHAUST SHORT CKT TROUBLE	T
Disabled tbl	EXHAUST DISABLE TROUBLE	T
Offauto tbl	EXHAUST MANUAL OVERRIDE TBL	T
Description: Used to initiate an exhaust sequence in a smoke control application. The relay associated with this point type does not operate on general alarm.		

CDAMPER

Table A-109: Damper Signal

Circuit Status	LCD Readout	LED
Normal	DAMPER CONTROL ON	
Normal	DAMPER CONTROL OFF	
Fault	DAMPER CONTROL RELAY FAULT TROUBLE	T
Open	DAMPER CONTROL OPEN CKT TROUBLE	T
Short	DAMPER CONTROL SHORT CKT TROUBLE	T
Disabled tbl	DAMPER CONTROL DISABLE TROUBLE	T
Offauto tbl	DAMPER CONTROL MANUAL OVERRIDE TBL	T
Description: Used to control dampers in a smoke control application.		

DRESET

Table A-110: Detector Reset Signal

Circuit Status	LCD Readout	LED
Normal	RESET RELAY ON	
Normal	RESET RELAY OFF	
Fault	RESET RELAY RELAY FAULT TROUBLE	T
Open	RESET RELAY OPEN CKT TROUBLE	T
Short	RESET RELAY SHORT CKT TROUBLE	T
Disabled tbl	RESET RELAY DISABLE TROUBLE	T
Offauto tbl	RESET RELAY MANUAL OVERRIDE TBL	T
Description:		

Continued on next page

DHOLDER

Table A-111: Door Holder

Circuit Status	LCD Readout	LED
Normal	DOOR HOLDER ON	
Normal	DOOR HOLDER OFF	
Fault	DOOR HOLDER RELAY FAULT TROUBLE	T
Open	DOOR HOLDER OPEN CKT TROUBLE	T
Short	DOOR HOLDER SHORT CKT TROUBLE	T
Disabled tbl	DOOR HOLDER DISABLE TROUBLE	T
Offauto tbl	DOOR HOLDER MANUAL OVERRIDE TBL	T
Description:		

PHONE

Table A-112: Phone Circuit

Circuit Status	LCD Readout	LED
Normal	PHONE CIRCUIT ON	
Normal	PHONE CIRCUIT OFF	
Fault	PHONE CIRCUIT RELAY FAULT TROUBLE	T
Open	PHONE CIRCUIT OPEN CKT TROUBLE	T
Short	PHONE CIRCUIT SHORT CKT TROUBLE	T
Disabled tbl	PHONE CIRCUIT DISABLE TROUBLE	T
Offauto tbl	PHONE CIRCUIT MANUAL OVERRIDE TBL	T
Description:		

RMPHONE

Table A-113: Remote Master Phone

Circuit Status	LCD Readout	LED
Normal	REMOTE MASTER PHONE CIRCUIT ON	
Normal	REMOTE MASTER PHONE CIRCUIT OFF	
Fault	REMOTE MASTER PHONE CIRCUIT RELAY FAULT TROUBLE	T
Open	REMOTE MASTER PHONE CIRCUIT OPEN CKT TROUBLE	T
Short	REMOTE MASTER PHONE CIRCUIT SHORT CKT TROUBLE	T
Disabled tbl	REMOTE MASTER PHONE CIRCUIT DISABLE TROUBLE	T
Offauto tbl	REMOTE MASTER PHONE CIRCUIT MANUAL OVERRIDE TBL	T
Description:		

Continued on next page

SHAFT

Table A-114: Elevator Shaft Shutdown

Circuit Status	LCD Readout	LED
Normal	SHAFT ON	
Normal	SHAFT OFF	
Fault	SHAFT RELAY FAULT TROUBLE	T
Open	SHAFT OPEN CKT TROUBLE	T
Short	SHAFT SHORT CKT TROUBLE	T
Disabled tbl	SHAFT DISABLE TROUBLE	T
Offauto tbl	SHAFT MANUAL OVERRIDE TBL	T
Description:		

AUXPWR

Table A-115: Auxiliary Power

Circuit Status	LCD Readout	LED
Normal	AUXILIARY POWER ON	
Normal	AUXILIARY POWER OFF	
Fault	AUXILIARY POWER RELAY FAULT TROUBLE	T
Open	AUXILIARY POWER OPEN CKT TROUBLE	T
Short	AUXILIARY POWER SHORT CKT TROUBLE	T
Disabled tbl	AUXILIARY POWER DISABLE TROUBLE	T
Offauto tbl	AUXILIARY POWER MANUAL OVERRIDE TBL	T
Description:		

RELAY

Table A-116: Generic Relay (No Default Operation)

Circuit Status	LCD Readout	LED
Off	AUXILIARY RELAY OFF	
On	AUXILIARY RELAY ON	
Disabled tbl	AUXILIARY RELAY DISABLE TROUBLE	T
Offauto tbl	AUXILIARY RELAY MANUAL OVERRIDE TBL	T
Description: Used for all relay applications that are not defined by a specific type.		

PRIMARY

Table A-117: Elevator Capture (Primary)

Circuit Status	LCD Readout	LED
On	PRI ELEVATOR CAPTURE ON	
Off	PRI ELEVATOR CAPTURE OFF	
Disabled tbl	PRI ELEVATOR CAPTURE DISABLE TROUBLE	T
Offauto tbl	PRI ELEVATOR CAPTURE MANUAL OVERRIDE TBL	T
Description: Used with the primary elevator relay point .		

ALTERN

Table A-118: Elevator Capture (Alternate)

Circuit Status	LCD Readout	LED
On	ALT ELEVATOR CAPTURE ON	
Off	ALT ELEVATOR CAPTURE OFF	
Disabled tbl	ALT ELEVATOR CAPTURE DISABLE TROUBLE	T
Offauto tbl	ALT ELEVATOR CAPTURE MANUAL OVERRIDE TBL	T
Description: Used with the auxiliary elevator relay point or signal point.		

AHUR

Table A-119: AHU On/Off (Single Relay Control)

Circuit Status	LCD Readout	LED
On	AHU RELAY ON	
Off	AHU RELAY OFF	
Disabled tbl	AHU RELAY DISABLE TROUBLE	T
Offauto tbl	AHU RELAY MANUAL OVERRIDE TBL	T
Description: Used where one auxiliary relay performs AHU ON and AHU OFF control.		

Continued on next page

AHUO

Table A-120: AHU On Relay (Dual Relay Control)

Circuit Status	LCD Readout	LED
On	AHU ON RELAY ON	
Off	AHU ON RELAY OFF	
Disabled tbl	AHU ON RELAY DISABLE TROUBLE	T
Offauto tbl	AHU ON RELAY MANUAL OVERRIDE TBL	T
Description: Used where two auxiliary relays are used to perform AHU control. One relay is for ON and one relay is for OFF. This point type is used with the ON relay.		

AHUF

Table A-121: AHU Off Relay (Dual Relay Control)

Circuit Status	LCD Readout	LED
On	AHU OFF RELAY ON	
Off	AHU OFF RELAY OFF	
Disabled tbl	AHU OFF RELAY DISABLE TROUBLE	T
Offauto tbl	AHU OFF RELAY MANUAL OVERRIDE TBL	T
Description: Used where two auxiliary relays are used to perform AHU control. One relay is for ON and one relay is for OFF. This point type is used with the OFF relay.		

CODED

Table A-122: Coded Relay (PNIS or Coded Input)

Circuit Status	LCD Readout	LED
On	CODED RELAY ON	
Off	CODED RELAY OFF	
	CODED RELAY CODING	
Disabled tbl	CODED RELAY DISABLE TROUBLE	T
Offauto tbl	CODED RELAY MANUAL OVERRIDE TBL	T
Description: Used to track any PNIS coded or coded input zone.		

CPRESS

Table A-123: Pressurization (Supply) Fan/Damper Control

Circuit Status	LCD Readout	LED
On	PRESSURIZATION ON	
Off	PRESSURIZATION OFF	
Disabled tbl	PRESSURIZATION DISABLE TROUBLE	T
Offauto tbl	PRESSURIZATION MANUAL OVERRIDE TBL	T
Description: Used to initiate smoke pressurization sequence in a smoke control application.		

Continued on next page

CEXHAUS

Table A-124: Exhaust Fan/Damper Control

Circuit Status	LCD Readout	LED
On	EXHAUST ON	
Off	EXHAUST OFF	
Disabled tbl	EXHAUST DISABLE TROUBLE	T
Offauto tbl	EXHAUST MANUAL OVERRIDE TBL	T
Description: Used to initiate exhaust sequence in a smoke control application.		

CDAMPER

Table A-125: Damper Control (On/Off)

Circuit Status	LCD Readout	LED
On	DAMPER CONTROL ON	
Off	DAMPER CONTROL OFF	
Disabled tbl	DAMPER CONTROL DISABLE TROUBLE	T
Offauto tbl	DAMPER CONTROL MANUAL OVERRIDE TBL	T
Description: Used to control dampers in a smoke control application.		

SRELAY

Table A-126: Alarm Relay (On Until Silence)

Circuit Status	LCD Readout	LED
On	ALARM RELAY ON	
Off	ALARM RELAY OFF	
	ALARM RELAY CODING	
Disabled tbl	ALARM RELAY DISABLE TROUBLE	T
Offauto tbl	ALARM RELAY MANUAL OVERRIDE TBL	T
Description: Used for any relay that must be ON from the time an alarm occurs until an alarm silence occurs.		

RRELAY

Table A-127: Alarm Relay (On Until Reset)

Circuit Status	LCD Readout	LED
On	ALARM RELAY ON	
Off	ALARM RELAY OFF	
	ALARM RELAY CODING	
Disabled tbl	ALARM RELAY DISABLE TROUBLE	T
Offauto tbl	ALARM RELAY MANUAL OVERRIDE TBL	T
Description: Used for any relay that must be ON from the time an alarm occurs until a system reset occurs.		

Continued on next page

TRELAY

Table A-128: Trouble/Supervisory Relay (On Until Clear)

Circuit Status	LCD Readout	LED
On	TROUBLE RELAY ON	
Off	TROUBLE RELAY OFF	
	TROUBLE RELAY CODING	
Disabled tbl	TROUBLE RELAY DISABLE TROUBLE	T
Offauto tbl	TROUBLE RELAY MANUAL OVERRIDE TBL	T
Description: Used for an audible or visual device (trouble or supervisory) that must be ON until the condition clears.		

BRELAY

Table A-129: Trouble/Supervisory (Bell) Relay (On Until Acknowledged)

Circuit Status	LCD Readout	LED
On	TROUBLE RELAY ON	
Off	TROUBLE RELAY OFF	
	TROUBLE RELAY CODING	
Disabled tbl	TROUBLE RELAY DISABLE TROUBLE	T
Offauto tbl	TROUBLE RELAY MANUAL OVERRIDE TBL	T
Description: Used for trouble relays that must be ON (for supervisory or trouble condition) until the condition is acknowledged.		

DRESET

Table A-130: Detector (4-Wire) Pulse Reset

Circuit Status	LCD Readout	LED
On	RESET RELAY ON	
Off	RESET RELAY OFF	
	RESET RELAY CODING	
Disabled tbl	RESET RELAY DISABLE TROUBLE	T
Offauto tbl	RESET RELAY MANUAL OVERRIDE TBL	T
Description: Used when 4-wire smoke detectors are used and are reset through an auxiliary relay. They are pulsed for 5 seconds at the start of the reset sequence.		

DHOLDER

Table A-131: Door Holder Control (Normally Off)

Circuit Status	LCD Readout	LED
On	DOOR HOLDER ON	
Off	DOOR HOLDER OFF	
Disabled tbl	DOOR HOLDER DISABLE TROUBLE	T
Offauto tbl	DOOR HOLDER MANUAL OVERRIDE TBL	T
Description: Used when the auxiliary relay is connected to door holders. The relay energizes on alarm, loss of AC power, or when programmed.		

Continued on next page

SWATER

Table A-132: Waterflow Relay (On Until Silence)

Circuit Status	LCD Readout	LED
On	WATERFLOW RELAY ON	
Off	WATERFLOW RELAY OFF	
	WATERFLOW RELAY CODING	
Disabled tbl	WATERFLOW RELAY DISABLE TROUBLE	T
Offauto tbl	WATERFLOW RELAY MANUAL OVERRIDE TBL	T
Description: Used in applications where a waterflow control circuit is required that will remain ON until silenced.		

RWATER

Table A-133: Waterflow Relay (On Until Reset)

Circuit Status	LCD Readout	LED
On	WATERFLOW RELAY ON	
Off	WATERFLOW RELAY OFF	
	WATERFLOW RELAY CODING	
Disabled tbl	WATERFLOW RELAY DISABLE TROUBLE	T
Offauto tbl	WATERFLOW RELAY MANUAL OVERRIDE TBL	T
Description: Used in applications where a waterflow control circuit is required to remain ON until a system reset occurs.		

SUPERV

Table A-134: Sprinkler Supervisory Relay (On Until Acknowledged)

Circuit Status	LCD Readout	LED
On	SUPERVISORY RELAY ON	
Off	SUPERVISORY RELAY OFF	
	SUPERVISORY RELAY CODING	
Disabled tbl	SUPERVISORY RELAY DISABLE TROUBLE	T
Offauto tbl	SUPERVISORY RELAY MANUAL OVERRIDE TBL	T
Description: Used in applications where a supervisory control circuit is required to be ON until acknowledged.		

SVISUAL

Table A-135: Visual (On Until Silence)

Circuit Status	LCD Readout	LED
On	VISUAL ON	
Off	VISUAL OFF	
	VISUAL CODING	
Disabled tbl	VISUAL DISABLE TROUBLE	T
Offauto tbl	VISUAL MANUAL OVERRIDE TBL	T
Description: Used when a relay is connected to visual alarm devices that must remain ON until an alarm silence occurs.		

Continued on next page

RVISUAL

Table A-136: Visual (On Until Reset)

Circuit Status	LCD Readout	LED
On	VISUAL ON	
Off	VISUAL OFF	
	VISUAL CODING	
Disabled tbl	VISUAL DISABLE TROUBLE	T
Offauto tbl	VISUAL MANUAL OVERRIDE TBL	T
Description: Used when a relay is connected to visual alarm devices that must remain ON until an alarm reset occurs.		

SSIGNAL

Table A-137: Signal Relay (On Until Silence)

Circuit Status	LCD Readout	LED
On	SIGNAL RELAY ON	
Off	SIGNAL RELAY OFF	
	SIGNAL RELAY CODING	
Disabled tbl	SIGNAL RELAY DISABLE TROUBLE	T
Offauto tbl	SIGNAL RELAY MANUAL OVERRIDE TBL	T
Description: Used for any signal relay that must remain ON until an alarm silence occurs.		

RSIGNAL

Table A-138: Signal Relay (On Until Reset)

Circuit Status	LCD Readout	LED
On	SIGNAL RELAY ON	
Off	SIGNAL RELAY OFF	
	SIGNAL RELAY CODING	
Disabled tbl	SIGNAL RELAY DISABLE TROUBLE	T
Offauto tbl	SIGNAL RELAY MANUAL OVERRIDE TBL	T
Description: Used for any signal relay that must remain ON until an alarm reset occurs		

SHAFT

Table A-139: Elevator Shaft Shutdown

Circuit Status	LCD Readout	LED
On	SHAFT ON	
Off	SHAFT OFF	
Disabled tbl	SHAFT DISABLE TROUBLE	T
Offauto tbl	SHAFT MANUAL OVERRIDE TBL	T
Description:		

Continued on next page

AUXPWR

Table A-140: Auxiliary Power

Circuit Status	LCD Readout	LED
Off	AUXILIARY RELAY OFF	
On	AUXILIARY RELAY ON	
Disabled tbl	AUXILIARY RELAY DISABLE TROUBLE	T
Offauto tbl	AUXILIARY RELAY MANUAL OVERRIDE TBL	T
Description:		

DAMPER

Table A-141: Damper Monitor (Open/Closed)

Circuit Status	LCD Readout	LED
On	DAMPER MONITOR OPEN	
Off	DAMPER MONITOR CLOSED	
Description:		

AHUMON

Table A-142: AHU Monitor (On/Off)

Circuit Status	LCD Readout	LED
On	AHU MONITOR ON	
Off	AHU MONITOR OFF	
Description:		

PRESSUR

Table A-143: Pressurization Monitor (On/Off)

Circuit Status	LCD Readout	LED
On	PRESSURIZATION ON	
Off	PRESSURIZATION OFF	
Description:		

EXHAUST

Table A-144: Exhaust Monitor (On/Off)

Circuit Status	LCD Readout	LED
On	EXHAUST ON	
Off	EXHAUST OFF	
Description:		

ONOFF

Table A-145: Utility Monitor (On/Off)

Circuit Status	LCD Readout	LED
On	UTILITY MONITOR ON	
Off	UTILITY MONITOR OFF	
Description:		

UTILITY

Table A-146: Utility Monitor with Tri/State (Normal/Abnormal)

Circuit Status	LCD Readout	LED
Normal	UTILITY MONITOR NORMAL	
Limited	UTILITY MONITOR ABNORMAL	
Open	UTILITY MONITOR OPEN CKT TROUBLE	T
Short	UTILITY MONITOR ABNORMAL	
Disabled Tbl	UTILITY MONITOR DISABLE TROUBLE	T
Offauto Tbl	UTILITY MONITOR MANUAL OVERRIDE TROUBLE	T
Description: Used to indicate that the point is a generic supervised input for a condition that is abnormal.		

TROUBLE

Table A-147: Generic Trouble Monitor

Circuit Status	LCD Readout	LED
Normal	TROUBLE MONITOR NORMAL	
Limited	TROUBLE MONITOR ABNORMAL	T
Open	TROUBLE MONITOR OPEN CKT TROUBLE	T
Short	TROUBLE MONITOR ABNORMAL	T
Disabled Tbl	TROUBLE MONITOR DISABLE TROUBLE	T
Offauto Tbl	TROUBLE MONITOR MANUAL OVERRIDE TROUBLE	T
Description: Used to indicate that the point is a supervised input, but will cause a trouble indication when the point is activated.		

USWITCH

Table A-148: 2-Position Switch/Input (Unsupervised)

Circuit Status	LCD Readout	LED
Open	2-POSITION SWITCH DOWN	
Limited	2-POSITION SWITCH	T
Short	2-POSITION SWITCH UP	T
(*) Invalid Tbl	2-POSITION SWITCH INVALID STATE TBL	T
Disabled Tbl	2-POSITION SWITCH DISABLE TROUBLE	T
Offauto Tbl	2-POSITION SWITCH MANUAL OVERRIDE TROUBLE	T
Description: Used to indicate the point is connected to a two-position switch without an EOL or current-limited resistor. (Open = OFF; Short = ON).		

Continued on next page

OSWITCH

Table A-149: 2-Position Switch/Input (Open Supervised)

Circuit Status	LCD Readout	LED
Normal	2-POSITION SWITCH CENTER	
Limited	2-POSITION SWITCH	T
Open	2-POSITION SWITCH OPEN CKT TROUBLE	T
Short	2-POSITION SWITCH UP	
(*) Invalid Tbl	2-POSITION SWITCH INVALID STATE TBL	T
Disable Tbl	2-POSITION SWITCH DISABLE TROUBLE	T
Offauto Tbl	2-POSITION SWITCH MANUAL OVERRIDE TROUBLE	T
Description: Used to indicate the point is supervised for opens and is connected to a two-position switch. An EOL resistor is required.		

SSWITCH

Table A-150: 2-Position Switch/Input (Open/Short Supervised)

Circuit Status	LCD Readout	LED
Normal	2-POSITION SWITCH CENTER	
Limited	2-POSITION SWITCH UP	
Open	2-POSITION SWITCH OPEN CKT TROUBLE	T
Short	2-POSITION SWITCH SHORT CKT TROUBLE	T
Disable Tbl	2-POSITION SWITCH DISABLE TROUBLE	T
Offauto Tbl	2-POSITION SWITCH MANUAL OVERRIDE TROUBLE	T
Description: Used to indicate the point is supervised for opens and shorts and is connected to a two-position switch. This requires EOL and current-limited resistors.		

TSWITCH

Table A-151: 3-Position Switch/Input (Open Supervised)

Circuit Status	LCD Readout	LED
Normal	3-POSITION SWITCH CENTER	
Limited	3-POSITION SWITCH UP	
Open	3-POSITION SWITCH OPEN CKT TROUBLE	T
Short	3-POSITION SWITCH DOWN	
Disable Tbl	3-POSITION SWITCH DISABLE TROUBLE	T
Offauto Tbl	3-POSITION SWITCH MANUAL OVERRIDE TROUBLE	T
Description: Used to indicate the point is connected to an SPDT switch and is supervised for opens. Requires an EOL and series current-limiting resistors (up leg).		

Continued on next page

TDAMPER

Table A-152: Tri-State Damper Monitor (Center/Open/Closed)

Circuit Status	LCD Readout	LED
Normal	DAMPER MONITOR PARTIALLY OPEN	
Limited	DAMPER MONITOR OPEN	
Open	DAMPER MONITOR OPEN CKT TROUBLE	T
Short	DAMPER MONITOR CLOSED	
Disable Tbl	DAMPER MONITOR DISABLE TROUBLE	T
Offauto Tbl	DAMPER MONITOR MANUAL OVERRIDE TROUBLE	T
Description: Used for a supervised input monitoring damper, reports open/closed status as well as partially open status. A current limiting resistor is required for the open damper contact.		

