

4100U Fire Alarm



Operator's Manual

579-685
Rev. A

Cautions and Warnings

READ AND SAVE THESE INSTRUCTIONS. Follow the instructions in this installation manual. These instructions must be followed to avoid damage to this product and associated equipment. Product operation and reliability depends upon proper installation.



DO NOT INSTALL ANY SIMPLEX PRODUCT THAT APPEARS DAMAGED. Upon unpacking your Simplex product, inspect the contents of the carton for shipping damage. If damage is apparent, immediately file a claim with the carrier and notify an authorized Simplex product supplier.



ELECTRICAL HAZARD - Disconnect electrical field power when making any internal adjustments or repairs. Servicing should be performed by qualified Simplex representatives.



STATIC HAZARD - Static electricity can damage components. Therefore, handle as follows:

- Ground yourself before opening or installing components.
- Prior to installation, keep components wrapped in anti-static material at all times.



EYE SAFETY HAZARD - Under certain fiber optic application conditions, the optical output of this device may exceed eye safety limits. Do not use magnification (such as a microscope or other focusing equipment) when viewing the output of this device.



RADIO FREQUENCY ENERGY - This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area may 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.

SYSTEM REACCEPTANCE TEST AFTER SOFTWARE CHANGES - To ensure proper system operation, this product must be tested in accordance with NFPA72-2000, after any programming operation or change in site-specific software. Reacceptance testing is required after any change, addition or deletion of system components, or after any modification, repair or adjustment to system hardware or wiring.

All components, circuits, system operations, or software functions known to be affected by a change must be 100% tested. In addition, to ensure that other operations are not inadvertently affected, at least 10% of initiating devices that are not directly affected by the change, up to a maximum of 50 devices, must also be tested and proper system operation verified.

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How to Use this Publication

Introduction

Before you start using the 4100U Fire Alarm Operator's Manual, it is important to understand the typographic conventions used in this publication.

General Conventions

The following conventions are used in this publication to identify special names or text.

Convention	Meaning
Bold type	Indicates words or characters that you type. Unless it is specifically noted, you can type the text in lowercase or uppercase characters. For example, cd access means that you type the lowercase letters "cd" followed by a space and the lowercase word "access."
<i>Italic type</i>	Indicates information that the user must supply, such as file-names. For example, <i>cd directory_name</i> means that you type the letters "cd" followed by a space and a directory name. Indicates important terms or titles of publications.
"Text in quotes"	Indicates the title of a chapter or section of the manual, such as "How to Use This Publication."
• Bulleted lists	Provides you with information. They are also used to indicate alternatives in numbered procedural steps.
1. Numbered lists	Indicates procedures that you must carry out sequentially.

Flexible User Interface Conventions

The Flexible User Interface features six softkeys arrayed beside the LCD. The function of these softkeys varies depending on the icons displayed on the screen. When describing the action of the softkey, the following convention is used.

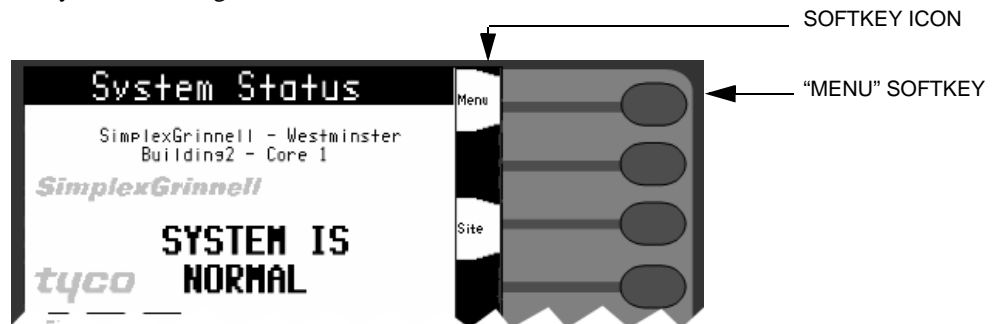


Figure i. LCD with Softkeys Cutaway

Convention	Meaning
"title" softkey	Indicates the softkey beside the icon containing the same title as the phrase in quotations. For example, the "Menu" softkey in Figure i would refer to the button directly to the right of the Menu icon.

Note: All commands and screens shown in this document are based on the default English setup. Titles of commands may differ depending on the display language; however, the functions remain the same as the English version.

Chapter 1

Basic Concepts and Operations

Introduction

This chapter provides an overview of the 4100U Flexible User Interface panel and describes the normal appearance of the Flexible User Interface panel.

In this Chapter

Refer to the page number listed in this table for information on a specific topic.

Topic	See Page #
Basic System Description	1-1
Normal Appearance of Operator Interface Panel	1-4

Basic System Description

Overview

The Simplex 4100U fire alarm control panel (FACP) has three general functions:

- It monitors fire alarm initiating points (smoke detectors, heat detectors, and pull stations).
- It activates fire alarm notification appliances (horns, strobes, and audio evacuation messages) when an initiating point activates.
- It monitors and controls auxiliary building equipment (fan dampers, relays, security devices).

Note: The term point is used extensively throughout this manual. It is a generic term used to refer to an individual component of the system, such as a single smoke detector or a single pull station. The 4100U operator interface, shown in Figure 1-1, allows a system operator to control and monitor the facility-specific components connected to the 4100U FACP.

Continued on next page.

