

# 4100U Fire Alarm



## Programmer's Manual

574-849  
Rev. D

**Simplex**



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Simplex fire alarm technology is protected by the following U.S. Patent Numbers:  
TrueAlarm analog smoke detection: 5,155,468; 5,173,683 and 5,543,777. IDNet and MAPNET II addressable communications; 4,796,025. TrueAlert addressable notification; 6,313,744 and 6,426,697. SmartSync horn/strobe control; 6,281,789.

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## Cautions and Warnings

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**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 depends upon proper installation.



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

**SAFETY HAZARD - The 4100U CPU Card includes a lithium battery. There is danger of explosion if the battery is incorrectly replaced.** Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.



**ELECTRICAL HAZARD -** Disconnect electrical field power when making any internal adjustments or repairs. Servicing should be performed by qualified personnel.



**STATIC HAZARD -** Static electricity can damage components. Therefore, handle as follows:

- Ground yourself before opening or installing components (use the 553-484 Static Control Kit).
- 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.



**RADIO FREQUENCY ENERGY -** This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area may cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

**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 4100U System Programmer, Executive, and Slave Software compatibility when installing or replacing system components. Refer to Solution Bulletin SB01014 for compatibility information.

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# How to Use this Publication

## Introduction

Before you start using the *4100 Fire Alarm PC Programmer Programming 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
<b>Bold type</b>	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, <b>cd access</b> means that you type the lowercase letters "cd" followed by a space and the lowercase word "access."
<i>Italic type</i>	Indicates information that the user must supply, such as filenames. For example, cd <i>directory_name</i> 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."
<ul style="list-style-type: none"><li>Bulleted lists</li></ul>	Provides you with information. They are also used to indicate alternatives in numbered procedural steps.
<ol style="list-style-type: none"><li>Numbered lists</li></ol>	Indicates procedures that you must carry out sequentially.

## Keyboard Conventions

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

Convention	Meaning
<b>SHIFT</b>	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."
<b>CTRL+ALT+DEL</b>	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.
<b>ALT,F,P</b>	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.
<b>Arrow keys</b>	Arrow keys refers to the UP ARROW (↑), DOWN ARROW (↓), LEFT ARROW (←), and RIGHT ARROW (→) keys.

*Continued on next page*

## How to Use this Publication, *Continued*

### 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

## Overview

---

### Introduction

This chapter provides an overview of the process required to program a 4100U job and introduces you to the general features of the 4100U PC Programmer application, which is the Windows-based application used to program a 4100U FACP.

---

### In this Chapter

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

Topic	See Page #
Programming Overview	1-2
Interface Overview	1-4

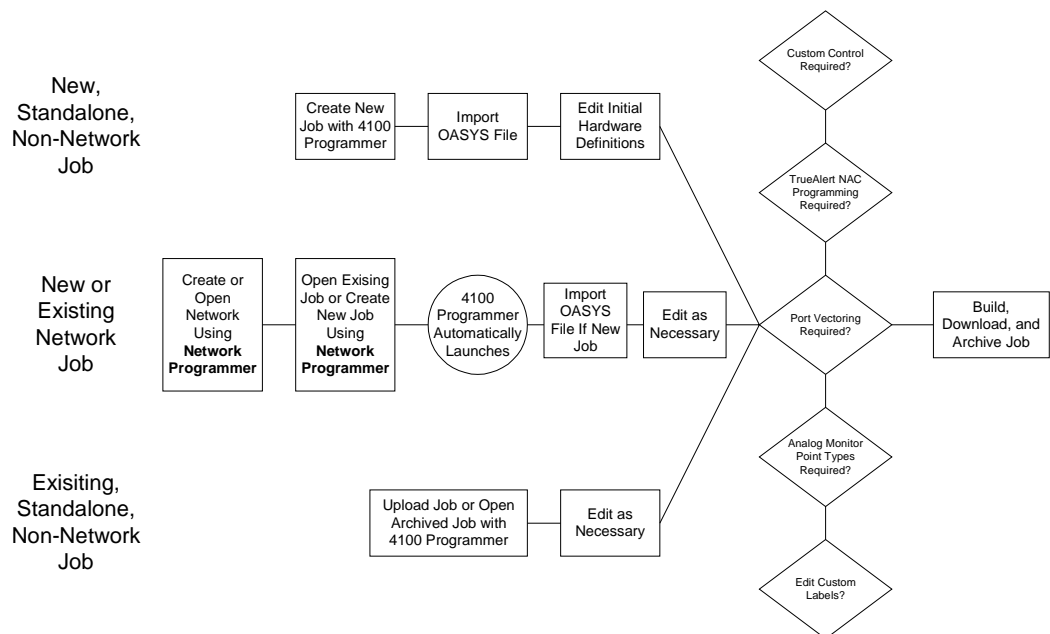
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# Programming Overview

## Typical Programming Process

This manual describes the general process used to program a new 4100U job or edit an existing 4100U 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 and other 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 1-1. 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.

*Continued on next page*

## Programming Overview, *Continued*

### Typical Programming Process, *(continued)*

- 
- **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 4100U Programmer application provides a graphical interface for programming a 4100U job. This application contains the following major components.

- **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 4100U 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.

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.

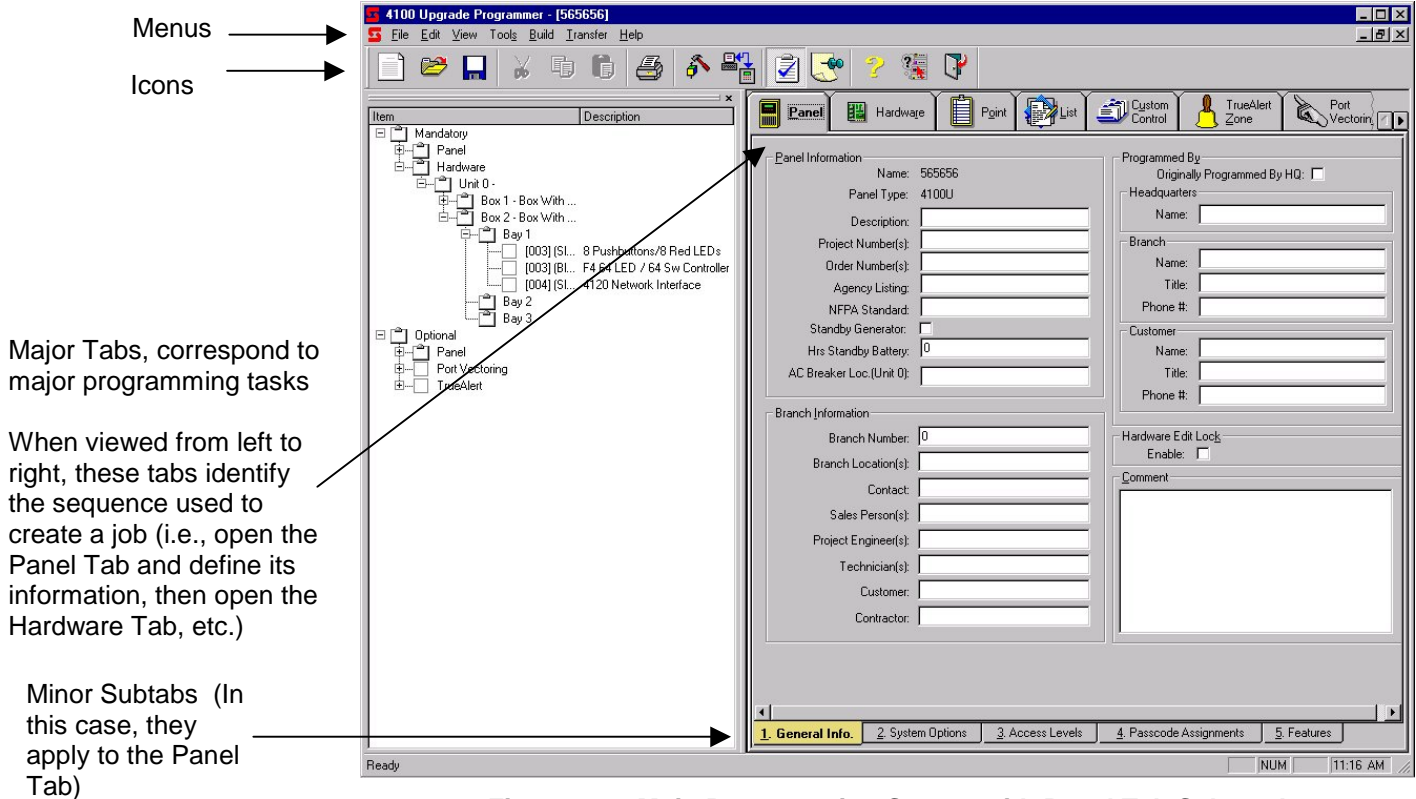
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## Interface Overview, *Continued*

### Introduction, (continued)



**Figure 1-2. Main Programming Screen with Panel Tab Selected**

### 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.
- **The Hardware 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.

*Continued on next page*

## Interface Overview, *Continued*

### Tabs, *(continued)*

- **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.
- **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 of the 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 been added 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 the 4100U, but instead are connected via a 4009T TrueAlert communication channel to 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.
- **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 1-3 shows the location of the icon bar and identifies the function of each icon.

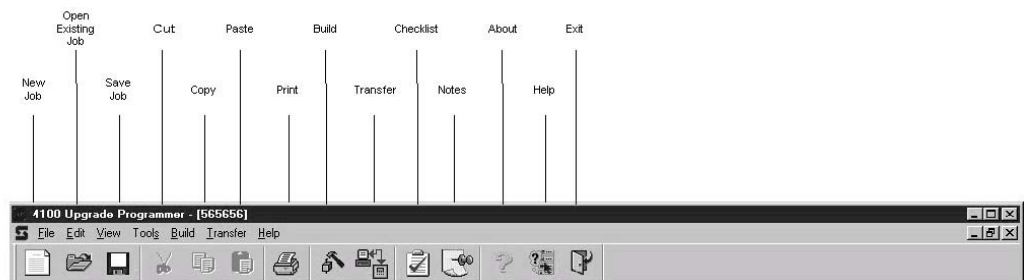


Figure 1-3. Icon Bar

# Chapter 2

## Installing the PC Programmer

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### Introduction

This chapter describes installing the PC Programmer application.

---

### In this Chapter

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

Topic	See Page #
System Requirements	2-2
Attaching the Software key	2-3
Installing the Programmer	2-4

---

# System Requirements

---

## System Requirements

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

- IBM compatible PC, 300 MHz Pentium processor
- Windows 95, Windows 98, or Windows NT operating system
- 64 MB RAM MINIMUM for Windows 95 or Windows 98
- 128 MB RAM MINIMUM for Windows NT
- 1 3 ½" floppy drive for job archives and backups
- 1 CD-ROM drive for program installation
- 1 serial port & cable for communication with the 4100U
- 1 parallel port for the software key
- Network card (for certain operations)

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## Other Required Components

- A 740-989 software key. (See Field Service Bulletin *FSB-549* for the ordering procedure)
  - 741-213 CD-ROM, containing 4100U Programmer software
-

# Attaching the Software key

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## Overview

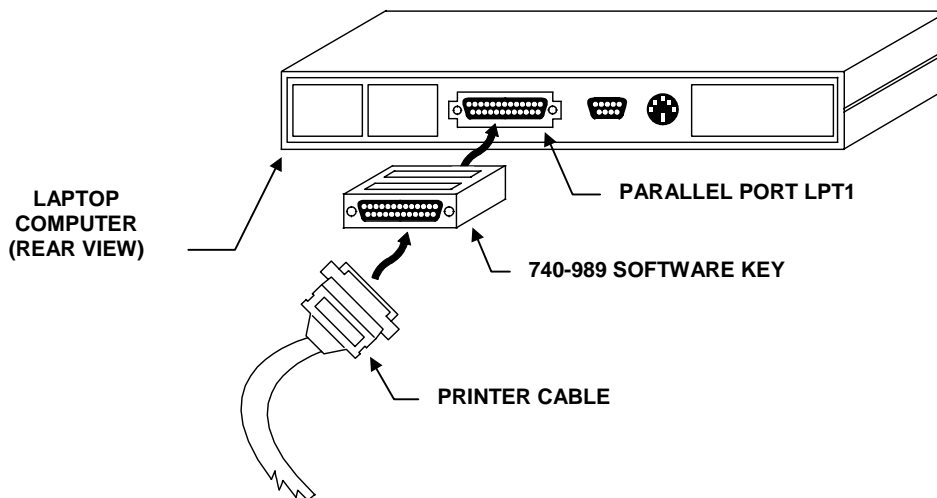
The software key (740-989) controls access to the 4100U programmer. When the panel programmer application is started, the software reads the parallel port on the PC looking for a software key before the main programming window is displayed. If a key is not detected, a message box is displayed noting there is a missing key and the panel programmer application terminates.

---

## Installation

Use the following procedure to install the key.

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 2-1. Software Key Installation**

---


# Installing the Programmer

## Introduction

The 4100U PC Programmer is typically installed from one of two sources:

- Distribution CD containing the programmer application software.
- Simplex FTP site. Contact Simplex Service Support for information on the FTP site's IP address and directions for downloading the programmer's executable file.

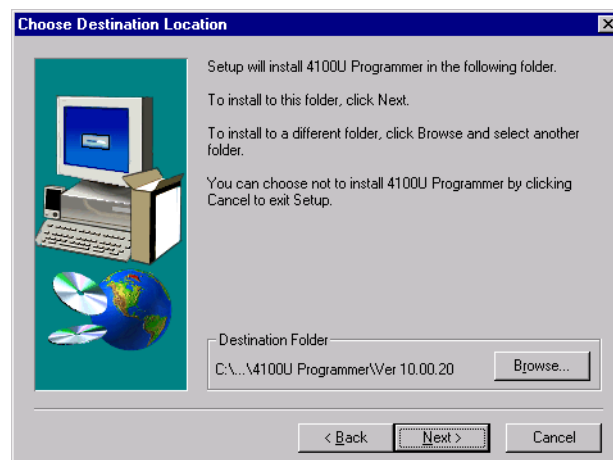
## Installation Procedure

1. Double click on the  **4100 Programmer** icon to launch the PC Programmer's installation script. The screen shown in Figure 2-2 appears.



**Figure 2-2. Initial Installation Screen**

2. Click Next to continue the installation. The screen shown in Figure 2-3 appears, prompting you to specify the destination folder to which the programmer files should be installed.



**Figure 2-3. Destination Directory Dialog**

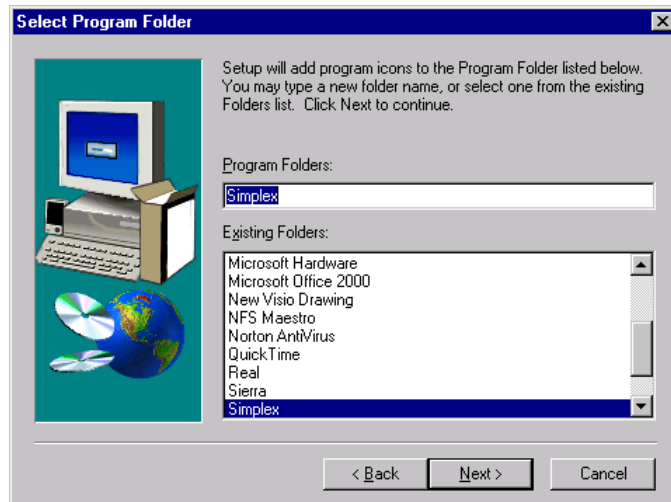
3. Click the Next button to accept the default destination. Otherwise, click the Browse button, select the directory to which software should be installed, and then click on the Next button. In most cases, it is suggested that use the default directory location.

*Continued on next page*

## Installing the Programmer, *Continued*

### Installation Procedure, *(continued)*

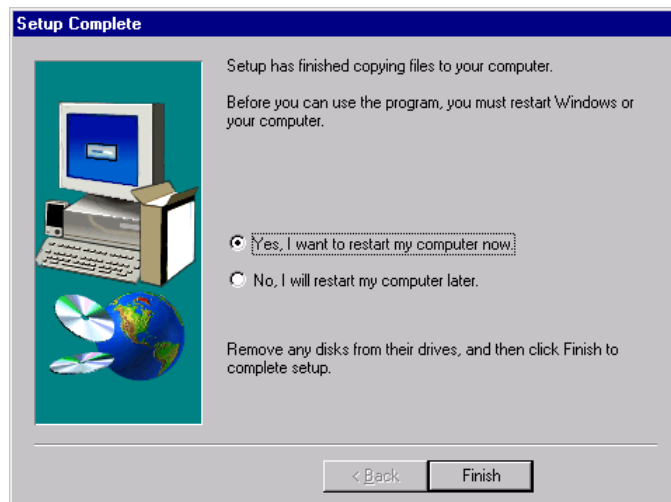
4. The next screen, shown in Figure 2-4, prompts you for the name of the folder in which the programmer's startup icon should be stored. It is recommended that you choose the default folder Simplex. When the correct entry is specified, click Next to continue.



**Figure 2-4. Select Folder**

A series of progress indicators appear, displaying the progress of the file copy operations. The next prompt, shown in Figure 2-5, directs you to restart your computer.

5. Click Finish.



**Figure 2-5. Reboot System Prompt**





# Chapter 3

## Basic Operations

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### 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.

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### In this Chapter

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

Topic	See Page #
Starting the Programmer	3-2
Creating a New Job	3-3
Opening an Existing Job	3-6
Entering the Panel CPU Serial Number	3-7
Saving a Job	3-8
Uploading a CFG or Log File from the Panel	3-10
Archiving, Backing Up, and Restoring Jobs	3-14
Converting a Pre-Revision 10 Job to Revision 10	3-17

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## 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 **4100U 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.

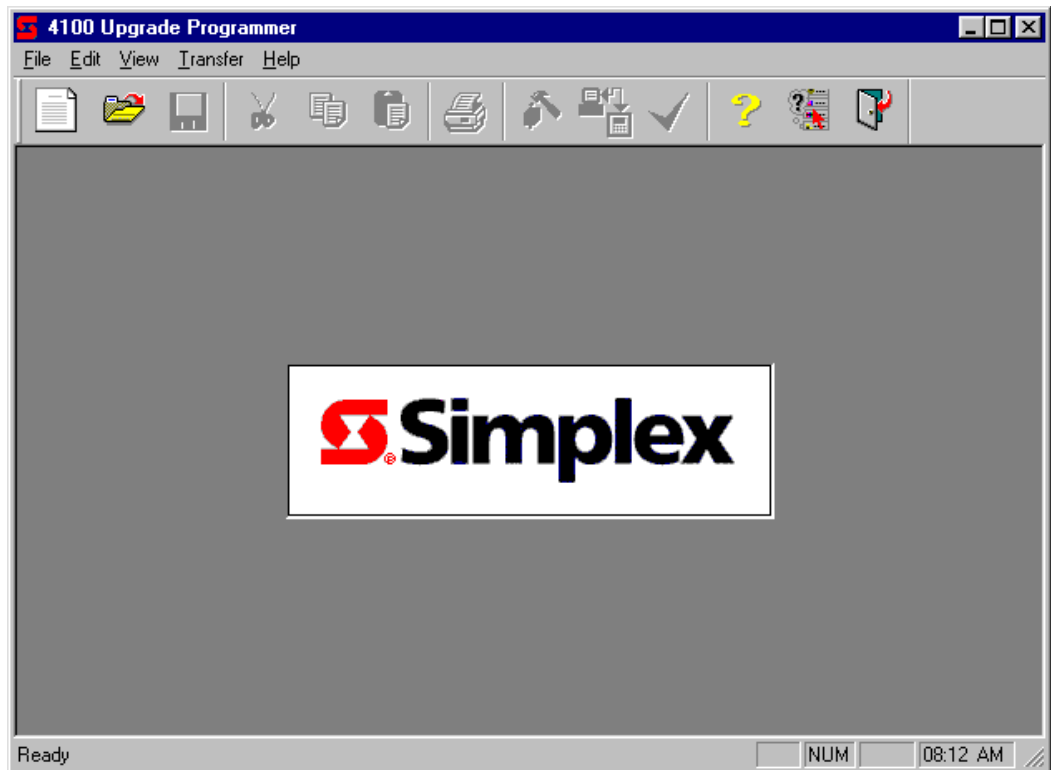



Figure 3-1. Initial Programmer Screen

## Creating a New Job

### Starting the New Job Wizard

The New Job Wizard guides you through the steps required to create a new 4100U job. Prompts within the wizard allow you to specify where the initial job information is coming from and the job name and directory path.

You can start the new job wizard 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.

In both cases, the New Job wizard, shown in Figure 3-2, appears. The first screen prompts you to choose whether the job is being created from scratch or whether it is being imported from an OASYS transfer file. Refer to “Creating a New Job from Scratch” or “Importing an OASYS Transfer File” below for specific information.

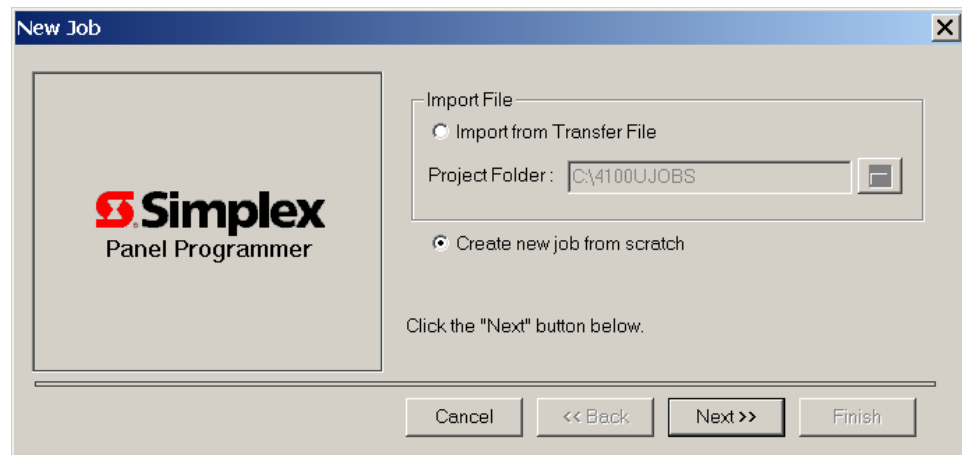


Figure 3-2. New Job Wizard

### Creating a New Job From Scratch

1. Select the button labeled **Create New Job from Scratch**, located on the first screen of the New Job Wizard and click on the **Next** button. A dialog similar to the one shown in Figure 3-3 appears.

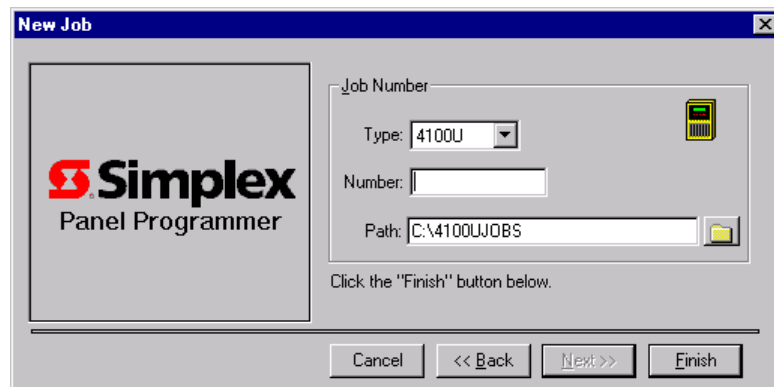


Figure 3-3. Create New Job Dialog

*Continued on next page*

## Creating a New Job, *Continued*

### Creating a New Job From Scratch, *(continued)*

2. Click on the **Type** drop down list box. Two selections appear, each of which corresponds to a specific type of 4100U panel.
  - 4100U. Specifies the panel is a 4100U (networked or standalone).
  - NDU. Specifies the panel is a Network Display Unit.
3. Enter the job number in the **Number** field. The 4100U 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.)
  - **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.
  - **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 4100U, enter the number of 4100U jobs programmed during the month.
  - **Job Version.** Use letters to indicate the version of the job. Increment the letter when changes are made to the job.

**Example.** The diagram shown in Figure 3-4 describes the format.

YEAR	MONTH	FILE TYPE	NUMBER	JOB VERSION
	1 = Jan 2 = Feb 3 = Mar 4 = Apr 5 = May 6 = Jun 7 = Jul 8 = Aug 9 = Sep A = Oct B = Nov C = Dec	U = 4100U		
00	5	U	001	A

**Figure 3-4. Job Naming Convention**

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\NETWORK\NETNAME, where *NETWORK* represents the job's directory and *NETNAME* is the name of the network job.) If necessary, use the folder icon to the right of the text entry field to specify an alternative directory or drive.
5. Click **Finish**.

*Continued on next page*

## Creating a New Job, *Continued*

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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**. (Refer back to Figure 3-2 for the location of this button.
  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\NETWORK directory (where *NETWORK* 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.

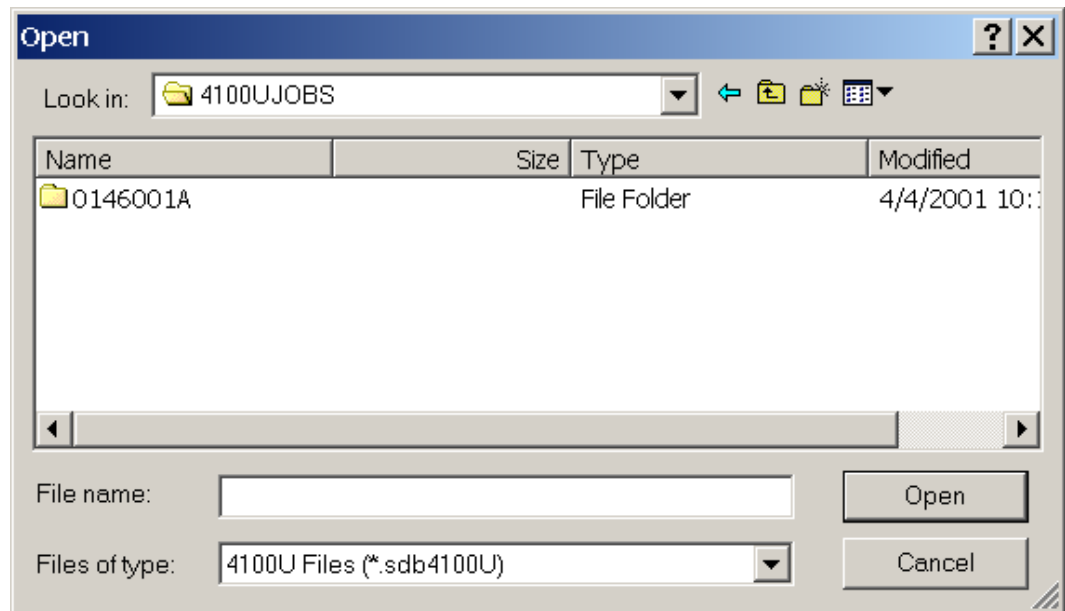
**Note:** You should only do this if you are sure that the job on the PC is exactly the same as the programming (CFIG) currently in use on the panel.

### Procedure

1. Open the 4100UJOBS 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 3-5. 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 Serial 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 3-6 appears.

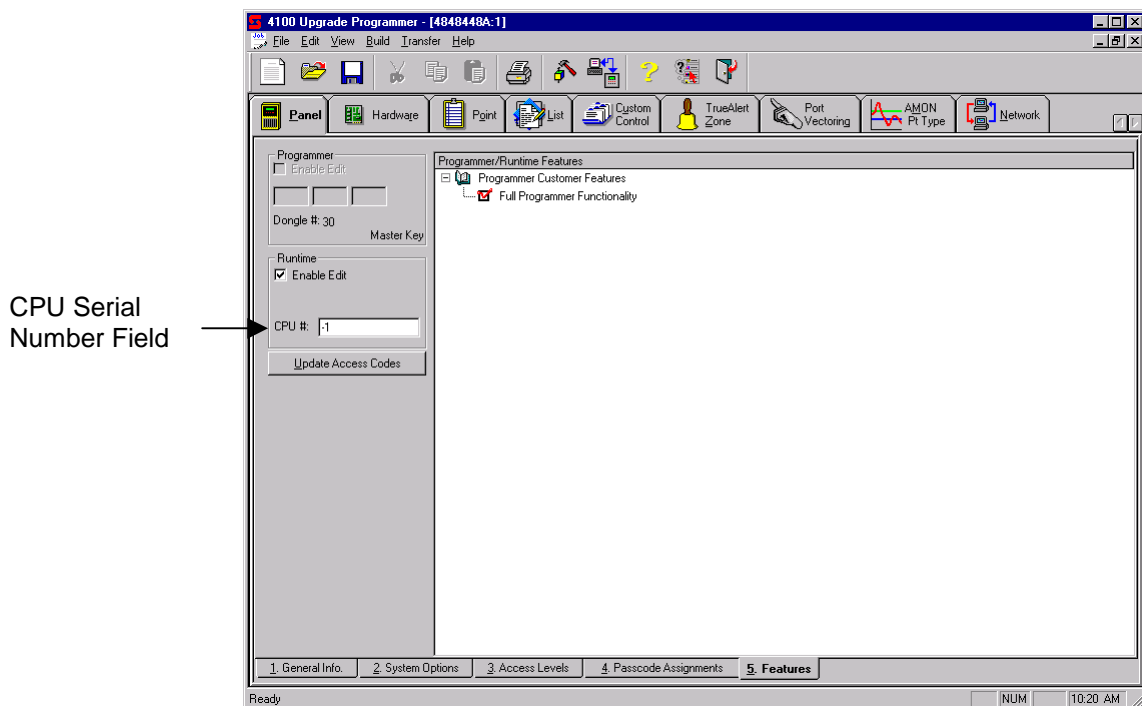


Figure 3-6. Enabling System Features Screen


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

# Saving a Job

## Save Option

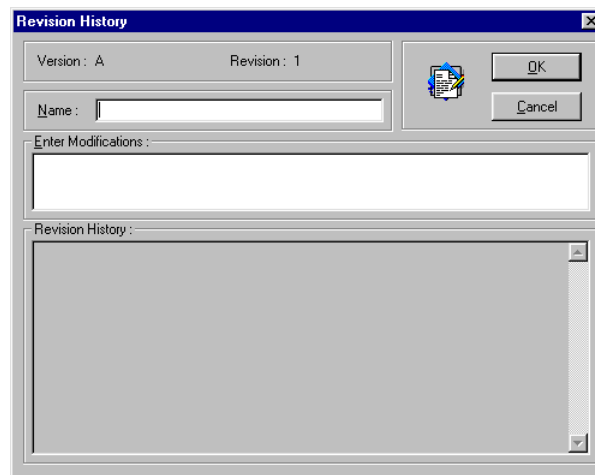
When programming a large job, it is recommended that you periodically save the job to avoid losing changes should problems occur.

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 3-7, 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 3-7. Revision History Window**

## Using the Save As Option

The Save As option allows you to save a copy of the currently open job under a different filename. This is useful in the following situations.

- To create a "test job" that allows you to test the impact of changes to the panel's job (new custom control equations, newly enabled system options, etc).
  - If a new job is almost exactly the same as an existing job.
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 3-8 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.

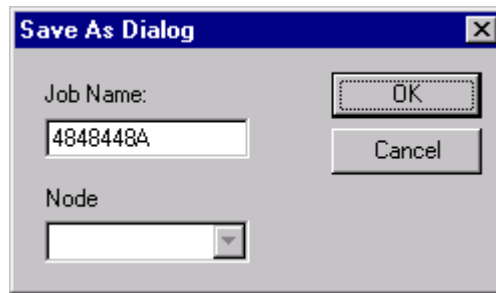
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## Saving a Job, *Continued*

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### Using the Save As Option, *(continued)*



**Figure 3-8. Save As Dialog**

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.
-

# Uploading a CFG or Log File from the Panel

## Overview

This section describes uploading a CFG (which is the built, binary version of the job used by the panel) or a history log file from a 4100U FACP to the PC on which the programmer is installed.

In cases where an archived job file is not available, uploading a CFG allows the job currently executing on the panel to be uploaded to the PC for editing. Note that once the CFG is uploaded to the PC, it must be “unbuilt” by the programmer to convert the CFG file to an .SDB file (which is the format that can be edited by the programmer).

Follow the steps outlined in the following sections to link the PC to the panel, upload the CFG or history file, and unbuild the CFG to create an .SDB file.

## Step 1. Starting the Transfer Utility

The 4100U File Transfer utility, shown in Figure 3-9, can be started from within the 4100U Programmer or from the Windows Start menu. To do either of these, follow these steps.

- **From within the Programmer.** If the programmer is already running *and a job is loaded*, click on the **Transfer** menu, located along the menu bar at the top of the programmer window. When the options appear, click on **Transfer**.
- **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**.

In both cases, the File Transfer Utility appears.

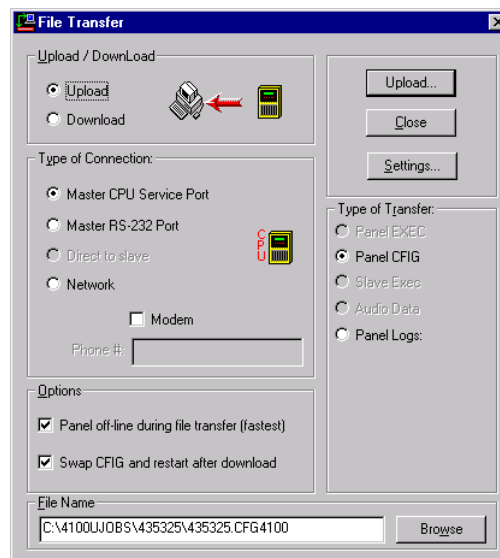


Figure 3-9. File Transfer Utility

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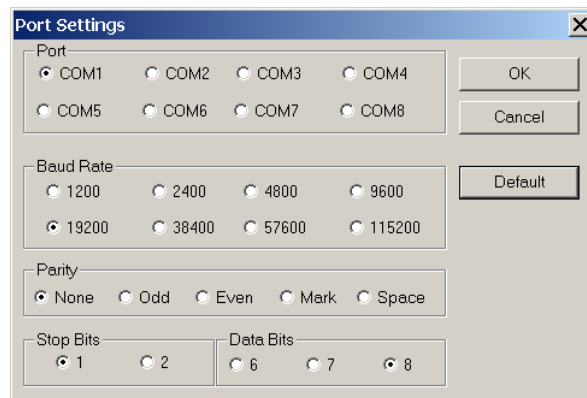
## Uploading a CFG or Log File from the Panel, *Continued*

### Step 2. Set Serial Communication Parameter Settings

The serial communication parameters allow you to set the port, baud rate, parity, and stop bits used by the PC when communicating with the panel. **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.



2. Change the settings as required and click OK to close the Port Settings window.

### Step 3. Connect Serial Cable between PC and Panel

Connect a 733-794 serial cable between a free serial port on the service PC and the service port of the 4100U FACP.

1. Locate the PC within 6 feet of the 4100U FACP and connect the 9-pin serial interface connector to a free serial port (typically COM1) on the PC.
2. Connect the other end of the cable to the service port on the 4100U FACP. The service port is located on the front panel of the 4100U, to the left of the operator interface. Make sure that the red stripe is aligned to the left as you connect the cable.



Figure 3-10. Connecting Serial Cable

*Continued on next page*

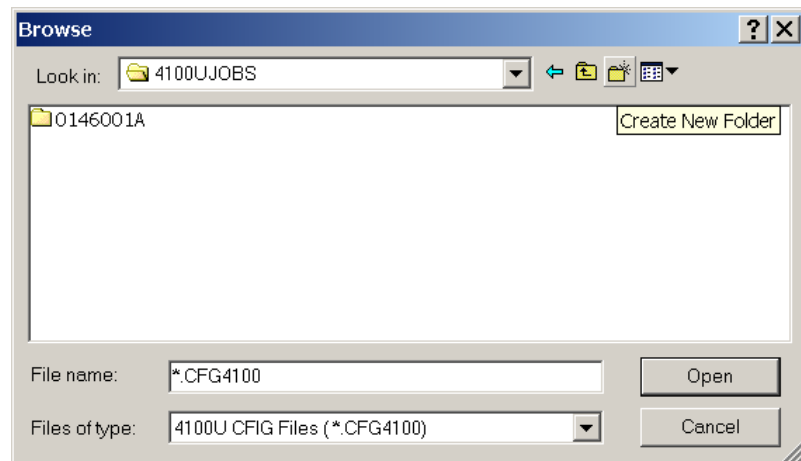
## Uploading a CFG or Log File from the Panel, *Continued*

### Step 4. Start Upload at PC

1. In the File Transfer window, select the following radio button and check box options.
  - Upload radio button (not the rectangular button labeled Upload on the right side of the window)
  - Master CPU Service Port radio button
  - CFG or Panel Logs radio button, depending on whether you want to upload the CFG or the panel logs
  - Swap CFG and Restart after Download checkboxes
2. Do one of the following depending on whether the directory into which you want to upload the files already exists.
  - If the destination directory exists, enter the drive, directory path, and file name to which the CFG or log files are to be saved. **If you are uploading a CFG, make sure to specify an extension of .cfg4100.**



- If the destination directory **does not exist**, first click the Browse button. When the dialog appears (see figure below), open the \4100UJOBS folder. Next, click on the New Folder icon and specify the name of the directory you want to create. Close the Browse dialog and then enter the drive, the new directory path, and file name to which the CFG or log files are to be saved, as shown in the file name example above.



**Figure 3-11. Locating File**

3. Click the rectangular **Upload** button on the right side of the File Transfer Utility window.
4. Another prompt appears, click the **Start** button to continue the upload.

A message indicating the upload is complete appears when the file transfer is complete.
5. Click OK to continue.

*Continued on next page*

## Uploading a CFG or Log File from the Panel, *Continued*

### Step 5. Unbuild the CFG File to Create a .SDB File

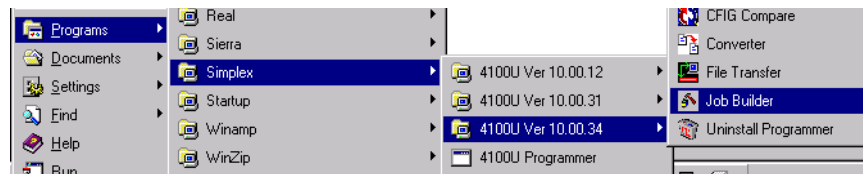
The uploaded file is stored as a .CFG file (a built, binary file). Before you can make changes to the file with the programmer, you must use the Build Utility to unbuild the .CFG file and create an .SDB file, which is the working file used by the programmer.

**Note:** The version of the programmer used to unbuild the .CFG file must be the same as the version of the programmer used to build the job.)

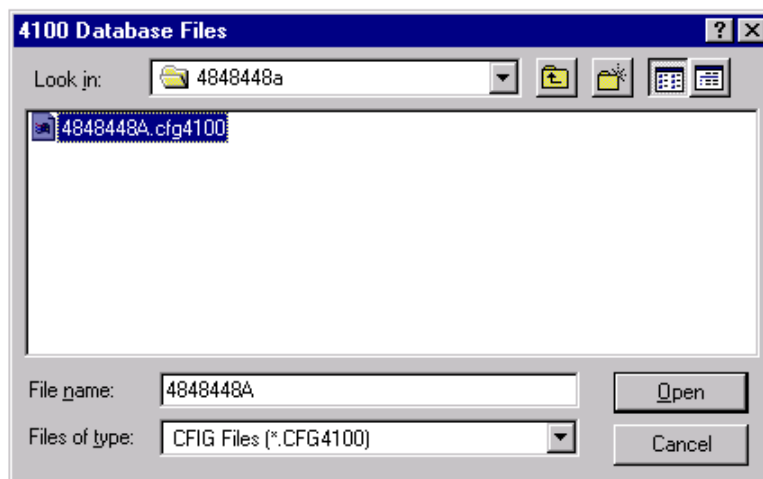
To do this, start the standalone version of the Build Utility, as described below.

**Note:** Do not start the Build Utility from within the programmer. You must start the standalone version of the utility as described below.

1. Click the **Start** button.
2. Move the pointer to the **Programs** option.
3. Move the pointer to the **Simplex** option and then move the pointer to the option containing the 4100U Programmer applications. (In the example shown below, this is 4100U Ver 10.00.34.) A list of options appears.
4. Click on **Job Builder**.



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



**Figure 3-12. Opening the CFG File**

5. Open the folder into which the uploaded CFG file was stored. Highlight the name of the CFG file and then click the Open button. The programmer unbuilds the CFG file and stores the resulting .SDB file (which can be opened and edited by the programmer) in the currently open folder.

# Archiving, Backing Up, and Restoring Jobs

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## 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.

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## Archiving a Job

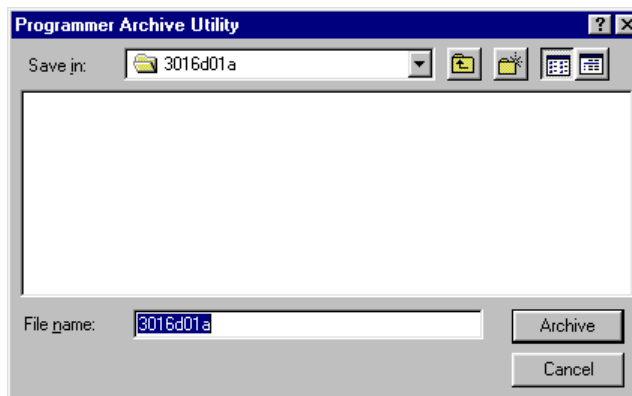
The Archive Utility creates a compressed, *permanent* copy of a job, marks the job as read only, and saves it to the drive you specify (for example, floppy, networked drive, hard drive, removable drive). This copy can be restored at a later date, using the Restore command, which is described below.

Follow branch 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 the following appears.



**Figure 3-13. Archive Dialog**

3. Click 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.

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*Continued on next page*

## Archiving, Backing Up, and Restoring Jobs, *Continued*

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### 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 backup a job.

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

A dialog similar to the one shown in Figure 3-14 appears:

2. Select the destination directory and drive.
3. Click on the Backup button.



**Figure 3-14. 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.

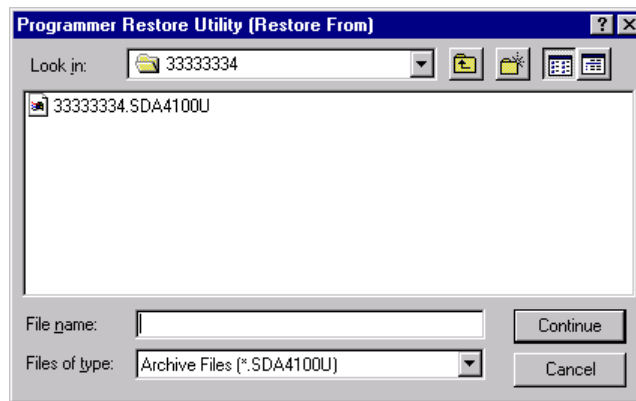
A dialog, similar to the one shown in Figure 3-15, appears.

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*Continued on next page*

## Archiving, Backing Up, and Restoring Jobs, *Continued*

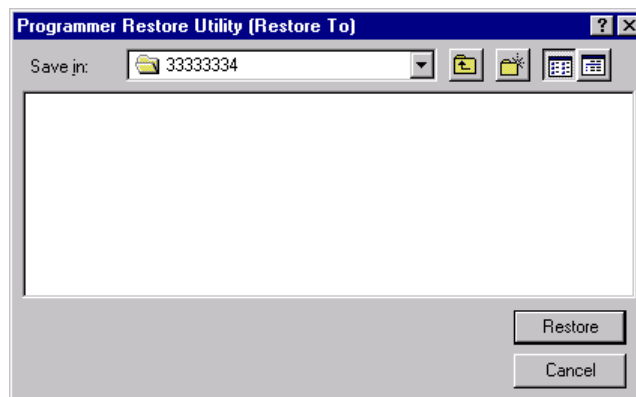
### Restoring a Backed Up or Archived Job, (continued)



**Figure 3-15. Restore Dialog**

2. Select the drive and directory containing the Backup or Archive files.
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 following 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.)



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 Pre-Revision 10 Job to Revision 10

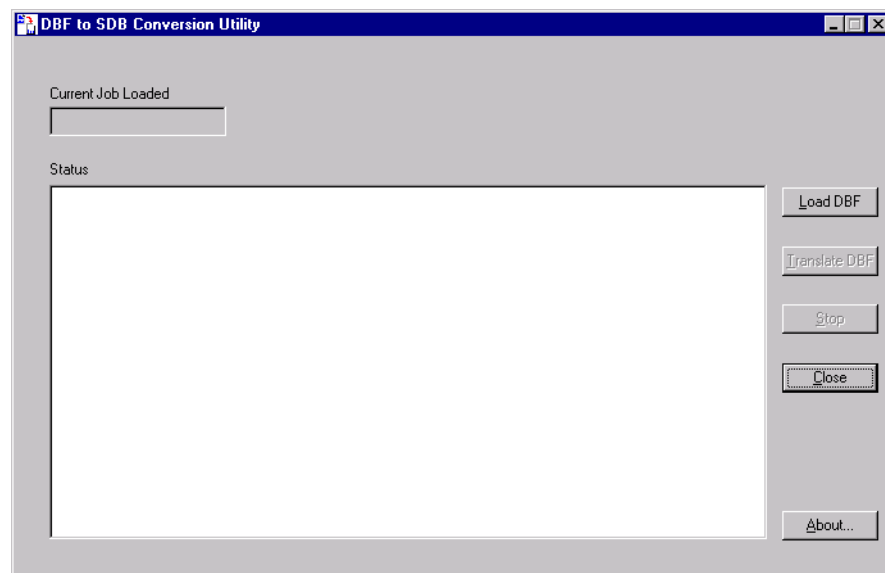
## Guidelines

This section describes converting an existing 4100 job to a Revision 10 4100U 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 **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.



