GE
Security

EST3 System
Operation Manual

(Australian specification)

Content

About this manual

This manual provides information on how to operate an EST3 fire system (Australian specification). The information presented here is of a general nature, since each site and system is unique. The EST3 system at your site has been designed by professionals to meet the specific requirements of the fire codes in your location. Please refer to the site-specific instructions, provided by your GE Security representative, to determine the exact operation of your system.

Organization

The manual contains the following chapters:

- *Chapter 1, Introduction*: Provides a general description of system functions and operations.

- *Chapter 2, 3-LCD-AU operation*: Provides detailed operating instructions for the primary control modules, the 3-LCD-AU and 3-LCD-AU2 display modules.

- *Appendix A, System addresses*: Contains figures that show you how to determine various device addresses.

- *Appendix B, Operation sequence charts*: Contains tables or charts that show the sequence of events, actions, and displays for the most common panel operations.

Important information

Limitation of liability

This product has been designed to meet the requirements of Australian Standards 7240 parts 2 and 4; 4428 parts 0, 1, and 5; NFPA 72 *National Fire Alarm Code;* UL 864 *Standard for Control Units for Fire Protective Signaling Systems;* and ULC S527 *Standard for Control Units for Fire Alarm Systems.* Installation in accordance with this manual, applicable codes, and the instructions of the authority having jurisdiction is mandatory. GE Security 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 GE Security products beyond the cost of repair or replacement of any defective products. GE Security 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, GE Security assumes no responsibility for errors or omissions.

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Chapter 1
Introduction

Summary

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

Content

General operation

System operating requirements can be configured based on geographic location and protected premises ownership. To comply with the requirements of AS 1670, the marketplace to be selected must be Australia.

Each event must be individually acknowledged by pressing the ACK button to acknowledge the event currently on the display screen. Once all individual events are acknowledged, The event messages can be reviewed using the Previous and Next buttons. System events that automatically restore will automatically be removed from the message queue, without requiring the operator to view a restoral message.

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 have a user access level that is determined by the marketplace setting. The four user access levels are detailed in Table 1 on page 3.

Each access level is given a default password that should be changed once the panel is put into service. Refer to "Changing user access level passwords" on page 34 for details.

Table 1: Password privileges (Australian marketplace)

Password level	Privileges
Default No password required	• Status • Revision level report • Output selection • Display/printer selection • Printer selection • Reset function • Sensitivity reports • History reports • Devices (de-isolate/isolate) • Zone groups (de-isolate/isolate) • Alternate sensitivity (activate) • Alternate message route (activate) • Primary sensitivity (restore) • Primary message route (restore) • Change time (program) • Change date (program) • AND group (de-isolate/isolate) • Matrix group (de-isolate/isolate) • Service group (de-isolate/isolate) • Guard patrol group (de-isolate/isolate) • Instruction text (de-isolate/isolate) • Time control (de-isolate/isolate) • Switch (de-isolate/isolate) • LED (de-isolate/isolate) • Relay (activate/restore) • LED (activate/restore) • Audio amp (activate/restore) • Audio message (activate/restore) • Holiday list (program) • Output: Primary printer select • Test (start/cancel) • Device test
User access level 1	All default privileges, plus: • Card (LRM) (de-isolate/isolate) • Restart by panel (program) • Restart all panels (program) • Clear history (program)
User access level 2	All default and User 1 privileges, plus: • Change password for level 1
User access level 3	All default, User 1 and 2 privileges, plus: • Change password for levels 1 and 2

Password level	Privileges
Service access level 4	All default, User 1, 2, and 3 privileges, plus:
	• Change password for levels 1 , 2 and 3

Feature and function domains

The *domain* of a feature or function 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-AU or 3-LCD-AU2 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.
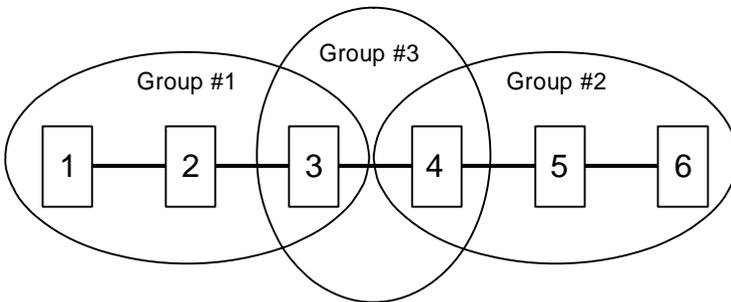
The configuration of features and functions varies with each installation. Please consult your site-specific documentation to determine if any custom features or functions have been designed into your system.

Display operation

Introduction

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

Figure 1: Main 3-LCD-AU2 display screen when the panel is in a normal state
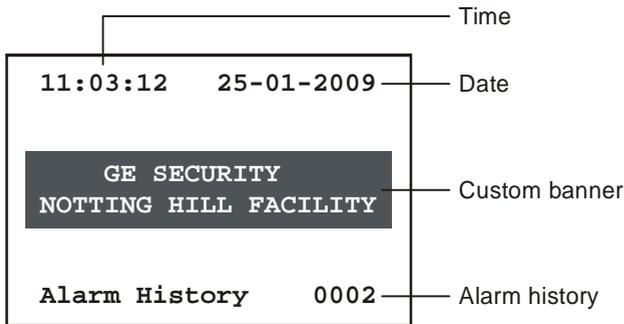
- The top of the screen displays the system time and date. The time is in 24-hour format. The project configuration settings determine the date format.

- 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 times that the panel has gone into alarm since the last time the alarm history was cleared.

Off-normal state

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

Figure 2: Main 3-LCD-AU display screen when the panel is in an off-normal state

Number of active points — Number of disabled points

System time

```
14:19:32  A0004 D0000
0001 PULL STN ACTIVE
PULL, ADMIN BLDG,
1ST FLR WEST
0003 PULL STN ACTIVE
PULL, ADMIN BLDG,
1ST FLR NORTH
A003 F000 I001 O000
```

Oldest, highest priority event or last reviewed event in selected event queue

Most recent, highest priority event

Alarm event queue — Other event queue

Fault event queue — Isolate event queue

```
14:19:32  A0004 D0000
0001 PULL STN ACTIVE
PULL, ADMIN BLDG,
1ST FLR WEST
0003 PULL STN ACTIVE
PULL, ADMIN BLDG,
1ST FLR NORTH
A003 F000 I001 O000
```

Event number — Event type

Device message

Total number of events in the queue

Highlight shows which event queue is displayed in the shaded area of the display

> **Note:** Pressing any one of the queue select buttons 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 on the 3-LCD-AU2 always displays the most recent, highest priority event 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 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. If an event queue holds more than 999 events, "***" is displayed.

