EST3
System Operations Manual

P/N 270382 • Rev 3.0 • 21OCT99

DEVELOPED BY	Edwards Systems Technology 6411 Parkland Drive Sarasota, FL 34243 (941) 739–4300
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CREDITS	This manual was designed and written by the EST Technical Services - Documentation Department, Sarasota.

DOCUMENT HISTORY

Revision	Date	Reason for Change
1.0	17JULY96	Initial Release
1.5	02APR97	Revised: System Addressing; Command Menu Added: Operations Placard
2.0	14DEC98	Revised: Display examples. Corrected minor typographical errors throughout.
3.0	21OCT99	Restructured and revised concurrent with 1.5 release.

Content

About this manual

This manual provides information on how to operate the EST3 fire alarm system. Some of the information is of a general nature. Each facility is unique. The EST3 system in your facility has been designed by fire safety professionals to meet the specific requirements required by the fire codes in your location. Please refer to the site-specific instructions, provided by your EST representative, to determine the exact operation of your system.

Organization

The manual is broken down into the following chapters:

- Chapter 1 provides a general description of system functions and their operation
- Chapter 2 provides detailed operating instructions for the 3-LCD module
- Chapter 3 provides detailed operating instructions for the 3-ASU audio source unit
- Chapter 4 provides detailed operating instructions for the 3-FTCU firefighters telephone control unit
- Appendix A provides operating sequence charts

The EST3 library

A family of documents and multi-media presentations supports the EST3 network. A brief description of each document is provided below.

EST3 Installation Manual and Service Manual, *P/N 270380.* This manual provides complete information on how to install and service the EST3 hardware. This manual also includes installation information on selected Signature Series components.

EST3 Programming Manual, P/N 270381. This manual provides quick reference information for defining and labeling individual system components using the Systems Definition Utility (SDU), and for writing rules to govern system operation.

EST3 System Operations Manual, P/N 270382. This manual provides detailed information on how to operate the system and system components.

EST3 International Installation Supplement Manual, P/N 270925. This manual provides information specific to systems installed outside the United States and Canada.

EST3 Smoke Management Application Manual, P/N 270913. This manual provides information for designing, programming, and testing an EST3 smoke control system.

Signature Series Intelligent Smoke and Heat Detectors Applications Bulletin, *P/N 270145.* This manual provides additional applications information on the Signature series smoke and heat detector applications.

Signature Series Component Installation Manual, P/N 270497. This manual provides detailed mounting and wiring information for all Signature series devices.

Speaker Application Guide, P/N 85000-0033. This manual provides information on the placement and layout of speakers for fire alarm signaling and emergency voice communications.

Strobe Applications Guide*, P/N 85000-0049*. This manual provides information on the placement and layout of strobes for fire alarm signalings.

Important information

Limitation of liability

This product has been designed to meet the requirements of NFPA Standard 72, 1996 Edition; Underwriters Laboratories, Inc., Standard 864, 7th Edition; 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. EST 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 EST products beyond the cost of repair or replacement of any defective products. EST reserves the right to make product improvements and change product specifications at any time.

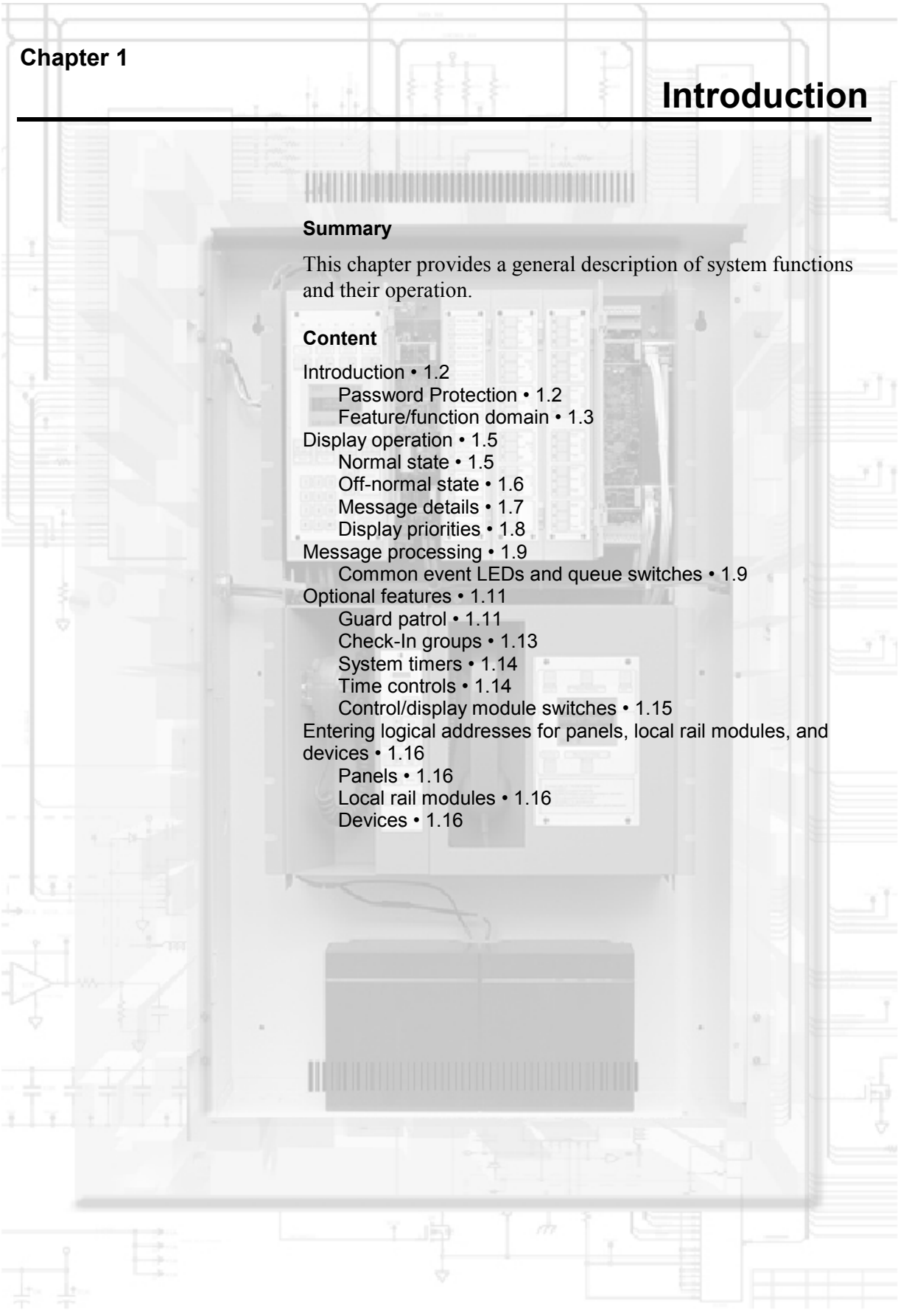
While every precaution has been taken during the preparation of this manual to ensure the accuracy of its contents, Honeywell assumes no responsibility for errors or omissions.

FCC warning

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 his own expense, will be required to take whatever measures may be required to correct the interference.

Chapter 1

Introduction



Summary

This chapter provides a general description of system functions and their operation.

Content

Introduction

System operating requirements can be configured based on geographic location and protected premise ownership.

In North America, systems may be configured as protected premises (local) systems in compliance with NFPA 72, Chapter 3; or as proprietary systems in compliance with NFPA 72, Chapter 4-4.

In the local mode, there is no requirement to acknowledge each individual event. Each event message can be reviewed using the Previous and Next switches. System events that automatically restore will automatically be removed from the message queue, without requiring the operator to view a restoral message.

In the proprietary mode, each event must be individually acknowledged by pressing the respective message acknowledge switch. The Previous and Next switch functions are not available in the proprietary mode. Operators are required to acknowledge both an event and its restoration to remove it from a message queue.

Note: Alarm and supervisory events do not automatically restore. They remain in their respective message queues until the system is manually reset.

Password Protection

Certain front panel controls and command menu functions are password protected and granted a user access level by the marketplace. The four user access levels are detailed in Table 1-1.

Each access level is given a default password that should be changed once the panel is put into service. See *Chapter 2: Changing user access level passwords* for more information.

Table 1-1: Password Privileges

Password Level	Privileges
Default No password required	Status, Revision level report, Output select, display/printer, printer select, Reset function, Alarm Silence function, and Drill function
User access level 1	All default privileges and Sensitivity Reports.
User access level 2	All default and User 1 privileges and History Reports.

Table 1-1: Password Privileges

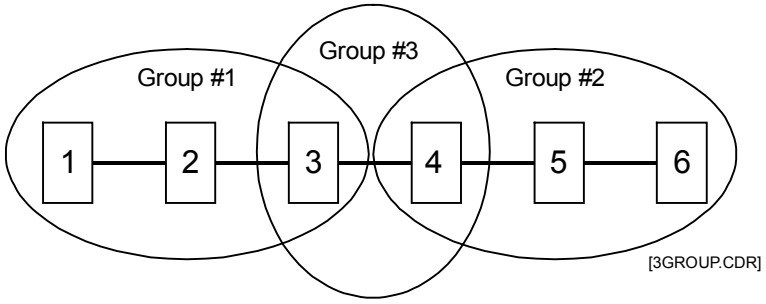
Password Level	Privileges
User access level 3	All default, User 1 & 2 privileges and... Enable: (all); Disable: Check-In Group; Activate: Check-In Group, Alt. Message Routing, Guard Patrol; Restore: Primary Message Routing; Program: Holiday List
Service access level 4	All default, User 1, 2, & 3 privileges and... Disable: All; Activate: All; Restore: All; Program: Time, Date, User 1,2,& 3 and Service 1 & 2 Passwords, clear history, download via RJ45; Test: All; Output: Primary Printer Select

Feature/function domain

A feature or function's domain is the group of cabinets on the network that are affected when the feature or function is activated. Three domains are available:

- Local - The feature/function affects only the cabinet on which the 3-LCD Display module is installed
- Group - The feature/function affects a pre-defined group of cabinets on the network
- Global - The feature/function affects all the cabinets on the network

A network cabinet may be a part of one or more groups. Multiple control locations are permitted for any group.



The configuration of features and functions varies with each installation. Please consult your site-specific documentation to determine if any custom features or functions have been designed into your system.

Display operation

The information presented on the main display depends on the operating condition of the panel: normal state (no events present) or off-normal state (at least one event).

Normal state

Figure 1-1 shows the information presented on the main display when the panel is in a normal operating condition.

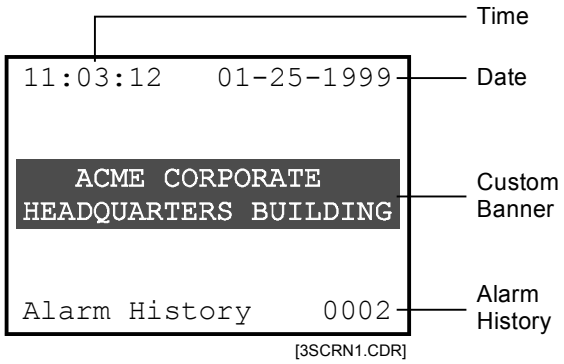


Figure 1-1: Main display screen when panel is in normal state

- The top of the screen displays the system time and date. The time is in 24-hour format. The project configuration settings determine the date format.
- The middle of the screen displays an optional custom banner message, if programmed into the system. Otherwise, this area is left blank.
- The bottom of the screen displays the total number of instances that the panel has gone into alarm since the panel was placed into service or since the last time the alarm history was cleared.

Off-normal state

Figure 1-2 shows the information presented on the main display when the panel is in an off-normal operating condition.

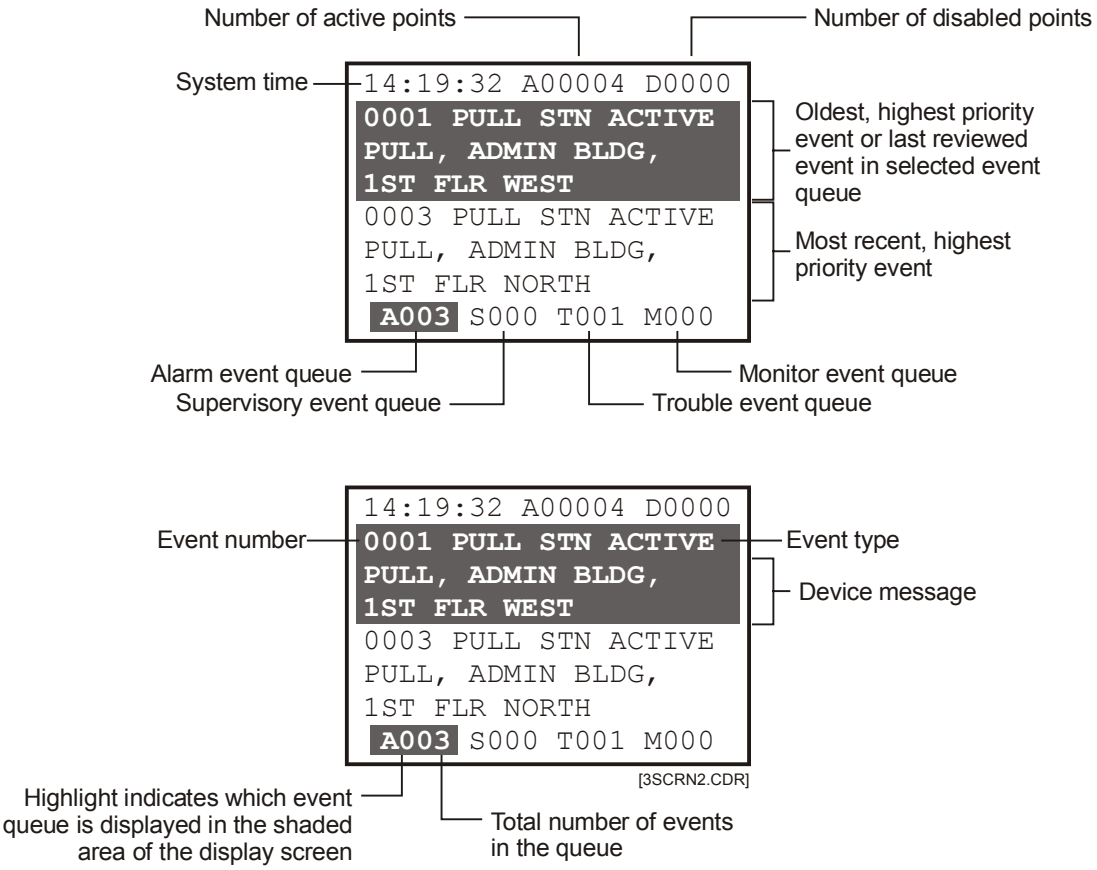


Figure 1-2: Main display screen when panel is in off-normal state

- The top line of the screen displays the system time in 24-hour format, the number of active points in the system, and the number of disabled points.
- The shaded area displays the oldest, highest priority, event received by the panel, or the last reviewed event in the selected event queue, depending on whether the display is in unattended mode (regular off-normal operation) or in attended mode. In either case, the display shows the event number, the event type, and the active device's message.

  Note: Pressing any one of the queue select switches places the display in the attended mode for reviewing or acknowledging events and prevents the shaded area from being updated by an event with a higher priority. The

display automatically returns to the unattended mode after the user timeout period has expired.

- The area immediately below the shaded area always displays the most recent, highest priority, event placed in an event queue.

  Note: Cabinet configuration option settings determine which events are routed to the main display and placed in an event queue.

- The bottom line of the display shows the number of events placed in each event queue. The highlight around the event counter indicates which event queue is displayed in the shaded area.

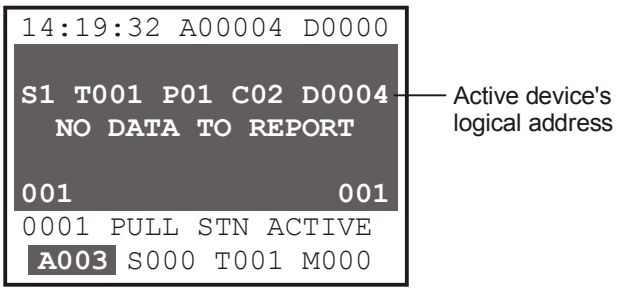
  Note: The event counter stops at 999. It is possible for an event queue to hold more than 999 events.

