

# P110 Operation Manual

Document 780-0835 **A** Rev 0603



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# 1 Safety messages

People's lives depend on your safe installation of our products. It is important to read, understand and follow all instructions shipped with this product. The equipment described herein is listed by the NRTL only when installed and configured in the manner described herein

It is possible to install equipment incorrectly or arrange system components and installation wiring in such a manner that life safety functions are not properly performed and, as a result, lives may be lost. To minimize this possibility, become familiar with the system layout and operation of the entire Fire-Protective Signaling System. Do not alter any mechanical or electrical features of the equipment supplied. Become familiar with the Building Code and Fire Prevention Code or other authority having jurisdiction requirements in the area of the installation.

The Facilities Engineer and the Safety Engineer should make selection of mounting location for this equipment and routing of wiring. Listed below are some other important safety instructions and precautions you should follow:

- This unit must be installed by a qualified electrician in accordance with NFPA 72, and National and local Electrical and Fire Codes, under the direction of the authority having jurisdiction.
- Only authorized and competent personnel must be allowed access to panel controls or panel power source, to limit the possibility of malfunction or failure.
- Do not connect this unit to system wiring when circuits are energized. Check field wiring lines to ensure that voltages are not present. Warranty is void if the equipment is damaged by improperly connected untested wiring or if fused improperly.
- The equipment must be connected to a dedicated source of reliable AC power adequate for the rating of the system as configured. The source must be secure and properly labeled "Fire Alarm Circuit Control".
- A suitable battery set must be used to assure required operation in case of primary power loss. The battery set must be replaced after 4 years, or earlier if capacity is excessively reduced. The batteries should be checked at least twice per year, or more often if required by local codes.
- Wiring used in the system must be adequate for the service and installed in accordance with applicable codes.
- Devices used in the system and connected to the control panel must be verified compatible with the panel.
- All effective warning speakers produce loud sounds which, in certain circumstances, may cause permanent hearing loss. Take appropriate precautions such as wearing hearing protection. Recommendations in OSHA Sound Level Standard (29 CFR 1910) should not be exceeded.
- After installation and completion of initial system test, provide a copy of this instruction sheet to all personnel responsible for operation, periodic testing and maintenance of this equipment.
- After installation, ensure that all bolts and threaded joints are tightened.
- After installation and completion of initial system test, a program for periodic testing of this device must be established. Proper periodic maintenance is required to assure operation through the life of the system, and to determine that point at which useful life of the system or of any of its components has been reached. Any malfunctioning units must be repaired or replaced immediately by competent, authorized personnel. Refer to NFPA 72, local Fire Codes and the authority having jurisdiction.
- Instructions for proper response by building occupants must be developed and distributed in accordance with the Building Code and Fire Prevention Code or other authority having jurisdiction.
- Unauthorized repair or servicing of equipment may result in degradation of performance and/or property damage, serious injury, or death to you or others. If a malfunctioning unit is encountered, do not attempt any field repair/retrofit of parts.

Failure to follow all safety precautions and instructions may result in property damage, serious injury, or death to you and others.

The programming technician is ultimately responsible for conformance to the applicable codes and purchase order.

This manual cannot cover all details or contingencies which could exist in a system application. Refer to the authorized distributor if additional information is required.

Specifications are subject to change without notice.

## 2 General Instructions

The following describes basic operation of the installed P110 fire alarm panel.

### 2.1 Function types of inputs

#### 2.1.1 Alarm

Alarm is the normal type of input for automatic smoke sensors, heat sensors, etc. They are required to activate building notification devices as well as the ALARM light on annunciators. They can optionally operate relays and output modules in the system. An active alarm input displays **\*\*ALARM\*\*** on the annunciator display.

#### 2.1.2 Pullstation

Pullstation is the normal type of input for manual pullstations. They operate the same as alarm inputs except... An active pullstation input displays **\*\*ALARM\*\*** with type PULL ST on the annunciator display.

#### 2.1.3 Waterflow (silenceable/nonsilenceable)

Waterflow is for water flow sensors. They are required to activate building notification devices as well as the ALARM light on annunciators. They can optionally operate relays and output modules in the system. Waterflow inputs can be programmed so that the outputs they activate are silenceable or nonsilenceable. An active waterflow input displays **\*\*ALARM\*\*** with type WATER on the annunciator display.

#### 2.1.4 Supervisory

Supervisory inputs are for items such as shut-off valves and pressure sensors for sprinkler systems. They cannot operate building notification devices, but can optionally operate relays and output modules in the system. An active supervisory input shows **\*\*SUPERVISORY\*\*** with type SUPERV on the annunciator display screen.

#### 2.1.5 Trouble

Trouble inputs are most often used for supervision of accessories. They can operate relays and output modules in the system. An active trouble input shows **\*\*TROUBLE\*\*** on the annunciator display screen.

#### 2.1.6 Remote inputs: system reset, signal silence, drill, general alarm

The device can be programmed to perform the same function as the respective button on the annunciator or function accessed through the annunciator menu as follows: system reset, signal silence, drill, and general alarm.

