QS1
Technical Reference Manual

P/N 3100184 • REV 05 • REB 14FEB13

Chapter 1

Introduction

Summary

This chapter provides information about this manual and other related documentation.

About this manual

This manual provides information on how to install, program, and operate a QuickStart single loop intelligent addressable life safety control panel. It is organized as follows:

Chapter 1, Introduction: Provides information about this manual and other related documentation.

Chapter 2, Product description: Provides technical descriptions of the control panel and its operation. It also provides descriptions of the command menus.

Chapter 3, Panel components: Provides technical descriptions of the components that can be connected to the control panel.

Chapter 4, Accessories: Provides technical descriptions of the accessories that can be connected to control panel.

Chapter 5, Operating instructions: Provides instructions for operating the fire alarm system from the control panel CPU/Display Unit. It is intended for those who might be expected to operate the control panel in a fire alarm emergency.

Chapter 6, Installation: Provides instructions for installing the fire alarm system. It is intended for trained installers who are familiar with all applicable codes and regulations.

Chapter 7, Front panel programming: Provides instructions for programming the fire alarm system from the control panel CPU/Display Unit. It is intended for those trained and authorized to program the fire alarm system.

Chapter 8, Service and troubleshooting: Provides instructions for servicing and troubleshooting the fire alarm system. It is intended for those trained and authorized to maintain the fire alarm system.

Appendix A, System calculations: Provides worksheets for sizing standby batteries, and for calculating the maximum wire lengths for notification appliance circuits and intelligent addressable loops.

Appendix B, Barcode library: Provides a set of barcodes that you can use to add location descriptions to event messages from the control panel CPU/Display Unit.

Appendix C, Addresses: Provides a comprehensive list of addresses to use as a general reference.

Appendix D, Contact ID event codes: Provides a complete list of Contact ID event codes that you can use when programming dialer strings.

Fire alarm system limitations

The purpose of an automatic fire alarm system is to provide early detection and warning of a developing fire. There are a number of uncontrollable factors that can prevent or severely limit the ability of an automatic fire alarm system to provide adequate protection. As such, an automatic fire alarm system cannot guarantee against loss of life or loss of property.

Two main causes of system failures are improper installation and poor maintenance. The best way to minimize these types of system failures is to have only trained fire alarm system professionals design, install, test, and maintain your fire alarm system in accordance with national and local fire codes.

Fire alarm systems will not operate without electrical power. As fires frequently cause power interruption, we suggest that you discuss ways to safeguard the electrical system with your local fire protection specialist.

Limitation of liability

This product has been designed to meet the requirements of NFPA Standard 72; Underwriters Laboratories, Inc., Standard 864; and Underwriters Laboratories of Canada, Inc., Standard ULC S527. Installation in accordance with this manual, applicable codes, and the instructions of the Authority Having Jurisdiction is mandatory.

UTCFS shall not under any circumstances be liable for any incidental or consequential damages arising from loss of property or other damages or losses owing to the failure of UTCFS products beyond the cost of repair or replacement of any defective products. UTCFS reserves the right to make product improvements and change product specifications at any time.

FCC compliance statement

Subpart B of Part 15

This equipment can generate and radiate radio frequency energy. If this equipment is not installed in accordance with this manual, it may cause interference to radio communications. This equipment has been tested and found to comply within the limits for Class A computing devices pursuant to Subpart B of Part 15 of the FCC rules. These rules are designed to provide reasonable protection against such interference when this equipment is operated in a commercial environment. Operation of this equipment is likely to cause interference, in which case the user, at their expense, will be required to take whatever measures necessary to correct the interference.

Part 68

The DLD card complies with Part 68 of the FCC rules. The DLD card's FCC registration number and the ringer equivalence number (REN) are on the back of the DLD card. This information must be provided to the telephone company, if requested.

The DLD card connects to the public switched telephone network using an RJ31X or RJ38X jack, which must also comply with FCC Part 68 rules.

The REN is used to determine the quantity of devices that may be connected to the telephone line. Excessive RENs on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all areas, the sum of RENs should not exceed five (5). To be certain the number of devices that may be connected to a line, as determined by the total RENs, contact the local telephone company.

If the DLD card causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. If advance notice is not practical, the telephone company will notify you as soon as possible. You will also be advised of your right to file a complaint with the FCC, if you believe it is necessary.

The telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the operation of the DLD card. If this happens, the telephone company will provide advance notice in order for you to make necessary modifications to maintain uninterrupted service.

If trouble is experienced with the DLD card, for repair or warranty information, contact:

UTC Fire & Security
8985 Town Center Parkway
Bradenton, Florida, USA 34202
Telephone: 1-800-655-4497

If the DLD is causing harm to the telephone network, the telephone company may request that you disconnect the DLD until the problem is resolved.

The DLD card contains no user-serviceable parts. It must be returned to the factory for repairs.

The DLD card can't be used on a public coin telephone or party line service provided by the telephone company.

Industry Canada information

Note: The Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational, and safety requirements. Industry Canada does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be coordinated by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

Caution: Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

Note: The ringer equivalence number (REN) assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the ringer equivalence numbers of all the devices does not exceed five.

Related documentation

National Fire Protection Association
1 Batterymarch Park
P.O. Box 9101
Quincy, MA 02269-9101

NFPA 11 *Low-Expansion Foam Systems*

NFPA 11A *Medium- and High-Expansion Foam Systems*

NFPA 12 *Carbon Dioxide Extinguishing Systems*

NFPA 13 *Sprinkler Systems*

NFPA 15 *Water Spray Fixed Systems for Fire Protection*

NFPA 16 *Deluge Foam-Water Sprinkler and Foam-Water Spray Systems*

NFPA 17 *Dry Chemical Extinguishing Systems*

NFPA 70 *National Electric Code*

NFPA 72 *National Fire Alarm Code*

Underwriters Laboratories, Inc.
333 Pfingsten Road
Northbrook, IL 60062-2096

UL 38 *Manually Actuated Signaling Boxes*

UL 217 *Smoke Detectors, Single & Multiple Station*

UL 228 *Door Closers/Holders for Fire Protective Signaling Systems*

UL 268 *Smoke Detectors for Fire Protective Signaling Systems*

UL 268A *Smoke Detectors for Duct Applications*

UL 346 *Waterflow Indicators for Fire Protective Signaling Systems*

UL 464 *Audible Signaling Appliances*

UL 521 *Heat Detectors for Fire Protective Signaling Systems*

UL 864 *Standard for Control Units for Fire Protective Signaling Systems*

UL 1481 *Power Supplies for Fire Protective Signaling Systems*

UL 1638 *Visual Signaling Appliances*

UL 1971 *Visual Signaling Appliances*

Underwriters Laboratories of Canada
7 Crouse Road
Scarborough, ON
Canada M1R 3A9

CSA C22.1-02 *Canadian Electrical Code, Part 1*

ULC-S524 *Standard for the Installation of Fire Alarm Systems*

ULC-S527 *Standard for Control Units for Fire Alarm Systems*

ULC-S536 *Standard for the Inspection and Testing of Fire Alarm Systems*

ULC-S537 *Standard for the Verification of Fire Alarm Systems*

ULC/ ORD-C693-1994 Central Station Fire Protective Signaling System and Services

UTC Fire & Security
8985 Town Center Parkway
Bradenton, FL 34202

CTM City Tie Module Installation Sheet (P/N 3101025)

CDR-3 Bell Coder Installation Sheet (P/N 3100023)

DLD Dual Inline Dialer Installation Sheet (P/N 3100187)

IOP3A Isolator RS-232 Card Installation Sheet (P/N 270758)

PS6 Power Supply Card Installation Sheet (P/N 3100201)

QSA-1(X), QSA-2(X) Remote Annunciator Cabinet Installation Sheet (P/N 3100295)

QS-CPU(X) CPU/Display Unit Installation Sheet (P/N 3100276)

SL30, SL30-1, SL30L, SL20L5S LED/Switch Card Installation Sheet (P/N 3100193)

SLIC Signature Intelligent Controller Card Installation Sheet (P/N 3100192)

RS485 (NT-A) Card and QS-232 UART Module Installation Sheet (P/N 3100191)

ZA8-2 Class A Zone Card Installation Sheet (P/N 3100189)

ZB16-4 Class B Zone Card Installation Sheet (P/N 3100188)

ZR8 Relay Card Installation Sheet (P/N 3100190)

Signature Series Intelligent Smoke and Heat Detectors Applications Bulletin (P/N 270145)

Signature Series Component Installation Manual (P/N 270497)

EST Strobe Applications Guide (P/N 85000-0049)

QuickStart Online Help Utility (P/N 7350047)

QuickStart ULI and ULC Compatibility Lists (P/N 3100335)

Chapter 2

Product description

Summary

This chapter provides technical descriptions of the control panel and its operation. It also provides descriptions of the command menus.

Content

Product description

General description

This topic provides a general description of the system hardware capabilities, control panel, electronic subassemblies, and remote annunciator panels.

System hardware capabilities

System hardware capabilities vary with cabinet size and hardware configuration but generally include:

- One Class A or Class B intelligent addressable loop with up to 250 devices

- Two Class A or Class B notification appliance circuits (NACs)

- One LED/switch card

- An alphanumeric display that provides supplemental information related to the current functional condition of the fire alarm system

- Up to 8 programmable dry contact relays

- Up to 4.5 amps of 24 Vfwr (full wave rectified) power for operating notification appliances

- A battery charger circuit capable of charging standby batteries rated up to 40 Ah. Maximum battery size for ULC applications is 30 Ah.

- Up to eight fully supervised mirrored or customized remote annunciators

Programmable features

The fire alarm system includes a number of programmable features as listed below.

- Zones
- Service groups
- AND groups
- Matrix groups
- Custom event messages
- User labels
- Automatic alarm signal silence timer
- Alarm signal silence/reset inhibit timer
- AC power fault delay timer
- Panel silence resound timer
- Waterflow silence
- Zone resound inhibit
- Two-stage timer
- Fault reminder

- Message routing
- Message filtering
- Time controls

Control panel

The control panel consists of a cabinet backbox and door, a transformer, a PS6 power supply card, a SLIC card, and a CPU/Display Unit. The cabinet, PS6 card, the SLIC card, and CPU/Display Unit are assembled in the field. Optionally, the control panel can include one single-space option card and one LED/switch card.

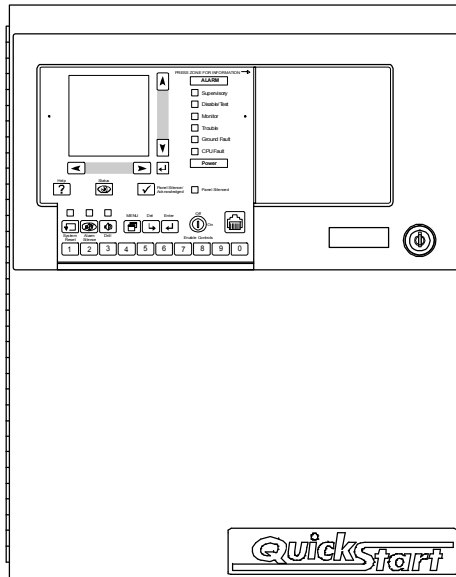The control panel is available in one cabinet size as shown in Figure 2-1 and described in Table 2-1.

Figure 2-1: Fire alarm control panel front view

Table 2-1: Control panel models

Model	Description
QS1-1-G-1	Single loop intelligent addressable control panel, 1 option card space, gray finish, 115 V transformer
QS1-1-R-1	Single loop intelligent addressable control panel, 1 option card space, red finish, 115 V transformer

Control panels can be mounted directly on the finished wall surface (surface mount) or partially recessed in a wall cavity

(semiflush mount). Semiflush mounted cabinets may require a trim ring kit, ordered separately.

Option cards

Table 2-2 lists the option cards that you can install in a control panel. Option cards are ordered separately and installed in the field.

Table 2-2: Control panel option cards

Model	Description
NT-A	RS-485 card and QS-232 UART module. The NT-A provides an additional communication channel for Class A remote annunciators. Requires 1 card space.
ZR8	Relay Card. The ZR8 card provides 8 programmable dry contact relays. Requires 1 card space.
SLIC	Signature Loop Interface Controller. The SLIC card provides 2 notification appliance circuits and 1 signaling line circuit (loop). Requires 1 card space. **Note:** The SLIC card is shipped with the control panel.
DLD	Dual Line Dialer. The DLD card provides two telephone line connections for transmitting status changes to a central monitoring station. Requires 1 card space.
SL30	LED/switch card. The SL30 provides 30 groups of LEDs and switches for zone or point annunciation. The switches are numbered 1 to 30.
SL30-1	LED/switch card. The SL30-1 provides 30 groups of LEDs and switches for zone or point annunciation. The switches are numbered 31 to 60.
SL30L	LED/switch card. The SL30L provides 30 groups of LEDs for zone or point annunciation. Card inserts are provided for custom labeling.
SL20L5S	LED/switch card. The SL20L5S provides 20 groups of LEDs, and 5 groups of LED and switches. Card inserts are provided for custom labeling.

For more information, see Chapter 3, "Panel components."

QSA series remote annunciators

QSA series remote annunciators provide system controls and annunciation of event messages and system status at remote locations throughout the protected premises.

QSA series remote annunciators consist of a cabinet backbox and door, a CPU/Display Unit, and a remote annunciator interface (RAI) card. Optionally, a QSA series remote annunciator can include one LED/switch card. The cabinet and CPU/Display Unit are ordered separately and assembled in the field.

The QSA series remote annunciators that you can connect to a control panel are shown in Figure 2-2 and described in Table 2-3.
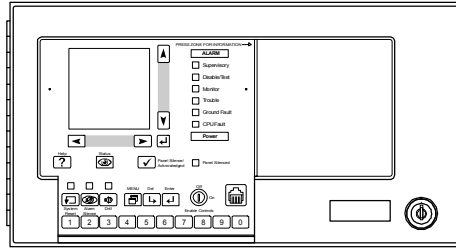

Figure 2-2: QSA series remote annunciator front view

Table 2-3: QSA series remote annunciators

Model	Description
QSA-1-S	Surface mount cabinet for QS1-CPU-1
QSA-1-F	Semiflush mount cabinet for QS1-CPU-1
QS1-CPU-1	Single loop intelligent addressable CPU/Display Unit with 1 LED/switch card mounting space. Includes RAI card.