*Continued on next page*



## Converting a Pre-Revision 10 Job to Revision 10, *Continued*

### Reviewing and Verifying the Job, (continued)

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 X 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 modules 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 Panel CPU Serial Number," earlier in this chapter for information on doing this. 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

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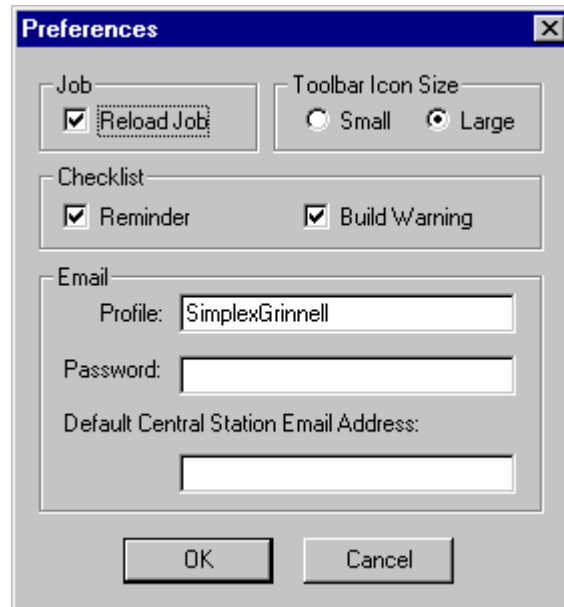
### Entering Notes

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.

---

### 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 3-16. 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.
-

# Chapter 4

## Editing 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 4100U.

---

### In this Chapter

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

Topic	See Page #
Entering General Information	4-2
Enabling and Disabling System Options	4-3
Restricting Access to Operator Interface Functions	4-12

---

# 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.

The screenshot displays the '4100 Upgrade Programmer - [989898.SDB4100U]' window. The top menu bar includes File, Edit, View, Build, Transfer, Window, and Help. Below the menu is a toolbar with icons for file operations and system functions. A secondary toolbar contains tabs for Panel, Hardware, Point, List, Custom Control, TrueAlert Zone, Port Vectoring, AMON Pt Type, and Network. The main workspace is divided into several sections: 'Panel Information' (Name: 989898, Panel Type: 4100U, Description, Project Number(s), Order Number(s), Agency Listing, NFPA Standard, Standby Generator, Hrs Standby Battery, AC Breaker Loc. (Unit 0)), 'Branch Information' (Branch Number: 0, Branch Location(s), Contact, Sales Person(s), Project Engineer(s), Technician(s), Customer, Contractor), 'Programmed By' (Originally Programmed By HQ: checkbox, Name, Branch Name, Title, Phone #, Customer Name, Title, Phone #), and a large 'Comment' text area. At the bottom, a tabbed interface shows '1. General Info.' selected, with other tabs for '2. System Options', '3. Access Levels', '4. Passcode Assignments', and '5. Features'. The status bar at the very bottom indicates 'Ready', 'CAP NUM', and the time '08:04 AM'.

Figure 4-1. General Information Fields

# Enabling and Disabling System Options

## Introduction

4100U 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.
2. Refer to Table 4-1 for specific details on each option.

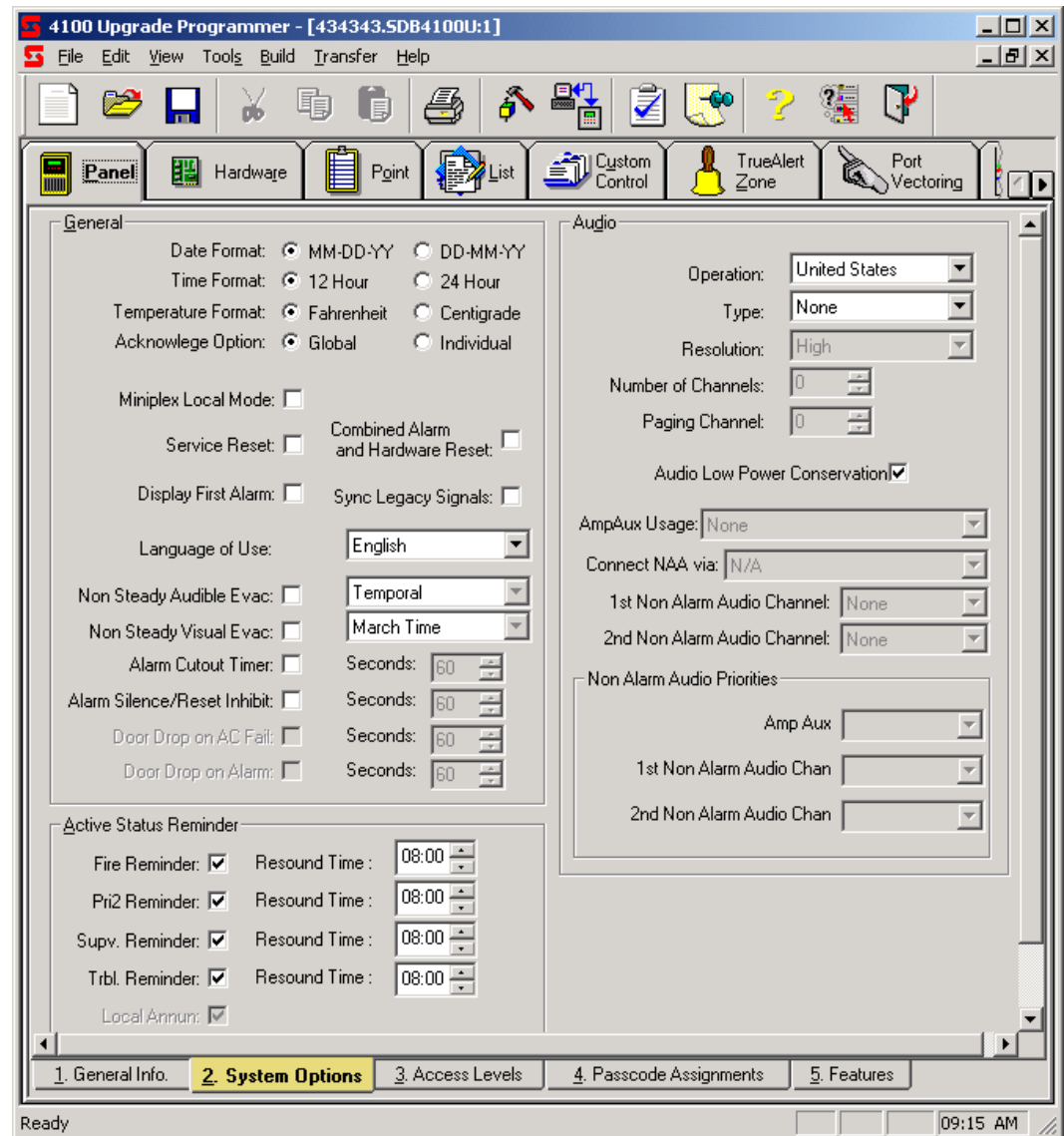


Figure 4-2. System Options

Continued on next page

## Enabling and Disabling System Options, *Continued*

### 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 customer's require Centigrade and domestic customer's 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 <b>every</b> 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 <i>each</i> alarm condition clears, you need to press the Alarm Ack button again.
	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*



## Enabling and Disabling System Options, *Continued*

Detailed System  
Option Descriptions,  
(continued)

**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	<p>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.</p> <p style="text-align: center;">Screen 1</p> <div style="border: 1px solid black; padding: 5px; margin: 5px auto; width: fit-content;"> <pre> **FIRE**          Press (ACK) to review. FIRE = 1   PRI2=0   SUPV=0   TRBL=0           </pre> </div> <p style="text-align: center;">Screen 2</p> <div style="border: 1px solid black; padding: 5px; margin: 5px auto; width: fit-content;"> <pre> FIRST FLOOR EAST WING   ROOM 31 PULL STATION           </pre> </div> <p>If Display 1<sup>st</sup> Alarm Option is not enabled, only a screen similar to Screen 1 appears, indicating the total number of alarm conditions present on the system.</p>
	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, the first press of the Reset key performs an alarm reset and the second press of this key performs a hardware reset.
	Language of Use	The pull down listbox contains two options, English 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.
	Sync Legacy Signals	<p>This option is for systems that are configured with legacy signals (e.g. 4100-4021) <b>and</b> newer style signal circuits (4009A, QuickAlert, etc).</p> <p>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.</p>

*Continued on next page*

## Enabling and Disabling System Options, *Continued*

Detailed System  
Option Descriptions,  
(continued)

Table 4-1. Summary of System Options (continued)

Type	Option	Description
	Non Steady Audible Evac	<p>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:</p> <ul style="list-style-type: none"><li>• 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.</li><li>• Slow March Time. A coded signal that uses 20 beats per minute. Each beat consists of 1/2 second pulse on, 1/2 second off. Pattern repeats until alarm silence.</li><li>• Temporal. A five-pulse coding pattern consisting of five 1/2 second pulses, each separated by a 1/2 second silence. Each three pulse group is separated by 1 1/2 seconds of silence. Pattern repeats until alarm silence.</li><li>• California Code 1. A coding pattern consisting of 12 beats within a 10 second span of time, followed by a 2 and 1/2 second pause. This sequence repeats four times (four rounds) and then terminates (i.e., the total coding pattern lasts approximately one minute).</li><li>• 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).</li></ul>

*Continued on next page*

## Enabling and Disabling System Options, *Continued*

Detailed System  
Option Descriptions,  
(continued)

Table 4-1. Summary of System Options (continued)

Type	Option	Description
General	Non Steady Visual Evac	<p>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.</p> <p>Choices are:</p> <ul style="list-style-type: none"><li>• March Time. A coded signal that uses 120 beats per minute. Each beat consists of 1/4 second pulse on, 1/4 second off.</li><li>• 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.</li><li>• Temporal. A five-pulse coding pattern consisting of five 1/2 second pulses, each separated by a 1/2 second silence. Each three pulse group is separated by 1 1/2 seconds of silence.</li></ul> <p><b>Note:</b> This option cannot be used for public mode signaling as defined in Section 4-4 of NFPA 72-99.</p>
	Alarm Cutout Timer	<p>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.</p> <p>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</p> <p>The range for this option is 1 minute to 60 minutes. 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.</p>

*Continued on next page*

## Enabling and Disabling System Options, *Continued*

Detailed System  
Option Descriptions,  
(continued)

Table 4-1. Summary of System Options (continued)

Type	Option	Description
General	Alarm Silence / Reset Inhibit	<p>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).</p> <p>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.</p> <p>The default setting is not enabled.</p> <p><b>Note:</b> This option must be enabled for Canadian jobs.</p>
	Door Drop on AC Fail	<p>Enabling this option programs the 4100U 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.</p> <p>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.</p> <p>The default setting is not enabled.</p>
	Door Drop on Alarm	<p>Enabling this option programs the 4100U to hold magnetic door holders open for a set duration during an alarm condition. When the timer expires, the 4100U 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.</p> <p>The default setting is not enabled.</p>

*Continued on next page*

## Enabling and Disabling System Options, *Continued*

Detailed System  
Option Descriptions,  
(*continued*)

**Table 4-1. Summary of System Options** (*continued*)

Type	Option	Description
Active Status Reminder	Fire Reminder	<p>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.</p> <p>To enable Active Status Reminder, do the following:</p> <ol style="list-style-type: none"> <li>1. Check the box labeled <b>Enabled</b>. By default, this option is enabled.</li> <li>2. Set the interval at which the piezo should sound. The range is from 0 to 18 hours. The default is 8 hours.</li> </ol>
	Pri2 Reminder	<p>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.</p> <p>To enable Active Status Reminder, do the following:</p> <ol style="list-style-type: none"> <li>1. Check the box labeled <b>Enabled</b>. By default, this option is enabled.</li> <li>2. Set the interval at which the piezo should sound. The range is from 0 to 18 hours. The default is 8 hours.</li> </ol>
	Supv. Reminder	<p>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.</p> <p>To enable Active Status Reminder, do the following:</p> <ol style="list-style-type: none"> <li>1. Check the box labeled <b>Enabled</b>. By default, this option is enabled.</li> <li>2. Set the interval at which the piezo should sound. The range is from 0 to 18 hours. The default is 8 hours.</li> </ol>
	Trbl. Reminder	<p>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.</p> <p>To enable Active Status Reminder, do the following:</p> <ol style="list-style-type: none"> <li>1. Check the box labeled <b>Enabled</b>. By default, this option is enabled.</li> <li>2. Set the interval at which the piezo should sound. The range is from 0 to 18 hours. The default is 8 hours.</li> </ol>

*Continued on next page*

## Enabling and Disabling System Options, *Continued*

Detailed System  
Option Descriptions,  
(*continued*)

Table 4-1. Summary of System Options (*continued*)

Type	Option	Description
Active Status Reminder	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.
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	<p>If you have a network audio system and the panel whose job you are editing contains amplifiers <i>but no local audio controller</i>, you need to set this option to reflect the type of audio controller installed in the node supplying the audio signal to your amplifiers.</p> <p>If you have a local audio controller, this selection is not editable..</p>
	Resolution	<p>Select the appropriate choice as follows:</p> <ul style="list-style-type: none"><li>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.</li></ul> <p><b>Note:</b> When high resolution is used, only four audio channels are available.</p> <ul style="list-style-type: none"><li>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.</li></ul>
	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.

*Continued on next page*

## Enabling and Disabling System Options, *Continued*

Detailed System  
Option Descriptions,  
(*continued*)

**Table 4-1. Summary of System Options** (*continued*)

Type	Option	Description
	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.
	1 <sup>st</sup> Non Alarm Audio Channel	Applies to digital systems only. Specifies the first channel being used for non-alarm audio.
	2 <sup>nd</sup> 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 1 <sup>st</sup> and second non-alarm audio channels. Applies to Digital audio systems only.
	1 <sup>st</sup> Non Alarm Audio Channel	Specifies the priority level of the 1 <sup>st</sup> non-alarm audio channel in relation to the AmpAux channel and the second non-alarm audio channels. Applies to Digital audio systems only.
	2 <sup>nd</sup> 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 4100U 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.

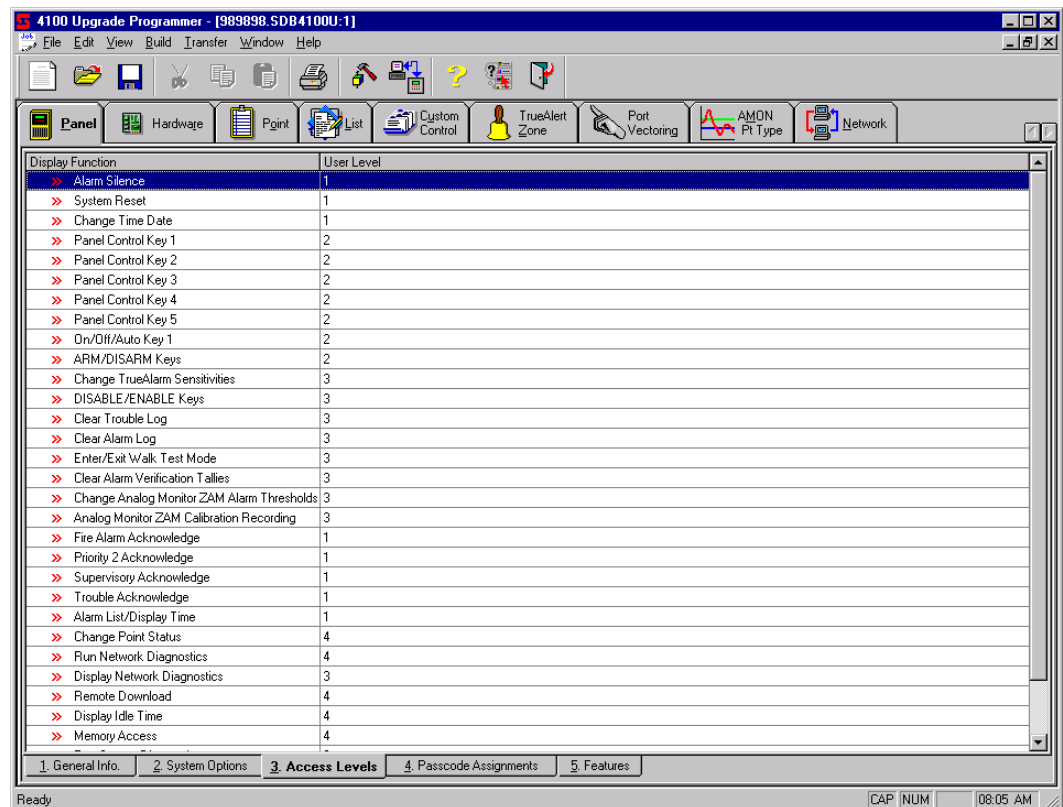


Figure 4-3. Access Levels Screen

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*



## Restricting Access to Operator Interface Functions, *Continued*

### Step 1. Edit Access Levels, *(continued)*

- 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.
- 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.

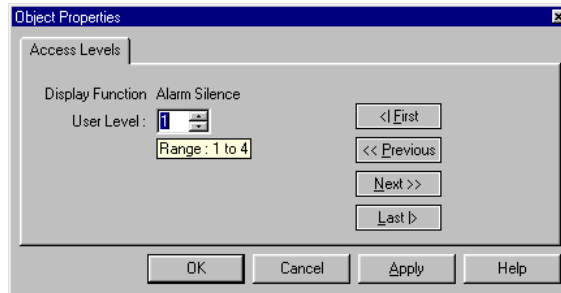


Figure 4-4. Access Level Object Properties Dialog

### 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:

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

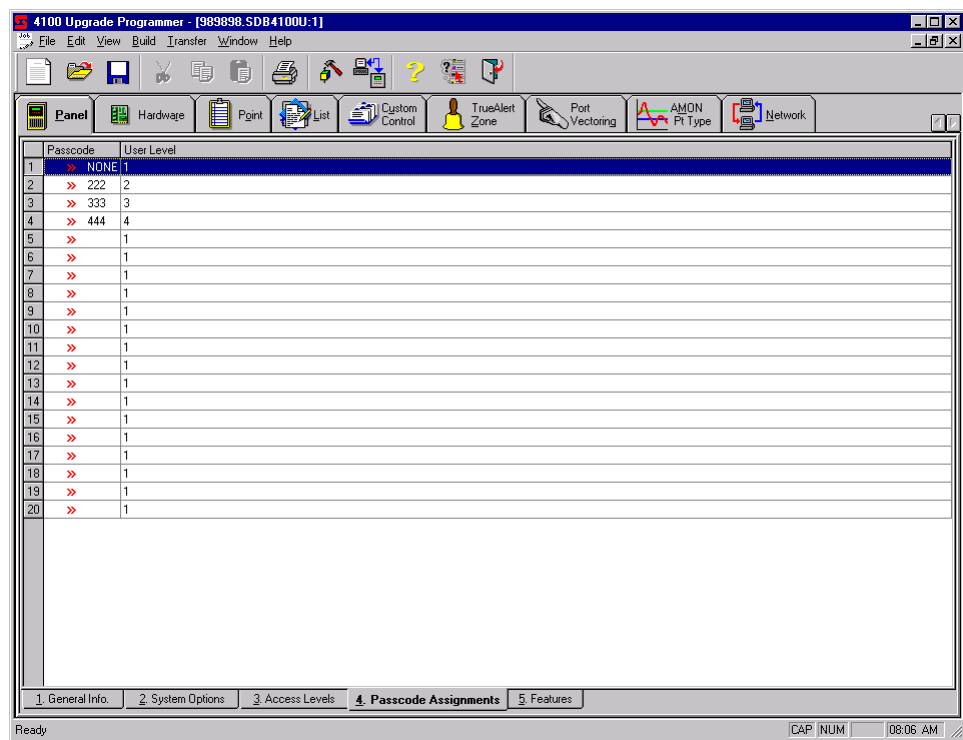


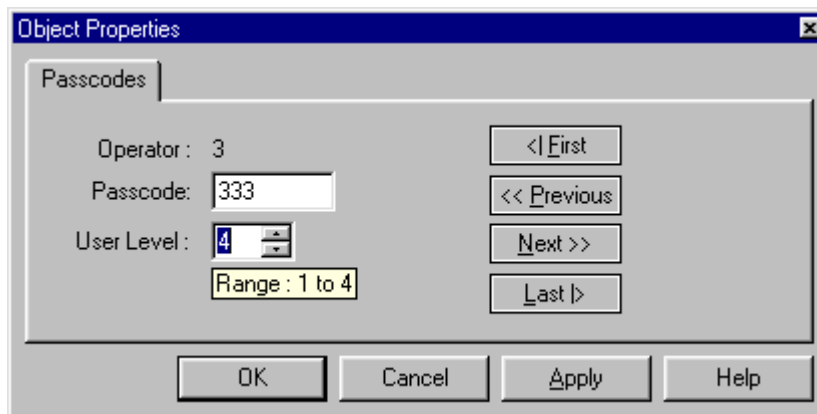
Figure 4-5. Passcodes Screen

*Continued on next page*

## Restricting Access to Operator Interface Functions, *Continued*

### Step 2. Edit Passcodes, *(continued)*

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.
5. 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.

Topic	See Page #
Overview	5-2
Adding and Editing Units	5-4
Adding and Editing Boxes and Bays	5-6
Adding Cards	5-9

---

# Overview

## Introduction

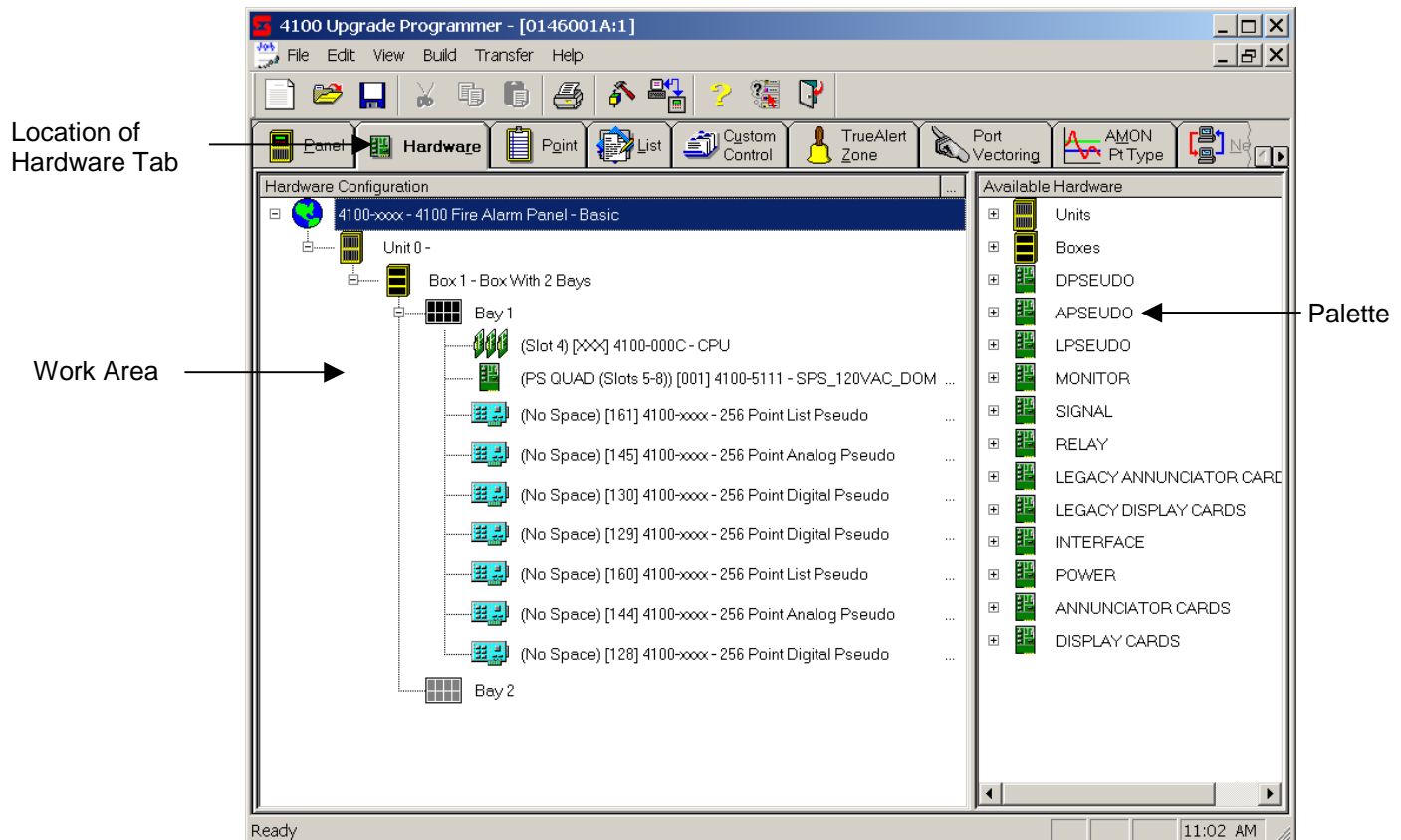
Use the Hardware Tab Window, accessed via the Hardware Tab, to add and edit the hardware components of the job. The hardware tab has the following capabilities.

- 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*

## Overview, Continued

### Hardware Tab Window, (continued)

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
<p>Panel Icon</p> 	<p>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,</p> <p><b>Note:</b> Highlighting this icon and hitting Shift-Right Arrow at the same time expands the entire hardware tree.</p>
<p>Unit Icon</p> 	<p>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.</p> <p>Click on the + sign to expand the contents of a unit and see its boxes.</p>
<p>Box Icon</p>  <p>Bay Icon</p> 	<p>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, and 16 Point SCU. 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.</p> <p>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.</p>
<p>Logical Card Icon</p>  <p>Physical Card Icon</p> 	<p>The hardware tab uses two card icons to represent the system's logical and physical cards.</p> <p>Logical cards are not hardware; instead they represent all of the analog pseudo points, digital pseudo points, or lists used on the system.</p> <p>Physical cards are actual hardware, including for example: monitor, signal, relay, annunciator, display, interface, audio, and power cards.</p>

# Adding and Editing Units

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## 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.

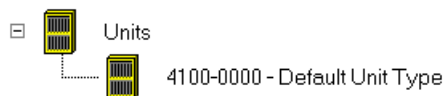
A panel can contain multiple Units, but there can only be one CPU managing all of the panel's units. All units must be linked by RUI.

---

## 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:

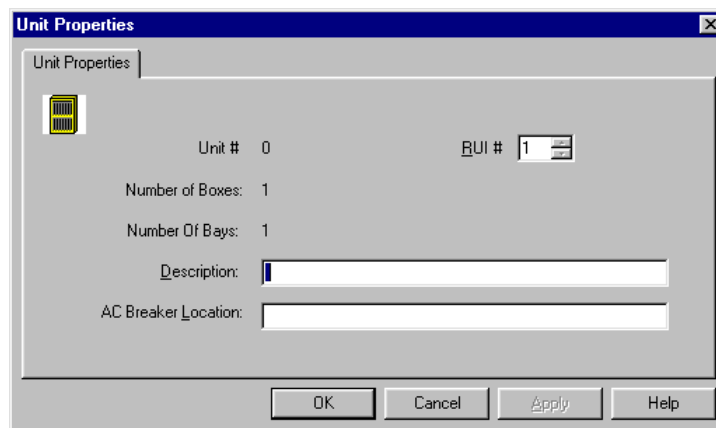
- **RUI #.** Enter the RUI channel on which the unit communicates with other units.
- **Description.** Enter descriptive text for the unit.
- **AC Breaker Location.** Enter the location of the breaker to which the power supplies within the unit's boxes connect.

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*Continued on next page*

## Adding and Editing Units, *Continued*

### Editing Unit Properties, (continued)

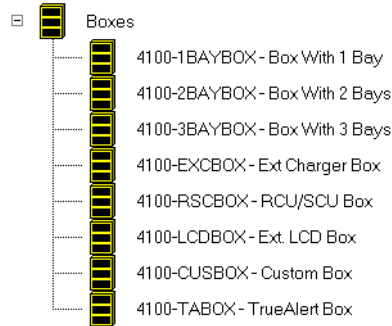


**Figure 5-2. Unit Properties Dialog**

# Adding and Editing Boxes and Bays

## Introduction

A box represents a back box in which an external charger or the system electronics are installed. Eight types of boxes are available with the 4100U.



## 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 the right mouse button. When the list of choices appears, select **Properties**. Non-editable information includes: the unit number, box number within the unit, and the number 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.

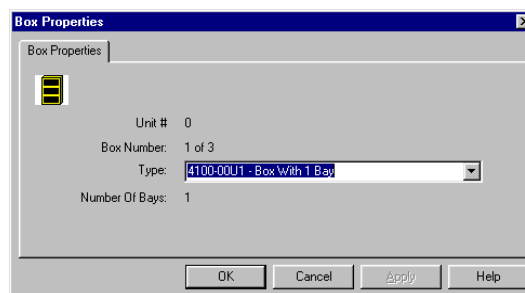


Figure 5-3. Box Properties Dialog

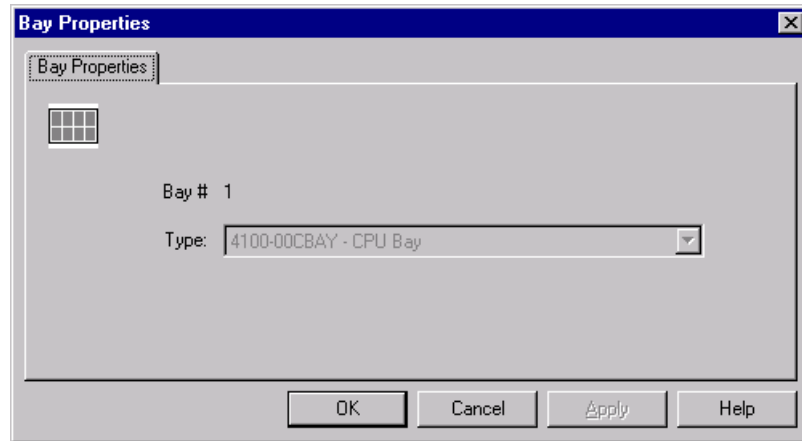
*Continued on next page*



## Adding and Editing Boxes and Bays, *Continued*

### Editing/Viewing Box and Bay Properties, *(continued)*

- **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

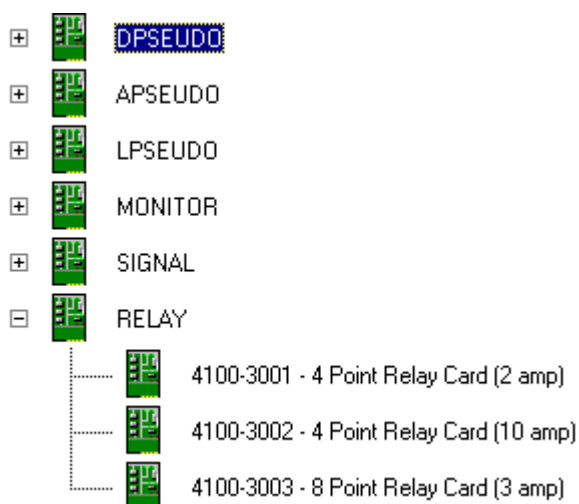
## Introduction

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.

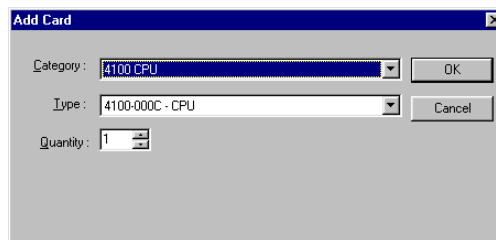


Figure 5-5. Add Card Dialog

*Continued on next page*

## Adding Cards, *Continued*

### 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 Chapters 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.

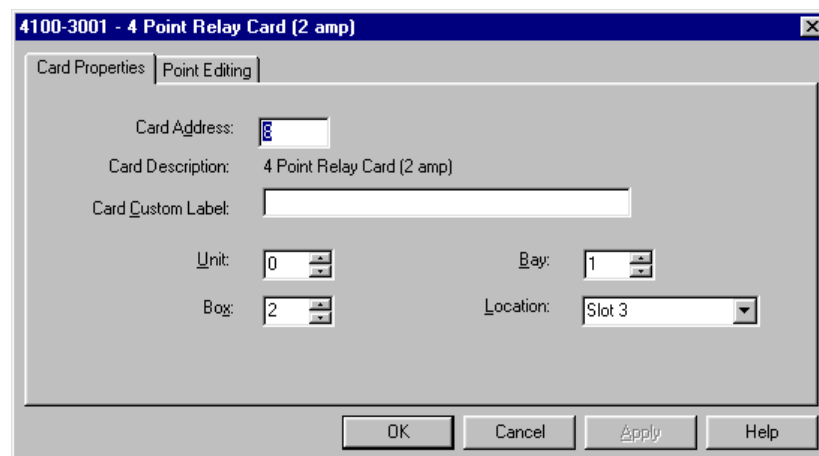
- **Card Custom Label.** This field describes the card's function, location, or some other descriptive text.
- **Unit, Box, Bay, and Slot (location).** The values shown in the fields reflect the location in which the card icon was placed when you added it with the programmer. It is possible to change 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 4100U 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.

Topic	See Page #
Editing RUI-Specific Property Settings	6-2
Editing Service Port-Specific Settings	6-3
Editing 4120 NIC/4120 Network Repeater Property Settings	6-6
Editing Power Supply Property Settings	6-7
Editing DACT Card Property Settings	6-11
Editing TrueAlert Controller Options	6-22
Editing Annunciator-Specific Properties	6-24
Editing 2120 Interface Properties	6-26

## 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:

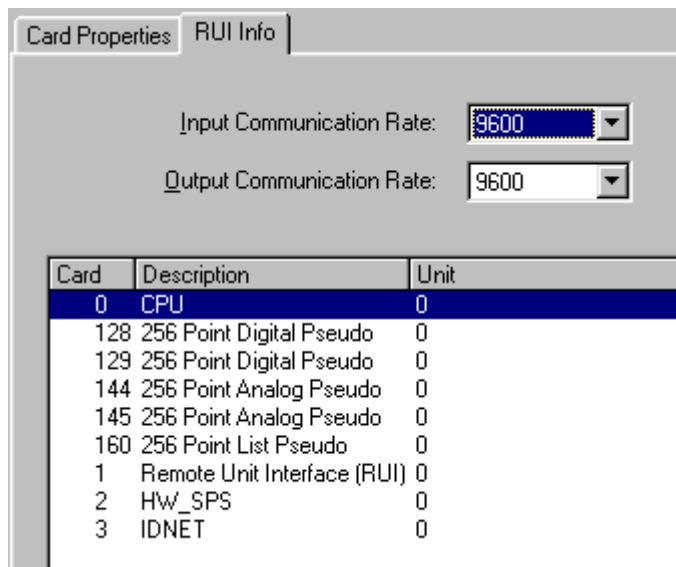
- A standard RUI interface is located on the 4100U CPU card
- Additional RUI ports can be added to the system by adding an optional RUI card.

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. Example of RUI Tab**

### Editing Settings

Set the RUI-Specific properties as shown below.

- 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.

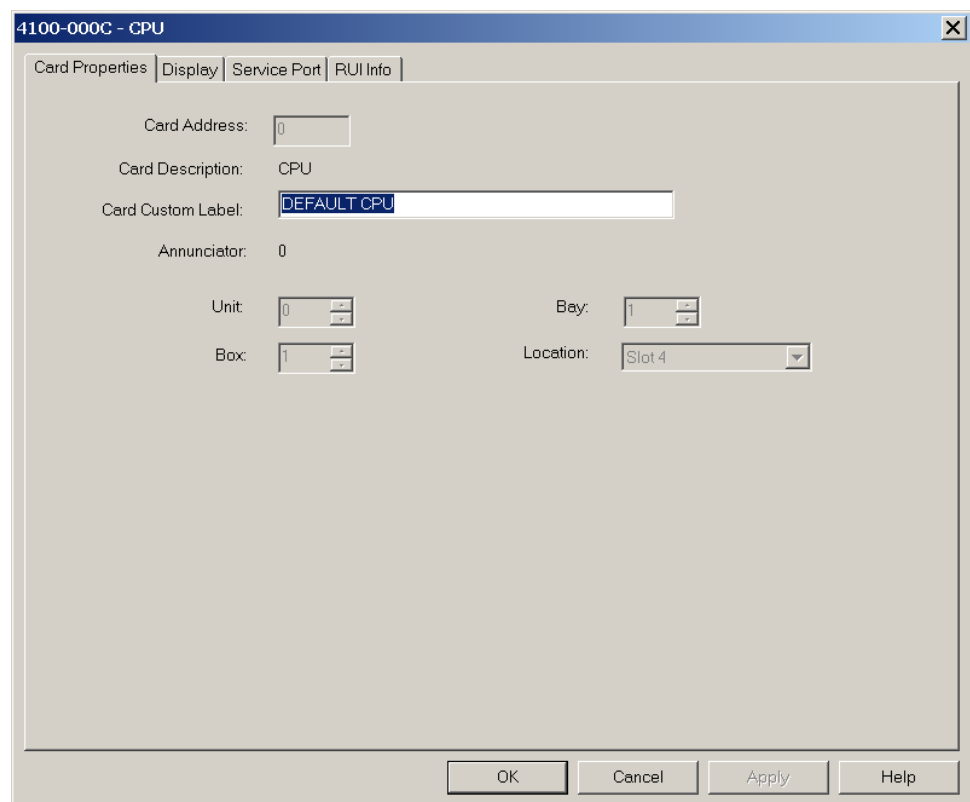
*Continued on next page*

## 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 commands (download, set host, etc.).

- 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 6-2 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 6-2 appears.



**Figure 6-2. 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*

## Editing Service Port-Specific Settings, *Continued*

### Port Data – General Info. Tab

Click on the Port Data button (refer back to Figure 6-2) and select the Gen. Info tab. This tab, shown below, includes the following three 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 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.

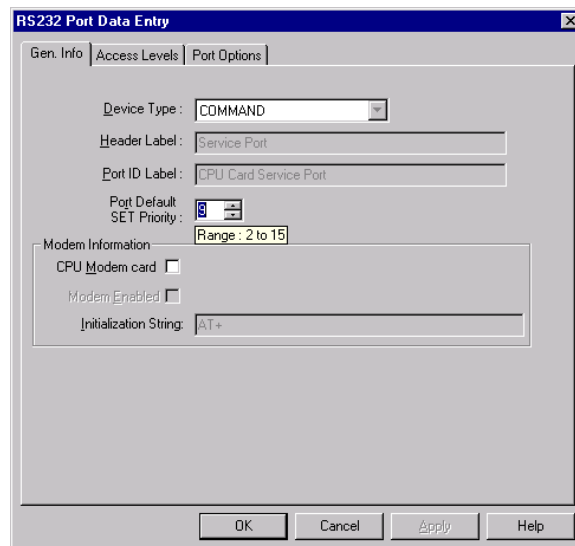


Figure 6-3. Port Data – General Information Tab

### Port Data – Access Levels Tab

Click on the Port Data button (refer back to Figure 6-2) 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 that 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 6-4, 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 6-4, the text to the left of the control changes.) Use this control to associate an access level with the function.

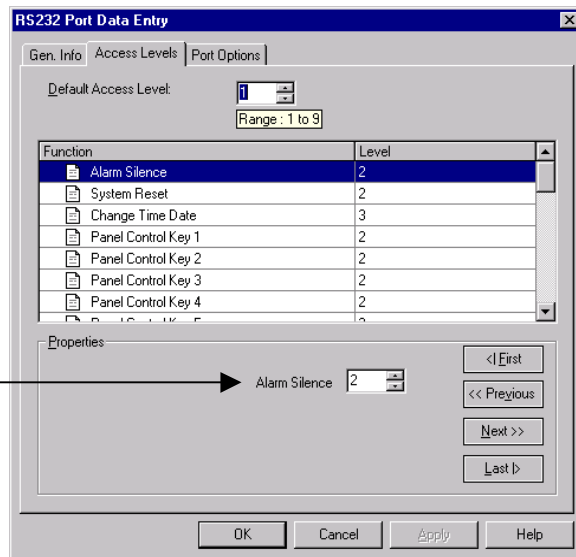
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## Editing Service Port-Specific Settings, *Continued*

### Port Data – Access Levels Tab, (continued)

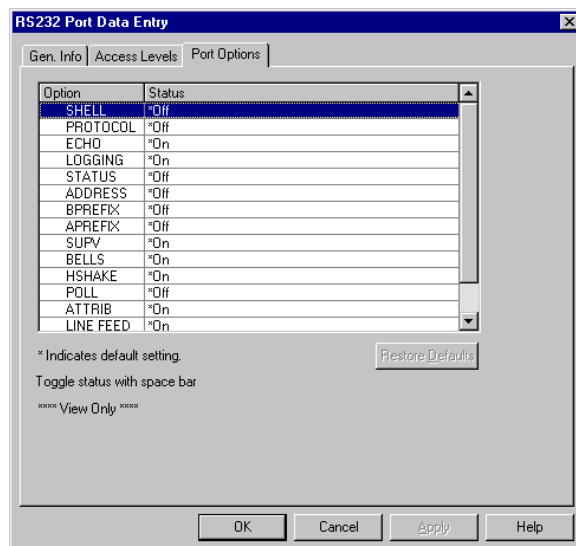
Text changes  
depending on  
which function is  
selected



**Figure 6-4. Port Data – Access Levels Tab**

### Port Data – Port Options Tab

Click on the Port Data button (refer back to Figure 6-2) and select the Port Options tab. This tab, shown in Figure 6-5, contains options that apply to the way data appears on the display connected to the service port. These are read only fields.



**Figure 6-5. Port Data – Port Options Tab**

# Editing 4120 NIC/4120 Network Repeater Property Settings

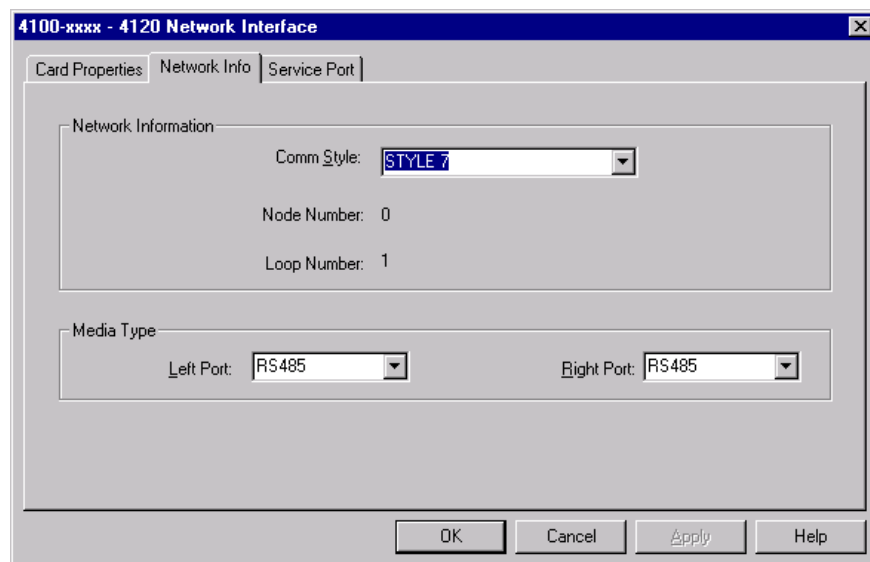
## Introduction

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 6-6 appears.

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



**Figure 6-6. Network Interface Properties Dialog**

## Setting Network Information

Set the fields within the Network Info tab as follows:

- **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*

## Editing Power Supply Property Settings, *Continued*

### 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	<b>Battery Type</b> High     Select this radio button if the battery’s is rated between 18 and 50 Ah. Low     Select this button if the battery is rated between 6.2 and 12.7 Ah.
	<b>Optional Card</b> 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.
	<b>NAC Options</b> 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.
	<b>Options</b> 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.)
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*

## Editing Power Supply Property Settings, *Continued*

### 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	<b>Battery Type</b> High      Select this radio button if the battery’s is rated between 18 and 50 Ah. Low        Select this button if the battery is rated between 6.2 and 12.7 Ah.
	<b>Optional Card</b> 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.
	<b>NAC Options</b> 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.
	<b>Options</b> 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.
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*

## Editing Power Supply Property Settings, *Continued*

### 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	<b>Battery Type</b> High Select this radio button if the battery’s is rated between 18 and 50 Ah. Low Select this button if the battery is rated between 6.2 and 12.7 Ah.
	<b>Options</b> 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.

# Editing DACT Card Property Settings

## Introduction

This section describes programming the DACT interface cards. The 4100U 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 6-7, to setup the basic communication information for the DACT to DACR link.

4100-???? - Event Serial DACT Interface

Card Properties Basics Event Codes Local Points

Phone and Account Numbers

Primary #: Secondary #: Account #: Account #:

Communications Format

☒ SIA ☐ 3/1 ☐ 4/2 ☐ BFSK

Pulse Communication Format

Format Rate: ☐ 10 PPS ☒ 20 PPS

Comm Format Frequency: ☒ 1.9KHz Data / 1.4KHz ACK ☐ 1KHz Data / 2.3KHz ACK

Dial Mode

☐ Tone ☐ Pulse ☒ Tone else Pulse

Miscellaneous

Report AC Failure Delay: 6 Hrs. ☐ Send Unmapped Points

Test Report Time: 02:00 AM

OK Cancel Apply Help

Figure 6-7. 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*

## Editing DACT Card Property Settings, *Continued*

### Basics Tab, (continued)

- **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). If you 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 4100U 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 to Figure 6-8).

*Continued on next page*



## Editing DACT Card Property Settings, *Continued*

### Event Codes Tab, (continued)

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).

The screenshot shows the '4100-???? - Event Serial DACT Interface' dialog box with the 'Event Codes' tab selected. The 'Point Type' is set to 'FIRE'. Below this, there are two columns: 'EVENT' and 'RESTORAL'. Each column has six input fields for different event types: Fire, Priority 2, Supervisory, Trouble, Utility, and Control. The 'Enable Edit' checkbox is unchecked. At the bottom are 'OK', 'Cancel', 'Apply', and 'Help' buttons.

	EVENT	RESTORAL
Fire :	FA	FR
Priority 2 :	UA	UR
Supervisory :	SS	SJ
Trouble :	FT	FJ
Utility :		
Control :		

Figure 6-8. 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.

The screenshot shows the '4100-???? - Event Serial DACT Interface' dialog box with the 'Local Points' tab selected. The 'Local Point Event and Restoral Codes' section contains two columns: 'EVENT' and 'RESTORAL'. Each column has three input fields for different trouble types: RUI / N2 Trouble, Phone 1 Trouble, and Phone 2 Trouble. Below this is the 'Miscellaneous Codes' section with four input fields: Manual Test Report, Automatic Test Report, Off Normal at Test, and Data Lost Message. The 'Enable Edit' checkbox is checked. At the bottom are 'OK', 'Cancel', 'Apply', and 'Help' buttons.