Basic System Description, *continued*

Overview (*continued*)

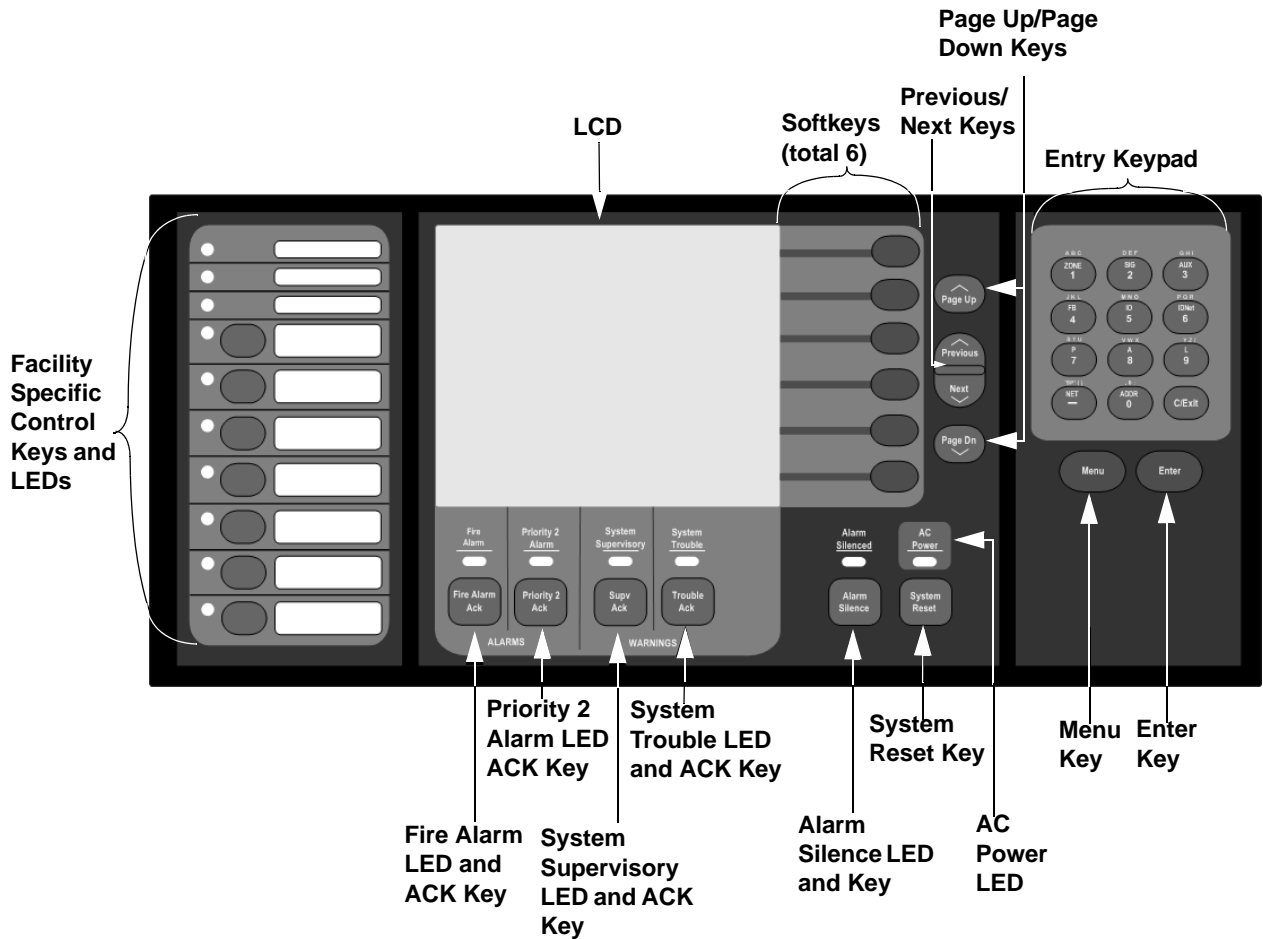


Figure 1-1. Flexible User Interface Controls

LED/Key	Description
Fire Alarm LED and Fire Alarm ACK Key	The Fire Alarm LED flashes to indicate the presence of an unacknowledged alarm condition. Other components of the system, such as the horns and strobes, also activate to indicate the presence of an alarm. The FIRE ALARM ACK key allows you to indicate that you have observed the presence of an alarm.
Priority 2 Alarm LED and Priority 2 Ack Key	The Priority 2 Alarm LED flashes to indicate the presence of an abnormal condition with sprinkler systems.
System Supervisory LED and Supv ACK key	The System Warning LEDs - Supervisory and Trouble - indicate when abnormal, non-fire conditions occur to the fire alarm system's wiring or devices. The system warning keys - SUPV ACK - allow an operator to acknowledge the presence of the abnormal condition.

Basic System Description, *continued*

LED/Key	Description
System Trouble LED and Trouble ACK	The System Trouble LED flashes to indicate the presence of an unacknowledged trouble condition. Other components of the system may be programmed to activate and indicate the presence of a trouble. The TROUBLE ACK key allows you to indicate that you have observed the presence of a trouble.
Alarm Silenced LED/Alarm Silence Key	Pressing the ALARM SILENCE key provides a means of silencing the building's audible notification appliances (horns). The LED indicates when this key has been used.
System Reset Key	Pressing this key directs the panel to reset all attached devices and clear all acknowledged alarms, troubles, and supervisory conditions.
AC Power LED	Indicates the presence of AC power at the panel.
Entry Keypad	Used to call up points for monitoring and control.
Menu Key	Selects the main menu programmed in the Flexible User Interface
Enter Key	Processes the command displayed on the screen.
Facility-Specific Control Keys	These are programmable keys. Typical functions include manual evacuation and ground fault monitor.
Page Up/Page Down Keys	Pressing these keys moves the cursor up or down by one screen. Holding the key for 2 seconds shifts the cursor to the top or bottom of the displayed information.
Previous/Next	Pressing these keys moves the cursor up or down by one line. Holding the key shifts the cursor up or down by one line at a 1/4 second increment.
Flexible User Interface Softkeys	These keys conform to the image on the LCD and can change depending on the menu that has been selected.
LCD	Displays text describing abnormal conditions for devices attached to the panel (e.g., a smoke detector in the main lobby is in alarm). Also displays system prompts and messages.

Note: The degree to which you are allowed to control the system depends on the passcode assigned to you. See "Logging In and Out of the System" for details on this.

Normal Appearance of Operator Interface Panel

Description

The 4100U operator interface panel shows the following under normal conditions.