Message details

Pressing the Details button displays additional information about the event displayed on the LCD. Different detail information is displayed for each of the following:

- Device
- Group
- Instruction text

Device details

```
DETAILS
P:01  C:02  D:0004
STATE ONE
STATE TWO


A001 F000 I000 O000
```
Device's logical address
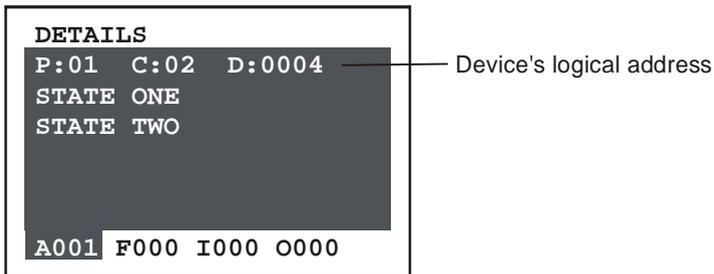
If a device activation causes the event, pressing Details displays the active device's logical address in the following format:

```
P:99 C:99 D:9999
```

Where:

- P:99 = panel address
- C:99 = rail module address
- D:9999 = device address

Lines below the device address list the off-normal states the device is currently in.

Group details

If a group activation causes the event, pressing Details displays a series of descriptions, one for each device in the group.

```
DETAILS
EVENT MESSAGE                    ———————— Event message
P:01  C:02  D:0004 ————————————— Device's logical address
DEVICE MESSAGE LINE 1 ——————————— Device message
DEVICE MESSAGE LINE 2


A003 F000 I000 0000  ↓ ———————— Scrolling indicator
```
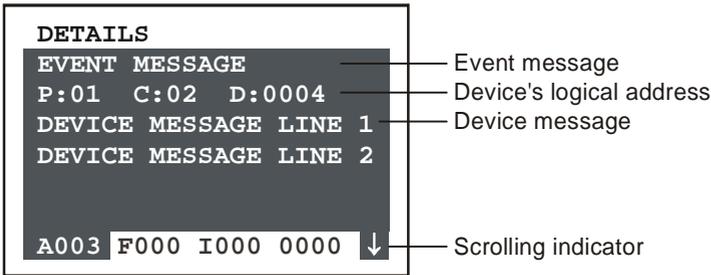
Each device panel shows the event message or state of the device, the device address, and the device message (usually the device location) which can be one or two lines long.

Instruction text details

Your system may be programmed to include detailed instructions for certain events. When specific devices go into alarm, the system generates a related monitor event. If you select the monitor event, then press Details, the instruction text is displayed.

```
┌─────────────────────────────┐
│  DETAILS                    │
│  LOREM IPSUM DOLOR SIT      │──── Instruction text
│  AMET, CONSECTETUER AD      │
│  IPISCING ELIT, SEDIAM      │
│  NONEQAM NIBH EUISMOD       │
│  TINCIDUNT UT LAOREET       │
│  DOLORE MAGNA ALIQUAM       │
│  A002 F000 I000 O001  ↕    │──── Scrolling indicator
└─────────────────────────────┘
```
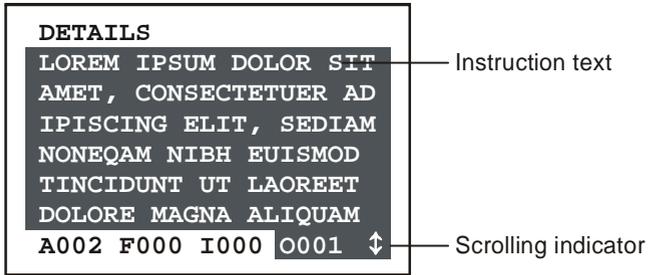
Normally, systems are designed so that instruction text is sent directly to a printer. While accessible, instruction text is not formatted for the display.

Display priorities

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

- Fire alarms - life safety related events, e.g. 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

- Isolate events - isolates within the system

- Other events - changes in the status of an ancillary system

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.

Message processing

When an event occurs, the system categorizes the event as a fire alarm, fault event, isolate event, or other event. Information about the event is added to a corresponding message queue on the 3-LCD-AU or 3-LCD-AU2 display module. The information available in each queue is displayed using the event queue buttons on the front of the LCD.

A panel can store up to 2,000 event messages.

Common event LEDs and queue buttons

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

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 button.

2. Scroll through all available event messages using Previous/Next buttons.

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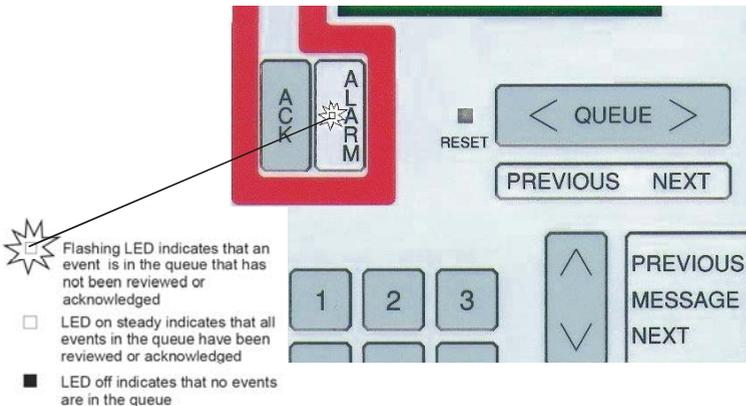
Optional features

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

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 buttons for a predetermined period. While the timers are active, pressing the alarm silence and reset buttons has no effect.

Notes

- Your system may be equipped with notification appliances associated with the fire sprinkler system, which can not be silenced.

- 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 button. Typical timer settings silence the signals from 5 to 30 minutes after operation.

Alarm investigation facility

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 buttons

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

- Toggle - The state of the button changes each time the button is pushed, i.e. "off" to "on" or "on" to "off."

- Interlocked - Three adjacent toggle buttons that operate as a group. Pushing any button in the group turns the output of the other two buttons "off" and turns its own output "on."

- Momentary - The button is "on" only while pressed by the operator.

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

Toggle buttons

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

Interlocked buttons

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

Momentary buttons

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

Entering logical addresses

Each addressable device or circuit in the system has a logical address. This includes panels, local rail modules, and devices. 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 lists all of the addressable devices or circuits in the system and shows their logical addresses.

Panels

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

(System-wide events that are not related to a particular cabinet use panel number 00.)