AHUMON

Table A-153: AHU Monitor (On/Off/Open/Short)

Circuit Status	LCD Readout	LED
Normal	AHU MONITOR OFF	
Limited	AHU MONITOR ON	
Open	AHU MONITOR OPEN CKT TROUBLE	T
Short	AHU MONITOR SHORT CKT TROUBLE	T
Disable Tbl	AHU MONITOR DISABLE TROUBLE	T
Offauto Tbl	AHU MONITOR MANUAL OVERRIDE TROUBLE	T
Description: Used to indicate the point is supervised for shorts and opens and is monitoring whether the AHU is ON or OFF. Requires a current limiting resistor on the AHU ON contact.		

PRESSUR

Table A-154: Pressurization Monitor (On/Off)

Circuit Status	LCD Readout	LED
Normal	PRESSURIZATION OFF	
Limited	PRESSURIZATION ON	
Open	PRESSURIZATION OPEN CKT TROUBLE	T
Short	PRESSURIZATION SHORT CKT TROUBLE	T
Disable Tbl	PRESSURIZATION DISABLE TROUBLE	T
Offauto Tbl	PRESSURIZATION MANUAL OVERRIDE TROUBLE	T
Description: Used to indicate the point is a supervised input, monitoring if an AHU is in a pressurization sequence.		

EXHAUST

Table A-155: Exhaust Monitor (On/Off)

Circuit Status	LCD Readout	LED
Normal	EXHAUST OFF	
Limited	EXHAUST ON	
Open	EXHAUST OPEN CKT TROUBLE	T
Short	EXHAUST SHORT CKT TROUBLE	T
Disable Tbl	EXHAUST DISABLE TROUBLE	T
Offauto Tbl	EXHAUST MANUAL OVERRIDE TROUBLE	T
Description: Used to indicate the point is a supervised input, monitoring if an AHU is in the exhaust sequence.		

Continued on next page

ONOFF

Table A-156: Utility Monitor (On/Off)

Circuit Status	LCD Readout	LED
Normal	UTILITY MONITOR ON	
Limited	UTILITY MONITOR OFF	
Open	UTILITY MONITOR OPEN CKT TROUBLE	T
Short	UTILITY MONITOR SHORT CKT TROUBLE	T
Disable Tbl	UTILITY MONITOR DISABLE TROUBLE	T
Offauto Tbl	UTILITY MONITOR MANUAL OVERRIDE TROUBLE	T
Description: Used for a general ON/OFF utility input with supervision for shorts and opens. It requires a current limiting resistor for the ON contact.		

OFFON

Table A-157: Utility Monitor (Off/On)

Circuit Status	LCD Readout	LED
Normal	UTILITY MONITOR OFF	
Limited	UTILITY MONITOR ON	
Open	UTILITY MONITOR OPEN CKT TROUBLE	T
Short	UTILITY MONITOR SHORT CKT TROUBLE	T
Disable Tbl	UTILITY MONITOR DISABLE TROUBLE	T
Offauto Tbl	UTILITY MONITOR MANUAL OVERRIDE TROUBLE	T
Description: Used to indicate the point is a generic supervised input, monitored for a condition that is ON or OFF.		

EP

Table A-158: AHU Monitor (Exhaust/Pressure/Normal)

Circuit Status	LCD Readout	LED
Normal	AHU MONITOR NORMAL	
Limited	AHU MONITOR PRESSURIZATION	
Open	AHU MONITOR OPEN CKT TROUBLE	T
Short	AHU MONITOR EXHAUST	
Disable Tbl	AHU MONITOR DISABLE TROUBLE	T
Offauto Tbl	AHU MONITOR MANUAL OVERRIDE TROUBLE	T
Description: Used to indicate the point is a supervised input, monitoring whether an AHU is in the pressurization or exhaust mode.		

DAMPER

Table A-159: Damper Monitor (Open/Closed)

Circuit Status	LCD Readout	LED
Normal	DAMPER MONITOR OPEN	
Limited	DAMPER MONITOR CLOSED	
Open	DAMPER MONITOR OPEN CKT TROUBLE	T
Short	DAMPER MONITOR CLOSED	
Disable Tbl	DAMPER MONITOR DISABLE TROUBLE	T
Offauto Tbl	DAMPER MONITOR MANUAL OVERRIDE TROUBLE	T
Description: Used to indicate the point is a damper input, and to monitor whether a damper is in a closed or open position or experiencing a trouble condition.		

Continued on next page

LAMP

Table A-160: Lamp (With Lamp Test)

Circuit Status	LCD Readout	LED
Off	ANNUNCIATOR LAMP/LED OFF	
On	ANNUNCIATOR LAMP/LED ON	
Slow Flash	ANNUNCIATOR LAMP/LED SLOW FLASH	
Fast Flash	ANNUNCIATOR LAMP/LED FAST FLASH	
Shorted Tbl	ANNUNCIATOR LAMP/LED SHORT CKT TROUBLE	T
Open Tbl	ANNUNCIATOR LAMP/LED OPEN CKT TROUBLE	T
Disable Tbl	ANNUNCIATOR LAMP/LED DISABLE TROUBLE	T
Offauto Tbl	ANNUNCIATOR LAMP/LED MANUAL OVERRIDE TROUBLE	T
Description: Used to indicate the point is a lamp or LED with lamp test capability.		

PIEZO

Table A-161: Piezo (Annunciator Use)

Circuit Status	LCD Readout	LED
Off	ANNUNCIATOR PIEZO OFF	
On	ANNUNCIATOR PIEZO ON	
Slow Flash	ANNUNCIATOR PIEZO SLOW FLASH	
Fast Flash	ANNUNCIATOR PIEZO FAST FLASH	
Shorted Tbl	ANNUNCIATOR PIEZO SHORT CKT TROUBLE	T
Open Tbl	ANNUNCIATOR PIEZO OPEN CKT TROUBLE	T
Disable Tbl	ANNUNCIATOR PIEZO DISABLE TROUBLE	T
Offauto Tbl	ANNUNCIATOR PIEZO MANUAL OVERRIDE TROUBLE	T
Description: Used to indicate the point is an audible tone-alert circuit on a remote annunciator.		

RELAY

Table A-162: Generic Remote Relay (On/Off)

Circuit Status	LCD Readout	LED
Off	AUXILIARY RELAY OFF	
On	AUXILIARY RELAY ON	
Slow Flash	AUXILIARY RELAY SLOW FLASH	
Fast Flash	AUXILIARY RELAY FAST FLASH	
Open Tbl	AUXILIARY RELAY OPEN CKT TROUBLE	T
Shorted Tbl	AUXILIARY RELAY SHORT CKT TROUBLE	T
Disable Tbl	AUXILIARY RELAY DISABLE TROUBLE	T
Offauto Tbl	AUXILIARY RELAY MANUAL OVERRIDE TROUBLE	T
Description: Used to indicate the point is an output circuit controlling a remote auxiliary relay. It provides supervised wiring.		

Continued on next page

PRIMARY

Table A-163: Elevator Capture (Primary)

Circuit Status	LCD Readout	LED
Off	PRI ELEVATOR CAPTURE OFF	
On	PRI ELEVATOR CAPTURE ON	
Slow Flash	PRI ELEVATOR CAPTURE SLOW FLASH	
Fast Flash	PRI ELEVATOR CAPTURE FAST FLASH	
Open Tbl	PRI ELEVATOR CAPTURE OPEN CKT TROUBLE	T
Shorted Tbl	PRI ELEVATOR CAPTURE SHORT CKT TROUBLE	T
Disable Tbl	PRI ELEVATOR CAPTURE DISABLE TROUBLE	T
Offauto Tbl	PRI ELEVATOR CAPTURE MANUAL OVERRIDE TROUBLE	T
Description: Used to indicate the point is an output controlling primary floor elevator capture.		

ALTERN

Table A-164: Elevator Capture (Alternate)

Circuit Status	LCD Readout	LED
Off	ALT ELEVATOR CAPTURE OFF	
On	ALT ELEVATOR CAPTURE ON	
Slow Flash	ALT ELEVATOR CAPTURE SLOW FLASH	
Fast Flash	ALT ELEVATOR CAPTURE FAST FLASH	
Open Tbl	ALT ELEVATOR CAPTURE OPEN CKT TROUBLE	T
Shorted Tbl	ALT ELEVATOR CAPTURE SHORT CKT TROUBLE	T
Disable Tbl	ALT ELEVATOR CAPTURE DISABLE TROUBLE	T
Offauto Tbl	ALT ELEVATOR CAPTURE MANUAL OVERRIDE TROUBLE	T
Description: Used to indicate the point is an output controlling alternate floor elevator capture.		

AHUR

Table A-165: AHU On/Off (Single Relay Control)

Circuit Status	LCD Readout	LED
Off	AHU RELAY OFF	
On	AHU RELAY ON	
Slow Flash	AHU RELAY SLOW FLASH	
Fast Flash	AHU RELAY FAST FLASH	
Open Tbl	AHU RELAY OPEN CKT TROUBLE	T
Shorted Tbl	AHU RELAY SHORT CKT TROUBLE	T
Disable Tbl	AHU RELAY DISABLE TROUBLE	T
Offauto Tbl	AHU RELAY MANUAL OVERRIDE TROUBLE	T
Description: Used to indicate the point is an output controlling an AHU circuit for ON/OFF control. Uses one relay to perform both functions.		

Continued on next page

AHUO

Table A-166: AHU On Relay (Dual Relay Control)

Circuit Status	LCD Readout	LED
Off	AHU ON RELAY OFF	
On	AHU ON RELAY ON	
Slow Flash	AHU ON RELAY SLOW FLASH	
Fast Flash	AHU ON RELAY FAST FLASH	
Open Tbl	AHU ON RELAY OPEN CKT TROUBLE	T
Shorted Tbl	AHU ON RELAY SHORT CKT TROUBLE	T
Disable Tbl	AHU ON RELAY DISABLE TROUBLE	T
Offauto Tbl	AHU ON RELAY MANUAL OVERRIDE TROUBLE	T
Description: Used to indicate the point is an output controlling only the ON status of an AHU.		

AHUF

Table A-167: AHU Off Relay (Dual Relay Control)

Circuit Status	LCD Readout	LED
Off	AHU OFF RELAY OFF	
On	AHU OFF RELAY ON	
Slow Flash	AHU OFF RELAY SLOW FLASH	
Fast Flash	AHU OFF RELAY FAST FLASH	
Open Tbl	AHU OFF RELAY OPEN CKT TROUBLE	T
Shorted Tbl	AHU OFF RELAY SHORT CKT TROUBLE	T
Disable Tbl	AHU OFF RELAY DISABLE TROUBLE	T
Offauto Tbl	AHU OFF RELAY MANUAL OVERRIDE TROUBLE	T
Description: Used to indicate the point is an output controlling only the OFF status of an AHU.		

CPRESS

Table A-168: Pressurization Control (On/Off)

Circuit Status	LCD Readout	LED
Off	PRESSURIZATION OFF	
On	PRESSURIZATION ON	
Slow Flash	PRESSURIZATION SLOW FLASH	
Fast Flash	PRESSURIZATION FAST FLASH	
Open Tbl	PRESSURIZATION OPEN CKT TROUBLE	T
Shorted Tbl	PRESSURIZATION SHORT CKT TROUBLE	T
Disable Tbl	PRESSURIZATION DISABLE TROUBLE	T
Offauto Tbl	PRESSURIZATION MANUAL OVERRIDE TROUBLE	T
Description: Used to indicate the point is an output controlling the pressurization sequence in a smoke control application.		

Continued on next page

CEXHAUS

Table A-169: Exhaust Control (On/Off)

Circuit Status	LCD Readout	LED
Off	EXHAUST OFF	
On	EXHAUST ON	
Slow Flash	EXHAUST SLOW FLASH	
Fast Flash	EXHAUST FAST FLASH	
Open Tbl	EXHAUST OPEN CKT TROUBLE	T
Shorted Tbl	EXHAUST SHORT CKT TROUBLE	T
Disable Tbl	EXHAUST DISABLE TROUBLE	T
Offauto Tbl	EXHAUST MANUAL OVERRIDE TROUBLE	T
Description: Used to indicate the point is an output controlling the exhaust sequence in a smoke control application.		

CDAMPER

Table A-170: Damper Control (On/Off)

Circuit Status	LCD Readout	LED
Off	DAMPER CONTROL OFF	
On	DAMPER CONTROL ON	
Slow Flash	DAMPER CONTROL SLOW FLASH	
Fast Flash	DAMPER CONTROL FAST FLASH	
Open Tbl	DAMPER CONTROL OPEN CKT TROUBLE	T
Shorted Tbl	DAMPER CONTROL SHORT CKT TROUBLE	T
Disable Tbl	DAMPER CONTROL DISABLE TROUBLE	T
Offauto Tbl	DAMPER CONTROL MANUAL OVERRIDE TROUBLE	T
Description: Used to indicate the point is an output controlling damper in a smoke control application.		

SRELAY

Table A-171: Alarm Relay (On Until Silence)

Circuit Status	LCD Readout	LED
Off	ALARM RELAY OFF	
On	ALARM RELAY ON	
Slow Flash	ALARM RELAY SLOW FLASH	
Fast Flash	ALARM RELAY FAST FLASH	
Open Tbl	ALARM RELAY OPEN CKT TROUBLE	T
Shorted Tbl	ALARM RELAY SHORT CKT TROUBLE	T
Disable Tbl	ALARM RELAY DISABLE TROUBLE	T
Offauto Tbl	ALARM RELAY MANUAL OVERRIDE TROUBLE	T
Description: Used to indicate the point is an output that is ON until an alarm silence occurs.		

Continued on next page

RRELAY

Table A-172: Alarm Relay (On Until Reset)

Circuit Status	LCD Readout	LED
Off	ALARM RELAY OFF	
On	ALARM RELAY ON	
Slow Flash	ALARM RELAY SLOW FLASH	
Fast Flash	ALARM RELAY FAST FLASH	
Open Tbl	ALARM RELAY OPEN CKT TROUBLE	T
Shorted Tbl	ALARM RELAY SHORT CKT TROUBLE	T
Disable Tbl	ALARM RELAY DISABLE TROUBLE	T
Offauto Tbl	ALARM RELAY MANUAL OVERRIDE TROUBLE	T
Description: Used to indicate the point is an output, which is ON until an alarm silence occurs.		

TRELAY

Table A-173: Trouble/Supervisory Relay (On Until Clear)

Circuit Status	LCD Readout	LED
Off	TROUBLE RELAY OFF	
On	TROUBLE RELAY ON	
Slow Flash	TROUBLE RELAY SLOW FLASH	
Fast Flash	TROUBLE RELAY FAST FLASH	
Open Tbl	TROUBLE RELAY OPEN CKT TROUBLE	T
Shorted Tbl	TROUBLE RELAY SHORT CKT TROUBLE	T
Disable Tbl	TROUBLE RELAY DISABLE TROUBLE	T
Offauto Tbl	TROUBLE RELAY MANUAL OVERRIDE TROUBLE	T
Description: Used to indicate the point is a trouble/supervisory output, which is ON until the condition clears.		

BRELAY

Table A-174: Trouble/Supervisory Bell Relay (On Until Acknowledged)

Circuit Status	LCD Readout	LED
Off	TROUBLE RELAY OFF	
On	TROUBLE RELAY ON	
Slow Flash	TROUBLE RELAY SLOW FLASH	
Fast Flash	TROUBLE RELAY FAST FLASH	
Open Tbl	TROUBLE RELAY OPEN CKT TROUBLE	T
Shorted Tbl	TROUBLE RELAY SHORT CKT TROUBLE	T
Disable Tbl	TROUBLE RELAY DISABLE TROUBLE	T
Offauto Tbl	TROUBLE RELAY MANUAL OVERRIDE TROUBLE	T
Description: Used to indicate the point is a trouble/supervisory output, which is ON until acknowledged.		

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SHAFT

Table A-175: Elevator Shaft Shutdown

Circuit Status	LCD Readout	LED
Off	SHAFT OFF	
On	SHAFT ON	
Slow Flash	SHAFT SLOW FLASH	
Fast Flash	SHAFT FAST FLASH	
Open Tbl	SHAFT OPEN CKT TROUBLE	T
Shorted Tbl	SHAFT SHORT CKT TROUBLE	T
Disable Tbl	SHAFT DISABLE TROUBLE	T
Offauto Tbl	SHAFT MANUAL OVERRIDE TROUBLE	T
Description: Elevator shaft shutdown point type. Output point connects to elevator control that shuts down elevator.		

Digital Pseudo Point Types

UTILITY

Table A-176: Digital Utility Point

Circuit Status	LCD Readout	LED
Off	UTILITY POINT OFF	
On	UTILITY POINT ON	
Description:		

FIRE

Table A-177: Digital Fire Alarm Point

Circuit Status	LCD Readout	LED
Off	FIRE ALARM POINT NORMAL	
On	FIRE ALARM POINT ABNORMAL	F
Description:		

TROUBLE

Table A-178: Digital Trouble Point

Circuit Status	LCD Readout	LED
Off	TROUBLE POINT NORMAL	
On	TROUBLE POINT ABNORMAL	T
Description:		

SUPERVIS

Table A-179: Digital Supervisory Point

Circuit Status	LCD Readout	LED
Off	SUPERVISORY POINT NORMAL	
On	SUPERVISORY POINT ABNORMAL	S
Description:		

PRI2

Table A-180: Digital Priority 2 Point

Circuit Status	LCD Readout	LED
Off	PRIORITY 2 POINT NORMAL	
On	PRIORITY 2 POINT ABNORMAL	A
Description:		

Analog Pseudo Point Types

TIMER

Table A-181: Analog Timer Pseudo Point

Circuit Status	LCD Readout	LED
Off	VALUE = 0 OFF	
On	VALUE = XXX ON	
Description:		

COUNTER

Table A-182: Analog Counter Pseudo Point

Circuit Status	LCD Readout	LED
Off	VALUE = 0 OFF	
On	VALUE = XXX ON	
Description:		

ANALOG

Table A-183: Analog Pseudo Point

Circuit Status	LCD Readout	LED
Off	VALUE = 0 OFF	
On	VALUE = XXX ON	
Description:		

LIST

Table A-184: List Pseudo Point

Circuit Status	LCD Readout	LED
Empty	LIST POINT EMPTY LIST	
Off	LIST POINT OFF	
On	LIST POINT ON	
Description:		

Appendix B
LED/Switch Modes

Introduction

This appendix is a reference for all LED and Switch modes used on the ES Panel.

In this Chapter

This appendix discusses the following topics:

Switch Modes

Table B-1: Switch Modes

Mode	Description
AS	ACK/Silence Switch. This mode requires no reference address. A switch with this mode functions in the following manner. UP/Down: Perform Signal Silence/Alarm Acknowledgement CTR: No operation
DE	Allows you to change the enable/disable state of the referenced point. A switch with this mode functions in the following manner. UP: Disable CTR: No Operation Down: Enable
DISARM	Disarm/Arm. Allows you to arm or disarm a security device. A switch with this mode functions in the following manner. UP: Disarm CTR: No Operation Down: Arm
HOA1	Single Relay HOA Switch. Allows you to control the state of the referenced point. A switch with this mode functions in the following manner. Use this mode with older switch modules. UP: ON CTR: Automatic Operation Down: OFF Up turns the reference point on and generates a manual override trouble. Down turns the referenced point off and generates a manual override trouble. The center position returns the referenced point to automatic operation.
HOA1AUTO HOA1ON HOA1OFF	These modes are used with the newer switch modules. Implementing this mode on a newer switch module requires three adjacent switches. Switch 1.Turns on the referenced point and generates a manual override trouble. Switch 2.Automatic operation. Switch 3.Turns off the reference point and generates a manual override trouble.
HOA2	Dual Relay HOA Switch. Up turns the reference point on and turns point whose address is referenced point plus one off. This generates a manual override trouble. Down turns the referenced point off and turns the point whose address is referenced point plus one on. This generates a manual override trouble. The center position returns the referenced point to automatic operation.