- The green power LED is ON - indicating the panel is receiving AC power.
- All other LEDs are off, with the exception of facility specific control keys and the customizable LEDs.
- The multi-line LCD shows either a text screen indicating normal operation (see Figure 1-2) or a sitemap (see Figure 1-3).

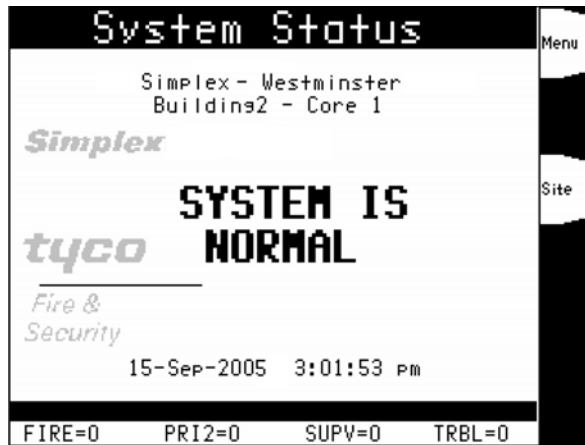


Figure 1-2. Normal Operation Text Screen

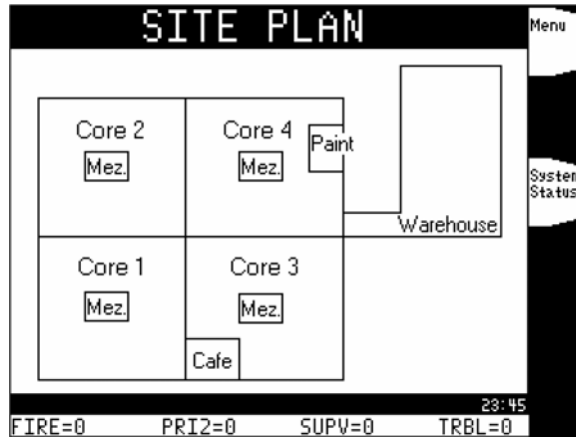


Figure 1-3. Normal Operation Sitemap Screen

Note: If the appearance of the operator interface panel is not as shown above, refer to the information in Chapters 2, 3, and 4 for instructions on managing the alarm, supervisory, or trouble condition.

Chapter 2

Alarm Conditions

Introduction

An alarm condition occurs when an initiating device (such as a manual pull station, or a smoke detector) activates. The 4100U indicates the presence of the alarm condition through messages it displays on the LCD screen, by flashing the ALARM indicator, and by activating the building's notification appliances (horns and strobes).

Note: An alarm condition is a serious event, indicating the possibility of fire danger. In addition to using the 4100U operator interface panel to investigate and manage alarm conditions as described in this chapter, you should also be aware of any facility-specific procedures that you may be required to follow.

In this Chapter

Refer to the page number listed in this table for information on a specific topic.

Topic	See Page #
Acknowledging an Alarm	2-1
Overview	2-7
Resetting the System	2-8

Acknowledging an Alarm

How the 4100U Indicates that an Alarm has Occurred

When an alarm condition is detected by the 4100U, the panel does the following to indicate the presence of the alarm.

- The red LED and the labeled Fire Alarm flashes
- The tone-alert (piezo buzzer) pulses
- The LEDs on the remote annunciators may illuminate
- The LCD on the interface panel indicates an alarm condition. The exact manner in which the display reports information for the alarm condition depends on which system display is enabled. There are six ways that the Flexible User Interface can display an alarm:

Note: The following display options are available for all alarm (Priority 2 and Fire), Supervisory, and Trouble conditions.

Continued on next page.

Acknowledging an Alarm, *continued*

How the 4100U Indicates that an Alarm has Occurred (*continued*)

- **Display First-Last:** In an alarm situation in which first-last display has been selected, the first alarm will appear on the screen followed by the most recent alarm below it. Each device that reports an alarm condition will identify the time and date of the report followed by the point type and the custom label.

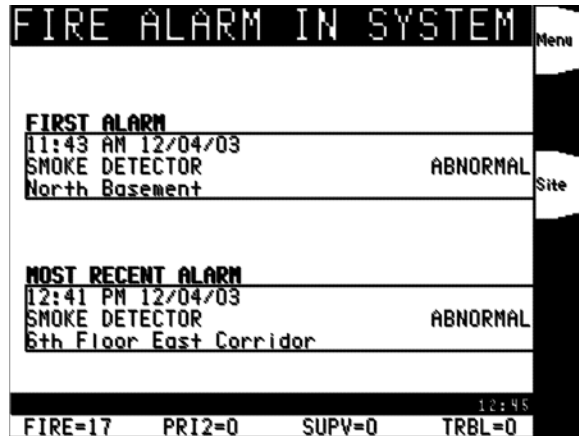


Figure 2-1. First-Last Display

- **Display First-5-Last:** In an alarm condition in which “first-5-last” display has been selected, the first 5 alarm situations will appear on the screen followed by the most recent. Each alarm report displays the custom label followed by the point type, starting with the first alarm, and moving down the list until the fifth, and finishing with the most recent. If fewer than 5 devices report an alarm condition, the most recent device appears in the most recent alarm space with the preceding alarms added from the top until all five reports are present. Only the times of the first and most recent alarm appear in the list.

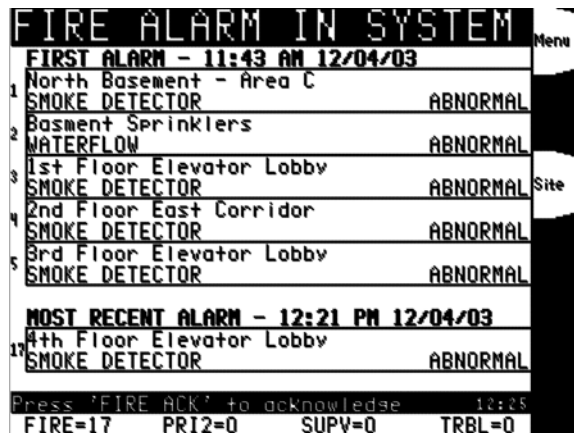


Figure 2-2. First-5-Last Display

Continued on next page.