To determine a cabinet's panel number, use the Command Menus to request a Status report. Choose any type of list. The system displays the cabinet's panel number as the default panel number. Once you've noted the panel number, press the Backspace key to exit from the function.

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

- 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, buttons, 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 address 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-AU operation

Summary

This chapter provides a functional description of the controls and indicators provided on the 3-LCD-AU and 3-LCD-AU2 display modules.

Content

Controls and indicators
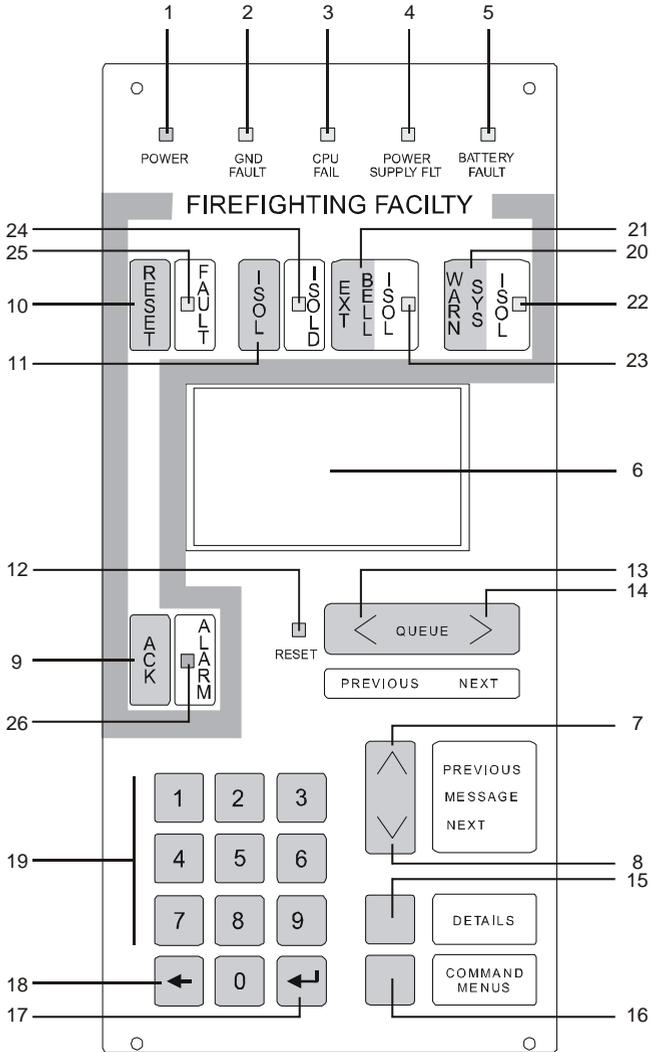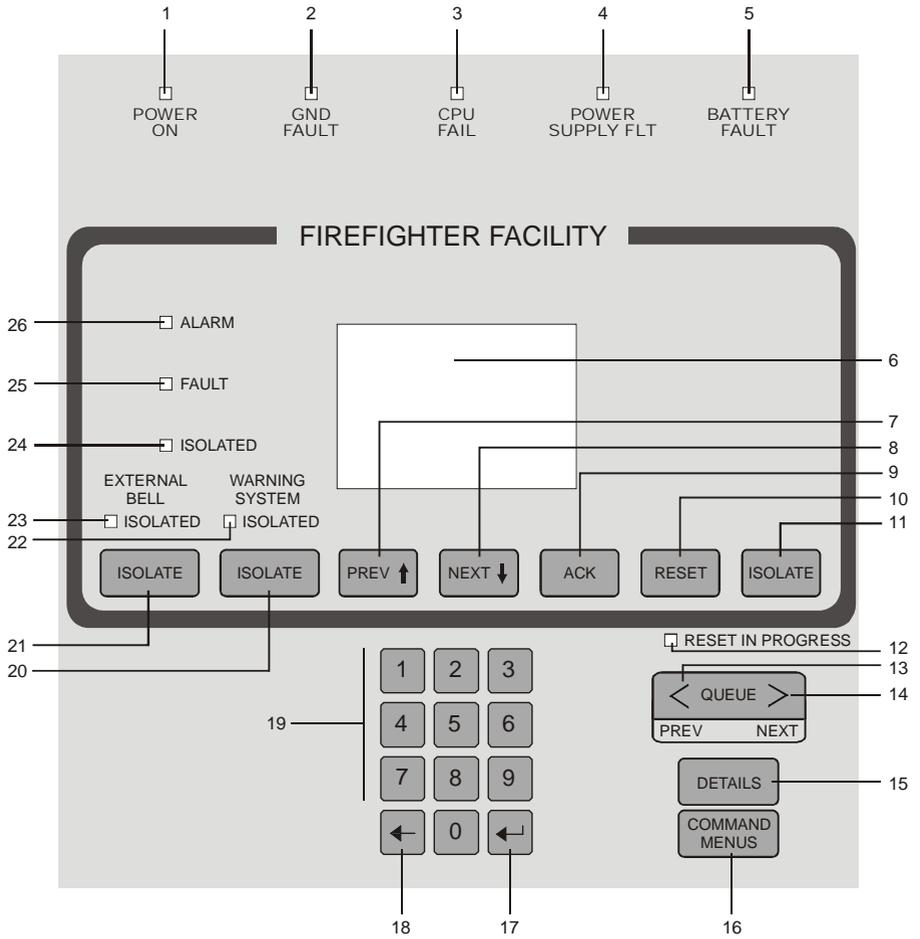
Figure 3: 3-LCD-AU controls and indicators

Figure 4: 3-LCD-AU2 controls and indicators

3-LCD controls and indicators (see Figure 3 and Figure 4)

Index	Control or indicator	Functional description
1	Power LED	The Power LED indicates that mains AC is applied to the panel.
2	Gnd Fault LED	The Gnd Fault LED indicates that the CPU module has detected a ground fault.
3	CPU Fail LED	The CPU Fail LED indicates the CPU module has detected a processor failure. Processor failures must be reset manually.
4	Power Supply Fault LED	The Gnd Fault LED indicates that the CPU module has detected a ground fault.
5	Battery Fault LED	The Battery Fault LED indicates the batteries failed the battery test or are disconnected.
6	Liquid crystal display screen	168 character, backlit alphanumeric display of system status.
7	Previous Message Button	Pressing the Previous Message button scrolls the display to show the preceding event in the selected event queue.
8	Next Message Button	Pressing the Next Message button scrolls the display to show the following event in the selected event queue.
9	ACK Button	Pressing the ACK button, acknowledges the event currently on the display screen. Once all events are acknowledged the panel buzzer will silence. **Note:** The CPU buzzer can be configured to resound at a regular interval to remind the operator that the panel has been silenced.
10	Reset Button	Pressing the Reset button activates the system's reset sequence to restore the system to normal. **Note:** The Reset button does not affect isolated points or manually overridden functions.
11	Isolate Button	Pressing the Isolate button will isolate the device currently displayed on the LCD once it is followed by pressing the ACK button. Should the device on the display already be isolated, it will be de-isolated once the ACK button is pressed.
12	Reset In Progress LED	The Reset In Progress LED: • flashes quickly during the smoke power-down phase • flashes slowly during the power-up phase • is on steady during the restoral phase • is off when the system has reset

