Axis^AX

Front Panel Programming Manual

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1 Introduction / Overview

This manual covers the front panel programming of the Axis^{AX} Intelligent Fire Alarm Control Panels.

1.1 Limitations of Fire Alarm Systems

An automatic fire alarm system can provide an early warning and notification of the development of a fire. It cannot, however, insure protection against loss of property or loss of life.

It is recommended that smoke and heat detectors as well as notification appliances, be located throughout the building in accordance with the requirements detailed in NFPA 72, any local / state codes and with the instructions supplied with the equipment.

The type(s) of detector(s) employed and their physical location must be chosen carefully to ensure that they detect the types of fires likely to occur in the protected area.

Even so, a number of factors may prevent the necessary levels of combustion products from reaching the sensing chambers and thus the system may not indicate an alarm condition.

Heat detectors protect property, not life.

Smoke detectors shall be installed in the same room(s) as the FACP, any equipment used for transmission of the alarm condition, and in locations where power supplies are mounted. Otherwise, a developing fire may damage the system and its ability to report the fire alarm condition. Refer to NFPA 72.

The system will not operate without power. Standby batteries shall be properly maintained and replaced regularly.

Regular maintenance will insure that the system is operating at its optimum performance. Arrange a maintenance agreement with the manufacturer's local representative to insure that the system is maintained by a professional fire alarm installer in accordance with National and any local / state codes. Maintain a written record of all inspections and maintenance performed.

1.2 General Installation Notes

WARNING: Disconnect all sources of power (AC and Battery) before installing components or servicing the system.

DO NOT install / remove circuit cards while the FACP is supplied with power (either AC or Battery).

ENVIRONMENT: INSTALL the equipment in a clean, dry environment.

The equipment meets the requirements for operation at 32°F - 120°F (0°C - 49°C) and relative humidity of 85% RH. However, standby battery life is drastically reduced at higher temperatures. The recommended room temperature for installation is 60°F - 86°F (15°C - 27°C).

WIRING: CHECK that the installation wire sizes are adequate to deliver the required load current and maintain compatibility with the specific device operating voltages.

USE an anti-static wrist strap whenever handling circuit cards.

STORE circuit cards in static suppressive packaging.

General guidance for installation and trouble free operation.

CAUTION: Acceptance / Re-acceptance Tests

Following installation, or after any system change (including changes to operating software or configuration settings), the system shall be tested in accordance with the requirements in NFPA 72 and any local / state codes.

All affected functions or devices shall be 100% tested. In addition, at least 10% of initiating devices not directly affected by the change shall also be tested.

Follow the recommendations of NFPA 72.

A secure dedicated ground connection is required. Although no system is immune to the effects of lightning strikes, a secure ground connection will reduce susceptibility. The use of overhead or outside aerial wiring is not recommended

2   Programming

UL 864   Where you see this symbol take note of any special UL 864 9th Edition precautions.

PC ONLY   Where you see this symbol, there are additional enhanced features that can only be configured using the PC-NeT, Field Configuration Program.

NOTICE TO USERS, INSTALLERS, AUTHORITIES HAVING JURISDICTION AND OTHER INVOLVED PARTIES:

This product incorporates field programmable software. In order for the product to comply with the requirements in the Standard for Control Units and Accessories for Fire Alarm Systems (UL 864, 9th Edition), certain programming features or options must be limited to specific values or not used at all as indicated below.

Program feature or option	Permitted in UL 864? Y/N	Possible Settings	Settings permitted in UL 864	Section Ref.
Positive Alarm Sequence	Y	Stage 1: 1-300 seconds Stage 2: 1-300 seconds	Stage 1: 15 seconds Stage 2: 180 seconds	See Installation and Operation Manuals
Alarm Verification	Y	Fixed	N/A	
Multiple Detector Operation	Y	Per Zone	Per Zone	2.4.12

2.1   Introduction

These instructions explain the configuration and front panel programming of the Axis^{AX} Intelligent Fire Alarm Control Panel.

2.1.1   Access Levels

Access to the panel's control buttons and switches is restricted. A key must be used to unlock a secured cabinet door to gain access to the controls or in the case of the AX-CTL-1 to enable use of the controls. The panel operation is further protected from inadvertent and erroneous misuse by means of four access levels.

These levels are as follows:

Level 1 Untrained User   – Assigned by Level 3 User, allows restricted access to system controls.
Level 2 Authorized User   – Assigned by Level 3 User, allows full access to system controls.
Level 3 Programming   – High level, factory authorized technician/engineer, permitting programming of all system features and functions.
Level 4 Firmware Upgrade – Highest level, factory authorized technician/engineer. Permits flash programming of system software. *Special Tools Required.*

A level 3 PROGRAM password is required to enter all of the PROGRAMMING menus. For further details of Passwords, refer to Section 0.

!   **Level 3 PROGRAM Password:**
If this password number is lost or forgotten, it is not possible to enter program/commission functions. Refer to 3.1 for further information.

2.2 Memory Lock

The configuration memory, which contains all programmed entries, may be protected against inadvertent change by means of a memory lock. The memory lock is J1 located to the far left of the main "Base Card" PCB.

Before making any programming/configuration data changes, ensure the jumper is in the OPEN (unlocked) position.

After all changes have been made, move the jumper back to the CLOSED (locked) position to protect the memory against inadvertent change.

Refer to the diagram opposite and below for position of jumper settings.
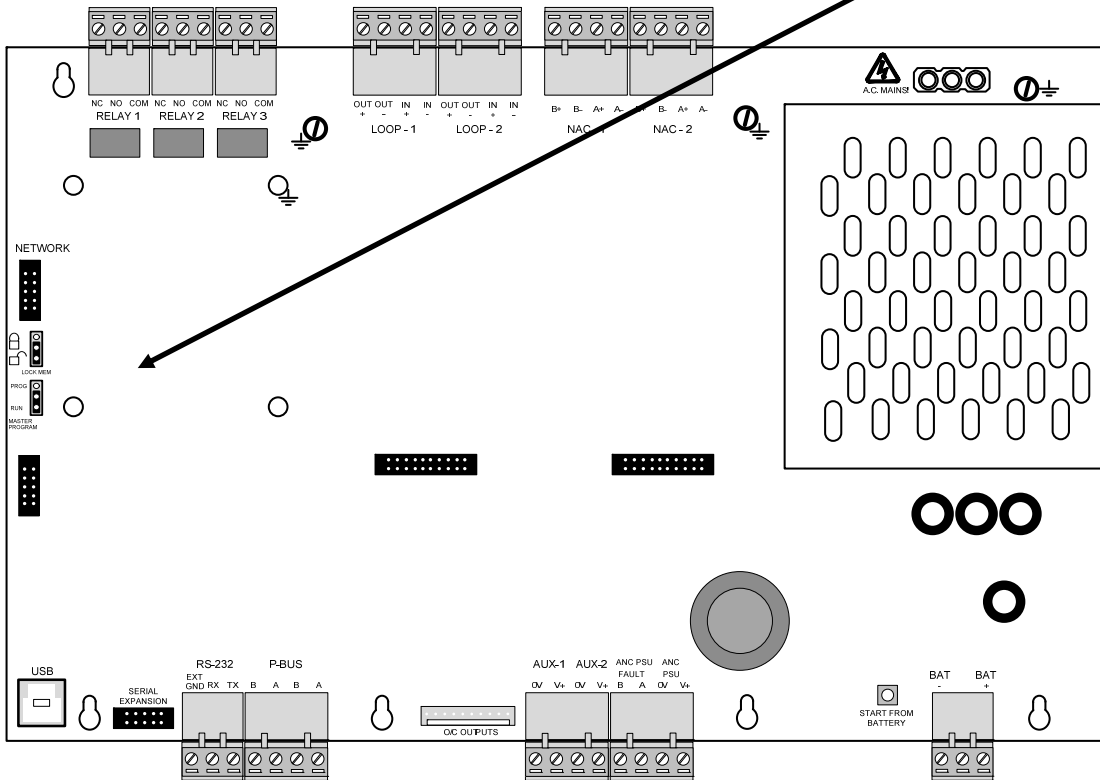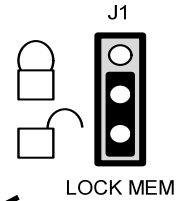
2.3 Starting Point