QSA series remote annunciators communicate with the control panel and up to seven other remote annunciators via the control panel's RS-485 riser. Operating power can come from one of the following sources:

- The smoke/accessory output on a PS6 card
- An auxiliary/booster power supply

The PS6 card's smoke/accessory power output can supply power to only one QSA series remote annunciator. If more than one QSA series remote annunciator is installed, you must use an auxiliary/booster power supply that is UL/ULC listed for fire protective signaling systems. Use the same supply to power each remote annunciator.

SRA1 remote annunciators

The SRA1, see Figure 2-3, provides common controls, system status indicators, and event messages at remote locations throughout the protected premises.
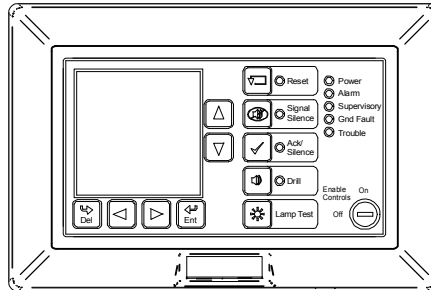

Figure 2-3: SRA1 front view

The SRA1 communicates with the control panel over the RS-485 riser. Operating power can come from one of the following sources:

• The smoke/accessory output on a PS6 card
• An auxiliary/booster power supply

The PS6 card's smoke/accessory output can supply power to only two SRA1 remote annunciators. If more than two SRA1 remote annunciators are installed, you must use an auxiliary/booster power supply that is UL/ULC listed for fire protective signaling systems. Use the same supply to power each remote annunciator.

Note: The SRA1 does not provide ground fault isolation.

R Series remote annunciators

R Series remote annunciators, see Figure 2-4, provide common control switches, system status indicators, zone event messages, and zone status indicators at remote locations throughout the protected premises. R Series remote annunciator models are listed in Table 2-4.
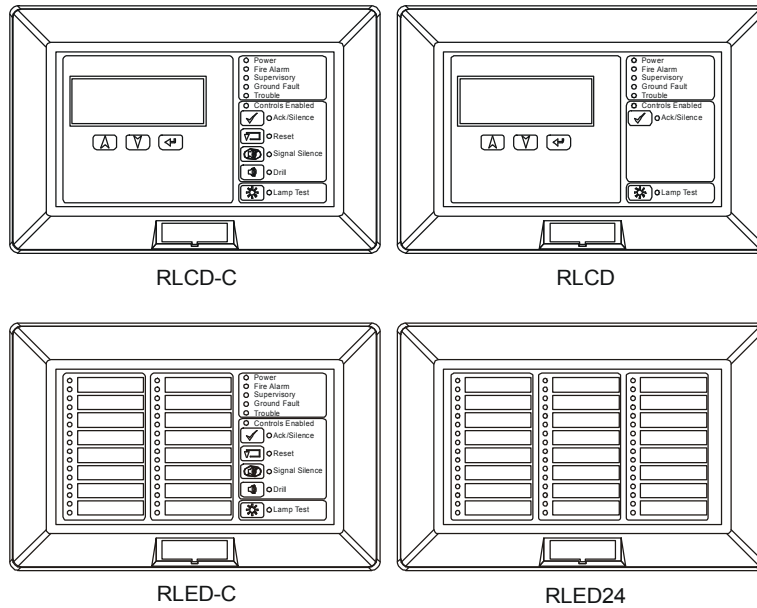
Figure 2-4: R Series remote annunciators

Table 2-4: R Series remote annunciators

Model	Description
RLCD-C	LCD text annunciator with common controls
RLCD	LCD text annunciator without common controls
RLED-C	LED zone annunciator with common controls
RLED24	LED zone expander

Note: LEDs on the RLED-C and the RLED24 are not programmable. Common control switches are not programmable.

R Series remote annunciators communicate with the control panel over the RS-485 riser. Operating power can come from one of the following sources:

- The smoke/accessory power output on a PS6 card
- An auxiliary/booster power supply

The PS6 card's smoke/accessory power output can supply power to only two R Series remote annunciators. If more than two R Series remote annunciators are installed, you must use an auxiliary/booster power supply that is UL/ULC listed for fire protective signaling systems. Use the same supply to power each remote annunciator.

Envoy graphic annunciators

Envoy graphic annunciators display system alarm, supervisory, monitor, and trouble event messages using an SRA1 remote annunciator and the protected premises' building, floor, or site map. LEDs behind the map indicate the location of interest while the SRA1 displays specific information about the active device.

Envoy graphic annunciators are built per customer specifications and can include up to 144 LED indicators and 72 switches.

Envoy graphic annunciators communicate with the control panel over the RS-485 riser. Operating power can come from one of the following sources:

- The smoke/accessory power output on a PS6 card
- An auxiliary/booster power supply

Accessories

Table 2-5 lists the accessories that you can connect to the control panel.

Table 2-5: Control panel accessories

Model	Description
Trim-1	Trim ring kit for a QS1-1-G-1
Trim-1R	Trim ring kit for a QS1-1-R-1
QS-CU	QuickStart configuration utility
QS-Scan	QuickStart barcode scanner and programming guide
PT-1S	Desktop serial dot matrix printer
BC-1(R)	Battery cabinet that holds one 40 Ah battery or two 24 Ah batteries
MFC-A	Multifunction cabinet for mounting accessory modules
IOP3A	RS-232 Isolator Module
RPM	Reverse Polarity Module
CDR-3	Bell Coder Module
CTM	City Tie Module
BPS6(A)	6.5-amp Booster Power Supply, 110 V
BPS10(A)	10-amp Booster Power Supply, 110 V
PROGCABLE-1	Programming cable, DB-9 to RJ-12

Minimum system requirements

Table 2-6 lists the minimum hardware requirements for each type of system listing.

Table 2-6: Minimum system requirements

| Listing	Equipment needed
Protected Premises (Local) Fire Alarm System	A control panel consisting of a cabinet enclosure, a CPU/Display Unit, and a PS6 card
	Appropriately sized standby batteries
	A SLIC card with at least one alarm input and one audible output
Auxiliary Fire Alarm System, Local Energy Type	A control panel consisting of a cabinet enclosure, a CPU/Display Unit, and a PS6 card
	Appropriately sized standby batteries
	A SLIC card with at least one alarm input and a SIGA-CC1 configured as a common alarm output device type
	A CTM module
Remote Supervising Station Fire Alarm System	A control panel consisting of a cabinet enclosure, a CPU/Display Unit, and a PS6 card
	Appropriately sized standby batteries
	A SLIC card with at least one alarm input
	A DLD card or an RPM module
Central Station Fire Alarm System	A control panel consisting of a cabinet enclosure, a CPU/Display Unit, and a PS6 card
	Appropriately sized standby batteries
	A SLIC card with at least one alarm input
	A DLD card or an RPM module
Releasing Service	A control panel consisting of a cabinet enclosure, a CPU/Display Unit, and a PS6 card
	Appropriately sized standby batteries
	A SLIC card with at least one alarm input and one audible output
	A SIGA-REL module

System status indicators
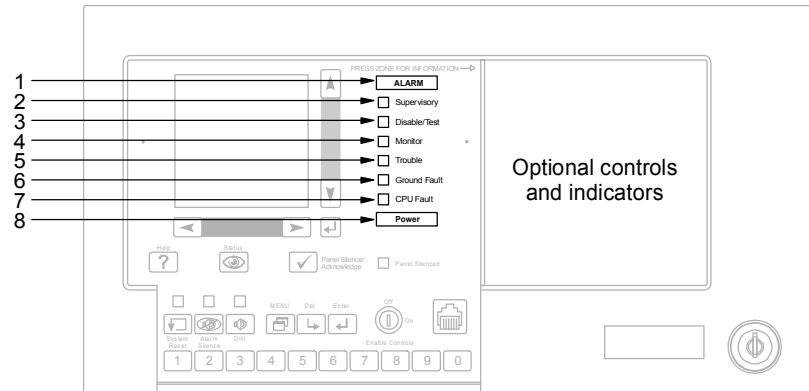
Table 2-7: System status indicator descriptions

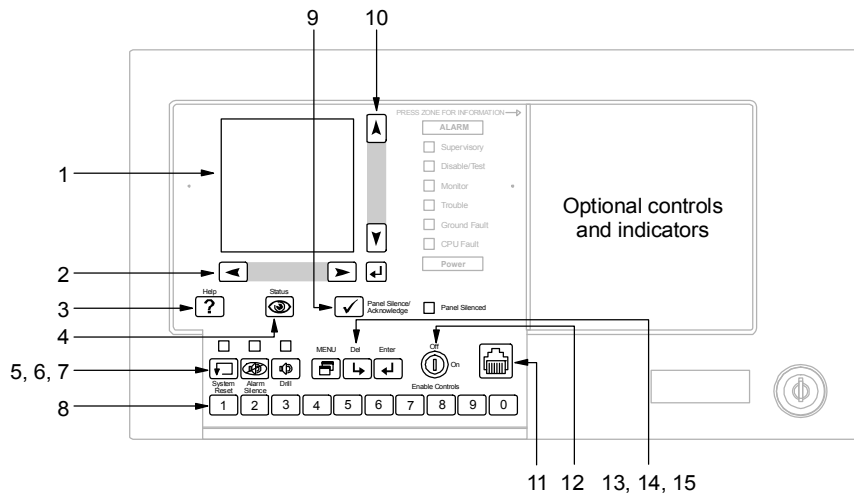| No.	Indicator	Description
1	Alarm LED	Flashing indicates new alarm event messages. On indicates alarm event messages have been acknowledged.
2	Supervisory LED	Flashing indicates new supervisory event messages. On indicates supervisory event messages have been acknowledged.
3	Disable/Test LED	On indicates a disable or test event message is present **Note:** The disabled state has priority over the test state.
4	Monitor LED	Flashing indicates new monitor event messages. On indicates monitor event messages have been acknowledged.
5	Trouble LED	Flashing indicates new trouble event messages. On indicates trouble event messages have been acknowledged.
6	Ground Fault LED	On indicates a ground fault
7	CPU Fault LED	On indicates an unexpected restart or failure with the microprocessor
8	Power LED	On indicates the control panel is energized

Operator controls and indicators

Table 2-8: Operator controls and indicator descriptions

No.	Control/Indicator	Description
1	Alphanumeric display	Provides supplemental information relevant to the current functional condition of the control panel
2	Left and right cursor buttons	On command menus, moves the cursor left or right one character at a time in a data entry field
		On event message screens, selects the previous or next event message queue
3	Help button	Displays additional information about the selected event message
4	Status button	Displays the Status menu from which you can identify system components that are active, disabled, or in the test state
5	System Reset button	Restores the system to the normal state provided that no inputs are latched in the active state. The LED next to the button indicates the function is active. Requires the level 2 password or enable controls key to operate.
6	Alarm Silence button	Turns off (silences) all active audible and common alarm output device types, and if configured, all visible device types. Pressing the button again turns them on. The LED next to the button indicates the function is active. Requires the level 2 password or the enable controls key to operate.
7	Drill button	Turns on all audible and common alarm output device types, and if configured, all visible device types. Pressing the button again turns them off. The LED next to the button indicates the function is active. Requires the level 2 password to operate.
8	Numeric keypad	Enters the number or selects the menu item shown on the button face

Table 2-8: Operator controls and indicator descriptions

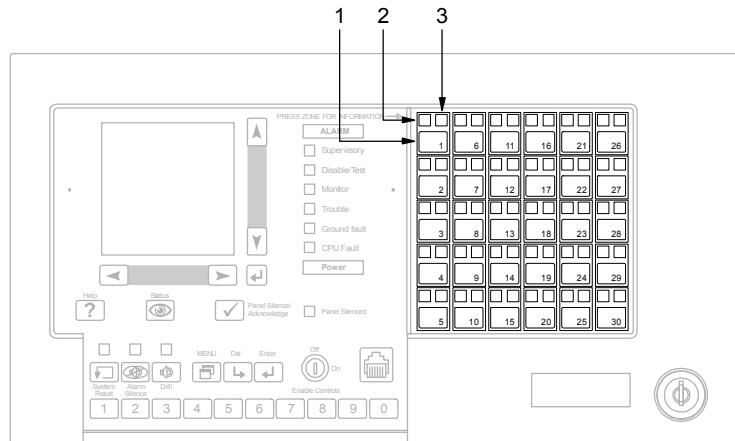| No.	Control/Indicator	Description
9	Panel Silence/ Acknowledge button	Silences the panel buzzer and acknowledges all current events. The LED next to the button indicates the function is active. Requires the level 2 password or the enable controls key to operate.
10	Up and down cursor buttons	On command menus, moves the cursor up or down one line at a time
		On event message screens, scrolls through the messages in the selected event message queue
11	Barcode jack	Used to connect a compatible barcode wand for entering location description text or to connect a download cable (model PROGCABLE-1, ordered separately) for downloading or retrieving the project database
12	Enable Controls switch	Gives the operator immediate access to level 2 command menus and control buttons without entering a password
13	Menu button	Displays the system command menus from which you can operate, maintain, and program the fire alarm system
14	Delete button	Backspaces the cursor or returns the operator to the previous menu
15	Enter button	Processes commands or accepts data from the operator

Optional controls and indicators

Table 2-9: Optional control and indicator descriptions

No.	Indicator	Description
1	Zone display/select switch	Displays the location description, if programmed, for the corresponding zone. When enabling or disabling a zone, pressing the switch selects the corresponding zone in the zone list.
		Note: This switch is not available on all LED/switch card models.
2	Active LED	Red or yellow LED that indicates the corresponding zone is active (red = fire alarm zone, yellow = supervisory or monitor zone)
3	Trouble LED	Yellow LED that indicates the corresponding zone is in a trouble state

Optional control and indicators are provided using LED/switch cards. Typically, LED/switch cards are used for zone annunciation but can be used for point annunciation or manual override controls as well. For more information, see the topic "LED/switch cards" in Chapter 3.

Zones are automatically mapped to LED/switch cards as shown in the table below. By default, the LED/switch card positioned closest to the alphanumeric display is assigned to Annunciator Group 1.

