

# Fire Alarm Control Panel **AFP-3030**

## Programming Manual

Australia Edition



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## Installation Precautions

*Adherence to the following will aid in problem-free installation with long-term reliability:*

**WARNING - Several different sources of power can be connected to the fire alarm control panel.** Disconnect all sources of power before servicing. Control unit and associated equipment may be damaged by removing and/or inserting cards, modules, or inter-connecting cables while the unit is energized. Do not attempt to install, service, or operate this unit until manuals are read and understood.

**Verify that wire sizes are adequate** for all initiating and indicating device loops. Most devices cannot tolerate more than a 10% voltage drop from the specified device voltage.

**Like all solid state electronic devices,** this system may operate erratically or can be damaged when subjected to lightning induced transients. Although no system is completely immune from lightning transients and interference, proper grounding will reduce susceptibility. Overhead or outside aerial wiring is not recommended, due to an increased susceptibility to nearby lightning strikes. Consult with the Technical Services Department if any problems are anticipated or encountered.

**Disconnect AC power and batteries** prior to removing or inserting circuit boards. Failure to do so can damage circuits.

**Remove all electronic assemblies** prior to any drilling, filing, reaming, or punching of the enclosure. When possible, make all

cable entries from the sides or rear. Before making modifications, verify that they will not interfere with battery, transformer, or printed circuit board location.

**Do not tighten screw terminals.** Over-tightening may damage threads, resulting in reduced terminal contact pressure and difficulty with screw terminal removal.

**This system contains static-sensitive components.** Always ground yourself with a proper wrist strap before handling any circuits so that static charges are removed from the body. Use static suppressive packaging to protect electronic assemblies removed from the unit.

**Follow the instructions** in the installation, operating, and programming manuals. These instructions must be followed to avoid damage to the control panel and associated equipment. FACP operation and reliability depend upon proper installation.

**The equipment must be correctly programmed and installed to suit the specific application.** Please ensure correct operational parameters are set prior to commissioning. If further details on programming options are required, please consult the programming manual or contact our helpful technical support personnel.

### EMC Warning:

This is a Class A product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.

Electromagnetic Interface (EMI) tests are performed in accordance with Class A requirements of AS/NZS CISPR 22:2009

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Send email messages to:

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## Section 1: General Information

### 1.1 About This Manual

The following graphics appear in the manual to indicate a caution, a warning, or a note.

**WARNING:**

INFORMATION ABOUT PROCEDURES THAT COULD CAUSE IRREVERSIBLE DAMAGE TO THE CONTROL PANEL, IRREVERSIBLE LOSS OF PROGRAMMING DATA OR PERSONAL INJURY.

**CAUTION:**

INFORMATION ABOUT PROCEDURES THAT COULD CAUSE PROGRAMMING ERRORS, RUNTIME ERRORS, OR EQUIPMENT DAMAGE.



**NOTE:** Information that highlights an important part of the preceding or subsequent text or illustration.

### 1.2 Related Documents

The table below provides a list of documents referenced in this manual, as well as documents for selected other compatible devices.

Off-line Programming Utility	Document Number
VeriFire Tools Programming Utilities	Available for download: <a href="http://www.notifier.com.au">www.notifier.com.au</a>
Fire Alarm Control Panel (FACP) and Main Power Supply Installation	Document Number
AFP-3030 Installation, Programming, and Operations Manuals	DOC-01-031 DOC-01-032 DOC-01-033
NPS (Notifier Power Supply) Installation Sheet	DOC-03-057
Battery Connection Installation Kit	DOC-03-046
Networking	Document Number
Noti•Fire•Net Version 5.0 & Higher Manual	51584
High-Speed Notifier Network Manual	54013
HS-NCM Installation Document	54014
System Components	Document Number
ARE Interface Board Installation Sheet	DOC-03-062
Zone Mimic Manual	DOC-01-028
ACM-8RA Installation Sheet	DOC-03-052
Intrinsically Safe Barrier Manual	DOC-01-029
Annunciator Name Plate Installation Sheet	DOC-03-060
Extinguishing Agent release Module Manual	DOC-01-005
DA Series BOWS Manual	DOC-01-004
DVC Digital Voice Command Manual	52411
DVC-RPU Manual	50107425-001
DAA2 and DAX Amplifiers Manual	53265
DAL Devices Reference Document	52410
Mass Notification Systems Configuration, Programming and Operations Manual	LS10063-000NF-E
Annunciator Control System Manual	15842
LCD2-80 Manual	53242
LDM Series Lamp Driver Annunciator Manual	15885
SCS Smoke Control Manual (Smoke and HVAC Control Station) Manual	15712
SCS-8A/SCE-8A Installation Sheet	LS10126-000AU-E (DOC-03-086)
First Command Manual	LS1001-001NF-E
XP10-M Ten Input Monitor Module Installation Document	I56-1803
XP6-C Supervised Control Module Installation Document	I56-1805
XP6-MA Six Zone Interface Module Installation Document	I56-1806
XP6-R Six Relay Control Module Installation Document	I56-1804
FSA-8000 FFAST Intelligent Aspiration Sensing Technology Document	I56-3903
SLC-IM Manual	LS10026-000NF-E

**Table 1.1 Related Documents**



**NOTE:** Where used in this manual, the term CPU refers to the main circuit board for the fire alarm control panel's central processing unit (see *AFP-3030 Installation Manual* for a more detailed list of part numbers.)

## 1.3 Introduction to the Control Panel

The AFP-3030 is an intelligent Fire Alarm Control Panel (FACP) with features suitable for most applications.

There are two basic configuration options for the AFP-3030.

### With Display

In this configuration, the panel comes fitted with a front display/keypad, which allows programming and viewing options at the panel. This manual gives programming instructions using the front display/keypad.

### Displayless Mode

In Displayless Mode, no keypad/display is fitted at the panel, and it is controlled by remote annunciators. VeriFire® Tools programming is required. Refer to VeriFire® Tools help file for information on programming without an AFP-3030 display/keypad. A PC is required when using VeriFire® Tools.

### 1.3.1 Programming Features

- Ease of use - field program the control panel without special software skills.
- Local programming - program directly from the control panel keypad to reduce installation time.
- PC programming - input long data entry programming information on a PC; transfer programming data between a PC and the control panel.
- Autoprogram option - automatically detect newly installed, addressable devices, allowing quicker installation.
- Security - use passwords to control access to the control panel and protect programming.
- Large display option - 640 character screen, 16 lines x 40 characters

## 1.4 Navigating Menu and Programming Screens

The Main Menu (refer to Figure 2.1) leads to screens with various menu and programming options. Choices may be made from the menu screens by pressing the soft key closest to the menu option. Appendix A, "Menu Tree" gives the programming menu hierarchy; refer to this appendix for an overall view of the layout of the screens.

Field information may be added/modified using the keyboard and special function keys.

Arrow keys on the keyboard can be used to navigate between fields on a screen if there are no soft keys to select the fields.

Scrolling through a list of selections in a screen field can be performed either by repeatedly pressing the associated soft key, or by pressing the Next Selection/Previous Selection special function keys on the Display/Keypad.

Pressing a BACK soft key on a screen returns the programmer to the previous screen without saving the information entered.

Pressing an ACCEPT soft key will save the information entered on the screen. It may also return to the previous screen and/or perform other functions as described in the soft key section for each screen.

When the FACP can not read an address (that is, if the point entered on the screen for processing does not exist) it will display an error screen for several seconds, then return to the screen where the address was entered. The user must check his input and investigate the state of the point.

## 1.5 Basic Procedure

For initial programming of the panel, or for major changes and additions, the following basic procedure is recommended to prevent errors resulting in reprogramming and wasted time.

- Use work sheets to record the exact information for every detector, module, annunciator point and software zone in the system. Pay close attention to the Software Type IDs. The panel program may also be created using VeriFire® Tools and downloaded to the panel after assembly and power-up.
- Assemble and apply power to the control panel as described in this panel's installation manual. All system boards must be physically installed.
- Read this manual before programming.
- Enter/change master and user passwords.
- Enter panel and network parameters.
- Program all devices and thoroughly test the entire system. The Walk Test feature can be used to test devices and their programming.
- Save the program by uploading it using VeriFire® Tools.

## 1.6 Getting Started

Once the system has been physically installed, programming may begin. The user may program at any time except while there is an unacknowledged alarm present.

To ensure security, passwords should be entered at this time to replace the factory default settings.

### 1.6.1 Password Change

The AFP-3030 has two password levels: master and user. There is one master password, which grants access to all system programming. There are nine user passwords, each of which may be assigned access to the programming change menus, the alter status menus, or both. A user password does not give access to or allow change to any password parameters, not even its own. Only the master password will allow access to password change screens.

The panel arrives with factory default settings of 00000000 for the master password, and 11111111 for one user password.

Follow the steps below to change the factory settings:

- 1. Press PROGRAM/ALTER STATUS at the Main Menu screen.
- 2. Using the keyboard, enter eight zeros (00000000) after ENTER PASSWORD.
- 3. Press the ACCEPT soft key.
- 4. Press the PANEL PROGRAM MENU soft key.
- 5. Press the MORE soft key.
- 6. Press the PASSWORD CHANGE soft key.

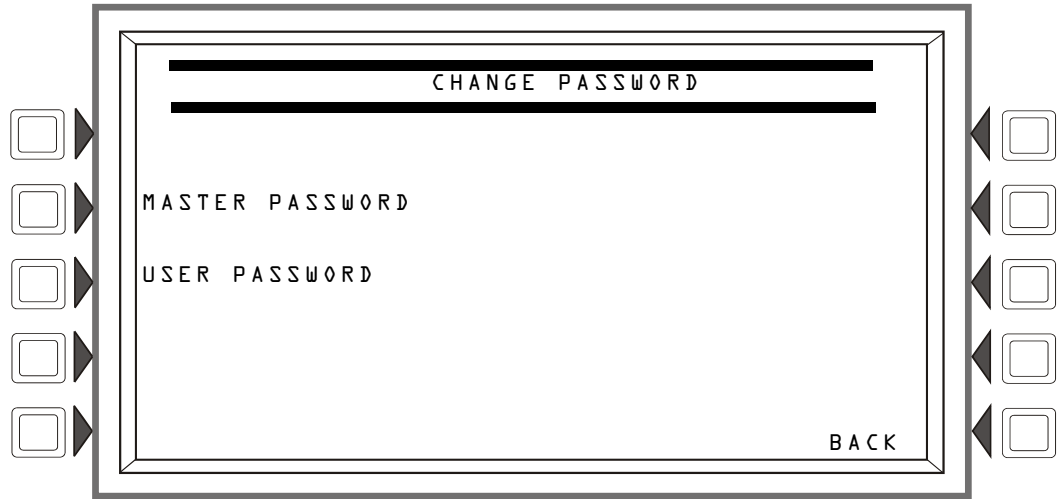


Figure 1.1 Change Password Screen

**Soft Keys**

MASTER PASSWORD - Press to change the master password  
USER PASSWORD - Press to change the user password.



**NOTE:** Only a master can change another password.

**Master Password**

Press the MASTER PASSWORD Soft Key to display the following screen. Enter a new password that will replace the factory default password; there can be up to eight alphanumeric characters.  
Press the enter key on the keyboard. RE-ENTER PASSWORD will appear. Re-enter the password for verification. Press enter to save the new password.

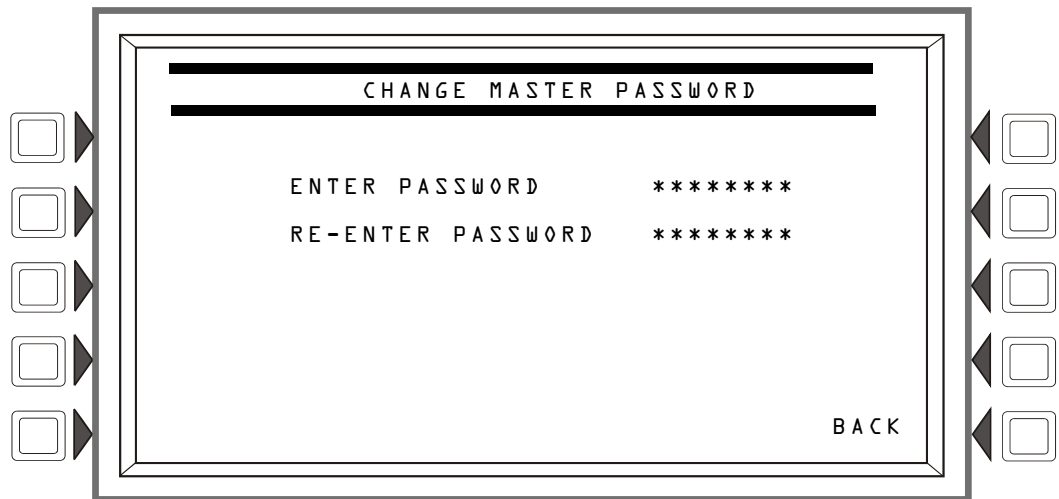
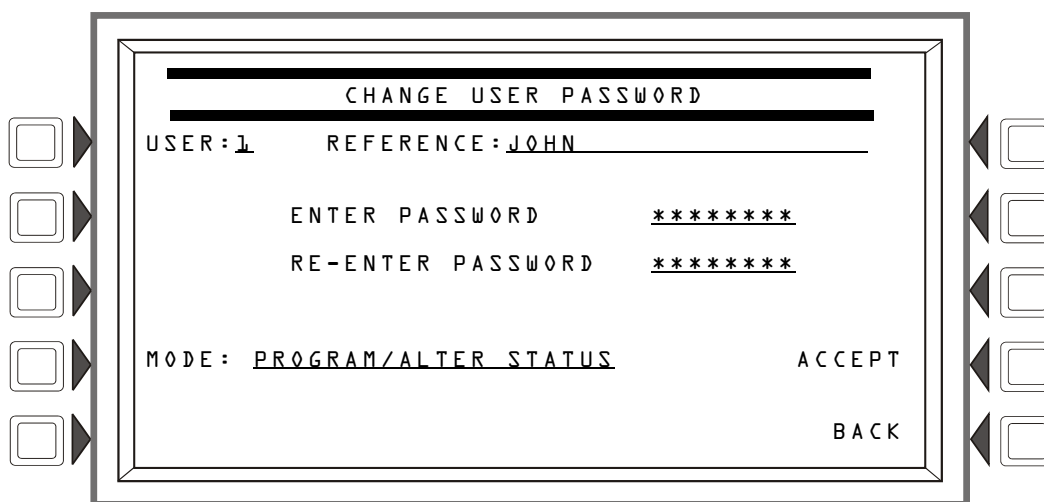


Figure 1.2 Change Master Password Screen

**User Password**

Press the USER PASSWORD soft key to display the following screen.





**Figure 1.3 Change User Password Screen**

#### Soft Keys

**USER:** Press this soft key to scroll through the nine user password numbers. When this key is pressed, the rest of the display will update to reflect information for each new record. Stop at the password number that requires entering.

**MODE:** Press this soft key to select the user's level of access. Levels are as follows:

- **PROGRAM/ALTER STATUS** Gives access to the Program Change Menu and Alter Status Menu.
- **ALTER STATUS** Gives access to the Alter Status Menu
- **NONE** Gives no access.

**REFERENCE:** Press this key to enter a maximum 20-character alphanumeric label that identifies the user. Press the enter key on the display/keyboard to enter the information.

**ENTER PASSWORD** - Press to enter a new password. Enter up to eight alphanumeric characters, then press enter. **RE-ENTER PASSWORD** will appear. Retype the password for verification.

**ACCEPT:** After entering all password information and retyping the password at the prompt, press this soft key to save all the password information.

#### Incorrect or Forgotten Password

If a password is entered incorrectly, the panel will respond by displaying an **INVALID PASSWORD** message and a code. The programmer may hit the escape key and re-enter the password correctly. However, if the password has been forgotten, record the code and contact NOTIFIER. After proper authentication, the master password can be determined by deciphering the code. An example of the message that would appear on the display follows:

```
INVALID PASSWORD:
  9066-21FS-7D78-5FA4-6163
└──────────────────┘
Code  ───┘
```

## Section 2: Main Menu and Event Counts Screen

### 2.1 The Main Menu

The Main Menu screen is the means by which the programmer can access displays, history information, printing and programming menus. This screen is accessible from the System Normal Screen, and from most other screens by pressing the **ESC/MAIN MENU** key.

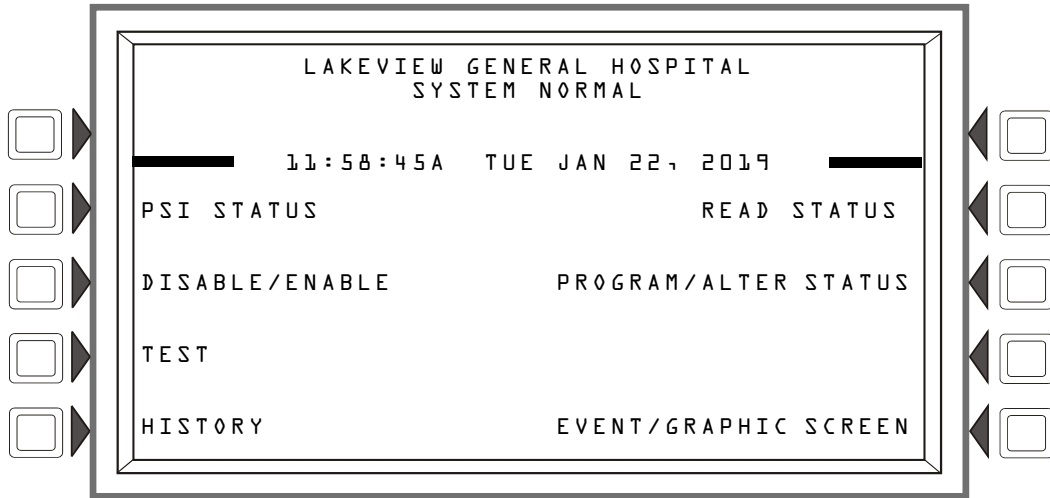


Figure 2.1 Main Menu Screen

#### Soft Keys

Pressing the soft keys brings the user to the screens described below.

#### 2.1.1 PSI Status

Pressing the **PSI STATUS** button will display the status of the local power supply. This information includes the supply voltage, battery voltage, PSI output voltage, which supply source the panel is running from (PSI or battery), whether a battery test is in progress and whether or not the battery test and charger have been disabled.

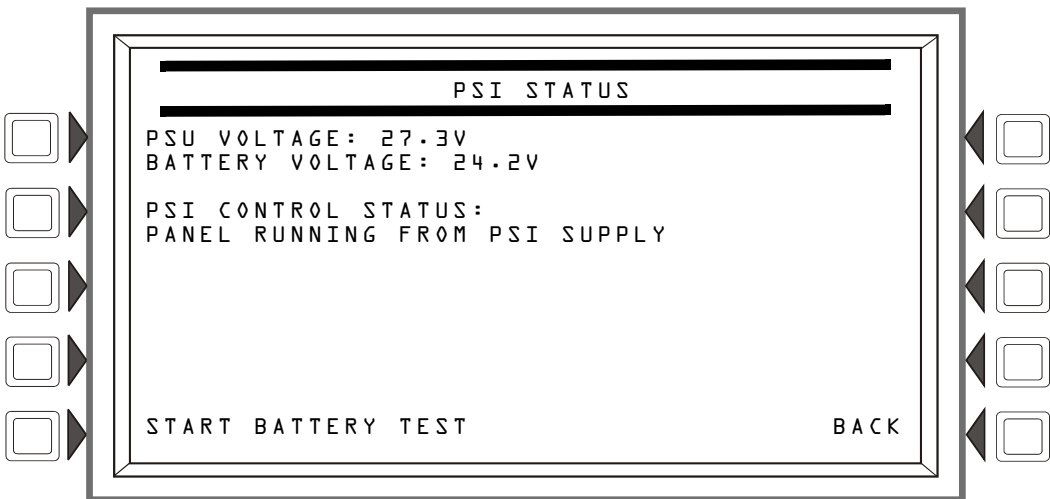


Figure 2.2 PSI Status Screen

#### 2.1.2 Disable/Enable Points or Range of Points

Pressing the **DISABLE/ENABLE** soft key on the Main Menu brings up the disable point select screen. From this screen, the user can disable a device or range of devices installed on the system.

## Disable/Enable Point Selection

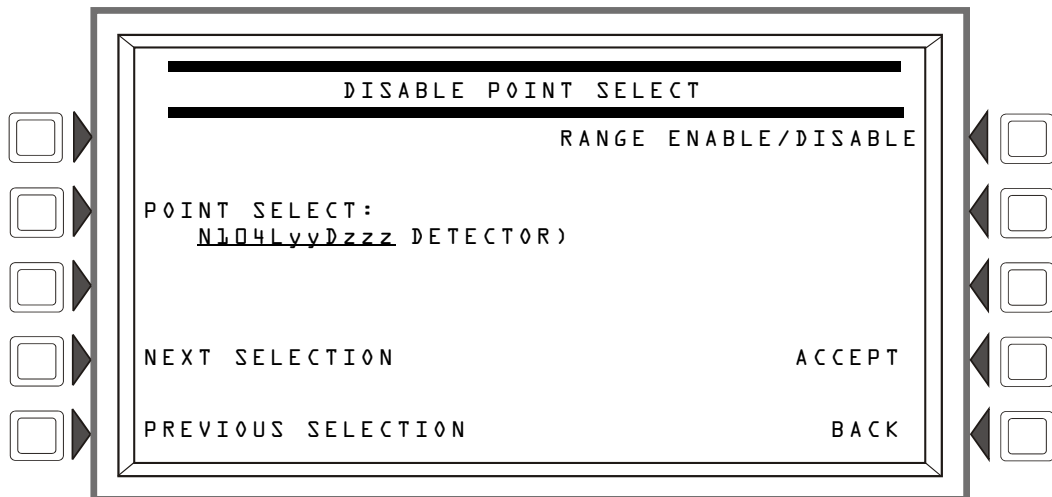


Figure 2.3 Point Select for Disable/Enable, and Range Enable/Disable

### Soft Keys

**POINT SELECT:** Press this soft key to identify the type of point to disable/enable: the choices that will appear in parentheses next to the point format are DETECTOR, MODULE, VESDA, BELL CKT, ZONE, LOGIC ZONE, DAL SPEAKER CKT, or DAL ALL CKTS. Enter the address of the point using the keyboard. If there is an event in the display area, that address will be the default. If no event is present, the default format will be that of a detector.

**RANGE ENABLE/DISABLE:** Press this soft key to bring up screens to select a range of points to disable at one time. See “Range Enable/Disable” on page 12.

### Disable/Enable

A point can be disabled or enabled using this screen. Once a point has been selected, press the ACCEPT soft key display the following.

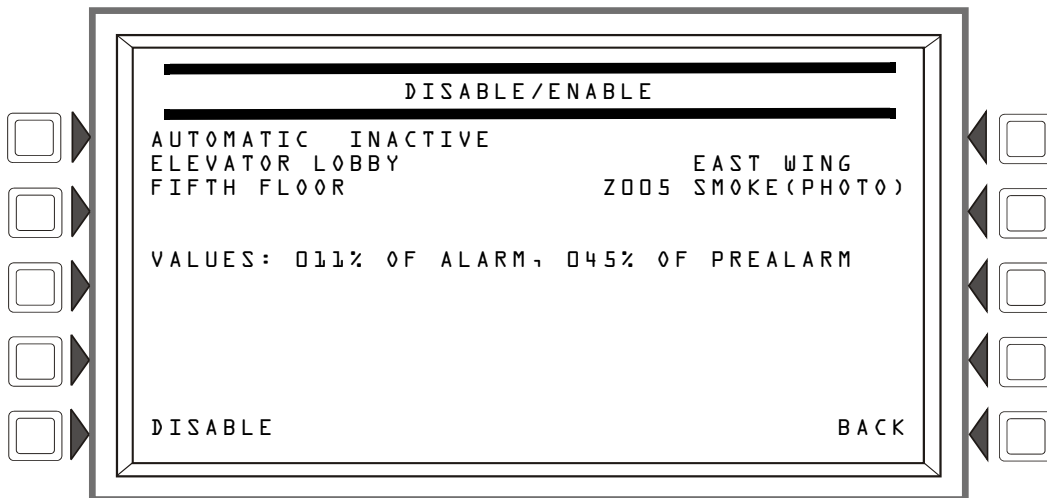


Figure 2.4 Disable/Enable Screen

### Soft Keys

**DISABLE/ENABLE** Only the applicable command will display. Press to disable an installed, programmed point, or to enable a disabled one.



#### CAUTION:

WHEN A DISABLED OUTPUT IS ENABLED, IT WILL BE AFFECTED BY CONDITIONS EXISTING IN THE SYSTEM THAT WOULD NORMALLY AFFECT IT. THAT IS, IF A CONDITION EXISTS THAT WOULD HAVE TURNED THE OUTPUT ON WERE IT ENABLED, IT *WILL* TURN ON WHEN IT IS ENABLED.



**NOTE:** When an input or output point associated with releasing functions is disabled, a single supervisory fault will be generated.

Group Zone Disable - This term refers to the disabling (or enabling) of a general zone. If the first position in a device’s zone map matches the general zone number entered at this screen, that device will be disabled (or enabled).



**WARNING:**  
DO NOT RELY ON DISABLE TO DISABLE RELEASING POINTS DURING TESTING. RELEASING POINTS MUST BE PHYSICALLY DISCONNECTED.

Range Enable/Disable

A range of points or zones can be disabled or enabled using this screen. Once a start point and end point have been selected, press the ENABLE or DISABLE soft key to configure the range and display the following.

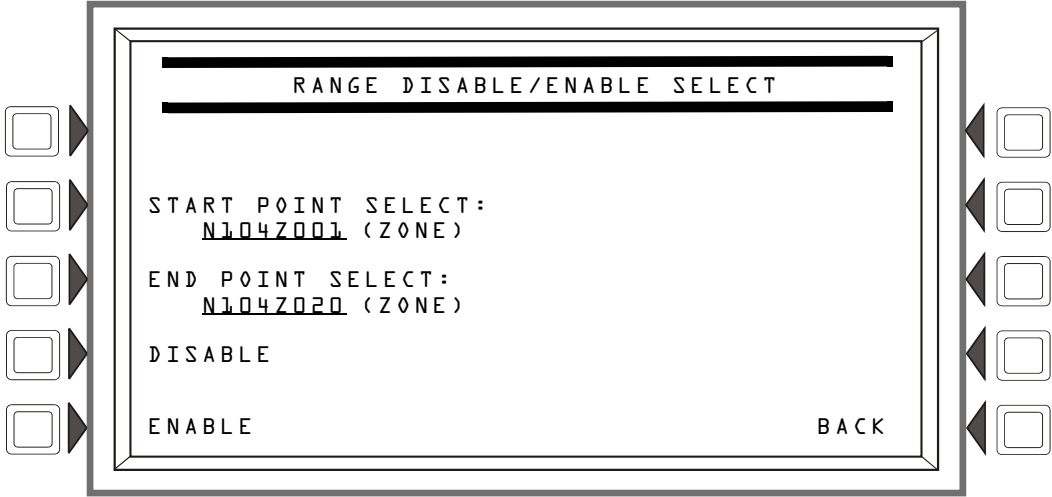


Figure 2.5 Range Disable/Enable Select Screen

Soft Keys

**START POINT SELECT:** Press this soft key to identify the type of point to disable/enable: the choices that will appear in parentheses next to the point format are DETECTOR, MODULE, ZONE (\*GROUP ZONE DISABLE). Enter the address of the point using the keyboard.

**END POINT SELECT:** Enter the address of the end point. Note the following:

- 1. Start Point and End Point must be on the same node.
- 2. Start Point and End Point must be of the same type.
- 3. Start Point must be less than End Point.
- 4. For Zone Enable/Disable, maximum possible range selection is 20 zones in one operation.

**DISABLE:** Press to disable an installed, programmed point.

**ENABLE:** Press to enable an installed, programmed point.

\* Group Zone Disable - This term refers to the disabling (or enabling) of a general zone. If the first position in a device's zone map matches the general zone number entered at this screen, that device will be disabled (or enabled).



**WARNING:**  
DO NOT RELY ON DISABLE TO DISABLE RELEASING POINTS DURING TESTING. RELEASING POINTS MUST BE PHYSICALLY DISCONNECTED.



**CAUTION:**  
WHEN A DISABLED OUTPUT IS ENABLED, IT WILL BE AFFECTED BY CONDITIONS EXISTING IN THE SYSTEM THAT WOULD NORMALLY AFFECT IT. THAT IS, IF A CONDITION EXISTS THAT WOULD HAVE TURNED THE OUTPUT ON WERE IT ENABLED, IT *WILL* TURN ON WHEN IT IS ENABLED.

Range Enable/Disable Errors

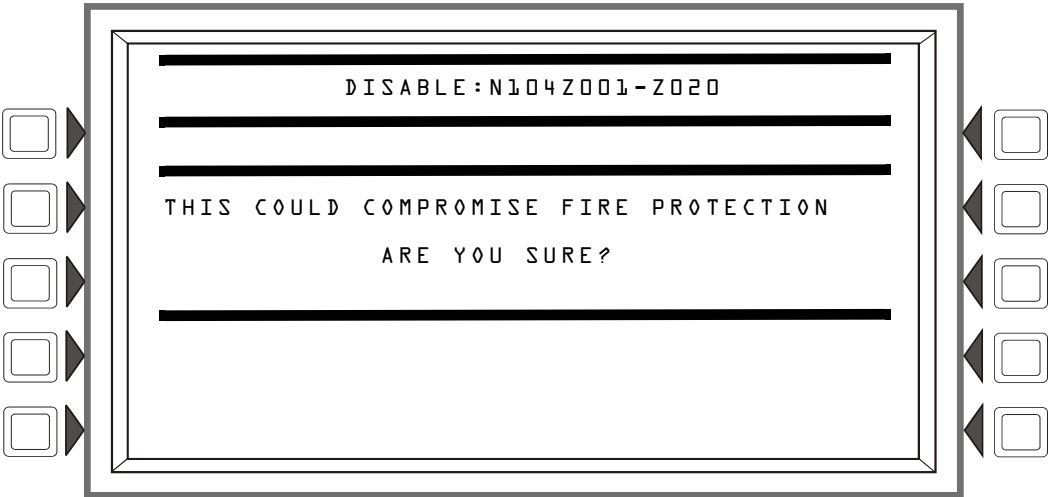
If points are entered with errors, one of the following system messages will display:

Error Message	Possible source of error
INVALID POINT	1. Start Point and End Point not on the same node (e.g. ENABLE: N104Z001 - N105Z001) OR 2. Start Point and End Point not of the same type OR 3. Start Point greater than End Point (e.g. DISABLE: N104Z005 - N104Z001)
THE MAX. RANGE OF ZONE IS 20	More than 20 zones are selected for range enable/disable

Table 2.1 Invalid Range Error Screens for Range Enable/Disable

**Range Disable/Enable Confirmation**

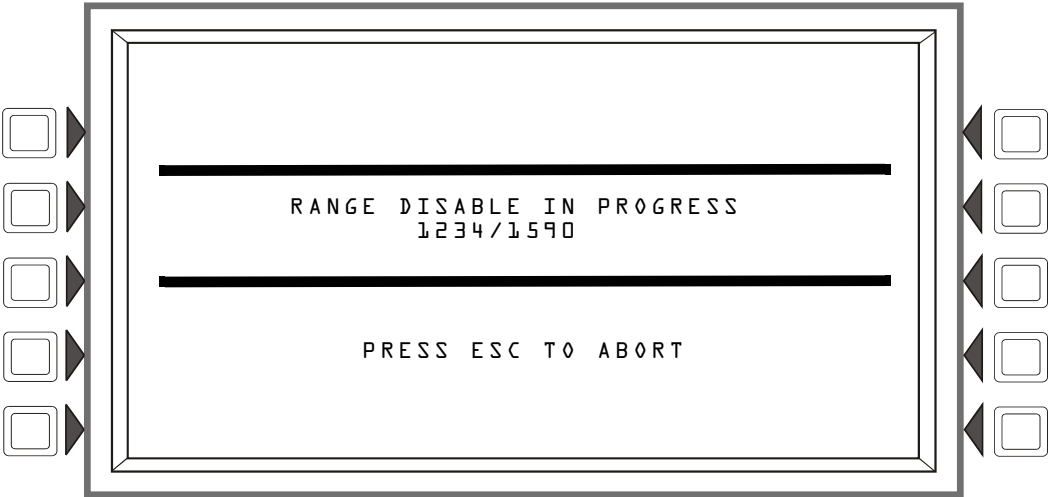
When appropriate, the menu will request display ENABLE/DISABLE point range and require user confirmation:



**Figure 2.6 Range Disable/Enable Confirmation Screen**

**Range Disable/Enable in Progress Screen**

After the user confirms YES, this screen displays the progress of the range enable/disable operation,



**Figure 2.7 Range Disable/Enable in Progress Screen**

## Range Disable/Enable Operation Complete Screen

After the operation is complete this menu shows the status of the operation: Actual (enable/disable) performed vs. Requested (enable/disable). If a point was not installed or could not be enabled/disabled for some reason, the actual value will be less than the requested value.

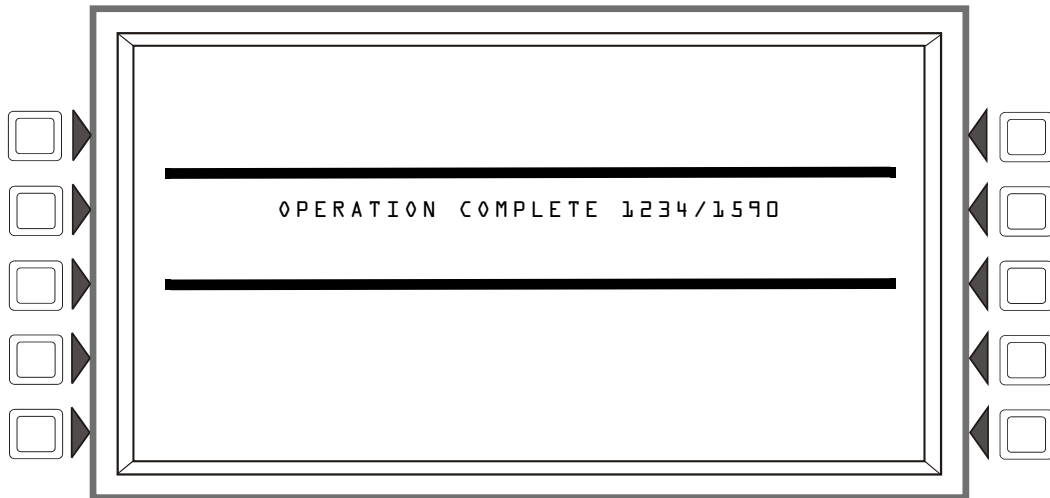


Figure 2.8 Operation Complete Screen

### 2.1.3 Test

Pressing the TEST soft key brings up the walk test device screen, allowing the user to test a device installed on the system.

Walk Test allows the user to test the entire fire alarm system while away from the control panel. There are two types of Walk Test - Basic and Advanced - and each type operates in audible mode.

Walk Test results are sent to the printer and to Event History as “Test”. In Network applications, specific nodes can be excluded from having the ability to force the fire panel out of Walk Test. This is programmable via VeriFire Tools. Refer to the *VeriFire Tools help file*.



#### **WARNING:**

PHYSICALLY DISCONNECT ALL RELEASING DEVICES BEFORE STARTING WALK TEST. IT IS NOT SUFFICIENT TO DISABLE IN ANY OTHER MANNER.



#### **WARNING:**

WALK TEST MODE CAN DEACTIVATE FIRE PROTECTION. OBSERVE THE FOLLOWING IMPORTANT PRECAUTIONS.

#### **IMPORTANT!**

- Prior to Walk Test, secure all protected buildings, and notify the building owner/operator, fire department, and other pertinent personnel that testing is in progress.
- Immediately after Walk Test is completed, notify the same people that testing is complete and the system is restored to normal operation. Reconnect releasing devices.
- Walk Test will “time out” and return to normal operation after one hour when no Walk Test activations have occurred during that time.
- Walk Test may be exited at any time by pressing the ABORT soft key on the screen.



**NOTE:** Walk Test will not start if any devices are active (i.e., fire alarms, supervisories or prealarms). To perform a walk test while a device is active, disable the device and press the System Reset button.



**NOTE:** In network applications, specific nodes can be excluded from having the ability to force the fire panel out of Walk Test due to an alarm condition. This is programmable via VeriFire Tools. Refer to the *VeriFire Tools help file*.

**Basic Walk Test** - The basic test allows a single operator to run audible tests on the panel. All logic equation automation is suspended during the test. All ACS devices will default to Disable. They may be enabled by selecting NO at the DISABLE ACS BOARDS soft key on the Walk Test Menu screen (Figure 2.9).

**Advanced Walk Test** - The advanced test allows field-supplied output point programming that will react to input stimuli such as CBE and logic equations. When points are activated in advanced testing, each initiating event will latch the input. Release of the latch and subsequent activation of the next point is controlled through use of the NEXT TEST soft key. All ACS devices default to disable. They may be enabled by selecting NO at the DISABLE ACS BOARDS soft key on the Walk Test Menu screen (Figure 2.9). An advanced test is audible.

An audible test is intended for manual call point verification, magnet-activated tests on input devices, input and output device and wiring operation/verification. Only devices previously configured to participate and designated as part of the test through the following screens will make sound.

## ■ Walk Test Activation Indications

**FlashScan poll mode** - Once the START TEST soft key has been pressed:

- Each intelligent addressable input device will blink its address in red, and each intelligent addressable output device will blink its address in green. Pattern examples are given below.

Address	Blink Pattern
8	8 blinks, long stop, 8 blinks, long stop, ...
37	3 blinks, stop, 7 blinks, long stop, 3 blinks, stop, 7 blinks, long stop, ...
152	15 blinks, stop, 2 blinks, long stop, 15 blinks, stop, 2 blinks, long stop, ...

**Table 2.2**

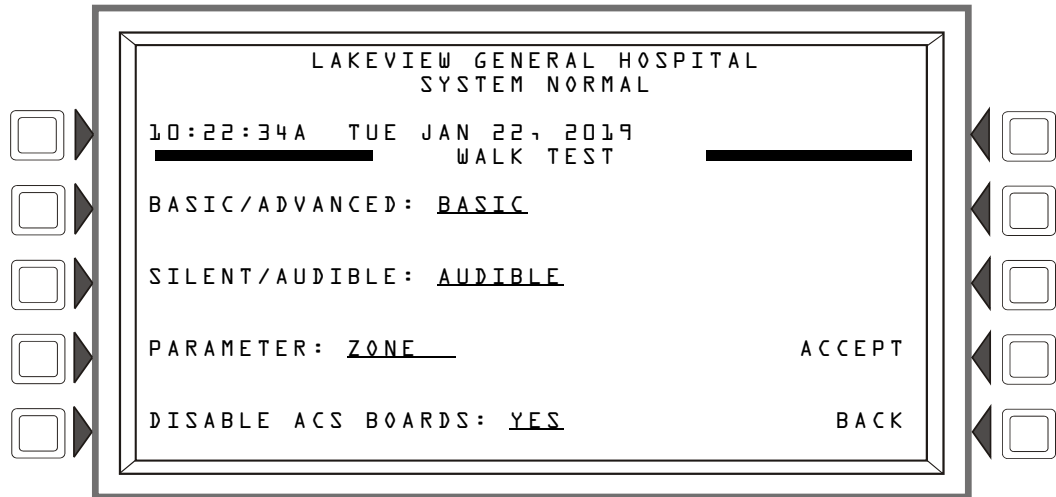
- An input device activated in Walk Test latches on steady green for the duration of the test. If the device is put in fault (for instance, the detector head is removed, then replaced), the LED will be latched on for the duration of the test.
- An output device activated in Basic Walk Test will remain active and the LED will glow steady green for
  - 4 seconds for alarms
  - 8 seconds for faults.
- An output device activated in Advanced Walk Test will remain active and the LED will glow steady green until the NEXT TEST soft key is pressed.

**CLIP poll mode** - Once the START TEST soft key has been pressed:

- Intelligent addressable input and output devices continue to blink red as usual until activated.
- An input device activated in Walk Test latches on steady red during activation. If the device is put in fault (for instance, the detector head is removed, then replaced), the LED will be latched on for the duration of the test.
- An output device activated during Basic Walk Test will remain active and the LED will glow steady green (if a FlashScan module) or steady red (if a CLIP module) for
  - 4 seconds for alarms
  - 8 seconds for faults.
- An output device activated in Advanced Walk Test will remain active and the LED will glow steady green (if a FlashScan module) or steady red (if a CLIP module) until the NEXT TEST soft key is pressed.

**Conventional Devices** - Monitor modules with the Type Codes SMOKE CONV, HEAT DETECT, and SMOKE DETECT, and outputs with the Type Code FORM C RESET do not participate in Walk Test other than blinking their addresses if they are polled in FlashScan mode unless they are used with a FlashScan zone module. To prevent the occurrence of false alarms for conventional devices, 24 volt power will be interrupted for up to a minute after Walk Test has been exited.

## Walk Test Menu



**Figure 2.9 Walk Test Menu Screen**

### Soft Keys

**BASIC/ADVANCED**: Press to toggle between the two choices. Stop at the desired test.

**SILENT/AUDIBLE**: This soft key is for future use. Walk test is audible.

**PARAMETER**: Press to scroll through the choices. Stop at the desired parameter. Choosing the loops parameter will bring up the Walk Test loops programming screen. (Refer to Figure 2.10.) Choosing the Zone parameter will bring up the Zone Walk Test screen. (Refer to Figure 2.14.) Choosing the Devices parameter will bring up the Devices Walk Test screen (Refer to Figure 2.11.)

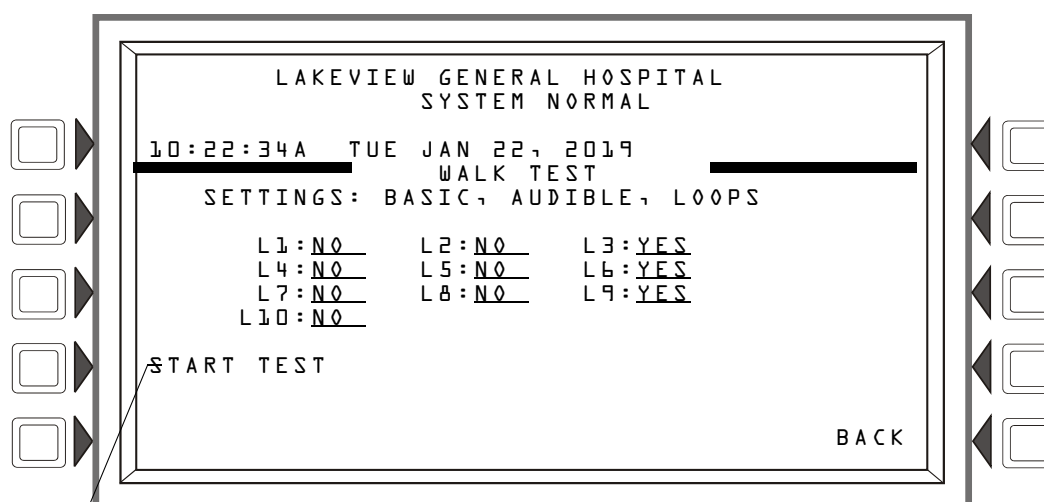
If this parameter is chosen...	The participating devices/points in Basic Test will be...	The participating devices/points in Advanced Test will be...
LOOPS	All devices/points on all the FACP SLCs that are set to participate in Walk Test with the exception of logic equations, whose activation is suspended. When an input test is initiated, only the outputs on the corresponding loop will activate.	All devices/points on all the FACP SLCs that are set to participate in Walk Test. When an input test is initiated, outputs mapped on all loops will activate.
PANEL	The entire panel - all devices/points set to participate in Walk Test - will participate with the exception of logic equations, whose activation is suspended. When an input test is initiated, only the outputs on the corresponding loop will activate.	The entire panel - all devices/points set to participate in Walk Test - will participate. When an input test is initiated, outputs mapped on all loops will activate.
DEVICES	Individual detectors, input and output modules tested one at a time.	Detectors, input and output modules
ZONE	For BASIC Walk Test only. When the zone entered in the parameter field is present in a device's first (primary) CBE location, that device will go into Walk Test when the parameter zone is put into Walk Test. When an input test is initiated, outputs mapped to the corresponding zone on all loops will activate.	n/a

Table 2.3 Walk Test Parameters

**DISABLE ACS BOARDS:** This soft key allows the operator to disable ACS devices during Walk Test, stopping panel wide event annunciation for the duration of the Walk Test. Press to toggle between the two choices, YES (disable ACS) and NO (enable ACS). Default: YES

### Walk Test Loops Parameters

This screen appears when **LOOPS** is chosen as a parameter at the Walk Test Menu.



Once the **START TEST** soft key has been pressed and the test begun, this message changes to **ABORT**

Figure 2.10 Walk Test Loops Programming Screen

The chosen settings are displayed (**BASIC, AUDIBLE** in Figure 2.10), and installed loops will display with a participation field. The up and down arrow keys on the keypad navigate through the fields. Choose **YES** for participation, **NO** for no participation, using the **NEXT SELECTION(+)**/**PREVIOUS SELECTION(-)** keys on the keypad.

#### Soft Keys

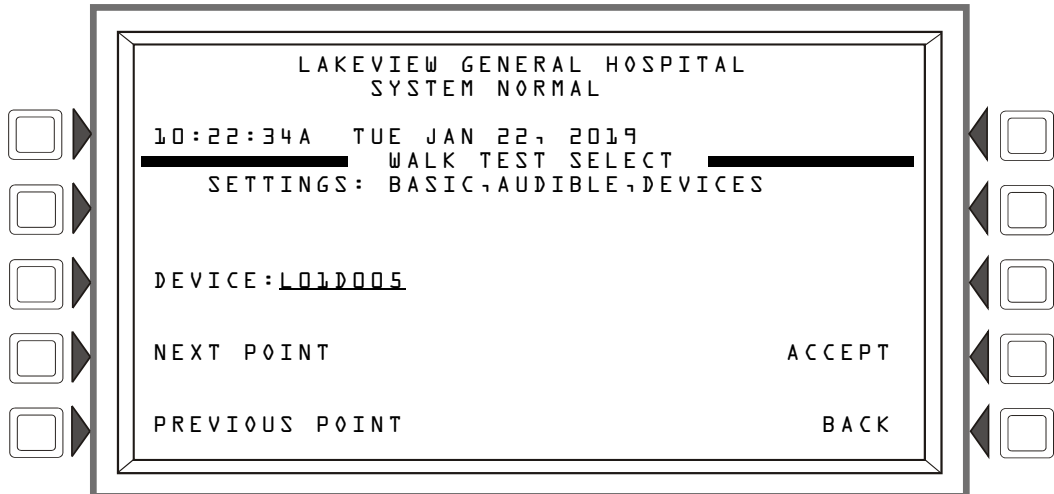
**START TEST:** Press to begin Walk Test using the chosen parameters. Once Walk Test has begun, this soft key becomes **ABORT**, and can be pressed at any time to exit Walk Test.

**NEXT TEST:** This key appears for Advanced Walk Tests when the panel parameter is chosen at the Walk Test Menu Screen. Refer to Figure 2.15 for the location of this key. Press it to progress from one activation to the next, latching the new point and releasing the latch on the previous point.



## Point Walk Test Activation

This screen appears when **DEVICES** is chosen as a parameter at the Walk Test Menu.



**Figure 2.11 Walk Test Devices Programming Screen**

This screen appears when **DEVICES** is chosen as a parameter at the Walk Test Menu. The chosen settings are displayed (**BASIC**, **AUDIBLE** in Figure 2.11).

### Soft Keys

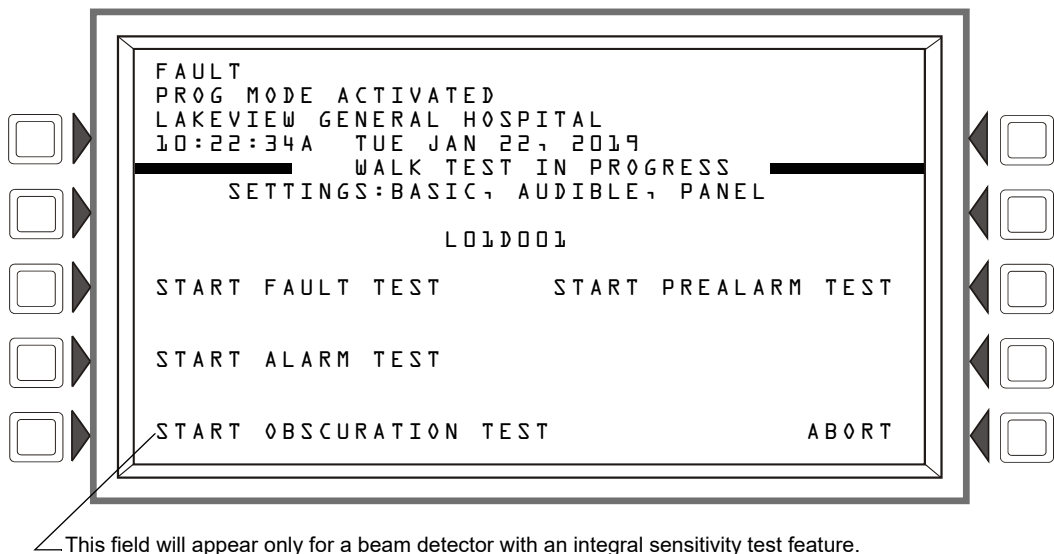
**DEVICE:** Press this key to type the desired detector or module address into the underlined field.

**NEXT POINT:** Press this key to bring up the next installed address for an addressable detector into the **DEVICE** field.

**PREVIOUS POINT:** Press this key to bring up the previous installed address of an addressable detector into the **DEVICE** field.

**ACCEPT:** Press this key to begin Walk Test, and to proceed to the Devices Test Selection screen (Figure 2.12).

## Devices Test Selection



**Figure 2.12 Devices Test Selection Screen (Detectors)**

### Soft Keys

**START FAULT TEST:** Press this key to generate a Fault on the selected detector.

**START ALARM TEST:** Press to generate an Alarm on the selected detector.

**START OBSCURATION TEST:** Press to perform an Obscuration Test on the selected Beam detector. (Beam detectors only.)

**START PREALARM TEST:** Press to perform a Prealarm Test on the selected device.

**ABORT:** Press to stop the Walk Test.

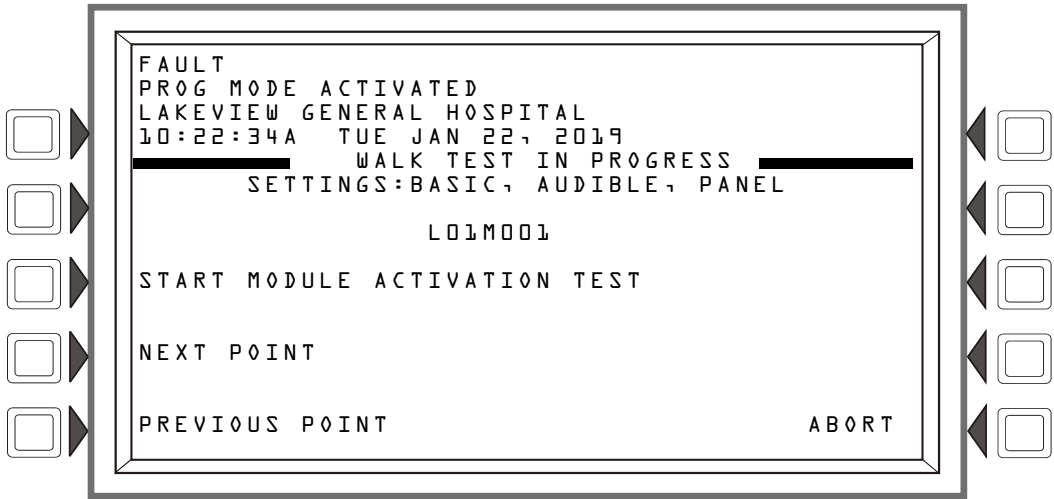


Figure 2.13 Devices Test Selection Screen (Modules)

**Soft Keys**

- START MODULE ACTIVATION TEST: Press this key to activate the monitor displayed in the device field.
- NEXT POINT: Press this key to bring up the next installed address for an addressable monitor.
- PREVIOUS POINT: Press this key to bring up the previous installed address of an addressable monitor.
- ABORT: Press to stop the Walk Test.

**Zone Walk Test Activation**

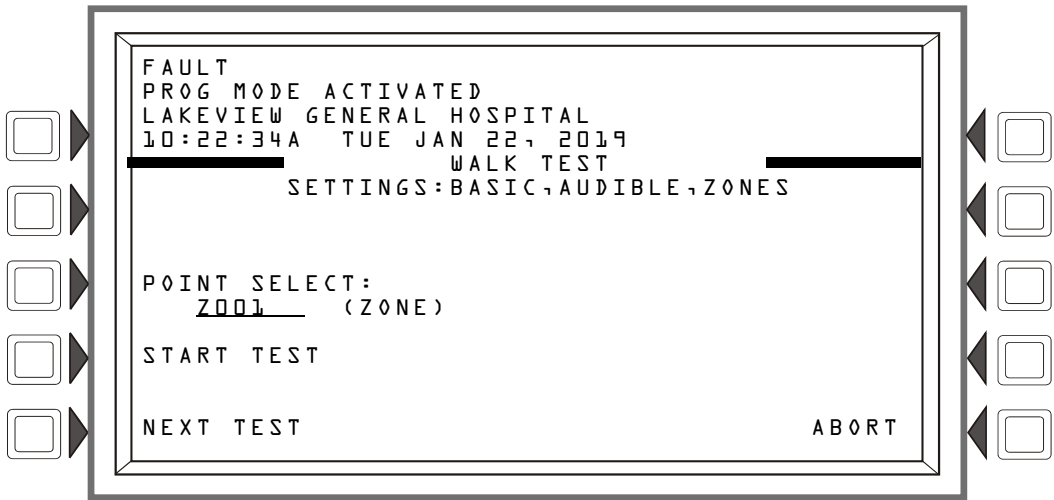


Figure 2.14 Zone Walk Test Selection Screen

- POINT SELECT: Press to enter a zone number that will be put into Walk Test. When the panel finds that zone in the first position of a device's CBE map, that device will be put in Walk Test mode.
- START TEST: Press to begin Walk Test using the chosen parameters. Once Walk Test has begun, this soft key becomes ABORT, and can be pressed at any time to exit Walk Test.

### Walk Test In Progress Screen

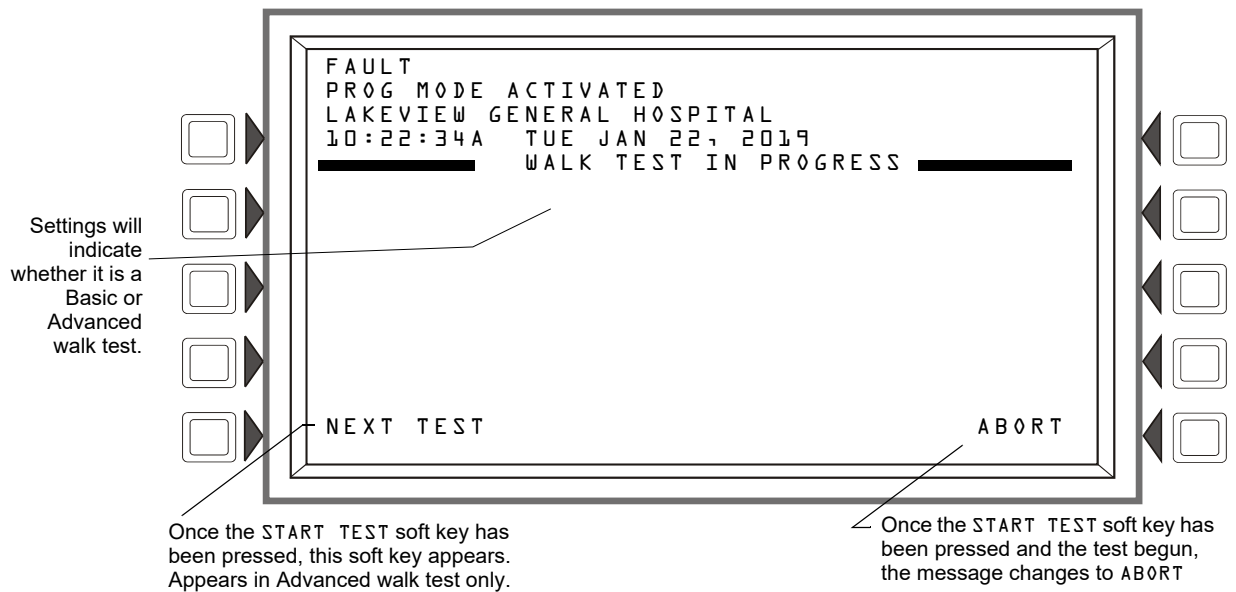


Figure 2.15 Walk Test In Progress Screen

### Aborting Walk Test

When the “Abort” option is selected, the fire panel will evaluate the system to see if any devices remain in the “ACTIVE” state. This screen appears when there are active devices that remain when aborting Walk Test:.

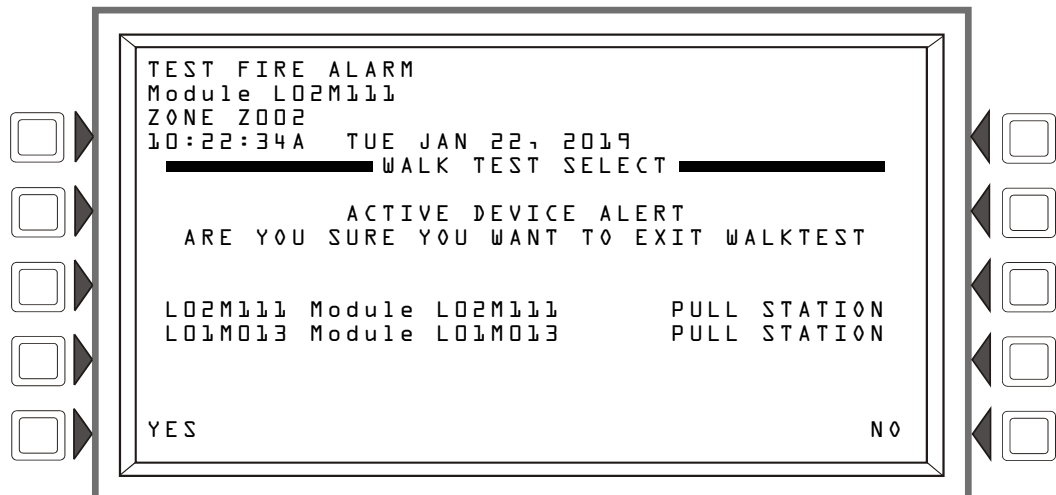


Figure 2.16 Active Device Alert Screen

#### Soft Keys

**YES :** Press this key to exit Walk Test with the devices remaining active. Once Walk Test is exited, the fire panel will act as if the devices are newly activated and respond accordingly.

**NO :** Press this key to remain in Walk Test. This will provide the opportunity to clear the active devices.

### 2.1.4 History Display (History Select Screen)

The History Select screen allows the user to select a type of history file to view, and to set time/date or point range viewing parameters. Refer to this panel’s operations manual for an illustration and description of History Display.