Upon power up, the panel display will show:

```
   ⊁
  Ⓐ Advanced        2:30 PM
                    DEC 22 2010

           NORMAL PANEL OPERATION
             (Press Menu to View)
```
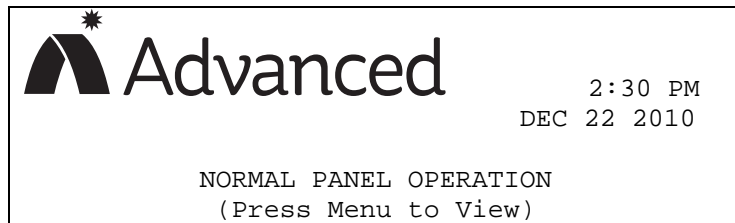
To access programming press the MENU button on the keypad. The following will be displayed:

```
[Main Menu]            User 1 Node  1

    VIEW        DISABLE      ENABLE
    TEST        P.A.S.       TOOLS
                STATUS
```

Scroll to the TOOLS heading and press the ✔ button or press the number 6 on the keypad. The following will be displayed:

```
[Tools]                User 1 Node  1

    PROGRAM        PRINT      CHANGE TIME
```

Press the ✔ button or press the number 1 on the keypad. The following will be displayed:

```
[Tools]                User 1 Node  1

    Please Enter Your Password
  P
```
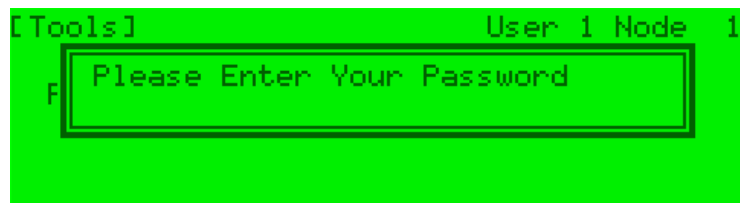
Enter the factory default Level 3 programming code 7654, and press the ✔ button to enter the password. You are now in Level 3 programming mode and the screen below will be displayed:

```
[PROGRAM Menu 1]              Node  1

    LOOPS/SLC   ZONES        EXIT
    VIEW        DISABLE      ENABLE
                Next Menu
```
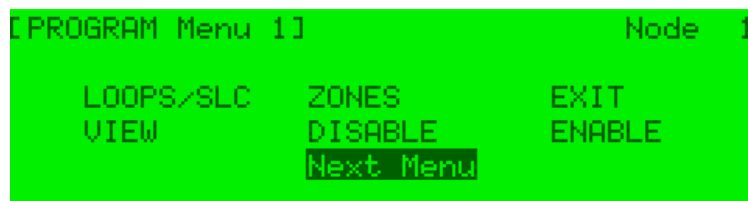
There are three programming menu screens to choose from with up to 13 different sub-menus. The 13 sub-menus are as follows:

LOOPS/SLC: Identify number of SLC/LOOPS installed. Perform AUTO-LEARN, Alter/enter device text, and more. In addition, opens several sub-menus.

ZONES: Lists all zones in use by the system and allows text alterations.

EXIT: Exits program mode and returns to normal display/operation.

VIEW: View status of the entire system. In addition, opens several sub-menus.

DISABLE: Disable Zone/Inputs, Outputs and Groups.

ENABLE: Enable of Zone/Inputs, Outputs and Groups.

PASSWORDS: Enter/change level 1, 2, 3 and 4 passwords.

TIME/DATE: Change/set the time and date.

PC CONFIG: Enables connection to a PC for use of PC-NeT Configuration Tool.

SETUP: Allows programming of a number of system options including networking, service due date, on-board NAC circuit configuration, detector device blinking and more.

PANEL: Lists all internal panel circuits and allows programming from default settings.

OUTPUT-GROUPS: Create limited output cause and effect programming.

TEST: Test Zones, Display, Buzzer, Printer and Outputs.

2.3.1 Program Menu Screens

Program Menu 1:

```
[PROGRAM Menu 1]              Node   1

     LOOPS/SLC    ZONES        EXIT
     VIEW         DISABLE      ENABLE
                 Next Menu
```

Program Menu 2:

```
[PROGRAM Menu 2]              Node   1

     PASSWORDS  TIME/DATE  PC-CONFIG
                   SETUP
                 Next Menu
```

Program Menu 3:

```
[PROGRAM Menu 3]              Node   1

     PANEL      OUTPUT-GROUPS    TEST

                 Next Menu
```

Selecting "Next Menu" alternates between Program Menu 1, 2 and 3.

2.3.2 Navigating Through Menus

```
[PROGRAM Menu 1]                Node   1

     LOOPS/SLC    ZONES        EXIT
     VIEW         DISABLE      ENABLE
                  Next Menu
```
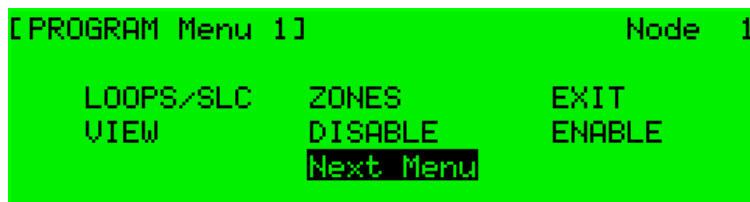
When a Program Menu is displayed, use the ←↑↓→ buttons to highlight the required menu option and then press the ✓ button to select that option. More Program Menu options are available by selecting the "Next Menu" button.

Press the **'Esc'** button from within any menu option to return to the previous menu.

The system can be returned to Normal Operation by pressing the **'Esc'** button to return to the top level Program Menu 1, then select "EXIT" and enter your password.

2.3.3 Changing Text Descriptions

Various parameters can have a user defined text description. These include SLC loop devices, zones, outputs, etc. The zone and device text descriptions are shown on the display when a status change occurs, providing a quick and clear indication of the source of the problem.

Example:
To add or change the device text associated to an addressable point, highlight the LOOPS/SLC in [Program Menu 1] and then press the ✓ button or press the number 1 on the keypad.

```
[PROGRAM Menu 1]                Node   1

     LOOPS/SLC    ZONES        EXIT
     VIEW         DISABLE      ENABLE
                  Next Menu
```
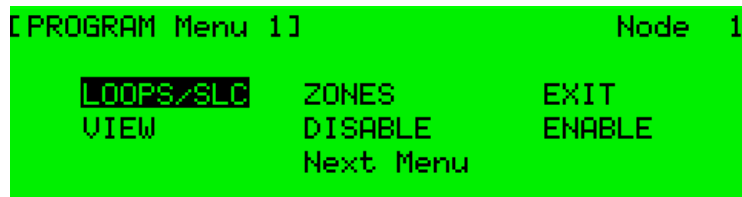
Then, highlight the LOOP associated with the addressable point (i.e.: LOOP 1), then press the ✓ button.

```
[Select Loop]

     Loop   1    Loop   2    Loop   3    Loop   4
          √           √           √           √
```
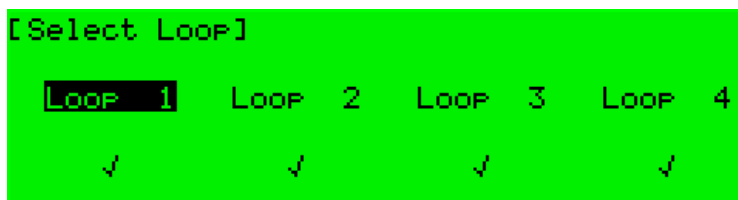
Press the ←→ buttons to scroll through the list of loops and then press the ✓ button or use the number keypad (Loop 1 = 1, Loop 2 = 2, Loop 3 = 3 and Loop 4 = 4) to select the required loop.

Note: The list of loops available will be adjusted automatically to show only those loops that have a loop driver installed. The below example is for an Axis^AX Intelligent Fire Alarm Control Panel with four loop drivers (AX-CTL-4 [4 SLC Loops]) installed. If the above were a 2 loop driver system (AX-CTL-2) loops 3 and 4 would have an x mark in place of the check mark.