Continued on next page

Table B-1: Switch Modes (Continued)

Mode	Description
HOA2AUTO HOA2ON HOA2OFF	Dual Relay HOA Center Pushbutton. Switch 1.Turns on the referenced point and turns off the point whose address is reference point plus one. Generates a manual override trouble. Switch 2.Automatic operation. Switch 3.Turns off the reference point and turns on the point whose address is reference point plus one. Generates a manual override trouble.
LFACK	Local Fire Acknowledge. This mode is typically used for a transponder. The acknowledgement action has no effect at the panel to which the transponder is wired, or on other transponders. This mode requires no reference address. A switch with this mode functions in the following manner. UP/Down: Local Fire Acknowledge CTR: No operation
LLACK	Up/Down acknowledges only points local (connected to) the annunciator. Center position has no operation.
LOACK	Local Manual Override Acknowledge. This mode is typically used for a transponder. The acknowledgement action has no effect at the panel to which the transponder is wired, or on other transponders. This mode requires no reference address. A switch with this mode functions in the following manner. UP/Down: Local Manual Override Acknowledge CTR: No operation
LP2ACK	Up/Down acknowledges only points local (connected to) the annunciator. Center position has no operation.
LSACK	Local Supervisory Acknowledge. This mode is typically used for a transponder. The acknowledgement action has no effect on devices attached to other transponders. This mode requires no reference address. A switch with this mode functions in the following manner. UP/Down: Local Supervisory Acknowledge CTR: No operation
LSR	Performs a system reset. A switch with this mode functions in the following manner. UP/Down: System Reset CTR: No operation
LSS	Performs a system silence. A switch with this mode functions in the following manner. UP/Down: System Silence CTR: No operation

Continued on next page

Table B-1: Switch Modes (Continued)

Mode	Description
LTACK	Local Trouble Acknowledge. This mode is typically used for a transponder. The acknowledgement action has no effect at the panel to which the transponder is wired, or on other transponders. This mode requires no reference address. A switch with this mode functions in the following manner. UP/Down: Local Trouble Acknowledge CTR: No operation
LTEST	Performs a lamp test on the referenced point.
OFF	Up/Down turns the referenced point off.
ONOFF	Programs the system to turn the referenced point on when the switch enters an open, short, or limited state, and to turn the point off when the switch is in a normal state.
PBH	Programs the system to turn a referenced point on and hold it on when the switch enters a short, open, or current limited state. The point must be turned off by custom control or system reset.
PBT	This mode allows the referenced point to track the state of the switch. The point turns on if the switch is active (open/short/limited) and turns off if the switch is not active (normal).
SMPL	Select this mode if the switch will be used to start the execution of an SMPL program.
TAKECTL	The actual functionality of the way privileges are assigned as well as which annunciator has the ability to lock others out is meant to be field-programmable using custom control and point priorities. The basic default functionality used on systems will be either: • In-control off – where the system functions as it does today. An in-control pseudo is available on all annunciators that can be annunciated. When a user-programmable switch on an Annunciator is activated, the system automatically turns the in-control pseudo on for that annunciator and turns all other in-control pseudo points off. • In-control on – all user actions from any annunciator that is not in-control are ignored by the system. In-control must be taken before any other user action is accepted. A new mode that allows a switch to bypass the in-control key lockout function so something can be used to take control will be provided for switches (TAKECTL). If in-control operation is “on”, each annunciator in the system should have one switch programmed with this new TAKECTL mode. Once this is done, the standard in-control functionality is in place. Any operator can activate this new “take control” switch, and then operate the other switches on that annunciator while locking out all other annunciators until their “take control” switches are pressed. By default, an annunciator that has become “in-control” will remain in-control forever until another annunciator “takes” control.
TDE	Programs the system to toggle (reverse) the disable/enable state of the referenced point when the switch enters an open, short, or current limited state.
TDISARM	Up/Down toggles the arm/disarm state of the point. Center has no operation.
TOF	Programs the system to toggle (reverse) the ON/OFF state of the point when the switch enters a short, open, or current limited state.

LED Modes

Table B-2: LED Modes

Mode	Meaning
ABALERT	An LED with this mode has four states: • Slow. Reference point has a current limited condition and requires acknowledgement. • On. Reference point with current limited condition has been acknowledged. • Fast. Reference point has cleared, current-limited condition requiring ackwledgement. • Off. Reference point is in a normal state.
ABNORM	LED illuminates when the state of the referenced control point is in an abnormal state.
ALL	LED illuminates when all of the points associated with the reference point are on. This is typically for use with a list of points.
COFF	LED illuminates when the state of the referenced control point is off.
CON	LED illuminates when the state of the referenced control point is on.
DISABLE	LED illuminates when the state of the REF ADDR (point) is DISABLED.
DISARMD	LED illuminates when the state of the referenced point is disarmed.
FIRE	LED illuminates when the state of the REF ADDR (point) goes into ALARM
HOA2T	An LED with this mode has four states: • Slow. One or both points are in a trouble state and require acknowledgement. • On. At least one point has been acknowledged. • Fast. One or both points are in a cleared state and require acknowledgement. • Off. Both points are in a normal state.
LED	LED tracks the state of another LED (which is the reference point). The LED illuminates when the other LED (ref. Point) is on and goes off when the other LED is off.
LF	LED illuminates when the ALARM ACK button on the panel is pushed.
LL	LED illuminates when a local alert with acknowledge occurs.
LO	LED illuminates when a manual override occurs.
LP2	LED illuminates when a Priority 2 acknowledge occurs.
LS	LED illuminates when the SUPV ACK button on the panel is pushed.
LT	LED illuminates when the TROUBLE ACK button on the panel is pushed.
NORMAL	LED illuminates when the state of the REF ADDR (point) is in the normal state.
OFF	LED illuminates when the state of the REF ADDR (point) is OFF.
ON	LED illuminates when the state of the REF ADDR (point) is ON
OPEN	LED illuminates when the state of the REF ADDR (point) is open.

Continued on next page

Table B-2: LED Modes (Continued)

Mode	Meaning
PALERT	An LED with this mode has four states: • Slow. A point with a Primary/On state requires acknowledgement. • On. Point with Primary/On state has been acknowledged. • Fast. Cleared, Primary/On state requires acknowledgement. • Off. Point in a normal state.
PIEZO	Piezo driver output.
PRI2ALM	LED illuminates when a priority 2 alarm occurs.
SALERT	An LED with this mode has four states: • Slow. A point with a supervisory condition requires acknowledgement. • On. Point with supervisory has been acknowledged. • Fast. Cleared, supervisory requires acknowledgement. • Off. Point in a normal state.
SHALERT	An LED with this mode has four states: • Slow. A point with a short requires acknowledgement. • On. Point with short has been acknowledged. • Fast. Cleared, short state requires acknowledgement. • Off. Point in a normal state.
SHORT	LED illuminates when the referenced point is in a short state.
SMPL	LED illuminates when the state of a Custom Control equation(s) is TRUE.
SUPERV	An LED with this mode has four states: • Slow. A point with a supervisory condition requires acknowledgement. • On. Point with supervisory has been acknowledged. • Fast. Cleared, supervisory requires acknowledgement. • Off. Point in a normal state.
TRISTAT	LED illuminates when the point is in an abnormal/current limited state.
TROUBLE	An LED with this mode has four states: • Slow. A point with a trouble condition requires acknowledgement. • On. Point with trouble has been acknowledged. • Fast. Cleared, trouble requires acknowledgement. • Off. Point in a normal state.

Table B-3: High-Level Switch / LED Modes

Mode	Meaning
C	Control Point On/Off. The up position of the switch turns the control point on and illuminates the LED adjacent to the switch. The down position turns the point and LED off. The center position has no operation. This mode requires the reference address of a control point.
CB	Control Point Bypass. The up position of the switch bypasses the control point and illuminates the LED adjacent to the switch. The down position returns the point to automatic operation and turns the LED off. The center position has no operation. This mode requires the reference address of the control point.
CD	City Disconnect. The up position of the switch disconnects the city circuit and illuminates the LED adjacent to the switch. The down position reconnects the city circuit and turns the LED off. The center position has no operation. This mode does not require a reference address.
DB	Door Holder Bypass. The up position of the switch bypasses the FACP's door holders (leaving them in their current state) and illuminates the LED adjacent to the switch. The down position returns the door holders to automatic operation and turns the LED off. The center position has no operation. This mode does not require a reference address.
EB	Elevator Bypass. The up position of the switch bypasses the FACP's elevator control programming and illuminates the LED adjacent to the switch. The down position returns the elevators to automatic operation and turns the LED off. The center position has no operation. This mode does not require a reference address.
F	Control with Feedback. The up position of the switch turns the control point on and the LED tracks the state of the feedback point. The down position of the switch turns the control point off and the LED tracks the state of the feedback point. The center position has no operation. The mode requires a reference point.
FACK	Fire Alarm Acknowledge. The up or down position of the switch acknowledges the active alarm. The LED turns on steady and turns off after a system reset.
FT	Control Toggle with Feedback. The up and down positions of the switch toggle the state of the control point and the LED tracks the feedback point.
LACK	Local Acknowledge. The up or down position of the switch acknowledges all monitor points connected to the annunciator. The LED turns on steady and turns off after a system reset.
LT	Lamp Test. The up or down position of the switch performs a lamp test on all adjacent LEDs.
NONE	No Operation Specified (SMPL). The operation of the switch and LED are under control of SMPL.
OACK	Override Acknowledge. The up or down position of the switch acknowledges manual override troubles and illuminates the adjacent LED. The LED turns off when a system reset is performed.

Continued on next page

Table B-3: High-Level Switch / LED Modes (Continued)

Mode	Meaning
SACK	Supervisory Acknowledge. The up or down position of the switch acknowledges supervisories and illuminates the adjacent LED. The LED turns off when a system reset is performed.
SR	System Reset. The up or down position of the switch performs a system reset. The adjacent LED illuminates for the duration of the reset.
SS	System Silence. The up or down position of the switch performs a system silence and illuminates the adjacent LED. The LED turns off when a system reset is performed.
TACK	Trouble Acknowledge. The up or down position of the switch acknowledges troubles and illuminates the adjacent LED. The LED turns off when a system reset is performed.
A1LOCAL – A8LOCAL	Turn local speaker onto the channel specified by the prefix (i.e., to turn the local speaker onto channel one, use A1LOCAL). This allows an operator to hear the messages playing on a specific channel. .
AALERT	Alert Tone/Message. Associate this mode with a switch or button to allow the operator to manually play the alert message.
ACLEAR	All Clear Message. Associate this mode with a switch or button to allow the operator to manually play the all clear message.
ADRILL	Drill Message. Associate this mode with a switch or button to allow the operator to manually play the drill message.
AEVAC	Evac Message. Associate this mode with a switch or button to allow the operator to manually play the evac message.
ALLMSGS	All the messages. Associate this mode with a switch or button to allow the operator to manually start the playing of all preprogrammed messages (e.g., Evac Channel 1, Alert Channel 2, etc.)
AMINUS	Turns on all speakers that are currently off onto the Talk channel.
AOVERID	Prevents default operation of the audio subsystem. Use this mode if you are going to be troubleshooting or testing the system, so that you do not accidentally play messages on the audio system.
APHONE	Map the firefighter's phone to the audio system so that you can page via the phone.
ASCHN1 – ASCHN8	Turns all the speakers onto the specified channel (i.e, if the switch's mode is set to ASCHN1, all speakers will be switched to channel 1 when the switch is activated).
ASEVAC	Plays the EVAC message and turns all speakers onto the EVAC channel.
ASTALK	Turns all speakers onto the TALK channel.
AUX1	Plays the AUX1 message, which is programmed via the audio tool.
AUX2	Plays the AUX2 message, which is programmed via the audio tool.

Continued on next page

Table B-3: High-Level Switch / LED Modes (Continued)

Mode	Meaning
CAALRT	Starts the alert message playing. Speakers must be manually selected when this mode is used. Use this mode for Canadian Audio jobs.
CHN1 – CHN8	Routes the speakers specified in the list reference address to the specified channel.
CT	Toggles the referenced point on and off. For example if the referenced point is on, pressing the switch associated with this mode turns the point off.
FT	Toggles the referenced point on and off, and tracks whether the associated feedback point is on or off. (The status of the feedback point is annunciated using the LED linked to the switch.)
ME	Starts the evacuation message and triggers a general alarm condition.
P	Phone Circuit Control. Allows the operator to answer or place a firefighter's phone circuit on hold. Use with toggle switches.
PS	Phone Silence. Allows the operator to silence the piezo associated with an incoming phone call.
TCTALK	All Talk – 1, 2, 3 Channel. Toggles routing the microphone to talk to all channels.
TP	Phone Circuit Control. Allows the operator to answer or place a firefighter's phone circuit on hold. Use with pushbutton switches.
TPAGE	All Page – 1, 2, 3 Channel. Toggles routing the microphone to talk to the list of speakers specified via the reference address.

Appendix C
ULC Programming Requirements (Canadian)

Introduction

This appendix discusses the programming operations that must be met to comply with Canadian Underwriter's Laboratory (ULC) standards.

In this Chapter

Refer to the page number listed in this table for information on a specific topic.

Common Earth Fault Ground Indicator

Overview

This application monitors a system pseudo (A112) that counts the number of ground faults that occur on the system. Each time this counter increments (i.e., a ground fault occurs), a yellow LED on the operator interface panel illuminates.

Step 1. Open CPU Card Properties Dialog

1. Click on the **Hardware** Tab and expand the Unit 0, Box 1, Bay 1 icons to display the CPU Card, as shown below. (Click on the + signs to the left of the Unit 0, Box 1, and Bay 1 icons to expand them.)

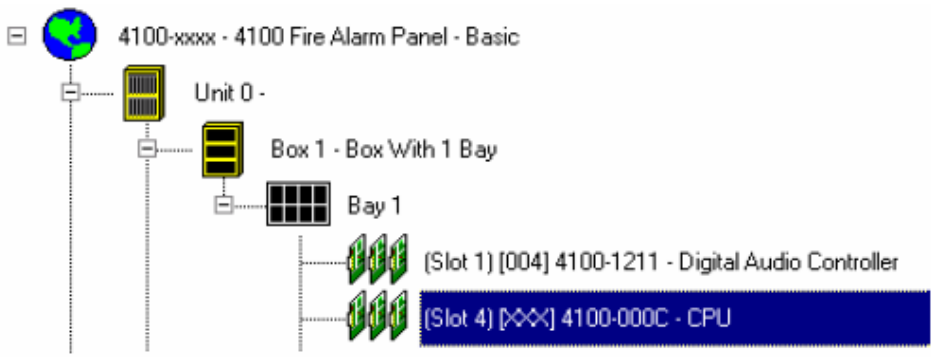

Figure C-1. Location of CPU Card Icon

2. Right click on the CPU card icon (it is highlighted in the example above) and select Properties. When the CPU card properties dialog appears, click on the Display tab and then click on the Display check box, as shown in the example below.

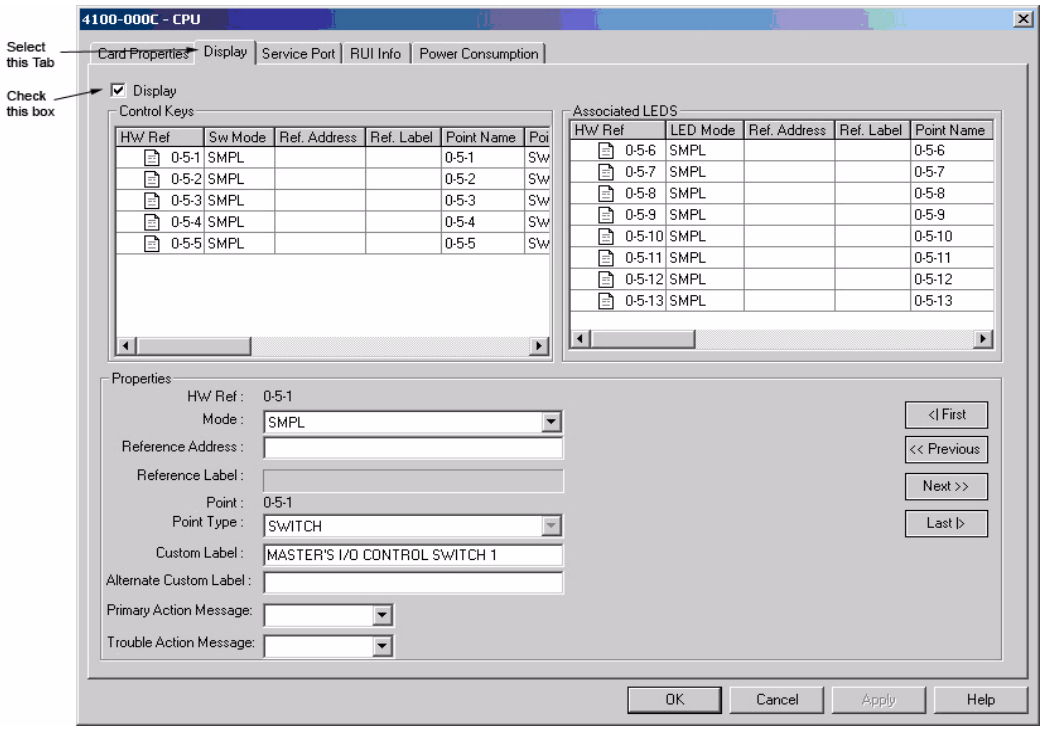

Figure C-2. CPU Card Properties

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Common Earth Fault Ground Indicator, *Continued*

Step 2. Program the LED

1. Select one of the multicolor LEDs (0-5-11, 0-5-12, or 0-5-13) to program.
2. Click on the **Point Type** drop down list box and select LEDYELLOW.
3. Click on the **Mode** drop down list box and select ON.
4. Enter **A112** (no spaces) in the Reference Address field.

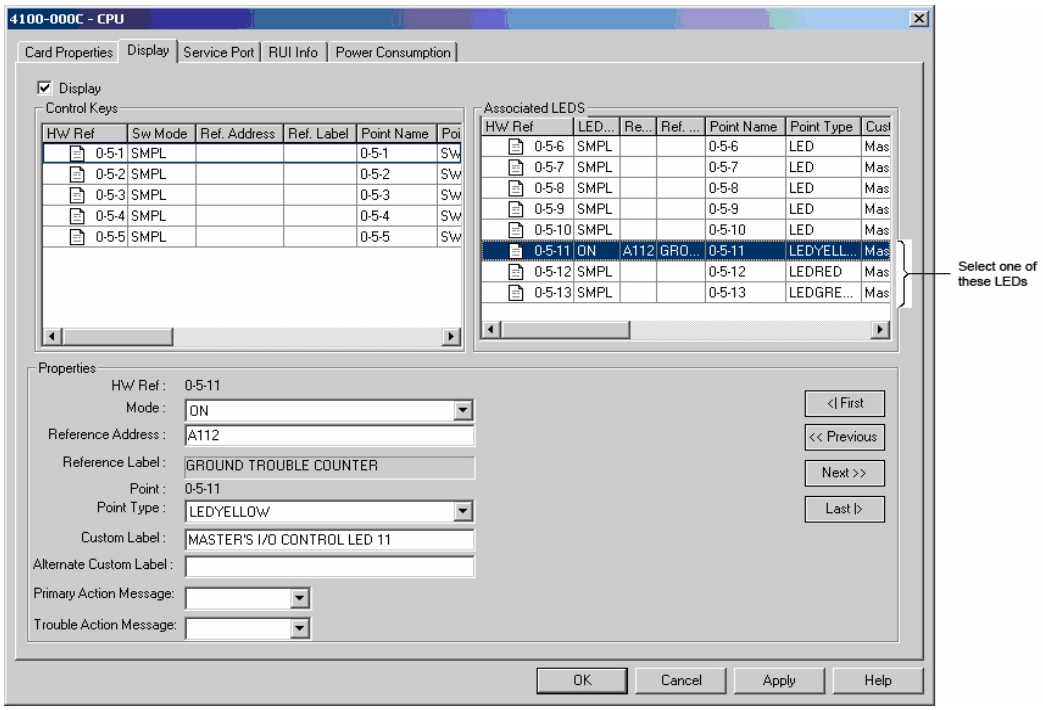

Figure C-3. Programming Common Ground Fault LED

Audio Two Stage Timer Programming

Introduction

Audio-capable Canadian panels use the following two-stage alarm notification process.

- **Stage 1**. When a fire alarm occurs, the system starts a timer, illuminates the **Two-Stage Timer Running** LED, and plays the Alert message as the timer counts down. The duration of the timer is configurable between 0 and 300 seconds (5 minutes).
- **Stage 2**. When the timer expires, the Alert message stops and the Evacuation message begins to play on the audio system.

To program the two-stage alarm notification process for an audio system, you must do the following:

- Step 1. Create a custom control equation to define the length of the Two Stage Timer to be 300 seconds (5 minutes). See "Step 1. Initialize Timer" below for specific information on doing this.
- Step 2. Program LED that indicates when the two stage timer is running. This green LED remains lit for the duration the timer is running.
- Step 3. Program the Two Stage Timer Cancel Switch. The Two Stage Timer Cancel Switch allows an operator to cancel the alarm condition at any time while the timer is counting down.
- Step 4. Program Two Stage Timer Cancel Switch LED. This LED is on when the Two Stage Timer Cancel Switch has been pressed.

Step 1. Initialize Timer

This section describes programming analog pseudo point A102, First Stage Timer Setpoint, which is the analog point used to store the initial value for the countdown timer. The input side of the equation evaluates the state of A34, the System Startup Pulse Timer. When A34 turns ON (i.e., the panel's startup sequence activates), the output side of the equation executes, initializing the value of analog pseudo A102 to 300 seconds.

