FIRE

4100U
Fire Alarm

Programmer's Manual

574-849
Rev. A

Simplex

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Cautions and Warnings

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

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

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

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 NFPA72-1996, Chapter 7 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.

Table of Contents

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

Keyboard Conventions

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

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

Continued on next page

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.

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.

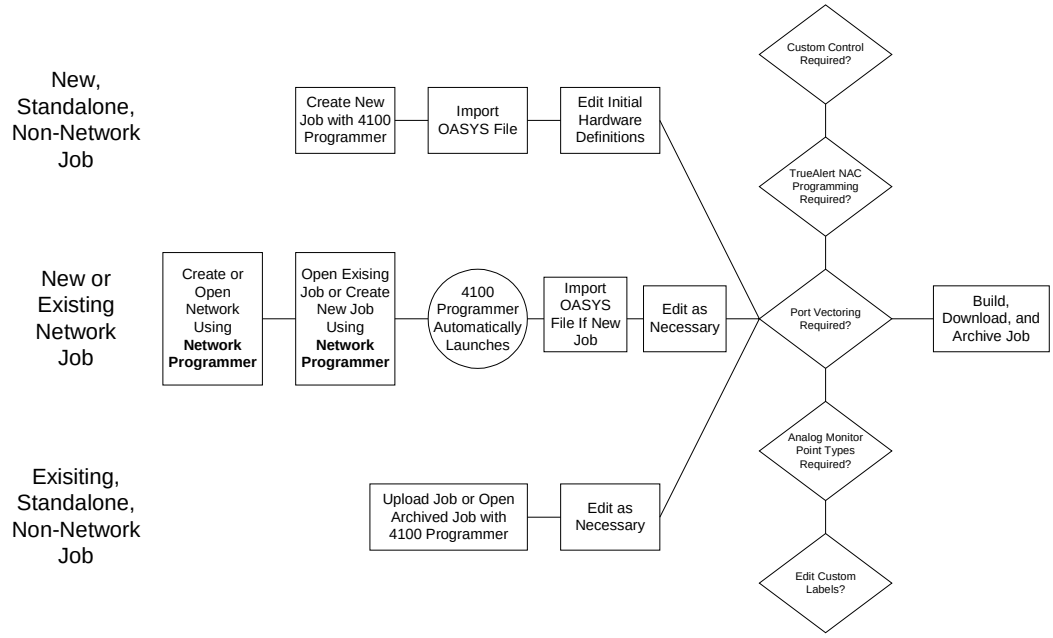

Figure 1-1. Programming Process Overview

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. Refer to "Interface Overview" later in this chapter for information on which components of the programmer allow you to perform the tasks identified in Figure 1-1. 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

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.

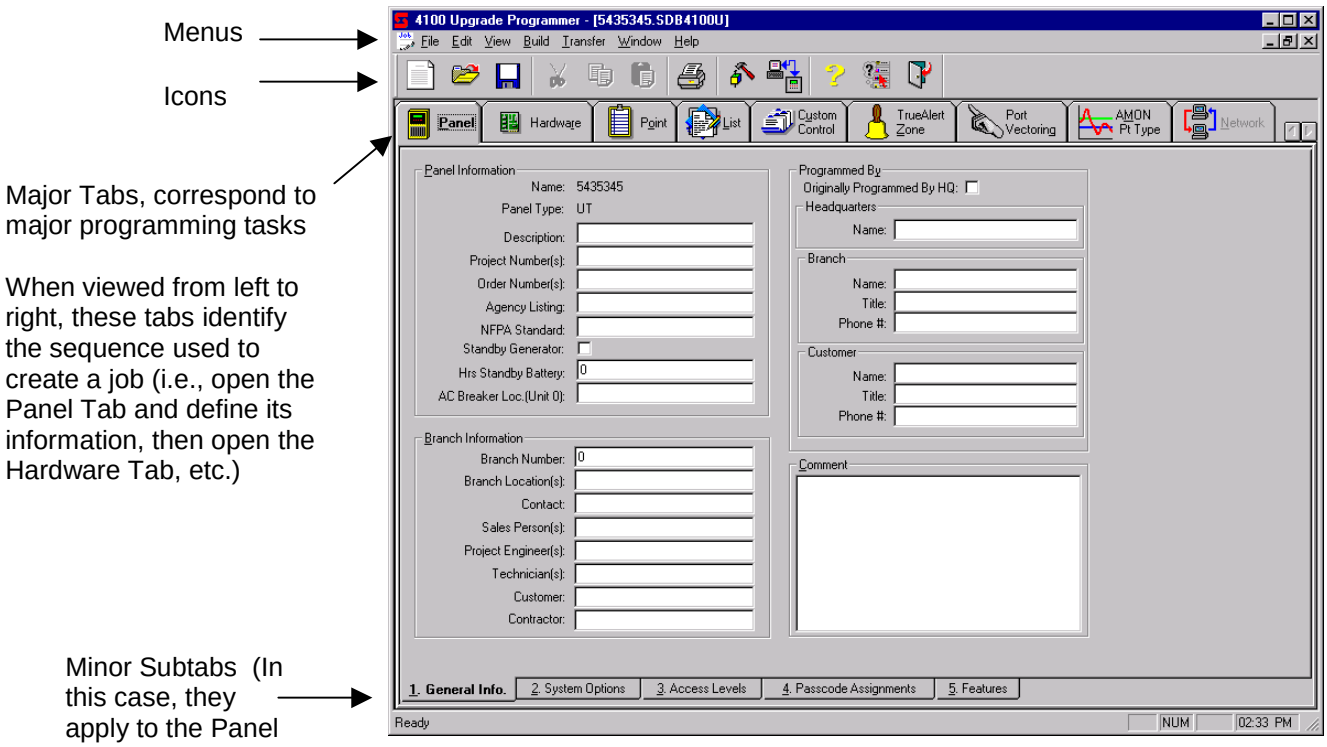

Figure 1-2. Main Programming Screen with Panel Tab Selected

Continued on next page

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 the 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.
- **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.

Continued on next page

Tabs, (*continued*)

- **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.

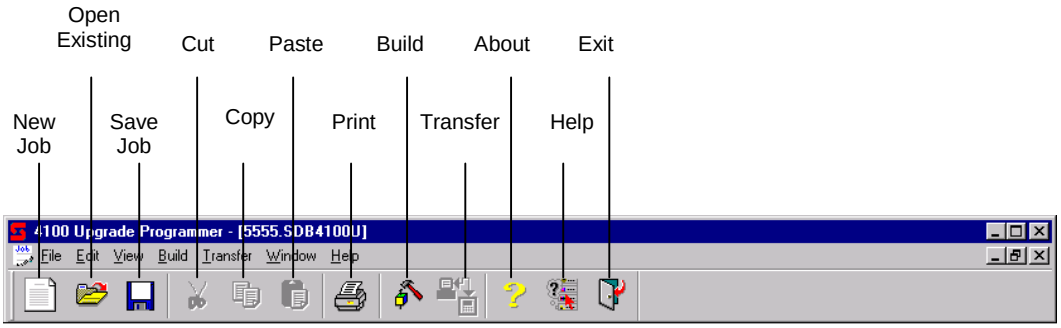

Figure 1-3. Icon Bar

Chapter 2
Installing the PC Programmer

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.

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)

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

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.

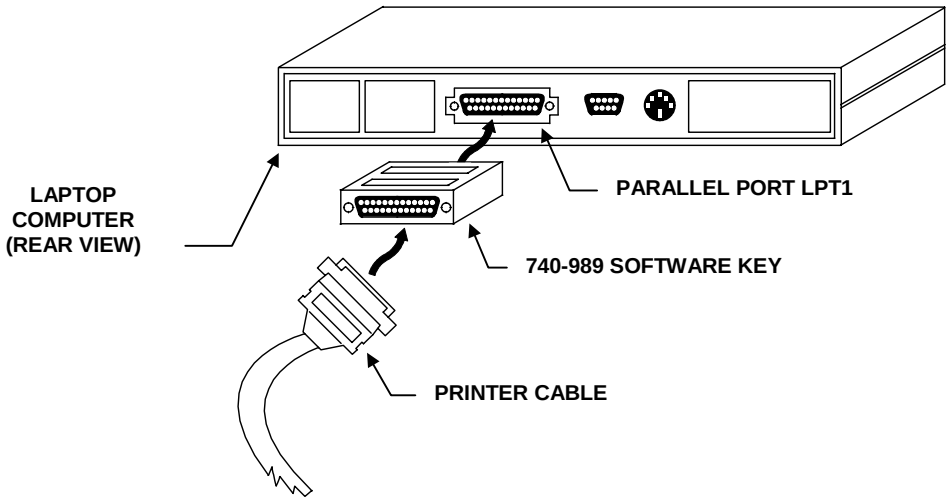

Figure 2-1. Software Key Installation

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.

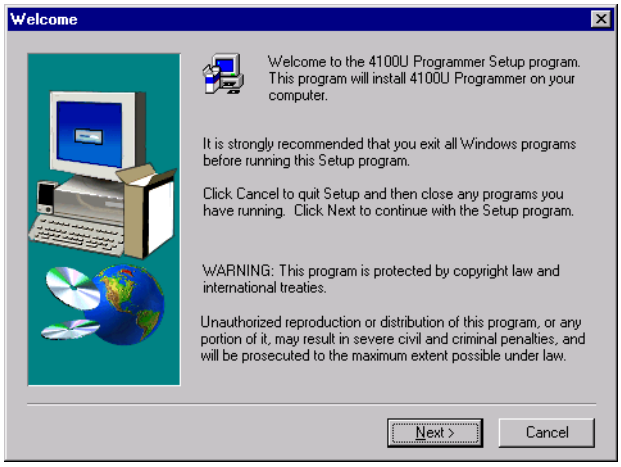

Figure 2-2. Initial Installation Screen

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.

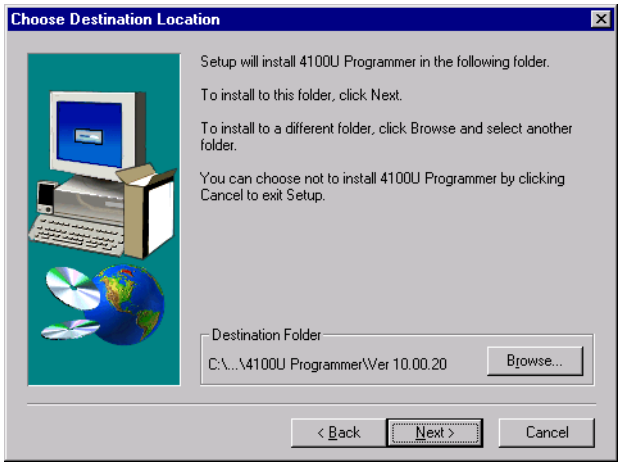

Figure 2-3. Destination Directory Dialog

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

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.

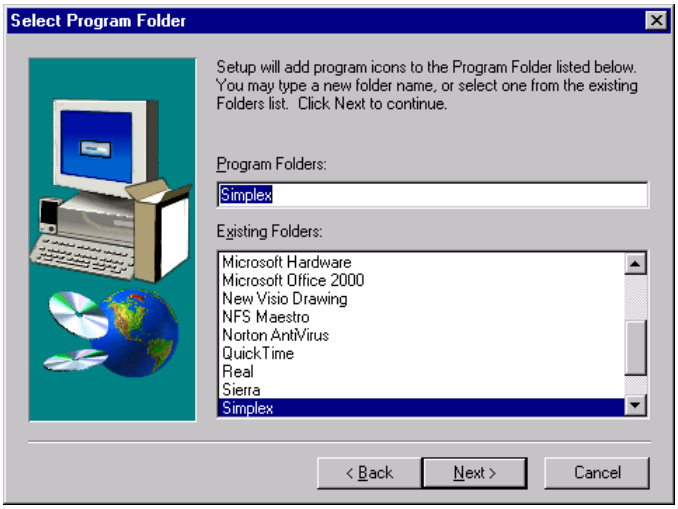

Figure 2-4.

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.

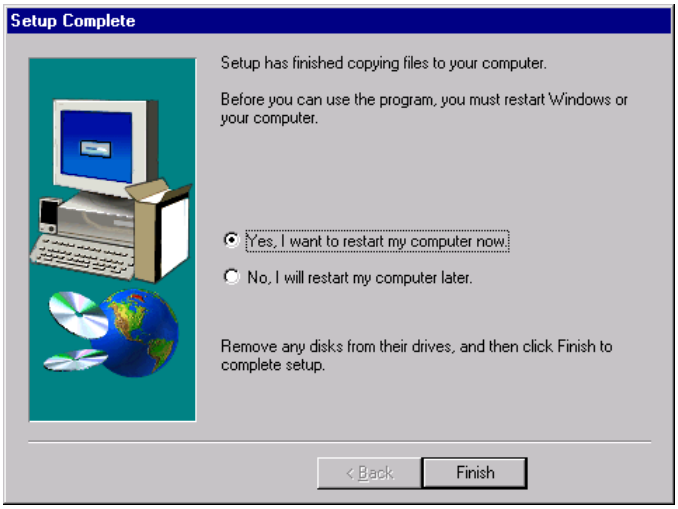

Figure 2-5. Reboot System Prompt

Chapter 3
Basic Operations

Introduction

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

In this Chapter

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

Starting the Programmer

Procedure

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

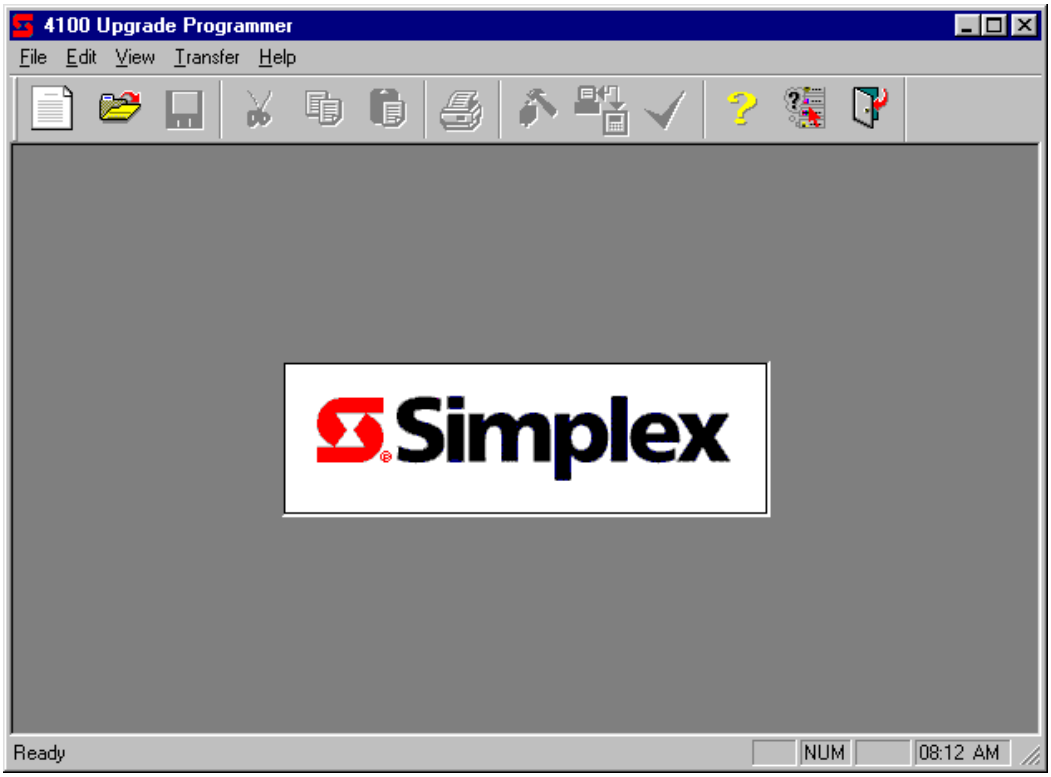

Figure 3-1. Initial Programmer Screen

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 imported from an OASYS transfer file. Refer to "Creating a New Job from Scratch" or "Importing an OASYS Transfer File" below for specific information.

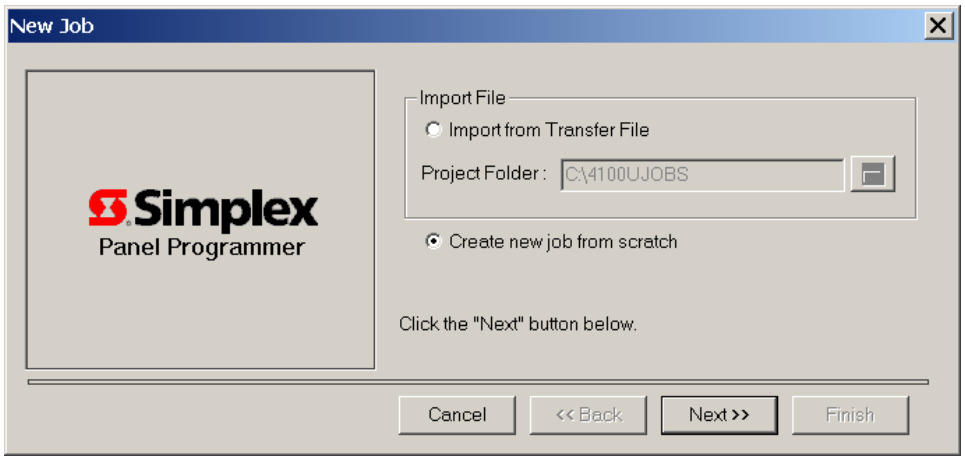

Figure 3-2. New Job Wizard

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.

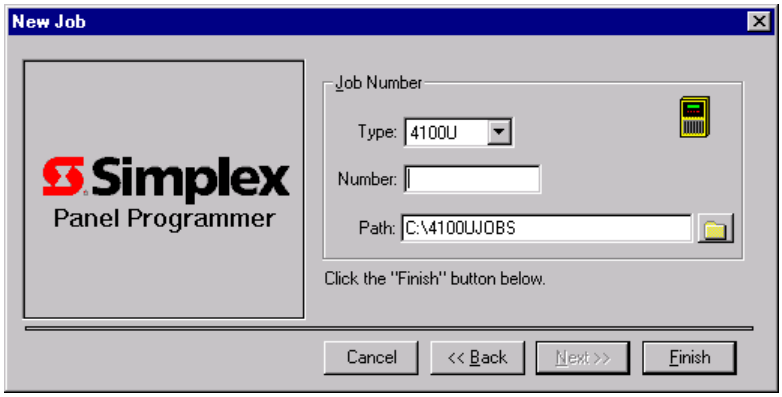

Figure 3-3. Create New Job Dialog

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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 that the panel is a 4100U (networked or standalone).
   - NDU. Specifies that 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. If the File type is NDU, enter the number of NDU jobs programmed during the month.
   - **Job Version.** Use letters to indicate the version of the job. Increment the letter one time each time 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

3. 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.

4. Click **Finish**.

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Importing an OASYS Transfer File

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

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

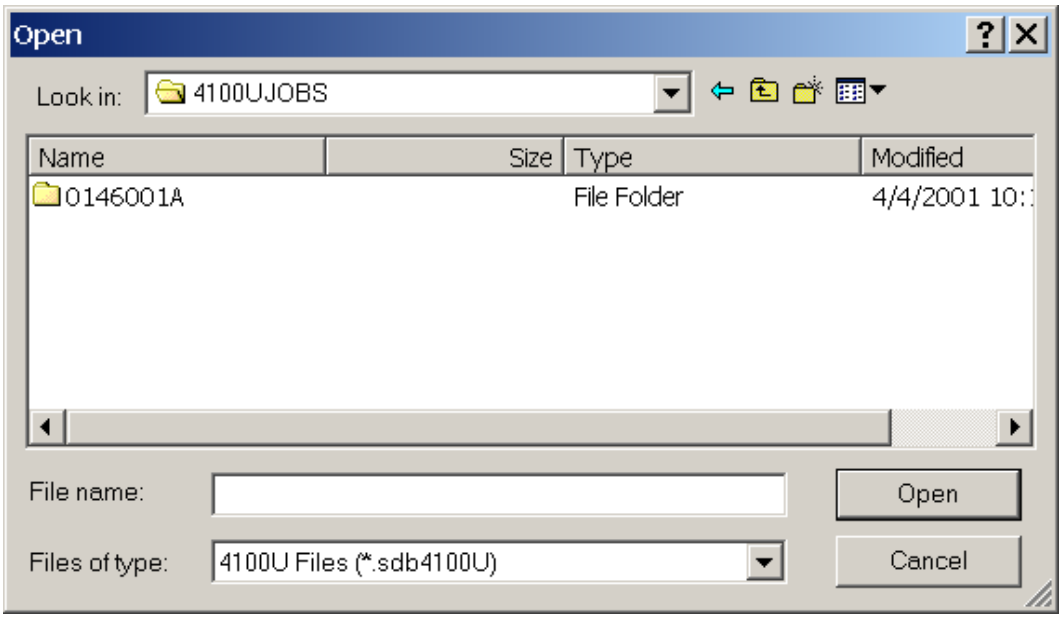


Figure 3-5. Open Job Window

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.

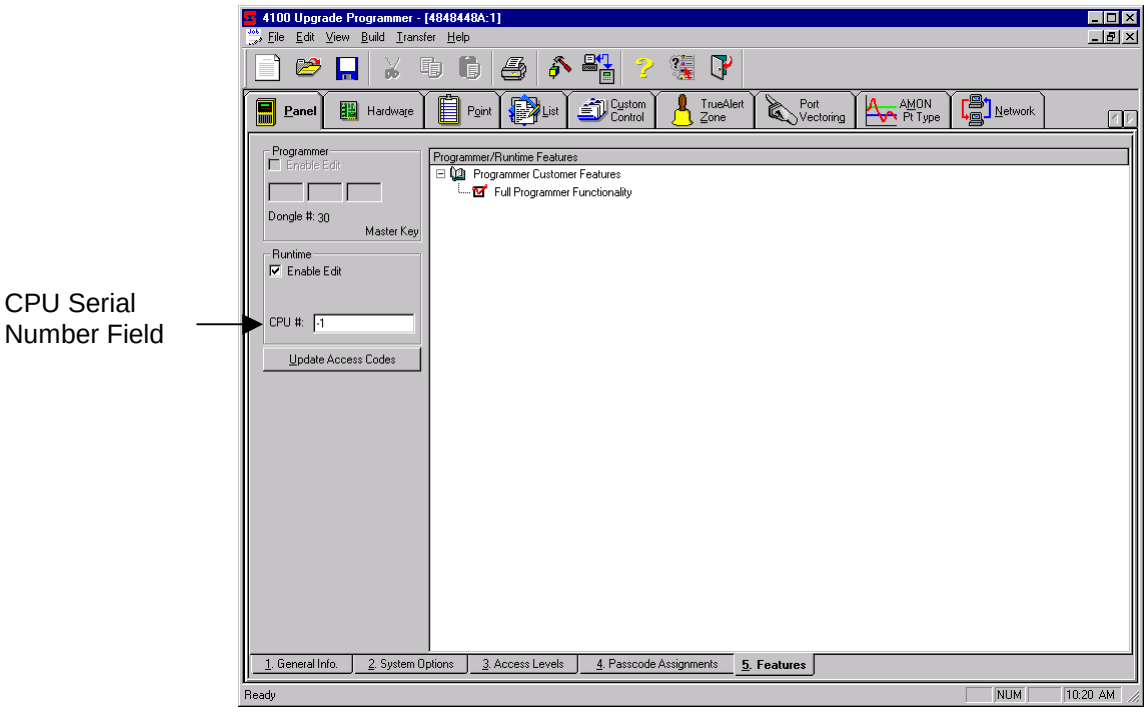


Figure 3-6. Enabling System Features Screen

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."

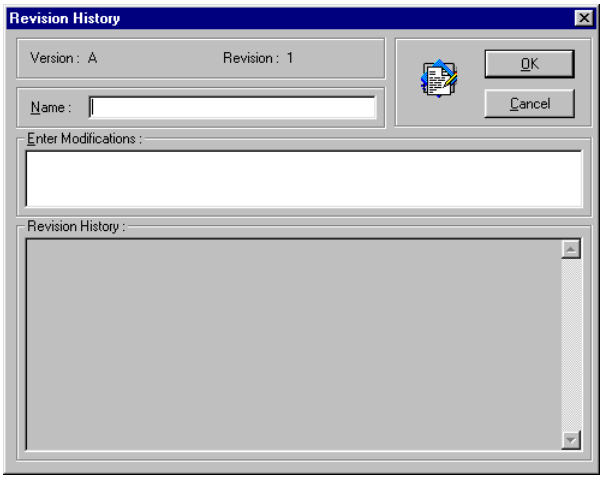


Figure 3-7. Revision History Window

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.

Continued on next page

Using the Save As Option, (*continued*)

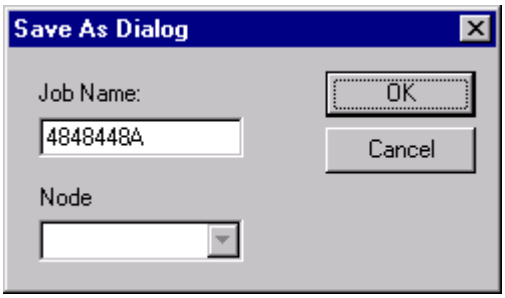


Figure 3-8. Save As Dialog

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 CFIG or Log File from the Panel

Overview

This section describes uploading a CFIG (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 CFIG allows the job currently executing on the panel to be uploaded to the PC for editing. Note that once the CFIG is uploaded to the PC, it must be "unbuilt" by the programmer to convert the CFIG 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 CFIG or history file, and unbuild the CFIG 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.

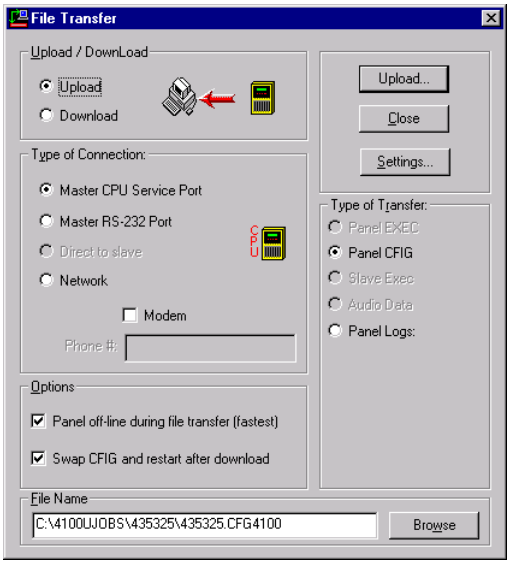


Figure 3-9. File Transfer Utility

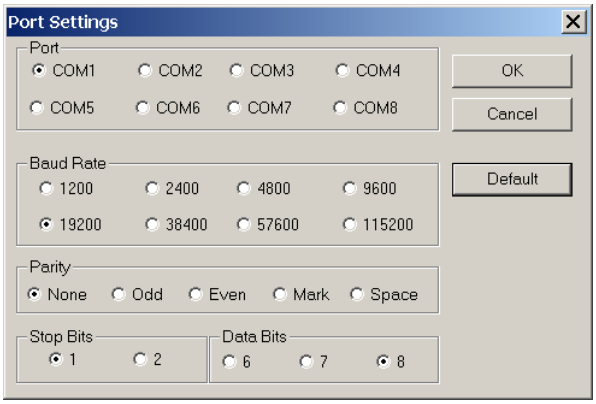
Continued on next page

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

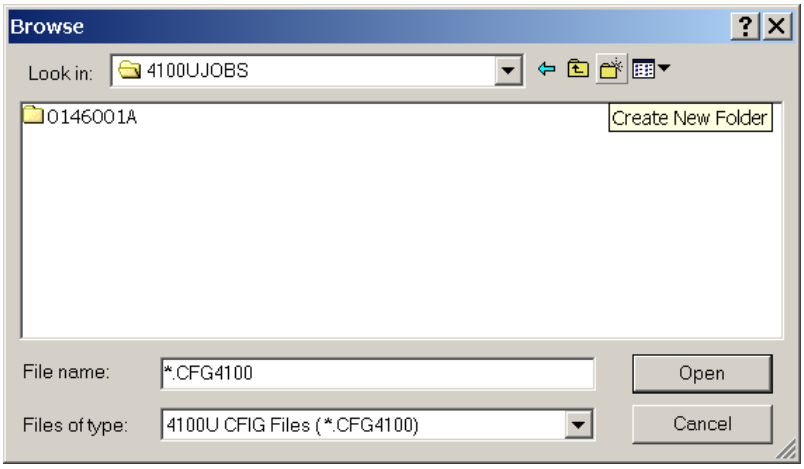
Step 4. Start Upload at PC

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
   - CFIG or Panel Logs radio button, depending on whether you want to upload the CFIG or the panel logs.
   - Swap CFIG and Restart after Download

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 CFIG or log files are to be saved. **If you are uploading a CFIG, 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 that you want to create. Close the Browse dialog and then enter the drive, the new directory path, and file name to which the CFIG or log files are to be saved, as shown in the file name example above.



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

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

Continued on next page

Step 5. Unbuild the CFIG File to Create a .SDB File

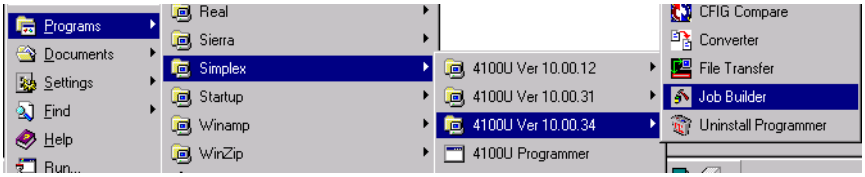
The uploaded file is stored as a .CFG file (a built, binary file). Before you can make changes to the file with the programmer, you must use the Build Utility to unbuild the .CFG file and create an .SDB file, which is the working file used by the programmer.

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 3-11 appears.

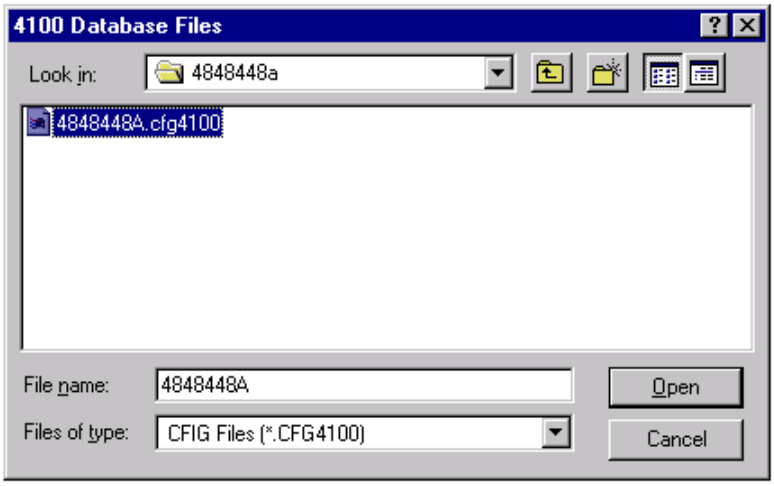


Figure 3-11. Opening the CFIG File

5. Open the folder into which the uploaded CFIG file was stored. Highlight the name of the CFIG file and then click the Open button. The programmer unbuilds the CFIG 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

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.

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.

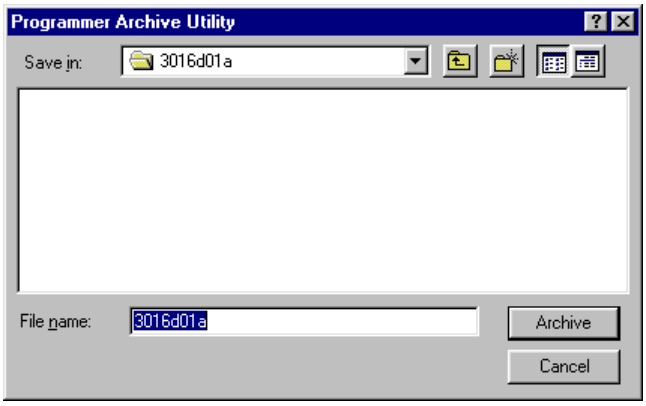


Figure 3-12. Archive Dialog

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.

Continued on next page

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 3-13 appears:

2. Select the destination directory and drive.

3. Click on the Backup button.

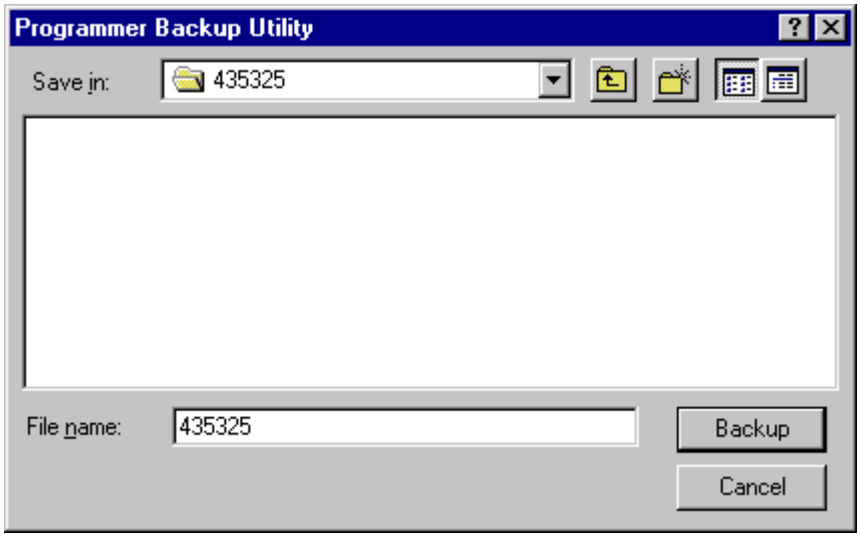


Figure 3-13. Backup Dialog

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 3-14, appears.