The display will then show a list of programming options for the specific loop selected, as follows:

```
[Loop  1 SLC]                    Node  1

    VIEW/EDIT    AUTO LEARN    METER
                 HISTORY
```
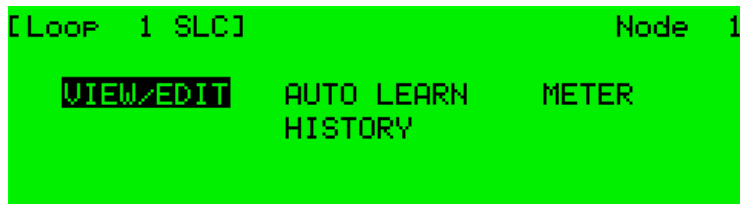
Highlight the VIEW/EDIT programming option and then press the ✔ button or press the number 1 ⌨ on the keypad. The display will be as follows:

```
[Loop  1 SLC ]                    More>
Address State          Type       Value
 001.0  Normal         PULL STATION  16
 003.0  Normal         SWITCH(MON.)  16
 004.0  Normal         SWITCH(MON.)  16
 013.0  Normal         SWITCH(MON.)  16
```
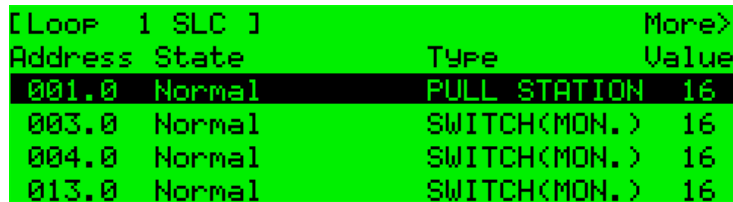
Press the ←↑ buttons to scroll to the required address point then press the ➔ button until you reach the "Device Text" column.

Note: If no previous Device Text has been programmed, Device Text location will be blank as indicated for device 4 below:

```
[Loop  1 SLC ]                    <More>
Address Device Text              Action
 001.0  Demo Board - Top Left    ALARM
 003.0  Dual Monitor - 3rd Row #1 ALARM
 004.0                           ALARM
 013.0  3rd Row Demo Board       ALARM
```

Press ✔ button, the following will be displayed awaiting entry of user text:

```
 >█                          <

    KEY IN REQUIRED TEXT
```
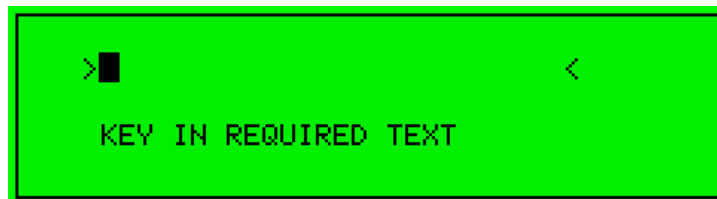
The method of entering the characters is similar to the method employed on cell phones. The number buttons provide both their appropriate number and several letters of the alphabet. An example of the keypad is shown opposite.

For example, Button 2 allows entry of the number 2 and letters A, B and C.

When a button is pressed, the number is first shown on the display at the current cursor position. If the button is pressed again within ½ second, the first character replaces the number. A further press displays the second available character and so on. After pressing the button to obtain the required character, wait for 1-second and the character will be entered and the cursor will move to the next character in the text description.

Pressing another button will immediately enter the previous character and move the cursor on to the next character.

Use the ←➔ buttons to move backwards or forwards along the device text line. When you've completed entering the device text description, press the ✔ button.

After completing all addressable point device text descriptions, press the **'Esc'** button to return to the previous display.

The following table shows the numbers, characters and symbols assigned to each button on the keypad.

Button	1st Press	2nd Press	3rd Press	4th Press	5th Press	Further Characters
1	1					
2	A	B	C	2		Ä, Æ, Å, À, Á, Â, Ã, Ç
3	D	E	F	3		È, É, Ê, Ë, Ð
4	G	H	I	4		Ì, Í, Î, Ï
5	J	K	L	5		
6	M	N	O	6		Ö, Ø, Ò, Ó, Ô, Õ, Ñ
7	P	Q	R	S	7	
8	T	U	V	8		Ù, Ú, Û, Ü
9	W	X	Y	Z	9	Ý, Þ
0	Blank	0				

Alternatively, press the ⬆⬇ buttons to scroll through a list of characters. Start by pressing the "up arrow" key. When the required character is shown, press the ➔ button to move on to the next character. The list of characters available and the order of presentation is as follows:

Blank !"#$%&'()*+,-./ 0123456789 :;⇔?@ ABCDEFGHIJKLMNOPQRSTUVWXYZ [']^_

2.3.4 Numeric data entry

Numbers are entered by moving to the required field, and then typing in the required number, followed by the ✔ button.

If the number is entered incorrectly, press the **'Esc'** button to restore the previous number.

2.4 Recommended Programming Procedure

♦ Step 1 – SET-UP, define general set-up information.
♦ Step 2 – PASSWORDS, define user and program passwords as required.
♦ Step 3 – AUTO-LEARN, learn the devices on the specific loop.
♦ Step 4 – VIEW, enter zone numbers, location text and change output group assignments if required.
♦ Step 5 – OUTPUTS, program output groups as required.
♦ Step 6 – ZONES, enter zone text as required.

PROGRAM Menu Functions

The following table gives a list of the PROGRAM Menu Functions, the sub-functions available within each main function and a brief description for each function.

Step No./Main Menu Option		Sub Menus	Comments
3 4	LOOPS/SLC	View/Edit	View, test and configure the SLC loop devices
		Auto Learn	Learn the devices present on all SLC loops
		Meter	View information on the SLC loop voltages /currents
		History	View the history of attached SLC devices
6	ZONES	--	Configure the Zones
	EXIT	--	Cancel Level 3 Access and return to Level 2 Menu Options
	VIEW (Allows viewing of any programming changes and system status without exiting program mode.)	Alarms	View zones and inputs that are in alarm
		Off-Normal	View off-normal alarms, supervisory, troubles, disables, pre-alarms and warnings
		Network	View network communications/diagnostics
		Inputs	View input devices
		Outputs	View output devices
		Log	View event log all events or alarm only
		Panel	View hardware (panel voltages and currents) and software (module revisions)
	DISABLE	Zone/Inputs	Disable zone (s) or specific inputs
		Outputs	Disable outputs by type or by specific output
		Groups	Disable created disablement group
	ENABLE	Zone/Inputs	Enable disabled zone (s) or specific disabled inputs
		Outputs	Enable disable outputs by type or by specific disabled output
		Groups	Enable disabled group
2	PASSWORDS	--	Configure the Level 2 and Level 3 passwords
	TIME/DATE	--	Change time and date
	PC-CONFIG	--	Enable PC transfer of configuration data to the panel
1	SETUP	--	Configure general operating parameters
	PANEL	--	Change the default zone assignments and output groups for all panel I/O's
5	OUTPUT-GROUPS	--	Configure the operating characteristics of output groups
	TEST		Test zones, display, buzzer, printer and outputs

2.4.1 Loops/SLC

Upon selecting the LOOPS/SLC option, the display will prompt for selection of the loop to be viewed / programmed.

```
[Select Loop]

    Loop  1   Loop  2   Loop  3   Loop  4

       √          √          √          √
```

Note: The list of loops available will be adjusted automatically to show only those loops that have a loop driver installed. The above example is for an Axis^AX Intelligent Fire Alarm Control Panel with four loop drivers (AX-CTL-4 [4 SLC Loops]) installed. If only two loop drivers (AX-CTL-2 [2 SLC Loops]) were available loops 3 and 4 would have an x in place of the check mark.

Press the ↑↓←→ buttons to scroll through the list of loops available and then press the ✔ button to select the loop required. The display will then show a list of programming options for the available loop as follows:

```
[Loop  1 SLC]                    Node  1

    VIEW/EDIT    AUTO LEARN    METER
                 HISTORY
```

2.4.1.1 Loop – View/Edit

The VIEW/EDIT option shows a list of the devices connected to the loop that were Auto Learned by the panel. For example:

```
[Loop  1 SLC ]                      More>
Address State              Type      Value
 001.0  Normal             PULL STATION 16
 003.0  Normal             SWITCH(MON.)  16
 004.0  Normal             SWITCH(MON.)  16
 013.0  Normal             SWITCH(MON.)  16
```

The first device on the loop is shown at the top of the list and is highlighted. Press the ↑↓ buttons to scroll through the list of devices.