Acknowledging an Alarm, *continued*

How the 4100U Indicates that an Alarm has Occurred (*continued*)

- **Display First-8:** The “First-8” selection displays the first eight alarm conditions. Each alarm report shows the order in which the alarms were received, followed by the custom label and the point type. The alarm time will not display in the First-8 screen.

Order	Location	Alarm Type	Status
1	North Basement - Area C	SMOKE DETECTOR	ABNORMAL
2	Basement Sprinklers	WATERFLOW	ABNORMAL
3	1st Floor Elevator Lobby	SMOKE DETECTOR	ABNORMAL
4	2nd Floor East Corridor	SMOKE DETECTOR	ABNORMAL
5	3rd Floor Elevator Lobby	SMOKE DETECTOR	ABNORMAL
6	3rd Floor Hallway B	SMOKE DETECTOR	ABNORMAL
7	3rd Floor Hallway C	SMOKE DETECTOR	ABNORMAL
8	4th Floor Elevator Lobby	SMOKE DETECTOR	ABNORMAL

Press 'FIRE ACK' to acknowledge 12:25

FIRE=17 PRI2=0 SUPV=0 TRBL=0

Figure 2-3. First-8 Display

- **Sitemap:** The sitemap can be selected as the default display in the 4100U Programmer, or switched to at any time by pressing the “Site” softkey. Points for a 4100U system can be placed on the sitemap in the 4100U Programmer. In an alarm mode, the icon representing the point reporting the alarm flashes. The icon flashes as long as it goes unacknowledged. Once the point has been acknowledged, the icon ceases to flash and remains steady. If a point close to an unacknowledged point reports an alarm condition the icon for the new unacknowledged alarm appears over the neighbouring icon. Refer to 579-849 *4100U Fire Alarm - Programmer's Manual* for instructions on allocating site point coordinates.

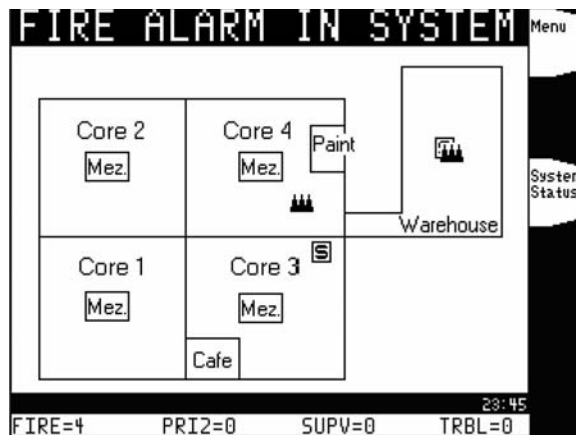


Figure 2-4. Sitemap Display

Continued on next page.

Acknowledging an Alarm, *continued*

How the 4100U
Indicates that an
Alarm has Occurred
(*continued*)

- **Direct to Alarm List:** The alarm list displays all devices that have reported an abnormal condition since the last system reset. Each entry in the list displays the custom label followed by the point type and its condition. Detailed device information is selected by pressing and holding the “More info” softkey. The time of the alarm occurrence is displayed by pressing and holding the “Event Time” softkey. All unacknowledged alarms entries flash until acknowledged.

Location	Device Type	Status
1st Floor Conference Room	SMOKE DETECTOR	ABNORMAL
1st Floor Elevator Lobby	PULL STATION	ABNORMAL
1st Floor Elevator Lobby	SMOKE DETECTOR	ABNORMAL
2nd Floor Elevator Lobby	SMOKE DETECTOR	ABNORMAL
3rd Floor Elevator Lobby near east door	SMOKE DETECTOR	ABNORMAL
2nd Floor East Corridor	SMOKE DETECTOR	ABNORMAL
2nd Floor North Corridor	SMOKE DETECTOR	ABNORMAL
4th Floor Elevator Lobby	SMOKE DETECTOR	ABNORMAL

Press 'Fire Alarm Ack' to acknowledge
FIRE=17 PRI2=0 SUPV=0 TRBL=0

Figure 2-5. Direct to Alarm List Display

- **General Status Message:** A general status message display appears in a text box. In the centre of the screen, a message indicates the alarm status. Upon acknowledgement of the alarm, the screen will display the alarm list.

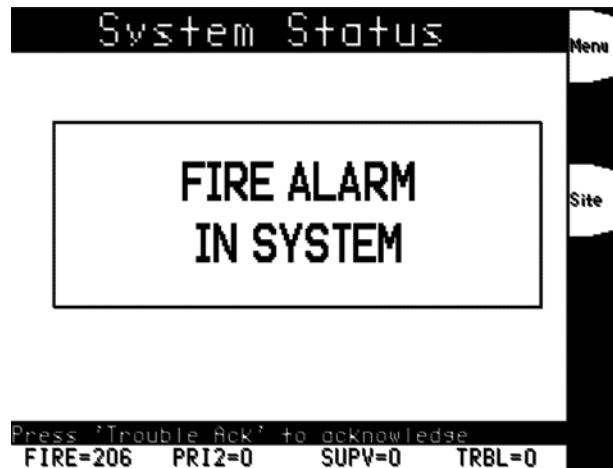


Figure 2-6. General Status Message

Continued on next page.

Acknowledging an Alarm, *continued*

Overview - Acknowledging an Alarm

The first step in managing an alarm condition is to acknowledge the alarm. Acknowledging an alarm does two important things:

- It records the time and date at which you observed the presence of an alarm, trouble, or supervisory condition on the operator interface panel, and stores that information in the system's historical log.
- When you press the acknowledge key, the system displays specific data on the location of the alarm.

The 4100U can be configured with either global or individual acknowledge. These options function as follows:

- **Global acknowledge.** When global acknowledge is enabled, one press of the ALARM ACK key acknowledges every abnormal point currently reporting an alarm status. This is helpful when a series of devices enter an alarm state (for example, all of the smoke detectors in an area of the building), and you want to acknowledge all of them at the same time.
- **Individual acknowledge.** If individual acknowledge is enabled, the ALARM ACK key must be pressed to individually acknowledge each alarm. Individual acknowledge must be selected if the panel is providing proprietary receiving service in accordance with NFPA 72.