Continued on next page

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

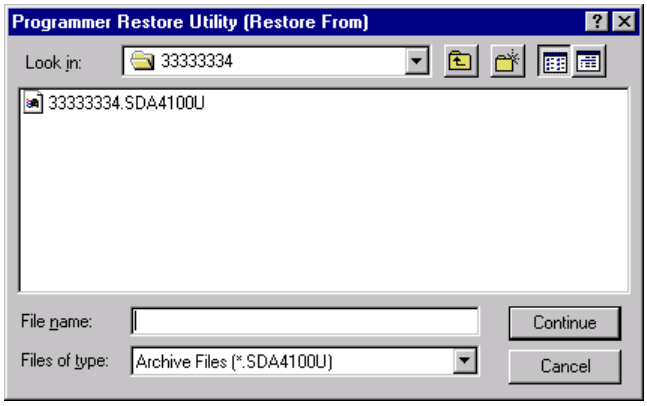


Figure 3-14. Restore Dialog

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 restore 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

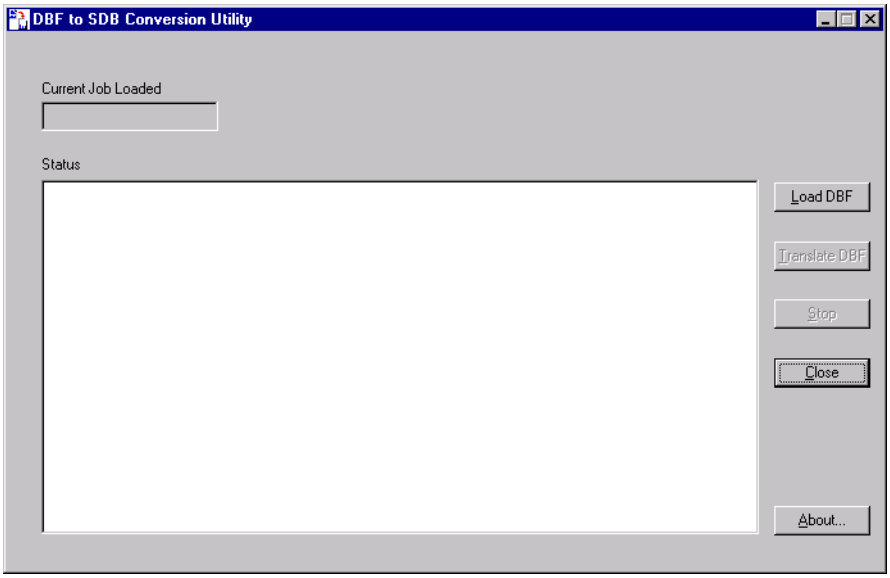
Guidelines

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.

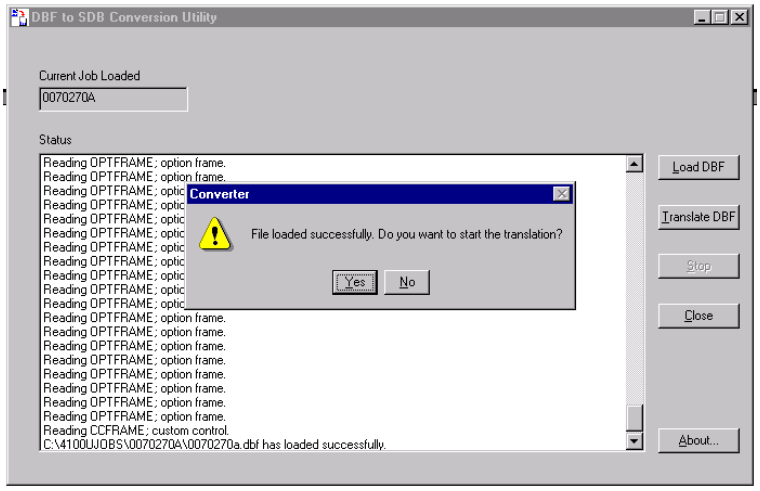


Continued on next page

Converting a Job, (*continued*)

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

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



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

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

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

4. The old *JOBNAME*.DBF file is converted to *JOBNAME*.SDB4100U and is stored in the c:\4100JOBS*JOB_DIRECTORY* folder. This file must be moved to the c:\4100UJOBS*JOB_DIRECTORY* folder. Note that this *JOB_DIRECTORY* will not exist and you need to use standards Windows tools to create the directory.

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

Reviewing and Verifying the Job

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

1. Take a physical inventory of the job.

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

Continued on next page

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.**

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.

Entering General Information

Open General Information Screen

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

To open the General Information screen, do the following:

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

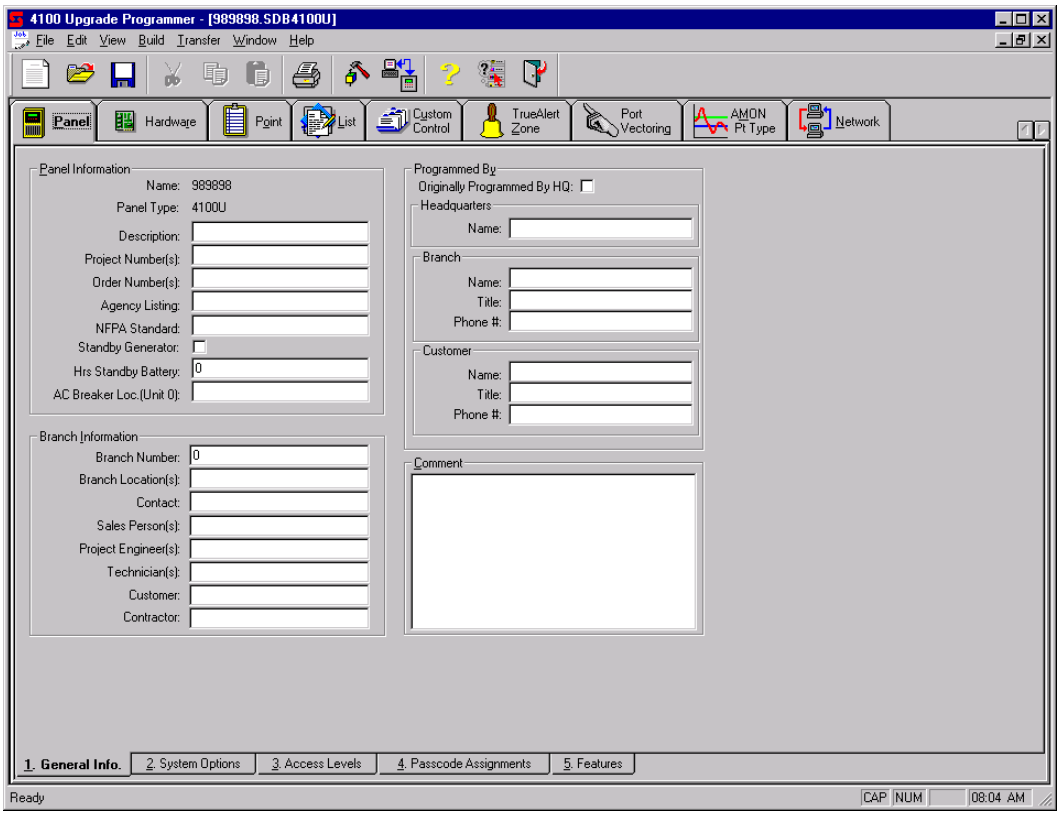


Figure 4-1. General Information Fields

Enabling and Disabling System Options

Introduction

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.
2. Click on the System Options tab at the bottom of the programmer. A screen similar to the one shown in Figure 4-2 appears.
3. Refer to Table 4-1 for specific details on each option.

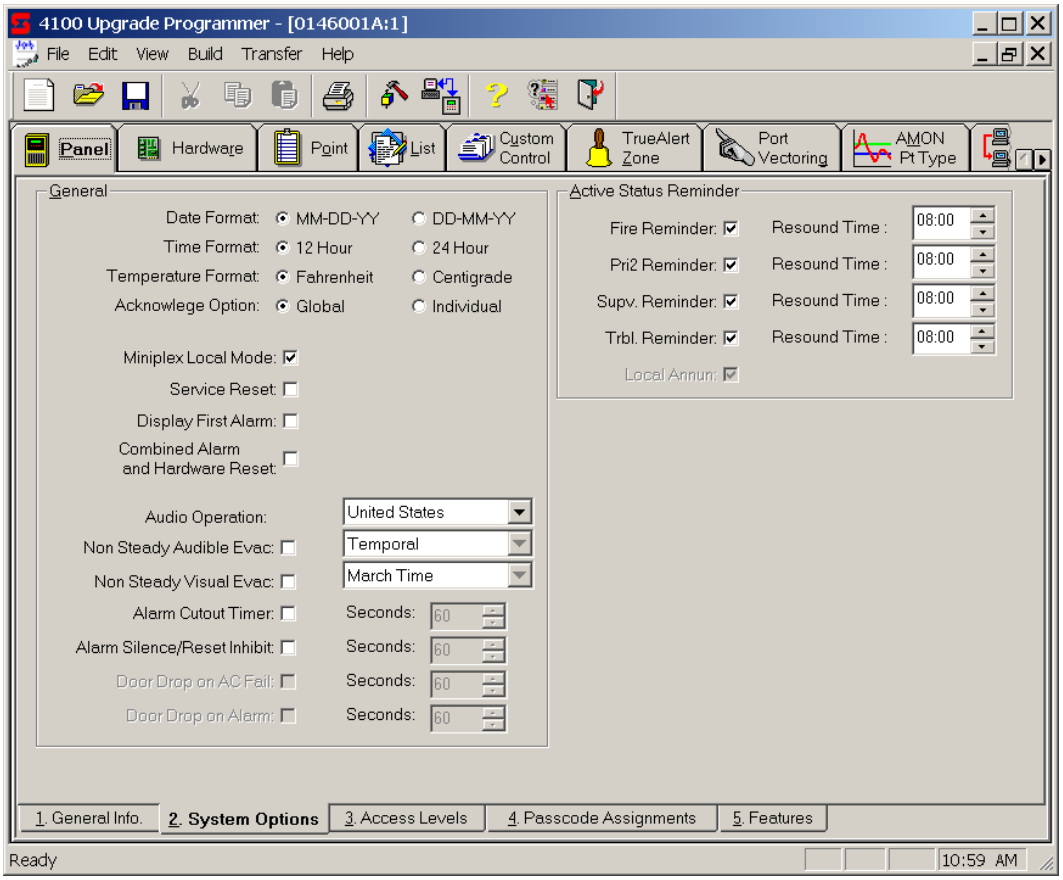


Figure 4-2. System Options

Continued on next page

Detailed System Option Descriptions

Table 4-1. Summary of System Options

Type	Option	Description
General	Date Format	Choose MM-DD-YY to see the date expressed on the panel's display and in the historical logs as Month-Day-Year (for example January 4th would display as 01-04-01). Choose DD-MM-YY to see the date expressed as Day-Month-Year (for example January 4th would display as 04-01-01). The default is MM-DD-YY.
	Time Format	Choose 12 Hour to see time expressed on the panel's display and in the historical logs as a.m. and p.m. (for example 12:00 a.m. versus 12:00 p.m.) Choose 24 Hour to see time expressed as "military time" (for example 10:00 in the evening is expressed as 22:00). The default is 12 Hour.
	Temperature Format	Choose either Centigrade or Fahrenheit, depending on the customer's preference (typically international 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 ***every*** point currently reporting the alarm, trouble, priority 2, or supervisory condition. For example, if 5 alarms are present on the system and global acknowledge is enabled, one press of the Alarm Ack key acknowledges all five alarms at the same time. Individual Acknowledge. When enabled, it means every alarm, trouble, etc. must be individually acknowledged. For example, if five alarms are present, you first press the Alarm Ack button five times to acknowledge each alarm, and then as *each* alarm condition clears, you need to press the Alarm Ack button again.
	Service Reset	If this option is enabled, an operator can reset the system even though the device causing the alarm has not restored to normal. The typical application for this would be the case where a malfunctioning initiating device (detector or sensor consisting of a base and removable head) causes an alarm, but will not reset even though the off-normal condition is no longer present. With this option enabled, the head can be removed and the system (including the local energy masterbox, if provided) can be reset. Without this option enabled, removing the head will cause the system to abort the reset because it will not have seen the alarmed point/zone having restored to a normal state, and it will not be possible to reset the local energy masterbox. The default setting for this option is disabled.

Continued on next page

Detailed System Option Descriptions, (*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	If this option is enabled, the display alternates between two screens similar to Screen 1 and Screen 2 below. Screen 1 is a summary screen containing information on the number of active alarms, troubles, etc. Screen 2 shows detailed information on the first alarm received by the system.
		Screen 1
		`**FIRE**  Press (ACK) to review.`
		`FIRE = 1  PRI2=0  SUPV=0  TRBL=0`
		Screen 2
		`FIRST FLOOR EAST WING  ROOM 31`
		`PULL STATION`
		If Display 1st Alarm Option is not enabled, only a screen similar to Screen 1 appears, indicating the total number of alarm conditions present on the system.

	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.
	Non Steady Audible Evac	When enabled, this option allows you to select the type of operation for Non Steady Audible Evacuation Signals. The term Non Steady Audible Evacuation Signal refers to any Notification Appliance capable of sounding a coded signal. The default setting for this option is not enabled. Choices are: • March Time. A coded signal that uses 120 beats per minute. Each beat consists of 1/4 second pulse on, 1/4 second off. • 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. • Temporal. A five-pulse coding pattern consisting of five ½ second pulses, each separated by a ½ second silence. Each three pulse group is separated by 1 ½ seconds of silence.

Continued on next page

Detailed System Option Descriptions, (*continued*)

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

Type	Option	Description
General	Non Steady Visual Evac	When enabled, this option allows you to select the flash pattern output by Non Steady Visual Signals. The term Non Steady Visual Signal refers to any Visual Notification Appliance capable of emitting a pattern of flashes (such as incandescent visuals). The default setting for this option is not enabled. Choices are: • March Time. A coded signal that uses 120 beats per minute. Each beat consists of 1/4 second pulse on, 1/4 second off. • Slow March Time. . A coded signal that uses 60 beats per minute. Each beat consists of 1/2 second pulse on, 1/2 second off. • Temporal. A five-pulse coding pattern consisting of five ½ second pulses, each separated by a ½ second silence. Each three pulse group is separated by 1 ½ seconds of silence. **Note:** This option cannot be used for public mode signaling as defined in Section 4-4 of NFPA 72-99.
	Alarm Cutout Timer	This option 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. If Alarm Silence/Reset Inhibit option is active, it takes precedence over this option. See description of Alarm Silence/Reset Inhibit below for more information The range for this option is 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.
	Alarm Silence / Reset Inhibit	This option disables the Alarm Silence and System Reset keys for a user-definable duration that ranges from 1 to 60 minutes. The timer is activated only by the first alarm (i.e., subsequent alarms do not reset the timer). If this option and the Alarm Cutout Timer are both enabled, this option takes precedence. For example, if the Alarm Cutout Timer is set to one minute and this option is set to 2 minutes, signals continue to sound after one minute. The default setting is not enabled. **Note:** This option must be enabled for Canadian jobs.

Continued on next page

Detailed System Option Descriptions, (*continued*)

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

Type	Option	Description
General	Door Drop on AC Fail	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. It is recommended that this option be set to 60 seconds. This allows the system to hold open the doors following a short, momentary power outage, eliminating the need to reset door holders in this type of situation. If, however, the power outage is significant, setting the value to 60 seconds ensures that the panel's batteries are not drawn down too far. The default setting is not enabled.
	Door Drop on Alarm	Enabling this option programs the 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. The default setting is not enabled.

Continued on next page

Detailed System Option Descriptions, (*continued*)

Table 4-1. Summary of System Options

Type	Option	Description
Active Status Reminder	Fire Reminder	The Fire Reminder option programs the system to periodically sound the piezo if an uncleared Alarm condition exists at the panel, thereby reminding system operators about the uncleared condition. To enable Active Status Reminder, do the following: 1. Check the box labeled **Enabled**. By default, this option is enabled. 2. Set the interval at which the piezo should sound. The range is from 0 to 18 hours. The default is 8 hours.
	Pri2 Reminder	The PRI2 Reminder option programs the system to periodically sound the piezo if an uncleared Priority 2 Alarm (security) condition exists at the panel, thereby reminding system operators about the uncleared condition. To enable Active Status Reminder, do the following: 1. Check the box labeled **Enabled**. By default, this option is enabled. 2. Set the interval at which the piezo should sound. The range is from 0 to 18 hours. The default is 8 hours.
	Supv. Reminder	The Supv Reminder option programs the system to periodically sound the piezo if an uncleared supervisory condition exists at the panel, thereby reminding system operators about the uncleared condition. To enable Active Status Reminder, do the following: 1. Check the box labeled **Enabled**. By default, this option is enabled. 2. Set the interval at which the piezo should sound. The range is from 0 to 18 hours. The default is 8 hours.
	Trbl. Reminder	The Trbl Reminder option programs the system to periodically sound the piezo if an uncleared trouble condition exists at the panel, thereby reminding system operators about the uncleared condition. To enable Active Status Reminder, do the following: 1. Check the box labeled **Enabled**. By default, this option is enabled. 2. Set the interval at which the piezo should sound. The range is from 0 to 18 hours. The default is 8 hours.

Continued on next page

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.

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.

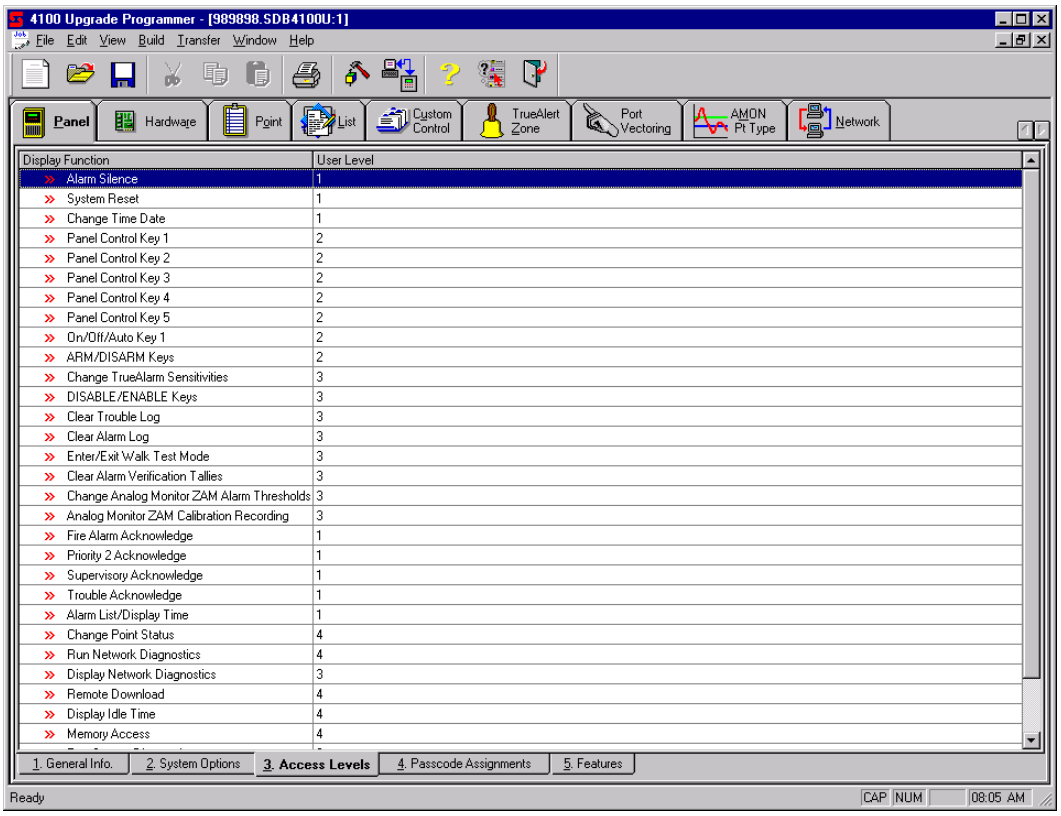


Figure 4-3. Access Levels Screen

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

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

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

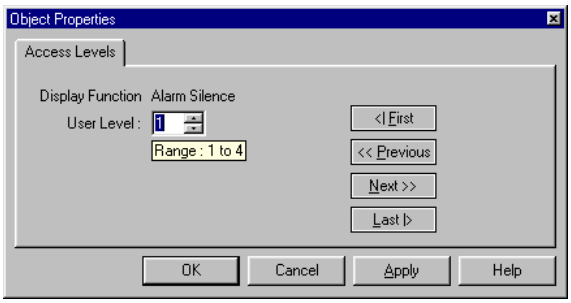


Figure 4-4. Access Level Object Properties Dialog

Step 2. Edit Passcodes

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

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

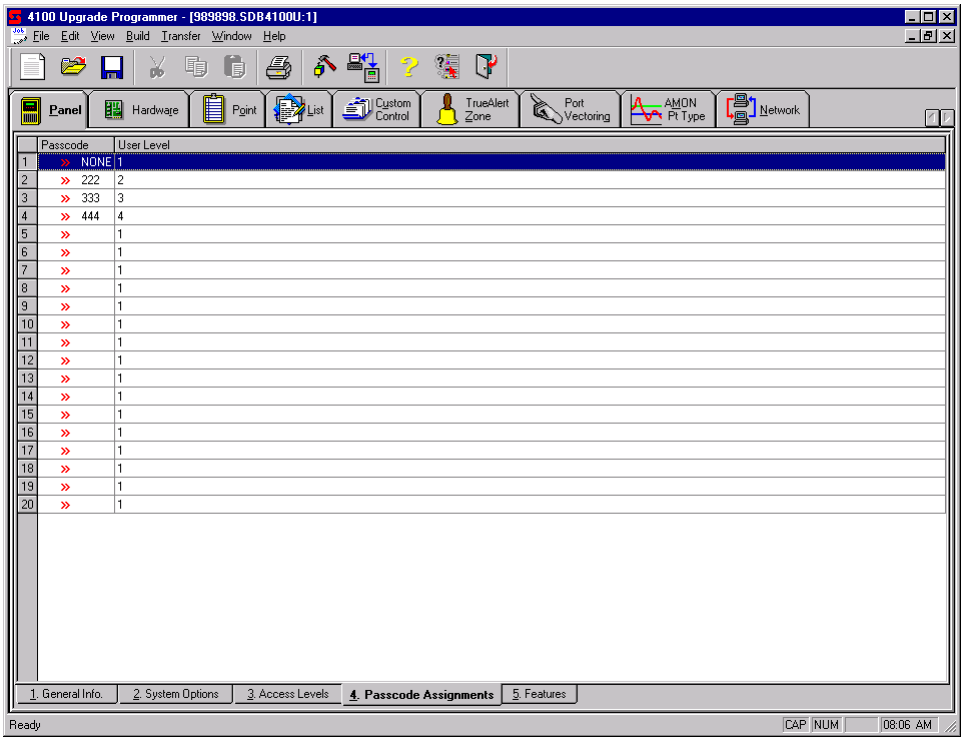


Figure 4-5. Passcodes Screen

Continued on next page

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.

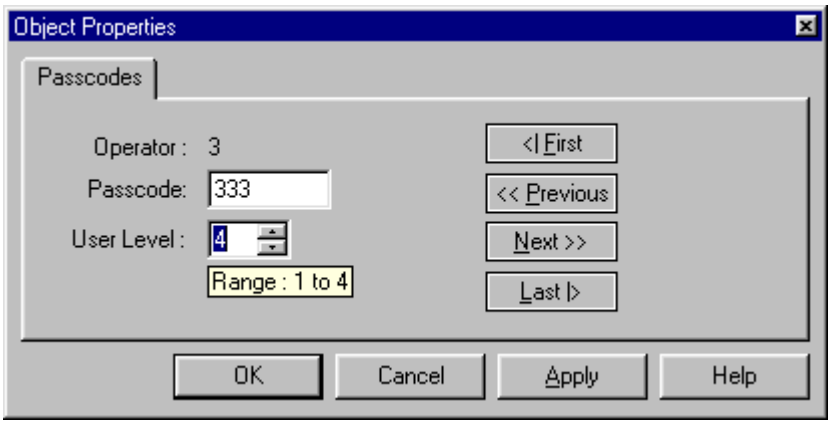


Figure 4-6. Passcode Dialog

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.

Overview

Introduction

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

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

Hardware Tab Window

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

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

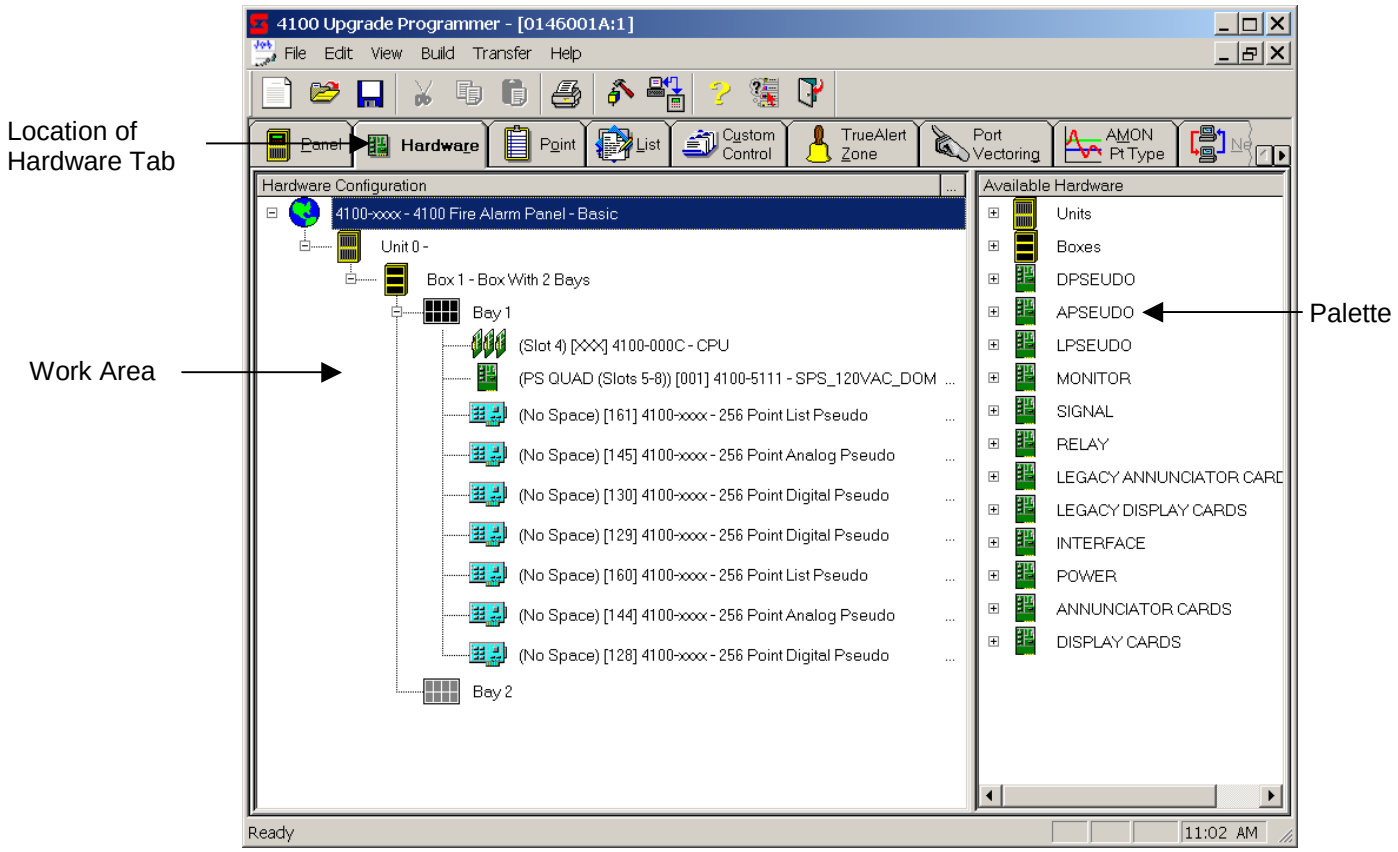


Figure 5-1. Hardware Tab Window, Showing Work Area and Palette

Continued on next page

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

Adding and Editing Units

Introduction

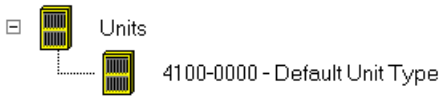
A unit represents an area of a facility in which one or more boxes are installed. Examples of typical areas include a building floor or a part of a building, such as the manufacturing or office area.

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

Adding a Unit

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

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



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

Editing Unit Properties

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

Specify information in this dialog, as follows:

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

Continued on next page

Editing Unit Properties, (*continued*)

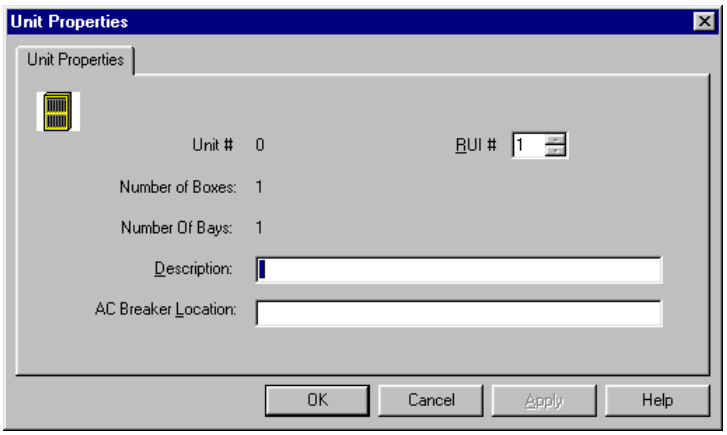
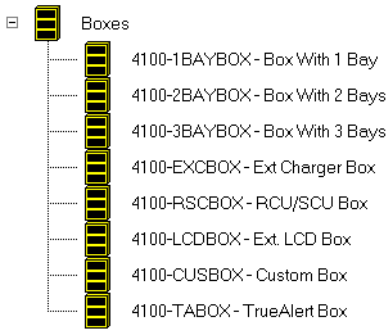


Figure 5-2. Unit Properties Dialog

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.

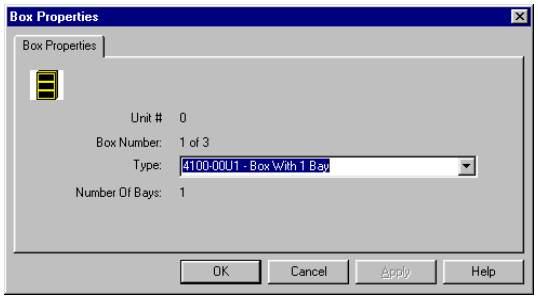


Figure 5-3. Box Properties Dialog

Continued on next page

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.

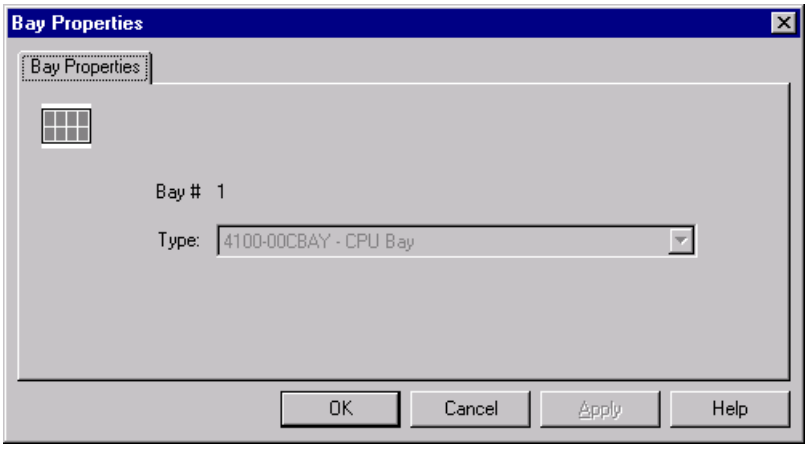


Figure 5-4. Bay Properties Dialog

Adding Cards

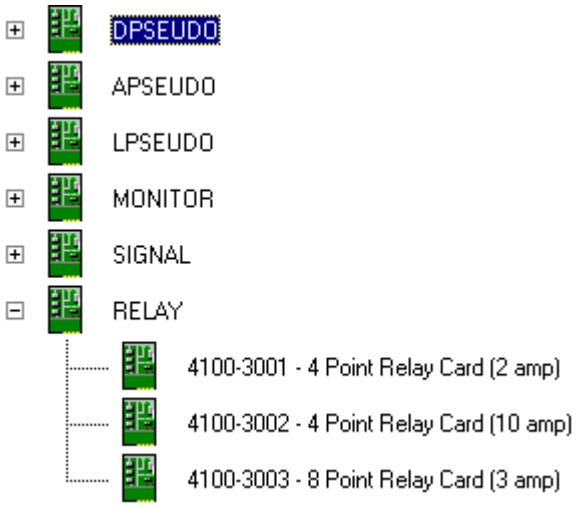
Introduction

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

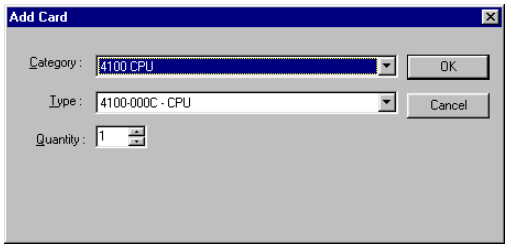
Adding Option Cards

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.



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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.

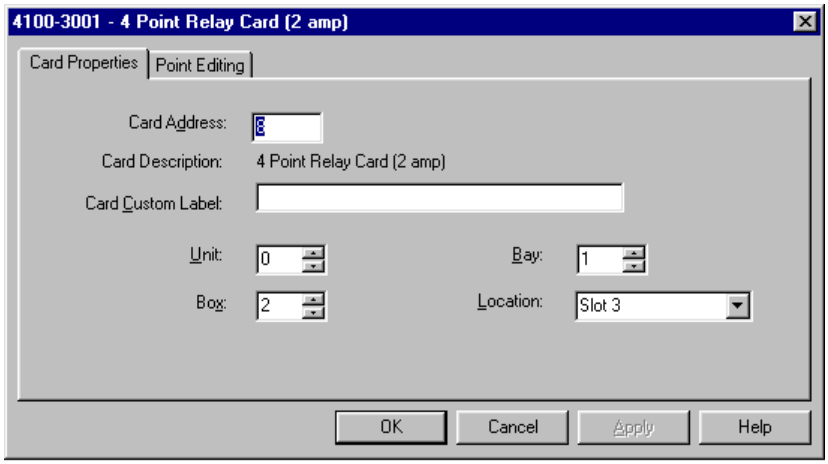


Figure 5-5. Typical Card Properties Dialog

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.

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.

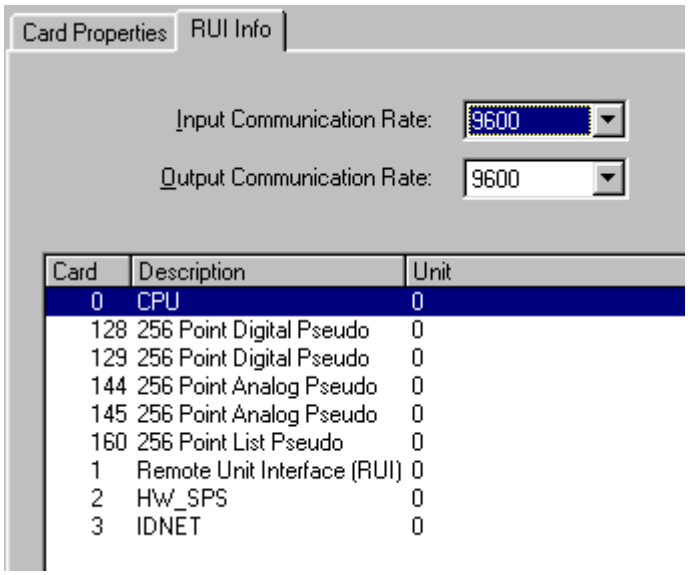


Figure 6-1. Example of RUI Tab

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.