Press the ←→ buttons to view additional information. The display highlights a particular parameter. If a highlighted field is modifiable press the ✔ button and an additional option menu will be displayed.

2.4.1.1.1 Address Parameter

Shows address of device on loop/SLC being viewed.

2.4.1.1.2 State Parameter

This parameter shows the current operational status of the device. For example, this can show Normal, Alarm, Device Missing, etc.

This parameter cannot be changed.

2.4.1.1.3 Type

This parameter shows the type of device Auto Learned by the panel. For example, this can show Pull Station, Multi-Sensor, Photo Smoke, Heat, etc.

This parameter cannot be changed.

2.4.1.1.4 Value Parameter

This parameter shows the analog value returned by the device. The number displayed will vary according to the type of device installed. An 'H' (High) and 'L' (Low) is shown for Switch (logic) inputs. The current sensitivity mode setting for intelligent smoke detectors is shown (a value based on sensitivity programming ranges 1 through 5).

This parameter cannot be changed.

2.4.1.1.5 Zone Parameter
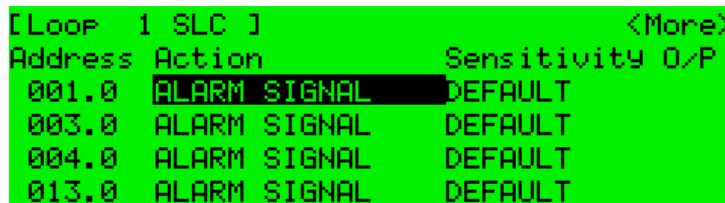
This parameter shows the zone to which this device has been assigned. Use the **number** keys to change the zone assigned to the device and press the ✔ button.

2.4.1.1.6 Device Text Parameter

This parameter shows the 26-character location text assigned to this device. For guidance on how to change the text, refer to Section 2.3.3.

2.4.1.1.7 Action Parameter

This parameter shows the action that will be performed when this device indicates an active (alarm) condition. For example:

```
[Loop  1 SLC ]                    <More>
Address Action           Sensitivity O/P
 001.0  ALARM SIGNAL      DEFAULT
 003.0  ALARM SIGNAL      DEFAULT
 004.0  ALARM SIGNAL      DEFAULT
 013.0  ALARM SIGNAL      DEFAULT
```

Press the ✔ button to change the action assigned to this input device. A pop-up window is then shown on the display from which a different action can be selected.

```
[Loo                              <More>
Addr  [Select New Action]       ty O/P
 00:  ALARM SIGNAL
 00:  SUPERVISORY
 00:  TROUBLE SIGNAL             ↓
 013.0  ALARM SIGNAL      DEFAULT
```

Press the ⬆⬇ buttons to scroll through the list of actions and then press the ✔ button to confirm the change. The display reverts to the device list showing the new action assigned to this device. Alternatively, press the **'Esc'** button to cancel the changes and return to the device list display. The following actions are available (additional actions are available on a PC-NeT, Field Configuration Program).

Action	Description
Alarm Signal[1]	An alarm condition will be generated whenever the input is active.
Supervisory	A supervisory condition will be generated whenever the input is active.
Trouble Signal	A trouble condition will be generated whenever the input is active.
Pre-Alarm	A pre-alarm condition will be generated whenever the input is active.
Key Lock	Enables / inhibits front panel controls (Silence, Acknowledge, Reset etc.)
Control Signal	Allows control of outputs without displaying a status event or sounding the panel buzzer
-	No action assigned to the input.
PC ONLY	Other device actions can be configured using the PC-NeT Configuration Tool.

2.4.1.1.8 Sensitivity Parameter

This parameter shows if the device sensitivity is set to its "DEFAULT" or "CUSTOM" settings. See below:

```
[Loop  1 SLC ]                       <More>
Address Sensitivity O/P Group Additional
 050.0  DEFAULT                        √
 052.0  DEFAULT
 053.0  DEFAULT
 061.0  CUSTOM                         √
```

Press the ✔ button to change the sensitivity assigned to an input device. When selected, a new screen displays the sensitivity settings assigned. For example, with an Intelligent Photoelectric Detector:

```
SENSITIVITY ADJUST MODE   (PHOTO SMOKE  )

                       [   Alarm  =  55 M3]
[    Mode  =    3  ][ Pre-Alarm=  45 M3]
[Sampling  =   10 s][ Min.Value=   8 M3]
                [SAM/SSM]
```

Press the ←↑↓→ buttons to highlight the required menu option and then press the ✔ button to select it. Use the **number** buttons to enter the required value. Alternatively, press the **'Esc'** button to cancel the changes.

Note: The alarm thresholds are fixed for all devices. Sensitivity can only be changed for detectors using the sensitivity mode setting.

2.4.1.1.8.1 Mode

Each intelligent detector is capable of being field programmed for one of five response/sensitivity modes (see below). Response modes correspond to unique response behaviors of a detector and the type of environment it is protecting, which can be broadly related to the characteristics of a fire. The detector response modes relate to different combinations of smoke sensitivity characteristics and programmable assessment times. Response mode 1 is more sensitive than response mode 5. Detectors set to response mode 1 would be more suitable for environments in which sources of unwanted alarms are rare (i.e.: clean rooms and computer rooms). Response mode 5 set detectors would be suitable for more dusty or harsh environments (i.e.: boiler rooms, loading dock

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[1] Alarm Conditions are latched. By default, all other conditions are non-latching. The action for smoke and certain other detectors is always alarm and cannot be changed.

areas). Response mode 3 (default programmed) would be the mid-sensitivity level used for most normal applications. Response mode setting and hysteresis of the individual detectors are stored within the detector's memory. The storing of this critical information in the detector rather in the fire alarm control panel software allows the detector to maintain its programmed response settings and compensated values even when power is removed from the detector. If the detector is powered down or inadvertently placed in another location, the detector response mode and clean values are not lost.

	Clean Room, Computer Room					Hotel Room, Apartment					Office, Hospital Ward, Factory, Light Industry					Warehouse, Restaurant					Loading Dock, Parking Garage					Kitchen, Laundry (enclosed and ventilated)					Boiler Room				
Mode	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Photoelectric	✓							✓	✓	✓			✓	✓	✓				✓					✓										✓	✓
Ionization								✓	✓	✓			✓	✓	✓			✓	✓																
Multi-Sensor	✓							✓	✓				✓	✓			✓	✓	✓	✓		✓	✓	✓	✓							✓			
Heat																✓	✓				✓	✓						✓	✓	✓		✓			✓

1, 2, 3, 4, 5 = Response/Sensitivity Modes
✓ = Mode Suitable for Installation

Photoelectric Detector		
Response Mode	Sensitivity Characteristics	Programmable Assessment Time
1	1.7 %/ft	5 sec
2	1.7 %/ft	30 sec
3	2.3 %/ft	5 sec
4	2.3 %/ft	30 sec
5	2.9 %/ft	5 sec

Multi-Sensor Detector			
Response Mode	Smoke Sensitivity Characteristics	Temperature Sensitivity	Programmable Assessment Time
1	1.7 %/ft	High	0-20 sec
2	2.3 %/ft	None	0-30 sec
3	2.7 %/ft	Medium	0-20 sec
4	3.3 %/ft	Medium	0-20 sec
5	None	135^0F	0-30 sec

Ionization Detector		
Response Mode	Sensitivity Characteristics	Programmable Assessment Time
1	.60 %/ft	5 sec
2	.60 %/ft	30 sec
3	.65 %/ft	5 sec
4	.65 %/ft	30 sec
5	.70 %/ft	5 sec

Heat Detector			
Response Mode	UL521 Temperature Rating (^{0}F)	Sensitivity Characteristics	Spacing
1	135^0 Ordinary	Static/Rate-of-Rise	70 ft
2	150^0 Ordinary	Static/Rate-of-Rise	70 ft
3	150^0 Ordinary	Static	70 ft
4	200^0 Intermediate	Static/Rate-of-Rise	70 ft
5	200^0 Intermediate	Static	70 ft

2.4.1.1.8.2 Sampling

If an intelligent device is in alarm the Axis^AX Intelligent Fire Alarm Control Panel will perform multiple assessments of the alarming device to ensure that the alarm condition from the device is valid. The value of the assessment time can be programmed by the installer during installation. Programmable assessment time fields range from 0 to a maximum of 10 seconds (0 to 20/30 seconds for Multi-Sensor detectors) from the first report of an alarm condition to the final validated (assessed) alarm condition. Refer to Front Panel Programming Manual or PC-NeT Field Configuration Programming Manual for further explanation.