The ALARM ACK key, which is used to acknowledge alarms (either globally or individually), is located just beneath the SYSTEM ALARM LED

Globally Acknowledging Alarms

Use the following procedure if the Global Acknowledge option is enabled on your 4100 system.

1. Unlock and open the enclosure door. Read the LCD on the interface panel. It reports the number of alarm conditions at the bottom of the screen as shown below.



Figure 2-7. Bottom of LCD

Continued on next page.

Acknowledging an Alarm, *continued*

Globally Acknowledging Alarms (*continued*)

2. Press the ALARM ACK key. Read and follow the instructions on the display. After you press the ALARM ACK key, the system responds as follows
 - The tone-alert silences, and the display reports pertinent information about the alarm, such as:

Fire Alarm List		
4	1st Floor Conference Room	SMOKE DETECTOR ABNORMAL
5	1st Floor Elevator Lobby	PULL STATION ABNORMAL
6	1st Floor Elevator Lobby	SMOKE DETECTOR ABNORMAL
7	2nd Floor Elevator Lobby	SMOKE DETECTOR ABNORMAL
8	3rd Floor Elevator Lobby near east door	SMOKE DETECTOR ABNORMAL
9	2nd Floor East Corridor	SMOKE DETECTOR ABNORMAL
10	2nd Floor North Corridor	SMOKE DETECTOR ABNORMAL
11	4th Floor Elevator Lobby	SMOKE DETECTOR ABNORMAL
Press 'Fire Alarm Ack' to acknowledge		
FIRE=17 PRI2=0 SUPV=0 TRBL=0		

Figure 2-8. Alarm List

- The SYSTEM ALARM LED changes from flashing to steady ON, and all alarm conditions are acknowledged.
- Press the ALARM ACK key or the “Prev/Next” keys to scroll to the next alarm. Continue to do this to review all alarms in the system.

Individually Acknowledging Alarms

Use the following procedure if the Individual Acknowledge option is enabled on your 4100U system.

1. Unlock and open the enclosure door. Read the display on the interface panel. It reports the number of alarm conditions at the bottom of the screen as shown below.

12:45			
FIRE=17	PRI2=0	SUPV=0	TRBL=0

Figure 2-9. Bottom of LCD

2. Press the ALARM ACK key. Read and follow the instructions on the display. Refer to Figure 2-8.
3. Press the ALARM ACK key again. Repeat this procedure to review all reports. Reports are displayed in chronological order. All unacknowledged alarms flash. The flashing stops once the alarm has been acknowledged. Press the previous/next keys to scroll through the alarm list.
 - Tone-alert silences when the last unacknowledged alarm is acknowledged.
 - System Alarm LED is ON, but no longer flashes.

Silencing an Alarm

Overview

When an alarm condition exists, various signals (horns and strobes), auxiliary relays, the city connection (which is the link to the local fire department or central station monitoring service), and the tone-alert may activate. The ALARM SILENCE key turns OFF all devices that are programmed to turn off when it is pressed.

Note: Depending on the programming of the system, some devices may not turn off when the ALARM SILENCE key is pressed.

The following occurs when the key is pressed.

- Turns OFF any circuits programmed as "on until silence"
- Turns ON the ALARM SILENCED LED if circuits were active and are now silenced
- Displays a message indicating the ALARM SILENCE function is activated

You should be aware that the following functions affect the operation of the ALARM SILENCE function.

- If a **Coded Input Device** (typically a pull station) activates, the ALARM SILENCE key may be ignored until this function has completed coding. Notification appliances (horns) cannot be silenced when a coded station is in alarm, but will silence upon coding completion.
- If the **Alarm Silence Inhibit Option** - which is a timer that inhibits the operation of the ALARM SILENCE function - is enabled, pressing the ALARM SILENCE key is ignored until the timer expires. The message "ALARM SILENCE INHIBITED" displays for a short time to indicate the action was not taken. The message "ALARM SILENCE NO LONGER INHIBITED" displays when the timer expires.
- If **Waterflow Sprinkler Devices** are activated, notification appliances may or may not be silenced (depending on local code requirements). Usually, a dedicated bell will continue to sound to indicate water flow.

Some visual notification appliances may continue to flash until the system is reset.

Continued on next page.

Silencing an Alarm, *continued*

Using the Alarm Silence Key

Press the ALARM SILENCE key and read the display. The display briefly shows the signal status, and the ALARM SILENCE LED turns ON steady.

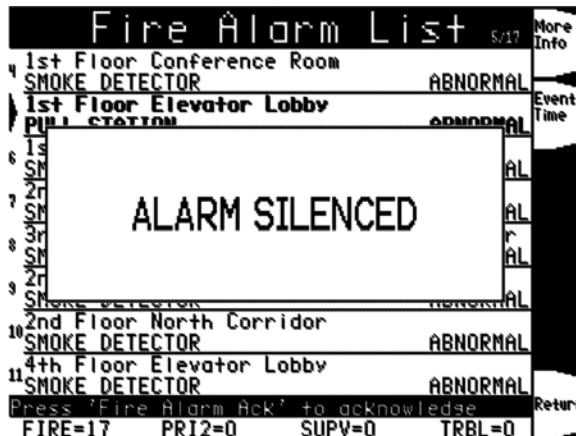


Figure 2-10. Alarm Silenced Information Box

Resetting the System

Overview

The function of the SYSTEM RESET key depends on whether active alarms are present at the time the key is pressed.

- **Active Alarms Present.** Pressing the SYSTEM RESET key when alarms are present attempts to return the system to its normal state. This includes resetting initiating devices (pull stations and smoke detectors, for example), relays (including city relay and door holder relays), notification appliances (horns and strobes), and all LEDs and indicators that have been programmed to be reset with the SYSTEM RESET key. See "Resetting a System with Active Alarms" below for more information.
- **No Active Alarms Present.** Pressing the SYSTEM RESET key when no alarms are present causes the system to perform a hardware reset. See "Performing a Hardware Reset" for more information.