Message details

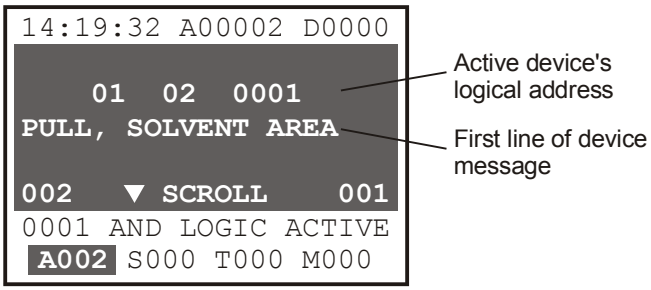
Pressing the Details button displays additional information about the event displayed on the 3-LCD module's display. If a device activation causes the event, pressing Details displays the active device's logical address in the following format:

P*nn* C*nn* D*nnnn*,

where: P*nn* = panel address; C*nn* = rail module's slot address; and D*nnnn* = device's point address



If a group activation causes the event, pressing Details reveals a list of active devices in the group as shown in the following figure.

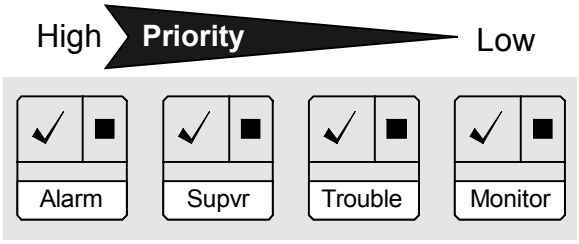


[3SCRN6.CDR]

Display priorities

The panel controller places all events into one of four categories:

- Fire alarms - life safety related events, i.e. smoke detector, sprinkler system waterflow, manual pull station, etc.
- Supervisory events - off normal conditions of a related fire protection system, e.g. sprinkler system valve closed.
- Trouble events - faults within the system
- Monitor events - changes in the status of an ancillary system



[3LCDPRI.CDR]

Because events can happen at random, the system prioritizes which event is the most critical and displays its information first. Alarm events have the highest priority and monitor events have the lowest priority, as shown in the figure above.

Message processing

When an event occurs, the system categorizes the event as an alarm, supervisory, trouble or monitor event. Information about the event is added to a corresponding message queue on the 3-LCD display module. The information available in each queue is displayed using the event queue switches on the front of the 3-LCD display.

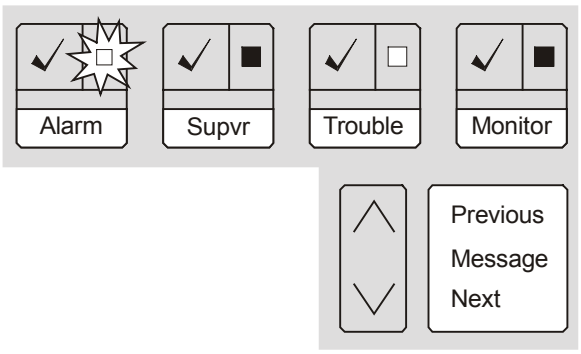
A panel can store up to 2,000 event messages. Each message queue is allocated enough space to store 500 messages. Should a message queue require more space, it takes away space allocated to a lower priority queue.

For example, suppose there are 500 messages in the alarm message queue and no other events in any of the other queues. When another alarm event occurs, the alarm message queue will contain 501 messages but the monitor message queue will only be capable of storing 499 messages.

Common event LEDs and queue switches

The event queue LEDs act as a common event indicator, flashing any time a new event is added to the queue.

- Flashing LED indicates that an event is in the queue that has not been reviewed or acknowledged
- □ LED on steady indicates that all events in the queue have been reviewed or acknowledged
- ■ LED off indicates that no events are in the queue



[3LCDU3.CDR]

When an event is received, the respective event queue LED flashes, indicating that the event has not been reviewed or acknowledged.

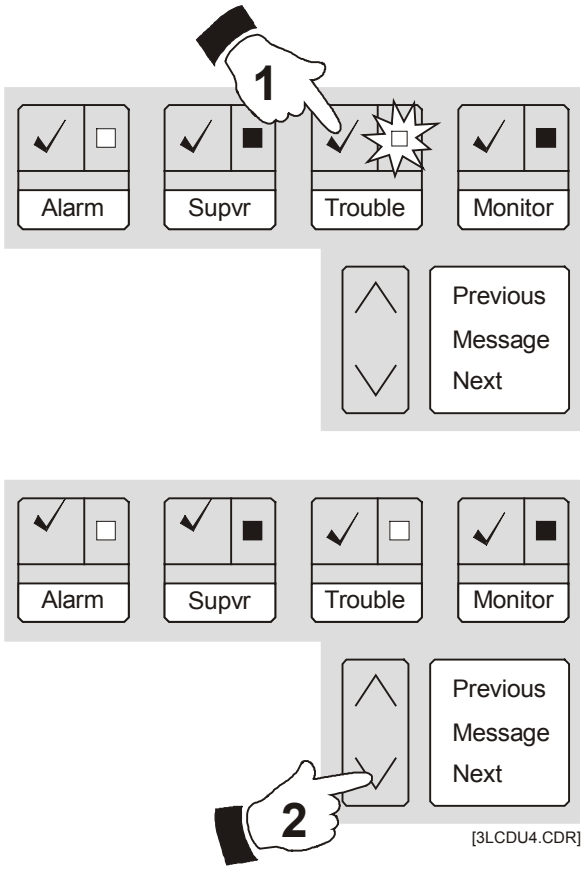
1. Select the highest priority active queue by pressing the respective queue switch.
2. Scroll through all available event messages using Previous/Next switches.

You may use the Previous and Next Message or the queue switches to scroll through the activation messages at any time after a queue is selected.

Flashing LED indicates that an event is in the queue that has not been reviewed or acknowledged

□ LED on steady indicates that all events in the queue have been reviewed or acknowledged

■ LED off indicates that no events are in the queue



Optional features

The EST3 system can be configured with a number of optional features that provide additional system capabilities. Your system may use some or all of these features, depending on the needs of your facility. Please refer to the site-specific information provided by the system installer to determine which optional features are installed on your system.

Guard patrol

The guard patrol feature is used to monitor the activities of security guards. Guards are required to walk any one of a number of pre-determined routes called tours. During each tour, the guard must activate guard patrol stations that are strategically located along the route. Should a guard activate a station too early, too late, or out of sequence, an active guard patrol message will be displayed on the 3-LCD display module.

Figure 1-3 shows five guard patrol routes consisting of five stations. The system designer has assigned a minimum and maximum time allowance for the guard to go between any two guard stations. If the guard arrives too early, too late or at the wrong station, an active guard patrol event is generated.

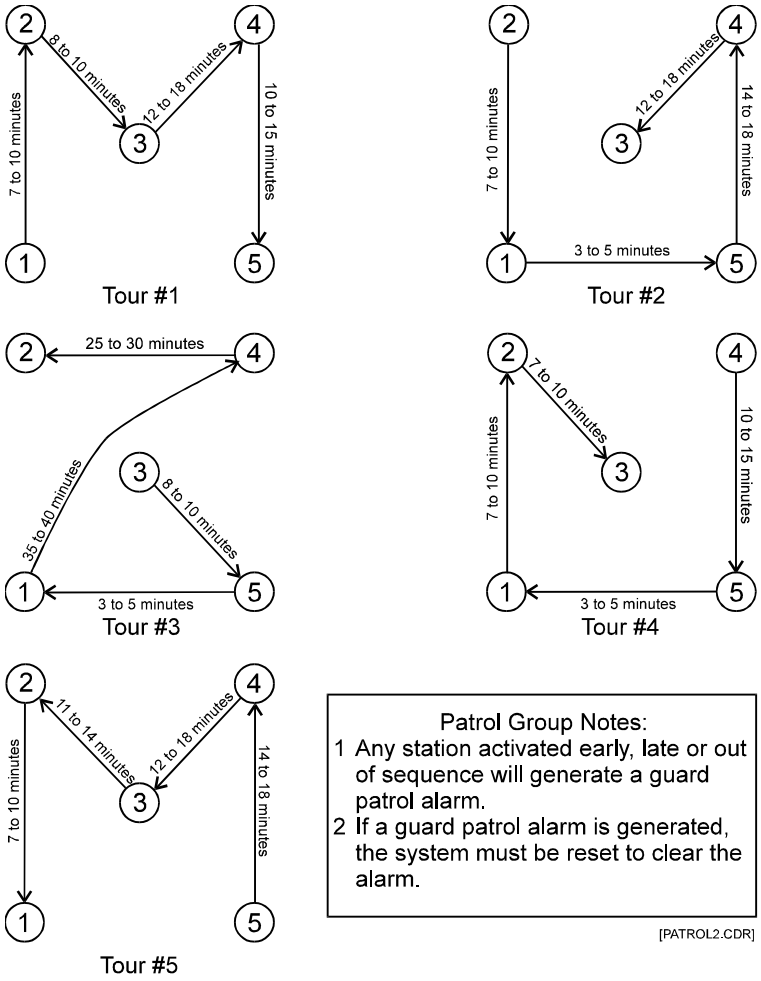


Figure 1-3: Sample guard patrol route assignments

Starting a tour

There are three ways to start a guard patrol tour:

- Activating the first guard patrol station on the route
- Enabling the Guard Patrol group from the 3-LCD module
- Pressing a control/display panel switch programmed to turn on the Guard Patrol group

Note: A guard patrol station designated as the first station in one guard patrol route can not be the first station in another route.

Ending a tour

A guard patrol tour is automatically ended when all stations on the route have been successfully operated within the allowable time period and in the proper sequence.

Should a tour end with an active guard patrol response, the system must be reset to clear the guard patrol response.

Press the Details switch to reveal the stations reporting in.

Check-In groups

Check-In groups are used to monitor occupants in nursing care facilities. Occupants must check in during their assigned check-in period to signal that they are well. Failure to check in alerts an attendant that something is wrong.

Check-In groups provide two indications when something is wrong. The Check-In group sends a *Check-In Active* message to the 3-LCD display for each member of the group that fails to check in on time. The Check-In group sends an *Emergency Active* message when the following happens:

- Any member of the group activates their check-in device any time other than the check-in period
- Any member of the group activates their check-in device a second time during the check-in period

Check-in active message

When a check-in active message is displayed, one or more stations in the check-in group have not been activated during the required time period. The check-in active messages may be viewed in the monitor message queue to determine the location of the event. Contact the late check-in station and determine the problem.

Emergency active message

The emergency active message is displayed when a check-in station is activated outside the check-in period. This is used to signal an emergency condition such as a fall, etc. To determine the location of the check-in station, view the event in the alarm message queue.

Note: *Emergency Active* messages are placed in the alarm message queue but the event does not place the panel into alarm.

System timers

The system has a number of optional timers that are required by certain jurisdictions to comply with fire codes. Most of these timer functions do not require operator action, however, understanding the function of these optional timers (if enabled) will improve your understanding of why the system functions as it does.

Alarm Silence/Reset Inhibit timer

The alarm silence/reset inhibit timer is used to guarantee that the notification appliances will sound for the minimum specified period. This timer effectively disables the alarm silence and reset switches for a pre-determined period. While the timers are active, pressing the alarm silence and reset switches will have no effect.

Notes

- Your system may be equipped with notification appliances associated with the fire sprinkler system, which can not be silenced under any conditions.
- Visual notification appliances can be configured *not* to turn off when the audible notification appliances are silenced.

Automatic alarm silence timer

The automatic alarm silence timer is used to automatically silence the notification appliances after a preset period, if they have not been silenced using the alarm silence switch. Typical timer settings silence the signals from 5 to 30 minutes after operation.

Automatic general alarm (GA) timer

Some systems are designed to permit a short investigation period between the detection of a fire and sending a general alarm to the entire facility. The automatic general alarm timer is used to initiate the general alarm after a predetermined time period, if no action has been taken by the operator to prevent the general alarm from being sent.

Time controls

Time controls provide for the automatic starting and stopping of system events based on time and date. Time controls run in the background and do not require any operator action.

Setting holidays

The system provides for special time controls, referred to as holiday time controls. Holiday time controls supersede the

normal time controls on dates that are designated as holidays. The list of dates that are defined as holidays is entered into the system from the 3-LCD Display module.

Control/display module switches

The switches on a control/display module use one of three available operating modes.

- Toggle - The state of the switch changes each time the switch is pushed, i.e. “off” to “on” or “on” to “off.”
- Interlocked - Three adjacent toggle switches that operate as a group. Pushing any switch in the group turns the output of the other two switches “off” and turns its own output “on.”
- Momentary - The switch is “on” only while manually activated by the operator.

You may find multiple switch modes on a single control/display module. Consult your site-specific documentation for additional information.

Toggle switches

Toggle switches are commonly used to control two state operations such as on/off, open/close, speaker select, telephone select, etc. The output of an “on” switch remains “on” during panel reset, and must be manually turned “off” when no longer required.

Interlocked switches

The interlocked mode is commonly used for ”Hand-Off-Auto” control of HVAC systems. An interlocked switch in the “on” state can be turned “off” without activating a second switch by pressing the “on” switch a second time. The output of the “on” switch remains on, during panel reset, and must be manually returned to “Auto” when no longer required.

Momentary switches

Momentary switches are typically to issue brief commands. Example uses for momentary switches: lamp tests, function reset, and test sequences. The command is issued only while the switch is activated.

Entering logical addresses for panels, local rail modules, and devices

Each addressable device or circuit in the system has a logical address. Depending on the operation you are performing, you will be prompted to enter a logical address in one of several formats.

Tip: Get an SDU Objects report for your system and keep it with this documentation. The SDU objects report should list all of the addressable devices or circuits in the system and their logical addresses.

Panels

The logical address format for a panel is PP, where PP is the cabinet number (01-64). For example, enter 01 for the panel designated as Cabinet 1.

To determine a local panel's cabinet number, use the 3-LCD command menu to get the status on all the active points on the panel. When prompted for a panel number, enter 00. The panel returns the logical address of the startup response. The first two numbers of the logical address is the panel's cabinet number.

Local rail modules

Local rail modules include the rail modules that connect to the local rail bus and the control/display modules. The logical address format for a local rail module is PPCC, where:

- PP is the cabinet number of the panel containing the rail module
- CC is the address of the rail module's slot position. CC+32 is the address of the control/display module connected to the rail module at slot address CC.

For example, enter 0102 for the rail module installed in chassis rail 1, slot 4 of Cabinet 1. Enter 0134 for the control/display module connected to the rail module installed in chassis rail 1, slot 4 of Cabinet 1.

Note: The rail-slot number and the slot address are not the same. Slot addresses vary with the cabinet configuration. Refer to *Appendix A: System addresses*.

Devices

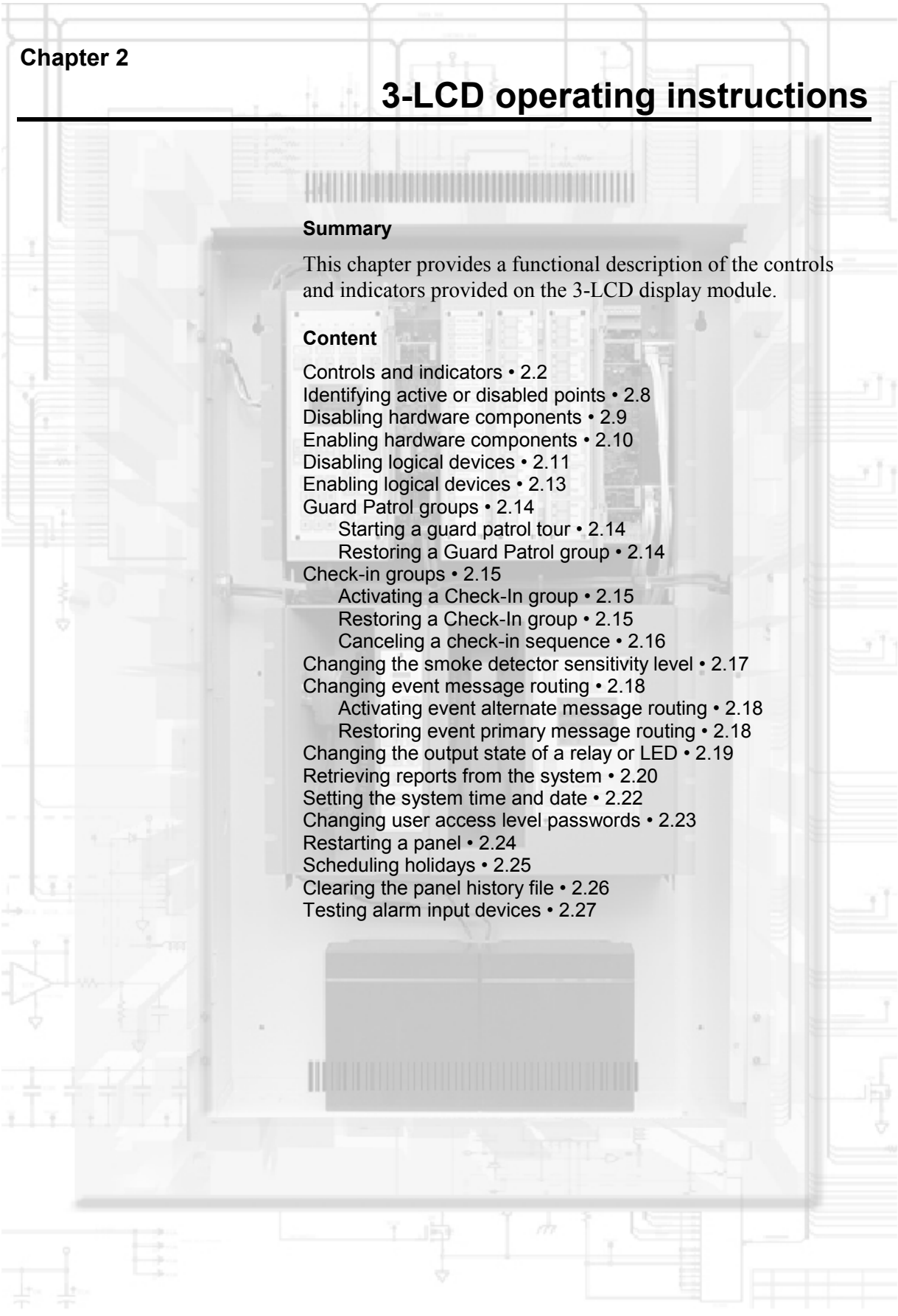
Devices include the circuits, switches, or LEDs that exist on the local rail module and all addressable devices connected by the field wiring. The address format for a device is PPCCDDDD, where:

- PP is the cabinet number of the panel containing the rail module
- CC is the slot position of the rail module responsible for the device
- DDDD is the address of the individual component or circuit

For example, Enter 01340129 for the first LED on the control/display module connected to the rail module installed in chassis rail 1, slot 4 of Cabinet 1.