#### 2.1.7 Alert

Emergency alert inputs are used for sounding certain non-fire related emergency situations such as tornado. They can operate building notification devices, relays, and output modules in the system.

#### 2.1.8 Recall

Initiating a recall sounds the signal after a fire drill test is completed or an emergency alert situation is returned to safe and normal.

## 2.2 System conditions and annunciation

### 2.2.1 Normal standby

#### Display

When the event list is empty (no active events have occurred since the last system reset or clearing of the history), the SYSTEM NORMAL message is displayed.

#### Audible and visual indicators

The buzzer is off, and all visual indicators are off, except for AC POWER, which is on.

#### Available keys

See 2.3 Operator keys for description.

**MENU**

**GEN. ALARM**

```

MARCH 16, 2001
12:00 AM

SYSTEM NORMAL

PRESS MENU FOR
MORE OPTIONS
    
```

### 2.2.2 Event list

#### Display

When events have occurred since the last system reset or clearing of the history, the top line of the display indicates the number of alarm, supervisory alarm, and trouble events that are in the event list. The rest of the display pertains to a single event. The event shows ACTIVE if it the problem is currently in the system and shows RESTORED if the problem has gone away. Acknowledged events show ACKD.

#### Audible and visual indicators

When a new event occurs, the buzzer sounds and the appropriate visual indicator blinks. Alarms sound a beeping pattern, supervisory alarms sound a double beep and troubles sound steady. When all events are acknowledged, the buzzer turns off and the visual indicator stays on steady. Silenced alarms flash the ALARM light in a double flash pattern.

Exception: The AC POWER light is always on when the line voltage is within normal limits. It turns off if the line voltage is outside the normal limits.

When building signals are silenced, the ALARM/SILENCED indicator flashes a double blink.

#### Available keys

Same as normal standby, plus (see 2.3 Operator keys for description):

**SYSTEM RESET**

**SIGNAL SILENCE**

**ACK**

**SCROLL**

**PREV**

**NEXT**

#### Alarm (timestamp view)

```

A:1 S:1 T:8
**ALARM**
ALARM
1.1.4 PHOTO
03/14/01 12:01AM
ACTIVE ACKD

SCROLL/NEXT/PREV
    
```

#### Supervisory (timestamp view)

```

A:1 S:1 T:8
**SUPERVISORY**
SUPERVISORY
1.1.4 PHOTO
03/14/01 12:01AM
ACTIVE ACKD

SCROLL/NEXT/PREV
    
```

#### Trouble (description view)

```

A:1 S:1 T:8
**TROUBLE**
MISSING DEVICE
1.1.4 PHOTO
ROOM 102

WEST WING
SCROLL/NEXT/PREV
    
```

### 2.2.3 Alarm Condition

When a fire alarm is activated, the following occurs:

- Any walk test, fire drill test, recall, or emergency alert warning in progress is terminated.
- The ALARM light flashes and the buzzer sounds a beeping pattern.
- Applicable building notification appliances and remote signals operate as programmed, overriding any troubles or supervisory alarms.
- The location and type of alarm are displayed on the annunciators and the event is added to the event list.
- PAS and presignal alarms are special cases. See the Programming manual for details.

```

A:1 S:1 T:8
**ALARM**
ALARM
1.1.4 PHOTO
03/14/01 12:01AM
ACTIVE ACKD
SCROLL/NEXT/PREV
    
```

### 2.2.4 Supervisory Condition

When the system detects an active supervisory condition on any input, the following occurs:

- The supervisory light flashes and the buzzer sounds a double beeping pattern.
- All system supervisory outputs are activated, overriding any existing trouble indications.
- The location and type of supervisory is displayed on the annunciators if an alarm is not active and the event is added to the event list.
- Supervisory restore is treated as a trouble condition after the initial supervisory is acknowledged.
- Output group 31 is activated.

```

A:1 S:1 T:8
**SUPERVISORY**
SUPERVISORY
1.1.4 PHOTO
03/14/01 12:01AM
ACTIVE ACKD
SCROLL/NEXT/PREV
    
```

### 2.2.5 Trouble Condition

When the system detects an active trouble condition, the following occurs:

- The trouble light flashes and the buzzer sounds steady on.
- All remote trouble signals are activated.
- The location and type of trouble is displayed on the annunciators if an alarm or supervisory condition is not active and the event is added to the event list.
- Output group 32 is activated.
- Pre-alarm is a special case. See the Programming manual for details.

```

A:1 S:1 T:8
**TROUBLE**
TROUBLE
1.1.4 PHOTO
03/14/01 12:01AM
ACTIVE ACKD
SCROLL/NEXT/PREV
    
```

### 2.2.6 Other conditions

Emergency alert, fire drill test, and resound turn on building notification devices, output modules, and relay outputs according to how they are programmed. Activation of these inputs is shown on the annunciator display screen.

The walk test is a special operating mode. See 3.1.3 *Walk test* for details.