Note: Programmed default values for assessment time:
Detectors: Default 5 seconds. Maximum 10 seconds.
Input Modules: Default 0 seconds. Maximum 10 seconds.

> USE CAUTION WHEN
> SELECTING SAMPLING VALUE

2.4.1.1.8.3 Alarm

When an intelligent device enters an alarm condition the analog value of the device can be viewed by the panel's graphical display. Analog values for alarm are set at a value of 55. If an intelligent device falls below a minimum analog value the Axis^AX Intelligent Fire Alarm Control Panel will enter a trouble/fault warning (i.e.: dirty detector) condition for that specific device. Trouble/fault warning value is normally set at a value of 8 with a programmable range of 4-20.

The alarm level is the level of the analog value returned by the detector at which the panel will enter an alarm condition. The default value is 55.

Note: The alarm level cannot be adjusted.

2.4.1.1.8.4 Pre-Alarm

The pre-alarm level is the level of the analog value returned by the detector at which the panel will enter a pre-alarm condition the pre-alarm value is defaulted to 45; this field is programmable and can be set at a lower or higher level.

Note: If pre-alarm indication is not wanted, set the pre-alarm value to 55, which equals the alarm value. No pre-alarm signal will be generated.

2.4.1.1.8.5 Minimum Value

If the detector analog value falls below the minimum analog value programmed the Axis^AX Intelligent Fire Alarm Control Panel will enter a trouble/fault warning (i.e.: dirty detector) condition. Trouble/fault warning value is normally set at a value of 8 with a programmable range of 4-20.

2.4.1.1.8.6 Special Sensitivity Mode SSM/Clock

In addition to the "SENSITIVITY ADJUST MODE", an intelligent device can also run "SPECIAL SENSITIVITY MODE" (SSM) under time-clock control.

Note: The Axis^AX Intelligent Fire Alarm Control Panel can support 10 independent, 7-day time clocks.

With the SAM/SSM Option highlighted, press the ✔ button to view the Special Sensitivity Mode settings. For example:

```
SPECIAL SENSITIVITY MODE (PHOTO SMOKE  )

[SSM/Clock =    2 ][   Alarm  =  55 M1]
[    Mode  =    1 ][ Pre-Alarm=  45 M1]
[Sampling  =    5 s][ Min.Value=   8 M1]
          [ SAM/SSM ]
```

In the above example the panel is using special sensitivity mode 1 (and time clock number 2). Enter "**0**" in the SSM/Clock field to cancel Special Sensitivity Mode.

A number must be entered in the SSM/Clock field to select the appropriate SSM number and time clock. To view the time clock settings, highlight the SSM/Clock field, and press the ✔ button.

For example:

```
[TimeClock  2]
DAY   ON   ->  OFF        ON   ->   OFF
MON 12:00 AM 12:00 AM   7:00 PM 12:00 AM
TUE 12:00 AM  6:30 AM  12:00 AM 12:00 AM
WED 12:00 AM 12:00 AM  12:00 AM 12:00 AM
THU 12:00 AM 12:00 AM  12:00 AM 12:00 AM
```

The panel supports two independent times for each day of the week during which the SSM mode will be switched on (i.e. during which the Special Sensitivity Mode settings are active).

In the above example the SSM will be active between 7:00 PM on Monday and 6:30 AM on Tuesday (an example of use, would be a detector more sensitive during none occupied time periods).

Press the ←↑↓→ buttons to select the appropriate time field and use the **number** buttons to enter the required times. Press the '**Esc**' button to return to the previous menu display.

Every type of device (the device type is shown in the top, right hand corner of the display) can support a unique SSM setting based on an SSM/Clock number. In the previous example the Special Sensitivity Mode settings have been defined for a PHOTO SMOKE that is using SSM/Clock number 2. If other intelligent smoke detectors on the same panel also require the same settings, then you only need to set them to the SSM/Clock 2 also. If a different time setting is required simply set another SSM/Clock number to meet its requirement.

2.4.1.1.9 O/P Group

The O/P Group assignment is a group assigned to addressable NAC and relay modules. These output groups determine the manner in which the outputs will operate when an alarm or other status event occurs within the system.

For example:

```
[Loop  1 SLC ]                    <More>
Address O/P Group Additional Info
 015.2  199
 016.0  199
 017.0  199
 018.0  199
```

Use the **number** buttons to change the value of the O/P Group setting.

By default, all NAC loop output devices are assigned to output group 1 (common alarm, drill, walk test and silenceable) and all relay loop output devices are assigned to output group 199 (common alarm).

For detailed information and guidance on the programming and use of output groups, refer to Section 2.4.12

2.4.1.1.10 Additional Info

This parameter shows additional information for the intelligent smoke detectors (✔ indicates additional information available). For example:

```
[Loop  1 SLC ]                    <More
Address Additional Info
 017.0
 018.0
 020.0      √
 030.0      √
```

The panel can read any of the extended memory locations within the intelligent smoke detectors.

Highlight any ✓ marked device:

```
[Loc              <More
Addr VIEW DRIFT
 02( RAPID COMPENSATION
 03( VIEW EEPROM
 04(
 050.0      ✓
```

View the devices drift, rapidly compensate it or view the EEPROM. Below is an example of viewing drift. Each intelligent smoke detector connected to the specific SLC loop will indicate its drift as it relates to detector compensation, 0 being the cleanest, 100 being dirty.

```
[Loop  1 SLC ]            <More
Address Additional Info
 020.0     ✓   Drift  =  0%
 030.0     ✓   Drift  = 20%
 040.0     ✓   Drift  =  0%
 050.0     ✓   Drift  = 12% -
```

2.4.1.1.11 Detector Testing

Individual detectors can be tested to check the chamber response/operation and illuminate the detector LED.

While the address field is highlighted, press the ↑↓ buttons to scroll through the list of devices to the desired detector (or key in the address, and then press the ✓ button).

```
[Loop  1 SLC ]            More>
Address State        Type      Value
 040.0  Normal       PHOTO SMOKE   23
 050.0  Normal       MULTI.SENSOR  24
 052.0  Normal       SWITCH(MON.)  16
 053.0  Normal       SWITCH(MON.)  16
```

A menu will appear to confirm that you want "Test This Detector".

```
[Loop  1 SLC ]            More>
Addr              Value
 04( TEST THIS DEVICE       24
 05(                 OR  24
 05(                 .)  16
 053.0  Normal       SWITCH(MON.)  16
```

Press the ✓ button to confirm or press the **'Esc'** button to cancel.

Once selected, commands are sent to the intelligent smoke detector to turn on the detector LED and put the chamber into test. The "Test" LED lights up and the panel display returns to the list of devices.

After a few seconds the analog signal will rise, indicating the level of an alarm condition. If the detector is then left in the test condition, the Detector State will change to a "Fire Test" status.

```
[Loop  1 SLC ]            More>
Address State        Type      Value
 040.0  FIRE TEST    PHOTO SMOKE   85
 050.0  Normal       MULTI.SENSOR  24
 052.0  Normal       SWITCH(MON.)  16
 053.0  Normal       SWITCH(MON.)  16
```

The test is cancelled as soon as the display is scrolled up or down or when the 'View/Edit' area is exited.

2.4.1.2   Loop – Auto Learn

2.4.1.2.1 Normal Procedure / Auto Learn

The panel can automatically learn the presence or absence of devices at all addresses connected to a specific SLC loop (Auto Learn is done on a per loop basis). When the Auto Learn option is selected, the panel starts searching the selected SLC loop for all associated addressable devices. A display is shown to indicate the progress of this procedure.