Chapter 2

3-LCD operating instructions



Summary

This chapter provides a functional description of the controls and indicators provided on the 3-LCD display module.

Content

Controls and indicators

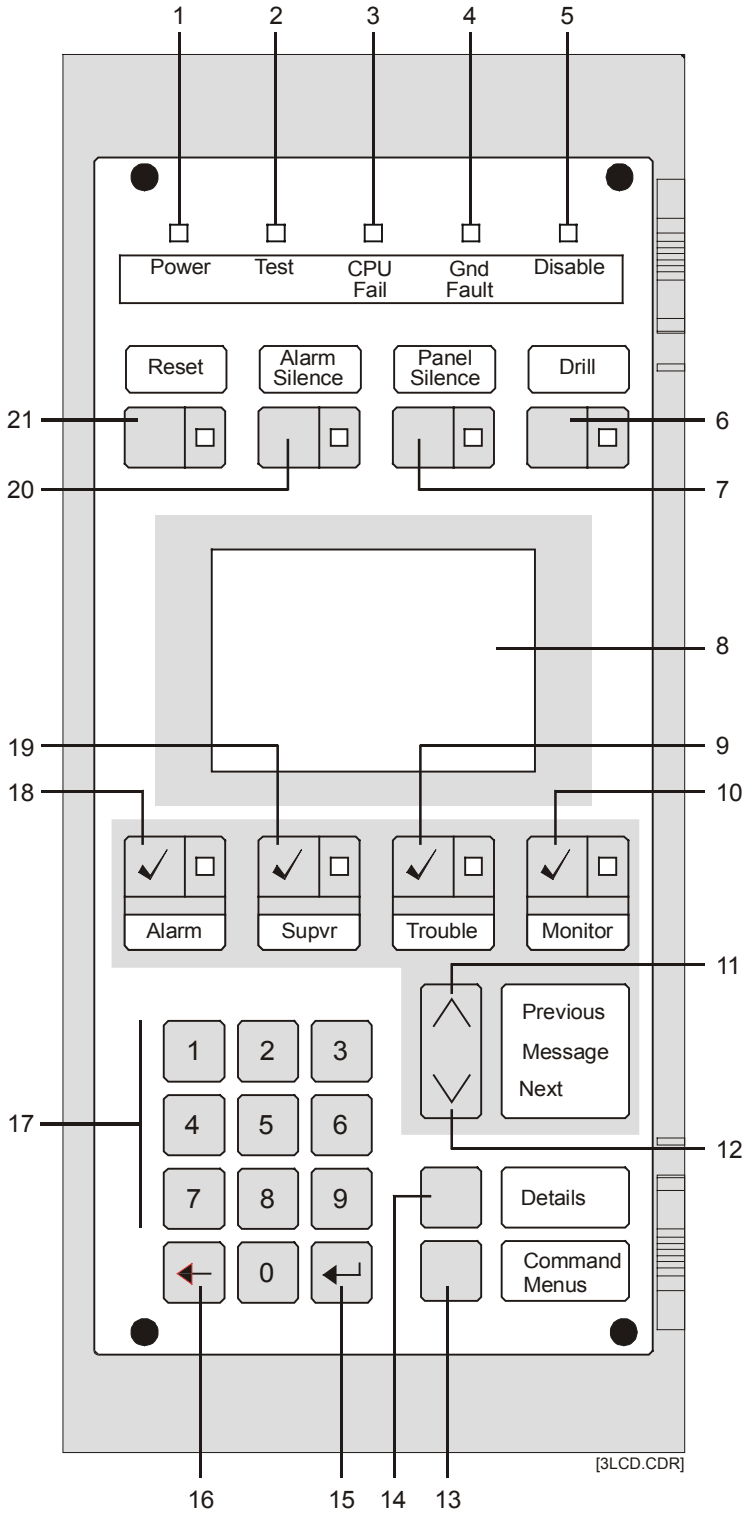


Figure 2-1: 3-LCD controls and indicators

Functional description of 3-LCD controls and indicators (see Figure 2-1)

Index	Control or Indicator	Functional Description
1	Power LED	The Power LED indicates that mains ac is applied to the panel.
2	Test LED	The Test LED indicates that a part of the system is in test mode. A programmable timer automatically exits the test mode after a period of system inactivity.
3	CPU Fail LED	The CPU Fail LED indicates the 3-CPU1 module has detected a processor failure. Processor failures must be reset manually.
4	Gnd Fault LED	The Gnd Fault LED indicates that the 3-CPU1 module has detected a ground fault.
5	Disable LED	The Disable LED indicates that a point or zone has been disabled using the Disable command.
6	Drill Switch/LED	Pressing the Drill switch activates the Drill command function. The Drill LED, when lit, indicates that the Drill command function is active.
7	Panel Silence Switch/LED	For U.S. Local and Canadian Local systems, pressing the Panel Silence switch turns the 3-CPU1 buzzer off. The Panel Silence LED, when lit, indicates the panel is in an off-normal condition and the panel has been placed in Panel Silence mode. For U.S. Proprietary and Canadian Proprietary systems, the Panel Silence switch is not operational. The panel buzzer only silences after all events have been acknowledged. **Notes** • The 3-CPU1 buzzer can be configured to resound at a regular interval to remind the operator that the panel has been silenced • Pressing the Alarm Silence and Panel Silence switches at the same time actives the panel lamp test function
8	Liquid crystal display screen	168 character, backlit alphanumeric display of system status.
9	Trouble Switch/LED	Pressing the Trouble switch places the contents of the Trouble queue onto the display screen for review. Active trouble events are displayed in the order in which they are received. When a trouble event is highlighted on the display, pressing the Trouble switch acknowledges the event and advances the display to the next event. The Trouble LED serves as a common trouble event indicator. The LED, when flashing, indicates that there is an event in the queue that has not been reviewed (local systems) or acknowledged (proprietary systems). When on steady, the LED indicates that all events in the queue have been reviewed or acknowledged.

Functional description of 3-LCD controls and indicators (see Figure 2-1)

Index	Control or Indicator	Functional Description
10	Monitor Switch/LED	Pressing the Monitor switch places the contents of the Monitor queue onto the display screen for review. Active monitor events are displayed in the order in which they are received. When a monitor event is highlighted on the display, pressing the Monitor switch acknowledges the event and advances the display to the next event. The Monitor LED serves as a common monitor event indicator. The LED, when flashing, indicates that there is an event in the queue that has not been reviewed (local systems) or acknowledged (proprietary systems). When on steady, the LED indicates that all events in the queue have been reviewed or acknowledged.
11	Previous Message Switch	For U.S. Local and Canadian Local systems, pressing the Previous Message switch scrolls the display to show the preceding event in the selected event queue. Reviewing events using the Previous Message switch does not acknowledge the event. For U.S. Proprietary and Canadian Proprietary systems, the Previous event switch is not operational. Events must be acknowledged in order of their occurrence.
12	Next Message Switch	For U.S. Local and Canadian Local systems, pressing the Next Message switch scrolls the display to show the following event in the selected event queue. Reviewing events using the Next Message switch does not acknowledge the event. For U.S. Proprietary and Canadian Proprietary systems, the Next Message switch is not operational. Events must be acknowledged in order of their occurrence.
13	Command Menus Switch	Pressing the Command Menus switch displays the system command menu to access the following system functions: Status, Enable, Disable, Activate, Restore, Control Output, Reports, Program, and Test Pressing the switch a second time returns the user to the current event window.

Functional description of 3-LCD controls and indicators (see Figure 2-1)

Index	Control or Indicator	Functional Description
14	Details Switch	Pressing the Details switch displays additional information about the event highlighted on the display screen. • For Zone Groups, pressing the Details switch displays a list of the active devices in the zone group. • For Instruction Text Groups, pressing the Details switch displays the entire instruction text. • For Maintenance Alerts, pressing the Details switch displays a list of the dirty devices. • For Common Troubles, pressing the Details switch displays a list of the specific troubles for the selected device. • For Guard Patrols, pressing the Details switch displays the offending station and indicates whether the activation was caused because of an early, late, or out of sequence condition.
15	Enter key	Pressing the Enter key selects the highlighted menu option or causes the system to start processing the information shown in the display.
16	Delete/ Backspace key	Pressing the Delete/Backspace key moves the cursor to the left of the current position and removes the character from the display. The Delete/Backspace key is also used to cancel functions and move the operator back through the menus.
17	Numeric Keypad	Pressing any number key selects the menu item or enters the respective number into the system for use in conjunction with other system functions.
18	Alarm Switch/LED	Pressing the Alarm switch places the contents of the Alarm queue onto the display screen for review. Active alarm events are displayed in the order in which they are received. When an alarm event is highlighted on the display, pressing the Alarm switch acknowledges the event and advances the display to the next event. The Alarm LED serves as a common alarm event indicator. The LED, when flashing, indicates that there is an event in the queue that has not been reviewed (local systems) or acknowledged (proprietary systems). When on steady, the LED indicates that all events in the queue have been reviewed or acknowledged.

Functional description of 3-LCD controls and indicators (see Figure 2-1)

Index	Control or Indicator	Functional Description
19	Supvr Switch/LED	Pressing the Supervisory switch places the contents of the Supervisory queue onto the display screen for review. Active supervisory events are displayed in the order in which they are received. When a supervisory event is highlighted on the display, pressing the Supervisory switch acknowledges the event and advances the display to the next event. The Supervisory LED serves as a common supervisory event indicator. The LED, when flashing, indicates that there is an event in the queue that has not been reviewed (local systems) or acknowledged (proprietary systems). When on steady, the LED indicates that all events in the queue have been reviewed or acknowledged.
20	Alarm Silence Switch/LED	Pressing the Alarm Silence switch turns off the EVAC and ALERT channels, and all active audible and visible notification appliance circuits. Pushing the switch a second time turns the notification appliance circuits back on. This switch may be used to cancel the drill signal. The Alarm silence LED, when lit, indicates that the active notification appliance circuits have been silenced. **Notes** • Project configuration settings affect Alarm Silence function operation • Pressing the Alarm Silence and Panel Silence switches at the same time actives the panel lamp test function
21	Reset Switch/LED	Pressing the Reset switch activates the system's reset sequence to restore the system to normal. The Reset LED flashes quickly during the smoke power-down phase, flashes slowly during the power-up phase, is on steady during the restoral phase, and is off when the system has reset. **Notes** • The Reset switch is disabled as long as the alarm silence inhibit timer is running • The Reset switch does not affect disabled points or manually overridden functions

Functional description of 3-LCD controls and indicators (see Figure 2-1)

Index	Control or Indicator	Functional Description
n/a	Buzzer	The buzzer on the 3-CPU1 sounds to alert the operator to off-normal system conditions, such as: • Active alarms • Active test or disabled zones • Active fault conditions • Active monitor conditions The buzzer sounds a pattern associated with each event as determined by the market place settings. Alarm: 3-3-3 pattern Supervisory: 2-2 pattern Trouble: 30 pulses per minute Monitor: 3-3-3 pattern

Identifying active or disabled points

Use the Status command to identify the active or disabled points on a panel. The Status command generates a list that you can view on the 3-LCD display module or print on the local printer.

To identify active or disabled points:

1. Press the Command Menus switch, then select Status.
2. Select the type of list you want to generate. If you select Active Points, then you must also select one of the Active Points list options.
3. Enter the target panel's 2-digit address (PP). For example, enter 01 for the panel designated Cabinet 1.
4. Send the list to the display or to the printer. If you choose to send the list to the printer, select Printer 1 if the printer is connected to port 1 or Printer 2 if connected to port 2.

Disabling hardware components

Disabling a hardware component isolates the component from the system. While disabled, a component's state changes are not processed. For example, if a disabled smoke detector changes to the alarm state, the panel will not go into alarm. The panel will go into alarm if you enable the disabled smoke detector and the smoke detector is still in the alarm state.

Hardware components include:

- Input circuits, output circuits, detectors, or modules
- Rail modules
- Switches
- LEDs

When you disable a hardware component, the 3-CPU1 lights the 3-LCD Disable LED and places a *Disabled Active* event in the trouble queue.

Note: To disable a component you need the component's logical address. You can get component's logical addresses from an SDU Objects report.

To disable a hardware component:

1. Press the Command Menus switch, then select Disable.
2. Do one of the following:

- Select Device to disable input circuits, output circuits, detectors, or modules
- Select Card to disable rail modules or control/display modules
- Select Switch to disable control/display module switches
- Select LED to disable control/display module LEDs

3. If prompted, enter a valid user access level password.
4. If you are disabling a device, select whether the device is an input or an output device.
5. Enter the target component's logical address.

Enabling hardware components

Enabling a hardware component re-establishes a disabled component as part of the system. When enabled, any changes in state that occurred while the component was disabled are processed. For example, if you enable a smoke detector that changed to the alarm state while it was disabled the panel will go into alarm.

Hardware components consist of:

- Devices (input and output circuits, detectors, modules)
- Rail modules
- Switches
- LEDs

To enable a disabled component you need the component's logical address. You can get a disabled component's logical address from the disabled points list.

Note: All components are enabled at startup, unless programmed otherwise. The 3-LCD does not indicate a trouble for any points disabled at startup and points disabled at startup are not listed on the disabled points list.

To enable a hardware component:

1. Press the Command Menus switch, then select Enable.
2. Do one of the following:

- Select Device to enable input circuits, output circuits, detectors, or modules
- Select Card to enable rail modules or control/display modules
- Select Switch to enable control/display module switches
- Select LED to enable control/display module LEDs

3. If prompted, enter a valid user access level password.
4. If you are disabling a device, select whether the device is an input or an output device.
5. Enter the component's logical address.

Disabling logical devices

A logical device is an object created by the system programming that is required for executing system functions and bears no physical relationship to the system. For example, smoke detectors that are in the same Zone group do not have to be connected on the same wire run in order to be a member of the group. Disabling a logical device isolates the logical device from the system just as if it were a hardware component.

Logical devices consist of:

- Groups (And, Check-In, Matrix, Service)
- Guard Patrols
- Zones
- Time Controls

When you disable a logical device, the 3-CPU1 lights the 3-LCD Disable LED and places a *Disabled Active* event in the trouble queue. Disabling a Zone group disables each of the devices in the group individually. Disabling other groups only disables their group response.

Note: Before disabling a logical group, you need to know which devices are included in the group. You should be able to get a list of logical groups and their members from the company that installed the system.

To disable an And, Check-In, Matrix, or Service group:

1. Press the Command Menus switch, then select Disable.
2. Select Group.
3. If prompted, enter a valid user access level password.
4. Select the group type.
5. Select the group from the list.