Annunciator group	Zones
1	1 to 30
2	31 to 60
3	61 to 90
4	91 to 120

Annunciator group	Zones
5	121 to 150
6	151 to 180
7	181 to 210
8	211 to 240
9	241 to 270
10	271 to 300
11	301 to 330
12	331 to 360
13	361 to 390
14	391 to 420
15	421 to 450
16	451 to 480

Alphanumeric display

In addition to the system status indicators, the CPU/Display Unit uses an alphanumeric display to provide supplemental information related to the current functional condition of the control panel.

System Normal display screen

The alphanumeric display shows the System Normal display screen when the control panel is in the normal (quiescent) state.

```
1 ——  05:45:00     06/21


              System
              Normal
2
           Your Building


3 ——  Alarm History:
       0000
```
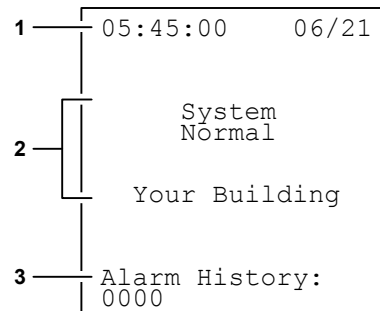
No	Name	Description
1	Time and date field	Displays the system time in 24-hour format and system date in MM/DD format, where: • MM is the month's number. Example: 06 is June. • DD is the date
2	Banner window	Displays "System Normal" and, if programmed, the facility name
3	Alarm history field	Displays how many times the control panel has entered the alarm state

Event Message display screen

The alphanumeric display shows the Event Message display screen when the control panel enters the fire alarm, supervisory, monitor, trouble, disablement, or test state.

```
1 ─── 05:45:00
2 ─── A002 D000

      >002PULL STATION
      1ST FLOOR
      EAST EXIT DOOR

3 ─    001ALARM ACTIVE
      P:01 C:01 D:001
      No Message


4 ─── ALM SUP TRBL MON
      002 000  000 000
```

No	Name	Description
1	Time field	Displays the system time in 24-hour format
2	Active and disabled points field	Displays the number of active points (Annn) and the number of disabled points (Dnnn) currently in the system
3	Event message window	Displays two event messages from the selected event message queue.
		Event messages are numbered in the order that they were received and include the device address (or location description, if programmed) of the device that activated the event.
		Use the up and down arrow switches to scroll through the event messages.
4	Event message queues	Displays the number of event messages stored in each of the event message queues.
		Use the left and right arrow switches to select an event message queue.

Details display screen

Pressing the Help switch while an event message is selected displays the Details display screen.

```
DETAILS
P:01 C:01 D:002
1ST FLOOR
EAST EXIT DOOR

  *END COMPLETE*




ALM SUP TRBL MON
002 000  000 000
```

The Details display screen provides the device address and, if programmed, the location description of the device that generated the selected event message. If the selected event message were for a zone, the Details display screen would show which devices in the zone were activated.

Command menu organization

Operator commands are organized into menus. There are four separate levels of command menus as described below.

Level 1 command menus

Table 2-10 lists the commands that you can always use. Entering a password is not required.

Table 2-10: Level 1 command menus

Menu	Commands
1) Status	1) All Active 2) Alarm 3) Supervisory 4) Trouble 5) Monitor 6) Test 7) Disabled Pts 8) Outputs 9) Internal
2) Reports	1) Maintenance 1) Dirty>80% 2) Dirty>20% 3) Single Device 4) Card Devices 2) Alarm History
3) Test	1) Lamp Test
4) Login	

Level 2 command menus

Table 2-11 lists the commands that you can use after entering the level 2 password or after switching the Enable Controls key switch to the ON position.

Table 2-11: Level 2 command menus

Menu	Commands
1) Status	1) All Active 2) Alarm 3) Supervisory 4) Trouble 5) Monitor 6) Test 7) Disabled Pts 8) Outputs 9) Internal

2) Reports	1) Maintenance
	    1) Dirty>80%
	    2) Dirty>20%
	    3) Single Device
	    4) Card Devices
	2) History
	3) Alarm History

3) Test	1) Lamp Test
4) Enable	1) Zone 2) Device
5) Disable	1) Zone 2) Device
6) Activate	1) Alt Sens 2) Alt Msg Route
7) Restore	1) Prm Sens 2) Prm Msg Route

8) Program	1) Time/Date
	    1) Enter Time
	2) Edit Password
	    1) Level 1

9) Login	

Note: On NFPA 72 systems, the Time/Date menu is not available at level 2.

Level 3 command menus

Table 2-12 lists the commands that you can use after entering the level 3 password.

Table 2-12: Level 3 command menus

Menu	Commands
1) Status	1) All Active 2) Alarm 3) Supervisory 4) Trouble 5) Monitor 6) Test 7) Disabled Pts 8) Outputs 9) Internal

2) Reports	1) Maintenance
	    1) Dirty>80%
	    2) Dirty>20%
	    3) Single Device
	    4) Card Devices
	2) History
	3) Revisions
	4) Alarm History

3) Test	1) Start Test 2) Cancel Test 3) Lamp Test

4) Enable	1) Zone
	2) Device
	3) Group
	    1) AND
	    2) Matrix
	    3) Time Control
	4) Switch
	5) Loop Mapping

5) Disable	1) Zone
	2) Device
	3) Group
	    1) AND
	    2) Matrix
	    3) Time Control
	4) Switch
	5) Loop Mapping

6) Activate	1) Output 2) Alt Sens 3) Alt Msg Route 4) LED
7) Restore	1) Output 2) Prm Sens 3) Prm Msg Route 4) LED

Table 2-12: Level 3 command menus

Menu	Commands
8) Program	1) Time/Date
	1) Enter Time
	2) Enter Date
	2) Edit Password
	1) Level 1
	2) Level 2
9) Login	

Level 4 command menus

Table 2-13 lists the commands that you can use after entering the level 4 password.

Table 2-13: Level 4 command menus

Menu	Commands
1) Status	1) All Active
	2) Alarm
	3) Supervisory
	4) Trouble
	5) Monitor
	6) Test
	7) Disabled Pts
	8) Outputs
	9) Internal
2) Reports	1) Maintenance
	1) Dirty>80%
	2) Dirty>20%
	3) Single Device
	4) Card Devices
	2) History
	3) Revisions
	4) Alarm History
3) Test	1) Start Test
	2) Cancel Test
	3) Lamp Test
4) Enable	1) Zone
	2) Device
	3) Card
	4) Group
	1) AND
	2) Matrix
	3) Time Control
	5) Switch
	6) Loop Mapping

Table 2-13: Level 4 command menus

Menu	Commands
5) Disable	1) Zone 2) Device 3) Card 4) Group 1) AND 2) Matrix 3) Time Control 5) Switch 6) Loop Mapping
6) Activate	1) Output 2) Alt Sens 3) Alt Msg Route 4) LED
7) Restore	1) Output 2) Prm Sens 3) Prm Msg Route 4) LED
8) Program	1) Time/Date 1) Enter Time 2) Enter Date 2) Edit Password 1) Level 1 2) Level 2 3) Level 3 4) Level 4 3) Restart 4) Clear History 5) Configure 1) AutoLearn 2) System 3) Cards 4) Zones 5) Outputs 6) Exit
9) Login	

Command descriptions

This topic describes the commands that you can use to operate the control panel from the CPU/Display Unit. System commands are organized into menus. The password that you use to log on to the fire alarm system determines which command menus are presented on the CPU/Display Unit. For more information, see "Command menu organization" earlier in this chapter.

```
MAIN MENU
▶1)Status
 2)Reports
 3)Test
 4)Enable
 5)Disable
 6)Activate
 7)Restore
 8)Program
 9)Login
```

Main menu

Pressing the Menu switch displays the main menu. Each command on the main menu displays a subordinate command menu described below.

Status menu

```
STATUS MENU
▶1)All Active
 2)Alarm
 3)Supervisory
 4)Trouble
 5)Monitor
 6)Test
 7)Disabled Pts
 8)Outputs
 9)Internal
```

Use the commands on the Status menu to check the status of the fire alarm system. The report that each command creates includes both physical points and pseudo points.

All Active: Display or print a list of all addressable points that are in an active (abnormal) state.

Alarm: Display or print a list of all alarm input device types that are active (in alarm).

Supervisory: Display or print a list of all active supervisory input device types.

Trouble: Display or print a list of all points in trouble.

Monitor: Display or print a list of all active monitor input device types.

Test: Display or print a list of points in an active service group that are in the active or trouble state.

Disabled Pts: Display or print a list of all addressable points that are disabled.

Outputs: Display or print a list of all active output device types and LED/switch card LEDs.

Internal: Display or print the status of the power supply voltages.

Reports menu

```
REPORTS MENU
▶1)Maintenance
 2)History
 3)Revisions
 4)Alarm History
```

Use the commands on the Reports menu to retrieve maintenance and service related information from the control panel. There are five kinds of report: maintenance, history, revisions, and alarm history.

Maintenance

The Maintenance command lets you select one of the reports described below.

Dirty > 80%: Creates a report that lists all intelligent addressable smoke detectors that are more than 80% dirty. A smoke detector that is more than 80% dirty should be cleaned or replaced as soon as possible.

Dirty > 20%: Creates a report that lists all intelligent addressable smoke detectors that are more than 20% dirty. A smoke detector that is more than 20% dirty should be noted for possible cleaning or replacing in the future.

Single Device: Creates a report that lists the attributes of a specific intelligent addressable smoke detector. The attributes listed include type, location description (if programmed), percent dirty, and primary and alternate alarm sensitivity values. Requires the panel-card-device address (PPCCDDD) of the detector.

Card Devices: Creates a report that lists the attributes of every intelligent addressable smoke detector connected to a specific loop controller. The attributes listed include type, location description (if programmed), percent dirty, and primary and alternate alarm sensitivity values. Requires the panel-card address (PPCC) of the loop controller.

History

The History command creates a report that lists the last 1,000 events or operator instructions processed by the control panel. The items in the list are presented in reverse chronological order and contain the following information:

- The event or system command name
- The time and date of occurrence
- The source that initiated the event or command

Revisions

The Revisions command creates a report that lists the revision level of all the hardware and software components installed in the cabinet.

For the project database, the report includes:

- The market place
- The configuration utility version number and project number if the database loaded into the panel was created using the configuration utility
- The CPU firmware revision number
- The database serial number and the date it was compiled

For the CPU/Display Unit, the report includes:

- The CPU type and firmware version number
- The quantity and type of LED/switch cards installed

For each option card, the report includes:

- The card number
- The card type
- The firmware revision number and date

Alarm History

The Alarm History command creates a report that lists the number of times the control panel has entered the alarm state.

Test menu

```
TEST MENU
►1)Start Test
 2)Cancel Test
 3)Lamp Test
```

Use the commands on the Test menu to perform periodic inspection tests on the fire alarm system. There are three test commands.

Start Test: Lets you verify the operation of devices in the selected service group without causing the control panel to enter the fire alarm or trouble state.

Cancel Test: Returns the devices in the selected service group to normal operation. Upon canceling a test, any devices left in an active state causes the control panel to report a trouble.

Lamp Test: Temporarily turns on the panel buzzer, all LED indicators, and every pixel on the alphanumeric display. When operated from the control panel CPU/Display Unit, the lamp test command tests only the control panel. When operated from a remote annunciator CPU/Display Unit, the lamp test command tests the indicators on all remote annunciators at the same time.

Enable menu

```
ENABLE MENU
►1)Zone
 2)Device
 3)Card
 4)Group
 5)Switch
```
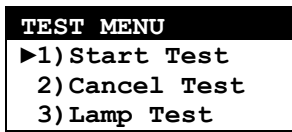
Use the commands on the Enable menu to place parts of the fire alarm system that have been disabled back into service.

Zone: Enables the zone selected from a zone list.

Device: Enables a device or circuit. Requires a panel-card-device address (PPCCDDD).

Card: Enables an option card. Requires a panel-card address (PPCC).

Group: Displays the Enable Group menu from which you can enable an AND group, matrix group, or time control.

Switch: Enables a switch on an LED/switch card. Requires a group-switch address (GGSS).

Disable menu

```
DISABLE MENU
▶1)Zone
 2)Device
 3)Card
 4)Group
 5)Switch
```
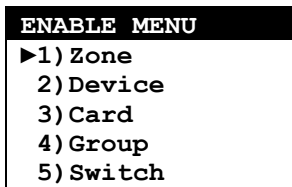
Use the commands on the Disable menu to take individual zones, input and output points, option cards, and other parts of the fire alarm system out of service.

Zone: Disables the zone selected from a zone list.

Device: Disables a device or circuit. Requires a panel-card-device address (PPCCDDD).

Card: Disables an option card. Requires a panel-card address (PPCC).

Group: Displays the Disable Group menu from which you can disable an AND group, matrix group, or time control.

Switch: Disables a switch on an LED/switch card. Requires a group-switch address (GGSS).

Activate menu

```
ACTIVATE MENU
▶1)Output
 2)Alt Sens
 3)Alt Msg Route
 4)LED
```

Use the commands on the Activate menu to switch outputs and LED indicators on, and switch sensor sensitivity and event message routing to their alternate settings.

Output: Changes the state of an output point from off to an active state or from one active state to another active state.

Alt Sens: Switches fire detector sensitivity settings from primary alarm sensitivity to alternate alarm sensitivity.

Alt Msg Route: Switches event message routing from primary message routing to alternate message routing.

LED: Changes the state of an LED from off to an active state or from one active state to another active state.

Restore menu

```
RESTORE MENU
▶1)Output
 2)Prm Sens
 3)Prm Msg Route
 4)LED
```

Use the commands on the Restore menu to switch outputs and LED indicators off, and switch sensor sensitivity and event message routing to their primary settings.

Output: Changes the state of an output point to off.

Prm Sens: Switches sensor sensitivity settings from alternate alarm sensitivity to primary alarm sensitivity.

Prm Msg Route: Switches event message routing from alternate message routing to primary message routing.

LED: Changes the state of an LED to off.

Event messages

Event messages are used to help locate points that are in an abnormal state. The control panel dynamically maintains the 500 most recent, highest priority event messages. There are four kinds of event message: alarm, supervisory, trouble, and monitor.