	EVENT	RESTORAL
RUI / N2 Trouble :	YS	YK
Phone 1 Trouble :	LT	LR
Phone 2 Trouble :	LT	LR

Miscellaneous Codes	
Manual Test Report :	RX
Automatic Test Report :	RP
Off Normal at Test :	YX
Data Lost Message :	RT

Figure 6-9. Local Points Tab

*Continued on next page*

## Editing DACT Card Property Settings, *Continued*

### Local Points Tab, (continued)

1. Click on the Enable Edit button at the bottom of the screen (refer to Figure 6-10).
2. Edit the event codes as directed by the central station.

The screenshot shows a software window titled "4100-???? - Event Serial DACT Interface". It has four tabs: "Card Properties", "Basics", "Event Codes", and "Local Points". The "Local Points" tab is active. Inside the tab, there are two main sections. The first section is "Local Point Event and Restoral Codes" and contains a table with two columns: "EVENT" and "RESTORAL". The rows are "RUI / N2 Trouble", "Phone 1 Trouble", and "Phone 2 Trouble". The values in the "EVENT" column are "YS", "LT", and "LT" respectively. The values in the "RESTORAL" column are "YK", "LR", and "LR" respectively. The second section is "Miscellaneous Codes" and contains four rows: "Manual Test Report" with value "RX", "Automatic Test Report" with value "RP", "Off Normal at Test" with value "YX", and "Data Lost Message" with value "RT". At the bottom left of the window, there is a checkbox labeled "Enable Edit" which is checked. At the bottom right, there are four buttons: "OK", "Cancel", "Apply", and "Help".

**Figure 6-10. Local Points Tab**

### 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.

*Continued on next page*

## Editing DACT Card Property Settings, *Continued*

### Point Types Tab (Per Point DACT Only), (continued)

**4100-6052 - Per Point Serial DACT Interface**

Card Properties | Basics | Event Codes | Local Points | **Point Types** | Points

SDACT Point Type	Point Type
TEMP-UTIL	Temperature Utility
MEDIC-UTIL	Medical Utility
PANIC-UTIL	Panic Utility
BRGLR-UTIL	Burglar Utility
GAS-UTIL	Gas Utility
MISC-UTIL	Miscellaneous Utility

**Event Codes**

	EVENT	RESTORAL
Fire :		
Priority 2 :		
Supervisory :		
Trouble :	0	0
Utility :	158	158
Control :		

**Point Type**

SDACT Point Type Name : TEMP-UTIL

SDACT Point Type Desc.: TEMPERATURE UTILITY

Add Delete...

<| First << Previous Next >> Last |>

WARNING: Please advise your Central Station Provider of these new codes.

OK Cancel Apply Help

**Figure 6-11. Point Type Tab**

### 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 6-12 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.

*Continued on next page*

# Editing DACT Card Property Settings, Continued

Points Tab (Per Point DACT Only),  
(continued)

Highlight a point.  
If a check  
appears here, the  
point is selected.

4100-???? - Per Point Serial DACT Interface

Card Properties

Basics

Event Codes

Local Points

Point Types

Points

Point Name	Point Type	CID Group	CID Number	Custom Label
>> MON ZN8	SDACT	1	1	MONITOR CARD 3
>> MON ZN1	SDACT	1	2	MONITOR CARD 3
>> MON ZN2	SDACT	1	3	MONITOR CARD 3
>> MON ZN3	SDACT	1	4	MONITOR CARD 3
>> MON ZN4	SDACT	1	5	MONITOR CARD 3
>> MON ZN5	SDACT	1	6	MONITOR CARD 3
>> MON ZN6	SDACT	1	7	MONITOR CARD 3
>> MON ZN7	SDACT	1	8	MONITOR CARD 3
>> MON ZN9	SDACT	1	9	MONITOR CARD 4
>> MON ZN10	SDACT	1	10	MONITOR CARD 4

Point Properties

Name: ZN8

Select: ☒

Point Type:

CID Group: 1

CID Number: 1

<| First

<< Previous

Next >>

Last |>

Use the <SPACEBAR> to toggle point selection.

Selected Points : 1707

OK

Cancel

Apply

Help

Figure 6-12. Points Tab

# Setting up Per Point SDACT Automatic Email

## 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 4100U point is changed.

Operation of Auto Email is as follows:

- After editing a job, the programmer generates 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 click on the **Mail icon**.

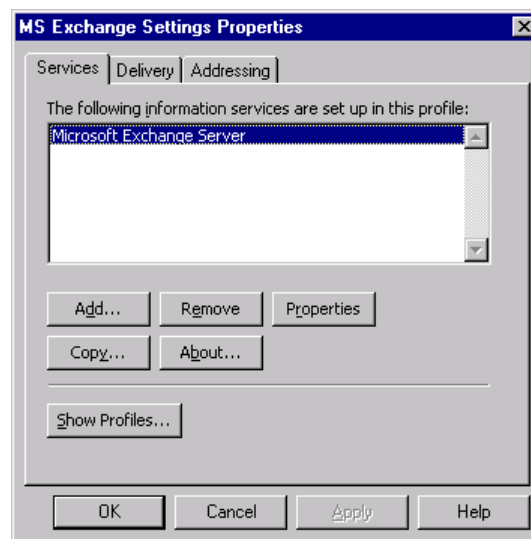


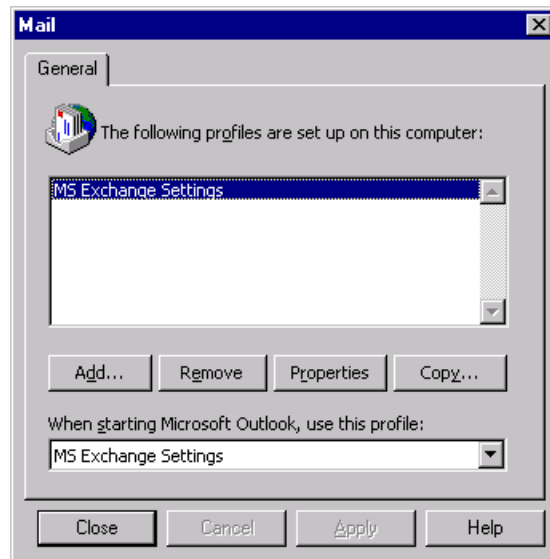
Figure 6-13. Property Dialog

Continued on next page

## Setting up Per Point SDACT Automatic Email, *Continued*

### Step 1. Verify Outlook Profile Name, Password, and Default Email Profile, *(continued)*

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 6-14. Dialog Showing Default Profile**

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



**Figure 6-15. Dialog Showing Password**

*Continued on next page*

## Setting up Per Point SDACT Automatic Email, *Continued*

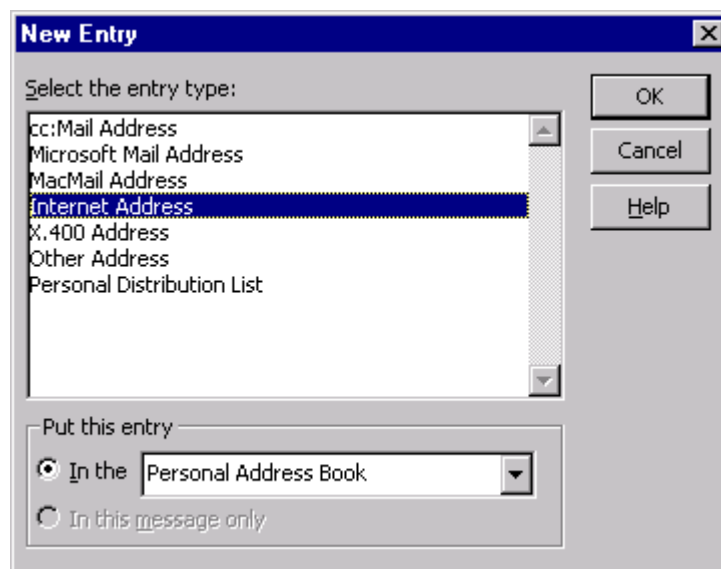
### Step 1. Verify Outlook Profile Name, Password, and Default Email Profile, *(continued)*

5. Examine the entry in the Logon Network Security field. If this field contains a password, make sure to make 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.
6. Close all open dialogs.

### 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."



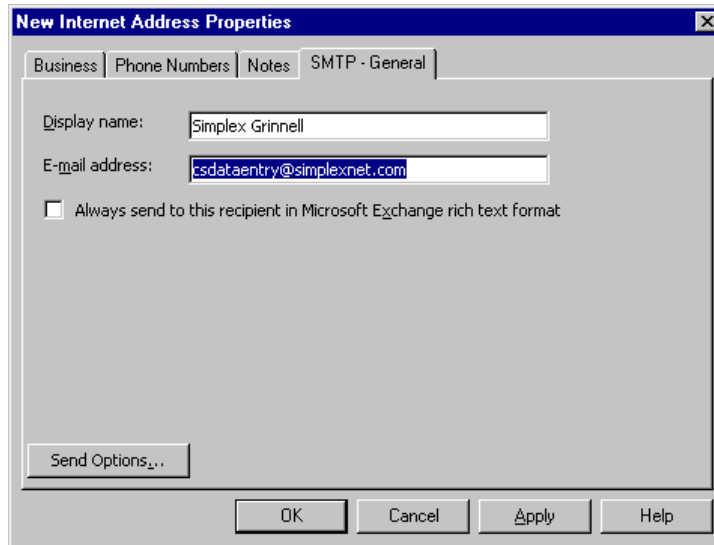
**Figure 6-16. Selecting Entry Type**

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.

*Continued on next page*

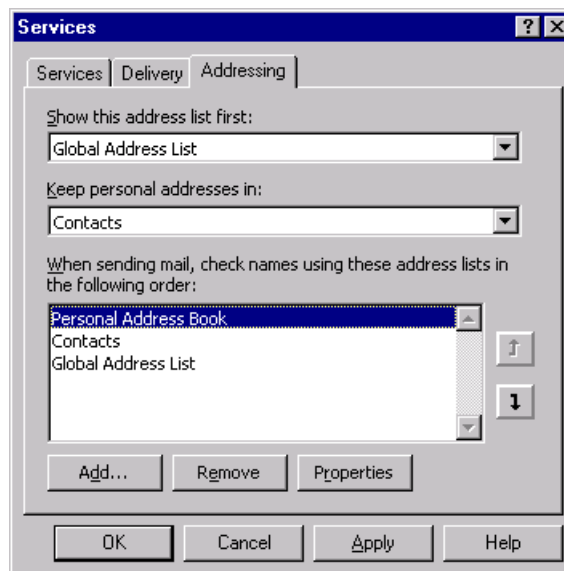
## Setting up Per Point SDACT Automatic Email, *Continued*

### Step 2. Add Central Station Entry to Address Book, *(continued)*



**Figure 6-17. New Internet Address Properties**

5. Click the Apply button and then OK.
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 6-18. 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.

*Continued on next page*



## Setting up Per Point SDACT Automatic Email, *Continued*

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### Step 2. Add Central Station Entry to Address Book, *(continued)*

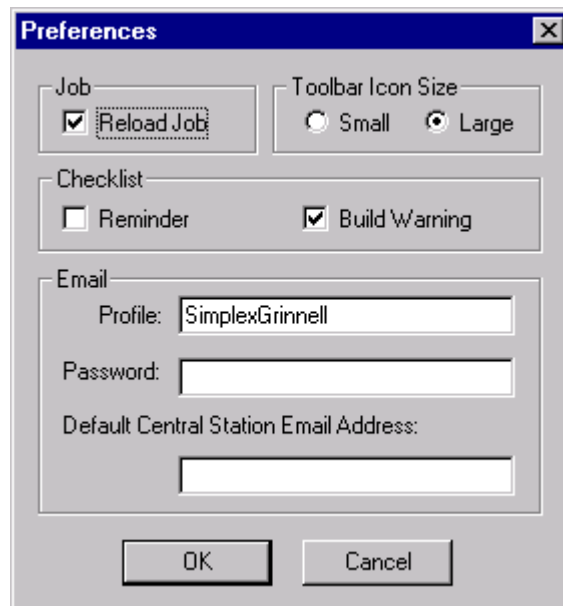
- c. Move the Personal Address Book entry to the top of the list. To do this, highlight the entry and click on the up arrow, located on the right side of the dialog, until the entry appears at the top of the dialog, as shown in the previous figure.

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

### Step 3. Make Sure Email Preferences are Set Correctly

The Email preferences settings, contained within the 4100U preferences dialog, determines 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 6-19. Preferences Dialog**

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

# Editing TrueAlert Controller Options

## Introduction

4009T TrueAlert controllers are remotely located controllers linked to the 4100U via RUI communication lines. They are capable of managing up to three separate channels of audible, visual and combination (A/V) TrueAlert NAC appliances.

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 and the coding of the device when it is active.

Refer to Chapter 10 for information on creating TrueAlert Zones.

## Opening TrueAlert Controller Properties Screen

To open the TrueAlert Controller properties screen, expand the Unit, Box, and Bay icon combination containing the controller and double click on its icon. Click on the Point Editing tab. A window similar to the one shown in Figure 6-20 appears.

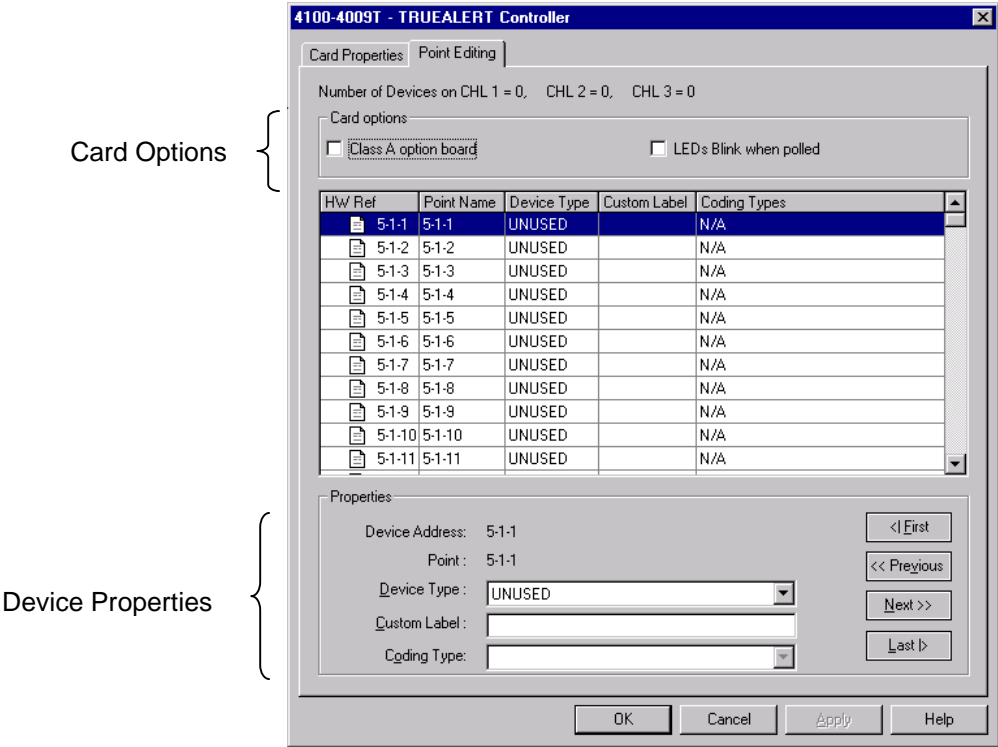


Figure 6-20. TrueAlert Controller Properties

## Programming Card Properties

The card options are shown at the top of Figure 6-20. Guidelines for setting them are as follows:

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

**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.

Continued on next page

## Editing TrueAlert Controller Options, *Continued*

### Programming Device Properties

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.

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 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 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 1/2 second pulses, each separated by 1/2 second silence. Each group of three pulses is separated by 1.5 seconds of silence.

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

## Editing Annunciator-Specific Properties

### Internal, External, and LCD Annunciator Properties

The following annunciators, all 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.

Display Function	KEYSWITCH Required	OVERRIDE on Alarm
Alarm Silence	<input checked="" type="checkbox"/>	<input type="checkbox"/>
System Reset	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Fire Alarm Acknowledge	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Fire Alarm Display/Scrolling	<input type="checkbox"/>	<input type="checkbox"/>
Trouble Acknowledge	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Trouble Display/Scrolling	<input type="checkbox"/>	<input type="checkbox"/>
Supervisory Acknowledge	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Supervisory Display/Scrolling	<input type="checkbox"/>	<input type="checkbox"/>
Priority 2 Acknowledge	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Priority 2 Display/Scrolling	<input type="checkbox"/>	<input type="checkbox"/>
Display Time	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Programmable Control Key 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Programmable Control Key 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Programmable Control Key 3	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Programmable Control Key 4	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Select desired function.  
Toggle status with K-key (Keyswitch) or O-key (Override) or by Left mouse clicking in the check box.

OK Cancel Apply Help

**Figure 6-21. Annunciator Property Sheet**

4. This sheet has a series of rows on the left, identifying the functions that can be performed from the remote annunciator. Each row has two checkboxes, Keyswitch Required and Override on Alarm. Check or uncheck 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 a keyswitch is not required for the function if an alarm occurs.

*Continued on next page*

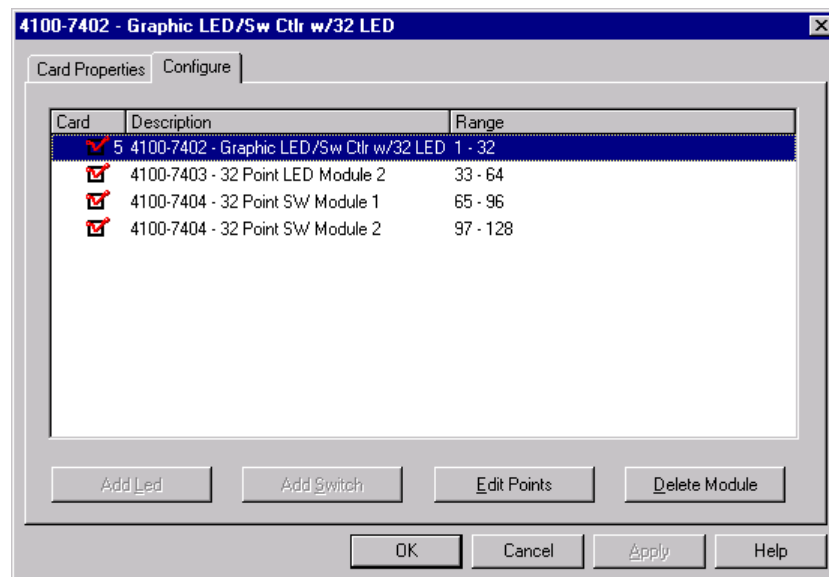
## Editing Annunciator-Specific Properties, *Continued*

### 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 6-22. 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.

# Editing 2120 Interface Properties

---

## Terms and Concepts

The 4100U's 2120 interface provides the physical interface between a 4100U and a 2120 channel. Connecting the 4100U to the 2120 channel allows the 2120 system to activate 4100U signals or annunciate events when alarm, trouble, and supervisory conditions occur on 2120 initiating devices. Additionally, it allows the 2120 to monitor 4100U initiating devices and activate 2120 signals if a 4100U initiating device activates. Information on connecting the 4100U's 2120 interface to the 2120 channel is contained in 579-221. This section describes the programming required to identify the 4100U 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 4100U, 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 4100U, a transponder does not refer to a single piece of equipment, such as a single 4100U, 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 4100U 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 settings to 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**.

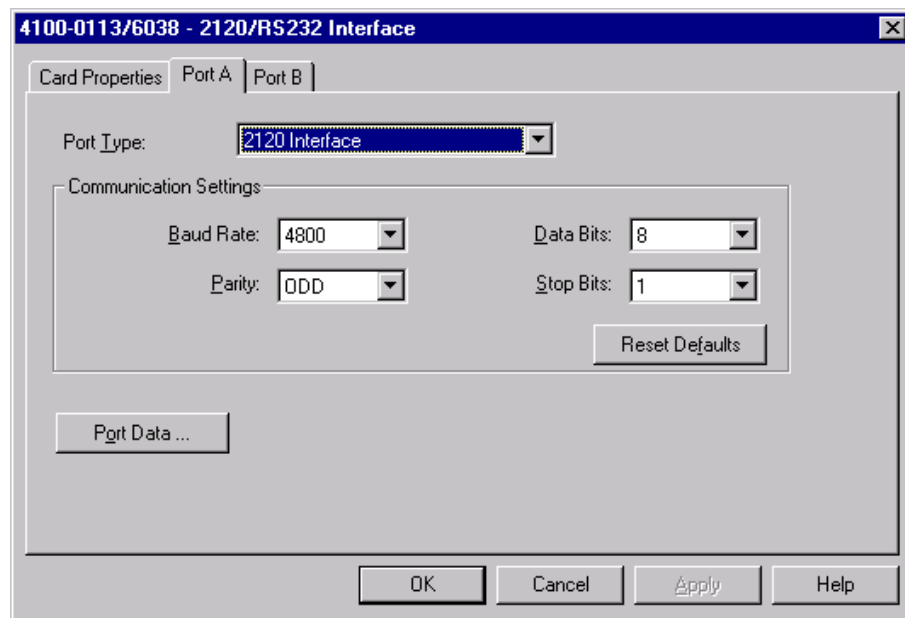


Figure 6-23. 2120 Interface, Port A Settings

*Continued on next page*

## Editing 2120 Interface Properties, *Continued*

### Data Entry Fields

Click on the Port Data button. The screen shown in

- **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.

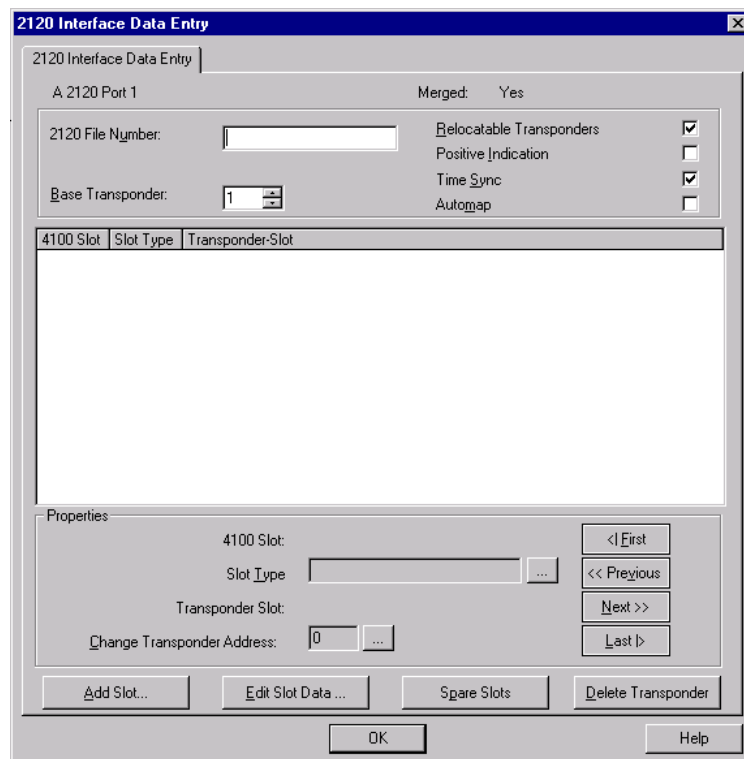


Figure 6-24. Port Data Screen, 2120 Interface

### Automatically Defining Monitor and Control Slots

Before attempting to automatically define monitor and control slots, first calculate the total number of transponders addresses required for the 4100U 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 4100U, you would look for a block of ten free addresses that are all next to one and other.

*Continued on next page*



## Editing 2120 Interface Properties, *Continued*

### Automatically Defining Monitor and Control Slots, (continued)

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.

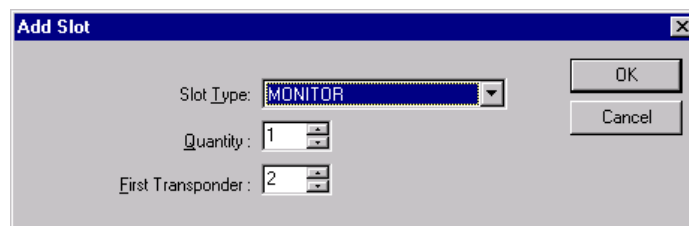
### Manually Defining Monitor and Control Slots

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 4100U points. (When you automatically add monitor and control slots, the programmer reserves enough slots for all of the 4100U 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 and other. 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 and other. 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 6-24 for the location of this button. A dialog similar to the following appears.



**Figure 6-25. 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 that 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 2120 Interface Properties, *Continued*

## 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 4100U reference address.

To edit the monitor slot data, do the following:

1. In the 2120 Interface Data Entry screen (Figure 6-24), 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 6-26 appears.

2120 Interface card MONITOR Slot

2120 Monitor Slot 1 Port A 2120 - 2

Point	Mode	Ref. Address	Ref. Label
X05-101			
X05-102			
X05-103			
X05-104			
X05-105			
X05-106			
X05-107			
X05-108			

Properties

Point : X05-101

Mode :

Reference Address :

Reference Label :

2120 Label :

<| First

<< Previous

Next >>

Last >

OK Cancel Apply Help

**Figure 6-26. 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 2120 Interface Properties, *Continued*

### Editing Monitor Slot Data, *(continued)*

In this table, the resulting state (normal, current limited, open, short) of the 2120 point is listed at the top and the 4100U states are listed underneath the 2120 states. For example, if you assign the DUAL mode to a 4100U 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 4100U 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 2120 Interface Properties, *Continued*

### 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 6-24), 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 6-27 appears.

Point	Mode	Ref. Address	Ref. Label
X01-101			
X01-102			
X01-103			
X01-104			

Properties

Point : X01-101

Mode :

Reference Address :

Reference Label :

2120 Label :

<| First

<< Previous

Next >>

Last |>

OK Cancel Apply Help

**Figure 6-27. 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 2120 Interface Properties, *Continued*

Editing Control Slot  
Data, (continued)

**Table 6-6. Control Slot Modes**

4100U Mode	Valid 4100U 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 2120 Interface Properties, *Continued*

Editing Control Slot  
Data, *(continued)*

**Table 6-6. Control Slot Modes** *(continued)*

4100U Mode	Valid 4100U 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

# 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 4100U.

- Non-Audio Hardware Points, such as the Monitor points, Relay points, etc.
- Pseudo Points, which are memory locations on the 4100U 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.

Topic	See Page #
Overview	7-2
Programming Function Keys, Switches, and LEDs	7-8
Programming Monitor Points	7-11
Programming NAC and Signal Points	7-14
Programming Relay Points	7-18
Programming IDNet and MAPNET Points	7-20
Programming Pseudo Points	7-22

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# 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.

HW Ref	Point Name	Device Type	Point Type	Custom Label	PNIS Code
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	
0-5-4	0-5-4	PBSWITCH	SWITCH	Master's I/O Control Switch 4	
0-5-5	0-5-5	PBSWITCH	SWITCH	Master's I/O Control Switch 5	
0-5-6	0-5-6	MKYLEDS	LED	Master's I/O Control LED 6	
0-5-7	0-5-7	MKYLEDS	LED	Master's I/O Control LED 7	
0-5-8	0-5-8	MKYLEDS	LED	Master's I/O Control LED 8	
0-5-9	0-5-9	MKYLEDS	LED	Master's I/O Control LED 9	
0-5-10	0-5-10	MKYLEDS	LED	Master's I/O Control LED 10	
0-5-11	0-5-11	MKYLEDSCRY	LEDRED	Master's I/O Control LED 11	
0-5-12	0-5-12	MKYLEDSCRY	LEDRED	Master's I/O Control LED 12	
0-5-13	0-5-13	MKYLEDSGCV	LEDGREEN	Master's I/O Control LED 13	
0-6-5	0-6-5	MTBL6	TROUBLE	Master Trouble - City circuit	
0-6-6	0-6-6	MTBL6	TROUBLE	Master Trouble - LCD display	
0-6-7	0-6-7	MTBL6	TROUBLE	Master Trouble - Simplex Service Mode	
0-7-2	0-7-2	MCODE7	PIEZO	Master Output - Display Sonalert	
0-7-3	0-7-3	MCODE7	RELAY	Master Output - City Alarm Relay	
0-7-4	0-7-4	MCODE7	RELAY	Master Output - City Trouble Relay	
0-8-5	0-8-5	MFLASH8	LED	Master Display - Back Light	
CST 1-0-0	1-0-0	CARDSTAT	CSP	Card Monitor	
CST 1-0-1	1-0-1	CARDSTAT	CSP	Card Verification	
CST 1-0-2	1-0-2	CARDSTAT	CSP	Card Over Current Trouble	
CST 1-0-3	1-0-3	CARDSTAT	CSP	Low Battery Cutout	
CST 1-0-4	1-0-4	CARDSTAT	CSP	A/C Power Loss	
CST 1-0-5	1-0-5	CARDSTAT	CSP	Low Battery Trouble	
CST 1-0-6	1-0-6	CARDSTAT	CSP	Missing/Depleted Battery	
CST 1-0-7	1-0-7	CARDSTAT	CSP	City Circuit 1 Trouble	
CST 1-0-8	1-0-8	CARDSTAT	CSP	City Circuit 2 Trouble	
CST 1-0-9	1-0-9	CARDSTAT	CSP	Positive Earth Trouble	
CST 1-0-10	1-0-10	CARDSTAT	CSP	Negative Earth Trouble	

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*



## Overview, Continued

### 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, 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.

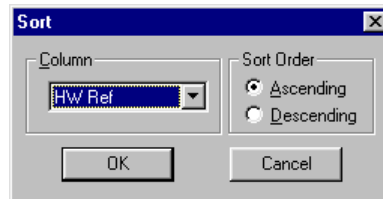


Figure 7-2. Sort Dialog

- **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.

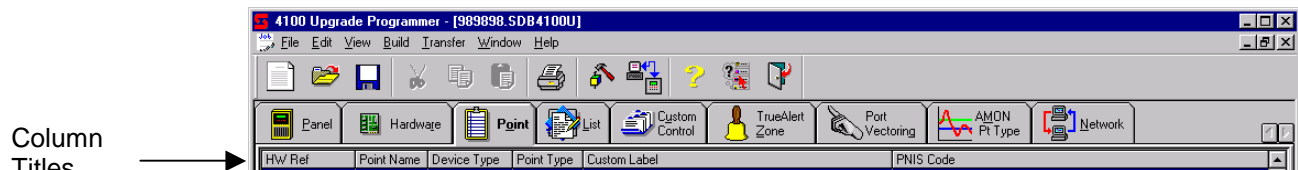


Figure 7-3. Location of Column Titles

- **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*

## Overview, Continued

### 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.)

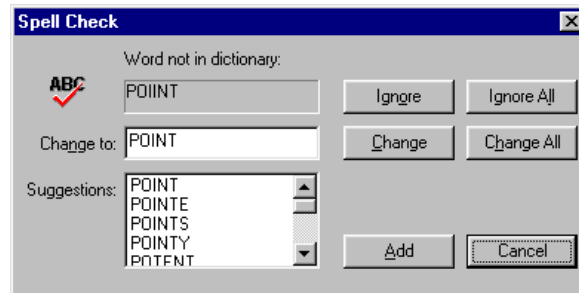


Figure 7-5. Spell Check

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 down list, click on one of the entries, and then click on the Change 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.)

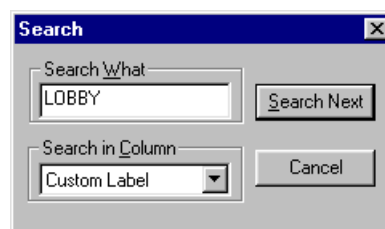


Figure 7-6. Search Dialog

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.

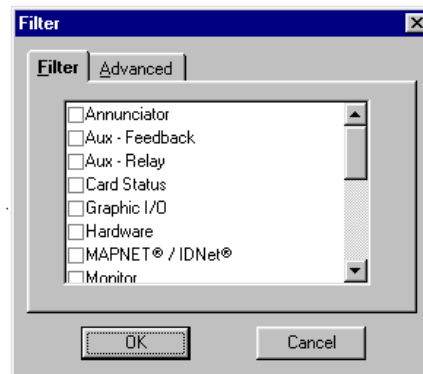
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## Overview, Continued

### Filter

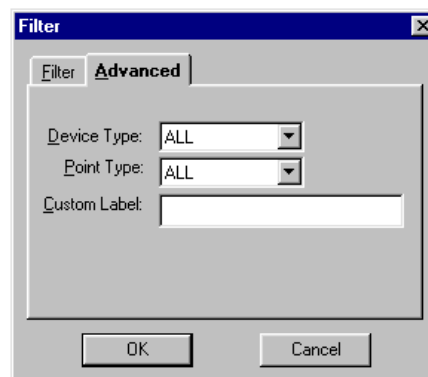
Filter is useful for when you just want to see a specific subset of the system points. For example, all smoke detectors with a custom label of “First Floor” or all door holder relays (i.e., points with a point type of DH).

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) allows you 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

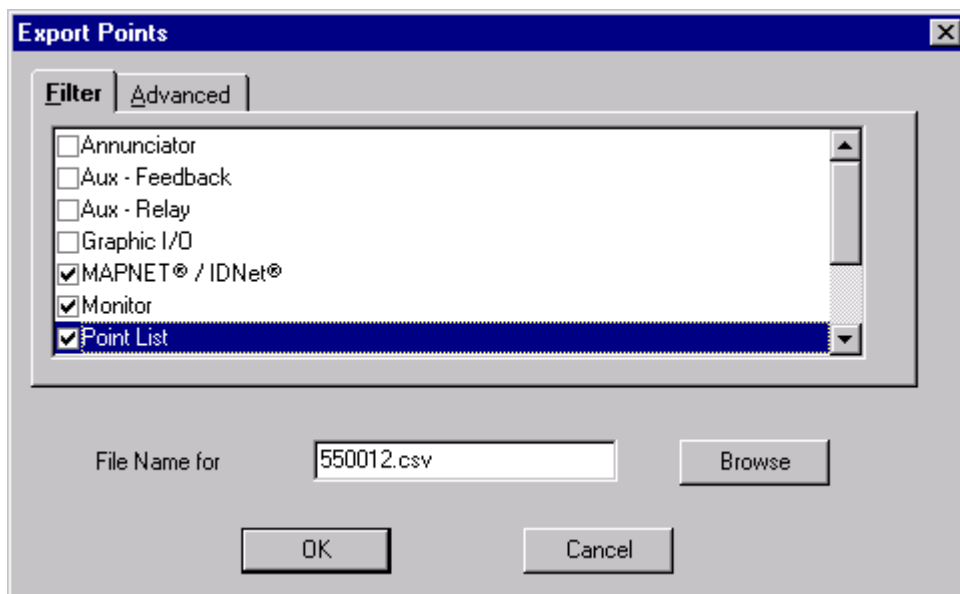
## Overview

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 4100U 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**

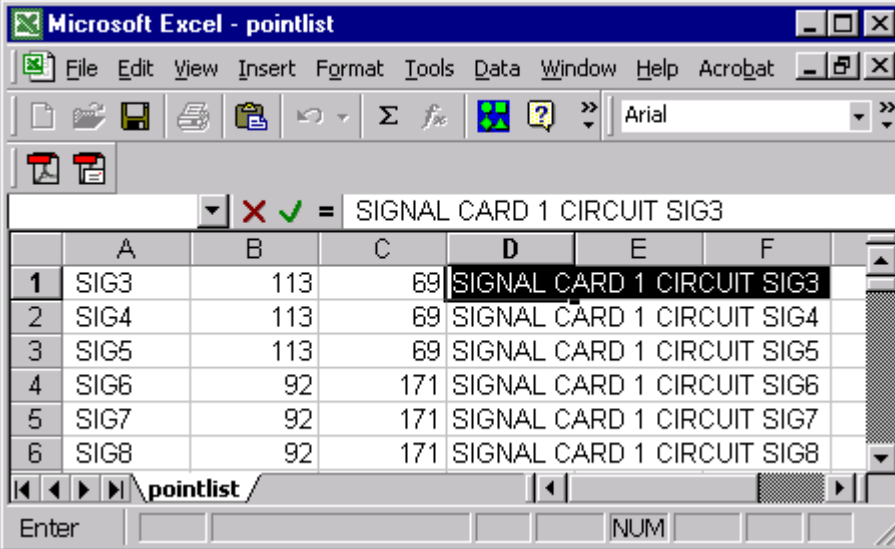
3. Check the boxes corresponding to the type of points you want to export.
4. Enter a filename for the CSV file in the File Name for text box. Use a file extension of .CSV
5. Click OK. The programmer generates a message indicating that the export operation successfully completed. The CSV file is stored 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*

## Importing/Exporting a CSV File Containing Point Definitions, *Continued*

### Exporting a CSV File, *(continued)*

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

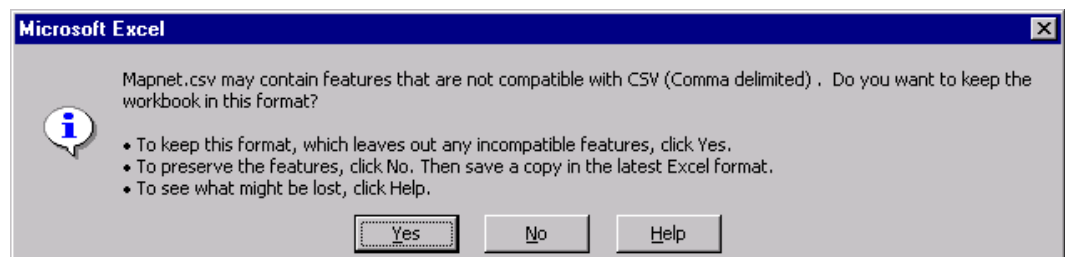


	A	B	C	D	E	F
1	SIG3	113	69	SIGNAL CARD 1 CIRCUIT SIG3		
2	SIG4	113	69	SIGNAL CARD 1 CIRCUIT SIG4		
3	SIG5	113	69	SIGNAL CARD 1 CIRCUIT SIG5		
4	SIG6	92	171	SIGNAL CARD 1 CIRCUIT SIG6		
5	SIG7	92	171	SIGNAL CARD 1 CIRCUIT SIG7		
6	SIG8	92	171	SIGNAL CARD 1 CIRCUIT SIG8		

**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.



### 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 7-11 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	<ol style="list-style-type: none"><li>1. Click on the <b>Point Tab</b>. The programmer lists all points in the system.</li><li>2. Locate the LED or switch to be programmed, using either the window's scroll bar or the Search, Filter, or Sort options.</li><li>3. Double click on the LED or Switch point. A properties window similar to the one shown in Figure 7-11 appears.</li></ol>
	Hardware Tab	<ol style="list-style-type: none"><li>1. Click on the <b>Hardware Tab</b>. Click on the + signs to the left of the Unit 0, Box1, and Bay1 icons.</li><li>2. Double click on the card icon labeled <b>(slot4) (xxx) 4100-000-CPU</b>. A card-specific dialog box, containing four tabs, appears.</li><li>3. Click on the <b>Display</b> tab. A window similar to the one shown in Figure 7-11 appears. Click on the <b>Display</b> checkbox.</li><li>4. Click on the LED or Switch point.</li></ol>
Display Card and Annunciator  LEDs and Switches	Point Tab	<ol style="list-style-type: none"><li>1. Click on the <b>Point Tab</b>. The programmer lists all points in the system.</li><li>2. Locate the LED or switch to be programmed, using either the window's scroll bar or the Search, Filter, or Sort options.</li><li>3. Double click on the LED or Switch point. A properties window similar to the one shown in Figure 7-11 appears.</li></ol>
	Hardware Tab	<ol style="list-style-type: none"><li>1. Click on the Hardware Tab. Click on the + signs to the left of the appropriate Unit, Box, and Bay icons.</li><li>2. Double click on the card icon (LED and Switch Display Card, LCD Annunciator, RCU, SCU, or 24 I/O) containing the LED or switch point you want to edit. A properties window similar to the one shown in Figure 7-11 appears.</li><li>3. Click on the LED or Switch point.</li></ol>

*Continued on next page*

## Programming Function Keys, Switches, and LEDs, *Continued*

### Step 1. Choose LED or Switch to Program, *(continued)*

The image shows a software window titled "Point Properties". It has a tab labeled "Point". Inside the window, there are several fields and buttons. At the top, "HW Ref: ?-1" and "Point Name: ?-1". Below that, "Device Type: LED". Then "Point Type: LED" with a dropdown arrow. Next is "Mode: DISABLE" with a dropdown arrow. Below that is "Custom Label: ZONE 1 FIRST FLOOR". Then "Reference Address: M1-1". At the bottom left is "Reference Label: Press F9 for Taglist". On the right side, there are four buttons: "<| First", "<< Previous", "Next >>", and "Last |>". At the bottom of the window are four buttons: "OK", "Cancel", "Apply", and "Help".

**Figure 7-11. 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.

### 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 be 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 7-11 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.

*Continued on next page*

## Programming Function Keys, Switches, and LEDs, *Continued*

### High-Level Mode Programming for Display Cards, (*continued*)

Point	Mode	Ref. Address	Ref. Label
1			
2			
3			
4			
5			
6			
7			
8			

Properties

Point : 1

Mode : [dropdown]

Reference Address : [text box]

Reference Label : [text box]

< First  
<< Previous  
Next >>  
Last >

OK Cancel Apply Help

**Figure 7-12. 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	<ol style="list-style-type: none"><li>1. Click on the <b>Point Tab</b>. The programmer lists all points in the system.</li><li>2. Locate the monitor point to be programmed. One easy way to do this is to use the <b>Filter</b> option. Right click in the Point Window. When the Filter option appears, click on the <b>Monitor</b> checkbox and select OK. The Point Window then displays only monitor points.</li><li>3. Double click on the monitor point. A properties window similar to the one shown in Figure 7-13 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.</li></ol>
Hardware Tab	<ol style="list-style-type: none"><li>1. Click on the <b>Hardware Tab</b>. Click on the + signs to the left of the Unit, Box, and Bay icons containing the monitor card.</li><li>2. Double click on the monitor card icon. A window similar to the one shown in Figure 7-13 appears.</li><li>3. Click on the monitor point.</li></ol>

*Continued on next page*

# Programming Monitor Points, *Continued*

Step 1. Choose Monitor Point to Program, *(continued)*

HW Ref	Point Name	Device Type	Point Type	Custom Label	PNIS Code
MON 3-1	ZN1	SMONB	ALARM	MONITOR CARD 3 ZONE ZN1	
MON 3-2	ZN2	SMONB	ALARM	MONITOR CARD 3 ZONE ZN2	
MON 3-3	ZN3	SMONB	ALARM	MONITOR CARD 3 ZONE ZN3	
MON 3-4	ZN4	SMONB	ALARM	MONITOR CARD 3 ZONE ZN4	
MON 3-5	ZN5	SMONB	ALARM	MONITOR CARD 3 ZONE ZN5	
MON 3-6	ZN6	SMONB	ALARM	MONITOR CARD 3 ZONE ZN6	
MON 3-7	ZN7	SMONB	ALARM	MONITOR CARD 3 ZONE ZN7	
MON 3-8	ZN8	SMONB	ALARM	MONITOR CARD 3 ZONE ZN8	

Properties	
HW Ref :	3-1
Point :	ZN1
Device Type :	SMONB   Class B Monitor/Security Device
Point Type :	ALARM   Generic Fire Alarm Point
Custom Label :	MONITOR CARD 3 ZONE ZN1
PNIS Code :	

<| First  
Previous <<  
Next >>  
Last |>

OK Cancel Apply Help

Figure 7-13. 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*

## Programming Monitor Points, *Continued*

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### 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.

---

# 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**

Point Type	Tab	Procedure
Signal	Point Tab	<ol style="list-style-type: none"><li>1. Click on the Point Tab. The programmer lists all points in the system.</li><li>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 <b>Signal</b> checkbox within the Filter option displays only the system's Notification appliance and signal points.)</li><li>3. Double click on the Signal Point. A properties window similar to the one shown in Figure 7-14 appears.</li></ol>
	Hardware Tab	<ol style="list-style-type: none"><li>1. Click on the Hardware Tab. Click on the + signs to the left of the appropriate Unit, Box, and Bay icons.</li><li>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 7-14 appears.</li></ol>
NAC	Point Tab	<ol style="list-style-type: none"><li>1. Click on the Point Tab. The programmer lists all points in the system.</li><li>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 <b>Signal</b> checkbox within the Filter option displays only the system's Notification appliance and signal points.)</li><li>3. Double click on the NAC Point. A window similar to the one shown in Figure 7-14 appears.</li></ol>
	Hardware Tab	<ol style="list-style-type: none"><li>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.</li><li>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.</li></ol>

*Continued on next page*

# Programming NAC and Signal Points, *Continued*

Step 1. Choose NAC or Signal Point to Program, *(continued)*

The screenshot shows a software window titled "System Power Supply" with a tabbed interface. The "NACs" tab is selected. Inside the window, there is a table with the following data:

HW Ref	Point Name	Device Type	Point Type	Custom Label	Power Draw (Amps)
SIG 1-1	SIG3	SIGB	SSIGNAL	SIGNAL CARD 1 CIRCUIT SIG3	0.0000
SIG 1-2	SIG4	SIGB	SSIGNAL	SIGNAL CARD 1 CIRCUIT SIG4	0.0000
SIG 1-3	SIG5	SIGB	SSIGNAL	SIGNAL CARD 1 CIRCUIT SIG5	0.0000

Below the table is a "Properties" section with the following fields and controls:

- HW Ref: 1-1
- Point: SIG3
- Point Type: SSIGNAL (dropdown menu)
- Custom Label: SIGNAL CARD 1 CIRCUIT SIG3
- Current Draw (Amps): 0

Navigation buttons on the right include "<| First", "<< Previous", "Next >>", and "Last >". At the bottom are "OK", "Cancel", "Apply", and "Help" buttons.

Figure 7-14. 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.

*Continued on next page*

## Programming NAC and Signal Points, *Continued*

### 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 7-14), 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 the 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.