## 2.3 Operator keys

### 2.3.1 Acknowledge

**ACKNOWLEDGE** turns off the buzzer and acknowledges new events. The display screen shows **ACKD** for events that have been acknowledged. If more than one off-normal condition exists, each one must be acknowledged before the buzzer will turn off. The **ALRAM**, **ALARM SUPERVISORY** or **SYSTEM**



TROUBLE light will change from flashing to steady if all of the respective event conditions for that type is acknowledged.

User level access is required to perform this function at the annunciator.

### 2.3.2 *Signal silence*

After the silence inhibit timer has expired, pressing **SIGNAL SILENCE** will turn off all silenceable building notification appliances and output modules activated by an event. Some devices may be programmed to be non-silenceable.

User level access is required to initiate this function from the annunciator. This function can also be initiated from a remote input device programmed with the proper function type.

### 2.3.3 *System reset*

Activating system reset removes all restored events from the event list. If all events have been restored, a system reset occurs and the system enters the normal standby condition. A panel reset does not affect the status of disabled devices. Tripped local-energy city ties or other trouble conditions must be restored to avoid re-appearance.

User level access is required to initiate this function from the annunciator. This function can also be initiated from a remote input device programmed as the **RESET** function type.

### 2.3.4 *Drill*

Activating a fire drill test operates all building notification devices as in general alarm, but does not transmit alarm signals to any remote reporting facilities.

User level access is required to initiate this function from the annunciator. This function can also be initiated from a remote input device programmed as the **DRILL** function type.

### 2.3.5 *General alarm*

Activating a general alarm operates all building notification devices and transmits alarm signals to remote reporting facilities, if configured. To activate a general alarm, press **GEN ALARM** and press **ENTER** to confirm.

User level access is required to initiate this function from the annunciator. This function can also be initiated from a remote input device programmed as the **GEN ALR** function type.

### 2.3.6 *Scroll*

When an event is showing on the display, **SCROLL** toggles between the datestamp view and the text description view for the displayed event.

### 2.3.7 *Next/previous*

When there is more than one event in the event list, **NEXT** and **PREV** buttons go to the next or previous event in the list.

### 2.3.8 *Number pad*

The number and alphabet keys are used for entering passwords and programming data.

### 2.3.9 *Enter/exit*

**ENTER** and **EXIT** are used in programming. The use of these buttons is described on the screens where they are used.

### 2.3.10 Menu

Press **MENU** to access additional status information, maintenance features, or program configuration. See *Appendix A Using the menu system*, *Appendix C Maintenance menu*, and the Programming manual for more information.

#### Main menu

```
1=Status  
2=Maintenance  
3=Program
```

```
EXIT - Exit
```

## 3 Test and Maintenance of the System

When any test or maintenance procedure is conducted, all building occupants and others who may receive artificial alarms or trouble signals must be notified before starting and after completion.

These operations require entering the controlling annunciator into the maintenance mode with the necessary password.

**NOTE** *On any system including remote signaling, the local fire department and/or monitoring agency should be informed before any test or maintenance functions.*

### 3.1 System test

System test, including fire drills, must be performed as required by the authority having jurisdiction. In the absence of other instructions, test schedules for fire alarm systems are included in Chapter 7 of NFPA Standard 72.

Tests should be performed in accordance with the manufacturer's instructions by qualified personnel, and should be fully documented. In the P110 panel, internal history records test functions that enter the event list.

On completion of testing, assure that all panel conditions have been reset or otherwise returned to normal, and notify any agencies previously advised of the commencement of testing.

#### 3.1.1 Initial acceptance testing

See P110 Installation manual.

#### 3.1.2 Detector sensitivity test

The P110 panel performs automatic sensitivity tests daily at preset times. During the sensitivity test, the LED on each sensor will illuminate for a few seconds while it is being tested.

When dirty detectors are replaced, the drift compensation values should be reset to maintain accuracy for detecting fires. This affects all drift-compensated sensors in the system. If some detectors are replaced and others are not, there is an increased risk of false alarms for approximately 24 hours from the sensors that were not replaced. To avoid this, it is recommended to replace all drift-compensated sensors in the system at the same time. The panel will perform the sensitivity immediately after drift compensation values are cleared and then continue with the daily test schedule.

#### 3.1.3 Walk test

The P110 panel includes the capability of one person making detector calibration tests on site, by either momentarily sounding the notification appliances or just printing out results when pre-selected devices are tested.

The silent walk test records the change of state of activated inputs for viewing or printing at the completion of the test. (Printing requires P10 module with PC attached.) When an input device is activated, the only the buzzer on the annunciator sounds (not any other output devices) in the pattern for the respective type of input. Alarms sound a beeping pattern, supervisory alarms sound a double beep and troubles sound steady.

The audible walk test additionally activates the outputs related to the activated input. Outputs related to an alarm or supervisory alarm input are activated for 4 seconds and outputs related to a trouble input are activated for 8 seconds.