Continued on next page.

Resetting the System, *continued*

Resetting a System with Active Alarms

Activated devices (i.e, devices in alarm) can be reset, using the SYSTEM RESET key. Doing this allows the system to return to a normal state following alarm activation. Follow these steps to perform a system reset when alarms are present.

1. Press the SYSTEM RESET key. The following message appears.



Figure 2-11. System Reset Information Box

2. One of the following occurs, depending on whether the activated devices reset or not.
 - If all zones or devices in alarm reset, the SYSTEM ALARM LED flashes. Press the ALARM ACK key, and the following message appears:

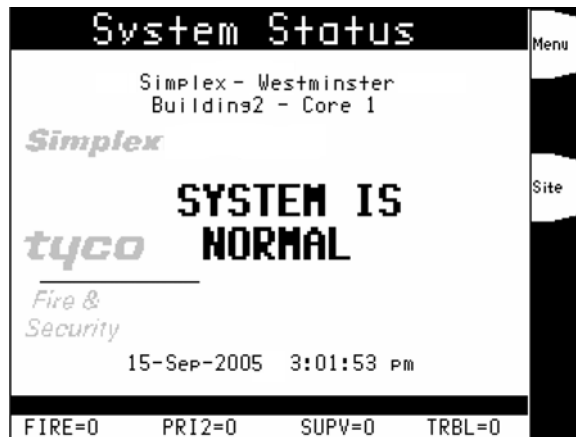


Figure 2-12. Normal Operation Text Screen

Continued on next page.

Resetting the System, *continued*

Resetting a System with Active Alarms (continued)

- If a zone or device remains in alarm and fails to reset, the "SYSTEM RESET IN PROGRESS" message is followed by the message shown below.



Figure 2-13. Alarm Present Information Box

When this message appears, the system remains in an alarm state. The display indicates the total number of alarms present in the system along with a prompt to use the ALARM ACK key to review the points (these points do not require acknowledgment.) The SYSTEM ALARM LED remains ON to indicate that a fire alarm device is still in the alarm condition. Read the display to determine the type and location of the device. Follow local procedures to investigate the area of the building in alarm. Look for devices that are in an alarm state like pull stations with the handle down, or smoke detectors with their LED lit.

Performing a Hardware Reset

A hardware reset re-initializes the state of certain hardware components and is typically used to reset a Class A trouble (e.g., on a MAPNET, IDNet, or RUI channel) after the problem causing the trouble is resolved. If you attempt to perform a hardware reset without first fixing the problem causing the trouble, the hardware reset fails and the trouble reappears.

To perform a hardware reset, press the SYSTEM RESET key when no alarms are present.

Chapter 3

Trouble Conditions

Introduction

A trouble condition indicates that a circuit or system function is in an abnormal condition. Trouble conditions are not fire conditions; however, they must be addressed by a capable service technician. Failure to correct trouble conditions may compromise the detection and report of an emergency condition.

This chapter describes using the operator interface panel keys to investigate the details of the trouble condition.

In this Chapter

Refer to the page number listed in this table for information on a specific topic.

Topic	See Page #
Overview	3-1
Acknowledging Troubles	3-3
If the Trouble Doesn't Clear	3-4

Overview

How the 4100 Indicates the Presence of a Trouble

When a trouble condition is detected by the 4100, the panel does the following to indicate the presence of the trouble condition.

- Yellow LED, labeled "SYSTEM TROUBLE" flashes
- Tone-alert (piezo buzzer) sounds steady
- LEDs on remote annunciators may illuminate
- The LCD on the interface panel indicates a trouble condition. The exact manner in which the display reports information for the trouble condition depends on which system display is enable. There are six ways that the Flexible User Interface can display a trouble condition. An example is shown below. Refer to *Chapter 2 Alarm Conditions* for descriptions of the six displays.

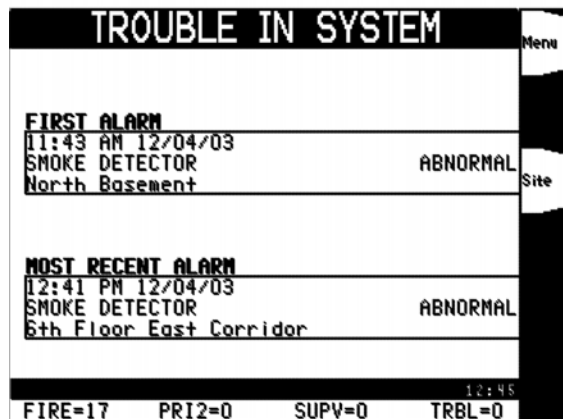


Figure 3-1. First-Last Display for Trouble Condition

Continued on next page.

What an Acknowledge Does

The first step in managing a trouble condition is to acknowledge the trouble. Acknowledging a trouble does two important things:

- It records the time and date at which you observed the presence of the trouble and stores that information in the system's historical log.
- When you press the acknowledge key, the system displays specific data on the location of the trouble.

The 4100U can be configured with either global or individual acknowledge. These options function as follows:

- **Global Acknowledge.** When global acknowledge is enabled, one press of the TROUBLE ACK key acknowledges every point currently reporting a trouble.
- **Individual Acknowledge.** If individual acknowledge is enabled, the TROUBLE ACK key must be pressed to individually acknowledge each trouble. Individual acknowledge must be selected if the panel is providing proprietary receiving service in accordance with NFPA 72.

The TROUBLE ACK key, which is used to acknowledge troubles (either globally or individually), is located just beneath the SYSTEM TROUBLE LED. If the TROUBLE ACK key is passcode protected (by default, it is not), you cannot use this key to acknowledge troubles unless you log in using the required passcode.

Acknowledging Troubles

Acknowledging Troubles

Globally Acknowledging Troubles

If global acknowledge is enabled on the 4100U, the system automatically clears after the source of the trouble clears. Shortly after the source of the trouble clears, the display should indicate a normal system.