PID	Description	Current Draw (A)	Quantity	Total (A)
2901-9047	BELL/VIB 24VAC 6" BEIGE	0.3200	2	0.6400
2901-9351	BELL/SS 1.2VDC 4456L-6-14-1DC	2.5000	0	0.0000
2901-9352	BELL SS 4451L-10-14-1DC	2.5000	0	0.0000
2901-9836	MINI HORN RED 24VDC	0.0150	0	0.0000
2901-9837	MINI HORN GENGX90-4 OFF WHITE	0.0150	2	0.0300
2902-9503	BUZZER/115V 60HZ 4000-12	0.0630	0	0.0000
2902-9505	BUZZER/24V 60HZ 4000-21	0.2500	0	0.0000
2902-9508	BUZZER/24V 60HZ 4001-11	0.1250	0	0.0000
2902-9600	SIREN - A*120-2Z	1.2000	0	0.0000
2902-9602	SIREN/110V L*120-2Z	1.6000	0	0.0000

Operation:  
☐ Add (Present Total + SubTotal = New Total)  
☐ Subtract (Present Total - SubTotal = New Total)  
☒ Replace (SubTotal = New Total)

SubTotal (Amps) 0.6700  
PresentTotal (Amps) 0.0000  
NewTotal (Amps) 0.6700

Change quantities by double clicking on device (or control+Q).

OK Cancel Help

**Figure 7-15. 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.

*Continued on next page*

## Programming NAC and Signal Points, *Continued*

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### Step 4. Use the NAC Power Consumption Calculator, *(continued)*

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

### 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 4100U 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 True Alert controllers and True Alert 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 true alert 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**

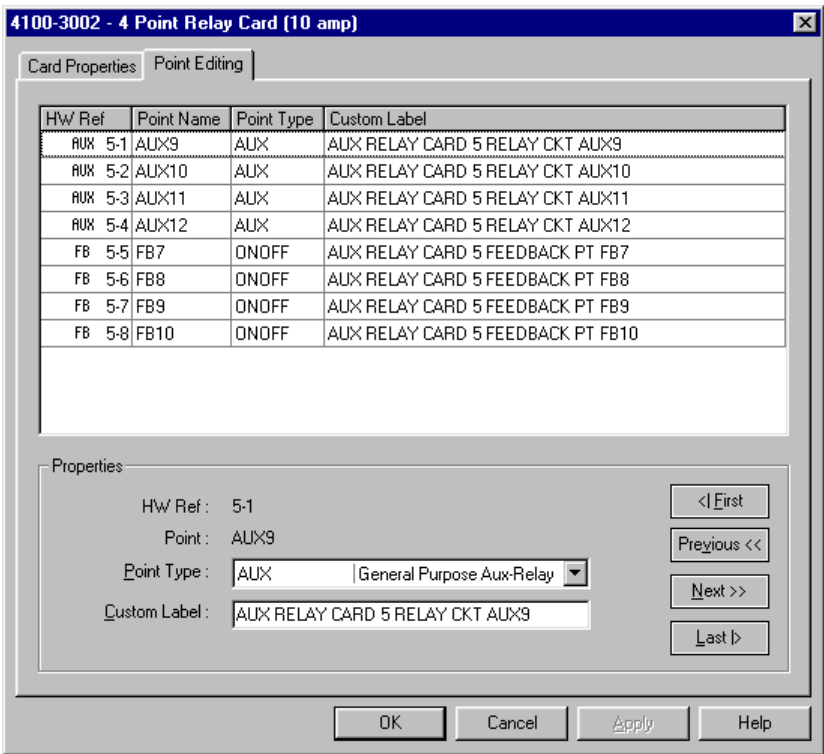
Point Type	Tab	Procedure
AUX Relay	Point Tab	<ol style="list-style-type: none"><li>1. Click on the Point Tab. The programmer lists all points in the system.</li><li>2. Locate the Relay Point to be programmed, using either the window's scroll bar or the Search, Filter, or Sort options. (For example, selecting the <b>AUX Relay</b> checkbox within the Filter option displays only the system's relay points.)</li><li>3. Double click on the relay point. A properties window similar to the one shown in Figure 7-16 appears.</li></ol>
	Hardware Tab	<ol style="list-style-type: none"><li>1. Click on the Hardware Tab. Click on the + signs to the left of the appropriate unit, box, and bay.</li><li>2. Double click on the icon for the power supply containing the AUX relay you want to program.</li><li>3. Click on the <b>Aux Relay</b> tab. A window similar to the one shown in Figure 7-16 appears.</li></ol>
4100-3001 4100-3002 4100-3003 Relays	Point Tab	<ol style="list-style-type: none"><li>1. Click on the Point Tab. The programmer lists all points in the system.</li><li>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 <b>Aux Relay</b> checkbox within the Filter option displays only the system's relay.)</li><li>3. Double click on the relay point. A properties window similar to the one shown in Figure 7-16 appears.</li></ol>
	Hardware Tab	<ol style="list-style-type: none"><li>1. Click on the Hardware Tab. Click on the + signs to the left of the appropriate Unit, Box, and Bay icons.</li><li>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 7-16 appears.</li></ol>

*Continued on next page*



# Programming Relay Points, Continued

**Step 1. Choose Relay Point to Program, (continued)**



**Figure 7-16. 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	<ol style="list-style-type: none"> <li>1. Click on the Point Tab. The programmer lists all points in the system.</li> <li>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 <b>MAPNET/IDNET</b> checkbox within the Filter option displays only the system's IDNet and MAPNET points.)</li> <li>3. Double click on the point. A properties window similar to the one shown in Figure 7-17 appears. The device type cannot be edited here. The device type can be edited via the Hardware tab.</li> </ol>
	Hardware Tab	<b>IDNet Points on a Power Supply</b> <ol style="list-style-type: none"> <li>1. Click on the Hardware Tab. Click on the + signs to the left of the appropriate unit, box, and bay.</li> <li>2. Double click on the icon for the appropriate power supply card. A dialog for the power supply appears.</li> <li>3. Click on the <b>IDNet</b> tab. A window similar to the one shown in Figure 7-17 appears.</li> </ol>
		<b>IDNet Points on an IDNet Option Card</b> <ol style="list-style-type: none"> <li>1. Click on the Hardware Tab. Click on the + signs to the left of the appropriate Unit, Box, and Bay icons.</li> <li>2. Double click on the IDNet card icon containing the point you want to edit. A window similar to the one shown in Figure 7-17 appears.</li> </ol>
MAPNET	Point Tab	<ol style="list-style-type: none"> <li>1. Click on the Point Tab. The programmer lists all points in the system.</li> <li>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 <b>MAPNET/IDNET</b> checkbox within the Filter option displays only the system's MAPNET and IDNet points.)</li> <li>3. Double click on the point. A properties window similar to the one shown in Figure 7-17 appears. The device type cannot be edited here. The device type can be edited via the Hardware tab.</li> </ol>
	Hardware Tab	<ol style="list-style-type: none"> <li>1. Click on the Hardware Tab. Click on the + signs to the left of the appropriate Unit, Box, and Bay icons.</li> <li>2. Double click on the MAPNET card icon containing the point you want to edit. A window similar to the one shown in Figure 7-17 appears.</li> </ol>

*Continued on next page*

# Programming IDNet and MAPNET Points, *Continued*

**Step 1. Choose IDNet/MAPNET Point to Program,**  
*(continued)*

The screenshot shows a software window titled "4100-9999 - IDNET". It has two tabs: "Card Properties" and "Point Editing", with "Point Editing" selected. The main area contains a table with the following columns: HW Ref, Point Name, Device Type, Point Type, Custom Label, and PNIS Code. The table lists 11 points, all with "UNUSED" in the Device Type column. Below the table is a "Properties" section with fields for HW Ref (3-1), Point (M?-1), Device Type (a dropdown menu), Point Type (a dropdown menu), Custom Label (a text field), and PNIS Code (a text field). To the right of these fields are four navigation buttons: "<|First", "Previous <<", "Next >>", and "Last |>". At the bottom of the window are four buttons: "OK", "Cancel", "Apply", and "Help".

HW Ref	Point Name	Device Type	Point Type	Custom Label	PNIS Code
MAP 3-1	M?-1	UNUSED			
MAP 3-2	M?-2	UNUSED			
MAP 3-3	M?-3	UNUSED			
MAP 3-4	M?-4	UNUSED			
MAP 3-5	M?-5	UNUSED			
MAP 3-6	M?-6	UNUSED			
MAP 3-7	M?-7	UNUSED			
MAP 3-8	M?-8	UNUSED			
MAP 3-9	M?-9	UNUSED			
MAP 3-10	M?-10	UNUSED			
MAP 3-11	M?-11	UNUSED			

**Figure 7-17. Defining IDNet Points**

**Step 2. 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 3. 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 Pseudo Points

## Overview

Pseudo points are memory locations within the system designed to store specific types of information. The 4100U 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 7-7. Selecting Pseudo Point

Point Type	Tab	Procedure
Analog or Digital Pseudo Point	Point Tab	<ol style="list-style-type: none"><li>1. Click on the Point Tab. The programmer lists all points in the system.</li><li>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 <b>User Digital Pseudo</b> checkbox within the Filter option displays only the system's user-defined digital pseudo points.) The first available user digital pseudo point is P512.</li><li>3. Double click on the Pseudo Point. A properties window similar to the one shown in Figure 7-18 appears.</li></ol>
	Hardware Tab	<ol style="list-style-type: none"><li>1. Click on the Hardware Tab. Click on the + signs to the left of the Unit, Box, and Bay icons in which the CPU card resides.</li><li>2. Double click on the card icon containing the pseudo point you want to edit. A window similar to the one shown in Figure 7-18 appears.</li></ol>

Continued on next page

# Programming Pseudo Points, Continued

**Step 1 Choose Pseudo Point to Program, (continued)**

4100-xxxx - 256 Point Digital Pseudo

Card Properties

Point Editing

HW Ref	Point Name	Point Type	Custom Label	PNIS Code
016 130-0-0	P512	UTILITY		
016 130-1	P513	UTILITY		
016 130-2	P514	UTILITY		
016 130-3	P515	UTILITY		
016 130-4	P516	UTILITY		
016 130-5	P517	UTILITY		
016 130-6	P518	UTILITY		
016 130-7	P519	UTILITY		
016 130-8	P520	UTILITY		
016 130-9	P521	UTILITY		
016 130-10	P522	UTILITY		
016 130-11	P523	UTILITY		
016 130-12	P524	UTILITY		
016 130-13	P525	UTILITY		
016 130-14	P526	UTILITY		

Properties

HW Ref: 130-0-0

Point: P512

Point Type: 

UTILITY

Custom Label:

PNIS Code:

<| First

<< Previous

Next >>

Last |>

OK

Cancel

Apply

Help

Figure 7-18. 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.

Continued on next page

## Programming Pseudo Points, *Continued*

### 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 7-8. 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 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 7-9. 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 a an on/off switch within a custom control equation.

# Chapter 8

## Audio Programming

### Introduction

Programming the 4100U 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.

Topic	See Page #
Programming Guidelines	8-2
Setting Audio Card Properties	8-3
Specify Initial Audio Library	8-6
Specify Audio Options	8-8
Build Job and Download Files	8-9
Creating Custom Scripts	8-10
Example -- Programming LED/Switch for Audio	8-14

# 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 is capable 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 a

### 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.

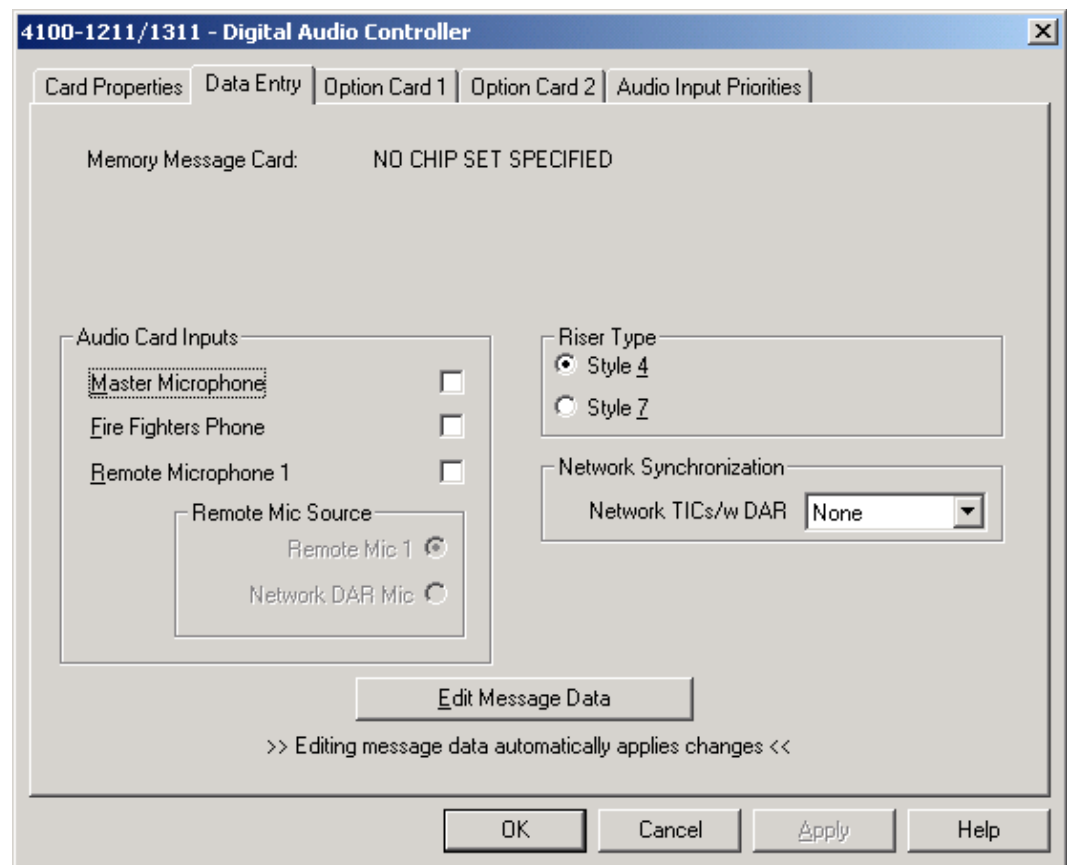


Figure 8-1. Audio Controller Properties Example

*Continued on next page*

## Setting Audio Card Properties, *Continued*

Analog or Digital  
Audio Controller  
Properties,  
(continued)

**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: <ul style="list-style-type: none"> <li>Analog Controller. Select whether the audio riser uses Class A or Class B wiring.</li> <li>Digital Controller. Select whether the audio riser uses Style 4 or Style 7 wiring.</li> </ul>
	Remote Mic Source. This option is available only when Remote Microphone 1 is checked. Specifies whether the microphone
	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: <ul style="list-style-type: none"> <li>25 V Audio. Select this radio button if a 25V audio input source is attached to the input connection of the option board.</li> <li>70 V Audio. Select this radio button if a 75V audio input source is attached to the input connection of the option board.</li> <li>Line Level Audio. Select this radio button if a line level audio input source is attached to the input connection of the option board.</li> <li>Remote Microphone 2.</li> <li>Network DAR Microphone.</li> </ul>
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 <b>live</b> 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.

*Continued on next page*

## Setting Audio Card Properties, *Continued*

### 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	<p>Depleted Battery Cutout. Check to enable depleted battery cutout.</p> <p>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.</p> <p>Backup Amp Address. Address of amplifier used as a backup to this one.</p> <p>NAC Options. Select the choice corresponding to the type and number of NACs connected to the Amplifier.</p>
NAC Tab	<p>All amplifiers include a NAC's tab, used to specify the attributes of the amplifier's NAC outputs. Editable fields include:</p> <p>Custom Label – Use this field to add a descriptive label to the point.</p> <p>Point Type. Set this field to Signal, Speaker, XSNAC1, or XSNAC2.</p>

## 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 sheet for the 4100-1210 or 4100-1211 audio controller and click on the box labeled **Edit Message Data**. A screen similar to the following appears.

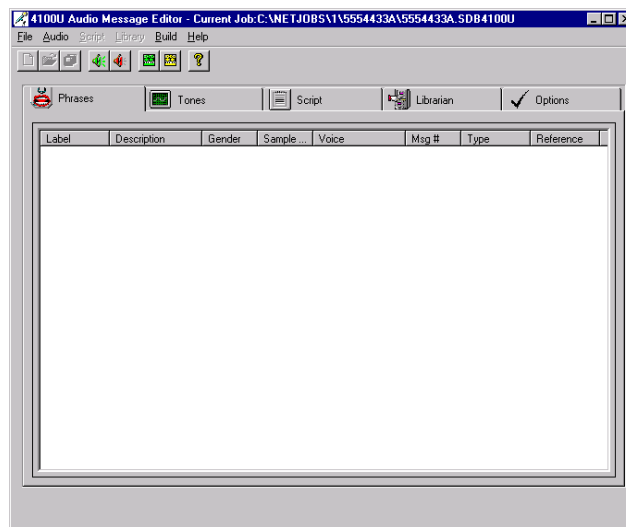


Figure 8-2. Audio Message Editor

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

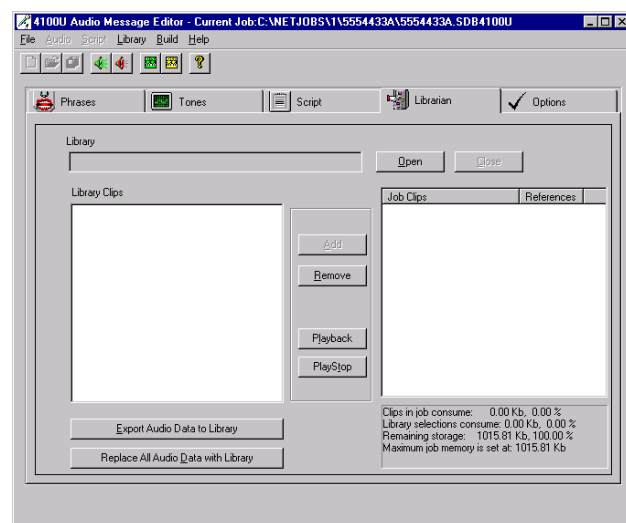


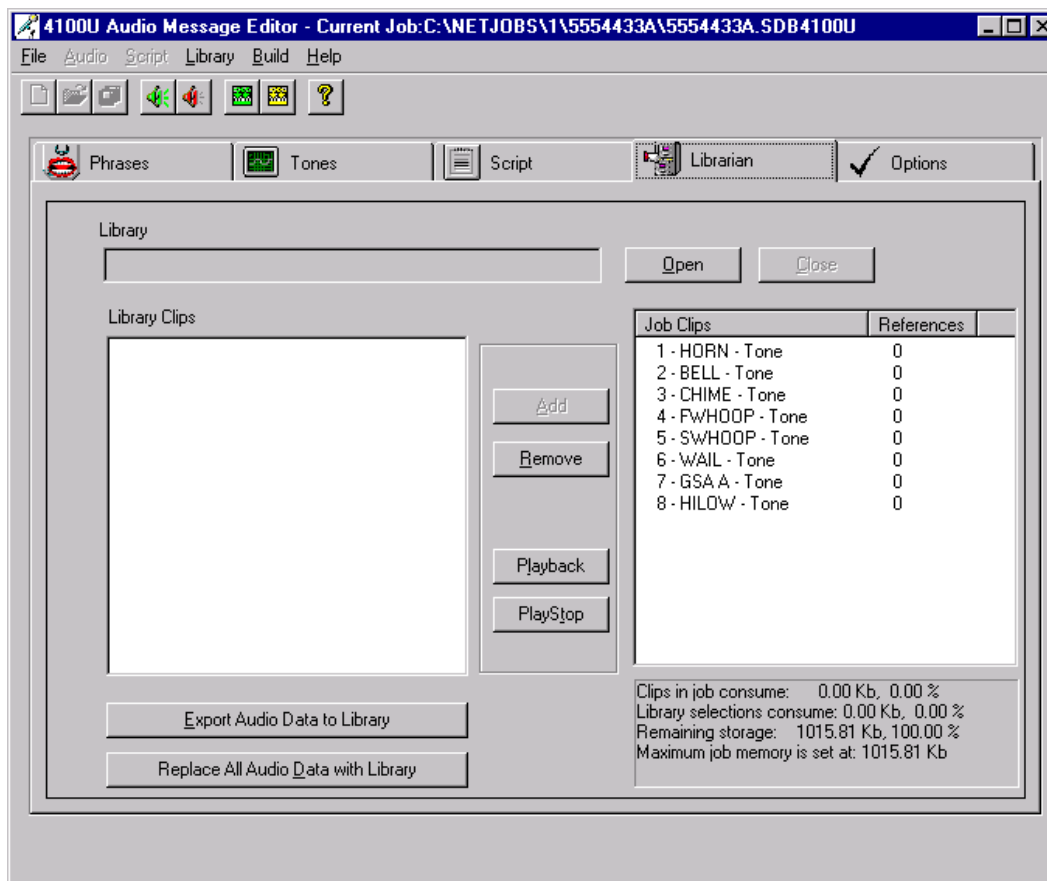
Figure 8-3. Librarian Tab

*Continued on next page*

## Specify Initial Audio Library, *Continued*

**Procedure,**  
(continued)

- 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.

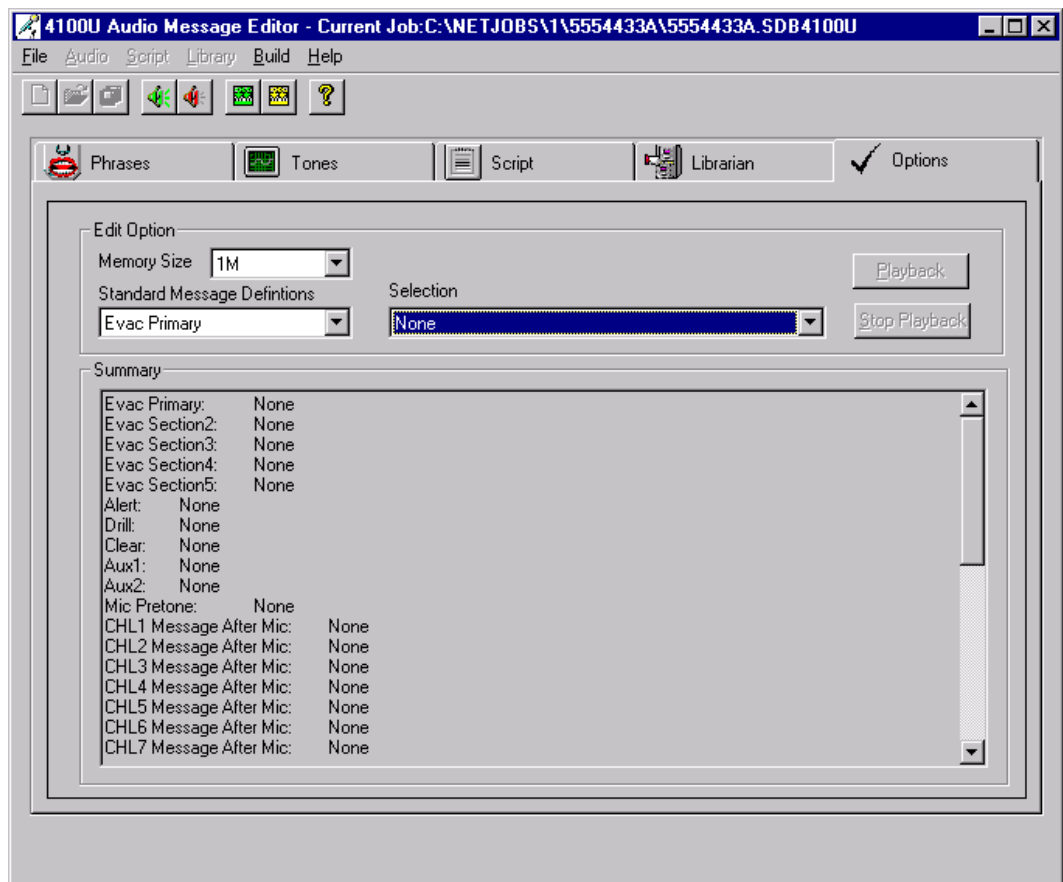


Figure 8-5. Options Tab

## 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	<p>The .MSB file, which contains all of the audio definitions, is located in the AUDIO subdirectory of the job subdirectory. For example:</p> <p style="text-align: center;">C:\4100UJOBS\0104U001A\AUDIO\0104U001A.MSB</p> <p>Refer to Chapter 14 of this manual for information on downloading the .MSB file to the audio slave.</p>
Step 3 -- Download the Master to the panel.	The master and the audio slave file must be synchronized with one and other. Always make sure to perform a download to the master after downloading a new .MSB file to the audio slave.

# Creating Custom Scripts

## Introduction

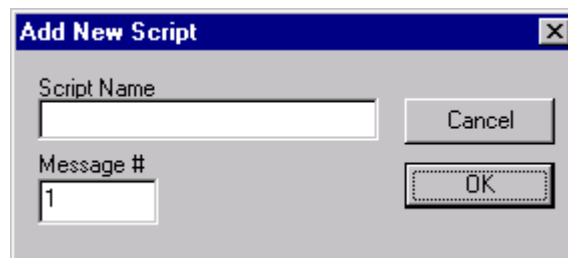
A script (Revision 10 and higher term) is analogous to a message (pre-Revision 10 term). A script is made up of the following building blocks.

- **Phrases.** These are .WAV files containing spoken audio data. 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 Custom Scripts, *Continued*

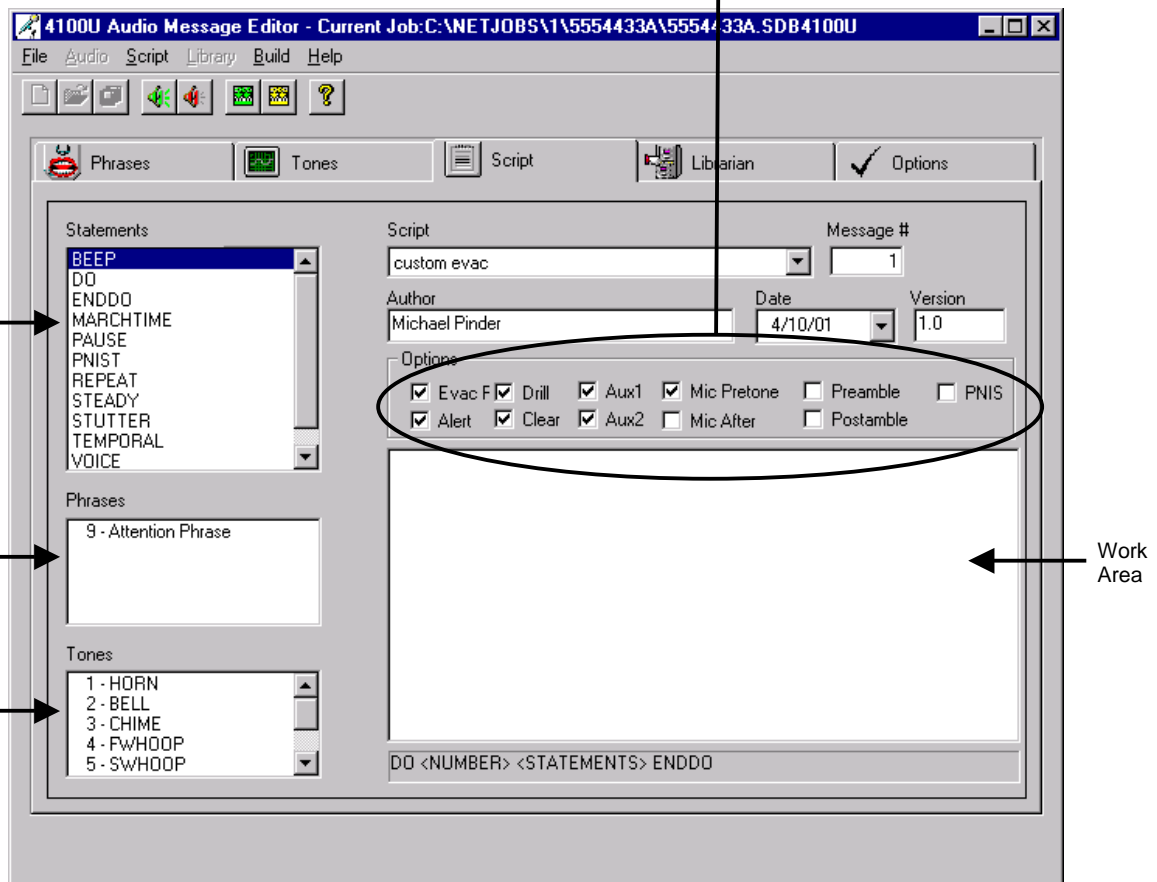
### Creating a New Script, *(continued)*

Check a box to make the script available in the Options Tab. For example, when you check Evac, the script is included in the Selections drop down list box for the Primary Evac message in the Options Tab.

Statements are audio tasks (for example, play Marchtime signal) or programming functions (for example, repeat last statement) used to create scripts. A script can contain multiple statements. Statements are dragged from this list into the work area on the right.

Phrases are pre-recorded messages that can be dragged from this box and included in a VOICE statement

Tones are pre-recorded tones that can be dragged from this box and included in the MARCHTIME, STEADY, PNIST, or TEMPORAL statements



**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 the 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 Custom Scripts, *Continued*

### Creating a New Script, *(continued)*

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 Custom Scripts, *Continued*

### Creating a New Script, *(continued)*

**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.

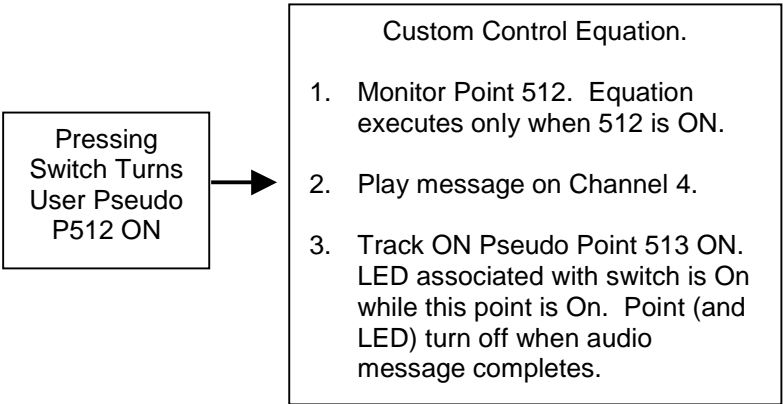


Figure 8-8. Associating Switch with Message

## 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.

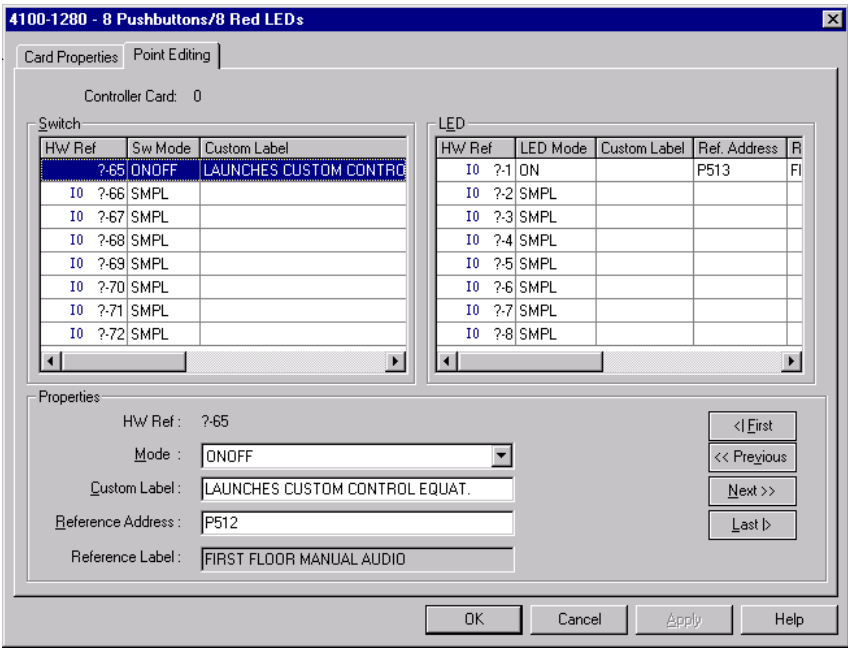


Figure 8-9. Point Editing for Switches

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 opcode monitors the state of P512, which is turned 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 4100U system) allows the full range of output parameters (channel, volume level, speaker list, tracking LED) to be set. In the example below,



The screenshot shows a window titled "Equations:" with three buttons: "Add...", "Edit...", and "List...". The main text area contains the following code:

```
[INPUTS]
  STATUS ON
    P512 | DIGITAL | UTILITY | PARKING GARAGE ALARM WARNING
[END INPUTS]
[OUTPUTS]
  UPLAY CHL4=76 VOLUME=RAMP RESET NOFLUSH SPK=L90 TRK=P513 PRI=9.9
[END OUTPUTS]
```

Figure 8-10. Example Custom Control



# 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 4100U 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 4100U FACP.

### In this Chapter

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

Topic	See Page #
Overview – List Tab	9-2
Editing System Lists	9-5
Adding and Editing User-Defined Lists	9-6
Editing Alarm Verification Groups	9-8
Editing Coding Groups	9-12
Editing WalkTest Groups	9-16
Editing Elevator Recall Lists	9-20

## 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.

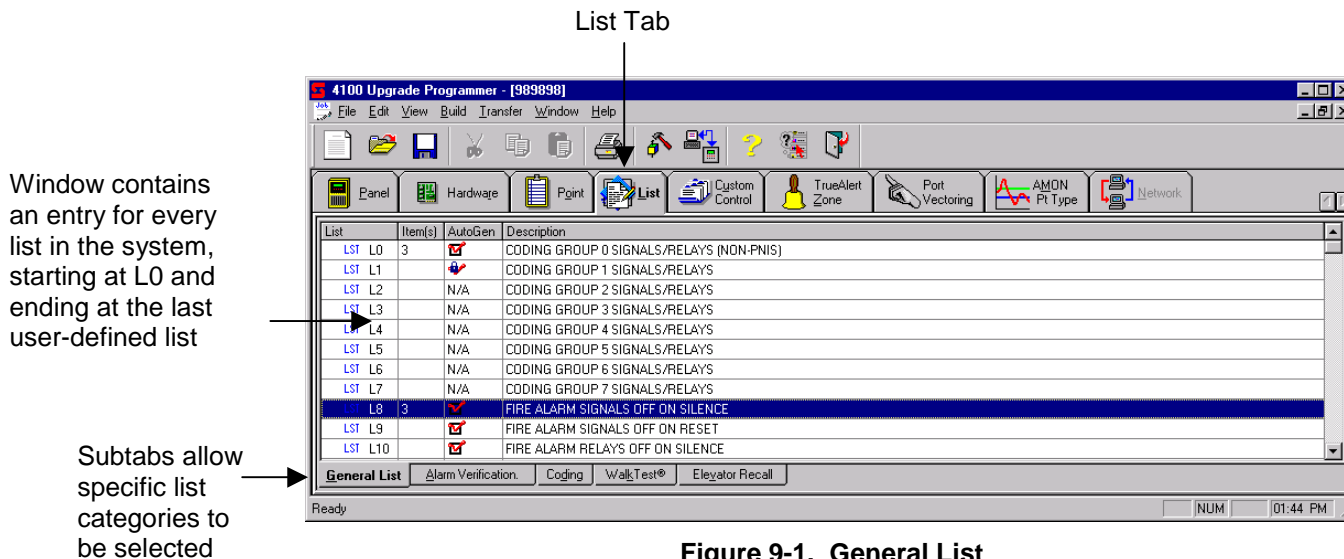


Figure 9-1. General List

### 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 to use for the sort operation. Next, select whether the sort should be in Ascending or Descending order and click on OK.

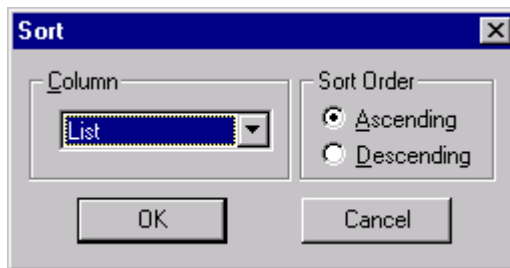


Figure 9-2. Sort Dialog

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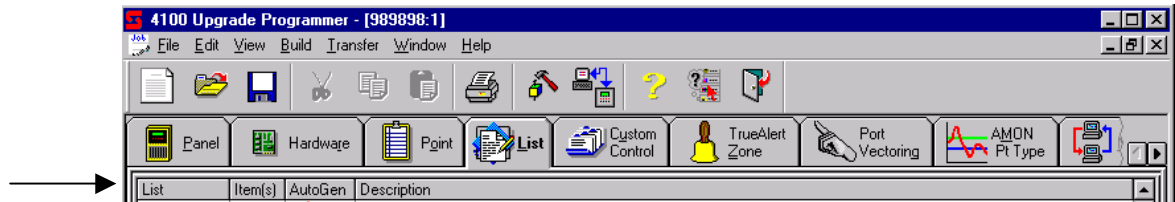


## Overview – List Tab, *Continued*

### Sort Function, (continued)

- **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.

Column  
Titles



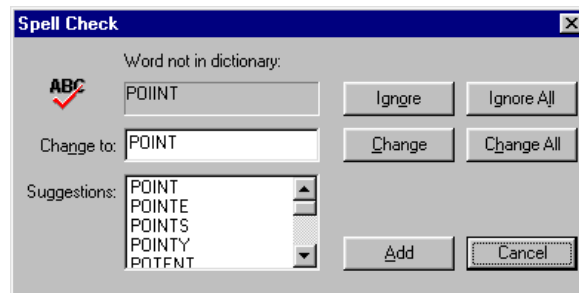
**Figure 9-3. Column Titles**

**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 down list, click on one of the entries, and then click on the Change or Change All field.

*Continued on next page*

## Overview – List Tab, *Continued*

### 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.

N/A 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 the appropriate 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.

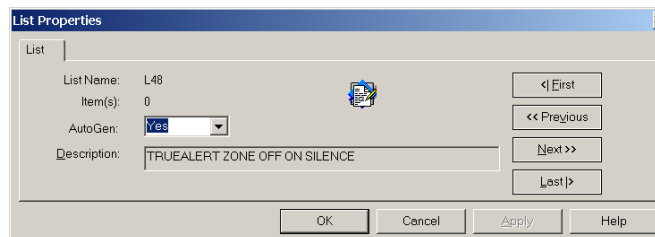


Figure 9-6. List Properties

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.

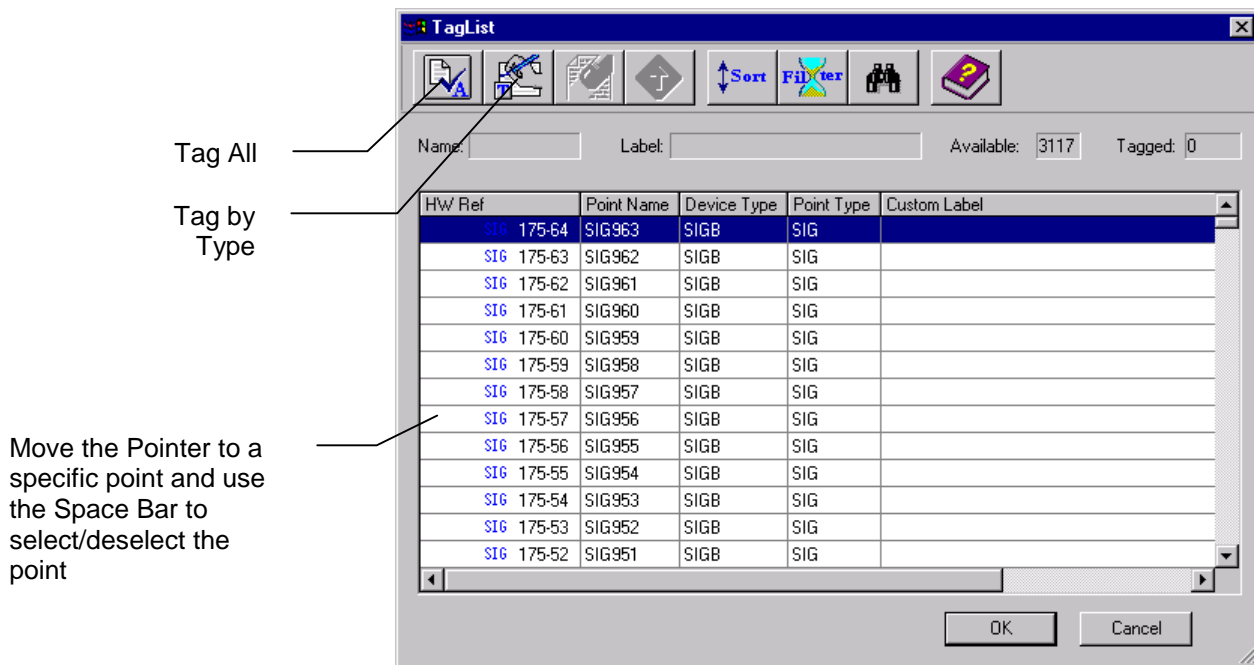


Figure 9-7. Taglist Window

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.

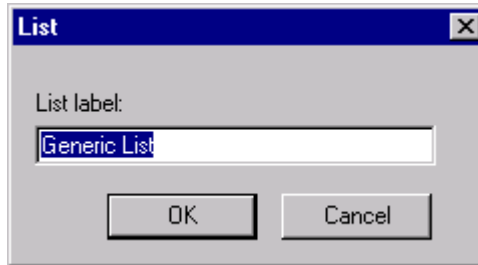
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## Adding and Editing User-Defined Lists, *Continued*

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### Adding a User-Defined List, (continued)

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 4100U'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 4100U 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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*Continued on next page*

# Editing Alarm Verification Groups, *Continued*

## Moving Points between Groups, (continued)

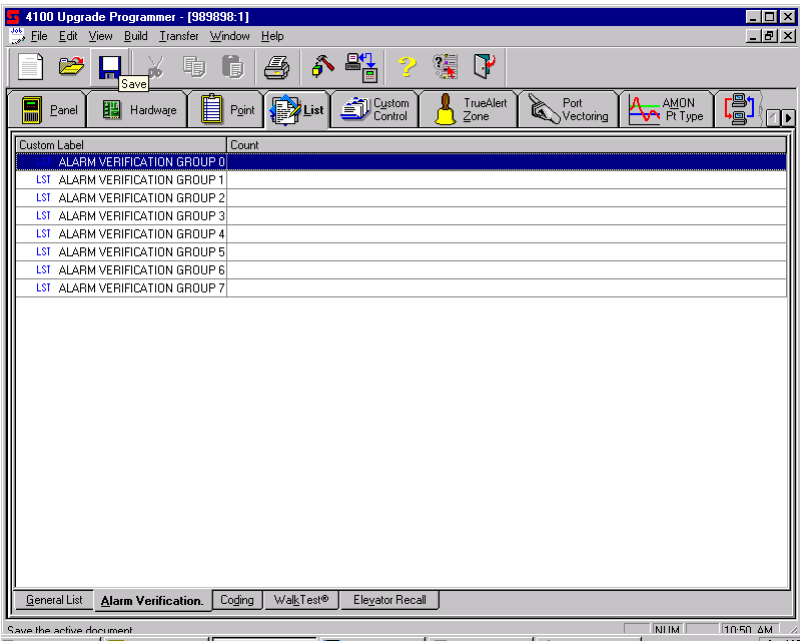


Figure 9-9. Alarm Verification Tab

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.

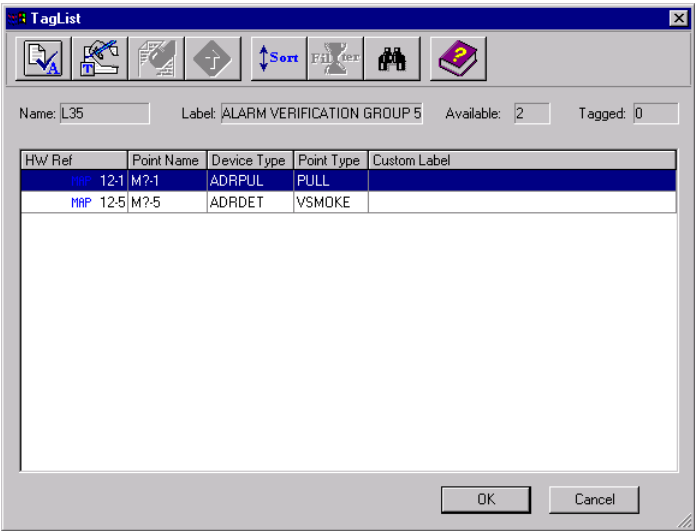


Figure 9-10. Sample Tag List for Alarm Verification Group

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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# Editing Alarm Verification Groups, *Continued*

## Selecting Canadian or Domestic (US) Operation

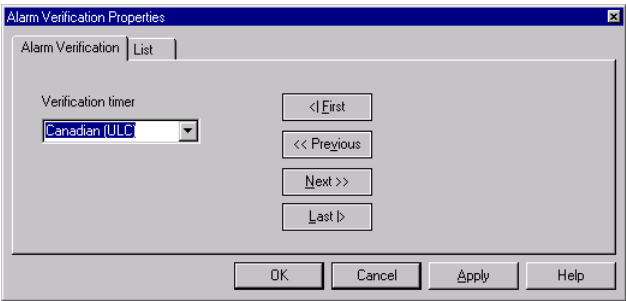
Canadian alarm verification works somewhat differently from the domestic (US) version. When you select Canadian operation for the alarm verification feature, the system operates as follows:

**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 (ULC)** or

**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.

*Continued on next page*



## Editing Alarm Verification Groups, *Continued*

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### 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.