3-LCD controls and indicators (continued)

Index	Control or indicator	Functional description
13	Previous Queue Select Button	Pressing the Previous Queue Select button places the contents of the higher priority queue on the display for review. The queue that is being displayed has its associated counter highlighted as shown in Figure 2 on page 6.
14	Next Queue Select Button	Pressing the Next Queue Select button places the contents of the lower priority queue on the display screen for review. The queue that is being displayed has its associated counter highlighted as shown in Figure 2 on page 6.
15	Details Button	Pressing the Details button displays additional information about the event highlighted on the display screen.
		• For Zone Groups, pressing the Details button displays a list of the active devices in the zone group.
		• For Instruction Text Groups, pressing the Details button displays the entire instruction text.
		• For Maintenance Alerts, pressing the Details button displays a list of the dirty devices.
		• For Common Troubles, pressing the Details button displays a list of the specific troubles for the selected device.
16	Command Menus Button	Pressing the Command Menus button displays the system command menu to access the following system functions: Status, Enable, Disable, Activate, Restore, Control Output, Reports, Program, and Test.
		Pressing the button a second time returns the user to the current event window.
17	Enter key	Pressing the Enter key selects the highlighted menu option or causes the system to start processing the information shown in the display.
18	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.
19	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.

3-LCD controls and indicators (continued)

Index	Control or indicator	Functional description
20	Warning System Isolate Button	Pressing the Warning System Isolate button activates system function 4, which is defined in the SDU. Generally, this rule turns off all warning devices (e.g. horns, speakers and amplifiers).
21	External Bell Isolate Button	Pressing the External Bell Isolate button activates system function 3 which is defined in the SDU. Generally, this rule turns off all bells and FIP strobe.
22	Warning System Isolated LED	The Warning System Isolated serves as a visual indication that the Warning System Isolate button has been pressed.
23	External Bell Isolated LED	The External Bell Isolated LED serves as a visual indication that the External Bell Isolate button has been pressed.
24	Isolated LED	The Isolated LED, when lit, indicates that a device or group of devices have been Isolated.
25	Fault LED	The Fault LED serves as a common fault 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.
26	Alarm LED	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.
n/a	Buzzer	The buzzer on the CPU sounds sounds a continuous tone to alert the operator to off-normal system conditions, such as: • Active alarms • Active test or disabled zones • Active fault conditions • Active monitor conditions

Creating a status report

Use the Status command to create reports of off-normal points, or to determine the status of points in a security partition. The Status command generates a list that you can view on the LCD module or print on a local printer.

The Status Menu lets you choose the following reports:

- All active points
- Alarm points
- Supervisory points
- Trouble points
- Monitor points
- Test points
- Disabled points
- Output points

To create a status report:

1. Press the Command Menus button, then choose Status.

2. Choose the type of list you want to generate.

3. Enter the target panel's 2-digit address (PP).

4. Do one of the following:

   Choose Display if you want to view the list on the LCD module.

   — or —

   Choose Print Locally, then select a printer, if you want to send the list to a printer connected to the local panel.

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:

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

When you disable a hardware component, the CPU lights the Disable LED on the LCD module and places a *Disabled Active* event in the isolate 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 button, then choose Disable.

2. Do one of the following:

    - Choose Device to disable: input circuits, output circuits, detectors, or modules

    - Choose Card to disable: rail modules or control / display modules

    - Choose Button to disable: control / display module buttons

    - Choose LED to disable: control / display module LEDs

3. Enter the target component's logical address.

4. If prompted, enter a valid user access level password.

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, and modules)
- Rail modules
- Buttons
- 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 LCD module 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 button, then choose Enable.

2. Do one of the following:

    - Choose Device to enable: input circuits, output circuits, detectors, or modules

    - Choose Card to enable: rail modules or control / display modules

    - Choose Button to enable: control / display module buttons

    - Choose LED to enable: control / display module LEDs

3. Enter the component's logical address.

4. If prompted, enter a valid user access level password.

Disabling groups

A *group* is an object created during system programming. Groups are required in order to execute certain system functions, but groups bear no physical relationship to the system.

For example, smoke detectors can be assigned to the same *zone group* even though they are not attached to the same wire run.

Disabling a group isolates the group from the system just as if it were a hardware component. Disabling a zone group disables each of the devices in the group individually. Disabling other groups only disables the group response.

There are several types of group:

- And group
- Matrix group
- Service group
- Zone group
- Instruction text group

When you disable a group, the CPU lights the Disable LED on the LCD module and places a *Disabled Active* event in the trouble queue.

Note: Before disabling a 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 a group:

1. Press the Command Menus button, then choose Disable.

2. Choose Group.

3. Choose the group type.

4. Select the group from the list.

5. If prompted, enter a valid user access level password.

Enabling groups

A *group* is an object created during system programming. Groups are required in order to execute certain system functions, but groups bear no physical relationship to the system.

For example, smoke detectors can be assigned to the same *zone group* even though they are not attached to the same wire run.

Enabling a group establishes the group as part of the system just as if it were a hardware component. When enabled, any changes in state that occurred while the group was disabled are processed. Enabling a zone group enables each of the devices in the group individually. Enabling other groups only enables their group response.

There are several types of group:

- And group
- Matrix group
- Service group
- Zone group
- Instruction text group

To enable a group:

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

Changing smoke detector sensitivity level

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

You can use menu commands to manually switch between sensitivity levels as required. To change to the alternate sensitivity level, you activate alternate sensitivity. To change to primary sensitivity level, you restore primary sensitivity.

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 to alternate sensitivity level:

1. Press the Command Menus button, then choose Activate.

2. Choose Alt. Sensitivity.

3. If prompted, enter a valid user access level password.

To change to primary sensitivity level:

1. Press the Command Menus button, then choose Restore.

2. Choose Primary 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 button, then choose Activate.

2. Choose Alt Message Route

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 button, then choose Restore.

2. Choose Primary Msg Route

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 a command priority level.