An event message consists of three lines of text. The first line displays an event name and number. The next two lines display a location description, if programmed. If a location description was not programmed, the display shows the address of the point that activated the event and the text "No message."

Event message queues

Event messages are stored in four event message queues located at the bottom of the event message display screen. They are arranged from left to right in order of importance as follows:

- ALM = alarm event messages (highest priority)
- SUP = supervisory event messages
- TRBL = trouble event messages
- MON = monitor event messages (lowest priority)

Alarm event messages

```
08:31:00
A002 D000

▶002 ZONE ALARM
1ST FLOOR
EAST WING

 001 PULL STATION
P:01 C:01 D:001
No message


ALM  SUP  TRBL MON
002  000  000  000
```

Alarm event messages are stored in the ALM event message queue. They are used to identify the source of a fire alarm or life-threatening emergency. The table below lists the different alarm event messages.

Event name	Description
ALARM ACTIVE	An active smoke detector or initiating device circuit connected to two-wire smoke detectors, dry contact initiating devices, or both
AND GROUP	An active AND group
HEAT ALARM	An active heat detector or initiating device circuit connected to a heat detector
PULL STATION	An active pull station or initiating device circuit connected to a pull station
MATRIX GROUP	An active matrix group
WATERFLOW	An active initiating device circuit connected to a waterflow switch
ZONE ALARM	An active fire alarm zone

```
08:31:00
A001 D000

▶001TAMPER
P:01 C:01 D:001
No message




ALM SUP  TRBL MON
000 001   000 000
```

Supervisory event messages

Supervisory event messages are stored in the SUP event message queue. They are used to identify potential problems with the fire suppression system. The table below lists the different supervisory event messages.

Event name	Description
LATCH SUPV	An active latching initiating device circuit connected to a supervisory device other than an outside screw and yoke (OS&Y) valve supervisory switch
LATCH TAMPER	An active latching initiating device circuit connected to an outside screw and yoke (OS&Y) valve supervisory switch
SUPERVISORY	An active nonlatching initiating device circuit connected to a supervisory device other than an outside screw and yoke (OS&Y) valve supervisory switch
TAMPER	An active nonlatching initiating device circuit connected to an outside screw and yoke (OS&Y) valve supervisory switch
ZONE SUPER	An active supervisory zone

```
08:31:00
A001 D000

▶001LCL Trouble
Battery Wiring
Or Battery Fault




ALM SUP  TRBL MON
000 000   001 000
```

Trouble event messages

Trouble event messages are stored in the TRBL event message queue. They are used to identify potential problems with the fire alarm system. The table below lists the different trouble event messages.

Event name	Description
AC POWER FAIL	An auxiliary/booster power supply lost AC power
DISABLED	A point is disabled
GROUND FAULT	An earth ground fault
LCL TROUBLE	An internal trouble on an option card
SERVICE GROUP	An active service group
TEST	An active service group test

Event name	Description
TROUBLE	A common trouble event message for the following Signature troubles: • BAD PERSONATY: Personality mismatch • BAD TYPE: Device type mismatch • COMM FAULT: Communication failure • DEV COMPATIB: Incompatible device • DIRTY HEAD: Detector is 100% dirty and needs to be cleaned or replaced • INTERNAL TBL: Internal trouble
TROUBLE OPEN	An open detected on an initiating device circuit or on a notification appliance circuit
TROUBLE SHORT	A short detected on a notification appliance circuit
UNEXPECT DEV	A device is installed but not defined in the project database

Monitor event messages

```
08:31:00
A001 D000

▶001MONITOR
P:01 C:01 D:001
No message




ALM SUP TRBL MON
000 000   000 001
```

Monitor event messages are stored in the MON event message queue. They are used to indicate the operation of ancillary system functions. The table below describes the different monitor event messages.

Event name	Description
ALARM VERIFY	Alarm verification in progress
LCL MONITOR	An internal monitor point on an option card is active
MAINT ALERT	A smoke detector is at least 80% dirty
MONITOR	An active nonlatching initiating device circuit connected to a dry contact device
OBJECT RUN	An active service group
PREALARM	A smoke detector's prealarm threshold has been crossed indicating the possibility of a fire
SWITCH	An active switch on an LED/switch card
TIME CONTROL	An active time control
ZONE MONITOR	An active monitor zone

Control panel operation

The control panel can operate in the following states:

*   Normal
*   Alarm
*   Supervisory
*   Trouble
*   Monitor
*   Disable
*   Test

Each state is described in detail below.

Note: For the control panel to indicate an abnormal operating state, the event message for the activated point must be routed to the control panel. Event message routing does not affect the outputs of the abnormal state.

Normal state

The control panel operates in the normal state in the absence of any events. In the normal state, only the power LED is on and the alphanumeric display shows the System Normal display screen.

Alarm state

The control panel enters the alarm state when a point signals an alarm event.

Output of the alarm state

Upon entering the alarm state, the control panel:

*   Changes the contact positions on the common alarm relay (Relay 1 on the PS6 card)

*   Activates all common alarm outputs

*   Executes the active response for the First Alarm pseudo point

*   Executes the active response for the point that signaled the alarm event

Indication of the alarm state

To indicate it is in the alarm state, the control panel:

*   Sounds the panel buzzer using a repeating pattern of four beeps

*   Flashes the Alarm LED at a rate of 300 times per minute

- Displays an event message in the ALM message queue for the point that signaled the alarm event

If the active point is an alarm zone and an LED/switch card is installed, the control panel also flashes the zone's alarm LED at a rate of 300 times per minute.

Supervisory state

The control panel enters the supervisory state when a point signals a supervisory event.

Output of the supervisory state

Upon entering the supervisory state, the control panel:

- Closes the normally open contacts on the common supervisory relay (Relay 2 on the PS6 card)
- Executes the active response for the First Supervisory pseudo point
- Executes the active response for the point that signaled the supervisory event

Indication of the supervisory state

To indicate it is in the supervisory state, the control panel:

- Sounds the panel buzzer using a repeating pattern of two beeps
- Flashes the Supervisory LED at a rate of 30 times per minute
- Displays an event message in the SUP message queue for the point that signaled the supervisory event

If the active point is a supervisory zone and an LED/switch card is installed, the control panel also flashes the zone's active LED at a rate of 300 times per minute.

Trouble state

The control panel enters the trouble state when a point signals a trouble event.

Output of the trouble state

Upon entering the trouble state, the control panel:

- Opens the normally closed contacts on the common trouble relay (Relay 3 on the PS6 card)
- Executes the trouble response for the First Trouble pseudo point

- Executes the trouble response for the point that signaled the trouble event

Indication of the trouble state

To indicate it is in the trouble state, the control panel:

- Sounds the panel buzzer at a rate of 30 times per minute

- Flashes the Trouble LED at a rate of 30 times per minute

- Displays an event message in the TRBL message queue for the point that signaled the trouble event

- Turns on the CPU Fault LED if the trouble is a CPU fault

- Turns on the Ground Fault LED if the trouble is an earth ground fault

If the point is an alarm, supervisory, or monitor zone and an LED/switch card is installed, the control panel also flashes the zone's trouble LED at a rate of 300 times per minute.

Note: Trouble indications are restored automatically when the trouble condition is cleared. If the panel buzzer has been silenced, a new trouble re-sounds the buzzer.

Monitor state

The control panel enters the monitor state when a point signals a monitor event.

Output of the monitor state

Upon entering the monitor state, the control panel:

- Executes the active response for the First Monitor pseudo point

- Executes the active response for the point that signaled the monitor event

Indication of the monitor state

To indicate it is in the monitor state, the control panel:

- Sounds the panel buzzer using a repeating pattern of four beeps

- Flashes the Monitor LED at a rate of 30 times per minute

- Displays the point's event message in the MON message queue

If the point is a monitor zone and an LED/switch card is installed, the control panel also flashes the zone's active LED at a rate of 300 times per minute.

Note: Monitor indications are restored automatically when the monitor input is restored.

Disable state

The control panel enters the disable state when a point signals a disable event.

Note: For anything other than a zone, use the Disabled Pts. command on the Status menu to identify a disabled point. For more information, see "Checking system status" in Chapter 5.

Output of the disable state

Upon entering the disable state, the control panel:

- Opens the normally closed contacts on the common trouble relay (Relay 3 on the PS6 card)

- Executes the trouble response for the First Trouble pseudo point

- Executes the trouble response for the First Disable pseudo point

- Executes the disablement response for the point that signaled the disable event

Indication of the disable state

To indicate it is in the disable state, the control panel:

- Sounds the panel buzzer at a rate of 30 times per minute

- Turns on the Disable/Test LED

- Flashes the Trouble LED at a rate of 30 times per minute

- Displays an event message in the TRBL message queue for the First Trouble pseudo point

- Displays an event message in the TRBL message queue for the point that signaled the disable event. This is the first line of the message: DISABLED.

When a point is disabled, the control panel does not process any of the point's status changes and the point remains in its current state. For example, if an audible device type in the normal state were disabled and subsequently activated, the audible device type would not turn on until it was enabled. Conversely, if an active audible device type were disabled and subsequently restored, the audible device type would not turn off until it was enabled.

If a point in trouble is disabled and the cause of the trouble changes while the point is disabled, the point's original trouble event message may not update when the point is enabled. For example, a shorted notification appliance circuit whose wiring is

opened after it has been disabled still displays this event message after it is enabled: TROUBLE SHRT.

Test state

The control panel enters the test state when a service group is activated.

Output of the test state

Upon entering the test state, the control panel:

- Executes the active response for the First Monitor pseudo point
- Executes the trouble response for the First Trouble pseudo point
- Executes the trouble response for the First Test pseudo point
- Executes the running response for the service group that was activated

While in the test state:

- When a member of an active service group signals an active event, the control panel executes the service group's active test response
- When a member of an active service group signals a trouble event, the control panel executes the service group's trouble test response

Note: If you do not program a trouble test response, the control panel executes the active test response instead.

Indication of the test state

To indicate it is in the test state, the control panel:

- Sounds the panel buzzer at a rate of 30 times per minute
- Turns on the Disable/Test LED
- Flashes the Monitor LED at a rate of 30 times per minute
- Flashes the Trouble LED at a rate of 30 times per minute
- Displays an event message in the TRBL message queue for the First Test pseudo point
- Displays an event message in the MON message queue for the service group that was activated. This is the first line of the message: OBJECT RUN.

Product description

Chapter 5

Operating instructions

Summary

This chapter provides instructions for operating the fire alarm system from the control panel CPU/Display Unit. It is intended for those who might be expected to operate the control panel in a fire alarm emergency.

Content

Logging on to the control panel

```
MAIN MENU
 1)Status
 2)Reports
 3)Test
▶4)Login


                ↵
```

⬇

```




    ENTER PASSWORD
        XXXX


```
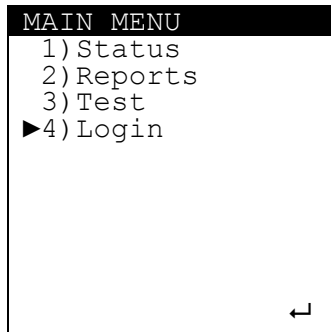
Logging on to the control panel gives you access to system commands that are otherwise restricted from view. Your login password determines which commands you can use, as follows.

- For level 2 commands, enter the level 2 password

- For level 3 commands, enter the level 3 password

- For level 4 commands, enter the level 4 password

For more information, see the topic "Command menu organization" in Chapter 2.

You don't have to log on to the control panel to use level 1 commands. You don't have to log on to the control panel to use level 2 commands if the Enable Control key is in the ON position.

The control panel lets you use the command menus for the password you entered until you log on with a different password or until the user time-out period expires (approximately three minutes). After the user time-out period expires, the control panel automatically returns to using the level 1 command menus.

To log on to the fire alarm system:

1. On the Main menu, choose Login.

2. Enter your password.

Viewing status reports

```
STATUS MENU
►1)All Active
 2)Alarm
 3)Supervisory
 4)Trouble
 5)Monitor
 6)Test
 7)Disabled Pts.
 8)Outputs
 9)Internal

                 ↵
```

↓

```



    ENTER PANEL
         00
00 = All Panels



```

↓

```
REPORT OUTPUT
►1)Display
 2)Printer





                 ↵
```

The control panel provides a set of reports to help you determine the current state of the fire alarm system. The content of the status reports are as follows:

- All Active Points Status report: All points that are active (i.e., not normal)

- All Active Alarm report: All active alarm points

- All Active Supervisory report: All active supervisory points

- All Active Trouble report: All points indicating a trouble

- All Active Monitor report: All active monitor points

- All Active Test report: All points in an active service group that are active or indicating a trouble

- All Active Disabled Points report: All points that are disabled

- All Active Output report: All outputs that are active (on).

- Internal Status report: Power supply voltages and whether they are okay or bad.

You can view these reports on the LCD text display or on a local printer.

To view a status report:

1. On the Status menu, choose a report.

2. Press Enter.

3. On the Report Output menu, choose Display to view the report on the LCD text display.

   — or —

   Choose Printer to print the report.

Viewing maintenance reports

```
MAIN MENU
 1)Status
▶2)Reports
 3)Test
 4)Login

                    ↵
```
⬇
```
REPORTS MENU
▶1)Maintenance
 2)Alarm History



                    ↵
```
⬇
```
MAINTENANCE
▶1)Dirty>80%
 2)Dirty>20%
 3)Single Device
 4)Card Devices


                    ↵
```
⬇
```


   ENTER PANEL
        00
 00 = All Panels


```
⬇
```
REPORT OUTPUT
▶1)Display
 2)Printer




                    ↵
```
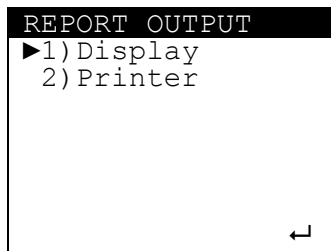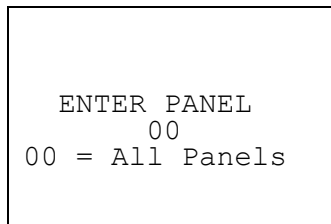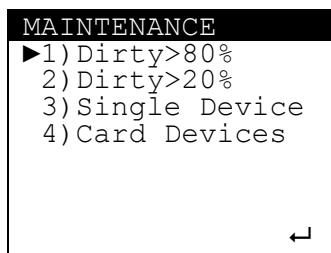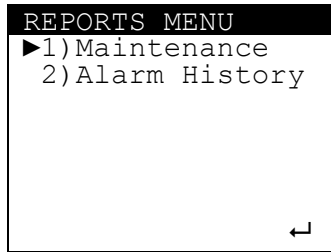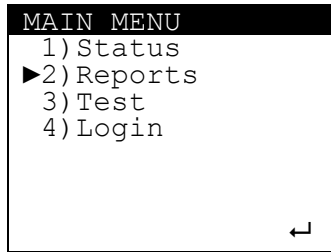
The control panel provides a set of reports to help you determine if any addressable smoke detectors require maintenance. The content of the maintenance reports are as follows:

• Device Maintenance Report >80% Dirty: All addressable smoke detectors with a %Dirty value of greater than 80%

   The %Dirty value is an indication of a smoke detector's ability to compensate for environmental conditions. Smoke detectors with higher percentages are less able to compensate.