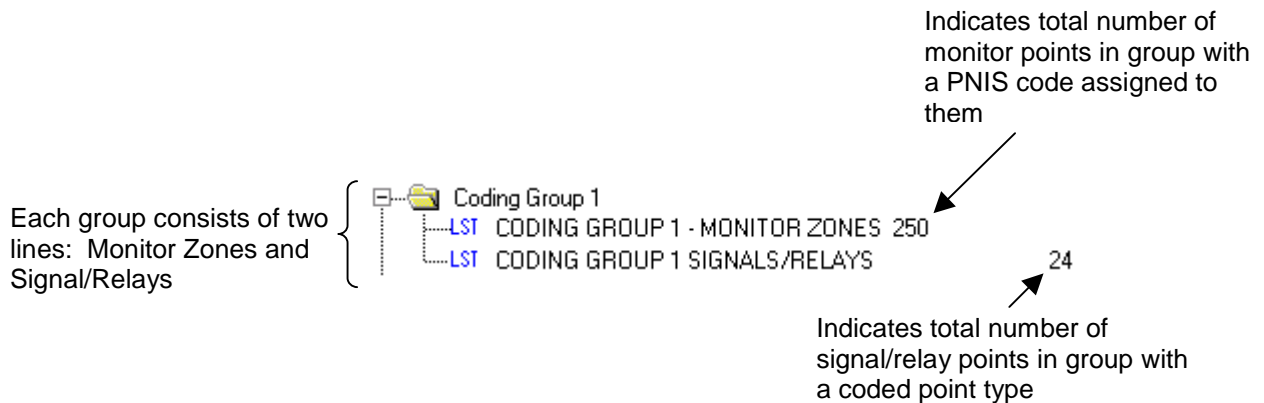
1. Right Click on the group whose name you want to change and select Properties. The Alarm Verification Properties dialog shown in Figure 9-11 appears.
  2. Click on the List tab in the dialog.
  3. Enter a name for the group in the **Description** field.
-

# 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.

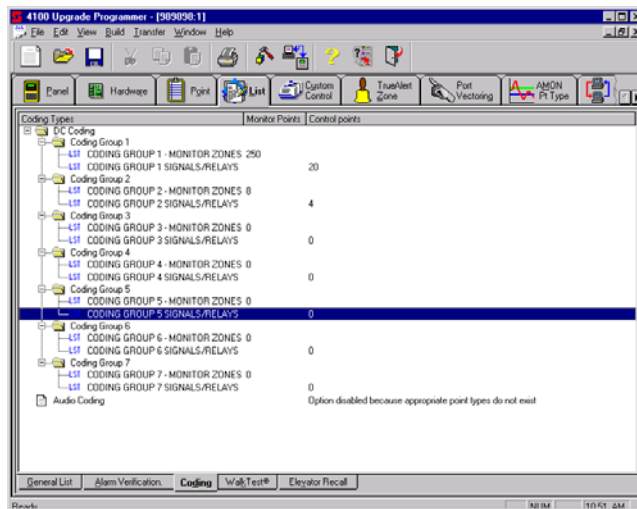


Figure 9-12. Coding Tab

*Continued on next page*

## Editing Coding Groups, *Continued*

### Moving Points between Groups, (continued)

3. Right click on Coding Group 1 and select **Properties**. A properties dialog appears. Click on the DC Coding 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:

Right click on  
this line and  
choose Tag List  
to add monitor  
points to the  
selected group



- 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:

Right click on  
this line and  
choose Tag List  
to add  
signal/relay  
points to the  
selected group



- a. Move the pointer to the appropriate Coding 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 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.

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# Editing Coding Groups, *Continued*

## Moving Points between Groups, (continued)

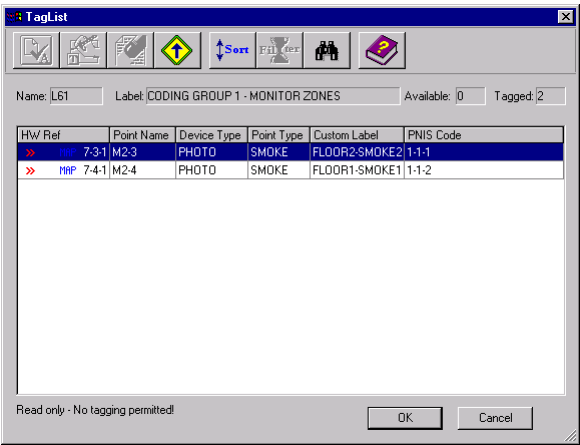


Figure 9-13. Sample TagList for Coding Group

## 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.

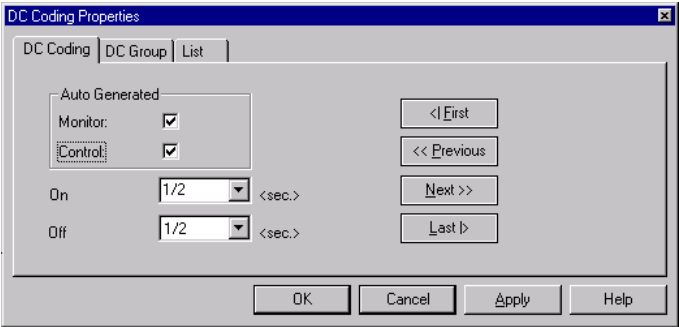


Figure 9-14. Coding Group Properties

2. Use the guidelines listed in set the properties for the Coding group.

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## Editing Coding Groups, *Continued*

### Editing Group Properties, (continued)

Table 9-2. Group Properties

Tab	Properties
DC Coding	<p><b>Note:</b> Any changes made to the options in the DC Coding tab apply to <b>all</b> of the coding group lists.</p> <p><b>Monitor.</b> 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.</p> <p><b>Control.</b> 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.</p> <p><b>On.</b> Allows you to set the duration of each tone within the PNIS code.</p> <p><b>Off.</b> Allows you to set the duration of silence between tones of the PNIS code.</p>
DC Group	<p>When you change these options, the change only affects the selected group.</p> <p><b>Track Coded Input.</b> This field only applies to an upgraded 4100U panel that uses older, mechanical pull stations. Selecting this checkbox allows the 4100U to play the mechanical code enabled on the pull station.</p> <p><b>On Til.</b> 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.</p> <p><b>Number of Rounds.</b> Specifies the number of code rounds that the system should play. Specifying 0 means continuous.</p>
List	<p><b>Description.</b> 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.</p>

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

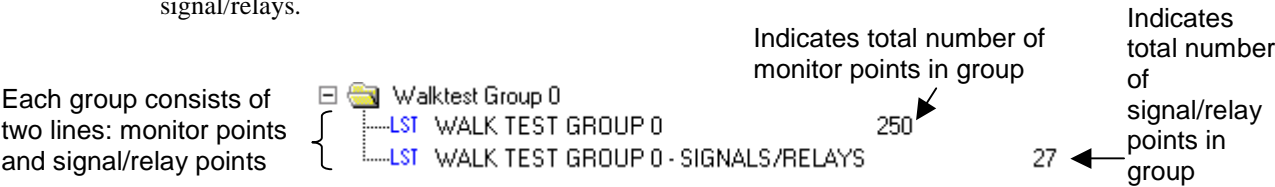
WalkTest allows the function of the system’s initiating devices and signals to be tested by a single person. Conducting a WalkTest requires you to perform the following general steps.

- **Step 1. Create WalkTest Groups.** The 4100U 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 *4100U 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 you activate 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 pauses momentarily and the next set of pulses correspond 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.



Continued on next page

## Editing WalkTest Groups, *Continued*

### Moving Points between Groups, (continued)

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.

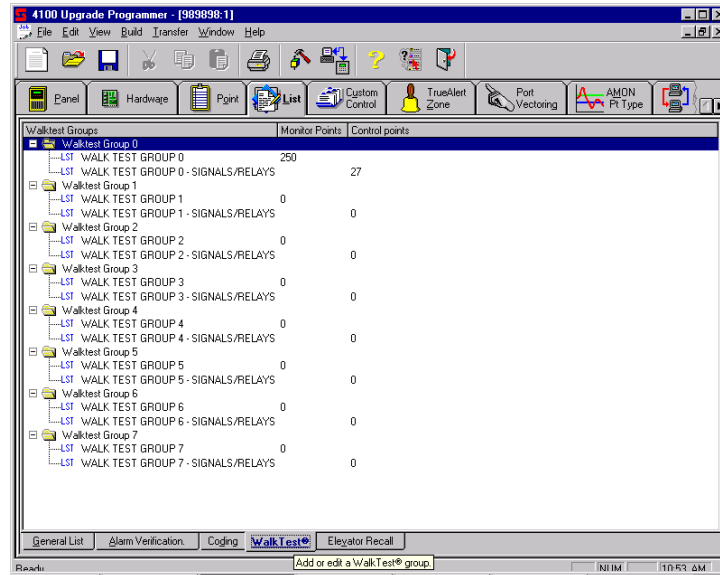
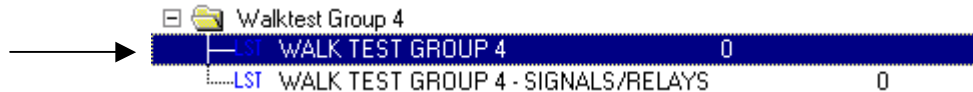


Figure 9-15. WalkTest Tab

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.

Right click on  
this line and  
choose Tag List  
to add monitor  
points to the  
selected group



- 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.

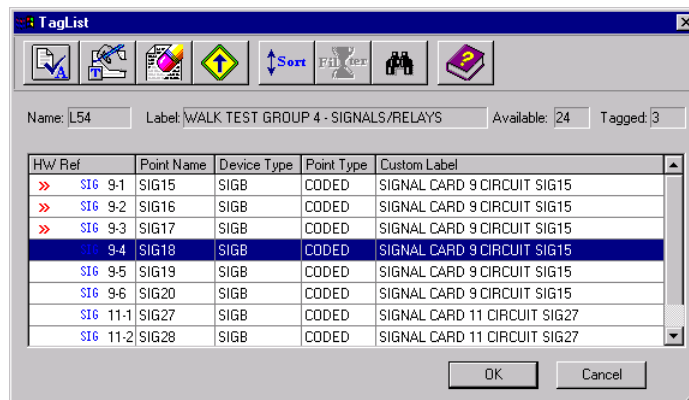
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## Editing WalkTest Groups, *Continued*

### Moving Points between Groups, (continued)

Right click on  
this line and  
choose Tag List  
to add  
signal/relay  
points to the  
selected group

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.

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# Editing WalkTest Groups, Continued

## Editing Group Properties, (continued)

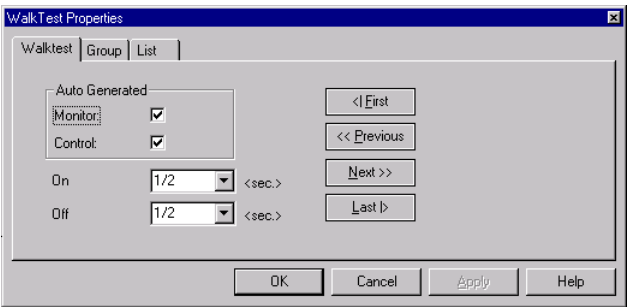


Figure 9-17. WalkTest Group Properties

3. Use the guidelines listed below to set the properties for the WalkTest group.

Table 9-3. WalkTest Group Property Guidelines

Tab	Properties
WalkTest	<p>Setting the properties in this tab affects <b>all</b> WalkTest groups.</p> <p>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.</p> <p>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.</p> <p>On. Allows you to set the duration of each tone within the PNIS code.</p> <p>Off. Allows you to set the duration of silence between tones of the PNIS code.</p>
Group	<p>Setting the properties in this tab affects only the selected group.</p> <p>Monitor. A counter that tracks the number of devices in the group.</p> <p>Control. A counter that tracks the number of devices in the group.</p> <p>Voice. Check this box to play tones or messages rather than the standard WalkTest tones.</p> <p>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.</p>
List	<p>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.</p>

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.

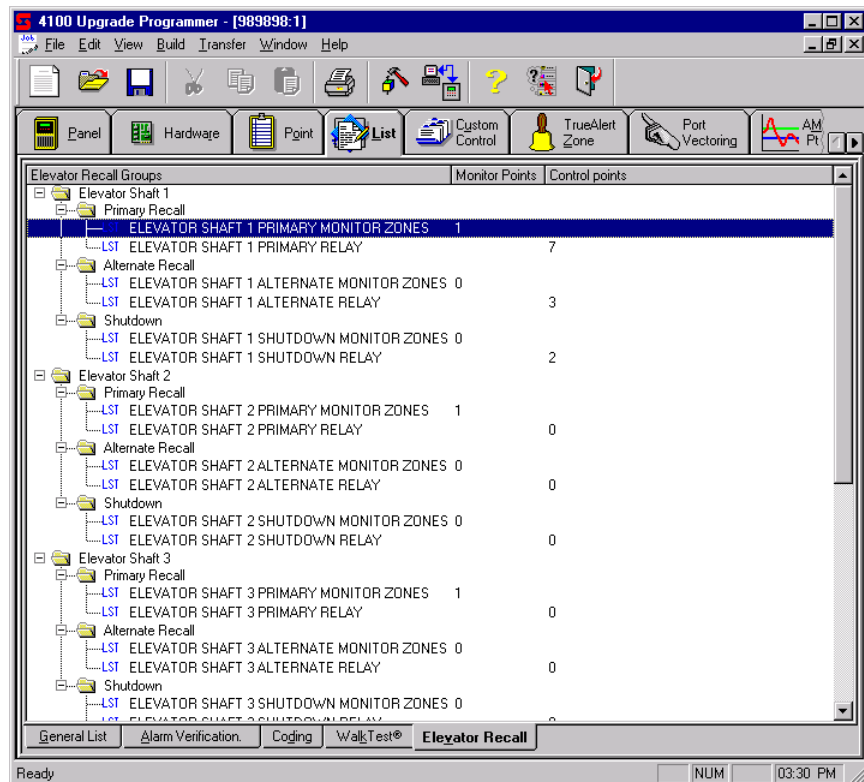


Figure 9-18. Elevator Recall Tab

Continued on next page

## Editing Elevator Recall Lists, *Continued*

### Moving Points between Groups, (continued)

Right click on  
this line and  
choose Tag List  
to add monitor  
points to the  
selected group

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.

Right click on  
this line and  
choose Tag List  
to add  
signal/relay  
points to the  
selected 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.

*Continued on next page*

# Editing Elevator Recall Lists, *Continued*

## Moving Points between Groups, (continued)

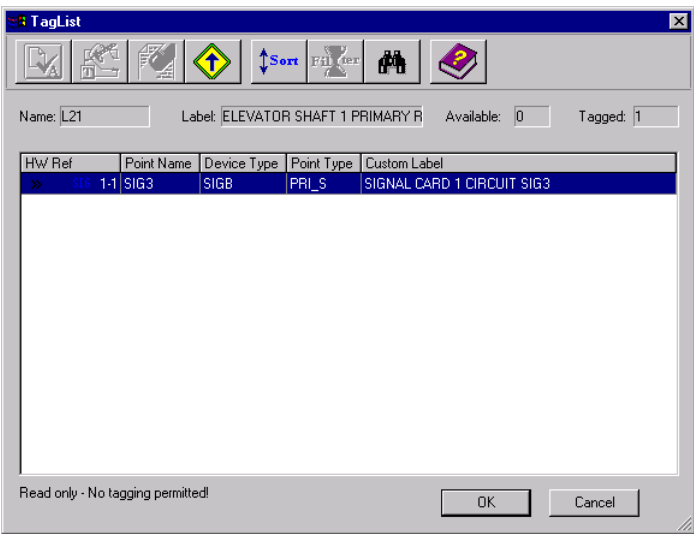


Figure 9-19. Sample TagList for Elevator Recall Group

## 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.

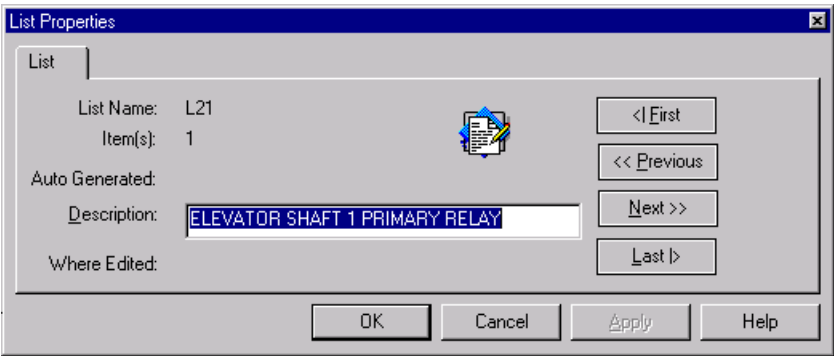


Figure 9-20. Elevator Recall Description Property

# Chapter 10

## Custom Control

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### Introduction

Custom control allows the components of the 4100U 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 4100U FACP.

---

### In this Chapter

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

Topic	See Page #
Custom Control Overview	10-2
Overview Custom Control Window	10-6
Creating a New Equation	10-7

---

# Custom Control Overview

## What is Custom Control?

4100U Custom Control -- which is a wizard-based application used to create *Custom Control Equations* -- provides a way to override the 4100U's default operation and allows the 4100U 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.

The following examples help explain the way custom control is typically used with a 4100U 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.

```
[INPUTS]  
STATUS FIRE  
ZN1 | MONB | FIRE | MONITOR CARD 3 ZONE ZN1
```

**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.

```
[OUTPUTS]  
HOLD ON PRI=9.9  
SIG3 | SIGB | SSIGNAL | SIGNAL CARD 1 CIRCUIT SIG3
```