To disable a Guard Patrol or Zone group:

1. Press the Command Menus switch, then select Disable.
2. Select Guard Patrol.
3. If prompted, enter a valid user access level password.
4. Select the group from the list.

To disable a Time Control:

1. Press the Command Menus switch, then select Disable.
2. Select Time Control.
3. If prompted, enter a valid user access level password.
4. Select the time control from the list.

Enabling logical devices

Enabling a logical device establishes a disabled logical device as part of the system just as if it were a hardware component. When enabled, any changes in state that occurred while the logical device was disabled are processed.

A logical device is an object created by the system programming that is required for executing system functions and bears no physical relationship to the system. For example, smoke detectors that are in the same Zone group do not have to be connected on the same wire run in order to be a member of the group.

Logical devices consist of:

- Groups (And, Check-In, Matrix, Service)
- Guard Patrols
- Zones
- Time Controls

Notes: Enabling a Zone group enables each of the devices in the group individually. Enabling other groups only enables their group response.

To enable an And, Check-In, Matrix, or Service group:

1. Press the Command Menus switch, then select Enable.
2. Select Group.
3. If prompted, enter a valid user access level password.
4. Select the group type.
5. Select the group from the list.

To enable a Guard Patrol or Zone group:

1. Press the Command Menus switch, then select Enable.
2. Select Guard Patrol.
3. If prompted, enter a valid user access level password.
4. Select the group from the list.

To enable a Time Control:

1. Press the Command Menus switch, then select Enable.
2. Select Time Control.
3. If prompted, enter a valid user access level password.
4. Select the time control from the list.

Guard Patrol groups

Guard Patrol groups are used to monitor the activities of security guards. Security guards are required to walk any one of a number of predetermined tours. During each tour, the guard must activate guard patrol stations that are located along the tour.

When a guard activates a station too early, too late, or out of sequence, the 3-LCD displays a *Guard Patrol Active* message in the alarm message queue. The operator can press the Details switch to determine which station reported in.

Starting a guard patrol tour

Activating a Guard Patrol group starts the system's early, late, and out of sequence sensing mechanisms. Once a station reports in the system's early, late, and out of sequence sensing mechanisms stop and end the tour.

To activate a guard patrol:

1. Press the Command Menus switch.
2. Select Activate, then select Guard Patrol.
3. If prompted, enter a valid user access level password.
4. Select the guard patrol group from the list.

Restoring a Guard Patrol group

When a guard patrol tour ends because a guard patrol station was not activated at the proper time, you must restore the Guard Patrol group to which the station belonged.

To restore a Guard Patrol group:

1. Press the Command Menus switch.
2. Select Restore, then select Guard Patrol.
3. If prompted, enter a valid user access level password.
4. Select the guard patrol group from the list.

Check-in groups

Check-In groups are used to monitor occupants in nursing care facilities. Occupants must check in during their assigned check-in period by activating a check-in device. The 3-LCD displays a *Check-In Active* message for any member of a group that fails to check in on time. Activating a check-in device anytime outside the check-in period or a second time within the check-in period sends an *Emergency Active* message to the 3-LCD display.

Activating a Check-In group

Activating a Check-In group starts the group's check-in sequence. The 3-LCD displays a *Check-In Active* event to signal the operator that the check-in timer has started. If every member of the group checks in, the group restores and the panel returns to standby operation. If any member fails to check in the group must be restored by the operator.

Note: Normally time controls are used to activate Check-In groups. You can also use the Enable command to activate a Check-In group.

To activate a Check-In group:

1. Press the Command Menus switch then select Activate.
2. Select Check-In Group.
3. If prompted, enter a valid user access level password.
4. Select the group from the list.

Restoring a Check-In group

Devices that are not activated during a check-in period are temporarily removed from the group's device register. Unregistered devices are not recognized by the system. Restoring the Check-In group returns the missing check-in devices to the group.

Note: You can also use the Disable command to restore a Check-In group.

To restore a Check-in group:

1. Press the Command Menus switch then select Restore.
2. Select Check-In Group.
3. If prompted, enter a valid user access level password.
4. Select the check-in group from the list.
5. Activate the nonactivated check-in devices one time.

Canceling a check-in sequence

You cancel a check-in sequence by restoring the Check-In group before the check-in timer expires.

To cancel a check-in sequence:

1. Press the Command Menus switch then select Restore.
2. Select Check-In Group.
3. If prompted, enter a valid user access level password.
4. Select the check-in group from the list.

Changing the smoke detector sensitivity level

Smoke detectors can operate using two levels of sensitivity. The system configures smoke detectors to use their primary sensitivity level (typically, normal to least sensitive) during normal business hours. A time control then reconfigures the smoke detectors to use their alternate sensitivity level (typically, normal to most sensitive) after hours when the premises is unoccupied.

The menu for changing the smoke detector sensitivity level is intuitive. For example, if the primary sensitivity level is in use, the menu selection will be for alternate sensitivity. Changing the smoke detector sensitivity level affects all smoke detectors in the system.

Note: You should be able to get a list of the primary and alternate sensitivity setting for each smoke detector from the company that installed the system.

To change the smoke detector sensitivity level:

1. Press the Command Menus switch, then select Activate.
2. Select Alt. Sensitivity (Prim. Sensitivity).
3. If prompted, enter a valid user access level password.

Changing event message routing

Each device in the system is configured with a primary and alternate message routing. When a device in the system changes state, the panel connected to the device produces an event. The panel distributes the event according to the active message routing setting that is active at the time.

Activating event alternate message routing

Activating the alternate event message routing directs the panel to use the alternate routing destinations for any device that changes state.

To activate event alternate message routing:

1. Press the Command Menus switch.
2. Select Activate, then select Alt. Message Rte.
3. If prompted, enter a valid user access level password.

Restoring event primary message routing

Restoring the primary message directs the panel to use the primary routing destinations for any device that changes state.

To restore event primary message routing:

1. Press the Command Menus switch.
2. Select Restore, then select Alt. Message Rte.
3. If prompted, enter a valid user access level password.

Changing the output state of a relay or LED

Use the Control Output command to change the output state of a relay or LED.

- A relay module can be On (energized) or Off (deenergized). In the energized state, the relay module's normally-open contacts are held closed and the normally-closed contacts are held open.
- An LED can be off, on, blink slow, or blink fast. The fast and slow blinking rate is determined by the marketplace.

Changing the output state of a relay or LED requires entering a command priority level.

Priority	Description
Set	This priority overrides all low and high priority instructions and forces the device's output to the desired state. The set priority does not reset the device's priority counters.
Latch	This priority overrides all low and high priority instructions and forces the device's output to the desired state. The latch priority does reset the device's priority counters.
Low	This priority forces device to the desired state and adjusts the low priority counter accordingly.
High	This priority forces a device to the desired state and adjusts the high priority counter accordingly.

To change the output state of a relay or LED:

1. Press the Command Menus switch.
2. Select Control Output, then select the device type.
3. If prompted, enter a valid user access level password.
4. Enter the target device's 8-digit logical address (PPCCDDDD).
5. Select the desired output state.
6. Select the priority this command has over other commands affecting the same device.

Retrieving reports from the system

The Reports command is used to access the reports available from the system. The Reports command generates a list that you can view on the 3-LCD display module or print on the local printer.

There are three types of reports available:

Sensitivity	This report returns a list of detectors and the amount of environmental compensation they have used. You can choose to list an individual detector, all detectors on a loop, all detectors on a panel, or only the dirty detectors (those using more than 80% compensation.)
History	History reports provide a chronological list of events that have occurred on a panel since the panel was placed into service or since the last time the history was cleared.
Revision Levels	This report provides a list of all the hardware and software components installed in a panel and their revision levels.

To retrieve a sensitivity report:

1. Press the Command Menus switch, then select Report.
2. Do one of the following:

- Select Dirty Head List then enter the target panel's 2-digit address (PP).
- Select Single Device then enter the target device's 8-digit logical address (PPCCDDDD).
- Select All Loop Devices to get the compensation level for all the detectors on a single loop or on a panel, then select by loop or by panel.

  If you selected by panel, enter the target panel's 2-digit address (PP). If you selected by loop, enter the target loop's logical address (PPCCL).

3. Send the list to the display or to the printer. If you choose to send the list to the printer, select Printer 1 if the printer is connected to port 1 or Printer 2 if connected to port 2.

To retrieve a history report:

1. Press the Command Menus switch, then select Report.
2. Select History.
3. Enter the target panel's 2-digit address (PP).
4. Send the list to the display or to the printer. If you choose to send the list to the printer, select Printer 1 if the printer is connected to port 1 or Printer 2 if connected to port 2.

To retrieve a revision level report:

1. Press the Command Menus switch, then select Report.
2. Select Revision Levels.
3. Enter the target panel's 2-digit address (PP).
4. Send the list to the display or to the printer. If you choose to send the list to the printer, select Printer 1 if the printer is connected to port 1 or Printer 2 if connected to port 2.

Setting the system time and date

Set the system time and date to configure the panel's time of day and date reference. Set the system time and date when the panel is first placed in service.

The system time of day is set in 24-hour format (HHMMSS), where: HH is the hour, MM is the minutes, and SS is the seconds.

For example:

Enter this value (HHMMSS)	To set this time
000000	12 midnight
010000	1 a.m.
115900	11:59 a.m.
120000	12 noon
130000	1 p.m.
235930	11:59:30 p.m.

To set the system time of day reference:

1. Press the Command Menus switch, then select Program.
2. Select Change Time.
3. If prompted, enter a valid user access level password.
4. Enter the time in 24-hour format (HHMMSS)

The system date is set in a month/date/year format (MMDDYYYY), where: MM is the month number, DD is the date, and YYYY is the year. For example, to set the date for January 1, 1999, enter 01011999.

To change the system date reference:

1. Press the Command Menus switch, then select Program.
2. Select Change Date.
3. If prompted, enter a valid user access level password.
4. Enter the date (MMDDYYYY).

Changing user access level passwords

You should change the access level passwords from their default values to prevent unauthorized access to system. You may not use the same password for more than one access level. The system default passwords are as follows:

Access Level	Default password	Access level required to change
Level 1	1111	Level 2
Level 2	2222	Level 3
Level 3	3333	Level 4
Level 4	4444	Level 5
Level 5	for service use only	Level 5

Caution: Before changing a password, be sure to write it down on a sheet of paper and store it in a safe place.

To change a user access level password:

1. Press the Command Menus switch, then select Program.
2. Select Edit Passwords.
3. Select the user access level password you want to change.
4. If prompted, enter a valid user access level password.
5. Enter the new 4-digit password.

Restarting a panel

Restarting a panel initiates the panel's start up processes without first turning off the operating power.

To restart a panel:

1. Press the Command Menus switch, then select Program.
2. Select Restart.
3. If prompted, enter a valid user access level password.
4. Select whether to restart a single panel or all panels on the network. If you select to restart a single panel, then enter the target panel's 2-digit address (PP).

Scheduling holidays

Holidays vary from installation to installation and may change from year to year. By scheduling holidays, a panel can activate a time-controlled event based on whether the day is a scheduled holiday.

Note: Each panel can store up to 255 holidays.

To schedule a holiday:

1. Press the Command Menus switch, then select Program.
2. Select Edit Holiday List.
3. If prompted, enter a valid user access level password.
4. Select Insert New Holiday.
5. Enter the holiday's month and date (MMDD).

To delete a holiday from the list:

1. Press the Command Menus switch, then select Program.
2. Select Edit Holiday List.
3. If prompted, enter a valid user access level password.
4. Select the holiday from the list.
5. Enter 0000 for the month and date (MMDD).

To change a holiday:

1. Press the Command Menus switch, then select Program.
2. Select Edit Holiday List.
3. If prompted, enter a valid user access level password.
4. Select a holiday on the list.
5. Enter the new month and date (MMDD).

Clearing the panel history file

Clearing the panel's history file:

- Resets the alarm history counter on the 3-LCD display module
- Erases the list of events that occurred on the panel since the panel was placed into service or the last time the history file was cleared.

Note: Clearing the panel history file requires a level 5 password which is only available to an authorized service technician for service use only.

To clear the alarm history:

1. Press the Command Menus switch.
2. Select Program, then select Clear History.
3. If prompted, enter a valid user access level password.

Testing alarm input devices

In order to test an alarm input device, the device must be part of a service group. Service groups allow alarm input devices to be activated without placing the system into alarm. The protected premises may be divided into more than one service group to make testing possible without leaving the entire premises unprotected.

Without any additional programming, you can test alarm input devices by:

- Putting the service group into test
- Activating each of the devices in the service group
- Verifying each of the devices show up on the active points list
- Canceling the test

Note: Putting a service group into test introduces a Service Group Active event in the trouble queue. You can press the Details switch to verify which service group is in test.

To put a service group into test:

1. Press the Command Menus switch, then select Test.
2. Select Start Test.
3. If prompted, enter a valid user access level password.
4. Select the service group.

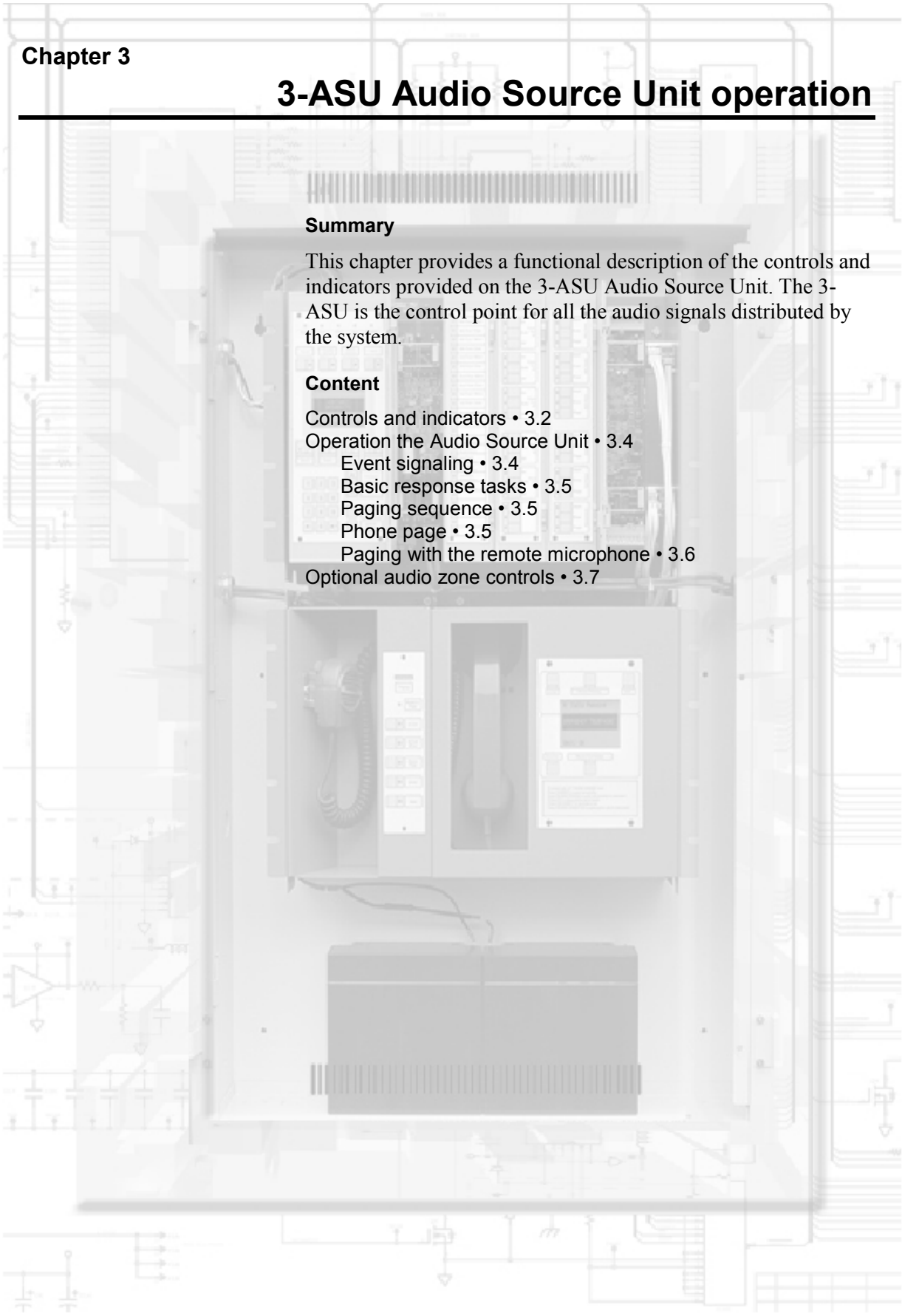
To cancel the test:

1. Press the Command Menus switch, then select Test.
2. Select Cancel Test.
3. If prompted, enter a valid user access level password.
4. Select the service group that is in test.