• Device Maintenance Report >20% Dirty: All addressable smoke detectors with a %Dirty value from 20 to 80%

• Single Device Maintenance Report: The model type, %Dirty, primary and alternate alarm sensitivity values for for a single addressable smoke detector. You must know the smoke detector's address to view this report.

• Single Card Device Maintenance Report: The model type, %Dirty, primary and alternate alarm sensitivity values for all addressable smoke detectors on the same SLIC card. You must know the SLIC card's address to view this report.

You can view these reports on the LCD text display or on a local printer.

To view a maintenance report:

1. On the Main menu, choose Reports.

2. On the Reports menu, choose Maintenance.

3. On the Maintenance menu, choose a report.

4. Enter the panel number (01), the card address (01CC), or the device address (01CCDDD), as required.

5. On the Report Output menu, choose Display to view the report on the LCD text display.

   — or —

   Choose Printer to print the report.

Viewing a history report

```
MAIN MENU
 1)Status
▶2)Reports
 3)Test
 4)Login

                    ↵
```

↓

```
REPORTS MENU
 1)Maintenance
▶2)History
 3)Alarm History

                    ↵
```

↓

```


    ENTER PANEL
        01


```

↓

```
REPORT OUTPUT
▶1)Display
 2)Printer




                    ↵
```
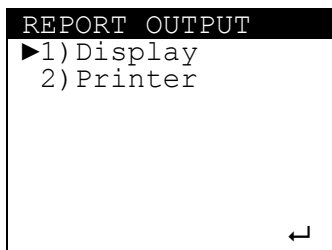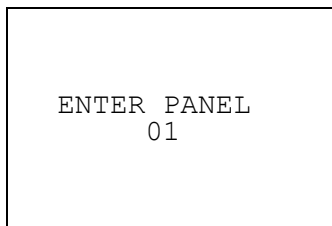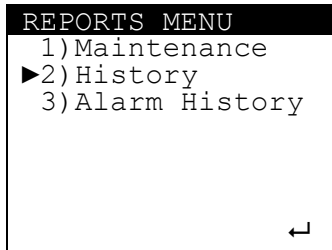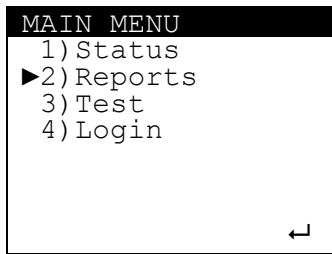
A history report lists the time and date of each event or operator command processed by the control panel since it was first turned on or since its history was cleared. The report is structured with the most recent event or operator command listed first

You can view these reports on the LCD text display or on a local printer.

To view a history report you must first log on using level 2 password or turn the Enable Controls switch to the On position.

To view a history report:

1. On the Main menu, choose Reports.

2. On the Reports menu, choose History.

3. Enter the panel number (01).

4. On the Report Output menu, choose Display to view the report on the LCD text display.

— or —

Choose Printer to print the report.

Viewing alarm history reports

```
┌─────────────────────────┐
│ MAIN MENU               │
│  1)Status               │
│ ▶2)Reports              │
│  3)Test                 │
│  4)Login                │
│                         │
│                         │
│                         │
│                      ↵  │
└─────────────────────────┘
```

⬇

```
┌─────────────────────────┐
│ REPORTS MENU            │
│  1)Maintenance          │
│ ▶2)Alarm History        │
│                         │
│                         │
│                         │
│                         │
│                         │
│                      ↵  │
└─────────────────────────┘
```
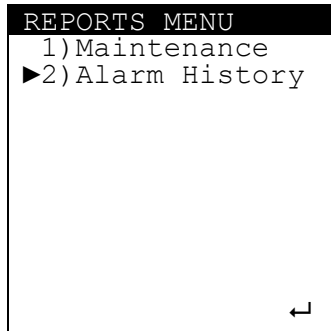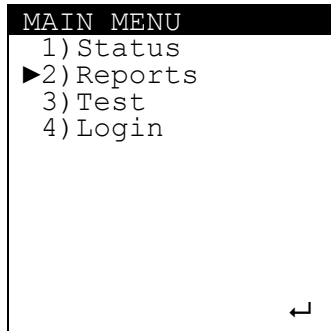
The alarm history report lists how many times the control panel has gone into alarm since the last time the alarm history counter was cleared.

To view an alarm history report:

1. On the Main menu, choose Reports.

2. On the Reports menu, choose Alarm History.

Performing a lamp test

```
MAIN MENU
 1)Status
 2)Reports
▶3)Test
 4)Login


                    ↵
```

↓

```
TEST MENU
▶1)Lamp Test




                    ↵
```
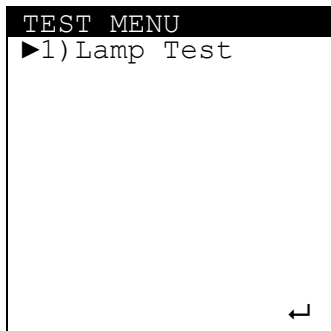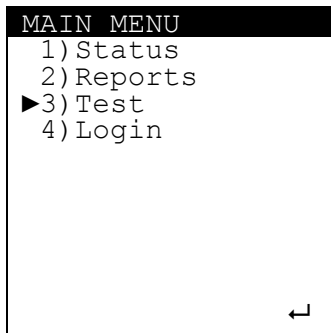
The lamp test command temporarily turns on the panel buzzer, all LED indicators, and every pixel on the LCD text display.

Note: When operated from the control panel, the lamp test command only tests the control panel. When operated from a QSA-series remote annunciator, the lamp test command tests all QSA-series remote annunciators at the same time.

To perform a lamp test:

1. On the Main menu, choose Test.

2. On the Test menu, choose Lamp Test.

Silencing the panel buzzer

The panel buzzer sounds whenever an event message is received at the control panel. Pressing the Panel Silence button:

- Silences the panel buzzer on the control panel and acknowledges all current event messages

- Silences the panel buzzer on all remote annunciators

To silence the panel buzzer:

1. Press Panel Silence.

2. Enter the level 2 password.

Notes

- Depending on your project settings, the panel buzzer may not re-sound or may re-sound automatically after 1, 2, 3, 6, 12, or 24 hours, if no new event message is received at the control panel

- Depending on your project settings, the panel buzzer may emit a short sound periodically to indicate that the system is not normal and the panel has been silenced

- The control panel will not silence the panel buzzer on remote annunciators that are not communicating. To silence the remote annunciator's panel buzzer after the trouble has been restored you must press the control panel's Panel Silence button again or press the panel silence button on the remote annunciator.

Resetting the fire alarm system

Pressing the System Reset button restores the fire alarm system to its normal state provided there are no active devices or circuits at the end of the reset cycle. If any devices or circuits are still active, audible notification appliances, if silenced, will re-sound and the panel buzzer, if silenced, will re-sound.

WARNING: The protected premises may be occupied. Do not silence alarm signals or reset the control panel unless you are authorized to do so and only after all occupants have been evacuated.

To reset the fire alarm system:

1. Press Reset.
2. Enter the level 2 password.

Silencing alarm signals

Pressing the Alarm Silence button silences all audible and common alarm device types, and if configured, visible device types.

Pressing Alarm Silence *does not* silence the device types described above under the following conditions:

- When a waterflow device type is active and the system's Allow Waterflow Silence option is not enabled

- When the system is configured to delay the silencing of alarm signals, in which case the Alarm Silence button may not be operational for up to five minutes after the initial fire alarm event

Silenced outputs automatically re-sound when:

- The Alarm Silence button is pressed a second time

- Another alarm input device type is activated

- A subsequent device in an active zone is activated and the system is configured to allow zone re-sounding.

WARNING: The protected premises may be occupied. Do not silence alarm signals or reset the control panel unless you are authorized to do so and only after all occupants have been evacuated.

To silence alarm signals:

1. Press Alarm Silence.
2. Enter the level 2 password.

Sounding an alarm

Pressing the Drill button activates all audible and common alarm devices types, and if configured, visible device types. Pressing the Drill button a second time returns these outputs to their normal condition.

To sound an alarm:

1. Press Drill.

2. Press Enter to confirm that you want to sound all alarms.

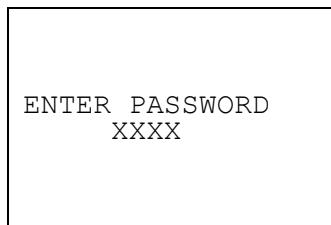3. Enter the level 2 password.

Disabling and enabling zones

```
MAIN MENU
 1)Status
 2)Reports
 3)Test
 4)Enable
►5)Disable
 6)Activate
 7)Restore
 8)Program
 9)Login

                    ↵
```

```
DISABLE MENU
►1)Zone
 2)Device



                    ↵
```

```
ZONE LIST          ▼
►Zone 1
 Zone 2
 Zone 3


                    ↵
```

```
MAIN MENU
 1)Status
 2)Reports
 3)Test
►4)Enable
 5)Disable
 6)Activate
 7)Restore
 8)Program
 9)Login

                    ↵
```

```
ENABLE MENU
►1)Zone
 2)Device



                    ↵
```

```
ZONE LIST          ▼
►Zone 1
 Zone 2
 Zone 3


                    ↵
```

The fire alarm system can include one or more zones. Each zone represents a defined area in the protected premises. You can disable and enable zones from the control panel using the Disable Zone and Enable Zone commands.

To disable or enable a zone you must first log on using the level 2 password or turn the Enable Controls switch to the On position.

Disabling a zone

Use the Zone command on the Disable menu to temporarily take a zone out of service. The control panel tracks events from the disabled zone but does not process them until the zone is enabled.

To disable a zone:

1. On the Main menu, choose Disable.

2. On the Disable menu, choose Zone.

3. Select the zone from the zone list then press Enter.

    — or —

    Press the corresponding zone button on an LED/switch card..

Enabling a zone

Use the Zone command on the Enable menu to return a disabled zone to service.

Note: If the zone is disabled because all of the points in the zone were individually disabled, you must enable at least one point in the zone before you can enable the zone

To enable a zone:

1. On the Main menu, choose Enable.

2. On the Enable menu, choose Zone.

3. Select the zone from the pick list then press Enter.

    — or —

    Press the corresponding zone button on an LED/switch card.

Disabling and enabling device addresses

```
MAIN MENU
 1)Status
 2)Reports
 3)Test
 4)Enable
▶5)Disable
 6)Activate
 7)Restore
 8)Program
 9)Login
                    ↵
```

⬇

```
DISABLE MENU
 1)Zone
▶2)Device


                    ↵
```

⬇

```


ENTER DEVICE
   01CCDDD


```

```
MAIN MENU
 1)Status
 2)Reports
 3)Test
▶4)Enable
 5)Disable
 6)Activate
 7)Restore
 8)Program
 9)Login
                    ↵
```

⬇

```
ENABLE MENU
 1)Zone
▶2)Device


                    ↵
```

⬇

```


ENTER DEVICE
   01CCDDD


```

Every point (smoke detectors, pull stations, pseudo points, etc.) has a device address. You can disable and enable device addresses from the control panel using the Disable Device and Enable Device commands.

Device addresses are listed in Appendix D, "Addresses."

Notes

• Disabling all of the points in a zone also disables the zone. Enabling all of the points in a zone a does not automatically enable the zone.

• You can't disable device addresses for common alarm output device types

• Disabling the device address for the dialer or a dialer account deletes all event messages sent to that account before they are transmitted. The dialer still transmits the account's test-abnormal message and any message that was in the dialer queue before the account was disabled.

To disable or enable a device address you must first log on using the level 2 password or turn the Enable Controls switch to the On position.

Disabling a device address

Use the Device command on the Disable menu to disable a device address.

To disable a device address:

1. On the Main menu, choose Disable.

2. On the Disable menu, choose Device.

3. Enter the address of the device, where: PP is 01, CC is the card number, and DDD is the device number.

Enabling a device

Use the Enable Device command to enable a disabled device address. When you enable the device, all indicators and outputs activated by the device will reactivate.

To enable a device:

1. On the Main menu, choose Enable.

2. On the Enable menu, choose Device.

3. Enter the address of the device, where: PP = 01, CC = the card number, and DDD = the device number.

Switching detector alarm sensitivity

```
MAIN MENU
 1)Status
 2)Reports
 3)Test
 4)Enable
 5)Disable
▶6)Activate
 7)Restore
 8)Program
 9)Login
                    ↵
```

⬇

```
ACTIVATE MENU
▶1)Alt Sens
 2)Alt Msg Route




                    ↵
```

```
MAIN MENU
 1)Status
 2)Reports
 3)Test
 4)Enable
 5)Disable
 6)Activate
▶7)Restore
 8)Program
 9)Login
                    ↵
```

⬇

```
RESTORE MENU
▶1)Prm Sens
 2)Prm Msg Route




                    ↵
```

Intelligent addressable detectors are configured with two alarm sensitivity thresholds. Typically, the primary alarm sensitivity threshold is used for daytime operation. The alternate alarm sensitivity threshold is used for nighttime and weekend operation.

Typically, a time control is used to automatically switch alarm sensitivity thresholds. You can manually switch alarm sensitivity thresholds using the Alternate Sensitivity and Primary Sensitivity commands.