1. Select the Custom Control tab, located on the top of the programmer window.
2. Right click on either **Program 6 - Optional User Program** or **Program 7 - Optional User Program**. When the menu choices appear, select **Add Equation**.
3. Position the cursor to the right of the line that reads [INPUTS] and click once. Next, move the cursor to the **Add** button and click. The Custom Control wizard starts. Specify the input side of the equation as follows.
   a. Select **Point Status** from the list of opcodes and click **Next**.
   b. The next prompt prompts you for an input operator (AND, OR, NOT), which is not used in this case. Click **Next** to continue.
   c. Select **ON** from the list of opcode qualifiers and click the **Next** button.
   d. Type **A34** in the Point Name text field and click **Finish**.
4. Position the cursor to the right of the line that reads [OUTPUTS] and click once. Next, move the cursor to the **Add** button and click. Specify the output side of the equation as follows.
   a. Select **Set Analog Values** from the list of opcodes and click **Next**.
   b. Select the **Constant** radio button and click **Next**.
   c. Enter a value of **300** and click **Next**.
   d. Select Secs from the list and click **Next**.
   e. Type **A102** in the Point Name text field and click the **Finish** button.

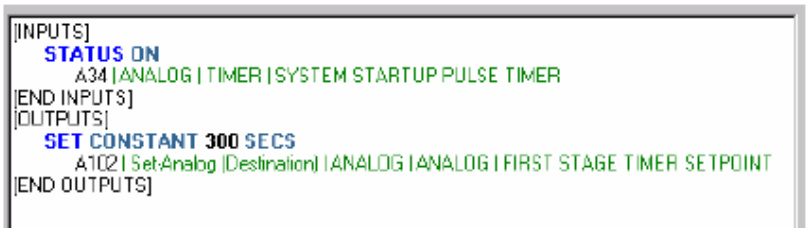

Figure C-4. Setting Analog Pseudo A102

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Step 2. Program Two Stage Timer Running LED

The Two Stage Timer Running LED indicates when the two-stage timer is running. It turns on when an alarm occurs.

1. Click on the **Hardware** Tab and expand the Unit 0, Box 1, Bay 1 icons to display the CPU Card, as shown below. (Click on the + signs to the left of the Unit 0, Box 1, and Bay 1 icons to expand them.)
2. Right click on the CPU card icon (it is highlighted in the example above) and select **Properties**. When the CPU card properties dialog appears, click on the **Display** tab and then click on the **Display** check box.
3. Click on **LED 13** to highlight it. This is the third LED down on the front panel interface.
4. Click on the **Point Type** list box and select LEDGREEN.
5. Click on the **Mode** list box and select ON.
6. Enter a label for the LED in the Custom Label field. For example, Two Stage Timer Running.
7. Enter **A101** in the Reference Address field.

Step 3. Program Two Stage Timer Cancel Switch

The Two Stage Timer Cancel Switch allows an operator to cancel the alarm condition at any time while the timer is counting down (i.e., while the Alert message is playing). Once the timer expires and the Evac message begins to play, the cancel switch has no effect and the operator must use the Alarm Silence key to silence the Evac message.

Follow these steps to program the Two Stage Timer Cancel Switch.

1. Click on the **Hardware** Tab and expand the Unit 0, Box 1, Bay 1 icons to display the CPU Card, as shown below. (Click on the + signs to the left of the Unit 0, Box 1, and Bay 1 icons to expand them.)
2. Right click on the CPU card icon (it is highlighted in the example above) and select **Properties**. When the CPU card properties dialog appears, click on the **Display** tab and then click on the **Display** check box. The screen shown below appears.

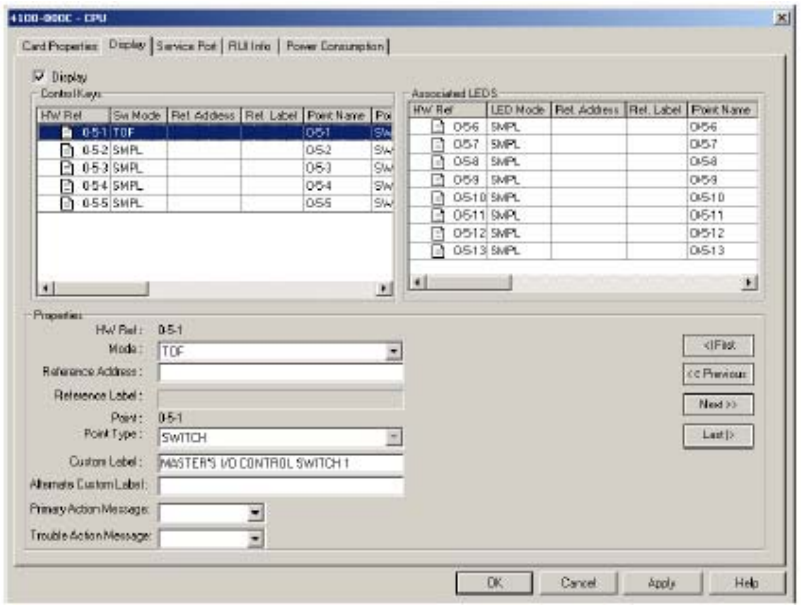

Figure C-5. CPU Card Properties

3. Click on the entry for Switch 1 (0-5-1 in the figure above).
4. Click on the **Mode** drop down list box and select the **TOF mode**. This mode toggles the state of the switch (i.e., if the switch is on, pressing the button again turns it off, and vice versa).

Continued on next page

Step 4. Program Two Stage Timer Cancel LED

The Two Stage Timer Cancel LED illuminates when the Two Stage Timer Cancel switch is pressed. It indicates that the two-stage timer has been manually cancelled.

To program this LED, follow these steps.

1. Click on the **Hardware** Tab and expand the Unit 0, Box 1, Bay 1 icons to display the CPU Card, as shown below. (Click on the + signs to the left of the Unit 0, Box 1, and Bay 1 icons to expand them.)
2. Right click on the CPU card icon (it is highlighted in the example above) and select **Properties**. When the CPU card properties dialog appears, click on the **Display** tab and then click on the **Display** check box.
3. Select one of the multicolor LEDs (0-5-11, 0-5-12, or 0-5-13) to program.
4. Click on the **Point Type** list box and select LEDYELLOW.
5. Click on the **Mode** list box and select ON.
6. Enter a label for the LED in the Custom Label field. For example, Two Stage Timer Running.
7. Enter **P436** in the Reference Address field.
8. Click **OK** to close the dialog.

Simultaneous Alarm Display

Overview

ULC requires every fire panel to have the capabilities to visually display system status by means of specific indicators for each zone. All status changes must clearly indicate that the information is an Alarm (ALM), Supervisory (SUP), Trouble (TBL), or Monitoring (MON). Implementing this on the ES Panel is a three-step process, as follows:

- If necessary, install a 4100-0404 LED/Switch Display Card (8 Switches and 16 Red/Yellow LEDs) and a 64/64 LED Switch Controller in the same cabinet as the system operator display and controls. The LED Display Card contains 8 switches and 16 pairs of LEDs (one yellow and one red), allowing it to annunciate the alarm or trouble statusfor 16 zones. On the display card, clearly label eachpair of the LEDs with its associated zone name. Refer to Simplex Publication 579-167 for information on installing either of these cards. Refer to Chapter 5 of this manual for information on adding this card to the job.

- Create Annunciation Zone Lists. Divide the panel's initiating devices into physical areas (by floor, by department, etc.) Create a user-defined list for each zone and include all of the initiating devices for the zone in the list. See "Creating Annunciation Zone Lists" below for information on doing this.

  Note: Annunciation Zone Lists are only necessary if you are using addressable devices. If you are using hardwired monitor zones, it is not necessary to create a list.

- Program LED modes and reference addresses. This step associates the address of the zone list with the LED and its mode.

Creating Annunciation Zone Lists

To create the annunciation zone lists - which are the lists containing the initiating devices for each zone - follow these steps.

1. Click on the **List Tab** in the main ES Panel Programmer window.

2. Right click anywhere in the List window. A menu appears, containing a range of options. Select **Add List**. A tag list, similar to the following, appears.

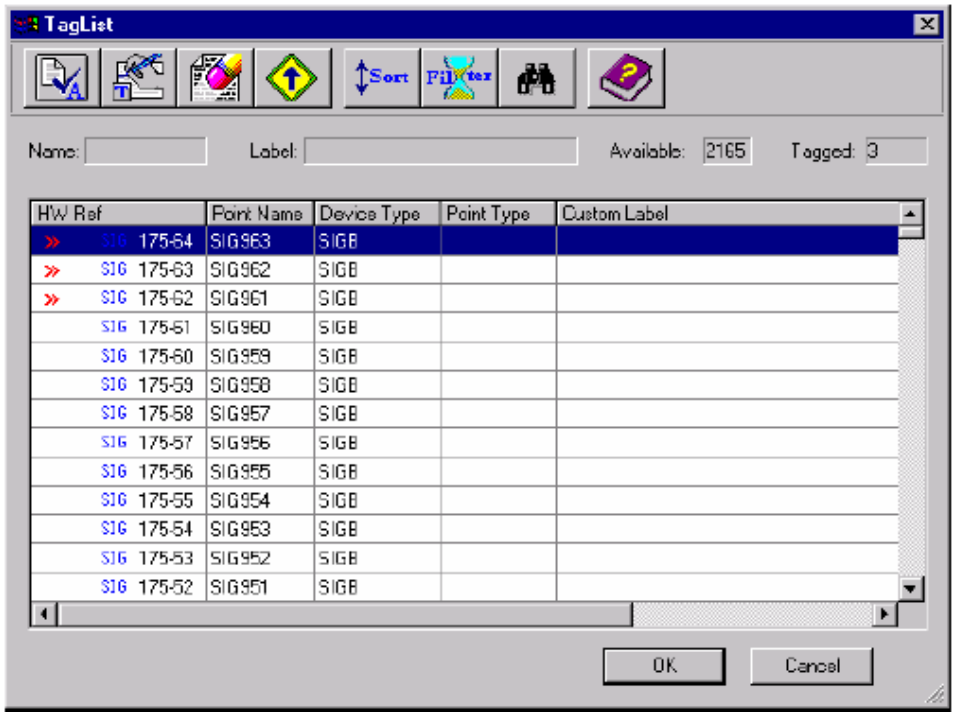

Figure C-6. Taglist

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Creating Annunciation Zone Lists

3. Select points for the list as follows.

   - **Non-Adjacent Points**. If the points required for the zone are not adjacent to one another, select the points by holding down the Control key and then click the mouse cursor on each point. When all of the non-adjacent points are selected, press the space key toselect the points andadd them to the zone's list. A >> symbol appears to the left of each point to indicate that it is selected.
   - **Range of Adjacent Points**. If the points required for the zone are adjacent to one another in the tag list, highlight the first point then hold down the control key and use the Up or Down arrow key to highlight the points above or below the first point. When the full range of points is highlighted, press the space key to select the points and add them to the zone's list. A >> symbol appears to the left of each point to indicate that it is selected.

4. Click the **OK** button in the taglist window. A dialog appears, allowing you to specify the name for the list.

5. Enter a text name that uniquely identifies the zone (i.e., Floor1, Zone1, etc.). Click **OK**. The list is added to the List Window. Repeat Steps 1 through 5 for each annunciation zone list.

Programming the Address and Mode for Each LED

This section describes associating each pair of LEDs with the correct mode and reference address.

1. Click on the **Hardware** Tab. Locate the icon for the 4100-0402 Display Card. Right click the mouse and select **Properties**. When the properties dialog for the card appears, click on the **Point Editing** tab. A window similar to the following appears.

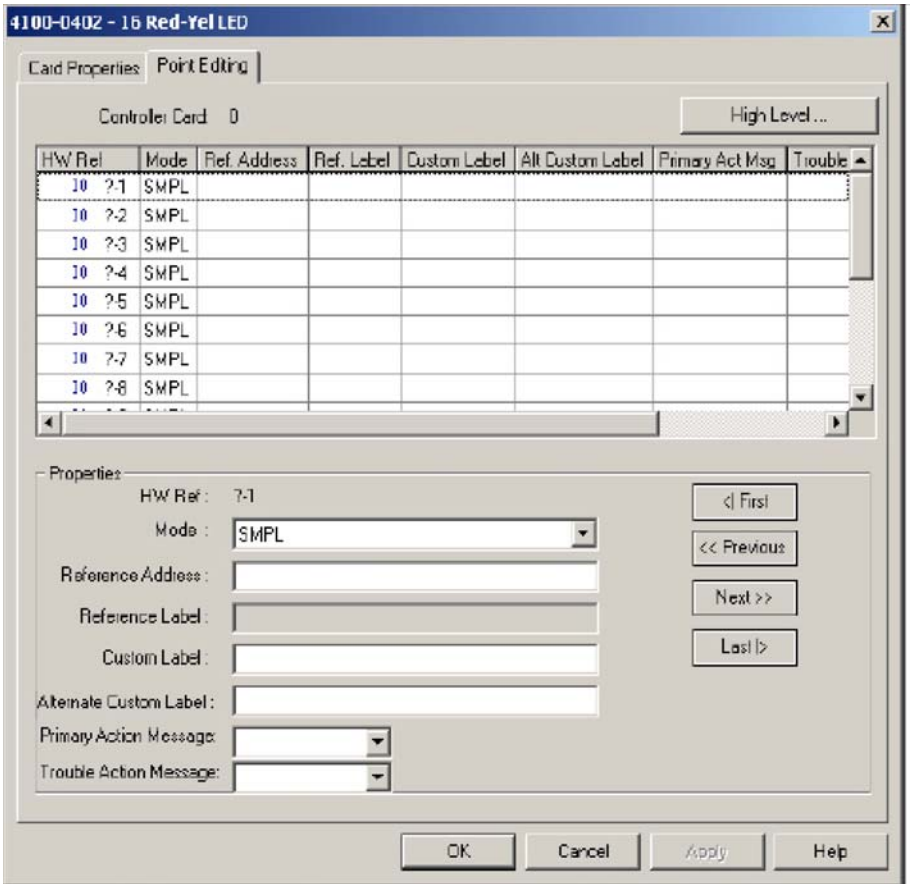

Figure C-7. Display Card Properties

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Programming the Address and Mode for Each LED

2. Do the following for each zone.

   a. Click on the line for a red LED.
   b. Click on the **Mode** drop down list box and select the **FIRE mode**.
   c. Click on the **Reference Address** field and enter the identifier for one of the zone's list.
   d. Click on the line for the yellow LED that is paired with the red LED you selected in Step 2a.
   e. Click on the **Mode** drop down list box and select the **TROUBLE mode**.
   f. Click on the **Reference Address** field and enter the identifier for the same list specified in Step 2c.

The effect of this programming is that if any of the points within the zone's list enters an alarm state, the red LED illuminates. Likewise, if any of the points within the zone's list enters a trouble state, the yellow LED illuminates.

Programming a Lamp Test Switch

The first switch on the 4100-0404 display card must be programmed to perform a lamp test on the LEDs used for simultaneous alarm display. To do this, follow these steps.

1. Click on the **Hardware** Tab. Expand the unit, box, and bay icons containing the 4100-0404 display card.

2. Double click on the icon for the display card. A dialog similar to the following appears. Click on the **Point Editing** tab in this dialog.

3. Click on the first switch in the list. Move to the **Mode** drop down list box, click on the box,and choose the LTEST mode. No reference address is required. When this switch is turned on, it will perform a lamp test on the LEDs located on 4100-0404 display card.

4. Click on the **Apply** button and then on the **OK** button to close the dialog.

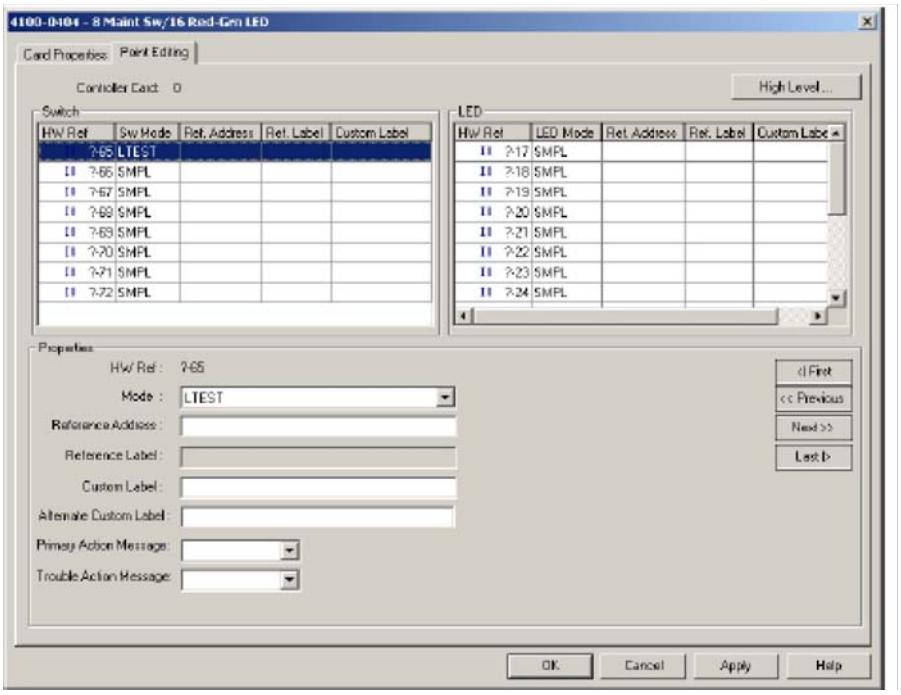

Figure C-8. LED/Switch Card Properties

Setting Alarm Verification Timer to Canadian Operation

Introduction

When you select Canadian operation for the alarm verification feature, the system operates as follows:

- If a point specified within one of the alarm verification lists enters an alarm state, the system delays the annunciation of the alarm for 15 seconds.
- When the 15 second timer expires, the system attempts to reset the initiating device for five seconds.
- After the five second timer expires, the system evaluates the state of the initiating device for 10 additional seconds. After 10 seconds, if the device is still in alarm, the system immediately annunciates the alarm.

Procedure

1. Click on the **List** tab to display the List window.
2. At the bottom of the List window, select the **Alarm Verification** tab.
3. Right click on one of thelists and select **Properties**. The Alarm Verification Properties dialog shown below appears.
4. Click on the **Alarm Verification** tab.
5. Click on the drop down list box and select **Canadian (ULC)**.

Setting this property for one alarm verification list sets it for all lists.

Figure C-9. Alarm Verification Properties

Setting Alarm Silence/Reset Inhibit Timer

Overview

The Alarm Silence/Reset Inhibit Timer system option disables the Alarm Silence and System Reset keys for a user-definable duration that ranges from 1 to 60 minutes. The timer is activated only by the first alarm (i.e., subsequent alarms do not reset the timer).

Note: The default setting is not enabled. This option must be enabled for Canadian jobs.

Enabling Alarm Reset/Inhibit Timer

To enable the Alarm Silence/Reset Inhibit Timer, do the following:

1. Click on the **Panel** tab at the top of the programmer.
2. Click on the **System Options** tab at the bottom of the programmer. A screen similar to the one shown below appears.
3. Click on the checkbox to the right of Alarm Silence/Reset Inhibit. Specify the timer value in the Seconds box to the right of the checkbox.

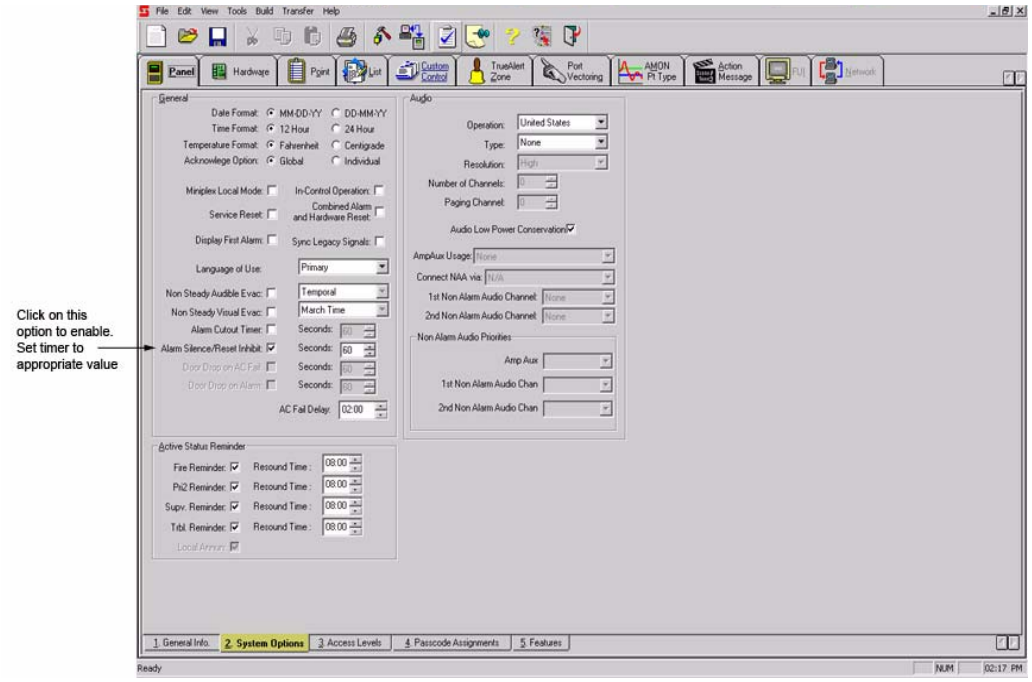

Figure C-10. System Options, Alarm Silence/Reset Inhibit Timer

Continued on next page

Setting Alarm Silence/Reset Inhibit Timer, *Continued*

Programming the Alarm Silence/Reset Inhibit LED

The Alarm Silence/Reset Inhibit LED turns on when an alarm is received and turns off when the timer expires. Its purpose is to indicate to the operator that the Alarm Silence and System Reset keys are temporarily disabled.