Note: A service group will automatically time-out and cancel after approximately 1 hour of inactivity.

Chapter 3

3-ASU Audio Source Unit operation



Summary

This chapter provides a functional description of the controls and indicators provided on the 3-ASU Audio Source Unit. The 3-ASU is the control point for all the audio signals distributed by the system.

Content

Controls and indicators

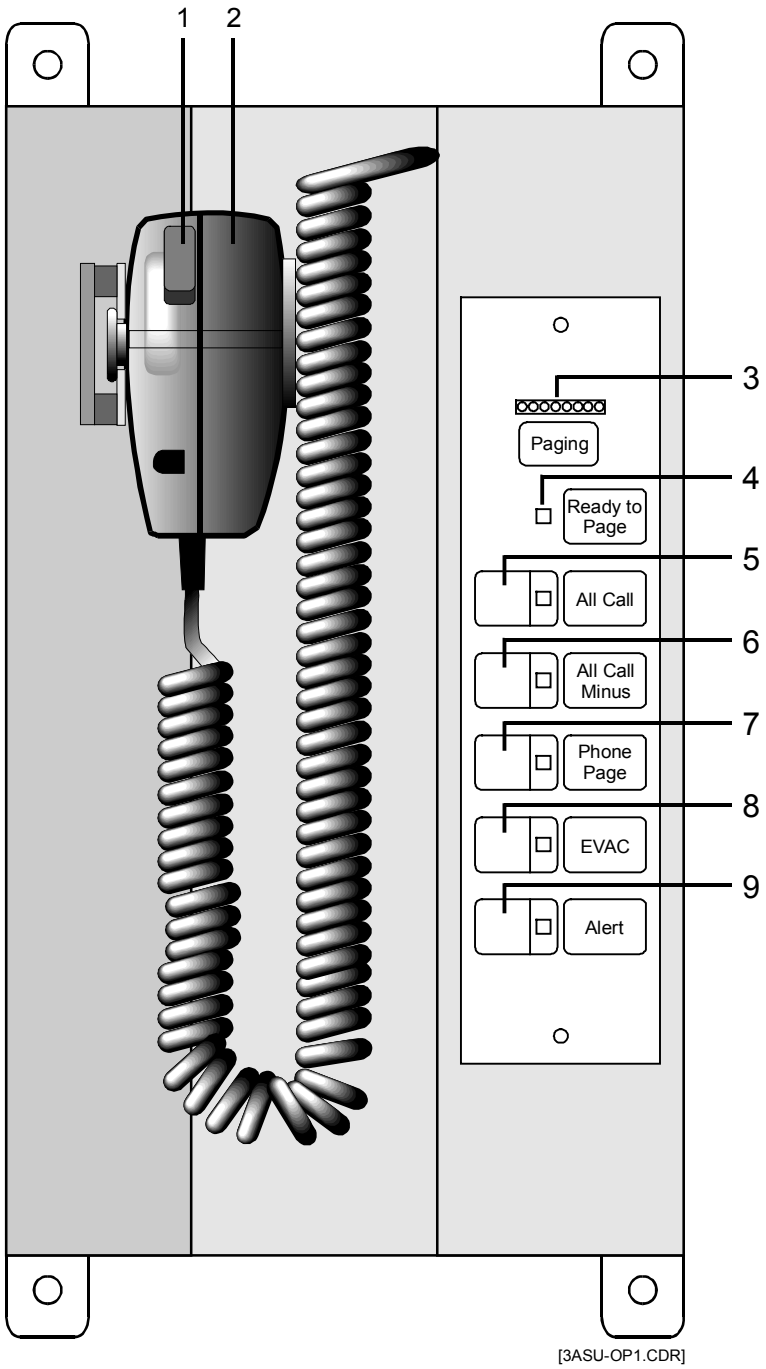


Figure 3-1: 3-ASU controls and indicators

Functional description of 3-ASU controls and indicators (see Figure 3-1)

Index	Control or Indicator	Functional Description
1	Push-To-Talk (PTT) Switch	Push the PTT switch and wait for the Ready to Page LED (item 4) to light steadily before making an announcement.
2	Paging Microphone	Speak into the microphone to make an announcement.
3	Page Level Meter	Indicates paging volume. When paging, speak at a level that causes the far right LED to only flicker occasionally.
4	Ready to Page LED	Green LED flashes during pre-announcement tone, then is on steady when the system is ready to page.
5	All Call Switch/LED	Green LED on indicates the 3-ASU is in the All Call mode. Pressing the All Call switch directs the page to all areas of the facility. To exit the All Call mode, press the switch a second time or press the All Call Minus, EVAC, or Alert switches.
6	All Call Minus Switch/LED	Green LED on indicates the 3-ASU is in the All Call Minus mode. Pressing the All Call Minus switch directs the page to the areas of the facility which have not been automatically selected to receive the EVAC or Alert tone/message. To exit the All Call Minus mode, press the switch a second time or press the All Call, EVAC, or Alert switches.
7	Phone Page Switch/LED	Green LED on indicates the 3-ASU is in the Phone Page mode. Pressing the Phone Page switch replaces the paging microphone (item 2) with the firefighter's telephone system. Individuals in remote areas of the facility can then issue a page via the firefighter's telephone system. All phone paging is under the direct control of the 3-ASU operator. Press the switch a second time to disconnect the Phone Page mode.
8	EVAC Switch/LED	Green LED on indicates the 3-ASU is in the EVAC mode. Pressing the EVAC switch directs the page to areas of the facility which are automatically receiving the evacuation tone/message. To exit the EVAC mode, press the switch a second time or press the All Call, All Call Minus, or Alert switches.
9	Alert Switch/LED	Green LED on indicates the 3-ASU is in the Alert mode. Pressing the Alert switch directs the page to areas of the facility which are automatically receiving the Alert tone/message. To exit the Alert mode, press the switch a second time or press the All Call, All Call Minus, or EVAC switches.

Operation of the Audio Source Unit

The function of a life safety system is to alert people occupying a facility of an emergency. The Audio Source Unit is designed to permit rapid selection and paging to the affected areas of the facility. For example, the page signal automatically overrides any other signals.

Event signaling

In large facilities, the people most effected by an emergency should be instructed to evacuate the area immediately, and people not in immediate danger should receive an alert signal. Since most large facilities have a significant number of transient occupants, the most effective signaling is a combination of attention getting tones, followed by instructional messages.

The information provided here is general in nature. Each facility is unique. The life safety system in your facility has been designed by fire safety professionals to meet the specific requirements of the fire codes in your location. Please refer to the site-specific instructions provider by the installer to determine the exact operation of your system.

Evacuation (EVAC) Signaling

The evacuation signal notifies facility occupants that they are in immediate danger, and must evacuate the area. Evacuation signals can take the form of bells, horns, tones, and audio messages. Accompanying the audio message is a visual notification appliance, typically a flashing strobe light.

The system automatically activates all the evacuation signals in the affected areas of the facility.

Alert Signaling (optional)

The alert signal notifies the occupants of a facility that: an emergency event is in progress; they are not in immediate danger; and they should prepare to evacuate, but not to evacuate at this time. Alert signals are typically tones or audio messages.

The system automatically activates the alert signals (if programmed in your system) in the affected areas of the facility.

Page Messages

The most reliable source of information about an emergency event comes from the individual who is in charge of the facility during the emergency. This individual is typically the fire chief or facility manager. The page function permits the individual in charge to make announcements to selected portions of the

building, advising occupants of what actions to take for safe egress, etc.

Basic response tasks

The basic tasks in responding to an emergency event are:

1. Use the All Call function to announce the arrival of the fire department, making any necessary announcements.
2. Use the Page to Evac function to reinforce the evacuation of the occupants in areas receiving the evacuation signal. As an example, occupants may be directed to follow the evacuation plan, not to use the elevators, etc.
3. Use the Page to Alert function to notify the areas not in immediate danger to prepare to evacuate, or that people in the evacuation area may be entering their area as an area of refuge.
4. Use the All Call Minus switch to make announcements to areas of the facility not receiving the Evac or Alert signals, as required. Stairwells are typical areas accessed using the All Call Minus page function.
5. The zone page controls may be used to manually select paging areas.

Paging sequence

Select the areas to receive the page by pressing the appropriate page function switch(s). The switch's integral LED will be on steady when the system is ready to receive the page.

Press the PTT switch on the microphone. The Ready to Page LED will flash while the pre-announcement tone is sounding. Begin the announcement once the Ready to Page LED is on steady. Adjust your voice level so that the far right LED on the volume meter only flickers occasionally. Release the PTT switch when the announcement is finished. The system will turn off the page, and return to its pre-page condition after a short delay.

Note: The local microphone has priority over a telephone page, which has priority over a remote microphone page.

Each installation is customized. Please refer to your site-specific documentation to determine which areas of your facility automatically receives the page, or how to select the areas to receive the page.

Phone page

If your system is equipped with a firefighter's telephone circuit, you can connect the telephone circuit to the page function by pressing the Phone Page switch. This permits an individual

talking on the firefighter's telephone system to make announcements over the paging system.

Establish the phone connection over the Firefighter's Telephone Control Unit. Select the areas to receive the page the same way as if it were to be originated using the microphone. Instruct the individual who is remote paging to begin speaking after the pre-announcement tone has finished. Press the Phone Page Switch and begin the phone page. The phone page is under complete control of the 3-ASU/FT, and may be interrupted at any time by pressing the Phone Page switch a second time.

Paging with the remote microphone

If your system is equipped with the remote paging microphone, it may be used to issue pages throughout the facility. The remote microphone page is automatically overridden by any pages issued by the local microphone in the Audio Source Unit or a phone page.

Each remote microphone installation is customized. Please refer to your site-specific documentation to determine which areas of your facility automatically receives the page, or how to select the areas to receive the page.

Optional audio zone controls

The system can provide total manual control of the paging signals. This permits the individual in charge to extend the coverage area of the page beyond the pre-programmed areas. Your system may have the option of manually directing the page message using one of the types of control/display modules shown in Figure 3-2. The specific type and location of these displays will vary, however the basic functions are similar.

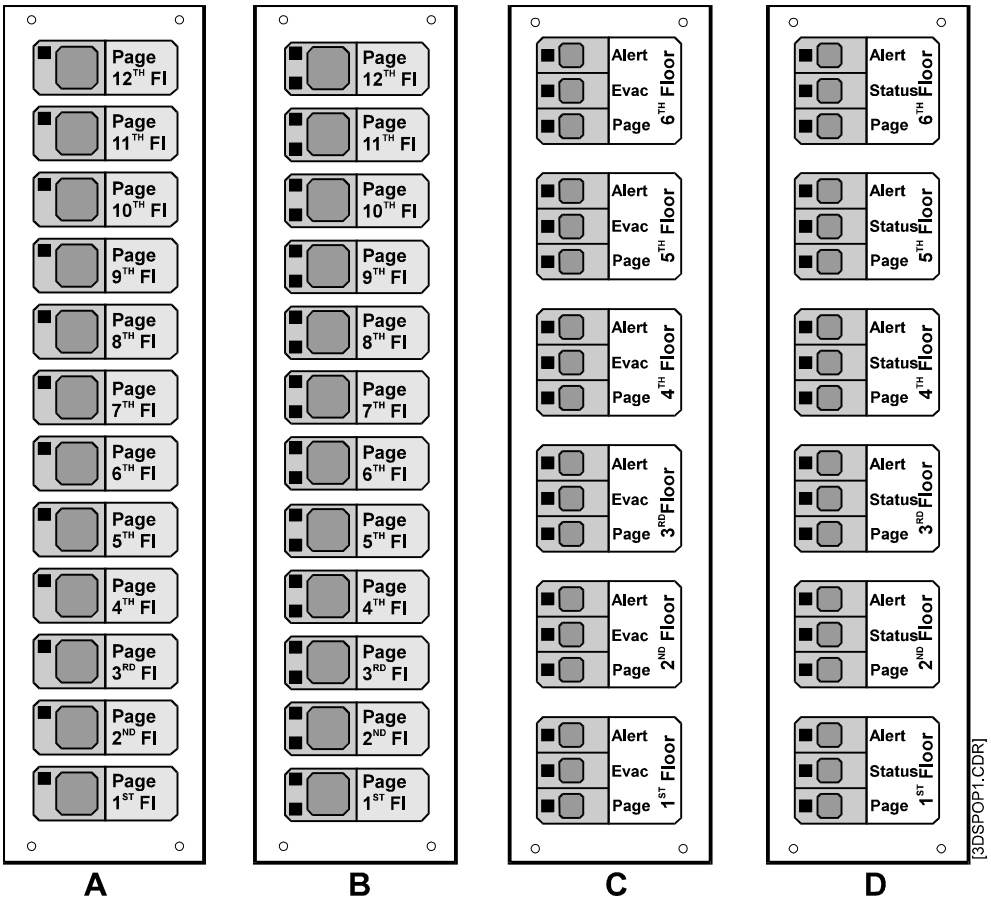


Figure 3-2: Control/display module options

Pressing a zone select switch on the displays shown in Figure 3-2A and Figure 3-2B adds that zone to any zones selected by the page function switches on the Audio Source Unit. The LED in the upper left corner of each floor's control/display module is on when the floor is selected. The LED in the lower left corner on display B is used to annunciate trouble on an amplifier or notification appliance circuit associated with the zone.

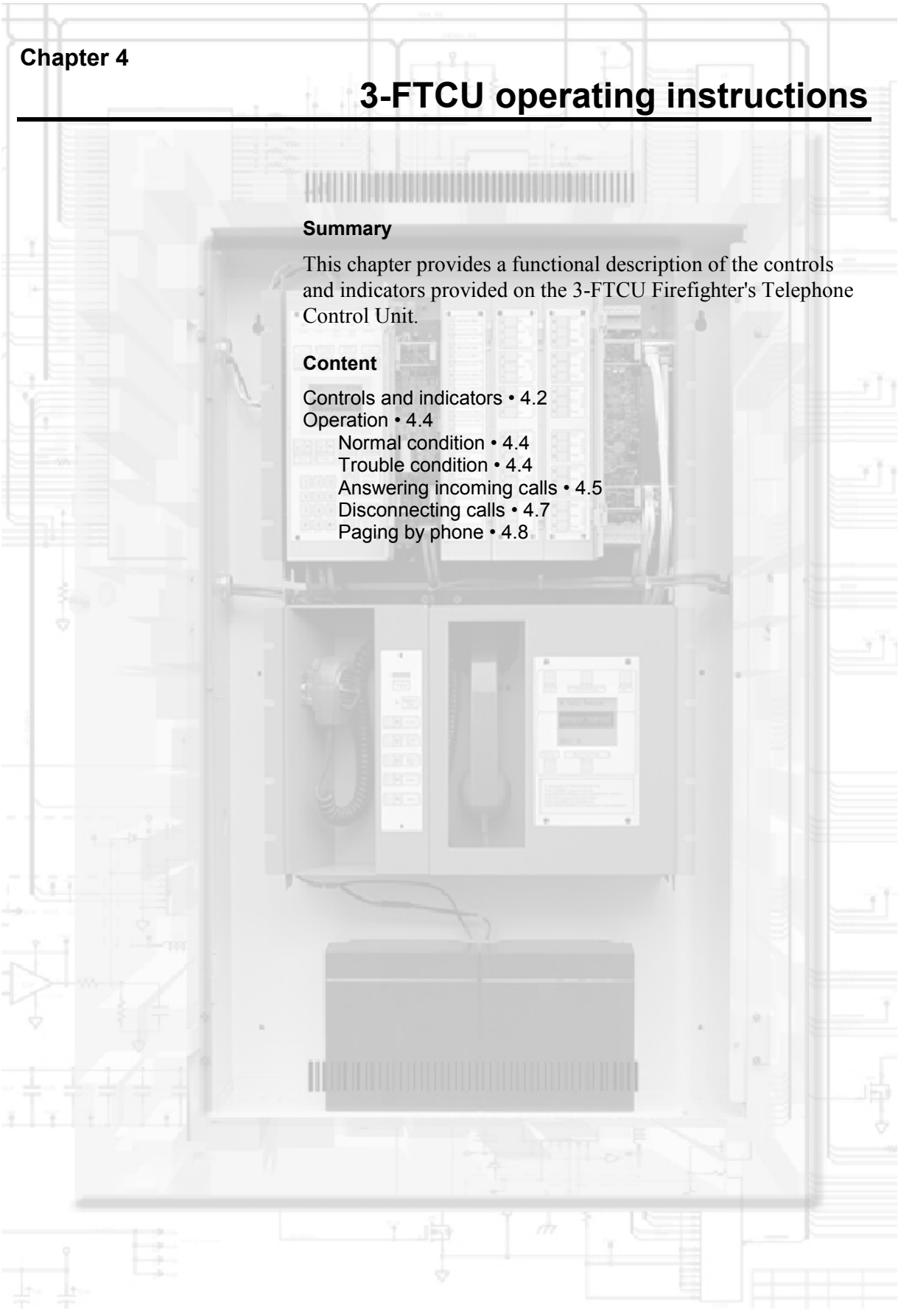
The control/display module shown in Figure 3-2C is used to manually direct the Evac and Alert signals as well as the page

message to individual areas of the facility. The LEDs can be programmed to follow any automatic system responses as well as manual audio zone selections.