To switch alarm sensitivity thresholds manually you must first log on using the level 2 password or turn the Enable Controls switch to the On position.

The default setting for both primary and alternate alarm sensitivity is "Low."

Switching from primary to alternate alarm sensitivity

Use the Alt Sens (alternate sensitivity) command on the Activate menu to switch smoke detector alarm sensitivity thresholds from their primary threshold value to their alternate threshold value.

To switch from primary to alternate sensitivity:

1. On the Main menu, choose Activate.

2. On the Activate menu, choose Alt Sens.

Switching from alternate to primary alarm sensitivity

Use the Prm Sens (primary sensitivity) command on the Restore menu to switch smoke detector alarm sensitivity thresholds from their alternate threshold value to their primary threshold value.

To switch from alternate to primary sensitivity:

1. On the Main menu, choose Restore.

2. On the Restore menu, choose Prm Sens.

Switching event message routes

```
MAIN MENU
 1)Status
 2)Reports
 3)Test
 4)Enable
 5)Disable
▶6)Activate
 7)Restore
 8)Program
 9)Login

                    ↵
```

⬇

```
ACTIVATE MENU
 1)Alt Sens
▶2)Alt Msg Route




                    ↵
```

```
MAIN MENU
 1)Status
 2)Reports
 3)Test
 4)Enable
 5)Disable
 6)Activate
▶7)Restore
 8)Program
 9)Login

                    ↵
```

⬇

```
RESTORE MENU
 1)Prm Sens
▶2)Prm Msg Route




                    ↵
```

Event messages are configured with two message routes. Typically, the primary message route is used for daytime operation and the alternate message route is used for nighttime and weekend operation.

Typically, a time control is used to automatically switch between event message routes. You can manually switch event message routes using the Alternate Message Route and Primary Message Route commands.

To switch event message routes manually you must first log on using the level 2 password or turn the Enable Controls switch to the On position.

The default setting for both primary and alternate message routes is "All Cabinets."

Switching from primary to alternate message routing

Use the Alt Msg Route (alternate message route) command on the Activate menu to route event messages according to their alternate message route setting instead of their primary message route setting.

To switch from primary to alternate message routing:

1. On the Main menu, choose Activate.

2. On the Activate menu, choose Alt Msg Route.

Switching from alternate to primary message routing

Use the Prm Msg Route (primary message route) command on the Restore menu to route event messages according to their primary message route setting instead of their alternate message route setting.

To switch from alternate to primary message routing:

1. On the Main menu, choose Restore.

2. On the Restore menu, choose Prm Msg Route.

Changing the level 1 password
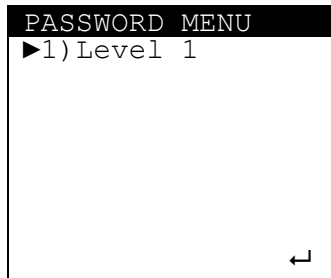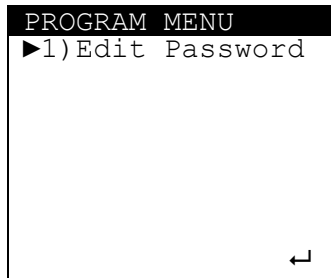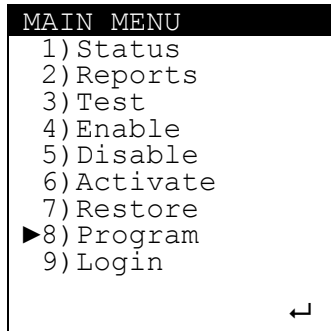
```
MAIN MENU
 1)Status
 2)Reports
 3)Test
 4)Enable
 5)Disable
 6)Activate
 7)Restore
▶8)Program
 9)Login
                    ↵
```

⬇

```
PROGRAM MENU
▶1)Edit Password



                    ↵
```

⬇

```
PASSWORD MENU
▶1)Level 1



                    ↵
```

⬇

```
ENTER PASSWORD
     XXXX
```

Use the Edit Password command on the Program menu to change the password setting for using level 1 command menus.

To switch alarm sensitivity thresholds manually you must first log on using the level 2 password or turn the Enable Controls switch to the On position.

The default level 1 password is 1111.

To change the level 1 password:

1. On the Main menu, choose Program.

2. On the Program menu, choose Edit Password.

3. On the Password menu, choose Level 1.

4. Enter the new password.

Restarting the fire alarm system

```
MAIN MENU
 1)Status
 2)Reports
 3)Test
 4)Enable
 5)Disable
 6)Activate
 7)Restore
▶8)Program
 9)Login
                    ↵
```

↓

```
PROGRAM MENU
 1)Time/Date
 2)Edit Password
▶3)Restart
 4)Clear History
 5)Configure




                    ↵
```

↓

```
  ENTER PANEL
      00
00 = All Panels
```

Use the Restart command on the Program menu to reinitialize the fire alarm system without removing power.

To restart the fire alarm system you must first log on using the level 4 password.

To restart the fire alarm system:

1. On the Main menu, choose Program.

2. On the Program menu, choose Restart.

3. Press Enter.

Chapter 8

Service and troubleshooting

Summary

This chapter provides instructions for servicing and troubleshooting the fire alarm system. It is intended for those trained and authorized to maintain the fire alarm system.

Content

Display or print a revision report

```
REPORTS
 1)Maintenance
 2)History
►3)Revisions
 4)Alarm History
```

```
 ENTER PANEL
      01
```

```
REPORT OUTPUT
►1)Display
 2)Printer
```

Use the Revisions command on the Reports menu to display or print a revision report. The revision report lists the firmware revision levels of all the hardware and software components installed in the control panel.

Figure 8-1 shows an example of a printed revision report.

Note: To print a report you must have a printer connected to the panel you are operating.

To display or print a revision report:

1. Log on using the level 3 password.

2. From the main menu, choose Reports, then Revisions.

3. Enter the panel number of the control panel.

4. On the Report Output menu, choose one of the following:

    • Display to view the list on the alphanumeric display

    • Printer to print the list

```
----------------------------------------------------------
REVISION REPORT
PANEL:  01                              13:27:38  08/24/04
----------------------------------------------------------
ALARM COUNT:    0000
MARKET    :  NFPA72
CPU       :  V01.60.00
QS-CU     :  V00.00.00
QS-CU PRJ: V00.00.00
DB S/N    :   00105751
DB DATE   :  08/24/04
CARD TYPE: CPU-1L
ANN TYPE :
(1)SL30
CARD: 01
  CARD TYPE: SLIC
  FIRMWARE : V01.00.00
            06/24/01
CARD: 14
  CARD TYPE: DLD
  FIRMWARE: V01.20.00
            04/11/02
CARD: 15
  CARD TYPE: PS6
  FIRMWARE : V01.00.00
            05/30/01
*END: COMPLETE*
```

Figure 8-1: Example revision report

Starting and canceling a service group test

You can start and cancel a service group test from the control panel using the Start Test and Cancel Test commands. A service group test must be performed at regular intervals to verify the system operation.

WARNING: If a fire starts in a zone that is being tested, the zone will not report the fire alarm condition. To ensure occupant safety, always post a fire watch while a zone is being tested.

When a device in a service group under test is activated, the system initiates the programmed active test response. When a device in a service group under test is placed in a trouble state (a detector is pulled from its base), the system initiates the programmed trouble test response. If a trouble test response is not programmed, the system defaults to the active test response.

Note: The proper testing sequence is to perform the trouble test first and then the activation test. If the activation test is performed first, the trouble test will not activate any outputs.

Starting a service group test

```
TEST MENU
▶1)Start Test
 2)Cancel Test
 3)Lamp Test
```

Use the Start Test command on the Test menu to start a service group test.

To start a service group test:

1. Log on using the level 3 password.

2. Choose Test, then Start Test.

3. Select the service group from the pick list for the zone you want tested then press Enter.

Canceling a service group test

```
TEST MENU
 1)Start Test
▶2)Cancel Test
 3)Lamp Test
```

Use the Cancel Test command to end a service group test. If a point is in the active condition (a pull station is left engaged) the control panel warns you of the condition before canceling the test.

Note: The system automatically resets after all service group tests are cancelled.

To cancel a service group test:

1. Log on using the level 3 password.

2. Choose Test, then Cancel Test.

3. Select a service group from the pick list then press Enter.

Disabling and enabling AND groups

You can disable and enable AND groups from the control panel using the AND command on the Disable Group menu and Enable Group menu, respectively. AND groups are used to initiate an active response when a specific number of its members signal an alarm event.

Disabling an AND group

```
DISABLE MENU
 1)Zone
 2)Device
▶3)Group
 4)Switch
 5)Loop Mapping
```

```
DISABLE GROUP
▶1)AND
 2)Matrix
 3)Time Control
```

Use the AND command on the Disable Group menu to disable an AND group and prevent it from activating a response.

To disable an AND group:

1. Log on using the level 3 password.

2. From the main menu, choose Disable, then Group, and then AND.

3. Select an AND group from the pick list, then press Enter.

Enabling an AND group

```
ENABLE MENU
 1)Zone
 2)Device
▶3)Group
 4)Switch
 5)Loop Mapping
```

```
ENABLE GROUP
▶1)AND
 2)Matrix
 3)Time Control
```

Use the Enable AND command on the Enable Group menu to return a disabled AND group to service. If you enable an AND group that was activated while it was disabled, any active responses programmed for the AND group are automatically activated.

To enable an AND group:

1. Log on using the level 3 password.

2. From the main menu, choose Enable, then Group, and then AND.

3. Select an AND group from the pick list, then press Enter.

Disabling and enabling matrix groups

You can disable and enable matrix groups from the control panel using the Matrix command on the Disable Group menu and Enable Group menu, respectively. Matrix groups are used to initiate an active response when a specific number of its members signal an alarm event or when any two of its members within a defined radius signal an alarm event.

Disabling a matrix group

Use the Matrix command on the Disable Group menu to temporarily take a matrix group out of service and prevent it from initiating a set of responses.

```
DISABLE MENU
 1)Zone
 2)Device
 3)Card
▶4)Group
 5)Switch
```

```
DISABLE GROUP
▶1)Matrix
 2)Time Control
```

To disable a matrix group:

1. Log on using the level 3 password.

2. Choose Disable, then Group, and then Matrix.

3. Select a matrix group from the pick list, then press Enter.

Enabling a matrix group

Use the Matrix command on the Enable Group menu to return a disabled matrix group to service and allow it to initiate a set of responses.

```
ENABLE MENU
 1)Zone
 2)Device
 3)Card
▶4)Group
 5)Switch
```

```
ENABLE GROUP
▶1)Matrix
 2)Time Control
```

To enable a matrix group:

1. Log on using the level 3 password.

2. Choose Enable, then Group, and then Matrix.

3. Select a matrix group from the pick list, then press Enter.

Disabling and enabling time controls

You can disable and enable time controls from the control panel using the Time Control command on the Disable Group menu and Enable Group menu, respectively. Time controls are used to initiate an active response at a specific time and date as determined by the system clock.

Disabling a time control

```
DISABLE MENU
 1)Zone
 2)Device
 3)Card
▶4)Group
 5)Switch
```

```
DISABLE GROUP
 1)Matrix
▶2)Time Control
```

Use the Time Control command on the Disable Group menu to temporarily take a time control out of service and prevent it from initiating a set of responses.

To disable a time control:

1. Log on using the level 3 password.

2. Choose Disable, then Group, and then Time Control.

3. Select a time control from the pick list, then press Enter.

Enabling a time control

```
DISABLE MENU
 1)Zone
 2)Device
 3)Card
▶4)Group
 5)Switch
```

```
DISABLE GROUP
 1)Matrix
▶2)Time Control
```

Use the Time Control command on the Enable Group to return a disabled time control to service and allow it to initiate a set of responses.

To enable a time control:

1. Log on using the level 3 password.

2. Choose Enable, then Group, and then Time Control.

3. Select a time control from the pick list, then press Enter.

Disabling and enabling switches

You can disable and enable a switch on an LED/switch card from the control panel using the Switch command on the Disable menu and the Enable menu, respectively. To disable or enable a switch you must know the switch's address. To determine a switch's address, see the topic "LED/switch card addresses" in Appendix D.

Disabling a switch

```
DISABLE MENU
 1)Zone
 2)Device
 3)Group
▶4)Switch
 5)Loop Mapping
```

```
ENTER SWITCH GRP
      GGSS
```

Use the Switch command on the Disable menu to disable a switch on an LED/switch card and prevent it from activating a response. When you press a switch that is disabled, the control panel recognizes that the switch was pressed, but does not activate any responses programmed for the switch.

To disable a switch:

1. Log on using the level 3 password.

2. From the main menu, choose Disable, then Switch.

3. Enter the switch address, where GG = the group number of the LED/switch card, and SS is the switch number.

Enabling a switch

```
ENABLE MENU
 1)Zone
 2)Device
 3)Group
▶4)Switch
 5)Loop Mapping
```

```
ENTER SWITCH GRP
      GGSS
```

Use the Switch command on the Enable menu to return a disabled switch on an LED/switch card to service. If you enable a switch that was pressed while it was disabled, the control panel activates any responses programmed for the switch.

To enable a switch:

1. Log on using the level 3 password.

2. From the main menu, choose Enable, then Switch.

3. Enter the switch address, where GG = the group number of the LED/switch card, and SS is the switch number.

Disabling and enabling option cards

You can disable and enable option cards from the control panel using the Card command on the Disable menu and Enable menu, respectively. To disable or enable an option card you must know the card's card address.

Note: If you disable an option card with notification appliance circuits (NACs) configured as common alarm outputs and there is an alarm event, the NACs will briefly turn on an off approximately twice a minute. This is normal.

Disabling an option card

Use the Card command on the Disable menu to disable an option card and prevent it from activating any responses.

```
DISABLE
 1)Zone
 2)Device
►3)Card
 4)Group
 5)Switch
 6)Loop Mapping
```

```
ENTER CARD
   01CC
```

To disable an option card:

1. Log on using the level 4 password.

2. From the main menu, choose Disable, then Card.

3. Enter the card number, where: PP = 01, and CC = the card number.

Enabling an option card

Use the Card command on the Enable menu to return a disabled option card to service.

```
ENABLE
 1)Zone
 2)Device
►3)Card
 4)Group
 5)Switch
 6)Loop Mapping
```

```
ENTER CARD
   01CC
```

To enable an option card:

1. Log on using the level 4 password.

2. From the main menu, choose Enable, then Card.

3. Enter the card number, where: PP = 01, and CC = the card number.

Turning an output on and off

You can turn an output on and off from the control panel using the Output command on the Activate and Restore menus, respectively.