### 2.1.5 Read Status

Pressing the Read Status soft key brings up screens to view the present status of points, zones, and other system information. Refer to this panel’s operations manual for a full description of Read Status.

### 2.1.6 Program/Alter Status

Pressing the Program/Alter Status soft key brings up screens for panel programming, point programming, autoprogramming, clear programming, altering the status of points, walk test, and other information. Refer to Sections 3 and 4 for a full description of Program/Alter Status.

2.1.7 Printer Functions

Pressing the Printer Functions soft key brings up screens to print reports. Refer to this panel’s operations manual for a description of Printer Functions. This key will appear only if a printer operation has been selected. Refer to “Supervision” on page 38 for selection information.

2.2 Events List Screen

When an event occurs on the system, the fire panel is considered in an off normal state. The event can be displayed in the Events List screen, which will display the current event(s), time and date the event occurred, whether or not the even has been acknowledged, and the how many of each event type has occurred. The user can scroll through the events and see additional information if it is available.

There are two types of Events Lists: one for Alarm Conditions, and one for Non-Alarm conditions, such as fault or supervisory. Events Lists are displayed by priority.

- Alarm Events (Highest priority)
- Supervisory Events
- Fault Events
- Disable Events
- Other Events (Lowest Priority - Other events include events that are not Alarm, Supervisory, Fault, or Disable)

Each Events List will be displayed with unacknowledged events first in chronological order (earliest to latest), followed by acknowledged events in chronological order (earliest to latest).

The Events List type is displayed in a banner above the Top Window along with the number of the event listed in the top window and total number of that specific event type. Only one type of event will automatically be displayed on the fire panel at one time. If more than one event type is present on the system, the highest priority events list will be automatically displayed. Other lists can be displayed using the event buttons located to the right of the display.

The Total Events Counter is located just above the current date and time at the bottom of the display. It will display the total number of each event type that has occurred on the panel up to 999 events. If there are more than 999 of any event type, it will not increment further.

Alarm Events List

The Alarm Events List will be displayed when one or more alarms occur on the fire panel.

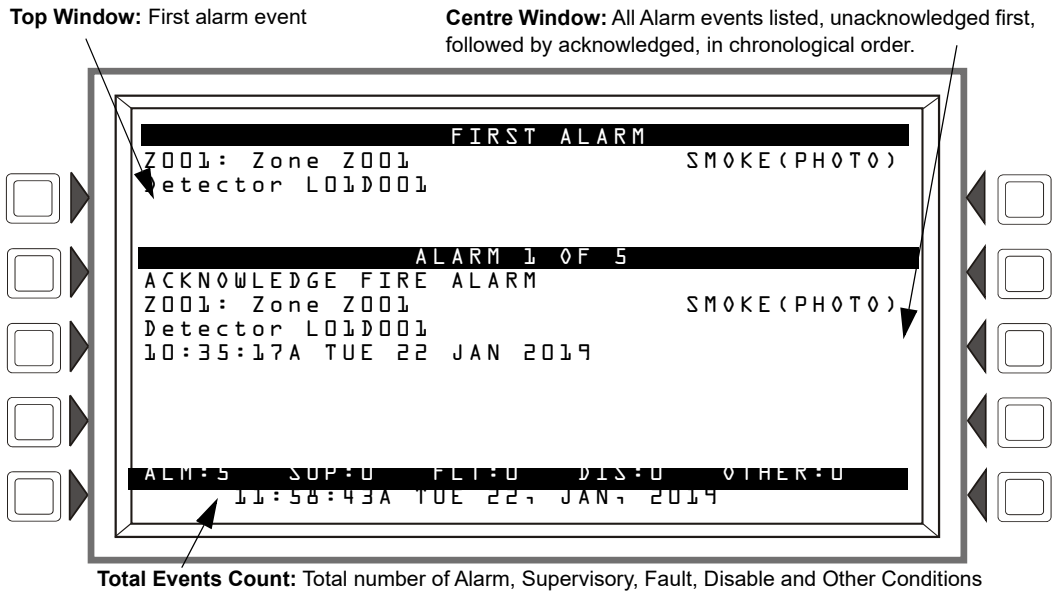


Figure 2.17 Alarm Events List

Non-Alarm Events List

The Non-Alarm Events list will be displayed when any event other than an alarm occurs on the fire panel.

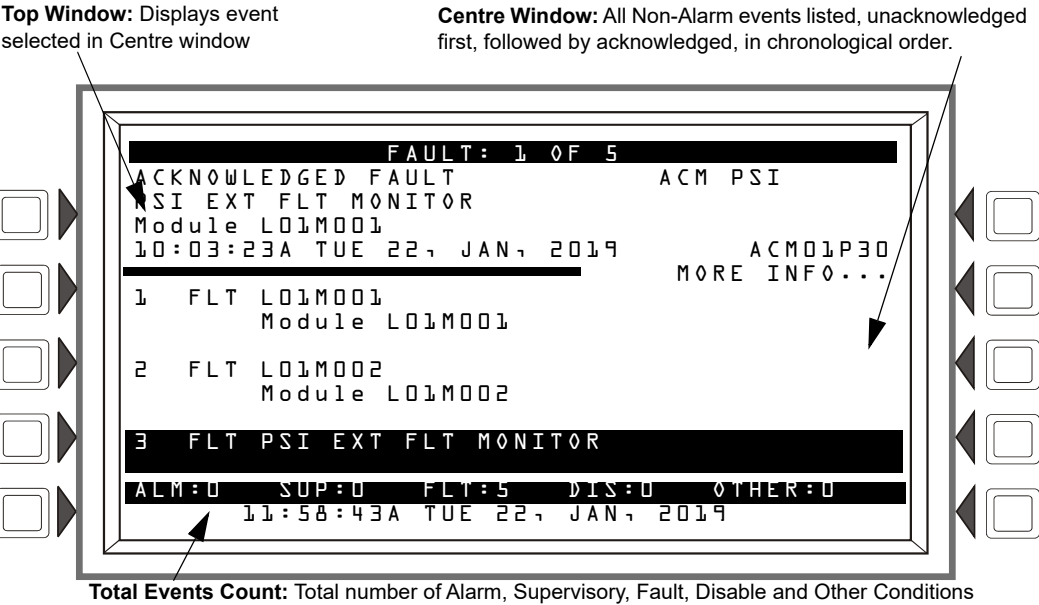


Figure 2.18 Non-Alarm Events List

Refer to the panel's Operations Manual for a complete description of the Events List display and operation.

## Section 3: Program

### 3.1 General Information

The AFP-3030 operates with two levels of programming: Program, and Alter Status.

Program level allows change to the essential control panel functions such as point functions, system functions, and passwords. Program level change requires the master password, or a user password that allows access to the Program level. All password information can be changed with a master password only.

Alter Status level allows change to operating parameters, such as detector sensitivity, or time/date, or Walk Test. The master password, or a user password that allows access to the Alter Status level, is required.

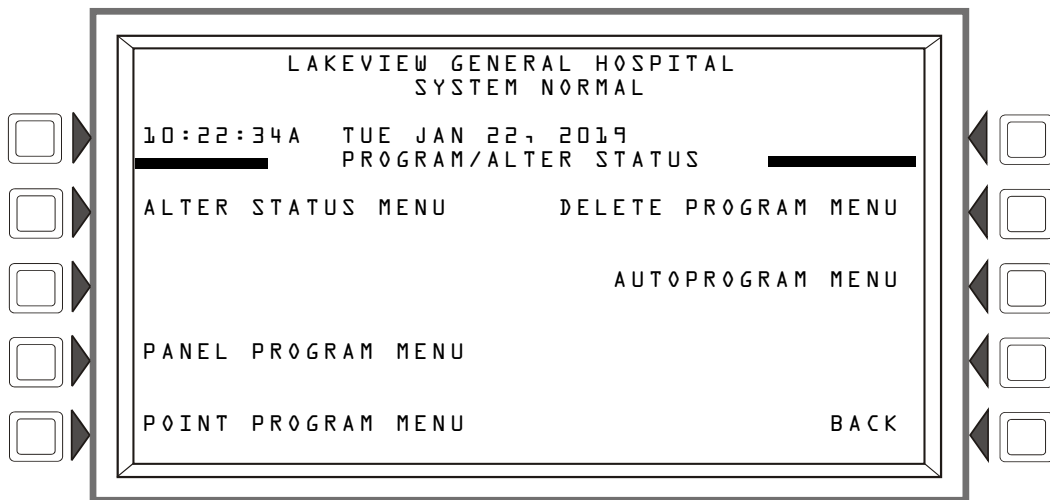


**NOTE:** All events except faults are annunciated during programming. When an annunciated event occurs, the panel will automatically exit the programming screen and the Event Counts menu screen will appear.

To access the Program level, press the Program/Alter Status soft key on the Main Menu and at the prompt enter a master password, or a user password that allows access to the Program level. The following screen will display.



**NOTE:** No program menus will display if a user password is entered that has access to Alter Status level only: the Alter Status menu will be the sole menu choice.



**Figure 3.1 Program/Alter Status Screen**

Press a soft key with the word “program” in its menu to bring up the associated program menu.

When programming the panel for the first time, press the DELETE PROGRAM MENU soft key, which brings up the Delete Program Menu screen (Refer to Figure 3.57). Press the CLEAR ALL PROGRAMMING button, then ACCEPT, to ensure that the panel is set to defaults and clear of programs.



**NOTE:** Clearing all programs is not necessary when initial programming with a database downloaded from VeriFire® Tools.

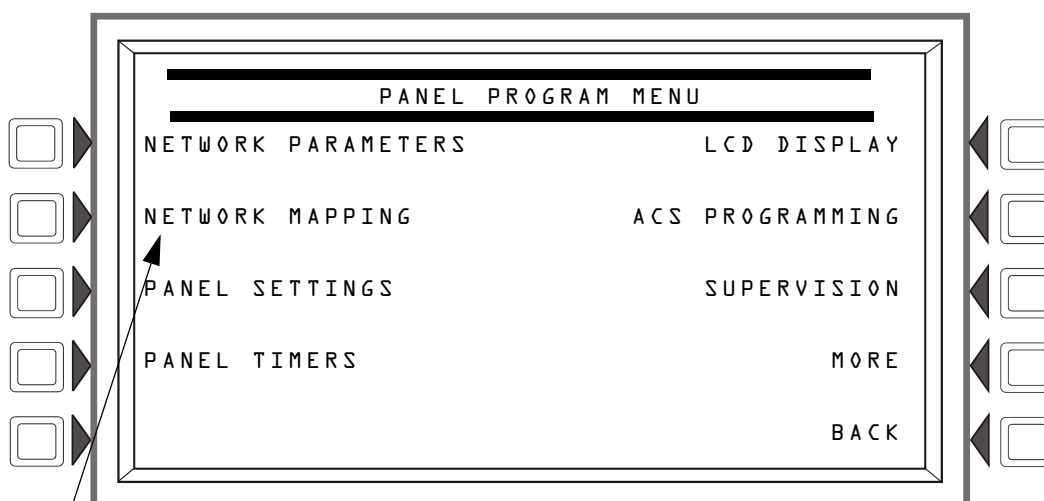
The logical sequence for initial programming is to program the panel parameters first, then to program the individual points through autoprogramming and/or point programming.

## 3.2 Panel Program

Panel programming provides the means to change settings for the panel system as a whole, as well to address and program annunciator points.

### 3.2.1 Panel Program Menu (1)

Press the Panel Program Menu for the following choices.

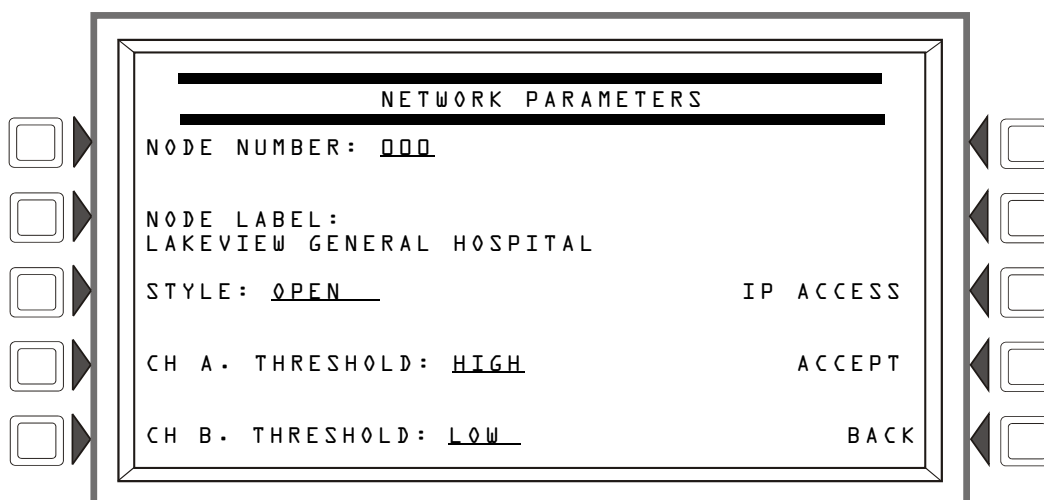


Network Mapping option is only available when Network Display Mode is enabled.

**Figure 3.2 Panel Program Menu 1 Screen**

### 3.2.2 Network Parameters

Press the Network Parameters soft key on Panel Program Menu 1 to bring up the following screen. If the panel will operate as a standalone unit and not part of a network, the node label is the only field that needs to be entered: it is the label that appears as part of the System Normal message.



**Figure 3.3 Network Parameters Screen**

#### Soft Keys

**NODE NUMBER:** Enter the network node number of this panel. For standalone AFP-3030, the network node number will be 000. A valid network node number range is 1-240. Once the soft key has been pressed, the number may be typed in from the keypad, or the Next/Previous Selection special function key on the keypad may be used to toggle through online node numbers. The network node number may be viewed by pressing the Lamp Test special function key longer than five seconds. (Refer to Section 5.1, “Version Information”, on page 75.) Default: 000

**NODE LABEL:** Enter the network node label for this panel. This is the label that appears in the System Normal message. Default: <blank>

**STYLE:** Select the wiring style as OPEN or CLOSED. Default: style OPEN

**CHANNEL A THRESHOLD, CHANNEL B THRESHOLD:** Enter HIGH or LOW, for high or low threshold setting for channel A or B on the network communications module. Default: HIGH

**IP ACCESS:** Press this soft key to bring up the IP ACCESS screen.

**ACCEPT:** Press this soft key to save the information entered on this screen.

## IP ACCESS Screen

This screen allows the programmer to set the IP Access. This setting allows the disabling/enabling of commands, downloads and programming from the Wide Area Network (WAN).

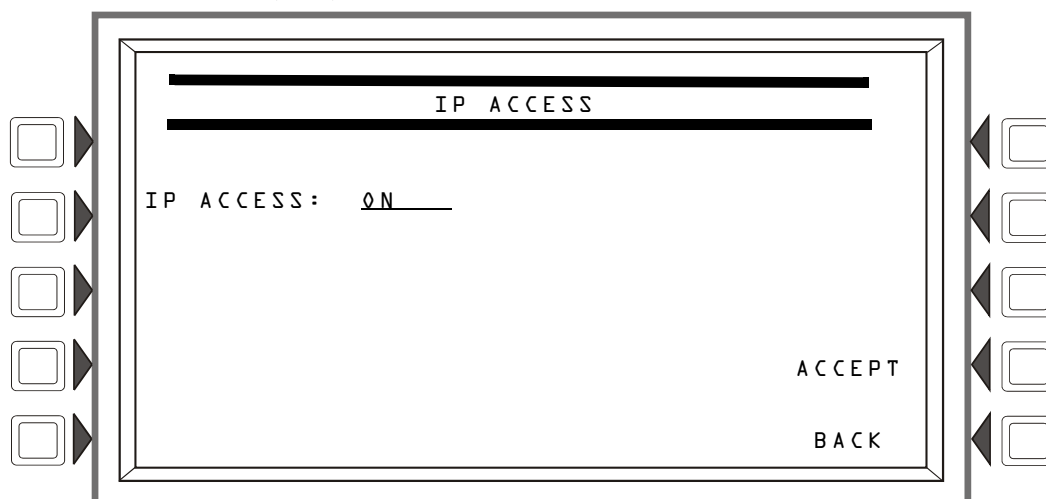


Figure 3.4 IP Access Screen

### Soft Keys

**IP ACCESS:** Press the soft key to scroll through the choices. Press **ACCEPT** at the desired setting.

Settings are:

**ON** - IP commands, downloads and programming are allowed.

**OFF** - IP commands, downloads and programming are *NOT* allowed. (default)

**TIME D** - IP commands, downloads and programming are allowed for a two-hour period, after which the setting will revert to **OFF**.



**NOTE:** Enabling IP ACCESS allows downloads over a local area network (LAN) or the internet (Wide Area Network - WAN) using VeriFire® Tools through the Noti•Fire•Net™ Web Server (NWS), or a wide-area enabled NCS through a PC version of Noti•Fire•Net™ Gateway.

Always verify system operation after programming changes are made in this manner.

## 3.2.3 Network Mapping

The Network Mapping softkey is only available if the Network Display Mode option is enabled. Pressing the softkey will display the following screen.

There are 15 of these screens covering nodes 1 through 240. Each screen will have 16 nodes on it. The up and down arrow keys are used to select which node to edit. When a field is selected, the NEXT SELECTION/PREVIOUS SELECTION keys will toggle between OFFLINE/ONLINE, MAPPED/UNMAPPED.

- **OFFLINE** - The node is not communicating on the network.
- **ONLINE** - The node is communicating on the network.
- **MAPPED** - Events are annunciated by the AFP-3030. When a node is mapped to the AFP-3030, it is automatically mapped for mass notification events as well. Mass Notification mapping can be disabled separately from event mapping via VeriFire® Tools.
- **UNMAPPED (blank)** - Events are ignored by the AFP-3030.

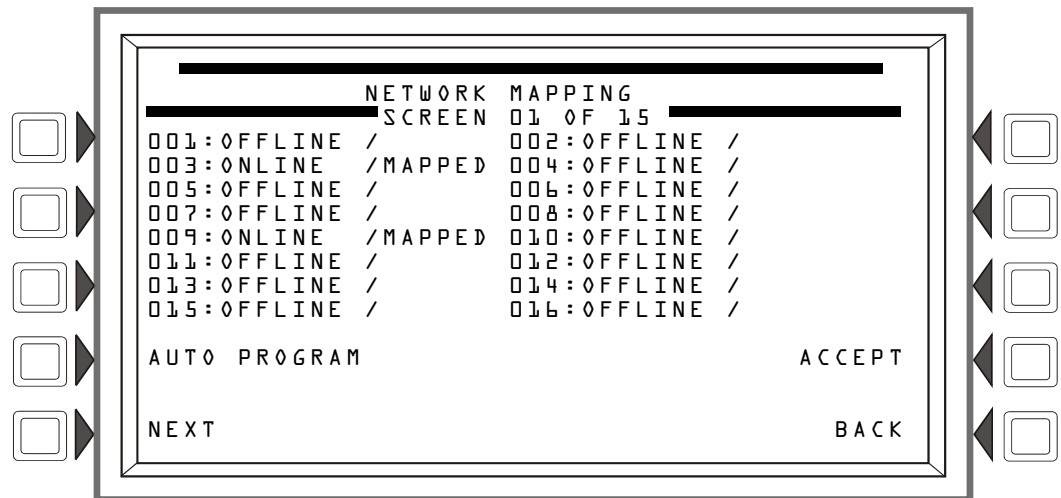


**NOTE:** The AFP-3030 can be programmed to monitor events on one (1) additional fire panel or gateway and up to four (4) DVCs.

NEXT navigates to the next screen in the sequence. The last screen will not have a NEXT key. BACK will go to the preceding screen in the sequence or to the Node Programming menu if the current screen is the first one in the 15-screen sequence. ACCEPT implements any changes that have been made up to this point and returns the user to the Node Programming menu. AUTO PROGRAM will consult the internal map of which nodes are on the network and automatically set all 240 Nodes according to the map, regardless of which screen is being shown. The results will not be saved to flash until the ACCEPT key is pressed.



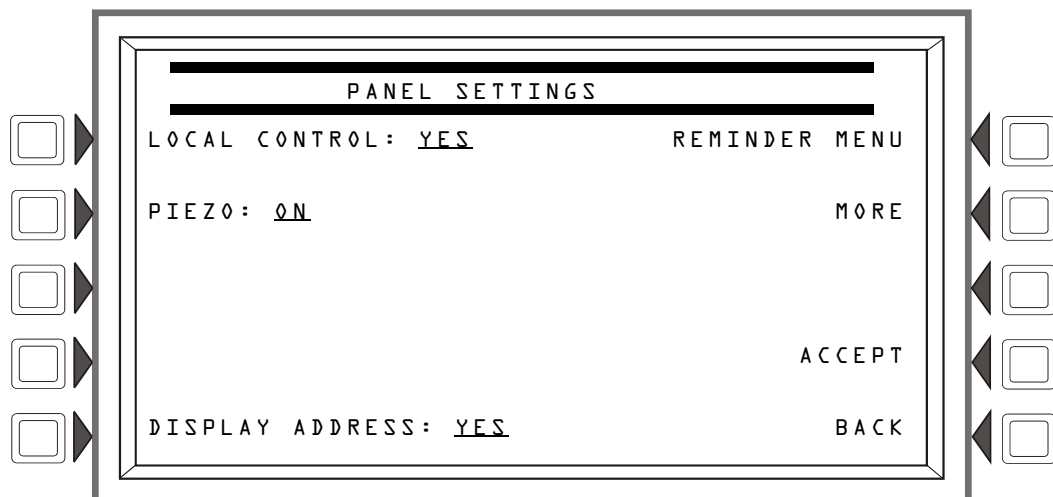
- Main menu
  - ↳ Program/alter status menu
    - ↳ Panel program menu
      - ↳ Network mapping



**Figure 3.5 Program Menu: Network Mapping**

### 3.2.4 Panel Settings

Press the Panel Settings soft key on the Panel Program Menu 1 screen to choose panel settings.



### Figure 3.6 Panel Settings (1) Screen

## Soft Keys

**LOCAL CONTROL:** Press this soft key to toggle between YES and NO. This option disables (NO) or enables (YES) local panel control of the Signal Silence, System Reset, and Drill Fixed Function keys, as well as SIGNAL SILENCE, SYSTEM RESET, and ACKNOWLEDGE soft keys. A setting of NO (disable) turns the panel piezo sounder off, overriding the next field if PIEZO is set to ON. Default: YES



**NOTE:** A setting of N0 (disable) will disable key switch operation.

**NOTE:** ACS devices programmed for acknowledge, signal silence, and system reset are not affected by this setting: these commands will still function at the devices if LOCAL CONTROL is set to NO.

**NOTE:** For displayless panel applications, LOCAL CONTROL should be set to NO.

**PIEZ0:** Press this soft key to toggle between **OFF** and **ON**. This option enables (**ON**) or disables (**OFF**) the panel piezo from sounding when alarms or faults occur. A setting of **ON** is overridden if **LOCAL CONTROL** is set to **N0**. Default: **ON**



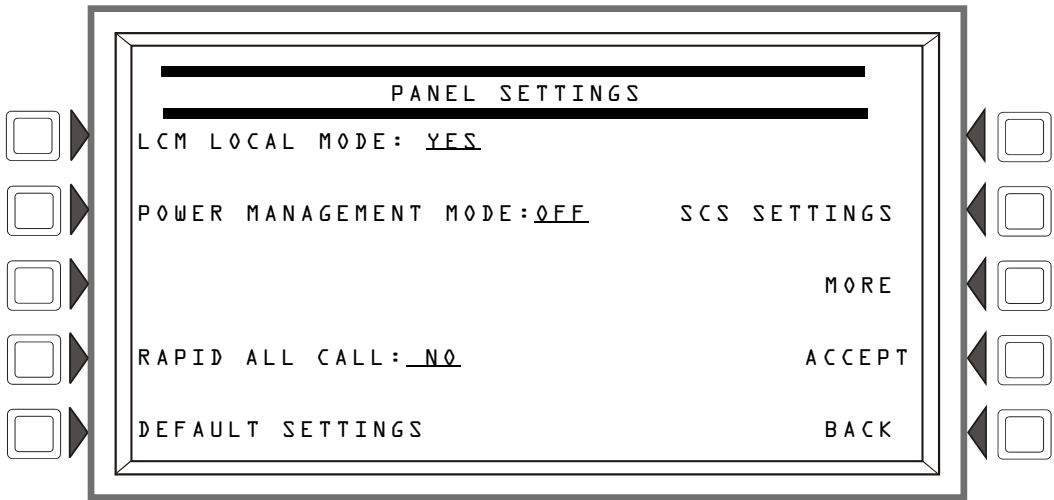
**NOTE:** Setting the piezo to OFF will generate a fault on the system stating PIEZO IS DISABLED

**DISPLAY ADDRESS:** Press this soft key to toggle between YES and NO. Choose YES to display all point address information at the top of event screens and in printouts. Choose NO to suppress address information display and printing. Default: YES

**REMINDER MENU:** Press this soft key to bring up the Reminder Menu screen.

**ACCEPT:** Press this soft key to save the information entered on this screen.

**MORE :** Press this key to progress to the second Panel Settings screen.



**Figure 3.7 Panel Settings (2) Screen**

**Soft Keys**

**LCM LOCAL MODE :** Press this soft key to toggle between YES and NO. Enter YES to enable all SLCs to participate in local mode. When enabled, all LCMs will operate together in a limited fashion when communication is lost with the AFP-3030 CPU. Inputs on LCM loops (and associated LEM loops, if installed) will activate outputs on all loops

- for those inputs and outputs that have been set with point programming to participate in local mode, and
- when type codes are the same point type: that is, an input with a fire type code will activate an output with a fire type code. (Refer to Appendix F, “Type Codes”, on page 97 for point types).

Default: NO

**POWER MANAGEMENT MODE :** Select ON to invoke the power management mode to conserve power consumption. In this mode, the number of LEDs that can be turned ON on a particular loop will be limited. A maximum of 30 input device (monitor modules and detectors) LEDs will be allowed ON at a time. No output module LEDs will turn ON. When the limit of 30 LEDs is reached, every time a new LED is turned ON, the oldest LED activation will turn OFF and will poll in red rather than the usual green. Default: OFF

**RAPID ALL CALL:** Set YES to invoke Rapid All Call for XP Series transponder modules. This setting causes these modules to activate more quickly. Rapid All Call is used with the “Speaker” type code. Default: NO

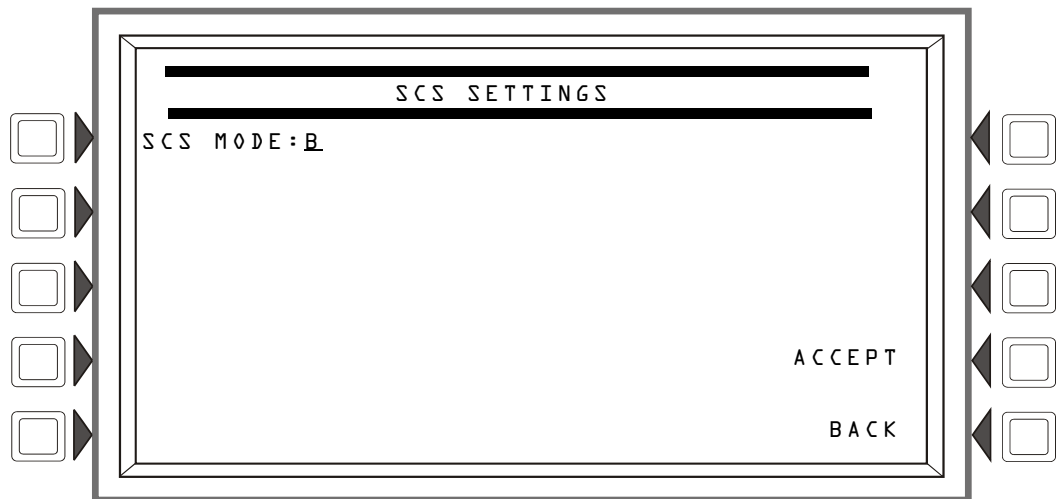
**DEFAULT SETTINGS :** Press this soft key to activate default settings for the following:

Program Setting for:	Default:
Local Control	YES
Piezo	ON
Display Address	YES
LCM Local Mode	NO
Power Management	OFF
Rapid All Call	NO

**Table 3.1 Default Settings**

**SCS SETTINGS:** Press this soft key to proceed to the SCS Settings screen.

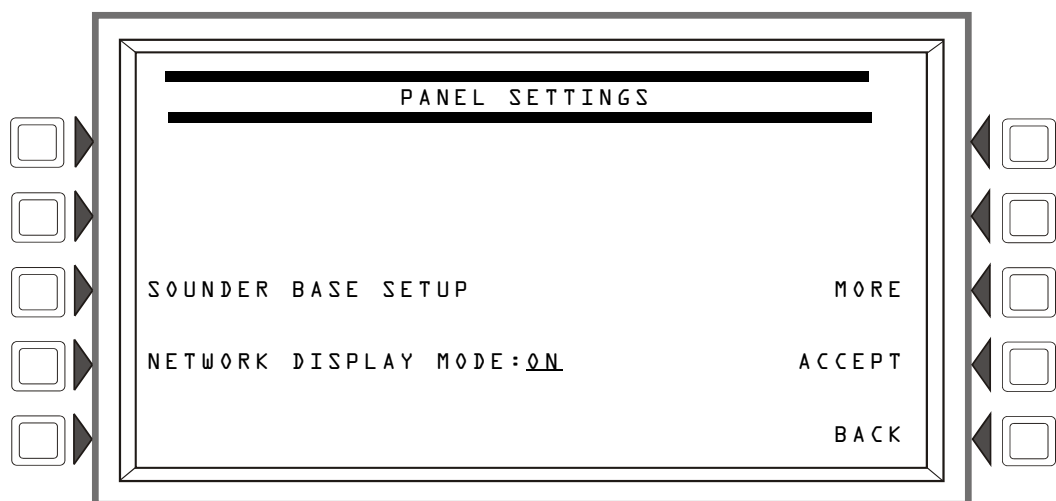
**MORE :** Press this key to progress to the third Panel Settings screen.



**Figure 3.8 SCS Settings Screen**

**SCS MODE:** This panel option is set for SCS mode B and can not be altered.

**Note:** For use with local SCS installations. Refer to Appendix H, “Smoke Control Station Programming”, on page 106 or the SCS Series Documentation provided with your equipment for additional information.



**Figure 3.9 Panel Settings (3) Screen**

**SOUNDER BASE SETUP:** Does not apply to this fire alarm control panel.

**NETWORK DISPLAY MODE:** Press this softkey to enable Network Display Mode for the fire panel. Network Display Mode allows the AFP-3030 to display network events for up to five mapped network nodes.

**MORE:** Press this key to progress to the fourth Panel Settings screen.

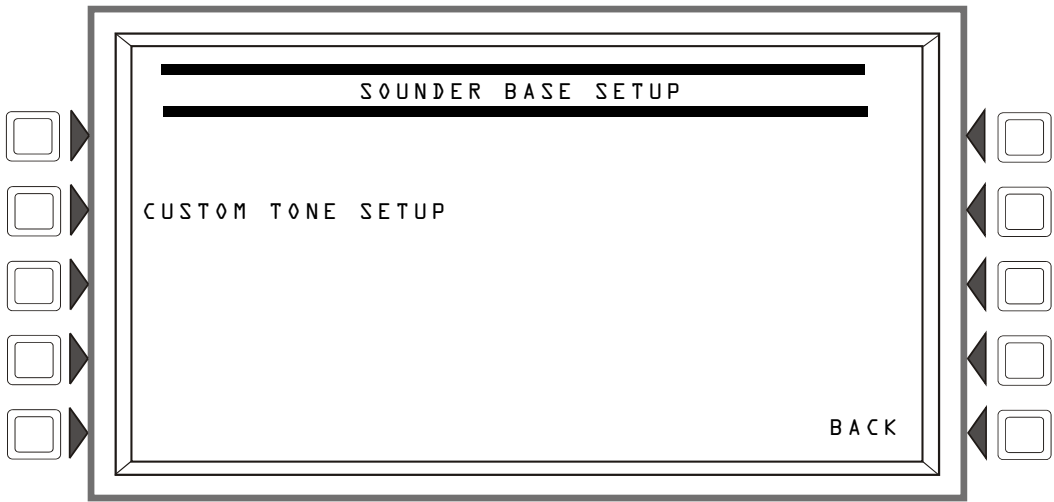


Figure 3.10 Sounder Base Setup Screen

**CUSTOM TONE SETUP:** Does not apply to this fire alarm control panel.

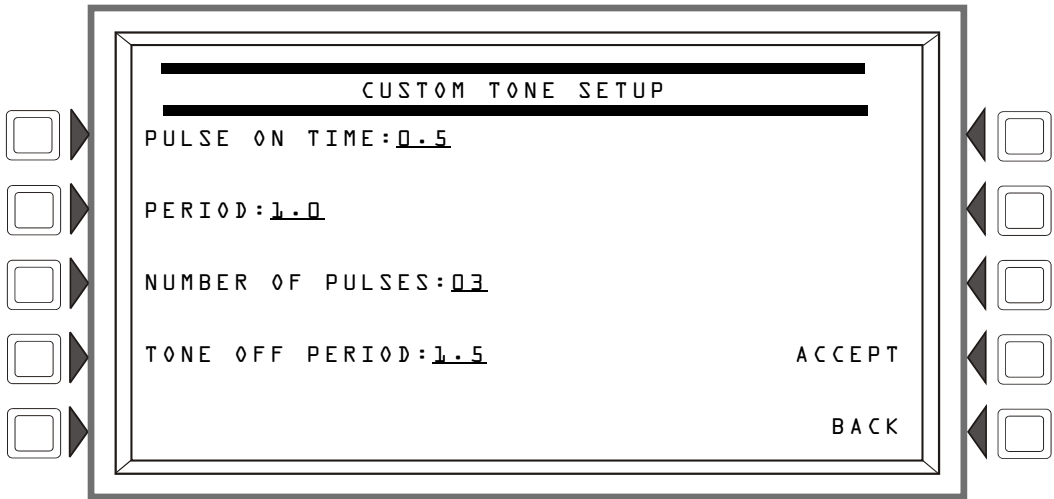


Figure 3.11 Custom Tone Setup Screen

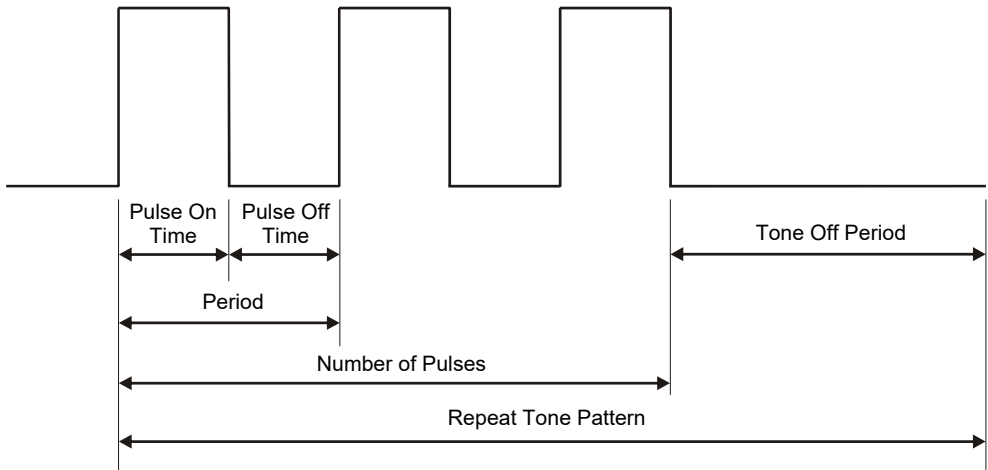


Figure 3.12 Custom Tone Example

**PULSE ON TIME:** The Pulse On time is the amount of time that the tone will be ON within a Period. Press this softkey to enter the amount of time in second and fraction of a second increments.

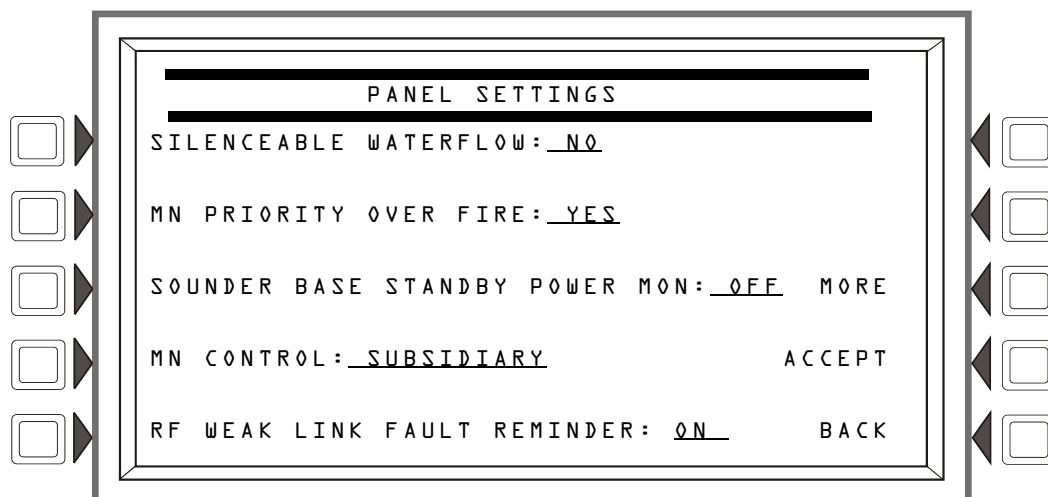
**PERIOD:** A Period is the length of time designated for a pulse, including Pulse On time and Pulse Off time. The pulse off time is designated by the amount of time left in a Period after the Pulse On time has expired. Press this softkey to enter the amount of time in second and fraction of a second increments.

**NUMBER OF PULSES:** Press this softkey to enter the number of pulses that will occur before the Tone Off Period.

**TOFF PERIOD:** The Tone Off Period is the amount of time that the tone will be silent before running the pulse pattern again. Press this softkey to enter the amount of time in seconds and fraction of a second increments.

For more information on programming the Intelligent Sounder Base, refer to “Detector Point” on page 44.

Pressing the **MORE** soft key on this Panel Settings screen will display this screen:



**Figure 3.13 Panel Settings (4) Screen**

**SILENCEABLE WATERFLOW:** If the SILENCEABLE WATERFLOW option is set to NO, incoming Waterflow events will not be allowed to be silenced. If set to YES, incoming Waterflow events can be silenced. Default: NO

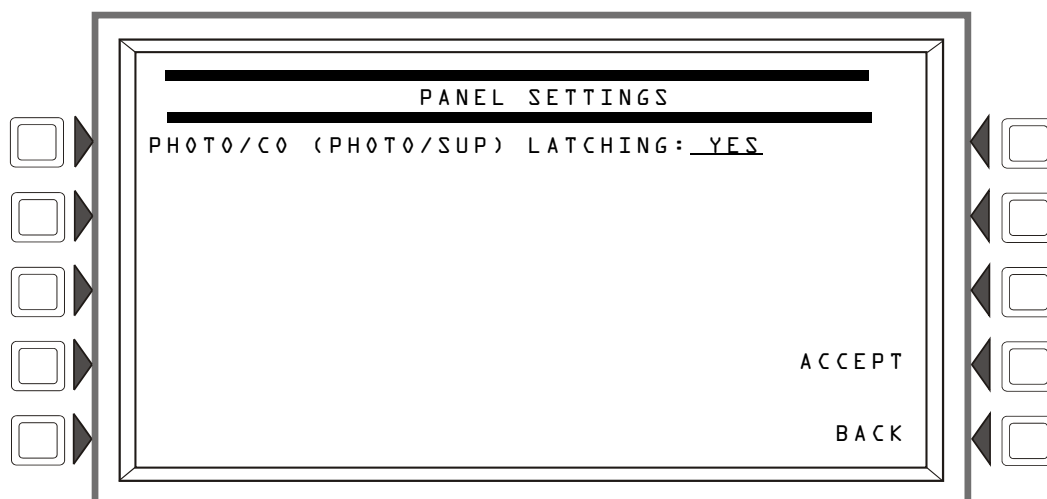
**MN PRIORITY OVER FIRE:** If the MN PRIORITY OVER FIRE option is set to NO, Fire events will have a higher priority than Mass Notification (MN) events. If set to YES, MN events will have a higher priority than Fire events. If set to MN NOT USED, this system is being used for fire protection only.

**SOUNDER BASE STANDBY POWER MON:** If the SOUNDER BASE STANDBY POWER MON option is set to ON, external power on the sounder base will be monitored when in standby. If set to OFF, external power on the sounder base will not be monitored when in standby. Set to ON when the sounder base is powered by a constant 24 VDC. Default: OFF

**MN CONTROL:** Toggle between SUBSIDIARY, ACU, LOC, and CSS. This option should remain subsidiary if the AFP-3030 is not in Network Control Mode. If SUBSIDIARY: Select subsidiary if the AFP-3030 does not have an associated DVC set as an ACU, LOC, or CSS. If ACU, LOC, or CSS: Select ACU, LOC, or CSS to match the configuration programming of an associated DVC used for Mass Notification. Default: SUBSIDIARY

**RF WEAK LINK FAULT REPORTING:** Toggle between ON and OFF. If ON: The AFP-3030 will report a fault when a wireless device loses communication with the wireless gateway. If OFF: The AFP-3030 does not report communication loss of the wireless devices to the wireless gateway. Default: ON

Pressing the **MORE** soft key on this Panel Settings screen will display this screen:

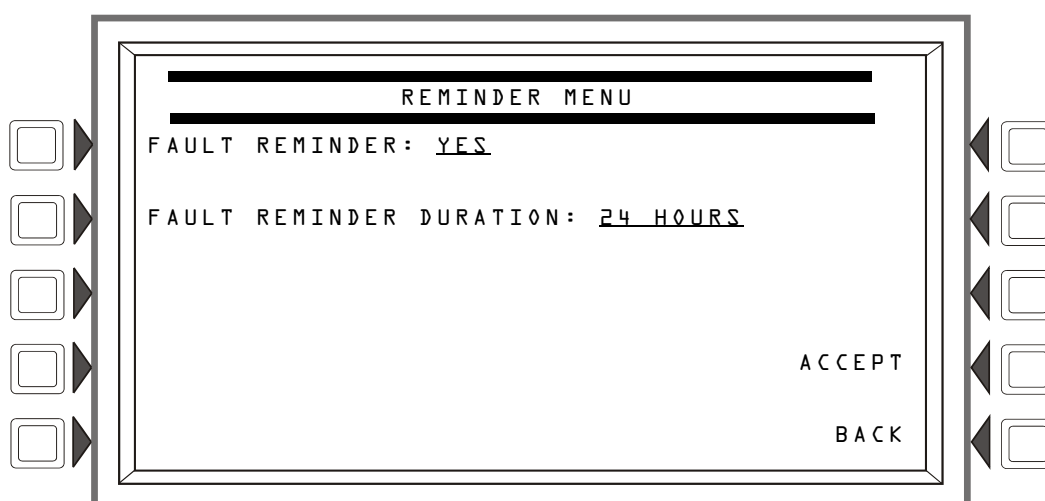


**Figure 3.14 Panel Settings (5) Screen**

PHOTO/CO (PHOTO/SUP) LATCHING: Does not apply for this fire alarm control panel.

### Reminder Menu

Press the Reminder Menu soft key on the Panel Program Menu 1 screen to set the fault reminder.



**Figure 3.15 Reminder Menu Screen**

### Soft Keys

**FAULT REMINDER:** Press this soft key to toggle between the two possibilities:

**YES:** Choose this to initiate a daily 11:00AM reminder that there are uncleared faults in the system. The reminder will appear on the screen and will sound a piezo (if the piezo is enabled).

**NO:** Choose this if no reminder is desired. Default: YES

**FAULT REMINDER DURATION:** Press this soft key to toggle between 4 Hours and 24 Hours to select the duration of time between fault reminders.

**4 HOURS:** Choose to initiate a fault reminder every four hours until all faults are clear. This option should be selected if the fire panel is connected to a wireless network via the FWGAUS.

**24 HOURS:** Choose to initiate a fault reminder every 24 hours until all faults are clear. Default: 24 HOURS

**ACCEPT:** Press this soft key to save the information entered on this screen.

### 3.2.5 Panel Timers (Menu 1)

Press the Panel Timers soft key on the Panel Program Menu 1 screen to display the following screen.

Figure 3.16 Panel Timers (Menu 1) Screen

#### Soft Keys

**VERIFY TIME:** Press this soft key to set the Alarm Verification timer. Type in a value of 0-1800 (seconds), which will delay initiating devices set for Alarm Verification from signalling for the amount of time entered. If a second alarm occurs on the fire alarm control panel while the alarm verification timer is counting, the timer will stop and the alarm will signal immediately. Default: 300

**MAXIMUM VERIFICATION COUNT:** Press and enter a value from 0-20 for a maximum verification count threshold value that applies to detectors set to participate in Alarm Verification. A value of zero produces no verification fault. When the counter exceeds the threshold value entered, a fault is generated to the panel. Default: 00

**SILENCE INHIBIT:** Press to enter a value from 0 (disabled) to 5 minutes. This software timer disables the SIGNAL SILENCE key function for the time entered when a fire alarm occurs. The timer starts at the first alarm only; it does not restart with each new alarm. Default: 0

**AUTO SILENCE:** Press to enter a value of OFF (no Auto Silence Timer), or a value of 10, 15 or 20 minutes. This global software timer functions like pressing the SIGNAL SILENCE key. For example, if a value of 10 is entered, the control panel will silence all active outputs programmed as silenceable after ten minutes. Default: OFF

**VERIFY=PREALARM:** Press this soft key to enter Yes or No for displaying Prealarm during alarm verification. Default: NO

### 3.2.6 Panel Timers (Menu 2)

Press the MORE soft key on the Panel Timers Menu 1 screen to display the following screen.

Figure 3.17 Panel Timers (Menu 2) Screen

#### Soft Keys

**OUTPUT DELAY TIME:** Press to enter a value of 00:00 (OFF) or a value of 0:01 to 10:00 minutes (in the format MM:SS, where MM = minutes, SS = seconds). This feature initially causes alarm signals to sound only in specific areas, monitored by qualified personnel. This allows delay of the alarm for up to 10 minutes after the start of alarm processing. Refer to Appendix B, "Special Function Zone Outputs" for further explanation of this option. Default: 1:00

DEFAULT TIMERS: Press this soft key to activate default settings for the following:

Program setting for:	Default:
Verify Time	30 seconds
Max. Verify	0
Silence Inhibit	0 (disabled)
Auto Silence	Off
Verify = Prealarm	No
Output Delay Time	1 minute

Table 3.2 Default Timers

ACCEPT: Press this soft key to save the information entered on this screen and return to the previous screen.

3.2.7 LCD Programming

The LCD Programming screen allows the user to vary the contrast of the display and turn the backlight on or off.

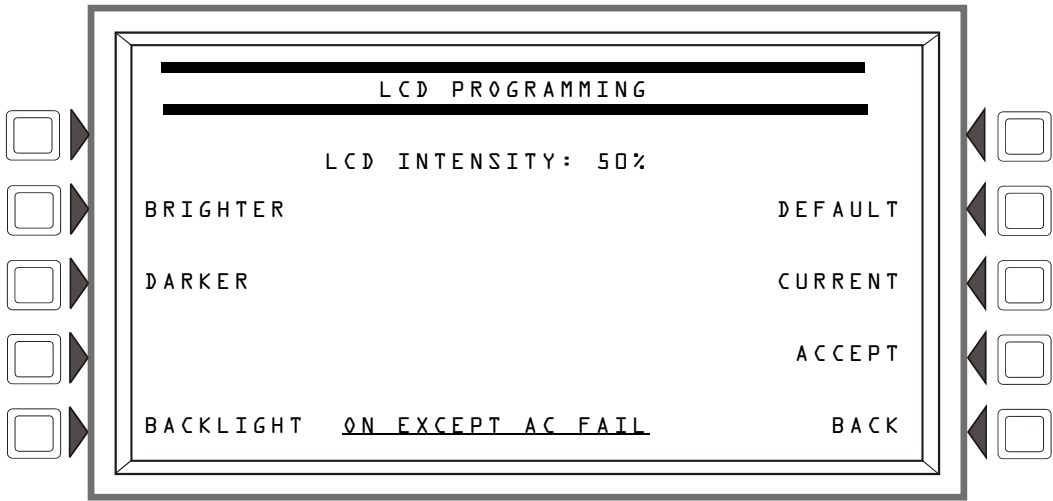


Figure 3.18 LCD Display Screen

Soft Keys

- BRIGHTER: Press this soft key to increase contrast. The intensity will increase by approximately 5% with each press of the key.
- DARKER: Press this soft key to decrease contrast. The intensity will decrease by approximately 5% with each press of the key.
- BACKLIGHT: Press this soft key to select one of the following backlighting options: ON EXCEPT AC FAIL, OFF, or ON. When ON EXCEPT AC FAIL is selected, the backlight will turn off when the power supply experiences AC failure. Default: ON
- DEFAULT: Press to select the factory default setting (40%).
- CURRENT: Press to select the intensity that was in effect when the screen was accessed.
- ACCEPT: Line 5 (which displays LCD INTENSITY: 50% in the figure above) will change value when the INTENSITY soft keys are pressed. Press ACCEPT to save the desired setting.

3.2.8 ACS Programming

An ACS device is a remote device used by the panel to annunciate certain system messages, and/or to act with limited commands. A total of 32 annunciator devices may be present on the EIA-485 ACS circuit; however, some devices have associated expander devices, and an AFP-3030 ACS circuit can accommodate up to 3,072 annunciator points. The ACS Programming and ACS Point Programming screens in this section allow the user to define the mapping and functional mode of these devices and points. Each annunciator board may be labelled using the ACS Label Menu. (Refer to Section 3.4.6, “Annunciator Board Label”, on page 57).



**NOTE:** Smoke Control devices must be set as the SMOKE annunciator type. Refer to Appendix H on page 106 for further information on Smoke Control devices and VeriFire® Tools for additional programming.



Press the ACS Programming soft key at the Panel Program screen to invoke the following screen. Press the up and down arrow keys on the keypad to navigate through the annunciator addresses. There will be a cursor highlighted at the current annunciator address position.

The ACS Programming screen is displayed within a frame. At the top, it says "ACS PROGRAMMING". Below this, there is a grid of annunciator addresses and their current values:

A01: PST	A02: NONE	A03: NONE	A04: NONE
A05: NONE	A06: NONE	A07: NONE	A08: NONE
A09: NONE	A10: NONE	A11: NONE	A12: NONE
A13: NONE	A14: NONE	A15: NONE	A16: NONE
A17: NONE	A18: NONE	A19: NONE	A20: NONE
A21: NONE	A22: NONE	A23: NONE	A24: NONE
A25: NONE	A26: NONE	A27: NONE	A28: NONE
A29: NONE	A30: NONE	A31: NONE	A32: NONE

Below the grid, there are two options: "ANNUNCIATOR TYPE" and "POINT PROGRAMMING". To the right of "ANNUNCIATOR TYPE" is the word "ACCEPT", and to the right of "POINT PROGRAMMING" is the word "BACK".

**Figure 3.19 ACS Programming Screen**

### Soft Keys

**ANNUNCIATOR TYPE:** When the cursor is placed at the desired address, press this soft key to scroll through the following list of types. Stop at the appropriate type. If the annunciator type is set to **NONE**, but an annunciator set to that address is physically installed on the system, the panel will not attempt to communicate with that device and no faults will be generated.

Type	Used for
64PT	64 point annunciation (ACM-24AT, AEM-24AT, etc.)
96PT	96 point annunciation (ACM-48A, AEM-48A, etc.)
SMOKE	Smoke control modules set for FSCS mode (SCS-8A, SCS-8LA, SCE-8A, etc.)
8RA	Relay Annunciator (ACM-8RA)
ZM	Zone Module Annunciator (ACM-ZM)
PSI	Power Supply Interface Module (ACM-PSI)
NONE	No annunciator installed

**Table 3.3**

**POINT PROGRAMMING:** Press this soft key to proceed to the ACS Point Programming screen.

**ACCEPT:** Press this soft key to save all the changes made and return to the previous screen (Panel Program).

### ACS Point Programming

ACS Point Programming can be reached by pressing **POINT PROGRAMMING** at the ACS Programming screen. This screen allows the programmer to assign a mode and sources to each annunciator point at the annunciator address. One ACS input may be used to control multiple SLC output modules by listing the output points in the **SOURCE** fields. This feature applies to the **64PT** and **96PT** annunciator types. Refer to Table 3.4 on page 34.

The ACM-8RA, ACM-ZM, and ACM-PSI have predefined points. Refer to Tables 3.5 through 3.7.



**NOTE:** SLC output modules with releasing Type IDs may not be listed in the annunciator source fields.



**NOTE:** The AFP-3030 supports ACM-24AT/ACM-48A annunciators and their expanders with either 64 or 96 points at an address, as well as LDM-32 annunciators with 64 points at an address.

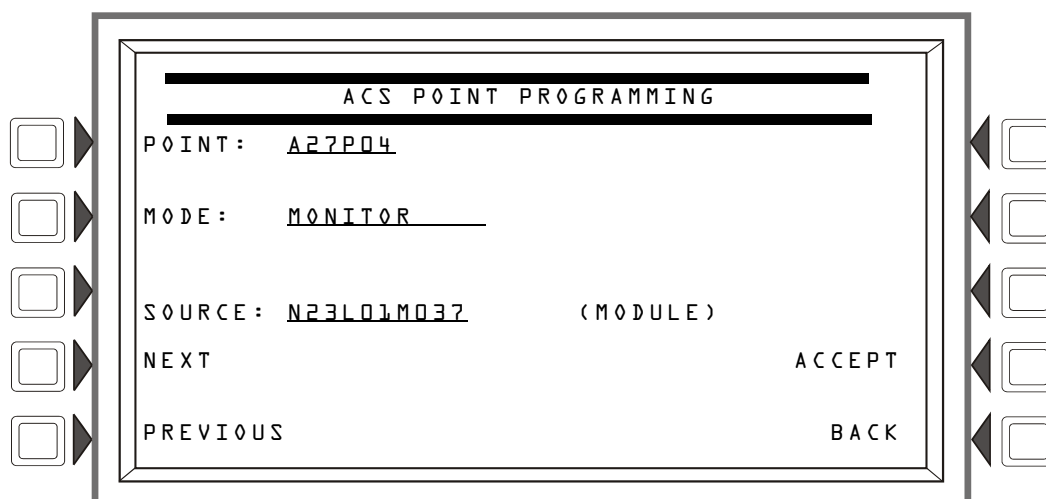


Figure 3.20 Sample ACS Point Programming Screen

### Soft Keys

**POINT :** Press this soft key to enter the ACS point number. The format is AxxPyy, where A is the two-digit device address, P is the two-digit point number. Enter a leading zero for one-digit numbers.

**MODE :** Press this soft key to enter the ACS mapping mode. Table 3.4 shows the possible mode choices and descriptions of their functions.

ACS Point Mode	Function: The point...	Explanation
NONE	... is not programmed.	No messages are sent from or received at this point. LEDs at this point do not light.
CONTROL	... will change the state of up to eight control modules OR (for AFP-3030 only) up to eight general zones to off or on when its button is pushed. Selecting this point mode will bring up the Control Point Select screen (refer to Figure 3.21).	The Point Active LED is lit if a corresponding mapped point is active. The Status (fault) LED is on when a point or zone is in fault.
MONITOR	... will show the current status of a specified point or zone.	The Point Active LED is lit if the corresponding mapped point or zone is active. The Status (fault) LED is on if that point or zone is in fault. If the point has a button, it has no effect when pushed.
CO MONITOR	... will show the current state of the CO element for the specified point entered.	The Point Active LED is lit if a corresponding mapped point is active. The Status (fault) LED is on when a point is in fault. This point is specifically used to annunciate the CO element of the PHOTO/CO detector.
DISABLE	... will change the state of a point, zone, or DAA speaker circuit(s) specified through mapping from enabled to disabled, or from disabled to enabled, when its button is pushed. See Caution below this table.	The Point Active LED is lit if the corresponding mapped point or zone is active. The Status (fault) LED is lit only if that point or zone is disabled.
ACKNOWLEDGE	... will act like a Silence Buzzer soft key or button on the panel, acknowledging an event when its button is pushed.	The Point Active LED is lit when there are any fire alarms in the system. The Status (fault) LED is lit when there are faults in the system.
SILENCE	... will act like the Signal Alarm Devices button on the panel, silencing all silenceable outputs when its button is pushed.	The Point Active LED is lit if all silenceable outputs have been silenced. The Status (fault) LED is lit if not all silenceable outputs have been silenced after the button is pushed.
RESET	... will act like the System Reset button on the panel, resetting the panel when its button is pushed.	No LED will ever light at this point.
ENABLE PAGING FROM	...will cause the associated input to become an active audio source on Noti•Fire•Net. The user may then choose to activate specific PAM points on remote Digital Voice Commands to use this network input, or to perform a paging function such as ALL CALL from this input.	The Point Active LED is lit if a corresponding mapped point is active. The Status (fault) LED is on when a point or zone is in fault.

Table 3.4 ACS Point Mapping: Explanation of Point Modes (1 of 2)

ACS Point Mode	Function: The point...	Explanation
ALL CALL	This point will activate ALL CALL. (Speaker Circuits will turn on according to programming) to a DVC only. Mapping <i>must</i> be to a DVC node. If an AMG is connected to this panel, ALL CALL can be activated <b>ONLY</b> by the ALL CALL switch on the AMG. Do not program any other annunciators for ALL CALL.	The Point Active LED is lit if a corresponding mapped point is active. The Status (fault) LED is on when a point or zone is in fault.
PAGE INACTIVE	...will, when pressed after a Page Enable, allow PAGE INACTIVE paging from that source. The Special Paging Function map programming at the DVC will receive the page function.	The Point Active LED is lit if a corresponding mapped point is active. The Status (fault) LED is on when a point or zone is in fault.
PAGE EVAC	...will, when pressed after a Page Enable, allow Page Evac paging from that source. The Special Paging Function map programming at the DVC will receive the page function.	The Point Active LED is lit if a corresponding mapped point is active. The Status (fault) LED is on when a point or zone is in fault.
PAGE ALERT	...will, when pressed after a Page Enable, allow Page Alert paging from that source. The Special Paging Function map programming at the DVC will receive the page function.	The Point Active LED is lit if a corresponding mapped point is active. The Status (fault) LED is on when a point or zone is in fault.
FFT-NFN	...will, when pressed: <ul style="list-style-type: none"> <li>• Notify a DVC in the map format Nxxx,Nxxx,NxxxLyyMzzz or Nxxx,Nxxx,NxxxAyyT to open the FFT-NFN link and turn on the mapped FFT point or riser. A second press will notify the DVC to turn off that FFT point or riser and determine whether the FFT-NFN link should be closed or remain open.</li> <li>• Notify a DVC in the map format Nxxx,Nxxx to close or open the FFT-NFN link between two DVCs.</li> </ul>	The Point Active LED is lit if a corresponding mapped point is active. The Status (fault) LED is on when a point or zone is in fault.