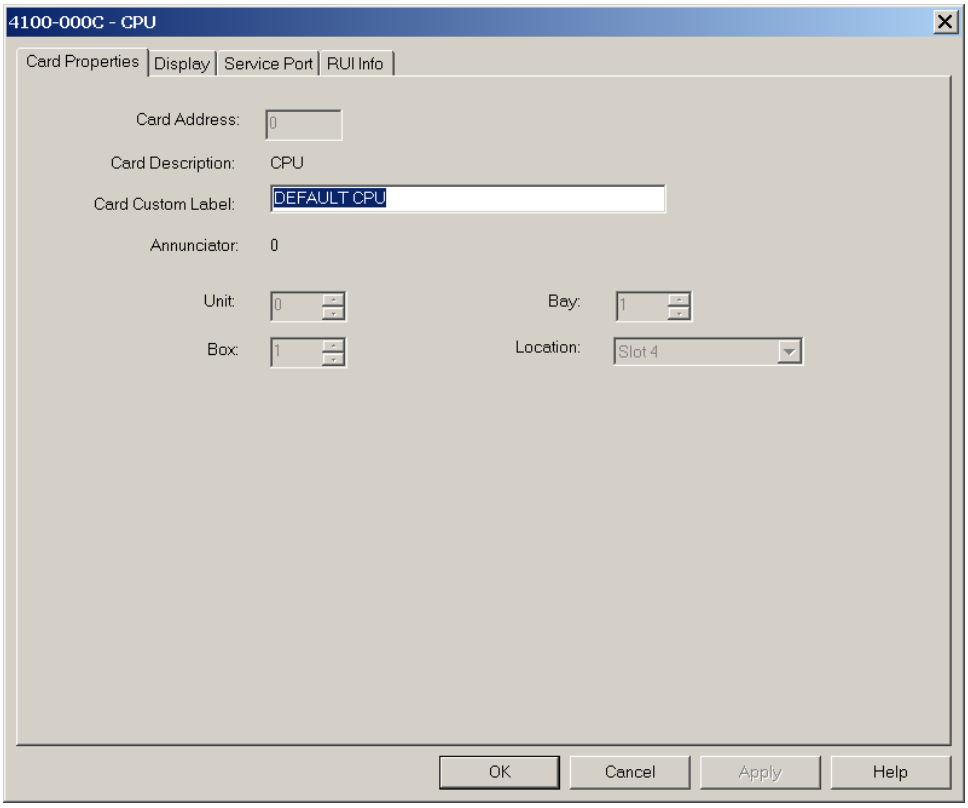


Figure 6-2. Service Port Card Properties Dialog

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

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.

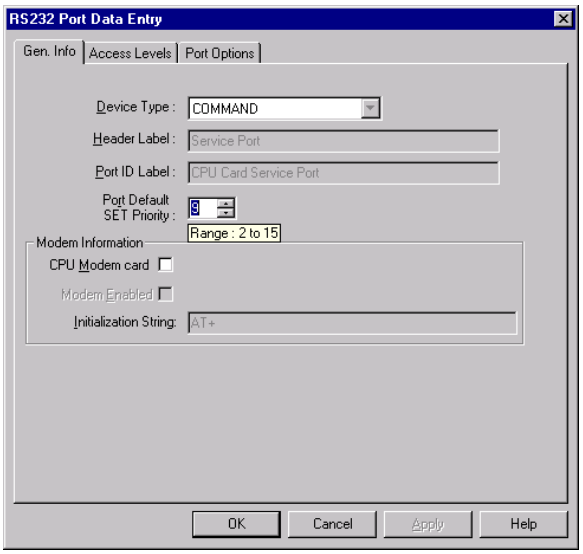


Figure 6-3. Port Data – General Information Tab

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.

Continued on next page

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

Text changes depending on which function is selected

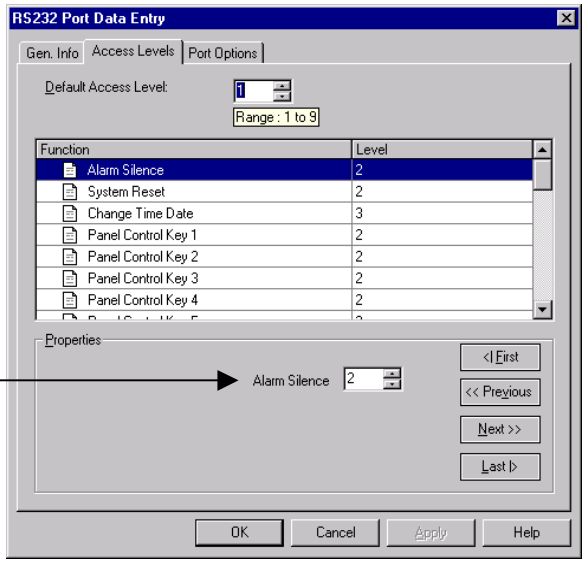


Figure 6-4. Port Data – Access Levels Tab

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.

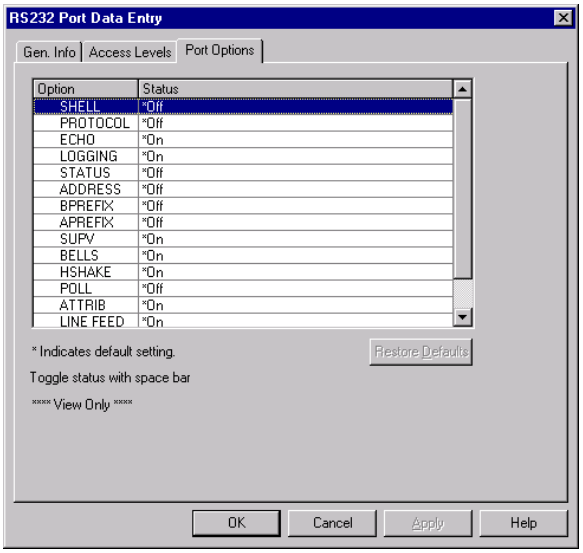


Figure 6-5. Port Data – Port Options Tab

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.

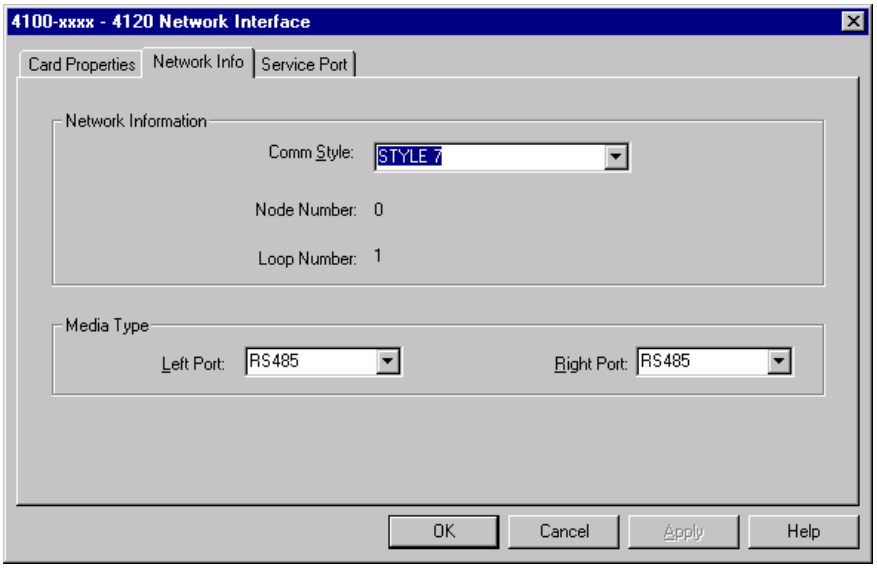


Figure 6-6. Network Interface Properties Dialog

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 Basic System Power Supply Property Settings

Introduction

This section describes setting the power supply-specific information for the System Power Supply. The System Power Supply comes in two forms – as the standard power supply included in the CPU of every system or as an optional module for use in an expansion bay.

Refer back to "Editing Basic Card Properties" for information on setting the card properties for the power supply. Refer to Chapter 7 for information on programming the IDNet, NAC, and Aux Relay points located on a power supply.

Accessing Power Supply-Specific Information

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

- **Standard System Power Supply.** To access the System Power Supply located in the CPU bay, expand the Unit 0, Box 1, and Bay 1 icons, double click on the **PS QUAD (Slots 5-8) 4100-xxxx HW_SPS icon**, and select the **Data Entry tab**. A window similar to the one shown in Figure 6-7 appears.
- **Optional System Power Supply.** 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, and select the **Data Entry tab**. A window similar to the one shown in Figure 6-7 appears.

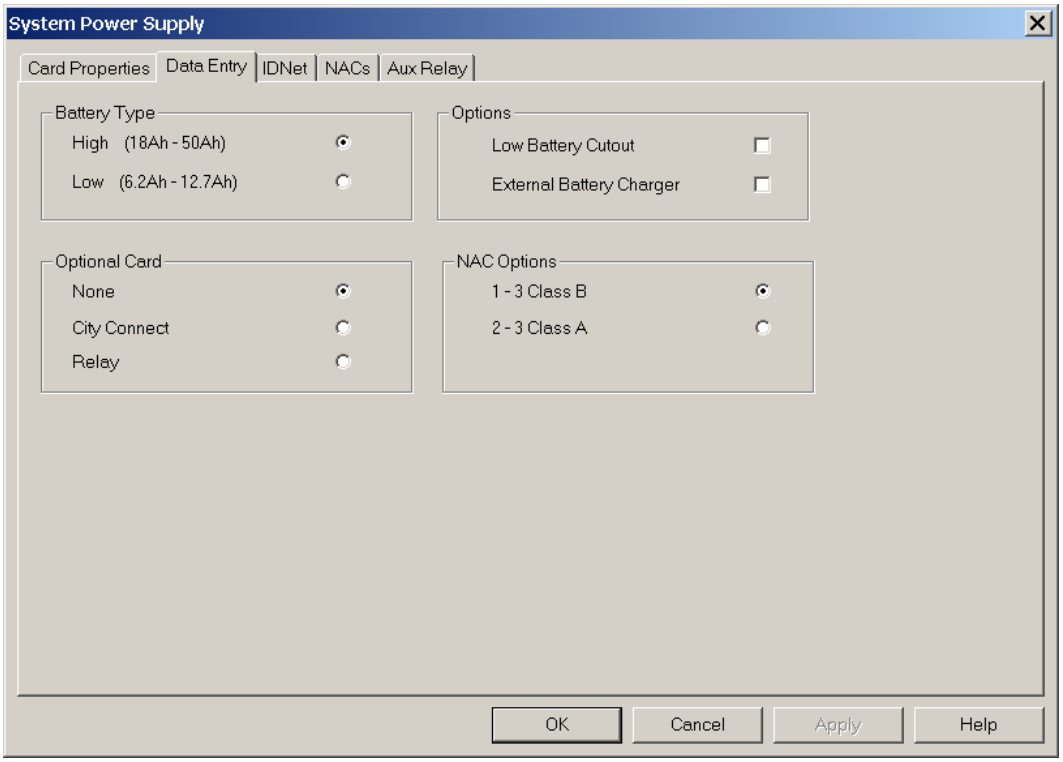


Figure 6-7. Power Supply Properties

Continued on next page

Power Supply Options

Set the options within the Data Entry tab as described in Table 6-1.

Table 6-1. Power Supply Settings

Option	Setting
Battery Type	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.
Optional Card	None — Indicates that no optional card is connected to the SPS. City Connect — Select this radio button if a city connect module is connected to the power supply. Relay — Select this radio button if an alarm relay card is connected to the power supply.
NAC Options	Indicates the number and type (Class A or B) of NACs connected to the power supply. The SPS and RPS power supplies can have either 3 class A or Class B NACs. The XPS can have 3 Class A, 3 Class B, 6 Class A, or 6 Class B NACs.
Options	Low Battery Cutout Select this option to enable the low battery cutout option. THIS OPTION MUST BE SELECTED FOR ALL CANADIAN INSTALLATIONS. External Battery Charger Select this check box if an external battery charger is connected to the power supply. (Not available for the XPS.)

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 transmit 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 6-8 appears. (If you are programming a per point DACT, several additional tabs appear as well.)

Basics Tab

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

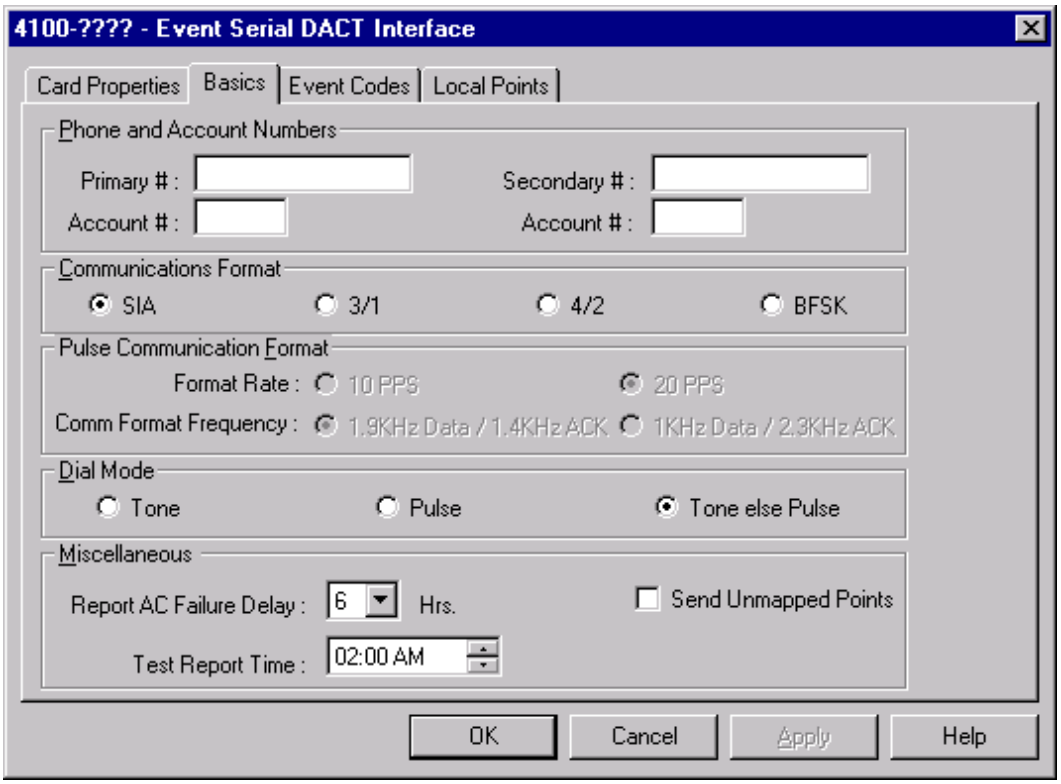


Figure 6-8. Basics Tab

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

Continued on next page

Basics Tab, (*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). Use the type of signal
- **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 6-9, 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 6-9).

Continued on next page

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).

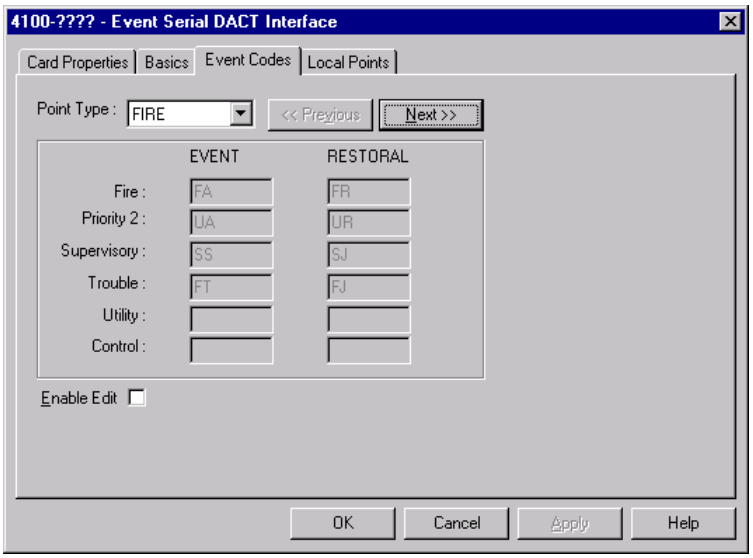


Figure 6-9. Event Codes Tab

Local Points Tab

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

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

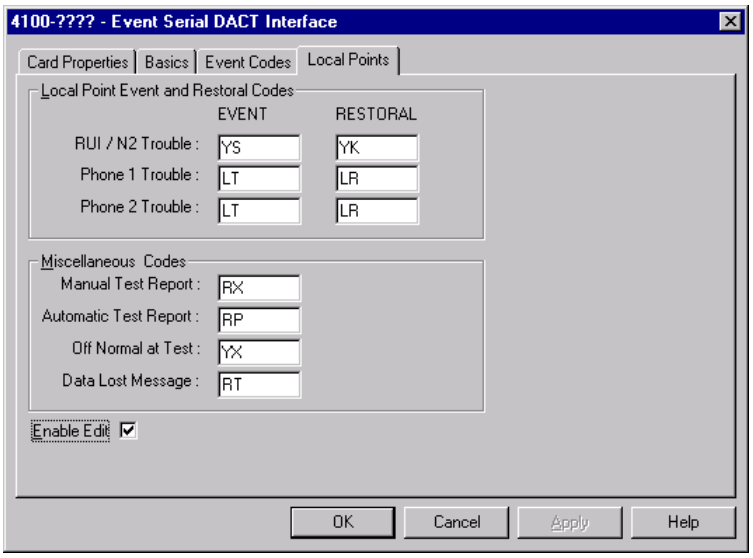


Figure 6-10. Local Points Tab

Continued on next page

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.

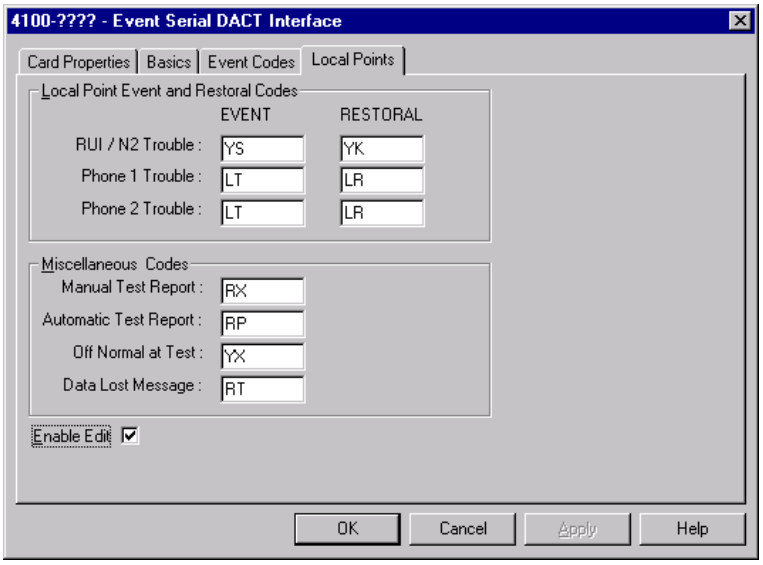


Figure 6-11. Local Points Tab

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 6-12.

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

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

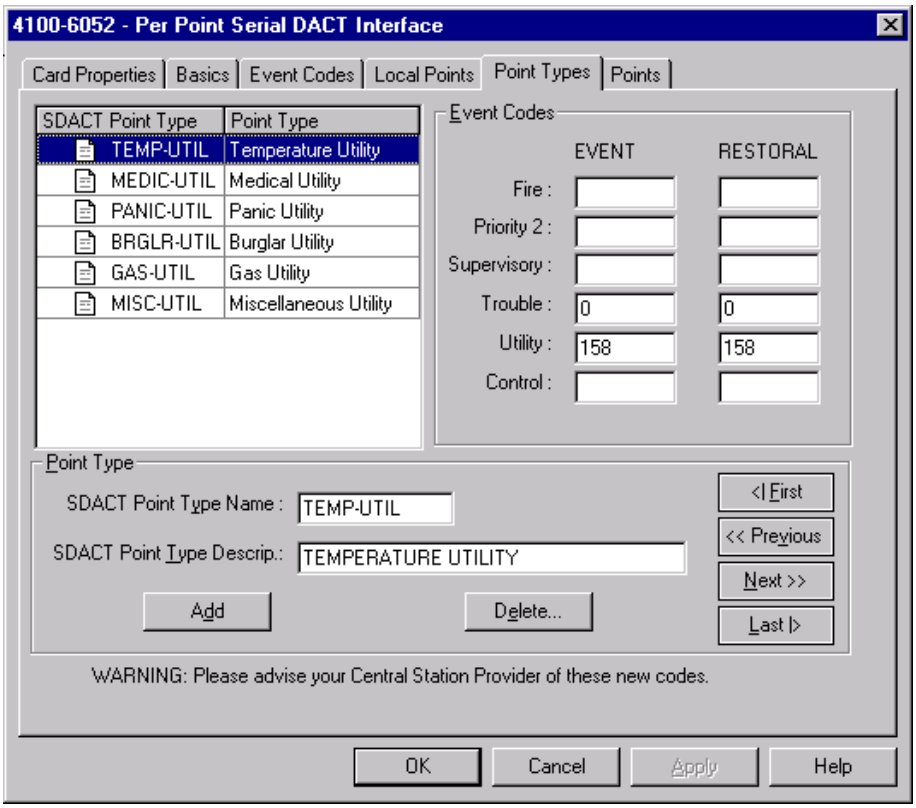


Figure 6-12. Point Type Tab

Points Tab (Per Point DACT Only)

The Points tab (shown in Figure 6-13) allows you to do the following:

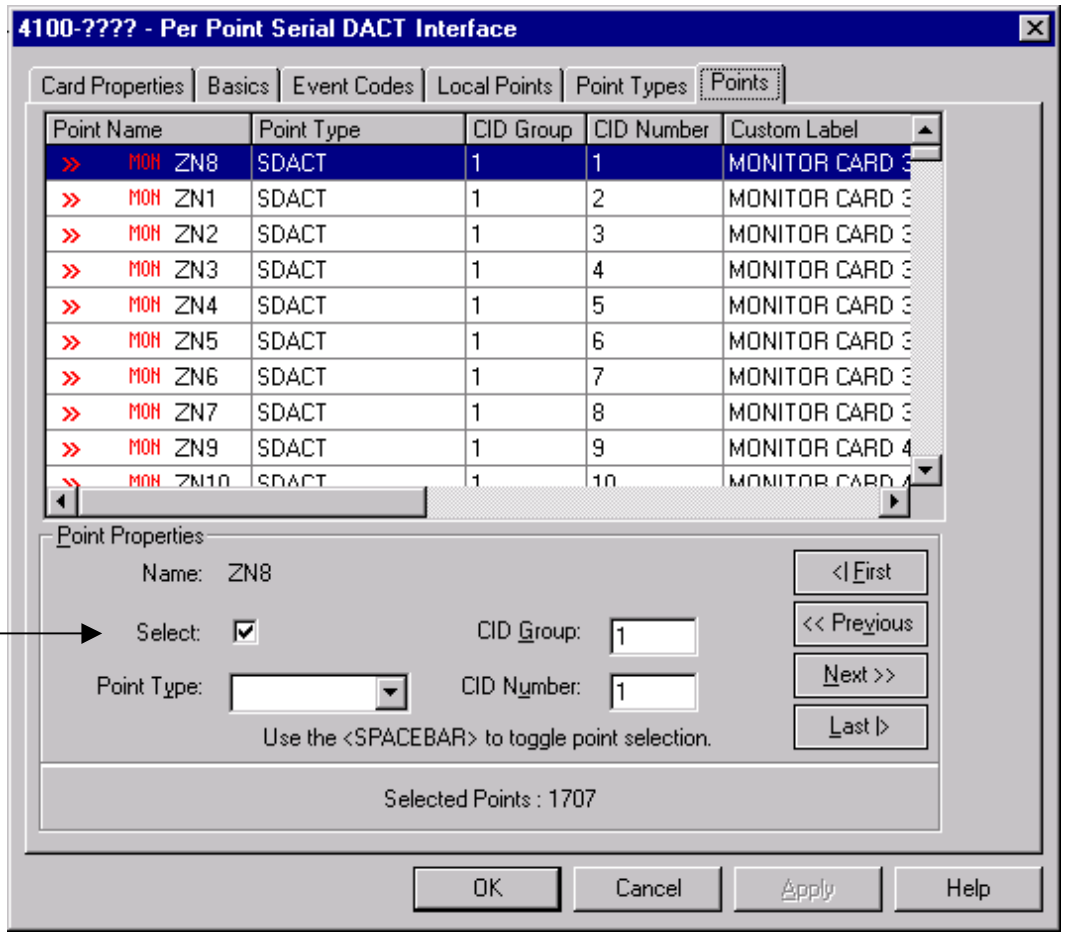
- Select which points have their events routed to the central station. By doing this, you can prevent unnecessary messages (such as when a pseudo point turns on and off) from being sent to the central station.
- Assign points to Groups. Groups allow a large number of points (such as all of a building's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

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

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

Continued on next page

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



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

Figure 6-13. Points Tab

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 6-14 appears.

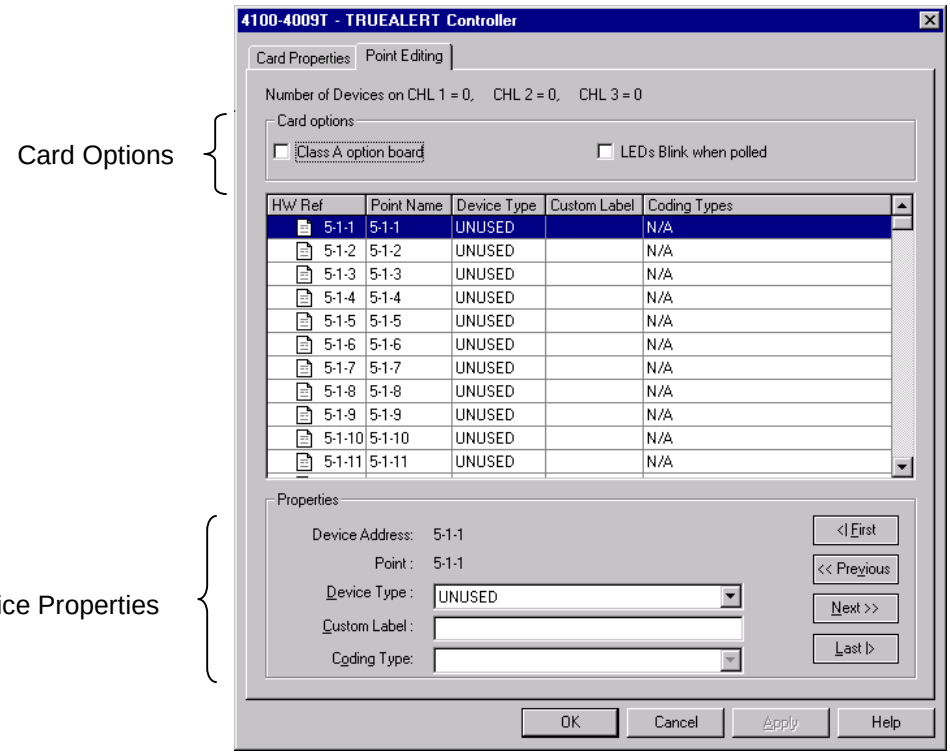


Figure 6-14. TrueAlert Controller Properties

Programming Card Properties

The card options are shown at the top of Figure 6-14. 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

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 ½ second pulses, each separated by ½ second silence. Each group of three pulses is separated by 1.5 seconds of silence.
  - MARCH120. Plays a high volume tone consisting of 120 beats per minute (1/4 second on, followed by a 1/4 second pause).
  - MARCH60. Plays a high volume tone consisting of 60 beats per minute (1/2 second on, followed by a 1/2 second pause).
  - ONSTEADY. Plays a continuous high volume tone.
  - TEMPORAL. Plays a high volume, three pulse coding pattern, consisting of three ½ second pulses, each separated by ½ 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.

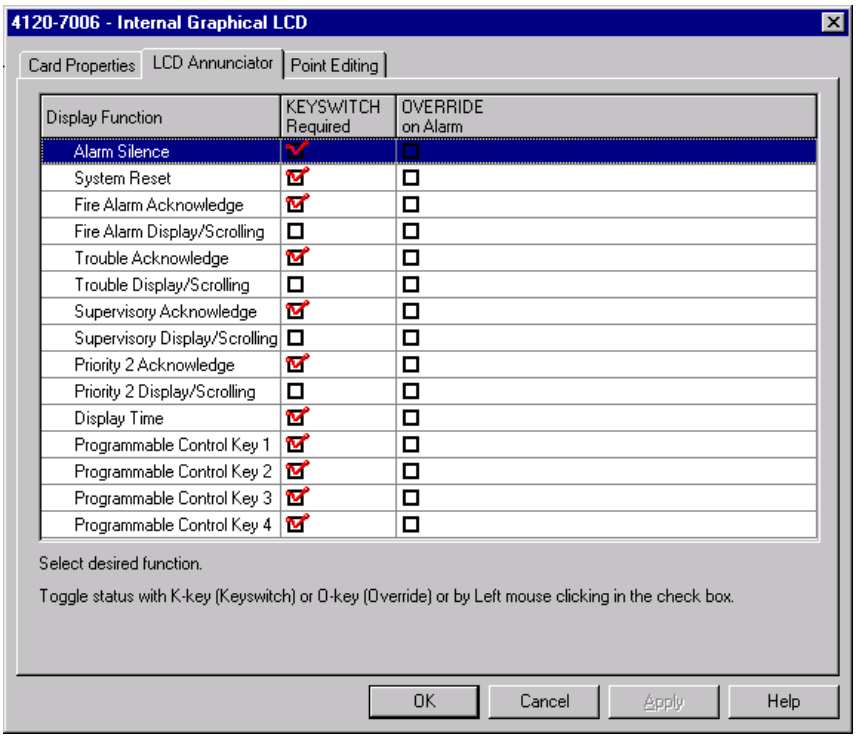


Figure 6-15. Annunciator Property Sheet

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

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.

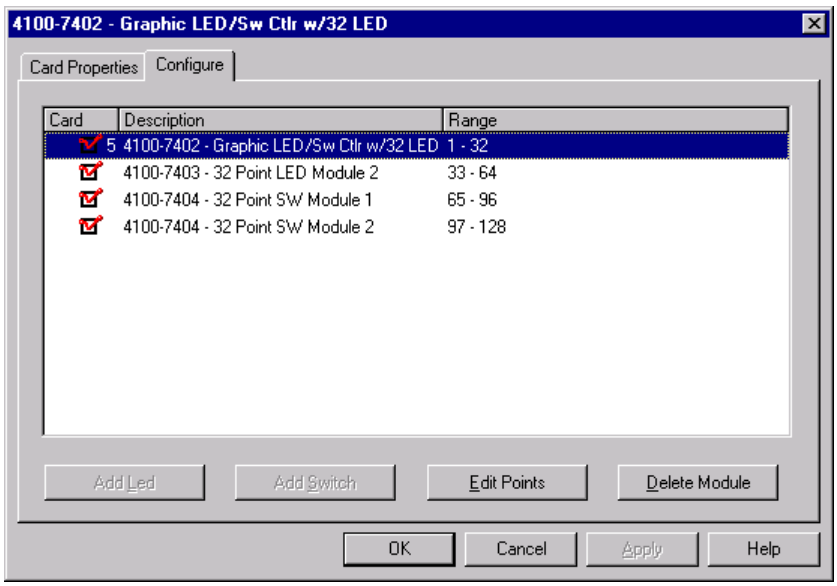


Figure 6-16. Annunciator Specific Properties

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. The total number of points allowed between these two channels is **XYZ**.
- **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

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.**

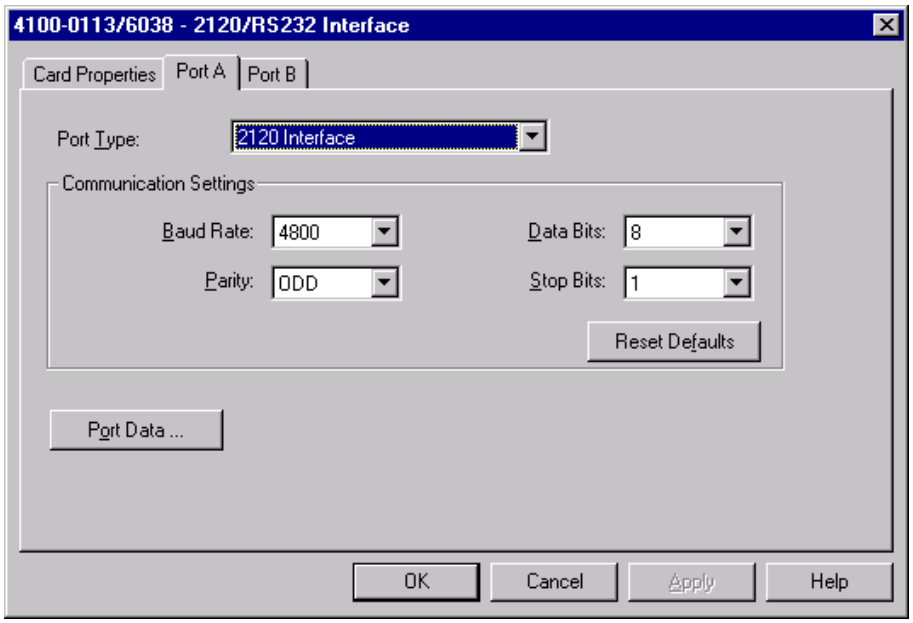


Figure 6-17. 2120 Interface, Port A Settings

Continued on next page

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.

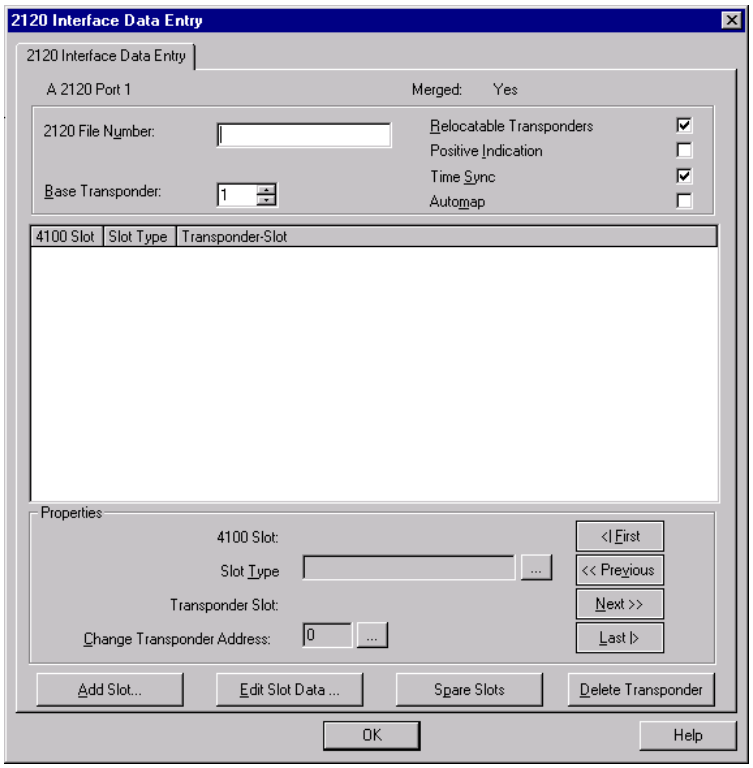


Figure 6-18. Port Data Screen, 2120 Interface

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

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.