Turning an output on or off from the control panel requires that you specify a priority. Typically, fire alarm systems use low priority commands to activate or restore outputs. In some cases, fire alarm systems may use low priority and medium priority commands. High priority commands are always reserved for manual override operations.

WARNING: Turning an output on or off from the control panel, if done incorrectly, may override a critical life safety feature of the fire alarm system. Correct operation requires that you activate the output then restore it, or restore the output then activate it. Never activate or restore an output two or more times in a row without performing the opposite operation the same number of times.

Note: You cannot change the state of an active common alarm output.

Turning an output on

```
ACTIVATE MENU
►1)Output
 2)Alt Sens
 3)Alt Msg Route
 4)LED
```

Use the Output command on the Activate menu to turn an output on as described below.

Conventional audible outputs: Steady, 20 bpm, 120 bpm, and temporal

Conventional common alarm outputs: Steady, 20 bpm, 120 bpm, and temporal

Conventional visible outputs: On

Relay outputs: Steady, 20 bpm, 120 bpm, and temporal

Intelligent addressable outputs (all device types): Steady

Note: It is possible to turn an output on more than once using different priority levels and different output states.

To turn an output on:

1. Log on using the level 3 password.

2. From the main menu, choose Activate, then Output.

3. Enter the output's address, where PP = 01, CC = the card number, and DDD = the device number.

4. On the Output menu, choose the desired output state, and then choose High Priority.
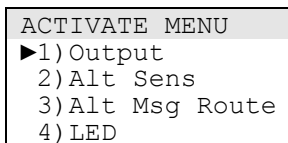
```
RESTORE MENU
►1)Output
 2)Alt Sens
 3)Alt Msg Route
 4)LED
```

Turning an output off

Use the Output command on the Restore menu to turn an output off.

Note: It is possible to turn an output off more than once using different priority levels.

To turn an output off:

1. Log on using the level 3 password.

2. From the main menu, choose Restore, then Output.

3. Enter the output's address, where PP = 01, CC = the card number, and DDD = the device number.

4. On the Output menu, choose Off, then choose High Priority.

Turning an LED on and off

You can turn an LED on an LED/switch card on and off from the control panel using the LED command on the Activate menu and Restore menu, respectively. Turning an LED on or off requires that you know the LED's address. To determine the LED's address, see the topic "LED/switch card addresses" in Appendix D.

WARNING: Turning an LED on or off from the control panel, if done incorrectly, may override a critical life safety feature of the fire alarm system. Correct operation requires that you activate the LED then restore it, or restore the LED then activate it. Never activate or restore an LED two or more times in a row without performing the opposite operation the same number of times.

Turning an LED on

```
ACTIVATE MENU
 1)Output
 2)Alt Sens
 3)Alt Msg Route
▶4)LED
```

Use the Activate LED command to turn an LED on. LEDs can be turned on in one of three states: steady, fast blink, and slow blink. It is possible to turn an LED on more than once using different priority levels and different output states.

To turn an LED on:

1. Log on using the level 3 password.

2. From the main menu, choose Activate.

3. On the Activate menu, choose LED.

4. On the LED menu, choose the desired output state, then enter the LED's address, where GG = the group number, SS = the switch number, and L = is the LED number.

   Example: Enter 01011 to activate the red LED in the first LED/switch group on the LED/switch card assigned to group number 1.

Turning an LED off

```
RESTORE MENU
 1)Output
 2)Alt Sens
 3)Alt Msg Route
▶4)LED
```

Use the LED command on the Restore menu to turn an LED off.

To turn an LED off:

1. Log on using the level 3 password.

2. From the main menu, choose Restore.

3. On the Restore menu, choose LED.

4. On the LED menu, choose Off, then enter the LED's address, where GG = the group number, SS = the switch number, and L = is the LED number.

   Example: Enter 01011 to restore the red LED in the first LED/switch group on the LED/switch card assigned to group number 1.

Setting the system time and date

The control panel includes a system clock that it uses to time stamp events and to activate time controls. The time is presented in 24-hour format. The date is presented in day-month-year format.

Setting the time

```
TIME/DATE MENU
►1)Enter Time
 2)Enter Date
```

```
13:00:00


    ENTER TIME
     HHMMSS


```

Use the Enter Time command on the Time/Date menu to set the system clock for the current time. The time is entered in 24-hour format, for example:

000000 = midnight
010000 = 1:00 a.m.
120000 = noon
130000 = 1:00 p.m.
235900 = 11:59 p.m.

To set the system clock for the current time:

1. Log on using the level 3 password (UL systems) or level 2 password (ULC systems).

2. From the main menu, choose Program, then Time/Date, and then Enter Time.

3. Press DEL until the display shows HHMMSS.

4. Enter the time in 24-hour format, where HH = hours, MM = minutes, and SS = seconds.

   Example: To set the time for 7:27:00 p.m., enter 192700.

Setting the date

```
TIME/DATE MENU
 1)Enter Time
►2)Enter Date
```

```
05/09/2002


    ENTER DATE
     DDMMYYYY


```

Use the Enter Date command on the Time/Date menu to set the system clock to the current date.

To set the system clock for the current date:

1. Log on using the level 3 password.

2. From the main menu, choose Program, then Time/Date, and then Enter Time.

3. Press DEL until the display shows DDMMYYYY.

   Enter the date, where DD = the number of the day, MM = the number of the month, and YYYY = the year.

   Example: To set the date for July 31, 2002, enter 07312002.

Service and troubleshooting

Changing the level 2 password

```
PROGRAM MENU
 1)Time/Date
▶2)Edit Password
```

```
PASSWORD MENU
 1)Level 1
▶2)Level 2
```

```
ENTER PASSWORD
    XXXX
```

Use the Edit Password command on the Program menu to change the password setting for using level 2 command menus. To change the level 2 password you must log on using the level 3 or level 4 password.

The default level 2 password is 2222.

To change the level 2 password:

1. Log on using the level 3 password.

2. From the main menu, choose Program, then Edit Password.

3. On the Password menu, choose Level 2.

4. Enter the new password.

Clearing trouble messages

Table 8-1 lists the trouble messages that can appear on the CPU/Display Unit and their possible causes. Locate the trouble message in the table then follow the instructions to correct the fault indicated by the message. The trouble messages are listed alphabetically.

Table 8-1: Trouble messages

Message	Description
GROUND FAULT: Check System Wiring	There is an earth ground fault in the system. Possible causes for this fault are: • A computer that is not electrically isolated is connected to the RS-232 port • A wire shorted to earth ground Locate the source of the fault by disconnecting the field wires inside the panel one at a time until the fault message clears. Once located, verify the field wiring to clear the short.
TROUBLE	Intelligent addressable device trouble. Press Help to identify the specific trouble message. COMMN FAULT – An intelligent addressable device is not communicating with the panel. Possible causes for this fault are: • The device is not installed • The device is installed but is defective • The loop is wired incorrectly, or the loop wiring is open or shorted Identify the point that reported the fault by pressing Help. Make corrections as required.
TROUBLE OPEN	An open circuit was detected. Possible causes for this fault are: • Missing or incorrect end of line resistor • Loose terminal connection or missing device • Missing or broken wire Identify the point that reported the fault by pressing Help. Verify the correct end of line resistor is installed on the last device on the circuit. Verify the field wiring is correct and the connections are secure.
TROUBLE SHRT	A short circuit was detected. Possible causes for this fault are: • A wire-to-wire short • Wires reversed between two devices Identify the point that reported the fault by pressing Help. Clear the short.

Table 8-1: Trouble messages

Message	Description
LCL TROUBLE	There is a fault with an intelligent addressable device. Press Help to identify the device and the fault.
LCL TROUBLE: Aux Power 1/2 Shorted	The AUX 1 or AUX2 power output is shorted
LCL TROUBLE: Aux Power 3 Shorted	The AUX 3 power output is shorted
LCL TROUBLE: Battery Charger Fault	The power supply card is having trouble charging the standby batteries. Possible causes for this fault are: • The standby batteries are wired backwards • The standby batteries are defective • The power supply card is defective De-energize the panel then verify the standby batteries are not wired backwards. If they are, you may have blown a fuse and must also replace the power supply card. If the problem persists, replace the standby batteries.
LCL TROUBLE: Battery Wiring or Battery Fault	Battery voltage is below 20.4 Vdc. Verify the battery is properly installed. If the problem persists, replace the batteries.
LCL TROUBLE: Call For Service	The panel detected an internal CPU processing fault. Get a History report before contacting technical support.
LCL TROUBLE: Card XX	Card XX in the project database, where XX is the card's address, was not detected in the control panel. The possible causes for this fault are: • Card XX is not installed • Card XX is installed but its card address switch setting does not match its address in the project database
LCL TROUBLE: Card XX Communications	Card XX, where XX is the card's address, is not communicating. Possible causes for this fault are: • Card XX is defective • Card XX was not installed prior to the initial download
LCL TROUBLE: Card XX Setup Mismatch	Card XX installed in the panel and the card at address XX in the project database are not the same. Verify all card address switch settings and make the necessary changes.
LCL TROUBLE: CH1 Communications	There is a wiring fault with the primary RS-485 transmission path (channnel 1). Check the wiring from the control panel to each repeater panel. Verify the wire connections are secure and that the wires are not missing or crossed (plus-to-minus and minus-to-plus). Make corrections if necessary.

Table 8-1: Trouble messages

Message	Description
LCL TROUBLE: CH2 Communications	There is a wiring fault with the secondary RS-485 transmission path (channnel 2). Check the wiring from the control panel to each repeater panel. Verify the wire connections are secure and that the wires are not missing or crossed (plus-to-minus and minus-to-plus). Make corrections if necessary.
LCL TROUBLE: Code Supervision	Internal CPU memory failure
LCL TROUBLE: Database Incompatible	Changes made to the system programming on the control panel were not updated in this unit. Update the project database on all the remote annunciator panels.
LCL TROUBLE: Database Supervision	Internal CPU memory failure
LCL TROUBLE: Excessive Battery Current	The standby batteries are weak. Replace the batteries.
LCL TROUBLE: LED/switch Display	There is a problem with an LED/switch card. The possible causes are: • A ribbon cable connection is loose or missing • An LED/switch card is defined in the project database but is not installed on the panel • An LED/switch card is not defined in the project database but is installed on the panel Identify the panel that reported the fault by pressing Help. Install the required LED/switch card if it is missing. If the ribbon cable connection is loose or missing, de-energize the panel, connect the ribbon cables, and then restart the system. If the LED/switch card is properly installed, update the project database to include the LED/switch card. **Caution:** Connecting ribbon cables while the panel is energized may damage the LED/switch card. Always de-energize the panel before connecting ribbon cables to the LED/switch card.
LCL TROUBLE: Line Failure	An error has been detected on an intelligent addressable loop that prevented the line from initializing. Identify which SLIC card reported the fault by pressing Help. Correct any wiring issues and then reset the system.

Table 8-1: Trouble messages

Message	Description
LCL TROUBLE: Unconfig. Device	A device is installed on an intelligent addressable loop but is not defined in the project database. The possible causes for this fault are: • The device is defined in the project database but is configured with the wrong device address • The device is not defined in the project database Identify the SLIC card that reported the fault by pressing Help. Verify each device on the loop and their address switch settings. If a device is found with an incorrect address, make the necessary corrections, and then restart the system. If a device is found that is not in the project database, update the project database to include the missing device.
LCL TROUBLE: Panel Switched Latched	A switch is stuck in the pressed position. Identify the card that reported the fault. Locate the switch and clear the obstruction. If the problem persists, replace the card.
LCL TROUBLE: Panel Unexpected Card	An option card is installed in the cabinet but is not defined in the project database. The possible causes for this fault are: • The option card is defined in the project database but is configured with the wrong card address • The option card is not defined in the project database Obtain a Cabinet report from the software configuration utility. Verify the address switch setting of each option card installed in the panel matches their address in the project database. If an address mismatch is found, change the address switch setting on the option card to match the address in the project database then restart the system. If a option card is found that is not in the project database, remove the option card or update the project database to include the missing card then download the new project database.
LCL TROUBLE: Power supply card EEPROM fault	There is a problem with the internal memory on the power supply card. Restart the panel. If the problem persists, replace power supply card.
LCL TROUBLE: Power supply card RAM fault	There is a problem with the internal memory on the power supply card. Restart the panel. If the problem persists, replace power supply card.
LCL TROUBLE: Power supply card ROM fault	There is a problem with the internal memory on the power supply card. Restart the panel. If the problem persists, replace power supply card.
LCL TROUBLE: Power Supply Setup Mismatch	The CPU encountered a problem configuring the power supply card

Table 8-1: Trouble messages

Message	Description
LCL TROUBLE: Primary AC Power Failure	The mains input voltage is below 85% of its nominal value. The possible causes for this fault are: • The disconnect device installed between the main distribution panel the control panel is switched off • The control panel fuse is blown or missing • The control panel transformer is not connected Check the disconnect device. If it is ON, switch the disconnect device OFF, then open the control panel and verify that the transformer is plugged into the power supply card. Next, check if the fuse is blown or missing. Replace the fuse if necessary.
LCL TROUBLE: Reboot Fault	The system performed an unexpected reboot. View or print a History report to determine why the panel rebooted. Press Reset to clear.
LCL TROUBLE: ROM Supervision	Internal CPU memory failure. Restart the panel. If the problem still persists, replace the card.
LCL TROUBLE: Service Active Trouble	A service group test was canceled with a device still in the active state. Check the service group's status (Status > Test) to see which point is still active. Restore the point then reset the system.
LCL TROUBLE: Smoke Power Shorted	Smoke/Accessory power output is shorted
LCL TROUBLE: Switch Latched	A switch is stuck in the pressed position. Identify the card that reported the fault. Locate the switch and clear the obstruction. If the problem persists, replace the card.
LCL TROUBLE: Task Failure	Internal processing fault