Table 3.4 ACS Point Mapping: Explanation of Point Modes (2 of 2)

**CAUTION: PREVIOUSLY DISABLED OUTPUTS WILL ACTIVATE IF SYSTEM EVENTS EXIST**

WHEN A DISABLED OUTPUT IS ENABLED, IT WILL BE AFFECTED BY CONDITIONS EXISTING IN THE SYSTEM THAT WOULD NORMALLY AFFECT IT. FOR EXAMPLE, WHEN A CONDITION EXISTS IN THE SYSTEM THAT WOULD NORMALLY TURN THE OUTPUT ON, THE OUTPUT *WILL* TURN ON WHEN IT IS ENABLED.

**SOURCE :** Pressing this soft key will select the SOURCE field and also toggle between display formats if a point value is allowed. Enter a point or zone, or the panel's node number if the mode type is a system function such as acknowledge or reset.

Up to eight sources are allowed when CONTROL mode is chosen.

For ALL CALL, PAGE INACTIVE, PAGE EVAC, and PAGE ALERT modes, enter the node number of the DVC where the source is connected.

For TELEPHONE mode, enter the address of the telephone module point using the format NxxXLyyMzzz. Use the format NxxxAyyT (where xxx = the node number and yy = the digital audio amplifier address) for FFTs on risers that have no FTM modules installed.

**FFT-NFN** mode sources:

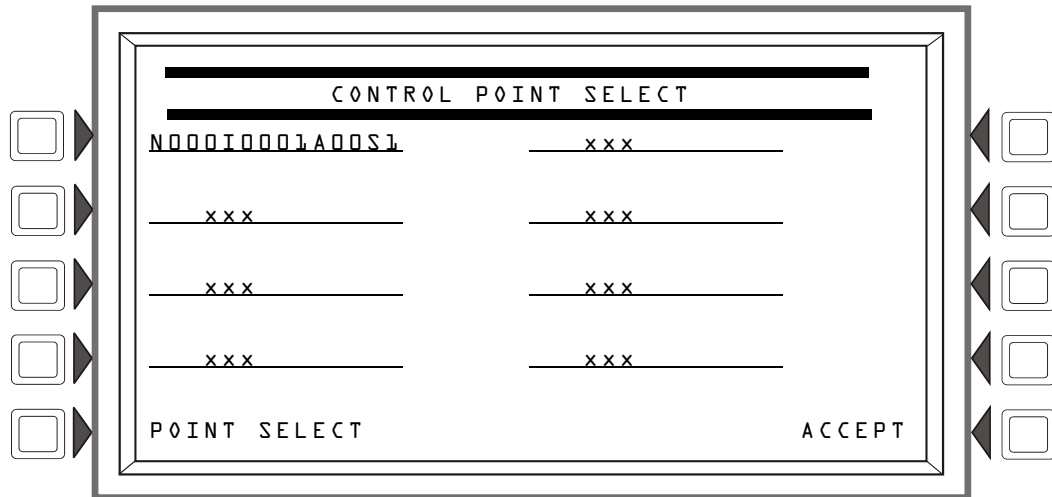
- format Nxxx,Nxxx,NxxxLyyMzzz: Telephone control module (NxxxLyyMzzz) preceded by the node numbers of the two DVCs (Nxxx,Nxxx) that will communicate over the FFT-NFN link.
- format Nxxx, Nxxx: numbers of the two DVCs that will communicate over the FFT-NFN link.
- format NxxxAyyT: Use this address (N = the DVC node number and A = the DAL device address on the digital audio loop) when no telephone control modules are installed on a DAL device's FFT riser.

Refer to the FFT-NFN section of the DVC manual for programming and application examples.

**ACCEPT :** Press this soft key to save the changes to the point displayed.

**BACK :** Press this soft key to exit the screen without saving, and return to the ACS Programming Screen.

## Control Point Select



**Figure 3.21 Control Point Select Screen**

Control source field entries may be:

- SLC modules in the format NxxxLyyMzzz. xxx = FACP node number, yy - the SLC loop number, zzz - module loop address.
- General zones in the format NxxxZyyy. xxx = FACP node number, yyy = General zone number (Z001 - Z999, not Z000. Zone 0 is not valid).



**NOTE:** A zone with a node number of zero (0) will be a local zone.

- Prioritized Audio Matrix (PAM) speaker points, in the format NxxxIyyyyAzzSn, where xxx = the DVC node number, yyyy = the input number in the PAM, zz = the DAA address on the Digital Audio Loop (01 through 32), and n = the DAA speaker circuit (1 through 4).



### CAUTION: GENERAL ZONE PROGRAMMING

DO NOT MIX GENERAL ZONES WITH OTHER SOURCE TYPES FOR AN ACS CONTROL POINT. PROGRAM UP TO EIGHT GENERAL ZONES OR UP TO EIGHT OTHER CONTROL POINT TYPES.

### Soft Keys

All soft keys function like they do on the ACS Point Programming Screen.

## ACM-ZM Point Mapping

Refer to the following table for ACM-ZM predefined points.

ACS Point:	Point Text:	Point Type:	Explanation:
AxP1	System Normal LED	N/A	This point is active when the fire panel is System Normal. This point will extinguish if an alarm, fault, or supervisory condition occurs
AxP2	Common Alarm LED	N/A	This point will activate when a fire alarm is present on the fire panel or any fire panels mapped to the fire panel in Network Display Mode. This point will extinguish once the fire alarm condition is cleared and the panel or panels are reset
AxP3	Sprinkler LED	N/A	A flow switch has activated, indicating a sprinkler is operating
AxP4*	Common Defect LED	N/A	This point will activate when a device or system fault is present on the fire panel or any fire panels mapped to the fire panel in Network Display Mode
AxP5*	Zone 1 Alarm	N/A	An alarm was received from the fire panel on Zone 1
AxP6*	Zone 2 Alarm	N/A	An alarm was received from the fire panel on Zone 2
T0			
AxP75*	Zone 71 Alarm	N/A	An alarm was received from the fire panel on Zone 71
AxP76*	Zone 72 Alarm	N/A	An alarm was received from the fire panel on Zone 72
AxP77	Trial Evacuation Key	Supervisory	Press to initiate an Evacuation on the fire panel and activate all alarm devices. A supervisory condition will be displayed on the fire panel. Press a second time to de-activate the evacuation and clear the supervisory event from the fire panel. Note: This only operates on the New Zealand panel.
AxP78	Brigade Silence	Fault	Press to initiate a signal silence on the fire panel and silence all active alarm devices. A fault condition will be displayed on the fire panel. Press a second time to de-active the brigade silence and clear the fault from the fire panel. Note: This only operates on the New Zealand panel.

**Table 3.5 ACS Point Mapping: Explanation of ACM-ZM Point Modes (1 of 2)**

ACS Point:	Point Text:	Point Type:	Explanation:
AxP79	Door Open Input	Supervisory	Press to initiate a supervisory event on the fire panel and display PANEL DOOR OPEN. Press a second time to de-activate and clear the supervisory event from the fire panel.
System Fault	Door Interlock System Fault	Fault	This will activate when door is closed and either of the following is true: -the panel is silenced -the Evacuation key, Brigade Silence, Door Holder Disable, Auxiliary Disable, ARE Disable Input, or Alarm Device key is active. Note: This only operates on the New Zealand panel.

**Table 3.5 ACS Point Mapping: Explanation of ACM-ZM Point Modes (2 of 2)**

\* These points can be edited from their default settings to monitor other zones, devices, or points.

## ACM-8RA Point Mapping

Refer to the following table for ACM-PSI predefined points:

ACS Point:	Point Text:	Point Type:	Explanation:
AxxP01	Relay Output 1	Monitor - Zone 1	Relay will energize when Zone 1 on the local fire panel is active.
AxxP02	Relay Output 2	Monitor - Zone 2	Relay will energize when Zone 2 on the local fire panel is active.
AxxP03	Relay Output 3	Monitor - Zone 3	Relay will energize when Zone 3 on the local fire panel is active.
AxxP04	Relay Output 4	Monitor - Zone 4	Relay will energize when Zone 4 on the local fire panel is active.
AxxP05	Relay Output 5	Monitor - Zone 5	Relay will energize when Zone 5 on the local fire panel is active.
AxxP06	Relay Output 6	Monitor - Zone 6	Relay will energize when Zone 6 on the local fire panel is active.
AxxP07	Relay Output 7	Monitor - Zone 7	Relay will energize when Zone 7 on the local fire panel is active.
AxxP08	Relay Output 8	Monitor - Zone 8	Relay will energize when Zone 8 on the local fire panel is active.

**Table 3.6 ACS Point Mapping: Explanation of ACM-8RA Point Modes**

## ACM-PSI Point Mapping

Refer to the following table for ACM-PSI predefined points:

ACS Point:	Point Text:	Point Type:	Explanation:
AxP1	Battery Test	N/A	A battery test request was received from the fire panel. This point should be mapped to logic zone ZL980 programmed with the following equation: TIM(MO,WE,FR,06:00:00,07:00:00) This equation will activate the logic zone between 6:00AM and 7:00AM every Monday, Wednesday, and Friday.
AxP2	High Current Mode	N/A	A high current mode message was received from the fire panel
AxP3	NAC 1 Activate	N/A	A NAC 1 output active request was received from the fire panel. This point should be mapped to a logic zone to activate. Note: By default, NAC 1 is configured to be silenceable. This can be changed to non-silenceable using VeriFire® Tools (General Settings).
AxP4	NAC 2 Activate	N/A	A NAC 2 output active request was received from the fire panel. When an alarm occurs, general alarm zone 0 will activate, activating the logic zone. If additional alarms on other nodes are to be included, the logic equation can be modified as follows: OR(Z0,NxxxZ0) where xxx is the node number of the remote node. Note: By default, NAC 2 is configured to be silenceable. This can be changed to non-silenceable using VeriFire® Tools (General Settings).
AxP5	Alarm Routing Output	N/A	An A.R.E. Alarm Routing active request was received from the fire panel
AxP6	System Fault Output	N/A	An A.R.E. System Fault output request was received from the fire panel
AxP7	Sys Disabled Output	N/A	An A.R.E. System Disabled output request was received from the fire panel
AxP8	Program Output 1	Non-Fire	An A.R.E. Programmable output 1 request was received from the fire panel
AxP9	Program Output 2	Non-Fire	An A.R.E. Programmable output 2 request was received from the fire panel
AxP10	Program Output 3	Non-Fire	An A.R.E. Programmable output 3 request was received from the fire panel
AxP11	NAC 1 S/C Fault	Fault	An ACM NAC 1 Short Circuit Fault has occurred
AxP12	NAC 2 S/C Fault	Fault	An ACM NAC 2 Short Circuit Fault has occurred

**Table 3.7 ACS Point Mapping: Explanation of ACM-PSI Point Modes (1 of 2)**

ACS Point:	Point Text:	Point Type:	Explanation:
AxP13	NAC 1 O/C Fault	Fault	An ACM NAC 1 Open Circuit Fault has occurred
AxP14	NAC 2 O/C Fault	Fault	An ACM NAC 2 Open Circuit Fault has occurred
AxP15	NAC 1 Overload Fault	Fault	An ACM NAC 1 Overload Fault has occurred
AxP16	NAC 2 Overload Fault	Fault	An ACM NAC 2 Overload Fault has occurred
AxP17	Earth Fault	Fault	An ACM Earth Fault has occurred
AxP18	A.R.E. Alarm Routed	Non-Fire	An A.R.E. Alarm Routed input activated
AxP19	A.R.E. Fault	Fault	An A.R.E. Fault input activated
AxP20	A.R.E. Disabled	Fault	An A.R.E.Disabled input activated
AxP21	MCP Fault	Fault	An ACM MCP fault has occurred
AxP22	MCP Alarm	Fire Alarm	An ACM MCP Alarm has occurred
AxP23	PSU Low Fault	Fault	A PSU Low fault has occurred
AxP24	Charger Fault	Fault	A charger fault has occurred
AxP25	Battery Fault	Fault	A battery fault has occurred
AxP26	Field Power 1 Overload	Fault	A Field Power 1 overload has occurred
AxP27	Field Power 2 Overload	Fault	A Field Power 2 overload has occurred
AxP28	PSU Feed Fault	Fault	A Power Supply Unit Feed fault has occurred
AxP29	Battery Feed Fault	Fault	A battery feed fault has occurred
AxP30	PSI External Fault Monitor	Fault	Monitors for external power supply fault has occurred

Table 3.7 ACS Point Mapping: Explanation of ACM-PSI Point Modes (2 of 2)

### 3.2.9 Supervision

From the Panel Program Menu (1), select SUPERVISION to display the following screen.

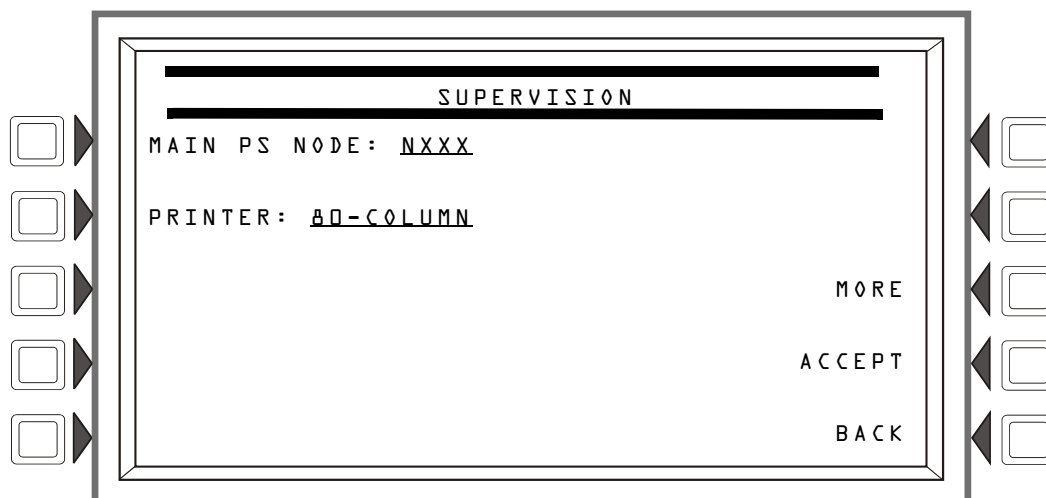


Figure 3.22 Supervision Screen

#### Soft Keys

**MAIN PS NODE:** Press to enter the node address of the system associated with the main power supply. Enter the power supply's node address and press ACCEPT. If the local power supply is the main power supply, enter 000 for the node address. Default: 000

**PRINTER:** Press to scroll through the types of printer supervision: NONE, 40-COLUMN, 40-COLUMN SUPERVISED, 80-COLUMN, 80-COLUMN SUPERVISED, 40 GRAPHIC, 80 GRAPHIC, 80 GRAPHIC SUPERVISED. The printer will not be active if NONE is selected. If a SUPERVISED selection is made, the printer will be supervised. Default: NONE



**NOTE:** When changing from an 80-column or 80-column supervised to an 80 graphic or 80 graphic supervised printer (or vice-versa), settings must be changed at the printer. Refer to this panel's installation manual for the settings.

**MORE:** Press to bring up the second supervision screen.

**ACCEPT:** Press to save changes and return to previous menu.

## Supervision Screen (MORE)

This screen appears when MORE is selected at the supervision screen.

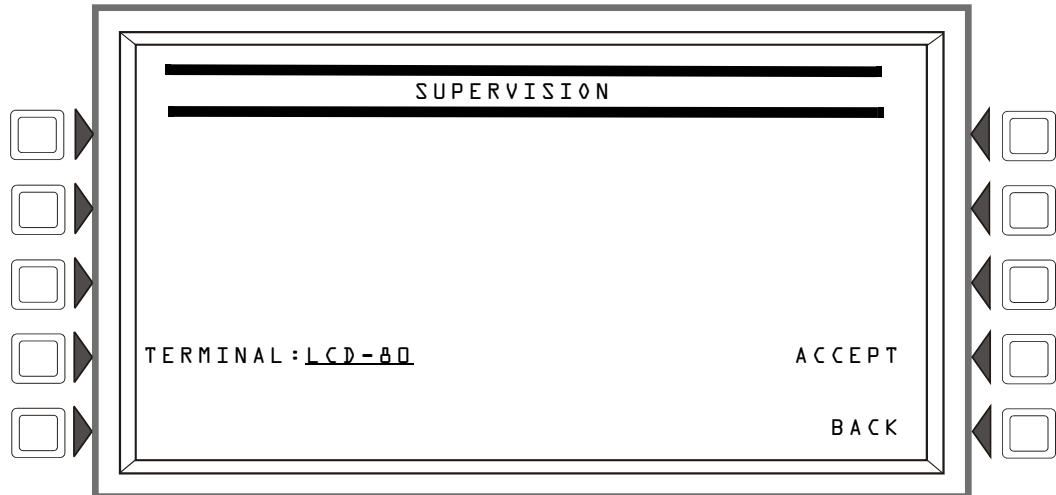


Figure 3.23 MORE Supervision Screen

TERMINAL : Select NONE or LCD-80. (Default: NONE.) Select LCD-80 when a LCD2-80 is connected to the panel.



**NOTE:** When LCD-80 Terminal Supervision is on, CRT baud rate selections of 19200 and 57600 are disallowed.

## 3.3 Panel Program Menu (2)

Pressing the MORE soft key at PANEL PROGRAM MENU 1 displays the PANEL PROGRAM MENU 2 screen.

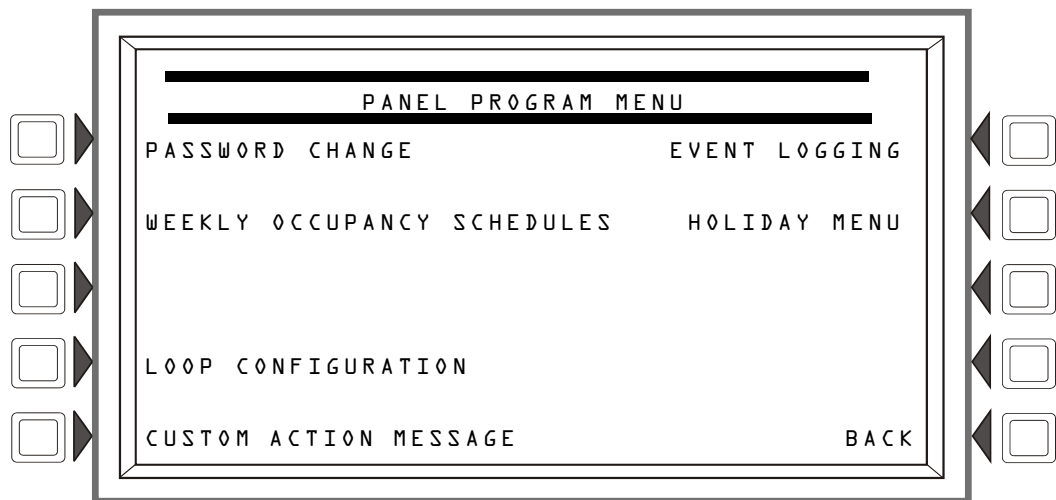


Figure 3.24 Panel Program Menu 2 Screen

### Soft Keys

Press a soft key to bring up the associated menu.

### 3.3.1 Password Change

Refer to paragraph “Password Change” on page 7 for information on password change.

### 3.3.2 Weekly Occupancy Schedule

The user may specify up to ten different schedules; the one displayed when the screen is invoked is the one that is currently in effect.

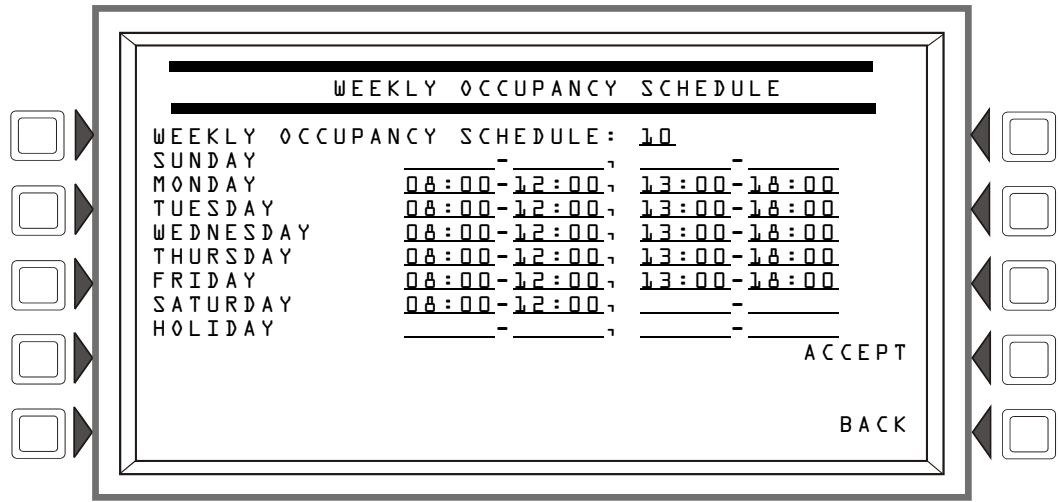


Figure 3.25 Weekly Occupancy Schedule Screen

Use the arrow keys on the keyboard to navigate between occupancy time fields: use the keypad to type in the time values.

**Soft Keys**

WEEKLY OCCUPANCY SCHEDULE : Press this soft key to toggle between schedules 1 - 10. A value of zero indicates no schedule.

ACCEPT : Press this to save changes made on the screen.

**3.3.3 Loop Configuration**

This screen displays when the LOOP CONFIGURATION soft key is pressed at the PANEL PROGRAMMING MENU 2 screen. Here the programmer chooses one of the ten possible SLC loops for further definition.

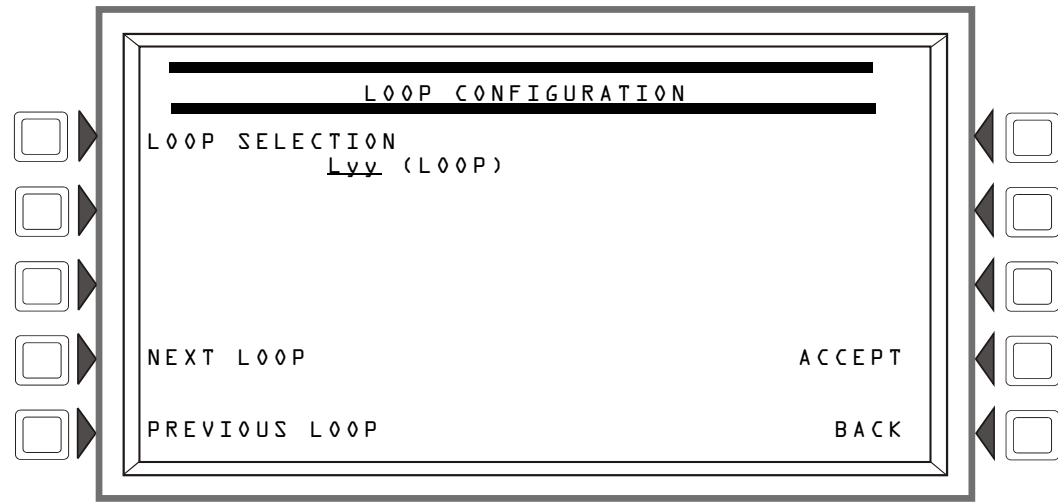


Figure 3.26 Loop Configuration Screen

**Soft Keys**

LOOP SELECTION : Pressing this soft key will invoke the cursor at the underlined field. Enter the loop number desired (01 through 10) in the yy of the Lyy format.

NEXT/PREVIOUS SELECTION : Press either key to go forward or back through the loop selections.

ACCEPT : Press to proceed to the Loop Point Programming screen.



## Loop Programming

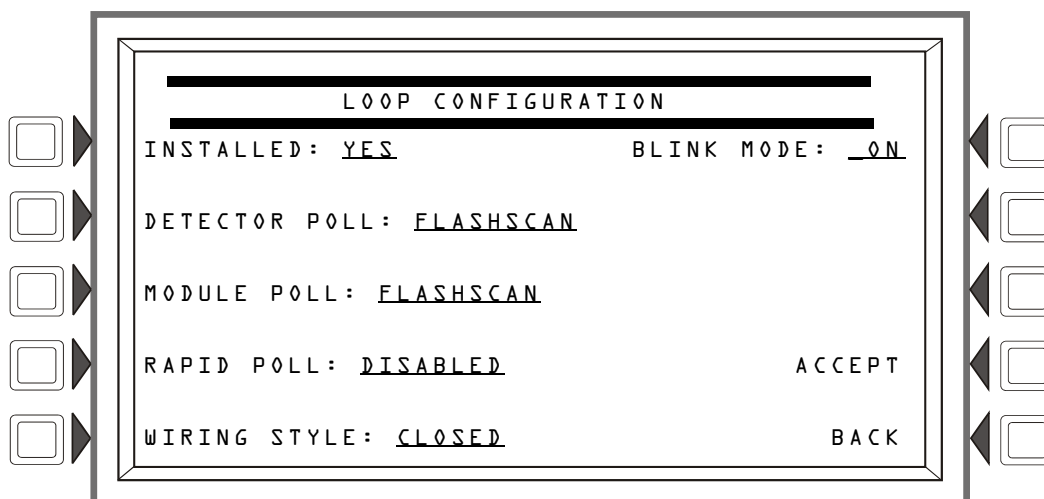


Figure 3.27 Loop Programming Screen

### Soft Keys

**INSTALLED:** Press this soft key to choose YES or NO, depending on whether an SLC is installed at this address.

**DETECTOR POLL:** Press to select loop-polling mode. (See note below.)

**MODULE POLL:** Press to select loop-polling mode. (See note below.)



#### NOTE: FlashScan and CLIP Mode

Most FlashScan devices can be programmed to run in either CLIP or FlashScan mode. The types cannot be mixed on a loop: for example, if Loop 1 is programmed with a FlashScan module poll, CLIP modules may not be used on that loop.

A detector's LEDs will light a steady green for several seconds while it is subjected to a detector test during FlashScan polling. Each detector is tested this way on a regular basis. During the short time the LEDs are on steady, the detector is not providing fire protection.

**RAPID POLL:** For CLIP mode only - enable or disable Rapid Poll for CLIP. This feature will poll the first 20 modules more often to speed response on manual pull stations.

**WIRING STYLE:** Press to select the wiring style (OPEN or CLOSED) of the loop. If CLOSED is entered when the wiring is OPEN, a fault message will be generated at the panel.

**BLINK MODE:** Press to enable (ON) or disable (OFF) detector LED blinking for this loop. If the Loop is configured in FlashScan mode with Blink Mode enabled, all detector and module LEDs will remain OFF. If the loop is configured in CLIP mode with Blink Mode enabled, the LEDs for detectors and monitor modules will remain OFF while the control modules operate normally.

### 3.3.4 Custom Action Message

A Custom Action Message appears when the MORE INFORMATION soft key is pressed when an event is displayed on the Event Counts screen. This panel supports up to 100 Custom Action Messages.

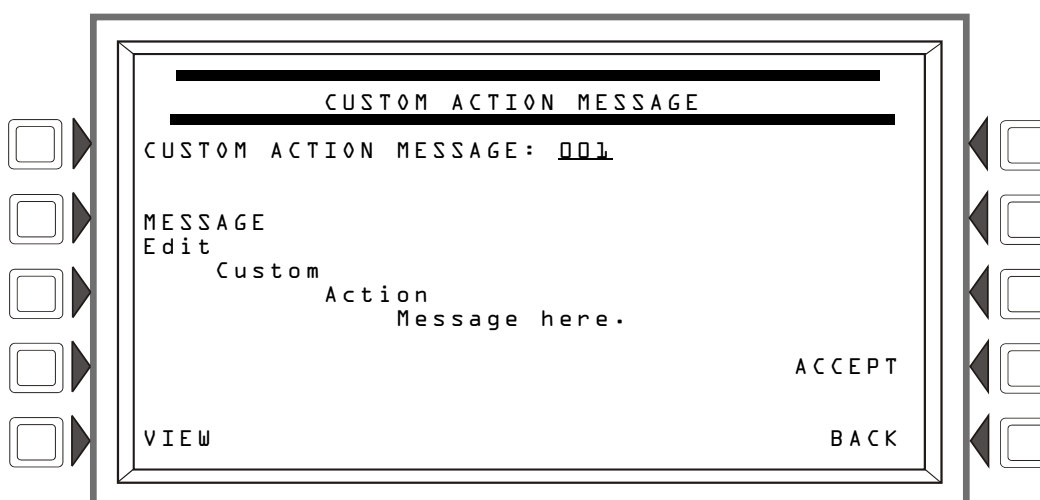



Figure 3.28 Custom Action Message Screen

**CUSTOM ACTION MESSAGE:** Enter a number with a value of 001 to 100 to display the corresponding Custom Action Message, or to add or edit a message.

**MESSAGE:** This soft key appears after VIEW is pressed. Press to enter/edit a custom message in the four lines indicated. The message may be up to 160 characters.

**VIEW:** Press this soft key to view the message that corresponds to the number entered in the underlined field.

**ACCEPT:** Press to save any change made to the message and return to the previous screen.



**NOTE:** A printout of all the messages may be obtained by entering the PRINT PROGRAMMING MENU (2) and pressing the CUSTOM ACTION MESSAGES soft key.

3.3.5 Event Logging

This menu gives the option of logging Non-fire Activations and Output Activations into a history file.

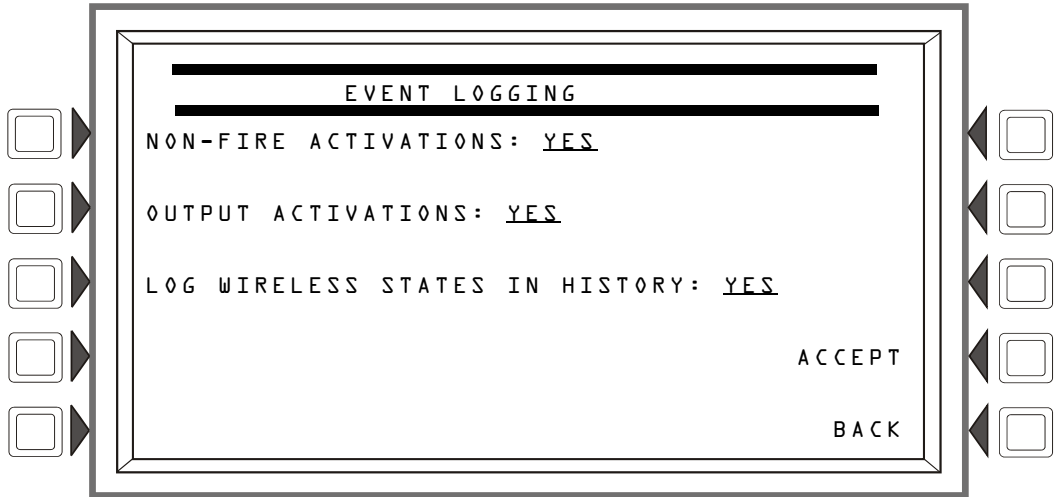


Figure 3.29 Event Logging Screen

Press the appropriate softkey to choose event logging (YES) and no event logging (NO). When YES is chosen, the activations are logged into history and printed.

If OUTPUT ACTIVATIONS is set to YES, any output activations will be displayed in the events list.

3.3.6 Holiday Menu

This menu is used to create a list of up to 15 holidays, which are used together with the occupancy schedule to determine holiday occupancy hours. For example, the schedule displayed in Figure 3.25, “Weekly Occupancy Schedule Screen” on page 40, Schedule 10, has blank fields in the Holiday row. This Occupancy Schedule defines the schedule for the dates on the Holiday Menu screen below: there will be no occupancy hours on these dates.

The HOLIDAY Menu is displayed when the Holiday Menu soft key is pressed at the PANEL PROGRAMMING (2) Menu.

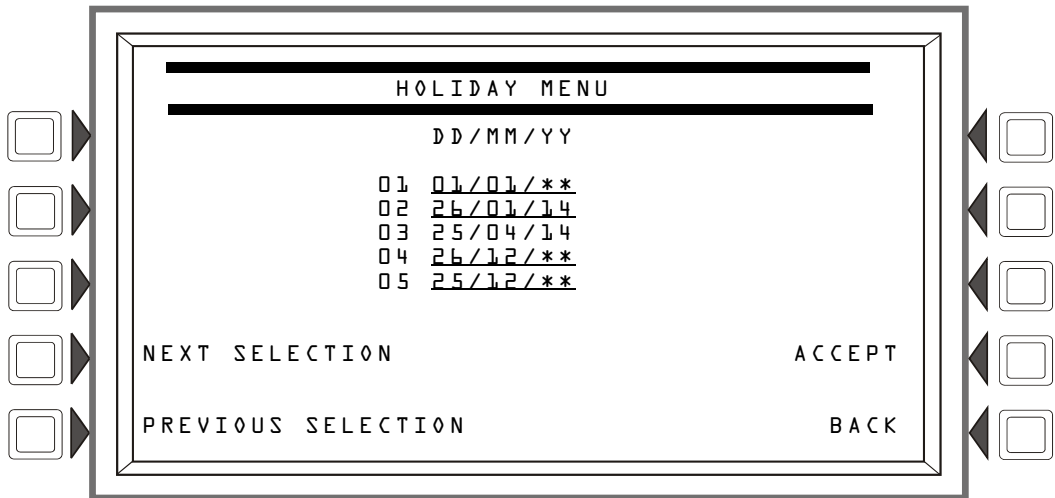


Figure 3.30 Holiday Menu Screen

The cursor will appear in the date fields, and may be moved using the keyboard arrow keys. Type to add/edit any holiday dates.

**Soft Keys**

**ANY YEAR:** Press to place asterisks in the YY section of the field. An asterisk denotes any year.

**NEXT/PREVIOUS SELECTION:** Press to view the next or previous group of five holidays.

**ACCEPT:** Press to save changes to the date fields and to return to the Panel Program Menu.

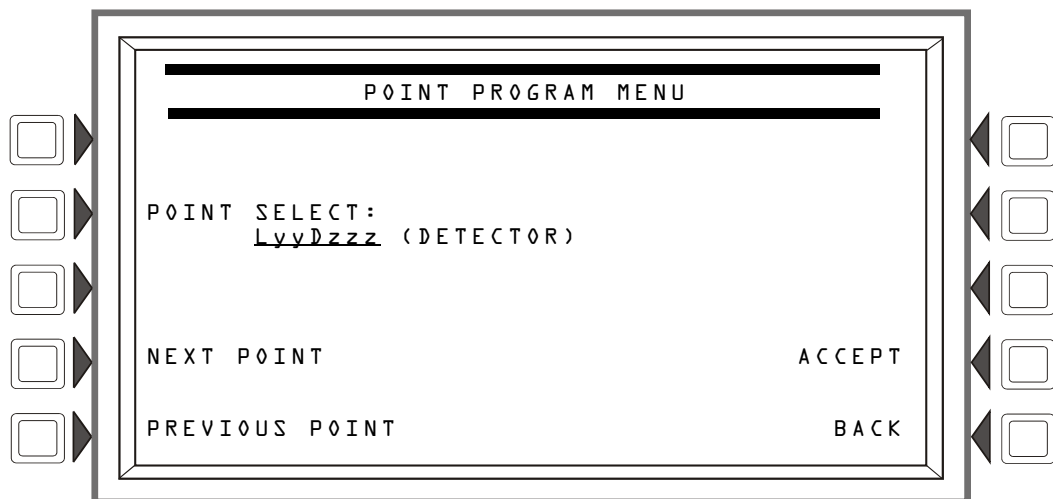
### 3.4 Point Program

The Point Program menu allows the programmer to enter/change point information for detectors, modules, and general, releasing, logic and fault zones.

When programming points, take the following into design consideration:

- Each general zone must be dedicated to a single event type. (i.e. Fire, MN, etc.)
- Map inputs only to general zones defined for the inputs event type. For example, map mass notification devices to general zones designated for mass notification.
- Outputs can be mapped to multiple general zones that are dedicated to different event types. For instance, a single output can be mapped to an MN general zone and a Fire general zone.
- Devices considered “Alarm Devices” may affect or be affected by logic/fault zone and keypad functions. Refer to “Alarm Devices” on page 97.

Press the Point Programming Menu soft key of the Program/Alter Status Menu to display the screen below.



**Figure 3.31 Point Program Menu**

#### Soft Keys

**POINT SELECT:** Press until the desired point type appears. The types - DETECTOR, MODULE, GENERAL ZONE, LOGIC ZONE, FAULT ZONE, ACS BOARD, or DAA or DVC - appear in the parenthesis after the point formats. Enter the desired point address in the format field. Formats are illustrated in Table 3.8.

Type	Address Format	
DETECTOR	LyyDzzz	L = Loop, yy = Loop number (1-10) D = Detector, zzz = Detector address (1-159)
MODULE	LyyMzzz	L = Loop, yy = Loop number (1-10) M = Module, zzz = Module address (1-159)
ZONE	Zyyy	Z = Zone, yyy = Zone number (0-999)
LOGIC ZONE	ZLyyyy	ZL = Logic Zone, yyyy = Logic Zone number (1-1000)
ACS BOARD	Axx + Custom Label	A = Annunciator, Custom label
RELEASE ZONE	Ryy	R = Releasing Zone, yy = Releasing Zone number (00-09)
FAULT ZONE	ZTyyy	ZT = Fault Zone, yyy = Fault Zone number (1-100)
AMPLIFIER	NxxxAAyy	N = Node, xxx = DVC or DVC-EM Node number, AA = DAA Audio Amplifier, yy = DAA address (01 through 32). Note: When yy = 00, the address format is the DVC or DVC-EM address.

**Table 3.8 Address Formats**

**ACCEPT:** Press to progress to the appropriate screen, based on the type of point selected.

**NEXT/PREVIOUS SELECTION:** Press to scroll backward or forward to the next or previously installed point.

### 3.4.1 Detector Point

This screen displays when a detector is chosen at the POINT PROGRAM menu (see Figure 3.31 on page 43).

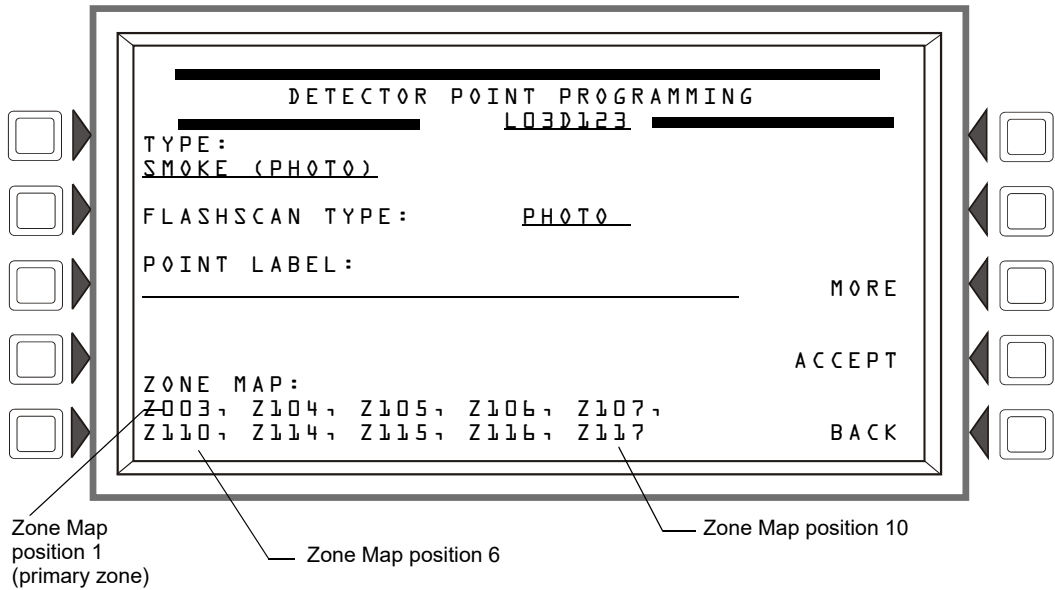


Figure 3.32 Detector Point Programming Screen

The point address is displayed in line 3 of this screen. Existing point information is displayed in the fields.

#### Soft Keys

**TYPE :** Press this soft key to scroll through the point type choices: stop at the appropriate selection. If a new point is being added, no other field will be displayed until TYPE : is entered and the ACCEPT soft key is pressed. At this point, the rest of the fields will appear.

**FLASHSCAN CODE LABEL:** Press to scroll through a list of FlashScan Codes. Stop when the appropriate label appears (Table F.4 on page 97 for codes and descriptions). If the detector is not a FlashScan type, choose NONE.

**POINT LABEL :** Press this soft key to place the cursor at this field. Type in a 20-character maximum point label that will appear in message formats. If no entry is made, the field will default to the point address.

**ZONE MAP :** Displays the zones mapped to this point. During initial programming, zone map position one for each detector is set to Z0YY, where YY represents the loop number where the detector resides. In Figure 3.32 above, zone position one has a value of Z003 (YY = 03). The detector in the example resides on loop 3.

To add or delete zones for this point, press this soft key to progress to the Detector Zone Map screen.

**MORE :** Press this soft key to progress to the next detector point programming screen.

**ACCEPT :** Press to accept changes. If the user is adding a point, pressing this soft key after entering the TYPE field will display all the other fields.

#### Zone Map

The Detector Zone Map screen will display when the ZONE MAP soft key is pressed at the Detector Point Programming screen.

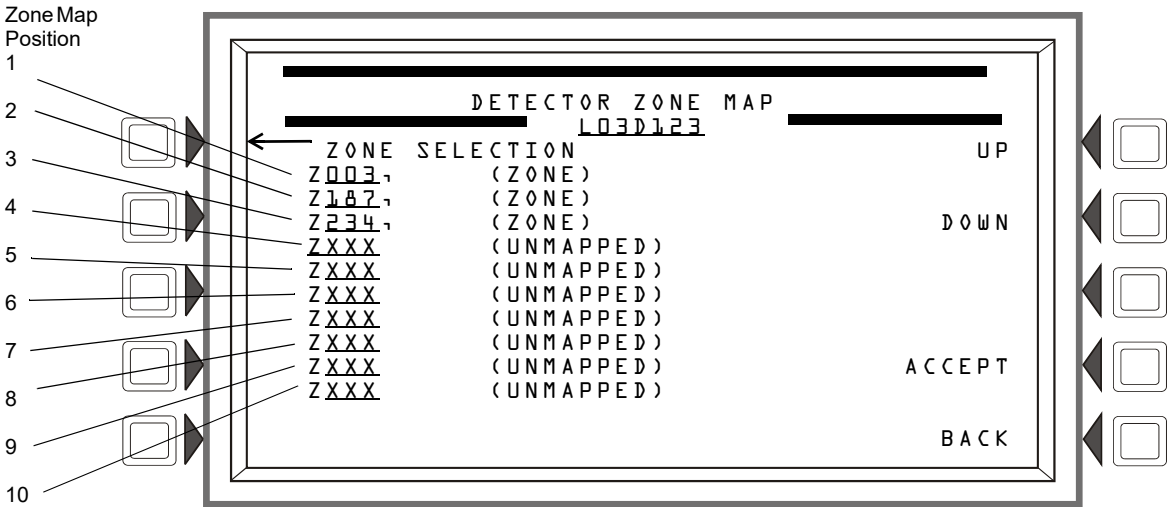


Figure 3.33 Zone Map (Detector Point) Screen

When programming Zone Map for detectors, certain zone map positions are used for specific functions:

Zone Position:	Specific Function:
1	Use to link AAM zone operation.
3	<u>For Photo/CO detector only</u> -Activates when the photo element of the Photo/CO detector activates.
4	<u>For Photo/CO detector only</u> -Activates when the CO element of the Photo/CO detector activates. (Map the zone in this location to one of the Aux Controls of the intelligent sounder bases in order to play the Temp-4 tone for CO Alarms.)
5	<u>For Photo/CO detectors only</u> -Activates when the Photo/CO detector reports a CO Prealarm.
9	Use to activate sounder/relay bases of FlashScan detectors.
10	Use for detectors set to Prealarm, Action

**Table 3.9 Zone Position Special Functions**

The point address will appear in line 3 of the screen.

Refer to Appendix D, “CBE: Zones and Equations”, on page 91, and Appendix B, “Special Function Zone Outputs”, on page 81 in this manual for more information about zones and how they apply to Control-By-Event.

#### Soft Keys

**ZONE MAP:** A detector may be mapped to up to ten general, releasing, or special function zones. There are ten positions available for mapping; positions 1, 9, and 10 have additional functionality. (Refer to Figure 3.33)

**Position 1** - Use this position to link the 20-character zone label to the detector. The zone label will appear after the 32-character label, providing a total of 52 characters to describe an event.

This position is checked when a group zone disable command is issued. If the zone number in the group zone disable command matches the zone number in the first position of the zone map, the detector point will be disabled.

For duct detectors monitoring air quality, position 1 will indicate the general zone designated for as the duct detector zone. Smoke control systems using duct detectors will use this zone position when designing the smoke control system. Refer to Appendix H, “Smoke Control Station Programming” for additional details.

This position is also used for AAM operation to program devices to operate as part of an AAM zone.

#### Position 9 -

- Use this position to activate the sounder/relay base of a detector. When this position is mapped to the same zone as Position 10, the sounder or relay base will be activated when the detector goes into prealarm (Action).
- Use this position to activate the sounder base of a detector using a general or a logic zone. When a general or logic zone activates, the panel is searched for any detector with the same zone mapped in its 9th position. The sounder base of any FlashScan detector that matches the search will activate.

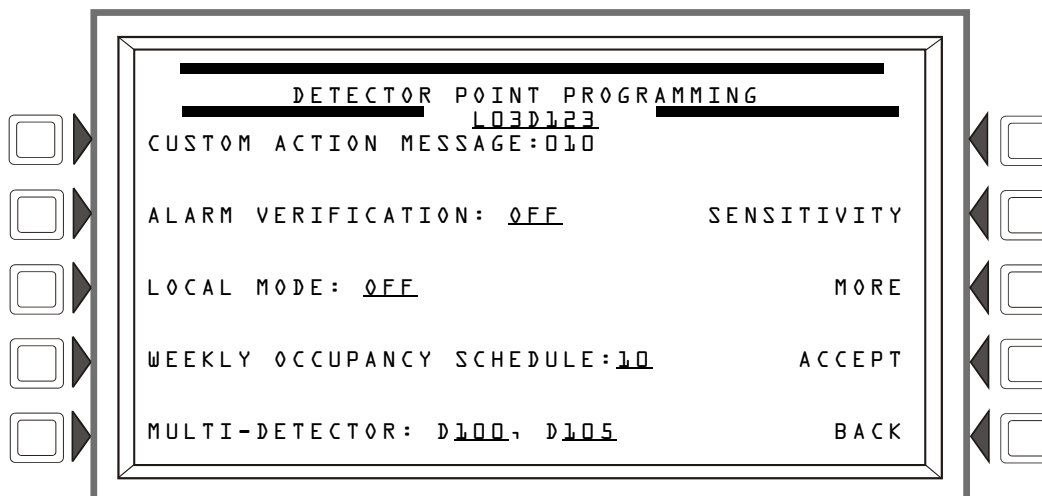
**Position 10** - Use this position to map detectors with an “Action” Prealarm setting. The zone in the tenth position will activate when the detector reaches its Prealarm threshold; no other zones in this detector’s zone map will activate.

Move the cursor with the keyboard arrow keys to the appropriate zone map position, then select the type of zone by pressing the NEXT SELECTION (+) key until the desired zone type appears. Type in a zone number to map the detector to it.

**ACCEPT:** Press to save entries made on this screen and return to the Detector Point Programming screen.

### Detector Point Programming (2)

Press the MORE soft key on the Detector Point Programming screen to display this screen.



**Figure 3.34 More Detector Point Programming (2) Screen**

**Soft Keys**

**CUSTOM ACTION MESSAGE :** Displays the custom action message number (a value of one through 100). The default value is 0 (no message). Press this soft key to progress to the Custom Action Message screen (Figure 3.35) to view the message or to choose a different message for viewing when this point activates. (To create a new custom action message, refer to Section 3.3.4, “Custom Action Message”, on page 41.)

**ALARM VERIFICATION :** Press this key to determine the device’s participation in Alarm Verification. Choosing Yes will set the device participation to the values entered at the Panel Timers screen (Figure 3.16).

**LOCAL MODE :** Press to toggle between Local Mode (ON) or no Local Mode (OFF). When there is a communication loss between the panel and its LCM/LEMs, SLC devices that have been selected for Local Mode participation (ON) will continue to function across all the panel’s SLCs in a limited manner as follows: input points will activate output points of the same Type Code point type designations. For example, SLC inputs with “fire” point types will activate SLC outputs with “fire” point types. Refer to Appendix F, “Type Codes”, on page 97 for type code point types. All SLC detector types can participate in local mode.



**NOTE:** The panel setting LCM LOCAL MODE must be set to YES for local mode to work at the device level.

**SENSITIVITY :** Press to proceed to the Detector Sensitivity screen.

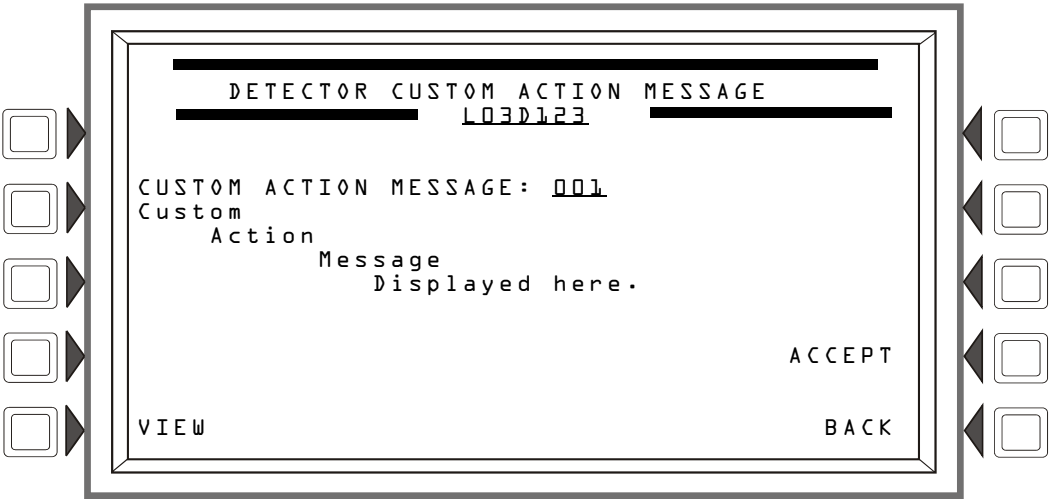
**WEEKLY OCCUPANCY SCHEDULE :** To choose an existing weekly occupancy schedule, press this soft key to proceed to the Detector Occupancy Schedule screen. Refer to Section 3.3.2, “Weekly Occupancy Schedule”, on page 39 for information on how to set up a schedule.

**MULTI-DETECTOR :** This detector can be linked with up to two detectors at other addresses on the same loop in cooperative multi-detector sensing if entries are made in these fields. The detectors need not be sequential in their addresses. Refer to the section on Cooperative Multi-Detector Sensing in Appendix C, “Intelligent Sensing Applications” for a description of this function.

**MORE :** Press this soft key to progress to the next detector point programming screen.

**Custom Action Message**

Press the Custom Action Message soft key on the Detector Point Programming screen to display this screen. The user may choose a Custom Action Message at this screen.



**Figure 3.35 Custom Action Message Screen**

**Soft Keys**

**CUSTOM ACTION MESSAGE :** Enter the number of the Custom Action Message to be displayed during alarm conditions for this point (refer to Figure 3.28 on page 41 for an example).

**VIEW :** Press this soft key to view the message associated with the number entered.

**ACCEPT :** Press to save the entries made on this screen.

**■ Sensitivity**

Detector sensitivity levels for alarm and prealarm are set at this screen, which displays when the SENSITIVITY soft key is pressed at the Detector Point Programming (2) screen.

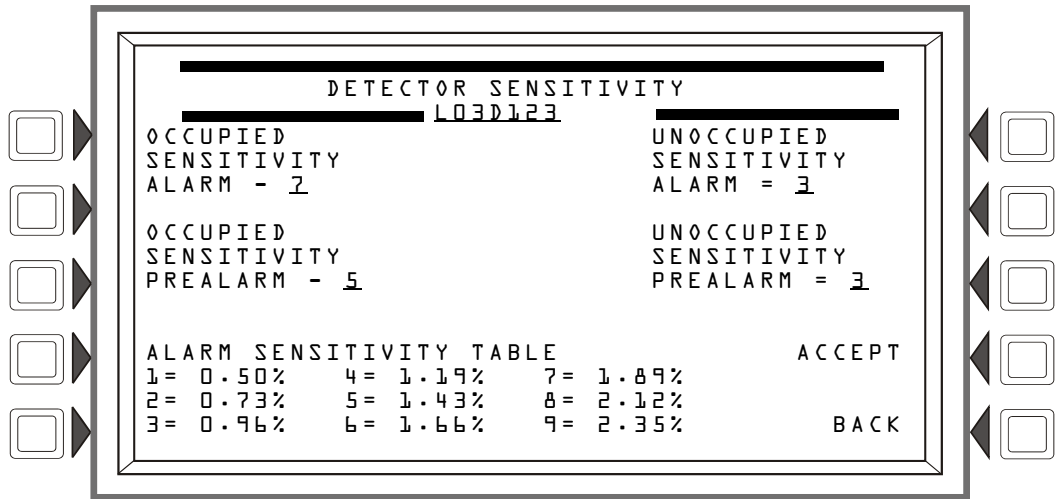


Figure 3.36 Detector Sensitivity Screen

The control panel provides nine levels of Prealarm and Alarm in percent per foot obscuration, with the following exceptions:

- for heat detectors, the settings are in degrees Centigrade.
- for beam detectors, there are only six levels of Alarm. There is no Prealarm for beam detectors in CLIP mode.
- for IntelliQuad FSC-851 and IntelliQuad Plus FCO-851 detectors, there are only six levels of Alarm and Prealarm for FlashScan mode. The sixth level is a fixed 135°F, and it is not available in CLIP mode.

Alarm sensitivity settings range from one to nine, with one representing the most sensitive alarm level and nine the least sensitive.

Prealarm sensitivity settings range from zero to nine. Zero indicates no prealarm. A value of one can be a self-optimizing setting where the control panel selects a suitable prealarm level for the detector. Values one or two through nine represent decreasing sensitivity, with nine being the least sensitive.

Refer to the section “Detector Sensitivity Settings” in Appendix C, “Intelligent Sensing Applications” for a full description and a table of the nine sensitivity levels by detector type.

**Soft Keys**

OCCUPIED SENSITIVITY ALARM:  
 OCCUPIED SENSITIVITY PREALARM:  
 UNOCCUPIED SENSITIVITY ALARM:  
 UNOCCUPIED SENSITIVITY PREALARM:  
 ALARM SENSITIVITY TABLE: This table will toggle from ALARM to PRE-  
 ALARM based on which sensitivity value is being entered. The table will display  
 the values for this type of detector.

Press the soft key next to  
 these setting categories to  
 enter values as described  
 above.

■ **Detector Occupancy Schedule**

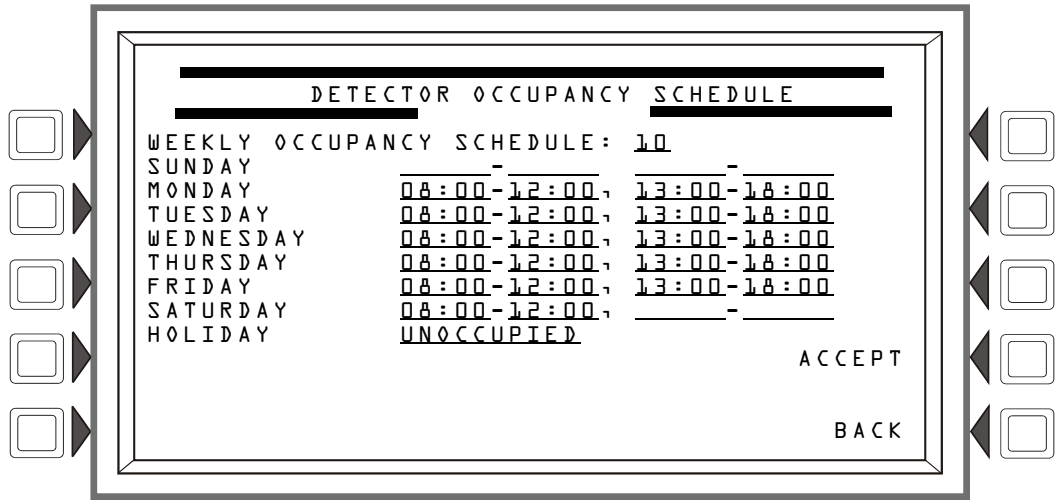


Figure 3.37 Detector Occupancy Schedule Screen

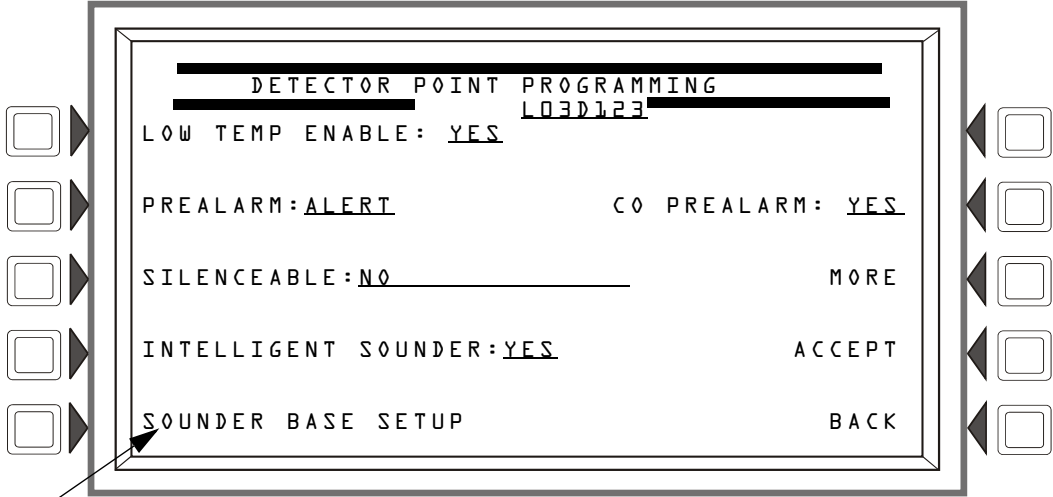
Soft Keys

**WEEKLY OCCUPANCY SCHEDULE :** Press this soft key to place the cursor at the underlined field. There can be up to ten Weekly Occupancy Schedules. Enter a value of zero through ten. Zero indicates no schedule is applied, and occupied detector sensitivity values are used.

**ACCEPT :** Press this key to accept the change made and return to the previous screen.

Detector Point Programming (3)

Press the **MORE** soft key on the Detector Point Programming (3) screen to display this screen.



When programming an aspiration detector, this position will be replaced by "REFERENCE DETECTOR ADDRESS".

Figure 3.38 More Detector Point Programming (3) Screen

Soft Keys

**LOW TEMP ENABLE :** Press this softkey to select YES or NO to enable the Low Temperature Warning for the PHOTO/CO detector. This field is only available when programming a PHOTO/CO smoke detector.