If no change of state is found for a period of 20 minutes during a walk test, the panel times out and returns to a normal standby state.

Initiate the walk test from the maintenance menu on the annunciator (see *C.1.8 Menu 2A.4: Walk test*). To end the walk test manually, press **EXIT** on the annunciator.

### 3.1.4 Report generation

Printing requires P10 module with PC attached. Refer to the P110 Programming Manual (document #780-0836) for more information.

## 3.2 Inspection and test frequency

### 3.2.1 Visual inspection frequency

#### *Annual*

- Control Equipment
- Fuses
- Interfaced Equipment
- Lamps and LEDs
- Main Power Supply

#### *Semiannual*

- Sealed Lead-Acid Batteries
- Control Panel Trouble Signals
- Remote Annunciators
- Duct Detectors
- Heat Detectors
- Smoke Detectors
- Alarm Notification Appliances
- Digital Alarm Communications Transmitters

#### *Quarterly*

- Radiant Energy Fire Detectors
- Supervisory Signal Devices
- Waterflow Devices

### 3.2.2 Functional test frequency

#### *Annual*

- Control Equipment when connected to a supervising station
  - Functions
  - Fuses
  - Interfaced Equipment
  - Lamps and LEDs
  - Main Power Supply
- Sealed Lead-Acid Battery charge and discharge
- Control Unit Trouble Signals
- Remote Annunciators
- Duct Detectors
- Fire, Gas, Heat, and Smoke Detector function
- Fire Alarm Boxes
- Alarm Notification Appliance function
- DACT function

#### *Semiannual*

- Sealed Lead-Acid Battery load voltage
- Radiant Energy Fire Detectors

- Waterflow Devices
- Valve Tamper Switches

#### *Quarterly*

- Control Equipment when not connected to a supervising station
  - Functions
  - Fuses
  - Interfaced Equipment
  - Lamps and LEDs
  - Main Power Supply
- Supervisory Signal Devices
- Off-Premises Transmission Equipment

#### *Special*

- Detector sensitivity must be checked within 1 year after installation and alternate years following. If the automatic sensitivity tests indicate maintenance of the marked sensitivity range, calibration tests may be extended to a maximum 5 year cycle.
- Sealed Lead-Acid Batteries must be replaced after 4 years, even if they still pass load voltage testing.
- DACTs connected to the public switched telephone network may have line tests conducted at intervals no longer that a week.

### **3.3 System maintenance**

The P110 fire alarm system does not require regularly scheduled maintenance except that it is kept clean and dry. The maintenance alert function warns of any impending problems due to operational degradation of the sensors.

Check the sealed lead acid batteries occasionally for terminal corrosion and replace every four years or if proper voltage is not maintained under load test.

Perform maintenance of any other system devices in accordance with the manufacturers' instructions.

## Appendix A. Using the menu system

### A.1.1. About the numbering used

Each menu is given a number based on how to navigate to it starting from the main menu:

- A number means press the number to select an option.
- A letter indicates which "more" screen the option is chosen from (A is the first screen, press **NEXT** to get to B, press **NEXT** again to get to C, etc.).
- Levels are separated by periods.

So to navigate to Menu 2B.1 from normal standby press **MENU** for the main menu, select option **2** (a password is required for Maintenance and Programming options), press **NEXT** to get to the second screen of options, then select option **1**.

### A.1.2. Menu navigation

#### Display

The display shows available menu options and some simple instructions or available keys on the bottom.

#### Available keys

**0** to **9**: go to child menu corresponding to number

**PREV**: go to previous menu on the same level

**NEXT**: go to next menu on the same level

**EXIT**: go to parent menu

```
1=Set Time/Date
2=History
3=Test LCD/Buzzery/LEDs
4=Version & Serial #
5=View A.V. Counters
6=View Pulse Widths

EXIT - Exit (up)
```

### A.1.3. Assign a setting

#### Display

Some settings show a list of options. Other settings toggle between two options, such as YES/NO.

#### Available keys

**0** - **9**: change to corresponding setting (not used for toggling)

**PREV/NEXT**: change to previous/next setting (also toggle)

**EXIT**: abort and go to parent menu

**ENTER**: accept setting and go to parent menu

#### Select from a list of settings

```
Device address: 12
1=Heat      2=Photo
3=Ion       4=Acclim
5=Laser
Type: ION DET.

PREV/NEXT -change
ENTER-ok, EXIT-abort
```

#### Select by toggling a setting

```
Device address: 12
Device enabled: YES

PREV/NEXT -change
ENTER-ok, EXIT-abort
```

### A.1.4. Text and number entry

#### Display

The entry is requested as a prompt with the cursor in position for the entry. Numerical entries that need to be within valid limits display the valid ranges. A black area shows the limits for the length of some text entries.