For example:

```
[Auto Learn Loop  1]     AFSI


     Address 027    Devices found =  9
```

When all addresses have been searched and all devices found the panel will display a summary screen showing the quantity of devices found for each type of device, as indicated below:

```
[Auto Learn Loop  1]     AFSI

     Address 126    Devices found = 16

PHO ION MUL TMP PULL NAC IO ZMU OTHERS
   1   1   2   1    1   0  4   0     6
```

This summary provides a quick check to ensure that the panel has found all of the devices that should be connected to the SLC loop.

Press the **'Esc'** button to return to the loop menu and press "Esc" again to go to the select SLC loop main menu.

Upon completion of the Auto Learn programming, all devices will be default programmed for general alarm:

NACs: activate on any alarm condition, silenceable

Relays: activate on any alarm condition, non silenceable

Smoke Detectors: default sensitivity (Mode 3) setting/level

Outputs = relay

Inputs = contact device input

2.4.1.2.2 Procedure if the Panel finds Devices Missing

When the panel cannot communicate with a device previously programmed into the panel, the Auto Learn process is suspended and the display shows a pop-up window with options, as indicated below:

```
[Au1
    KEEP   THIS DEVICE
    DELETE THIS DEVICE          = 8
    KEEP   ALL MISSING
    DELETE ALL MISSING
! Address 020  DEVICE MISSING
```

If the missing device is kept (or all missing devices are kept), the panel remembers the programming for these devices. The panel will report a trouble condition until such time as the missing devices are reconnected.

If the missing device is deleted (or all missing devices are deleted), the panel clears all previous programming for these devices. This includes any sensitivity threshold changes, text assignments, zone assignment, action, etc.

Press the ↑↓ buttons to highlight the required menu option and then press the ✓ button to confirm. The pop-up window will disappear and the panel will continue with the Auto Learn process.

If a single device is deleted and another missing device is subsequently registered, the display will once again show the pop-up window to keep or delete this device.

2.4.1.2.3 Procedure if the Panel finds Devices Added

When the panel finds a device not previously learned and programmed in the panel, the Auto Learn process is suspended and the display shows a pop-up window with options, as indicated below:

```
[Aut
     ACCEPT NEW DEVICE
     REJECT NEW DEVICE          =   9
     ACCEPT ALL NEW DEVICES
     REJECT All NEW DEVICES
! Address 020   NEW DEVICE
```

If the new device is accepted (or all new devices are accepted), the panel will configure the memory to register these devices. All data will be configured to initial settings for sensitivity threshold changes, text assignments, zone assignment, action, etc. for these devices.

If the new device is rejected (or all new devices are rejected), the panel does not program any default settings for these devices and will not attempt to communicate with the devices at these addresses.

Press the ↑↓ buttons to highlight the required menu option and then press the ✓ button to confirm. The pop-up window will disappear and the panel will continue with the Auto Learn process.

If a single device is accepted / rejected and another new device is subsequently registered, the display will once again show the pop-up window to accept or reject this device.

2.4.1.2.4 Procedure if the Panel finds Devices Changed

When the panel finds a new type of device installed at an address previously learned and programmed in the panel, the Auto Learn process is suspended and the display shows a pop-up window with options, as indicated below:

```
[Aut
     ACCEPT NEW DEVICE
     KEEP   OLD DEVICE          =   9
     ACCEPT ALL NEW DEVICES
     REJECT All NEW DEVICES
! Address 020   TYPE CHANGE
```

This situation could arise for example if a heat detector has been installed in place of a photoelectric smoke detector.

If the new device type is accepted (or all new device types are accepted), the panel will configure the memory to register these devices. All data will be configured to initial settings for sensitivity threshold changes, text assignments, zone assignment, action, etc. for these devices.

If the new device type is rejected (or all new device types are rejected), the panel remembers the programming for the original devices. The panel will report a fault condition until such time as the correct device types are reconnected.

Press the ↑↓ buttons to highlight the required menu option and then press the ✓ button to confirm. The pop-up window will disappear and the panel will continue with the Auto Learn process.

If a single device is accepted / rejected and another new device type is subsequently registered, the display will once again show the pop-up window to accept or reject this device.

2.4.1.3 Loop – Meter

Displays loop output and input voltages and loop loading. It also shows a diagnostic display with automatic scanning of the loop to find devices with minimum and maximum communication pulse heights.

```
[Loop  1 SLC ]                      More>


1st SLC Load                  46mA
1st SLC V.Out                23.2V
1st SLC V.In                 23.1V
```

```
[Loop  1 SLC ]
ADDRESS    REPLY CURRENT mA
   1              26
  15              31  (Max)
  53              23  (Min)
===============================>
```

2.4.1.4 Loop – History

Displays loop device history; last activated, last tested, last disabled, last enabled and when created/added to the system.

```
[History  Lp  1 Adrs 001.0 ]            ↓
Last Activation  : 12/23/10  11:48:07
Last Test        : 12/23/10  13:42:19
Last Disable     :
Last Enable      :
Created          : 11/23/10  07:55:01
```

2.4.2 Zones

The zones option lists all the zones in use by the panel and allows the zone text description to be added / modified.

```
[PROGRAM ZONES]
Zone  Location
0001  BASEMENT
0002  1ST FLOOR
0003  2ND FLOOR
0005  MACHINE ROOM
```

To change the location text assigned to the Zone, press the ✓ button when the zone location text is highlighted. Refer to Section 2.3.3 for guidance on how to change text descriptions.

To select a different zone, use either the ↑↓ buttons (scroll up/down) or just type in the number of the required zone, followed by the ✓ button.   Note that only zones in use are displayed.

2.4.3 Exit

To exit the programming mode and return the panel to normal operation (User level 1 or 2), select the "Exit" option by selecting "Exit" then press the ✓ button. The display will prompt for your password to confirm exiting of the PROGRAM area, as indicated below:

```
[PROGRAM Menu 1]              Node  1

    Please Enter Your Password


          Next Menu
```
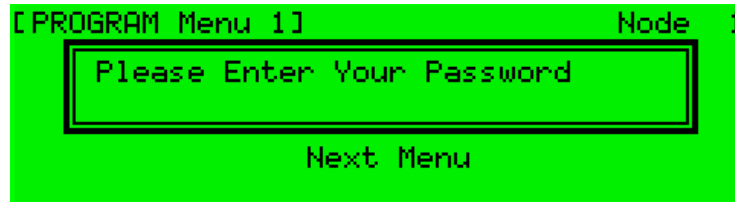
If the password is incorrect or if the password is not entered within 5-seconds, the display will revert to the PROGRAM Level Menu and User level-2 will not be entered.

Note: After programming, the panel must always be returned to User level 2 (or level 1) to give normal alarm coverage and network operation.

2.4.4 View

The view area is identical to the view area available during Level-2 operation.

The view area allows viewing of any programming changes and system status without exiting the programming area. The following sub-menus are available within the view area:

Alarms	View zones and inputs that are in alarm
Off-Normal	View off-normal alarms, supervisory, troubles, disables, pre-alarms and warnings
Network	View network communications/diagnostics
Inputs	View input devices
Outputs	View output devices
Log	View event log all events or alarm only
Panel	View hardware (panel voltages and currents) and software (module revisions)

2.4.5 Disable

The disable area allows you to disable zones/inputs, outputs and disable groups while in the programming area.

2.4.6 Enable

The enable area allows you to re-enable disabled zones/inputs, outputs and disable groups while in the programming area.

2.4.7 Passwords

The panel provides up to 10 User Level-2 passwords and 2 Level-3 passwords. All of the passwords [2] can be field modified/changed.

Upon entry to the function, the display shows a list of the passwords. For example:

```
Password  Access_level  User_ID      A
  10001        2             01
  10000        2             02
  10000        2             03
  10000        2             04
  10000        2             05
```

To change a password, use the ⬆⬇ buttons to highlight the required password and then enter the new password using the **number** buttons. When the required password is entered, press the ✓ button to confirm.

> ❗ **Level-3 Passwords.**
> **Care should be taken when changing the Level-3 password. If this new number is lost, it is not possible to enter programming/commission mode functions.**
> **Contact the factory for further information.**

> ❗ **The factory default level 3 password is 7654**

2.4.8 Time and Date

This function allows the time and date in the panel to be changed. On entry to this function, the display will show the current time and date with confirmation of the day of the week on the bottom line.

Note: time change is in 12 hr [US – Standard] format with AM & PM or 24 hr [military format].