*Continued on next page*

## Custom Control Overview, Continued

### Anatomy of a Custom Control Equation, (continued)

**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. 4100U 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 (FIRE) 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 A "SMOKE NOT DIRTY"
[END OUTPUTS]
```

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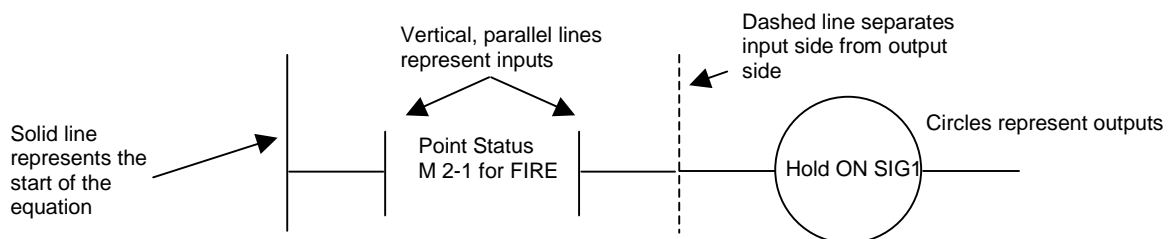


## Custom Control Overview, *Continued*

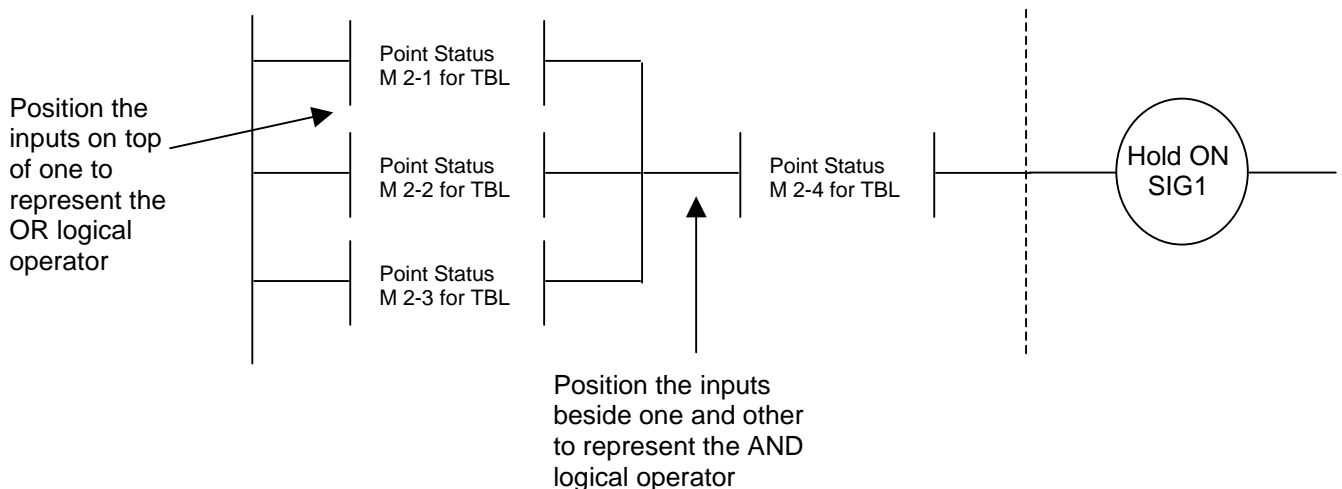
### Using a Ladder Logic Diagram to Evaluate an Equation

A ladder logic diagram is a “sketch” of the equation used to evaluate (predict the outcome) 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 and other as shown in the example below. Represent the **AND** logical operator by positioning the inputs beside one and other.



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.

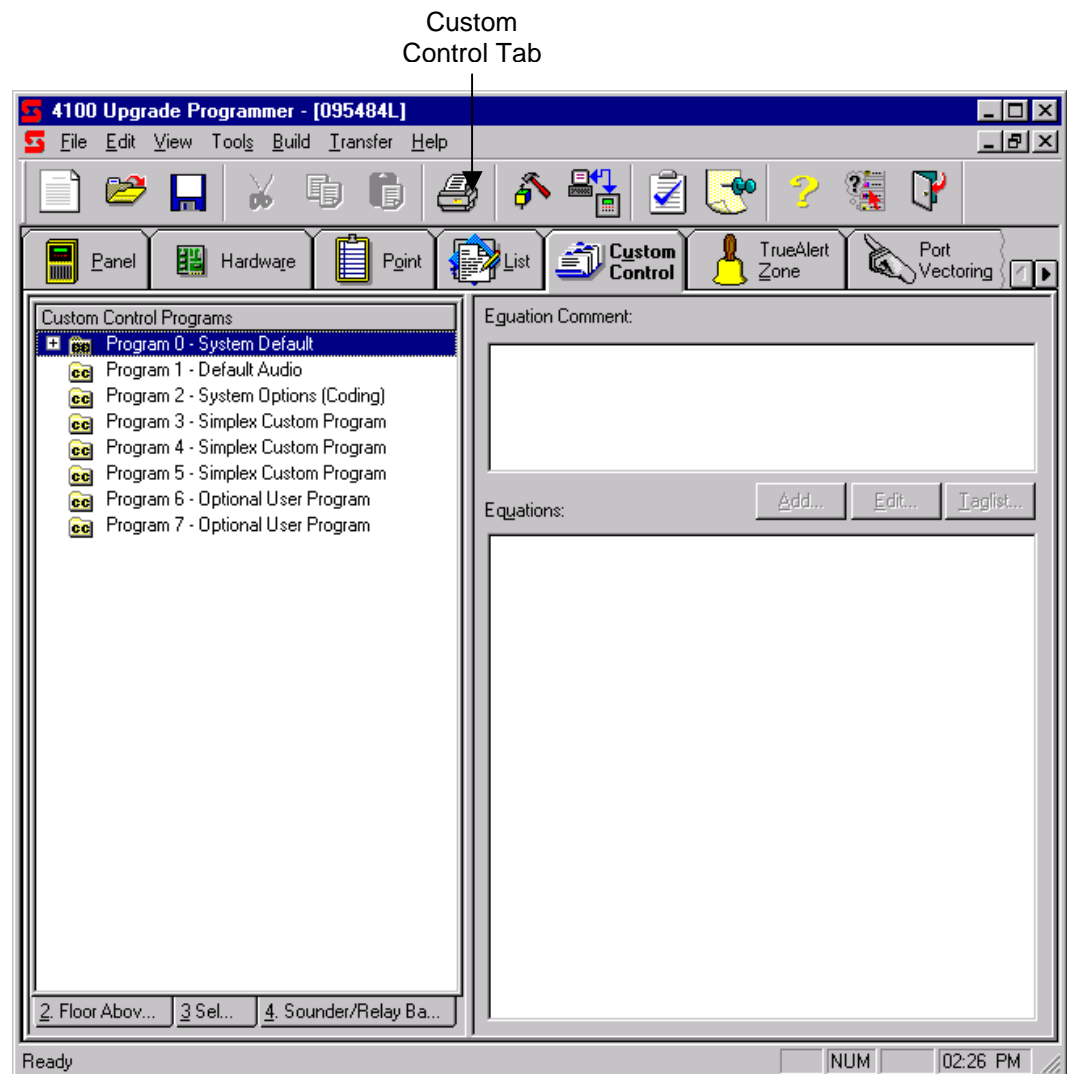


Figure 10-1. Custom Control Window

# 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.

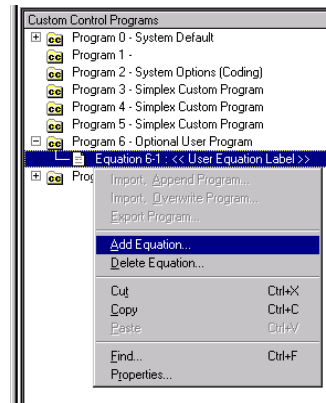


Figure 10-2. Add Equation

2. The properties dialog shown below appears. Enter a name for the equation in the Label field and click on OK.

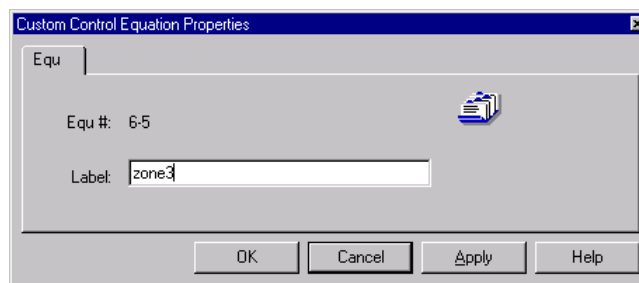


Figure 10-3. Equation Properties

The Equations section of the Custom Control window updates to include the [INPUTS], [END INPUTS], etc entries.

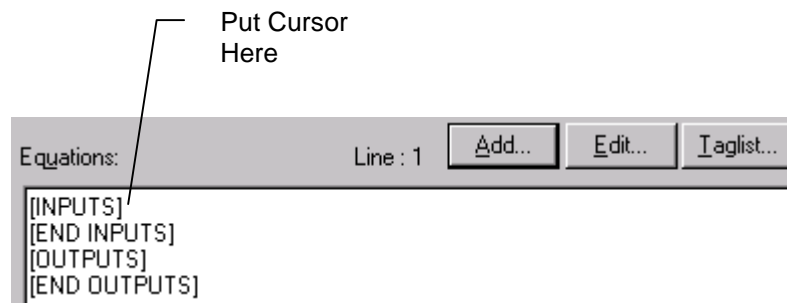
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## Creating a New Equation, *Continued*

### 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.

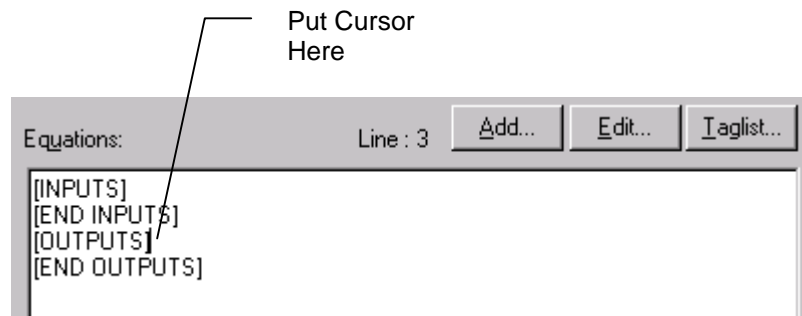
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## Creating a New Equation, *Continued*

### 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]



2. Click on the Add button. The dialog shown in Figure 10-6 appears.



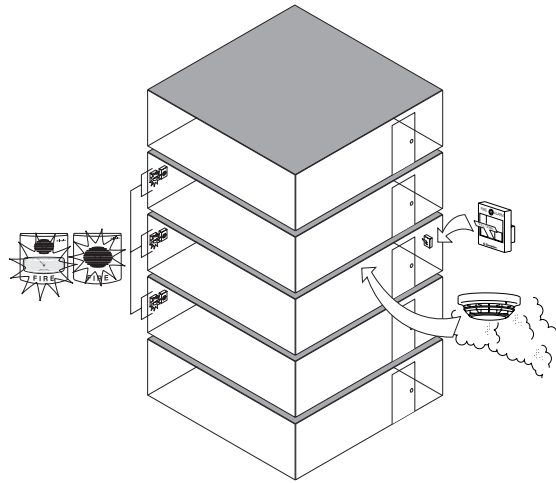
**Figure 10-6. Select Output Opcode Dialog**

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.

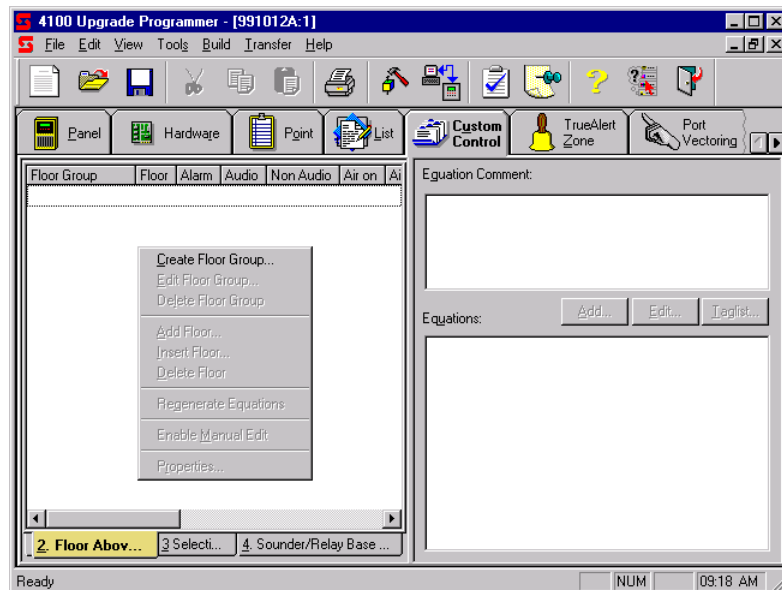


**Figure 10-7. Floor Above/Below**

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 4100U 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.

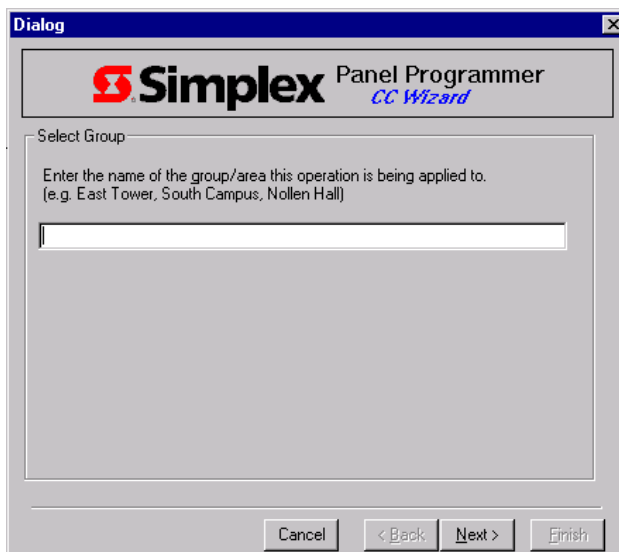


**Figure 10-8. Create Floor Group**

*Continued on next page*

## Using the Floor Above/Floor Below Wizard, *Continued*

### Step 1. Select Floor Above and Below Tab, *(continued)*

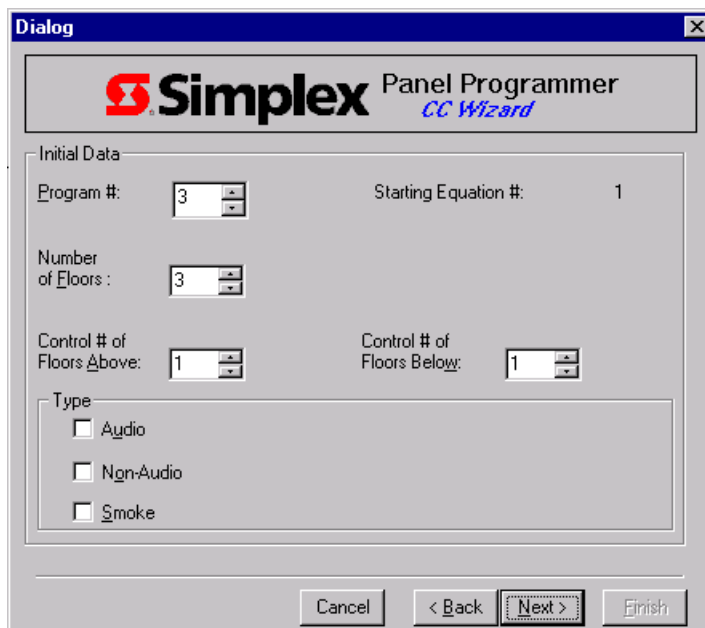


The dialog box is titled "Simplex Panel Programmer CC Wizard". It has a "Select Group" section with the instruction: "Enter the name of the group/area this operation is being applied to. (e.g. East Tower, South Campus, Nollen Hall)". Below this is a large text input field. At the bottom are buttons for "Cancel", "< Back", "Next >", and "Finish".

Figure 10-9. 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.



The dialog box is titled "Simplex Panel Programmer CC Wizard". It has an "Initial Data" section with the following fields:

- Program #: 3
- Starting Equation #: 1
- Number of Floors: 3
- Control # of Floors Above: 1
- Control # of Floors Below: 1

Below these is a "Type" section with three checkboxes:

- ☐ Audio
- ☐ Non-Audio
- ☐ Smoke

At the bottom are buttons for "Cancel", "< Back", "Next >", and "Finish".

Figure 10-10. Floor Above/Below Data

*Continued on next page*

## Using the Floor Above/Floor Below Wizard, *Continued*

### Step 2. Specify General Information, *(continued)*

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.

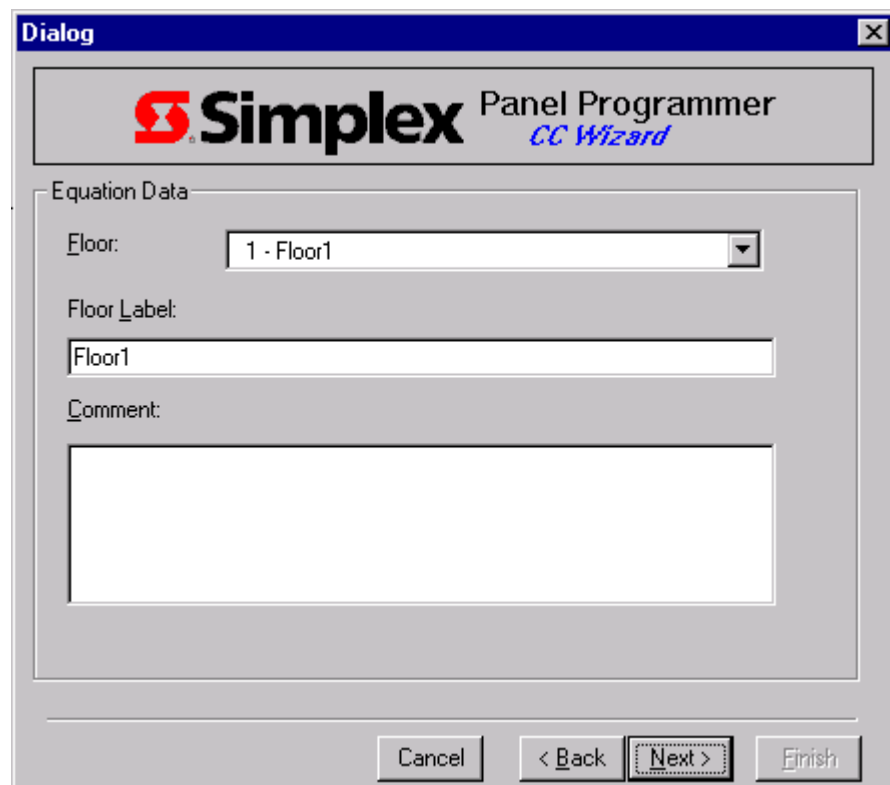


Figure 10-11. Specify Floor Names

*Continued on next page*



## Using the Floor Above/Floor Below Wizard, *Continued*

### 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

The screenshot shows a Windows-style dialog box titled "Dialog" with a close button (X) in the top right corner. The dialog has a header bar with the Simplex logo and the text "Simplex Panel Programmer CC Wizard". Below the header, there is a section labeled "Point Data" containing a "Floor:" label and a dropdown menu showing "1 - Floor1". Underneath, there are two main sections: "Input Points" and "Static". The "Input Points" section has a label "L256" and a button labeled "Alarm Points". The "Static" section contains several buttons arranged in two columns. The left column has buttons for "Audio Points", "Non-Audio Points", "Air On Points", and "Exhaust On Points", each preceded by a "None" label. The right column has buttons for "Air Off Points" and "Exhaust Off Points", each preceded by a "None" label. At the bottom of the dialog, there are four buttons: "Cancel", "< Back", "Next >", and "Finish". The "Next >" button is highlighted with a dashed border.

**Figure 10-12. 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.

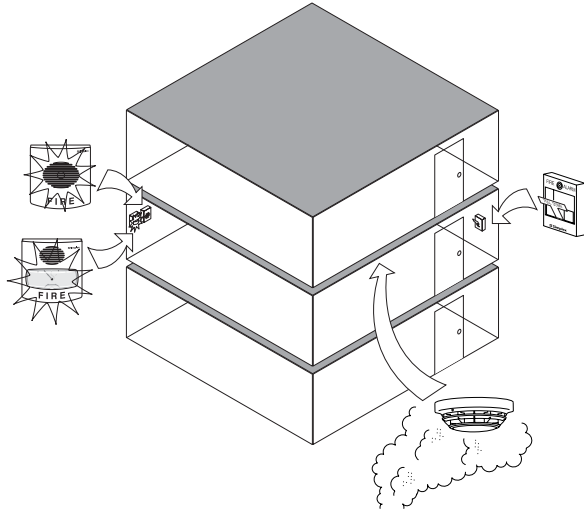


Figure 10-13. Selective Signaling

## 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).

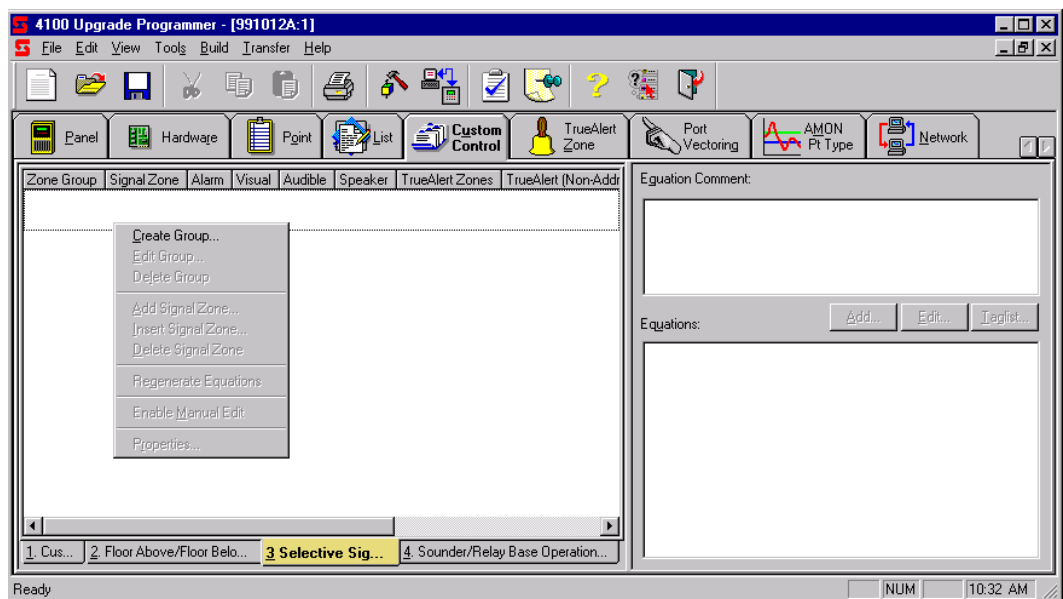


Figure 10-14. Create Selective Signaling Group

*Continued on next page*

## Using the Selective Signaling Wizard, *Continued*

### Step 1. Select Selective Signaling Wizard Tab, *(continued)*

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 10-15. 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.

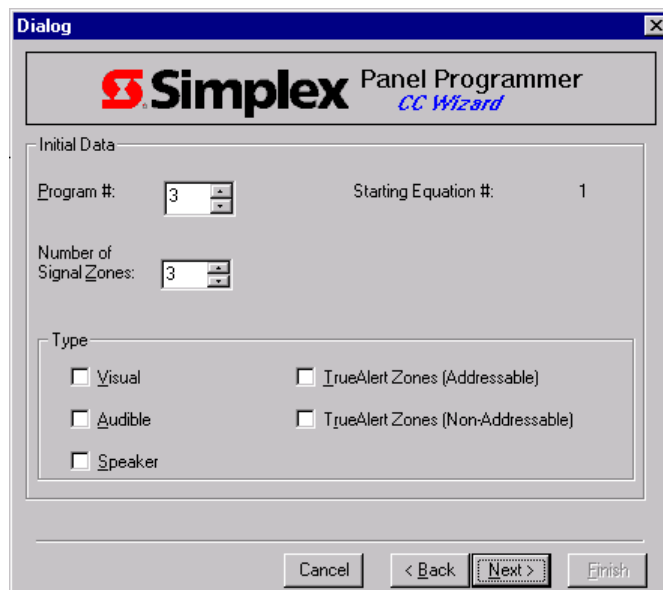


Figure 10-16. General Information

*Continued on next page*

## Using the Selective Signaling Wizard, *Continued*

### Step 2. Set General Options, *(continued)*

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.

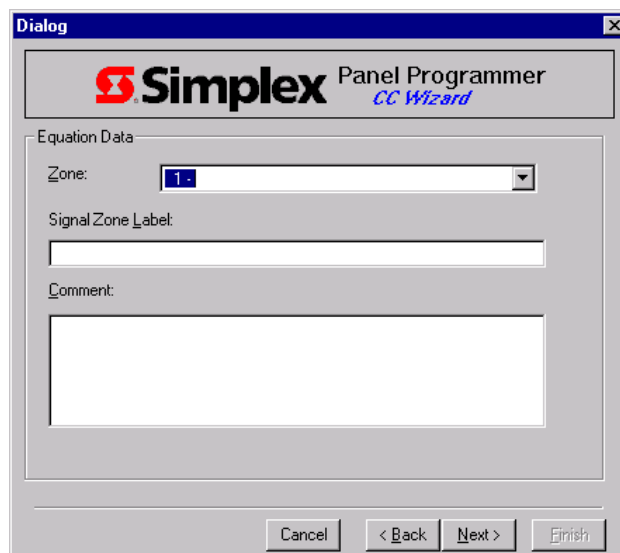


Figure 10-17. Zone Names

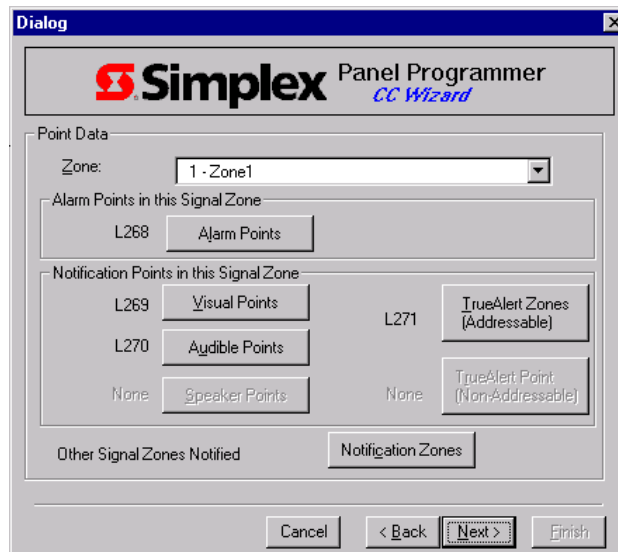
### Step 4. Link Initiating and Notification Points

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.

*Continued on next page*

## Using the Selective Signaling Wizard, *Continued*

### Step 4. Link Initiating and Notification Points, *(continued)*



**Figure 10-18. 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 point when 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.

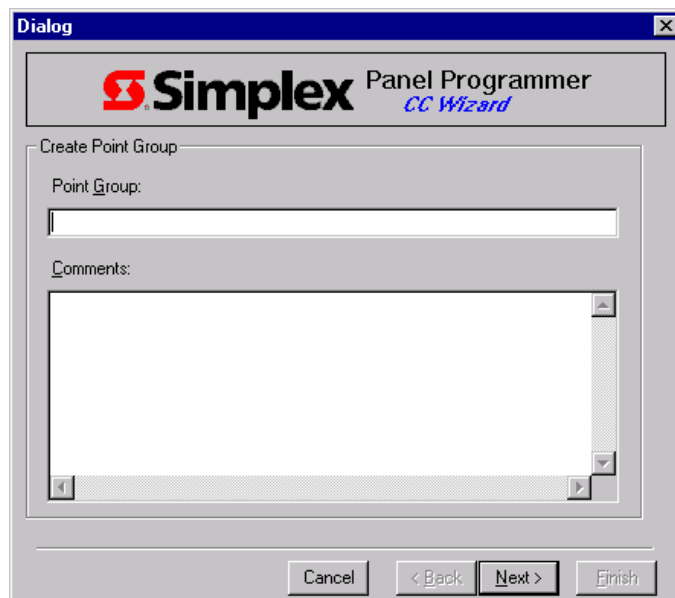
## Using the Sounder/Relay Base Wizard

### 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 of options appears, select **Create Point Group**. A figure similar to the following appears.



**Figure 10-19. 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.

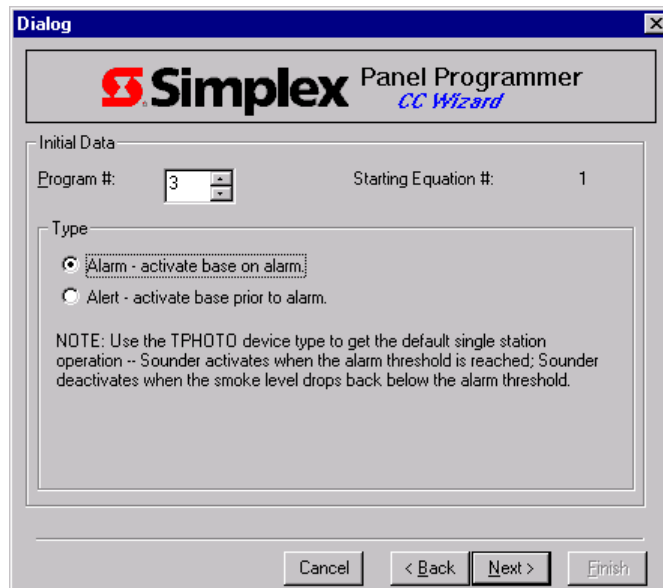
*Continued on next page*

## Using the Sounder/Relay Base Wizard, *Continued*

### Activate Base on Alarm

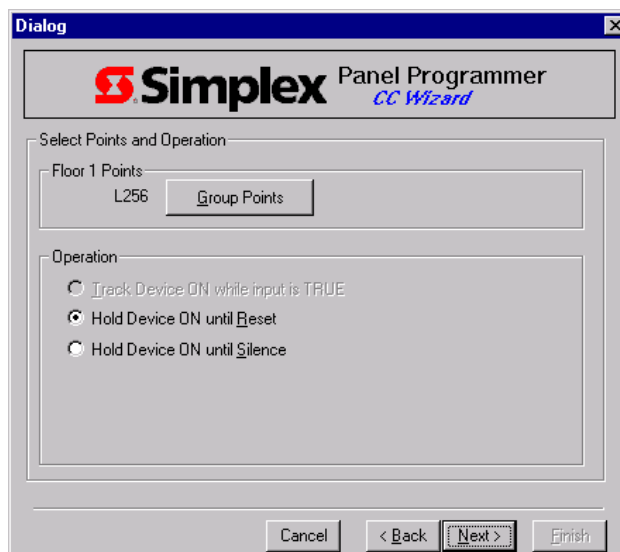
Activate base on Alarm configures the single station detectors to activate when the alarm threshold is reached and to turn off on either reset or silence.

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 10-20. 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 10-21. Specifying Device Operation**

*Continued on next page*

## Using the Sounder/Relay Base Wizard, *Continued*

### Activate Base on Alarm, *(continued)*

- 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.

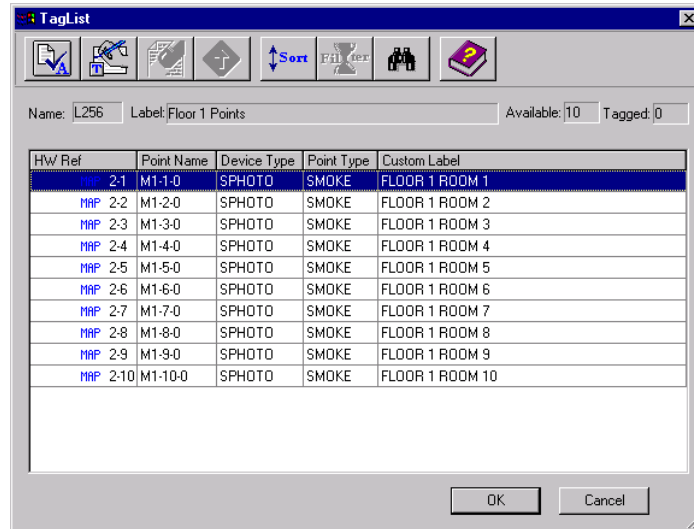


Figure 10-22. Tagging Points

- 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

- To select this option, click on the radio button labeled “**Alert – Activate Base Prior to Alarm.**”
- 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.



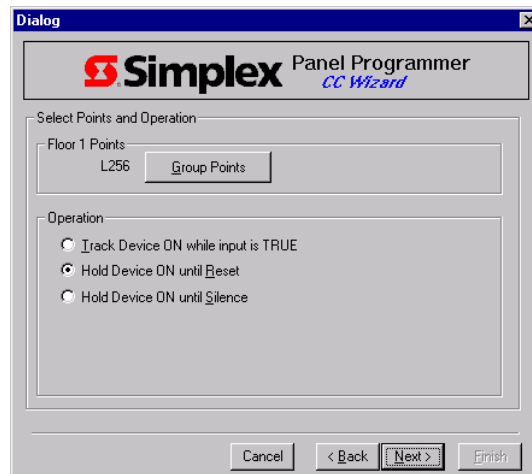
Figure 10-23. Activate Base Prior to Alarm

*Continued on next page*



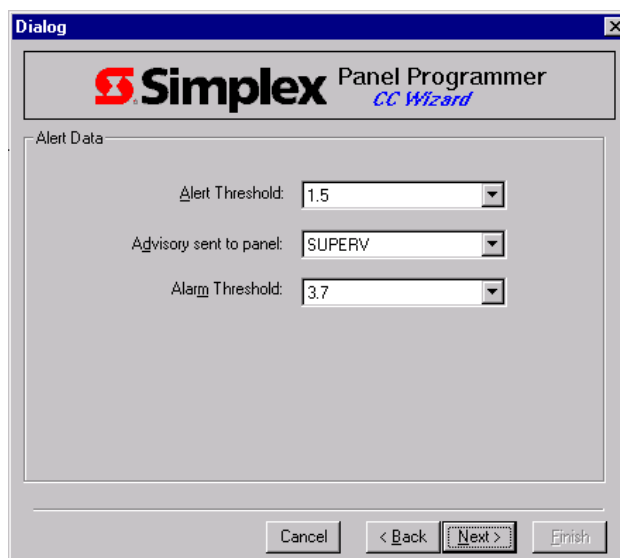
## Using the Sounder/Relay Base Wizard, *Continued*

**Alert -- Activate  
Base Prior to Alarm,**  
(continued)



**Figure 10-24. 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 10-25. Options**

*Continued on next page*

## Using the Sounder/Relay Base Wizard, *Continued*

### **Alert -- Activate Base Prior to Alarm,** *(continued)*

- 
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.
-

# 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.

Topic	See Page #
Overview	11-2
Creating and Editing TrueAlert Zones	11-3

---

# 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 R SIGNAL (on until reset) or S SIGNAL (on until silence) point type, and another group that contains the bells and is assigned a T SIGNAL (on until trouble acknowledged) point type.
- If selective signaling is used, SIG-901 (TrueAlert Zone 2) and SIG-903 (TrueAlert Zone 4) point types needs 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.

Each line corresponds to a TrueAlert Zone. Double click to open the group’s property dialog.

Point Name (for example SIG908) used for Custom Control, etc.

Circuit Type field indicates type of TrueAlert devices in group

TrueAlert Zone	Point	Ckt Type	Point Type	Custom Label	Number of Devices
1	SIG900	***	SIGNAL	TRUEALERT ZONE 1 - ALL APPLIANCE OUTPUTS	
2	SIG901	AUD	SSIGNAL	TRUEALERT ZONE 2 - ALL AUDIBLE DEVICES	
3	SIG902	N/A	SIGNAL	RESERVED TRUEALERT ZONE 3	
4	SIG903	VIS	RVISUAL	TRUEALERT ZONE 4 - ALL VISUAL DEVICES	
5	SIG904	A/V	RELAY	TRUEALERT ZONE 5 - ALL ISOLATOR DEVICES	
6	SIG905	N/A	SIGNAL	RESERVED TRUEALERT ZONE 6	
7	SIG906	N/A	SIGNAL	RESERVED TRUEALERT ZONE 7	
8	SIG907	N/A	SIGNAL	RESERVED TRUEALERT ZONE 8	
9	SIG908	AUD	SSIGNAL		
10	SIG909	N/A			
11	SIG910	N/A			
12	SIG911	N/A			
13	SIG912	N/A			
14	SIG913	N/A			
15	SIG914	N/A			
16	SIG915	N/A			
17	SIG916	N/A			
18	SIG917	N/A			
19	SIG918	N/A			
20	SIG919	N/A			
21	SIG920	N/A			
22	SIG921	N/A			
23	SIG922	N/A			
24	SIG923	N/A			
25	SIG924	N/A			
26	SIG925	N/A			
27	SIG926	N/A			
28	SIG927	N/A			
29	SIG928	N/A			
30	SIG929	N/A			
31	SIG930	N/A			
32	SIG931	N/A			

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 in this field appears on the LCD display when a point within the zone enters an alarm, supervisory, or trouble state.
2. Click on the Apply button to save the changes.

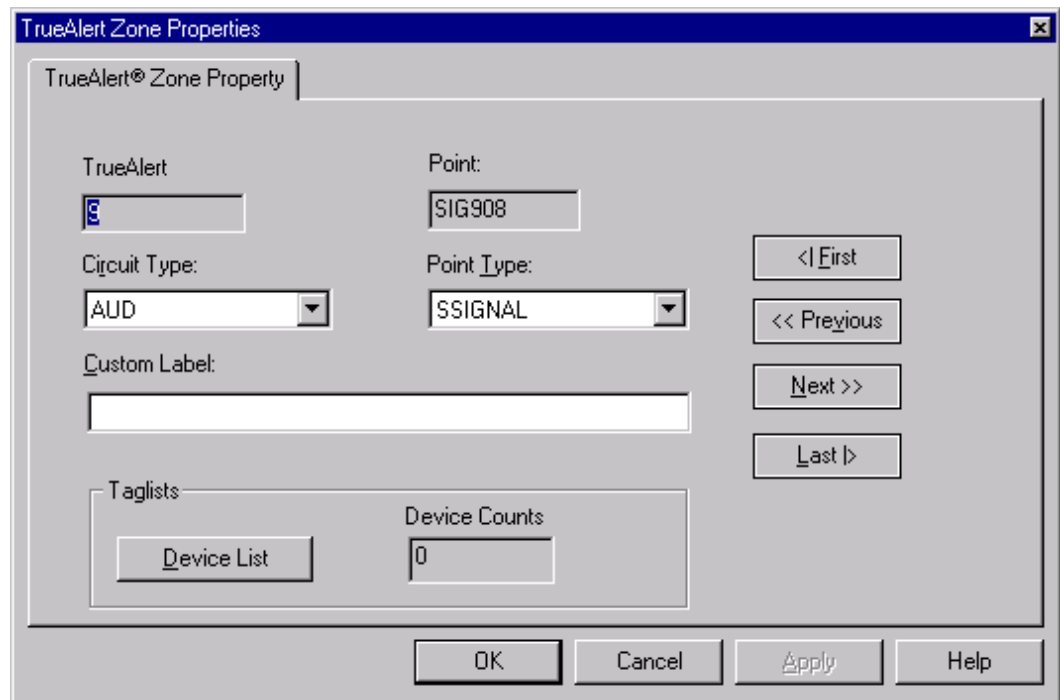


Figure 11-2. Setting Properties for a VNAC Group

### 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.

*Continued on next page*

## Creating and Editing TrueAlert Zones, *Continued*

### Using the Taglist to Add Devices to the Zone, *(continued)*

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.

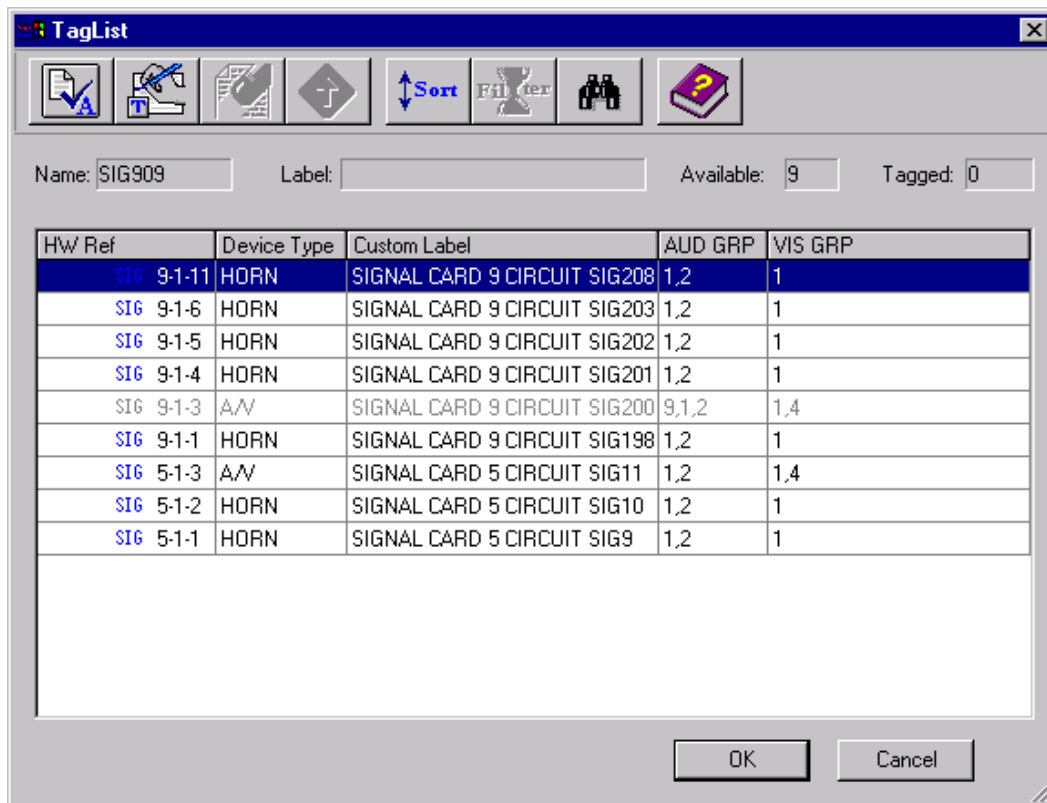


Figure 11-3. Taglist for TrueAlert Zone Devices

# Chapter 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 4100U's port vectoring option.

---

### In this Chapter

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

Topic	See Page #
Selecting Event Groups	12-2

---

## Selecting Event Groups

### 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.

Device Being Programmed

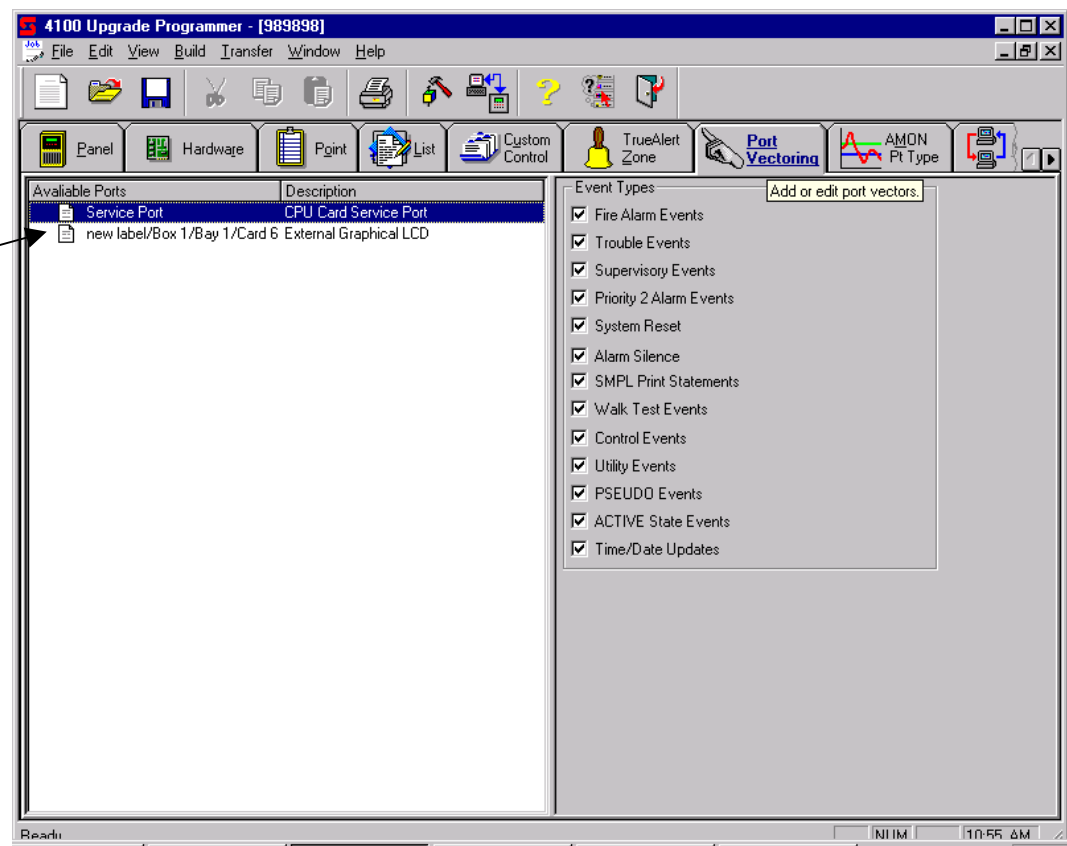


Figure 12-1. Port Vectoring Window



# 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.

Topic	See Page #
Adding or Editing an AMON Point Type	13-2

---

## Adding or Editing an AMON Point Type

### Overview

This tab shown in Figure 13-1 is for use only with MAPNET analog monitor ZAMs. It allows you to create a custom point type that specifies how the 4100U 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 MAPNET 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).

Right Click  
Here to Add  
an AMON  
Point Type

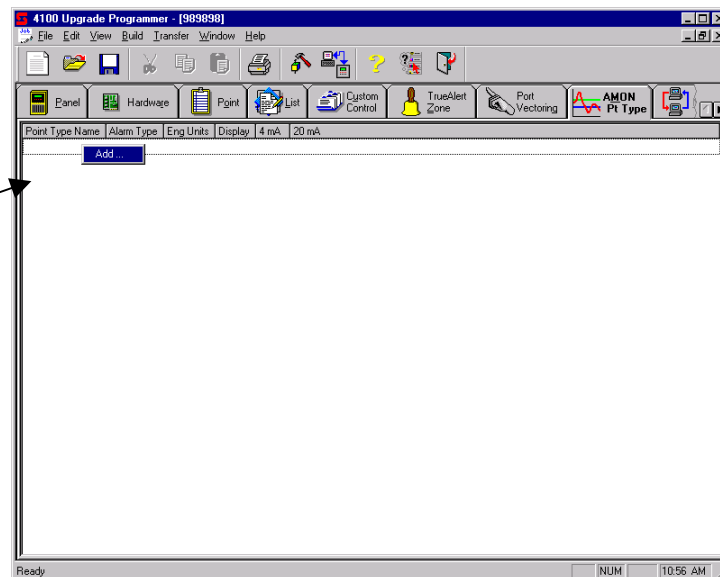


Figure 13-1. AMON Point Type Tab

### 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.

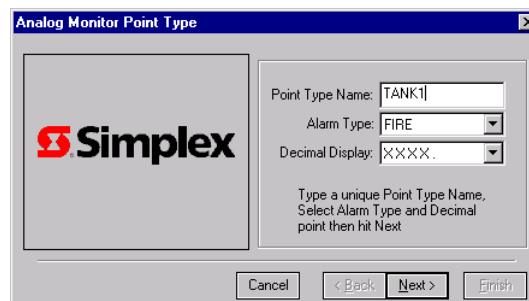


Figure 13-2. Initial AMON Point Type Dialog

*Continued on next page*

## Adding or Editing an AMON Point Type, *Continued*

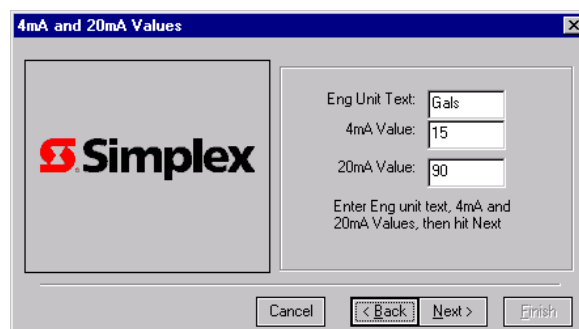
### Adding a Point Type, (continued)

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 4100U 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 reports data 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 or Editing an AMON Point Type, *Continued*

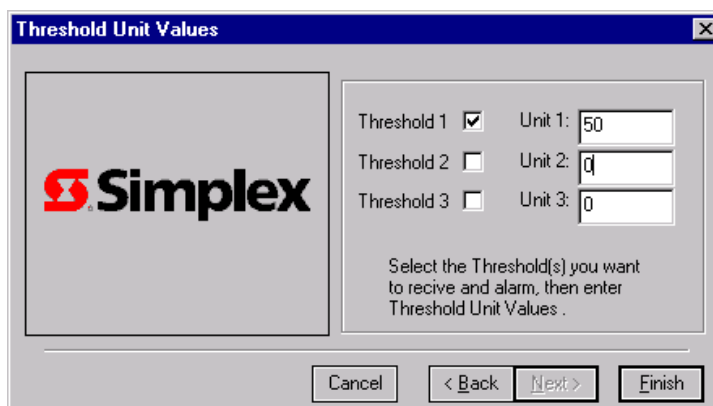
### Adding a Point Type, (continued)

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 <b>ppm</b> 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

## 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.

Topic	See Page #
Overview	14-2
Declaring Public Points	14-4
Declaring External Points	14-5
Editing Network Information	14-6
Programming Network Alarm Silence	14-8
Programming Network System Reset	14-11

---

# Overview

---

## Role of the Network Programmer

Programming a network of 4100U 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 4100U programmer, which can then be used to declare the public and external points for that node.
- 4100U Programmer. The 4100U 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 announce 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 announced 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 4100U 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.

---

*Continued on next page*

## Overview, Continued

### 4100U Programmer Network Tab

The Network Tab, shown in Figure 14-1, 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 14-1.

Right Click on  
Either Public  
Points Folder or  
External Points  
Folder →

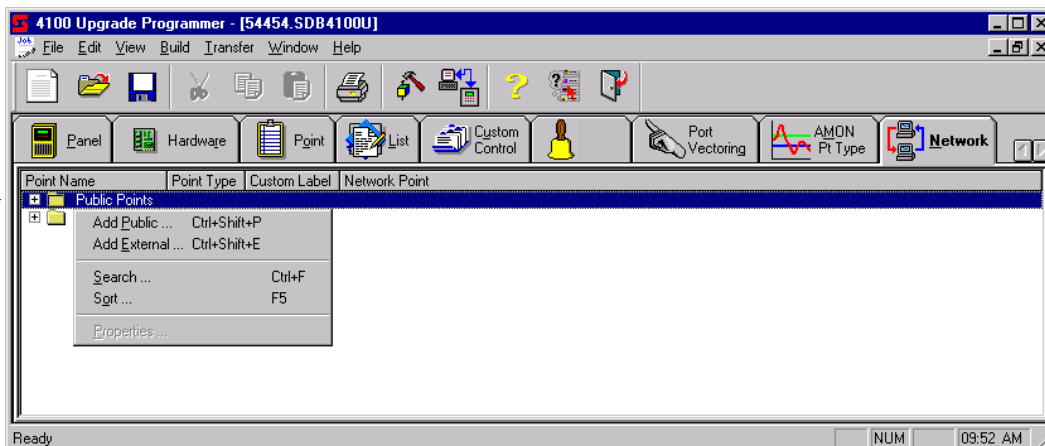


Figure 14-1. Network Tab

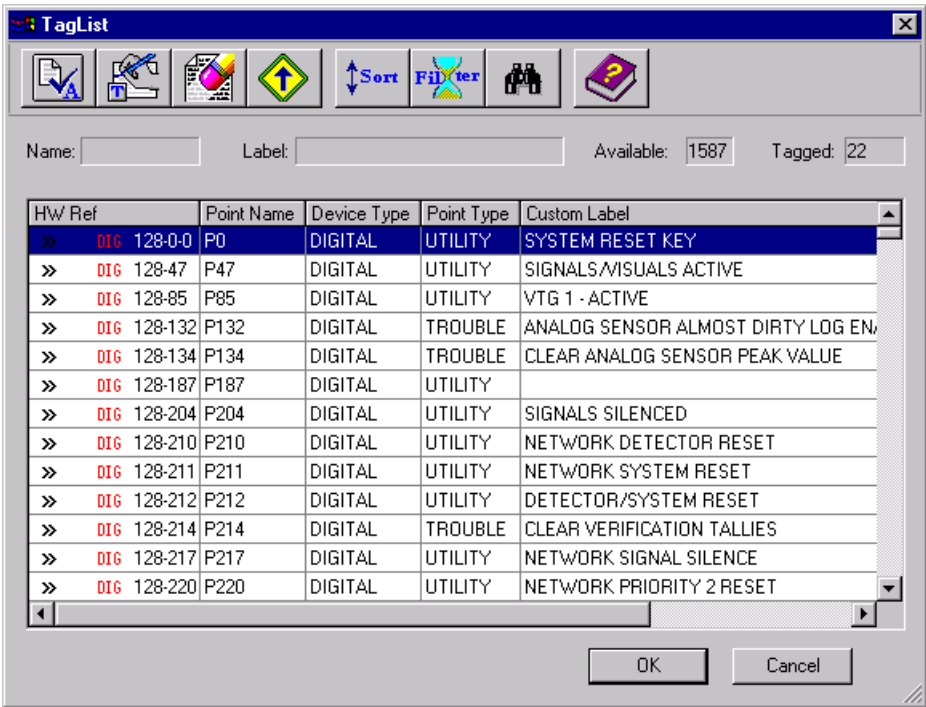
# Declaring Public Points

**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 shown in Figure 14-2.
- 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



**Figure 14-2. Public Points Tag List**

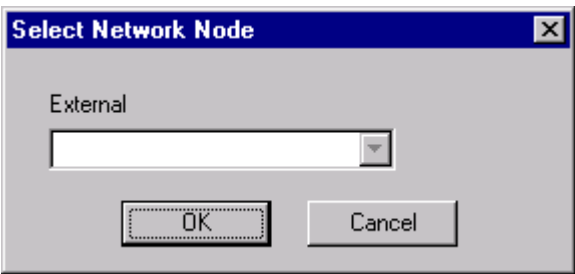


# Declaring External Points

**Procedure**

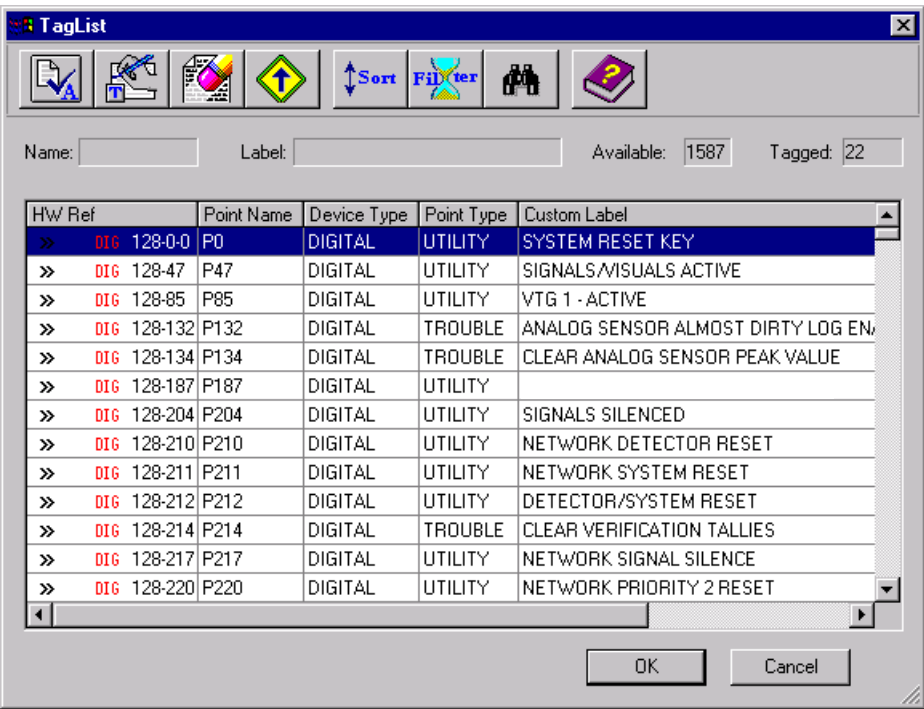
Use the following procedure to define the panel's external points.

1. Right click on the External Points folder and select the **Edit External**s 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.



**Table 14-1. Select Network Node**

2. Click OK. The tag list shown in Figure 14-3 appears. This taglist contains all of the points that are currently declared public on the node selected in Step 1 above.



**Figure 14-3. Tag List for Extenal 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.)

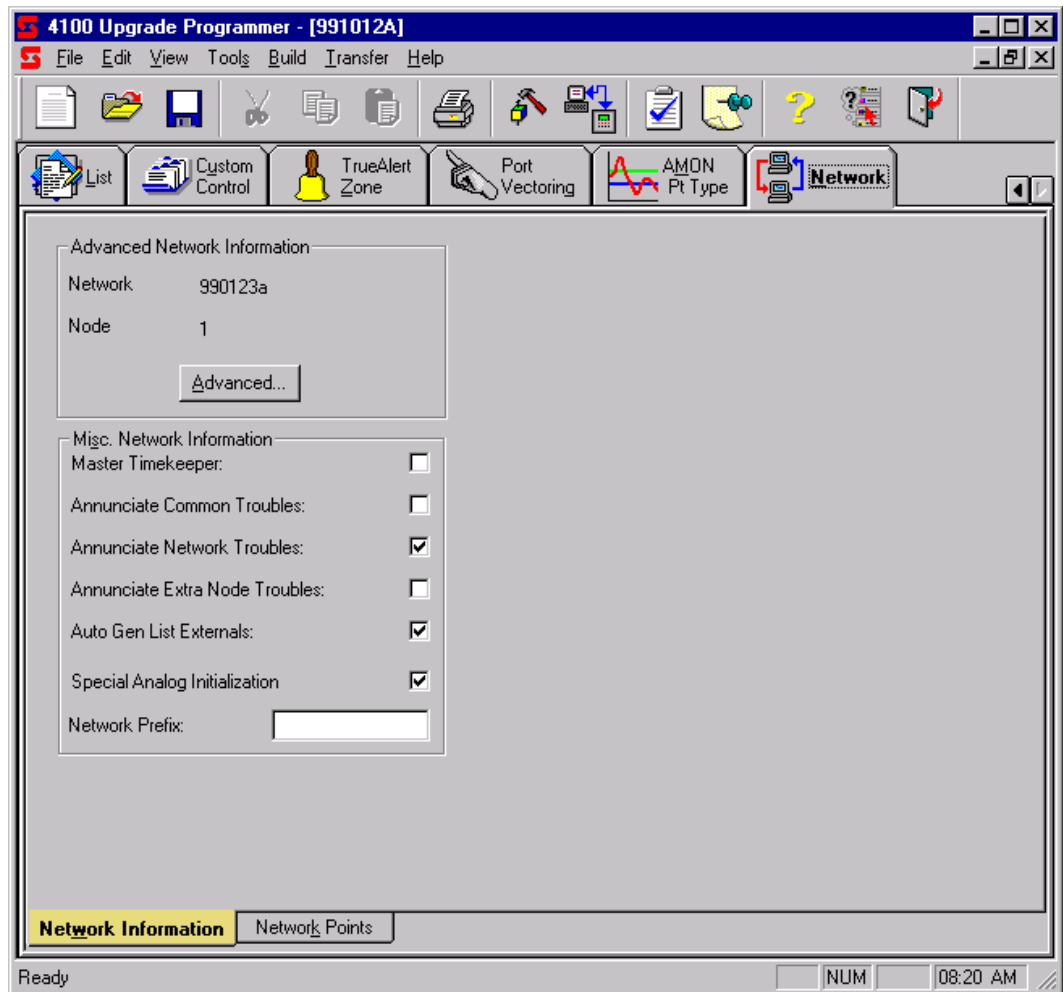
To select a contiguous group of points, click on the first point in the group, press the SHIFT key and click on the last point in the group you

## 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 14-4.
2. Click on the Network Information subtab on the bottom right of the window.



**Figure 14-4. 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 Network Information, *Continued*

Editing the Network  
Name and Node  
Number, *(continued)*

**Table 14-2. 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 4100U is assigned.
	Node	Click on the Advanced button and use the dialog that appears to change the node number of the 4100U.
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: <ul style="list-style-type: none"> <li>Set this option to No on nodes without a need to annunciate events from the new node.</li> <li>Set this option to Yes on the node that functions as the network's central annunciator.</li> </ul>
	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	<p>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.</p> <p>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.</p>

# Programming Network Alarm Silence

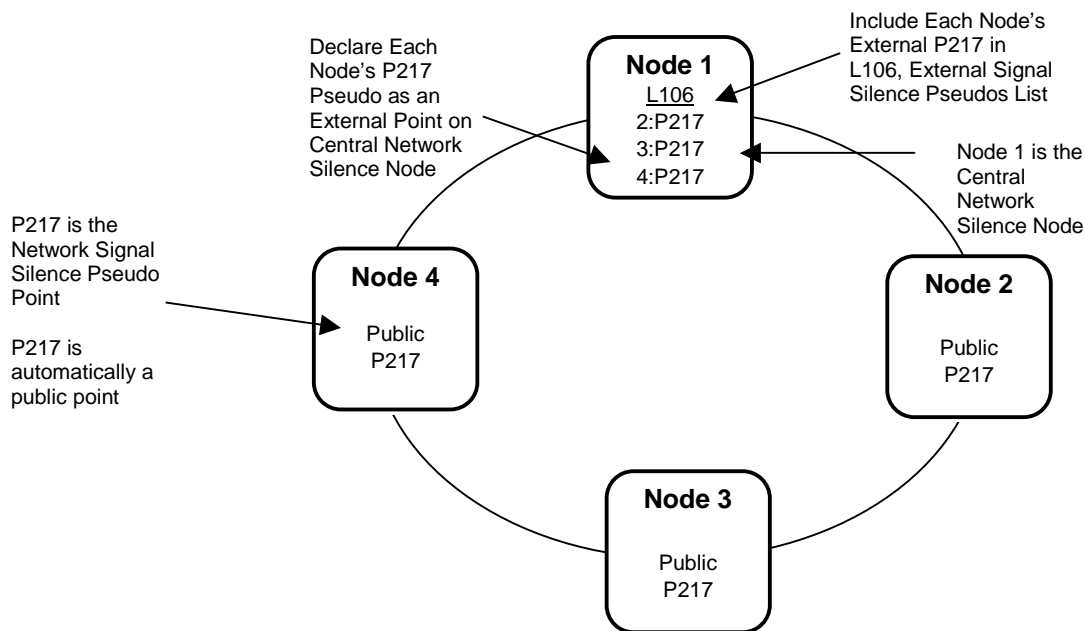
## Introduction

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 4100U 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 14-5. Central Network Silence**

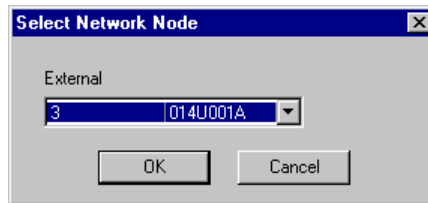
Follow these steps to program Central Network Silence.

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 4100U 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.

*Continued on next page*

## Programming Network Alarm Silence, *Continued*

### Programming Central Network Silence, (*continued*)

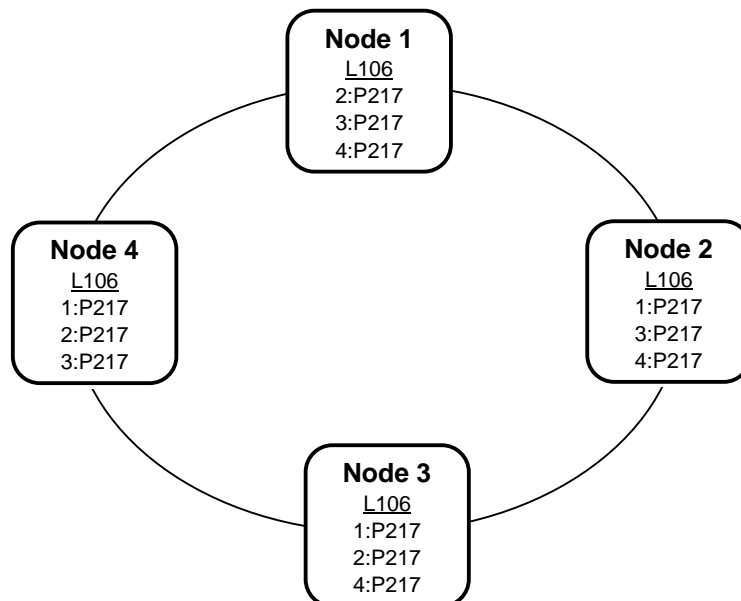


**Figure 14-6. Select Network Node**

- 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.
- Repeat Steps 3 and 4 for every node on the network.
- 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**.
- 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.
- 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 14-7. Distributed Network Silence**

*Continued on next page*

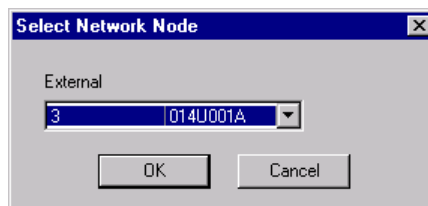
## Programming Network Alarm Silence, *Continued*

### Distributed Network Silence, *(continued)*

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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 4100U 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 14-8. Select Network Node**

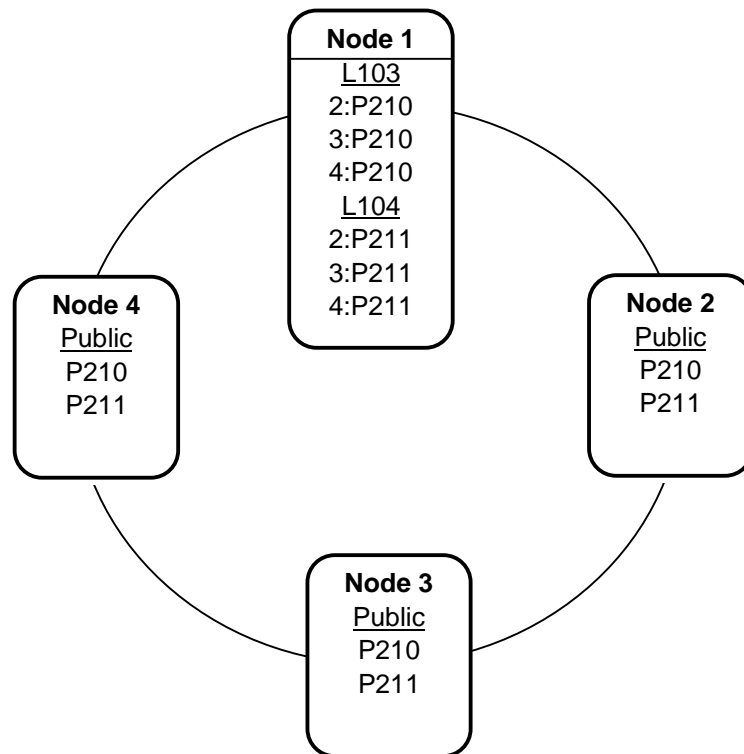
4. Click OK to close the dialog. When you do this, a tag list containing the public points from the selected node appears. Click on **P217 Network Signal Silence** and press the space bar to select the point. Click OK to close the taglist.
  5. Click on the List Tab at the top of the programmer. When 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 8 for every node on the network.
-

# Programming Network System Reset

## Central Network Reset

Any 4100U 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 14-9. 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 4100U 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.

*Continued on next page*

## Programming Network System Reset, *Continued*

### Central Network Reset, *(continued)*

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**.
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.

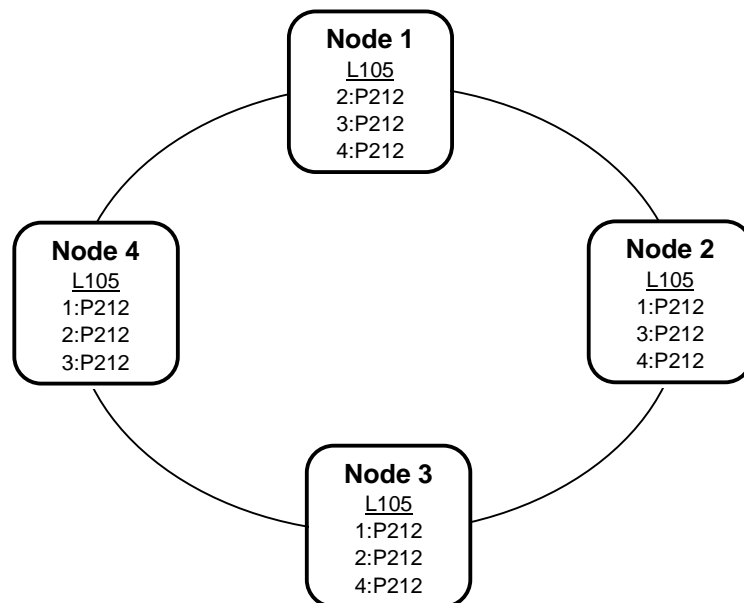


Figure 14-10. Distributed Network Reset

*Continued on next page*



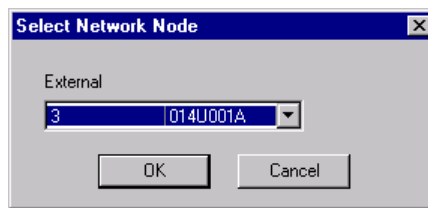
## Programming Network System Reset, *Continued*

### Distributed Network Reset, *(continued)*

---

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 4100U 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 14-11. 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**.
  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 8 for every node on the network.
-



# Chapter 15

## Building and Downloading a Job

---

### Introduction

This chapter describes building and downloading a completed job.

---

### In this Chapter

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

Topic	See Page #
Building a Job	15-2
Overview -- Downloading Files to the Panel	15-4
Starting the Transfer Utility/Setting Communication Settings	15-6
Connecting the Service PC to the Panel	15-8
Downloading Files	15-11

---

# 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 CFG 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 CFG 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 for information 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.

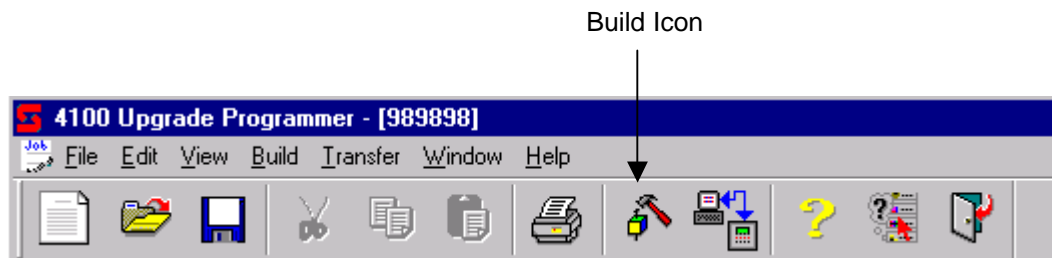


Figure 15-1. Build Icon

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.

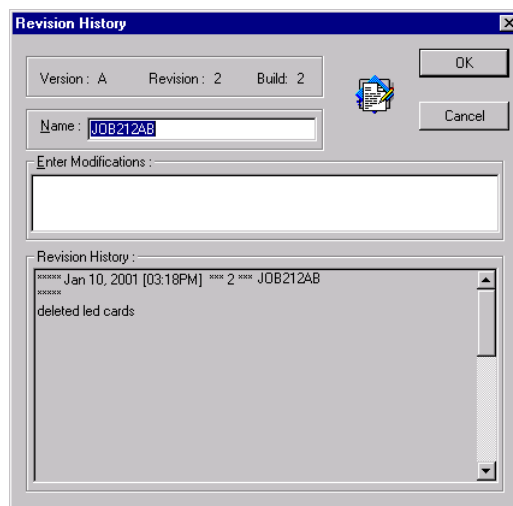


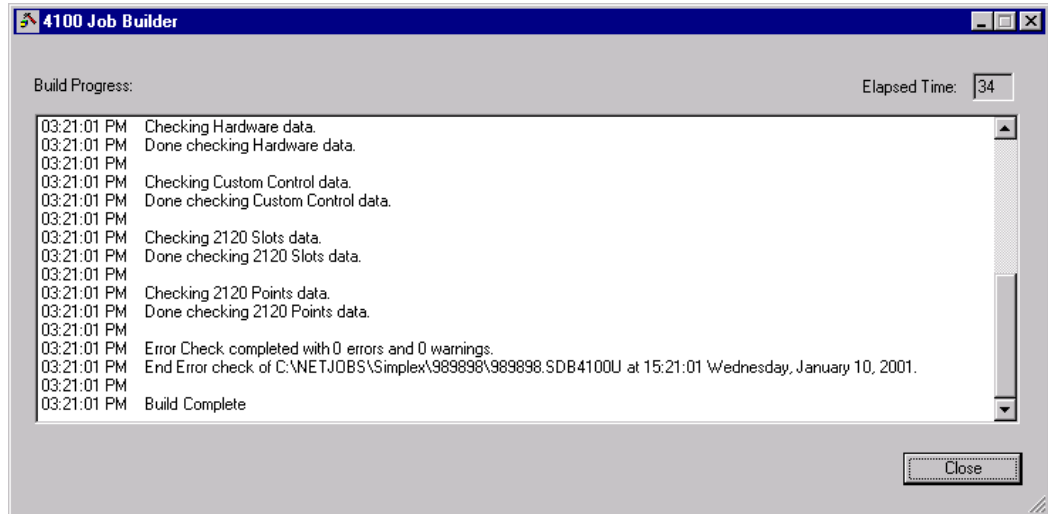
Figure 15-2. Revision History

*Continued on next page*

## Building a Job, *Continued*

### Procedure, (continued)

The 4100U Job Builder dialog appears. It contains messages, including errors, related to the creation of the downloadable CFG file.



**Figure 15-3. 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.

## Overview -- Downloading Files to the Panel

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### Downloadable Files

The following types of files can be downloaded to the 4100U 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 4100U 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)
- **CPU Bootloader Files.** The 4100U 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 4100U jobs (e.g., French). It contains all the alternate language text that appears in the 4100U 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 4100U displays text in English and an unclearable trouble exists, indicating the panel is running in the non-configured language.

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## Overview -- Downloading Files to the Panel, *Continued*

### Downloadable Files, (continued)

Use the following table to determine where to go for information on downloading 4100U files.

**Table 15-1. Downloadable File Information**

File Type	Supported Connection Types	See these Sections in this Chapter
CFG ( <i>cfg_filename.cfg</i> )	Direct Connection Network Connection Modem to Remote Panel	1. See "Starting the Transfer Utility". 2. See "Connecting PC to Panel" 3. See "Downloading CFG (.CFG) File".
Slave Exec	Direct Connection Modem to Remote Panel	1. See "Starting the Transfer Utility." 2. See "Connecting PC to Panel" 3. See "Downloading Slave Exec Files".
Bootloader Files <ul style="list-style-type: none"><li>• Panel Exec</li><li>• CFG Text File ( <i>cfg_filename.txt</i> )</li><li>• Alternate Msglib</li></ul>	Direct Connection	1. See "Starting the Transfer Utility." 2. See "Connecting PC to Panel" 3. See "Downloading Bootloader Files".

## Starting the Transfer Utility/Setting Communication Settings

### Starting the Transfer Utility

The 4100U File Transfer utility, shown in Figure 15-4, can be started from within the 4100U Programmer or from the Windows Start menu. To do either of these, follow these steps.

- **From within the Programmer.** If 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 **Transfer**.
- **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 (for example, **4100U Ver 10.00.31**). A list of options appears. Click on **File Transfer**.

In both cases, the File Transfer Utility, shown in Figure 15-4, appears.

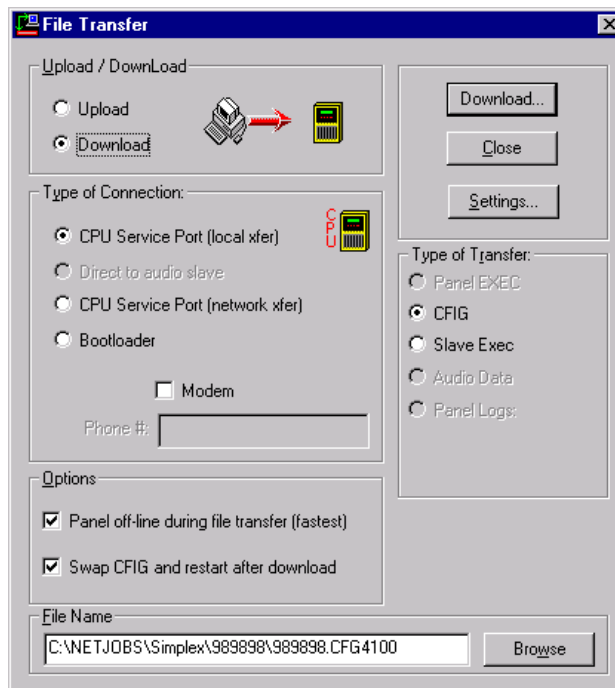


Figure 15-4. File Transfer Utility

### Setting Serial Communication Parameter Settings

The serial communication parameters allow you to set the port, baud rate, parity, and stop bits used by the PC. 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.

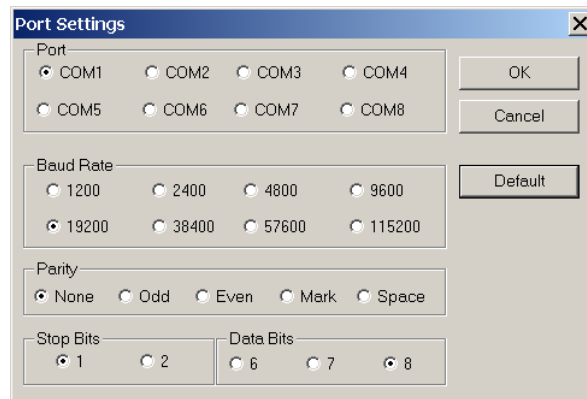
1. In the File Transfer utility screen (Figure 15-4), click on the **Settings** button. A window similar to the following appears. This window allows you to specify the settings for the serial communication parameters used by the PC.

*Continued on next page*



## Starting the Transfer Utility/Setting Communication Settings, *Continued*

### Setting Serial Communication Parameter Settings, (continued)



**Figure 15-5. Port Settings**

2. Change the Settings as required and click OK to close the Port Settings window.

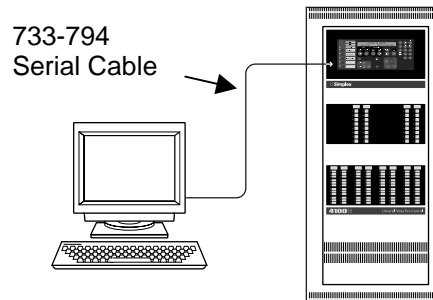
# Connecting the Service PC to the Panel

## 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 15-6 below. 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 15-6. Direct Connection to a Panel**

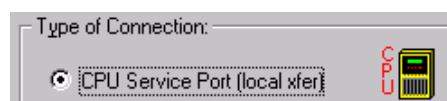
Follow these steps to connect the 733-794 serial cable between the PC and the panel.

1. Locate the PC within 6 feet of the 4100U 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 to the service port on the 4100U FACP. The service port is located on the front panel of the 4100U, to the left of the operator interface. Make sure the red stripe is aligned to the left as you connect the cable.



**Figure 15-7. Connecting the 733-794 Cable to the Panel**

3. Move to the File Transfer utility and select the **CPU Service Port (local xfer)** radio button.



**Figure 15-8. CPU Service Port (Network Xfer)**

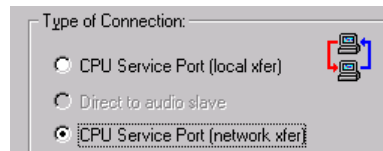
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## Connecting the Service PC to the Panel, *Continued*

### Network Connection

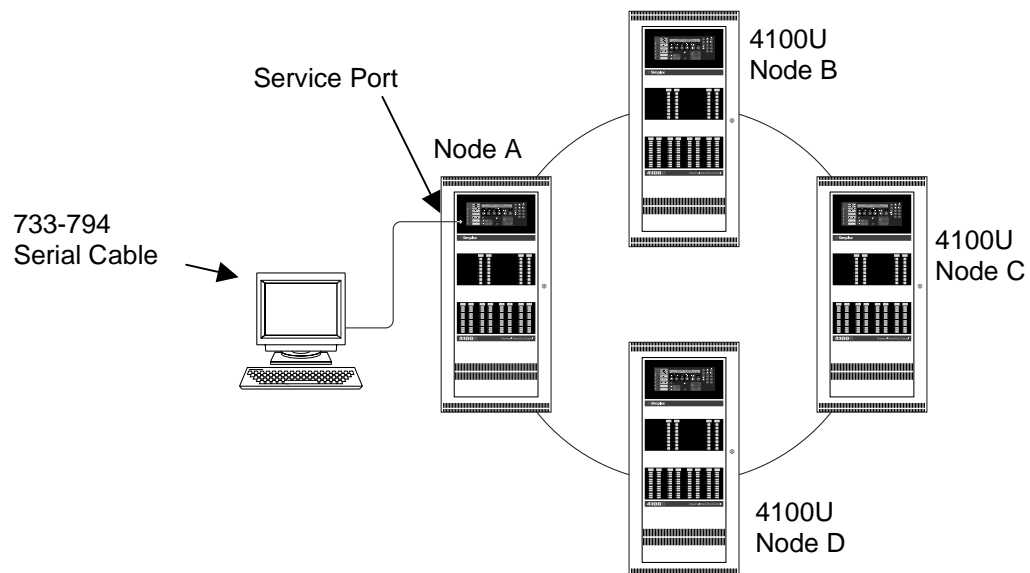
A network connection can be used to download a CFG file (file with extension .CFG) to a 4100U node on a 4120 network. Keep the following guidelines in mind when downloading a CFG.

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 4100U 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 4100U FACP. The service port is located on the front panel of the 4100U, to the left of the operator interface. Make sure the red stripe is aligned to the left as you connect the cable. (Refer back to Figure 15-7 for the location of this port.)
2. Move to the File Transfer utility and select the **CPU Service Port (network xfer)** radio button.



**Figure 15-9. CPU Service Port (Network Xfer)**

**Note:** When performing a network transfer, you can only download to the indirectly connected, 4100U, 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 15-10. Network Connection to a Panel**

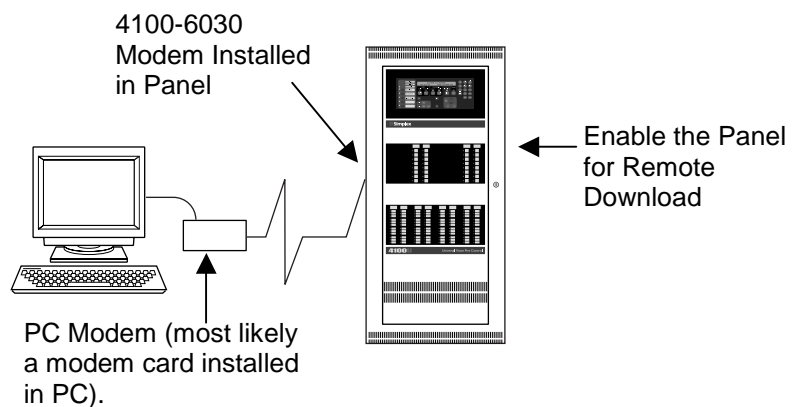
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## Connecting the Service PC to the Panel, *Continued*

### Modem Connection to Remote Panel

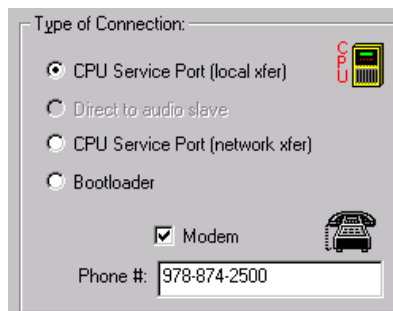
A modem connection can be used to download a CFG file (file with extension .CFG4100U) or a Slave Exec file to a functional (i.e., operational), remote 4100U node. To perform a remote download via modem, you must do the following:

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 15-11. 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 15-12. CPU 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.

## Downloading Files

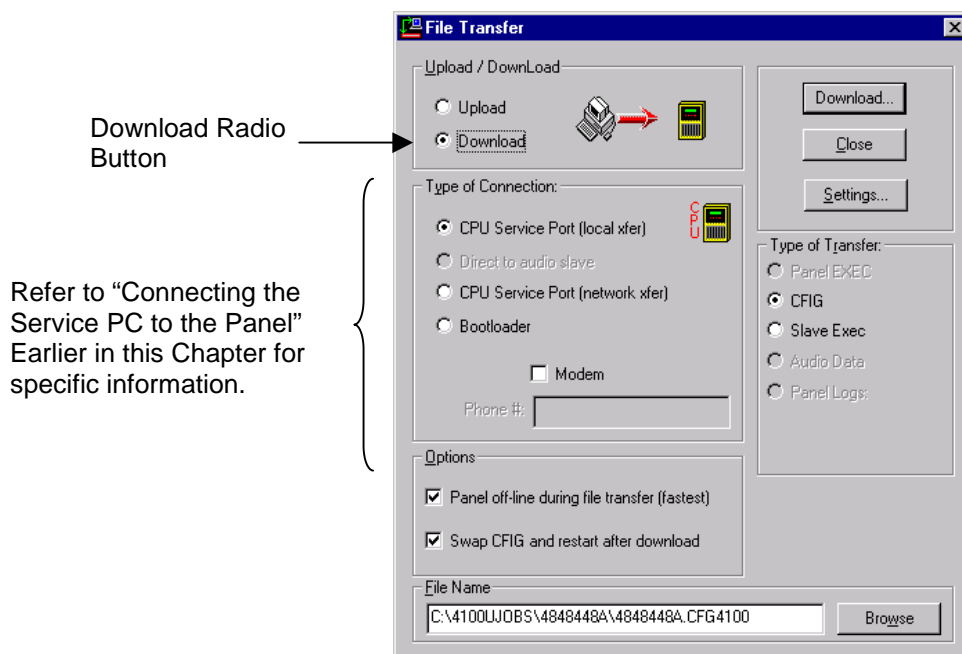
### Overview

The procedure required to download a file to the 4100U 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 the previous section for information on setting up a local, network, or modem connection to the panel.



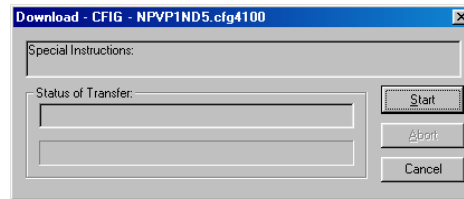
**Figure 15-13. Downloading a CFIG File**

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 (.CFG4100U). 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 15-14 appears.

*Continued on next page*

## Downloading Files, *Continued*

### Procedure -- Downloading a CFG File, *(continued)*



**Figure 15-14. Download Start Dialog**

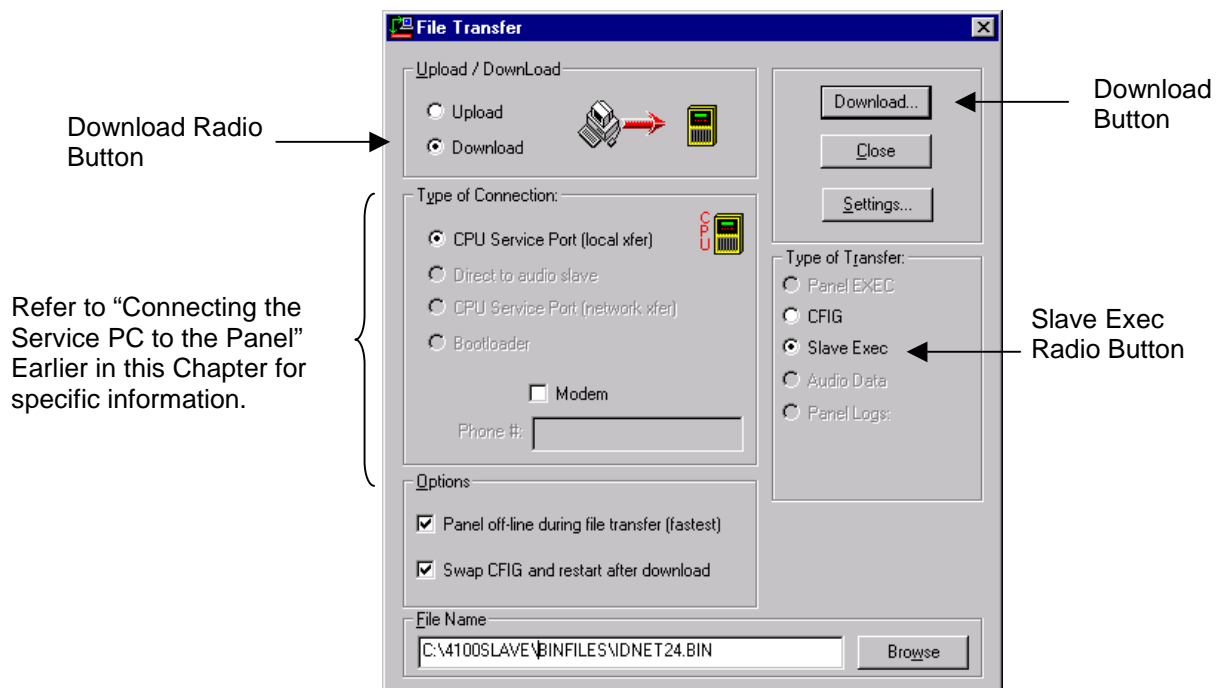
7. Click the Start button to begin the download. The display on the front panel of the 4100U shows the progress of the download.

### 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 the previous section in this chapter for information on setting up a connection to the panel.



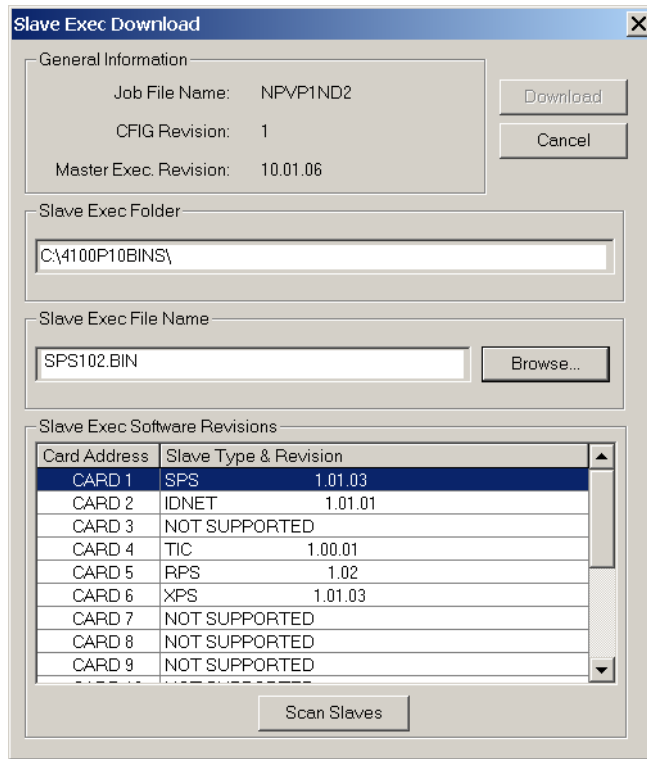
**Figure 15-15. Downloading a Slave Exec File**

3. Click on the Slave Exec radio button.

*Continued on next page*

## Downloading Files, *Continued*

### Procedure -- Downloading Slave Exec Files, (*continued*)



**Figure 15-16. 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.
    - d.
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*

## Downloading Files, *Continued*

### **Procedure -- Downloading Slave Exec Files, (continued)**

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 15-17. Start Button**

*Continued on next page*



## Downloading Files, *Continued*

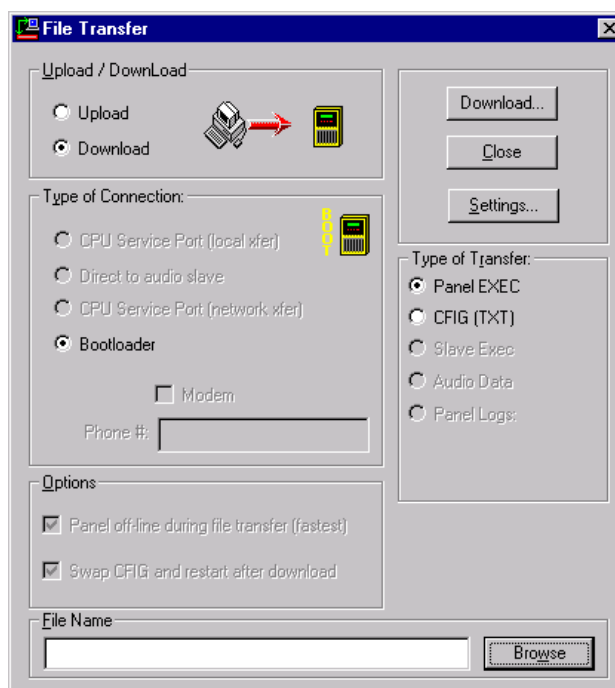
### Downloading Bootloader Files

The CPU Bootloader files (Panel Master and the CFGI .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 4100U jobs (e.g., French). It contains all the alternate language text that appears in the 4100U 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 4100U 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 the “Connecting the Service PC to the Panel,” earlier in this chapter for information on setting up a direct connection to the panel.



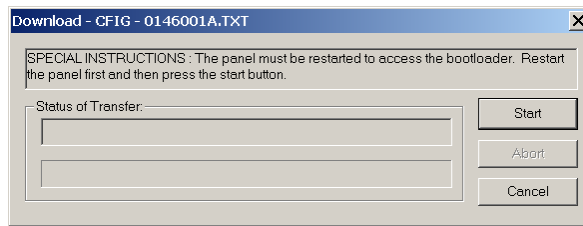
**Figure 15-18. Downloading Bootloader Files**

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 CFGI.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.

*Continued on next page*

## Downloading Files, *Continued*

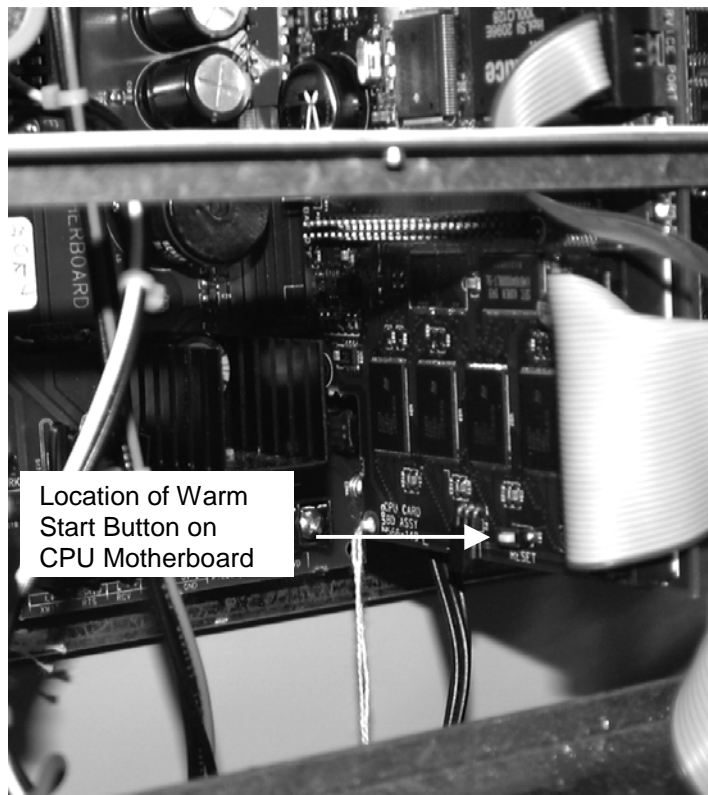
### Downloading Bootloader Files, (continued)



**Figure 15-19. 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 15-19. The panel LCD displays messages describing the progress of the download operation.

**Note:** The timing of these operations is key. You must press the Warm Start button on the CPU card first, followed by the Start button in the dialog box, and you must perform this sequence within approximately 5 seconds.



**Figure 15-20. Location of Warm Start Button**

# Chapter 16.

## Suppression Release

---

### Introduction

This chapter 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.

---

### In this Chapter

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

Topic	See Page #
Overview	16-2
Setting Suppression Release Device and Point Types	16-4
Using Suppression Release Wizard	16-6

---

# Overview

---

## General Capabilities

The 4100U is capable of controlling either a preaction/deluge sprinkler system or an agent release extinguishing system.

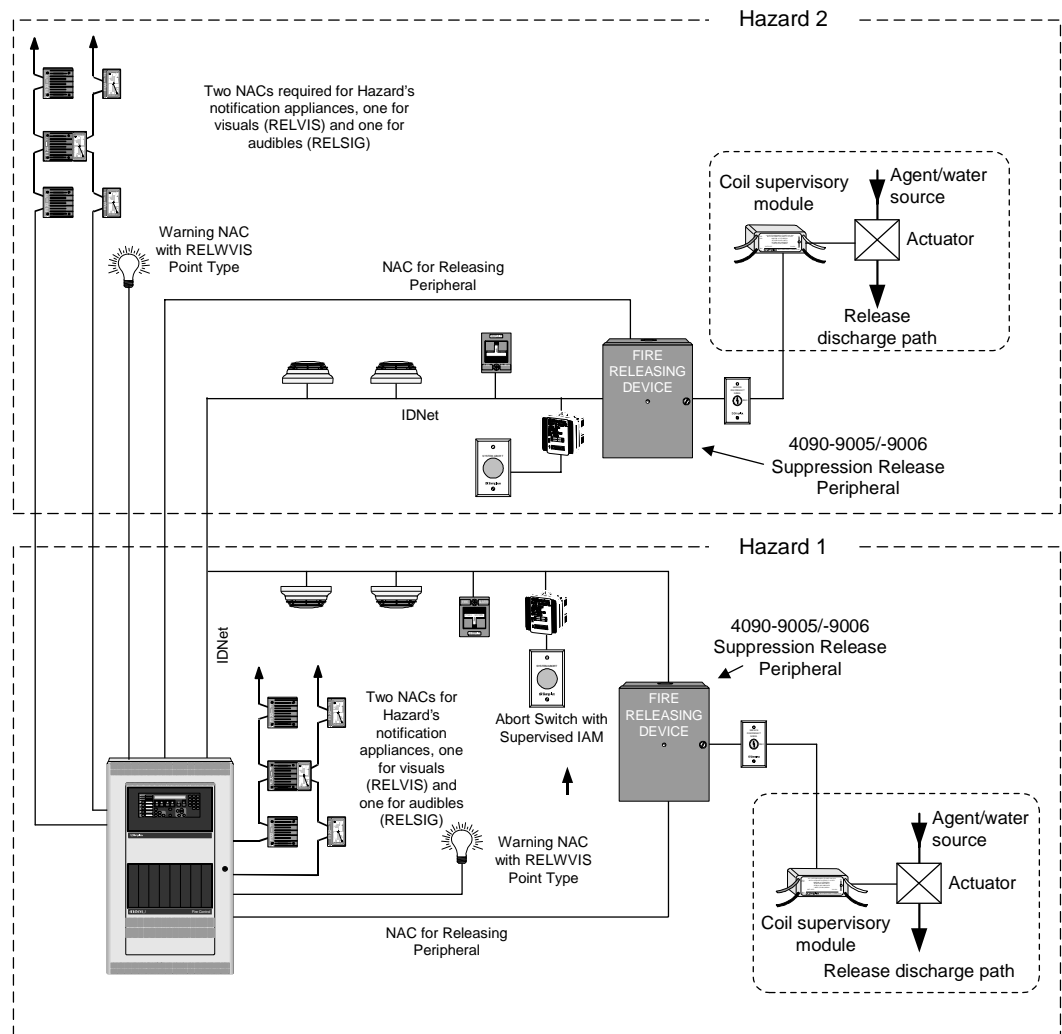
- The number of hazard areas that the 4100U is capable of monitoring is restricted only by the amount of memory available for Custom Control equations (each hazard is defined as a separate area containing its own 4090-9005 or -9006 releasing peripheral and solenoid).
- Each hazard area requires four 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.

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*Continued on next page*

## Overview, Continued

### General Capabilities, (continued)



**Figure 16-1. Suppression Release Overview**

### Applying Applique

The 4100U 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 4100U 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

*Continued on next page*

## Setting Suppression Release Device and Point Types

### 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 16-1. 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	

*Continued on next page*

## Setting Suppression Release Device and Point Types, *Continued*

### Device and Point Types, *(continued)*

**Table 16-1. 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, 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 or marchtime coding can be done on True Alert devices.

# Using Suppression Release Wizard

## 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.

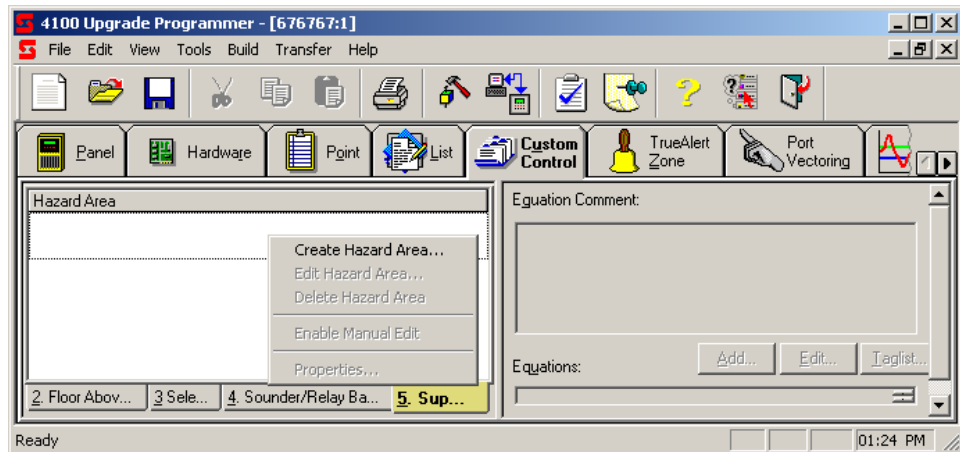


Figure 16-2. Create Hazard Area Menu Choice

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.

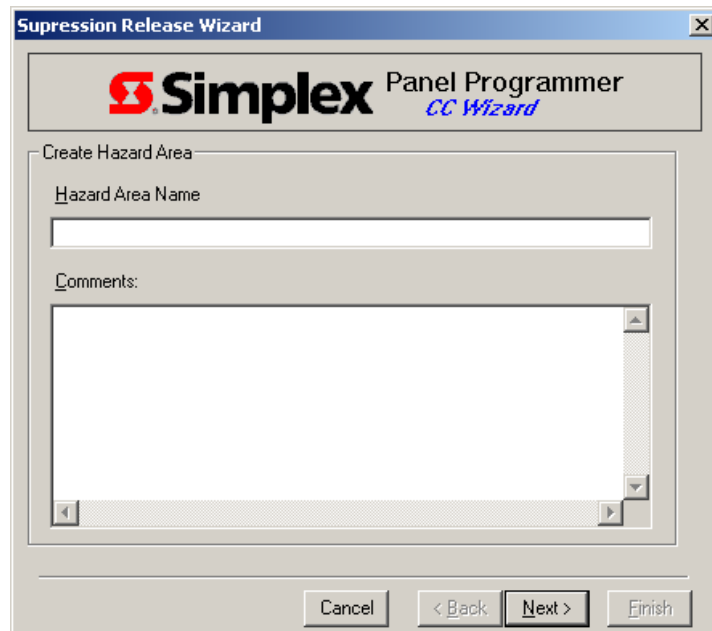


Figure 16-3. Naming Hazard Area

*Continued on next page*



## Using Suppression Release Wizard, *Continued*

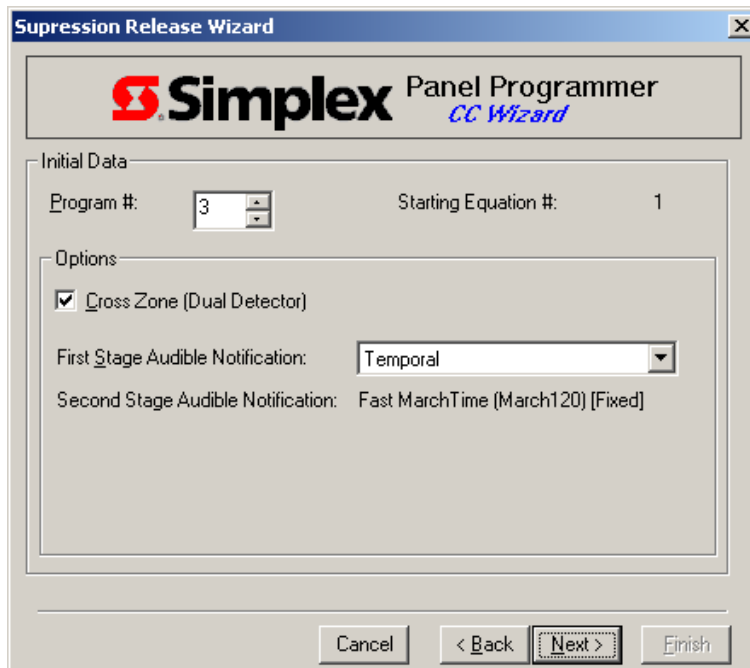
### Step 2. Specify Initial Data and Options

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 the audible 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 enable, 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 16-4. Cross Zone (Dual Detector) Options**

Click Next to continue programming when you have set these options to the appropriate values.

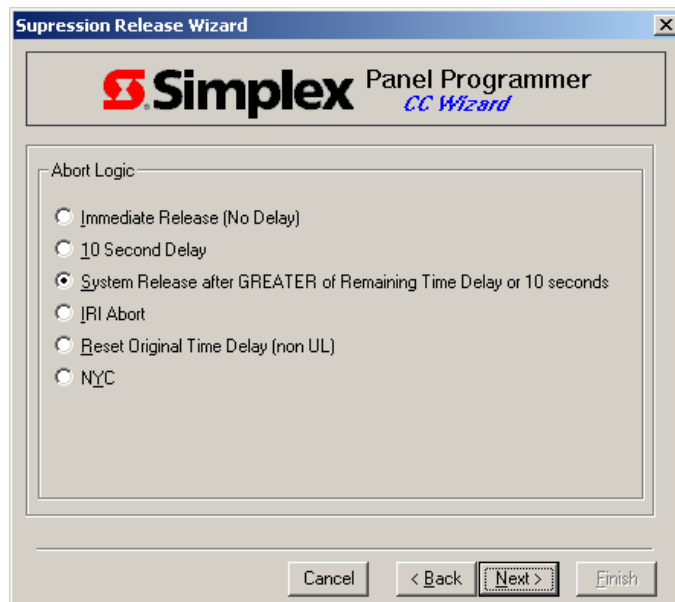
*Continued on next page*

## Using Suppression Release Wizard, *Continued*

### Step 3. Specify Abort Switch Operation

The next screen allows you to specify the action that occurs when the abort switch is released.