#### Available keys

(for numerical entries)

**0 - 9**: enter a number and advance the cursor

**SCROLL** (phone number only): Enter a comma and advance the cursor

(for alphanumeric entries)

**0 - 9**: cycles through the available characters for the key. Does not advance cursor.

**PREV/NEXT**: move to prev/next cursor location

Backspace: move to prev cursor location and overwrite

**EXIT**: abort and go to parent menu

**ENTER**: accept and go to parent menu

#### Entering text

Several places in the menu system ask for text to be entered.

Use **NEXT** and **PREV** keys to move the cursor.

Use alphanumeric keys to enter text. Press the key repeatedly until the desired letter appears. Press **NEXT** to go to the next character.

Example: To select the letter C, press the **2** (A B C) key three times.

Some special characters on are on the **0** key; more can be entered on the **SCROLL** key in the order below.

```
! " # & % ` ( ) * + - . / : ;
< = > ? @ [ @ \ ] ^ _ `
```

#### Numerical entry

```
Device Address: _
Valid Range: 1-99
              100-199

ENTER-ok, EXIT-abort
```

#### Text entry (2 lines, 16 characters)

```
Edit Description:
_
                                     █ █ █ █
                                     █ █ █ █

ENTER-ok, EXIT-abort
```

## Appendix B. Status menu

### B.1.1. Menu 1: Main status menu

```

1=Set Time & Date
2=History
3=Test LCD/LED/Buzzer
4=Version & Serial #
5=View A.U. Counters
6=View Pulse Widths

EXIT - Backup 1 level

```

### B.1.2. Menu 1.1: Change time and date

```

1=Change Time
2=Change Date

EXIT - Backup 1 level

```

### B.1.3. Menu 1.1.1: Change time

Enter the time using the number keys on the keypad. The cursor blinks below the number that will be entered when a key is pressed. Press the **NEXT** button to toggle between AM and PM

```

01:51 AM

Press "NEXT" Button
To Toggle AM/PM

Press ENTER to accept
Press EXIT to abort

```

### B.1.4. Menu 1.1.2: Change date

Enter the date using the number keys on the keypad. The cursor blinks below the number that will be entered when a key is pressed. It will skip over the slashes so you do not need to enter them.

```

01/01/00

Press ENTER to accept
Press EXIT to abort

```



**B.1.5. Menu 1.2: History**

Displays events in the history after downloading for a few seconds. Press **SCROLL** to switch between time/date stamp view and text description view. Press **NEXT** or **PREV** to view the next or previous event in the history. Press **EXIT** to exit.

The history can hold up to 500 events. If a new event occurs when the history is full, entry #1 is removed, entry #2 becomes entry #1 and all other entries moved up so that the newest is event is entry #500.

The history can be cleared as a Maintenance function.

```
ENTRY #1
**TROUBLE**
MULTIPLE DEVICES
1.1.54 ACCLIM
03/14/01 12:01AM
ACTIVE ACKD
SCROLL/NEXT/PREV
```

```
ENTRY #1
**TROUBLE**
MULTIPLE DEVICES
1.1.54 ACCLIM
ENGINEERING LAB
DREW'S OFFICE
WEST WING
SCROLL/NEXT/PREV
```

**B.1.6. Menu 1.3: Test LCD/LED/Buzzer**

The display screen fills with every pixel turned on (black), the buzzer sounds for approximately 1 second, and the indicator lights not already in use flash.

(see description)

**B.1.7. Menu 1.4: Version and serial number**

The serial number of the panel and the version of the firmware running on the panel are displayed. Press **NEXT** to view the serial number and software versions of other devices attached to the network.

```
Serial #: 000000001

Panel Firmware
Version: 0.1
Date: Feb 12 2003

PREV/NEXT - more
EXIT - Backup 1 level
```

**B.1.8. Menu 1.5: View AV counters**

Alarm verify tally counters are a count of the number of times a sensor has sent an alarm value for the first reading in the verification process, but sent a clean air value for the second reading. A high count indicates that a sensor needs maintenance. The counts can be cleared in the maintenance menu.

Press **NEXT** to view the next page of sensors in the circuit.

If the counter has never been reset, 01/01/00 will be shown for the date.

```
Alarm Verify Tally
Last Reset 01/01/00
1:0        6:0
2:0        7:0
3:0        8:0
4:0        9:0
5:0       10:0
NEXT - more, EXIT - exit
```

**B.1.9. Menu 1.6: View pulse widths**

After entering the device address, pulse widths are shown for the device. The pulse widths indicate the following:

DFT: sensor drift, how dirty the sensor is. A maintenance alert occurs at 100%.

ALR: how close the sensor is to alarm. An alarm occurs at 100%.

Press **NEXT** or **PREV** to view pulse widths for the next or previous device address in the circuit

```
DEVICE ADDRESS: 1
PW1=289        AVG:885
PW2=288        DC:0 %
PW3=589        MAX:2833
PW4=886        ALR:0 %
PW5=588
PREV/NEXT - more
EXIT - Backup 1 level
```

# Appendix C. Maintenance menu

## C.1.1. Menu 2: Main maintenance menu

```
A
1=Clear History
2=Clear AU Counts
3=Edit Labels
4=Walk Test
5=NFFPA72E

PREV/NEXT - more
EXIT - Backup 1 level
```

```
B
1=Change Password
2=Enable/Disable
3=Drill/Alert/Recall
4=Reset Drift Comp.

PREV/NEXT - more
EXIT - Backup 1 level
```

### C.1.2. Menu 2A.1: Clear history

Clearing all history clears the events in the history memory and also all current events.