**PREALARM :** Press this softkey to select ALERT or ACTION for the Prealarm function. Refer to the section on Prealarm in Appendix C, "Intelligent Sensing Applications" for a description of Alert and Action.

**SILENCEABLE :** This field determines whether the user can manually silence a detector's activated sounder/relay base. Values are as follows:

NO	Not manually silenceable	
YES - RESOUND FIRE	Silenceable, resound on fire alarm events	Network and Local Resound
YES - RESOUND SUPERV	Silenceable, resound on supervisory events	Network and Local Resound
YES - NO RESOUND	Silenceable, does not resound	

Table 3.10



**NOTE:** In network applications, specific nodes can be excluded from having the ability to initiate a resound on the local fire alarm panel. This is programmable via VeriFire® Tools. Refer to the *VeriFire Tools help file*.

**INTELLIGENT SOUNDER :** Press this softkey to select YES if an Intelligent Sounder Base is installed for this detector.

**SOUNDER BASE SETUP :** Press this softkey to proceed to the Sounder Base Setup screen. This option will only be available if the INTELLIGENT SOUNDER is set to YES.



**NOTE:** When programming an aspiration detector, **INTELLIGENT SOUNDER** is not an option and **SOUNDER BASE SETUP** is replaced by **REFERENCE DETECTOR ADDRESS**.

**CO PREALARM :** Press this softkey to select YES or NO to enable the CO Prealarm function for the PHOTO/CO smoke detector. This field is only available when programming the PHOTO/CO smoke detector.

**MORE :** Press this soft key to progress to the next detector point programming screen.

■ Sounder Base Setup

Does not apply to this fire alarm control panel



**NOTE:** Sounder Base Setup does not apply to this fire alarm control panel.



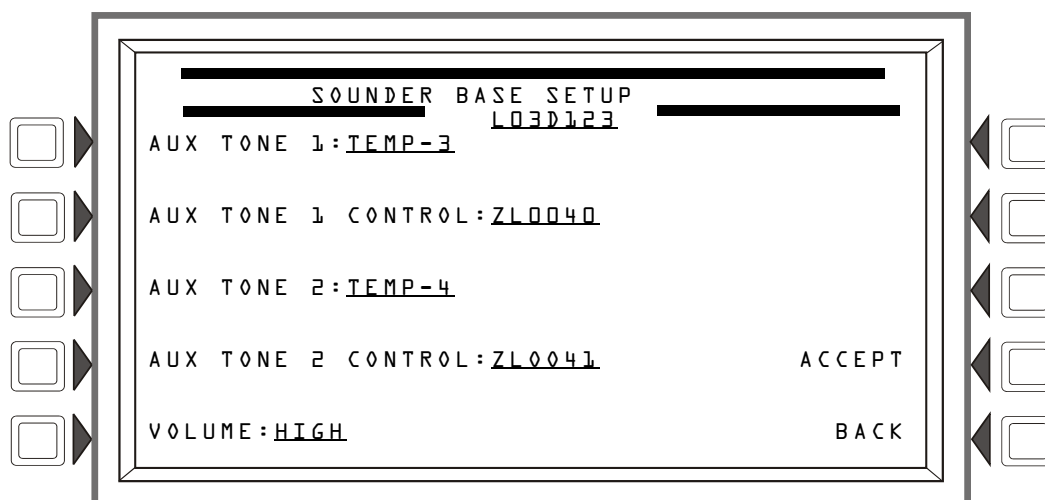


Figure 3.39 Sounder Base Setup Screen

**Soft Keys**

**AUX TONE 1:** Press this softkey to select **CONTINUOUS**, **TEMP-3**, **TEMP-4**, **MARCH** or **CUSTOM** for the first auxiliary tone of the intelligent sounder base.

**AUX TONE 1 CONTROL:** Press this softkey to enter the Logic, General or Fault Zone that will control the activation of the first auxiliary tone of the intelligent sounder base.

**AUX TONE 2:** Press this softkey to select **CONTINUOUS**, **TEMP-3**, **TEMP-4**, **MARCH** or **CUSTOM** for the second auxiliary tone of the intelligent sounder base.

**AUX TONE 2 CONTROL:** Press this softkey to enter the Logic, General or Fault Zone that will control the activation of the second auxiliary tone of the intelligent sounder base.

**VOLUME:** Press this softkey to select **LOW** or **HIGH** for the intelligent sounder base volume level.

For **CUSTOM TONE SETUP**, refer to “Custom Tone Setup Screen” on page 28.

**Detector Point Programming (4)**

Press the **MORE** soft key on the Detector Point Programming (4) screen to display this screen.

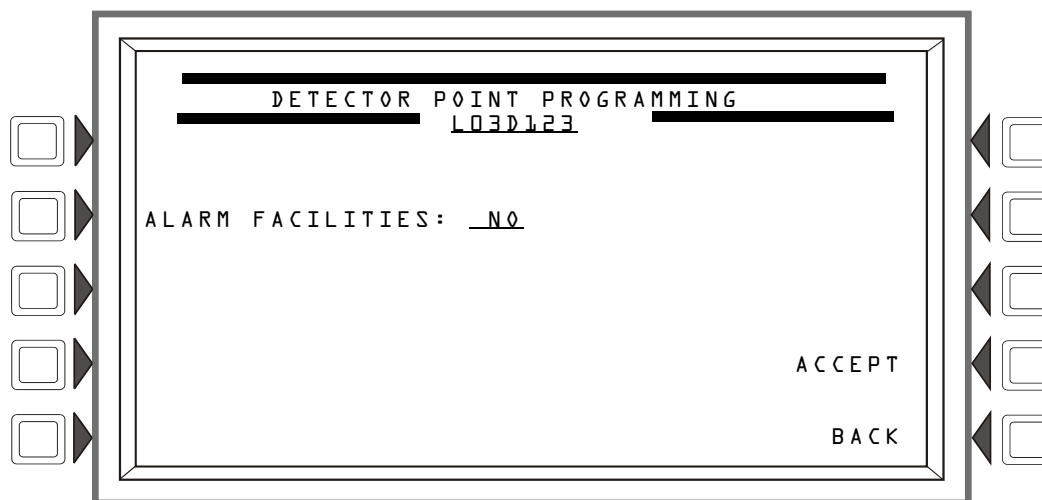


Figure 3.40 More Detector Point Programming (4) Screen

**Soft Keys**

**ALARM FACILITIES:** Press this softkey to select **NO**, **AAF**, **ADF**, or **2SF** for detector AAM operation. If set to **AAF**, **ADF**, or **2SF**, the first or second CBE position in detector programming is set as the AAM zone. The CBE position associated with AAM operation is set using VeriFire® Tools. Refer to Appendix I, “AAM Programming”, on page 120 for information on AAM device programming.

NO	The device does not participate in Alarm Facility operations
AAF	The device participates in AAM operations with a fixed 30 second acknowledgement period.
ADF	The device participates in AAM operations with a variable acknowledgement period that can range from 30 seconds to 300 seconds in 30-second increments.
2SF	The device participates in AAM operations with a variable acknowledgement period that can range from 30 seconds to 300 seconds in 30-second increments. If a second alarm occurs in the AAM zone, the delay timer is overridden and the panel goes into alarm.

3.4.2 Module Point

Module point programming screens will display if a module point address is entered at the Point Programming Menu (see Figure 3.31 on page 43).

Module Point Programming (1)

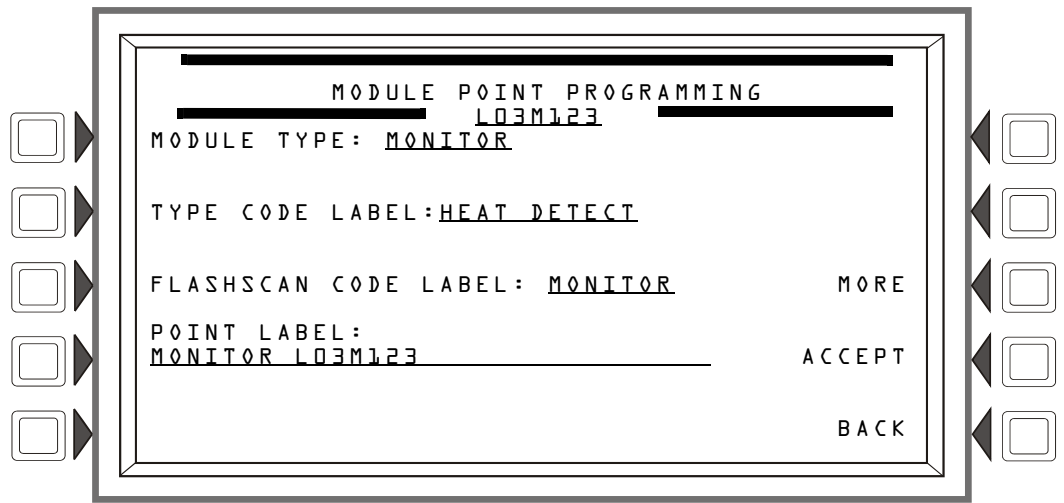


Figure 3.41 Module Point Programming (1) Screen

Soft Keys

- MODULE TYPE : Press the soft key to toggle between CONTROL and MONITOR.
- TYPE CODE LABEL : Press this soft key to scroll through the point type choices: stop at the appropriate selection.
- FLASHSCAN CODE LABEL : Press this soft key to scroll through the point type choices: stop at the appropriate selection (Table F.3 on page 100 for codes and descriptions). Choose NONE if the point type is not FlashScan.

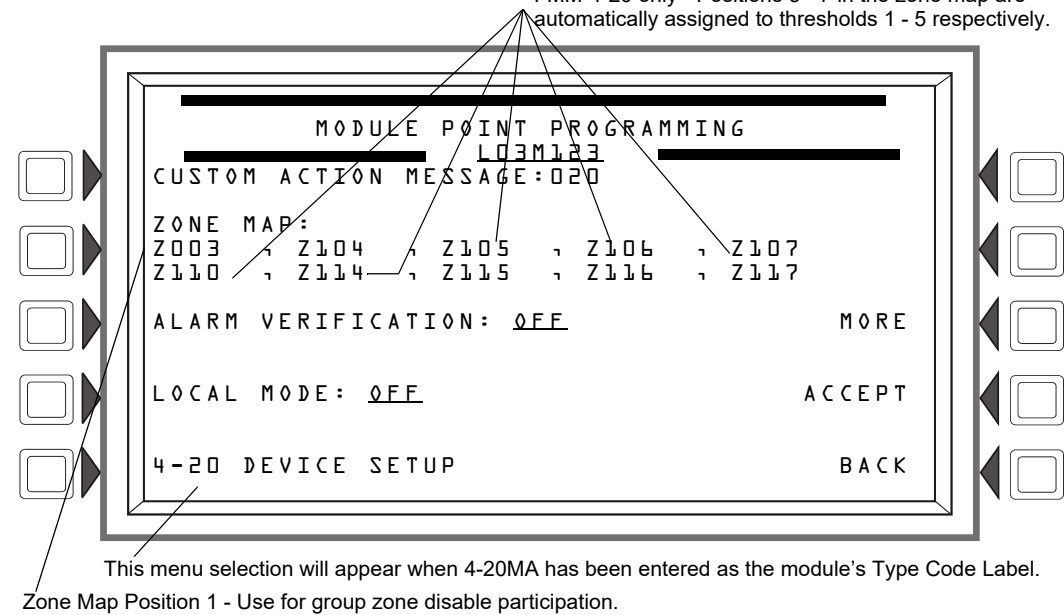


**NOTE:** If the point is not installed, MODULE TYPE :, TYPE CODE LABEL :, and FLASHSCAN CODE LABEL : must be entered before any entries can be saved using the ACCEPT key.

- POINT LABEL : Press this soft key to place the cursor at this field. Type in a 32-character maximum point label that will appear in message formats. If no entry is made, the field will default to the point address.
- MORE : Press to proceed to the next screen for more point programming. Table F.4 on page 97
- ACCEPT : Press to save entries made on this screen.

Module Point Programming (Monitor Module)

Pressing the MORE soft key at the Module Point Programming screen will display this screen if the module type was monitor.  
FMM-4-20 only - Positions 3 - 7 in the zone map are automatically assigned to thresholds 1 - 5 respectively.



This menu selection will appear when 4-20MA has been entered as the module's Type Code Label.  
Zone Map Position 1 - Use for group zone disable participation.

Figure 3.42 Module Point Programming Screen 2 (Monitor)

**Soft Keys**

**CUSTOM ACTION MESSAGE:** Displays the custom action message number (a value of one through 100). The default value is 0 (no message). Press this soft key to progress to the Custom Action Message screen (shown in Figure 3.35) to view the message or to choose a different message for viewing when this point activates. To create a new custom action message, refer to Section 3.3.4, “Custom Action Message”, on page 41.

**ZONE MAP:** Displays the zones mapped to this point. During initial programming, zone map position one for each monitor module is set to Z0YY, where YY represents the loop number where the module resides. In Figure 3.42 above, zone position one has a value of Z003 (YY = 03). The module in the example resides on loop 3.

To add or delete zones, press this soft key to proceed to the Module Zone Map screen. Refer to “Zone Map” on page 44 for an illustration and explanation of the Detector Zone Map screen. The Module Zone Map screen is the same except that Module replaces Detector in the title and the module address appears instead of the detector address. Up to ten general, releasing or special function zones may be mapped to a monitor module: none of the zone map positions are fixed. Positions 1 and 3 - 7 have additional functionality.

Position 1 - This position is checked when a group zone disable command is issued. If the zone number in the group zone disable command matches the zone number in the first position of the zone map, the module point will be disabled.

Positions 3 - 7 - For the FMM-4-20 module only. These positions are assigned to FMM-4-20 threshold levels 1 - 5 respectively. (Threshold levels are user-programmed. Refer to “FMM-4-20 Monitor Module Programming” on page 51.) Each will activate only if the device is currently at that threshold level. Once the device leaves that threshold level, the zone in its corresponding CBE position will remain active or deactivate according to whether its threshold is programmed for latching or tracking.

**ALARM VERIFICATION:** Press this key to determine participation in Alarm Verification. Choosing Yes will set the device participation to the value entered at the Panel Timers screen (Figure 3.16). The only module type that can participate in alarm verification is the FZM-1.

**LOCAL MODE:** Press to toggle between Local Mode (ON) or no Local Mode (OFF). When there is a communication loss between the panel and its LCM/LEMs, SLC devices that have been selected for Local Mode participation (ON) will continue to function across all the panel’s SLCs in a limited manner as follows: input points will activate output points of the same Type Code point type designations. For example, SLC inputs with “fire” point types will activate SLC outputs with “fire” point types. Refer to Appendix F.4, “Type Codes for Input Devices”, on page 97 for Type Code point types. This setting is fixed at OFF for the FMM-4-20 module. Default: OFF



**NOTE:** The panel setting LCM LOCAL MODE must be set to YES for local mode to work at the device level.

**4-20 DEVICE SETUP:** Press to go to FMM-4-20 programming. (Refer to “FMM-4-20 Monitor Module Programming” on page 51) This field appears only when FMM-420 appears as the module’s Type Code label.

**MORE:** Press to access the third Module Point Programming Screen.

**ACCEPT:** Press to save entries made on this screen and to return to the previous screen.

### ■ FMM-4-20 Monitor Module Programming

Pressing the 4-20 DEVICE SETUP soft key at the Module Point Programming screen will display this screen.

**Figure 3.43 FMM-4-20 Device Setup Screen**

**Soft Keys**

**4MA SCALE VALUE:** Enter the 4 mA value.

**20MA SCALE VALUE:** Enter the 20 mA value.

**UNITS:** Type in the kind of units. (5 spaces.)

**HYSTERESIS:** Enter the hysteresis value in decimals as a percentage of the overall 4 to 20 mA range. Default: 0

**THRESHOLD SETUP:** Press to continue to the THRESHOLD SETUP screen. (Refer to Figure 3.44 on page 52)

**ACCEPT:** Press to save entries made on this screen.

Pressing the **THRESHOLD SETUP** soft key at the Module Point Programming screen will display this screen.

**Figure 3.44 FMM-4-20 Threshold Setup Screen**

### Soft Keys

**THRESHOLD NUMBER** : Enter the threshold number (1 - 5) that will be described in this screen.

**THRESHOLD VALUE** : Enter the value for this threshold. (Threshold value is represented in the unit type specified on the FMM-4-20 Device Setup Screen)

**EVENT** : Select the event type that will generate when this threshold is reached. Selections are **NO EVENT**, **FAULT**, **FIRE**, **SUPERVISORY**, **NOFIRE**, **CRITICAL PROCESS**.

**FAULT TYPE** : Select a fault type for this threshold: **FAULT 1**, **FAULT 2** or **DEVICE INHIBIT**. Device Inhibit will generate a fault when the FMM-4-20 is in a self-calibration state.

**EVENT TRIGGER** : Select **LOWER LEVEL** (values are falling), **UPPER LEVEL** (levels are rising), or **SAME LEVEL**.

**TRACKING / LATCHING** : Select **TRACKING** or **LATCHING** for the threshold fault. If more than one threshold has been programmed as latching, the first threshold reached will be the one that is latched.

**ACCEPT** : Press to save screen entries.

Pressing the **MORE** soft key on this Module Point Programming screen will display this screen:

**Figure 3.45 Module Point Programming Screen 3 (Monitor)**

**WATERFLOW DELAY** : When the **WATERFLOW DELAY** option is set to **0**, waterflow events are immediately reported to the panel upon activation. If a non-zero value is entered in the **WATERFLOW DELAY**, activation of a waterflow event is delayed for the duration of that time. The waterflow event will have to remain active for the duration of the delay. If the waterflow event does not remain active for the entire delay duration, the waterflow event will not be reported to the panel.

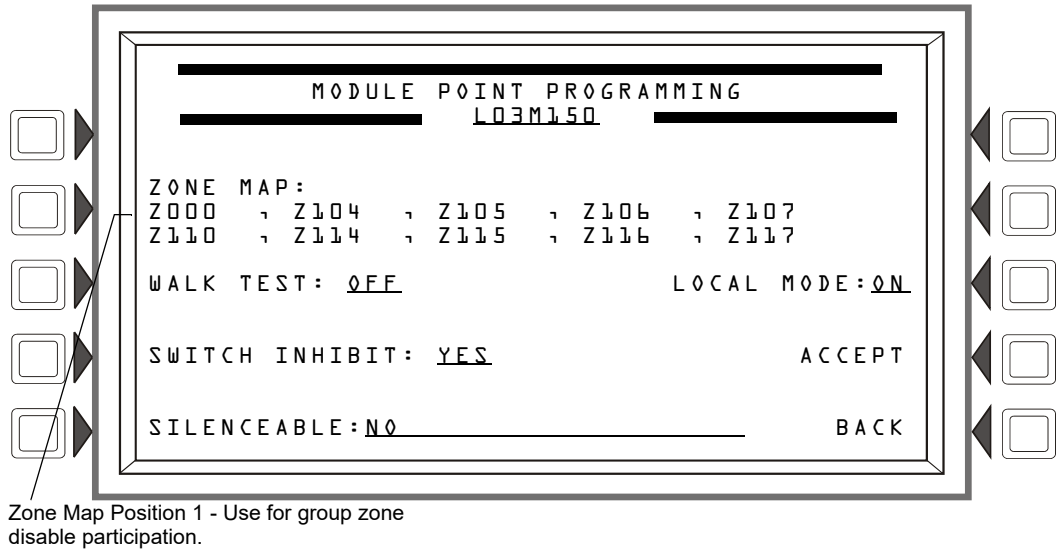
Default: **0**

Range: **0 - 60** seconds

**ACCEPT** : Press to save screen entries.

## Module Point Programming (Control Module)

Pressing the MORE soft key at the Module Point Programming screen will display this screen if the module type was control.



**Figure 3.46 Module Point Programming Screen 2 (Control)**

### Soft Keys

**LOCAL MODE:** Press to toggle between Local Mode (ON) or no Local Mode (OFF). When there is a communication loss between the panel and its LCM/LEMs, SLC devices that have been selected for Local Mode participation (ON) will continue to function across all the panel's SLCs in a limited manner as follows: input points will activate output points of the same Type Code point type designations. For example, SLC inputs with "fire" point types will activate SLC outputs with "fire" point types. Refer to Appendix F.4, "Type Codes for Input Devices", on page 97 for Type Code point types. Default: OFF



**NOTE:** The panel setting LCM LOCAL MODE must be set to Yes for local mode to work at the device level.

**ZONE MAP:** Displays the zones mapped to this point. The default value assigned to control modules during initial programming is Z000 at Position 1 (refer to Figure 3.46), with the exception of control modules with the following Type IDs: GEN ALARM, GEN SUPERVIS, GEN FAULT, and FAULT PEND.

To add or delete zones, press this soft key to proceed to the Module Zone Map screen. Refer to "Zone Map" on page 44 for an illustration and explanation of the Detector Zone Map screen. The Module Zone Map screen is the same except that Module replaces Detector in the title and the module address appears instead of the detector address. Up to ten general, logic, release, special function or fault zones may be mapped to a control module. Position 1 has additional functionality.

**Position 1** - This position is checked when a group zone disable command is issued. If the zone number in the group zone disable command matches the zone number in the first position of the zone map, the module point will be disabled.

Note that the group zone disable command has no effect on general alarm zone Z000.

**WALK TEST:** This field determines if the output will activate during Walk Test. Values are ON (the output will activate) and OFF (the output will not activate). Default: OFF.



**NOTE:** The following Type ID codes do not participate in Walk Test, and the WALK TEST soft key will not appear when the screen displays: REL END BELL, RELEASE CKT, REL. FORM C, REL AUDIBLE, INST RELEASE, NONRESET CTL, TELEPHONE, and FORM-C RESET. The FMM-1 module with SMOKE CONV, HEAT DETECT, or SMOKE DETECT does not participate in Walk Test.

**SWITCH INHIBIT:** This field determines whether a user can manually activate an output. Values are YES (can not be activated manually) or NO (can be activated manually). Default: NO

**SILENCEABLE:** This field determines whether the user can manually silence an activated output. Values are as follows:

NO	Not manually silenceable	
YES - RESOUND FIRE	Silenceable, resound on fire alarm events	Network and Local Resound
YES - RESOUND SUPERV	Silenceable, resound on supervisory events	Network and Local Resound
YES - RESOUND FAULT	Silenceable, resound for fault	Local Resound
YES - NO RESOUND	Silenceable, does not resound	

**Table 3.11**



**NOTE:** This soft key will not appear for modules with Type ID codes where silence is not optional.



**NOTE:** In network applications, specific nodes can be excluded from having the ability to initiate a resound on the local fire alarm panel. This is programmable via VeriFire® Tools. Refer to the *VeriFire Tools help file*.

### 3.4.3 General Zone

This screen displays when a general zone is chosen at the Point Program menu (see Figure 3.31 on page 43).

Figure 3.47 Zone Point Programming Screen

#### Soft Keys

**ZONE LABEL:** Press to type in a 20-character maximum zone description that will appear in the zone's display messages.

**NON-RESETTABLE CONTROL:** Select YES to designate the zone as non-resettable (not affected by System Reset), or NO to designate the zone as resettable (zone will turn off when System Reset occurs.). Default: NO

**SILENCEABLE ZONE:** This option will designate the general zone as silenceable. When a general zone is programmed as silenceable, a signal silence local to the panel or over the network will deactivate the zone and any devices mapped to it, unless those devices are programmed with another active zone that is not silenceable. Default: NO

**PRECEDENCE PARTICIPATION:** Must be set to YES if the zone is programmed as a control zone to an ACM or SCS device. Default: NO

**ACCEPT:** Press to save the message and return to the previous screen.

### 3.4.4 Logic Zone

#### Logic Zone Programming

This screen displays when a logic zone is entered at the Point Programming Menu (see Figure 3.31 on page 43).

The logic equation for that zone will display in line 6. Line 4 indicates the current state of the logic zone (ON or OFF). If there is no equation at the logic zone number entered, nothing will display in lines 4 and 6, and the user must press the EDIT EQUATION soft key to proceed to the next screen and enter an equation.

Refer to Appendix D, "CBE: Zones and Equations" for information on how to create a logic equation, and how logic equations operate.

Figure 3.48 Logic Zone Programming Menu Screen

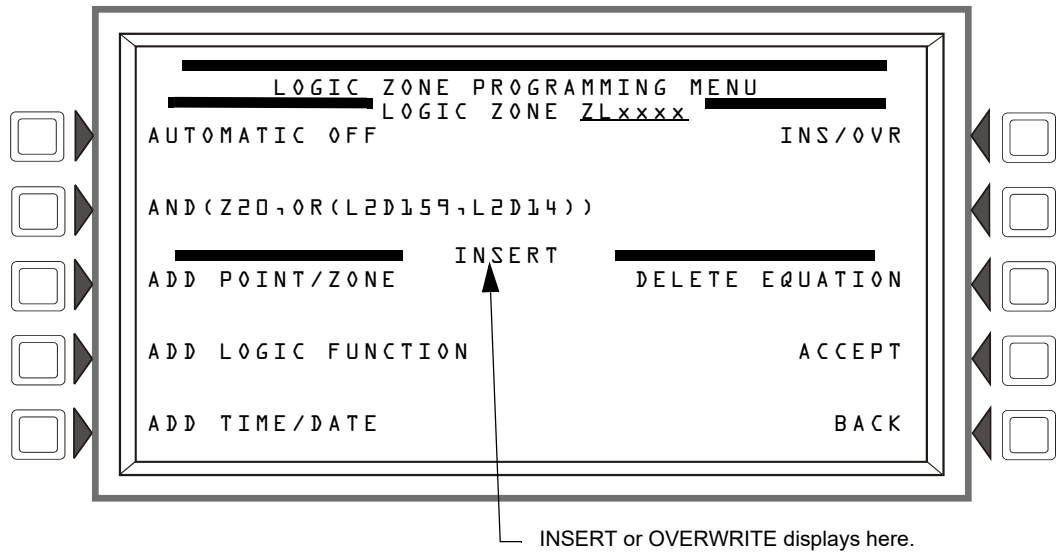
#### Soft Keys

**EDIT EQUATION:** Press to proceed to the edit screen to add or edit a logic equation.

**NEXT/PREVIOUS EQUATION:** Press to view the next or previous logic equation.

## Edit Logic Equation

This screen displays when the **EDIT EQUATION** soft key is pressed on the Logic Zone Programming Menu



**Figure 3.49 Edit Logic Equation Screen**

The cursor will be present in the equation, and can be moved by pressing the left/right arrow keys on the keyboard. To add or delete information, use the **INS/OVR** soft key function described below. Use the keypad to type in an equation. The **ADD POINT/ZONE** and **ADD LOGIC FUNCTION** soft keys may be used to facilitate creating a logic equation; however, commas must be added by using the keypad.

### Soft Keys

**INS/OVR**: Press to toggle between insert and overwrite. Stop at the appropriate mode, which displays in line 8 of the screen. Insert will add information to the equation, overwrite will write over information already in the equation.

**ADD POINT/ZONE**: Press to proceed to the Add Point/Zone screen. This screen is an alternative to typing in the information at this screen; it provides point and zone formats that make it less likely for typographical errors to occur.

**ADD LOGIC FUNCTION**: Press to proceed to the Add Logic Function screen. This screen is an alternative to typing in the information at this screen; it provides logic function formats that make it less likely for typographical errors to occur.

**ADD TIME/DATE**: Press to proceed to the Add Time/Date screen.

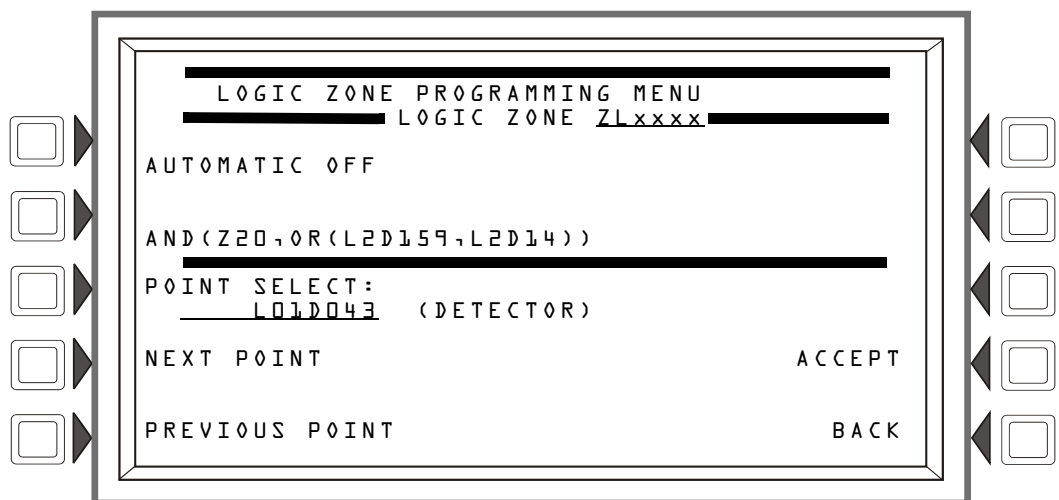
**DELETE EQUATION**: Press to delete the entire equation.

**ACCEPT**: Press to save changes made on this screen and return to the previous screen.



**NOTE:** When the **ACCEPT** soft key is pressed to save an equation, the panel checks the equation for errors. If there is an error in the equation, the previous screen will not appear, and the cursor will appear at the error point. Correct the equation, and re-press the **ACCEPT** soft key.

## Add Point/ Zone



**Figure 3.50 Add Logic Point/Zone Screen**

The cursor will be present in the logic equation. Place it, using the arrow keys on the keyboard, at the place where the additional point should be inserted.

**Soft Keys**

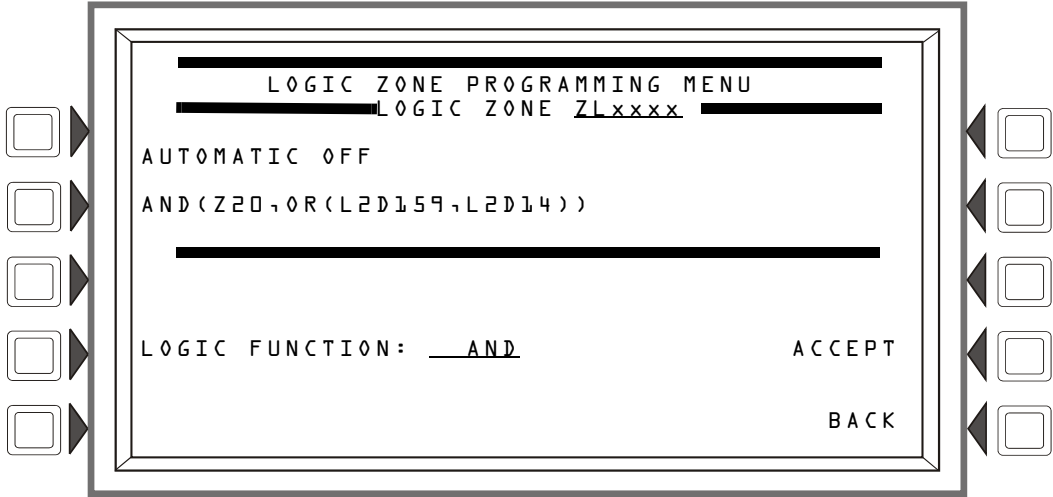
**POINT SELECT:** Press to scroll through the list of possible formats (detector, module, etc.). Stop at the desired format. Type in the address for the additional point.

**ACCEPT:** Press to insert the point into the equation where the cursor is blinking, and to return to the previous screen.

**NEXT/PREVIOUS POINT:** Press these soft keys to scroll forward or backward from the displayed point to the next installed point.

**Add Logic Function**

This screen appears when the **ADD LOGIC FUNCTION** soft key is pressed at the Logic Zone Programming Menu screen.



**Figure 3.51 Add Logic Function Screen**

The cursor will be present in the logic equation. Place it, using the arrow keys on the keyboard, at the place where the logic function should be inserted.

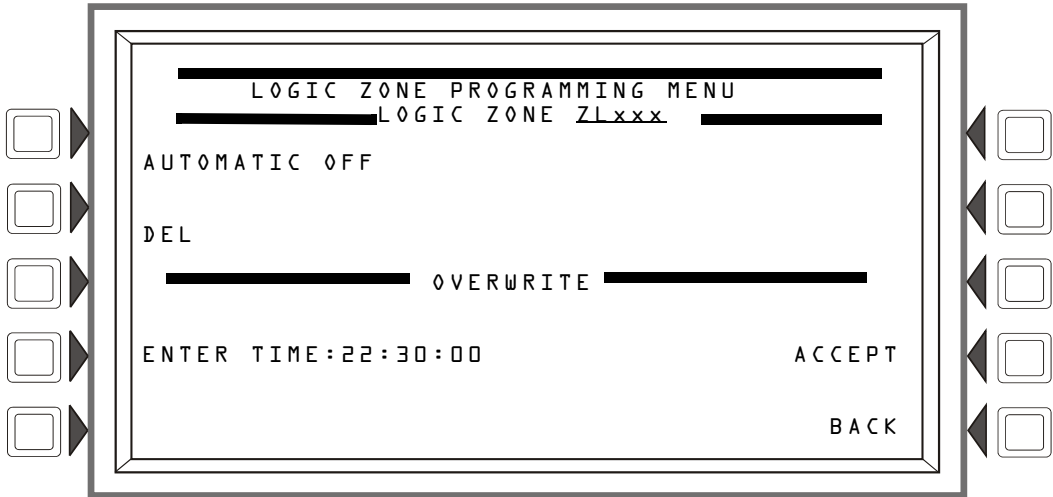
**Soft Keys**

**LOGIC FUNCTION:** Press to scroll through the list of possible logic functions.

**ACCEPT:** Press to insert the logic function into the equation where the cursor is blinking, and to return to the previous screen.

**Add Time/Date**

This screen appears when the **ADD TIME/DATE** soft key is pressed at the Logic Zone Programming Menu screen



**Figure 3.52 Add Time/Date to Logic Zone Screen**

**Soft Keys**

**ENTER TIME:** \_\_:\_\_:\_\_ Press this soft key to toggle between the time/date formats. Choose one based on the type of time-based function used.

Time-based function	Screen Field	Time/date format
DEL, SDEL, TIM	ENTER TIME:__:__:__	HH:MM:SS, entered as military time (22:30:00 = 10:30 P.M.)
TIM	ENTER DATE:__-__-__	(MM-DD-YY)

**Table 3.12**



TIM	ENTER DAY: <u>MO</u>	(Use the TOGGLE DAY soft key that appears to scroll through and choose a day of the week.
-----	----------------------	---

Table 3.12

3.4.5 Fault Zone

Fault Zone Programming

Fault zones provide a means of using a system fault input to effect an output. For instance, an annunciator fault can be used to activate an output device.

The fault zone format is ZTxxx, where xxx is a number from one through one hundred. When a fault zone format is entered at the Point Select screen, the same programming screens and choices appear as for logic zones, except the zone format is a fault zone format. (Refer to paragraphs “Logic Zone Programming” on page 54 and the paragraphs following “Add Time/Date”).

Refer to Appendix D, “CBE: Zones and Equations” for information on how to create a fault equation, and how they operate.

Add Node Offline Fault

Node offline faults can be added to fault zone programming to act as a means of affecting an output in the event a node goes online or offline.

Adding a node offline fault to the fault zone equation is done in the same manner as described in the, "Logic Zone Programming" section on page 54. However, the POINT SELECT option is not available. To add the node offline fault, place the cursor in the desired position and type in NO###, where the ### represents the network node that is being monitored for the fault. Refer to the following fault zone programming examples:

**OR(NO22,NO25,NO159)** - In this example, if Node 22, Node 25, or Node 159 go offline, then the fault zone will turn ON. Once the nodes all return to their online status, the fault zone returns to OFF. Other parameters (detectors, modules, zones, etc.) can be used in this equation as well.

**OR(RANGE(NO78,NO81))** - In this example, if Nodes 78, 79, 80, and 81 go offline, the fault zone will turn ON. Once any one of the nodes return to the online status, the fault zone returns to OFF. Other parameters (detectors, modules, zones, etc.) can be used in this equation as well.

3.4.6 Annunciator Board Label

When ACS BOARD is selected from the Point Program Menu, the ACS Label Menu appears.

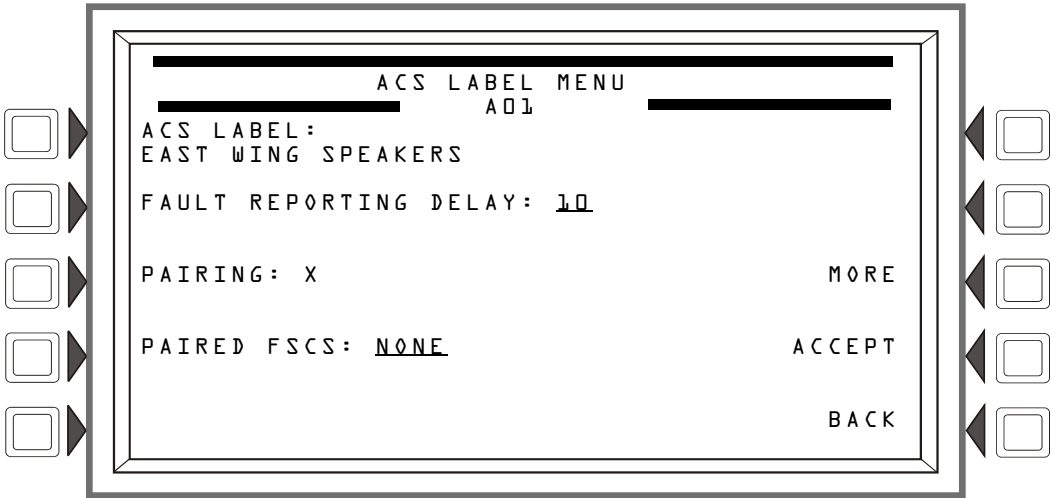


Figure 3.53 ACS Label Menu Screen (1)

- Soft Keys**
- ACS LABEL :** Type a label for the selected annunciator. The label can have up to 40 characters.
  - FAULT REPORTING DELAY:** Smoke Control Systems only: Adjustable fault timer for FSCS. Programmable range is 0 to 180 seconds. Default: 10
  - PAIRING :** Smoke Control Systems only: Select group 1, 2 or 3 to pair up to eight (8) FSCS boards so that multiple smoke control modules can act as a single unit. If enabled, each FSCS address can only be assigned to one group and each group can be assigned up to eight (8) FSCS addresses, Default: X
  - PAIRED FSCS :** Smoke Control Systems only: Displays any FSCS boards that have been paired to this annunciator.
  - ACCEPT :** Press to insert the logic function into the equation where the cursor is blinking, and to return to the previous screen. Press the MORE softkey to display the second ACS label screen.

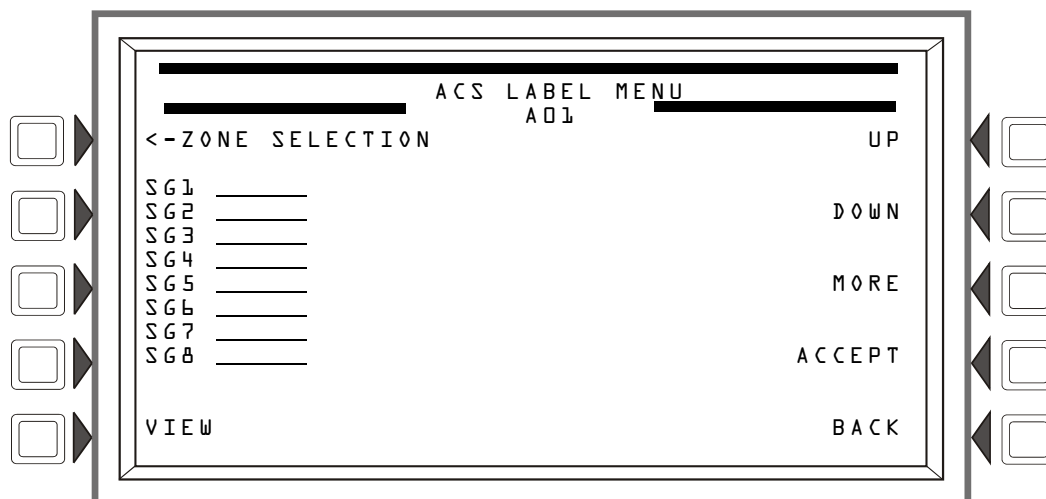


Figure 3.54 ACS Label Menu Screen (2)

**Soft Keys**

**ZONE SELECTION:** Press to assign the zone label that is to be displayed for the switch group selected.

**VIEW:** Press to view the associated zone label for the switch group selected.

**UP/DOWN:** Press to move between switch group selections.

Press the **MORE** softkey to display the third ACS label screen.

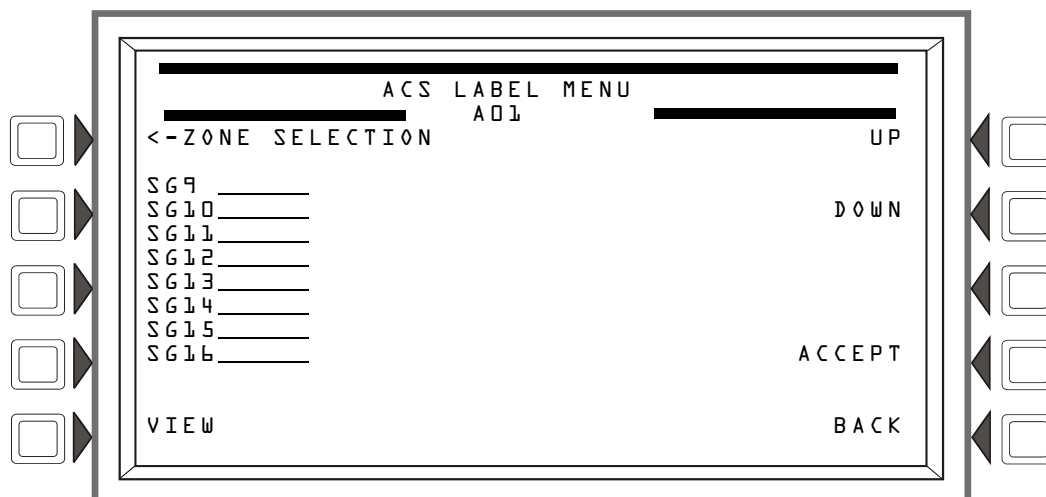


Figure 3.55 ACS Label Menu Screen (3)

**Soft Keys**

**ZONE SELECTION:** Press to assign the zone label that is to be displayed for the switch group selected.

**VIEW:** Press to view the associated zone label for the switch group selected.

**UP/DOWN:** Press to move between switch group selections.

### 3.4.7 Audio Point Programming

When DVC or DAA is selected from the Point Program menu, the Audio Volume Control menu appears.

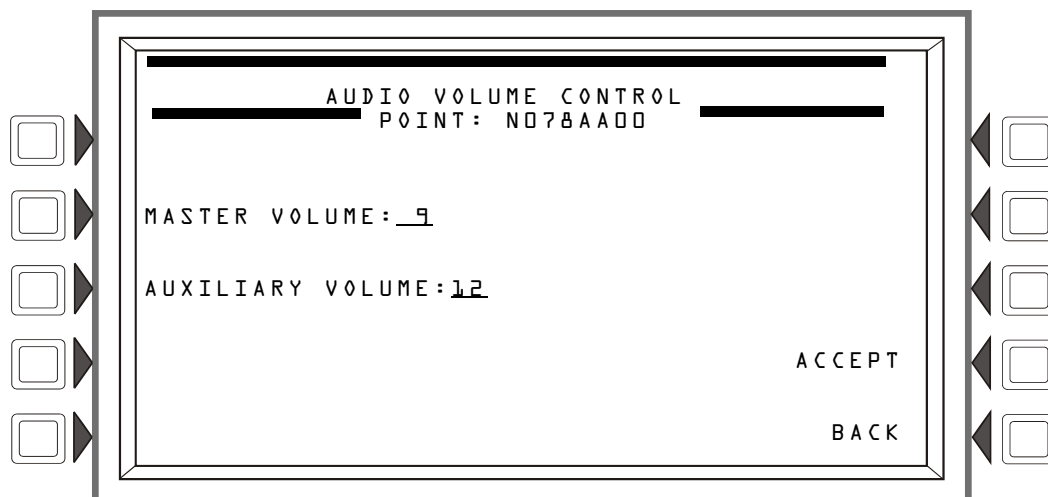


Figure 3.56 Audio Point Programming Menu Screen

#### Soft Keys

**MASTER VOLUME:** This field can set the volume for all audio outputs at the DVC node. When the audio amplifier point is set to 00, as it is in Figure 3.56, the setting affects all audio outputs on the DVC node (this includes all outputs on its DAAs). When a specific DAA point is entered at the point program menu (for example, N078AA01) the MASTER VOLUME setting will apply to the audio outputs at that DAA (the DAA with its address set to 01). Set this field to any volume setting from 0 (off) to 15 (high). Default: 15

**AUXILIARY VOLUME:** This field sets the volume for DVC inputs AUXA (background music from various sources or a telephone paging source) and AUXB (AMG-1 input). The field does not appear if a specific DAA address has been entered. The DAAs have onboard volume control for AUX A and AUXB inputs. Set this field to any volume setting from 0 (off) to 15 (high). Default: 15.

**ACCEPT:** Press to program the displayed volume.

### 3.5 Delete Program

Press the DELETE PROGRAM MENU at the PROGRAM/ALTER STATUS MENU menu to display the screen below.

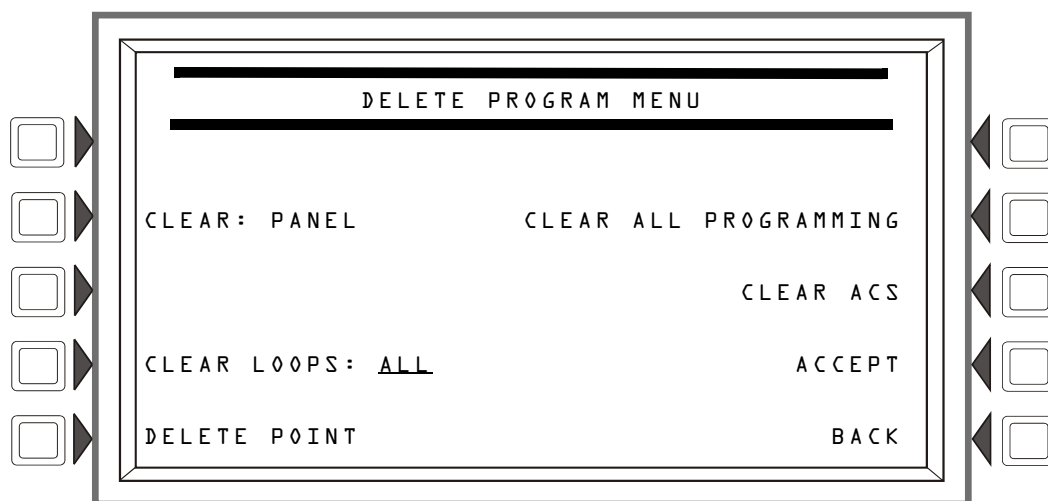


Figure 3.57 Delete Program Menu Screen

#### Soft Keys

**CLEAR ALL PROGRAMMING:** Press to remove all panel, loop, point and ACS programming information, as well as logic and fault zone equations. Pressing this key removes everything except passwords. A confirmation screen will display asking the user to confirm the deletion command. Pressing this key causes a reboot.

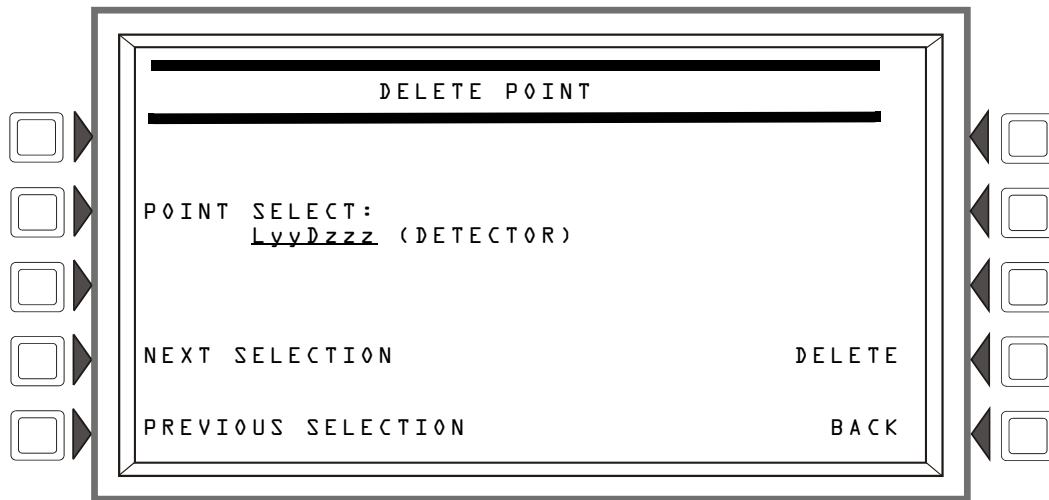
**CLEAR: PANEL:** Press to remove all programmed panel setting information from control panel memory. This does not remove ACS programming. A confirmation screen will display asking the user to confirm the deletion command. Pressing this key causes a reboot.

**CLEAR LOOPS:** Press to scroll through the options: ALL, LOOP 1, LOOP 2, ..., LOOP 10. Stop at the desired option. Press ACCEPT to delete all loop programming for the selected option. Pressing this key causes a reboot.

**DELETE POINT:** To delete a point, press this soft key to display the Delete Point screen.

**CLEAR ACS:** Press to remove all ACS programming from panel memory. A confirmation screen will display asking the user to confirm the deletion command. Pressing this key causes a reboot.

**ACCEPT:** Press to clear all programming for the selected loop option for **CLEAR L00PS**. A confirmation screen will display asking the user to confirm the deletion command.



**Figure 3.58 Delete Point Screen**

**POINT SELECT:** Press to scroll through the options: detector or module. Stop at the desired option. Press the **DELETE** soft key to delete the point from programming. A confirmation screen will display asking the user to confirm the deletion command.



**NOTE:** Deleting points that are active or in fault will cause a reboot.

**NEXT/PREVIOUS SELECTION** Press to scroll sequentially to the next or previous point.

## 3.6 Autoprogram Menu

The Autoprogram option identifies addressable devices connected to the control panel. Devices include addressable detectors and modules connected to the panel's SLCs. The Autoprogram can be used to create a new program, or to add or remove devices from an existing program. When the points are accepted, they are added to the panel's database with the defaults described in the "Point Programming" section of this manual.

### 3.6.1 To Create a New Program

To successfully create a new program, the FACP must either be new, or have no existing program in memory for the loops involved.

1. Use the Delete Program Menu screen (refer to Figure 3.57) to clear any applicable programming from the panel. For example, if loops one and two are to be autoprogrammed, clear the programming that exists by entering **1+2** at the Delete Program Menu screen.
2. Install SLCs (loops **1+2** in this example) using the Loop Programming screen (Figure 3.27).
3. Press the **AUTOPROGRAM L00PS** soft key and enter the desired SLCs (loops **1+2** in this example) in the Autoprogram Menu screen (Figure 3.59)
4. Press the **ACCEPT** soft key to run the Autoprogram.

### 3.6.2 To Add/Delete Devices from the Program

When using the Autoprogram option with an existing program, the control panel does not change program information for installed and programmed devices.

1. If devices are to be added to a new SLC (an SLC that is not in the program), that SLC must be installed using the Loop Programming screen (Figure 3.27).
2. Physically install/uninstall the SLC devices.
3. Press the **AUTOPROGRAM L00PS** soft key to run the Autoprogram. Existing information will not be changed.

Autoprogram will find the devices/modules on the selected installed SLCs. It will compare the information it finds during autoprogramming against any point information that may already be in the database, and it will look for any addressing errors, such as two detectors with the same address. If it finds a discrepancy or error, a screen will be displayed with the discrepant or incorrect information and the programmer will be given the option of changing it.

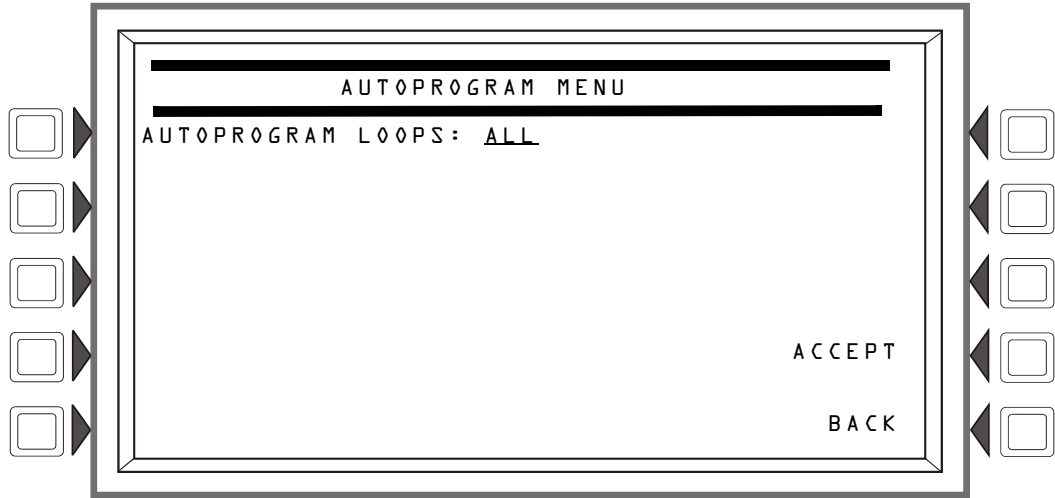


Figure 3.59 Autoprogram Menu Screen

**Soft Keys**

**AUTOPROGRAM LOOPS:** Press to scroll through the options: ALL, 1+2, 3+4, 5+6, 7+8, 9+10. Stop at the desired option to select it.

**ACCEPT:** Press to autoprogram the selection. A confirmation screen will display asking the programmer to confirm the autoprogram choice made (press the YES soft key to confirm). A screen with the message AUTOPROGRAM IN PROGRESS will display until autoprogramming is complete.

**3.6.3 Confirmation Screens**

**SLC Statistics**

When autoprogramming is complete, the panel will display a list of the number of modules and detectors found on each SLC. Refer to Figure 3.60 for an example of the screen.

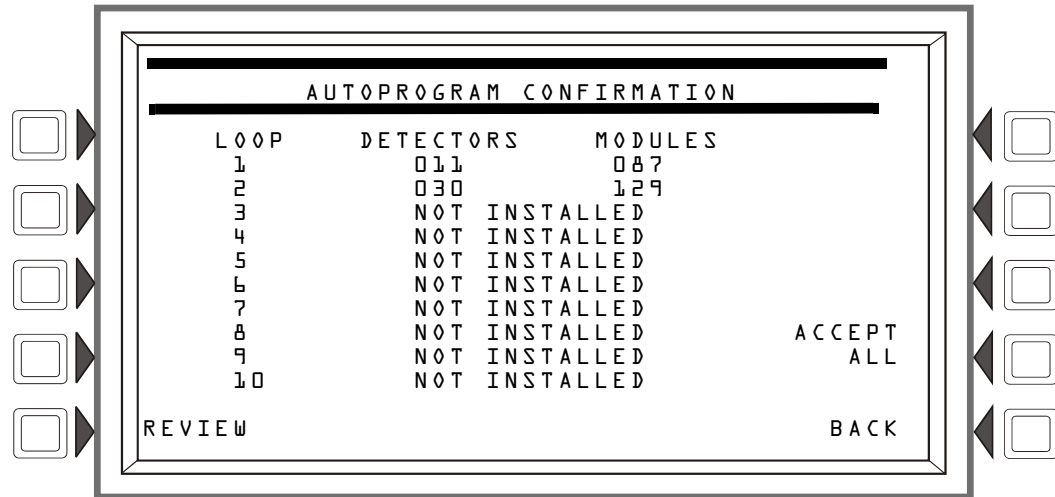


Figure 3.60 Autoprogram Confirmation Screen (SLCs)

**Soft Keys**

**REVIEW:** Press this soft key to review the new devices found (with the option of adding them to the program one by one), devices that are in the database that the autoprogram did not find, devices that have data base and autoprogram information that differs, and devices that are incorrectly doubled up on a single address. Devices will display in the following order:

- L01M001 through L01M159
- L01D001 through L01D159
- L02M001 through L02M159, etc.

Depending on what information was found, different screens may appear for different points. Refer to Figure 3.61 through Figure 3.64 for examples of the screens.

**ACCEPT ALL :** Press to accept all the new devices that have been found by the autoprogram. Errors and discrepancies will still be displayed the same as if the **REVIEW** soft key had been pressed: however, new devices will not individually display for review and acceptance.

**Add New Points**

When the **REVIEW** soft key is pressed, the panel will individually display each new SLC point found during autoprogramming. The screen below uses an SLC detector point as an example.

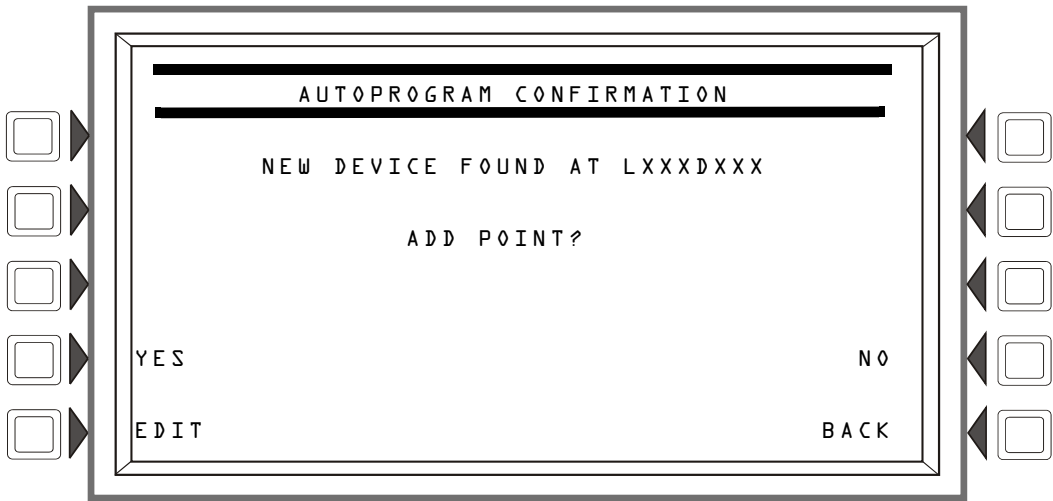


Figure 3.61 Autoprogram Confirmation Screen (New SLC Point)

**Soft Keys**

- YES :** Press this soft key to install the new point into the panel’s database.
- EDIT :** Press this soft key to advance to the point programming menu for the new point.
- NO :** Press if the point will not be installed.

**Error and Discrepancy Resolution**

Pressing the **REVIEW** soft key will bring up screens that provide the means to resolve any errors or discrepancies found during autoprogram.