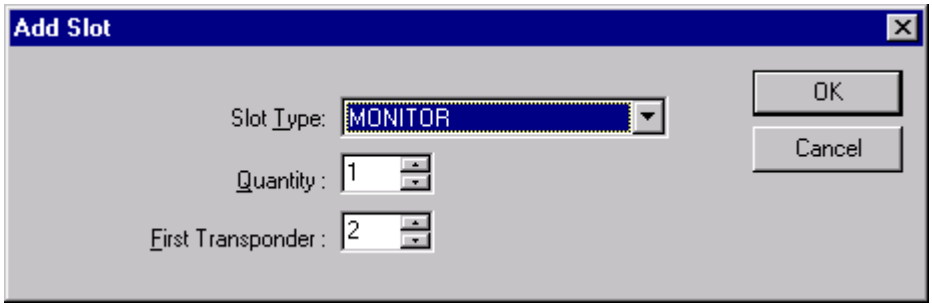
- If you will be monitoring or controlling only a subset of the 4100U points. (When you automatically add monitor and control slots, the programmer reserves enough slots for all of the 4100U monitor and control points.)

- 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 6-18 for the location of this button. A dialog similar to the following appears.



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 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 6-18), 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 6-19 appears.

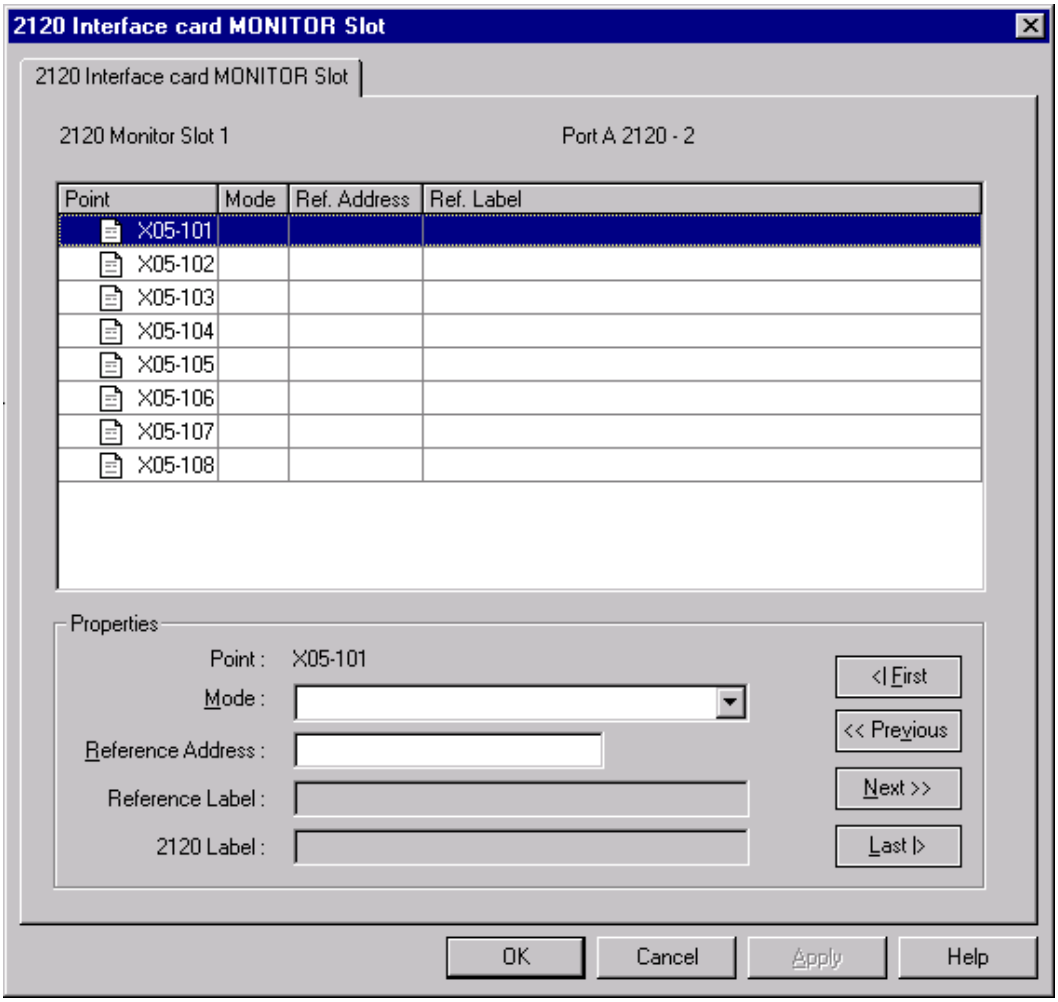


Figure 6-19. Editing Monitor Slot Data

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

Continued on next page

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 6-2. 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 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 6-18), 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 6-19 appears.

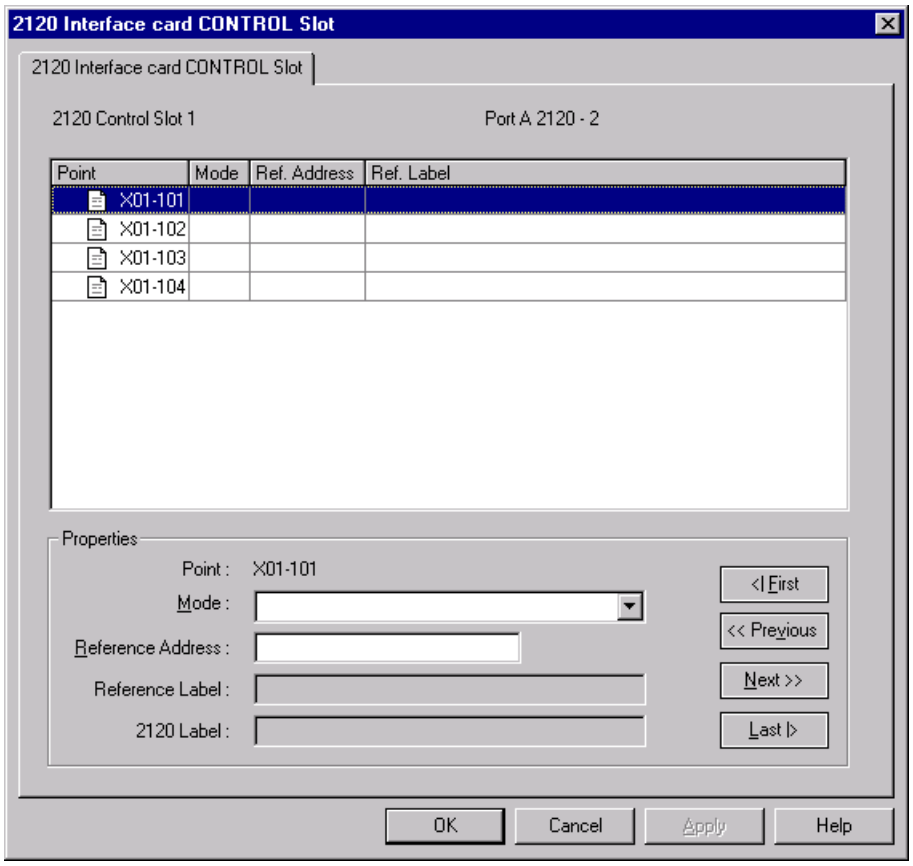


Figure 6-20. Defining Control Slot Data

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 6-3.

Continued on next page

Editing Control Slot Data, (*continued*)

Table 6-3. 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 Control Slot Data, (*continued*)

Table 6-3. 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 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.

Overview

Introduction

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

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

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

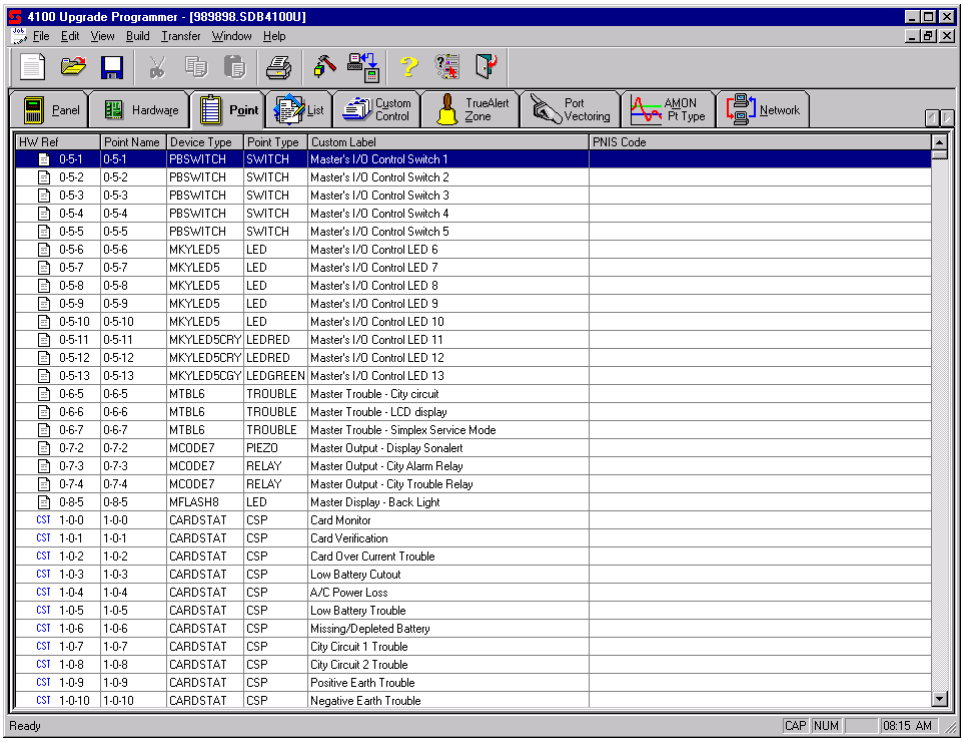


Figure 7-1. Point Tab

Point, Card, and Unit Views

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

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

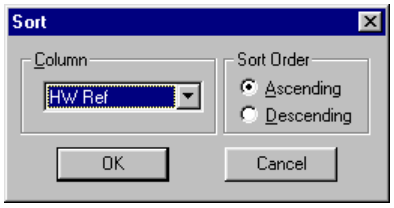
To select one of these views, position the mouse cursor in the point list and click the right mouse button. When the list of options appears, select **View By** and then select **Unit, Card,** or **Point**.

Continued on next page

Sort Function

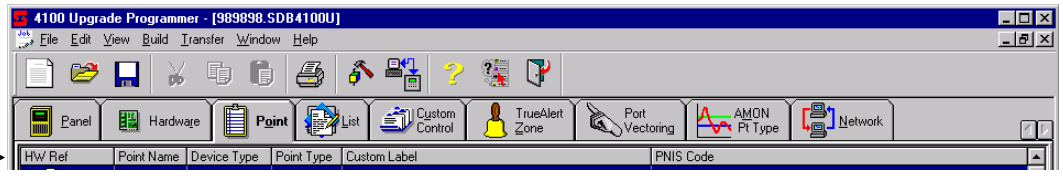
The Sort function allows you to sort and display points in ascending or descending order based on the Hardware Reference number, Point Name, Device Type, Point Type, Custom Label, or PNIS code. To sort points, do one of the following:

- **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.



- **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.

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.

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.

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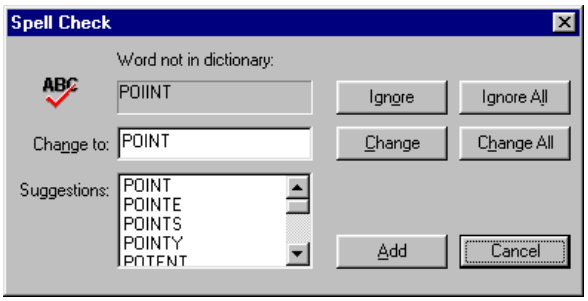
Custom Label Spell Check

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.)



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.)

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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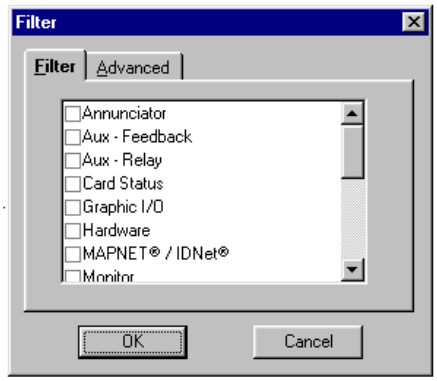
Filter

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).

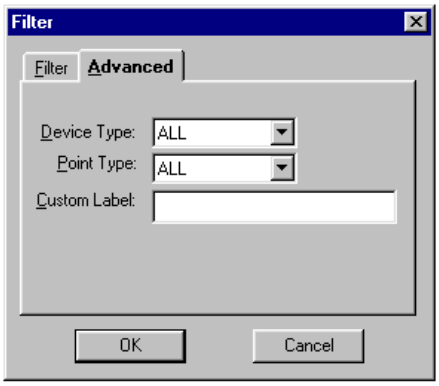
1. Position the pointer in the point list and press the **F8** key. (Alternatively, you can right click in the point list and select **Filter** from the list that appears.)



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.



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 7-2 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.)

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

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

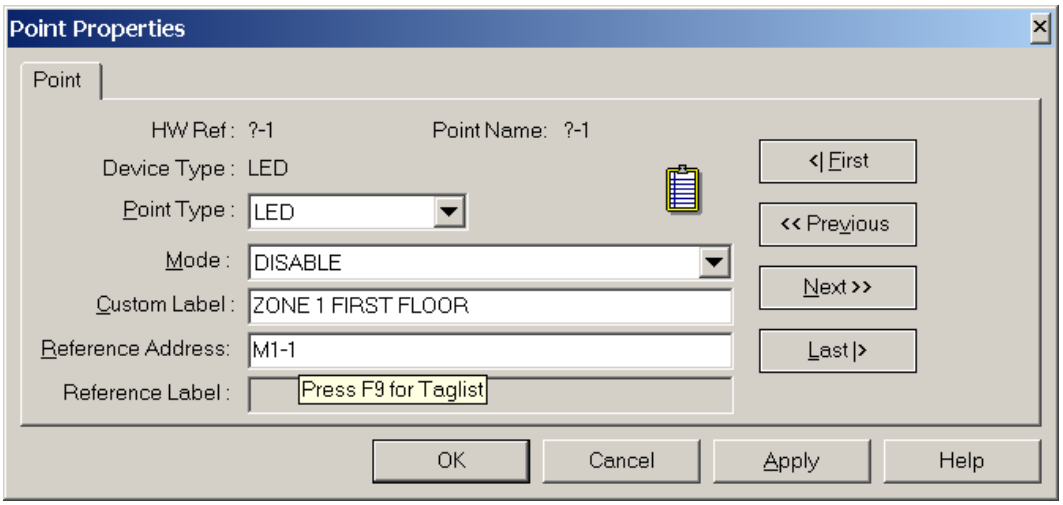

Figure 7-2. Typical Programming Screen for LEDs/Switches

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 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 7-2 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.

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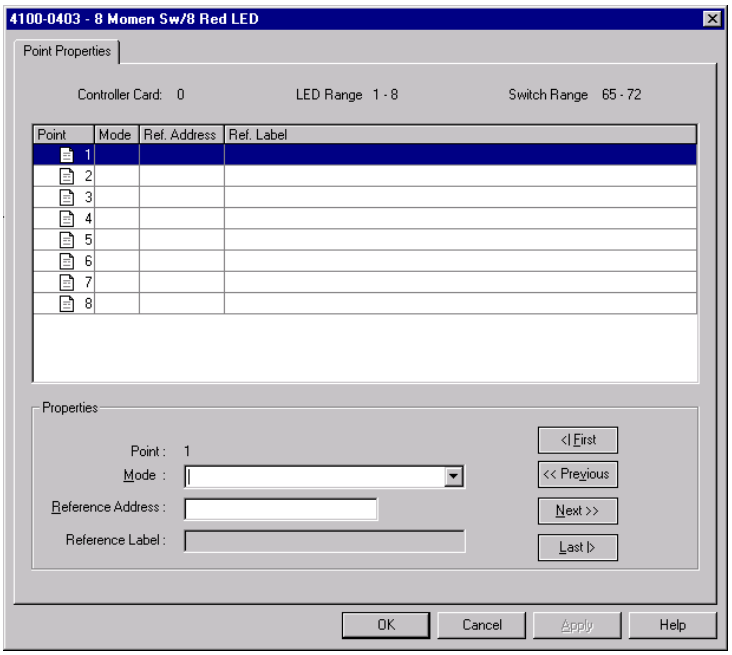
High-Level Mode Programming for Display Cards, (*continued*)



4. 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.

5. 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.

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

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

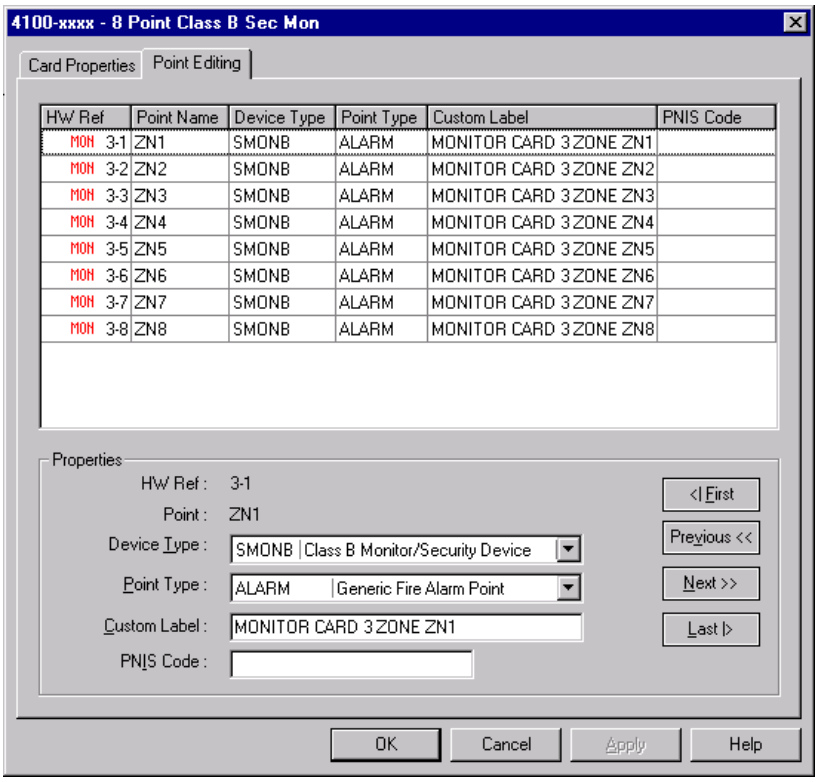

Figure 7-3. Monitor Point Programming

Step 2. Define Device Type

The device type identifies the specific type of Monitor Device being programmed. Available choices are listed in Table 7-1. 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 Table 7-1.

Table 7-1. Monitor Device Types

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

Continued on next page

Step 3. Define Point Type

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

Step 4. Define Custom Label

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

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

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

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.

Point Type	Tab	Procedure
Signal	Point Tab	1. Click on the Point Tab. The programmer lists all points in the system. 2. Locate the Signal Point to be programmed, using either the window's scroll bar or the Search, Filter, or Sort options. (For example, selecting the **Signal** checkbox within the Filter option displays only the system's Notification appliance and signal points.) 3. Double click on the Signal Point. A properties window similar to the one shown in Figure 7-4 appears.
	Hardware Tab	1. Click on the Hardware Tab. Click on the + signs to the left of the appropriate Unit, Box, and Bay icons. 2. Double click on the Signal card icon containing the signal point you want to edit. A window similar to the one shown in Figure 7-4 appears.
NAC	Point Tab	1. Click on the Point Tab. The programmer lists all points in the system. 2. Locate the NAC Point to be programmed, using either the window's scroll bar or the Search, Filter, or Sort options. (For example, selecting the **Signal** checkbox within the Filter option displays only the system's Notification appliance and signal points.) 3. Double click on the NAC Point. A window similar to the one shown in Figure 7-4 appears.
	Hardware Tab	1. Click on the Hardware Tab. Click on the + signs to the left of the unit, box, and bay containing the appropriate power supply or TrueAlert controller. 2. Double click on the icon for the power supply or controller. If you are programming the NACs on a power supply, click on the NACs tab. If you are programming the NACs on a TrueAlert controller, click on the Point Editing tab.

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

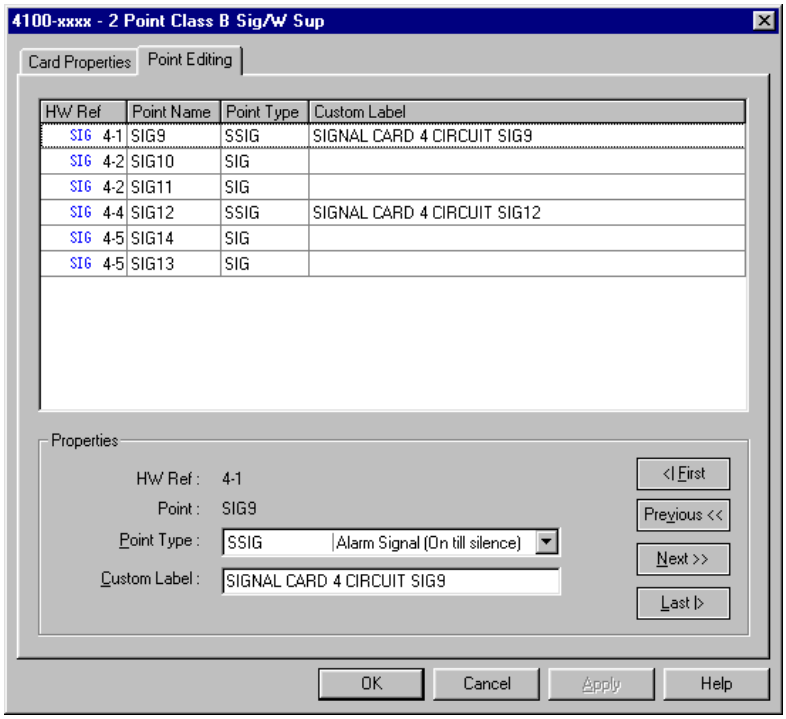

Figure 7-4. Typical Signal/NAC Point Editing Window

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.

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.

Point Type	Tab	Procedure
AUX Relay	Point Tab	1. Click on the Point Tab. The programmer lists all points in the system. 2. Locate the Relay Point to be programmed, using either the window's scroll bar or the Search, Filter, or Sort options. (For example, selecting the **AUX Relay** checkbox within the Filter option displays only the system's relay points.) 3. Double click on the relay point. A properties window similar to the one shown in Figure 7-5 appears.
	Hardware Tab	1. Click on the Hardware Tab. Click on the + signs to the left of the appropriate unit, box, and bay. 2. Double click on the icon for the power supply containing the AUX relay you want to program. 3. Click on the **Aux Relay** tab. A window similar to the one shown in Figure 7-5 appears.
4100-3001 4100-3002 4100-3003 Relays	Point Tab	1. Click on the Point Tab. The programmer lists all points in the system. 2. Locate the Relay Point to be programmed, using either the window's scroll bar or the Search, Filter, or Sort options. (For example, selecting the **Aux Relay** checkbox within the Filter option displays only the system's relay.) 3. Double click on the relay point. A properties window similar to the one shown in Figure 7-5 appears.
	Hardware Tab	1. Click on the Hardware Tab. Click on the + signs to the left of the appropriate Unit, Box, and Bay icons. 2. Double click on the Relay card icon containing the relay point you want to edit. A window similar to the one shown in Figure 7-5 appears.

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

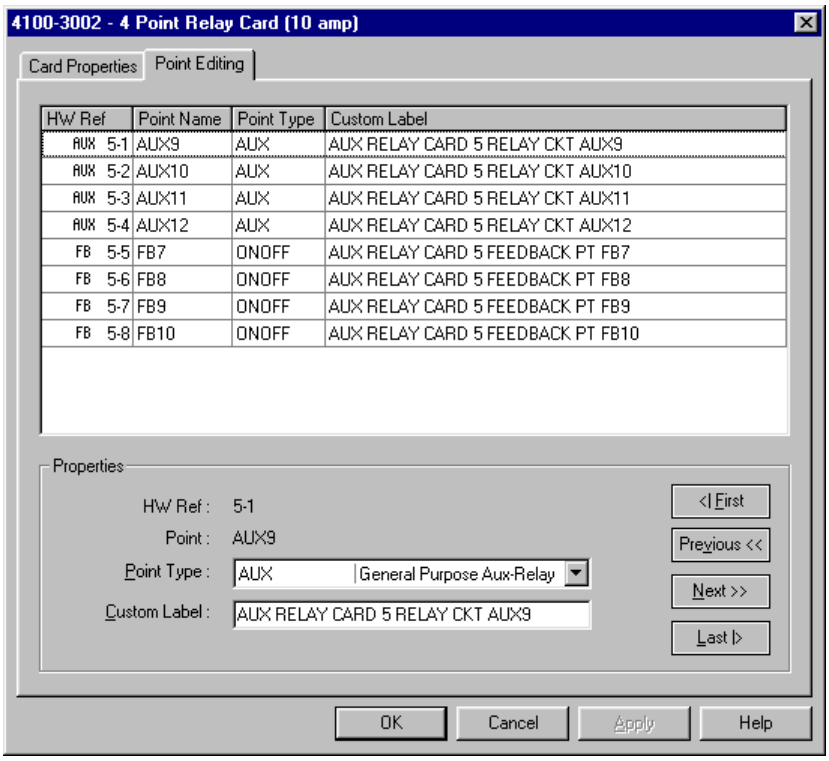

Figure 7-5. Typical Relay Point Editing Window

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.

Point Type	Tab	Procedure
IDNet	Point Tab	1. Click on the Point Tab. The programmer lists all points in the system. 2. Locate the IDNet point to be programmed, using either the window's scroll bar or the Search, Filter, or Sort options. (For example, selecting the **MAPNET/IDNET** checkbox within the Filter option displays only the system's IDNet and MAPNET points.) 3. Double click on the point. A properties window similar to the one shown in Figure 7-6 appears. The device type cannot be edited here. The device type can be edited via the Hardware tab.
	Hardware Tab	**IDNet Points on a Power Supply** 1. Click on the Hardware Tab. Click on the + signs to the left of the appropriate unit, box, and bay. 2. Double click on the icon for the appropriate power supply card. A dialog for the power supply appears. 3. Click on the **IDNet** tab. A window similar to the one shown in Figure 7-6 appears.
		IDNet Points on an IDNet Option Card 1. Click on the Hardware Tab. Click on the + signs to the left of the appropriate Unit, Box, and Bay icons. 2. Double click on the IDNet card icon containing the point you want to edit. A window similar to the one shown in Figure 7-6 appears.
MAPNET	Point Tab	1. Click on the Point Tab. The programmer lists all points in the system. 2. Locate the MAPNET point to be programmed, using either the window's scroll bar or the Search, Filter, or Sort options. (For example, selecting the **MAPNET/IDNET** checkbox within the Filter option displays only the system's MAPNET and IDNet points.) 3. Double click on the point. A properties window similar to the one shown in Figure 7-6 appears. The device type cannot be edited here. The device type can be edited via the Hardware tab.
	Hardware Tab	1. Click on the Hardware Tab. Click on the + signs to the left of the appropriate Unit, Box, and Bay icons. 2. Double click on the MAPNET card icon containing the point you want to edit. A window similar to the one shown in Figure 7-6 appears.

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

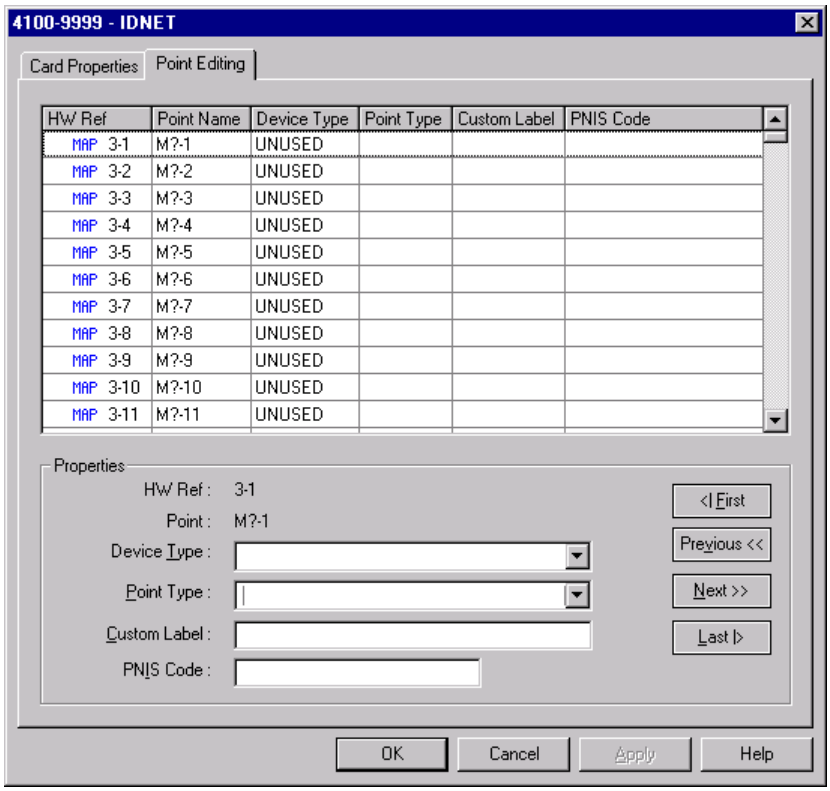

Figure 7-6. Defining IDNet Points

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.

Point Type	Tab	Procedure
Analog or Digital Pseudo Point	Point Tab	1. Click on the Point Tab. The programmer lists all points in the system. 2. Locate the Pseudo point to be programmed, using either the window's scroll bar or the Search, Filter, or Sort options. (For example, selecting the **User Digital Pseudo** checkbox within the Filter option displays only the system's user-defined digital pseudo points.) 3. Double click on the Pseudo Point. A properties window similar to the one shown in Figure 7-7 appears.
	Hardware Tab	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. 2. Double click on the card icon containing the pseudo point you want to edit. A window similar to the one shown in Figure 7-7 appears.

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

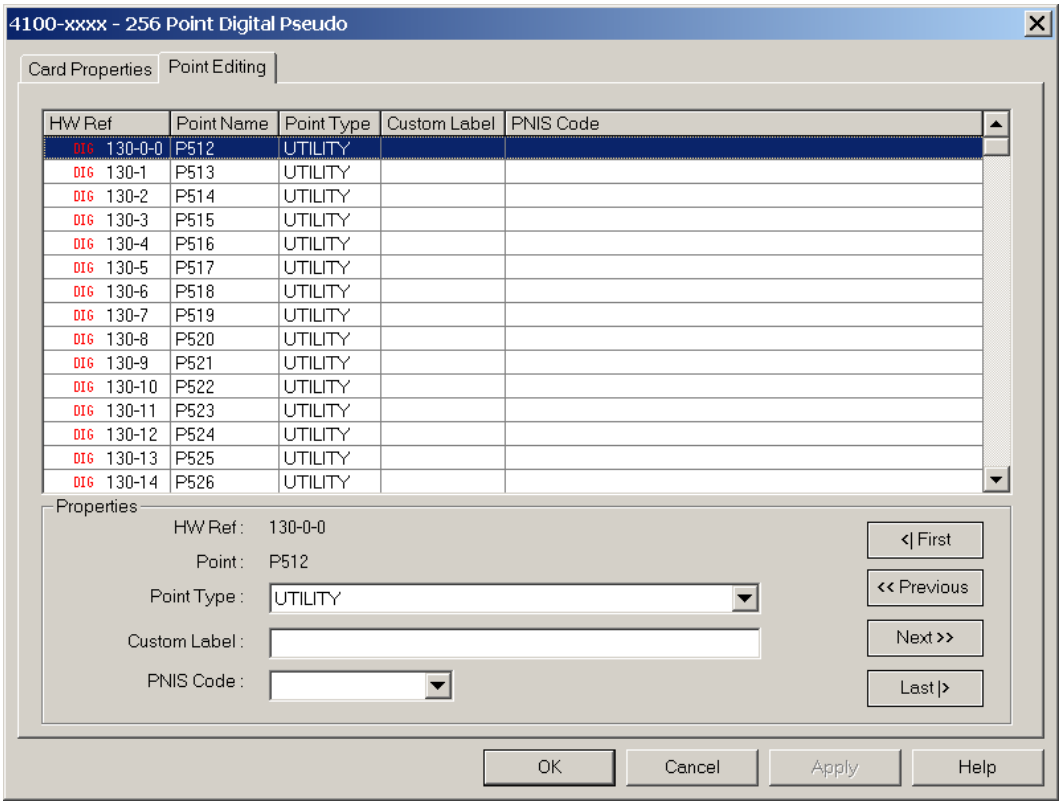

Figure 7-7. Programming Pseudo Points

Step 2. Define Custom Label

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

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

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

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Step 3. Define Analog Pseudo Point Type

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

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.

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
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.

Overview – List Tab

Introduction

Select the **List Tab** to display the List Tab window, shown in Figure 8-1. 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.

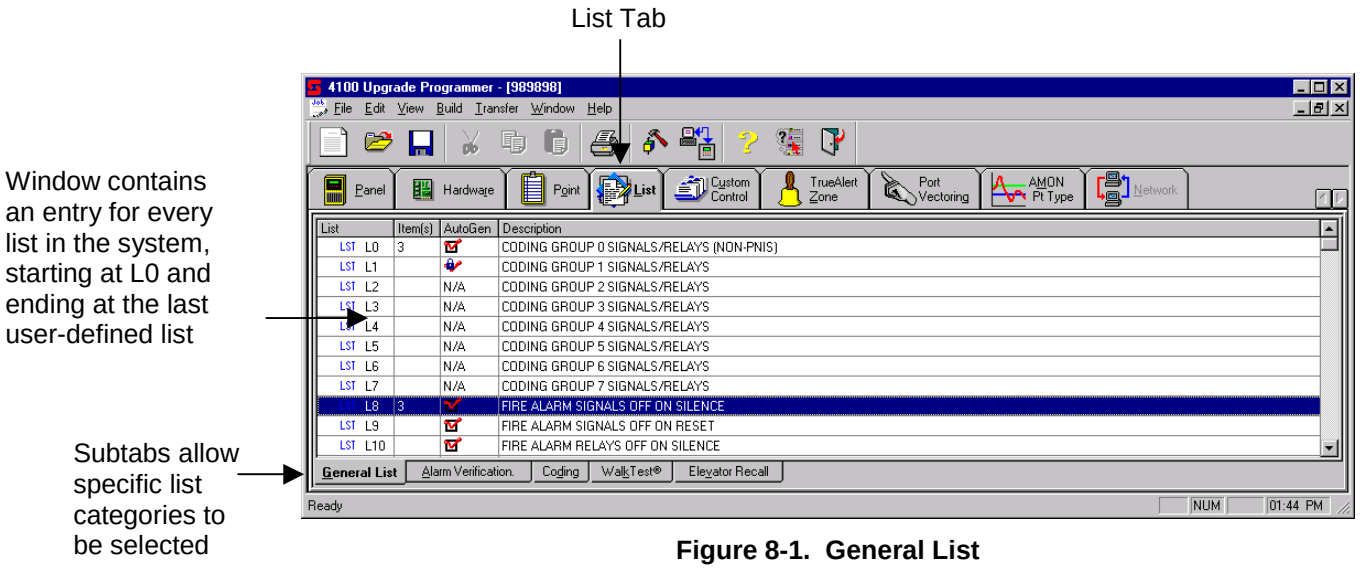
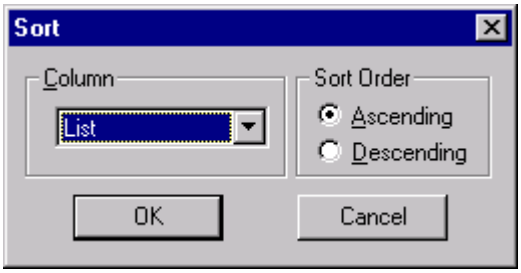


Figure 8-1. General List

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.