Priority	Description
Set	This priority overrides low, medium, and high priority instructions and forces the device to the desired state. The set priority does not reset the device's priority counters.
Latch	This priority overrides low, medium, and high priority instructions and forces the device to the desired state. The latch priority does reset the device's priority counters.
Low	This priority forces the device to the desired state and adjusts the low priority counter accordingly.
Medium	This priority forces a device to the desired state and adjusts the medium 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 button, then choose Activate.

2. Choose the device type.

3. Select the desired output state.

4. Select the priority this command has over other commands affecting the same device.

5. Enter the target device's 8-digit logical address (PPCCDDDD).

6. If prompted, enter a valid user access level password.

Creating reports

The Reports command generates a report that you can view on the LCD module or print on the local printer. Three types of report are available:

- Device Maintenance
- History
- Revisions

Device Maintenance: a list of detectors and the amount of environmental compensation they have used. You can choose to list devices in several ways.

History: 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.

Two versions of the History report are available: History With Text, and History Without Text. History With Text only includes devices for the targeted panel in the report. History Without Text includes devices for all panels in the report.

Revisions: a list of all the hardware and software components installed in a panel and their revision levels.

To create a Device Maintenance report:

1. Press the Command Menus button, then choose Report.

2. Choose device maintenance.

3. Do one of the following:

   - Choose Dirty Devices >80% then enter the target panel address (PP).

   - Choose Dirty Devices >20% then enter the target panel address (PP).

   - Choose Single Device then enter the target device address (PPCCDDDD).

   - Choose Devices On A Card to get the compensation level for all the detectors on a single loop then enter the target loop's logical address (PPCCL).

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

Note: If the device maintenance report is being run on a Addressable Analog Driver Controller, use the following table to determine sensitivity levels.

Type	Trouble	Normal	Alarm level 1	Alarm level 2	Alarm level 3	Trouble short
Addressable Analog Driver Controller device maintenance report sensitivity levels						
Photo	400	520 - 1610	1710	2050	2390	N/A
Ion	400	600 - 1710	1810	1960	2110	N/A
Thermal	400	500 - 1900	N/A	N/A	2000	N/A
Monitor	600	750 - 1300	N/A	N/A	1400	1800
Control	600	750 - 1300	N/A	N/A	N/A	1400

For additional information, refer to the device's installation sheet.

To create a History report:

1. Press the Command Menus button, then choose Report.

2. Choose History.

3. Choose History With Text or History Without Text.

4. Enter the target panel's 2-digit address (PP).

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

To create a Revisions report:

1. Press the Command Menus button, then choose Report.

2. Choose 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, choose 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 button, then choose Program.

2. Choose Change Time.

3. Enter the time in 24-hour format (HHMMSS)

4. If prompted, enter a valid user access level password.

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 button, then choose Program.

2. Choose Change Date.

3. Enter the date (MMDDYYYY).

4. If prompted, enter a valid user access level password.

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

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 button, then choose Program.

2.   Choose Edit Password.

3.   Select the user access level password you want to change.

4.   Enter the new 4-digit password.

5.   If prompted, enter a valid user access level password.

Chapter 2: 3-LCD-AU operation

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 button, then choose Program.

2. Choose Restart.

3. Choose whether to restart a single panel or all panels on the network. If you choose to restart a single panel, then enter the target panel's 2-digit address (PP).

4. If prompted, enter a valid user access level password.

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 button, then choose Program.

2. Choose Edit Holiday List.

3. Choose Add Holiday.

4. Enter the holiday's month and date (MMDD).

5. If prompted, enter a valid user access level password.

To delete a holiday from the list:

1. Press the Command Menus button, then choose Program.

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2. Choose Edit Holiday List.

3. Select Delete Holiday.

4. Select the holiday from the list.

5. If prompted, enter a valid user access level password.

To change a holiday:

1. Press the Command Menus button, then choose Program.

2. Choose Edit Holiday List.

3. Choose Edit Holiday.

4. Select a holiday from the list.

5. Enter the new month and date (MMDD).

6. If prompted, enter a valid user access level password.

Clearing the panel history file

Clearing the panel's history file:

- Resets the alarm history counter on the LCD 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.

Caution: Clearing the panel history file means that all history data for the panel is permanently deleted. Entering panel 99 clears history on all panels in the network. This command requires a level 4 password, and is for use by an authorized service technician only.

To clear the alarm history:

1. Press the Command Menus button.

2. Choose Program, then choose Clear History.

3. Enter the panel number.

4. If prompted, enter a valid user access level password.

Testing alarm input devices in 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 button to verify which service group is in test.

To put a service group into test:

1. Press the Command Menus button, then choose Test.

2. Choose Start Test.

3. Select the service group.

4. If prompted, enter a valid user access level password.

To cancel the test:

1. Press the Command Menus button, then choose Test.

2. Choose Cancel Test.

3. Select the service group that is in test.

4. If prompted, enter a valid user access level password.

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

Testing individual alarm input devices

To test an alarm device, the device address must be known.

To initiate a device test:

1. Press the Command Menus button, and then choose Test.

2. Choose Sig. Device test.

3. Enter the device address as requested.

4. Press the Enter button.

To reset the alarm, it first must be acknowledged and then the reset button must be pressed.

Note: Device alarm test initiates a full alarm condition.

Testing the panel lamps and panel sounder

From the LCD module you can test all the LEDs on the panel and the panel sounder. Performing a lamp test lights all LEDs on the panel and turns on the panel sounder for 10 seconds. After the test is finished, the LCD returns to its normal state display.

To perform a lamp test:

1. Press the Command Menus button, then choose Test.

2. Choose Lamp Test.

Appendix A
System addresses

Summary

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

Content

Address format

The system derives the addresses it assigns from the panel's cabinet number and the LRM's location within the panel (see Figure 5). 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.

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.