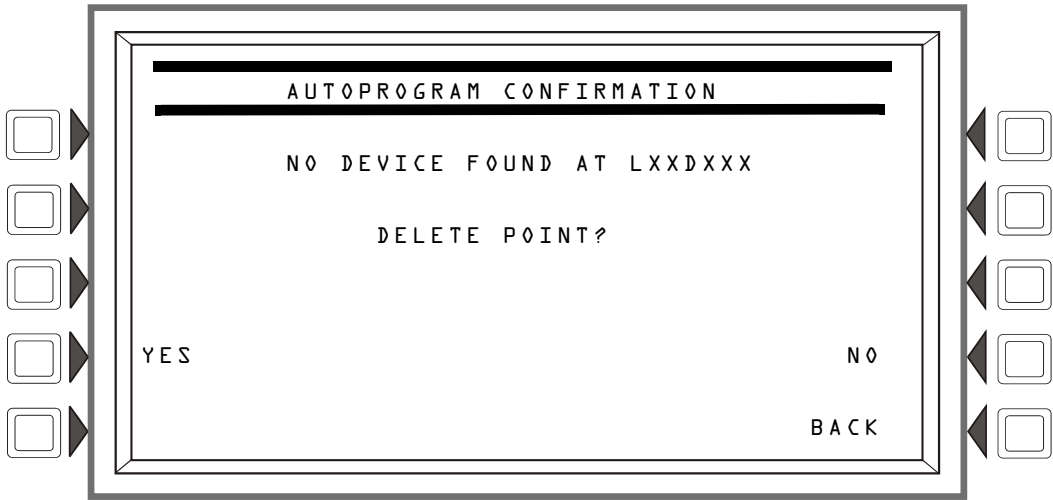


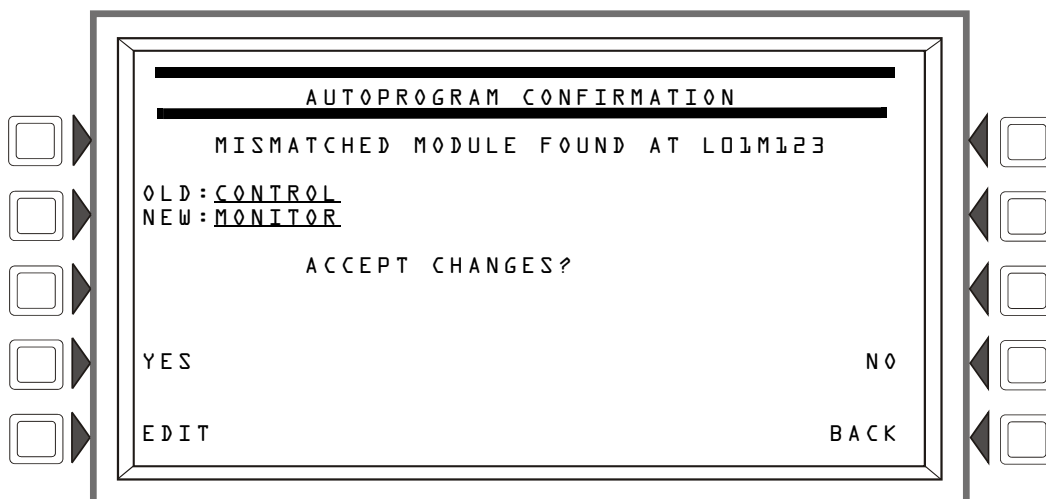
Figure 3.62 Autoprogram Confirmation Screen (Missing Point)

**Display**

This screen will display the SLC device address when a previously installed/programmed point does not respond during a subsequent Autoprogram.

**Soft Keys**

- YES:** Press to delete the point information from the panel’s database.
- NO:** Press to leave the point information in the panel’s database.



**Figure 3.63 Autoprogram Confirmation Screen (Mismatched Point)**

#### Display

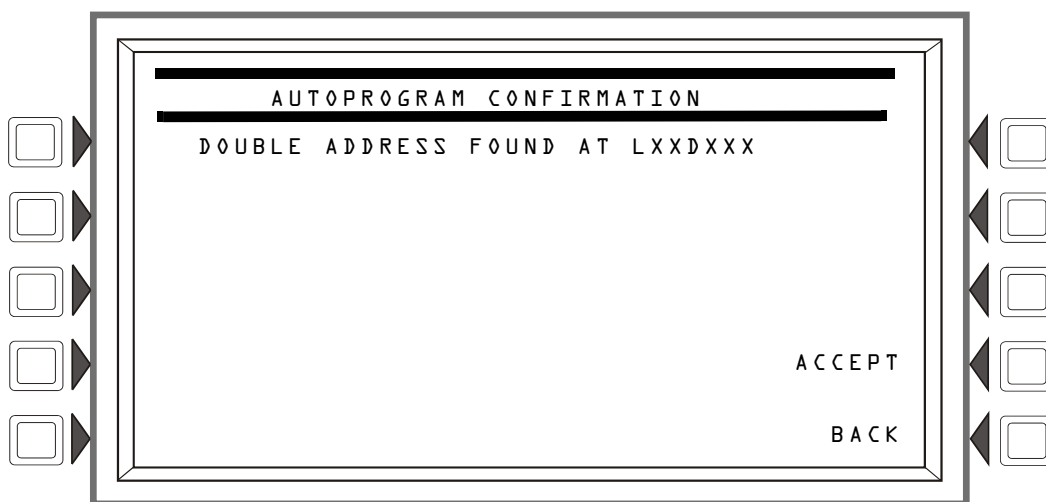
The **OLD** field contains the information currently in the panel's programming database. The **NEW** field contains the information found during autoprogramming. The fields contain the FlashScan Type ID codes if the device is FlashScan, or they will contain the device type if CLIP.

#### Soft Keys

**YES:** Press this soft key to accept the new device type.

**EDIT:** This soft key will appear only when SLC devices are mismatched. Press it to advance to the point programming screen for this point.

**NO:** Press if the new information should not be installed over the existing information in the database.



**Figure 3.64 Autoprogram Confirmation Screen (Double Address)**

#### Display

The SLC loop number and device address are displayed where the Autoprogram has found more than one detector or module with the same address.

#### Soft Keys

**ACCEPT:** Pressing this soft key acknowledges that the programmer has been informed of the double address. Autoprogram will not make a modification to the database for this point. The installer must correct this problem.

## Section 4: Alter Status

Alter Status provides a programming level for changing operating parameters such as detector sensitivity, Walk Test, changing system time/date and disabling/enabling points. Alter Status is accessible with the Master Password and with User Passwords.

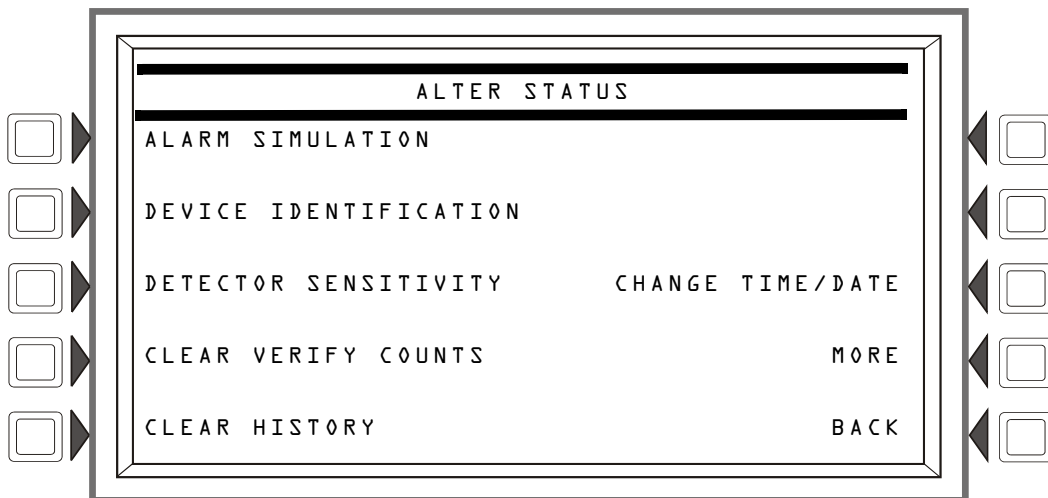


Figure 4.1 Alter Status Screen (1)

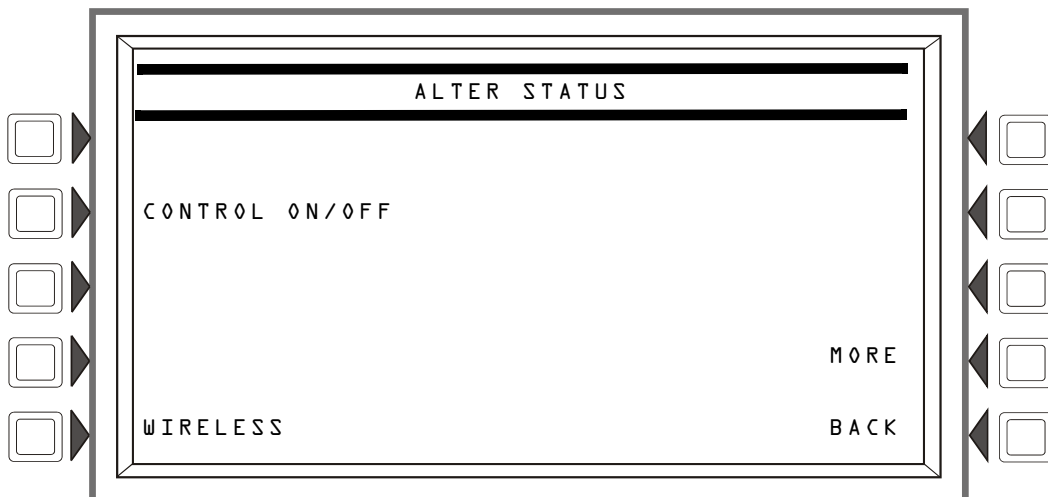


Figure 4.2 Alter Status Screen (2)

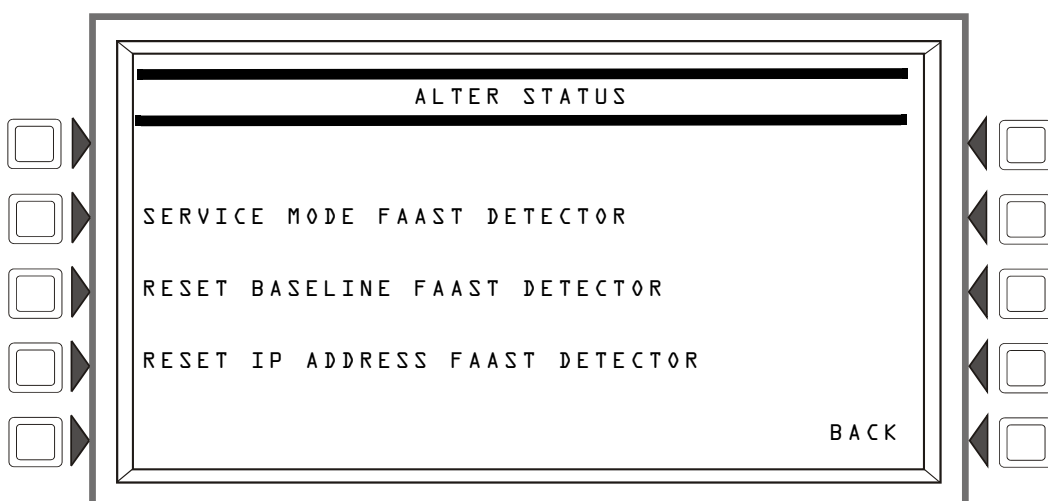


Figure 4.3 Alter Status Screen (3)

### Soft Keys

All soft key selections (except BACK) are menu selections. Press to display the desired menu.



## 4.1 Alarm Simulation

This screen is displayed when the “Alarm Simulation” softkey is pressed on the Alter Status Menu screen.

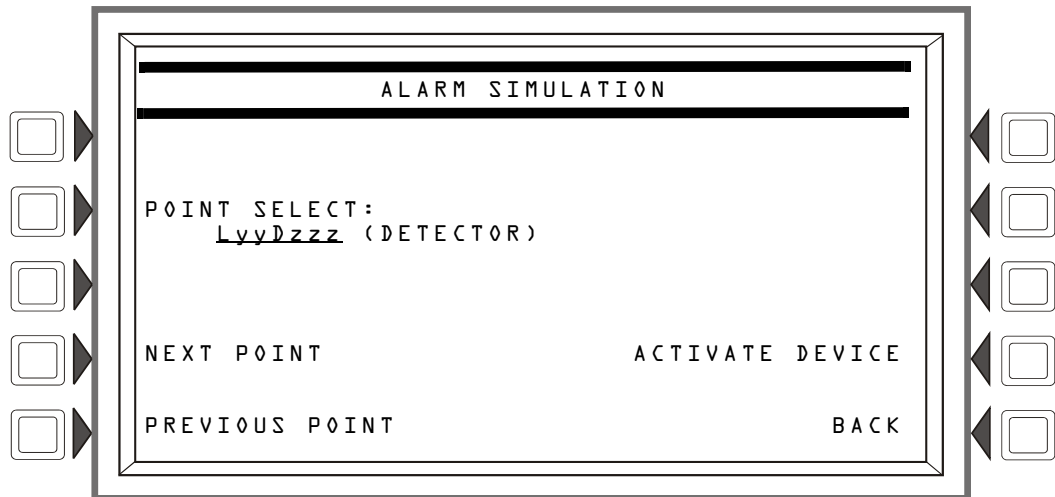


Figure 4.4 Alarm Simulation Point Select Screen

### Soft Keys

**POINT SELECT:** Press to scroll between available device types (detector or module) and place the cursor in the format field. Type the address using the keyboard.

**NEXT/PREVIOUS POINT:** Press these soft keys to scroll sequentially through the point addresses on the loop. The screen will display the next loop when the last device on this loop is passed.

**ACTIVATE DEVICE:** Press to activate the device selected. The panel will simulate an alarm on the device. The panel will simulate the alarm and react according to the device’s programming. To clear the activation, take appropriate actions according to the event type activated.

## 4.2 Device Identification

This screen is displayed when the “Device Identification” softkey is pressed on the Alter Status Menu screen.

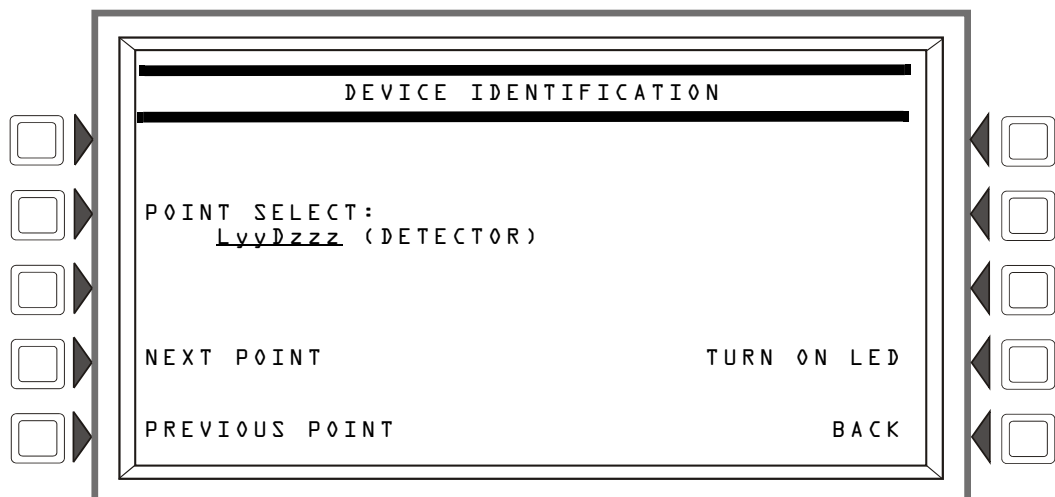


Figure 4.5 Device Identification Point Select Screen

### Soft Keys

**POINT SELECT:** Press to scroll between available device types (detector or module) and place the cursor in the format field. Type the address using the keyboard.

**NEXT/PREVIOUS POINT:** Press these soft keys to scroll sequentially through the point addresses on the loop. The screen will display the next loop when the last device on this loop is passed.

**TURN ON LED:** Press to turn on the LED of the selected device. The LED of the device will latch on to allow the user to identify the device in question. Select the **TURN OFF LED** softkey to return the LED to its normal state.

4.3 Detector Sensitivity

This screen is displayed when the “Detector Sensitivity” soft key is pressed on the Alter Status Menu screen.

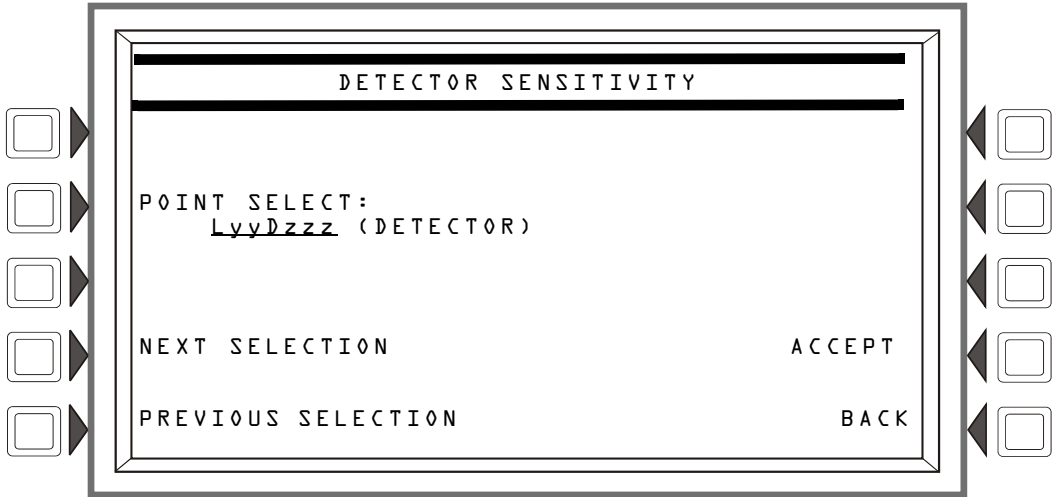


Figure 4.6 Sensitivity Select Point Screen

Soft Keys

- POINT SELECT: Press to place the cursor in the format field. Type the address using the keyboard.
- NEXT/PREVIOUS SELECTION: Press these soft keys to scroll sequentially through the detector addresses on the loop. The screen will display the next loop when the last device on this loop is passed.
- ACCEPT: Press to proceed to the Detector Sensitivity screen.

4.3.1 Sensitivity Select

Detector sensitivity levels, set during initial programming, may be changed through accessing the Detector Sensitivity Select screen and the command screen that follows. The Detector Sensitivity Select screen is displayed when the ACCEPT: soft key is pressed at the Sensitivity Select Point screen.

The current sensitivity values displayed are described in Detector Point Programming (Refer to the paragraph “Sensitivity” on page 46) and in Appendix C, “Intelligent Sensing Applications”.

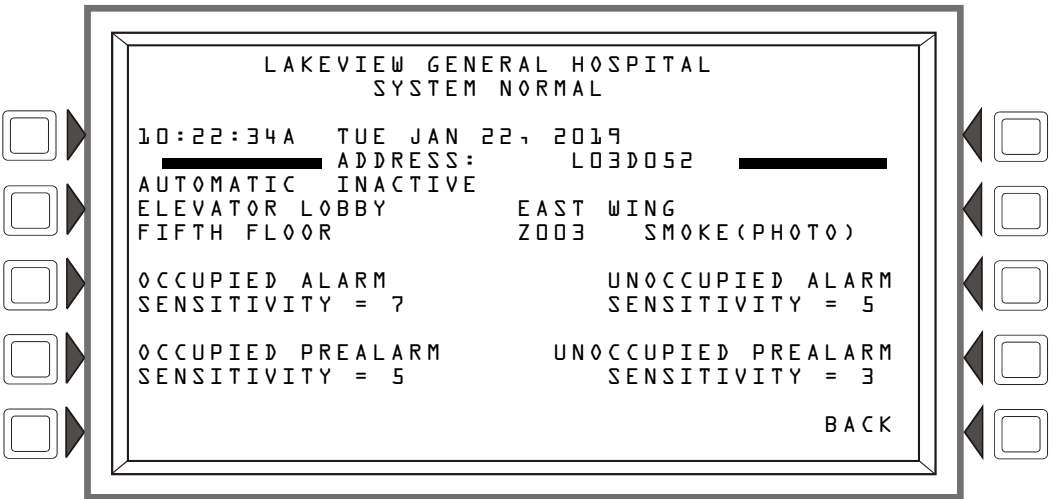


Figure 4.7 Detector Sensitivity Select Screen

Soft Keys

- OCCUPIED ALARM SENSITIVITY:
- OCCUPIED PREALARM SENSITIVITY:
- UNOCCUPIED ALARM SENSITIVITY:
- UNOCCUPIED PREALARM SENSITIVITY:

Press the soft key next to one of these setting categories to proceed to the next screen, where the setting value may be changed.

Change Alarm/Prealarm Sensitivity

This screen displays when any of the soft keys is pressed on the Detector Sensitivity Select screen. The user can change detector sensitivity values using this screen.

The settings (1-9) displayed below the soft key are unique to the type of detector.

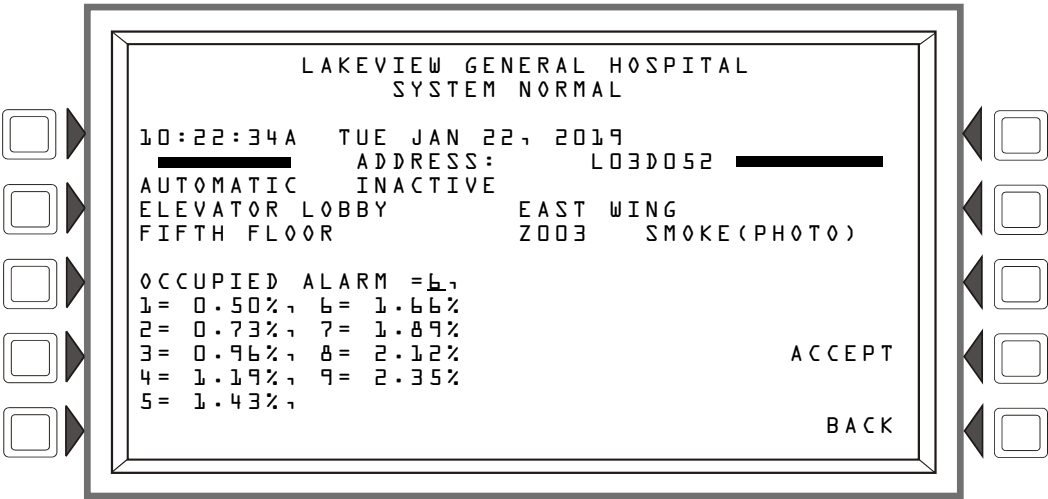


Figure 4.8 Change Alarm Sensitivity Screen

**Soft Keys**

**OCCUPIED ALARM:** The type of alarm/prealarm will display based on which soft key was pressed in the previous screen. For example, in the screen above, OCCUPIED ALARM displays because the OCCUPIED ALARM SENSITIVITY: soft key was pressed.

The detector sensitivity values display below the soft key. Select a value by pressing the soft key until the desired value appears in the underlined field.

**ACCEPT:** Press to accept the change made on this screen, and to return to the previous screen.

**4.4 Clear Verify Counters**

The Clear Verify Counters screen lets you clear all counters for detectors selected for Alarm Verification on the FACP. It displays when the “CLEAR VERIFY COUNTERS” soft key is pressed on the Alter Status Menu screen.

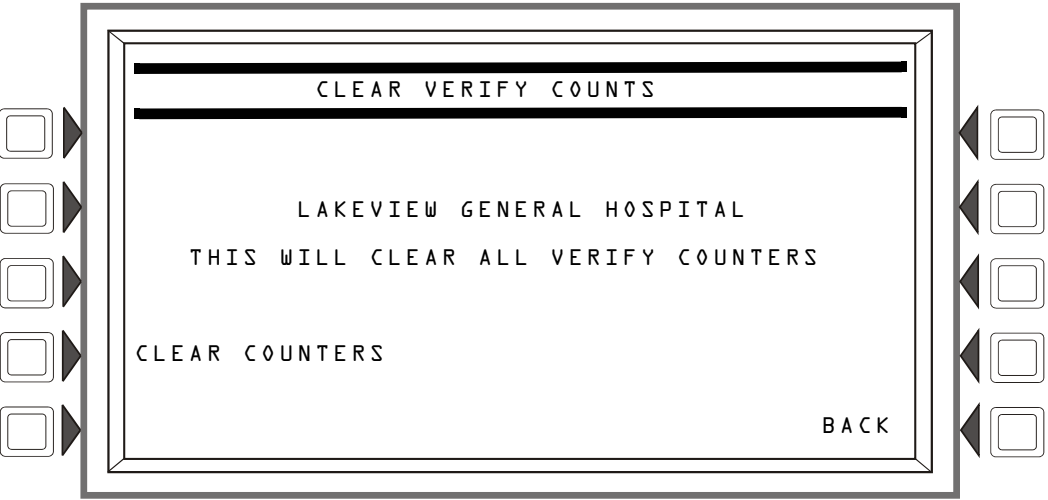


Figure 4.9 Clear Verify Counters Screen

**Soft Keys**

**CLEAR COUNTERS:** Press this soft key to clear all verification counters.

### 4.5 Clear History

This screen is displayed when the CLEAR HISTORY soft key is pressed on the Alter Status Menu screen. It brings the user to a command screen, where the type of history may be selected for clearing.

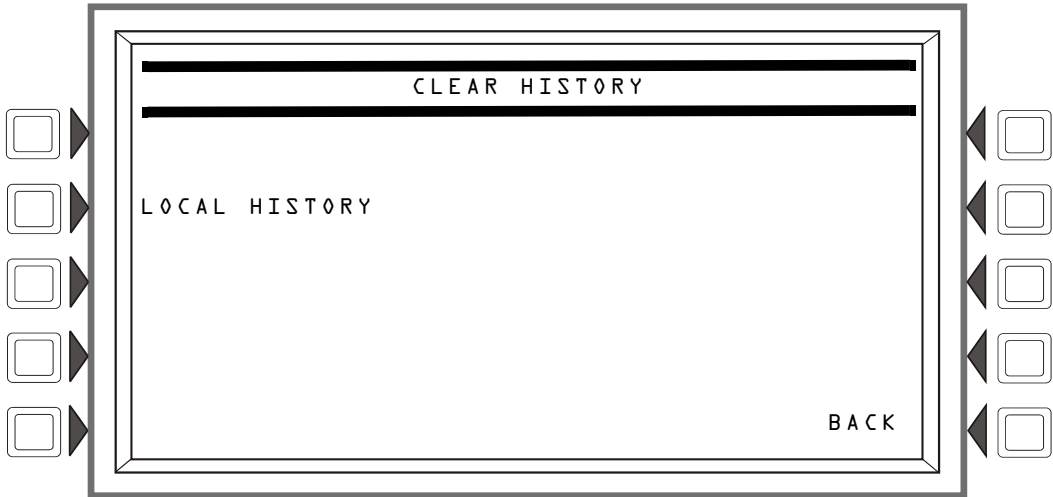


Figure 4.10 Clear History Screen (1)

**Soft Keys**

LOCAL HISTORY: Press to access the second clear history screen.

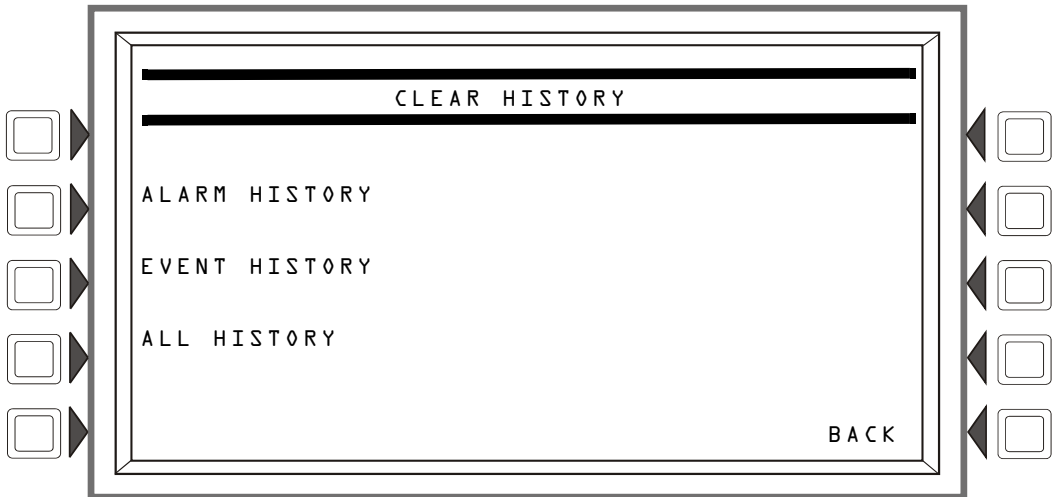


Figure 4.11 Clear History Screen (2)

**Soft Keys**

ALARM HISTORY: Press to clear Alarm history.

EVENT HISTORY: Press to clear Event history.

ALL HISTORY: Press to clear both Alarm and Event history.

## 4.6 Program Time/Date

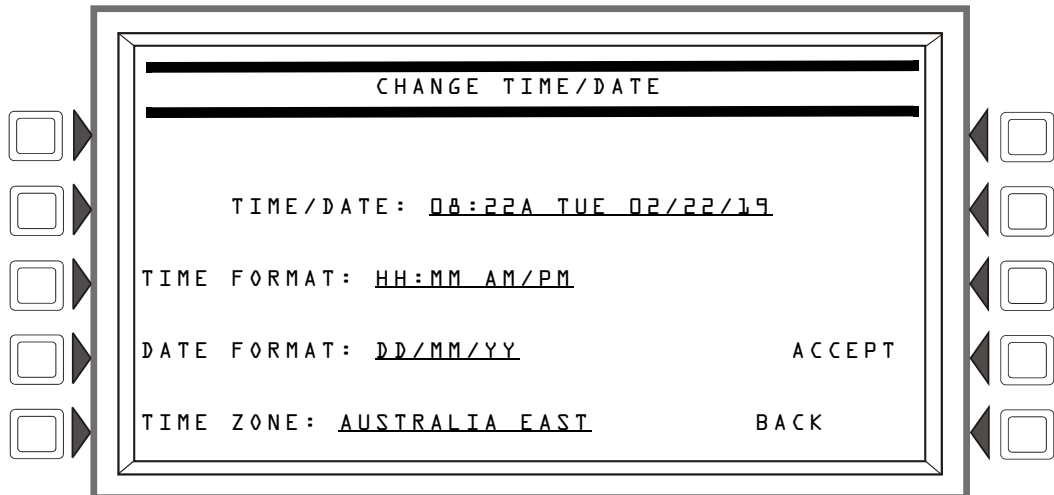


Figure 4.12 Program Time and Date Screen

### Soft Keys

**TIME/DATE:** Press to bring the cursor to the time/date field. The current time and date will be displayed using the current format. Change the values using the keypad.

**TIME FORMAT:** Press to scroll through a list of formats as follows; HH:MM AM/PM; H:MM AM/PM; HH:MM; and H:MM. Stop at the desired format.

**DATE FORMAT:** Press to toggle between MM/DD/YY and DD/MM/YY formats. Stop at the desired format.

**TIME ZONE:** Press to scroll through a list of 34 time zone selections. Stop at the appropriate zone.

**ACCEPT:** Press to save changes made on this screen and to return to the previous screen.

## 4.7 Control On/Off Point Select

This screen may be used to force an SLC control module or general zone off if it is on, or on if it is off.

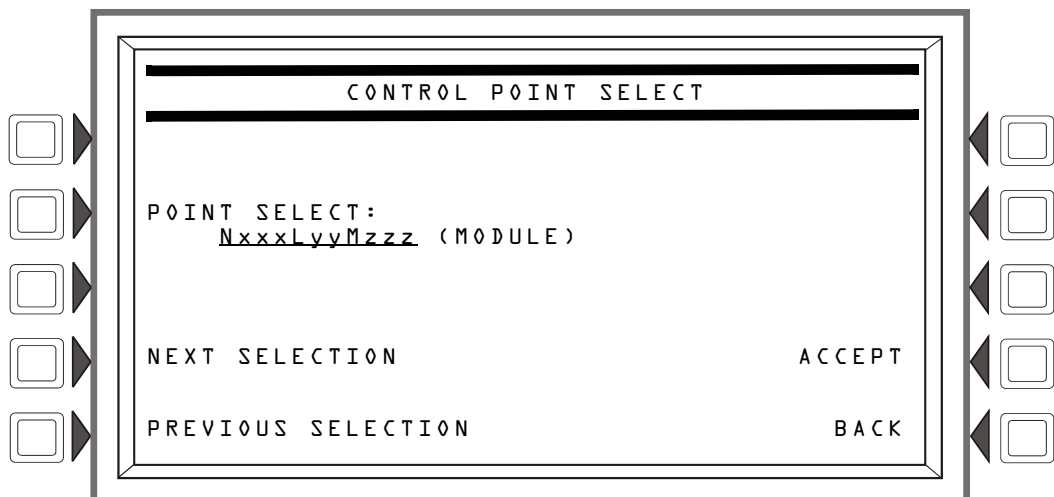


Figure 4.13 Control On/Off Point Select Screen

### Soft Keys

**POINT:** Press this soft key to enter the point address or general zone number (except Z000) to be forced on or off.



**NOTE:** A module with a releasing Type ID can not be forced.

**NEXT/PREVIOUS SELECTION:** Press to progress to the next or previous point on the loop, or the next or previous general zone.

**ACCEPT:** Press to continue to the Control On or Control Off screen.

### 4.7.1 Control Off

One of the following two screens will display when a point or general zone is selected and accepted in the previous screen.

If the selected point or zone is active, the Control Off screen will appear.

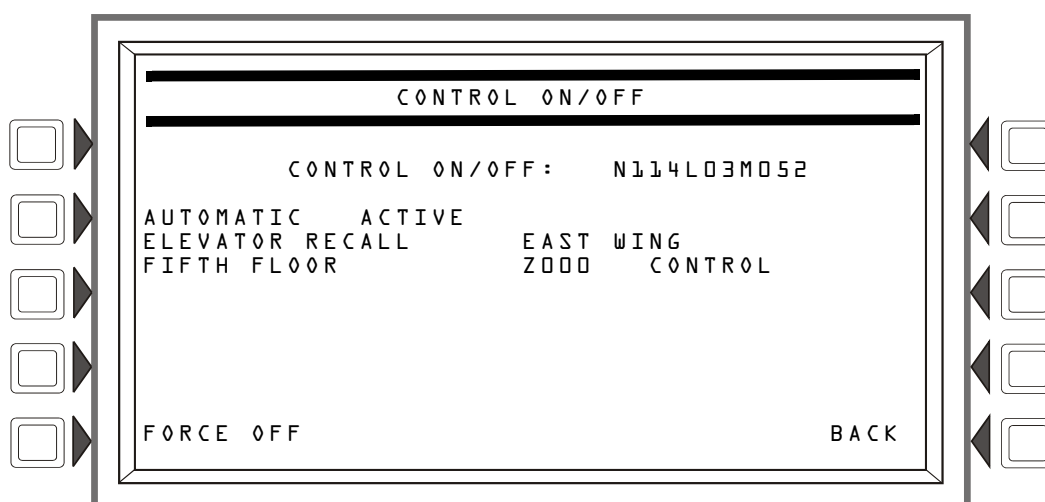


Figure 4.14 Control Off Screen

**Soft Keys**

**FORCE OFF:** Press this soft key to change the state of the control module or general zone from **AUTOMATIC ACTIVE** to **AUTOMATIC INACTIVE**.



**NOTE:** A module with a releasing Type ID cannot be forced.

**4.7.2 Control On**

If the selected point or zone is inactive, the Control On screen will appear:

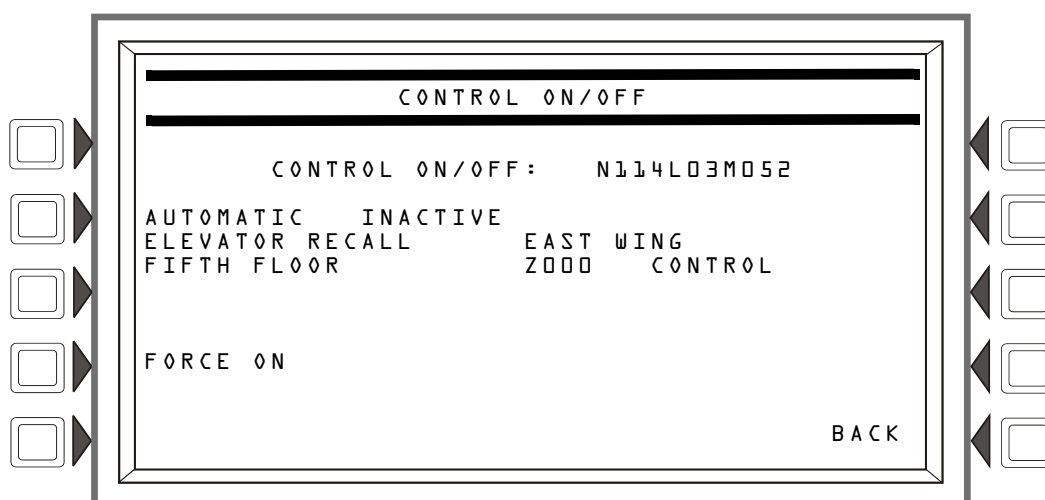


Figure 4.15 Control On Screen

**Soft Keys**

**FORCE ON:** Press this soft key to change the state of the control module or zone from **AUTOMATIC INACTIVE** to **AUTOMATIC ACTIVE**.

**4.8 Wireless**

The AFP-3030 can communicate with a wireless network via the FWSGAUS. Refer to the *SWIFT™ Network Manual* for additional information on wireless programming.



**NOTE:** The FWSGAUS as part of the wireless network complies with the Radiocommunications Class 2000 and Radiocommunications Class 2002 National Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and,
2. This device must accept any interference received, including interference that may cause undesired operation

The following screen is displayed when WIRELESS is selected on the second Alter Status screen:

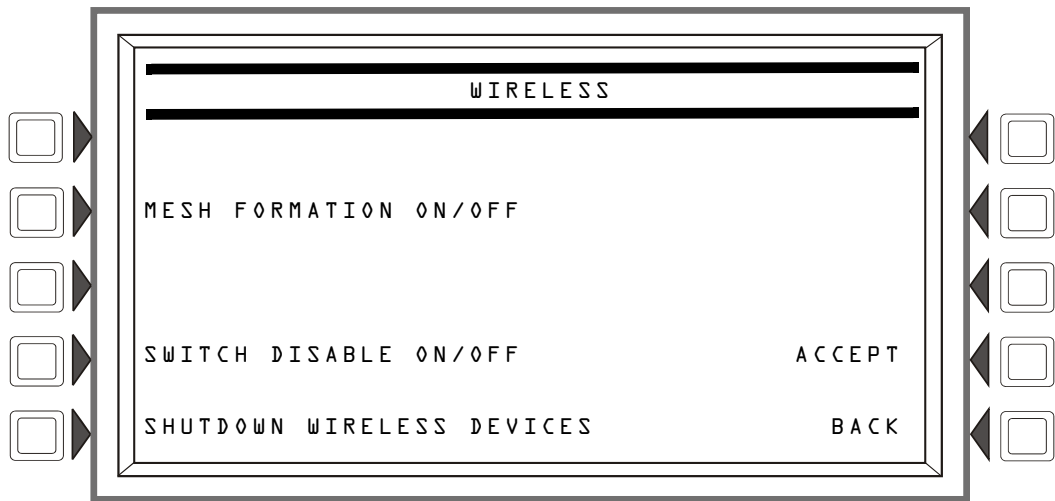


Figure 4.16 Wireless Programming Screen

**Soft Keys**

- MESH FORMATION:** Press this soft key to display the Mesh Formation screen.
- SWITCH DISABLE:** Press to display the Switch Disable screen
- SHUTDOWN WIRELESS DEVICES:** Press to display the Shutdown Wireless Devices screen.

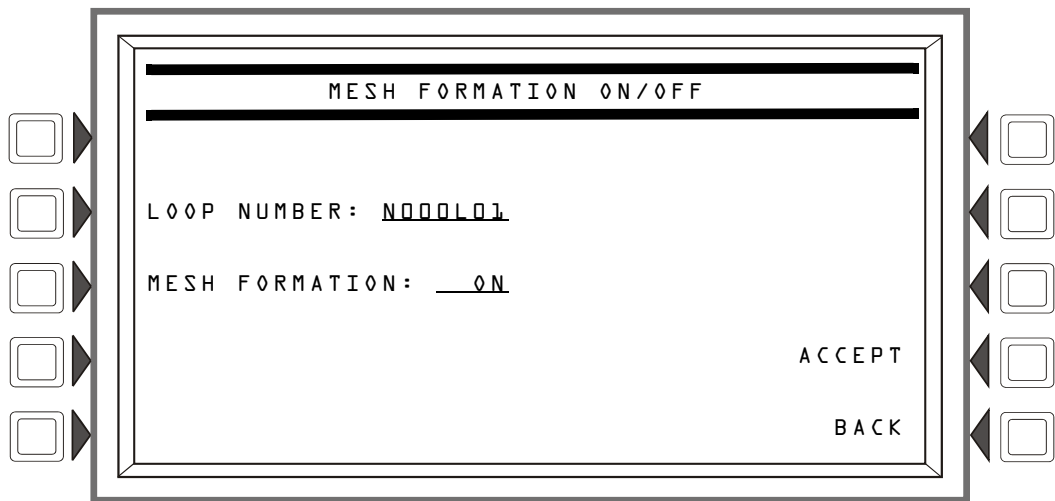


Figure 4.17 Mesh Formation Screen

**Soft Keys**

- LOOP NUMBER:** Press to select the loop to enable or disable wireless mesh formation.
- MESH FORMATION:** Press to form a wireless communication mesh surrounding the FWSGAUS. This is required to establish communication with the wireless devices to the fire panel. Settings are ON and OFF. If ON, when accepted, a command to start mesh formation is sent to all FWSGAUS units on the selected loop. If OFF, when accepted, a command to stop mesh formation is sent to all FWSGAUS units on the selected loop.

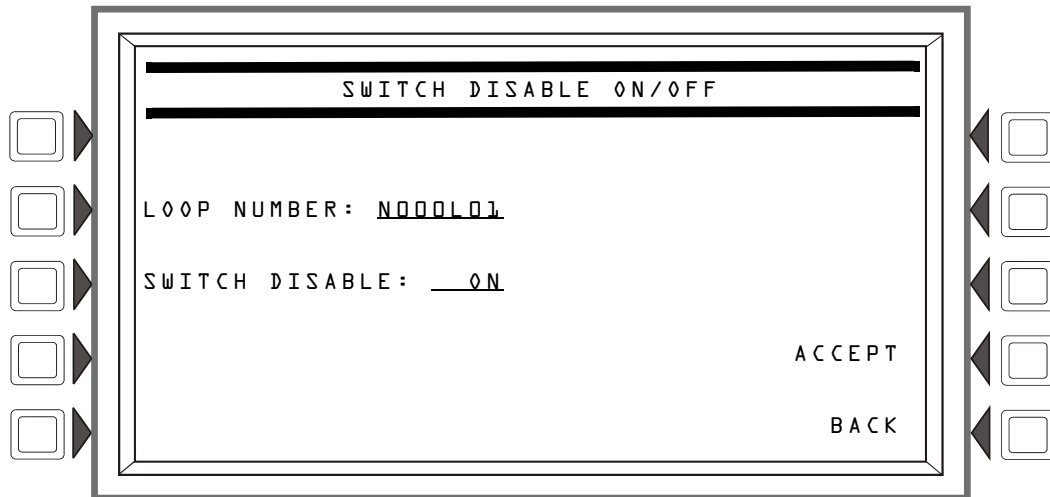


Figure 4.18 Switch Disable Screen

**Soft Keys**

**LOOP NUMBER:** Press to select the loop to enable or disable magnetic switches.

**SWITCH DISABLE:** Press to disable the magnetic sensor on the FWSGAUS. Once disabled, a password is required for access to the FWSGAUS using SWIFT™ Tools. Settings are ON and OFF. If ON, the magnetic sensor switches for the FWSGAUS are disabled and a password is required to access wireless commands. If OFF, The magnetic sensor switches for the FWSGAUS are enabled and no password is needed to access the wireless commands.

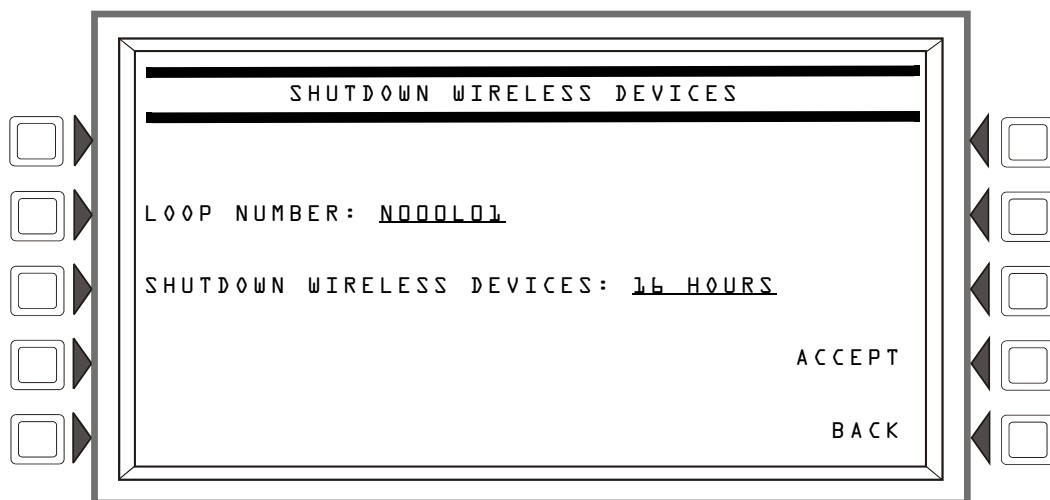


Figure 4.19 Shutdown Wireless Devices Screen

**Soft Keys**

**LOOP NUMBER:** Press to select the loop containing the wireless devices that are to be shutdown.

**SHUTDOWN WIRELESS DEVICES:** Select the duration of time in which the wireless devices on the selected loop will be shutdown. The range is from 30 minutes to 24 hours. The wireless devices on the selected loop will be shutdown for the duration of the time selected.

When in wireless shutdown, fire protection is compromised. All wireless devices will not communicate with the FWSGAUS until the time specified expires.

## 4.9 Service Mode FFAST Detector

An aspiration detector can be placed in Service Mode when maintenance is performed on the device. When in service mode, the panel will display a **SERVICE MODE** point fault for the SLC point(s) associated with the FFAST detector. For maintenance information, refer to the *FSA-8000 FFAST Installation and Maintenance Instructions* document (156-3903).



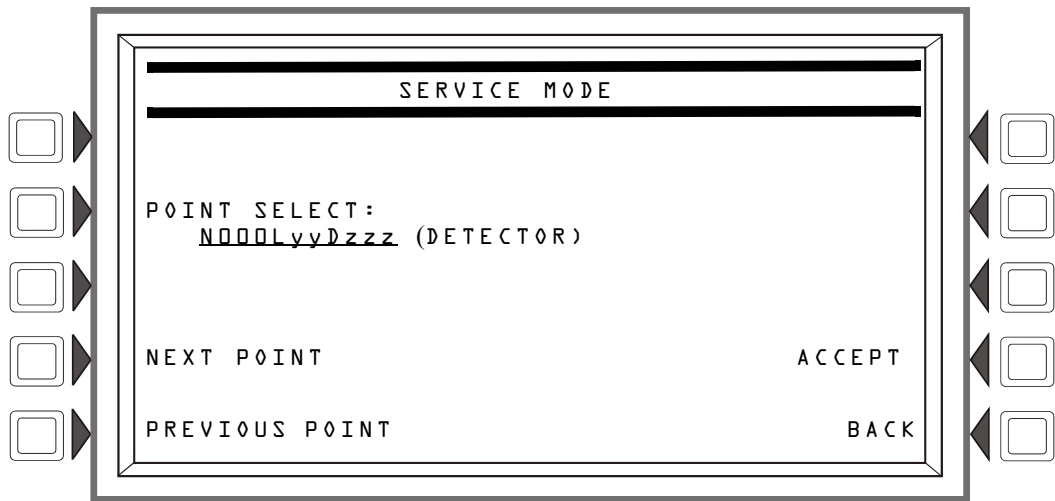


Figure 4.20 Service Mode Point Select Screen

**Soft Keys**  
POINT: Press this soft key to select the aspiration detector that will be placed in Service Mode.  
NEXT/PREVIOUS POINT: Press to progress to the next or previous point on the loop.  
ACCEPT: Press to continue to the second Service Mode screen.

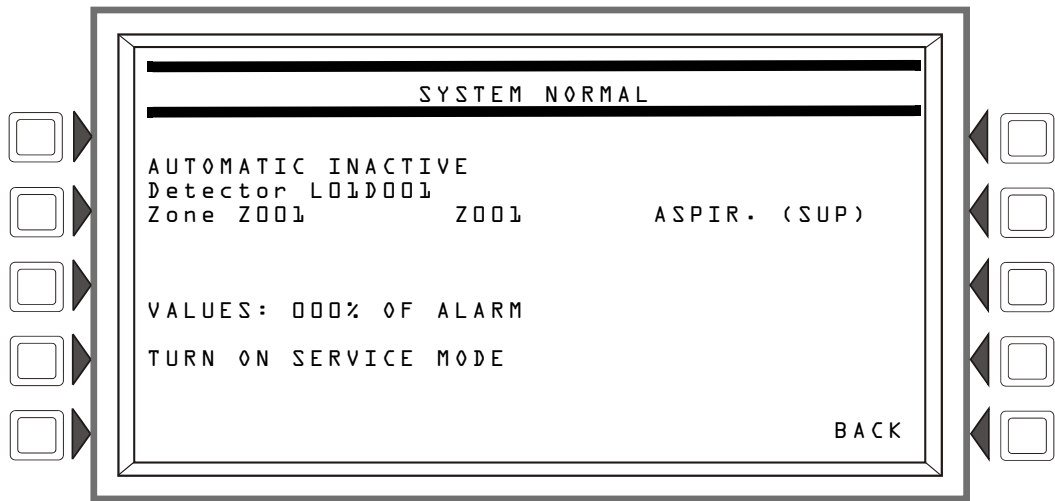


Figure 4.21 Service Mode Screen



**NOTE:** If the detector selected is not an aspiration detector, the fire panel will display the message NOT A FFAST DETECTOR.

**Soft Keys**  
TURN ON SERVICE MODE: Press this soft key to turn on Service Mode for the aspiration detector displayed. When maintenance is complete and the device is ready to return to service, return to this screen to turn off Service Mode.

4.10 Reset Baseline FFAST Detector

Once the detector has acclimated to its environment, it can be reset to a new baseline threshold level. This will adjust the aspiration detector so that its current value is the starting threshold reference.

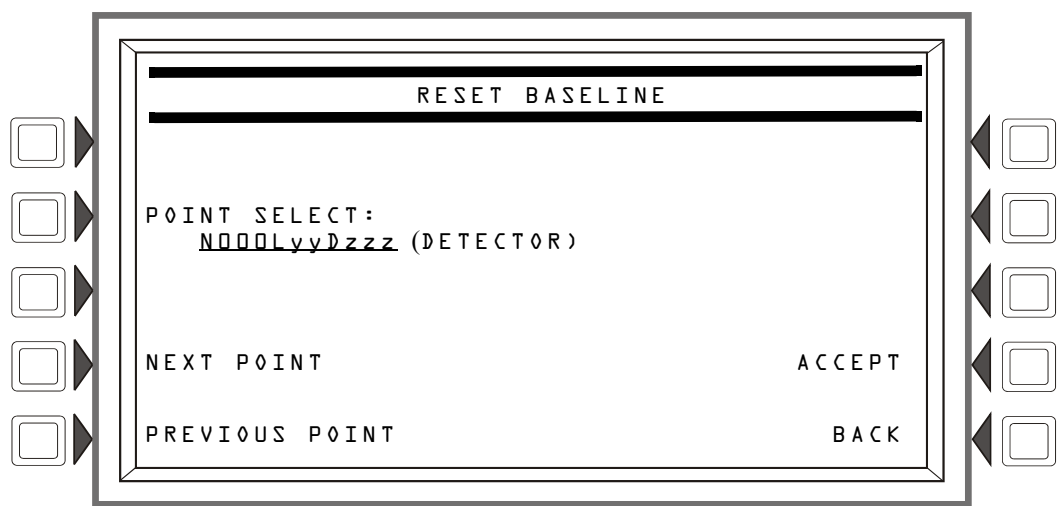


Figure 4.22 Reset Baseline Point Select Screen

**Soft Keys**

- POINT:** Press this soft key to select the aspiration detector that will be reset.
- NEXT/PREVIOUS POINT:** Press to progress to the next or previous point on the loop.
- ACCEPT:** Press to continue to the second Reset Baseline screen.

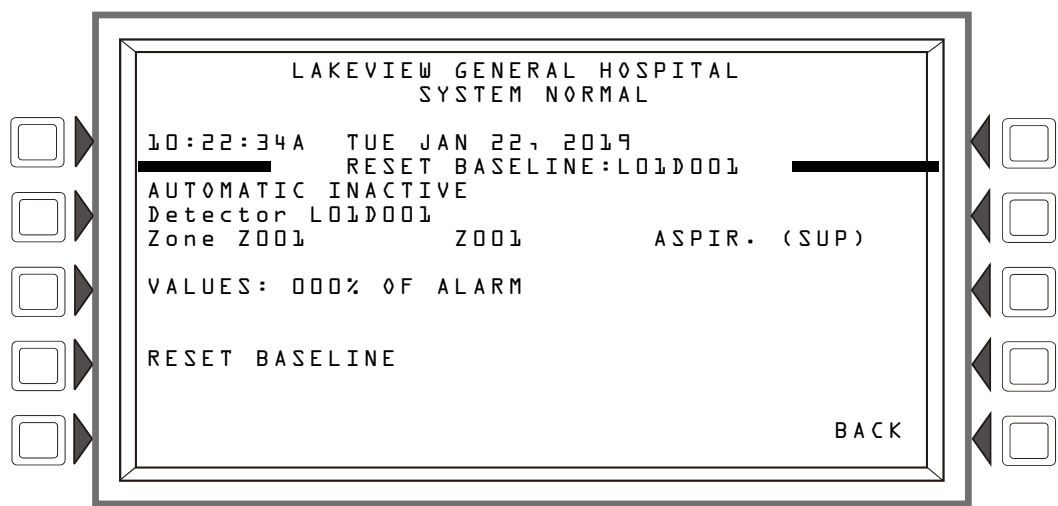


Figure 4.23 Service Mode Screen



**NOTE:** If the detector selected is not an aspiration detector, the fire panel will display the message NOT A FFAST DETECTOR.

**Soft Keys**

- RESET BASELINE:** Press this soft key to reset the baseline threshold for the aspiration detector displayed. The VALUES display will show 000% OF ALARM.

**4.11 Reset IP Address FFAST Detector**

The IP address of an aspiration detector can be modified using the PipeIQ software. The Reset IP Address option will reset the IP address for the FFAST detector to its default.

## Section 5: Service Screens

### 5.1 Version Information

Software version information may be displayed by pressing the Lamp Test special function key on the keyboard for more than 5 seconds. The following six screens are displayed. Press the NEXT softkey to display next screen in succession. Press the Lamp Test special function key a second time to return the system display to its previous state.