1. Click on the **Hardware** Tab and expand the Unit 0, Box 1, Bay 1icons to display the CPU Card. (Click on the + signs to the left of the Unit 0, Box 1, and Bay 1 icons to expand them.)
2. Right click on the CPU card icon and select **Properties**. When the CPU card properties dialog appears, click on the **Display** tab and then click on the **Display** check box.
3. Select one of the multicolor LEDs (0-5-11, 0-5-12, or 0-5-13) to program.
4. Click on the **Point Type** list box and select LEDYELLOW.
5. Click on the **Mode** list box and select ON.
6. Enter a label for the LED in the Custom Label field. For example, Silence Inhibit Timer activated.
7. Enter **A22** in the Reference Address field.

Enabling Low Battery Cutout Option for SPS

Overview

Low Battery Cutout is a programmable option for the SPS, TPS, or RPS Power Supplies. The Low Battery Cutout option disconnects a battery from the panel when its voltage is approximately 18 VDC.

NOTE: THIS OPTION MUST BE SELECTED FOR ALL CANADIAN INSTALLATIONS.

Enabling Low Battery Cutout

The Low Battery Cutout option is accessed through the Data Entry tab in the power supply's properties dialog. Follow these steps to access this dialog.

1. Click on the **Hardware** Tab to see the graphical view of the ES Panel's hardware components.
2. To access the properties dialog for the power supply, do the following:

   a. Expand the unit, box, and bay combination containing the power supply.

   b. Select the **Data Entry** tab. A window similar to the one shown below appears.

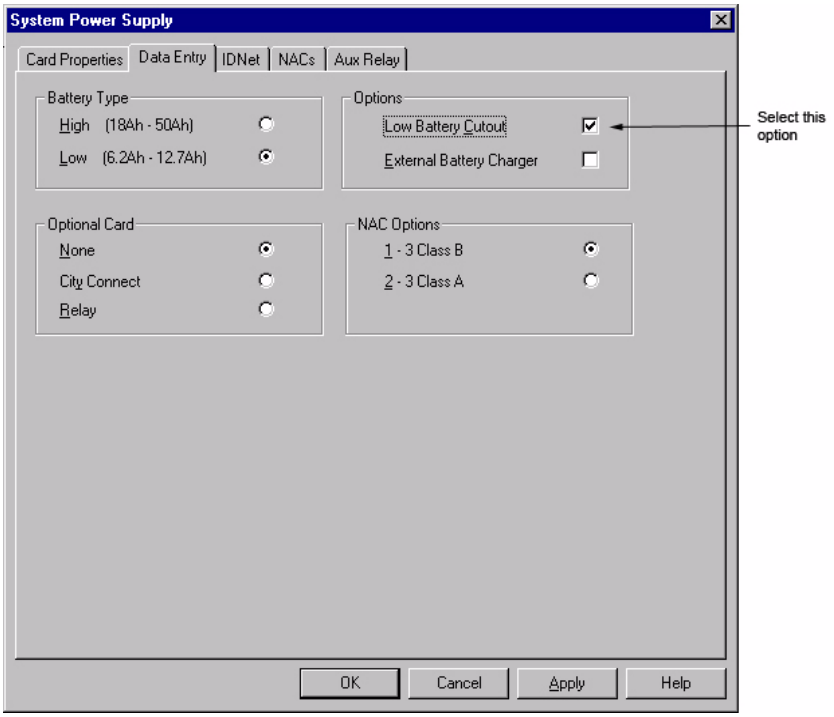

Figure C-11. System Power Supply Properties

3. Click on the **Low Battery Cutout** checkbox.
4. Click on the **Apply** button and then click on the **OK** button to close the dialog.
5. Repeat these steps for every SPS, TPS, or RPS in the system.

Alarm Cutout Timer

Overview

The Alarm Cutout Timer allows you to set a duration (up to 10 minutes) that specifies how long signals sound following an alarm. For example, with this option set at two minutes, building signals sound for two minutes and then automatically stop. After the signals stop, the alarm condition remains active at the panel.

Note: The default setting is not enabled. This option must be enabled for Canadian jobs.

Enabling Alarm Cutout Timer

To enable the Alarm Cutout Timer, do the following:

1. Click on the **Panel** tab at the top of the programmer.
2. Click on the **System Options** tab at the bottom of the programmer. A screen similar to the one shown below appears.
3. Click on the checkbox to the right of **Alarm Cutout Timer**. Specify the timer value in the Seconds box to the right of the checkbox.

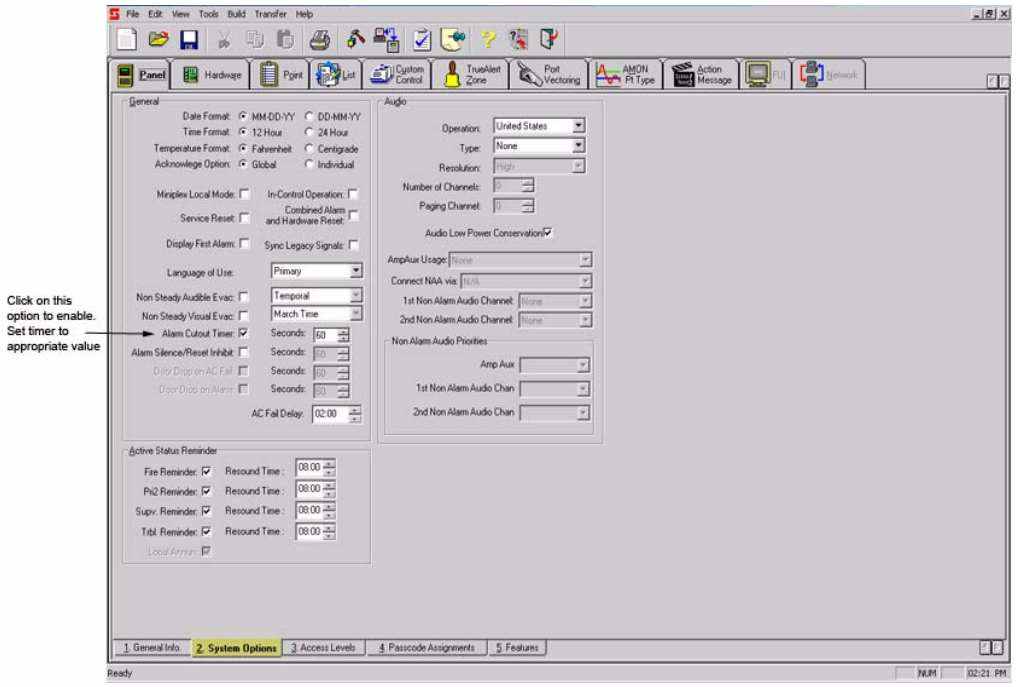

Figure C-12. System Options, Alarm Cutout Timer

Appendix D
UL Programming Requirements (United States)

Introduction

This appendix identifies key UL programming requirements for the ES Panel FACP.

In this Chapter

Refer to the page number listed in this table for information on a specific topic.

Setting Alarm Verification Timer to US Operation

Introduction

When you select United States operation for the alarm verification feature, the system operates as follows:

- If a point specified within one of the alarm verification lists enters an alarm state, the system delays the annunciation of the alarm for 30 seconds.
- When the 30 second timer expires, the system attempts to reset the initiating device for five seconds.
- After the five second timer expires, the system evaluates the state of the initiating device for up to 120 additional seconds. If the device re-alarms during this time, the system immediately annunciates the alarm.

Note: Selecting "Verification Timer" to Canadian (ULC) does not comply with UL864.

Procedure

1. Click on the **List** tab to display the List window.
2. At the bottom of the List window, select the **Alarm Verification** tab.
3. Right click on one of thelists and select **Properties**. The Alarm Verification Properties dialog shown below appears.
4. Click on the **Alarm Verification** tab.
5. Click on the drop down list box and select **United States**.

Setting this property for one alarm verification list sets it for all lists.

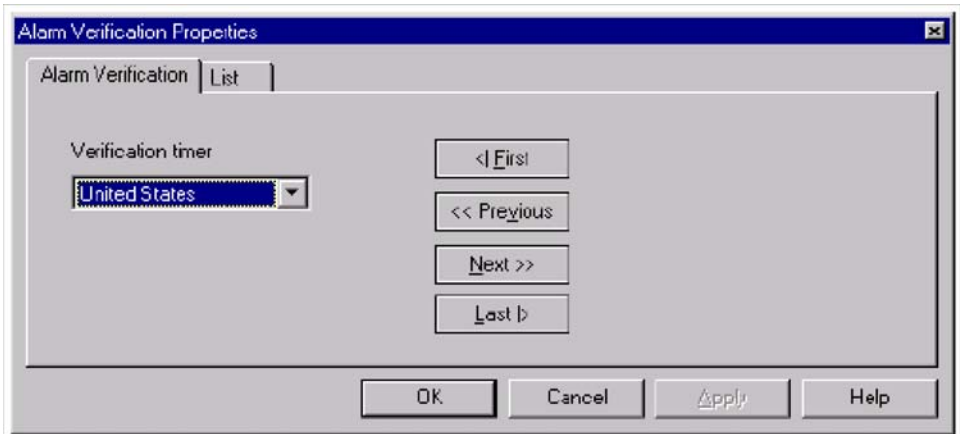

Figure D-1. Alarm Verification, Domestic (US) Setiing

Non-Steady Visual Evacuation System Option

Introduction

When enabled, this option allows you to select the flash pattern output by Non Steady Visual Signals. The term Non Steady Visual Signal refers to any Visual Notification Appliance capable of emitting a pattern of flashes (such as incandescent visuals).

The default setting for this option is not enabled.

When you enable this option, use the drop down list box to the right of the option to set the flash pattern as follows:

- March Time. A coded signal that uses 120 beats per minute. Each beat consists of 1/4 second pulse on, 1/4 second off.
- Slow March Time. A coded signal that uses 60 beats per minute. Each beat consists of 1/2 second pulse on, 1/2 second off.
- Temporal. A five-pulse coding pattern consisting of five ½ second pulses, each separated by a ½ second silence. Each three pulse group is separated by 1 ½ seconds of silence.

Note: This option cannot be used for public mode signaling as defined in Section 6.8.6.4 of NFPA 72-02.

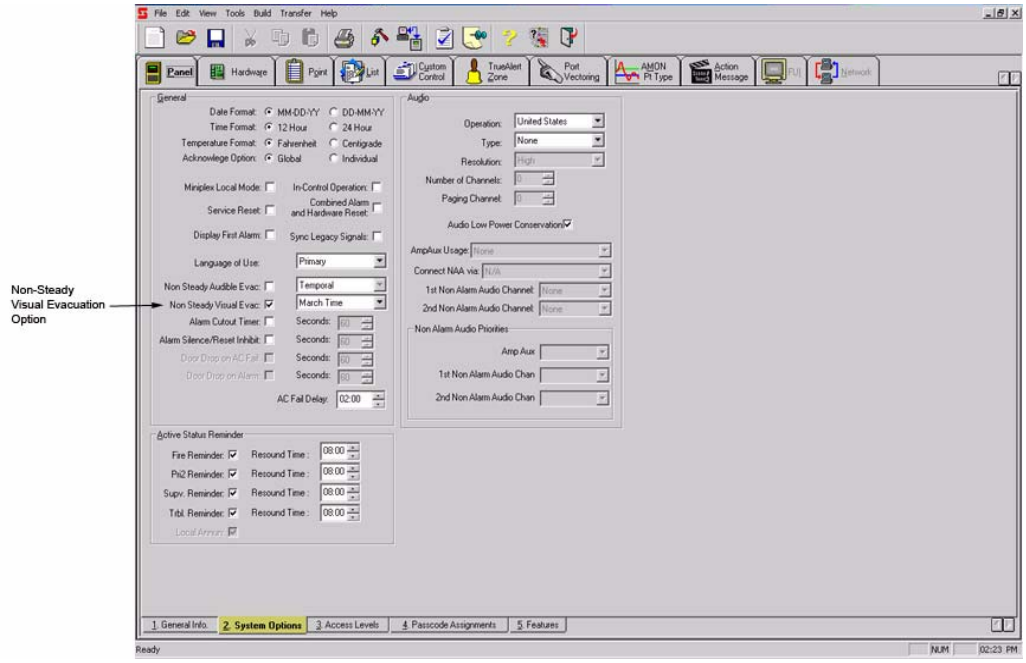

Figure D-2. Non-Steady Visual Evac System Option

Appendix E
Pseudo Points

Introduction

This appendix lists all of the system digital, analog, and list pseudo points.

Detailed definitions for these points can be found in 579-765, *4100 Fire Alarm Pseudo Definitions*.

In this Chapter

Refer to the page number listed in this table for information on a specific topic.

Digital Pseudo Points

P0 SYSTEM RESET KEY UTILITY
P1 ALARM SILENCE KEY UTILITY
P2 FRONT PANEL LAMPTEST CONTROL (ANNUNC. 0) UTILITY
P3 FIRE ALARM DETECT UTILITY
P4 GLOBAL ACKNOWLEDGE ENABLE UTILITY
P5 SET SERVICE PSEUDO VALUES UTILITY
P6 ALARM SILENCE UTILITY
P7 EXTRA CARD IN THE SYSTEM TROUBLE
P8 KEYPAD ACTIVE UTILITY
P9 SYSTEM OUT OF CQB'S TROUBLE
P10 CODED INPUT ACTIVE UTILITY
P11 UNACKNOWLEDGED FIRE ALARM EXISTS UTILITY
P12 UNACKNOWLEDGED SUPERVISORY EXISTS UTILITY
P13 UNACKNOWLEDGED TROUBLE EXISTS UTILITY
P14 SYSTEM DISABLED - PROGRAMMER DOWNLOAD TROUBLE
P15 CFIG RAM WRITE PROTECT MISSING (SW1-1) TROUBLE
P16 SMPL PROGRAM 0 - SYSTEM DEFAULT UTILITY
P17 SMPL PROGRAM 1 - DEFAULT AUDIO UTILITY
P18 SMPL PROGRAM 2 - SYSTEM OPTIONS (CODING) UTILITY
P19 SMPL PROGRAM 3 - USER CUSTOM CONTROL UTILITY
P20 SMPL PROGRAM 4 - USER CUSTOM CONTROL UTILITY
P21 SMPL PROGRAM 5 - USER CUSTOM CONTROL UTILITY
P22 SMPL PROGRAM 6 - USER CUSTOM CONTROL UTILITY
P23 SMPL PROGRAM 7 - USER CUSTOM CONTROL UTILITY
P24 CODING GROUP 0 ACTIVE UTILITY
P25 CODING GROUP 1 ACTIVE UTILITY
P26 CODING GROUP 2 ACTIVE UTILITY
P27 CODING GROUP 3 ACTIVE UTILITY
P28 CODING GROUP 4 ACTIVE UTILITY
P29 CODING GROUP 5 ACTIVE UTILITY
P30 CODING GROUP 6 ACTIVE UTILITY
P31 CODING GROUP 7 ACTIVE UTILITY
P32 COLD START TROUBLE
P33 WARM START TROUBLE
P34 CITY DISCONNECT TROUBLE
P35 MANUAL EVACUATION SWITCH INPUT UTILITY
P36 ELEVATOR 1 BYPASS TROUBLE
P37 DOORHOLDER BYPASS TROUBLE
P38 CONTROL POINT BYPASS TROUBLE
P39 SYSTEM EXECUTING FROM RAM TROUBLE
P40 AUTOMATIC DETECTOR RESET UTILITY
P41 MASTER FIRE ALARM ACK KEY UTILITY
P42 MASTER SUPERVISORY ACK KEY UTILITY
P43 MASTER TROUBLE ACK KEY UTILITY
P44 CODING BUS DISABLE SWITCH UTILITY
P45 DRILL SWITCH INPUT UTILITY
P46 DOOR HOLDER TRIGGER UTILITY
P47 SIGNALS/VISUALS ACTIVE UTILITY
P48 MANUAL EVACUATION FIRE

Continued on next page

Digital Pseudo Points, *Continued*

P49 SYSTEM AT ACCESS LEVEL 1 OR GREATER UTILITY
P50 SYSTEM AT ACCESS LEVEL 2 OR GREATER UTILITY
P51 SYSTEM AT ACCESS LEVEL 3 OR GREATER UTILITY
P52 SYSTEM AT ACCESS LEVEL 4 UTILITY
P53 SYSTEM LIST OVERFLOW - WARM START NEEDED TROUBLE
P54 NETWORK MIKE KEYED UTILITY
P55 CRT KEYPAD INACTIVITY TIMER DISABLE UTILITY
P56 CITY CIRCUIT STD TROUBLE RELAY OPERATION UTILITY
P57 KEYPAD INACTIVITY TIMER DISABLE UTILITY
P58 SYSTEM TIME/DATE INVALID OR NOT SET TROUBLE
P59 ALARM VERIFICATION TALLY LIMIT EXCEEDED TROUBLE
P60 ALARM VERIFICATION GROUP 0 ACTIVE UTILITY
P61 ALARM VERIFICATION GROUP 1 ACTIVE UTILITY
P62 ALARM VERIFICATION GROUP 2 ACTIVE UTILITY
P63 ALARM VERIFICATION GROUP 3 ACTIVE UTILITY
P64 ALARM VERIFICATION GROUP 4 ACTIVE UTILITY
P65 ALARM VERIFICATION GROUP 5 ACTIVE UTILITY
P66 ALARM VERIFICATION GROUP 6 ACTIVE UTILITY
P67 ALARM VERIFICATION GROUP 7 ACTIVE UTILITY
P68 FIRST STAGE TIMER EXPIRED UTILITY
P69 THE EVAC MESSAGE HAS PLAYED UTILITY
P70 WALK TEST GROUP 0 ENABLED TROUBLE
P71 WALK TEST GROUP 1 ENABLED TROUBLE
P72 WALK TEST GROUP 2 ENABLED TROUBLE
P73 WALK TEST GROUP 3 ENABLED TROUBLE
P74 WALK TEST GROUP 4 ENABLED TROUBLE
P75 WALK TEST GROUP 5 ENABLED TROUBLE
P76 WALK TEST GROUP 6 ENABLED TROUBLE
P77 WALK TEST GROUP 7 ENABLED TROUBLE
P78 ALARM SILENCE/ALARM CUTOUT PSEUDO UTILITY
P79 RESET SPKRS WHEN AUDIO CODING COMPLETE UTILITY
P80 MASTER MICROPHONE KEYED UTILITY
P81 REMOTE MICROPHONE 1 KEYED UTILITY
P82 REMOTE MICROPHONE 2 KEYED UTILITY
P83 REMOTE MICROPHONE 1 READY TO TALK UTILITY
P84 REMOTE MICROPHONE 2 READY TO TALK UTILITY
P85 VTG 1 - ACTIVE UTILITY
P86 VTG 2 - ACTIVE UTILITY
P87 EVACUATION MESSAGE ON UTILITY
P88 EVACUATION MESSAGE OFF UTILITY
P89 EVACUATION MESSAGE LED UTILITY
P90 ALERT MESSAGE ON UTILITY
P91 ALERT MESSAGE OFF UTILITY
P92 ALERT MESSAGE LED UTILITY
P93 DRILL MESSAGE ON UTILITY
P94 DRILL MESSAGE OFF UTILITY
P95 DRILL MESSAGE LED UTILITY
P96 ALL CLEAR MESSAGE ON UTILITY
P97 ALL CLEAR MESSAGE OFF UTILITY