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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.

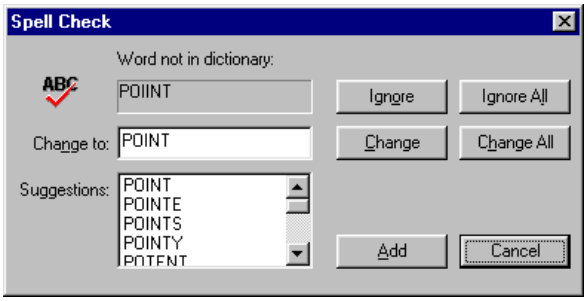
Column Titles →

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.)



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

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.)

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. Click on Search Next 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 smoke detector with the FIRE point type automatically adds the point to system list LX.

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.

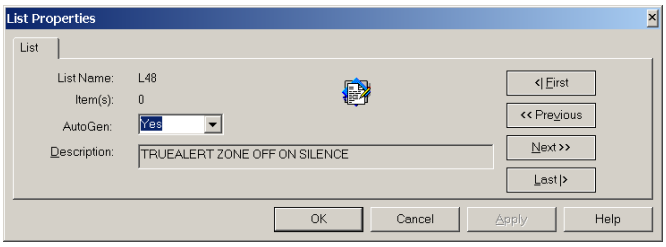
N/A Indicates that the list is not automatically generated.

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.



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 8-1 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 8-2, appears.

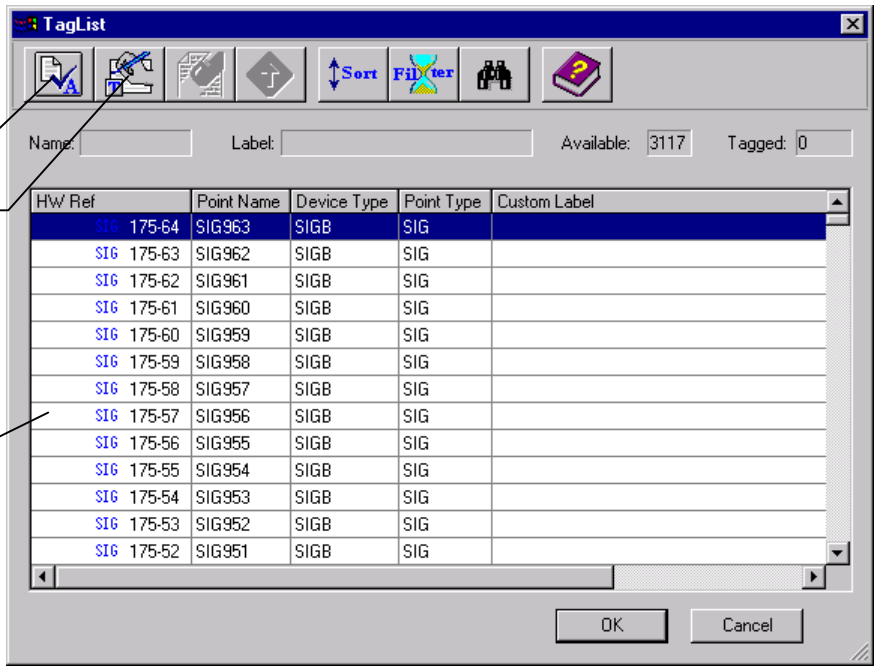


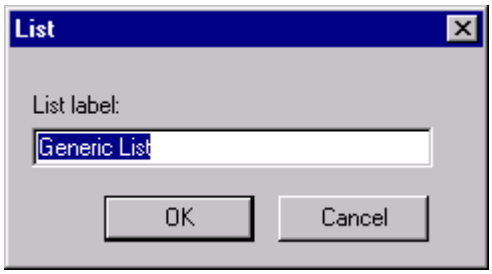
Figure 8-2. Taglist Window

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.

Continued on next page

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.



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 8-1 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 8-3 appears.

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Moving Points between Groups, (*continued*)

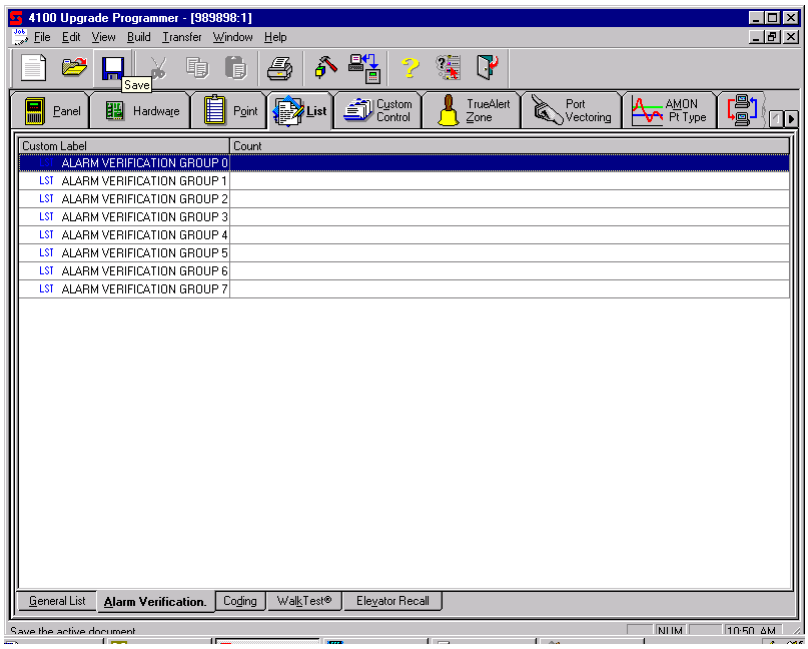

Figure 8-3. Alarm Verification Tab

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 8-4 appears.

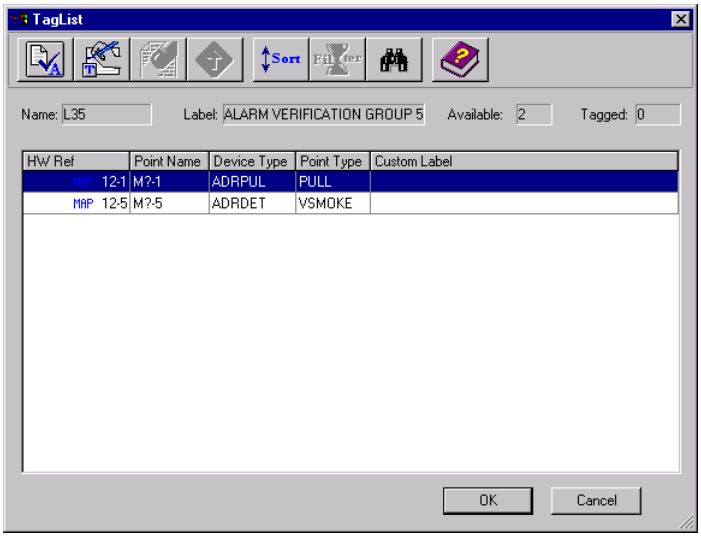

Figure 8-4. Sample Tag List for Alarm Verification Group

4. Use the mouse or arrow keys to highlight each point you want to move into the group. A point is selected when a >> appears to the left of the point. Repeat this step to select other points.

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Selecting Canadian or Domestic (US) Operation

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

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.

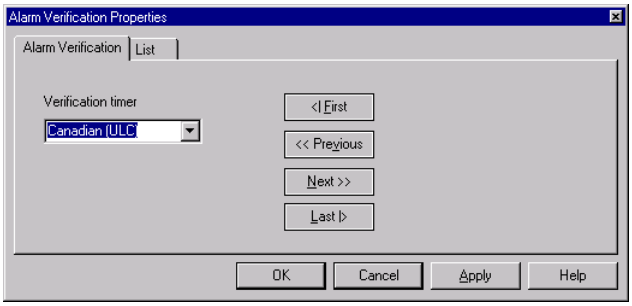


Figure 8-5. Alarm Verification Properties Dialog

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*

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.

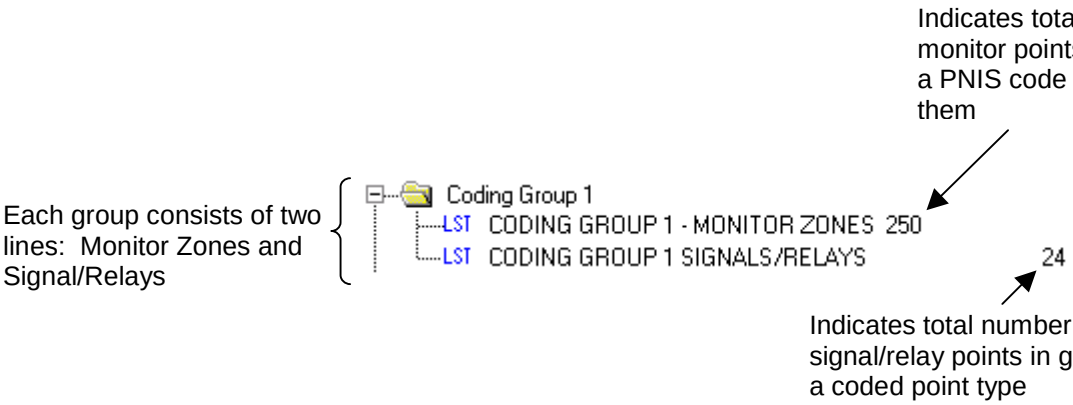
1. Right Click on the group whose name you want to change and select Properties. The Alarm Verification Properties dialog shown above appears.
2. Click on the List tab in the dialog.
3. Enter a name for the group in the **Description** field.

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 8-6 appears.

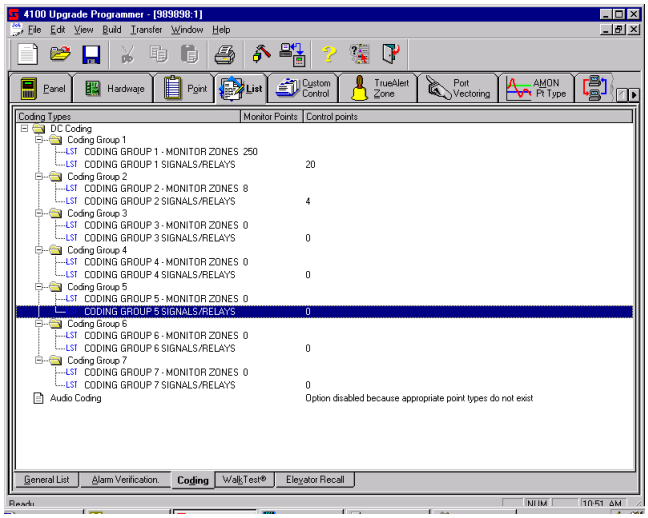


Figure 8-6. Coding Tab

Continued on next page

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:

   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.

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

   b. In the Tag List use the mouse or arrow keys to highlight each monitor point you want to move into the group. A point is selected when a >> symbol appears to the left of the point.

   c. Repeat these steps to move other monitor points into the group.

   d. The points that you selected in Step b above are not automatically deleted from Coding Group 1 – Monitor Zones list. If you do not want these points to be in both groups, you need to open up the Coding Group 1 – Monitor Zones list and delete the points. To do this, right click on Coding Group 1 – Monitor Zones list. Select Tag List. When the list of points appears, use the mouse or arrow keys to highlight each point you want to unselect from Coding Group 1. Press the space bar to deselect the highlighted point. Points do not have the >> symbol to their left when they are unselected.

5. Select the signal/relay points to move as follows:

   a. Move the pointer to the appropriate Coding group 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.

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 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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Moving Points between Groups, (*continued*)

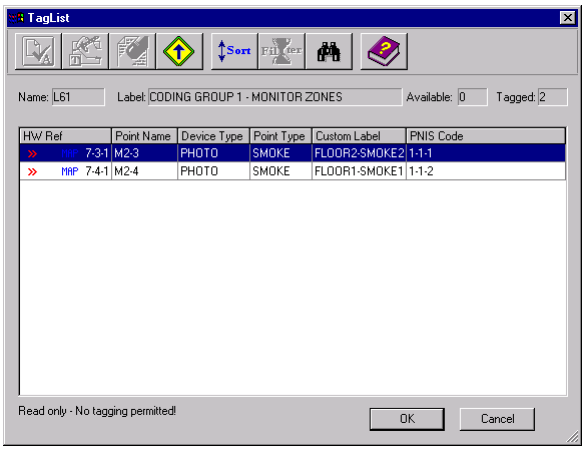


Figure 8-7. Sample TagList for Coding Group

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 8-8 appears.

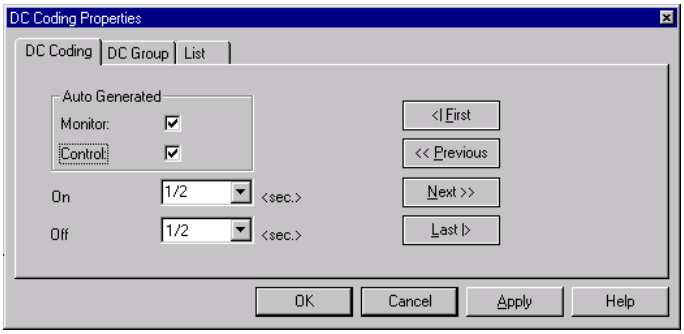


Figure 8-8. Coding Group Properties

2. Use the guidelines listed in Table 8-1 to set the properties for the Coding group.

Table 8-1. Guidelines for Coding Group Properties

Continued on next page

Editing Coding Groups, *Continued*

Editing Group Properties, (*continued*)

Tab	Properties
DC Coding	**Note:** Any changes made to the options in this tab apply to **all** of the coding group lists. **Monitor.** A check in this box means monitor points with a PNIS code are automatically inserted in Group 1 – Monitor Zones. You must unselect this check box if you want to move monitor points to another group. Note that if you uncheck this box, move points, and then check the box at a later point, all of the points you moved will be placed back in Group 1. **Control.** A check in this box means control points (signals/relays) with a coded point type are automatically inserted in Group 1 – Signals/Relays. You must unselect this check box if you want to move relay points to another group. Note that if you uncheck this box, move points, and then check the box at a later point, all of the points you moved will be placed back in Group 1. **On.** Allows you to set the duration of each tone within the PNIS code. **Off.** Allows you to set the duration of silence between tones of the PNIS code.
DC Group	When you change these options, the change only affects the selected group. **Track Coded Input.** This field only applies to an upgraded 4100U panel that uses older, mechanical pull stations. Selecting this checkbox allows the 4100U to play the mechanical code enabled on the pull station. **On Til.** This field has three selections: Completion, Reset, and Silence. It allows you to specify how long the code plays before it shuts off. Select Completion to play all rounds of the code. Select Reset to play the code until the system is reset. Select Silence to play the code until an Alarm Silence occurs. **Number of Rounds.** Specifies the number of code rounds that the system should play. Specifying 0 means continuous.
List	**Description.** Allows you to change the description of the selected coding group list (monitor zones or signal relay list). For example, you can change the name of the Coding Group 1 – Monitor Zones or Coding Group 1 – Signals/Relays to a more descriptive name.

3. After making changes to the Coding Group properties, click on the Apply button to apply the changes and then click on OK to close the Coding Group window.

Editing WalkTest Groups

Overview

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

- **Step 1. Create WalkTest Groups.** The 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.

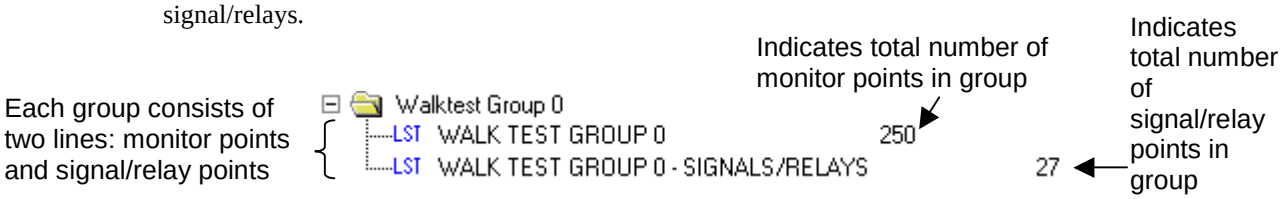
- **Step 2. Enable WalkTest Options from Front Panel.** These options include the following. Refer to the "Setting WalkTest Options" in the *4100U Operator's Manual* for information on setting these options.
  - Which WalkTest Group is enabled.
  - Whether the group's signals turn on when a monitor point 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.



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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 8-9 appears.

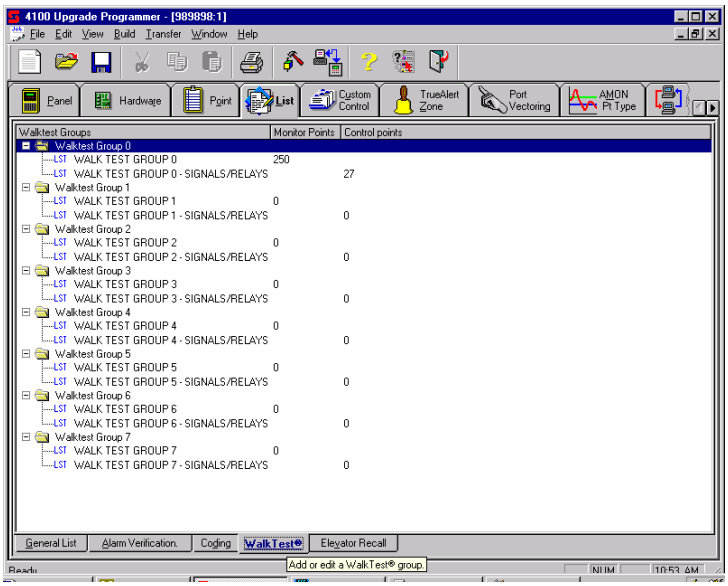


Figure 8-9. WalkTest Tab

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.

Continued on next page

Moving Points between Groups, (*continued*)

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.

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 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.

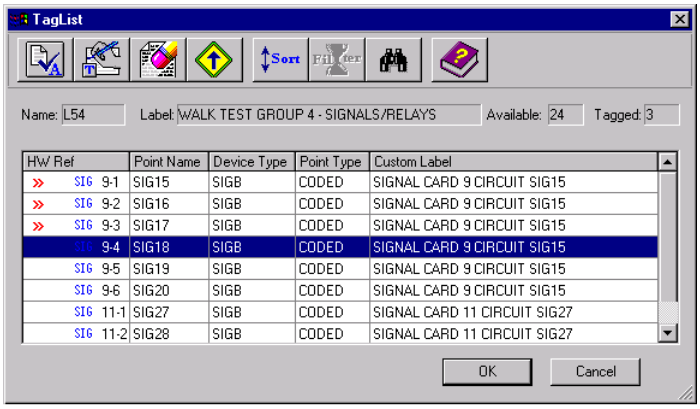


Figure 8-10. Sample TagList for WalkTest Groups

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. Figure 8-6 appears.
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 8-11 appears.

Continued on next page

Editing Group Properties, (*continued*)

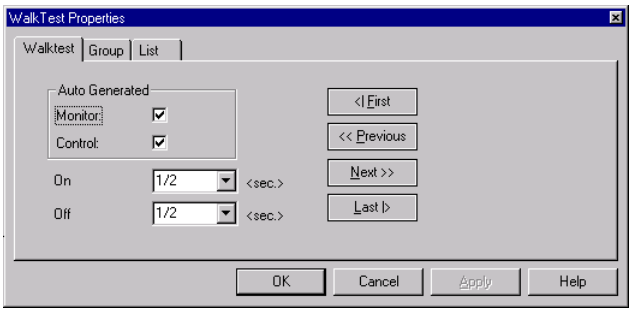


Figure 8-11. WalkTest Group Properties

3. Use the guidelines listed in Table 8-2 to set the properties for the WalkTest group.

Table 8-2. WalkTest Group Property Guidelines

Tab	Properties
WalkTest	Setting the properties in this tab affects **all** WalkTest groups. Monitor. A check in this box means monitor points are automatically inserted in Group 1 – Monitor Zones. If you uncheck this box, you can move points from one group to another. However, at a later point, if you recheck this box, the points you previously moved to other groups will be moved back to Group 1. Control. A check in this box means control points (signals/relays) are automatically inserted in Group 1 – Signals/Relays. If you uncheck this box, you can move points from one group to another. However, at a later point, if you recheck this box, the points you previously moved to other groups will be moved back to Group 1. On. Allows you to set the duration of each tone within the PNIS code. Off. Allows you to set the duration of silence between tones of the PNIS code.
Group	Setting the properties in this tab affects only the selected group. Monitor. A counter that tracks the number of devices in the group. Control. A counter that tracks the number of devices in the group. Voice. Check this box to play tones or messages rather than the standard WalkTest tones. Reset Delay. Allows you to shorten or lengthen the reset time used by the monitor device. For example, increase the delay in cases where canned smoke does not clear from a smoke detector quickly enough.
List	Description. Allows you to change the description of the group's monitor or control lists. For example, you can change the name of the WalkTest Group 0 – Signals/Relays to a more descriptive name, if necessary.

4. After making changes to the WalkTest Group properties, click on the Apply button to apply the changes and then click on OK to close the window.

Editing Elevator Recall Lists

Introduction

The Elevator Recall list is made up of five groups, each corresponding to an elevator shaft numbered from one to five. Each shaft group contains three lists – one for the primary recall points, one for the alternate recall points, and one for the shutdown points.

The Elevator Shaft 1 group initially contains all of the system's monitor points and all relays with the following point types – PRIMARY, ALTERN, and SHAFT (shutdown).

Moving Points between Groups

Follow these steps to move points from Elevator Shaft 1 group (where they are initially placed) into other elevator shaft groups. Signal/relay points and monitor points can exist in multiple groups at the same time.

1. Open the List Window by selecting the List Tab at the top of the Programmer. See Figure 8-1 for the location of this tab.
2. Click on the Elevator Recall tab at the bottom of the List Window. A screen similar to the one shown in Figure 8-12 appears.

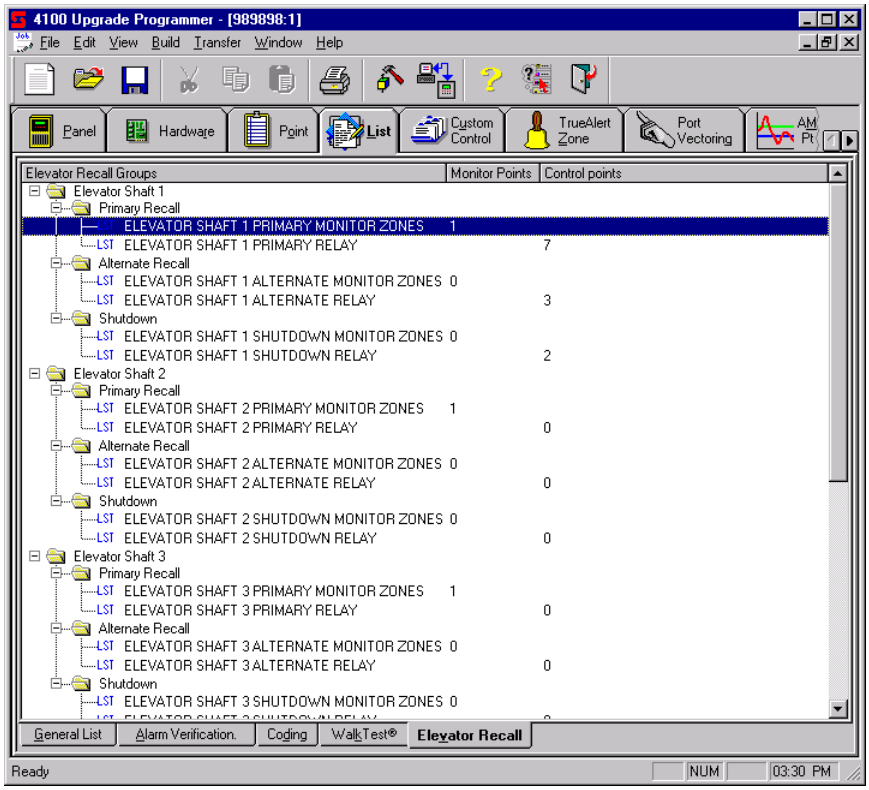


Figure 8-12. Elevator Recall Tab

Continued on next page

Moving Points between Groups, (*continued*)

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.

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

   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

Moving Points between Groups, (*continued*)

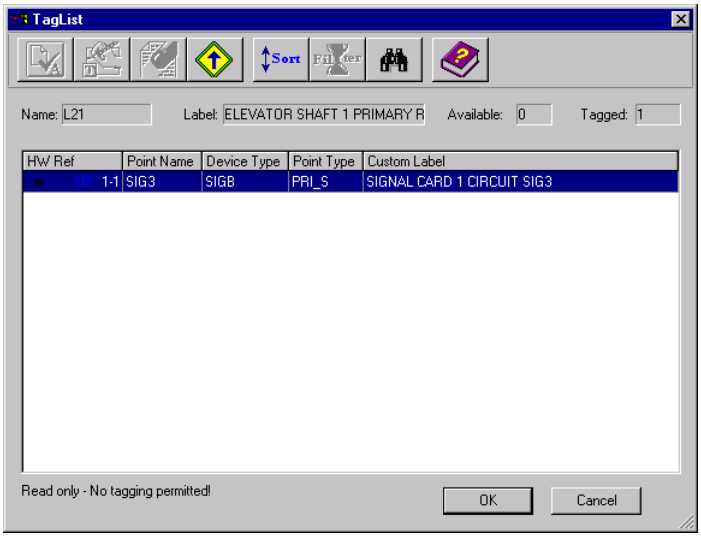


Figure 8-13. Sample TagList for Elevator Recall Group

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 8-14 appears.
2. Edit the description field and click on the Apply button. Click OK to close the screen.

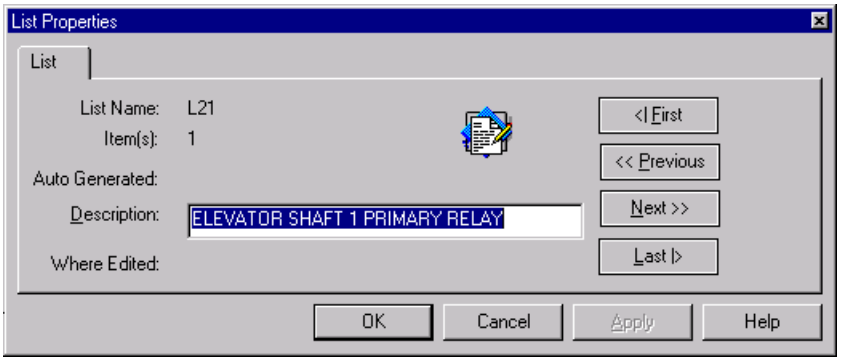


Figure 8-14. Elevator Recall Description Property

Chapter 9
Custom Control

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.

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 allow the 4100U to function in an 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

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

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

Logical Operators (AND, OR, NOT) allow you to link multiple input statements to one and other 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.

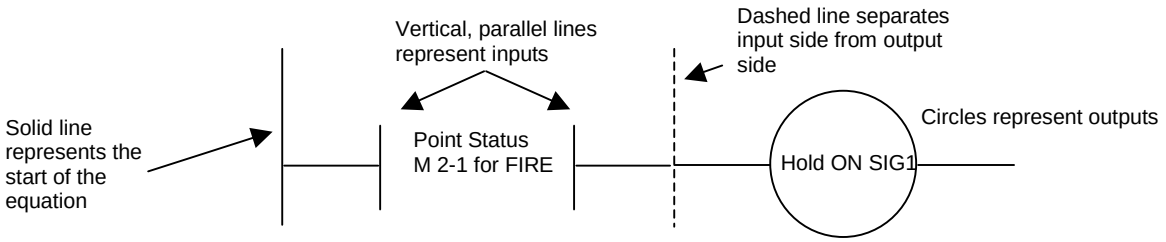
```
[INPUTS]
    NOT STATUS DIRTY
        M1-1 | PHOTO | SMOKE | LAB1-SMOKE1
[END INPUTS]
[OUTPUTS]
    PRINT A "SMOKE NOT DIRTY"
[END OUTPUTS]
```

Continued on next page

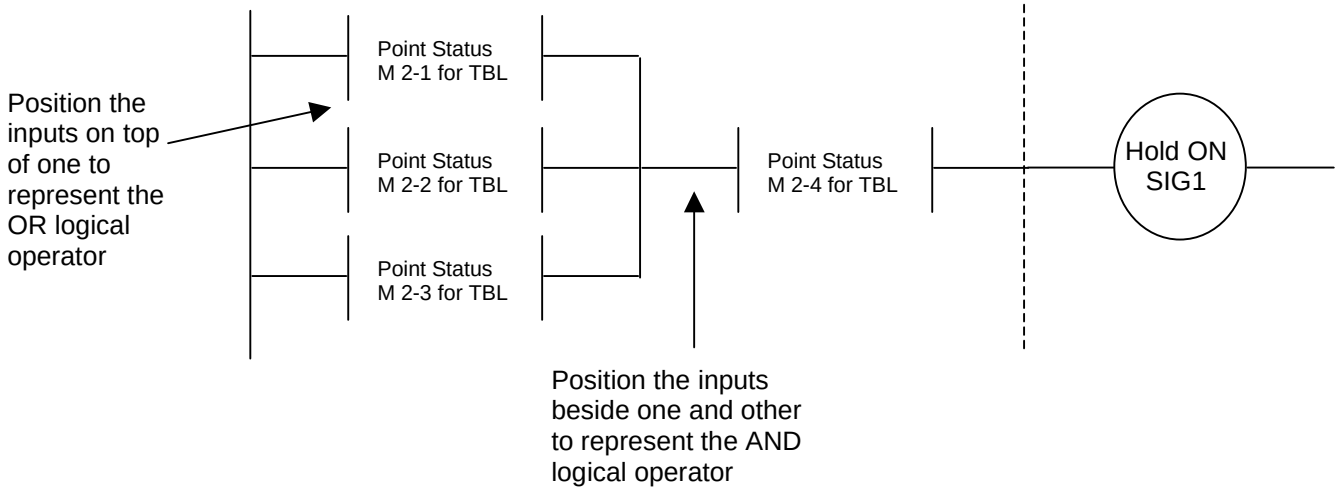
Using a Ladder Logic Diagram to Evaluate an Equation

A ladder logic diagram is a "sketch" of the equation that is used evaluate (predict the outcome) of a custom control equation before it is entered into the programmer. Use the following conventions when creating ladder logic diagrams.

- Draw a solid, vertical line on the left side of the sketch to represent the starting point for the equation. Use a vertical dashed line to divide the sketch into an input side and an output side.
- Use two vertical, parallel lines to represent each input statement. Add text between the lines to describe the input statement.
- Use a circle to represent each output statement. Add text within or beside the circle to describe the output statement. In the following example, the output side of the equation contains a single output statement, HOLD ON SIG 1. This action only occurs if the input side of the equation, which monitors point M 2-1 for the presence of a fire condition, is true.



- Represent the **OR** logical operator by positioning inputs on top of one 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 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.

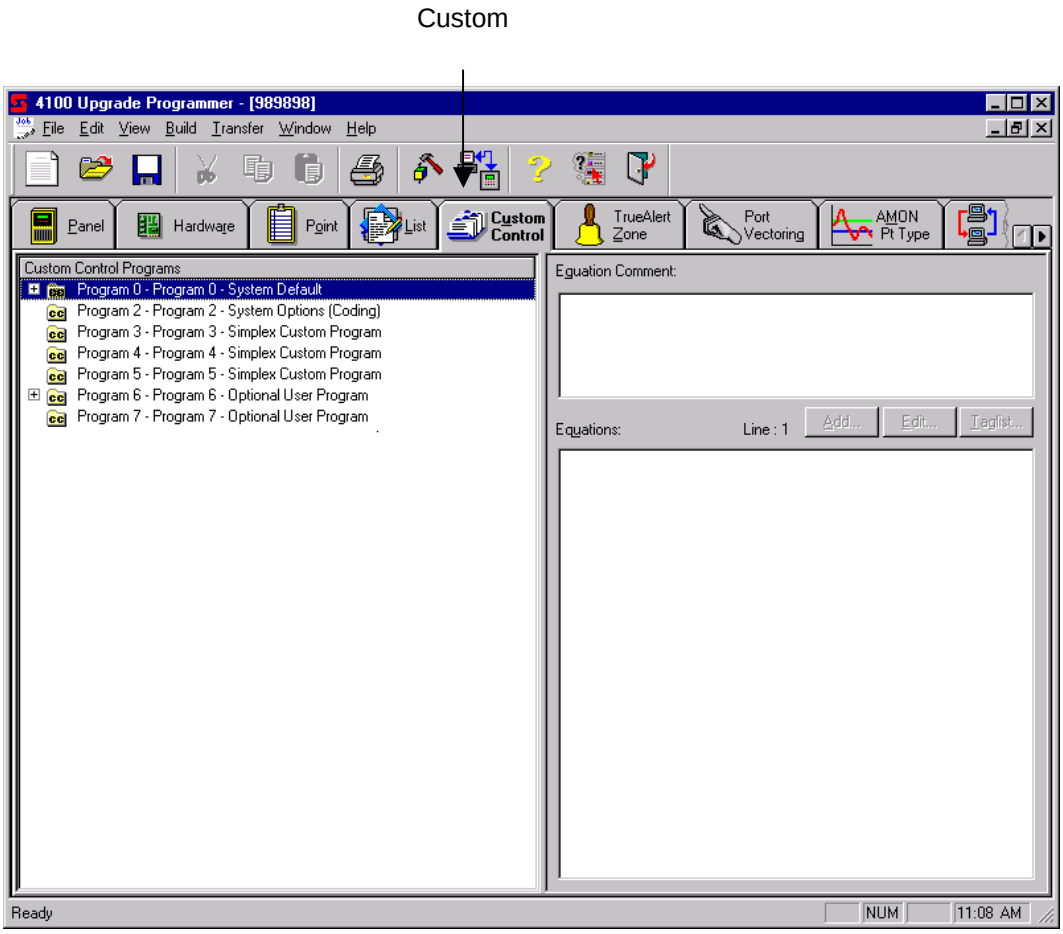


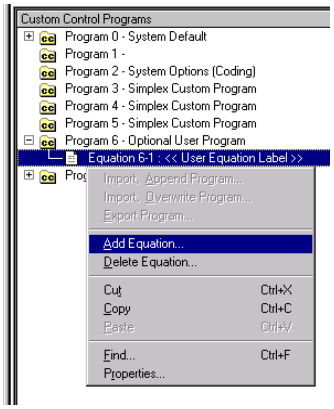
Figure 9-1. Custom Control Window

Creating a New Equation

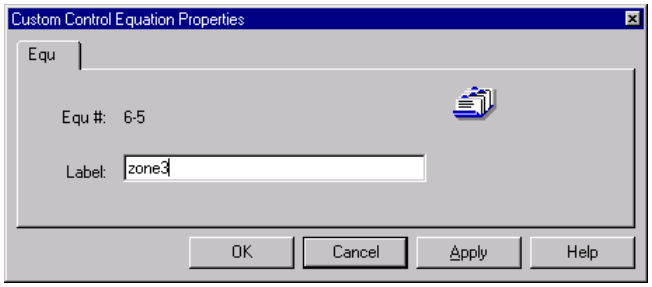
Step 1. Select User Program

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.