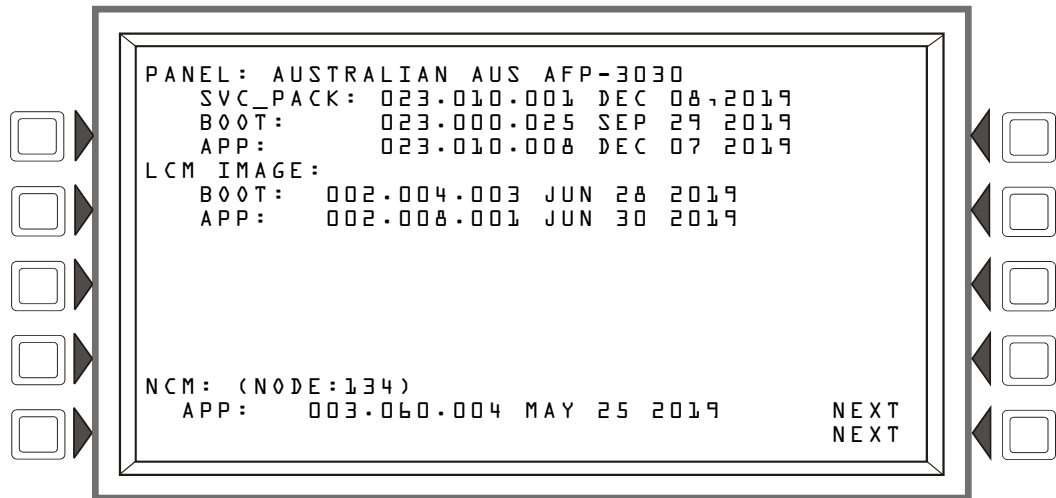


Figure 5.1 Version Screen 1

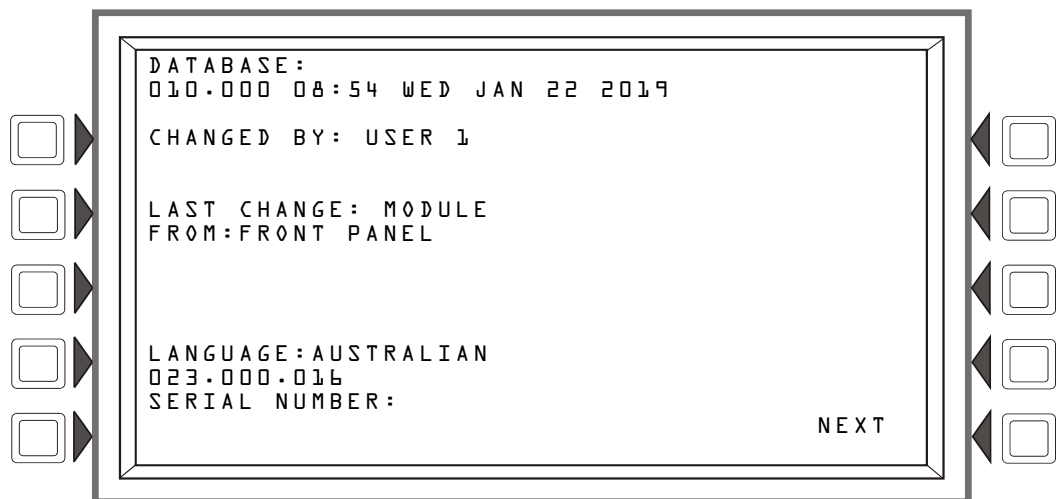


Figure 5.2 Version Screen 2

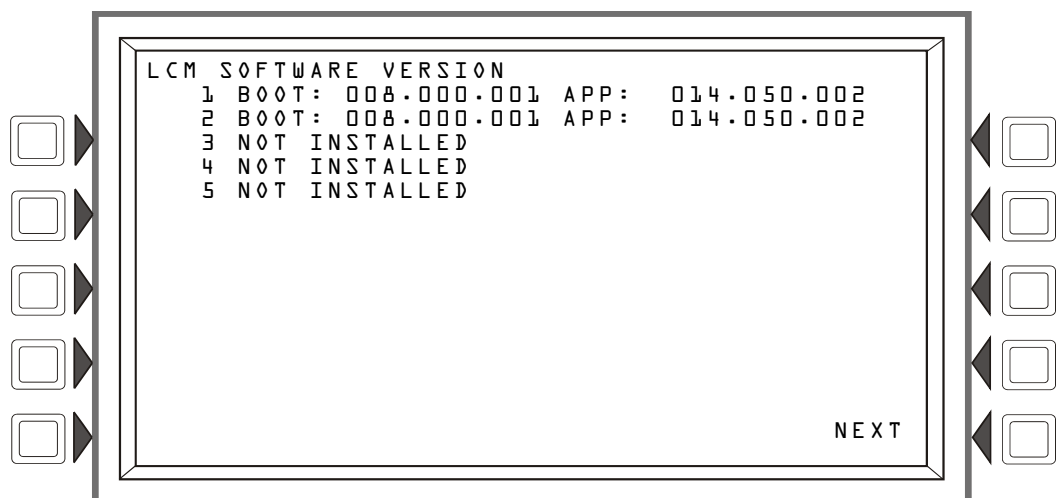


Figure 5.3 Version Screen 3

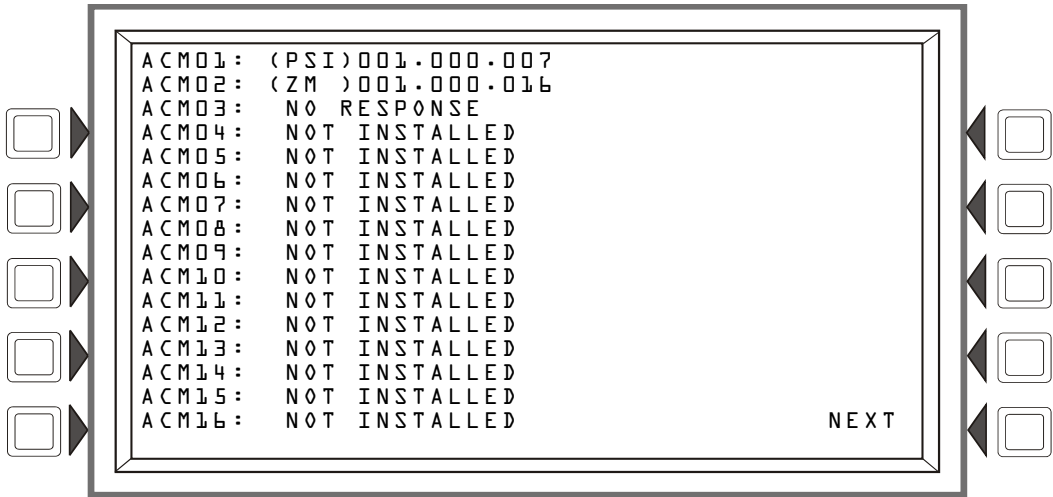


Figure 5.4 Version Screen 4

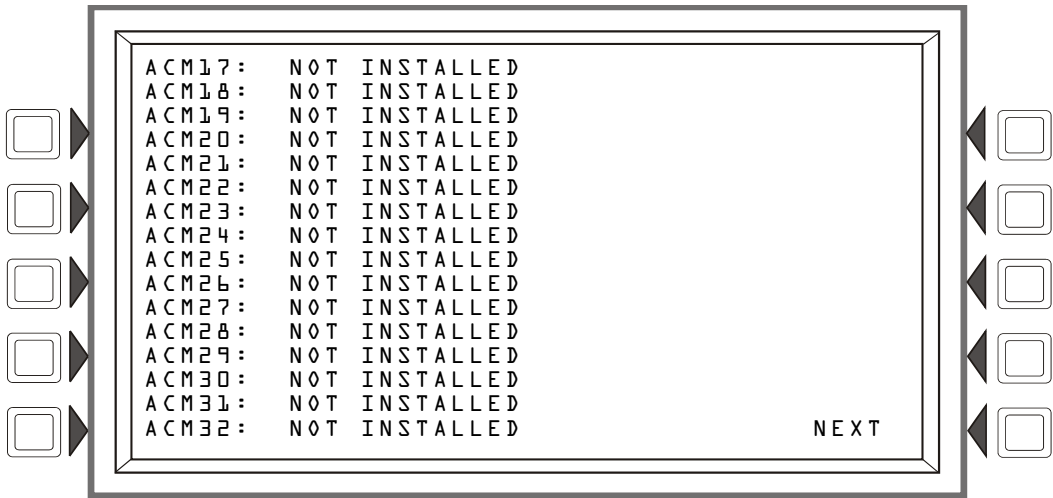


Figure 5.5 Version Screen 5

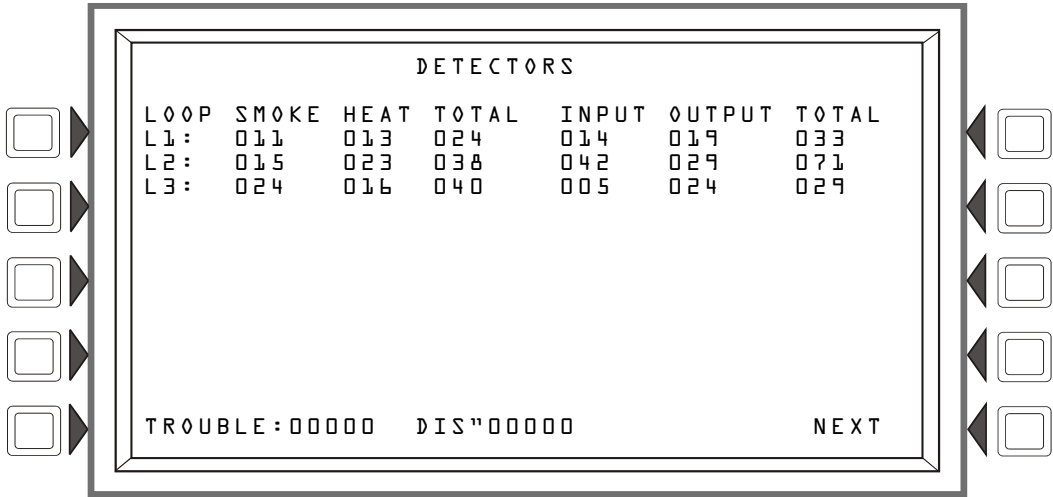


Figure 5.6 Version Screen 6

## 5.2 Power-up Screen

The Power-up screen appears when the panel is powering up. A series of self-tests are performed internally; the tests and the results of the tests appear on the screen as they are completed.

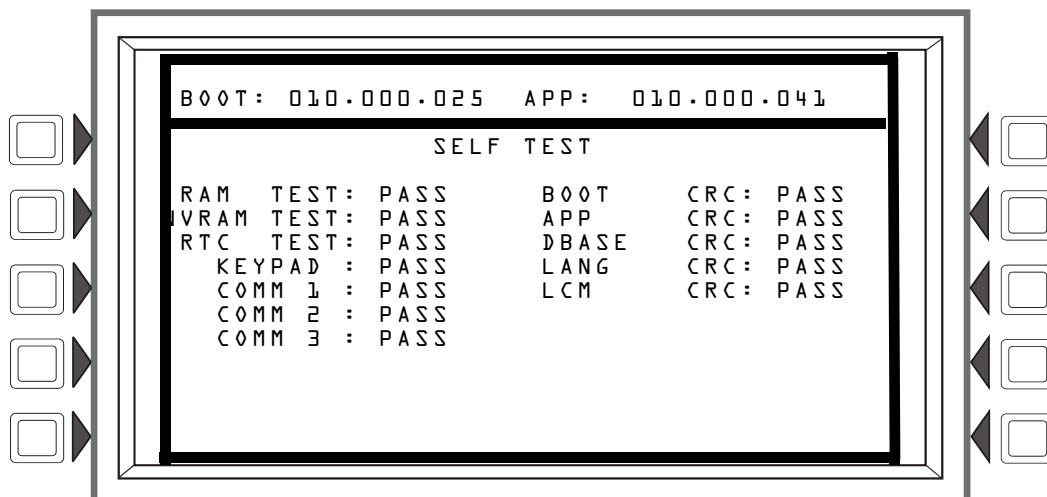


Figure 5.7 Self Test Screen



**NOTE:** "LCM" refers to the code resident in the AFP-3030, not the code that is programmed into the LCM-320.

## 5.3 Bootloader Screen

This screen is used for LCD-160 and Loop downloads. To display this screen, press the RESET key during the entire power-up self-testing process, then release the key.

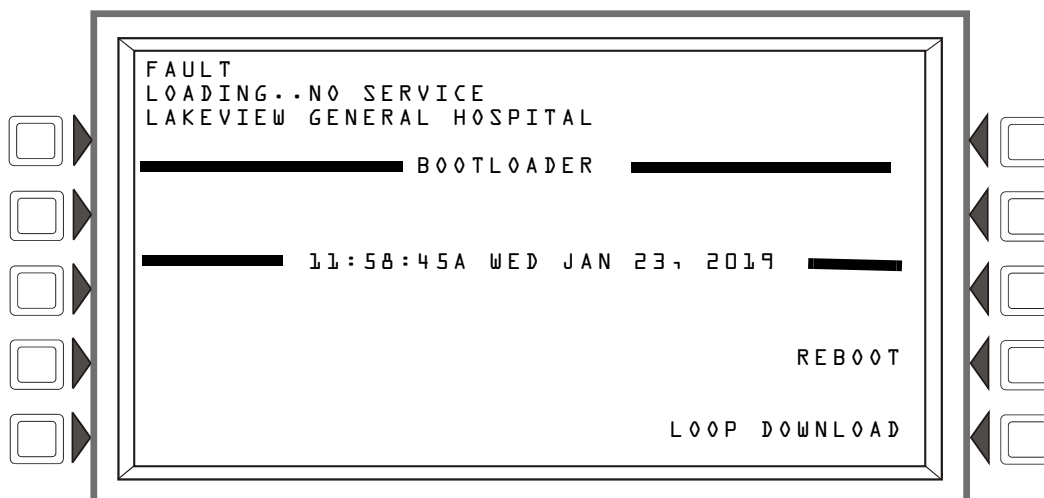


Figure 5.8 Bootloader Menu Screen

**REBOOT:** Press this soft key to reboot the panel, and exit the bootloader screen.

**LOOP DOWNLOAD:** Press this soft key to display the Loop Download Menu screen.

### 5.3.1 Loop Download Menu

This screen allows the programmer to select loops for downloading applications and/or boot programming.

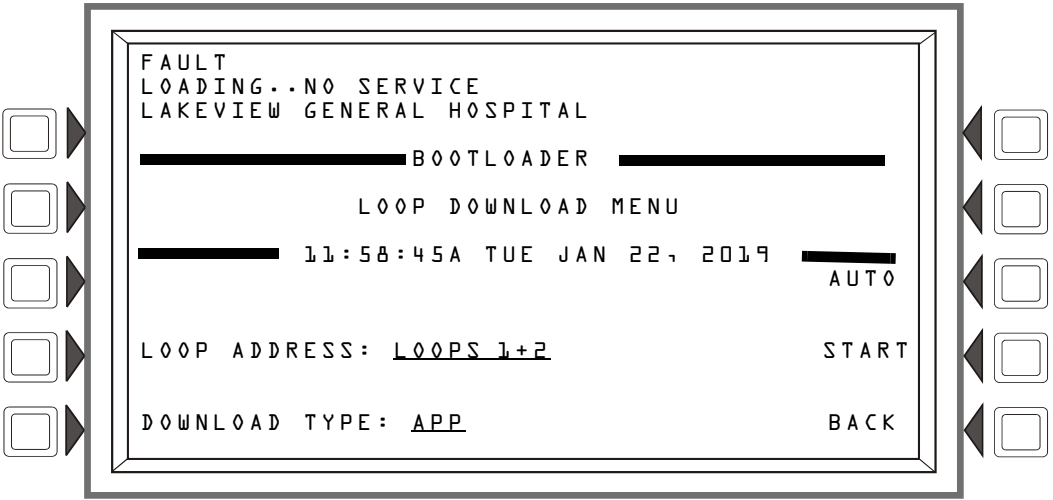


Figure 5.9 Loop Download Menu Screen

- LOOP ADDRESS:** Press this soft key to scroll through the Loops. Stop at the appropriate pair, or select ALL.
- DOWNLOAD TYPE:** Press this soft key to scroll through the download types. Stop at the appropriate type. Selections are: APP, BOOT, or APP/BOOT.
- Select APP to download an application file to the selected loops.
  - Select BOOT to download a boot file to the selected loops.
  - Select APP/BOOT to select both for downloading.
- AUTO:** Press this soft key to automatically download to the selected loop(s) the most up-to-date applications or boot programming from the panel.
- START:** Press this soft key to begin the download.

5.4 Download Screen

This screen is displayed during application/database/loop/LCD-160 downloads. The progress meter shows the current download type and progress.

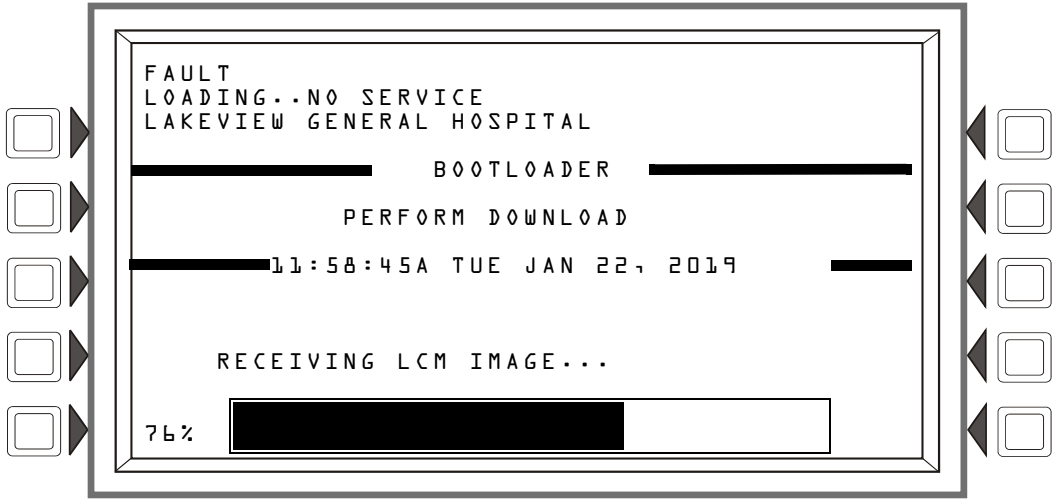


Figure 5.10 Download Screen

## 5.5 Application Corrupt Screen

During power-up, the panel checks the image integrity of the application code. If the code is corrupt, the panel cannot proceed, and the following screen is displayed. The user must use VeriFire® Tools to download the application code. Usually this screen results from a power interrupt during a critical period of application download. The fault LED will flash and the piezo (if enabled) will pulse while this screen is in effect.

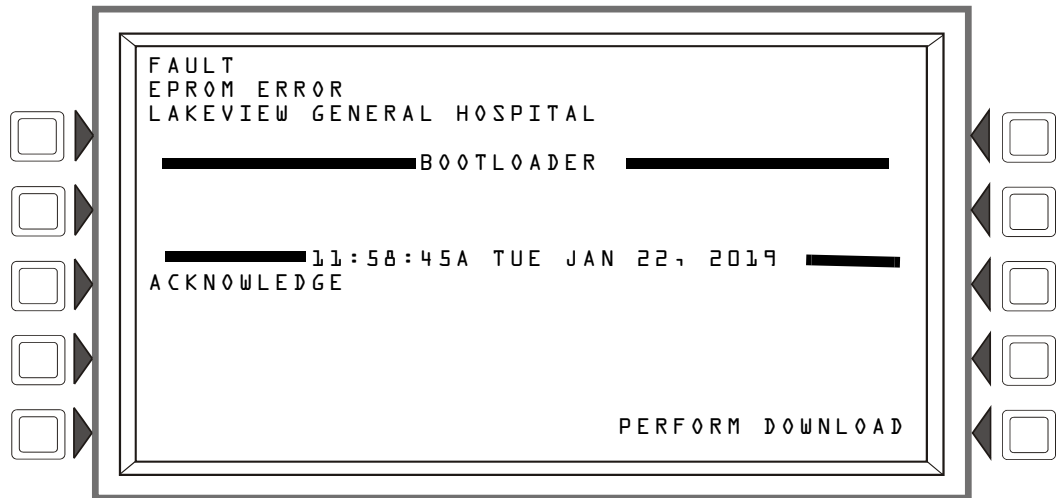
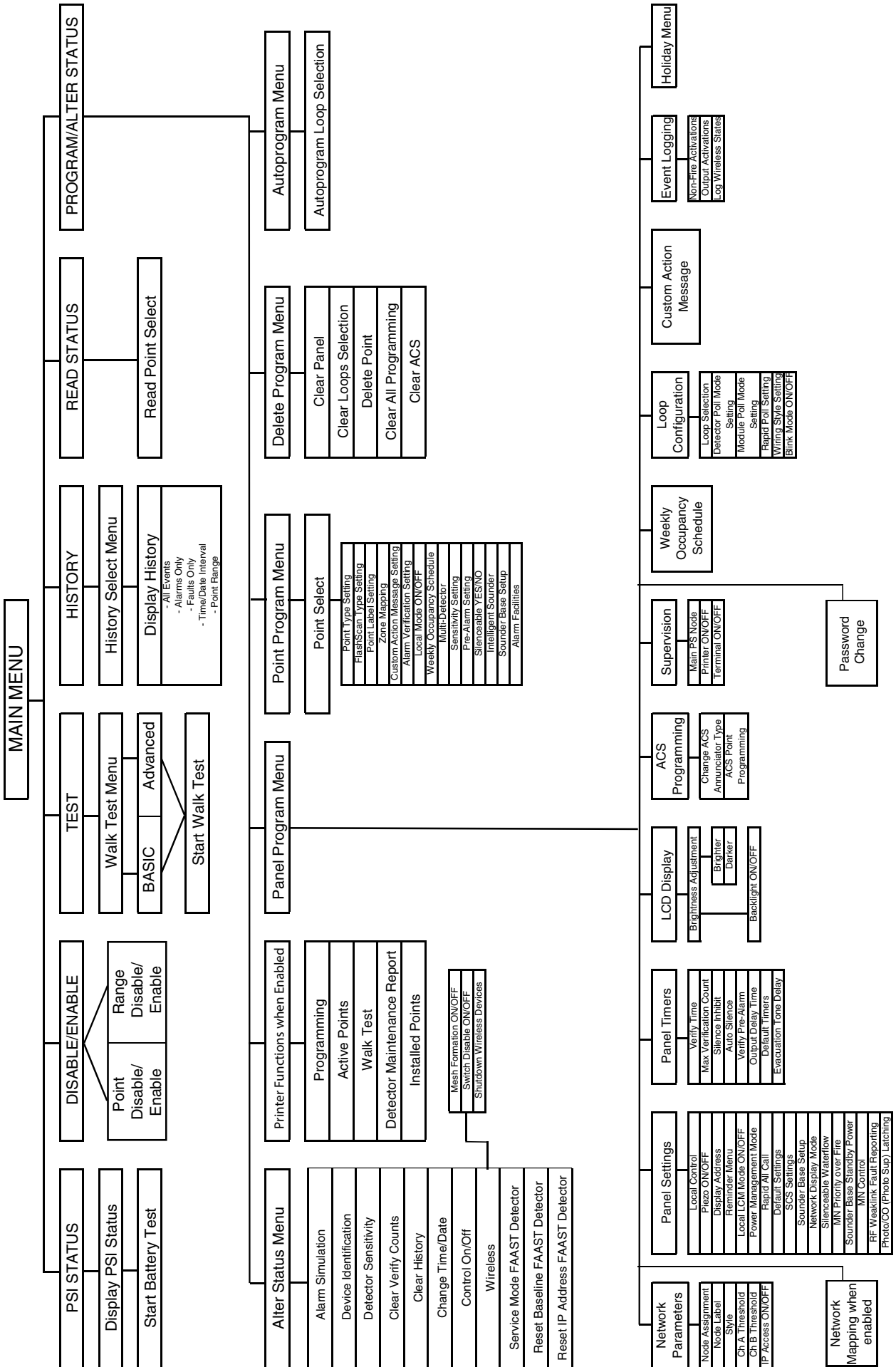


Figure 5.11 Application Corrupt Screen

## Appendix A: Menu Tree





## Appendix B: Special Function Zone Outputs



**NOTE:** For a list of Special Function Zones, see Table D.1 on page 91.

### B.1 Output Delay Time

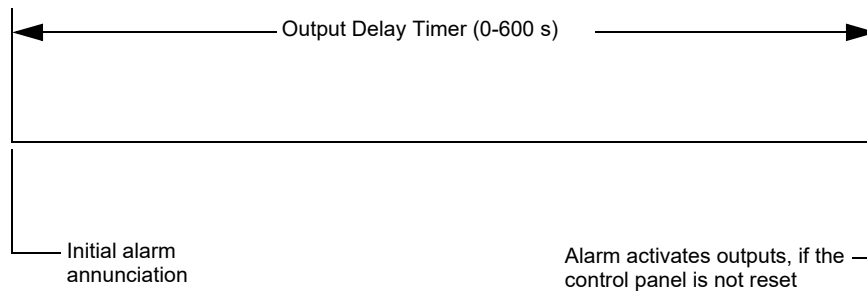
#### B.1.1 What is Output Delay Time?

##### Purpose

Output Delay Time is a feature that initially causes specific alarm signals to only sound in specific areas, monitored by qualified persons. This allows delay of the alarm up to 600 seconds after the start of alarm processing.

- A **Output Delay Time** (0:00 to 10:00 minutes; Default 1:00 minute) that delays activation of all outputs with a CBE that includes Special Function Zone ZF0. Note the following:
  - When enabled, the Delays On/Off LED of the keypad will be lit. Once the delay timer has expired, a reset has occurred, or the delay function has been disabled using the Delays On/Off softkey of the keypad, the LED will extinguish.
  - A system reset will reset the timer until another alarm occurs activating Special Function Zone ZF0.
  - Signal Silence does not affect the activation of delayed outputs. Once the timer has expired, all delayed outputs will activate. Any subsequent Signal Silence will silence all silenceable delayed outputs.

An illustration of Output Delay timing.



**Figure B.1 Output Delay Time**

The control panel delays activation of outputs containing ZF0 in their zone maps for all alarm initiating devices that contain ZF0 in their CBE list. A subsequent alarm will abort the Output Delay Time and execute CBE lists.

##### Notes on using ZF0

- The Output Delay Time countdown can be stopped by pressing the SYSTEM RESET key before the timer expires or pressing the Delays On/Off softkey.
- Program zone ZF0 to participating inputs and outputs. The Output Delay Time will not affect the activation of other zones programmed to delayed outputs.
- The Output Delay Time only operates when activated from initiating devices that contain ZF0 in their CBE list.

##### Restrictions on using ZF0

- Do not include ZF0 in the CBE list for a releasing device.
- Do not include ZF0 in the CBE list for any monitor module that connects to a device other than an automatic fire detector.
- Do not include ZF0 in the CBE list of any modules used with Smoke Control.
- Do not include ZF0 in the CBE list for a Manual Call Point device when programming the panel for compliance with AS7240.2.

##### Selecting Output Delay Time

The Output Delay Time can be set to a value between 0 and 600 seconds. An Output Delay Time does not apply to the System Alarm relay.

### B.2 Mass Notification

When used for mass notification, special function zones ZF20, ZF21, and ZF22 can be used to signal the MN events.

#### ZF20 - MN Alarm

When an MN Alarm condition exists on the fire panel:

- ZF20 will activate and any CBE activations will be initiated.
- ZF20 activation is sent over the network.
- The OTHER LED will flash. (on steady after Acknowledged)
- The piezo will sound a steady audible tone. (silent after Acknowledged)
- Any devices programmed as General Pending will activate.
- Any alarm relays or devices programmed as General Alarm or Alarm Pending type codes do not activate.
- Any devices programmed as “Resound by Fire” will not activate.
- If the fire panel is programmed so that MN events have priority over fire events, and a fire condition exists on the fire panel, any fire activation(s) will be suppressed locally as well as for any network nodes that MN mapped to the panel via VeriFire Tools.
- The MN Alarm message will not be sent to the proprietary receiver via the network.
- If the ZF20 activation is received from the network and the fire panel is All Systems Normal, “NETWORK MN ACTIVE” is displayed on the status bar of the fire panel.

**ZF21 - MN Supervisory**

When an MN Supervisory condition exists on the fire panel:

- ZF21 will activate and any CBE activations will be initiated.
- ZF21 activation is sent over the network.
- The SUPERVISORY LED will flash. (on steady after Acknowledged)
- The piezo will sound a warbling audible tone. (silent after Acknowledged)
- Any devices programmed as General Pending will activate.
- Any devices programmed as General Supervisory will not activate.
- Any devices programmed as “Resound by Supervisory” will not activate.
- The fire panel’s Supervisory relay will not activate.
- The MN Supervisory message is sent to the proprietary receiver via the network.
- If the fire panel is programmed so that MN events have priority over fire events, and a fire condition exists on the fire panel, an MN Supervisory will not suppress any fire alarms locally or for any network nodes that MN mapped to the panel via VeriFire Tools.

**ZF22 - MN Fault**

When an MN fault condition exists on the fire panel:

- ZF22 will activate and any CBE activations will be initiated.
- ZF22 activation is sent over the network.
- The FAULT LED will flash. (on steady after Acknowledged)
- The piezo will sound a pulsed audible tone. (silent after Acknowledged)
- Any devices programmed as General Pending, Fault Pending and General Fault will activate.
- Any devices programmed as “Resound by Fault” will not resound.
- The fire panel’s Fault relay will activate.
- The MN Fault message is sent to the proprietary receiver via the network.
- If the fire panel is programmed so that MN events have priority over fire events, and a fire condition exists on the fire panel, an MN Fault will not suppress any fire alarms locally or for any network nodes that MN mapped to the panel via VeriFire Tools.

## Appendix C: Intelligent Sensing Applications

### C.1 Intelligent Sensing Overview

Intelligent Sensing is a set of software algorithms that provide the AFP-3030 with industry-leading smoke detection capability. The user can program Intelligent Sensing functions on a global or on a per-detector basis.

Intelligent Sensing topics covered in this appendix:

Topic	Page
<b>Intelligent Sensing features</b> – Descriptions of Intelligent Sensing features, such as Drift Compensation, Sensitivity Adjust, programmable on a per-detector basis.	83
<b>Prealarm</b> – Alert and Action settings, programming (global settings).	85
<b>Detector Sensitivity Settings</b> – Prealarm and Alarm sensitivity settings for photo, ion, laser, and multi-sensor detectors programmable on a per-detector basis.	86
<b>Detector Maintenance Features</b> – Instructions for viewing and printing detector maintenance information.	88

### C.2 Intelligent Sensing Features

Intelligent Sensing features include the following:

- Drift Compensation and Smoothing
- Maintenance Warnings - Three Levels
- Self-optimizing Prealarm
- Detector Sensitivity
- Cooperative Multi-Detector Sensing

#### C.2.1 Drift Compensation and Smoothing

Drift compensation uses algorithms that identify and compensate for long-term changes in the analog readings from each smoke detector. (Typically, dirt and dust accumulation inside the smoke chamber causes long-term changes in detector readings.) Drift compensation does the following:

- Allows a detector to retain its original ability to detect actual smoke, and resist false alarms, even as dirt and dust accumulates.
- Reduces maintenance requirements by allowing the control panel to automatically perform periodic sensitivity measurements.

The software also provides smoothing filters to remove transient noise signals, usually caused by electrical interference. Different smoothing algorithms are used, depending on the sensitivity selection of each detector. Refer to Appendix C.4, “Detector Sensitivity Settings”, on page 86 for more information on detector sensitivity levels.

A graphic representation of a detector analog reading using drift compensation and smoothing:

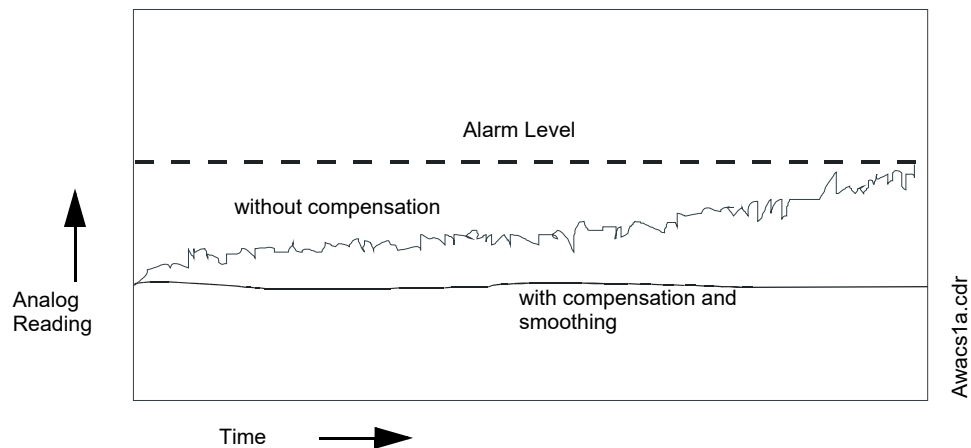


Figure C.1 Graphic Representation of Drift Compensation

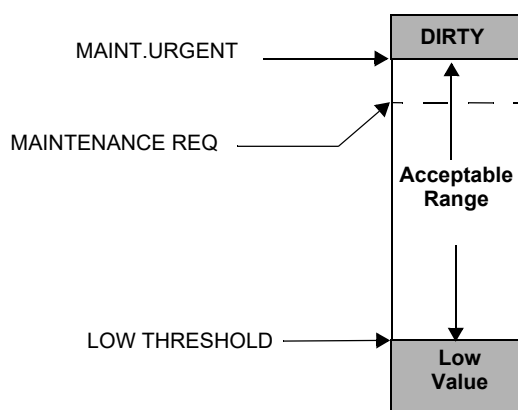
## C.2.2 Maintenance Warnings – Three Levels

The software determines when the drift compensation for a detector reaches an unacceptable level that can compromise detector performance. When a detector reaches an unacceptable level, the control panel indicates a maintenance warning. The table below summarizes the three levels of Intelligent Sensing maintenance warnings:

Detector Fault Message	Indicates	Detector Compensation Percentage Range		
		Ion	Photo or Photo with Heat	Laser
N/A	Compensation is within acceptable range.	6 - 80	6 - 45	3 - 50
LOW THRESHOLD	A hardware problem in the detector.	0 - 5	0 - 5	0 - 2
MAINTENANCE REQ	Dust accumulation that is near but below the allowed limit. The Maintenance Required is an alert level that indicates the need for maintenance before the performance of the detector is compromised.	92 - 99	92 - 99	83 - 99
MAINT.URGENT	Dust accumulation above the allowed limit.	100	100	100

**Table C.1 Definitions of Intelligent Sensing Maintenance Levels**

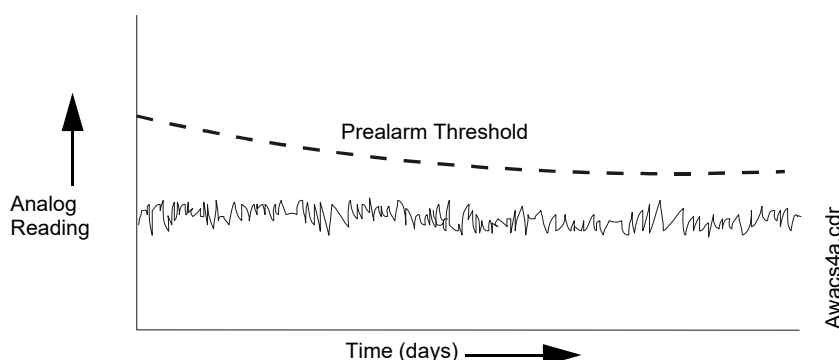
A graphic representation of the maintenance levels:



**Figure C.2 Diagram of Maintenance Levels**

## C.2.3 Self-Optimizing Prealarm

You can set each detector, except FST-851/751 (Heat), for Self-Optimizing Prealarm (PA=1). In this Self-Optimizing mode, the software measures the normal peak analog readings and sets the Prealarm level just above these normal peaks. This allows extremely sensitive Prealarm capability with reasonable protection against non-fire signals. The figure below shows a graphical representation of the Self-Optimizing Prealarm level:



**Figure C.3 Self-optimizing Prealarm Level**

## C.2.4 Detector Sensitivity

The control panel provides nine Sensitivity Levels (Table C.2 on page 86) for alarm detection and prealarm as follows:

- **Alarm Sensitivity Levels** You can select the sensitivity of a detector from 1-9 (1=highest sensitivity; 9=lowest sensitivity).
- **Prealarm Sensitivity Levels** You can select one of nine levels from 1 to 9 (0=no Prealarm, 1=self-optimizing, 2=highest sensitivity, 9=lowest sensitivity). You can set Prealarm operation to Action (latching) or Alert (non-latching) and to activate Special Function Zones. For instructions on programming, refer to Appendix C.3, "Prealarm", on page 85.

You can set the sensitivity levels as fixed or programmed for day and night operation.

A sample sensitivity window for a laser detector:

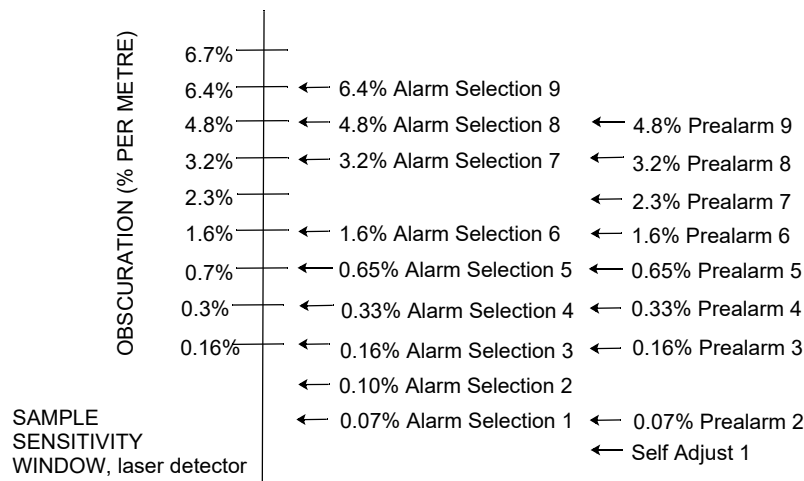


Figure C.4 Sample Sensitivity Levels for a FlashScan View Laser Detector

## C.2.5 Cooperative Multi-Detector Sensing

Cooperative Multi-Detector Sensing is the ability of a smoke detector to consider readings from nearby detectors in making alarm or pre-alarm decisions. Each detector can include up to two other detectors in its decision. Without statistical sacrifice in the ability to resist false alarms, Cooperative Multi-Detector Sensing allows a detector to increase its sensitivity to actual smoke by a factor of almost 2 to 1. Ion, photo and laser detector types can participate. Cooperative Multi-Detector Sensing also allows the combination of ionization with photoelectric technology in reaching an alarm decision. The figure below shows a graph representing Cooperative Multi-Detector Sensing:

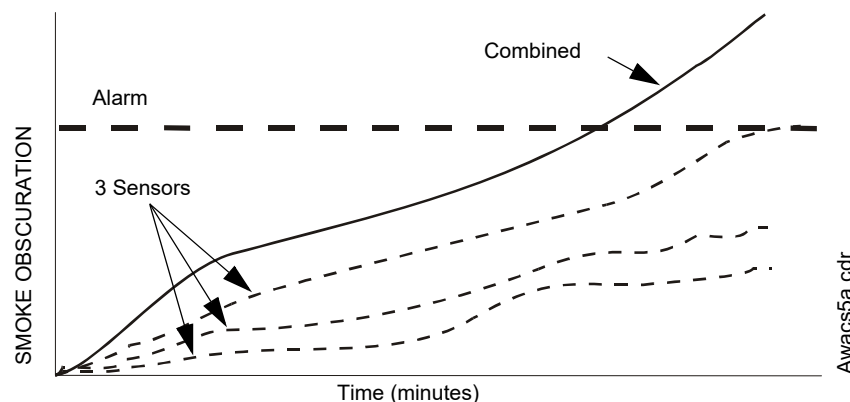


Figure C.5 Cooperative Multi-Detector Sensing

## C.3 Prealarm

### C.3.1 Definition

The Prealarm function is a programmable option which determines the system's response to real-time detector sensing values above the programmed setting. Use the Prealarm function to get an early warning of incipient or potential fire conditions. There are two levels of Prealarm:

- Alert (Refer to "Alert Level" below)
- Action (Refer to Appendix C.3.3, "Action Level", on page 86)

Alert and Action Prealarm settings are set with point programming. Unique Prealarm sensitivity levels (PA) for individual detectors are listed in Appendix C.4, "Detector Sensitivity Settings", on page 86.

The LEDs on detectors polled in FlashScan mode will light steady green when in prealarm.

### C.3.2 Alert Level

#### Alert Functions

The control panel software, in addition to checking for alarm levels, checks for Prealarm thresholds for each addressable, intelligent smoke detector programmed for Prealarm. If a detector's real-time sensing level exceeds the programmed Alert threshold, the control panel indicates a Prealarm condition for the detector. The control panel does the following functions when a detector reaches prealarm level:

- The Prealarm message is sent to the History buffer and to installed printers. The message is sent (and time stamped) at the time that it first occurred. This historical data could provide valuable information about the progress of a fire.
- The PREALARM LED flashes and the panel sounder pulses until acknowledged.

- Zone Z000 (general alarm) or any other zone and the System Fault and System Alarm relays do not activate.
- The Prealarm indication for this detector will restore automatically to normal if its obscuration reading drops below prealarm level.
- A subsequent alarm for this detector also clears the Prealarm indication.

### C.3.3 Action Level

#### Action Functions

If you program a detector for Action Prealarm and the detector reaches a level that exceeds the programmed Prealarm level, the control panel indicates an Action condition. The control panel does the following functions when a detector reaches the programmed prealarm level:

- The Action message is sent to the History buffer and installed printers. The message is sent (and time stamped) only at the time that it first occurred. This historical data could provide valuable information about the progress of a fire.
- The PREALARM LED and panel sounder pulse until acknowledged.
- The zone that is in the tenth position of the zone map for this detector activates. The tenth zone is the right-most entry on line two of the detector zone map list in the Point Programming screen. (For more information on detector zone positions, refer to Figure 3.33 and the accompanying text). The tenth zone can be used to control functions of a detector or group of detectors once the prealarm level is reached. Tenth zone activations also allow ACS annunciation by a detector or group of detectors in Action Prealarm condition.
- Zone Z000 (general alarm) or any other zone and the System Fault and System Alarm relays do not activate.
- The Prealarm condition and the zone programmed will latch until system reset, even if the obscuration reading drops below the prealarm level.
- A subsequent alarm condition for this detector clears the Action indication from the LCD display alarm list.

## C.4 Detector Sensitivity Settings



**NOTE:** Heat detectors approved to AS 1603 are set to 57° C (134.6° F) and cannot be altered. For Heat detectors approved to AS 7240.5, refer to heat datasheet for the heat classification(A1/A2/A1R/A2R).

### C.4.1 How to Select Prealarm and Alarm Sensitivity

Each detector provides a host of selectable intelligent options. The control panel provides nine levels of Prealarm (PA:1–PA:9) and Alarm (AL:1–AL:9) in percent per metre obscuration:

- **PA:0** no Prealarm selection.
- **PA:1** the self-optimizing setting where the control panel selects a suitable Prealarm level for a detector.
- **PA:2–PA:9** the detector Prealarm sensitivity level - with PA:2 the most sensitive and PA:9 the least sensitive.
- **AL:1–AL:9** the detector Alarm sensitivity level - with AL:1 the most sensitive and AL:9 the least sensitive.

Detector Type	Alarm (FlashScan)	Prealarm
Photo Electric SMOKE (PHOTO) (See note 1)	AL:1=1.63% per metre AL:2=2.38% AL:3=3.12% AL:4=3.85% AL:5=4.62% AL:6=5.34% AL:7=6.07% AL:8=6.79%~ AL:9=7.51%	PA:1=Auto PA:2=0.98% PA:3=1.53% PA:4=2.08% PA:5=2.63% PA:6=3.21% PA:7=3.76% PA:8=4.30%~ PA:9=4.84%
Ion (% per metre) SMOKE (ION) (See notes 1, 3)	AL:1=1.63% per metre AL:2=2.44% AL:3=3.24% AL:4=4.04% AL:5=4.83% AL:6=5.63%~ AL:7=6.41% AL:8=7.19% AL:9=7.97%	PA:1=Auto PA:2=1.31% PA:3=1.63% PA:4=2.44% PA:5=3.24% PA:6=4.04%~ PA:7=4.83% PA:8=5.63% PA:9=6.41%
FlashScan Laser (See notes 2, 3)	AL:1=0.07% per metre AL:2=0.10% AL:3=0.16% AL:4=0.33% AL:5=0.65% AL:6=1.63%~ AL:7=3.24% AL:8=4.83% AL:9=6.41%	~
Acclimate Multi-Sensor (See notes 4, 5, 6)	AL:1=1.63% per metre AL:2=3.24% AL:3=3.24 to 6.41% AL:4=6.41% AL:5=6.41 to 9.51%~ AL:6=9.51% AL:7=9.51 to 12.5% AL:8=12.53% AL:9=thermal 57°C	Alarm (CLIP) AL:1=3.24% AL:2=3.24% AL:3=3.24 to 6.41% AL:4=6.41% AL:5=6.41 to 12.5%~ AL:6=6.41 to 12.5% AL:7=6.41 to 12.5% AL:8=12.5% AL:9=12.5% PA:1=1.63% PA:2=3.24% PA:3=3.24% PA:4=3.24 to 6.41% PA:5=3.24 to 6.41%~ PA:6=6.41% PA:7=6.41% PA:8=6.41 to 9.51% PA:9=6.41 to 9.51%

Table C.2 Detector Sensitivity Settings (1 of 2)

Detector Type	Alarm (FlashScan)	Prealarm	
High Heat (Adjustable Threshold) (See note 7)	AL:1=43°C AL:2=57°C AL:3=63°C AL:4=68°C AL:5=74°C AL:6=88°C~ AL:7=88°C AL:8=88°C AL:9=88°C	PA:1=40°C PA:2=43°C PA:3=57°C~ PA:4=65°C PA:5=70°C PA:6=75°C PA:7=75°C PA:8=75°C PA:9=75°C	
Beam (See note 8)	AL:1=25% total obscuration AL:2=30% AL:3=40% AL:4=50% AL:5=30 - 50% AL:6=40 - 50%	PA:1=50% PA:2=55% PA:3=60% PA:4=65% PA:5=70% PA:6=75% PA:7=80% PA:8=85% PA:9=90%	
IntelliQuad FSC-851 (See note 9)	AL:1= 3.24% per metre AL:2= 6.41% AL:3= 9.51% AL:4= 9.51% with a 10 minute confirmation period (see note 10) AL:5= 12.5% with a 10 minute confirmation period AL:6= Thermal 57°C	PA:1= 3.24% PA:2= 6.41% PA:3= 9.51% PA:4= 9.51% with a 10 minute confirmation period PA:5= 12.5% with a 10 minute confirmation period PA:6= Thermal 57°C	
Photo/CO	AL:1=3.24% per metre AL:2=6.41% AL:3=9.51% AL:4=9.51% with a 10 minute confirmation period (see note 10) AL:5=12.5% with a 10 minute confirmation period AL:6=Thermal 57°C	PA:1=3.24% PA:2=6.41% PA:3=9.51% PA:4=9.51% with a 10 minute confirmation period PA:5=12.5% with a 10 minute confirmation period PA:6=Thermal 57°C	
SWIFT RF Photo detector (See note 11)	AL:3=3.12% AL:4=3.85% AL:5=4.62% AL:6=5.34% AL:7=6.07%~ AL:8=6.79%~		
SWIFT RF Acclimate detector	AL:2=3.24% per metre AL:3=3.24 to 6.41% AL:4=6.41% AL:5=6.41 to 9.51%~ AL:6=9.51%		
Multi-Criteria Photoelectric, Thermal and Infrared Sensor (900 Series) (See note 12)	AL:1=Not Supported AL:2=3.24% AL:3=3.24 to 6.41% AL:4=6.41% AL:5=6.41 to 9.51%~ AL:6=9.51% AL:7=9.51 to 12.5% AL:8=12.53% AL:9=thermal 57oC	AL:1=Not Supported AL:2=3.24% AL:3=3.24 to 6.41% AL:4=6.41% AL:5=6.41 to 12.5%~ AL:6=6.41 to 12.5% AL:7=6.41 to 12.5% AL:8=12.5% AL:9=12.5%	PA:1=1.63% PA:2=3.24% PA:3=3.24% PA:4=3.24 to 6.41% PA:5=3.24 to 6.41%~ PA:6=6.41% PA:7=6.41% PA:8=6.41 to 9.51% PA:9=6.41 to 9.51%
Intelligent High-sensitivity Photoelectric Smoke Sensors (900 series) (See note 13)	AL:1=Not Supported AL:2=Not Supported AL:3=Not Supported AL:4=Not Supported AL:5=Not Supported AL:6=Not Supported~ AL:7=3.24% AL:8=4.83% AL:9=6.41%		
~Signifies the factory default setting.			

Table C.2 Detector Sensitivity Settings (2 of 2)

- Note 1. Detectors are suitable for open area protection within the listed air velocity range. Typically, this range is 0 - 20.32 ms<sup>-1</sup> for photoelectric detectors and 0 - 6.096 ms<sup>-1</sup> for ionization detectors. Be sure to confirm this range before installing the detector by referring to the manufacturer's installation instructions.
- Note 2. 3.24% max. on CLIP. Larger figures may display.
- Note 3. The use of alarm sensitivities below 1.63% obscuration per metre requires a 90 day test to ensure that the environment for the detectors is suitable for the higher sensitivity setting. (Refer to "To Test Detectors Set Below 1.63% Obscuration per Metre" on page 88.)
- Note 4. Smoke Element confirming to AS 7240.7 is active on settings AL:1 - AL:8
- Note 5. Thermal element confirming to AS 7240.5 is active on settings AL:1 - AL:8.
- Note 6. AL:9 provides thermal element only confirming to AS 7240.5.
- Note 7. AS 7240.5 CLASS C must be used at its default setting of AL:6.
- Note 8. Refer to the beam detector manual to determine the alarm settings: they are a function of the distance between the detector and its reflector. There is no Prealarm for beam detectors in CLIP mode.
- Note 9. AL:6 and PA:6 are not available in CLIP mode.
- Note 10. Within the 10 minute signature confirmation delay period, if there is a detection of another fire signature (Carbon Monoxide, Infrared or Thermal) it overrides the 10 minute confirmation time.
- Note 11. The default Alarm Level setting for the SWIFT Photo detector on the AFP-3030 is AL:8 and must be manually changed to a value within the given range.
- Note 12. The Alarm Level AL:1 is not supported for Multi-Criteria Photoelectric, Thermal and Infrared Sensor (900 Series)

Note 13. The default Alarm Level setting for the Intelligent High-sensitivity Photoelectric Smoke Sensors on the AFP-3030 is AL:6 and must be manually changed to a value within the supported range ( AL:7 - AL:9 )

C.4.2 To Test Detectors Set Below 1.63% Obscuration per Metre

When using alarm sensitivities below 1.63% obscuration per metre, it is recommended to perform a 90-day test to ensure that the detector environment is suitable for the higher sensitivity setting. Test each detector planned to operate below 1.63%/m obscuration as follows:

- 1. Set the detector as follows:

Step	Action
1	Initially set to the 1.63% obscuration per metre Alarm level.
2	Set the Prealarm level to the desired final Alarm sensitivity.
3	Set the Prealarm to Alert mode (non-latching).

- 2. Operate detectors continuously for 90 days with all environmental factors (such as, temperature, humidity, air flow, occupancy, and so on) similar to the intended application for the detectors. Record all events for each tested detector with an electronic History buffer or a printout.
- 3. If the test results show no alarms or prealarms for the tested detectors, reprogram the fire alarm system to set the Alarm sensitivity to the more sensitive Prealarm level of the test.

C.5 Detector Status Display

C.5.1 Detector Maintenance Display

Should the panel detect a low chamber value or maintenance condition with a detector, it will generate a point fault as described in the operations manual for this panel. The following Read Status screen displays detector information that applies to the state of the smoke detector. It can be reached with the following commands, starting at the Main Menu screen:

- Press MAIN MENU
- Press READ STATUS
- Press READ STATUS POINT SELECT (enter the detector point address)
- Press ACCEPT

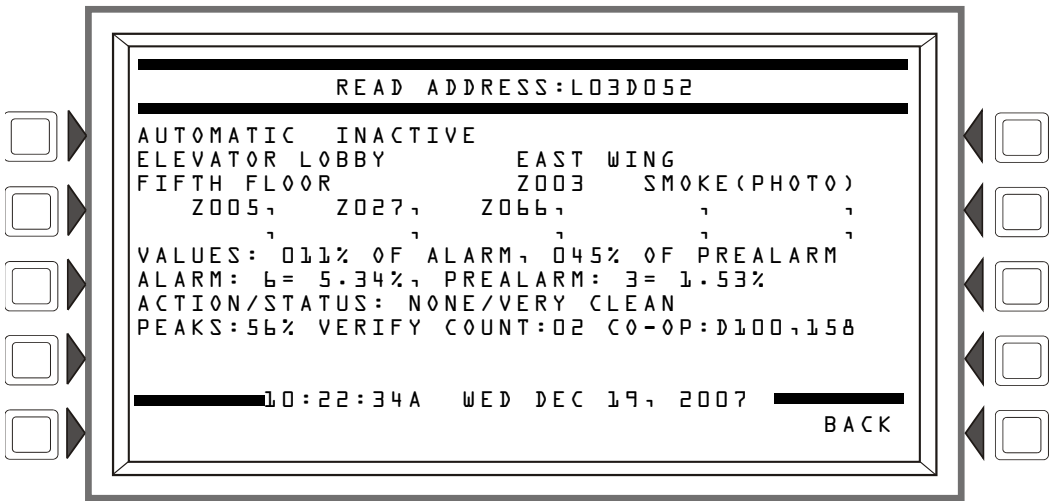


Figure C.6 Smoke Detector Screen - Read Status

C.5.2 Print a Detector Maintenance Report

A Detector Maintenance Report lists detector maintenance status for each installed addressable detector [except FDX (an analog heat detector)]. To print this report, press the Printer Function soft key at the Main Menu, then press the Detector Maintenance Report soft key sends a Detector Maintenance Report (Figure C.7) to the printer connected to the control panel.



```
*****DETECTOR MAINTENANCE*****
NORMAL SMOKE(LASER) Detector    L01D001 000330us 000340us  Comp:000% Pk: 002%
Alarm: 000% PreAlarm: 000% A6P6 V000                                L01D001
```

```
NORMAL SMOKE ACCLIM Detector    L01D002 000030us 000000us  Comp:000% Pk: 000%
Alarm: 000% PreAlarm: 000% A6P8 V000                                L01D002
```

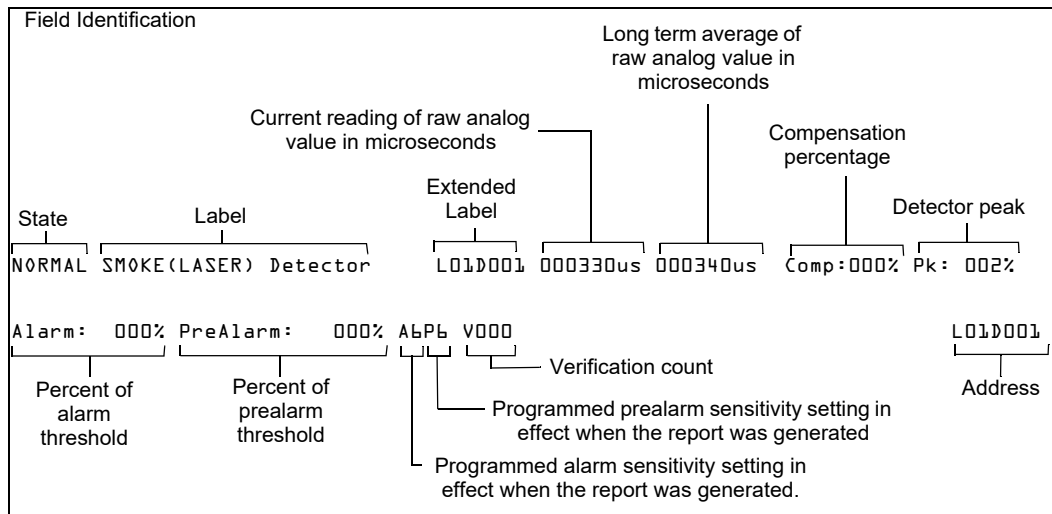


Figure C.7 Sample Detector Maintenance Report

### C.5.3 To Interpret a Detector Status Display or Maintenance Report

The Detector Read Status Screen and Detector Maintenance Report provides the same information (such as Device Status, Peak Value) about a detector. This section contains descriptions of each item that appears in a Detector Read Status Screen or a Detector Maintenance Report.

#### Display Information

Lines 1- 4 - This could display any current event message, or, as in this example, the System Normal message

Line 5 - Screen title and the address of the point being read

The area between the separator lines, lines 6-14, shows all information concerning the selected point, which is L03D052 in the above example.

Line 6 - Line 6 displays two statistics that display for inputs (detectors and modules) and zones; in the above example they are:

AUTOMATIC INACTIVE

The first field displays the point control. There are three designations that could appear in this field

Point Control Designation	Description
AUTOMATIC	The point is being controlled automatically by the panel.
DISABLED	The point has been forced into a disabled state by an outside source.
FAULT	The point is in a fault state and is no longer functioning automatically.

The second field displays the point status. There are two designations that could appear in this field.

Point Status Designation	Description
INACTIVE	The point is currently reporting no events.
ACTIVE	The point is currently in an off-normal status.
PREALARM	The point is currently in a prealarm status.

The device is a detector (an input device) so by referring to the descriptions below, it can be determined that the point is in a normal state.

#### Inputs: (detectors, monitor modules, zones)

If the point is not in fault or disabled, and the point is automatically controlled by the panel, the display will be one of the following:

AUTOMATIC INACTIVE  
 AUTOMATIC ACTIVE  
 AUTOMATIC PREALARM

If the point is disabled, the display will be one of the following. The Fault Status field will appear if the point is in fault.

DISABLED INACTIVE <Fault Status>\*

DISABLED ACTIVE <Fault Status>\*

DISABLED PREALARM <Fault Status>\*

If the point is in fault, the display will read:

FAULT INACTIVE <Fault Status>\*

FAULT ACTIVE <Fault Status>\*

FAULT PREALARM <Fault Status>\*

\*The field <Fault Status> will contain a device fault message. Refer to this panel's Operations manual for information on these messages.

Line 7 - The custom label for this point

Line 8 - Continuation of the point's custom label, first zone, and device type

Lines 9, 10 - A display of all the zones that contain the current point being read.

Lines 11 through 14 - These lines will have values in them only if the device is a detector. They will not display for wireless detectors.

Line 11

#### VALUES:

The screen displays the Alarm and Prealarm values that are in effect when read status is requested. For example, if occupied settings are in effect, occupied values will display

**121% OF ALARM** - This field gives the detector reading as it relates to its preprogrammed alarm level value (indicated in the next line on the screen). The example above shows the detector exceeding the alarm level by 21%.

**145% OF PREALARM** - This field gives the detector reading as it relates to its preprogrammed prealarm level value (indicated in the next line on the screen). The example above shows the detector exceeding the prealarm level by 45%.

If the detector is an Alert heat detector, the value is indicated by a temperature reading (example: **64 DEGREES C**).

Line 12

The screen displays the Alarm and Prealarm levels that are in effect when read status is requested. For example, if unoccupied settings are in effect, they will display.

**ALARM: 6 = 5.34%** - Six is the preprogrammed alarm level value for this detector: its value is 5.34%, indicating the percent per meter obscuration value assigned to level 6.

**PREALARM: 3 = 1.53%** - Three is the preprogrammed alarm level value for this detector: its value is 1.53%, indicating the percent per meter obscuration value assigned to level 3.

Line 13

**ACTION/STATUS: NONE/VERY CLEAN** - This displays the maintenance status of the device. The message that appears in this field depends on the drift compensation value. A detector will automatically compensate for environmental contaminants and other factors over time, until the tolerance value has been exceeded. The FACP will signal a fault condition when this level has been reached. Refer to the following table for messages and required action.

Message	Drift Compensation %	Description
None/Very Clean	Less than 50	No action necessary. The detector readings are near ideal.
None/Fairly Clean	50 - 69	No action necessary. The detector will activate at the selected sensitivity level.
Needs Cleaning	70 - 79	Clean the detector soon. The detector may cause a false alarm because it has reached the drift compensation tolerance value.
Needs Immediate Cleaning	80 - 100	Clean immediately! The detector is a false alarm risk. The drift compensation tolerance value has been exceeded.

**Table C.3 Drift Compensation Messages/Actions**

Line 13 will not display for Acclimate detectors.

Line 14

**PEAKS: 56%** - This value represents the highest percent per foot obscuration reading taken by this detector. It can be a historical figure, and does not necessarily represent the highest reading for this particular alarm. Re-initializing the detector would reset this value to zero.

**VERIFY COUNT: 02** - This displays the number of times the detector has gone into alarm. This count aids in differentiating false alarms from actual alarms by showing repeated alarm events that have come into the device. In this example, the detector has gone into alarm two times since the verification count was begun. The FACP will signal a fault condition when the verify count exceeds 20.

**CO-OP: D100-15B** - Indicates the address(es) of any detector(s) linked with the detector that's in alarm for Co-operative Multi-Alarm Sensing. This field will not display for Acclimate detectors.

Line 15 - The current time and date are displayed in this line.

## Appendix D: CBE: Zones and Equations

CBE (Control-By-Event) is a software function that provides a means to program a variety of output responses based on various initiating events. The control panel operates CBE through lists of zones. A zone becomes listed when it is added to a point's zone map through point programming.

- Each input point (detector, monitor module) can list up to ten zones. Allowable zone types are general zone, releasing zone, and special function zone.
- Each output point (control module) can list up to ten zones. Allowable zone types are general zone, logic zone, releasing zone, special function zone, and fault zone.
- Output points can list zone Z000 (general alarm). Non-Alarm or Supervisory points do not activate zone Z000 (general alarm).

Networked CBE, or CCBE (Cooperative Control-By-Event), provides CBE initiating-event/output-response relationships over the network through general, logic, and/or fault zones. One of these zones, programmed into the zone maps of points on this panel and points on other nodes, will create network cause-and-effect relationships based on the type and content of the zone.

### D.1 Zones

There are four types of zones that may be listed to a point for CBE purposes.