Clearing the current events removes the events from the event queue shown on the display, but does not prevent them from occurring again.

```
Clear History
1=All History
2=Current Events

Press ENTER to accept
Press EXIT to abort
```

### C.1.3. Menu 2A.2: Clear alarm verification counters

Pressing **ENTER** will reset all of the alarm verification tally counters to 0.

```
Press "ENTER" to
clear alarm
verification counters

Press any other key
to abort
```

### C.1.4. Menu 2A.3: Edit labels

The device and input group labels are the text messages that can be viewed on the **MORE** screen when an event occurs on that device.

The customer label shows on the normal standby screen.

See A.1.4 *Text and number entry* for more information.

```
1=Device Label
2=Input Group Label
3=Customer Label

Press ENTER to accept
Press EXIT to abort
```

**C.1.5. Menu 2A.3.1: Edit device labels**

After entering the device address, the label for the device may be edited. See Menu 3B.1C.1: Loop Device Description for more information.

See A.1.4 *Text and number entry* for more information.

```
Device Address: 1
Valid Range 1-99
                100-199

Press ENTER to accept
Press EXIT to abort
```

```
Device Address: Xxx
LABEL TEXT HERE
2LINES BY 16 CHARS

Press ENTER to accept
Press EXIT to abort
```

**C.1.6. Menu 2A.3.2: Input group labels**

After entering a valid group number (1-200), the label for the group can be entered. See Menu 3B.2A.1: Input Group Description for more information.

See A.1.4 *Text and number entry* for more information.

```
Input Group #1:
1LINE BY 16 CHARS

Press ENTER to accept
Press EXIT to abort
```

**C.1.7. Menu 2A.3.3: Customer label**

The customer label is 1 line and may be up to 16 characters long. The black area on the screen prevents too many characters from being entered.

See A.1.4 *Text and number entry* for more information.

```
Edit Customer Line:
1LINE BY 16 CHARS

Press ENTER to accept
Press EXIT to abort
```

**C.1.8. Menu 2A.4: Walk test**

Selecting either type of walk test will put the system into a walk test mode. This will be displayed as a trouble on the system until the walk test is ended.

During the audible walk test, the audible signals respond as each initiating device is tested. During the silent walk test, events are only logged into the event history for viewing.

End the walk test by pressing **EXIT** then **SYSTEM RESET**. The test must be completed within 20 minutes or the system will exit the walk test mode automatically and resume normal supervision.

```
1=Audible Walk Test
2=Silent Walk Test

EXIT - Backup 1 level
```

**C.1.9. Menu 2A.5: Sensitivity settings**

The sensitivity settings for each device are displayed.

Press **NEXT** to view more devices.

```
# Type Sensitivity
1 Heat 135 F
2 Ion 1.00%/ft
3 Photo 1.50%/ft
4 Accl. 2.00%/ft
5 Laser 0.20%/ft
PREV/NEXT - more
EXIT - Backup 1 level
```

**C.1.10. Menu 2B.1: Change password**

The password can be up to 4 digits long.

After entering the password, the new password is confirmed by answering **ARE YOU SURE?** Press **ENTER** to accept.

```
New Maintenance Level
Passcode: _

Press ENTER to accept
Press EXIT to abort
```

**C.1.11. Menu 2B.2: Enable/disable**

Some items in the system can be temporarily be disabled for maintenance. Disabling a device causes a trouble event on the system.

```
Enable/Disable
1=SLC Device
2=Input Group
3=Output Group
4=NACs
5=Relay

EXIT - Exit
```

**C.1.12. Menu 2B.2.1: Enable/disable SLC device**

Press **NEXT** to toggle between having the device enabled or disabled.

```
SLC Address: _

Valid Range 1-99,
101-199

Press ENTER to accept
Press EXIT to abort
```

```
SLC Address: 1
Device enabled: YES

Press NEXT to
toggle selection

Press ENTER to accept
Press EXIT to abort
```

**C.1.13.      *Menu 2B.2.2: Enable/disable input group***

```

Input Group #: _
Valid Range 1-200

Press ENTER to accept
Press EXIT to abort
    
```

```

Input Group #1
Group enabled: YES

Press NEXT to
toggle selection

Press ENTER to accept
Press EXIT to abort
    
```

**C.1.14.      *Menu 2B.2.3: Enable/disable output group***

```

Output Group #: _
Valid Range 1-30

Press ENTER to accept
Press EXIT to abort
    
```

```

Output Group #1
Group enabled: YES

Press NEXT to
toggle selection

Press ENTER to accept
Press EXIT to abort
    
```