Figure 5: Addressing example
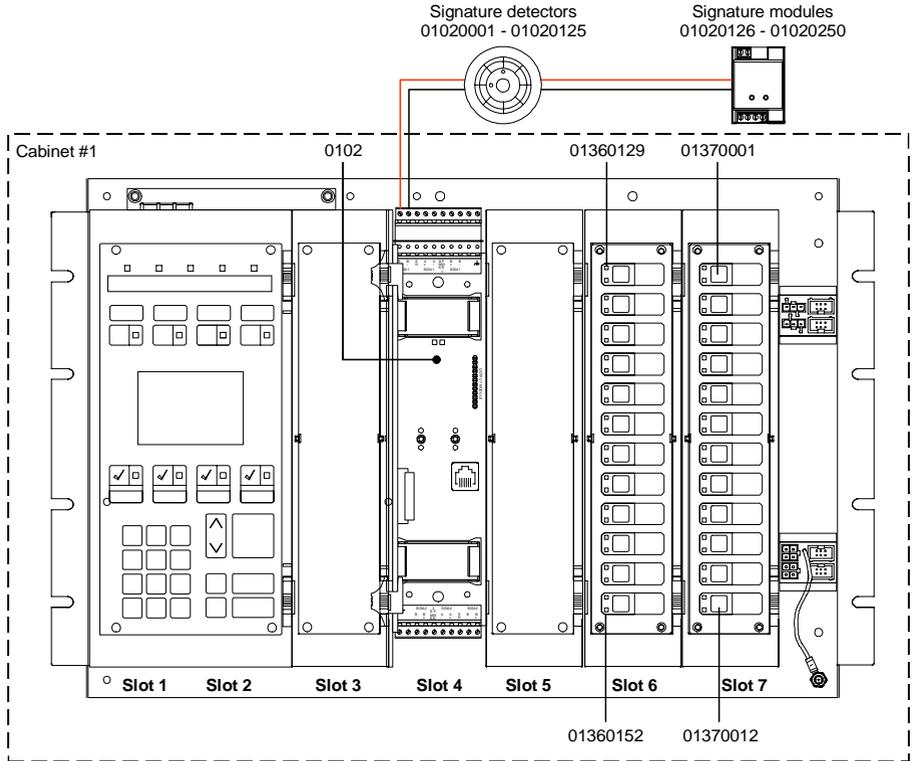
LRM addresses

Figure 6, Figure 7, and Figure 8 show the logical addresses that the system assigns to LRMs based on the panel configurations.

Figure 6: LRM addresses for 3-CHAS7, 3-ASU/FT, 3-CHAS7 configuration
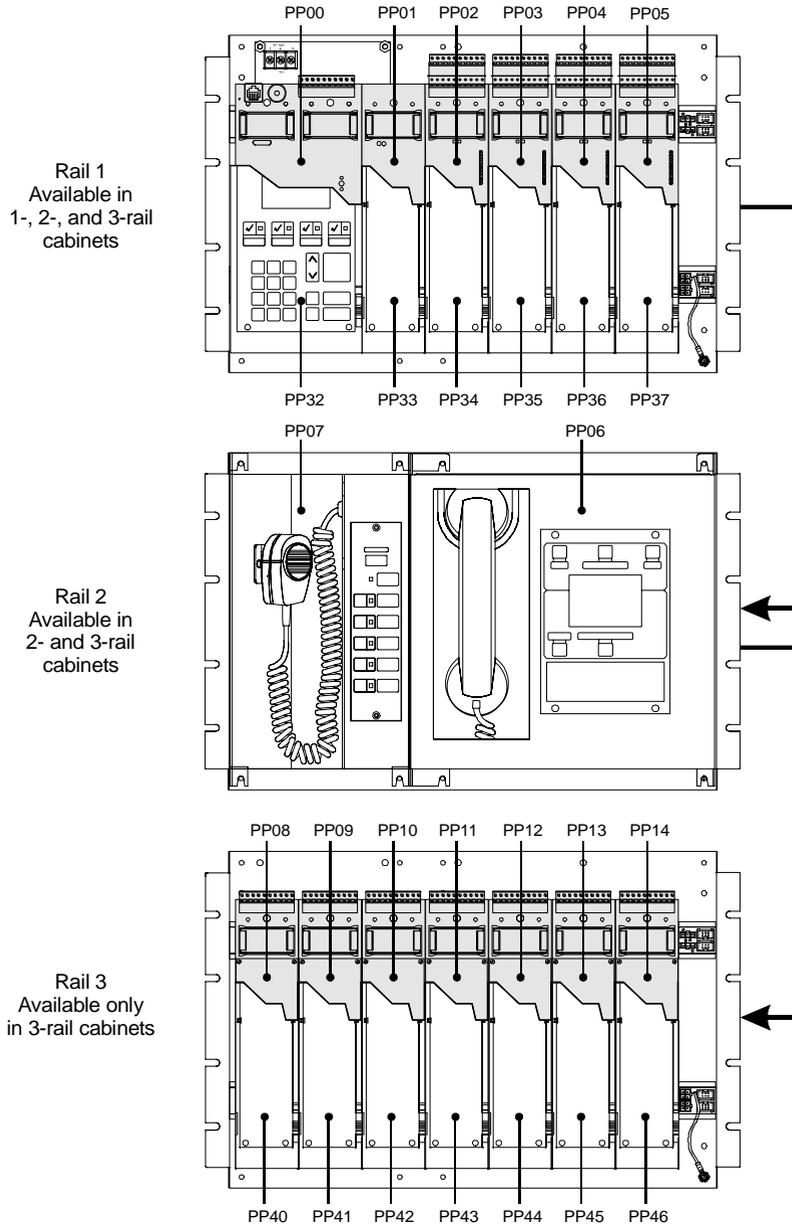