For example:

```
[SET TIME/DATE]

    TIME = 7:42 AM
    DATE = 12/28/10    TUE DEC 28 2010
```

To change the settings, use the ⬆⬇ buttons to highlight the required option. Directly enter the new time or date using the **number** buttons. As soon as a **number** button is pressed, the display will clear the current setting and show the new value as it is entered. For example:

```
[SET TIME/DATE]

    TIME = 1■:-- AM
```

---

[2] The passwords can be further qualified using the PC-NeT, Field Configuration Program, to provide permission / restriction to specific menu options. Refer to PC-NeT Field Configuration Programming Manual for further details.

2.4.9 PC Config

The PC config enables the connection to the PC-NeT configuration tool for programming configuration data from a file on the PC.

For further information, refer to the PC-NeT Field Configuration Programming Manual.

2.4.10 Setup

The Setup area enables the configuration of panel generic operating parameters. When the option is selected, the display shows a list of the available parameters. For example:

```
[Setup] Office Panel Network 6-2

THIS NETWORK NODE  :  1
NEXT NETWORK NODE  :  2
PANEL ZONE         : 701
ONBOARD NACs       : 2  Class A
```

Use the ↑↓ buttons to scroll through the list of options. The following will then be shown:

```
[Setup] Office Panel Network 6-2

SERVICE NUMBER      :
SERVICE DUE DATE    :JAN 06 2020 10:00 AM
TRACE LOGGING MODE :STANDARD       More>
DETECTOR BLINKING  :NONE
```

2.4.10.1 Network
This network node is set to 0 for a stand-alone non-networked panel. For panels in a networked application enter the required node number (i.e.: first network device = node 1, second = node 2, etc.) and next node number.

2.4.10.2 Panel Zone
By default all the panel inputs are assigned to the panel zone. Alternatively the PC-NeT configuration tool allows individual inputs to have different zones if required.

2.4.10.3 Onboard NACs
This is the programming area for the number of onboard NAC circuits and the circuit wiring type, Class A or Class B.

2.4.10.4 Service Number
This service number area presently does not function.

2.4.10.5 Service Due Date
The next service due date can be entered into the panel memory. When this date is reached, the panel will enter a trouble condition to alert the building owner that service is required. To change the due date, press the ✔ button when the option is highlighted. The display prompts for entry of the next service date. For example:

```
[NEXT SERVICE DUE]

     TIME = 10:00 AM
     DATE = 01/06/20    MON JAN 06 2020
```

Use the ↑↓ buttons to select between the time and date. Use the number buttons to enter the required time or date.

As soon as a new service date is entered, the panel will cancel any Service Due trouble condition.

2.4.10.6 Trace Logging Mode

The Trace Logging Mode determines what type of information and to what level the information is stored in the systems event log.

There are three options:

STANDARD   =   Normal operating mode: logging alarm, trouble and warning conditions as they occur.

STANDARD +   =   Extended logging version of the standard operating mode where the removal of trouble and warning conditions are also logged.

DIAGNOSTIC   =   Full diagnostic logging of all conditions with greater depth to aid diagnosis of trouble conditions.

To change the option, press the ✔ button.

To erase the event log, press the ➜ button to view the additional command option as follows:

```
[Setup] Office Panel Network 6-2

TRACE LOGGING MODE :ERASE EVENT LOG
DETECTOR BLINKING   :
GROUND MONITORING   :
DACT                :
```

Press the ✔ button and the display will show that the event log is being erased by displaying the message "WORKING…" After the event log is erased, the display reverts to the Set-up area screen.

2.4.10.7 Detector Blinking

The Detector Blinking option determines whether the LED indicators on the intelligent detector devices will blink whenever the panel polls the device. To change the operation, press the ✔ button. The display presents a list of options. For example:

```
[Se1      INDIVIDUAL
         ALL
DET1     NONE
GROL
DAC
DACT AC TRBL delay :   65   Minutes
```

Use the ↑↓ buttons to scroll through the list of options and press the ✔ button to confirm the selection.

The device LED indicators will not blink if NONE is chosen or will blink if ALL is chosen.

If a device is changed it may be necessary to select and reconfirm the blinking command so that the new device will blink it's LED.

The INDIVIDUAL option should be chosen when it is required that only certain devices should blink their LED.

Note: Individual device blinking of their LED can only be programmed using the PC-NeT, Field Configuration Program.

2.4.10.8 Ground Monitoring

Due to UL 864 requirements this parameter cannot be changed, changing it has no effect on system operation.

2.4.10.9 DACT

The DACT option allows selection of no DACT, external DACT, contact-ID DACT or SIA (300) DACT pressing the ✓ button while x is highlighted will scroll between the various DACT options.

```
[Setup] Office Panel Network 6-2

DACT              : x
DACT AC TRBL delay :  65  Minutes
RE-SOUND UPON      :NEW DEVICE ALARM
CONFIG DATA        :AFSI        More>
```

2.4.10.10   DACT AC Trouble Delay

This option allows the programming of the system trouble contact to be delayed on AC failure for external DACT usage. To change the time highlight the minutes and enter numbers via the numerical keypad.

2.4.10.11   Resound Upon

This area allows the programming of resounding of NAC circuits, default is RESOUND ON NEW DEVICE IN ALARM. Optional it resound can be set for RESOUND ON NEW ZONE IN ALARM. To change the setting, press the ✓ button.

2.4.10.12   CONFIG Data

The CONFIG Data option shows the loop protocol and the checksum for the configuration data. A note of this number can be taken and then checked on the next service visit to see if any changes have been made to the configuration data.

```
[Setup] Office Panel Network 6-2

CONFIG DATA        :AFSI        More>
```

To view the Config Data Checksum (8 digits), press the ➔ button.

In addition, there is an option to erase the configuration data and set the panel back to factory settings. Press the ➔ button and press the ✓ button. A pop-up window will request confirmation to erase the configuration.

2.4.11 Panel

The Panel menu shows a list of the internal panel circuits and there voltage and currents. In addition, this area provides a means to change their default configuration settings.

Only use this menu if changes are to be made to the default settings for the panel's internal circuits. Use the View area to view the state and operating condition of each circuit.

The display shows for example:

```
                              <More>
Address  Value   Zone   Device Text
 001.0   5.2V    701    NAC-1 A Volts
 001.1   5.4V    701    NAC-2 A Volts
 001.2    .0V    701    NAC-3 A Volts
 001.3    .0V    701    NAC-4 A Volts
```

Use the ⬆⬇ buttons to scroll through the circuits. Use the ⬅➔ buttons to view additional information. The zone and output group assignments can be modified if required.

2.4.12 Output-Groups

The Output-Groups area is a schedule of actions that will turn on one or more outputs dependent upon a set of input events.

The output-groups provides the means to create simple or complex "cause and effect" programming within the panel. Delays can be introduced to allow a phased evacuation of a building (Note: this is different than "Positive Alarm Sequence" which is detailed in section 2.4.13).

This section describes the settings and options in detail for each parameter.

More complex "Cause and Effect" programming may be undertaken using the PC-NeT configuration tool.

When the OUTPUT-GROUPS Option is selected, the display shows the cause and effect programming for Output Group 1. For example:

```
[Output Group   1]     [   .6% Mem used]
Zone  CAUSE    STYLE=Delay->MODE  Wait
     1      ALARM+  00    -     On
     2      ALARM+  00    -     On
     3      ALARM+  00    -     On
! MORE PROGRAM INFO ON PC !
```

To simplify the output-groups programming, one or more outputs that will respond in the same way when the same set of input events occurs can be grouped together. This association of outputs is called an Output Group.

The panel can support up to 200 of these Output Groups.

To select a different Output Group, highlight any group number and then enter the number of the output group required using the **number** buttons. The display always shows the Output Group in the top left corner.

Press the ⬆⬇ buttons to scroll through the list of zones.

Press the⬅➡ buttons to select the fields for a particular zone.

Press the ✔ button to select a particular field option to change its setting.