The control/display module shown in Figure 3-2D is used to manually direct the Evac signal and pages to individual areas of the facility. The center switch is inoperative. This configuration is typically used in facilities where the alert signal is automatically sent to all areas not receiving the evacuation signal. The LEDs follow any automatic system responses as well as manual audio zone selections. The Status LED can be programmed to indicate the trouble state of the zone amplifier.

Chapter 4

3-FTCU operating instructions



Summary

This chapter provides a functional description of the controls and indicators provided on the 3-FTCU Firefighter's Telephone Control Unit.

Content

Controls and indicators

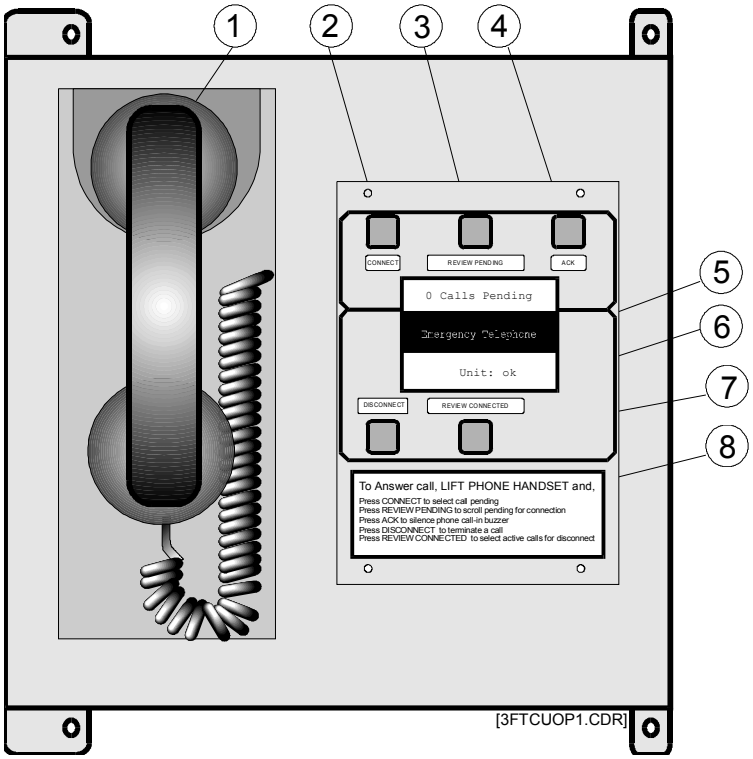


Figure 4-1: 3-FTCU controls and indicators

Functional description of 3-FTCU controls and indicators (see Figure 4-1)

Index	Control or Indicator	Functional Description
1	Master Telephone Handset	The master telephone handset permits the operators to communicate with dedicated firefighters telephone stations which are strategically located throughout the facility.
2	Connect Switch	The connect switch connects the incoming calls to the master telephone handset.
3	Review Pending Switch	The review pending switch scrolls the list of pending incoming calls.
4	ACKnowledge Switch	The acknowledge switch silences the call-in buzzer.
5	LCD Display	The LCD display shows the status of the firefighters telephone system. The display is backlit in the alarm mode and when an incoming call is received.
6	Disconnect Switch	The disconnect switch is used to remove the connected phone which is shown in reversed text on the bottom of the display.
7	Review Connected Switch	The review connected switch scrolls the list of connected calls on the bottom of the display.
8	Instruction Placard	This card is a set of phone operating instructions.

Operation

The operational status of the phone system can be determined by using the 3-FTCU LCD display.

Normal condition

When there is no activity on the system the screen appears as shown in Figure 4-2. The top line indicates that there are no incoming calls pending.

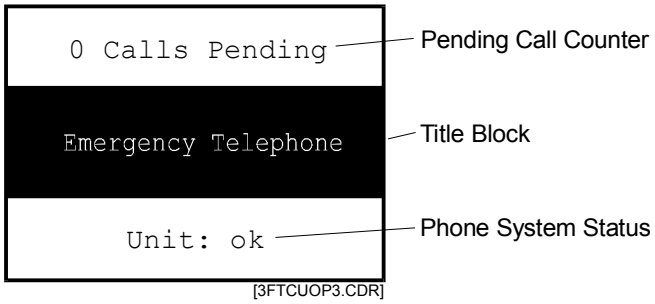


Figure 4-2: Normal 3-FTCU Display

The bottom line indicates the 3-FTCU unit status. “OK” means that there are no troubles with the phone system.

Trouble condition

When there is a fault on the firefighters telephone system, a fault indication will appear on the bottom of the display, as shown in Figure 4-3. Local faults may appear on the second line of the display. Circuit faults require the use of the 3-LCD display module to find the specific cause of the problem.

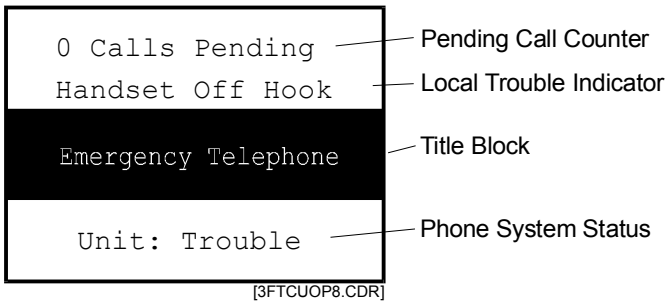


Figure 4-3: Trouble 3-FTCU Display.

Answering incoming calls

An incoming call is initiated when a firefighters telephone is taken off-hook or plugged into a remote telephone jack. The caller hears a tone, indicating the connection is good, and the call-in buzzer is activated at the 3-FTCU.

Display

The number of incoming calls is always listed on the top line of the display. The identification of the incoming call appears in reversed text on the second line of the display, as shown in Figure 4-4. Should multiple calls be pending, the reversed text display will slowly sequence through the incoming calls.

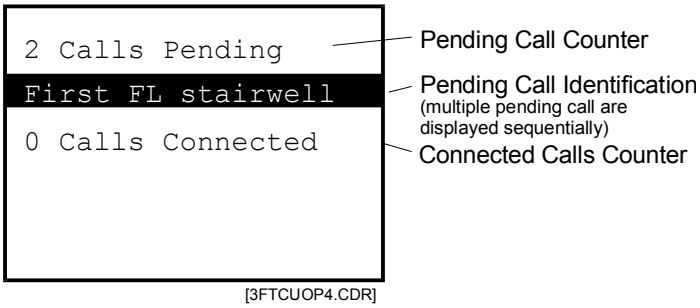


Figure 4-4: Incoming Call, 3-FTCU Display

To answer an incoming call

1. Silence the call-in buzzer by pressing the ACK (acknowledge) switch. The buzzer will re-sound each time a new incoming call is received.
2. If multiple calls are shown in the display, stop the call identifier sequencing by pressing the Review Pending switch once. Each additional activation of the Review Pending switch manually steps the display through the list of incoming calls. When the desired call appears on the pending calls identification line, stop stepping through the calls.
3. To answer the selected call, press the Connect switch. The call identifier will move from the pending calls identification line of the display to the connected call list at the bottom of the display, as shown in Figure 4-5. Once connected, you may begin your conversation.

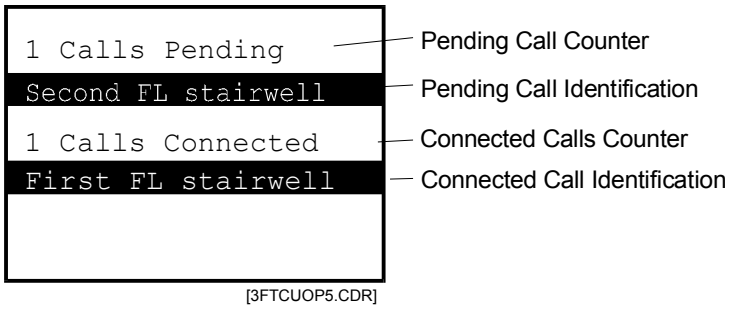


Figure 4-5: 3-FTCU Display - One Connected Call and One Pending Call

Notice in Figure 4-5 that the calls connected counter indicates one call connected, the first floor stairwell phone, and the pending call counter decremented to show the one remaining incoming call from the second floor stairwell phone.

4. To add the second floor stairwell phone to the conversation, press the Connect switch again. Because there is only one call pending, there is no need to scroll through incoming calls.

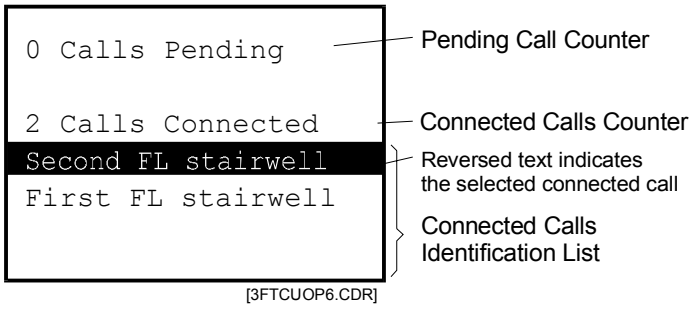


Figure 4-6: 3-FTCU Display, Two Connected Calls

The connected calls counter indicates that two phone circuits are connected, and both calls now appear in the connected calls identification list. The two stairwell phones and the 3- FTCU master handset are connected together in a party line connection, and may communicate with each other.

Up to five phone circuits can be connected in a party line connection. A full complement of connected circuits is shown in Figure 4-7.

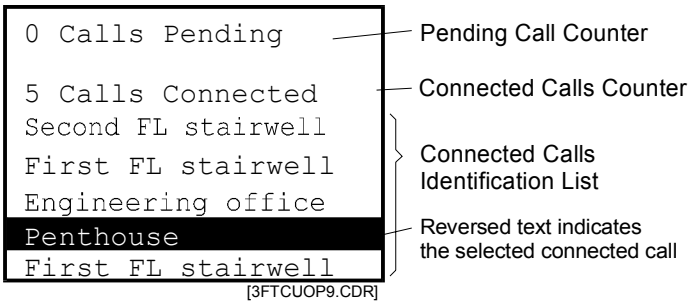


Figure 4-7: 3-FTCU Display, Five Connected Calls

Disconnecting calls

When a calling party is ready to hang up or remove a phone from its jack, the operator should disconnect the call as described below.

To disconnect a call

1. Press the Review Connected switch until the call to be disconnected is displayed in reversed text. In Figure 4-7, the Penthouse phone is selected.
2. Press the Disconnect switch. The call will be removed from the connected calls list and added to the pending calls list as shown in Figure 4-8 below. When the remote phone is hung up or removed from the phone jack, it will be removed from the calls pending list.

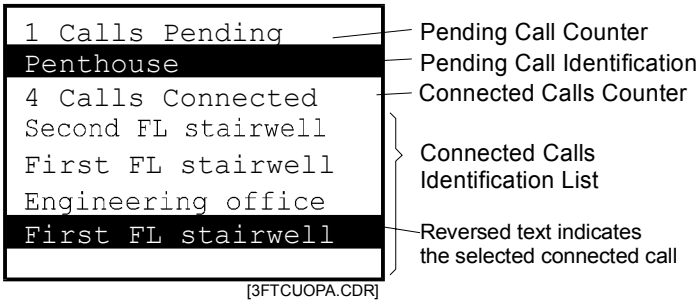


Figure 4-8: 3-FTCU Display, One Pending Call and Four Connected Calls

3. Hanging up the master handset in the 3-FTCU transfers all connected calls to the calls pending list. If the remote phones have not been hung-up within 20 seconds, the call in buzzer will resound.

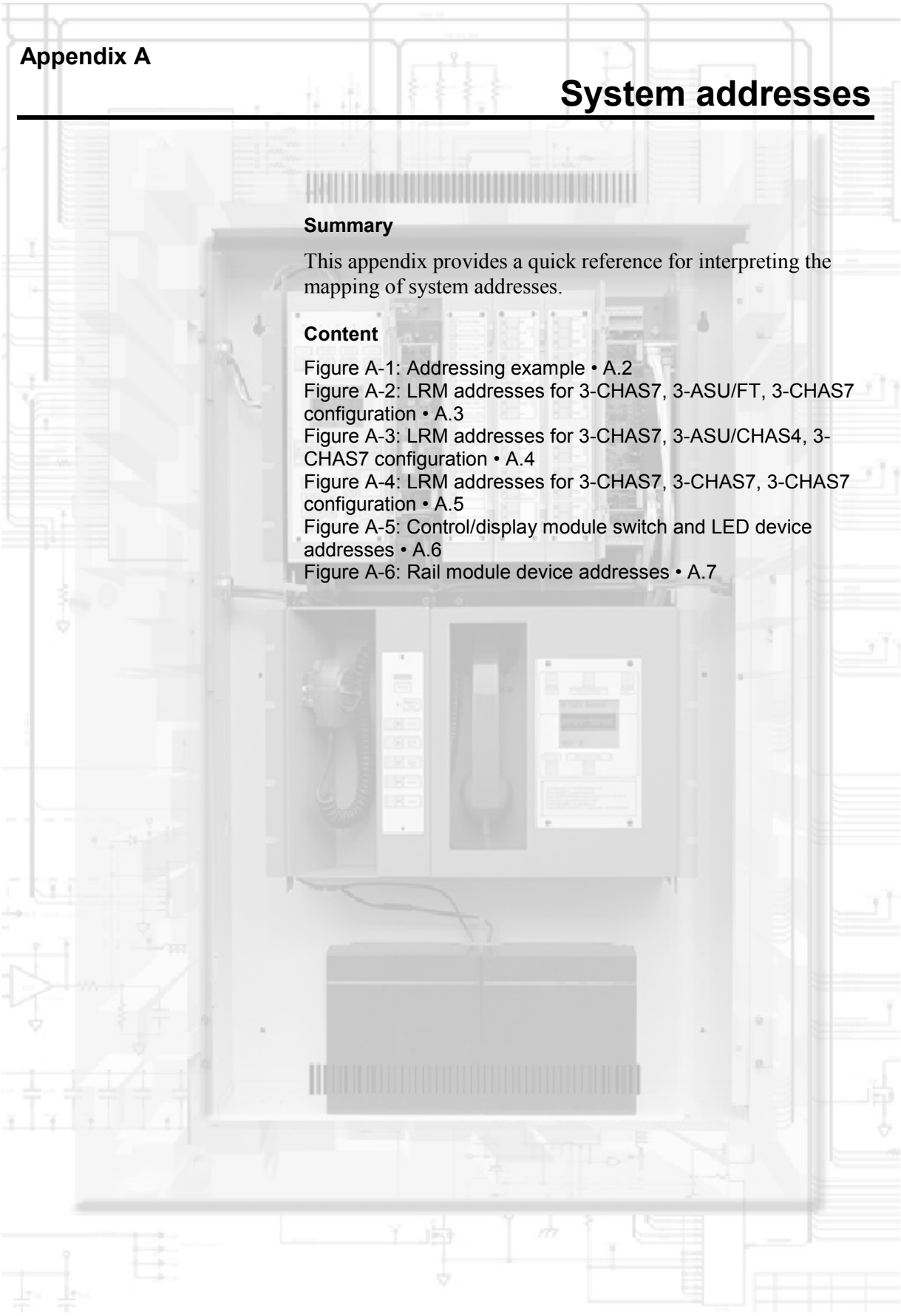
Paging by phone

The phone page feature of the 3-ASU audio source unit permits individuals with access to a remote firefighters telephone to make announcements over the emergency voice/alarm communications system, under the supervision of the Audio Source Unit operator.