Rail 1
Available in
1-, 2-, and 3-rail
cabinets

PP00 PP01 PP02 PP03 PP04 PP05

PP32 PP33 PP34 PP35 PP36 PP37

PP07 PP06

Rail 2
Available in
2- and 3-rail
cabinets

PP08 PP09 PP10 PP11 PP12 PP13 PP14

Rail 3
Available only
in 3-rail cabinets

PP40 PP41 PP42 PP43 PP44 PP45 PP46

Figure 7: LRM addresses for 3-CHAS7, 3-ASU/CHAS4, 3-CHAS7 configuration

Rail 1
Available in
1-, 2-, and 3-rail
cabinets

PP00 PP01 PP02 PP03 PP04 PP05

PP32 PP33 PP34 PP35 PP36 PP37

Rail 2
Available in
2- and 3-rail
cabinets

PP06 PP07 PP08 PP09 PP10

PP39 PP40 PP41 PP42

Rail 3
Available only
in 3-rail cabinets

PP11 PP12 PP13 PP14 PP15 PP16 PP17

PP43 PP44 PP45 PP46 PP47 PP48 PP49
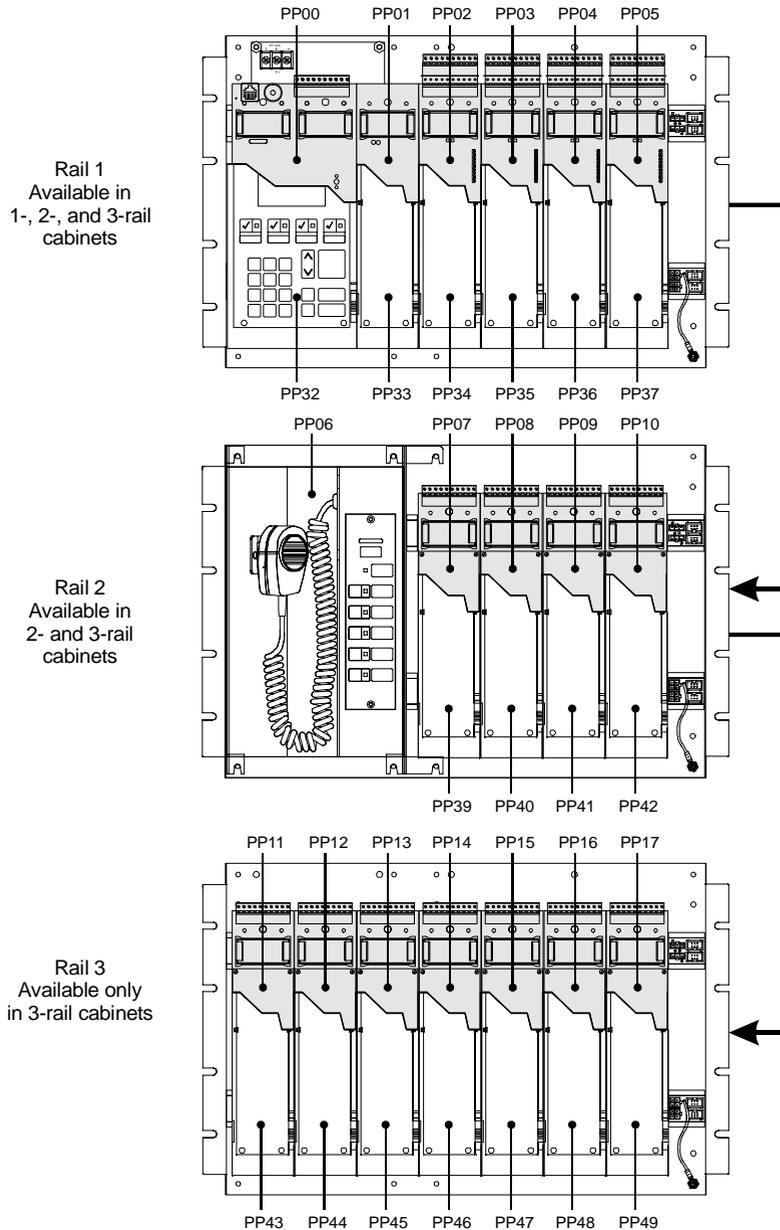
Figure 8: LRM addresses for 3-CHAS7, 3-CHAS7, 3-CHAS7 configuration

Rail 1
Available in
1-, 2-, and 3-rail
cabinets

Rail 2
Available in
2- and 3-rail
cabinets

Rail 3
Available only
in 3-rail cabinets
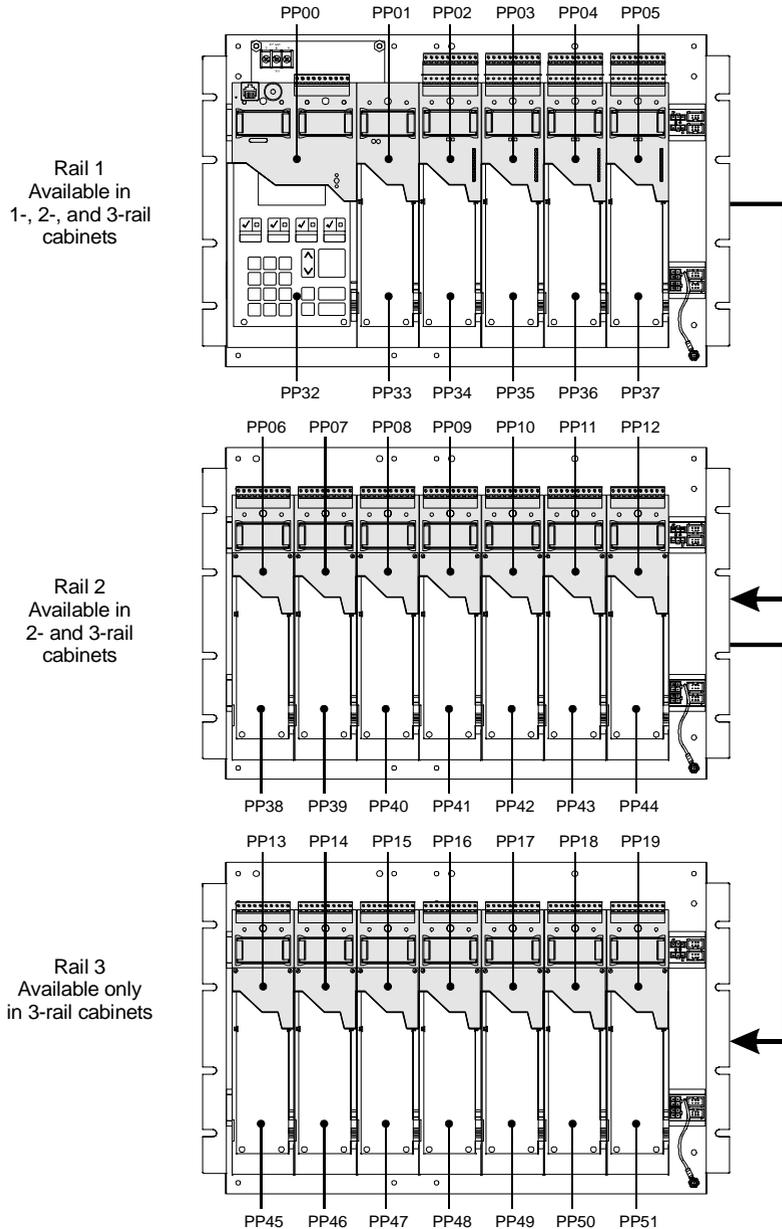
Control / display module addresses