2.4.12.1 Default Output Settings

On initial installation, or after clearing the configuration memory, all outputs are assigned to specific Output Groups and will turn on immediately if a single alarm occurs in any zone (any trouble condition for the systems defaulted trouble relay, any supervisory condition for the systems defaulted supervisory relay). The default assignments are as follows:

Output Device	Output Group	Cause and Effect
On-board NAC 1	1	Any fire in any zone – no delay
On-board NAC 2	1	Any fire in any zone – no delay
On-board NAC 3 [3]	1	Any fire in any zone – no delay
On-board NAC 4 [3]	1	Any fire in any zone – no delay
On-board Relay 1	198	Any alarm in any zone – no delay
On-board Relay 2	196	Any trouble in any zone – no delay
On-board Relay 3	197	Any supervisory in any zone – no delay
On-board Open Collector (relays)	199	Any fire in any zone – no delay
All Loop NAC Output Devices	1	Any fire in any zone – no delay
All Loop Relay Output Devices	199	Any fire in any zone – no delay

---

[3] AX-CTL-4 or AX-CTL2 + AX-NAC Only

2.4.12.2 Cause

Each Output Group can be programmed to respond in a unique way to events from each individual zone. An input event may be an alarm condition or it may be a trouble, disablement or other condition. A combination of criteria may also be applied to each zone.

The Cause field determines what type of input event (or a combination of input events) will generate an output response for the selected input zone.

Note: Output groups 1, 198, 196, 197 and 199 cannot be changed via front panel programming they can only be changed/modified via the PC-NeT configuration tool.

To program a Cause, select an unused group and highlight the cause option. For example:

```
[Output Group   2]     [   .6% Mem used]
Zone  CAUSE     STYLE=Delay->MODE  Wait
    1        -
    2        -
    3        -
    4        -
```

Press the ✓ button to change the setting and a pop-up window will appear showing the options available. For example:

```
[ALARM]   [SUPERVISORY]   [PRE-ALARM]
    -              -              -
[TEST]        [TROUBLE]      [WARNING]
    -              -              -
    4          -
```

Press the ←↑↓→ buttons to highlight the required menu option and then press the ✓ button to change its setting.

An input action type is enabled when a ✓ is shown beneath the option. It is permitted to select multiple input types in which case a combination of input events will result in an output action. If there is a combination of input events, the Cause display above shows this extended programming by adding a '+' to the text.

Press the '**Esc**' button to return to the previous display.

The definition for each cause is as follows:

Cause	Definition
Alarm	Any device in an alarm condition.
Supervisory	Any device in a supervisory condition.
Pre-Alarm	Any device in a pre-alarm condition.
Test	Any device in a walk test condition when with signals is selected.
Trouble	Any device in a trouble condition.
Warning	Any device in a warning condition.
PC ONLY	Further enhanced cause and effects options can be programmed using the PC-NeT configuration tool.

If the cause and effects programming group shows SPECIAL this means the group has been created via the PC-NeT configuration tool and cannot be adjusted/changed via front panel programming.

```
[Output Group  10]      [    .8% Mem used]
Zone  CAUSE     STYLE=Delay->MODE  Wait
   1    SPECIAL   00     -     On
   2    SPECIAL   00     -     On
   3    SPECIAL   00     -     On
   4    SPECIAL   00     -     On
```

UL 864 **Restrictions Apply** PC ONLY	Multiple Detector Operation. The operation of two detectors within the same zone being required for control operation. At least two automatic devices shall be placed in the protected space. The spacing shall be as per NFPA 72 and shall be no more than 0.7 times the linear spacing for public mode notification uses. Smoke Detectors employed in multiple detector operation must not be configured for Alarm Verification.

2.4.12.3 Style

The way in which an output turns on in response to a particular input event can be programmed. For example, an output may turn on immediately, it may turn on after a delay or it may pulse for a set time period and then turn on. This method of operation is called a "Style". A style may have up to three different methods of operation. For example,

Delay➔ Mode, Wait➔ Mode, Wait➔ Mode.

Style 00 is fixed to turn on immediately when an input event occurs.

Style 01 is fixed to pulse immediately when an input event occurs.

Styles 02 to 40 are programmable

Press the➔ button to advance to the style field. Change the setting using numeric entry to select the required output style. If the style is already programmed elsewhere, the relevant style parameters are automatically entered into the appropriate fields.

2.4.12.3.1 Delay

The Delay field is the time from qualification of the input event to something happening at the output. The delay time can be set in intervals of 1 second up to a maximum of 9999 seconds.

Press the➔ button to advance to the delay field and change the setting using numeric entry.

2.4.12.3.2 Mode

The Mode field defines the method of operation of the output when it is first activated. This can be ON or PULSE.

Press the➔ button to advance to the delay field and change the setting using the ✓ button.

PC ONLY	In addition to the default ON and PULSE options, the outputs can be configured for additional ringing styles using the PC-NeT configuration tool. This includes the ANSI S3.41 (Temporal) evacuation signal as well as simple on/off times (such as 2s ON / 3s OFF).

2.4.12.3.3 Wait

The Wait field is the time from first activation of the output to the next operational condition (mode) of the output. For example, the output could initially be delayed for 20 seconds and turn on in a pulsing mode. After a wait of a further 30 seconds it can be programmed to turn on differently such as steady ON. The wait time can be set in intervals of 1 second up to a maximum of 9999 seconds.

Press the➔ button to advance to the wait field and change the setting using numeric entry.

2.4.12.4 Copying Output Settings to Multiple Zones

To save time in the entry of similar output group settings for each zone, it is possible to copy information programmed for a particular zone to subsequent zones.

Press the ← button to highlight the required zone number and then press the ✔ button. The display shows a pop-up window prompting for the number of the zone to which to copy the information.

```
[Output Group   2]     [   .8% Mem used]
Zone  CAUSE     STYLE=Delay->MODE   Wait
        ALARM    10  9999s   On     9999s

     COPY THROUGH TO ZONE #
```

Use the number entry to select the required zone number. The Output Group programming for all of the zones from the currently selected zone to the zone number entered will be programmed with the same information as the currently selected zone.

2.4.13 Positive Alarm Sequence Delays

PC
ONLY

In addition to the output-groups programming described above, the panel also supports Positive Alarm Sequence which allows time for a building supervisor to investigate alarm conditions before turning outputs on.

This mode can only be configured from the PC-NeT configuration tool.

UL 864
Restrictions Apply

Maximum times restricted. Defaults are per UL864/NFPA72 requirements.

Smoke detectors employed in positive alarm sequence must not be configured for alarm verification.

There are two parts to this delay. The first stage is set relatively short (default 15 seconds). If the building supervisor does not acknowledge the alarm signal within the first stage, the delayed outputs will turn on. The second stage gives a longer period to investigate the alarm (default 180 seconds). This delay can be cancelled at any time by activating a manual pull station, or any other programmed overriding input device.

Note: If a second device alarm occurs Positive Alarm Sequence Delays are aborted.

First Stage Timer = maximum 300 seconds (NFPA 72 maximum time period 15 seconds).

Second Stage Timer = maximum 600 seconds (NFPA 72 maximum time period 180 seconds).

Each input and output device can be individually programmed to use the investigation delay from the PC-NeT configuration tool, together with the times appropriate to each stage of the delay.

3   Appendices

3.1   Appendix 1 – Forgotten Level 3 Password

Should the PROGRAM Level 3 Password be forgotten, contact AFSI to obtain a temporary password number to regain access to the panel programming functions.

Technical support will require a decryption key displayed by the panel. To obtain this number, attempt to gain access to the Programming Functions entering "**1**" when prompted for the password. As soon as the "Password Invalid" message is shown, press the "**0**" button and the display will show a decryption key. Make a note of the first part of this number.

For example:

```
[Tools]                    User 1 Node  1
      Please Enter Your Password
  P          26335310 00438151
```
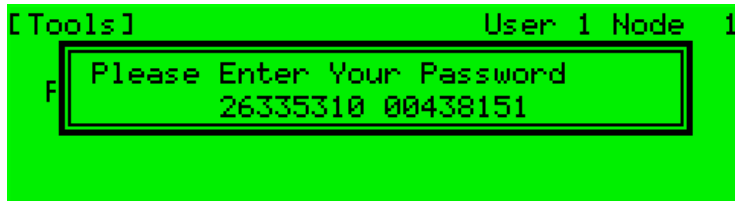
Technical support will provide a temporary password that you can enter when prompted for the password. As soon as access has been regained to the Programming Functions, select the Passwords Menu Option and check / change the PROGRAM password.

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