**Important Notes:** For all choices except IRI Abort, pressing and holding the abort switch prevents agent release for as long as the switch is held in. For IRI Abort, the abort switch must be pressed and held before the second alarm activation occurs to prevent release.



**Figure 16-5. 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 cross zoned 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.

*Continued on next page*

## Using Suppression Release Wizard, *Continued*

### Step 3. Specify Abort Switch Operation, (continued)

- **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.

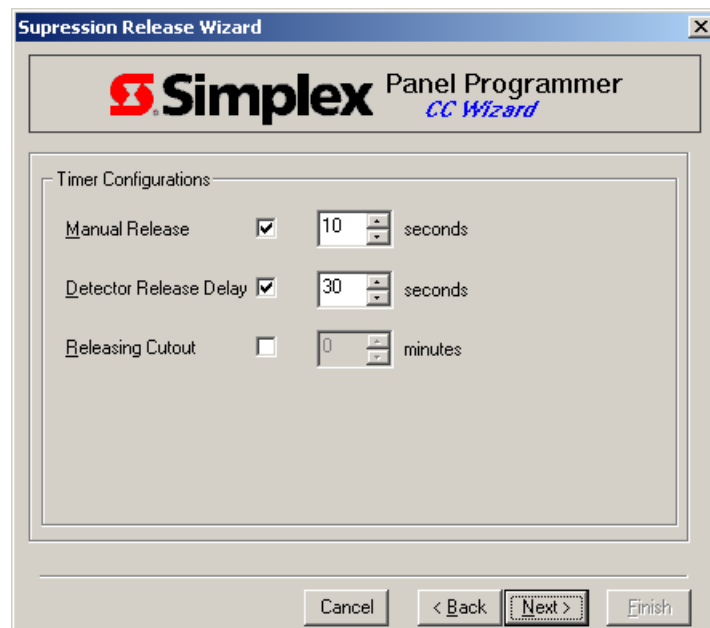


Figure 16-6. Timer Configuration Options

*Continued on next page*

## Using Suppression Release Wizard, *Continued*

### Set Timer Options, (continued)

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.

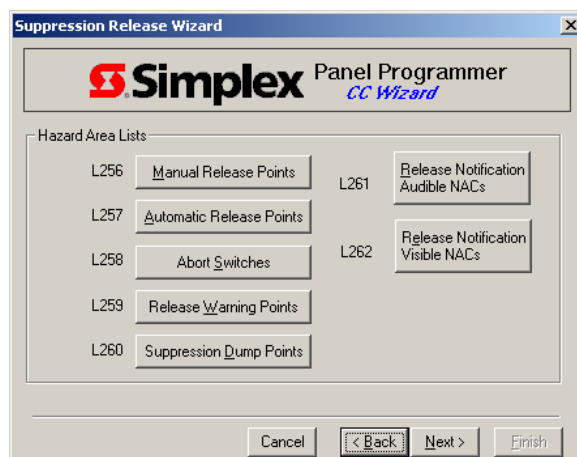


Figure 16-7. Tag List Buttons

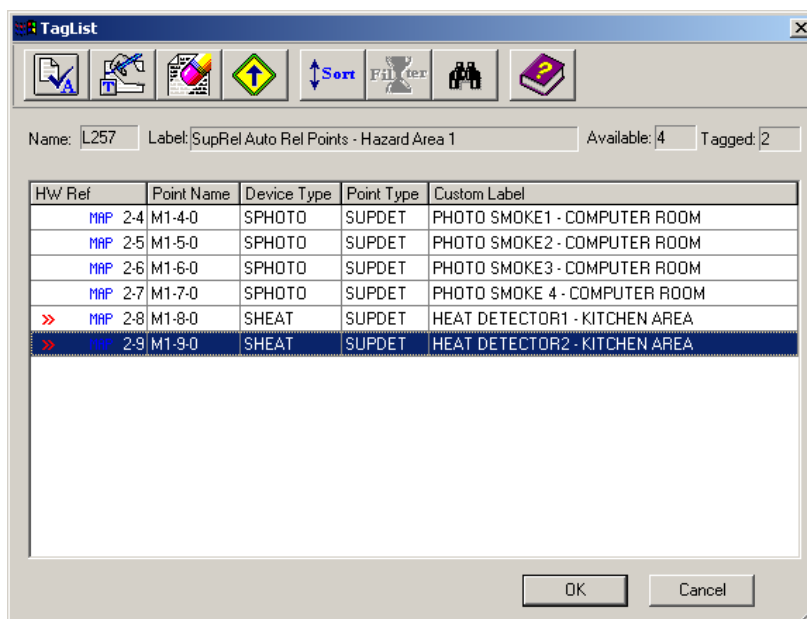
*Continued on next page*

## Using Suppression Release Wizard, *Continued*

### Step 5. Specify Hazard Area Points, *(continued)*

Each button accesses a tag list, which then allows you to select (tag) the specific points to associate with the hazard. Follows 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 16-8 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 16-8. Tagging Points**

3. Click OK when you are finished selecting points. The screen containing the Tag List buttons (Figure 16-7) reappears. Click the Next button at the bottom of this screen when all points associated with this hazard area have been chosen.

*Continued on next page*

## Using Suppression Release Wizard, *Continued*

### Step 5. Specify Hazard Area Points, (continued)

The last screen, shown in Figure 16-9, 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.

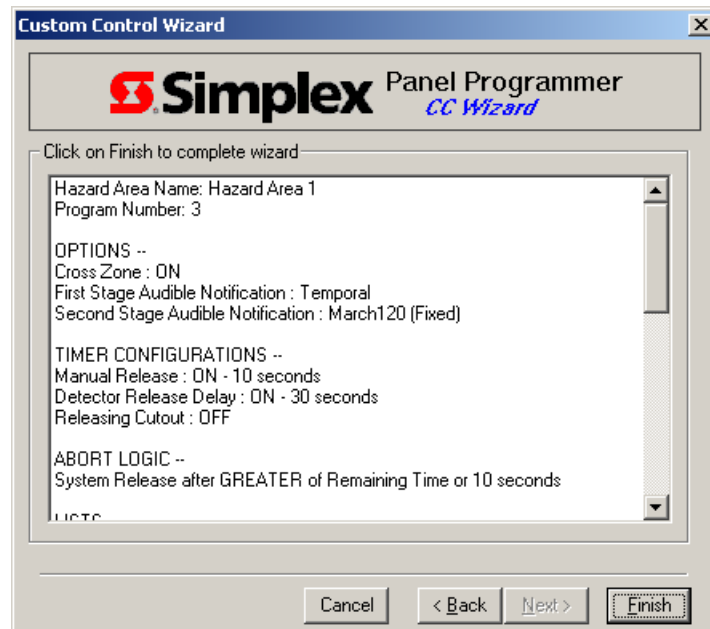


Figure 16-9. Reviewing Options

When you click on Finish, an icon and label appear in the list of hazard areas shown in Figure 16-10.

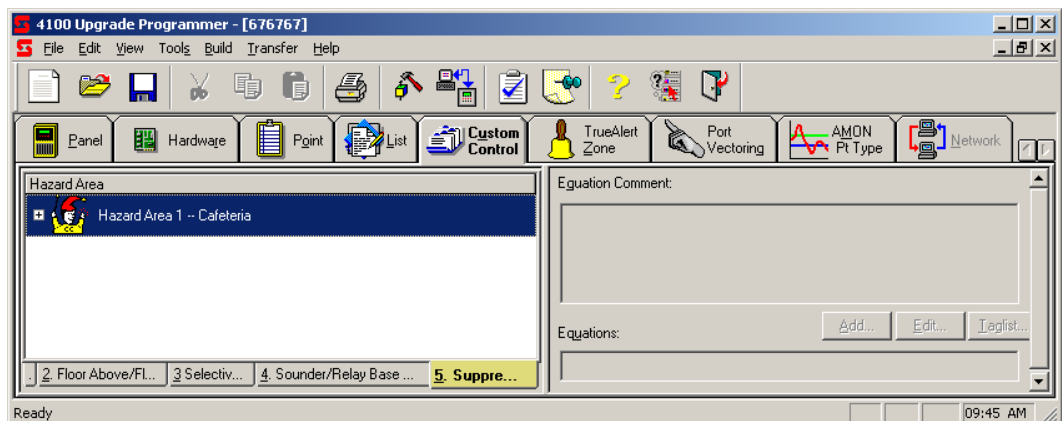


Figure 16-10. Icon Added Following Programming

*Continued on next page*

## Using Suppression Release Wizard, *Continued*

### Deleting Hazard Area

To delete an existing Hazard Area, right click on the name of the hazard area (see Figure 16-10) 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.

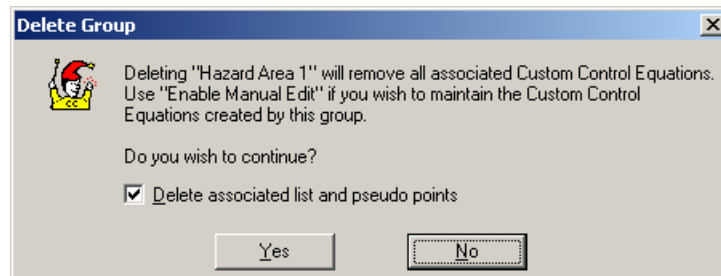


Figure 16-11. Deleting Hazard Areas

### 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 16-10) 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 16-10) 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 16-10) 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.

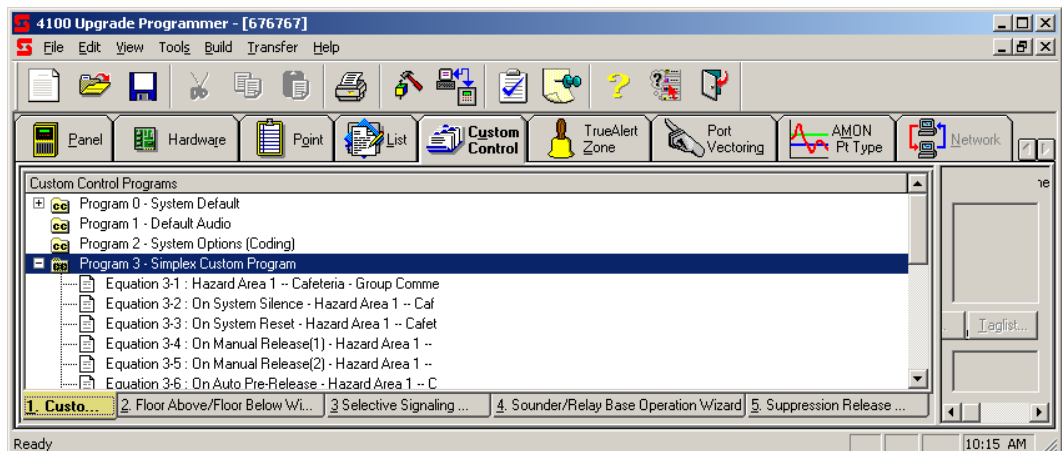


Figure 16-12. Manual Edit





# 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:

Topic	See Page #
Device Type and Point Types for IDNet/MAPNET	A-2
Device Type and Point Types for Hardwired Monitor, Signal, and AUX Relay	A-7
Device/Communication Channel Compatibility	A-9
Monitor Point Types	A-10
Signal Point Types	A-32
AUX Relay Point Types	A-42
Feedback Point Types	A-48
24 Point I/O Point Types	A-49
DIGITAL PSEUDO POINT TYPES	A-60
ANALOG PSEUDO POINT TYPES	A-61
LIST PSEUDO POINT TYPES	A-62

---

## Device Type and Point Types for IDNet/MAPNET

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, SPULL, STYLEC, SUPERV, TDAMPER, TROUBLE, UTILITY, VSFIRE, VSPULL, WATER, WSO, LSDUCT
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
MAZAM – -- MAPNET Only	FIRE	ABORT, DAMPER, DUCT, FIRE, FLAME, GVMON, HEAT, LATSUPV, PULL, SDUCT, SMOKE, SO, SUPERV, TROUBLE, UTILITY, VSMOKE, WATER, BGLASS, CALLPT, LSDUCT
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

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## Device Type and Point Types for IDNet/MAPNET, *Continued*

Monitor Device Types (continued)	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
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	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
CRPHOTO – IDNet and MAPNET	SMOKE	GVMON, SMOKE, UTILITY, VSMOKE
CSPHOTO – IDNet and MAPNET	SMOKE	GVMON, SMOKE, UTILITY, VSMOKE
CTPHOTO – IDNet and MAPNET	SMOKE	GVMON, SMOKE, UTILITY, VSMOKE
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
IOHEAT – IDNet Only	HEAT	HEAT, UTILITY
ION – IDNet and MAPNET	SMOKE	GVMON, SMOKE, UTILITY, VSMOKE
OHEAT – IDNet and MAPNET	HEAT	HEAT, UTILITY
IPHOTO – IDNet Only	SMOKE	DUCT, GVMON, SDUCT, SMOKE, UTILITY, VSMOKE, LSDUCT
PHOTO – IDNet and MAPNET	SMOKE	DUCT, GVMON, SDUCT, SMOKE, UTILITY, VSMOKEL, LSDUCT
RHCL – IDNet Only	FIREHCL	FIREHCL, PRI2HCL, SUPHCL, UTILHCL
RHEAT – IDNet and MAPNET	HEAT	HEAT, UTILITY

*Continued on next page*

## Device Type and Point Types for IDNet/MAPNET, *Continued*

Analog Device Types (continued)	Point Type (Default)	Available Point Types
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
ROHEAT – IDNet and MAPNET	HEAT	HEAT, UTILITY
RPHOTO – IDNet and MAPNET	SMOKE	DUCT, GVMON, SDUCT, SMOKE, UTILITY, VSMOKE, LSDUCT
SHCL –IDNet Only	FIREHCL	FIREHCL, PRI2HCL, SUPHCL, UTILHCL
SHEAT – – IDNet and MAPNET	HEAT	HEAT, UTILITY
SION – – IDNet and MAPNET	SMOKE	GVMON, SMOKE, UTILITY, VSMOKE
SOHEAT – IDNet and MAPNET	HEAT	HEAT, UTILITY
SPHOTO – IDNet and MAPNET	SMOKE	DUCT, GVMON, SDUCT, SMOKE, UTILITY, VSMOKE, LSDUCT
TION – IDNet and MAPNET	SMOKE	GVMON, SMOKE, UTILITY, VSMOKE
TPHOTO – IDNet and MAPNET	SMOKE	DUCT, GVMON, SDUCT, SMOKE, UTILITY, VSMOKE, LSDUCT
UHEAT – IDNet and MAPNET	UTILITY	N/A
XIPHOTO – IDNet Only	SMOKE	DUCT, GVMON, SDUCT, SMOKE, UTILITY, VSMOKE, LSDUCT
XPHOTO – IDNet and MAPNET	SMOKE	DUCT, GVMON, SDUCT, SMOKE, UTILITY, VSMOKE, LSDUCT
XRPHOTO – IDNet and MAPNET	SMOKE	DUCT, GVMON, SDUCT, SMOKE, UTILITY, VSMOKE, LSDUCT
XSPHOTO – IDNet and MAPNET	SMOKE	DUCT, GVMON, SDUCT, SMOKE, UTILITY, VSMOKE, LSDUCT
XTPHOTO – IDNet and MAPNET	SMOKE	GVMON, SMOKE, UTILITY, VSMOKE

Control Device Types	Point Type (Default)	Available Point Types
NULAUx	RELAY	AHUF, AHUO, AHUR, ALTERN, BRELAY, CDAMPER, CEXHAUS, CPRESS, DHOLDER, DRESET, PRIMARY, RELAY, RRELAY, R SIGNAL, R VISUAL, RWATER, SHAFT, SRELAY, S SIGNAL, SUPERV, S VISUAL, SWATER, TRELAY
NULMON	FIRE	ABORT, DAMPER, DUCT, FIRE, FLAME, GVMON, HEAT, LATSUPV, PULL, SDUCT, SMOKE, SO, SUPERV, TROUBLE, UTILITY, VSMOKE, WATER, LSDUCT

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## Device Type and Point Types for IDNet/MAPNET, *Continued*

Control Device Types (continued)	Point Type (Default)	Available Point Types
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

Multipoint Device Types	Point Type (Default)	Available Point Types
MLPTIO	UTILITY	UTILITY
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
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
MXPHOTO	SMOKE	SMOKE, VSMOKE, UTILITY, GVMON, DUCT, SDUCT, LSDUCT

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## Device Type and Point Types for IDNet/MAPNET, *Continued*

Control Device Types (continued)	Point Type (Default)	Available Point Types
MHEAT	HEAT	HEAT, UTILITY
MOHEAT	HEAT	HEAT, UTILITY
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
MFEEDBACK	UTILITY	UTILITY, DAMPER, TROUBLE, SUPERV
TRIAM	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
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 Hardwired Monitor, Signal, and AUX Relay

Hardwired Monitor Device Types	Point Type (Default)	Available Point Types
SMONB SMONA	FIRE	ABORT, CODEIN, DAMPER, DUCT, EMERG, FIRE, FLAME, FPUMP, GENFS, GENMON, GENPRI2, GVMON, HEAT, LATSUPV, MPRI2, PULL, S2STAGE, SC, 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, WSC, WSO
SCAN50	FIRE	ABORT, CODEIN, DAMPER, DUCT, EMERG, FIRE, FLAME, FPUMP, GENFS, GENMON, GENPRI2, GVMON, HEAT, LATSUPV, MPRI2, PULL, S2STAGE, SC, 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, WSC, WSO

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

4100U 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

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## Device Type and Point Types for Hardwired Monitor, Signal, and AUX Relay, *Continued*

<b>XPS AUX Relay</b>	<b>Point Type (Default)</b>	<b>Available Point Types</b>
AUXPWR	AUXPWR	AUXPWR, CODED, RELAY

<b>SPS OR RPS AUX Relay</b>	<b>Point Type (Default)</b>	<b>Available Point Types</b>
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

<b>4100-3001/3002/3003 Relay</b>	<b>Point Type (Default)</b>	<b>Available Point Types</b>
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



## Device/Communication Channel Compatibility

PID	Description	Communication Channel
4090-9101	Class B IDC ZAM	4100U 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 4100U
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		

## Monitor Point Types

### FIRE

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).		

### WATER

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

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.		

*Continued on next page*

## Monitor Point Types, *Continued*

### DUCT

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.		

### FLAME

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

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.		

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## Monitor Point Types, *Continued*

### SMOKE

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.		

### VSMOKE

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

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.		

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## Monitor Point Types, *Continued*

### EMERG

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.		

### SFIRE

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

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.		

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## Monitor Point Types, *Continued*

### SPULL

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.		

### VSPULL

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

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.		

*Continued on next page*

## Monitor Point Types, *Continued*

### SGENMON

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.		

### FPUMP

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

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.		

*Continued on next page*

## Monitor Point Types, *Continued*

### ABORT

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 acknowledgement.		

### S2STAGE

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 2 stage 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

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.		

*Continued on next page*



## Monitor Point Types, *Continued*

SC

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.		

WSO

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

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 normally 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.		

*Continued on next page*

## Monitor Point Types, *Continued*

### GVMON

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

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.		

### LATSUPV

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

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.		

*Continued on next page*

## Monitor Point Types, *Continued*

### TROUBLE

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.		

### DAMPER

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

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.		

*Continued on next page*

## Monitor Point Types, *Continued*

### MPRI2 (ARMED)

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:			

### MPRI2 (DISARMED)

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)

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:			

*Continued on next page*

## Monitor Point Types, *Continued*

### SMALARM (DISARMED)

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:			

### SMDOOR (ARMED)

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)

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:			

*Continued on next page*

## Monitor Point Types, *Continued*

### SMWIND (ARMED)

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)

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:			

### SMBREAK (ARMED)

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:			

*Continued on next page*

## Monitor Point Types, *Continued*

### SMBREAK (DISARMED)

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)

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:			

### SMMOT (DISARMED)

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:			

*Continued on next page*

## Monitor Point Types, *Continued*

### SPRI2 (ARMED)

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)

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*



## Monitor Point Types, *Continued*

### SSALARM (ARMED)

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)

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)

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:			

*Continued on next page*

## Monitor Point Types, *Continued*

### SSDOOR (DISARMED)

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)

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)

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*

## Monitor Point Types, *Continued*

### SSWIND (ARMED)

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)

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:			

### SSBREAK (ARMED)

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:			

*Continued on next page*

## Monitor Point Types, *Continued*

### SSBREAK (DISARMED)

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)

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:			

### SSMOT (DISARMED)

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:			

*Continued on next page*

## Monitor Point Types, *Continued*

### STYLEC

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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:		

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*Continued on next page*

## Monitor Point Types, *Continued*

### SDUCT

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:		

### GENPRI2 (ARMED)

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)

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:			

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## Monitor Point Types, *Continued*

### GENFS

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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:		

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### S3SMOKE

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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:		

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### SUTIL

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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:		

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## Signal Point Types

### SIGNAL

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

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

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 are required ON until the alarm silence key is operated. A separate type for visuals only is available.		

*Continued on next page*



## Signal Point Types, *Continued*

### RSIGNAL

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

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 with an audible signal should activate on any system trouble or supervisory condition and remain ON until the trouble or supervisory condition has cleared.		

### BSIGNAL

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*

## Signal Point Types, *Continued*

### CODED

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) then they may be separated as required.		

### SVISUAL

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 ON until the alarm silence key is operated.		

### RVISUAL

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 ON until the system reset key is operated.		

*Continued on next page*

## Signal Point Types, *Continued*

### SWATER

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

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.		

*Continued on next page*

## Signal Point Types, *Continued*

### SUPERV

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.		

### PRIMARY

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.		

*Continued on next page*

## Signal Point Types, *Continued*

### ALTERN

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

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.		

### AHUO

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 with 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.		

*Continued on next page*

## Signal Point Types, *Continued*

### AHUF

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 with 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

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.		

### CEXHAUS

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.		

*Continued on next page*

## Signal Point Types, *Continued*

### CDAMPER

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

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:		

### DHOLDER

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:		

*Continued on next page*

## Signal Point Types, *Continued*

### PHONE

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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:		

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### RMPHONE

---

Remote MasterPhone		
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:		

---

### SHAFT

---

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:		

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*Continued on next page*



## Signal Point Types, *Continued*

### AUXPWR

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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:		

---

## AUX Relay Point Types

### RELAY

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

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

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

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.		

### AHUO

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.		

*Continued on next page*

## AUX Relay Point Types, *Continued*

### AHUF

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

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

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.		

### CEXHAUS

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.		

*Continued on next page*

## AUX Relay Point Types, *Continued*

### CDAMPER

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

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

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.		

### TRELAY

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.		

*Continued on next page*

## AUX Relay Point Types, *Continued*

### BRELAY

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

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

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.		

### SWATER

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.		

*Continued on next page*

## AUX Relay Point Types, *Continued*

### RWATER

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

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

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.		

### RVISUAL

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.		

*Continued on next page*

## AUX Relay Point Types, *Continued*

### SSIGNAL

---

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

---

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

---

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:		

---

### AUXPWR

---

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:		

---

## Feedback Point Types

### DAMPER

---

Damper Monitor (Open/Closed))		
Circuit Status	LCD Readout	LED
On	DAMPER MONITOR OPEN	
Off	DAMPER MONITOR CLOSED	
Description:		

---

### AHUMON

---

AHU Monitor (On/Off))		
Circuit Status	LCD Readout	LED
On	AHU MONITOR ON	
Off	AHU MONITOR OFF	
Description:		

---

### PRESSUR

---

Pressurization Monitor (On/Off))		
Circuit Status	LCD Readout	LED
On	PRESSURIZATION ON	
Off	PRESSURIZATION OFF	
Description:		

---

### EXHAUST

---

Exhaust Monitor (On/Off))		
Circuit Status	LCD Readout	LED
On	EXHAUST ON	
Off	EXHAUST OFF	
Description:		

---

### ONOFF

---

Utility Monitor (On/Off)		
Circuit Status	LCD Readout	LED
On	UTILITY MONITOR ON	
Off	UTILITY MONITOR OFF	
Description:		

---



## 24 Point I/O Point Types

### UTILITY

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

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

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*

## 24 Point I/O Point Types, *Continued*

### OSWITCH

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

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.		

*Continued on next page*

## 24 Point I/O Point Types, *Continued*

### TSWITCH

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).		

### TDAMPER

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 partially open status. A current limiting resistor is required for the open damper contact.		

### AHUMON

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.		

*Continued on next page*

## 24 Point I/O Point Types, *Continued*

### PRESSUR

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

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.		

### ONOFF

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.		

*Continued on next page*

## 24 Point I/O Point Types, *Continued*

### OFFON

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

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

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*

## 24 Point I/O Point Types, *Continued*

### LAMP

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

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

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*

## 24 Point I/O Point Types, Continued

### PRIMARY

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

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

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*

## 24 Point I/O Point Types, Continued

### AHUO

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

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

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



## 24 Point I/O Point Types, *Continued*

### CEXHAUS

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

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

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*

## 24 Point I/O Point Types, *Continued*

### RRELAY

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

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

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.		

*Continued on next page*

## 24 Point I/O Point Types, *Continued*

### SHAFT

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

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Digital Utility Point		
Circuit Status	LCD Readout	LED
Off	UTILITY POINT OFF	
On	UTILITY POINT ON	
Description:		

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### FIRE

Digital Fire Alarm Point		
Circuit Status	LCD Readout	LED
Off	FIRE ALARM POINT NORMAL	
On	FIRE ALARM POINT ABNORMAL	F
Description:		

---

### TROUBLE

Digital Trouble Point		
Circuit Status	LCD Readout	LED
Off	TROUBLE POINT NORMAL	
On	TROUBLE POINT ABNORMAL	T
Description:		

---

### SUPERVIS

Digital Supervisory Point		
Circuit Status	LCD Readout	LED
Off	SUPERVISORY POINT NORMAL	
On	SUPERVISORY POINT ABNORMAL	S
Description:		

---

### PRI2

Digital Priority 2 Point		
Circuit Status	LCD Readout	LED
Off	PRIORITY 2 POINT NORMAL	
On	PRIORITY 2 POINT ABNORMAL	A
Description:		

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## ANALOG PSEUDO POINT TYPES

### TIMER

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Analog Timer Pseudo Point		
Circuit Status	LCD Readout	LED
Off	VALUE = 0 OFF	
On	VALUE = XXX ON	
Description:		

---

### COUNTER

Analog Counter Pseudo Point		
Circuit Status	LCD Readout	LED
Off	VALUE = 0 OFF	
On	VALUE = XXX ON	
Description:		

---

### ANALOG

Analog Pseudo Point		
Circuit Status	LCD Readout	LED
Off	VALUE = 0 OFF	
On	VALUE = XXX ON	
Description:		

---

## LIST PSEUDO POINT TYPES

### LIST

---

List Pseudo Point		
Circuit Status	LCD Readout	LED
Empty	LIST POINT EMPTY LIST	
Off	LIST POINT OFF	
On	LIST POINT ON	
Description:		

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# Appendix B

## LED/Switch Modes

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### Introduction

This appendix is a reference for all LED and Switch modes used on the 4100U.

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### In this Chapter

This appendix discusses the following topics:

Topic	See Page #
Switch Modes	B-2
LED Modes	B-6

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## 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.

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## Switch Modes, *Continued*

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Mode	Description
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.
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.

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*Continued on next page*

## Switch Modes, *Continued*

Mode	Description
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
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.

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## Switch Modes, *Continued*

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Mode	Description
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.

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## LED Modes

**Table B-2. LED Modes**

Mode	Meaning
ABALERT	An LED with this mode has four states: <ul style="list-style-type: none"> <li>• Slow. Reference point has a current limited condition and requires acknowledgement.</li> <li>• On. Reference point with current limited condition has been acknowledged.</li> <li>• Fast. Reference point has cleared, current-limited condition requiring acknowledgement.</li> <li>• Off. Reference point is in a normal state.</li> </ul>
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: <ul style="list-style-type: none"> <li>• Slow. One or both points are in a trouble state and require acknowledgement.</li> <li>• On. At least one point has been acknowledged.</li> <li>• Fast. One or both points are in a cleared state and require acknowledgement.</li> <li>• Off. Both points are in a normal state.</li> </ul>
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.

*Continued on next page*

## LED Modes, *Continued*

Mode	Meaning
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.
PALERT	An LED with this mode has four states: <ul style="list-style-type: none"> <li>• Slow. A point with a Primary/On state requires acknowledgement.</li> <li>• On. Point with Primary/On state has been acknowledged.</li> <li>• Fast. Cleared, Primary/On state requires acknowledgement.</li> <li>• Off. Point in a normal state.</li> </ul>
PIEZO	Piezo driver output.
PRI2ALM	LED illuminates when a priority 2 alarm occurs.
SALERT	An LED with this mode has four states: <ul style="list-style-type: none"> <li>• Slow. A point with a supervisory condition requires acknowledgement.</li> <li>• On. Point with supervisory has been acknowledged.</li> <li>• Fast. Cleared, supervisory requires acknowledgement.</li> <li>• Off. Point in a normal state.</li> </ul>
SHALERT	An LED with this mode has four states: <ul style="list-style-type: none"> <li>• Slow. A point with a short requires acknowledgement.</li> <li>• On. Point with short has been acknowledged.</li> <li>• Fast. Cleared, short state requires acknowledgement.</li> <li>• Off. Point in a normal state.</li> </ul>
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: <ul style="list-style-type: none"> <li>• Slow. A point with a supervisory condition requires acknowledgement.</li> <li>• On. Point with supervisory has been acknowledged.</li> <li>• Fast. Cleared, supervisory requires acknowledgement.</li> <li>• Off. Point in a normal state.</li> </ul>
TRISTAT	LED illuminates when the point is in an abnormal/current limited state.
TROUBLE	An LED with this mode has four states: <ul style="list-style-type: none"> <li>• Slow. A point with a trouble condition requires acknowledgement.</li> <li>• On. Point with trouble has been acknowledged.</li> <li>• Fast. Cleared, trouble requires acknowledgement.</li> <li>• Off. Point in a normal state.</li> </ul>

## 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.

*Continued on next page*

## High-Level Switch / LED Modes, *Continued*

Mode	Meaning
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.
SACK	Supervisory Acknowledge. The up or down position of the switch acknowledges supervisory troubles 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.

*Continued on next page*

## High-Level Switch / LED Modes, *Continued*

---

Mode	Meaning
AUX1	Plays the AUX1 message, which is programmed via the audio tool.
AUX2	Plays the AUX2 message, which is programmed via the audio tool.
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)

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### Introduction

This appendix discusses the programming operations that must be met to comply with Canadian Underwriter's Laboratory (ULC) standards.

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### In this Chapter

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

Topic	See Page #
Common Earth Fault Ground Indicator	C-2
Audio Two Stage Timer Programming	C-4
Simultaneous Alarm Display	C-7
Setting Alarm Verification Timer to Canadian Operation	C-10
Setting Alarm Silence/Reset Inhibit Timer	C-11
Enabling Low Battery Cutout Option for SPS	C-13
Alarm Cutout Timer	C-14

---

# 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.)

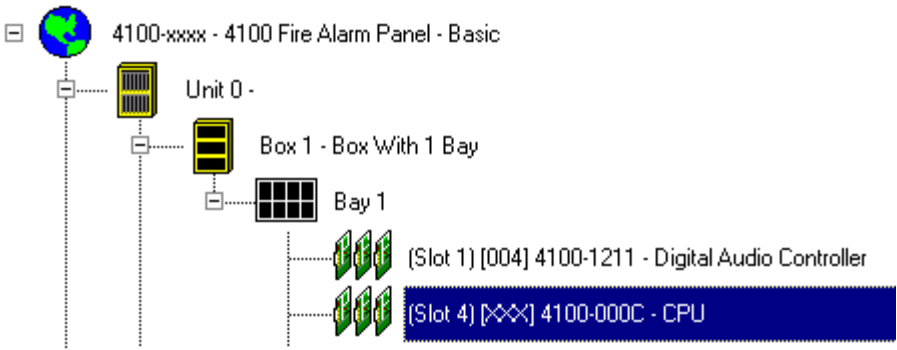


Figure C-1. Location of CPU Card Icon

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.

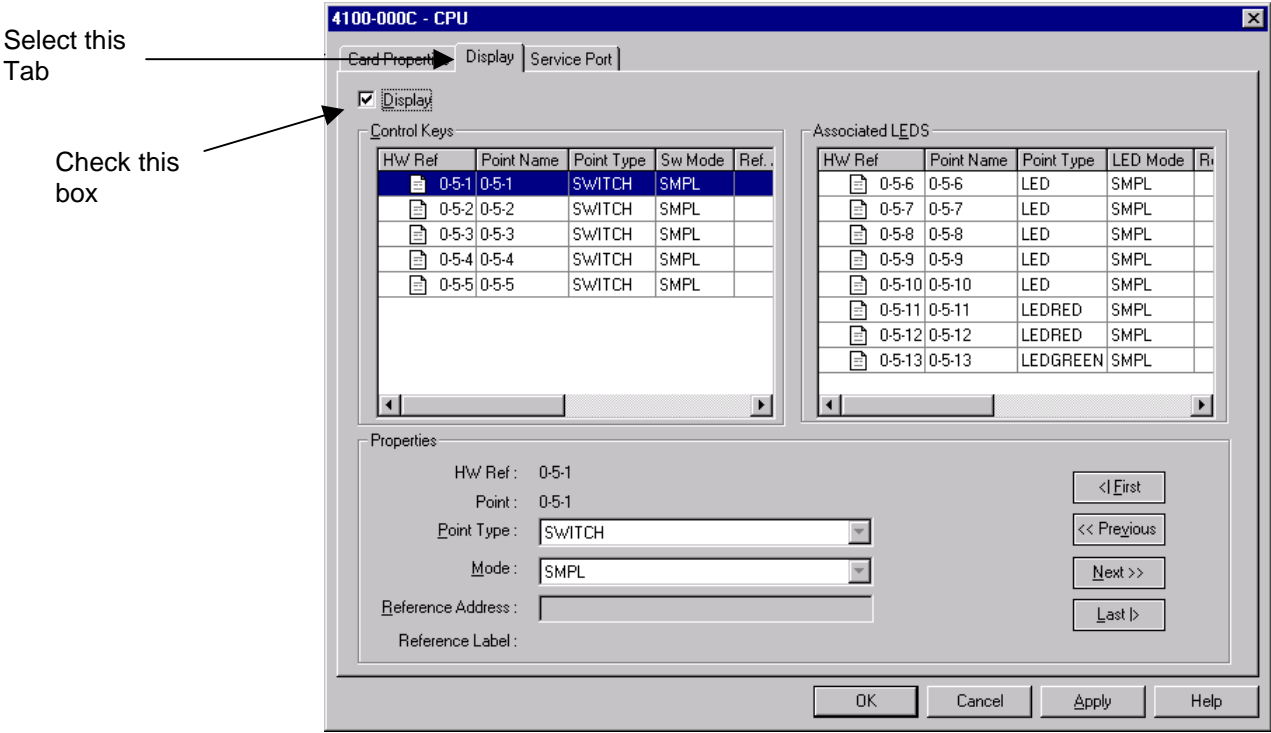


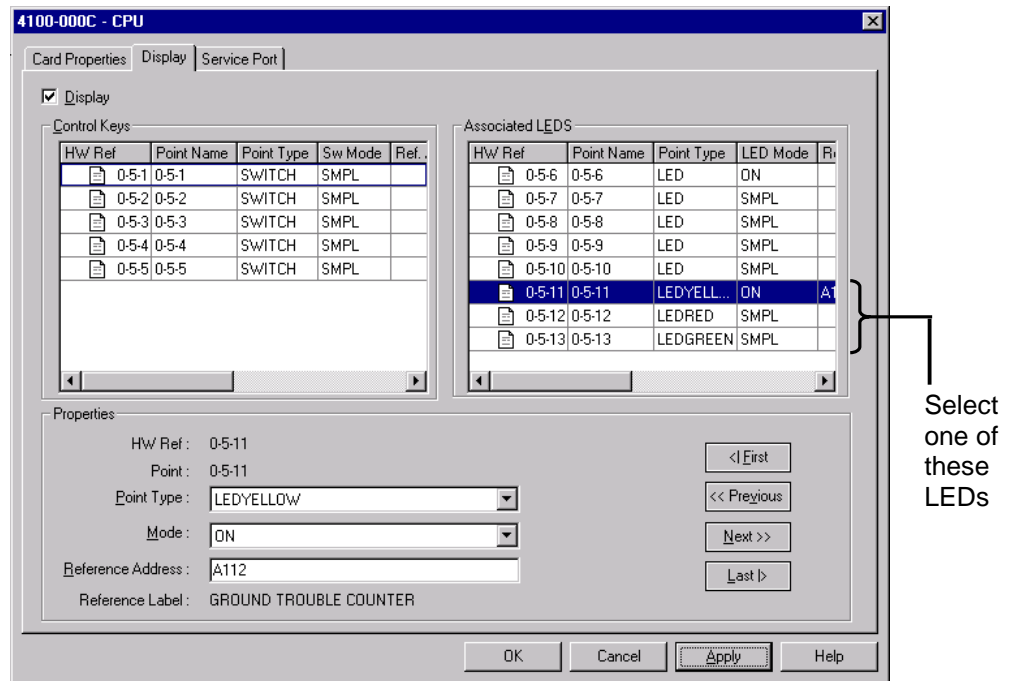
Figure C-2. CPU Card Properties

Continued on next page

## Common Earth Fault Ground Indicator, *Continued*

### Step 2. Program the LED

2. Select one of the multicolor LEDs (0-5-11, 0-5-12, or 0-5-13) to program.
3. Click on the Point Type drop down list box and select LEDYELLOW.
4. Click on the Mode drop down list box and select ON.
5. 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.

*Continued on next page*

## Audio Two Stage Timer Programming, *Continued*

### Step 1. Initialize Timer, (*continued*)