Continued on next page

P98 ALL CLEAR MESSAGE LED UTILITY
P99 AUX MSG 1 ON UTILITY
P100 AUX MSG 1 OFF UTILITY
P101 AUX MSG 1 LED UTILITY
P102 AUX MSG 2 ON UTILITY
P103 AUX MSG 2 OFF UTILITY
P104 AUX MSG 2 LED UTILITY
P105 PHONE PAGING ON UTILITY
P106 PHONE PAGING OFF UTILITY
P107 PHONE PAGING LED UTILITY
P108 AUDIO OVERRIDE ON UTILITY
P109 AUDIO OVERRIDE OFF UTILITY
P110 AUDIO OVERRIDE TROUBLE TROUBLE
P111 ALL SPEAKERS MINUS ON UTILITY
P112 ALL SPEAKERS MINUS OFF UTILITY
P113 ALL SPEAKERS MINUS LED UTILITY
P114 ALL SPEAKERS CHANNEL 1 ON UTILITY
P115 ALL SPEAKERS CHANNEL 1 OFF UTILITY
P116 ALL SPEAKERS CHANNEL 1 LED UTILITY
P117 ALL SPEAKERS CHANNEL 2 ON UTILITY
P118 ALL SPEAKERS CHANNEL 2 OFF UTILITY
P119 ALL SPEAKERS CHANNEL 2 LED UTILITY
P120 ALL SPEAKERS CHANNEL 3 ON UTILITY
P121 ALL SPEAKERS CHANNEL 3 OFF UTILITY
P122 ALL SPEAKERS CHANNEL 3 LED UTILITY
P123 LOCAL SPEAKER EVAC ON UTILITY
P124 LOCAL SPEAKER EVAC OFF UTILITY
P125 LOCAL SPEAKER EVAC LED UTILITY
P126 LOCAL SPEAKER ALERT ON UTILITY
P127 LOCAL SPEAKER ALERT OFF UTILITY
P128 LOCAL SPEAKER ALERT LED UTILITY
P129 ALL SPEAKERS TALK ON UTILITY
P130 ALL SPEAKERS TALK OFF UTILITY
P131 ALL SPEAKERS TALK LED UTILITY
P132 ANALOG SENSOR ALMOST DIRTY LOG ENABLE TROUBLE
P133 LOG ANALOG SENSOR PEAK VALUE ENABLE UTILITY
P134 CLEAR ANALOG SENSOR PEAK VALUE TROUBLE
P135 ALL ALERT UTILITY
P136 ALL EVAC UTILITY
P137 ALL ALERT LED UTILITY
P138 MASTER MIKE PRETONE PLAYING ON VTG2 UTILITY
P139 REMOTE MIKE 1 PRETONE PLAYING ON VTG2 UTILITY
P140 REMOTE MIKE 2 PRETONE PLAYING ON VTG2 UTILITY
P141 MANUAL AUDIO EVAC ON UTILITY
P142 MANUAL AUDIO EVAC OFF UTILITY
P143 MANUAL AUDIO EVAC LED UTILITY
P144 DISABLE SUPERVISION ON VTG 1 (2120 APPL) UTILITY
P145 DISABLE SUPERVISION ON VTG 2 (2120 APPL) UTILITY
P146 EMPTY AUDIO SERVICE QUEUE UTILITY

Continued on next page

P147 EVAC MSG PLAYING WHEN MICROPHONE KEYED UTILITY
P148 SYSTEM OUT OF AQB'S TROUBLE
P149 SPEAKER SWITCH OFF AUTO TROUBLE
P150 AUDIO CODING GROUP 1 ACTIVE UTILITY
P151 AUDIO CODING GROUP 2 ACTIVE UTILITY
P152 VTG 1 - AUDIO SUPERVISION ACTIVE UTILITY
P153 VTG 2 - AUDIO SUPERVISION ACTIVE UTILITY
P154 PHONE TALK LINE RELAY FEEDBACK UTILITY
P155 PHONE NETWORK RELAY FEEDBACK UTILITY
P156 LOCAL MASTER PHONE HANDSET OFF HOOK UTILITY
P157 PHONE TALK LINE RELAY CONTROL INPUT UTILITY
P158 PHONE NETWORK RELAY CONTROL INPUT UTILITY
P159 PHONE TALK LINE RELAY CONTROL UTILITY
P160 PHONE NETWORK RELAY CONTROL UTILITY
P161 MASTER PHONE OFFHOOK SUPERVISION TROUBLE
P162 MASTER MIKE PRETONE PLAYING ON VTG1 UTILITY
P163 REMOTE MIKE 1 PRETONE PLAYING ON VTG1 UTILITY
P164 REMOTE MIKE 2 PRETONE PLAYING ON VTG1 UTILITY
P165 AMPS SWITCHED TO BATTERY UTILITY
P166 ENABLE RM PHONE TO RM PHONE CONVERSATION UTILITY
P167 ALERT MSG PLAYING WHEN MICROPHONE KEYED UTILITY
P168 MICROPHONE TO EVAC IN EFFECT UTILITY
P169 MICROPHONE TO ALERT IN EFFECT UTILITY
P170 MICROPHONE TO TALK (CHANNEL 3) IN EFFECT UTILITY
P171 BACKGROUND MUSIC RELAY CHANNEL 1 UTILITY
P172 BACKGROUND MUSIC RELAY CHANNEL 2 UTILITY
P173 BACKGROUND MUSIC RELAY CHANNEL 3 UTILITY
P174 VTG 1 CODE'S PRECODE PLAYING UTILITY
P175 VTG 1 CODE'S AFTER CODE PLAYING UTILITY
P176 AFTER CODE START - VTG 1 UTILITY
P177 VTG 1 'QUIET' MESSAGE PLAYING UTILITY
P178 VTG 2 CODE'S PRECODE PLAYING UTILITY
P179 VTG 2 CODE'S AFTER CODE PLAYING UTILITY
P180 AFTER CODE START - VTG 2 UTILITY
P181 VTG 2 'QUIET' MESSAGE PLAYING UTILITY
P182 (2120 APPL) VTG1 CODE START UTILITY
P183 (2120 APPL) STOP VTG1 QUEUE UTILITY
P184 (2120 APPL) VTG2 CODE START UTILITY
P185 (2120 APPL) STOP VTG2 QUEUE UTILITY
P186 MIKE DISABLE UTILITY
P187 VTG & AMPLIFIER TROUBLE DISABLE UTILITY
P188 VTG SUPERVISION TONE NOT ACTIVE TROUBLE
P189 SATELLITE PHONE TIMEOUT DISABLE UTILITY
P190 NETWORK MIKE PRETONE PLAYING UTILITY
P191 MASTER MIKE KEYED UTILITY
P192 REMOTE MIKE 1 KEYED UTILITY
P193 REMOTE MIKE 2 KEYED UTILITY
P194 MIKES ARE READY TO PAGE UTILITY
P195 S21 SWITCH ACTIVATED UTILITY

Continued on next page

P196 RAM BATTERY MISSING/FAILED TROUBLE
P197 2120 1 COMM LOSS UTILITY
P198 INHIBIT SONALERT UTILITY
P199 INHIBIT ALARM DEFAULT UTILITY
P200 FORCE COLD START UTILITY
P201 AC VOLTAGE FAILURE/BROWNOUT UTILITY
P202 DETECTOR RESET UTILITY
P203 LCD ANNUNCIATORS OVERRIDE KEYSWITCH UTILITY
P204 SIGNALS SILENCED UTILITY
P205 TRUEALARM SENSITIVITY MODIFIED TROUBLE
P206 PRINT QUEUE OVERFLOW TROUBLE
P207 NETWORK DIAGNOSTIC MODE TROUBLE
P208 OUT OF NQB'S TROUBLE
P209 MASTER CLASS A RUI TROUBLE TROUBLE
P210 NETWORK DETECTOR RESET UTILITY
P211 NETWORK SYSTEM RESET UTILITY
P212 DETECTOR/SYSTEM RESET UTILITY
P213 4120 NETWORK CARD CONFIGURED UTILITY
P214 CLEAR VERIFICATION TALLIES TROUBLE
P215 PRIORITY 2 ALARM DETECT UTILITY
P216 PRIORITY 2 ALARM RESET REQUEST UTILITY
P217 NETWORK SIGNAL SILENCE UTILITY
P218 UNACKNOWLEDGED PRIORITY 2 ALARM EXISTS UTILITY
P219 MASTER PRIORITY 2 ALARM ACK KEY UTILITY
P220 NETWORK PRIORITY 2 RESET UTILITY
P221 SIGNALS ACTIVE - OFF ON SILENCE UTILITY
P222 REMOTE DOWNLOAD ENABLED TROUBLE
P223 MASTER MICROPHONE READY TO TALK UTILITY
P224 NETWORK INITIALIZATION INCOMPLETE TROUBLE
P225 NETWORK OPERATING IN DEGRADED STYLE-7 TROUBLE
P226 NETWORK INITIALIZATION IN PROGRESS TROUBLE
P227 SDACT DATABASE VERSION MISMATCH TROUBLE
P228 PREVENT TIME/DATE LOGGING UTILITY
P229 TRUEALERT SILENT TEST ACTIVE TROUBLE
P230 TRUEALERT DEVICE TEST MODE ACTIVE TROUBLE
P231 EXTRA NODE ON NETWORK TROUBLE
P232 NETWORK POINT LABEL UPDATING INHIBITED TROUBLE
P233 REMINDER - FIRE ALARM(S) EXIST IN SYSTEM FIRE
P234 REMINDER - PRI2 ALARM(S) EXIST IN SYSTEM PRI2
P235 REMINDER - SUPV ALARMS EXIST IN SYSTEM SUPERV
P236 REMINDER - TROUBLE(S) EXIST IN SYSTEM TROUBLE
P237 ACTIVE STATUS REMINDER ENABLED UTILITY
P238 ELEVATOR 2 BYPASS TROUBLE
P239 ELEVATOR 3 BYPASS TROUBLE
P240 ELEVATOR 4 BYPASS TROUBLE
P241 ELEVATOR 5 BYPASS TROUBLE
P242 UTILITY
P243 MODEM DISABLE/ENABLE UTILITY
P244 MODEM ACTIVE (OFFHOOK) UTILITY

Continued on next page

P245 MODEM CARD MISSING TROUBLE TROUBLE
P246 EXTRA MODEM CARD TROUBLE TROUBLE
P247 AHJ OVERRIDE ACTIVE UTILITY
P248 EARTH FAULT LATCH ENABLE TROUBLE
P249 SLAVE NEEDS EXEC DOWNLOAD TROUBLE
P250 ENABLE END PAIR AND MONITOR LOGGING UTILITY
P251 CONTEXT SENSITIVE RESET ENABLED UTILITY
P252 NETWORK HARDWARE RESET UTILITY
P253 QUICKALERT HORNS ACTIVE - OFF ON SILENCE UTILITY
P254 UNACTIVATED NEW CONFIGURATION AVAILABLE TROUBLE
P255 RUNNING PREVIOUS CONFIGURATION TROUBLE
P256 REMOTE MICROPHONE 3 KEYED UTILITY
P257 REMOTE MICROPHONE 4 KEYED UTILITY
P258 REMOTE MICROPHONE 5 KEYED UTILITY
P259 REMOTE MICROPHONE 3 READY TO TALK UTILITY
P260 REMOTE MICROPHONE 4 READY TO TALK UTILITY
P261 REMOTE MICROPHONE 5 READY TO TALK UTILITY
P262 DISPLAY TEXT IN NON-ENGLISH LANGUAGE UTILITY
P263 PANEL USING NON CONFIGURED LANGUAGE TROUBLE
P264 UTILITY
P265 UTILITY
P266 UTILITY
P267 UTILITY
P268 EVAC MESSAGE CHL4 LED UTILITY
P269 EVAC MESSAGE CHL5 LED UTILITY
P270 EVAC MESSAGE CHL6 LED UTILITY
P271 EVAC MESSAGE CHL7 LED UTILITY
P272 EVAC MESSAGE CHL8 LED UTILITY
P273 REMOTE MIKE 3 KEYED UTILITY
P274 REMOTE MIKE 4 KEYED UTILITY
P275 REMOTE MIKE 5 KEYED UTILITY
P276 LOCAL SPEAKER CHL4 ON UTILITY
P277 LOCAL SPEAKER CHL4 OFF UTILITY
P278 LOCAL SPEAKER CHL4 LED UTILITY
P279 LOCAL SPEAKER CHL5 ON UTILITY
P280 LOCAL SPEAKER CHL5 OFF UTILITY
P281 LOCAL SPEAKER CHL5 LED UTILITY
P282 LOCAL SPEAKER CHL6 ON UTILITY
P283 LOCAL SPEAKER CHL6 OFF UTILITY
P284 LOCAL SPEAKER CHL6 LED UTILITY
P285 LOCAL SPEAKER CHL7 ON UTILITY
P286 LOCAL SPEAKER CHL7 OFF UTILITY
P287 LOCAL SPEAKER CHL7 LED UTILITY
P288 LOCAL SPEAKER CHL8 ON UTILITY
P289 LOCAL SPEAKER CHL8 OFF UTILITY
P290 LOCAL SPEAKER CHL8 LED UTILITY
P291 CHL4 EVAC MSG PLAYING WHEN MIKE KEYED UTILITY
P292 CHL5 EVAC MSG PLAYING WHEN MIKE KEYED UTILITY
P293 CHL6 EVAC MSG PLAYING WHEN MIKE KEYED UTILITY

Continued on next page

P294 CHL7 EVAC MSG PLAYING WHEN MIKE KEYED UTILITY
P295 CHL8 EVAC MSG PLAYING WHEN MIKE KEYED UTILITY
P296 MASTER MIKE PRETONE PLAYING ON CHL 3 UTILITY
P297 MASTER MIKE PRETONE PLAYING ON CHL 4 UTILITY
P298 MASTER MIKE PRETONE PLAYING ON CHL 5 UTILITY
P299 MASTER MIKE PRETONE PLAYING ON CHL 6 UTILITY
P300 MASTER MIKE PRETONE PLAYING ON CHL 7 UTILITY
P301 MASTER MIKE PRETONE PLAYING ON CHL 8 UTILITY
P302 REMOTE MIKE 1 PRETONE PLAYING ON CHL 3 UTILITY
P303 REMOTE MIKE 1 PRETONE PLAYING ON CHL 4 UTILITY
P304 REMOTE MIKE 1 PRETONE PLAYING ON CHL 5 UTILITY
P305 REMOTE MIKE 1 PRETONE PLAYING ON CHL 6 UTILITY
P306 REMOTE MIKE 1 PRETONE PLAYING ON CHL 7 UTILITY
P307 REMOTE MIKE 1 PRETONE PLAYING ON CHL 8 UTILITY
P308 REMOTE MIKE 2 PRETONE PLAYING ON CHL 3 UTILITY
P309 REMOTE MIKE 2 PRETONE PLAYING ON CHL 4 UTILITY
P310 REMOTE MIKE 2 PRETONE PLAYING ON CHL 5 UTILITY
P311 REMOTE MIKE 2 PRETONE PLAYING ON CHL 6 UTILITY
P312 REMOTE MIKE 2 PRETONE PLAYING ON CHL 7 UTILITY
P313 REMOTE MIKE 2 PRETONE PLAYING ON CHL 8 UTILITY
P314 REMOTE MIKE 3 PRETONE PLAYING ON CHL 1 UTILITY
P315 REMOTE MIKE 3 PRETONE PLAYING ON CHL 2 UTILITY
P316 REMOTE MIKE 3 PRETONE PLAYING ON CHL 3 UTILITY
P317 REMOTE MIKE 3 PRETONE PLAYING ON CHL 4 UTILITY
P318 REMOTE MIKE 3 PRETONE PLAYING ON CHL 5 UTILITY
P319 REMOTE MIKE 3 PRETONE PLAYING ON CHL 6 UTILITY
P320 REMOTE MIKE 3 PRETONE PLAYING ON CHL 7 UTILITY
P321 REMOTE MIKE 3 PRETONE PLAYING ON CHL 8 UTILITY
P322 REMOTE MIKE 4 PRETONE PLAYING ON CHL 1 UTILITY
P323 REMOTE MIKE 4 PRETONE PLAYING ON CHL 2 UTILITY
P324 REMOTE MIKE 4 PRETONE PLAYING ON CHL 3 UTILITY
P325 REMOTE MIKE 4 PRETONE PLAYING ON CHL 4 UTILITY
P326 REMOTE MIKE 4 PRETONE PLAYING ON CHL 5 UTILITY
P327 REMOTE MIKE 4 PRETONE PLAYING ON CHL 6 UTILITY
P328 REMOTE MIKE 4 PRETONE PLAYING ON CHL 7 UTILITY
P329 REMOTE MIKE 4 PRETONE PLAYING ON CHL 8 UTILITY
P330 REMOTE MIKE 5 PRETONE PLAYING ON CHL 1 UTILITY
P331 REMOTE MIKE 5 PRETONE PLAYING ON CHL 2 UTILITY
P332 REMOTE MIKE 5 PRETONE PLAYING ON CHL 3 UTILITY
P333 REMOTE MIKE 5 PRETONE PLAYING ON CHL 4 UTILITY
P334 REMOTE MIKE 5 PRETONE PLAYING ON CHL 5 UTILITY
P335 REMOTE MIKE 5 PRETONE PLAYING ON CHL 6 UTILITY
P336 REMOTE MIKE 5 PRETONE PLAYING ON CHL 7 UTILITY
P337 REMOTE MIKE 5 PRETONE PLAYING ON CHL 8 UTILITY
P338 MICROPHONE TO CHANNEL 4 IN EFFECT UTILITY
P339 MICROPHONE TO CHANNEL 5 IN EFFECT UTILITY
P340 MICROPHONE TO CHANNEL 6 IN EFFECT UTILITY
P341 MICROPHONE TO CHANNEL 7 IN EFFECT UTILITY
P342 MICROPHONE TO CHANNEL 8 IN EFFECT UTILITY

Continued on next page

P343 CHANNEL 3 MSG/TONE WHEN MIKED KEYED UTILITY
P344 CHANNEL 3 MSG/TONE PLAYING UTILITY
P345 ALL SPEAKERS CHANNEL 4 ON UTILITY
P346 ALL SPEAKERS CHANNEL 4 OFF UTILITY
P347 ALL SPEAKERS CHANNEL 4 LED UTILITY
P348 ALL SPEAKERS CHANNEL 5 ON UTILITY
P349 ALL SPEAKERS CHANNEL 5 OFF UTILITY
P350 ALL SPEAKERS CHANNEL 5 LED UTILITY
P351 ALL SPEAKERS CHANNEL 6 ON UTILITY
P352 ALL SPEAKERS CHANNEL 6 OFF UTILITY
P353 ALL SPEAKERS CHANNEL 6 LED UTILITY
P354 ALL SPEAKERS CHANNEL 7 ON UTILITY
P355 ALL SPEAKERS CHANNEL 7 OFF UTILITY
P356 ALL SPEAKERS CHANNEL 7 LED UTILITY
P357 ALL SPEAKERS CHANNEL 8 ON UTILITY
P358 ALL SPEAKERS CHANNEL 8 OFF UTILITY
P359 ALL SPEAKERS CHANNEL 8 LED UTILITY
P360 IDNET BOOST UTILITY
P361 CHANNEL 1 - ACTIVE UTILITY
P362 CHANNEL 2 - ACTIVE UTILITY
P363 CHANNEL 3 - ACTIVE UTILITY
P364 CHANNEL 4 - ACTIVE UTILITY
P365 CHANNEL 5 - ACTIVE UTILITY
P366 CHANNEL 6 - ACTIVE UTILITY
P367 CHANNEL 7 - ACTIVE UTILITY
P368 CHANNEL 8 - ACTIVE UTILITY
P369 BATTERY CHARGER CONTROL UTILITY
P370 MASTER MIKE PRETONE PLAYING ON CHL 1 UTILITY
P371 REMOTE MIKE 1 PRETONE PLAYING ON CHL 1 UTILITY
P372 REMOTE MIKE 2 PRETONE PLAYING ON CHL 1 UTILITY
P373 DISABLE SUPERVISION ON CHL 1 (2120 APPL) UTILITY
P374 DISABLE SUPERVISION ON CHL 2 (2120 APPL) UTILITY
P375 CHL 1 - AUDIO SUPERVISION ACTIVE UTILITY
P376 CHL 2 - AUDIO SUPERVISION ACTIVE UTILITY
P377 MASTER MIKE PRETONE PLAYING ON CHL 2 UTILITY
P378 REMOTE MIKE 1 PRETONE PLAYING ON CHL 2 UTILITY
P379 REMOTE MIKE 2 PRETONE PLAYING ON CHL 2 UTILITY
P380 CHL 1 CODE'S PRECODE PLAYING UTILITY
P381 CHL 1 CODE'S AFTER CODE PLAYING UTILITY
P382 AFTER CODE START - CHL 1 UTILITY
P383 CHL 1 'QUIET' MESSAGE PLAYING UTILITY
P384 CHL 2 CODE'S PRECODE PLAYING UTILITY
P385 CHL 2 CODE'S AFTER CODE PLAYING UTILITY
P386 AFTER CODE START - CHL 2 UTILITY
P387 CHL 2 'QUIET' MESSAGE PLAYING UTILITY
P388 (2120 APPL) CHL 1 CODE START UTILITY
P389 (2120 APPL) STOP CHL 1 QUEUE UTILITY
P390 (2120 APPL) CHL 2 CODE START UTILITY
P391 (2120 APPL) STOP CHL 2 QUEUE UTILITY