Zone Type	Description/Function	
General Zone	<p>A general zone is used to link input and output devices. When an input device activates, any general zone in its zone map will be active, and any output device that has an active general zone in its map will be active. General zones can be used as arguments in logic equations.</p> <p>Zone Z000 is a general alarm zone: those points listing Z000 in their zone map participate in a general alarm. The panel will support up to 1000 general zones, designated as Z0 through Z999. General zones can be used in CCBE applications when a node number is entered before the zone number.</p>	
Logic Zone	<p>A logic zone consists of a logic equation. Whenever the logic equation becomes true, all output points mapped to the logic zone will activate.</p> <p>The panel will support up to 1000 logic zones, designated as ZL1 through ZL1000. Logic zones can be used in CCBE applications when a node number is entered before the zone number.</p>	
Fault Zone	<p>A fault zone consists of a fault equation. Whenever the fault equation becomes true, all output points mapped to the fault zone will activate.</p> <p>The panel will support up to one hundred fault zones, designated as ZT001 through ZT100. Fault zones can be used in CCBE applications when a node number is entered before the zone number.</p> <p>Note: Fault Zones can not be used for logic equation programming.</p>	
Releasing Zone	<p>A releasing zone is used to control a releasing operation.</p> <p>The panel will support up to ten releasing zones, designated as ZR00 through ZR09.</p>	
Special Function Zone	ZF0	<b>Turn On Delay:</b> Map ZF0 to input and output devices when a delay in alarm is desired. Releasing, Smoke Control devices, and MCP should not be mapped to ZF0
	ZF1	<b>Fault Less AC:</b> An output programmed to turn on/off if a system fault - other than an AC power loss - occurs.
	ZF2	<b>AC Fault:</b> An output programmed to turn on/off if an AC power loss or a brownout condition occurs.
	ZF4	<b>Supervisory:</b> An output programmed to turn on/off if a Supervisory input activates.
	ZF5	<b>Alternate Sensitivity Activation:</b> An input programmed to switch from the active detector alarm sensitivities to the alternate alarm sensitivities when a non-fire point with ZF5 in its CBE activates.
	ZF6	<b>Smoke Control Disabled:</b> ZF6 will activate in the event Smoke Control has been disabled via the Smoke Control Disable key.
	ZF7	<b>Alarm Device Test Mode:</b> In the event an alarm device is put in test mode, ZF7 will activate and will remain active until a reset is performed on the fire panel or the Alarm Device Test key is pressed to halt the device test.
	ZF9	<b>Alarm Action:</b> An output programmed to turn on/off if a Prealarm is active (ALERT, ACTION).
	ZF10	<b>Alarm Verification:</b> Any detector or module in alarm verification will activate this zone.
	ZF12	<b>Block Acknowledge:</b> When the acknowledge key is pushed, or a block or event acknowledge is performed, ZF12 will go active. After a five-second delay, ZF12 will go to normal.
	ZF13	<b>Signal Silence:</b> When the signal silence key is pushed or a signal silence is performed, ZF13 will go active. After a five-second delay, ZF13 will go to normal.
	ZF14	<b>System Reset:</b> When the system reset key is pushed or a system reset is performed, ZF14 will go active. After a forty-five second delay, ZF14 will go to normal.
	ZF15	<b>Disabled Event:</b> When there are disabled events present in the system, ZF15 will be set to active. When all disabled events have cleared, the state of ZF15 will go to normal.
	ZF17	<b>Signal Silence:</b> When a signal silence is performed, ZF17 will go active and will remain active until a System Reset is performed.

Table D.1 Zone Table (1 of 2)

ZF18	<b>CO Alarm:</b> When a CO Alarm is present, ZF18 will activate.
ZF19	<b>CO Prealarm:</b> When a CO Prealarm is present, ZF19 will activate.
ZF20	<b>Mass Notification Alarm:</b> When an mass notification alarm occurs on the fire panel, ZF20 will go active. If mass notification events have priority over fire, network nodes MN mapped to the fire panel (via VeriFire Tools) will suppress any active fire events. ZF20 will remain active until a system reset is performed and the MN alarm is cleared.
ZF21	<b>Mass Notification Supervisory:</b> When a mass notification supervisory event occurs, ZF21 will activate. ZF21 will remain active until the MN Supervisory condition is cleared. If the supervisory is latched, a system reset will need to be performed to clear the condition.
ZF22	<b>Mass Notification Fault:</b> When a mass notification fault occurs on the fire panel, ZF22 will activate. ZF22 will remain active until the MN fault is cleared
ZF23	<b>Local Fire Mode:</b> When a fire alarm occurs on the fire panel, ZF23 will activate. If latching fire mode is set to YES, ZF23 will only clear when the smoke control reset is performed via the fire panel keypad or the SCS annunciator itself. If latching fire mode is set to NO, ZF23 will clear once a system reset is performed on the fire panel.
ZF24	<b>Network Fire Mode:</b> When a local or network activation of ZF23 occurs, ZF24 will activate. ZF24 will remain active until all local or network ZF24 activations have cleared. ZF24 is used in smoke control applications. Refer to "Smoke Control and Fire Brigade Considerations" on page 95
ZF25	<b>Alarm Device Disabled:</b> When an alarm device is disabled, ZF25 will activate and will remain active until all alarm devices are re-enabled.
ZF28	<b>AAM Non-fire Event (Brigade Not Called):</b> When there is only a non-fire event on an AAM detector, ZF28 will be active. If a fire alarm occurs, ZF28 will deactivate.
ZF29	<b>Delay Active:</b> When the delay function is active, ZF29 will activate. When the delay expires, ZF29 will deactivate
ZF30	<b>Alarm Device Fault:</b> If a fault condition occurs on an alarm device, ZF30 will activate. Once all faults are cleared from alarm devices, ZF30 will deactivate.
ZF41	<b>Smoke Control In Progress:</b> Smoke Control will be active for 30 seconds after the smoke control reset is performed
ZF42	<b>Battery Critically Low Signal to ARE:</b> When the panel is running only on secondary power source and the battery voltage drops to 23.1V the ZF42 Special Function Zone will activate. The ZF42 should be programmed/configured to a relay to send this signal to ASE.
Time, date and holiday functions, which were formerly determined through special function zones, are now defined in the panel programming section of this manual.	

Table D.1 Zone Table (2 of 2)

## D.2 Equations

Logic and Fault Equations can define complex relationships between input and output devices.

The FACP supports up to 1000 Logic Equations, each designated with a Logic Zone number of ZL1 through ZL1000. It also supports up to 100 Fault Zones, each designated with a Fault Zone number of ZT001 through ZT100. Once created, these equations can be included in input/output zone mapping.

- Equations will always begin with a logic function. The function set is listed below.
- Equations will be a maximum of 80 characters long, including parentheses and commas.
- Logic and Fault Equations can have a maximum of 10 logic functions unless a time delay function is used: a time delay function must be the only function in its equation.
- Equations are evaluated after all other devices have been evaluated.
- One logic equation can be used as an argument in another logic equation, or one fault equation can be used in another fault equation, only if the equation used has previously been evaluated; that is, only zones with a lower number than the zone currently being edited can be used as arguments.
- A logic function can have a maximum of 20 arguments (inclusive start and stop address).
- Maximum for the delay timer is 23 hours, 59 minutes, 59 seconds (23:59:59).
- Mass Notification enabled systems: Logic zones must be written conditionally to ensure proper event suppression. Refer to the Mass Notification manual for additional information.
- CO Monitors: CO Monitor points should not be entered directly into logic equations. Zones mapped to the CO Monitor points should be used in their place.

Equations are entered using Point Programming for logic or fault zones. Refer to these sections in this manual for instruction. The panel will check for errors after the user has entered the complete equation. Possible errors are too many or too few parentheses, too many or too few arguments inside the parentheses, unknown function and unknown device type.

Equations are made up of two basic components: functions (either logic or time delay) and arguments.

## D.2.1 Arguments

Arguments are discrete parts of a logic or time delay function used in a logic or fault equation. They can consist of another function, another equation, or any of the devices listed below.

LxxD1 - LxxD159	detectors loop xx	(159 per loop)
LxxM1 - LxxM159	modules loop xx	(159 per loop)
(Nxxx)Z0 - (Nxxx)Z999*	general zones	(1000)
ZF0 - ZF7, ZF9 - ZF30	special function zones	(30)
T0 - T685	system faults (fault equations only)	(686)
(Nxxx)ZT001 - (Nxxx)ZT100	fault zones	(100)
(Nxxx)ZL1 - (Nxxx)ZL1000	logic zones	(1000)
xx = loop number (01 through 10) (Nxxx) = Node number, necessary for CCBE programming. The node number identifies what node the panel will watch for a particular zone activation.		

**Table D.2 Table of Arguments**

## D.2.2 Logic Equations

### Logic Functions

- The “AND” Operator**  
 Requires that each argument be active.  
 Example: AND(Z02,Z05,L2D12)  
 All three arguments in the equation must be active for the logic zone to be activated.
- The “OR” Operator**  
 Requires that any argument be active  
 Example: OR(Z02,Z05,L2D12)  
 If any one of the three arguments in the equation is active the logic zone will be activated.
- The “NOT” Operator**  
 Inverts the state of the argument (activated to deactivated OR deactivated to activated).  
 Example: NOT(Z02)  
 The logic zone will remain activated until the argument activates.  
 If the argument activates the logic zone will deactivate.
- The “ONLY1” Operator**  
 Requires that only one argument be active.  
 Example: ONLY1(Z02,Z05,Z09)  
 If only one of the arguments activates the logic zone will be activated.
- The “ANYX” Operator**  
 Requires that the amount of arguments specified by the number preceding the arguments be active.  
 Example: ANYX(2,Z02,Z05,Z09)  
 If any two or more of the arguments are in alarm the output point will be activated.  
 The X amount may be a value from 1 through 9.
- The “XZONE” Operator**  
 Requires that any combination of two or more input devices programmed to a zone be active.



**NOTE:** Local General Zones only.

Example: XZONE(Z02)

If any combination of two or more initiating devices that have been mapped to this software zone come into alarm, then outputs mapped to this zone will activate.

- The “RANGE” Operator**  
 Each argument within the range must conform to the requirements of the governing function. The range limit is 20 consecutive arguments.  
 Example: AND(RANGE(Z1,Z20))  
 Zone 1 through Zone 20 must all be active to activate the logic zone.
- The “DIS(point argument)” Operator**  
 Requires that the point argument be disabled for the operator to go active.
- The “PRE(point argument)” Operator**  
 Requires that the point argument be in prealarm for the operator to go active.  
 Example: AND(L1D1,PRE(L1D2))  
 The detector at address L1D1 must be active and the detector at L1D2 must be in prealarm for this equation to go active.
- The “SUP(point argument)” Operator**  
 Requires that the point argument be in an active supervisory state for the operator to go active.

Example: OR(L1D1,SUP(L1M1))

The detector at address L1D1 must be active, or the module at L1M1 must be in an active supervisory state, for the equation to go active.

- **The “FIRE(point argument)” Operator**

Requires that the point argument be in an active fire alarm state for the operator to go active.

Example: AND(L1D1,FIRE(L1M1),FIRE(L1M2))

The detector at address L1D1 must be active, and the modules at L1M1 and L1M2 must be in an active fire alarm state, for the equation to go active.

- **The “NON(point argument)” Operator**

Requires that the point argument be in an active non-alarm state for the operator to go active.

Example: AND(L1D1,NON(L1M1))

The detector at address L1D1 must be active, and the module at address L1M1 must be in an active non-fire alarm state, for the equation to go active.

- **The “AUTO(point argument)” Operator\***

This operator will evaluate as “Active” if all of the SCS switches or specified switch group are in the “Auto” position. When the SCS-8L/SCE-8L is disabled, the evaluation will be based on the switch position prior to the disable.

Examples:

The switch associated with switch group 16 on Annunciator 1 must be set as “Auto” for the equation to go active.

OR(AUTO(A1G16))

All the switches of Annunciator 1 must be set to “Auto” for the equation to go active.

OR(AUTO(A1))

- **The “NORM(point argument)” Operator\***

This operator will evaluate as “Active” if the entire SCS device or a specified switch group is in a normal state.

Examples:

Switch group 16 on Annunciator 1 must be in the “normal” (no fault) state for the equation to go active.

OR(NORM(A1G16))

(All switches groups on) Annunciator 1 must be in the “normal” (no fault) state for the equation to go active.

OR(NORM(A1))

- **The “SCSDIS(point argument)” Operator\***

For use with the SCS-8L only. This operator will evaluate as “Active” if the key switch on the specified SCS device is in the disabled position.

Example:

If the key switch on annunciator 25 is disabled, this equation will go active.

OR(SCSDIS(A25))

\* For use with local SCS applications

## Time-based Functions

The panel supports three time-based functions: DEL, SDEL, and TIM. Special rules apply to an equation containing a time-based function:

- Only one time-based function may be used in an equation.
- The time-based function must appear only once, as the first entry of the equation.
- It may not be nested within parentheses in the equation.
- Logic functions may be used in an equation that begins with a DEL or SDEL time-based function: however, they must appear within parentheses following the time-based function.

Delay and duration times are in 24-hour format (HHMMSS); the allowable range is 00:00:00 to 23:59:59.

### The “DEL” Function

Used for delayed operation.

Example: DEL(HH.MM.SS, HH.MM.SS,AND(L1M1,L1M140))

- The first HH.MM.SS is the delay time, the second HH.MM.SS is the duration time. If the argument - AND(L1M1,L1M140) - in the example above activates, the function becomes true after the argument has been active for the delay time, and continues to be true for the duration time as long as the argument stays active. If the argument goes inactive during the delay time or the duration time, the function reverts to false and the timing would begin all over again if reactivated.
- If duration time of zero is entered (00.00.00), the equation will evaluate true when the delay time expires if the argument remains active throughout the delay time period.
- If no duration or delay is specified, then the function will follow the input argument, indicating true while it is active and false when it is inactive. DEL assumes a value of false on reset.

### The “SDEL” Function

A latched version of the DEL function.

Example: SDEL(HH.MM.SS, HH.MM.SS,L1M140)

- The first HH.MM.SS is the delay time, the second HH.MM.SS is the duration time. If the argument (L1M140 in the example above) activates, the function becomes true after the delay time, and will remain active for the duration even if the argument becomes inactive during either the delay or duration time.
- If delay time of zero is entered (00.00.00), the equation will evaluate true as soon as the argument (L1M140) activates and will remain that way for the specified duration, even if the argument becomes inactive during that time.
- If no duration or delay time is specified, then the argument will not deactivate until reset, even if the argument becomes inactive.

### The “TIM” Operator

The TIM function is used to specify activation on specific days of the week or year.

Examples:

TIM(7-11-06) will evaluate as true for 24 hours starting at midnight (00:00:00) on July 11, 2006.

TIM(MO,TU,WE,TH,FR,08:00:00,23:00:00) will evaluate as true at 8:00 AM and remain true until 11:00 PM (23:00) for the list of days supplied.

TIM(MO,TU,WE,TH,FR,08:00:00) will evaluate as true at 8:00 AM and remain true until 23:59:59 of the current day for the list of days supplied.

TIM(TU,07:45:00,18:30:00) will evaluate as true every Tuesday between 7:45 AM until 6:30 PM.

TIM(MO,TU,WE,TH,FR) will evaluate as true from Monday morning at 12:01 AM until Friday evening at 11:59:00 PM.

#### Logic Equation Syntax Example

**OR(AND(L1D1,L1D4),AND(L2D6,L2M3,NOT(L2M4)),ANYX(2,L1M13,L1M14,L1M15))**

Equation begins with a logic function - OR

67 Characters (maximum of 80) - includes parentheses and commas.

5 Logic Functions (maximum of 10) - OR, AND, AND, NOT and ANYX.

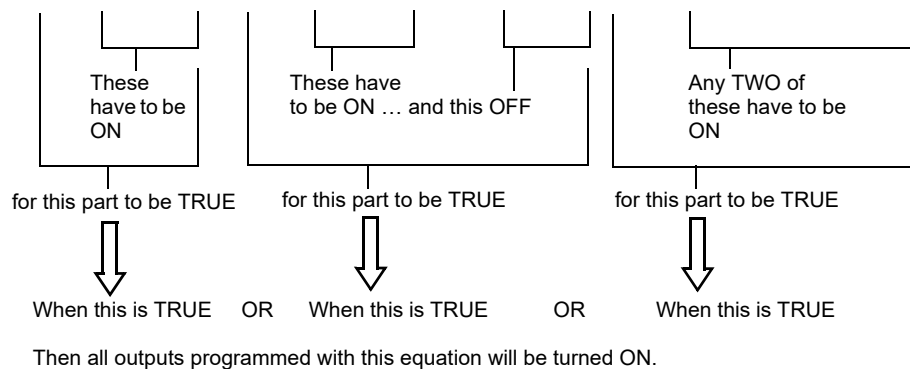
8 Arguments (maximum of 20 per logic function) - L1D1,L1D4,L2D6,L2M3,L2M4...

The equation contains no spaces.

#### Evaluating an Equation

To evaluate an equation, start from the innermost part of the equation and work outwards. For this equation to evaluate TRUE and thus turn on any output mapped to it, the following conditions must be met:

OR(AND(L1D1,L1D4),AND(L2D6,L2M3,NOT(L2M4)),ANYX(2,L1M13,L1M14,L1M15))



## D.2.3 Fault Equations

A fault equation follows the same syntax rules as the logic equation. The system allows up to a hundred fault equations, ZT001 through ZT100. It differs from a logic equation in the following manner:

- Equations evaluate as true when the arguments go into fault.
- Argument entries may consist of system fault codes. Refer to Appendix G, “System Faults” for a listing of these codes.

Examples:

AND(L1M149,L2M110) will evaluate as true when both arguments go into fault.

OR(ZT049,ZT050) will evaluate as true when either argument goes into fault.

## D.2.4 Smoke Control and Fire Brigade Considerations

The following should be taken into consideration when programming the fire panel for use with smoke control or Brigade interface devices. Refer to Appendix H, “Smoke Control Station Programming”, on page 106 for additional smoke control station programming.

ZL800 - This logic zone contains the following default programming and will activate for any alarm on the fire panel, but will deactivate in the event of a smoke control disable event. It can be modified to specify ZF24 from specific nodes if desired.

AND(ZF24,NOT(ZF6))

ZL820 - This logic zone contains the following default programming and will activate during any smoke control activation on the fire panel. It can be modified to specify ZF24 from specific nodes if desired.

OR(ZF24)

ZL900 - Disabling logic zone 900 will disable all ARE Interface Board outputs (P5, P6, P8, P9, P10). Re-enabling logic zone 900 will re-enable all ARE Interface Board outputs. This logic zone should not be modified or used for any other function.

## Appendix E: Detector Initialization

### E.1 Overview

The control panel automatically performs a detector initialization routine when a detector is added or changed.

The detector initialization routine takes approximately 2.5 minutes. During this time, the detector being initialized does not perform fire protection functions. The LEDs of detectors polled in FlashScan mode will latch a steady green while initializing, and return to blinking green when initialization is over.

While initializing a detector, follow these guidelines:

- Make sure the detector is free of residual smoke during detector initialization.
- Do not test a detector during detector initialization.



**NOTE:** The control panel only performs detector initialization if it senses that a detector was removed for at least 15 seconds.



**WARNING:**

IF ANY DETECTOR IS REPLACED WITH A DIFFERENT TYPE OF DETECTOR (FOR EXAMPLE, A LASER DETECTOR IS REPLACED WITH A PHOTOELECTRIC DETECTOR), THE CONTROL PANEL MUST BE PROGRAMMED IMMEDIATELY WITH THE NEW DETECTOR TYPE CODE. FAILURE TO DO SO CAN CAUSE INCORRECT CONTROL PANEL OPERATION, INCLUDING FALSE ALARMS.

### E.2 To Replace a Detector with a Different Type of Detector

If one type of detector is replaced with a different type of detector, the control panel must immediately be programmed for the new detector type. To replace a detector, follow these steps:

Step	Action
1	Delete the old detector point from FACP programming using the "Delete Point" screen on page 60.
2	Physically remove the old detector.
3	Enter point programming for this point and change the Type and FlashScan Code Label to the values appropriate for the new detector. (Refer to Section 3.4.1, "Detector Point", on page 44 for programming instructions).
4	Physically install the new detector. Initialization will occur automatically



## Appendix F: Type Codes

### F.1 What Are Type Codes?

Type Codes are software selections for initiating devices (detectors and monitor modules) and output devices (control modules and NACs). Some Type Codes are self-explanatory; that is, the Type Code matches the function of the device, such as a “Monitor” for a monitor module, “Smoke (photo)” for a photoelectric detector, and so on. Type codes also provide special functions, such as activating switches, solenoids, and control panel functions. FlashScan devices are assigned a special FlashScan code.

### F.2 How to Select a Type Code

Type Codes are selected at the Point Programming screens. Refer to the Point Program section of this manual for instructions.

This appendix contains detailed descriptions of Type Codes for input and output devices, as listed below:

Type of Device	Refer to page
Intelligent Detectors	page 97
Monitor Modules	page 98
SLC Outputs	page 99
FlashScan Codes	page 100

### F.3 Alarm Devices

Devices programmed with the type codes BELL CIRCUIT, SPEAKER, CONTROL NAC, ALARM DEVICE, or NAC are considered “Alarm Devices”. These devices can be collectively be disabled or placed into test using the Alarm Devices Disable or Alarm Device Test keys on the fire panel keypad. Special Function zones ZF7, ZF25, and ZF30 are used to monitor the state of Alarm Devices. These special function zones allow the state of the Alarm Devices to be used in logic and fault equations.

### F.4 Type Codes for Input Devices

#### F.4.1 Overview

This section provides a list of Type Codes for intelligent detectors and for monitor modules. The following Point Types light an LED at the panel when activated.

- fire alarm - lights the FIRE ALARM LED
- supervisory - lights the SUPERVISORY LED
- fault - lights the FAULT LED

#### F.4.2 Type Codes for Intelligent Detectors

Following is a list of intelligent detector Type Codes, which specify the type of detector installed at an SLC address.

Point Characteristics				
Type Code	Point Type	Latching (Y=yes N=no)	Activates CBE	Device/Point Function
ASPIRATION	fire	Y	Y	Aspiration laser or Intelligent Aspiration detector
ASPIR. (SUP)	supervisory	Y	Y	Supervisory for an Intelligent Aspiration detector
ASPIR. (PRE)	prealarm	N	Y	Prealarm for an Intelligent Aspiration detector
ASPIR. (NON)	non-fire	N	Y	Non-fire for an Intelligent Aspiration detector
ASPIR. REF	non-fire	N	Y	Reference for an Intelligent Aspiration detector
Note for Aspiration detector programming: The FAAST Intelligent Aspiration detector requires five (5) SLC device addresses. Refer to the FAAST Installation document for additional programming information.				
SMOKE (ION)	fire	Y	Y	Ionization smoke detector
SMOKE(PHOTO)	fire	Y	Y	Photoelectric smoke detector
SUP L(PHOTO)*	supervisory	Y	Y	Photoelectric smoke detector
SUP T(PHOTO)*	supervisory	N	Y	Photoelectric smoke detector
SMOKE(DUCTP)	fire	Y	Y	Duct Photoelectric smoke detector
SUP L(DUCTP)	supervisory	Y	Y	Photoelectric smoke detector used as a duct detector to report supervisory condition rather than alarm
SUP T(DUCTP)	supervisory	N	Y	Photoelectric smoke detector used as a duct detector to report supervisory condition rather than alarm.
SMOKE(HARSH)	fire	Y	Y	HARSH smoke detector
SMOKE(LASER)	fire	Y	Y	Laser smoke detector
SUP T (LASER)*	supervisory	N	Y	Laser Smoke Detector
SUP L (LASER)*	supervisory	Y	Y	Laser Smoke Detector
SMOKE(DUCTL)	fire	Y	Y	Duct Laser smoke detector
SUP L(DUCTL)	supervisory	Y	Y	Laser smoke detector used as a duct detector to report supervisory condition rather than alarm.
SUP T(DUCTL)	supervisory	N	Y	Laser smoke detector used as a duct detector to report supervisory condition rather than alarm.

Table F.1 Intelligent Detector Type Codes (1 of 2)

Point Characteristics				
Type Code	Point Type	Latching (Y=yes N=no)	Activates CBE	Device/Point Function
PHOTO/CO	fire	Y	Y	Combination Photoelectric/CO detector
P/CO (P SUP)*	fire	Y	Y	Combination Photoelectric/CO detector. Photo element activation generates a supervisory condition.
P/CO (C SUP)	fire	Y	Y	Combination Photoelectric/CO detector. CO element activation generates a supervisory condition.
AIR REF	fire	Y	Y	Assign to one or more FSL-751 detectors used to monitor the quality of air entering the protected area. The air quality measurement allows the VIEW® system to compensate for vehicle fumes, fog, or other particles brought into the protected area through the ventilation system. Poor air quality will lower the sensitivity of all FSL-751 detectors on the SLC. The detector sensitivity, however, remains within approved limits (always less than 1% obscuration per foot).
Note: A reference detector still functions as a smoke detector, but the detector sensitivity level should be set to the least sensitive level—AL:9 and PA:9 Alarm and Prealarm sensitivity. Refer to "Detector Sensitivity Settings" on page 86 for a complete list of detector sensitivity settings.				
HEAT	fire	Y	Y	88°C heat detector
HEAT(FIXED)	fire	Y	Y	57°C intelligent thermal sensor
HEAT (ROR)	fire	Y	Y	9°C per minute rate-of-rise detector
SMOKE ACCLIM	fire	Y	Y	Combination Photoelectric/heat detector
SMOKE(BEAM)	fire	Y	Y	Beam Smoke Detector
NON (DUCTP)	non-fire	N	Y	Non-Latching Duct detector

Table F.1 Intelligent Detector Type Codes (2 of 2)

\*CLIP Mode only

### F.4.3 Type Codes for Monitor Modules

Following is a list of monitor module Type Codes, which can be used to change the function of a monitor module point.

Type Codes for Input Modules				
Type Code	Point Type	Latching (Y=yes N=no)	Activates CBE	Device/Point Function
<b>MONITOR</b>	<b>fire alarm</b>	<b>Y</b>	<b>Y</b>	<b>Alarm-monitoring device</b>
MCP	fire alarm	Y	Y	Manual fire-alarm-activating device
SMOKE CONVEN	fire alarm	Y	Y	Indicates activation of a conventional smoke detector. An FZM-1 must be used for alarm verification of a two-wire conventional detector.
WATERFLOW	fire alarm	Y	Y	Monitor for waterflow alarm switch Pressure switches, has the ability to add time delay and can be set select if Alarm devices can be silenced or not during activation in (General Settings)
LATCH SUPERV	supervisory	Y	Y	Indicates latching supervisory condition
TRACK SUPERV	supervisory	N	Y	Monitors for waterflow tamper switches for alarm points, Non-Latching
NON FIRE	non-alarm	N	Y	Monitors non-fire activations
TAMPER	supervisory	Y	Y	Indicates activation of tamper switch, Latching
AAM SILENCE	non-fire	N	N	Silences the all outputs mapped to the associated AAM zone (CBE position 1)
Hush Button	Non-fire	N	N	Silences all the outputs mapped to the associated type 5 zone (CBE position 1)
POWER MONITR	fault*	N	N	Monitors main and auxiliary power supplies (use fault zones for activations)
RESET SWITCH	non-alarm	N	N	Performs Reset function mimics the function of the Green reset button. Can be used as a remote reset when used with input module.
SIL SWITCH	non-alarm	N	N	Performs Signal Silence Function Mimics the function of the Red Alarm Silence Button. Can be used as a remote silence when used with input module.
DISABLE MON	disable	N	N	When this point activates it will create a disable on the panel for that point. No CBE generated Used to monitor inputs E.G Pump Disable, VESDA Isolated, or relays from third-party equipment to indicate the system is off or isolated.
FAULT MON	Fault	N	N	When this point activates it will create a fault on the panel for that point. No CBE generated. Used to monitor fault inputs such as Pump Fail, VESDA Fault, or fault relays from third-party equipment.

Table F.2 Type Codes for Input Modules

## F.5 Type Codes for Output Devices

This section provides a list of Type Codes for SLC control module points. Select from these codes to define the type of point.

Type Code	Silenceable (Y = yes, N = no)*	Switch Inhibit (Y = yes, N = No)*	Walk Test (Y = yes, N = No)*	SLC Output Point	Local Mode Group Point Types	Device Function
CONTROL <sup>†</sup>	Y	N	Y	NAC	n/a	Supervised NAC
RELAY <sup>†</sup>	Y	N	Y	Relay	n/a	Relay output
BELL CIRCUIT	Y	N	Y	NAC	fire	Supervised NAC
SPEAKER	Y	N	Y	NAC	fire	Supervised NAC for speaker circuits
blank <sup>†</sup>	Y	N	Y	NAC	n/a	Supervised NAC for undefined device
NONRESET CTL <sup>†</sup>	N	N	N	Relay or NAC	n/a	Supervised output, unaffected by "System Reset" command
CONTROL NAC	Y	N	Y	NAC	fire	Supervised NAC
NAC	Y	N	Y	NAC	fire	Supervised NAC for notification appliance, used with audio isolators. Activates even if there is a short on its NAC circuit.
ALARM DEV	Y	N	Y	NAC	fire	Supervised NAC for speaker circuits, used with audio isolators. Activates even if there is a short on its audio circuit.
GEN ALARM <sup>†</sup>	N	Y	Y	NAC	fire	Control Module, XPC-8, or an XP5-C (in NAC mode) configured as a Municipal Box Transmitter for NFPA 72 Auxiliary Fire Alarm Systems applications (MBT-1 required). This Type ID can also be used for general alarm activation.
GEN SUPERVIS <sup>†</sup>	N	Y	Y	NAC	supervisory	Control Module, XPC-8, or an XP5-C (in NAC mode) activated under any Supervisory condition (includes sprinkler type).
GEN FAULT <sup>†</sup>	N	Y	Y	NAC	fault	Control Module, XPC-8, or an XP5-C (in NAC mode) activated under any System Fault condition. This device will not turn ON when it is in fault (short or open).
GENERAL PEND <sup>†</sup>	N	Y	Y	NAC	fault	Control Module XPC-8 circuit, or an XP5-C (in NAC mode) that will activate upon receipt of an alarm and/or fault condition, and remain in the ON state until all events have been ACKNOWLEDGED. This device will not turn ON when it is in fault (short or open)
FAULT PEND <sup>†</sup>	N	Y	Y	NAC	fault	Control Module or an XP5-C (in NAC mode) that will activate upon receipt of a fault condition, and remain in the ON state until all faults have been ACKNOWLEDGED. This device will not turn ON when it is in fault (short or open).
ALARMS PEND <sup>†</sup>	N	Y	Y	NAC	fire	Control module or NAC for output that will activate upon receipt of an alarm condition, and remain in the alarm state until all alarms have been acknowledged.
INST RELEASE <sup>‡</sup>	N	Y	N	NAC (SLC only)	fire	Supervised for open circuits and ground faults. Short = normal
REL. FORM C <sup>†,‡</sup>	N	Y	N	Form-C relay (SLC only)	n/a	Directs relay outputs to perform a releasing function.
RELEASE CKT <sup>†,‡</sup>	N	Y	N	NAC (SLC only)	n/a	Directs outputs to perform a releasing function. Supervised for open circuits and ground faults. Short = normal
REL END BELL	N	Y	N	NAC	n/a	Activates NAC audio or visual device when releasing circuits shut off.
REL AUDIBLE	Y	Y	N	NAC	n/a	Activates audio or visual devices steady when releasing starts.
FORM C RESET <sup>†</sup>	N	Y	N	Form-C Relay (SLC only)	n/a	Relay module used to interrupt 24 V power to four-wire conventional detectors for 30 seconds upon reset. Used in conjunction with a monitor module with a conventional detector Type ID
ECS/MNS GEN	N	N	N	NAC	n/a	Activates NAC mass notification devices when an MNS event occurs
ECS/MNS STRB	N	N	N	NAC	n/a	Activates strobe mass notification devices when an MNS event occurs
ECS/MNS SPKR	N	N	N	NAC	n/a	Activates speaker mass notification devices when an MNS event occurs
ECS/MNS CON	N	N	N	NAC	n/a	Activates control module mass notification devices when an MNS event occurs
ECS/MNS RELAY	N	N	N	Relay	n/a	Activates relay mass notification devices when an MNS event occurs
LP PWR SOUND	N	N	N	NAC	n/a	Used to support intelligent loop powered AV devices
AAM SOUNDER	Y	N	Y	NAC	n/a	Used to activate sounder devices when AAM Zone (CBE position 1) is active.

\* Values represent program defaults

† With LCM-320 revision 2.0 and higher, this Type Code has external power supervision (FlashScan only). An external power-supervision relay is not required. Note that Type Codes RELAY, REL FORM C, and FORM C RESET are for use only with FRM-1 modules. Refer to the section on devices requiring external power supervision in this panel's installation manual

‡ The FCM-1-REL checks for shorts with all releasing type codes.

## F.6 FlashScan Codes

This section provides a list of FlashScan Codes for FlashScan SLC devices. Select from these codes to define the type of point:

Label	Device/Point
<b>FlashScan Codes</b>	
4-20MA	FMM-4-20
ACCLIMATE	FAPT-751AUS, FAPT-851AUS
BEAM	FSB-200, FSB-200S
IQUAD	FSC-851AUS
CONTROL	FCM-1
FAAST	FSA-8000
HEAT	FST-751RAUS, FST-851RAUS
HIGH HEAT	FST-851H
ION	FSI-751AUS, FSI-851AUS
LASER	FSL-751AUS
MINI/DUAL MONITOR	FMM-101, FDM-1
RF PULL STATION	FW-MMAUS
RF MONITOR	FW-MMAUS
RF GATEWAY	FWSGAUS
RF HEAT	FWH-200FIX135AUS, FWH-200ROR135AUS
RF PHOTO	FWD-200PAUS
RF ACCLIMATE	FWD-200ACCLIMATEAU
MONITOR	FMM-1
PHOTO	FSP-751AUS, FSD-751P, FSP-851AUS
PHOTO/HEAT	Currently not available in Australia
PHOTO/CO	Currently not available in Australia
RELAY	FRM-1
RELEASE	Not Supported
ZONE MONITOR	FZM-1

**Table F.3 FlashScan Codes**

## Appendix G: System Faults

Table G.2 is a list of System Faults that could occur during the course of FACP operation. The System Fault Name column is the text that displays in the system fault message. The System Fault Index is the number associated with the fault in FACP memory. It is the number that can be used as an argument in a Fault Equation.

System Fault Index	System Fault Name	System Fault Index	System Fault Name	System Fault Index	System Fault Name	System Fault Index	System Fault Name
0	GROUND FAULT	54	ANNUN 20 NO ANSWER	182	GROUND FAULT LOOP 9	237	CLOSED SHORT LOOP 5
1	AC FAIL	55	ANNUN 21 FAULT	183	GROUND FAULT LOOP 10	238	CLOSED SHORT LOOP 6
2	BATTERY	56	ANNUN 21 NO ANSWER	184	CLOSED NEG LOOP 3	239	CLOSED SHORT LOOP 7
3	CLOSED POS LOOP 1	57	ANNUN 22 FAULT	186	CLOSED NEG LOOP 5	232	RESERVED
4	CLOSED POS LOOP 2	58	ANNUN 22 NO ANSWER	187	CLOSED NEG LOOP 6	233	CLOSED SHORT LOOP 1
5	CORRUPT LOGIC EQUAT	59	ANNUN 23 FAULT	188	CLOSED NEG LOOP 7	234	CLOSED SHORT LOOP 2
6	LCD80 SUPERVISORY	60	ANNUN 23 NO ANSWER	189	CLOSED NEG LOOP 8	235	CLOSED SHORT LOOP 3
7	EPROM ERROR	61	ANNUN 24 FAULT	190	CLOSED NEG LOOP 9	236	CLOSED SHORT LOOP 4
8	INTERNAL RAM ERROR	62	ANNUN 24 NO ANSWER	191	CLOSED NEG LOOP 10	237	CLOSED SHORT LOOP 5
9	EXTERNAL RAM ERROR	63	ANNUN 25 FAULT	192	CLOSED POS LOOP 3	238	CLOSED SHORT LOOP 6
10	PROGRAM CORRUPTED	64	ANNUN 25 NO ANSWER	193	CLOSED POS LOOP 4	239	CLOSED SHORT LOOP 7
11	NO DEV INST ON L1	65	ANNUN 26 FAULT	194	CLOSED POS LOOP 5	240	CLOSED SHORT LOOP 8
12	PANEL DOOR OPEN	66	ANNUN 26 NO ANSWER	195	CLOSED POS LOOP 6	241	CLOSED SHORT LOOP 9
13	AUXILIARY FAULT	67	ANNUN 27 FAULT	196	CLOSED POS LOOP 7	242	CLOSED SHORT LOOP 10
14	RESERVED	68	ANNUN 27 NO ANSWER	197	CLOSED POS LOOP 8	243	NCM COM LOSS
15	ANNUN 1 FAULT	69	ANNUN 28 FAULT	198	CLOSED POS LOOP 9	244-249	RESERVED
16	ANNUN 1 NO ANSWER	70	ANNUN 28 NO ANSWER	199	CLOSED POS LOOP 10	250	SELF TEST FAILED
17	ANNUN 2 FAULT	71	ANNUN 29 FAULT	200	RESERVED	251	NETWORK INCOMPATIBILITY
18	ANNUN 2 NO ANSWER	72	ANNUN 29 NO ANSWER	201	BUZZER OFF-LINE	252	RESERVED
19	ANNUN 3 FAULT	73	ANNUN 30 FAULT	202	RESERVED	253	NETWORK MAP LIMIT EXCEEDED
20	ANNUN 3 NO ANSWER	74	ANNUN 30 NO ANSWER	203	RESERVED	254	INVALID NODE TYPE
21	ANNUN 4 FAULT	75	ANNUN 31 FAULT	204	RESERVED	255	DISPLAY NODE LIMIT EXCEEDED
22	ANNUN 4 NO ANSWER	76	ANNUN 31 NO ANSWER	205	RESERVED	256-383	RESERVED
23	ANNUN 5 FAULT	77	ANNUN 32 FAULT	206	PRINTER PAPER OUT	384	REMOTE DISPLAY 1 FAULT
24	ANNUN 5 NO ANSWER	78	ANNUN 32 NO ANSWER	207	PRINTER OFF LINE	385	REMOTE DISPLAY 1 NO ANSWER
25	ANNUN 6 FAULT	79	NETWORK FAIL PORT A	208	RESERVED	386	REMOTE DISPLAY 2 FAULT
26	ANNUN 6 NO ANSWER	80	NETWORK FAIL PORT B	209	RESERVED	387	REMOTE DISPLAY 2 NO ANSWER
27	ANNUN 7 FAULT	81	NETWORK FAILURE	210	MANUAL MODE ENTERED	388	REMOTE DISPLAY 3 FAULT
28	ANNUN 7 NO ANSWER	82	ADV WALK TEST	211	NCM COMM LOSS	389	REMOTE DISPLAY 3 NO ANSWER
29	ANNUN 8 FAULT	83	CHARGER FAIL	212	OPEN SHORT A LOOP 1	390	REMOTE DISPLAY 4 FAULT
30	ANNUN 8 NO ANSWER	84	GROUND FAULT LOOP 2	213	OPEN SHORT B LOOP 1	391	REMOTE DISPLAY 4 NO ANSWER
31	ANNUN 9 FAULT	85	CLOSED NEG LOOP 1	214	OPEN SHORT A LOOP 2	392	REMOTE DISPLAY 5 FAULT
32	ANNUN 9 NO ANSWER	86	CLOSED NEG LOOP 2	215	OPEN SHORT B LOOP 2	393	REMOTE DISPLAY 5 NO ANSWER
33	ANNUN 10 FAULT	87	GROUND FAULT LOOP 1	216	OPEN SHORT A LOOP 3	394	REMOTE DISPLAY 6 FAULT
34	ANNUN 10 NO ANSWER	88	RESERVED	217	OPEN SHORT B LOOP 3	395	REMOTE DISPLAY 6 NO ANSWER
35	ANNUN 11 FAULT	89	RESERVED	218	OPEN SHORT A LOOP 4	396	REMOTE DISPLAY 7 FAULT
36	ANNUN 11 NO ANSWER	90	PROG MODE ACTIVATED	219	OPEN SHORT B LOOP 4	397	REMOTE DISPLAY 7 NO ANSWER
37	ANNUN 12 FAULT	91	LOADING...NO SERVICE	220	OPEN SHORT A LOOP 5	398	REMOTE DISPLAY 8 FAULT
38	ANNUN 12 NO ANSWER	92	BASIC WALK TEST	221	OPEN SHORT B LOOP 5	399	REMOTE DISPLAY 8 NO ANSWER
39	ANNUN 13 FAULT	93	NFPA 24HR REMINDER	222	OPEN SHORT A LOOP 6	400	REMOTE DISPLAY 9 FAULT
40	ANNUN 13 NO ANSWER	94	NVRAM BATT FAULT	223	OPEN SHORT B LOOP 6	401	REMOTE DISPLAY 9 NO ANSWER
41	ANNUN 14 FAULT	95-104	RESERVED	224	OPEN SHORT A LOOP 7	402	REMOTE DISPLAY 10 FAULT
42	ANNUN 14 NO ANSWER	105	CLOSED ON LOOP 3	225	OPEN SHORT B LOOP 7	403	REMOTE DISPLAY 10 NO ANSWER
43	ANNUN 15 FAULT	106	RESERVED	226	OPEN SHORT A LOOP 8	404	REMOTE DISPLAY 11 FAULT
44	ANNUN 15 NO ANSWER	107	RESERVED	227	OPEN SHORT B LOOP 8	405	REMOTE DISPLAY 11 NO ANSWER
45	ANNUN 16 FAULT	108	MAN EVAC INITIATED	228	OPEN SHORT A LOOP 9	406	REMOTE DISPLAY 12 FAULT
46	ANNUN 16 NO ANSWER	109	MAN EVAC RECEIVED	229	OPEN SHORT B LOOP 9	407	REMOTE DISPLAY 12 NO ANSWER
47	ANNUN 17 FAULT	110-175	RESERVED	230	OPEN SHORT A LOOP 10	408	REMOTE DISPLAY 13 FAULT
48	ANNUN 17 NO ANSWER	176	GROUND FAULT LOOP 3	231	OPEN SHORT B LOOP 10	409	REMOTE DISPLAY 13 NO ANSWER
49	ANNUN 18 FAULT	177	GROUND FAULT LOOP 4	232	RESERVED	410	REMOTE DISPLAY 14 FAULT
50	ANNUN 18 NO ANSWER	178	GROUND FAULT LOOP 5	233	CLOSED SHORT LOOP 1	411	REMOTE DISPLAY 14 NO ANSWER
51	ANNUN 19 FAULT	179	GROUND FAULT LOOP 6	234	CLOSED SHORT LOOP 2	412	REMOTE DISPLAY 15 FAULT
52	ANNUN 19 NO ANSWER	180	GROUND FAULT LOOP 7	235	CLOSED SHORT LOOP 3	413	REMOTE DISPLAY 15 NO ANSWER
53	ANNUN 20 FAULT	181	GROUND FAULT LOOP 8	236	CLOSED SHORT LOOP 4	414	REMOTE DISPLAY 16 FAULT
415	REMOTE DISPLAY 16 NO ANSWER	574	AMPLIFIER FAULT	630	BACKUP AMP LIMIT	676	BACKUP AMP 2 FAIL

**Table G.1 System Fault Index and Name (1 of 3)**

System Fault Index	System Fault Name	System Fault Index	System Fault Name	System Fault Index	System Fault Name	System Fault Index	System Fault Name
416	REMOTE DISPLAY 17 FAULT	575	AUXIN FAULT	631	PRIMARY AMP 1 LIMIT	677	BACKUP AMP 3 FAIL
417	REMOTE DISPLAY 17 NO ANSWER	576	DIGIN FAULT	632	PRIMARY AMP 2 LIMIT	678	BACKUP AMP 4 FAIL
418	REMOTE DISPLAY 18 FAULT	577	FFT FAULT	633	PRIMARY AMP 3 LIMIT	679	BACKUP AMP NOT INSTALLED
419	REMOTE DISPLAY 18 NO ANSWER	578	REMOTE MIC FAULT	634	PRIMARY AMP 4 LIMIT	680	BACKUP AMP 1 NOT INSTALLED
420	REMOTE DISPLAY 19 FAULT	579	DAP PORT A FAILURE	635	BACKUP AMP 1 LIMIT	681	BACKUP AMP 2 NOT INSTALLED
421	REMOTE DISPLAY 19 NO ANSWER	580	DAP PORT B FAILURE	636	BACKUP AMP 2 LIMIT	682	BACKUP AMP 3 NOT INSTALLED
422	REMOTE DISPLAY 20 FAULT	581	DAA NO ANSWER	637	BACKUP AMP 3 LIMIT	683	BACKUP AMP 4 NOT INSTALLED
423	REMOTE DISPLAY 20 NO ANSWER	582	LOCAL MIC FAULT	638	BACKUP AMP 4 LIMIT	684	MODBUS COMMUNICATIONS FAULT
424	REMOTE DISPLAY 21 FAULT	583	LOCAL PHONE FAULT	639	PRIMARY AMP 1 OVERCURRENT	685	VESDANET FAULT
425	REMOTE DISPLAY 21 NO ANSWER	584	ANALOG OUTPUT A FAULT	640	PRIMARY AMP 2 OVERCURRENT	686	RESERVED
426	REMOTE DISPLAY 22 FAULT	585	ANALOG OUTPUT B FAULT	641	PRIMARY AMP 3 OVERCURRENT	687	DOOR INTERLOCK FAULT
427	REMOTE DISPLAY 22 NO ANSWER	586	ANALOG OUTPUT C FAULT	642	PRIMARY AMP 4 OVERCURRENT	688	ANNUN 01 TYPE MISMATCH
428	REMOTE DISPLAY 23 FAULT	587	ANALOG OUTPUT D FAULT	643	BACKUP AMP 1 OVERCURRENT	689	ANNUN 02 TYPE MISMATCH
429	REMOTE DISPLAY 23 NO ANSWER	588	FLASH IMAGE ERROR	644	BACKUP AMP 2 OVERCURRENT	670	ANNUN 03 TYPE MISMATCH
430	REMOTE DISPLAY 24 FAULT	589	POWER SUPPLY FAULT	645	BACKUP AMP 3 OVERCURRENT	671	ANNUN 04 TYPE MISMATCH
431	REMOTE DISPLAY 24 NO ANSWER	590	AMPLIFIER LIMIT	646	BACKUP AMP 4 OVERCURRENT	672	ANNUN 05 TYPE MISMATCH
432	REMOTE DISPLAY 25 FAULT	591	AMPLIFIER SUPERVISION	647	PRIMARY AMP 1 TRIP	673	ANNUN 06 TYPE MISMATCH
433	REMOTE DISPLAY 25 NO ANSWER	592	DAA ADDRESS CONFLICT	648	PRIMARY AMP 2 TRIP	674	ANNUN 07 TYPE MISMATCH
434	REMOTE DISPLAY 26 FAULT	593-603	RESERVED	649	PRIMARY AMP 3 TRIP	675	ANNUN 08 TYPE MISMATCH
435	REMOTE DISPLAY 26 NO ANSWER	604	DATABASE CORRUPTED	650	PRIMARY AMP 4 TRIP	676	ANNUN 09 TYPE MISMATCH
436	REMOTE DISPLAY 27 FAULT	605	AUDIO LIBRARY CORRUPTED	651	BACKUP AMP 1 TRIP	677	ANNUN 10 TYPE MISMATCH
437	REMOTE DISPLAY 27 NO ANSWER	606	DATABASE INCOMPATIBLE	652	BACKUP AMP 2 TRIP	678	ANNUN 11 TYPE MISMATCH
438	REMOTE DISPLAY 28 FAULT	607	AUDIO LIBRARY INCOMPATIBLE	653	BACKUP AMP 3 TRIP	679	ANNUN 12 TYPE MISMATCH
439	REMOTE DISPLAY 28 NO ANSWER	608	DAA DOWNLOAD IN PROGRESS	654	BACKUP AMP 4 TRIP	680	ANNUN 13 TYPE MISMATCH
440	REMOTE DISPLAY 29 FAULT	609	RESERVED	655	DSBUS 1 AC FAIL	681	ANNUN 14 TYPE MISMATCH
441	REMOTE DISPLAY 29 NO ANSWER	610	RESERVED	656	DSBUS 2 AC FAIL	682	ANNUN 15 TYPE MISMATCH
442	REMOTE DISPLAY 30 FAULT	611	PHONE CHANNEL LIMIT EXCEEDED	657	DSBUS 3 AC FAIL	683	ANNUN 16 TYPE MISMATCH
443	REMOTE DISPLAY 30 NO ANSWER	612	NCM SNIFFER MODE ACTIVE	658	DSBUS 4 AC FAIL	684	ANNUN 17 TYPE MISMATCH
444	REMOTE DISPLAY 31 FAULT	613	NCM CONNECTION LIMIT EXCEEDED	659	DSBUS 1 HIGH BATT	685	ANNUN 18 TYPE MISMATCH
445	REMOTE DISPLAY 31 NO ANSWER	614	HARDWARE MISMATCH	660	DSBUS 2 HIGH BATT	686	ANNUN 19 TYPE MISMATCH
446	REMOTE DISPLAY 32 FAULT	615	DAL DEVICE NO ANSWER	661	DSBUS 3 HIGH BATT	687	ANNUN 20 TYPE MISMATCH
447	REMOTE DISPLAY 32 NO ANSWER	616	PRIMARY AMP 1 HARDWARE FAILURE	662	DSBUS 4 HIGH BATT	688	ANNUN 21 TYPE MISMATCH
448	SYSTEM INITIALIZATION	617	PRIMARY AMP 2 HARDWARE FAILURE	663	DSBUS 1 LOW BATT	689	ANNUN 22 TYPE MISMATCH
449-502	RESERVED	618	PRIMARY AMP 3 HARDWARE FAILURE	664	DSBUS 2 LOW BATT	690	ANNUN 23 TYPE MISMATCH
503	SOFTWARE MISMATCH	619	PRIMARY AMP 4 HARDWARE FAILURE	665	DSBUS 3 LOW BATT	691	ANNUN 24 TYPE MISMATCH
504	NO POWER SUPPLY INST	620	BACKUP AMP 1 HARDWARE FAILURE	666	DSBUS 4 LOW BATT	692	ANNUN 25 TYPE MISMATCH
505	LOOP 1-2 COMM FAILURE	621	BACKUP AMP 2 HARDWARE FAILURE	667	DSBUS 1 SELF TEST FAIL	693	ANNUN 26 TYPE MISMATCH
506	LOOP 3-4 COMM FAILURE	622	BACKUP AMP 3 HARDWARE FAILURE	668	DSBUS 2 SELF TEST FAIL	694	ANNUN 26 TYPE MISMATCH
507	LOOP 5-6 COMM FAILURE	623	BACKUP AMP 4 HARDWARE FAILURE	669	DSBUS 3 SELF TEST FAIL	695	ANNUN 27 TYPE MISMATCH
508	LOOP 7-8 COMM FAILURE	624	DSBUS 1 COMMFAIL	670	DSBUS 4 SELF TEST FAIL	696	ANNUN 28 TYPE MISMATCH
509	LOOP 9-10 COMM FAILURE	625	DSBUS 2 COMMFAIL	671	PRIMARY AMP 1 FAIL	697	ANNUN 29 TYPE MISMATCH

Table G.1 System Fault Index and Name (2 of 3)

System Fault Index	System Fault Name	System Fault Index	System Fault Name	System Fault Index	System Fault Name	System Fault Index	System Fault Name
510	TEST PROGRAM UPDATE	626	DSBUS 3 COMMFAIL	672	PRIMARY AMP 2 FAIL	698	ANNUN 30 TYPE MISMATCH
511-571	RESERVED	627	DSBUS 4 COMMFAIL	673	PRIMARY AMP 3 FAIL	699	ANNUN 31 TYPE MISMATCH
572	GROUND FAULT PORT A	628	AA FAULT BUS FAIL	674	PRIMARY AMP 4 FAIL	700	ANNUN 32 TYPE MISMATCH
573	GROUND FAULT PORT B	629	NFN PAGING CHAN LIMIT EXCEEDED	675	BACKUP AMP 1 FAIL	701	DISPLAY COMM LOSS

Table G.1 System Fault Index and Name (3 of 3)

Table G.2 gives a description of each system fault.

SYSTEM FAULTS	
FAULT MESSAGE TYPE	FAULT DESCRIPTION
AA FAULT BUS FAIL	The AA Fault Bus has failed to communicate with the fire panel. Check wiring and source.
AC FAIL	Loss of AC power to DAA. Investigate whether there is an AC power loss, or whether the DAA-PS is correctly installed and wired.
ADV WALK TEST	There is an Advanced Walk Test in progress.
AMPLIFIER LIMIT	A digital audio amplifier is overloaded. Remove outputs to lower the load on the speaker circuits. See the digital audio amplifier manual for more information.
AMPLIFIER SUPERVISION	The digital audio amplifier's internal supervision is not working. Call Technical Services.
AMPLIFIER FAULT	The DAA is in fault. The output is overloaded or the amplifier is damaged. Remove outputs to determine if the DAA was overloaded. If it still does not work, call Technical Services.
ANALOG OUTPUT $\underline{x}$ FAULT	A fault has occurred on DVC-AO analogue output $\underline{x}$ (1 - 4). The analogue output is configured for Style 7, but no audio signal is returned. Investigate and fix.
ANNUN $\underline{x}$ NO ANSWER	The annunciator at address $\underline{x}$ is not responding.
ANNUN $\underline{x}$ FAULT	The annunciator at address $\underline{x}$ is in fault.
ANNUN $x$ TYPE MISMATCH	The annunciator at address $x$ does not match the annunciator type programmed at that address. Investigate and fix.
AUDIO LIBRARY CORRUPTED	The DVC's audio library is corrupted. Re-create and/or re-download an intact database.
AUDIO LIBRARY INCOMPATIBLE	The version is incompatible with the database and/or the application version.
AUXIN FAULT	Generated when the auxiliary input is supervised (as determined in VeriFire® Tools programming) and no signal is coming from the input. Check wiring and source.
BACKUP AMP $\underline{x}$ FAIL	The Backup Amp at address $\underline{x}$ has failed. Call Technical Services.
BACKUP AMP $\underline{x}$ HARDWARE FAIL	The Backup Amp at address $\underline{x}$ has had a hardware failure. Call Technical Services.
BACKUP AMP $\underline{x}$ LIMIT	The Audio Circuit of the Backup Amplifier at address $\underline{x}$ has been overloaded or shorted so the Audio Signal has been attenuated. Check wiring and source and ensure that there are no shorts.
BACKUP AMP $\underline{x}$ OVERCURRENT	The Backup Amplifier at address $\underline{x}$ has overloaded and shut down. Check the total Load calculations for the DS-AMP and/or DS-BDA and ensure the total values do not exceed 120 watts.
BACKUP AMP $\underline{x}$ NOT INSTALLED	The Backup Amplifier that is programmed at address $\underline{x}$ is not communicating with the DS-AMP. Ensure the ribbon and power cables are properly attached to the DS-AMP and DS-BDA. If there is no Backup Amplifier at that address, remove the Backup Amplifier from programming.
BACKUP AMP $\underline{x}$ TRIP	The DS-BDA at DS-BUS address $x$ (1-4) is drawing more current from the power supply than expected and has been disabled. Refer to the DVC manual for additional troubleshooting.
BASIC WALK TEST	A Basic Walk Test is in progress.
BATTERY	The power supply's battery voltage is too high or too low. Check the batteries for problems. Replace batteries if necessary.
BUZZER OFF-LINE	The piezo is disabled.
CHARGER FAIL	The DAA's battery charger is not functioning. Investigate and correct.
CLOSED NEG. LOOP $\underline{x}$	There is an open circuit on the negative side of loop $\underline{x}$ . Closed wiring is a supervised method of communicating with addressable devices. If the control panel detects a fault (open only), it will drive both ends of the loop, maintaining communication in an unsupervised method. The latching fault will display on the panel as a Closed fault until you correct the condition and press reset.
CLOSED POS. LOOP $\underline{x}$	There is an open circuit on the positive side of loop $\underline{x}$ . Closed wiring is a supervised method of communicating with addressable devices. If the control panel detects a fault (open only), it will drive both ends of the loop, maintaining communication in an unsupervised method. The latching fault will display on the panel as a Closed fault until you correct the condition and press reset.
CLOSED SHORT LOOP $\underline{x}$	Closed wiring is a supervised method of communicating with addressable devices. If the control panel detects a fault (open or short), it will drive both ends of the loop, maintaining communication in an unsupervised method. The latching fault will display on the panel as a Closed fault until you correct the condition and press reset.
CORRUPT LOGIC EQUAT	The database that houses the panel's logic equations is corrupt. It must be re-downloaded, or all programming must be cleared and re-entered.
DAA ADDRESS CONFLICT	More than one DAA has the same address.
DAA DOWNLOAD IN PROGRESS	The DVC is currently downloading to DAAs.