```
[INPUTS]
  STATUS ON
    A34 | ANALOG | TIMER | SYSTEM STARTUP PULSE TIMER
[END INPUTS]
[OUTPUTS]
  SET CONSTANT 300 SECS
    A102 | Set-Analog (Destination) | ANALOG | ANALOG | FIRST STAGE TIMER SETPOINT
[END OUTPUTS]
```

**Figure C-4. Setting Analog Pseudo A102**

### 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 and turns off

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.

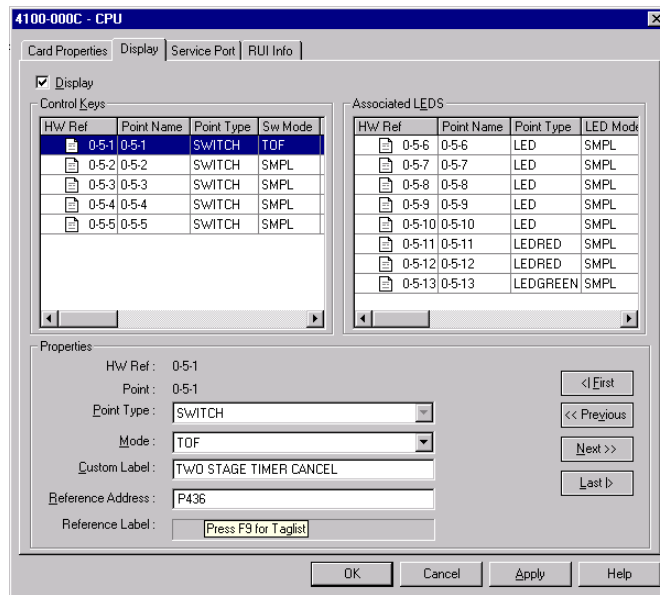
Follow these steps to program the Two Stage Timer Cancel Switch.

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.

*Continued on next page*

## Audio Two Stage Timer Programming, *Continued*

### Step 3. Program Two Stage Timer Cancel Switch, (continued)



**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).

### Step 3. 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 4100U 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 status for 16 zones. On the display card, clearly label each pair 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 4100U 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.

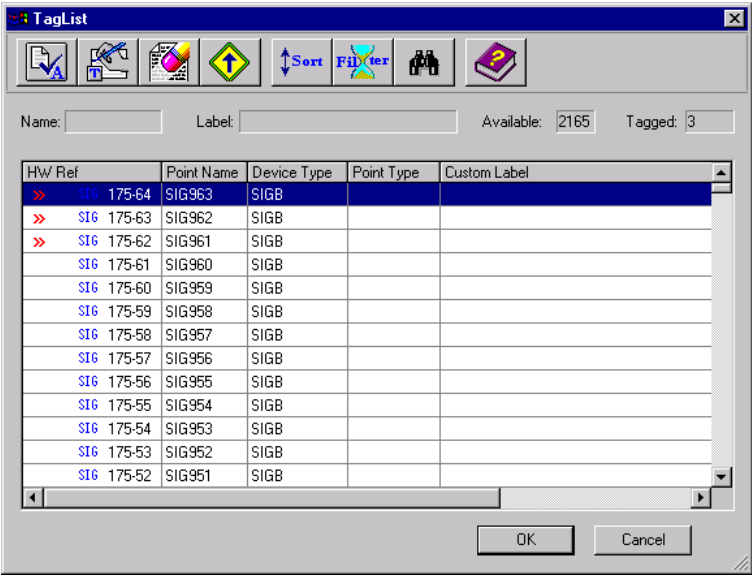


Figure C-6. Taglist

Continued on next page

## Simultaneous Alarm Display, *Continued*

### Creating Annunciation Zone Lists, *(continued)*

3. Select points for the list as follows.
  - **Non-Adjacent Points.** If the points required for the zone are not adjacent to one and other, 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 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.
  - **Range of Adjacent Points.** If the points required for the zone are adjacent to one and other 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.

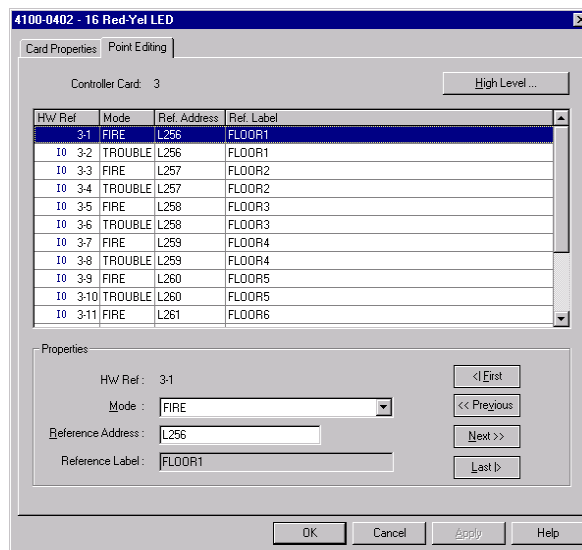


Figure C-7. Display Card Properties

*Continued on next page*



## Simultaneous Alarm Display, *Continued*

### Programming the Address and Mode for Each LED, (continued)

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.

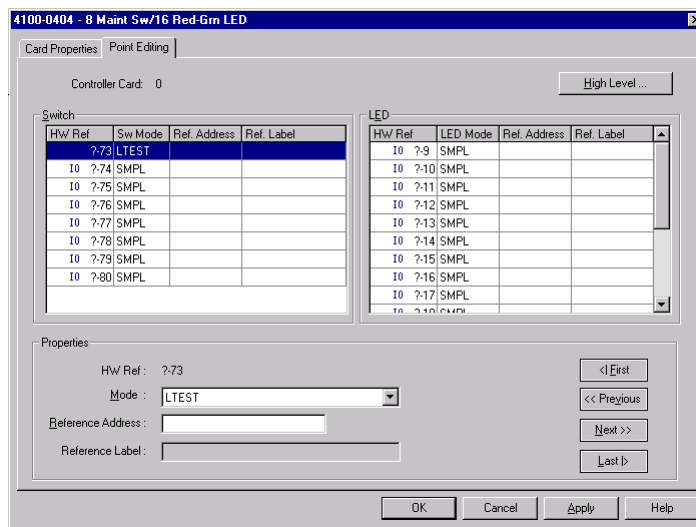


Figure C-8. LED/Switch Card Properties

# 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 the lists 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.

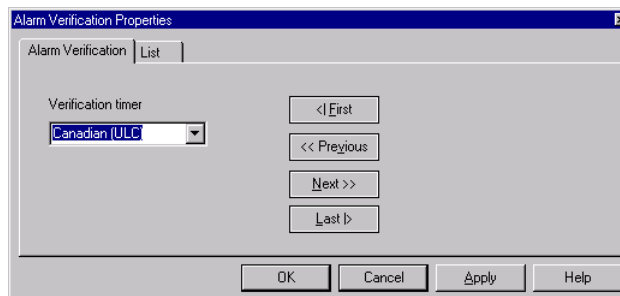


Figure C-9. Alarm Verification Properties

# 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.

Click on this option to enable. Set timer to appropriate value

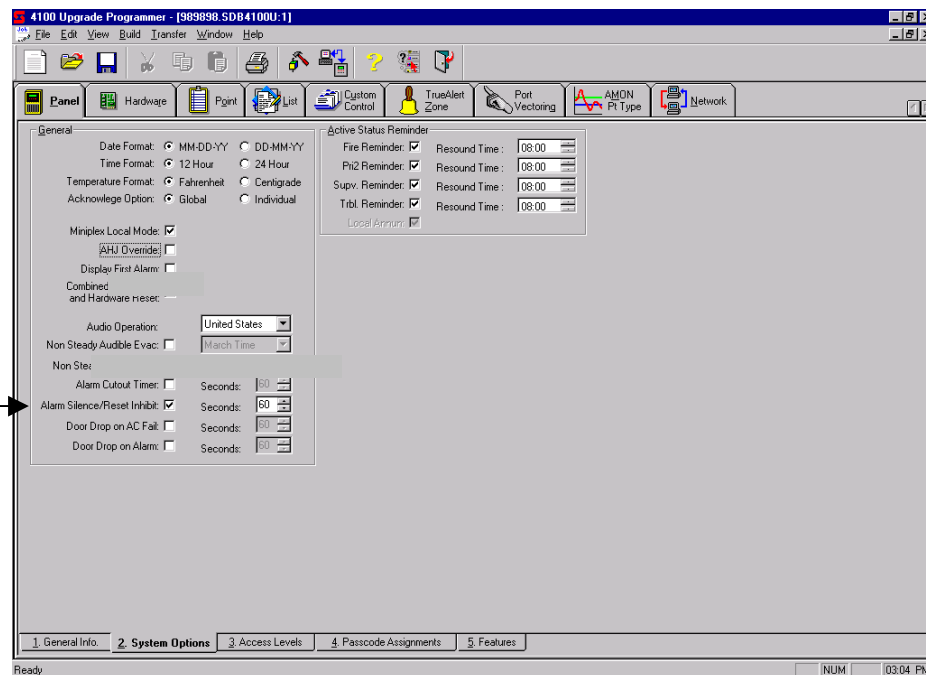


Figure C-10. System Options, Alarm Silence/Reset Inhibit Timer

## 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 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.

*Continued on next page*

## Setting Alarm Silence/Reset Inhibit Timer, *Continued*

### **Programming the Alarm Silence/Reset Inhibit LED,** *(continued)*

- 
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

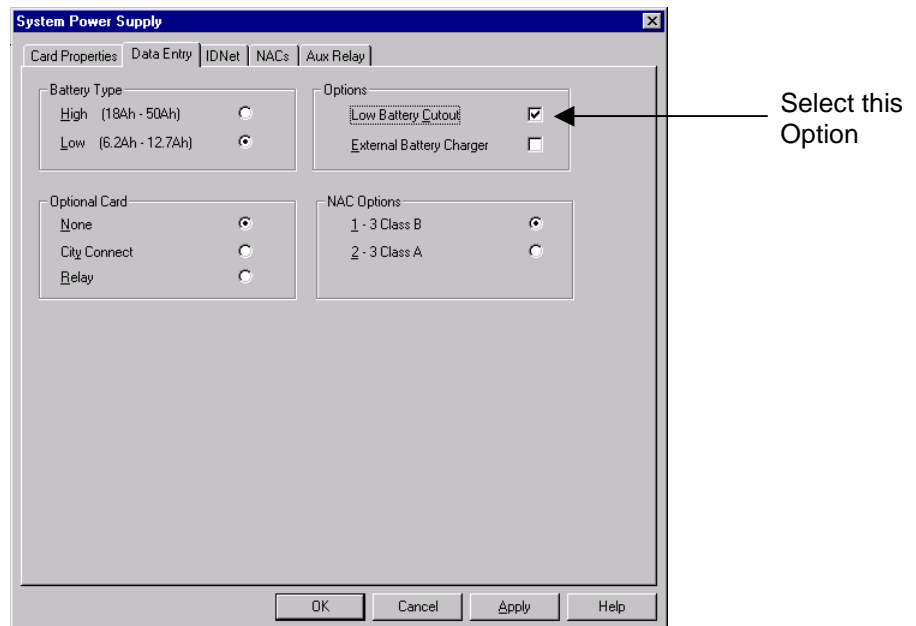
Low Battery Cutout is a programmable option for the SPS, TPS, or RPS Power Supplies. The Low Battery Cutout option disconnects a battery from the panel when its voltage is approximately 18 VDC.

**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 4100U'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.

Click on this option to enable. Set timer to appropriate value

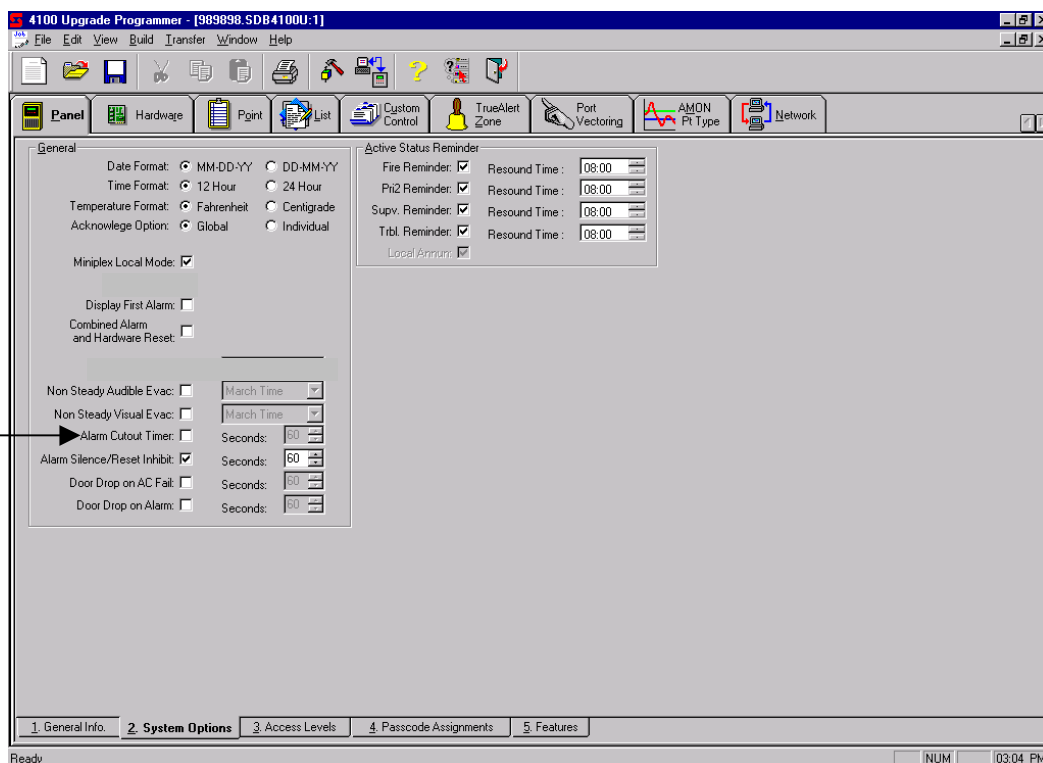


Figure C-12. System Options, Alarm Cutout Timer

# Appendix D

## UL Programming Requirements (United States)

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### Introduction

This appendix identifies key UL programming requirements for the 4100U FACP.

---

### In this Chapter

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

Topic	See Page #
Setting Alarm Verification to US Operation	D-2
Non-Steady Visual Evacuation System Option	D-3

---

# Setting Alarm Verification 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 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 up to 120 additional seconds. If the device re-alarms during this time, 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 the lists 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.

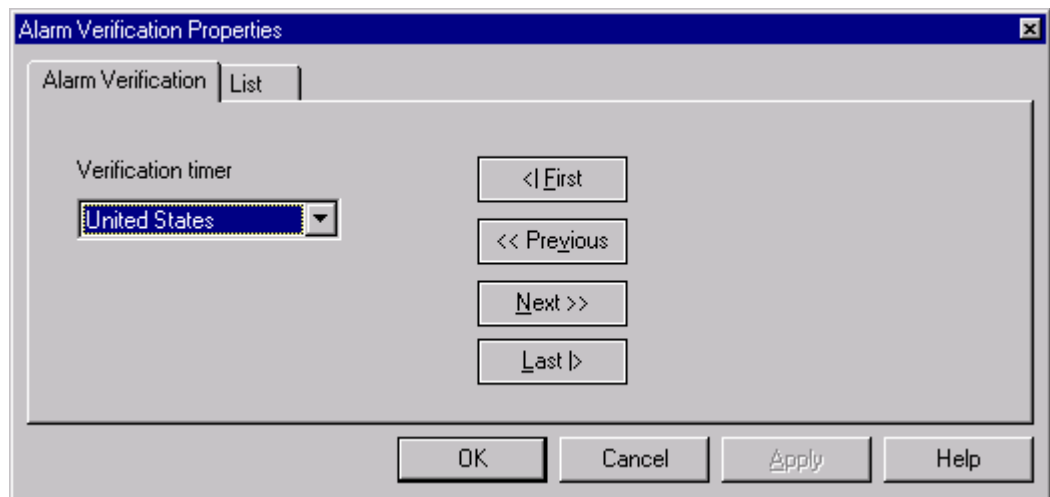


Figure D-1. Alarm Verification, Domestic (US) Setting



# 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 1/2 second pulses, each separated by a 1/2 second silence. Each three pulse group is separated by 1 1/2 seconds of silence.

**Note:** This option cannot be used for public mode signaling as defined in Section 4-4 of NFPA 72-99.

Non-Steady  
Visual  
Evacuation  
Option

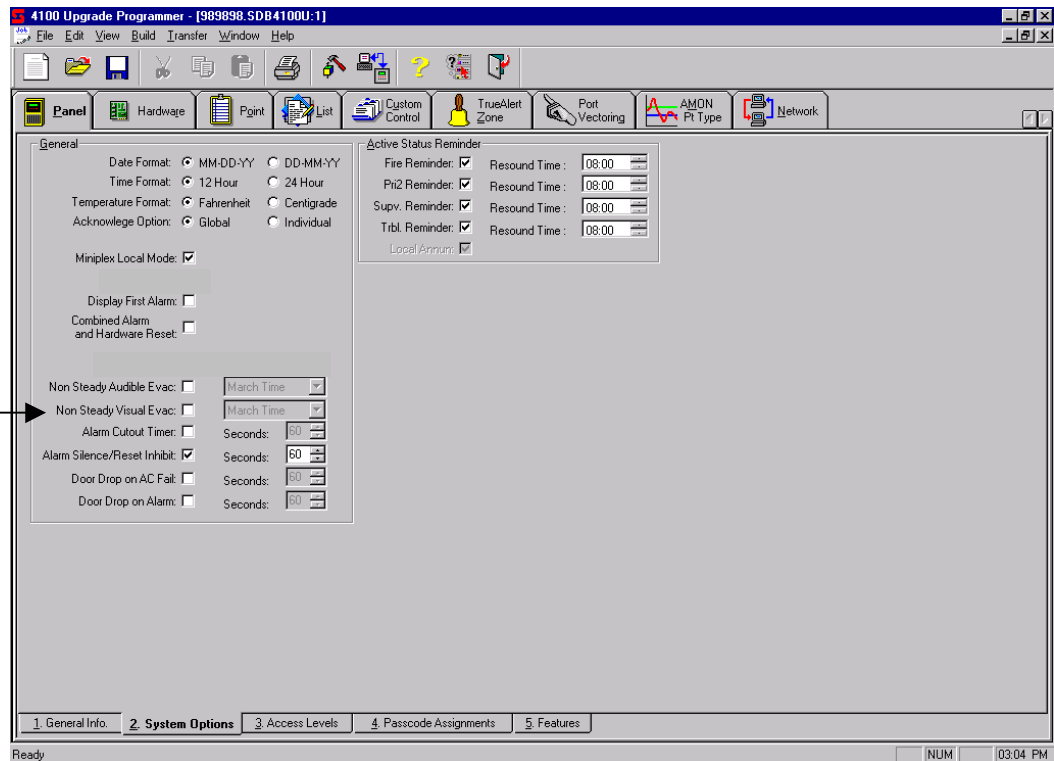


Figure D-2. Non-Steady Visual Evac System Option



# Appendix E

## Pseudo Points

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### 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*.

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### In this Chapter

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## Digital Pseudo Points

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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 CFG RAM WRITE PROTECT MISSING (SW1-1) TROUBLE  
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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  
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P33 WARM START TROUBLE  
P34 CITY DISCONNECT TROUBLE  
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P38 CONTROL POINT BYPASS TROUBLE  
P39 SYSTEM EXECUTING FROM RAM TROUBLE  
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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  
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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

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## Digital Pseudo Points, *Continued*

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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  
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P73 WALK TEST GROUP 3 ENABLED TROUBLE  
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P93 DRILL MESSAGE ON UTILITY  
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P95 DRILL MESSAGE LED UTILITY  
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P97 ALL CLEAR MESSAGE OFF UTILITY  
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P99 AUX MSG 1 ON UTILITY  
P100 AUX MSG 1 OFF UTILITY  
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## Digital Pseudo Points, *Continued*

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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  
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P123 LOCAL SPEAKER EVAC ON UTILITY  
P124 LOCAL SPEAKER EVAC OFF UTILITY  
P125 LOCAL SPEAKER EVAC LED UTILITY  
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P127 LOCAL SPEAKER ALERT OFF UTILITY  
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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  
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## Digital Pseudo Points, *Continued*

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P157 PHONE TALK LINE RELAY CONTROL INPUT UTILITY  
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P160 PHONE NETWORK RELAY CONTROL UTILITY  
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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  
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P184 (2120 APPL) VTG2 CODE START UTILITY  
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P186 MIKE DISABLE UTILITY  
P187 VTG & AMPLIFIER TROUBLE DISABLE UTILITY  
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P194 MIKES ARE READY TO PAGE UTILITY  
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P202 DETECTOR RESET UTILITY  
P203 LCD ANNUNCIATORS OVERRIDE KEYSWITCH UTILITY  
P204 SIGNALS SILENCED UTILITY  
P205 TRUEALARM SENSITIVITY MODIFIED TROUBLE  
P206 PRINT QUEUE OVERFLOW TROUBLE  
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P208 OUT OF NQB'S TROUBLE  
P209 MASTER CLASS A RUI TROUBLE TROUBLE  
P210 NETWORK DETECTOR RESET UTILITY  
P211 NETWORK SYSTEM RESET UTILITY  
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P213 4120 NETWORK CARD CONFIGURED UTILITY  
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P217 NETWORK SIGNAL SILENCE UTILITY  
P218 UNACKNOWLEDGED PRIORITY 2 ALARM EXISTS UTILITY  
P219 MASTER PRIORITY 2 ALARM ACK KEY UTILITY  
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P250 ENABLE END PAIR AND MONITOR LOGGING UTILITY  
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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  
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P264 UTILITY  
P265 UTILITY  
P266 UTILITY  
P267 UTILITY  
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P269 EVAC MESSAGE CHL5 LED UTILITY  
P270 EVAC MESSAGE CHL6 LED UTILITY  
P271 EVAC MESSAGE CHL7 LED UTILITY  
P272 EVAC MESSAGE CHL8 LED UTILITY  
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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  
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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  
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P292 CHL5 EVAC MSG PLAYING WHEN MIKE KEYED UTILITY  
P293 CHL6 EVAC MSG PLAYING WHEN MIKE KEYED UTILITY  
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  
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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  
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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

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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  
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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

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## Digital Pseudo Points, *Continued*

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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  
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

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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	through P767 are unused digital UTILITY points				

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## Analog Pseudo Points

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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 CUTOFF TIMER ANALOG  
A25 FIRE ALARM CUTOFF TIMER SETPOINT ANALOG  
A26 FIRE ALARM CUTOFF 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  
A49 CHANNEL 1 ROUTING ANALOG  
A50 CHANNEL 2 ROUTING ANALOG \

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## Analog Pseudo Points, *Continued*

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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  
A98 BATTERY TROUBLE COUNTER ANALOG  
A99 AC POWER FAIL COUNTER ANALOG  
A100 SYSTEM TYPE ANALOG  
A101 FIRST STAGE TIMER ANALOG

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## Analog Pseudo Points, *Continued*

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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  
A147 TBL STATUS REMINDER DURATION SET POINT ANALOG  
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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

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## Analog Pseudo Points, *Continued*

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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  
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

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## Analog Pseudo Points, *Continued*

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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 through A511 are unused analog pseudo points

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## List Pseudo Points

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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  
L49 TRUEALERT ZONE OFF ON RESET  
L50 WALK TEST GROUP 0 - SIGNALS/RELAYS  
L51 WALK TEST GROUP 1 - SIGNALS/RELAYS

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## List Pseudo Points, *Continued*

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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  
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

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## List Pseudo Points, *Continued*

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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 NOT USED  
L146 QALERT POINTS (NO DEFAULT OPERATION)  
L147 QALERT POINTS (ON TIL SILENCE/RESET)  
L148 NOT USED  
L149 NOT USED  
L150 NOT USED  
L151 NOT USED  
L152 NOT USED  
L153 NOT USED  
L154 NOT USED

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## List Pseudo Points, *Continued*

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L155 NOT USED  
L156 NOT USED  
L157 NOT USED  
L158 NOT USED  
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

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