Note: Pressing a button within 30 seconds of clearing the source of the trouble will delay the change of display screens. The display will change 30 seconds after the last button pressed.

1. Unlock and open the enclosure door. The display shows the trouble condition. For example:

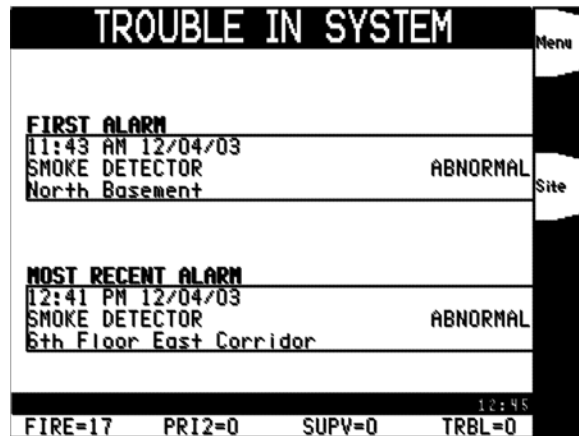


Figure 3-2. Trouble Display

2. Press the TROUBLE ACK key under the flashing yellow LED. The display shows a list of all devices in a trouble condition. The tone-alert silences and the yellow LED glows steady.
 3. Read the display and investigate the area to determine the cause of the trouble.
 - a. Restore or replace the defective device (e.g., a switch, wire, or notification appliance.) in accordance with the device's instructions.
 - b. The trouble condition automatically clears when the problem has been corrected.
-

Acknowledging Troubles, *continued*

Individually Acknowledging Troubles

When individual acknowledge is used, the tone-alert re-sounds when the condition clears. Individual acknowledge must be selected if the panel is providing proprietary receiving service in accordance with NFPA 72. Follow these steps to use individual acknowledge:

1. Unlock and open the enclosure door. The display shows the trouble condition. For example:

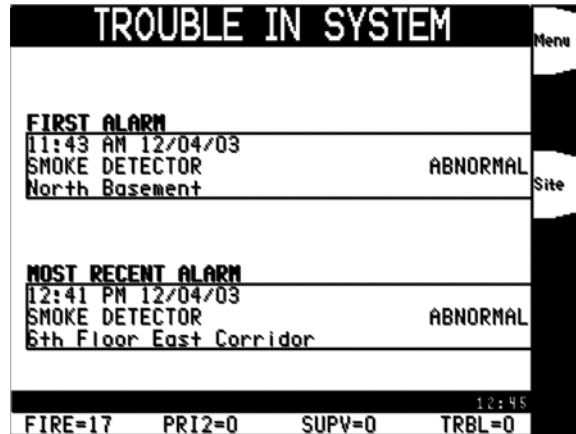


Figure 3-3. Trouble Display

2. Press the TROUBLE ACK key. An alarm list opens. Every flashing report indicates an unacknowledged trouble condition. Continue pressing the TROUBLE ACK key and reading the reports until all reports have been acknowledged. Once all reports have been acknowledged the tone-alert silences and the LED glows steady.
3. Read the display. Investigate the trouble to determine its cause. Make necessary repairs in accordance with the manufacturer's instructions. When the trouble clears, the Trouble LED flashes and the tone-alert sounds steady.
4. Press the TROUBLE ACK key. The display shows the system status. Press the TROUBLE ACK key again. After a delay, the display shows that the system status is normal.

If the Trouble Doesn't Clear

Overview

On global acknowledge systems, trouble points do not usually require acknowledgment of the cleared condition. If the system does not clear, read the display. The information on the display will indicate the circuit or nature of the fault. Some faults interfere with the protection provided by the Fire Alarm system. If the source of the trouble cannot be located, call an authorized Simplex representative to repair the system.

System Reset Key

Some troubles latch until they are reset manually, or are reset by pressing the SYSTEM RESET key. Try pressing the SYSTEM RESET key if the trouble is any one of the following:

- Class A initiating device circuit trouble
- City Circuit trouble
- 24 Point I/O trouble

If pressing the SYSTEM RESET key does not clear the trouble, or if the trouble toggles (clears and then reappears), the indicated circuit should be checked by a qualified service technician.

Trouble Conditions

Trouble Indications for TrueAlarm Sensors

TrueAlarm devices are considered sensors instead of detectors because these devices do not determine alarm conditions. Instead, the TrueAlarm smoke sensor is a measuring device that sends data regarding smoke density to the 4100U FACP. The TrueAlarm heat sensor operates in a similar fashion, but it sends temperature data to the control panel instead of smoke density data. The 4100U uses this data to determine whether a trouble has occurred.

The TrueAlarm sensor has two automatic trouble indications. Either condition requires service by a qualified service technician.

- **Dirty.** A "Smoke Detector Dirty" condition is reported any time the average value on an individual sensor reaches a set threshold value. The sensor continues to operate at the programmed alarm threshold.
- **Excessively Dirty.** A "Smoke Detector Excessively Dirty" trouble condition is reported any time the average value of an individual sensor reaches a level such that full-range alarm detection is compromised. When a sensor is "excessively dirty," the sensor will be susceptible to false alarms.

In addition to the two automatic trouble conditions, the 4100U software includes a pre-programmed digital pseudo point (P132, Sensor Almost Dirty Log Enable) that can be selected through the 4100U PC Programmer application. When selected, a system log entry is generated when a sensor is "Almost Dirty." This feature is used to facilitate maintenance by providing a log of sensors that are approaching the "Dirty" state.

What to Do when TrueAlarm Troubles Occur

System Operators should do the following when these troubles occur.