**C.1.15.      *Menu 2B.2.4: Enable/disable NACs***

```

NAC #: _
Valid Range 1-4

Press ENTER to accept
Press EXIT to abort
    
```

```

NAC #1
NAC enabled: YES

Press NEXT to
toggle selection

Press ENTER to accept
Press EXIT to abort
    
```

**C.1.16. Menu 2B.2.5: Enable/disable relay**

```
Relay Card #: _

Valid Range 1-5

PRESS ENTER TO ACCEPT
PRESS EXIT TO ABORT
```

```
Relay #: _

Valid Range 1-8

PRESS ENTER TO ACCEPT
PRESS EXIT TO ABORT
```

```
Relay Card 1, Relay 1
Relay enabled: YES

Press NEXT to
toggle selection

Press ENTER to accept
Press EXIT to abort
```

**C.1.17. Menu 2A.6: Drill/alert/recall**

Choosing one of the options will initiate the mode selected. Press **EXIT** to cancel the mode.

```
1=Drill
2=Recall
3=Alert

EXIT - Backup 1 level
```

**C.1.18. Menu 2A.6: Reset drift compensation**

You should reset the drift compensation after replacing one or more detector heads. After performing the drift compensation reset, the drift compensation values are recalculated for each detector for approximately one minute. The system will not recognize alarm events during this time.

Press **EXIT** to cancel and return to the previous menu.

```
This will reset the
clear air and remote
test values for all
SLC sensors

Press ENTER to accept
Press EXIT to abort
```

# Appendix D. P110 Operating Instructions

Rev A 0603

## D.1 Normal Standby Condition

When the system is operating normally and there are no non-normal conditions, the green AC POWER light is on and the display screen shows **SYSTEM NORMAL**.

## D.2 Alarm Operation

In case of alarm, the ALARM light flashes, the buzzer sounds, and the alarm event shows on the display screen. Audible and visual notification devices and remote alarm signals operate.

When an alarm occurs, follow the established emergency plan. Verify that all personnel are accounted for, and notify the Fire Department even if automatic communication is included in the system.

### D.2.1. To silence the alarm

**WARNING:** For Authorized Personnel Only

- Acknowledge the reported events.
- Verify that no waterflow or other non-silenceable devices are involved.
- Wait until the alarm silence inhibit timer has expired, if in use.
- Press **SIGNAL SILENCE**.

This will silence audible NACs and change panel indications to the alarm silenced condition.

### D.2.2. To reset the panel

Only after the alarm condition is cleared, press **SYSTEM RESET** to return the panel to standby operation.

**NOTE:** Any normally-energized relay control devices operated by the system may momentarily reverse on panel reset.

### D.2.3. Trouble Operation

When the system detects a trouble, the TROUBLE light flashes, the panel buzzer sounds, and the trouble shows on the display screen.

### D.2.4. To silence the trouble buzzer

- Press **ACK** to acknowledge. Repeat if more than one trouble needs to be acknowledged.
- Press **SIGNAL SILENCE**. The buzzer will silence and the resound timer will be initiated.

If the trouble has not been cleared within 24 hours, the trouble display will return to its initial condition and the buzzer sound.

**WARNING:** Some trouble conditions may prevent response to a fire alarm,

If service is required, contact the installer or local Harrington dealer below.

Name	
Address	
Phone/Fax	

Frame these instructions and place adjacent to the panel for ready reference.



## Appendix E. Glossary

Terms used in this manual are defined as follows:

**Acknowledge-** An operator action indicating that an off-normal panel condition has been observed. Most further actions are blocked until such a condition is acknowledged.

**Alarm Signal-** A signal indicating a fire alarm from a manual station, a waterflow alarm, or an automatic smoke detector.

**Alarm Silence Inhibit-** An option that prevents silencing the notification appliances for a preset period of time.

**Alarm System-** A system of compatible initiating devices, notification appliances, control panel, and accessories assembled to provide warning signals and remote alarms in the event of a fire.

**Alarm Verification-** A programmable option that requires a repeated alarm signal from smoke detectors before indicating an alarm.

**Annunciator-** A remote display, in communication with the control panel, indicating the status of an alarm system.

**Audible Signal-** A sound made by audible notification appliances, such as bells or horns.

**Authority Having Jurisdiction (AHJ)-** The office or officer responsible for approving fire or safety systems for the area or community involved.

**Auto-Silence-** The option by which a panel may automatically silence the notification appliances after a preset time period time.

**Auxiliary Relays-** Relays energized during alarm conditions to either energize or de-energize other equipment.

**Class A Circuit-** An initiating device or notification appliance circuit connected so that a single open or ground will not prevent its function. These are NFPA Style 6 and Style 7 initiating device circuits and NFPA Style Z notification appliance circuits.

**Class B Circuit-** An initiating device or notification appliance circuit connected such that a single open or ground may prevent normal operation. These are NFPA Style 4 initiating device circuits and NFPA Style Y notification appliance circuits.

**Counting Zone-** A configuration in which two detectors in a specified area must operate before the alarm is recognized.