Replacing the control panel fuse

The control panel is protected with a 5 A fuse as shown in the figure below.
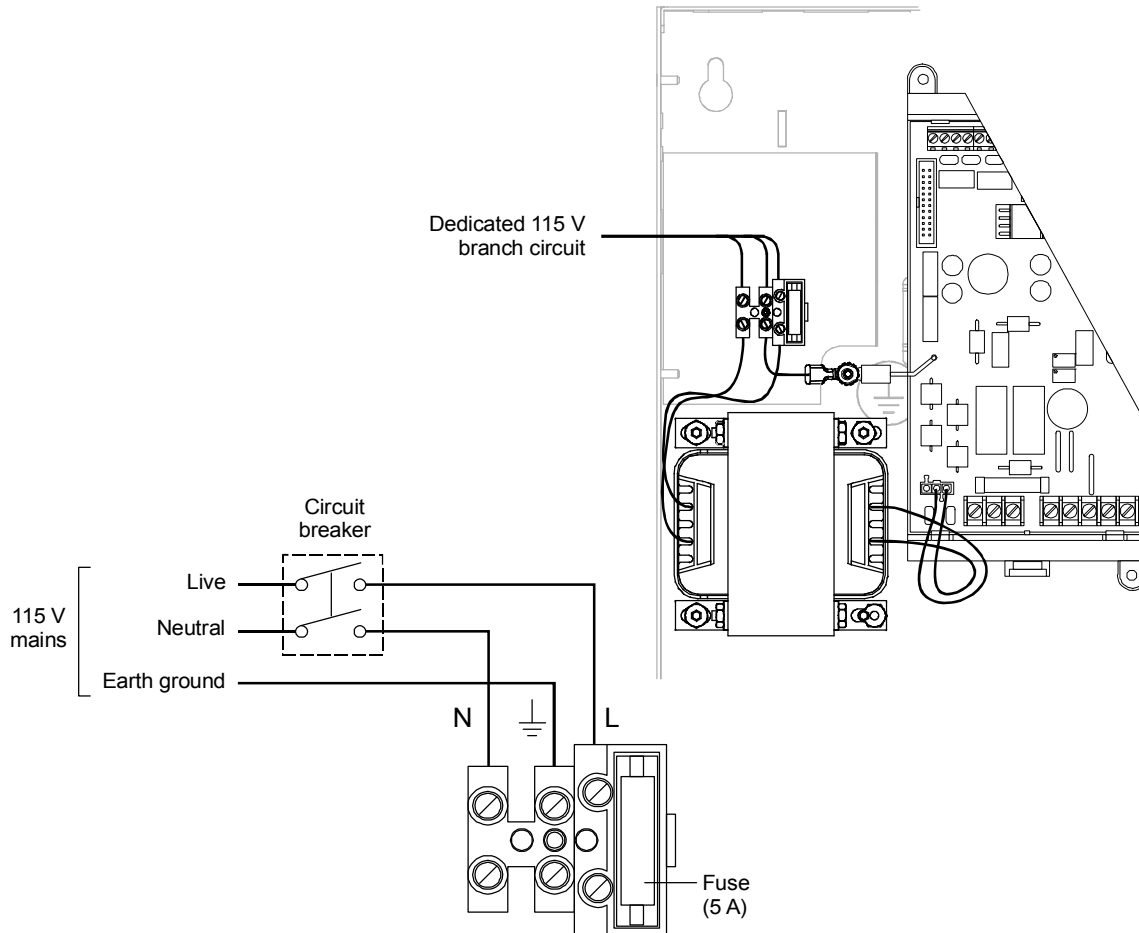
To replace the fuse:

1. Switch off the circuit breaker that supplies mains AC power to the control panel.

2. Open the cabinet door, then remove the terminal block cover from its slot to expose the AC terminal block.

3. Unplug the fuse holder and replace the existing fuse with a new fuse of the same type and size.

4. Plug the fuse holder into the AC terminal block and insert the terminal block cover into its slot.

5. Switch on the circuit breaker that supplies mains AC power to the control panel.

Using HyperTerminal

HyperTerminal is a useful tool for gathering information from the control panel through an RS-232 port connection in order to troubleshoot system faults. The information gathered can be saved as a plain text file (TXT extension) and submitted electronically to technical support for evaluation.

HyperTerminal comes with your Windows operating system as an installable option. HyperTerminal, if installed, is typically found on the Accessories menu (Start > Programs > Accessories > Hyperterminal).

Note: HyperTerminal Professional Edition is available free of charge for personal use. You can download HyperTerminal Professional Edition from the Internet at http://www.hilgraeve.com.

Setting up a HyperTerminal connection

Before you can gather information from the control panel you must set up a HyperTerminal connection.

To set up a HyperTerminal connection:

1. Start HyperTerminal.

2. In the Connection Description dialog box, type a name for the connection in the Name box then click OK.

3. In the Connect To dialog box, select the COM port you are using to connect your laptop computer to the control panel then click OK.

4. In the COM port's Properties dialog box, set the port settings as described below then click OK.

   Bits per second: 9600
   Data bits: 8
   Parity: None
   Stop bits: 1
   Flow control: None

5. On the File menu, click Save to save your connection settings.

Capturing a report

The history report and the revisions report provide useful information for troubleshooting system faults. You should always have this information available before calling technical support.

To capture a report:

1. On the Transfer menu, click Capture Text.

2. In the File box in the Capture Text dialog box, type a name for the captured text file. Example: `history report`. The TXT file extension is added automatically.

   If you want to save the file to somewhere other than the default location, click the Browse button, navigate to the desired location, then name the file.

3. Click Start.

4. From the Control/Display Unit, log on using the level 3 password.

5. From the main menu, choose Reports, then choose the report you want captured.

6. On the Print Output menu, choose Printer to send the report to HyperTerminal.

7. Wait until the report transfer is complete.

8. On the Transfer menu, click Capture Text, and then Stop.

Appendix D

Contact ID event codes

Summary

This appendix provides a list of Contact ID event codes that you can use when programming dialer strings.

Content

Alarms

Contact ID alarm event codes are listed in the table below. The Data Type column designates which information to include as the last five digits of the dialer string when you use the corresponding event code.

Fire alarms (110 – 119)

Event code	Description	Data type
110	Fire	Point ID
111	Smoke	Point ID
112	Combustion	Point ID
113	Water flow	Point ID
114	Heat	Point ID
115	Pull station	Point ID
116	Duct	Point ID
117	Flame	Point ID
118	Near alarm	Point ID
119	not defined	

Supervisories

The following table lists the Contact ID supervisory event codes. The last column (data type) designates which information to include in the last five digits of the dialer string when you use the corresponding event code.

Fire supervisory (200 – 219)

Event code	Description	Data type
200	Fire supervisory	Point ID
201	Low water pressure	Point ID
203	Gate valve sensor	Point ID
204	Low water level	Point ID
205	Pump activated	Point ID
206	Pump failure	Point ID
207 – 219	not defined	

Troubles

Contact ID trouble event codes are divided into the following categories:

- System troubles
- Sounder/relay troubles
- System peripheral troubles
- Communication troubles
- Protection loop troubles
- Sensor troubles
- General alarms

The following tables list the Contact ID trouble event codes. The last column (data type) designates which information to include in the last five digits of the dialer string when you use the corresponding event code.

System troubles (300 – 319)

Event code	Description	Data type
300	System trouble	Point ID
301	AC loss	Point ID
302	Low system battery	Point ID
303	RAM checksum bad	Point ID
304	ROM checksum bad	Point ID
305	System reset	Point ID
306	Panel programming changed	Point ID
307	Self-test failure	Point ID
308	System shutdown	Point ID
309	Battery test failure	Point ID
310	Ground fault	Point ID
311	Battery missing or dead	Point ID
312	Power supply over-current	Point ID
313	Engineer reset	User ID
314 – 319	not defined	

Sounder/relay troubles (320 – 329)

Event code	Description	Data type
320	Sounder/relay	Point ID
321	Bell 1	Point ID
322	Bell 2	Point ID

Event code	Description	Data type
323	Alarm relay	Point ID
324	Trouble relay	Point ID
325	Reversing relay	Point ID
326	Notification appliance Ckt. #3	Point ID
327	Notification appliance Ckt. #4	Point ID
328 – 329	not defined	

System peripheral troubles (330 – 349)

Event code	Description	Data type
330	System peripheral trouble	Point ID
331	Polling loop open	Point ID
332	Polling loop short	Point ID
333	Expansion module failure	Point ID
334	Repeater failure	Point ID
335	Local printer out of paper	Point ID
336	Local printer failure	Point ID
337	Expansion module DC loss	Point ID
338	Expansion module low battery	Point ID
339	Expansion module reset	Point ID
340	not defined	Point ID
341	Expansion module tamper	Point ID
342	Expansion module AC loss	Point ID
343	Expansion module self-test fail	Point ID
344 – 349	not defined	

Communication troubles (350 – 369)

Event code	Description	Data type
350	Communication trouble	Point ID
351	Telco line 1 fault	Point ID
352	Telco line 2 fault	Point ID
353	Long range radio transmitter fault	Point ID
354	Failure to communicate event	Point ID
355	Loss of radio supervision	Point ID

Event code	Description	Data type
356	Loss of central polling	Point ID
357	Long range radio VSWR problem	Point ID
358 – 369	not defined	

Protection loop (370 – 379)

Event code	Description	Data type
370	Protection loop	Point ID
371	Protection loop open	Point ID
372	Protection loop short	Point ID
373	Fire trouble	Point ID
374	Exit error (zone)	Point ID
375	Panel zone trouble	Point ID
377 – 379	not defined	

Sensor troubles (380 – 399)

Event code	Description	Data type
380	Sensor trouble	Point ID
381	Loss of supervision - RF	Point ID
382	Loss of supervision - RPM	Point ID
383	Sensor tamper	Point ID
384	RF low battery	Point ID
385	Smoke detector high sensitivity	Point ID
386	Smoke detector low sensitivity	Point ID
387	Intrusion detector high sensitivity	Point ID
388	Intrusion detector low sensitivity	Point ID
389	Sensor self-test failure	Point ID
390	not defined	
391	Sensor watch trouble	Point ID
392	Drift compensation error	Point ID
393	Maintenance alert	Point ID
394 – 399	not defined	

General alarms (140 – 149)

Event code	Description	Data type
140	General alarm	Point ID
141	Polling loop open	Point ID
142	Polling loop short	Point ID
143	Expansion module failure	Point ID
144	Sensor tamper	Point ID
145	Expansion module tamper	Point ID
147 – 149	not defined	

Bypasses/disables

Contact ID bypasses/disables event codes are divided into the following categories:

- System disables
- Sounder/relay disables
- System peripheral disables
- Communication disables
- Bypasses

The following tables list the Contact ID bypasses/disables event codes. The last column (data type) designates which information to include in the last five digits of the dialer string when you use the corresponding event code.

System disables (500 – 519)

Event code	Description	Data type
500	System disable	Point ID
501	Access reader disable	Point ID
502 – 519	not defined	

Sounder/relay disables (520 – 529)

Event code	Description	Data type
520	Sounder/relay disable	Point ID
521	Bell 1 disable	Point ID
522	Bell 2 disable	Point ID
523	Alarm relay disable	Point ID
524	Trouble relay disable	Point ID
525	Reversing relay disable	Point ID
526	Notification appliance Ckt. #3 disable	Point ID
527	Notification appliance Ckt. #4 disable	Point ID
528 – 529	not defined	

System peripheral disables (530 – 549)

Event code	Description	Data type
530	System peripheral disable	Point ID
531	Module added	Point ID
532	Module removed	Point ID

Event code	Description	Data type
533 – 549	not defined	

Communication disables (550 – 569)

Event code	Description	Data type
550	Communication disabled	Point ID
551	Dialer disabled	Point ID
552	Radio transmitter disabled	Point ID
553	Remote upload/download disabled	Point ID
534 – 549	not defined	

Bypasses (570 – 579)

Event code	Description	Data type
570	Zone/sensor bypass	Point ID
571	Fire bypass	Point ID
572	24 hour zone bypass	Point ID
574	Group bypass	User ID
575	Swinger bypass	Point ID
576	Access zone shunt	Point ID
577	Access point bypass	Point ID
578 – 579	not defined	

Test/miscellaneous

Contact ID test/miscellaneous event codes are divided into the following categories:

- Test/miscellaneous
- Event log
- Scheduling
- Personnel monitoring
- Miscellaneous

The following tables list the Contact ID test/miscellaneous event codes. The last column (data type) designates which information to include in the last five digits of the dialer string when you use the corresponding event code.

Test/miscellaneous (600 – 619)

Event code	Description	Data type
600	Test/miscellaneous	Point ID
601	Manual trigger test report	Point ID
602	Periodic test report	Point ID
603	Periodic RF transmission	Point ID
604	Fire test	User ID
605	Status report to follow	Point ID
606	Listen-in to follow	Point ID
607	Walk Test mode	User ID
608	Periodic test - system trouble present	Point ID
609	Video transmitter active	Point ID
610	not defined	
611	Point tested OK	Point ID
612	Point not tested	Point ID
614	Fire zone walk tested	Point ID
616	Service request	Point ID
617– 619	not defined	

Event log (620 – 629)

Event code	Description	Data type
620	Event log	Point ID
621	Event log reset	Point ID

Event code	Description	Data type
622	Event log 50% full	Point ID
623	Event log 90% full	Point ID
624	Event log overflow	Point ID
625	Time/date reset	User ID
626	Time/date inaccurate	Point ID
627	Program mode entry	Point ID
628	Program mode exit	Point ID
629	32 hour event log marker	Point ID

Scheduling (630 – 639)

Event code	Description	Data type
630	Schedule change	Point ID
631	Exception schedule change	Point ID
632	Access schedule change	Point ID
633 – 639	not defined	

Personnel monitoring (640 – 649)

Event code	Description	Data type
640	Personnel monitoring	Point ID
641	Senior watch trouble	Point ID
642	Latch-key supervision	User ID
643 – 649	not defined	

Miscellaneous (650 – 659)

Event code	Description	Data type
650	Personnel monitoring	Point ID
651	Reserved	
652 – 652	not defined	

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