Table G.2 System Fault Descriptions (1 of 3)

SYSTEM FAULTS	
FAULT MESSAGE TYPE	FAULT DESCRIPTION
DAA NO ANSWER	A DAA is not responding. Investigate and fix.
DAL DEVICE NO ANSWER	The DAL device is no longer communicating with the fire panel. Check wiring and source
DAP PORT x FAILURE	Digital Audio Port <u>x</u> (A or B) is not communicating due to a break in the connection, a short, or faulty hardware. Locate and fix the break or short. If the problem is not a short or break, call Technical Services.
DATABASE CORRUPTED	The DVC programming database is corrupt. Re-create and/or re-download the database.
DATABASE INCOMPATIBLE	The DVC programming database version is incompatible with DVC software.
DIGIN FAULT	The DAA has determined that its DVC has stopped transmitting audio data to the Digital Audio Loop (DAL), even though the loop is still functional. Update code, ensure all code on the DAL is compatible. If the DVC still does not transmit digital audio data, call Technical Services.
DISPLAY COMM LOSS	Communication with the keypad display has been lost. Check cable connection, investigate and fix.
DISPLAY NODE LIMIT EXCEEDED	The number of display nodes on the network has been exceeded. This fault will only be displayed if at least one of the AFP-3030s on the network are in Network Display Mode and the total number of display nodes has exceeded 25. Remove one or more display nodes to correct this fault. (Display nodes include NCA-2, a Gateway node, or an AFP-3030 in Network Display Mode.)
DOOR INTERLOCK FAULT	A fault has occurred on the door interlock. Investigate and fix.
DRILL INITIATED	Drill has been initiated locally.
DRILL RECEIVED	Drill has been initiated remotely.
DSBUS <u>x</u> AC FAIL	The DSBUS at address <u>x</u> has lost AC power. Check wiring and source.
DSBUS <u>x</u> COMMFAIL	The DSBUS at address <u>x</u> is not communicating with the fire panel. Check wiring and source.
DSBUS <u>x</u> HIGH BATT	The battery voltage for the DSBUS at address <u>x</u> has exceeded 28 V. If the batteries are shared, ensure that only one power supply is charging the batteries. Remove the batteries and measure the charging voltage from the supply to ensure it is not exceeding 27.6 V. Call Technical Services.
DSBUS <u>x</u> LOW BATT	The battery voltage for the DSBUS at address <u>x</u> has fallen below 20.4 V. Charge or replace batteries.
DSBUS <u>x</u> SELF TEST FAIL	A device on the DSBUS at address <u>x</u> has failed self test. Reboot the device. If this does not repair it, update the software of the device. If the self test fail fault continues to be displayed, call Technical Services.
EPROM ERROR	The application and/or boot code is corrupt. Service required.
EXTERNAL RAM ERROR	The external RAM test failed. Service required.
FLASH IMAGE ERROR	The software is corrupt. Re-download the panel code software from VeriFire® Tools. If the fault does not clear, call Technical Services.
FFT FAULT	There is a short or open on an FFT riser on a Digital Audio Loop. Check that the DVC's 4-wire switch is set properly and that there is an end-of-line resistor in place for 2-wire operation.
GROUND FAULT	A ground fault has occurred within the panel.
GROUND FAULT LOOP <u>x</u>	There is a ground fault on loop <u>x</u> .
GROUND FAULT PORT <u>x</u>	A ground fault has occurred on DAP <u>x</u> (A or B).
HARDWARE MISMATCH	The device installed does not match what was previously installed. Install the correct device.
INTERNAL RAM ERROR	The internal RAM test failed. Service required.
INVALID NODE TYPE MAPPED	An invalid node type has been mapped to the AFP-3030 for Network Display Mode. Check network mapping and correct.
INTERNAL RAM ERROR	The internal RAM test failed. Service required.
LCD80 SUPERVISORY	Communication has been lost with an LCD-80.
LOADING...NO SERVICE	A program or database download is in progress. The panel is NOT providing fire protection during the download. Proper authorities should be notified while a download is in progress so that other means of fire protection can be supplied.
LOCAL MIC FAULT	The DVC's local microphone is in fault. There is no communication, or paging has been enabled for over 28 seconds and no signal has been received. Investigate whether the mic is plugged into the DVC, or whether there is a problem with the local mic.
LOCAL PHONE FAULT	The DVC's local FFT handset is in fault. There is no communication, or paging has been enabled for over 28 seconds and no signal has been received. Investigate whether the handset is plugged into the DVC, or whether there is a problem with the handset.
LOOP <u>x</u> - <u>x</u> COMM FAILURE	Loops <u>x</u> and <u>x</u> are not responding. The LCM and LEM for those loops must be serviced.
MAN EVAC INITIATED	Local initiation of DRILL
MAN EVAC RECEIVED	Network initiation of DRILL
MANUAL MODE ENTERED	An annunciator has been placed in manual mode.
MODBUS COMMUNICATIONS FAULT	The VESDA® Gateway can not communicate with the HLI, HLI may be damaged or not powered, or the VESDA Gateway may be damaged.
NCM COMM LOSS	Communication lost between CPU2-3030AU or DVC and network communications module.
NCM CONNECTION LIMIT EXCEEDED	More than two panels have been connected to a high-speed network communications module.

Table G.2 System Fault Descriptions (2 of 3)



SYSTEM FAULTS	
FAULT MESSAGE TYPE	FAULT DESCRIPTION
NCM SNIFFER MODE ACTIVE	The network is in a diagnostic state.
NETWORK FAIL PORT x	Communication lost between NCM Port x and corresponding node.
NETWORK INCOMPATIBILITY	The brand of this panel is incompatible with this network.
NETWORK MAPPING LIMIT EXCEEDED	More than 1 fire panel or more than 4 DVCs has been mapped to the AFP-3030 for Network Display Mode. Check network mapping and correct.
NFN PAGING CHANNEL LIMIT EXCEEDED	Multiple paging sources are attempting to page over the NFN, exceeding the limit of one (1). reduce the number of paging sources to clear this fault.
NFPA 24HR REMINDER	This message occurs every day at 11 am if any faults exist.
NVRAM BATT FAULT	Battery backup and/or clock backup is low. Replace battery.
NO DEV. INST ON L1	No devices are installed on the system.
NO POWER SUPPLY INST	The address of the main power supply has not been entered.
OPEN SHORT x LOOP x	Service required. Call Technical Services.
PANEL DOOR OPEN	The panel door is open.
PHONE CHANNEL LIMIT EXCEEDED	The DVC has allocated all its phone channels, and there are still phones ringing in requesting more channels.
POWER SUPPLY FAULT	There is a communication failure with the DAA onboard power supply. Call Technical Services.
PRIMARY AMP x FAIL	The Primary Amp at address x has failed. Call Technical Services.
PRIMARY AMP x HARDWARE FAIL	The Primary Amp at address x has had a hardware failure. Call Technical Services.
PRIMARY AMP x LIMIT	The Audio Circuit of the Primary Amplifier at address x has been overloaded or shorted so the Audio Signal has been attenuated. Check wiring and source and ensure that there are no shorts.
PRIMARY AMP x OVERCURRENT	The Primary Amplifier at address x has overloaded and shut down. Check the total Load calculations fir the DS-AMP and/or DS-BDA and ensure the total values do not exceed 120 watts.
PRIMARY AMP x TRIP	The DS-BDA at DS-BUS address x (1-4) is drawing more current from the power supply than expected and has been disabled. Refer to the DVC manual for additional troubleshooting.
PRINTER OFF LINE	Communication loss with printer. Restore power and/or printer's online status.
PRINTER PAPER OUT	Add paper.
PROGRAM CORRUPTED	The database that houses the panel's programming is corrupt. It must be re-downloaded, or all programming must be cleared and re-entered. Service required.
PROG MODE ACTIVATED	A user is currently using the panel's programming menus.
REMOTE DISPLAY x NO ANSWER	The remote display at address x is not responding.
REMOTE DISPLAY x FAULT	The remote display at address x is in fault.
REMOTE MIC FAULT	The DVC's remote microphone is in fault. It is installed and supervised, but no signal is coming from it. Investigate and fix.
SELF TEST FAILED	Diagnostic test failed. Service required. Call Technical Services.
SOFTWARE MISMATCH	One or more LCM or DAA software revisions do not match other LCMs or DAAs, and/or the network communications module is not network version 5.0, or LCD-160 software is incompatible. Update the software as necessary.
SYSTEM INITIALIZATION	One or more devices (detectors or modules) can not report activation. This can occur following system startup, when exiting Walk Test, or following a device fault of No Response.
VESDA FAULT	A fault has occurred on a VESDA node. Possible faults may include: Communication failure on the VESDA detector loop, incompatible VESDA software versions, or VESDA configuration error.

Table G.2 System Fault Descriptions (3 of 3)

# Appendix H: Smoke Control Station Programming

## H.1 SCS-8A Limitations

When using smoke control on the AFP-3030, the following system limitations apply:

- Smoke Control is limited to 10 SCS units per panel. Each unit can consist of the smoke control board (8 switches) or the SCS board and expander (16 switches).
- Maximum smoke control capacity is 160 switch groups.
- Addresses 21 to 30 are reserved for smoke control. VeriFire Tools and the panel will only allow smoke control to be programmed at addresses 21 through 30.
- General zones 800-959 will be designated and mapped to smoke control. Zone 800 will be mapped to the first switch group on the first smoke control device, and zone 959 will be mapped to the 16th switch group on the last (tenth) smoke control device.
- Once the appropriate zones have been mapped to the switch groups, the labels of Smoke/damper controls can be changed on the General Zones Page in VeriFire Tools.
- Each switch group may use up to 3 Logic Zones depending on fan operation (ZLduct, ZLstartup, ZLstop).
  - Logic Zones 300 to 779 are designated for Smoke Control.
  - Example: Annunciator 21 Switch Group 1 ZL300 = ZLduct, ZL301 = ZLstart, ZL302 = ZLstop
  - Use this formula to determine the first logic zone number (ZLduct) of each switch group:  
 $(297 + ((\text{annunciator number}[21..30] - 21) * 48) + (\text{switch group}[1..16] * 3))$
  - Example: Annunciator 30 Switch Group 16  
 $A30SG16 \text{ ZLduct} = 297 + ((30 - 21) * 48) + (16 * 3) = ZL777$ . Therefore ZLstart = ZL778, ZLstop = ZL779
  - ZLstartup, ZLduct, ZLstart, and ZLstop where used must exist on the same AFP-3030 node as Fan Start and Fan Stop Point.
- When using a duct detector, the general zone allocated as Damper CBE Zone should be programmed to the first CBE position of the duct detector.
- Logic zones 800 and 820 have default programming for Fire Mode and Smoke Control Activation, respectively. Refer to “Smoke Control and Fire Brigade Considerations” on page 95 for additional information.

## H.2 SCS Hardware Setup

Choose an address between 21-30 to set a unique address for the SCS-8A using the rotary address switches at the top of the SCS-8A module.

Depending on devices required for fan control there are 3 Switch Group Types supported by the Fan Control Wizard. The dip-switch settings on SCS-8 must match the programmed switch group type for fault free operation.

1. If **USE SINGLE START/STOP** is set to NO:
  - Set SCS to FSCS switch group type 8.
  - Dip switch settings: Switch 1 = Off. Switch 2,3,4 = On. Switch 5 = Off. Switch 6 = On. Switch 7 = Off. Switch 8 = See note.
2. If **USE SINGLE START/STOP** is set to Yes and **ACTION ON CCBE** is set to START:
  - Set SCS to FSCS switch group type 5.
  - Dip switch settings: Switch 1 = Off. Switch 2 = On. Switch 3 = Off. Switch 4 = On. Switch 5 = Off. Switch 6 = On. Switch 7 = Off. Switch 8 = See note.
3. If **USE SINGLE START/STOP** is set to Yes and **ACTION ON CCBE** is set to STOP:
  - Set SCS to FSCS switch group type 2.
  - Dip switch settings: Switch 1,2 = Off. Switch 3,4 = On. 5 = On. Switch 6 = On. Switch 7 = Off. Switch 8 = See note.



**NOTE:** DIP Switch 8 controls the 120 Ohm End-of-Line Resistor and should be OFF unless the SCS-8A is last device on the ACS Communication Line.

The user must set the dip switches on the SCS to the correct setting based on the desired operation. The panel will create a system trouble if the SCS switches do not match the panel settings. For an illustration of the dip switches, see the *SCS-8A/SCE-8A Installation Sheet* (LS10126-000AU-E, DOC-03-086).

## H.3 SCS Operation, Panel Version 28.5 and Higher

The amber LED at the top of the unit will light when in manual mode if any switch is not in automatic mode.

The green LED at the top of the unit will light when all the switches are in automatic mode and will turn off when one or more of the switches are not in the automatic mode.



**NOTE:** Panels with firmware 27.5 or lower, operation may be different; refer to the older version manual shipped with your panel.

## H.4 Definitions

**Fan/Damper Name** SCS switch groups can be assigned a custom name by modifying the label of the General Zone assigned to each switch group. Fan/Damper Name will reference the general zone label of the general zone which is mapped to the SCS switch group label.

**Fan/Damper Start Point** Address of the relay module physically installed on the SLC, used to start the fan or damper.

**Fan/Damper Stop Point** Address of the relay module physically installed on the SLC, used to stop the fan or damper.

**Fan/Damper Status Point** Input for annunciation of fan/damper status using two LEDs

- When source active RED (RUNNING/OPEN), when source inactive GREEN (STOPPED/CLOSED),

When the duct detector is active, the red LED will be flashing.

**Fan Fault Point (Amber)** Input for annunciation of fan fault conditions when source active. If Fan Fault Point activates or, upon expiration of Fault Delay Status timer, the Fan Status Point, Fan Start Point and Fan Stop Point state are not as expected, the trouble LED on SCS-8A/SCE-8A will be lit. Fan Fault Point source may be common to multiple fans.

**Duct Detector Zone Logic Zone** Logic Zone referencing duct detectors monitoring for smoke in duct (if duct detector is being utilised for a fan). Duct Detector Logic Zone can be used where Duct Detector Zone is not practical in instances such as duct detector installed on a different node to other points associated with fan.

**Duct Detector Zone** General Zone used by one or more duct detectors monitoring for smoke in duct (if duct detector is being utilised for a fan).



**NOTE:**

- Self Resetting Duct Detectors used for Fan Control should be programmed as Type Code Label NON (DUCTP).
- Either one Duct Detector Zone or Duct Detector Logic Zone may be assigned per switch group.

**Fan/Damper CBE** Fan/Damper CBE will contain the general zone or logic zone exclusively. That means user only inputs one general zone or logic zone through the wizard.

- Fan/Damper CBE will contain the general zone that will initiate the fan starting or stopping depending on the ACTION ON CBE setting. The user will map this general zone to the corresponding smoke detectors that is to be activated. If Latching Fire Mode is enabled then the general zone selected by FAN CBE will be set as a non-resettable zone which will prevent the zone from turning off when the fire alarm clears. The zone will be turned off when the Smoke Control Reset button is pressed. If Latching Fire Mode is not enabled then the general zone selected by FAN CBE will be set as a resettable zone which will turn off when the fire alarm clears.
- Fan/Damper CBE will contain the logic zone that will initiate the fan/damper starting or stopping depending on the ACTION ON CBE setting. Through the logic zone, user could add smoke detectors from different AFP-3030 node that they wish to activate it. If Latching Fire Mode is enabled then the logic zone selected by Fan/Damper CBE will need to be set as a latched logic zone which will prevent the zone from turning off when the fire alarm clears. The logic zone should include NOT(ZF41) and will be turned off when the Smoke Control Reset button is pressed. If Latching Fire Mode is not enabled then the logic zone selected by Fan/Damper CBE will need to set a non-latched logic zone which will turn off when the fire alarm clears.

**Latched Logic Zone** This Latched logic zone is only apply to the panel that in latching fire mode and logic zone should keep latched after the system reset. The latched logic zone should include ZF41, ZF41 will unlatch the logic zone, ex ZL100=AND(OR(ZL100, N2Z1, Z1, Z2), NOT(ZF41)). The key rule is the logic zone should include itself, and ZF41 to unlatch the logic.

**Latching Fire Mode** When selected will cause the panel to remain in Fire Mode and keep ZF23 active after a system reset has been performed and all alarms cleared until a Smoke Control Reset has been performed. If Latching Fire Mode is not selected the panel will no longer be in fire mode once a system reset has been performed and all alarms cleared.



**NOTE:**

- Latching Fire Mode setting can only be modified in VeriFire Tools; it cannot be modified through panel keypad.
- Where multiple NCA-2AU events mapped from the same AFP-3030 and Latching Fire Mode is required only one NCA-2AU should have Latching Fire Mode selected.

**Delay Fault Status** Delay Fault Status will be programmable from 0 - 180 seconds. This will delay the trouble reporting from the Fan Status module. Delay Fault Status can only be programmed with VeriFire Tools.

**Use Single Start/Stop** Use a single module to start and stop the fan or damper. Use Single Start Stop can only be programmed with VeriFire Tools. Dip switches on the SCS-8A must also be set to **Use Single Start Stop**.

**Action On CBE** Define the action of the zone defined by Fan/Damper CBE. If set to Start/Open then Fan/Damper Start Point will be activated when the zone defined by Fan/Damper CBE goes active. If set to Stop/ Close then Fan/Damper Stop/ Close Point will be activated when the zone defined by Fan/Damper CBE goes active.

**Lamp Test Button** When the push button at the top of the unit is pressed for one second, the lamp test will activate for the unit, and all LEDs will illuminate.



**NOTE:** When SCS-8 lamp test is pressed, LEDs should illuminate immediately. If there is a 5-second delay, the SCS-8A is not running the current software and should be upgraded before connecting to AFP-3030 or NCA-2AU running software V28 or higher.

**Local Fire Mode Special Function Zone 23** Special function zone 23 tracks when in local fire mode. The special function zone 23 will turn on when there is a fire alarm on the AFP-3030. If latching fire mode is enabled then special function zone 23 will only clear when the smoke control reset button is pressed on the keypad or on the SCS annunciator. If latching fire mode is not enabled then the special function zone 23 will clear when the fire alarms clear on a system reset. Special function zone 23 will be activated on a simulated fire alarm.

Smoke Control Disable will not affect ZF23 state.

**Network Fire Mode Special Function Zone 24** Special function zone 24 tracks when in local or network fire mode. The special function zone 24 will activate when special function zone 23 activates on the AFP-3030 on the Noti-Fire-Net Network.

Smoke Control Disable will not affect ZF24 state.

**Smoke Control Active LED** The Smoke Control Active LED on the AFP-3030 will activate when Logic Zone 820 goes active, by default ZL820 = OR(ZF24). When Logic Zone 820 deactivates, the Smoke Control Active LED will extinguish. The Smoke Control Active LED on NCA-2AU or AFP-3030 operating in Network Display Mode (AFP-3030-NDM) will activate when any mapped AFP-3030 Smoke Control Active LED is lit.

**Smoke Control Disabled LED** The Smoke Control Disabled LED will use Special Function ZF6 to determine its status.

- When smoke control is disabled the AFP-3030 will activate ZF6. On the AFP-3030, the smoke control disabled LED will be lit when ZF6 is active. On the NCA-2 the smoke control disabled LED will be lit when ZF6 is active on all event mapped AFP-3030s. On the NCA-2 the smoke control disabled LED will flash when ZF6 is active on some but not all event mapped nodes.
- When smoke control is enabled from last AFP-3030 so the smoke control disable LED will turn off on the NCA-2 the NCA-2 will also enable its smoke control.
- Manual control of SCS-8A will override Smoke Control Disable and Auto Operation

**Smoke Control Reset Button** Smoke Control Reset button will be used no matter Latching Fire Mode is enabled or disabled.

- Under **Latching Fire Mode**, it will clear the Fire Mode Special Function Zone 23 and active Fire Mode Special Function Zone 41 when pressed. Also all general zones defined by Fan CBE will be turned off. When the smoke control button is pressed if fire alarms are still present meaning a system reset has not been performed the smoke control reset function will be blocked. When smoke control reset is blocked the message “Smoke Control Reset Inhibited - System Reset Required” will be displayed briefly.
- Under **Non-Latching Fire Mode**, it will only active local Fire Mode Special Function Zone 41. The activation message will not broadcast to the network.

**Smoke Control Disable Button** On the AFP-3030 the Smoke Control Disable button will activate special function ZF6 and disable/enable all fan start and fan stop points. On the NCA-2 the smoke control disable button will send a command to all event mapped AFP-3030s to perform a smoke control disable and the NCA-2 will disable all fan start and fan stops points for the local smoke control.

If a smoke control disable is performed the user will only turn on/off smoke control device through manual switch on/off. If the panel still in smoke control disable, when manual switch to auto, the smoke control device back to disabled.

- When a smoke control disable is performed logic zone 901 will be disabled and show the text “SMOKE CNTRL DISABLED” as the zone label for the disabled logic zone event. When a read status is done for logic zone 901 it will show the same zone label. Enable/Disable will be blocked for logic zone 901.
- The disabled smoke control modules will not create displayed disabled events.
- When smoke control is disabled on the AFP-3030 and power is cycled on the AFP-3030 it will re-disable smoke control on startup.
- When smoke control is disabled on the NCA-2 and power is cycled on the NCA-2 it will re-disable smoke control on startup.
- When smoke control is disabled on the NCA-2 and power is cycled on the AFP-3030 the AFP-3030 will re-disable smoke control on startup.

**Fire Mode Logic Zone 800** By default, Logic Zone 800 will pre-fill with the logic equation AND(ZF24, NOT(ZF6)). This logic zone will activate on any alarm from any panel but will deactivate for a smoke control disable. This logic zone will be used to control any fire mode relays. The logic zone can be modified to accommodate site-specific desired operation. This logic zone only applies to the AFP-3030 and not the NCA-2.

**Smoke Control Active** By default, Logic Zone 820 will pre-fill with the logic equation OR(ZF24). This logic zone will be used to control the smoke control active LED on the AFP-3030. The logic zone can be modified to accommodate site-specific desired operation. This logic zone only applies to the AFP-3030 and not the NCA-2.

**Non-Resettable Zones** General Zones on AFP-3030 can be selected so that once active they will remain active after a system reset has been performed and all alarms have cleared, until a Smoke Control Reset has been performed. Correct operation requires that Latching Fire Mode be selected. Where AFP-3030/NCA-2AU has software version 27 or less, non-resettable zones should only be used on Fan/Damper CBE zones assigned to a switch group on SMOKE annunciator.



**NOTE:** Non-resettable Zones should not be used in CBE column 1 of VeriFire Tools.

**ZLstartup** Default Logic Zone programmed to activate after a delay when the panel has rebooted allowing ZLduct logic to activate ensuring fans utilising duct probes do not momentarily stop upon Panel Reboot. (ZL299)

**ZLduct** Logic Zone that activates when Duct Detector Zone/ Logic Zone has been inactive for duration of Duct Probe delay. ZLduct required where duct detector has been utilised for a fan.

**ZLstart** Logic Zone mapped to Zone Map CBE 8 of Fan Start Point, activates when Fan Start Point should activate in Automatic mode. ZLstart required when Action on CBE is Start AND ZLduct is used.

**ZLstop** Logic Zone mapped to Zone Map CBE 8 of Fan Stop Point, activates when Fan Stop Point should activate in Automatic mode. ZLstop required when ZLduct is used.

## H.5 Automatic Programming

All SCS points in unused switch groups up to point 64 will be programmed to loop 1 module address 159. On the NCA-2 it will be Node XXX Loop 1 Module 159. Node XXX will be the node number used when programming the first switch group. So loop 1 module 159 will be reserved for smoke control and should not be used. When programming a switch group if these defaults have not been set it will then be set. SCS points 65-96 will be programmed to NONE.

**Fan/Damper Start Point and Fan/Damper Stop Point** will be programmed with the following settings:

- Module Type: Control
- Type Code Label: Relay
- FlashScan Type: Relay
- Zone Map: ZLStart or ZLStop or FanCBEZone
- WalkTest: No
- Switch Inhibit: No
- Silenceable: No
- Local Mode: Off

**Fan/Damper CBE Zone** will be programmed with the following settings:

- Non Resettable Control: Yes or No
- Silenceable: No
- Precedence Participation: No
- If **Latching Fire Mode** is enabled then Fan/Damper CBE Zone will be programmed as non-resettable (Yes). If **Latching Fire Mode** is not enabled then Fan/Damper CBE Zone will be programmed as resettable (No).
- **Fan/Damper CBE Zone** must be programmed as non-silenceable and have precedence participation set to No.

Duct Detector Zone will be programmed with the following settings:

- Non Resettable Control: No

- Silenceable: No
- Precedence Participation: No

**Duct Detector Zone** represents the general zone mapped to one or more duct detectors if using duct detectors.

- If a Duct Detector Zone is defined then a logic zone will be defined which will track when the duct detector activates, when it clears and 60 seconds (Default) (or as per Global Duct probe Timer settings in General settings) after the clear. This logic zone will be referred to as ZLduct below.
- The duct detector delay will be programmed as per Global Duct probe Timer 60 seconds (default), which is the time it takes to wait after the duct detector has cleared before re-activating smoke control. This will not be a setting so if the user needs to change the delay from 60 seconds (default), they will need to edit Global Duct Probe Timer between 0 and 120 seconds settings in General Settings 2).
- When the smoke control wizard is run on the NCA-2 it will create the logic zones on the appropriate AFP-3030.
- Each switch group is only allowed to reference the same AFP-3030. So all module and zone addresses entered must refer to the same node number.

**"Startup" Reserved Logic Equation:**

- **ZL299 = DEL(00:01:10,\*\*:\*\*:\*\*,OR(ZL299,NOT(ZL299)))**

## H.6 Programming Configurations

There are 16 possible smoke control system configurations. Refer to the following for possible configurations and the programming needed for each.

### H.6.1 Configuration 1

#### Configuration 1: Overview

**Smoke Control:** Non-Latching

**Fan Control and Status:** Two fan control modules. CBE starts the fan, and a module monitors status of the fan.

**Fan Automation:** When fan is in automation, the fan is off. When activated by the CBE, the fan turns on.

Activating the fan start module will turn on the fan. Activating the fan stop module will turn off the fan. The fan status module will activate when the fan is on and deactivate when the fan is off.

A system reset will turn the fan off.

**Duct Detector:** Not used

#### Configuration 1: Settings

- Latching Fire Mode: No
- Use Single Start/Stop: No
- Action on CBE: Start
- Fan Start Point: L01M001
- Fan Stop Point: L01M002
- Fan Status Point: L01M003
- Fan Fault Point: L01M004
- Duct Detector Zone: None
- Fan CBE Zone: Z001 (Non Resettable Control: No. Silenceable: No. Precedence Participation: No.)
- SCS: FSCS Switch Group Type 8 (CONon, CONoff, VERon)
- SCS Dip Switch Settings: 1 = Off. 2,3,4 = On. 5 = Off. 6 = On.

#### Configuration 1: Programming

- L1Dxxx: Z001 (Smoke Detector) [FAN CBE ZONE]
- ZLduct, ZLstart, ZLstop: Not used

ACS Point	Mode	Source	Point Type	CBE Zone	Zone Description
1	Control	L01M001	Fan Start	Z001	Fan CBE Zone
2	Control	L01M002	Fan Stop		
3	Monitor	L01M003	Fan Status		
4	Monitor	L01M004	Fault Status		

For damper without status point

ACS Point	Mode	Source	Point Type	CBE Zone	Zone Description
1	Control	L01M001	Damper Open	Z001	Damper CBE Zone
2	Control	L01M002	Damper Close		
3	Monitor	ZL300	Damper Status		OR(Damper Open Point) OR(L01M001)
4	Monitor	L01M004	Fault Status		

### H.6.2 Configuration 2

#### Configuration 2: Overview

**Smoke Control:** Latching

**Fan Control and Status:** Two fan control modules. CBE starts the fan, and a module monitors status of the fan.

**Fan Automation:** When fan is in automation, the fan is off. When activated by the CBE, the fan turns on.

Activating the fan start module will turn on the fan. Activating the fan stop module will turn off the fan. The fan status module will activate when the fan is on and deactivate when the fan is off.

When a system reset is performed the fan will remain on until the smoke control reset button is pressed.

**Duct Detector:** Not used

## Configuration 2: Settings

- Latching Fire Mode: Yes
- Use Single Start/Stop: No
- Action on CBE: Start
- Fan Start Point: L01M001
- Fan Stop Point: L01M002
- Fan Status Point: L01M003
- Fault Status Point: L01M004
- Duct Detector Zone: None
- Fan CBE Zone: Z001 (Non Resettable Control = Yes. Silenceable: No. Precedence Participation: No.)
- SCS: FSCS Switch Group Type 8 (CONon, CONoff, VERon)
- SCS Dip Switch Settings: 1 = Off. 2,3,4 = On. 5 = Off. 6 = On.

## Configuration 2: Programming

- L1Dxxx: Z001 (Smoke Detector) [FAN CBE ZONE]
- ZLduct, ZLstart, ZLstop: Not used

ACS Point	Mode	Source	Point Type	CBE Zone	Zone Description
1	Control	L01M001	Fan Start	Z001	Fan CBE Zone
2	Control	L01M002	Fan Stop		
3	Monitor	L01M003	Fan Status		
4	Monitor	L01M004	Fault Status		

For damper without status point

ACS Point	Mode	Source	Point Type	CBE Zone	Zone Description
1	Control	L01M001	Damper Open	Z001	Damper CBE Zone
2	Control	L01M002	Damper Close		
3	Monitor	ZL300	Damper Status		OR(Damper Open Point) OR(L01M001)
4	Monitor	L01M004	Fault Status		

## H.6.3 Configuration 3

### Configuration 3: Overview

**Smoke Control:** Non-Latching

**Fan Control and Status:** Two fan control modules. CBE starts the fan, and a module monitors status of the fan.

**Fan Automation:** When fan is in automation the fan is off. When CBE is activated the fan turns on. When the duct detector activates the fan turns off. When the duct detector de-activates after 60 seconds the fan turns back on if the Fan CBE zone is still active. Activating the Fan Start module turns the fan on and activating the Fan Stop module turns the fan off. The Fan Status module will activate when the fan is on and deactivate when the fan is off. A system reset will turn off the fan.

**Duct Detector:** Used

### Configuration 3: Settings

- Latching Fire Mode: No
- Use Single Start/Stop: No
- Action on CBE: Start
- Fan Start Point: L01M001
- Fan Stop Point: L01M002
- Fan Status Point: L01M003
- Fault Status Point: L01M004
- Duct Detector Zone: Z002 (Non Resettable Control: No. Silenceable: No. Precedence Participation: No.)
- Fan CBE Zone: Z001 (Non Resettable Control: No. Silenceable: No. Precedence Participation: No.)
- SCS: FSCS Switch Group Type 8 (CONon, CONoff, VERon)
- SCS Dip Switch Settings: 1 = Off. 2,3,4 = On. 5 = Off. 6 = On.

### Configuration 3: Programming

- L1Dxxx: Z001 (Smoke Detector) [FAN CBE ZONE]
- L1Dyyy: Z002 (Duct Detector) [DUCT DETECTOR ZONE]

- ZLduct: ZL300 = DEL(00:00:60,\*\*:\*\*:,NOT(Z002))
- ZLstart: ZL301
- ZLstop: ZL302

ACS Point	Mode	Source	Point Type	CBE Zone	Zone Description
1	Control	L01M001	Fan Start	ZL301	AND(Fan CBE Zone,ZLduct) AND(Z001,ZL300)
2	Control	L01M002	Fan Stop	ZL302	AND(Startup, NOT(ZLduct)) AND(ZL299,NOT(ZL300))
3	Monitor	L01M003	Fan Status		
4	Monitor	L01M004	Fault Status		

## H.6.4 Configuration 4

### Configuration 4 Overview

**Smoke Control:** Latching

**Fan Control and Status:** Two fan control modules using CBE to start and stop the fan, module to monitor status of the fan

**Fan Automation:** When fan is in automation, the fan is off. When activated by the CBE, the fan turns on. When the duct detector activates the fan turns off. When the duct detector de-activates after 60 seconds the fan turns back on if the Fan CBE zone is still active. Activating the Fan Start module turns the fan on and activating the Fan Stop module turns the fan off. The Fan Status module will activate when the fan is on and deactivate when the fan is off. When a system reset is performed the fan will remain on until the smoke control reset button is pressed.

**Duct Detector:** Used

### Configuration 4: Settings

- Latching Fire Mode: Yes
- Use Single Start/Stop: No
- Action on CBE: Start
- Fan Start Point: L01M001
- Fan Stop Point: L01M002
- Fan Status Point: L01M003
- Fault Status Point: L01M004
- Duct Detector Zone: Z002 (Non Resettable Control: No. Silenceable: No. Precedence Participation: No.)
- Fan CBE Zone: Z001 (Non Resettable Control: Yes. Silenceable: No. Precedence Participation: No.)
- SCS: FSCS Switch Group Type 8 (CONon, CONoff, VERon)
- SCS Dip Switch Settings: 1 = Off. 2,3,4 = On. 5 = Off. 6 = On.

### Configuration 4: Programming

- L1Dxxx: Z001 (Smoke Detector) [FAN CBE ZONE]
- L1Dyyy: Z002 (Duct Detector) [DUCT DETECTOR ZONE]
- ZLduct: ZL300 = DEL(00:00:60,\*\*:\*\*:,NOT(Z002))
- ZLstart: ZL301
- ZLstop: ZL302

ACS Point	Mode	Source	Point Type	CBE Zone	Zone Description
1	Control	L01M001	Fan Start	ZL301	AND(Fan CBE Zone,ZLduct) AND(Z001,ZL300)
2	Control	L01M002	Fan Stop	ZL302	AND(Startup, NOT(ZLduct)) AND(ZL299,NOT(ZLduct))
3	Monitor	L01M003	Fan Status		
4	Monitor	L01M004	Fault Status		

## H.7 Configuration 5

### Configuration 5: Overview

**Smoke Control:** Non-Latching

**Fan Control and Status:** Two fan control modules. CBE starts the fan, and a module monitors status of the fan.

**Fan Automation:** When fan is in automation, the fan is on. When activated by the CBE, the fan turns off.

Activating the fan start module will turn on the fan. Activating the fan stop module will turn off the fan. The fan status module will activate when the fan is on and deactivate when the fan is off.

A system reset will turn the fan on.

**Duct Detector:** Not used

### Configuration 5: Settings

- Latching Fire Mode: No
- Use Single Start/Stop: No

- Action on CBE: Stop
- Fan Start Point: L01M001
- Fan Stop Point: L01M002
- Fan Status Point: L01M003
- Fault Status Point: L01M004
- Duct Detector Zone: None
- Fan CBE Zone: Z001 (Non Resettable Control: No. Silenceable: No. Precedence Participation: No)
- SCS: FSCS Switch Group Type 8 (CONon, CONoff, VERon)
- SCS Dip Switch Settings: 1 = Off. 2,3,4 = On. 5 = Off. 6 = On.

### Configuration 5: Programming

- L1Dxxx: Z001 (Smoke Detector) [FAN CBE ZONE]
- ZLduct, ZLstart, ZLstop: Not used

ACS Point	Mode	Source	Point Type	CBE Zone	Zone Description
1	Control	L01M001	Fan Start		
2	Control	L01M002	Fan Stop	Z001	FAN CBE Zone
3	Monitor	L01M003	Fan Status		
4	Monitor	L01M004	Fault Status		

For damper without status point

ACS Point	Mode	Source	Point Type	CBE Zone	Zone Description
1	Control	L01M001	Damper Open		
2	Control	L01M002	Damper Close	Z001	FAN CBE Zone
3	Monitor	ZL300	Damper Status		OR (Damper Open Point) OR(L01M001)
4	Monitor	L01M004	Fault Status		

## H.8 Configuration 6

### Configuration 6: Overview

**Smoke Control:** Latching

**Fan Control and Status:** Two fan control modules. CBE starts the fan, and a module monitors status of the fan.

**Fan Automation:** When fan is in automation, the fan is on. CBE stops the fan. Activating the Fan Start module turns the fan on, and activating the Fan Stop module turns the fan off. The Fan Status module will activate when the fan is on and deactivate when the fan is off. When a system reset is performed the fan will remain off until the smoke control reset button is pressed.

**Duct Detector:** Not used

### Configuration 6: Settings

- Latching Fire Mode: Yes
- Use Single Start/Stop: No
- Action on CBE: Stop
- Fan Start Point: L01M001
- Fan Stop Point: L01M002
- Fan Status Point: L01M003
- Fault Status Point: L01M004
- Duct Detector Zone: None
- Fan CBE Zone: Z001 (Non Resettable Control: Yes. Silenceable: No. Precedence Participation: No.)
- SCS: FSCS Switch Group Type 8 (CONon, CONoff, VERon)
- SCS Dip Switch Settings: 1 = Off. 2,3,4 = On. 5 = Off. 6 = On.

### Configuration 6: Programming

- L1Dxxx: Z001 (Smoke Detector) [FAN CBE ZONE]
- ZLduct, ZLstart, ZLstop: Not used

ACS Point	Mode	Source	Point Type	CBE Zone	Zone Description
1	Control	L01M001	Fan Start		
2	Control	L01M002	Fan Stop	Z001	Fan CBE Zone
3	Monitor	L01M003	Fan Status		
4	Monitor	L01M004	Fault Status		



For damper without status point

ACS Point	Mode	Source	Point Type	CBE Zone	Zone Description
1	Control	L01M001	Damper Open		
2	Control	L01M002	Damper Close	Z001	Fan CBE Zone
3	Monitor	ZL300	Damper Status		OR(Damper Open Point) OR(L01M001)
4	Monitor	L01M004	Fault Status		

## H.9 Configuration 7

### Configuration 7: Overview

**Smoke Control:** Non-Latching

**Fan Control and Status:** Two fan control modules. CBE starts the fan, and a module monitors status of the fan.

**Fan Automation:** When fan is in automation, the Fan Start and Stop module are deactivated. When CBE is activated the fan turns off. When the duct detector activates the fan will turn off if on during automation or remain off if the Fan CBE Zone is on. When the duct detector deactivates after 60 seconds the fan will turn back on only if on in automation and the Fan Stop module should be deactivated. Activating the Fan Start module turns the fan on and activating the Fan Stop module turns the fan off. The Fan Status module will activate when the fan is on and deactivate when the fan is off. A system reset will turn back on the fan.

**Duct Detector:** Used

### Configuration 7: Settings

- Latching Fire Mode: No
- Use Single Start/Stop: No
- Action on CBE: Stop
- Fan Start Point: L01M001
- Fan Stop Point: L01M002
- Fan Status Point: L01M003
- Fault Status Point: L01M004
- Duct Detector Zone Z002: (Non Resettable Control: No. Silenceable: No. Precedence Participation: No.)
- Fan CBE Zone: Z001 (Non Resettable Control: No. Silenceable: No. Precedence Participation: No.)
- SCS: FSCS Switch Group Type 8 (CONon, CONoff, VERon)
- SCS Dip Switch Settings: 1 = Off. 2,3,4 = On. 5 = Off. 6 = On.

### Configuration 7: Programming

- L1Dxxx: Z001 (Smoke Detector) [FAN CBE ZONE]
- L1Dyyy: Z002 (Duct Detector) [DUCT DETECTOR ZONE]
- ZLduct: ZL300 = DEL(00:00:60,\*\*:\*\*:,NOT(Z002))
- ZLstart: Not used
- ZLstop: ZL302

ACS Point	Mode	Source	Point Type	CBE Zone	Zone Description
1	Control	L01M001	Fan Start		
2	Control	L01M002	Fan Stop	ZL302	OR(FAN CBE Zone, AND(Startup, NOT(ZLduct))) OR(Z001, AND(ZL299, NOT(ZL300)))
3	Monitor	L01M003	Fan Status		
4	Monitor	L01M004	Fault Status		

## H.10 Configuration 8

### Configuration 8: Overview

**Smoke Control:** Latching

**Fan Control and Status:** Two fan control modules. CBE stops the fan, and a module monitors status of the fan.

**Fan Automation:** When fan is in automation, the Fan Start and Stop module are deactivated. When CBE is activated the fan turns off. When the duct detector activates the fan will turn off if on during automation or remain off if the Fan CBE Zone is on. When the duct detector deactivates after 60 seconds the fan will turn back on only if on in automation. Activating the Fan Start module turns the fan on and activating the Fan Stop module turns the fan off. The Fan Status module will activate when the fan is on and deactivate when the fan is off. When a system reset is performed the fan will remain off until the smoke control reset button is pressed.

**Duct Detector:** Used

### Configuration 8: Settings

- Latching Fire Mode: Yes
- Use Single Start/Stop: No
- Action on CBE: Stop
- Fan Start Point: L10M001
- Fan Stop Point: L10M002

- Fan Status Point: L10M003
- Fault Status Point: L10M004
- Duct Detector Zone Z002 (Non Resettable Control: No. Silenceable: No. Precedence Participation: No.)
- Fan CBE Zone Z001 (Non Resettable Control: Yes, Silenceable: No. Precedence Participation: No.)
- SCS: FSCS Switch Group Type 8 (CONon, CONoff, VERon)
- SCS Dip Switch Settings: 1 = Off. 2,3,4 = On. 5 = Off. 6 = On.

### Configuration 8: Programming

- L1Dxxx: Z001 (Smoke Detector) [FAN CBE ZONE]
- L1Dyyy: Z002 (Duct Detector) [DUCT DETECTOR ZONE]
- ZLduct: ZL300 = DEL(00:00:60,\*\*:\*\*:,NOT(Z002))
- ZLstart: Not used
- ZLstop: ZL302

ACS Point	Mode	Source	Point Type	CBE Zone	Zone Description
1	Control	L01M001	Fan Start		
2	Control	L01M002	Fan Stop	ZL302	OR(FAN CBE Zone, AND(Startup, NOT(ZLduct))) OR(Z001,AND(ZL299, NOT(ZL300)))
3	Monitor	L01M003	Fan Status		
4	Monitor	L01M004	Fault Status		

## H.11 Configuration 9

### Configuration 9: Overview

**Smoke Control:** Non-Latching

**Fan Control and Status:** One fan control module. CBE starts the fan, and a module monitors status of the fan.

**Fan Automation:** When fan is in automation the fan is off. When CBE is activated the fan turns on. Activating the Fan Start module turns the fan on, and deactivating it turns the fan off. The Fan Status module will activate when the fan is on and deactivate when the fan is off. A system reset will turn off the fan.

**Duct Detector:** Not used

### Configuration 9: Settings

- Latching Fire Mode: No
- Use Single Start/Stop: Yes
- Action on CBE: Start
- Fan Start Point: L01M001
- Fan Stop Point: None
- Fan Status Point: L01M003
- Fault Status Point: L01M004
- Duct Detector Zone: None
- Fan CBE Zone: Z001 (Non Resettable Control: No. Silenceable: No. Precedence Participation: No.)
- SCS: FSCS Switch Group Type 5 (CONon, VERon)
- SCS Dip Switch Settings: 1 = Off. 2 = On. 3 = Off. 4 = On. 5 = Off. 6 = On.

### Configuration 9: Programming

- L1Dxxx: Z001 (Smoke Detector) [FAN CBE ZONE]
- ZLduct, ZLstart, ZLstop: Not used

ACS Point	Mode	Source	Point Type	CBE Zone	Zone Description
1	Control	L01M001	Fan Start	Z001	Z001=Fan CBE Zone
2	None				
3	Monitor	L01M003	Fan Status		
4	Monitor	L01M004	Fault Status		

For damper without status point

ACS Point	Mode	Source	Point Type	CBE Zone	Zone Description
1	Control	L01M001	Damper Open	Z001	Z001=Fan CBE Zone
2	None				
3	Monitor	ZL300	Damper Status		OR(Damper Open Point) OR(L01M001)
4	Monitor	L01M004	Fault Status		

## H.12 Configuration 10

### Configuration 10: Overview

**Smoke Control:** Latching

**Fan Control and Status:** One fan control module. CBE starts the fan, and a module monitors status of the fan.

**Fan Automation:** When fan is in automation the fan is off. When CBE is activated the fan turns on. Activating the Fan Start module turns the fan on, and deactivating it turns the fan off. The Fan Status module will activate when the fan is on and deactivate when the fan is off. When a system reset is performed the fan will remain on until the smoke control reset button is pressed.

**Duct Detector:** Not used

### Configuration 10: Settings

- Latching Fire Mode: Yes
- Use Single Start/Stop: Yes
- Action on CBE: Start
- Fan Start Point: L01M001
- Fan Stop Point: None
- Fan Status Point: L01M003
- Fault Status Point: L01M004
- Duct Detector Zone: None
- Fan CBE Zone: Z001 (Non Resettable Control: Yes, Silenceable: No. Precedence Participation: No.)
- SCS: FSCS Switch Group Type 5 (CONon, VERon)
- SCS Dip Switch Settings: 1 = Off. 2 = On. 3 = Off. 4 = On. 5 = Off. 6 = On.

### Configuration 10: Programming

- L1Dxxx: Z001 (Smoke Detector) [FAN CBE ZONE]
- ZLduct, ZLstart, ZLstop: Not used

ACS Point	Mode	Source	Point Type	CBE Zone	Zone Description
1	Control	L01M001	Fan Start	Z001	Z001=Fan CBE Zone
2	None				
3	Monitor	L01M003	Fan Status		
4	Monitor	L01M004	Fault Status		

For damper without status point

ACS Point	Mode	Source	Point Type	CBE Zone	Zone Description
1	Control	L01M001	Damper Open	Z001	Z001=Fan CBE Zone
2	None				
3	Monitor	ZL300	Damper Status		OR(Damper Open Point) OR(L01M001)
4	Monitor	L01M004	Fault Status		

## H.13 Configuration 11

### Configuration 11: Overview

**Smoke Control:** Non-Latching

**Fan Control and Status:** One fan control module. CBE starts the fan, and a module monitors status of the fan.

**Fan Automation:** When fan is in automation the fan is off. When CBE is activated the fan turns on. When the duct detector activates the fan turns off. When the duct detector de-activates after 60 seconds the fan turns back on if the Fan CBE zone is still active. Activating the Fan Start module turns the fan on, and deactivating it turns the fan off. The Fan Status module will activate when the fan is on and deactivate when the fan is off. A system reset will turn off the fan.

**Duct Detector:** Used

### Configuration 11: Settings

- Latching Fire Mode: No
- Use Single Start/Stop: Yes
- Action on CBE: Start
- Fan Start Point: L01M001
- Fan Stop Point: None
- Fan Status Point: L01M003
- Fault Status Point: L01M004
- Duct Detector Zone = Z002: (Non Resettable Control: No. Silenceable: No. Precedence Participation: No.)
- Fan CBE Zone = Z001 (Non Resettable Control: No. Silenceable: No. Precedence Participation: No.)
- SCS: FSCS Switch Group Type 5 (CONon, VERon)
- SCS Dip Switch Settings: 1 = Off. 2 = On. 3 = Off. 4 = On. 5 = Off. 6 = On.

**Configuration 11: Programming**

- L1Dxxx: Z001 (Smoke Detector) [FAN CBE ZONE]
- L1Dyyy: Z002 (Duct Detector) [DUCT DETECTOR ZONE]
- ZLduct: ZL300 = DEL(00:00:60, \*\*: \*\*: \*\*, NOT(Z002))
- ZLstart: ZL301
- ZLstop: Not used

ACS Point	Mode	Source	Point Type	CBE Zone	Zone Description
1	Control	L01M001	Fan Start	ZL301	AND(Fan CBE Zone,ZLduct) AND(Z001,ZL300)
2	None				
3	Monitor	L01M003	Fan Status		
4	Monitor	L01M004	Fault Status		

**H.14 Configuration 12****Configuration 12: Overview**

**Smoke Control:** Latching

**Fan Control and Status:** One fan control module. CBE starts the fan, and a module monitors status of the fan.

**Fan Automation:** When fan is in automation the fan is off, and the start module **should be** deactivated. When CBE is activated the fan turns on. When the duct detector activates the fan turns off. When the duct detector de-activates after 60 seconds the fan turns back on if the Fan CBE zone is still active. Activating the Fan Start module turns the fan on, and deactivating it turns the fan off. The Fan Status module will activate when the fan is on and deactivate when the fan is off. When a system reset is performed the fan will remain on until the smoke control reset button is pressed.

**Duct Detector:** Used

**Configuration 12: Settings**

- Latching Fire Mode: Yes
- Use Single Start/Stop: Yes
- Action on CBE: Start
- Fan Start Point: L01M001
- Fan Stop Point: None
- Fan Status Point: L01M003
- Fault Status Point: L01M004
- Duct Detector Zone Z002 (Non Resettable Control: No. Silenceable: No. Precedence Participation: No.)
- Fan CBE Zone = Z001 (Non Resettable Control: Yes, Silenceable: No. Precedence Participation: No.)
- SCS: FSCS Switch Group Type 5 (CONon, VERon)
- SCS Dip Switch Settings: 1 = Off. 2 = On. 3 = Off. 4 = On. 5 = Off. 6 = On.

**Configuration 12: Programming**

- L1Dxxx: Z001 (Smoke Detector) [FAN CBE ZONE]
- L1Dyyy: Z002 (Duct Detector) [DUCT DETECTOR ZONE]
- ZLduct: ZL300 = DEL(00:00:60, \*\*: \*\*: \*\*, NOT(Z002))
- ZLstart: ZL301
- ZLstop: Not used

ACS Point	Mode	Source	Point Type	CBE Zone	Zone Description
1	Control	L01M001	Fan Start	ZL301	AND(Fan CBE Zone,ZLduct) AND(Z001,ZL300)
2	None				
3	Monitor	L01M003	Fan Status		
4	Monitor	L01M004	Fault Status		

**H.15 Configuration 13****Configuration 13: Overview**

**Smoke Control:** Non-Latching

**Fan Control and Status:** One fan control module. CBE stops the fan, and a module monitors status of the fan.

**Fan Automation:** When fan is in automation the fan is on. When CBE is activated the fan turns off. Activating the Fan Stop module turns the fan off, and deactivating it turns the fan on. The Fan Status module will activate when the fan is on and deactivate when the fan is off. A system reset will turn on the fan.

**Duct Detector:** Not used

**Configuration 13: Settings**

- Latching Fire Mode: No

- Use Single Start/Stop: Yes
- Action on CBE: Stop
- Fan Start Point: None
- Fan Stop Point: L01M002
- Fan Status Point: L01M003
- Fault Status Point: L01M004
- Duct Detector Zone: None
- Fan CBE Zone: Z001 (Non Resettable Control: No. Silenceable: No. Precedence Participation: No.)
- SCS: FSCS Switch Group Type 2 (CONoff, VERon)
- SCS Dip Switch Settings: 1,2 = Off. 3,4 = On. 5 = Off. 6 = On.

### Configuration 13: Programming

- L1Dxxx: Z001 (Smoke Detector) [FAN CBE ZONE]
- ZLduct, ZLstart, ZLstop: Not used

ACS Point	Mode	Source	Point Type	CBE Zone	Zone Description
1	None				
2	Control	L01M002	Fan Stop	Z001	Z001 = Fan CBE Zone
3	Monitor	L01M003	Fan Status		
4	Monitor	L01M004	Fault Status		

For damper without status point

ACS Point	Mode	Source	Point Type	CBE Zone	Zone Description
1	None				
2	Control	L01M002	Damper Close	Z001	Z001 = Fan CBE Zone
3	Monitor	ZL300	Damper Status		NOT(Damper Close Point) NOT(L01M002)
4	Monitor	L01M004	Fault Status		

## H.16 Configuration 14

### Configuration 14: Overview

**Smoke Control:** Latching

**Fan Control and Status:** One fan control module. CBE stops the fan, and a module monitors status of the fan.

**Fan Automation:** When fan is in automation the fan is on. When CBE is activated the fan turns off. Activating the Fan Stop module turns the fan off. The Fan Status module will activate when the fan is on and deactivate when the fan is off. When a system reset is performed the fan will remain off until the smoke control reset button is pressed.

**Duct Detector:** Not used

### Configuration 14: Settings

- Latching Fire Mode: Yes
- Use Single Start/Stop: Yes
- Action on CBE: Stop
- Fan Start Point: None
- Fan Stop Point: L01M002
- Fan Status Point: L01M003
- Fault Status Point: L01M004
- Duct Detector Zone: None
- Fan CBE Zone: Z001 (Non Resettable Control: Yes. Silenceable: No. Precedence Participation: No.)
- SCS: FSCS Switch Group Type 2 (CONoff, VERon)
- SCS Dip Switch Settings: 1,2 = Off. 3,4 = On. 5 = Off. 6 = On.

### Configuration 14: Programming

- L1Dxxx: Z001 (Smoke Detector) [FAN CBE ZONE]
- ZLduct, ZLstart, ZLstop: Not used

ACS Point	Mode	Source	Point Type	CBE Zone	Zone Description
1	None				
2	Control	L01M002	Fan Stop	Z001	Z001 = Fan CBE Zone
3	Monitor	L01M003	Fan Status		
4	Monitor	L01M004	Fault Status		

For damper without status point

ACS Point	Mode	Source	Point Type	CBE Zone	Zone Description
1	None				
2	Control	L01M002	Damper Close	Z001	Z001 = Fan CBE Zone
3	Monitor	ZL300	Damper Status		NOT(Damper Close Point) NOT(L01M002)
4	Monitor	L01M004	Fault Status		

## H.17 Configuration 15

### Configuration 15: Overview

**Smoke Control:** Non-Latching

**Fan Control and Status:** One fan control module. CBE stops the fan, and a module monitors status of the fan.

**Fan Automation:** When fan is in automation the fan is on and The Stop module should be deactivated. When CBE is activated the fan turns off. When the duct detector activates the fan will turn off if on during automation or remain off if the Fan CBE Zone is on. When the duct detector deactivates after 60 seconds the fan will turn back on if on in automation or when the Fan CBE Zone deactivates. Activating the Fan Stop module turns the fan off, and deactivating it turns the fan on. The Fan Status module will activate when the fan is on and deactivate when the fan is off. A system reset will turn back on the fan.

**Duct Detector:** Used

### Configuration 15: Settings

- Latching Fire Mode: No
- Use Single Start/Stop: Yes
- Action on CBE: Stop
- Fan Start Point: None
- Fan Stop Point: L01M002
- Fan Status Point: L01M003
- Fault Status Point: L01M004
- Duct Detector Zone: Z002 (Non Resettable Control: No. Silenceable: No. Precedence Participation: No.)
- Fan CBE Zone: Z001 (Non Resettable Control: No. Silenceable: No. Precedence Participation: No.)
- SCS: FSCS Switch Group Type 2 (CONoff, VERon)
- SCS Dip Switch Settings: 1,2 = Off. 3,4 = On. 5 = Off. 6 = On.

### Configuration 15: Programming

- L1Dxxx: Z001 (Smoke Detector) [FAN CBE ZONE]
- L1Dyyy: Z002 (Duct Detector) [DUCT DETECTOR ZONE]
- ZLduct: ZL300 = DEL(00:00:60,\*,\*,\*,\*,NOT(Z002))
- ZLstart: Not used
- ZLstop: ZL302

ACS Point	Mode	Source	Point Type	CBE Zone	Zone Description
1	None				
2	Control	L01M002	Fan Stop	ZL302	OR(Fan CBE Zone, AND(ZL299, NOT(ZLduct))) OR(Z001,AND(ZL299, NOT(ZL300)))
3	Monitor	L01M003	Fan Status		
4	Monitor	L01M004	Fault Status		

## H.18 Configuration 16

### Configuration 16: Overview

**Smoke Control:** Latching

**Fan Control and Status:** One fan control module. CBE stops the fan, and a module monitors status of the fan.

**Fan Automation:** When fan is in automation the fan is on and The Stop module should be deactivated. When CBE is activated the fan turns off. When the duct detector activates the fan will turn off if on during automation or remain off if the Fan CBE Zone is on. When the duct detector deactivates after 60 seconds the fan will turn back on if on in automation or when the Fan CBE Zone deactivates. Activating the Fan Stop module turns the fan off, and deactivating it turns the fan on. The Fan Status module will activate when the fan is on and deactivate when the fan is off. A system reset will turn back on the fan.

**Duct Detector:** Used

### Configuration 16: Settings

- Latching Fire Mode: No
- Use Single Start/Stop: Yes
- Action on CBE: Stop
- Fan Start Point: None
- Fan Stop Point: L01M002

- Fan Status Point: L01M003
- Fault Status Point: L01M004
- Duct Detector Zone: Z002 (Non Resettable Control: No. Silenceable: No. Precedence Participation: No.)
- Fan CBE Zone: Z001 (Non Resettable Control: No. Silenceable: No. Precedence Participation: No.)
- SCS: FSCS Switch Group Type 2 (CONoff, VERon)
- SCS Dip Switch Settings: 1,2 = Off. 3,4 = On. 5 = Off. 6 = On.

### Configuration 16: Programming

- L1Dxxx: Z001 (Smoke Detector) [FAN CBE ZONE]
- L1Dyyy: Z002 (Duct Detector) [DUCT DETECTOR ZONE]
- ZLduct: ZL300 = DEL(00:00:60,\*\*:\*\*:,NOT(Z002))
- ZLstart: Not used
- ZLstop: ZL302

ACS Point	Mode	Source	Point Type	CBE Zone	Zone Description
1	None				
2	Control	L01M002	Fan Stop	ZL302	OR(Fan CBE Zone, AND(ZL299, NOT(ZLduct))) OR(Z001,AND(ZL299, NOT(ZL300)))
3	Monitor	L01M003	Fan Status		
4	Monitor	L01M004	Fault Status		

# Appendix I: AAM Programming

## I.1 AAM Operation Overview

AAM Operation on the AFP-3030 requires the following three types of addressable devices:

- a detector, set to AAF, ADF, or 2SF Operation
- a control module or sounder base, set to Type Code AAM SOUNDER
- a monitor module with a silence button, set to Type Code AAM SILENCE

All AAM devices must be connected to the same loop card for AAM Operation.

## I.2 Basic AAM Configuration

### I.2.1 AAM Detector

1. From the Point Program menu, select the detector point intended for AAM Operation using the NEXT and PREVIOUS POINT soft keys, then press the ACCEPT soft key to enter the Detector Point Programming menu for that point.
2. Press the ZONE MAP soft key to enter the Detector Zone Map sub-menu, and set zone map Position 1 or 2 (programmable through VeriFire Tools) to Zxxx, where 'Zxxx' = the desired AAM zone. Press the ACCEPT soft key to accept changes.
3. Return to the Detector Point Programming menu, and press the MORE soft key three times to access the AAM Operation setting screen. To enable AAM Operation, press the ALARM FACILITIES soft key to toggle this setting to AAF, ADF, or 2SF. Press the ACCEPT soft key to accept changes.
  - Setting this to AAF, ADF, or 2SF will set the zone in Position 1 (Zxxx) from Step 2 as the AAM zone.



**NOTE:** Do not use the AAM zone in as a brigade call zone.

4. Repeat Steps 1 through 3 for all detectors that are to be included in the AAM operation.
  - Note that any detectors in Zxxx that have ALARM FACILITIES set to NO will not be included in AAM Operation.

### I.2.2 AAM Sounder

1. From the Point Program menu, press the POINT SELECT soft key to set the point type to MODULE, then select the point address of the module intended for AAM Operation using the NEXT and PREVIOUS POINT soft keys. Press the ACCEPT soft key to enter the Module Point Programming menu for that point.
2. The MODULE TYPE should be set to CONTROL; use the MODULE TYPE soft key to toggle this setting.
3. Use the TYPE CODE LABEL soft key to designate the module as AAM SOUNDER.
4. Press the MORE soft key from the Module Point Programming menu to display the zones mapped to the module.
5. Press the ZONE MAP soft key to enter the Module Zone Map sub-menu, and set zone map Position 1 or 2 (programmable via VeriFire Tools) to Zxxx, where 'Zxxx' = the AAM zone set in Section I.2.1, "AAM Detector". Press the ACCEPT soft key to accept changes.

### I.2.3 AAM Silence

1. From the Point Program menu, press the POINT SELECT soft key to set the point type to MODULE, then select the point address of the module intended for AAM Operation using the NEXT and PREVIOUS POINT soft keys. Press the ACCEPT soft key to enter the Module Point Programming menu for that point.
2. The MODULE TYPE should be set to MONITOR; use the MODULE TYPE soft key to toggle this setting.
3. Use the TYPE CODE LABEL soft key to designate the module as AAM SILENCE.
4. Press the MORE soft key from the Module Point Programming menu to display the zones mapped to the module.
5. Press the ZONE MAP soft key to enter the Module Zone Map sub-menu, and set zone map Position 1 or 2 (programmable through VeriFire Tools) to Zxxx, where 'Zxxx' = the AAM zone set in Section I.2.1, "AAM Detector". Press the ACCEPT soft key to accept changes.



**NOTE:** To silence the associated AAM Sounder, AAM Silence must be activated within the acknowledgement period established by the AAM mode selected. Once silenced, the AAM Zone smoke activation must be cleared within the investigation period (3 minutes) or a fire alarm condition will be generated for that AAM Zone.

### I.2.4 Acknowledge Period (ADF or 2SF Mode)

1. From the Program/Alter Status menu, press the PANEL PROGRAM soft key, then press the MORE soft key to access the ACK PERIOD setting.
2. Press the ACK PERIOD soft key to set the timer value. The Hush Timer can be adjusted from 30 to 300 seconds in 30-second increments with each press of the soft key. Press the ACCEPT soft key to accept changes.



**NOTE:** The Ack Period is set to 30 seconds by default.



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