1. Establish a phone connection with the remote phone which is to issue the page.
2. Set up the areas to receive the page using one of the ASU page area functions and/or manual switch selection of additional audio zones.
3. When ready to begin the paging sequence, the ASU operator should press the Phone Page switch.
4. Begin the announcement. The 3-ASU operator can monitor the page using the master handset.

Appendix A

System addresses



Summary

This appendix provides a quick reference for interpreting the mapping of system addresses.

Content

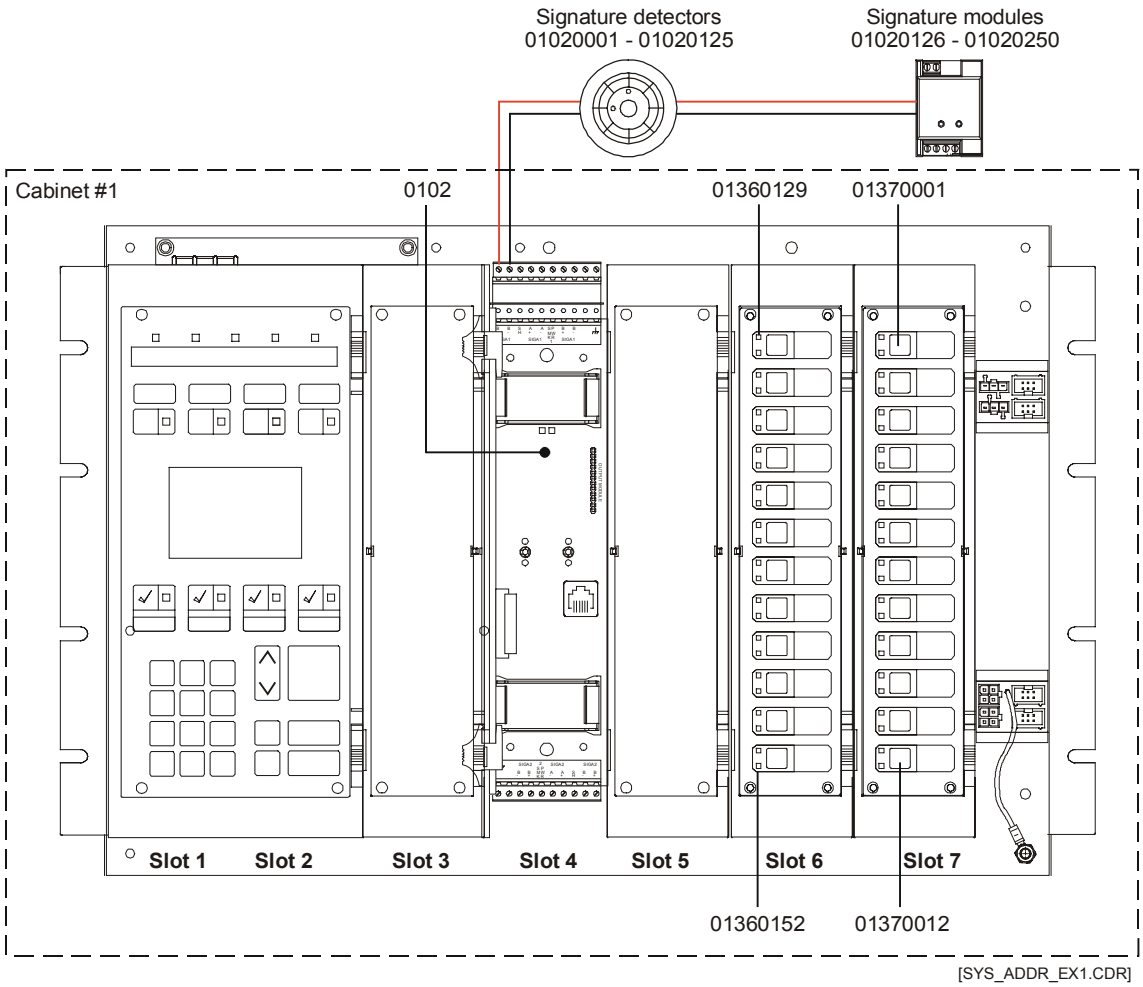


Figure A-1: Addressing example

Tip: To determine a local panel's cabinet number, use the 3-LCD command menu to get the status on all the active points on the panel. When prompted for a panel number, enter 00. The panel returns the startup response point's logical address. The first two numbers of the logical address is the cabinet number.

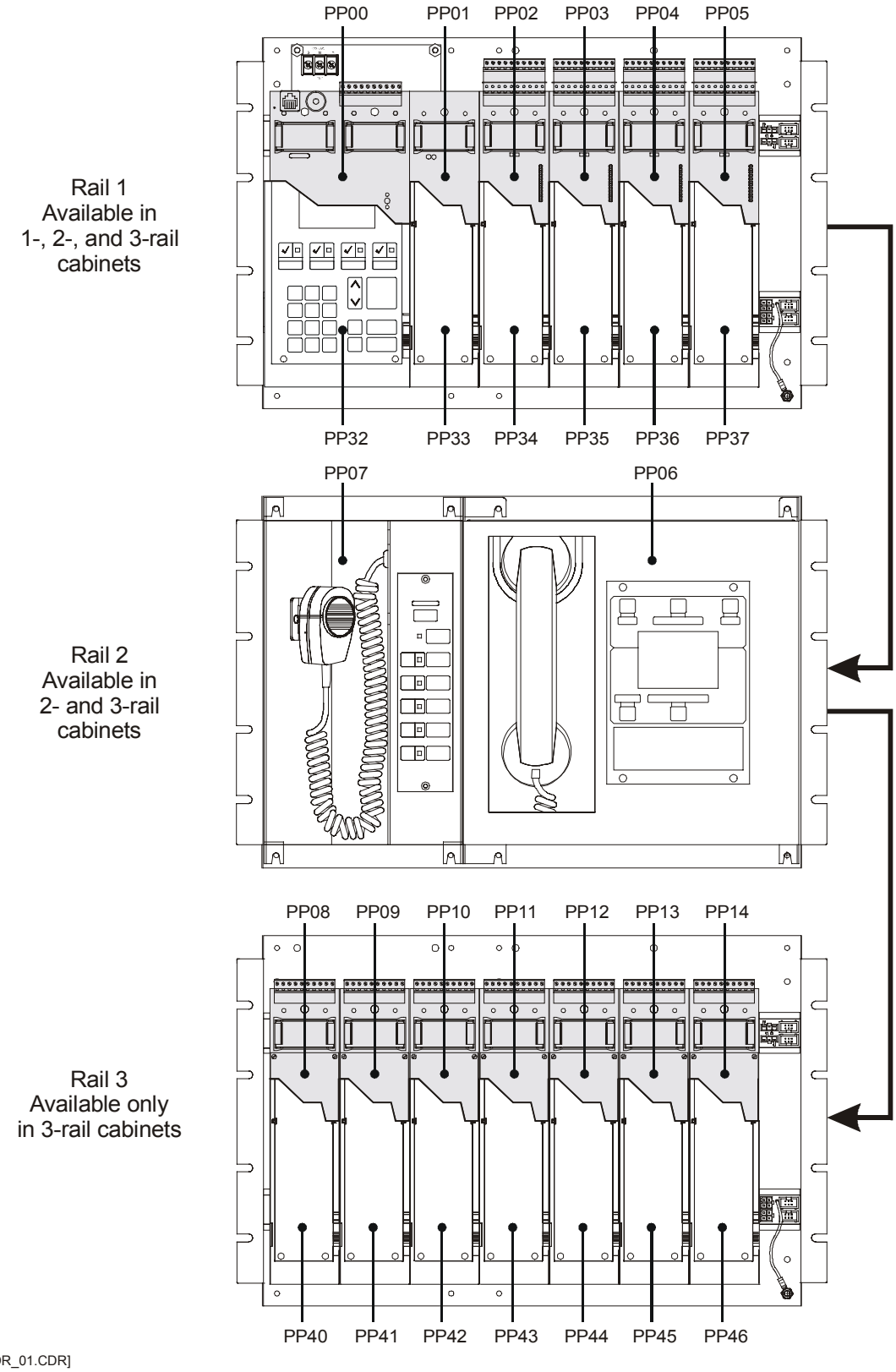
The system derives the addresses it assigns from the panel's cabinet number and the LRM's location within the panel (see Figure A-1). The basic address format is PPCCDDDD, where:

PP is the panel's cabinet number. The cabinet number is assigned when the installer downloads the CPU database into the panel.

CC is the LRM's slot address. The cabinet number and the slot address make up the LRM's logical address.

DDDD is the device's point address. The LRM's logical address and device's point address make up the device or circuit's logical address.

Figure A-2, Figure A-3, and Figure A-4 shows the logical addresses that the system assigns to LRMs based on the panel configurations. Figure A-5 shows the device logical addresses that the system assigns the control/display modules. Figure A-6 shows the device logical addresses that the system assigns to various rail modules.



[LRM_ADDR_01.CDR]