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P392 FIRE ASR DURATION UTILITY
P393 PRI2 ASR DURATION UTILITY
P394 SUPV ASR DURATION UTILITY
P395 START ALL SELECT ON UTILITY
P396 START ALL SELECT OFF UTILITY
P397 START ALL SELECT LED UTILITY
P398 CHL & AMPLIFIER TROUBLE ENABLE UTILITY
P399 CHANNEL SUPERVISION TONE NOT ACTIVE TROUBLE
P400 REMOTE SOUNDERS INHIBITED TROUBLE
P401 ANNUNCIATOR 0 IN CONTROL UTILITY
P402 ANNUNCIATOR 1 IN CONTROL UTILITY
P403 ANNUNCIATOR 2 IN CONTROL UTILITY
P404 ANNUNCIATOR 3 IN CONTROL UTILITY
P405 ANNUNCIATOR 4 IN CONTROL UTILITY
P406 ANNUNCIATOR 5 IN CONTROL UTILITY
P407 ANNUNCIATOR 6 IN CONTROL UTILITY
P408 ANNUNCIATOR 7 IN CONTROL UTILITY
P409 ANNUNCIATOR 8 IN CONTROL UTILITY
P410 ANNUNCIATOR 9 IN CONTROL UTILITY
P411 ANNUNCIATOR 10 IN CONTROL UTILITY
P412 ANNUNCIATOR 11 IN CONTROL UTILITY
P413 ANNUNCIATOR 12 IN CONTROL UTILITY
P414 ANNUNCIATOR 13 IN CONTROL UTILITY
P415 ANNUNCIATOR 14 IN CONTROL UTILITY
P416 ANNUNCIATOR 15 IN CONTROL UTILITY
P417 ANNUNCIATOR 16 IN CONTROL UTILITY
P418 ANNUNCIATOR 17 IN CONTROL UTILITY
P419 ANNUNCIATOR 18 IN CONTROL UTILITY
P420 ANNUNCIATOR 19 IN CONTROL UTILITY
P421 ANNUNCIATOR 20 IN CONTROL UTILITY
P422 ANNUNCIATOR 21 IN CONTROL UTILITY
P423 ANNUNCIATOR 22 IN CONTROL UTILITY
P424 ANNUNCIATOR 23 IN CONTROL UTILITY
P425 ANNUNCIATOR 24 IN CONTROL UTILITY
P426 ANNUNCIATOR 25 IN CONTROL UTILITY
P427 ANNUNCIATOR 26 IN CONTROL UTILITY
P428 ANNUNCIATOR 27 IN CONTROL UTILITY
P429 ANNUNCIATOR 28 IN CONTROL UTILITY
P430 ANNUNCIATOR 29 IN CONTROL UTILITY
P431 ANNUNCIATOR 30 IN CONTROL UTILITY
P432 ANNUNCIATOR 31 IN CONTROL UTILITY
P433 LOCAL SPEAKER CHANNEL 3 ON UTILITY
P434 LOCAL SPEAKER CHANNEL 3 OFF UTILITY
P435 LOCAL SPEAKER CHANNEL 3 LED UTILITY
P436 AUTOMATIC ALARM SIGNAL CANCEL UTILITY
P437 PHONE PAGING STATUS LED UTILITY
P438 GROUND FAULT SEARCH ACTIVE UTILITY
P439 DISABLE IDNET DETECTOR TEST MAGNETS UTILITY
P440 MODEM CONNECTION PRINTED/LOGGED UTILITY

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P441 ENABLE NETWORK AUDIO UTILITY
P442 GENERATE NETWORK AUDIO UTILITY
P443 ATTEMPT TO GENERATE AND RECEIVE NET DAR UTILITY
P444 INHIBIT ALARM SILENCE ON SYSTEM RESET UTILITY
P445 SYSTEM CONFIGURED FOR NAA UTILITY
P446 TFX CONFIGUED IN JOB UTILITY
P447 IDNET DUPLICATE SEARCH ACTIVE UTILITY
P448 IDNET WEAK SEARCH ACTIVE UTILITY
P449 IDNET DEVICE REPORT ACTIVE UTILITY
P450 AC IS NOT THE ONLY TROUBLE UTILITY
P451 SDACT REPORTING DISABLED
P452 JUNIPER: LOW TRUEALARM VALUE
P453 CHANNEL DIAGNOSTIC MODE TROUBLE
P454 BMUX CH1 TRANSPONDER DISABLED
P455 BMUX CH2 TRANSPONDER DISABLED
P456 FIRE MONITOR DISARM TROUBLE
P457 IGNORE 2120 BROADCAST FAILURE TROUBLE
P458 AUDIO PLAYING SILENCE LOCALLY CHANNEL 1 UTILITY
P459 AUDIO PLAYING SILENCE LOCALLY CHANNEL 2 UTILITY
P460 GENERATE CUSTOM LABELS FOR ENGLISH UTILITY
P461 UNUSED
P462 IDNET CO ALGORITHMS DISABLED
P463 CO 6 MONTH ALMOST EXPIRED CONTROL POINT
P464 CO 12 MONTH ALMOST EXPIRED CONTROL POINT
P465 DIAGNOSTIC LED ACTIVE (TROUBLE)
P466 BMUX OVERRIDE POLL FAILED TRANSPONDERS (TROUBLE)
P467 CO 6 MONTH ALMOST EXPIRED LOG ENABLE (TROUBLE)
P468 CO 12 MONTH ALMOST EXPIRED LOG ENABLE (TROUBLE)
P469 LOG CLEARED TROUBLES GLOBAL ACK
P470 SUPERVISORY VERIFICATION GROUP 0 ACTIVE
P471 SUPERVISORY VERIFICATION GROUP 1 ACTIVE
P472 SUPERVISORY VERIFICATION GROUP 2 ACTIVE
P473 SUPERVISORY VERIFICATION GROUP 3 ACTIVE
P474 SUPERVISORY VERIFICATION GROUP 4 ACTIVE
P475 SUPERVISORY VERIFICATION GROUP 5 ACTIVE
P476 SUPERVISORY VERIFICATION GROUP 6 ACTIVE
P477 SUPERVISORY VERIFICATION GROUP 7 ACTIVE
P478 INHIBIT DEVICE TROUBLES WHILE DISABLED
P479-P481 UNUSED
P482 RECURRING TROUBLE FILTER ACTIVATED
P483 UNUSED
P484 UNUSED
P485 DO NOT REPROCESS UNCLEARED REPEAT ALARM
P486-P767 UNUSED

Analog Pseudo Points

A0 NUMBER OF SYSTEM FIRE ALARMS ANALOG
A1 NUMBER OF SYSTEM SUPERVISORIES ANALOG
A2 NUMBER OF SYSTEM TROUBLES ANALOG
A3 NUMBER OF OLD (UNCLEARED) FIRE ALARMS ANALOG
A4 NUMBER OF OLD (UNCLEARED) SUPERVISORIES ANALOG
A5 NUMBER OF OLD (UNCLEARED) TROUBLES ANALOG
A6 CURRENT HOUR ANALOG
A7 CURRENT MINUTE ANALOG
A8 CURRENT SECOND ANALOG
A9 CURRENT DAY ANALOG
A10 CURRENT MONTH ANALOG
A11 CURRENT YEAR ANALOG
A12 CURRENT ACCESS LEVEL ANALOG
A13 ACCESS LEVEL TIMEOUT ANALOG
A14 SYSTEM RESET WINDOW TIMER ANALOG
A15 SYSTEM RESET WINDOW TIMER SETPOINT ANALOG
A16 DETECTOR RESET PULSE TIMER ANALOG
A17 4-WIRE RESET RELAY PULSE TIMER ANALOG
A18 FIRE ALARM CLEAR DELAY TIMER ANALOG
A19 FIRE ALARM CLEAR DELAY TIMER SETPOINT ANALOG
A20 FIRE ALARM CLEAR PULSE TIMER ANALOG
A21 SYSTEM RESET PULSE TIMER ANALOG
A22 ALARM SILENCE INHIBIT TIMER ANALOG
A23 ALARM SILENCE INHIBIT TIMER SETPOINT ANALOG
A24 FIRE ALARM CUTOUT TIMER ANALOG
A25 FIRE ALARM CUTOUT TIMER SETPOINT ANALOG
A26 FIRE ALARM CUTOUT SILENCE PULSE TIMER ANALOG
A27 TROUBLE REMINDER CYCLE TIMER ANALOG
A28 TROUBLE REMINDER OFF-TIME SETPOINT ANALOG
A29 TROUBLE REMINDER ON-TIME SETPOINT ANALOG
A30 DOOR HOLDER ALARM DROP TIMER ANALOG
A31 DOOR HOLDER ALARM DROP TIMER SETPOINT ANALOG
A32 DOOR HOLDER BROWNOUT DROP TIMER ANALOG
A33 DOOR HOLDER BROWNOUT DROP TIMER SETPOINT ANALOG
A34 SYSTEM STARTUP PULSE TIMER ANALOG
A35 FIRE ALARM AUDIBLE SIGNAL OPERATION ANALOG
A36 FIRE ALARM VISUAL SIGNAL OPERATION ANALOG
A37 ALARM VERIFICATION - RETARD TIME ANALOG
A38 ALARM VERIFICATION - RESET TIME ANALOG
A39 ALARM VERIFICATION - CONFIRMATION TIME ANALOG
A40 ALARM VERIFICATION - TALLY LIMIT ANALOG
A41 WALK TEST ABORT TIMEOUT SETPOINT ANALOG
A42 WALK TEST REACTIVATE DELAY SETPOINT ANALOG
A43 MONITOR ZONE ENABLE DELAY SETPOINT ANALOG
A44 CODED INPUT TIMEOUT SETPOINT ANALOG
A45 OFF TIME AFTER PNIS (NON-CONT.) CODES ANALOG
A46 CITY CIRCUIT CONFIGURATION ANALOG
A47 ALERT TONE/CHL2 MSG AFTER MIKE UNKEYED ANALOG
A48 TOTAL AUDIO CHANNELS ANALOG

Continued on next page

A49 CHANNEL 1 ROUTING ANALOG
A50 CHANNEL 2 ROUTING ANALOG
A51 CHANNEL 3 ROUTING ANALOG
A52 LOCAL ROUTING ANALOG
A53 EVAC TONE/CHL1 MSG AFTER MIKE UNKEYED ANALOG
A54 SUPERVISION MSG# ANALOG
A55 EVACUATION MSG# ANALOG
A56 ALERT MSG# ANALOG
A57 DRILL MSG# ANALOG
A58 ALL CLEAR MSG# ANALOG
A59 AUX 1 MSG# ANALOG
A60 AUX 2 MSG# ANALOG
A61 MICROPHONE PRETONE MSG# ANALOG
A62 PHONE OFFHOOK TIMER ANALOG
A63 PHONE CALLBACK TIMER ANALOG
A64 PHONE TIMEOUT TIMER ANALOG
A65 REMOTE MASTER PHONE TIMEOUT TIMER ANALOG
A66 SPEAKER SWITCH OFF AUTO COUNT ANALOG
A67 AUDIO RESET PULSE TIMER ANALOG
A68 VTG 1 PRIORITY ANALOG
A69 VTG 2 PRIORITY ANALOG
A70 CHANNEL 1 ROUTING PRIORITY ANALOG
A71 CHANNEL 2 ROUTING PRIORITY ANALOG
A72 CHANNEL 3 ROUTING PRIORITY ANALOG
A73 LOCAL SPEAKER ROUTING PRIORITY ANALOG
A74 AUDIO SUPERVISION PULSE TIMER VTG1 ANALOG
A75 AUDIO SUPERVISION PULSE TIMER VTG2 ANALOG
A76 ENABLE/DISABLE STATISTIC GROUP ANALOG
A77 ENABLE/DISABLE STATISTIC OUTPUT PORT ANALOG
A78 5 SEC TIMER FOR REMOTE MASTER PHONES ANALOG
A79 CLEAR PEAK PULSE ANALOG
A80 PRECODE MESSAGE NUMBER - VTG 1 ANALOG
A81 AFTER CODE MESSAGE NUMBER - VTG 1 ANALOG
A82 PRECODE MESSAGE NUMBER - VTG 2 ANALOG
A83 AFTER CODE MESSAGE NUMBER - VTG 2 ANALOG
A84 ‘QUIET’ MESSAGE NUMBER ANALOG
A85 2 SECOND TIMER - VTG 1 ANALOG
A86 2 SECOND TIMER - VTG 2 ANALOG
A87 MIKE INHIBIT TIMER ANALOG
A88 MIKE INHIBIT TIMER SETPOINT ANALOG
A89 PHONE CALLBACK TIMER SETPOINT ANALOG
A90 PHONE TIMEOUT TIMER SETPOINT ANALOG
A91 VTG & AMPLIFIER TROUBLE DISABLE TIMER ANALOG
A92 SUPERVISION NOT ACTIVE - TBL DELAY TIMER ANALOG
A93 4 WIRE DETECTOR RESET EXTEND TIMER ANALOG
A94 ACTIVE MESSAGE NUMBER - VTG 1 ANALOG
A95 ACTIVE MESSAGE NUMBER - VTG 2 ANALOG
A96 ACTUAL CHIPSET PLUGGED INTO VTG 1 ANALOG
A97 ACTUAL CHIPSET PLUGGED INTO VTG 2 ANALOG

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A98 BATTERY TROUBLE COUNTER ANALOG
A99 AC POWER FAIL COUNTER ANALOG
A100 SYSTEM TYPE ANALOG
A101 FIRST STAGE TIMER ANALOG
A102 FIRST STAGE TIMER SETPOINT ANALOG
A103 MASTER MIKE 5 SECOND UNKEY DELAY ANALOG
A104 REMOTE MIKE 1 5 SECOND UNKEY DELAY ANALOG
A105 REMOTE MIKE 2 5 SECOND UNKEY DELAY ANALOG
A106 MASTER MIKE'S PRETONE TIMER ANALOG
A107 MASTER MIKE'S PRETONE SETPOINT ANALOG
A108 REMOTE MIKE 1'S PRETONE TIMER ANALOG
A109 REMOTE MIKE 1'S PRETONE SETPOINT ANALOG
A110 REMOTE MIKE 2'S PRETONE TIMER ANALOG
A111 REMOTE MIKE 2'S PRETONE SETPOINT ANALOG
A112 GROUND TROUBLE COUNTER ANALOG
A113 PAGING CHANNEL ANALOG
A114 TRUEALARM MODIFICATION COUNTER ANALOG
A115 EXCESSIVELY DIRTY (OUT OF RANGE) ANALOG
A116 DIRTY SENSOR COUNTER ANALOG
A117 ALMOST DIRTY COUNTER ANALOG
A118 ALARMS SILENCED DELAY TIMER ANALOG
A119 NUMBER OF LOCAL SYSTEM POINTS' TROUBLES ANALOG
A120 SYSTEM PAGING STATUS ANALOG
A121 KEYPAD INACTIVITY TIMEOUT SETPOINT ANALOG
A122 NUMBER OF SYSTEM PRIORITY 2 ALARMS ANALOG
A123 NUMBER OF OLD (UNCLEARED) PRI2 ALARMS ANALOG
A124 PRI2 RESET WINDOW TIMER ANALOG
A125 PRI2 RESET WINDOW TIMER SETPOINT ANALOG
A126 PRI2 ALARM CLEAR DELAY TIMER ANALOG
A127 PRI2 ALARM CLEAR DELAY TIMER SETPOINT ANALOG
A128 PRI2 ALARM CLEAR PULSE TIMER ANALOG
A129 PRIORITY 2 RESET PULSE TIMER ANALOG
A130 PRIORITY 2 RESET START TIMER ANALOG
A131 SUPERVISION DELAY SETPOINT CHL1 ANALOG
A132 SUPERVISION DELAY SETPOINT CHL2 ANALOG
A133 SUPERVISION NOT ACTIVE DELAY SETPOINT ANALOG
A134 LEFT END NETWORK NODE ANALOG
A135 RIGHT END NETWORK NODE ANALOG
A136 TRUEALERT DIAGNOSTICS TIMER ANALOG
A137 AC FAIL 5 SECOND DURATION SETPOINT ANALOG
A138 FIRE STATUS REMINDER DURATION SET POINT ANALOG
A139 FIRE STATUS REMINDER RUNNING TIMER ANALOG
A140 FIRE STATUS REMINDER INTERVAL SET POINT ANALOG
A141 PRI2 STATUS REMINDER DURATION SET POINT ANALOG
A142 PRI2 STATUS REMINDER RUNNING TIMER ANALOG
A143 PRI2 STATUS REMINDER INTERVAL SET POINT ANALOG
A144 SUPV STATUS REMINDER DURATION SET POINT ANALOG
A145 SUPV STATUS REMINDER RUNNING TIMER ANALOG
A146 SUPV STATUS REMINDER INTERVAL SET POINT ANALOG

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A147 TBL STATUS REMINDER DURATION SET POINT ANALOG
A148 TBL STATUS REMINDER RUNNING TIMER ANALOG
A149 TBL STATUS REMINDER INTERVAL SET POINT ANALOG
A150 FIRE DURATION SET POINT FROM PROGRAMMER ANALOG
A151 PRI2 DURATION SET POINT FROM PROGRAMMER ANALOG
A152 SUPV DURATION SET POINT FROM PROGRAMMER ANALOG
A153 TBL DURATION SET POINT FROM PROGRAMMER ANALOG
A154 ANALOG
A155 HARDWARE RESET PULSE TIMER ANALOG
A156 REMOTE MIKE 3 5 SECOND UNKEY DELAY ANALOG
A157 REMOTE MIKE 4 5 SECOND UNKEY DELAY ANALOG
A158 REMOTE MIKE 5 5 SECOND UNKEY DELAY ANALOG
A159 REMOTE MIKE 3'S PRETONE TIMER ANALOG
A160 REMOTE MIKE 3'S PRETONE SETPOINT ANALOG
A161 REMOTE MIKE 4'S PRETONE TIMER ANALOG
A162 REMOTE MIKE 4'S PRETONE SETPOINT ANALOG
A163 REMOTE MIKE 5'S PRETONE TIMER ANALOG
A164 REMOTE MIKE 5'S PRETONE SETPOINT ANALOG
A165 CHANNEL 4 ROUTING ANALOG
A166 CHANNEL 5 ROUTING ANALOG
A167 CHANNEL 6 ROUTING ANALOG
A168 CHANNEL 7 ROUTING ANALOG
A169 CHANNEL 8 ROUTING ANALOG
A170 CHANNEL 4 ROUTING PRIORITY ANALOG
A171 CHANNEL 5 ROUTING PRIORITY ANALOG
A172 CHANNEL 6 ROUTING PRIORITY ANALOG
A173 CHANNEL 7 ROUTING PRIORITY ANALOG
A174 CHANNEL 8 ROUTING PRIORITY ANALOG
A175 CHANNEL 3 PRIORITY ANALOG
A176 CHANNEL 4 PRIORITY ANALOG
A177 CHANNEL 5 PRIORITY ANALOG
A178 CHANNEL 6 PRIORITY ANALOG
A179 CHANNEL 7 PRIORITY ANALOG
A180 CHANNEL 8 PRIORITY ANALOG
A181 ACTIVE MESSAGE # CHANNEL 3 ANALOG
A182 ACTIVE MESSAGE # CHANNEL 4 ANALOG
A183 ACTIVE MESSAGE # CHANNEL 5 ANALOG
A184 ACTIVE MESSAGE # CHANNEL 6 ANALOG
A185 ACTIVE MESSAGE # CHANNEL 7 ANALOG
A186 ACTIVE MESSAGE # CHANNEL 8 ANALOG
A187 CHL4 MSG AFTER MICROPHONE UNKEYED ANALOG
A188 CHL5 MSG AFTER MICROPHONE UNKEYED ANALOG
A189 CHL6 MSG AFTER MICROPHONE UNKEYED ANALOG
A190 CHL7 MSG AFTER MICROPHONE UNKEYED ANALOG
A191 CHL8 MSG AFTER MICROPHONE UNKEYED ANALOG
A192 CHL2 EVACUATION MSG # ANALOG
A193 CHL3 EVACUATION MSG # ANALOG
A194 CHL4 EVACUATION MSG # ANALOG
A195 CHL5 EVACUATION MSG # ANALOG

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A196 CHL6 EVACUATION MSG # ANALOG
A197 CHL3 MSG AFTER MICROPHONE UNKEYED ANALOG
A198 CHL 1 PRIORITY ANALOG
A199 CHL 2 PRIORITY ANALOG
A200 AUDIO SUPERVISION PULSE TIMER CHL 1 ANALOG
A201 AUDIO SUPERVISION PULSE TIMER CHL 2 ANALOG
A202 PRECODE MESSAGE NUMBER - CHL 1 ANALOG
A203 AFTER CODE MESSAGE NUMBER - CHL 1 ANALOG
A204 PRECODE MESSAGE NUMBER - CHL 2 ANALOG
A205 AFTER CODE MESSAGE NUMBER - CHL 2 ANALOG
A206 2 SECOND TIMER - CHL 1 ANALOG
A207 2 SECOND TIMER - CHL 2 ANALOG
A208 VOLUME CONTROL ANALOG
A209 FIRE STATUS REMINDER RUNNING TIMER #2 ANALOG
A210 PRI2 STATUS REMINDER RUNNING TIMER #2 ANALOG
A211 SUPV STATUS REMINDER RUNNING TIMER #2 ANALOG
A212 TBL STATUS REMINDER RUNNING TIMER #2 ANALOG
A213 FIRE ASR DURATION TIMER ANALOG
A214 PRI2 ASR DURATION TIMER ANALOG
A215 SUPV ASR DURATION TIMER ANALOG
A216 CHANNEL & AMPLIFIER TBL DISABLE TIMER ANALOG
A217 HARDWARE RESET PULSE TIMER ANALOG
A218 ZONE MSG# ANALOG
A219 CHANNEL MSG# ANALOG
A220 DEVICE MSG# ANALOG
A221 TROUBLE MSG# ANALOG
A222 COMPLETE MSG# ANALOG
A223 TERM MSG# ANALOG
A224 SIGNAL MSG#
A225 SIGNAL TROUBLE MSG# ANALOG
A226 SYSTEM TROUBLE MSG# ANALOG
A227 ANALOG through A235 are unused analog pseudo points
A236 ACTIVE MESSAGE # CHANNEL 1 ANALOG
A237 ACTIVE MESSAGE # CHANNEL 2 ANALOG
A238 LOCAL AUDIO DELAY TIMER
A239 LOCAL AUDIO DELAY SETPOINT
A240 SILENCE CHANNEL 1 TIMER SETPOINT
A241 SILENCE CHANNEL 2 TIMER SETPOINT
A242 AC FAILURE DELAY TIMER
A243 AC FAILURE DELAY TIMER SETPOINT
A250 TRUEALARM CONSTANT VALUE
A251 DISABLE IDNET CO ALGORITHMS TMR
A252 UNUSED
A253 TRUEALARM LOW VALUE FILTER DELAY
A254 DISABLE IDNET CO ALGORITHMS TMR SETPOINT
A255-A511 UNUSED