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



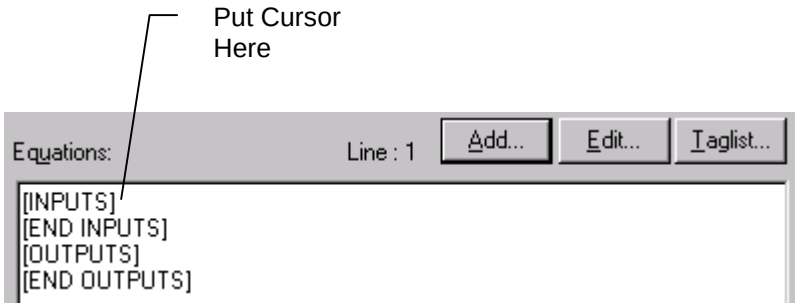
The Equations section of the Custom Control window updates to include the [INPUTS], [END INPUTS], etc entries.

Continued on next page

Step 2. Add Input Statements

The second step in creating a new Custom Control equation is to add input statements to the equation. Repeat the steps in this section until all input statements in the equation have been defined.

1. In the Equations box, position the cursor just to the right of [INPUTS].



2. Click on the Add button. The dialog shown in Figure 9-2 appears.

Figure 9-2. Select Input Opcode Dialog

3. Click on the drop down list box, select one of the Opcodes, and click the Next button.

4. The next dialogs displayed by the wizard depend on the Opcode you selected in Step 3.

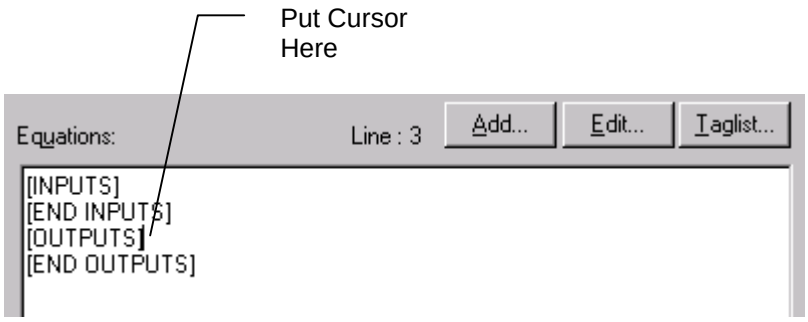
5. The Finish button becomes available when all dialogs related to the input opcode have appeared. Click it to finish defining the input statement.

Continued on next page

Step 3. Add Output Statements

The third step in creating a new Custom Control equation is to add output statements to the new equation. Repeat the steps in this section until all output statements in the equation have been defined.

1. In the Equations box, position the cursor just to the right of [OUTPUTS]



2. Click on the Add button. The dialog shown in Figure 9-3 appears.

Figure 9-3. 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.

Chapter 10
Programming TrueAlert Zones

Introduction

This chapter describes creating TrueAlert zones, which are groups of NAC devices attached to the panel via a 4009T TrueAlert NAC controller.

In this Chapter

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

Overview

TrueAlert Zone Description

Power, control, and supervision of TrueAlert devices (horns, strobes, or A/V combinations) occurs over a single pair of wires, referred to as a TrueAlert channel. The TrueAlert Zone tab provides a way to group TrueAlert NAC devices into zones, regardless of the channel on which they reside. Grouping TrueAlert devices allows you to do the following:

- Create logical groups of TrueAlert NACs for use within Custom Control equations. For example, when doing a "Floor Above/Floor Below" application within Custom Control, you might put the audibles and visuals for each floor in a separate TrueAlert zone. These zones can then be referenced by their point name (SIG908, for example) within a Custom Control equation.
- Assign a different point type to groups of similar devices. For example, you may have some audible devices (horns) that sound when an alarm occurs and others (bells) that should sound when a trouble occurs. To accomplish this type of functionality, you could create one group that includes all of the horns and has an RSIGNAL (on until reset) or SSIGNAL (on until silence) point type, and another group that contains the bells and is assigned a TSIGNAL (on until trouble acknowledged) point type.
- If selective signaling is used, SIG-901 (TrueAlert Zone 2) and SIG-903 (TrueAlert Zone 4) point types 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 10-1 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

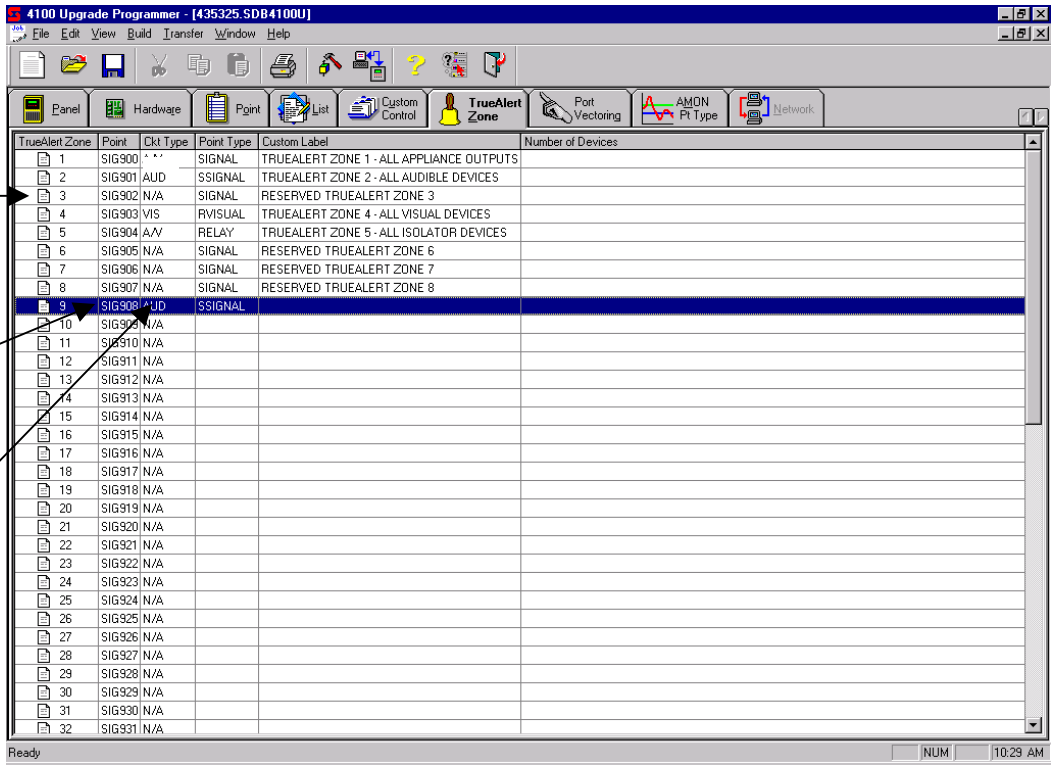


Figure 10-1. TrueAlert Zone Window

Creating and Editing TrueAlert Zones

Setting TrueAlert Zone Properties

Each TrueAlert Zone uses a property dialog similar to the one shown in Figure 10-2. 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.

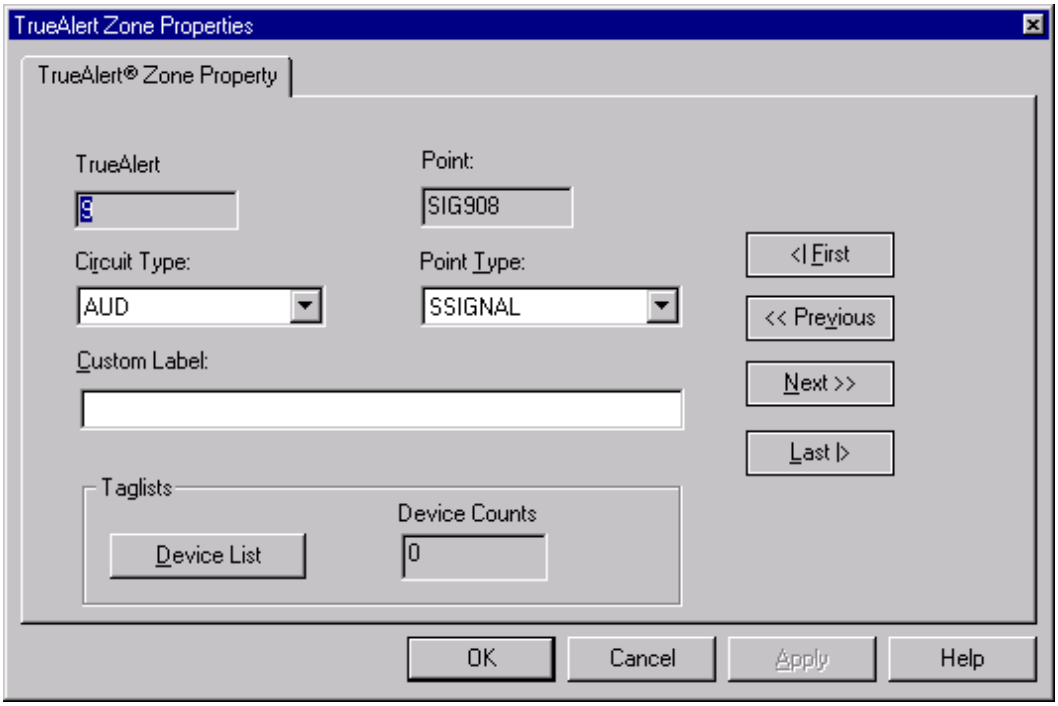


Figure 10-2. Setting Properties for a VNAC Group

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

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 (Figure 10-1) 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.

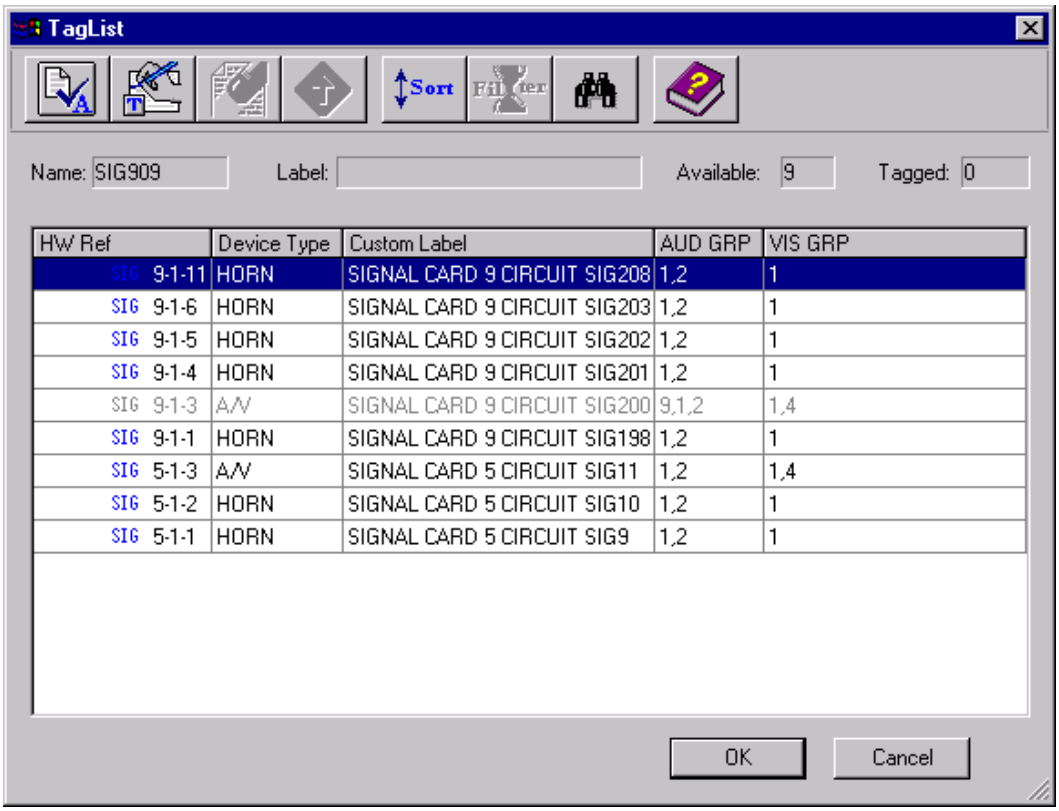


Figure 10-3. Taglist for TrueAlert Zone Devices

Chapter 11
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.

Selecting Event Groups

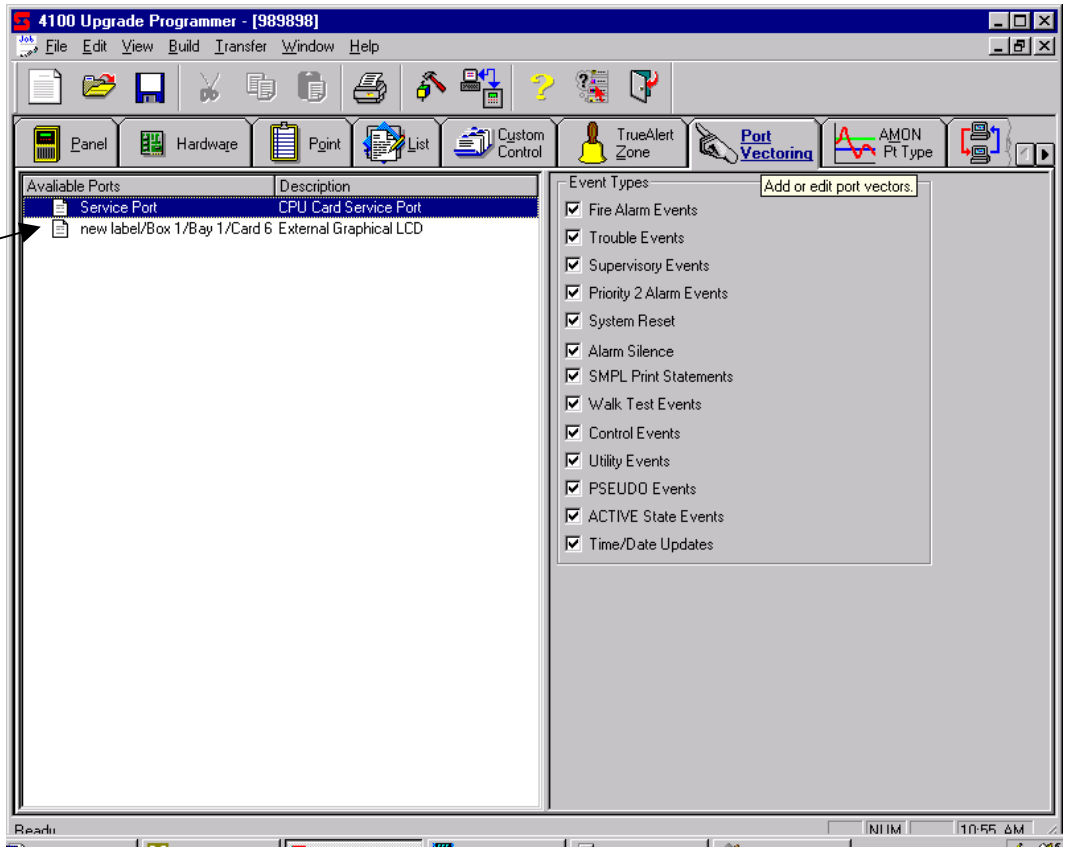
Choosing Event Groups to Route

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 11-1 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 11-1. Port Vectoring Window

Chapter 12
AMON Point Types

Introduction

This chapter describes creating custom point types (referred to as AMON point types) for use with analog monitor ZAMs. These point types allow descriptive text and device-specific settings to be associated with a point name.

In this Chapter

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

Adding or Editing an AMON Point Type

Overview

This tab shown in Figure 12-1 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).

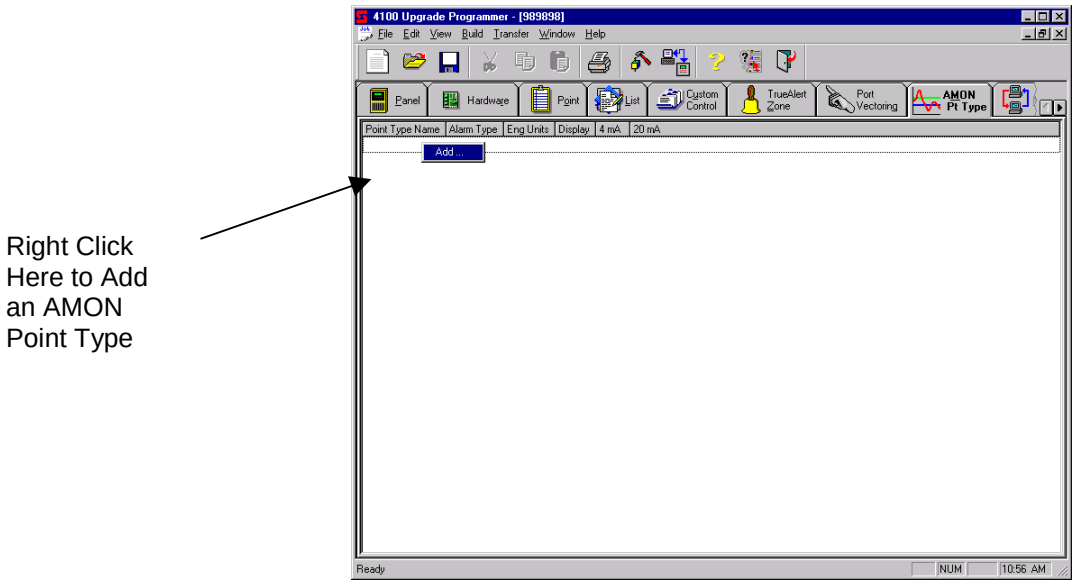


Figure 12-1. AMON Point Type Tab

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 12-2 appears.

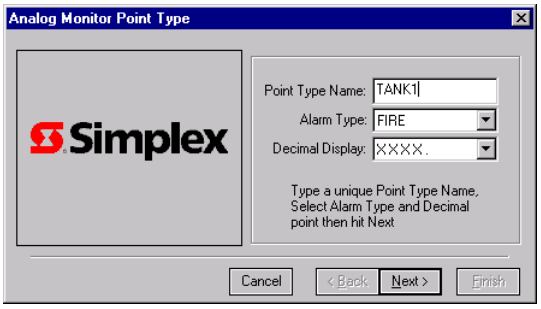


Figure 12-2. Initial AMON Point Type Dialog

Continued on next page

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.

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 12-3.

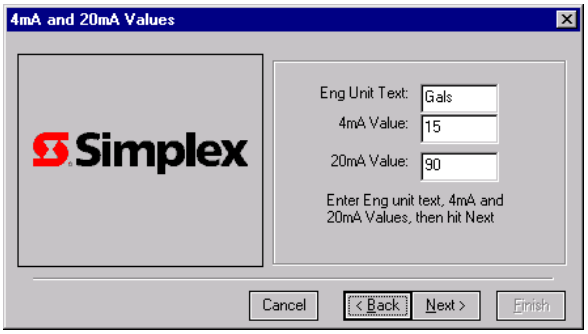


Figure 12-3. 4mA and 20 mA Values Dialog

Continued on next page

Adding a Point Type, (*continued*)

4. Enter data in the 4mA and 20mA Values dialog, as follows.

Field	Description
Eng Unit Text	The "unit" (ppm, gal, psi, etc.) text that appears on the front panel display when you display the current value of the device via the front panel. For example, if a monitor device with a monitoring capability of parts per million is attached to the ZAM, you might put **ppm** in this field.
4mA Value	This is the lowest value that the device reports. When the device is at this value, it draws 4mA of current from the ZAM.
20mA Value	This is the highest value that the device reports. When the device is at this value, it draws 20mA of current from the ZAM.

5. Click the Next button at the bottom of Figure 12-3 to continue. A dialog similar to the one shown in

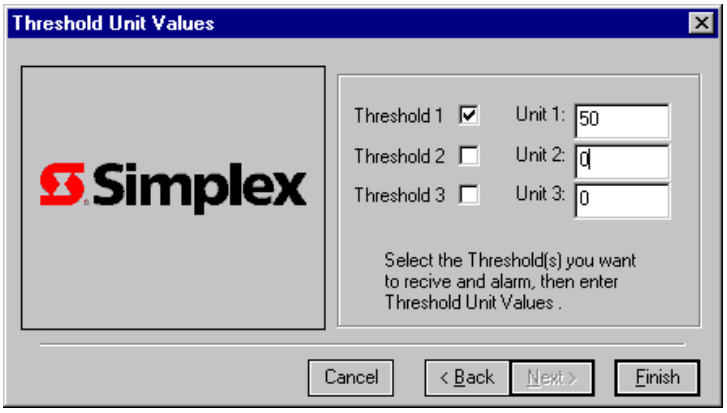


Figure 12-4. Threshold Unit Values Dialog

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 13
Adding or Editing Network Information

Introduction

This chapter describes the following network-related procedures.

- Defining the panel's Public and External points.
- Setting the Network Information fields for the panel.

In this Chapter

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

Overview

Role of the Network Programmer

Programming a network of 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 annunciate its status on the other node.

An ***external point*** is a point on another node. Declaring it to be an external point allows its status to be annunciated on this panel.

For example, when you want changes to the status of the panel's points to report to a central annunciator, such as a GCC, you would use the 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

4100U Programmer Network Tab

The Network Tab, shown in Figure 13-1, 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 13-1.

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

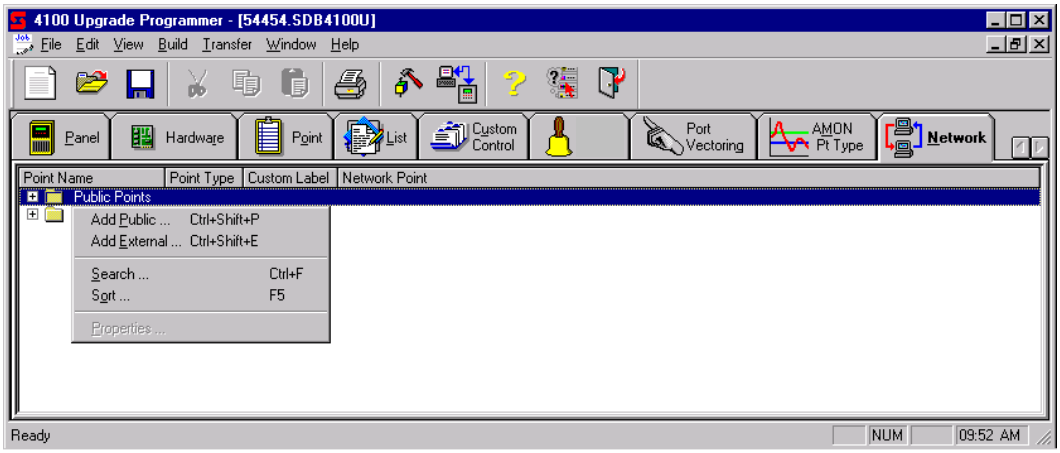


Figure 13-1. Network Tab

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 13-2

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

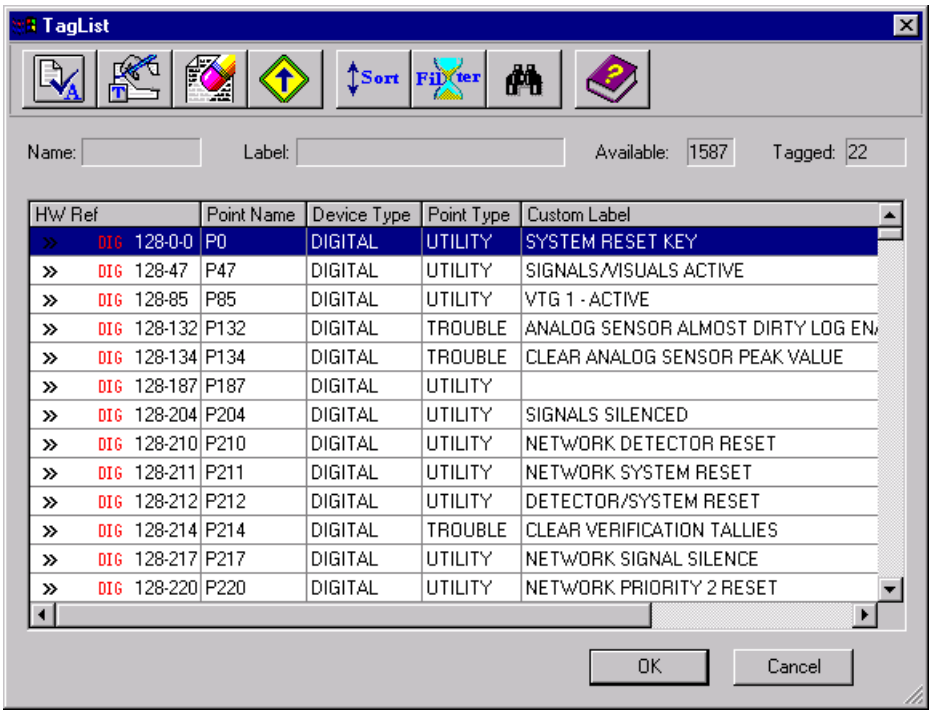


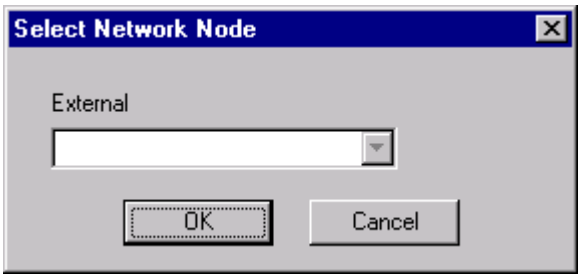
Figure 13-2. Public Points Tag List

Declaring External Points

Procedure

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

1. Right click on the External Points folder and select the **Edit Externals** choice. The dialog shown below appears. Click on the drop down list box and select the number of the node containing the points you want to declare external.



2. Click OK. The tag list shown in Figure 13-3 appears. This taglist contains all of the points that are currently declared public on the node selected in Step 1 above.

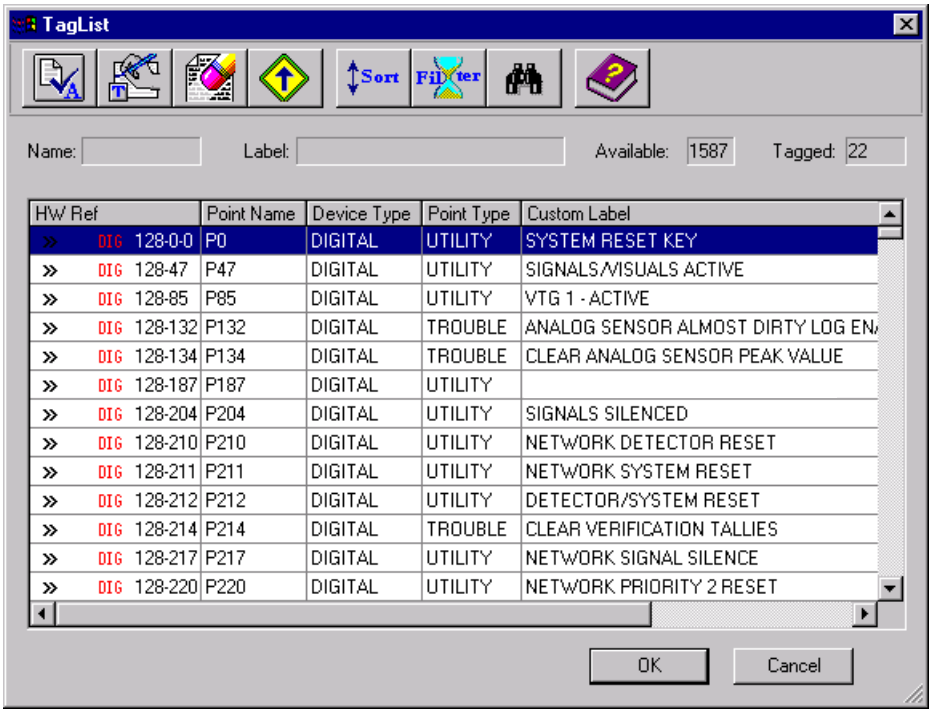


Figure 13-3. Tag List for Extenal Points

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 13-4.

2. Click on the Network Information subtab on the bottom right of the window.

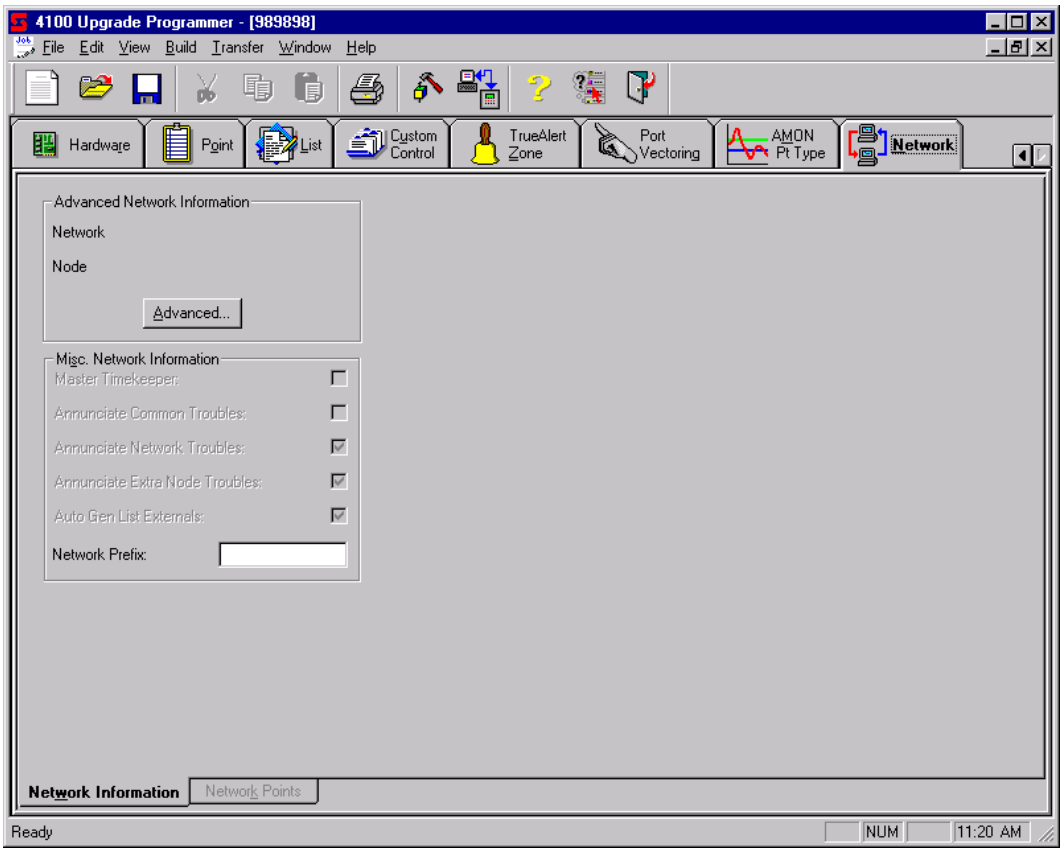


Figure 13-4. Network Tab, Showing Network Information

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

	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.
	Annunciated Common Troubles	Select if you wish to have other panel's common trouble messages annunciated on this panel.
	Annunciate Extra Node Troubles	The Annunciate Extra Node Option prevents a node from annunciating an Extra Node Trouble following the addition of a new node. Guidelines for setting this option are as follows: • Set this option to No on nodes without a need to annunciate events from the new node. • Set this option to Yes on the node that functions as the network's central annunciator.
	Annunciate Network Troubles	Select if you wish to have this panel's Network messages sent to the system's annunciators.
	Auto Gen List Externals	When selected, this option adds the external points from other nodes to the system lists on this node. When it does this, it adds the points to the list based on the point type of the point.
	Network Prefix	Enter descriptive text in this field. This text appears when the more info. field is selected on a GCC.

Programming Network Alarm Silence

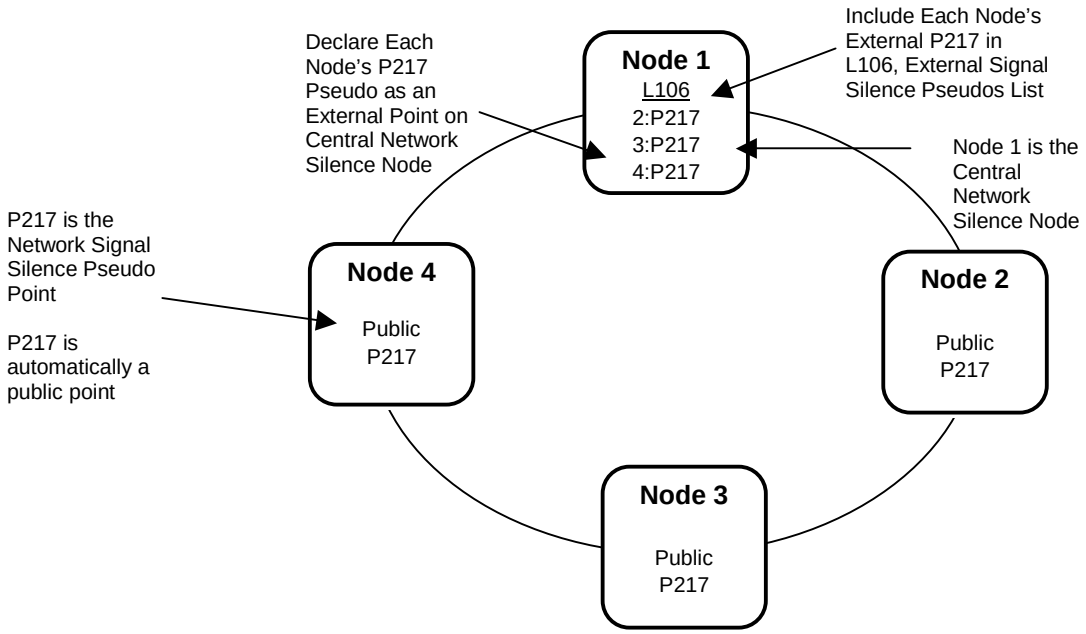
Introduction

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 a 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.