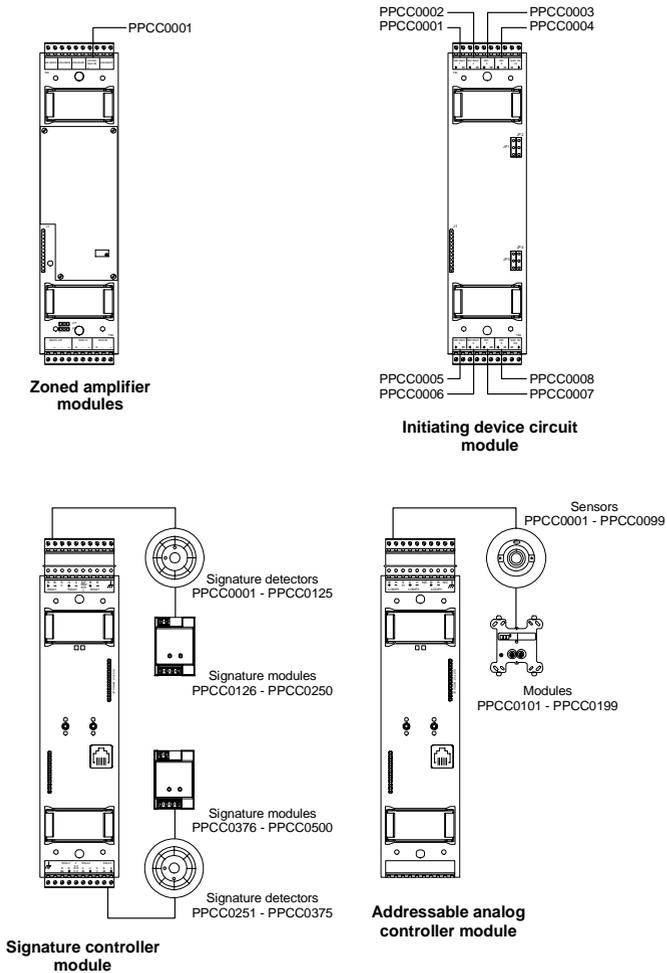Figure 9 shows the device logical addresses that the system assigns the control/display modules.

Figure 9: Control/display module switch and LED device addresses
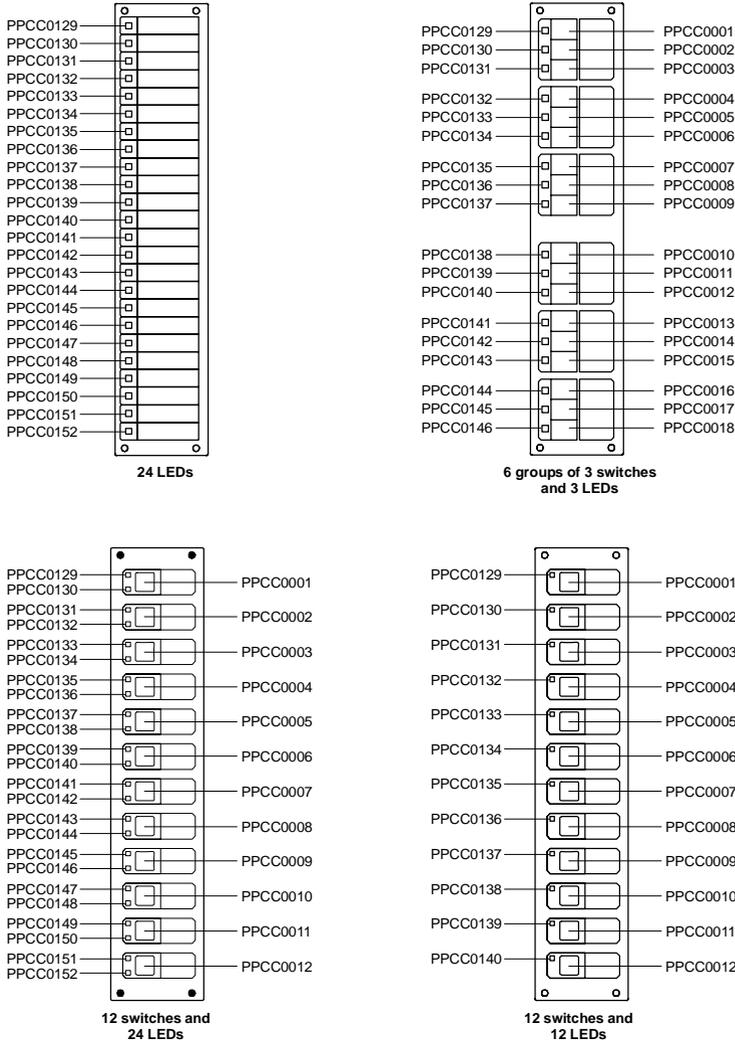
Device addresses

Figure 10 shows the device logical addresses that the system assigns to various rail modules.

Figure 10: Rail module device addresses

PPCC0001

Zoned amplifier modules

PPCC0002
PPCC0001
PPCC0003
PPCC0004

PPCC0005
PPCC0006
PPCC0008
PPCC0007

Initiating device circuit module

Signature detectors
PPCC0001 - PPCC0125

Signature modules
PPCC0126 - PPCC0250

Signature modules
PPCC0376 - PPCC0500

Signature detectors
PPCC0251 - PPCC0375

Signature controller module

Sensors
PPCC0001 - PPCC0099

Modules
PPCC0101 - PPCC0199

Addressable analog controller module

Appendix B
Operation sequence charts

Summary

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

Content

Appendix B: Operation sequence charts

Table 2: Fire alarm sequence - LCD response [1]

Event ► 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
LCD text display	Title screen	Current event and last window	Updates last event window	No change event latched until reset	Title screen
Alarm counter on LCD	0000	0001	0002	0002	0000
Alarm history counter on LCD	0000	0000	0000	0000	0001
Reset switch	Enabled	Disabled for silence Inhibit period	Enabled after Inhibit period expires	No change	Disabled

[1] 3-LCD-AU and 3-LCD-AU2 modules

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Table 3: Fire alarm sequence - common feature response

Event▷ 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 (recycle)	Off	Timer starts, total EVAC if timer expires	No change unless canceled by user	No change	Off

Table 4: Fire alarm sequence - zone annunciation

Event▷ 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 5: Fire alarm sequence - notification appliance circuits (default operation)

Event ▷ 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 6: Fire alarm sequence - off premises connection (ASE)

Event ▷ 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 7: Trouble sequence - LCD response [1]

Event ▷ LCD Display ▽	Normal	First trouble	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	

[1] 3-LCD-AU and 3-LCD-AU2 modules

Table 8: Trouble sequence - common feature response

Event▷ 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-CPU3 Trouble Relay	On	Off	Off	Relay powered in normal state
3-CPU3 Alarm Relay	Off	Off	On	Remains on until panel reset

Table 9: Trouble sequence - annunciation

Event▷ 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 10: Trouble sequence - annunciation off premises (ASE)

Event▷ 3-LCD Display▽	Normal	First trouble	First Alarm w/active trouble	Notes
Off premises 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 premises 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	

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