**Detector – Ionization-** A smoke detector using the effect of smoke on the passage of current in an ionized air chamber.

**Detector – Photoelectric-** A smoke detector sensing reflection or obstruction of a light beam by the smoke.

**Digital Alarm Communications Transmitter (DACT)-** A device by which off-normal conditions indicated on the panel may be communicated to a remote location by dial-up telephone lines.

**End Of Line (EOL)-** A resistor or other electronic device terminating a supervised circuit, to allow continuous monitoring of the connection.

**Firefighter Ignore-** A provision by which an authorized firefighter may disable detection points found to be causing a false alarm. This will indicate a system trouble and require repair service.

**General Alarm-** Simultaneous operation of all the notification appliances on a system.

**Ground Fault-** A system trouble indicating appearance of a leakage resistance between any system wiring and the system ground.

**Initiating Device-** Any manual or automatic device used to indicate an off-normal condition. This includes manual pull stations, smoke detectors, heat sensors, and waterflow or tamper switches.

**Initiating Device Circuit (IDC)-** The circuit by which initiating devices communicate with the control panel.

**Labeled Equipment-** Devices or materials, identified by an appropriate label which have been certified as acceptable by a laboratory or agency recognized by the "authority having jurisdiction". This certifies that the equipment complies with appropriate standards.

**Listed Equipment-** Devices or materials included in a list of conforming equipment published by a laboratory or agency acceptable to the "authority having jurisdiction" and authorized to bear their label.

**National Electrical Code (NEC)-** A national standard for electrical system safety, published by the National Fire Protection Association as NFPA standard 70.

**Notification Appliance-** An electrical device indicating system status, including bells, horns, strobe lights, and speakers.

**Notification Appliance Circuit (NAC)-** The circuit by which notification appliances are connected to the control panel.

**Positive Alarm Sequence (PAS)-** A process in which an off-normal response by a designated sensor alerts an attendant, who may, by acknowledging within 15 seconds, delay the general alarm for 3 minutes, giving time to investigate and reset the system, if desired.

**Power Supply-** The circuit in a fire alarm panel which provides system operating power, either derived from the building supply or, in case of building power failure, from batteries maintained at full charge during normal operation.

**Pre-Alarm Signal-** A signal from an analog smoke detector indicating that the sensor is approaching an alarm level. In the [Crake-1] Panel, the same indicator is used when the first detector in a counting zone operates.

**Pre-Signal-** A process by which an off-normal response by a designated sensor initiates an alarm with only selected notification appliances operating, and may be programmed to then sound a general alarm if not silenced within a selected period of over a minute.

**Style W-** A Class B NAC configuration in which a circuit reports troubles from grounds, shorts, or opens, but cannot operate the notification appliances with the abnormal condition.

**Style X-** A Class B NAC configuration in which a circuit reports troubles from grounds, shorts, or opens, and can operate the notification appliances with a single open.

**Style Y-** A Class B NAC configuration in which a circuit reports troubles from grounds, shorts, or opens, and can operate the notification appliances with a single ground fault.

**Style Z-** A Class A NAC configuration in which a circuit reports troubles from grounds, shorts, or opens, and can operate the notification appliances with a single open and/or a single ground fault.

**Style 4-** A Class B signaling line circuit in which the circuit reports troubles on ground faults, shorts, and/or opens, and can communicate an alarm with a single ground fault.

**Style 6-** A Class A signaling line circuit in which the circuit reports trouble on ground faults, shorts, and/or opens, and can communicate an alarm with a single open or a single ground fault.

**Style 7-** A Class A signaling line circuit in which the circuit reports trouble on ground faults, shorts, and/or opens, and can communicate an alarm with a single open, single ground, open and ground, or wire-to-wire short. This is the same panel connection as Style 6, with specialized isolation modules included in the loop.

**Trouble Signal-** A signal indicating a condition which may threaten normal system operation, such as a circuit break, ground, power or equipment failure.

**Supervisory Alarm-** A signal initiated by operation of a supervisory device.

**Supervisory Device-** A device monitoring the status of a fire sprinkler system, such as gate-valve closure, unacceptable water level, low water pressure switch, low temperature, or unready fire pump.

**Walk Test-** A test mode in which pre-selected initiating devices may be operated and indicate operation without alarming the system.

**Waterflow Switch-** An assembly constructed and installed to detect water flow from one or more sprinkler heads in a sprinkler system, thereby initiating an alarm signal.

**Zone-** An area grouping of inputs in the control panel for purposes of ordering the desired response.

#### EQUIPMENT LISTINGS:

- UL 864
- NYMEA
- CSFM
- FM

#### EMI STANDARDS

- FCC part 15 - all equipment
- FCC part 68 - PDACT only

#### APPLICABLE STANDARDS:

- NFPA 72

\*The Pitta meets requirements for Local, Remote Station, Proprietary, Central Station, and Auxiliary operation.

- Life Safety Code 101
- NEC 760/300