List Pseudo Points

L0 CODING GROUP 0 SIGNALS/RELAYS (NON-PNIS)
L1 CODING GROUP 1 SIGNALS/RELAYS
L2 CODING GROUP 2 SIGNALS/RELAYS
L3 CODING GROUP 3 SIGNALS/RELAYS
L4 CODING GROUP 4 SIGNALS/RELAYS
L5 CODING GROUP 5 SIGNALS/RELAYS
L6 CODING GROUP 6 SIGNALS/RELAYS
L7 CODING GROUP 7 SIGNALS/RELAYS
L8 FIRE ALARM SIGNALS OFF ON SILENCE
L9 FIRE ALARM SIGNALS OFF ON RESET
L10 FIRE ALARM RELAYS OFF ON SILENCE
L11 FIRE ALARM RELAYS OFF ON RESET
L12 FIRE ALARM VISUALS OFF ON SILENCE
L13 FIRE ALARM VISUALS OFF ON RESET
L14 TROUBLE RELAYS OFF ON CLEAR
L15 TROUBLE RELAYS OFF ON ACKNOWLEDGE
L16 RELAYS PULSED ON SYSTEM (DETECTOR) RESET
L17 DOOR HOLDER CONTROL RELAYS
L18 GENERAL FIRE ALARM MONITOR ZONES
L19 ELEVATOR SHAFT 1 PRIMARY MONITOR ZONES
L20 ELEVATOR SHAFT 1 ALTERNATE MONITOR ZONES
L21 ELEVATOR SHAFT 1 PRIMARY RELAY
L22 ELEVATOR SHAFT 1 ALTERNATE RELAY
L23 WATERFLOW ALARM MONITOR ZONES
L24 WATERFLOW SIGNALS OFF ON SILENCE
L25 WATERFLOW SIGNALS OFF ON RESET
L26 SPRINKLER SUPERVISORY MONITOR ZONES
L27 SPRINKLER SUPERVISORY SIGNALS/RELAYS
L28 USER SYSTEM LISTS 24
L29 EDITABLE GENERAL ALARM SYSTEM LISTS
L30 ALARM VERIFICATION GROUP 0
L31 ALARM VERIFICATION GROUP 1
L32 ALARM VERIFICATION GROUP 2
L33 ALARM VERIFICATION GROUP 3
L34 ALARM VERIFICATION GROUP 4
L35 ALARM VERIFICATION GROUP 5
L36 ALARM VERIFICATION GROUP 6
L37 ALARM VERIFICATION GROUP 7
L38 4 WIRE MONITOR ZONES
L39 RESERVED EMPTY LIST
L40 WALK TEST GROUP 0
L41 WALK TEST GROUP 1
L42 WALK TEST GROUP 2
L43 WALK TEST GROUP 3
L44 WALK TEST GROUP 4
L45 WALK TEST GROUP 5
L46 WALK TEST GROUP 6
L47 WALK TEST GROUP 7
L48 TRUEALERT ZONE OFF ON SILENCE

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L49 TRUEALERT ZONE OFF ON RESET
L50 WALK TEST GROUP 0 - SIGNALS/RELAYS
L51 WALK TEST GROUP 1 - SIGNALS/RELAYS
L52 WALK TEST GROUP 2 - SIGNALS/RELAYS
L53 WALK TEST GROUP 3 - SIGNALS/RELAYS
L54 WALK TEST GROUP 4 - SIGNALS/RELAYS
L55 WALK TEST GROUP 5 - SIGNALS/RELAYS
L56 WALK TEST GROUP 6 - SIGNALS/RELAYS
L57 WALK TEST GROUP 7 - SIGNALS/RELAYS
L58 NOT USED
L59 NOT USED
L60 CODING GROUP 0 - NOT USED (NON-PNIS)
L61 CODING GROUP 1 - MONITOR ZONES
L62 CODING GROUP 2 - MONITOR ZONES
L63 CODING GROUP 3 - MONITOR ZONES
L64 CODING GROUP 4 - MONITOR ZONES
L65 CODING GROUP 5 - MONITOR ZONES
L66 CODING GROUP 6 - MONITOR ZONES
L67 CODING GROUP 7 - MONITOR ZONES
L68 NOT USED
L69 NOT USED
L70 CONTROL POINTS ON - ON FIRE ALARM
L71 CONTROL POINTS OFF - ON FIRE ALARM
L72 CONTROL POINTS ON - ON SYSTEM RESET
L73 CONTROL POINTS OFF - ON SYSTEM RESET
L74 CONTROL POINTS OFF - ON SILENCE
L75 LPHONE MODE LEDS TRACKING DIGITAL PSEUDO
L76 VARIABLE SENSITIVITY PHOTO ANALOG SENSOR
L77 VARIABLE SENSITIVITY ION ANALOG SENSOR
L78 ANALOG SENSORS WITH PIEZO
L79 ANALOG SENSORS WITH RELAY
L80 GENERAL FIRE ALARM SPEAKER CIRCUITS
L81 AUDIO CODING GROUP 1 - MONITOR ZONES
L82 AUDIO CODING GROUP 2 - MONITOR ZONES
L83 AUX1 MESSAGE SPEAKERS
L84 AUX2 MESSAGE SPEAKERS
L85 RESTART MESSAGE AFTER MIKE - VTG 1
L86 RESTART MESSAGE AFTER MIKE - VTG 2
L87 AHU RELAYS ON - ON FIRE ALARM
L88 AHU RELAYS OFF - ON FIRE ALARM
L89 AHU RELAYS OFF - ON SYSTEM RESET
L90 ALL SPEAKERS - NON EDITABLE
L91 AUDIO CODING GROUP 1 - SIGNAL CIRCUITS
L92 AUDIO CODING GROUP 2 - SIGNAL CIRCUITS
L93 PHONE CIRCUITS
L94 REMOTE MASTER PHONE CIRCUITS
L95 SATELLITE PHONES - SCC 4100 ON/OFF
L96 SATELLITE PHONES - SCC 4100 NORMAL/SHORT
L97 SATELLITE PHONES - SCC 4100 ON/OFF RMPH

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L98 SWITCH POWER SUPPLY AMPS TO BATTERY
L99 SWITCH POWER SUPPLY AMPS TO BKGRND MUSIC
L100 POINTS TO EXCLUDE FROM AUTOMAP
L101 RESET POWER SUPPLY AMPS
L102 LISTS TO AUTO-GENERATE EXTERNAL POINTS
L103 EXTERNAL DETECTOR RESET PSEUDO
L104 EXTERNAL SYSTEM RESET PSEUDO
L105 EXTERNAL DETECTOR/SYSTEM RESET PSEUDO
L106 EXTERNAL SIGNAL SILENCE PSEUDO
L107 ENTER LOCAL MODE ON DATA NOT AVAILABLE
L108 EXTERNAL SPEAKERS AND SPEAKER LISTS
L109 ALARM SILENCED LED CONTROL
L110 INHIBIT NETWORK LABEL UPDATE
L111 EXTERNAL HARDWARE RESET PSEUDOS
L112 EXTERNAL PRIORITY 2 RESET PSEUDOS
L113 ELEVATOR SHAFT 1 SHUTDOWN MONITOR ZONES
L114 ELEVATOR SHAFT 1 SHUTDOWN RELAY
L115 ELEVATOR SHAFT 2 PRIMARY MONITOR ZONES
L116 ELEVATOR SHAFT 2 ALTERNATE MONITOR ZONES
L117 ELEVATOR SHAFT 2 SHUTDOWN MONITOR ZONES
L118 ELEVATOR SHAFT 2 PRIMARY RELAY
L119 ELEVATOR SHAFT 2 ALTERNATE RELAY
L120 ELEVATOR SHAFT 2 SHUTDOWN RELAY
L121 ELEVATOR SHAFT 3 PRIMARY MONITOR ZONES
L122 ELEVATOR SHAFT 3 ALTERNATE MONITOR ZONES
L123 ELEVATOR SHAFT 3 SHUTDOWN MONITOR ZONES
L124 ELEVATOR SHAFT 3 PRIMARY RELAY
L125 ELEVATOR SHAFT 3 ALTERNATE RELAY
L126 ELEVATOR SHAFT 3 SHUTDOWN RELAY
L127 ELEVATOR SHAFT 4 PRIMARY MONITOR ZONES
L128 ELEVATOR SHAFT 4 ALTERNATE MONITOR ZONES
L129 ELEVATOR SHAFT 4 SHUTDOWN MONITOR ZONES
L130 ELEVATOR SHAFT 4 PRIMARY RELAY
L131 ELEVATOR SHAFT 4 ALTERNATE RELAY
L132 ELEVATOR SHAFT 4 SHUTDOWN RELAY
L133 ELEVATOR SHAFT 5 PRIMARY MONITOR ZONES
L134 ELEVATOR SHAFT 5 ALTERNATE MONITOR ZONES
L135 ELEVATOR SHAFT 5 SHUTDOWN MONITOR ZONES
L136 ELEVATOR SHAFT 5 PRIMARY RELAY
L137 ELEVATOR SHAFT 5 ALTERNATE RELAY
L138 ELEVATOR SHAFT 5 SHUTDOWN RELAY
L139 LOCAL MODE OPERATION POINTS
L140 AUDIO OPERATORS
L141 LCD DISPLAY BACKLIGHTS
L142 CITY CIRCUIT TROUBLES
L143 CITY ALARM RELAY POINTS
L144 CITY TROUBLE RELAY POINTS
L145 QALERT POINTS (AMBER STROBE DEVICES)
L146 QALERT POINTS (NO DEFAULT OPERATION)

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List Pseudo Points, *Continued*

L147 QALERT POINTS (ON TIL SILENCE/RESET)
L148 EXTERNAL NETWORK ALARM PSEUDOS
L149 EXTERN CHL 1 AUD PLAYING SILENCE PSEUDOS
L150 EXTERN CHL 2 AUD PLAYING SILENCE PSEUDOS
L151 SUPV VERIFICATION GROUP 0
L152 SUPV VERIFICATION GROUP 1
L153 SUPV VERIFICATION GROUP 2
L154 SUPV VERIFICATION GROUP 3
L155 SUPV VERIFICATION GROUP 4
L156 SUPV VERIFICATION GROUP 5
L157 SUPV VERIFICATION GROUP 6
L158 SUPV VERIFICATION GROUP 7
L159 NOT USED
L160 NOT USED
L161 AUX POWER POINTS
L162 CITY SUPERVISORY RELAY POINTS
L163 IDNET ISOLATORS
L164 LOCAL MASTER PHONES HANDSET OFF HOOK
L165 PHONE RISERS
L166 LOCAL AUDIO TRIGGERS
L167 LOCAL AUDIO ON ALL DATA NOT AVAILABLE
L168 ALMOST DIRTY SYSTEM PSEUDO LIST
L169 LEGACY RISER NACS
L170 EXTERNAL LOG 6 MONTH ALMOST EXP TBLS
L171 EXTERNAL LOG 12 MONTH ALMOST EXP TBLS

Appendix F
Labor Saving Features

Introduction

This appendix provides a brief explanation for the ES Panel Labor Saving Features Hardware and Programming Features.

In this Chapter

Refer to the page number listed in this table for information on a specific topic.

Labor Saving Devices

Table F-1: Labor Saving Devices

Device	Description
Custom Label Generator	This is used to create & print labels for the ES Panel display cards (LED/ Switch).
Import/Export of Custom Labels	A utility under the File Menu of the ES Panel programmer that is used to import/export custom labels of user points in the programmer.
Import/Export of Custom Control Programs	Allows the user to export a Custom Control program to separate file outside of the programming unit. The intent is that the program can then be imported into a different job. Useful when more than one panel will have the same or similar programs.
Database Compare	A utility that compares two different ES Panel job files. This is used to identify changes that are made from one revision of a particular job file to another.
Where Used	Right clicking on any point of the Programmer tabbed pages that show points or lists, the user will see a context menu that includes the entry Where Used. Selecting Where Used will cause to be displayed a dialog showing the usage of the point. The Where Used Dialog is composed of at least one tabbed page detailing the usage of a point.
Mimic Point Wizard	This wizard is used when adding a new point to an existing system and easily program it to replicate (mimic) an existing point. This includes having the new point be added into the same lists, annunciators, and/or Custom Control equations as the existing point. • **Point Properties:** Specify the target point or source point by name or from the taglist. • **User Point Lists:** Contains all the lists containing the target and source points. • **Annunciator Reference Lists:** Show any points that use the target or source points as reference points. • **Custom Equations:** Will display any Custom Control equations that use target point or source point, and that weren't generated by a wizard. • **True Alert Zones:** This property page is only available if the source point is a non-addressable TrueAlert point. • **Summary Page:** The final property page displays whether the point mimic process was successful and any other actions that the user should take, such as network scope.

Continued on next page

Table F-1: Labor Saving Devices (Continued)

Device	Description
Custom Control Wizards	Custom SMPL (Simplex Multi-Function Programming Language) equations are created for a customer job using these wizards which are available from the ES Panel Programmer Custom Control Tab. • **Floor Above/Floor Below Wizard:** This application limits the activation of NACs to the floor on which the activated initiating device is located, referred to as the fire floor, and the floors immediately above and below the fire floor. • **Selective Signaling Wizard:** Selective Signaling is typically used to limit the activation of NACs to the area or floor on which an activated initiating device(s) is located. • **Suppression Release Wizard**: The Suppression Release Wizard is used to define a hazardous area and then creating the hazardous menu choice and then naming it. • **Sounder/Relay Base Wizard:** The Sounder/Relay Base Wizard allows you to change the default operation of single station smoke detectors. Note that the default operation – sounder activates when the alarm threshold is passed and deactivates when the smoke level drops back below the threshold – is programmed using the TPHOTO device type. **Note:** For specific functionalities refer to the ES Panel programmer help files.
I/O Matrix Report	This report displays a grid showing which monitor points map to which system output lists controlled by default SMPL. In a job without custom programming this shows the mapping of inputs to outputs.
4100 Legacy Unbuild Utility	The ES Panel Translate program has been updated to support unbuilding of legacy (rev 8 or rev 9) cfig (.bin) files. **Note:** The .bin files are expected to be recovered from the CFIG ROM chip removed from a 4100 system CPU. The initial File Selection dialog will allow the user to select multiple .bin files if necessary. This unbuilds a legacy cfig into an upgrade .sdb4100U file. This would aid someone in upgrading a legacy 4100+ to an ES Panel by recovering the configuration from the binary file recovered from a ROM chip on the 4100+. The Unbuilder is also capable of recovering ES Panel jobs from the latest rev (11.08). Any older ES Panel cfig files have to be restored using previous versions of the unbuilder, (e.g. an 11.02 cfig must be recovered with the 11.02 unbuilder; afterwards, this job can be loaded in 11.08.)
Ground Fault Search	This is a function of the ES Panel that allows for automated searches of ground faults on the IDNET channel and power supply.
Power Supply Data on Front Panel Display	According to the power supply Detailed Functional Specification (DFS), the values available from the front panel display are System 24V, power supply current, NAC currents, and (if there's a charger) the battery voltage, the battery charger voltage, and the battery charger current.

Continued on next page

Table F-1: Labor Saving Devices (Continued)

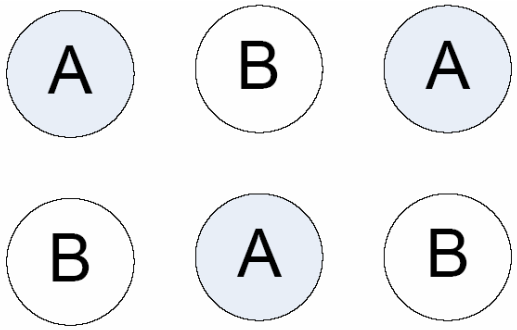
Device	Description
TrueAlarm Data from Front Panel Display	We have the following screens for TrueAlarm smoke sensors: Sensitivity - allows the user to view and/or change the current alarm sensitivity for a TrueAlarm sensor. Average Value/Alarm Level - allows the user to view the average value for the device and the analog value (current) that would put the sensor into alarm at the current sensitivity level. Value/Percent Alarm/Percent Smoke - displays the current analog value of the device (updated in real time) and the percentage of alarm and current smoke level of the device. Peak Value - displays the highest analog value that the device ever achieved, and also displays the percentage of alarm it was in at that time.
Service Port	This is the connection between PC and unit which is mainly used to upload and download system software. The port can be used to access the system for debugging purposes.
Enabling multiple disabled points at one time	When it is necessary to enable several disabled points at one time, simply enable the appropriate auto-generated system list that contains the disabled points. Those points will re-enable without affecting other points in the list that were not disabled. For example, if several IDNet devices in different areas were disabled, selecting L18 and enabling it at the operator interface will enable all points in that list that were disabled. If notification circuits need to be enabled, use an appropriate auto-generated control list (e.g. L8).

Appendix G
Multiple Detector Operation

Initiating Device Circuits

Initiating Device Circuits, or IDCs, are the means for connecting conventional (non-addressable) initiating devices to the 4100ES. The correct placement of smoke and heat detectors is critical to system performance in fire detection. This is particularly true when installing cross-zoned systems and alarm-verified systems. Heat detectors should never be installed so that cross-zoning or alarm verification operation is required. An alarm from a heat detector must be immediate, with no cross-zoning or alarm verification.

When a system is cross-zoned, the smoke detectors in each room must be installed so that adjacent detectors are on different zones. The location and spacing of detectors shall be in accordance with the requirements of section 5.7.3 of the National Fire Alarm Code (NFPA 72), 2002 Edition. In the example below, the shaded detectors are on zone "A" and the non-shaded detectors are on zone "B".



Ensure that there are at least two detectors in each protected space, and reduce the detector installation spacing to.7 the linear spacing.

Initiating Device Circuits may be configured for Alarm Verification as long as they are not configured for Cross-Zone operation. Cross-zoned IDCs are prohibited from configuration as Alarm Verification zones by NFPA 72, and by UL 864. The timing diagram is shown on the next page.

Addressable Detection

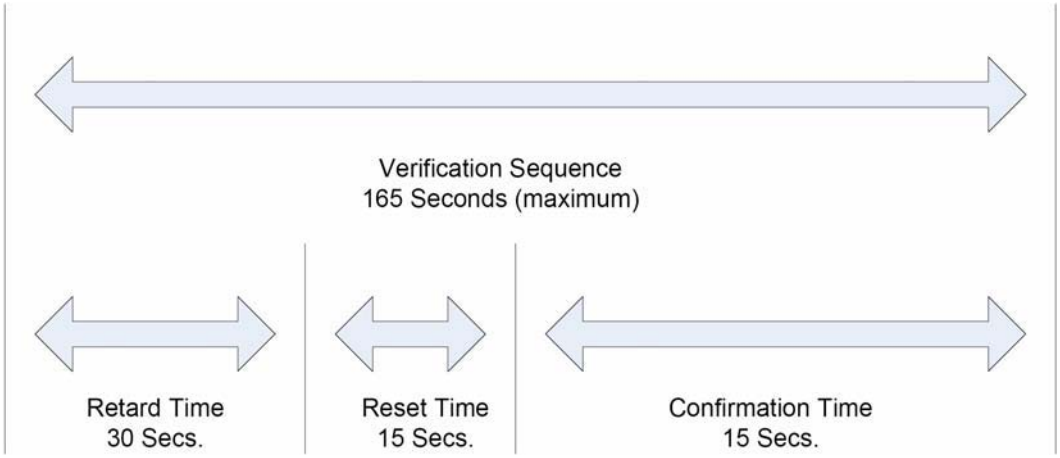
Addressable smoke sensors are configurable for operation as cross-zone initiation. In a system where each sensor is a "zone", the alternate detector placement scheme (illustrated above) is not necessary. As noted above, the location and spacing shall be in accordance with Section 5.7.3 of NFPA 72, 2002 Edition. Ensure that there are at least two detectors in each protected space, and reduce the detector installation spacing to.7 the linear spacing.

Addressable detectors may be configured for Alarm Verification by selecting the point type VSMOKE. The VSMOKE point type is not allowed as initiation inputs to releasing service applications or cross-zoned applications.

Alarm Verification Timing for the 4100ES is shown in the diagram on the next page.

Multiple Detector Operation *(continued)*

Alarm Verification Timing



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