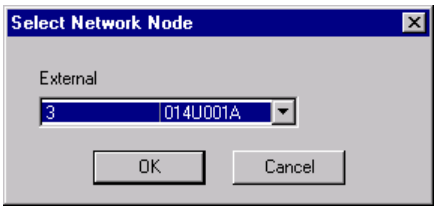


Follow these steps to program Central Network Silence.

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 Central Network Silence, (*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 **P217 Network Signal Silence** and press the space bar to select the point. Click OK to close the taglist.

5. Repeat Steps 3 and 4 for every node on the network.

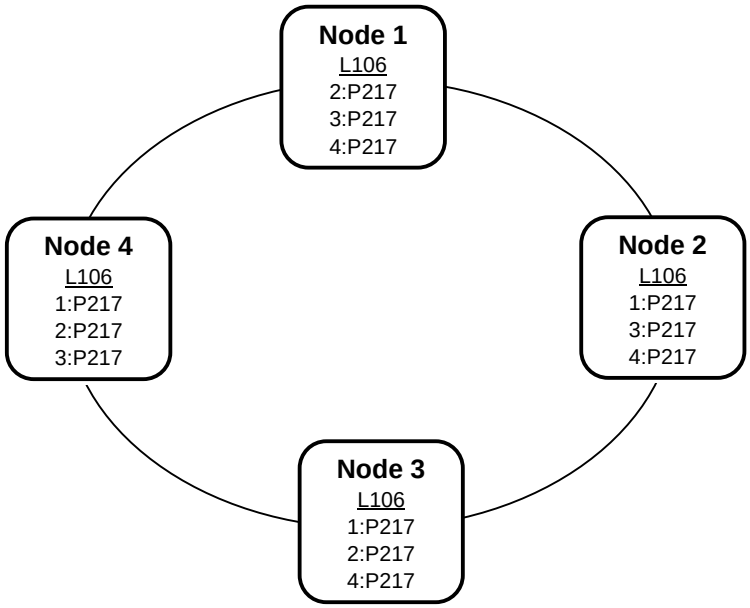
6. Click on the List Tab at the top of the programmer. When the List Window appears, click on the General List subtab at the bottom of the window. Scroll through the list, right click on **L106 – External Alarm Silence Points** and select **Tag List**.

7. Click on the **Filter** icon at the top of the Tag List. When the list of choices appears, click on the **Network Externals** check box. All of the External Points appear.

8. Click on each entry for **P217 – Network Signal Silence** (each node on the network should have an entry) and press the space bar to add the entry to L106.

Distributed Network Silence

This setup allows a Network Silence to be initiated from any node on the network. The figure below provides an overview of Distributed Network Silence. In this figure, each node's P217 pseudo has been declared external on the other nodes and L106 on each node has been edited to include the external points.



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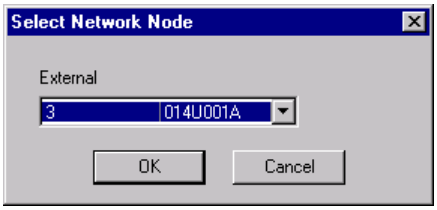
Distributed Network Silence, (*continued*)

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.



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.

6. Click on the List Tab at the top of the programmer. When the List Window appears, click on the General List subtab at the bottom of the window. Scroll through the list, right click on **L106 – External Alarm Silence Points** and select **Tag List**.

7. Click on the **Filter** icon at the top of the Tag List. When the list of choices appears, click on the **Network Externals** check box. All of the External Points appear.

8. Click on every entry for **P217 – Network Signal Silence** and press the space bar to add the entry to L106.

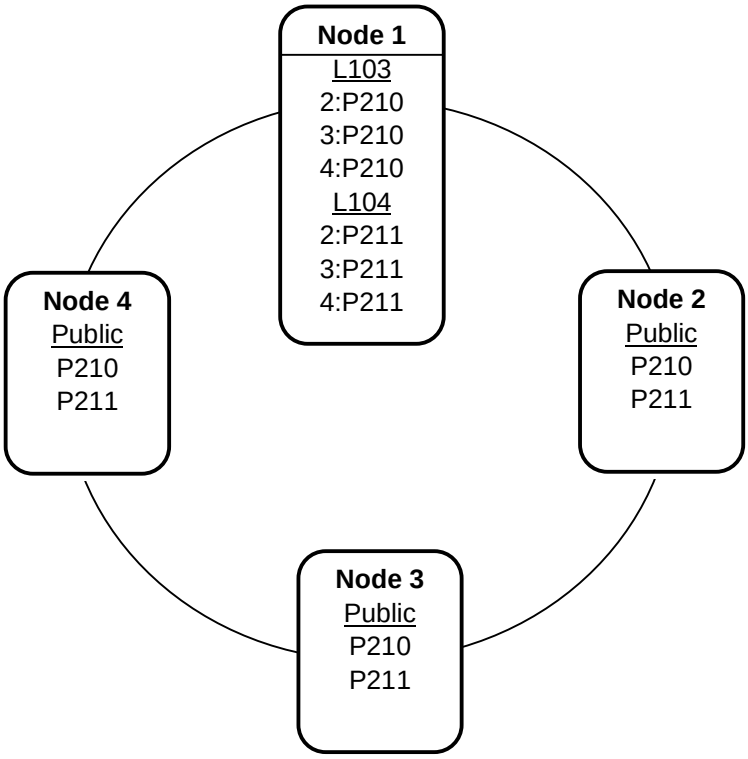
9. Repeat Steps 3 through 8 for every node on the network.

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.

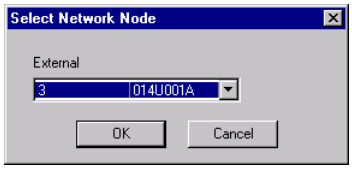
- This application performs separate internal Detector Reset and System Reset.
- All General Alarm Points are being monitored and SMPL-controlled by the Central Node.
- System Points involved:
  - P210 Network Detector Reset/L103 External Detector Reset Points.
  - P211 Network System Reset/L104 External Control Reset Points



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 similar to the following appears. Click on the drop down list box and choose one of the nodes on the network.



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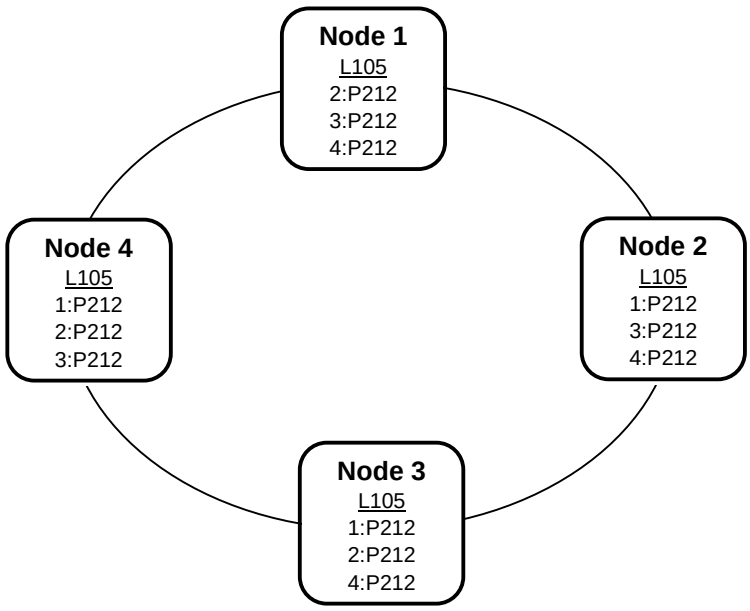
Central Network Reset, (*continued*)

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.



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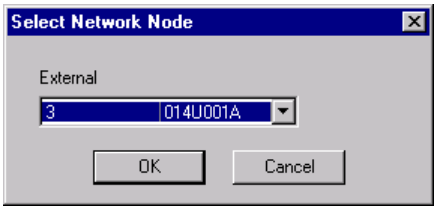
Distributed Network Reset, (*continued*)

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.



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.

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 **L105** 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 every entry for **P212** and press the space bar to add the entry to L106.

9. Repeat Steps 3 through 8 for every node on the network.

Chapter 14
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.

Building a Job

Overview

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

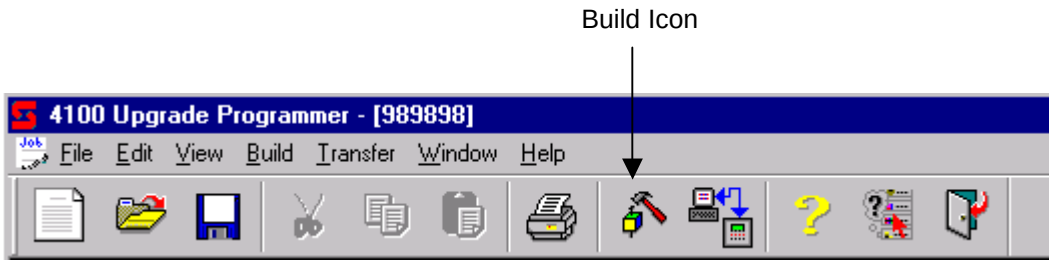
If errors are detected by the build operation, they are flagged and the build operation aborts. These errors must be resolved before the build can be performed and the CFIG can be created. Contact Simplex Service Support for help in resolving build errors.

Procedure

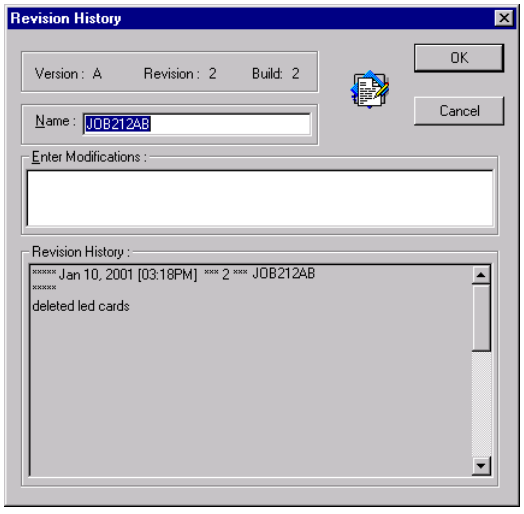
1. Start the programmer and open the job that you want to build. Refer to Chapter 3 for information on opening an existing job if necessary.

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.



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.



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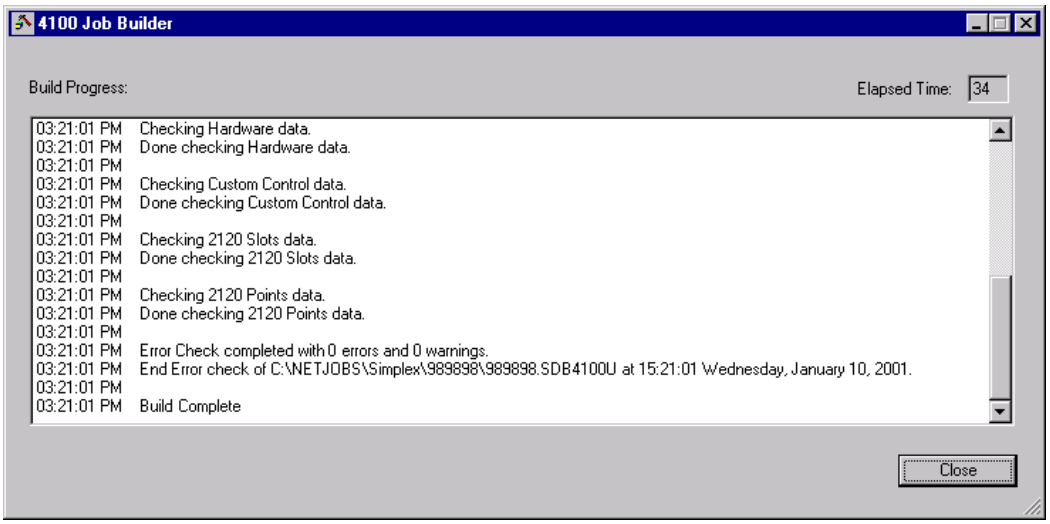
Procedure, (*continued*)

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



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

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.
  - Expansion Power Supply (XPS).
  - Remote Power Supply (RPS).
  - Transponder Interface Card (TIC).
- **CPU Bootloader Files.** The CPU Bootloader files allow a blank panel (neither file is loaded) or a corrupt system (bad CFIG) to be restored to normal operation. Note that for a blank panel, you need to download both of the files listed below.
  - **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.

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

File Type	Supported Connection Types	See these Sections in this Chapter
CFIG (*cfig_filename*.cfg)	Direct Connection Network Connection Modem to Remote Panel	1. See "Starting the Transfer Utility". 2. See "Connecting PC to Panel" 3. See "Downloading CFIG (.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 • Panel Exec • CFIG Text File (*cfig_filename.*txt)	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 14-1, 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 (in the example below this is **4100U Ver 10.00.31**. A list of options appears. Click on **File Transfer.**

In both cases, the File Transfer Utility, shown in Figure 14-1, appears.

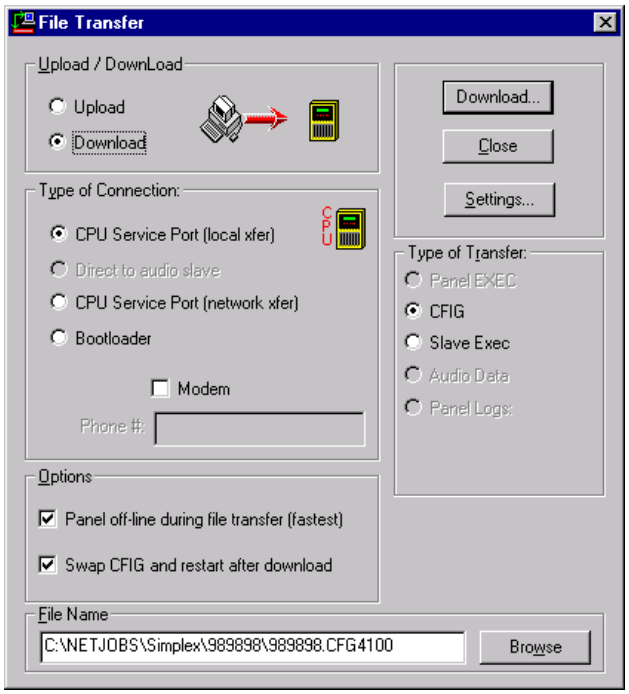


Figure 14-1. File Transfer Utility

Setting Serial Communication Parameter Settings

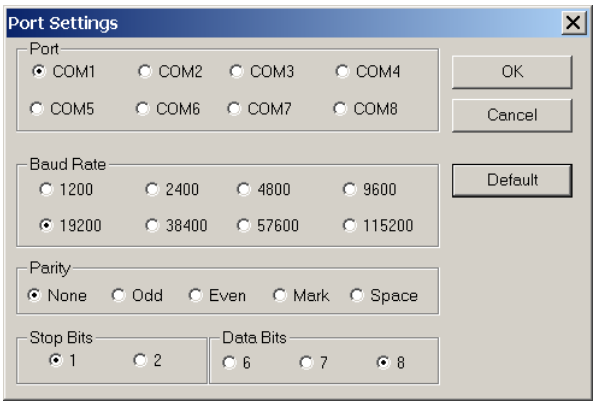
The serial communication parameters allow you to set the port, baud rate, parity, and stop bits used by the PC when communicating with the panel. In most cases (see note below), **it is recommended that you use the default settings for these parameters.**

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 (Figure 14-1), 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

Setting Serial Communication Parameter Settings, (*continued*)



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 14-3 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.

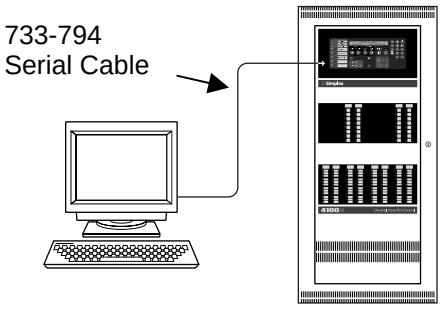


Figure 14-2. Direct Connection to a Panel

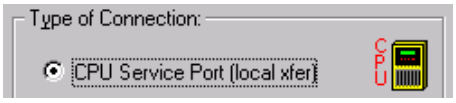
Follow these steps to connect the 733-794 serial cable between the PC and the panel.

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 14-3. 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.



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Network Connection

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

1. Connect the service PC to the Service Port of a node on the network. Follow these steps to connect the 733-794 serial cable between the PC and the panel.
   a. Locate the PC within 6 feet of the 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 14-3 for the location of this port.)

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

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.

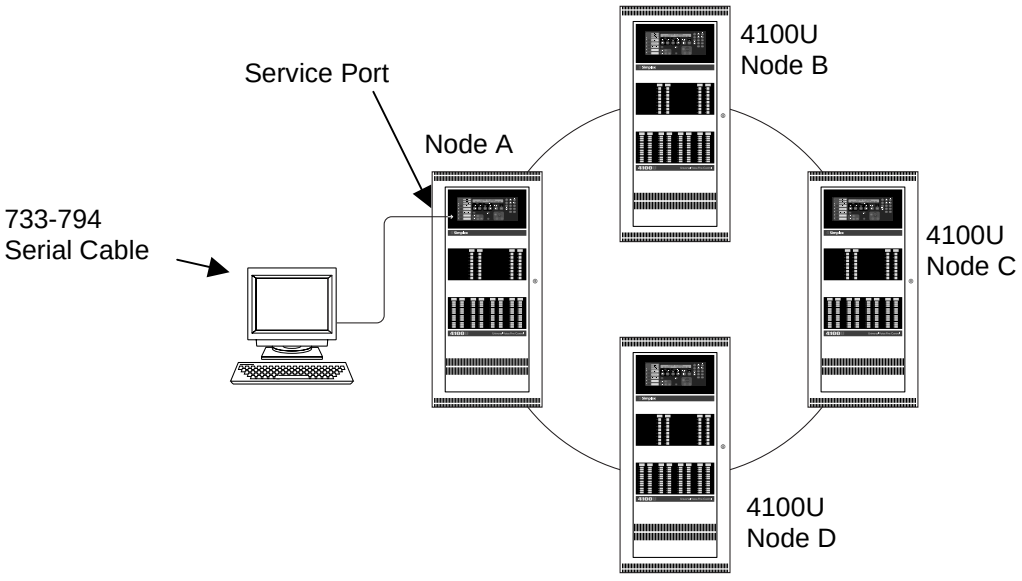

Figure 14-4. Network Connection to a Panel

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Modem Connection to Remote Panel

A modem connection can be used to download a CFIG 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.

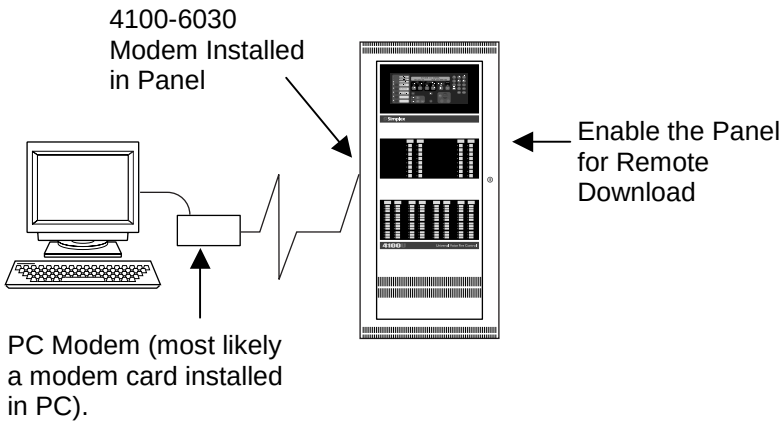
2. **Install and configure a 4100-6030 Service Modem in the Remote Panel.** Refer to 579-194 for information on installing the 4100-6030 modem.

3. **Enable the Remote Panel for Remote Download.** To do this, follow these steps at the remote panel.

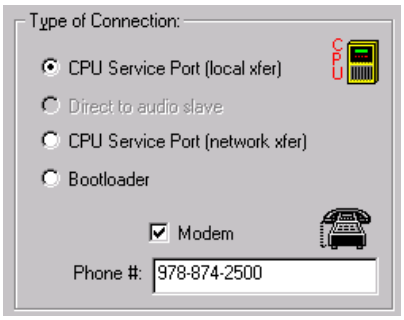
   a. Login to the panel at Level 4.

   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.



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.



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.

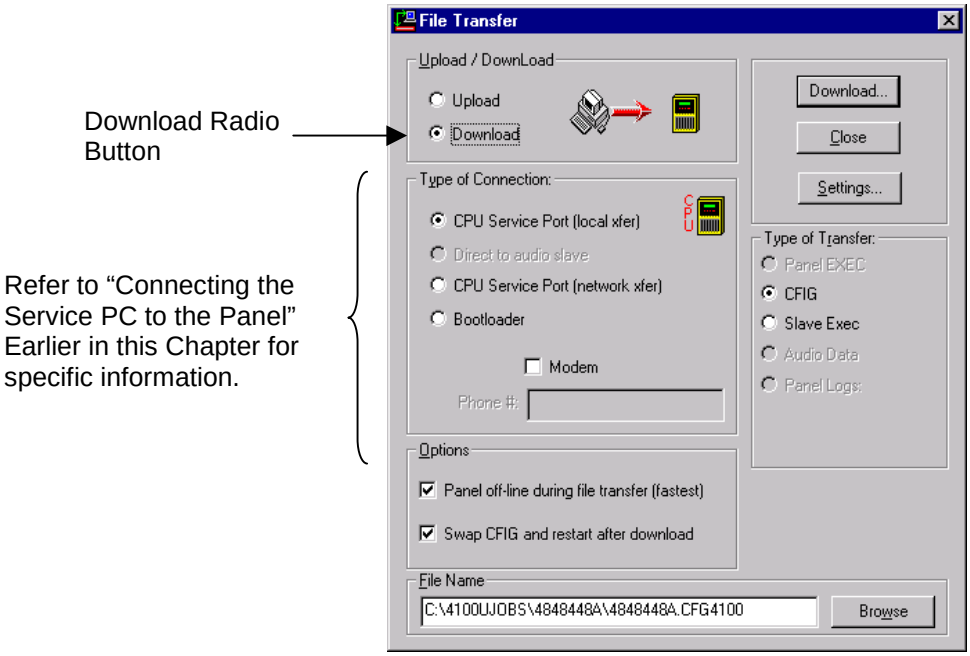


Figure 14-5. Downloading a CFIG File

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.
6. Click the Browse button and use the standard Windows dialog to open the folder containing the built job file (.CFG). When the folder containing the CFIG is open, click on the filename and click Open to select the file and close the dialog box.
7. Click the Download button. The dialog shown in Figure 14-6 appears.

Continued on next page

Procedure -- Downloading a CFIG File, (*continued*)

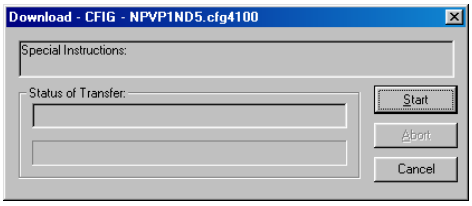


Figure 14-6. Download Start Dialog

8. 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.

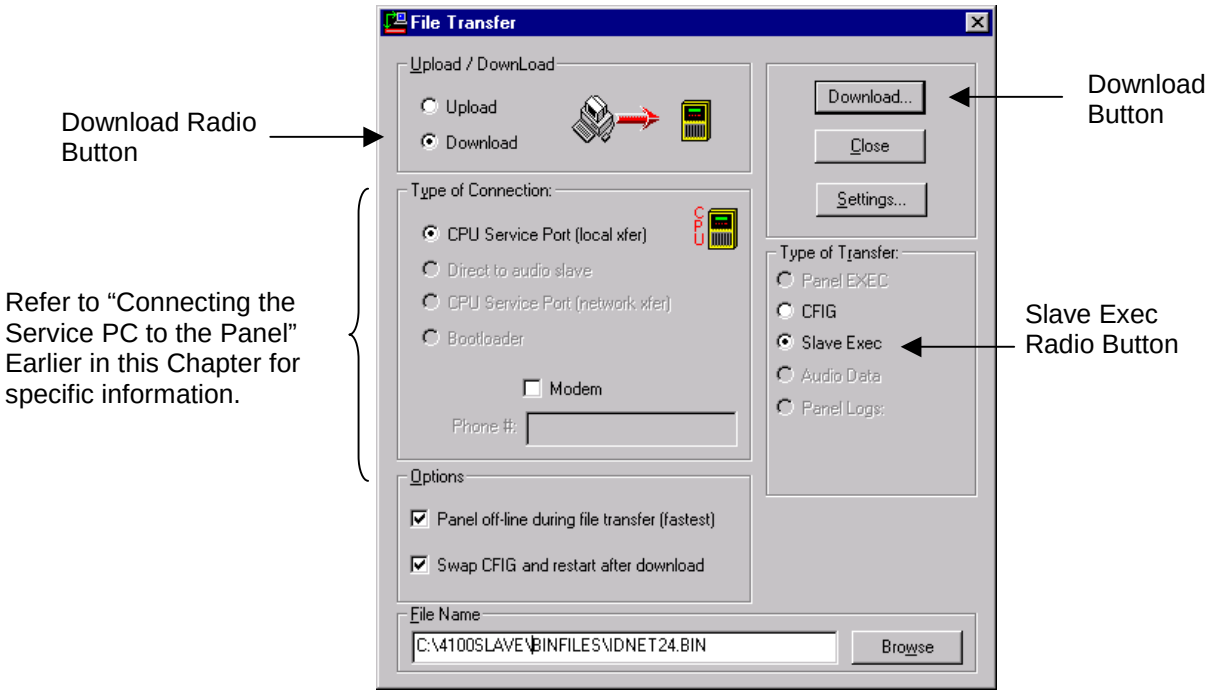


Figure 14-7. Downloading a Slave Exec File

3. Click on the Slave Exec radio button.
4. Click the Download button, located on the right side of the dialog. The Slave Exec Download screen, shown in Figure 14-8, appears.

Continued on next page

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

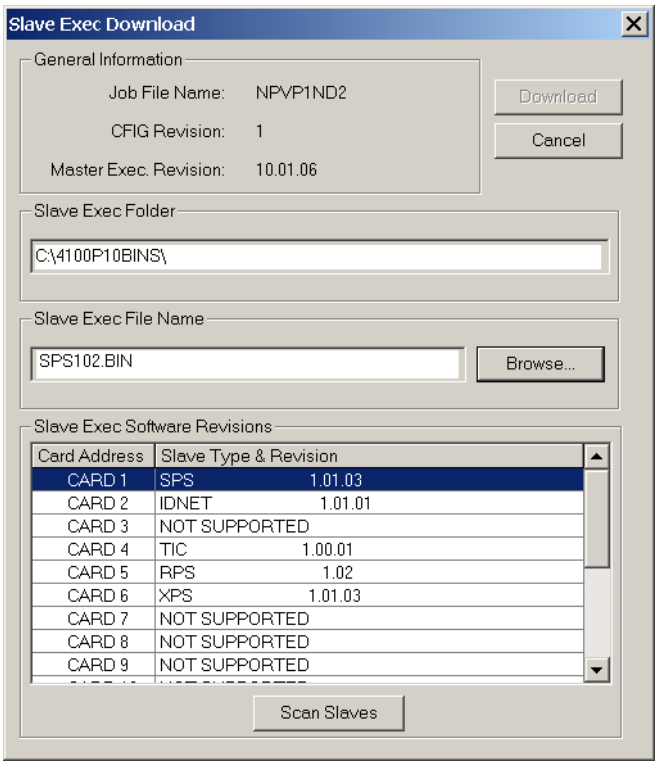


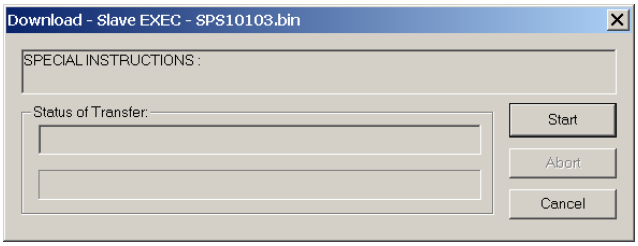
Figure 14-8. Slave Exec Download Dialog

5. Click the Browse button and use the standard Windows dialog to open the folder containing the Slave Exec BIN file. 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 box.

6. Click the Scan Slaves button, located at the bottom of the dialog. The programmer communicates with the panel to determine which slaves are present on the panel and then displays a list of the card addresses, followed by the slave type and revision of the bin file currently downloaded to the slave. In this list, “non-intelligent” card modules are listed as NOT SUPPORTED, empty card slots are listed as NOT AVAILABLE.

6. Click on the card address of the slave whose BIN file you want to download.

7. Click on the Download button. The system displays a Start dialog similar to the following.



8. Click the Start button to begin the download. The panel LCD displays messages describing the progress of the download operation.

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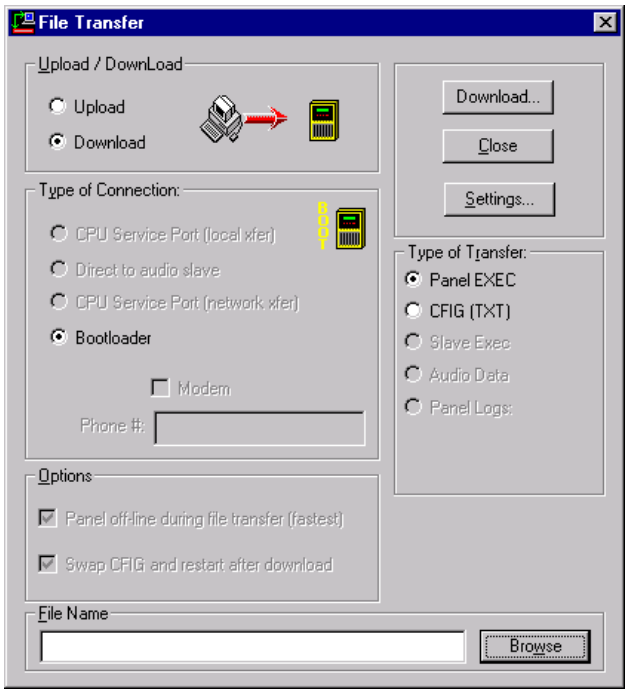
Downloading Bootloader Files

The CPU Bootloader files (Panel Master and the CFIG .TXT file) allow a blank panel or a corrupt system to be restored to normal operation. Unless otherwise directed by Technical Services, these are typically the only situations in which these files should be downloaded to the panel.

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.



3. Click the Browse button and use the standard Windows dialog to open the folder containing the master or CFIG .TXT file that you want to download. When the folder containing the file is open, first click on the filename and then click Open to select the file and close the dialog box. The name of the file appears in the File Name field of the File Transfer Utility.
4. Click the Download button. The system displays a Start dialog similar to the following.

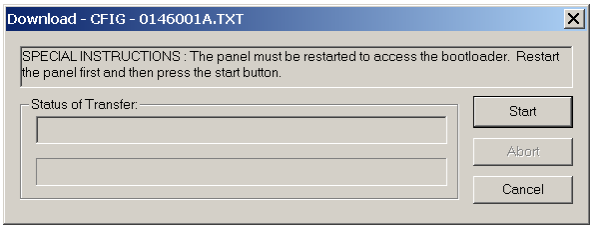


Figure 14-9. Download Dialog for Bootloader Files

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Downloading Bootloader Files, (*continued*)

5. Press the Warm Start button, located on the CPU Motherboard, and then immediately press the Start button in the Download dialog shown in Figure 14-9. 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.

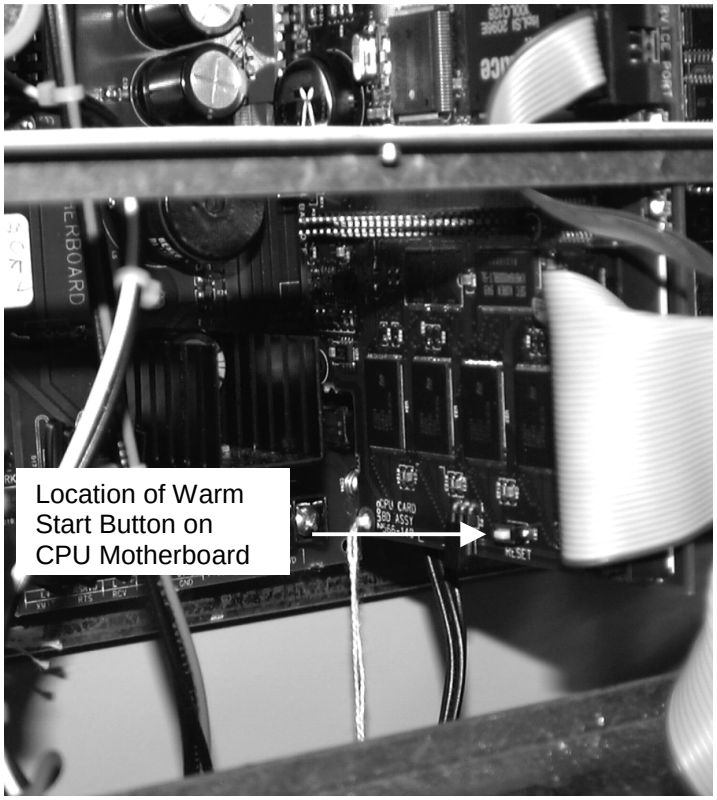

Figure 14-10. Location of Warm Start Button

Appendix A
Software Point Types

Introduction

The software point type that you choose for a point controls the following:

- The message displayed on the front panel display when the point activates.
- The system list to which the point is automatically assigned. (Generic point types such as RELAY and SIG are the exceptions to this rule. Generic points do not have any automatic operation and are the point types used for custom control.)
- The way in which the system responds when changes occur to the state of the point. For example, assigning a point type of SSIG causes the Signal or Notification Appliance point to activate when an input device (smoke detector, pull station) enters the alarm state and to turn off when the alarm is silenced. Contrast this to the TSIG point type. TSIG causes the Signal or Notification Appliance point to activate only when a trouble or supervisory condition occurs on an input point and to turn off when the trouble or supervisory condition clears.