Figure A-2: LRM addresses for 3-CHAS7, 3-ASU/FT, 3-CHAS7 configuration

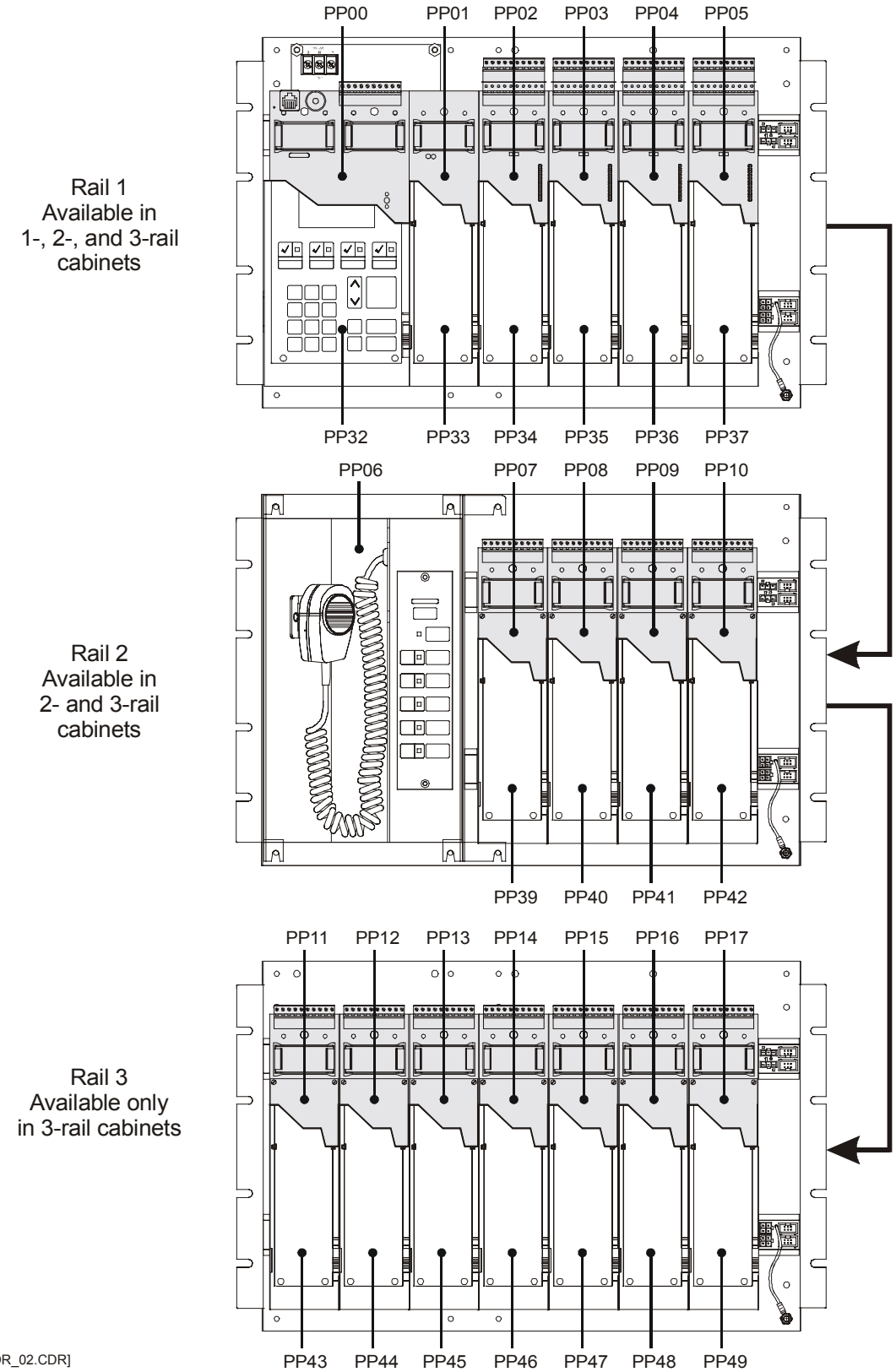


Figure A-3: LRM addresses for 3-CHAS7, 3-ASU/CHAS4, 3-CHAS7 configuration

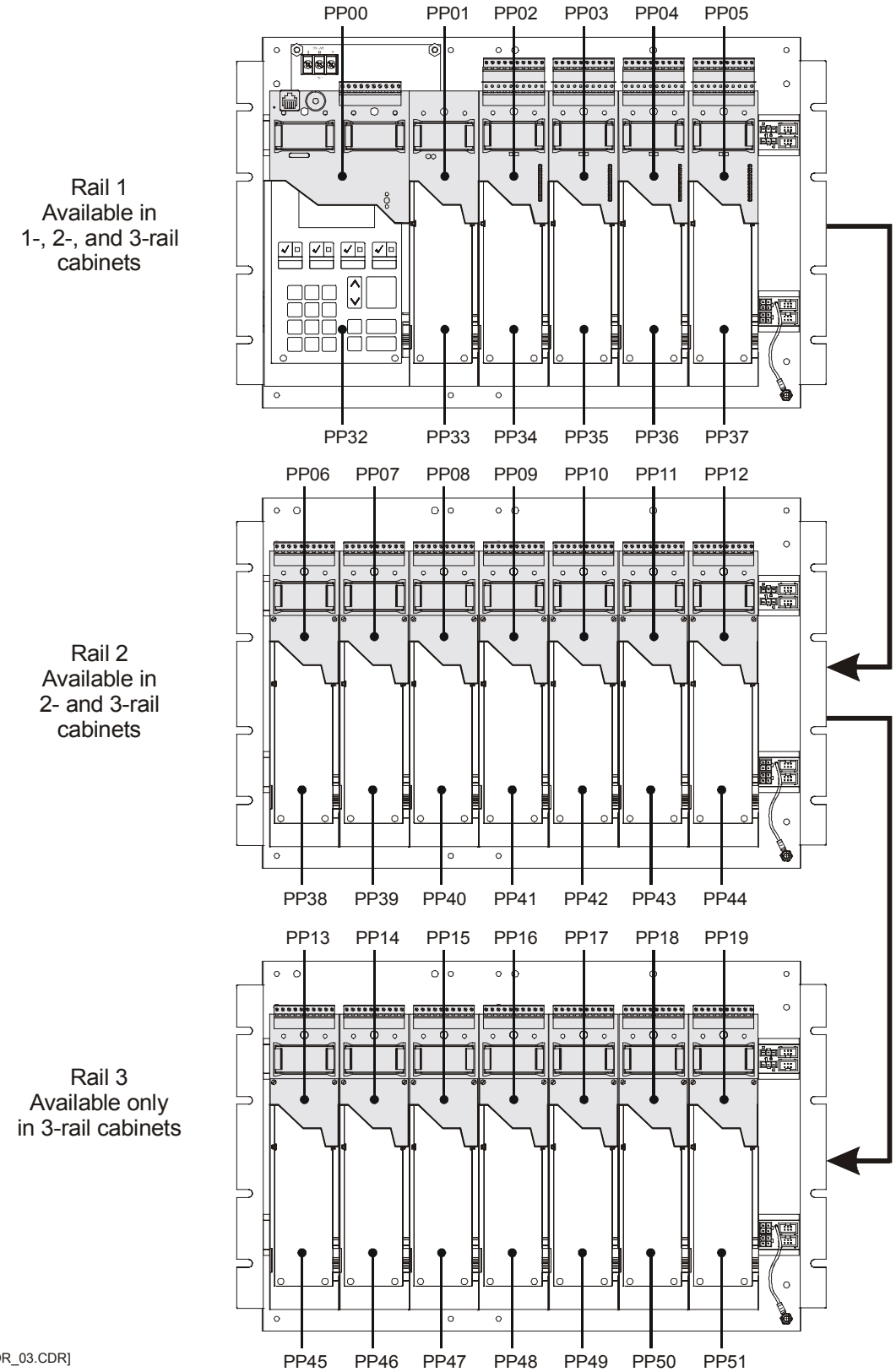


Figure A-4: LRM addresses for 3-CHAS7, 3-CHAS7, 3-CHAS7 configuration

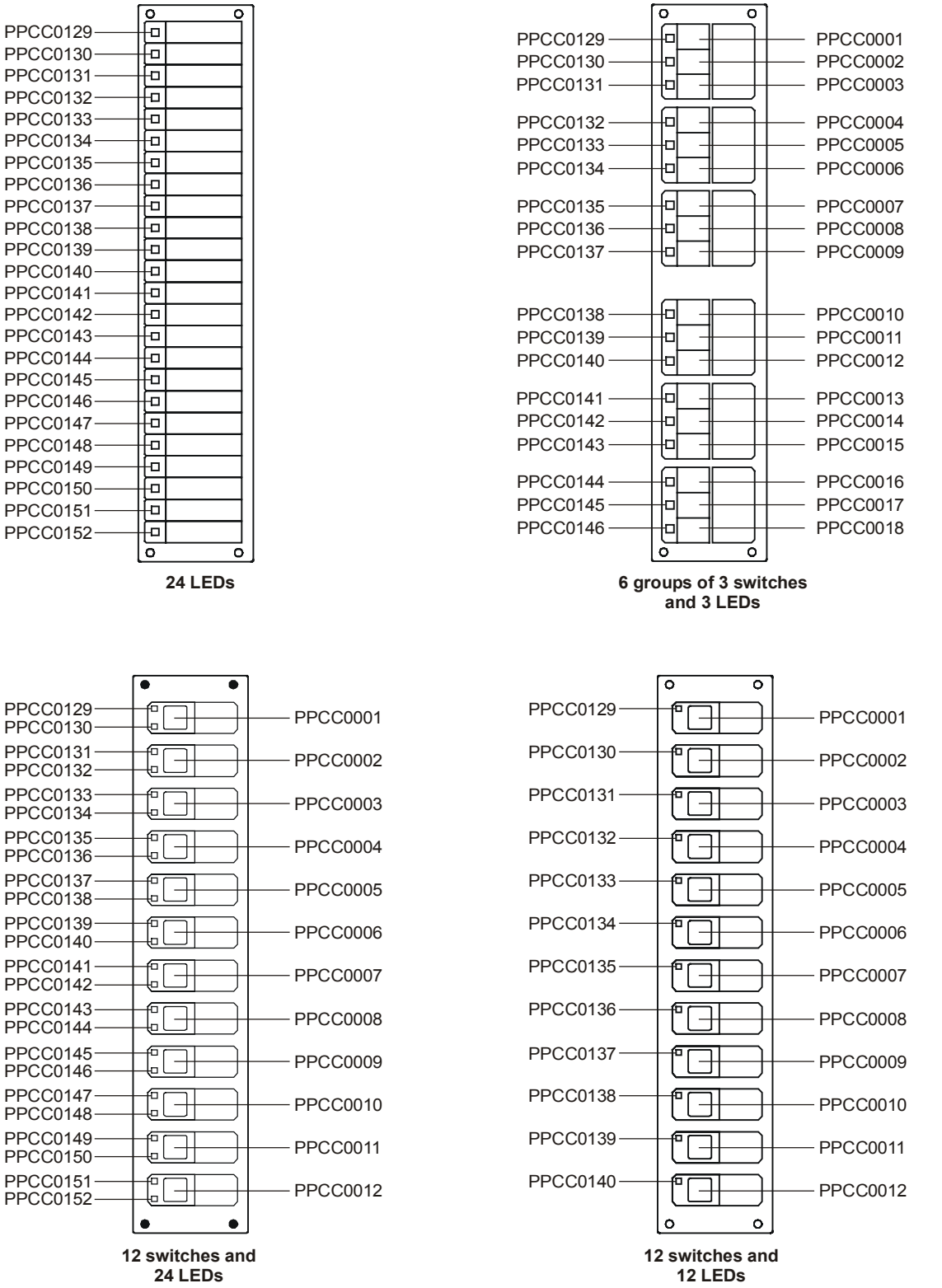
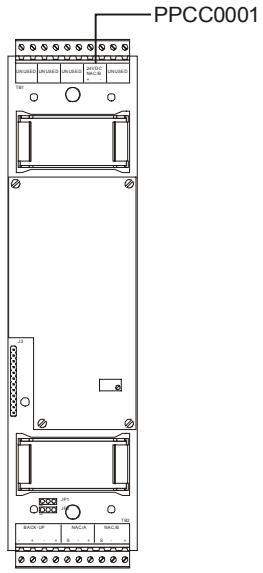
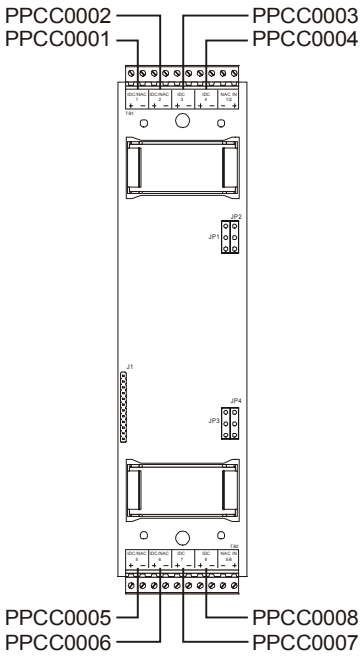


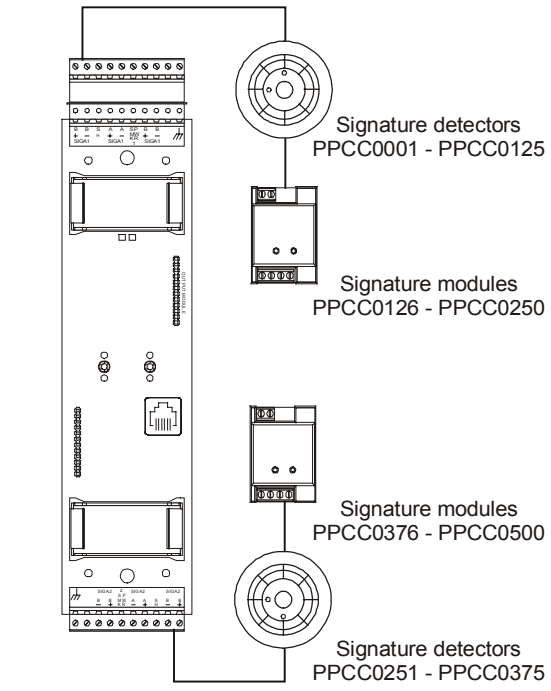
Figure A-5: Control/display module switch and LED device addresses



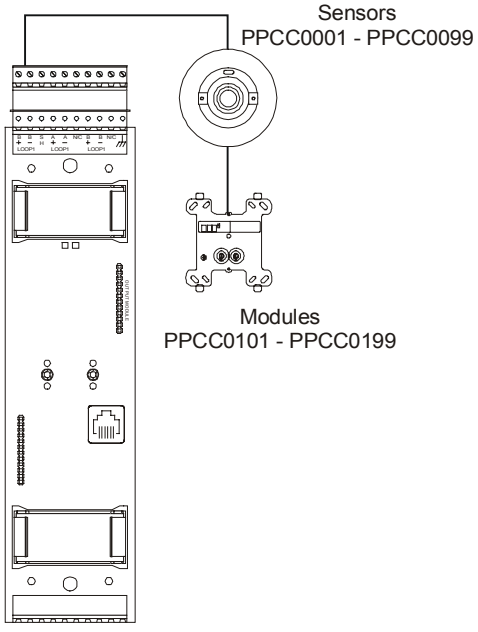
Zoned amplifier modules



Initiating device circuit module



Signature controller module



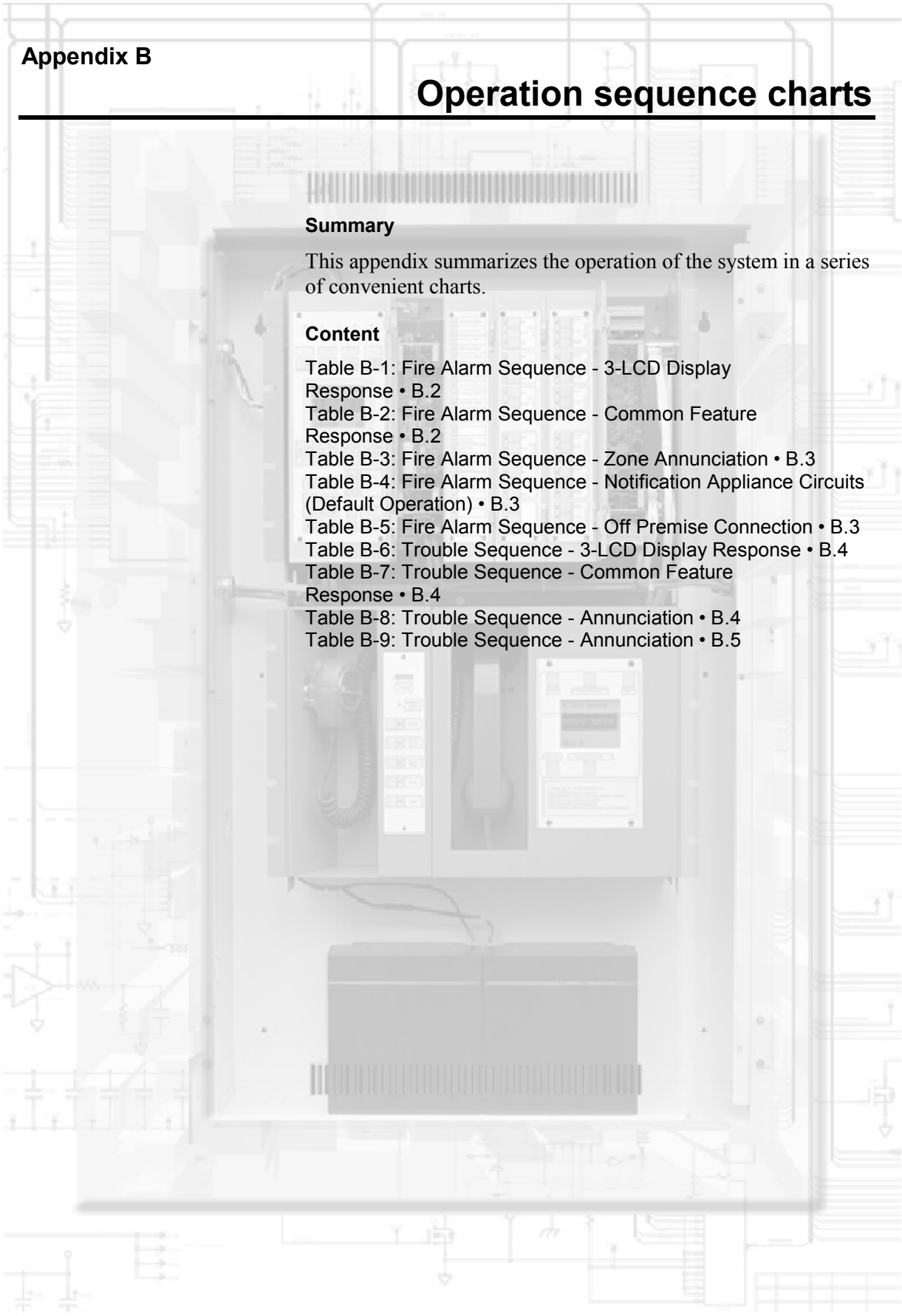
Addressable analog controller module

[DEV_ADDRESS_02.CDR]

Figure A-6: Rail module device addresses

Appendix B

Operation sequence charts



Summary

This appendix summarizes the operation of the system in a series of convenient charts.

Content

Table B-1: Fire Alarm Sequence - 3-LCD Display Response

Event➢ / 3-LCD Display⩛	Normal	First Alarm	Subsequent Alarm	Alarm Restore	Reset
Power LED	On	On	On	On	On
Alarm LED	Off	Flashing	Flashing	Flashing	Off
Trouble LED	Off	Off	Off	Off	Off
Panel buzzer	Off	On	On	Off	Off
3-LCD text display	Title screen	Current event & last window	Updates last event window	No change event latched until reset	Title screen
Alarm counter on 3-LCD display	0000	0001	0002	0002	0000
Alarm history counter on 3-LCD display	0000	0000	0000	0000	0001
Reset Switch	Enabled	Disabled for silence Inhibit period	Enabled after Inhibit period expires	No change	Disabled

Table B-2: Fire Alarm Sequence - Common Feature Response

Event➢ / 3-LCD Display⩛	Normal	First Alarm	Subsequent Alarm	Alarm Restore	Reset
Alarm Silence Inhibit Timer	Off	Timer starts	Runs until expired	No change	Off
Alarm Silence LED	Off	Yellow after silence	Yellow after silenced	No change	Off
Alarm Silence Timer	Off	Timer starts, alarm silenced if timer expires	Restarts, alarm silenced if timer expires	No change	Off
Page Inhibit Timer	Off	Timer starts, prohibits paging until timer expires	No change	No change	Off
Auto General Alarm Signal Timer (re-cycle)	Off	Timer starts, total EVAC if timer expires	No change unless canceled by user	No change	Off

Table B-3: Fire Alarm Sequence - Zone Annunciation

Event➢ / 3-LCD Display⮟	Normal	First Alarm	Subsequent Alarm	Alarm Restore	Reset
Panel Annunciator	Off	On red	On red	No change	Off
Printers	Ready	Prints event	Prints event	Prints on restoration	Off
History Logger	Ready	Logs event	Logs event	Logs restoration	Ready

Table B-4: Fire Alarm Sequence - Notification Appliance Circuits (Default Operation)

Event➢ / 3-LCD Display⮟	Normal	First Alarm	Subsequent Alarm	Alarm Restore	Reset
General Alarm Audible Notification Circuits	Off	Sounds alarm	No change, resounds alarm if silenced	No change	Off
General Alarm Visual Notification Circuits	Off	Displays alarm indication	Displays alarm indication	Displays alarm indication	Off

Table B-5: Fire Alarm Sequence - Off Premise Connection

Event➢ / 3-LCD Display⮟	Normal	First Alarm	Subsequent Alarm	Alarm Restore	Reset
Reverse Polarity Alarm Output	Off	Reverses polarity	No change	No change	Reverses polarity back to normal
Common Alarm Relay	Off	On	No change	No change	Off
Auxiliary Control Relays	Off	On as programmed	On as programmed	No change	Off

Table B-6: Trouble Sequence - 3-LCD Display Response

Event➢ / 3-LCD Display⩛	Normal	First Trouble Trouble Queue	First Alarm w/Active Trouble Alarm Queue	Notes
Current Event Window	Off	Trouble message	Alarm message	Alarm has priority
Last Event Window	Off	Trouble message	Alarm message	Alarm has priority
Queue LED	Off	Flashes yellow	Flashes red	

Table B-7: Trouble Sequence - Common Feature Response

Event➢ / 3-LCD Display⩛	Normal	First Trouble	First Alarm w/Active Trouble	Notes
Panel buzzer	Off	Sounds trouble	Sounds alarm	Alarm has priority
Panel Silenced LED	Off	Off	Off	Yellow when local buzzer silenced
3-CPU1 Trouble Relay	On	Off	Off	Relay powered in normal state
3-CPU1 Alarm Relay	Off	Off	On	Remains on until panel reset

Table B-8: Trouble Sequence - Annunciation

Event➢ / 3-LCD Display⩛	Normal	First Trouble	First Alarm w/Active Trouble	Notes
Panel Zone LED	Off	On yellow	On red	
Remote Annunciator Alarm Zone LED	Off	On yellow	Steady red	Alarm has priority if same LED is also used to annunciate trouble
Printers	Ready	Prints trouble message	Prints alarm message	Time, date, event message, & device data
History logger	Ready	Logs event	Logs event	Time, date, event message, & device data

Table B-9: Trouble Sequence - Annunciation

Event➢ / 3-LCD Display➢	Normal	First Trouble	First Alarm w/Active Trouble	Notes
Off Premise Module (3-OPS) 3 circuit configuration	All circuits normal polarity	Trouble circuit reverses polarity, module trouble relay operates	Alarm and trouble circuits reverse polarity	
Off Premise Module 1 circuit configuration	Normal polarity	Circuit opens, (module trouble relay operates)	Circuit reverses polarity (trouble relay restores)	Alarm has priority
Auxiliary Control Relays	Off	On as programmed	On as programmed	

Z

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