In this Chapter

This appendix discusses the following topics:

Device Type and Point Types for IDNet/MAPNET

Monitor Device Types	Point Type (Default)	Available Point Types
4WZAM – MAPNET Only	SMOKE	DUCT, FIRE, GVMON, SDUCT, SMOKE, VSMOKE
ADRDET -- MAPNET Only	SMOKE	DUCT, GVMON, HEAT, SDUCT, SMOKE, VSMOKE
ADRPUL -- MAPNET and IDNet	PULL	N/A
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
IAM – IDNet only	FIRE	ABORT, DAMPER, DUCT, EMERG, FIRE, FLAME, FPUMP, GENFS, GENMON, GVMON, HEAT, LATSUPV, PULL, S2STAGE, SC, SDUCT, SFIRE, SFPUMP, SGENMON, SMOKE, SO, SPULL, STYLEC, SUPERV, TDAMPER, TROUBLE, UTILITY, VSFIRE, VSPULL, WATER, WSC, WSO
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, SC, SDUCT, SFIRE, SFPUMP, SGENMON, SMOKE, SO, SPULL, STYLEC, SUPERV, TDAMPER, TROUBLE, UTILITY, VSFIRE, VSMOKE, VSPULL, WATER, WSC, WSO
MAZAM – -- MAPNET Only	FIRE	ABORT, DAMPER, DUCT, FIRE, FLAME, GVMON, HEAT, LATSUPV, PULL, SDUCT, SMOKE, SO, SUPERV, TROUBLE, UTILITY, VSMOKE, WATER
MBZAM – IDNET	GENFS	ABORT, DAMPER, DUCT, EMERG, FIRE, FLAME, FPUMP, GENFS, GENMON, GENPRI2, GVMON, HEAT, LATSUPV, MPRI2, PULL, S2STAGE, SC, SDUCT, SFIRE, SFPUMP, SGENMON, SMALARM, SMBREAK, SMDOOR, SMMOT, SMOKE, SMWIND, SO, SPULL, STYLEC, SUPERV, TDAMPER, TROUBLE, UTILITY, VSFIRE, VSMOKE, VSPULL, WATER, WSC, WSO

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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
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, 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

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
PHOTO – IDNet and MAPNET	SMOKE	DUCT, GVMON, SDUCT, SMOKE, UTILITY, VSMOKE
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
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
TION – IDNet and MAPNET	SMOKE	GVMON, SMOKE, UTILITY, VSMOKE
TPHOTO – IDNet and MAPNET	SMOKE	DUCT, GVMON, SDUCT, SMOKE, UTILITY, VSMOKE
UHEAT – IDNet and MAPNET	UTILITY	N/A
XIPHOTO – IDNet Only	SMOKE	DUCT, GVMON, SDUCT, SMOKE, UTILITY, VSMOKE
XPHOTO – IDNet and MAPNET	SMOKE	DUCT, GVMON, SDUCT, SMOKE, UTILITY, VSMOKE
XRPHOTO – IDNet and MAPNET	SMOKE	DUCT, GVMON, SDUCT, SMOKE, UTILITY, VSMOKE
XSPHOTO – IDNet and MAPNET	SMOKE	DUCT, GVMON, SDUCT, SMOKE, UTILITY, VSMOKE
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, RSIGNAL, RVISUAL, RWATER, SHAFT, SRELAY, SSIGNAL, SUPERV, SVISUAL, SWATER, TRELAY
NULMON	FIRE	ABORT, DAMPER, DUCT, FIRE, FLAME, GVMON, HEAT, LATSUPV, PULL, SDUCT, SMOKE, SO, SUPERV, TROUBLE, UTILITY, VSMOKE, WATER

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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

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

Continued on next page

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

XPS AUX Relay	Point Type (Default)	Available Point Types
AUXPWR	AUXPWR	AUXPWR, CODED, RELAY

SPS OR RPS AUX Relay	Point Type (Default)	Available Point Types
AUXPWR	AUXPWR	AUXPWR, CODED, RELAY
RELAY	RELAY	AHUF, AHUO, AHUR, ALTERN, BRELAY, CDAMPER, CEXHAUS, CODED, CPRESS, DHOLDER, DRESET, PRIMARY, RELAY, RRELAY, RSIGNAL, RVISUAL, RWATER, SHAFT, SRELAY, SSIGNAL, SUPERV, SVISUAL, SWATER, TRELAY

4100-3001/3002/3003 Relay	Point Type (Default)	Available Point Types
RELAY	RELAY	AHUF, AHUO, AHUR, ALTERN, BRELAY, CDAMPER, CEXHAUS, CODED, CPRESS, DHOLDER, DRESET, PRIMARY, RELAY, RRELAY, RSIGNAL, RVISUAL, RWATER, SHAFT, SRELAY, SSIGNAL, SUPERV, SVISUAL, SWATER, TRELAY

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

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.		

Continued on next page

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 SHORT CKT 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.		

Continued on next page

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.		

Continued on next page

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 Detectorr		
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 SHORT CKT 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

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

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

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

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

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:		

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:			

Continued on next page

Monitor Point Types, *Continued*

GENFS

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:		

S3SMOKE

Three Stage Smoke Detector		
Circuit Status	**LCD Readout**	**LED**
Normal	SMOKE DETECTOR NORMAL	
Abnormal	SMOKE DETECTOR ALARM	F
Disabled tbl	SMOKE DETECTOR DISABLE TROUBLE	T
Description:		

SUTIL

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:		

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

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

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

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:		

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		

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

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

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

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

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.		

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

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

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.		

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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

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 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.		

DIGITAL PSEUDO POINT TYPES

UTILITY

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

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:		

ANALOG PSEUDO POINT TYPES

TIMER

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:		

Appendix B
LED/Switch Modes

Introduction

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

In this Chapter

This appendix discusses the following topics:

Switch Modes

Table B-1. Switch Modes

Mode	Description
AS	ACK/Silence Switch. This mode requires no reference address. A switch with this mode functions in the following manner. UP/Down: Perform Signal Silence/Alarm Acknowledgement CTR: No operation
DE	Allows you to change the enable/disable state of the referenced point. A switch with this mode functions in the following manner. UP: Disable CTR: No Operation Down: Enable
DISARM	Disarm/Arm. Allows you to arm or disarm a security device. A switch with this mode functions in the following manner. UP: Disarm CTR: No Operation Down: Arm
HOA1	Single Relay HOA Switch. Allows you to control the state of the referenced point. A switch with this mode functions in the following manner. Use this mode with older switch modules. UP: ON CTR: Automatic Operation Down: OFF Up turns the reference point on and generates a manual override trouble. Down turns the referenced point off and generates a manual override trouble. The center position returns the referenced point to automatic operation.
HOA1AUTO HOA1ON HOA1OFF	These modes are used with the newer switch modules. Implementing this mode on a newer switch module requires three adjacent switches. Switch 1.Turns on the referenced point and generates a manual override trouble. Switch 2.Automatic operation. Switch 3.Turns off the reference point and generates a manual override trouble.

Continued on next page

Switch Modes, *Continued*

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.

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.

Continued on next page

Switch Modes, *Continued*

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.

LED Modes

Table B-2. LED Modes

Mode	Meaning
ABALERT	An LED with this mode has four states: • Slow. Reference point has a current limited condition and requires acknowledgement. • On. Reference point with current limited condition has been acknowledged. • Fast. Reference point has cleared, current-limited condition requiring ackwledgement. • Off. Reference point is in a normal state.
ABNORM	LED illuminates when the state of the referenced control point is in an abnormal state.
ALL	LED illuminates when all of the points associated with the reference point are on. This is typically for use with a list of points.
COFF	LED illuminates when the state of the referenced control point is off.
CON	LED illuminates when the state of the referenced control point is on.
DISABLE	LED illuminates when the state of the REF ADDR (point) is DISABLED.
DISARMD	LED illuminates when the state of the referenced point is disarmed.
FIRE	LED illuminates when the state of the REF ADDR (point) goes into ALARM
HOA2T	An LED with this mode has four states: • Slow. One or both points are in a trouble state and require acknowledgement. • On. At least one point has been acknowledged. • Fast. One or both points are in a cleared state and require acknowledgement. • Off. Both points are in a normal state.
LED	LED tracks the state of another LED (which is the reference point). The LED illuminates when the other LED (ref. Point) is on and goes off when the other LED is off.
LF	LED illuminates when the ALARM ACK button on the panel is pushed.
LL	LED illuminates when a local alert with acknowledge occurs.
LO	LED illuminates when a manual override occurs.
LP2	LED illuminates when a Priority 2 acknowledge occurs.
LS	LED illuminates when the SUPV ACK button on the panel is pushed.
LT	LED illuminates when the TROUBLE ACK button on the panel is pushed.

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: • Slow. A point with a Primary/On state requires acknowledgement. • On. Point with Primary/On state has been acknowledged. • Fast. Cleared, Primary/On state requires acknowledgement. • Off. Point in a normal state.
PIEZO	Piezo driver output.
PRI2ALM	LED illuminates when a priority 2 alarm occurs.
SALERT	An LED with this mode has four states: • Slow. A point with a supervisory condition requires acknowledgement. • On. Point with supervisory has been acknowledged. • Fast. Cleared, supervisory requires acknowledgement. • Off. Point in a normal state.
SHALERT	An LED with this mode has four states: • Slow. A point with a short requires acknowledgement. • On. Point with short has been acknowledged. • Fast. Cleared, short state requires acknowledgement. • Off. Point in a normal state.
SHORT	LED illuminates when the referenced point is in a short state.
SMPL	LED illuminates when the state of a Custom Control equation(s) is TRUE.
SUPERV	An LED with this mode has four states: • Slow. A point with a supervisory condition requires acknowledgement. • On. Point with supervisory has been acknowledged. • Fast. Cleared, supervisory requires acknowledgement. • Off. Point in a normal state.
TRISTAT	LED illuminates when the point is in an abnormal/current limited state.
TROUBLE	An LED with this mode has four states: • Slow. A point with a trouble condition requires acknowledgement. • On. Point with trouble has been acknowledged. • Fast. Cleared, trouble requires acknowledgement. • Off. Point in a normal state.

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 supervisories and illuminates the adjacent LED. The LED turns off when a system reset is performed.
SR	System Reset. The up or down position of the switch performs a system reset. The adjacent LED illuminates for the duration of the reset.
SS	System Silence. The up or down position of the switch performs a system silence and illuminates the adjacent LED. The LED turns off when a system reset is performed.
TACK	Trouble Acknowledge. The up or down position of the switch acknowledges troubles and illuminates the adjacent LED. The LED turns off when a system reset is performed.

Appendix C
ULC Programming Requirements (Canadian)

Introduction

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

In this Chapter

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

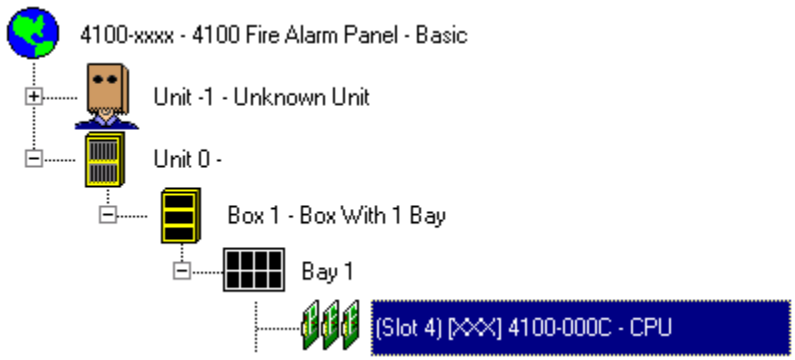
Common Earth Fault Ground Indicator

Overview

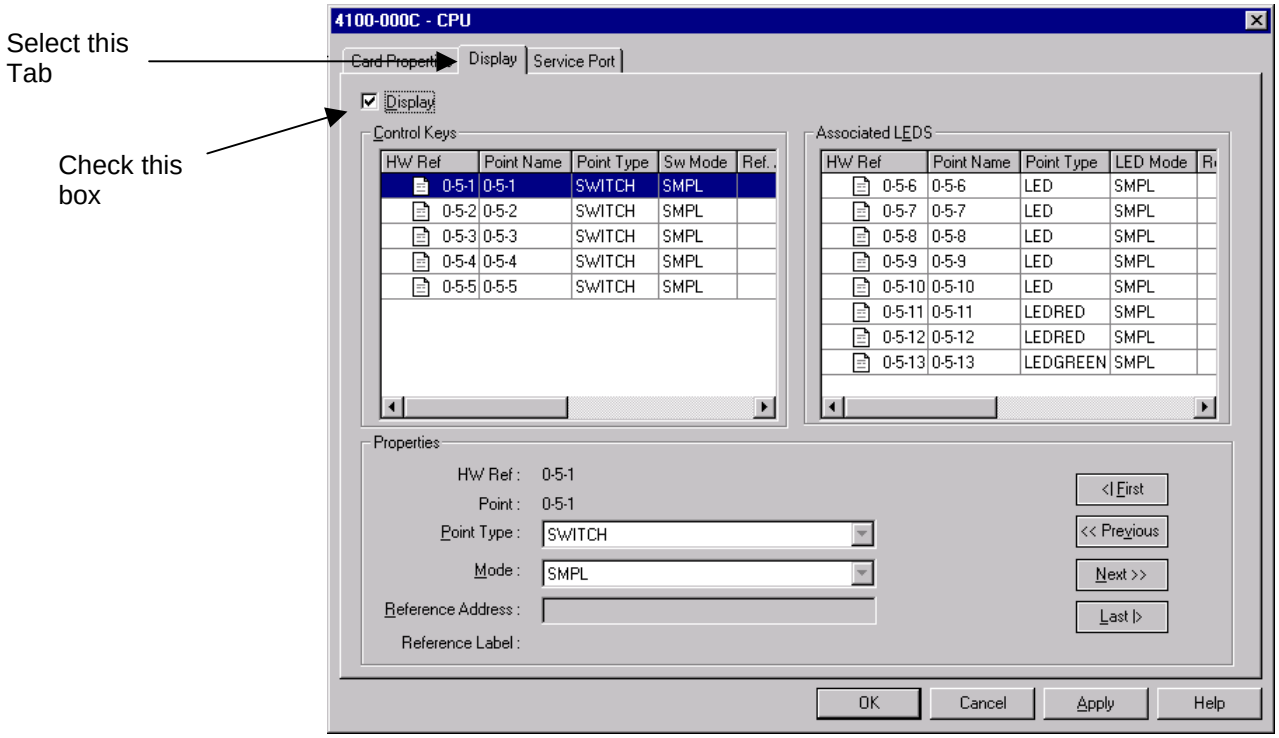
This application monitors a system pseudo (A112) that counts the number of ground faults that occur on the system. Each time this counter increments (i.e., a ground fault occurs), a yellow LED on the operator interface panel illuminates.

Step 1. Open CPU Card Properties Dialog

1. Click on the Hardware Tab and expand the Unit 0, Box 1, Bay 1 icons to display the CPU Card, as shown below. (Click on the + signs to the left of the Unit 0, Box 1, and Bay 1 icons to expand them.)



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.



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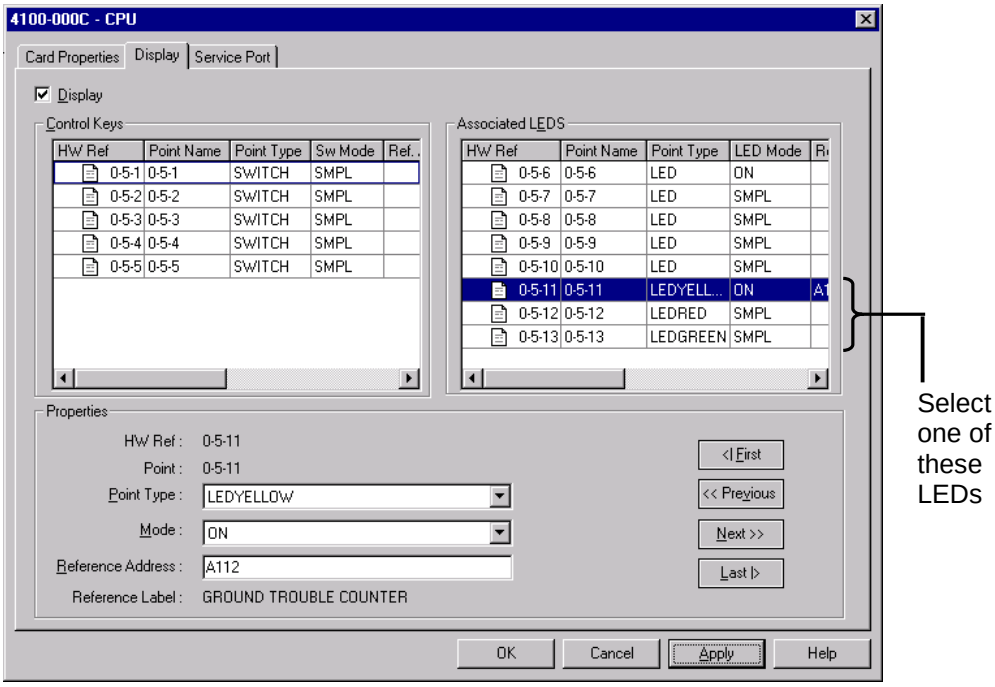
Step 2. Program the LED

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.



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:

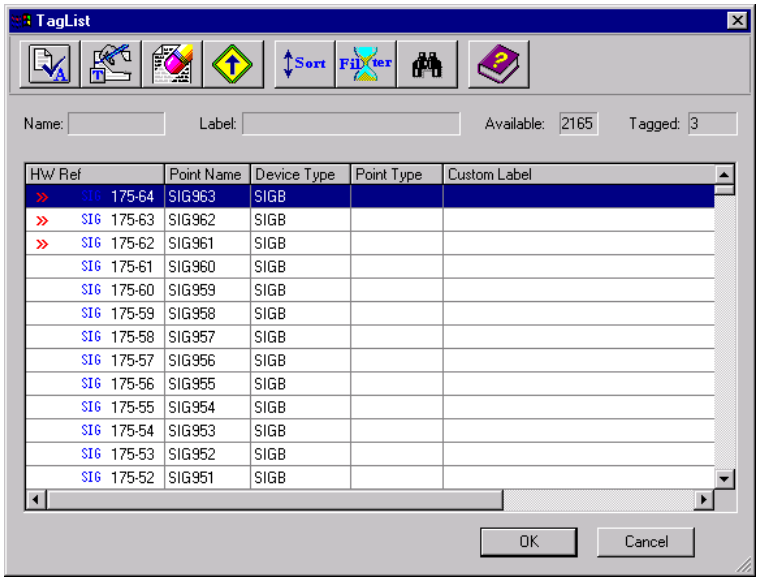
- If necessary, install a 4100-0404 LED/Switch Display Card (8 Switches and 16 Red/Yellow LEDs) and a 64/64 LED Switch Controller in the same cabinet as the system operator display and controls. The LED Display Card contains 8 switches and 16 pairs of LEDs (one yellow and one red), allowing it to annunciate 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.



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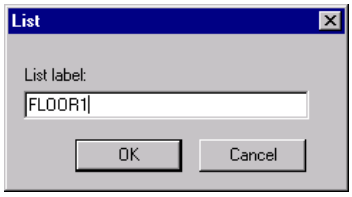
Creating Annunciation Zone Lists, (*continued*)

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 shift 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.

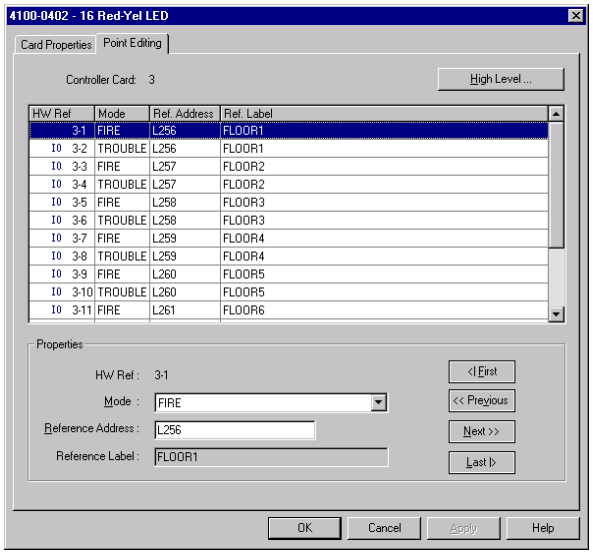


5. Enter a text name that uniquely identifies the zone (i.e., Floor1, Zone1, etc.). Click OK. The list is added to the List Window. Repeat Steps 1 through 5 for each annunciation zone list.

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.



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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

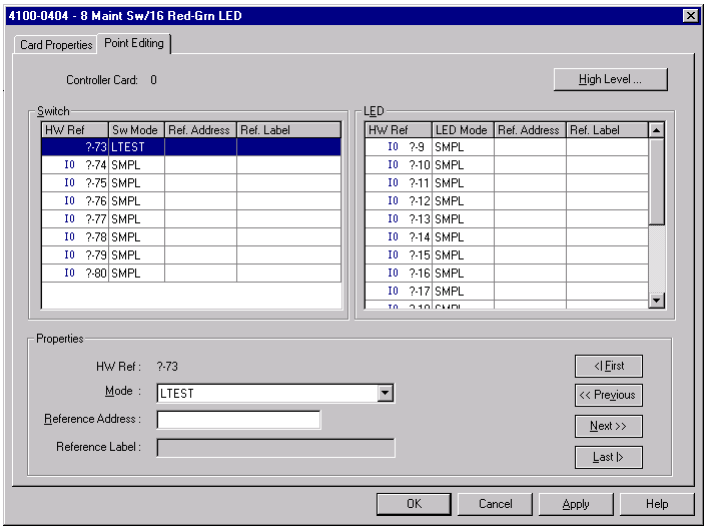
The first switch on the 4100-0404 display card must be programmed to perform a lamp test on the LEDs used for simultaneous alarm display. To do this, follow these steps.

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.



Setting Alarm Verification Timer to Canadian Operation

Introduction

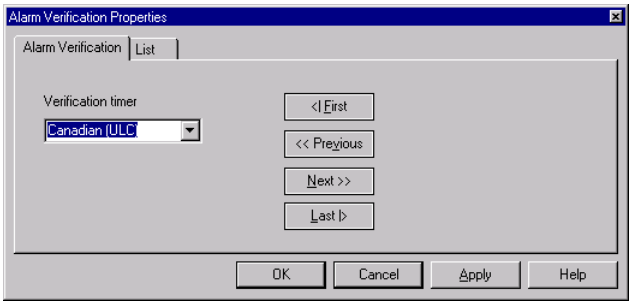
When you select Canadian operation for the alarm verification feature, the system operates as follows:

- 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.



Setting Alarm Reset / Inhibit Timer

Overview

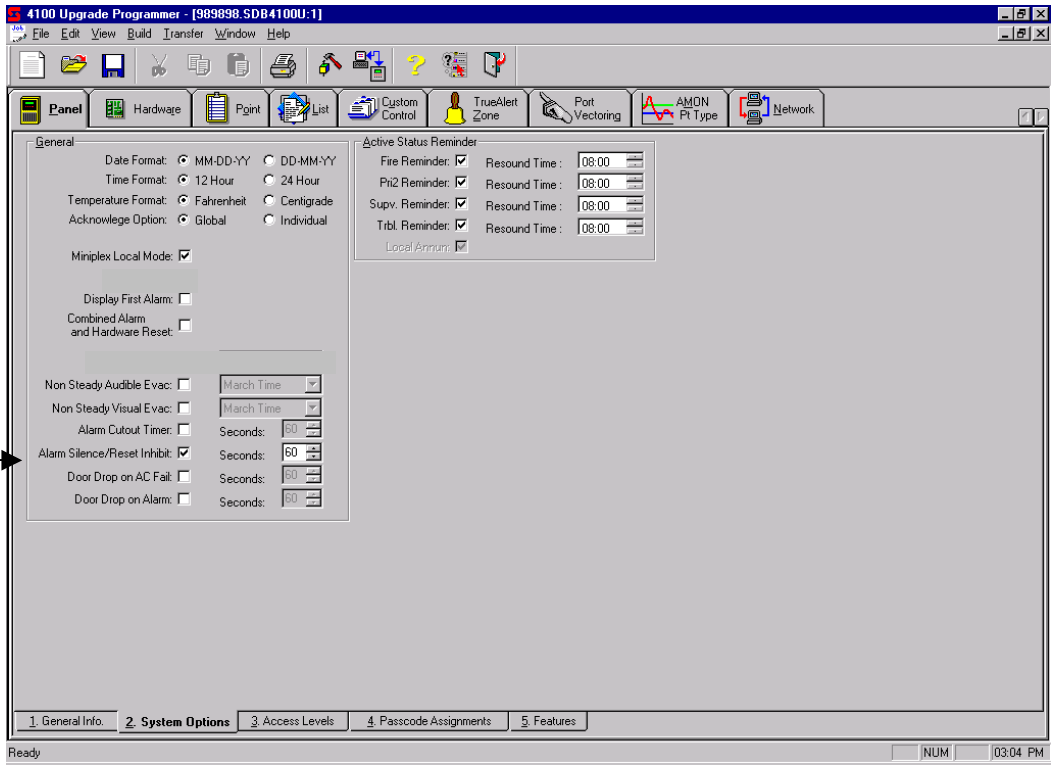
The Alarm Reset/Inhibit Timer system option disables the Alarm Silence and System Reset keys for a user-definable duration that ranges from 1 to 60 minutes. The timer is activated only by the first alarm (i.e., subsequent alarms do not reset the timer).

Note: .The default setting is not enabled. This option must be enabled for Canadian jobs

Enabling Alarm Reset/Inhibit Timer

To enable the Alarm 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

Enabling Low Battery Cutout Option for SPS

Overview

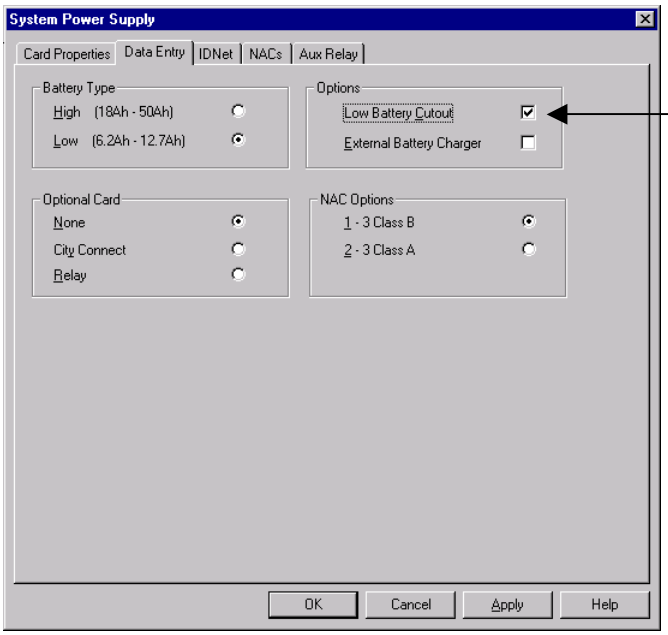
Low Battery Cutout is a programmable option for the SPS, TPS, or RPS Power Supplies. The Low Battery Cutout option disconnects a battery from the panel when its voltage is approximately 18 VDC.

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.



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.

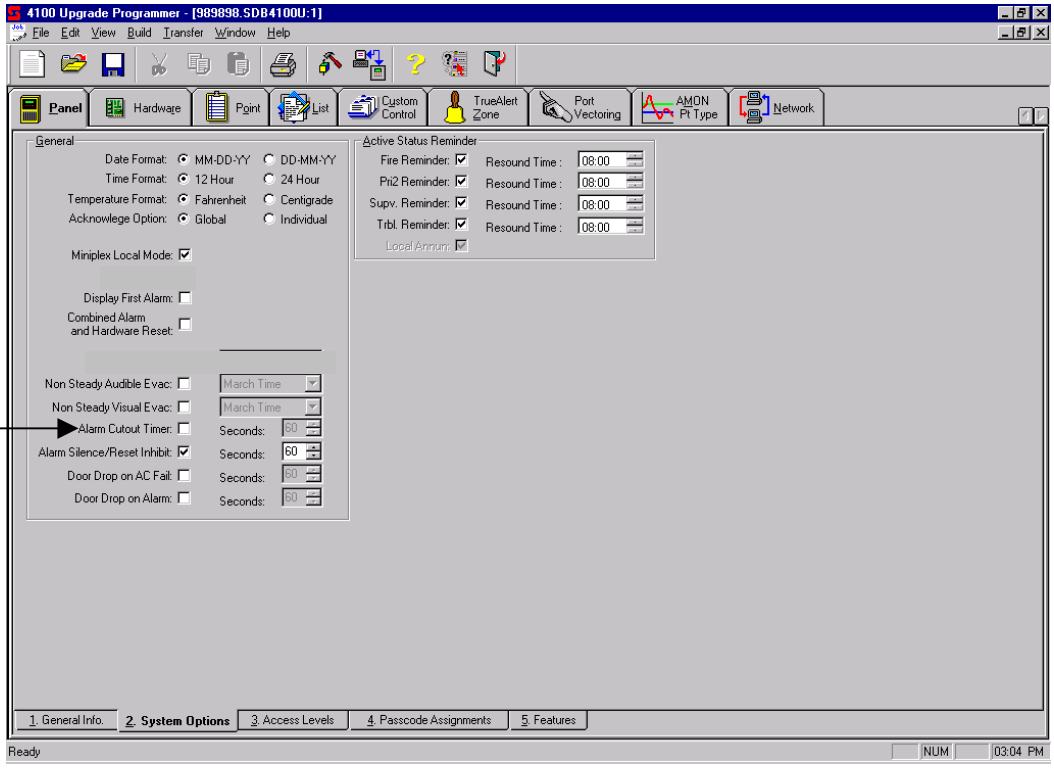
Note: .The default setting is not enabled. This option must be enabled for Canadian jobs

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



Appendix D
UL Programming Requirements (United States)

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.

Setting Alarm Verification to US Operation

Introduction

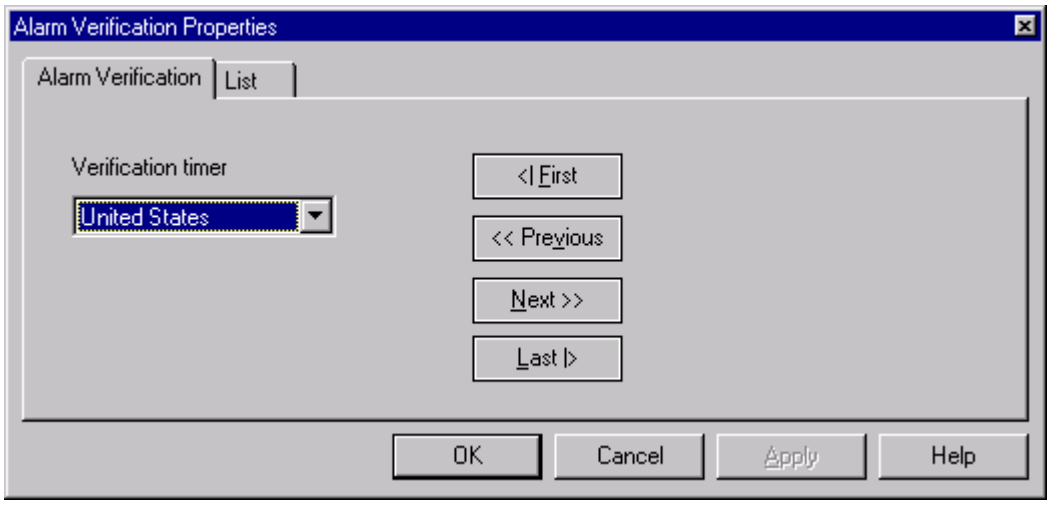
When you select United States operation for the alarm verification feature, the system operates as follows:

- 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.



Non-Steady Visual Evacuation System Option

Introduction

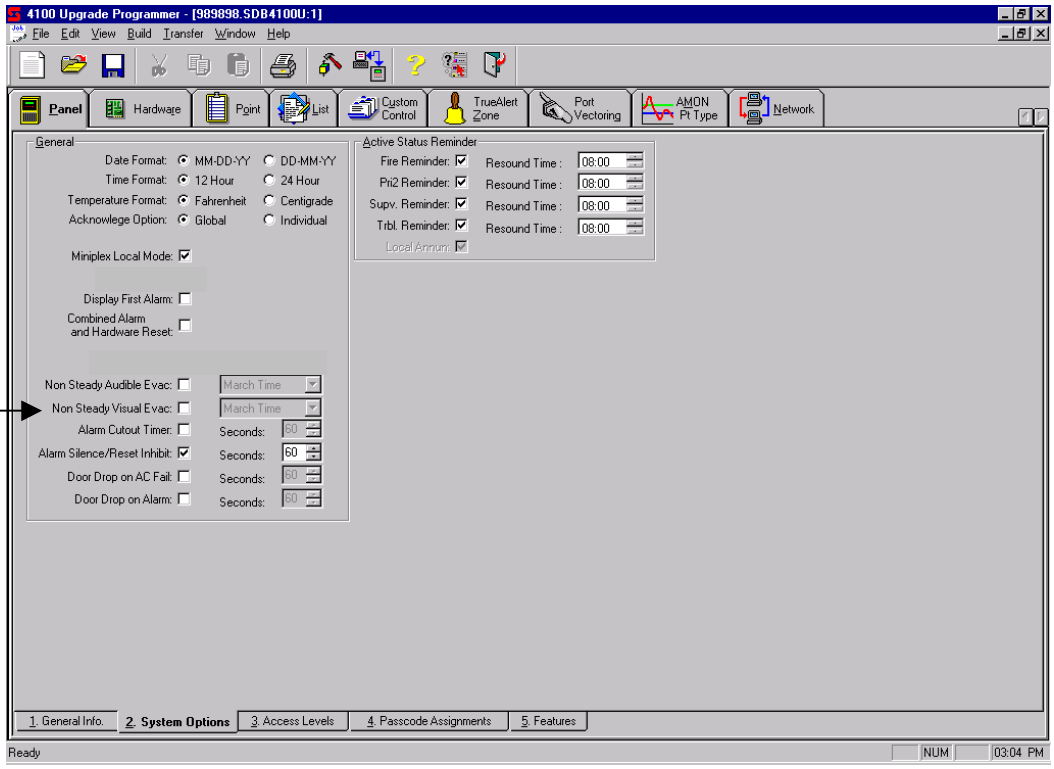
When enabled, this option allows you to select the flash pattern output by Non Steady Visual Signals. The term Non Steady Visual Signal refers to any Visual Notification Appliance capable of emitting a pattern of flashes (such as incandescent visuals).

The default setting for this option is not enabled.

When you enable this option, use the drop down list box to the right of the option to set the flash pattern as follows:

- March Time. A coded signal that uses 120 beats per minute. Each beat consists of 1/4 second pulse on, 1/4 second off.
- Slow March Time. . A coded signal that uses 60 beats per minute. Each beat consists of 1/2 second pulse on, 1/2 second off.
- Temporal. A five-pulse coding pattern consisting of five ½ second pulses, each separated by a ½ second silence. Each three pulse group is separated by 1 ½ seconds of silence.

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



Non-Steady Visual Evacuation Option