- **Almost Dirty Trouble.** The system is programmed so that almost dirty sensors report as dirty. Contact your facilities management personnel to report the trouble and schedule maintenance (cleaning) for the sensors.
 - **Dirty.** This trouble means that maintenance should be scheduled for the sensor. Contact your facilities management personnel to report the trouble and schedule maintenance (cleaning) for the sensors.
 - **Excessively Dirty.** This trouble means the sensor is no longer compensating for dirt and dust. False alarms are possible in this condition, and sensors should be cleaned as soon as possible. Contact your facilities management personnel to report the trouble, and immediately schedule maintenance (cleaning) for the sensors.
-

Chapter 4

Supervisory Conditions

Introduction

A supervisory trouble indicates a problem with the condition of the building's automatic sprinkler system or some other system used for the protection of life and property.

This chapter describes using the operator interface panel keys to investigate the details of the supervisory condition.

In this Chapter

Refer to the page number listed in this table for information on a specific topic.

Topic	See Page #
Overview	4-1
Acknowledging Supervisory Conditions	4-2

Overview

How the 4100U Indicates the Presence of a Supervisory Condition

When a supervisory condition is detected by the 4100U, the panel does the following to indicate the presence of the condition.

- The yellow LED labeled "SUPERVISORY" flashes
- The tone-alert (piezo buzzer) sounds steady
- The LCD on the interface panel indicates a supervisory condition. There are six ways that the Flexible User Interface can display a supervisory condition. Refer to *Chapter 2 Alarm Conditions* for descriptions of the six display modes. An example is shown below:

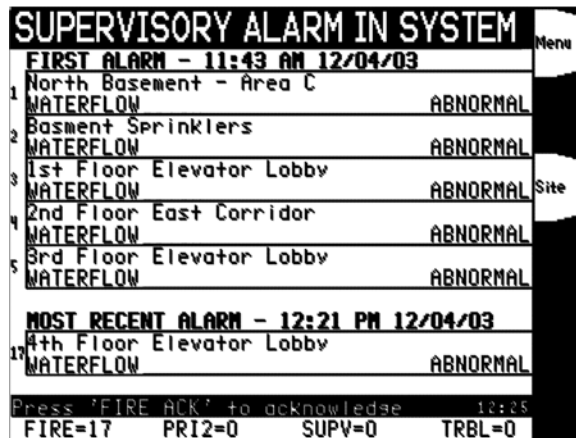


Figure 4-1. First-5-Last Display for Supervisory Conditions

Continued on next page.

Acknowledging Supervisory Conditions

What Acknowledge Does

The first step in managing a supervisory condition is to acknowledge the condition. Acknowledging a supervisory does two important things:

- It records the time and date at which you observed the presence of the condition, and stores that information in the system's historical log.
- When you press the acknowledge key, the system displays specific data on the location of the supervisory condition.

It is important to understand that the 4100U can be configured with either global or individual acknowledge. These options function as follows:

- **Global Acknowledge.** When global acknowledge is enabled, one press of the SUPV ACK key acknowledges every point currently reporting a supervisory condition.
- **Individual Acknowledge.** If individual acknowledge is enabled, the SUPV ACK key must be pressed to individually acknowledge each supervisory condition. Individual acknowledge must be selected if the panel is providing proprietary receiving service in accordance with NFPA 72.

The SUPV ACK key, which is used to acknowledge supervisory conditions (either globally or individually), is located just beneath the "SUPERVISORY" LED.

Globally Acknowledging Supervisory Conditions

Pressing the SUPV ACK key once, globally acknowledges all supervisory conditions that exist within the fire alarm system. In addition, the "SUPERVISORY" LED changes from flashing to steady ON, and the tone-alert silences.

If global acknowledge is enabled on your system, use the following procedure to acknowledge the supervisory conditions.

1. Unlock and open the enclosure door. The display shows the supervisory condition, similar to Figure 4-1.
2. Press the SUPV ACK key under the flashing yellow LED. The display shows a list of all the devices reporting a supervisory condition. The tone-alert silences, and the yellow LED glows steady.

Read the display. Investigate the problem to determine its cause. Make the necessary repairs in accordance with the manufacturer's instructions, or call an authorized Simplex representative to repair the system. If the panel has not been programmed for latching supervisory operation, when the problem causing the supervisory is corrected, the supervisory automatically clears and, after a delay, the display indicates that the system status is normal. With latching supervisory operation, the system requires a reset after the problem has been corrected, in order for the supervisory condition to clear. Refer to *579-849 4100U Fire Alarm - Programmer's Manual* for instructions on programming latching supervisory operation

Continued on next page.

Acknowledging Supervisory Conditions, *continued*

Inividually Acknowledging Supervisory Conditions

If individual acknowledge is enabled on your system, you need to separately acknowledge each supervisory condition. Use the following procedure to do this.

1. Unlock and open the enclosure door. The display shows the supervisory condition, similar to Figure 4-1.
2. Press the SUPV ACK key. Repeat this step and read the reports. The display shows the area and type of condition. The tone-alert silences and the yellow LED glows steady.
3. Read the display. Investigate the problem to determine its cause.

When the problem causing the condition is corrected, the SUPERVISORY LED flashes and the tone-alert sounds steady.

4. Press the SUPV ACK key. The display shows the system status.
 5. Press the SUPV ACK key again. After a short delay, the display indicates that the system is normal.
-

Chapter 5

Selecting Points for Status and Control

Introduction

Many of the advanced operations that can be accomplished from the operator interface require you first select the point on which you want to perform the operation. Points can be selected in one of two ways.

- **Alarm, Trouble, Supervisory List.** Points that are reporting an alarm, trouble, or supervisory condition can be selected from the active alarm, trouble, or supervisory list.
 - **Using the Entry Keys.** The entry keys, located on the far right of the operator interface, contain abbreviated labels for each category of point. For example, the key in the upper left corner of the entry keys is labeled "ZONE" and the key to its right is labeled "SIG." Pressing one of these keys causes the system to prompt you to select a specific point within the selected category.
-

In this Chapter

Refer to the page number listed in this table for information on a specific topic.

Topic	See Page #
Selecting Points from Alarm, Trouble, Supervisory List	5-1
Selecting Points with the Entry Keypad	5-2

Selecting Points from Alarm, Trouble, Supervisory List

Procedure

When a point experiences an abnormal condition, such as an alarm, trouble, or supervisory, it is added to the appropriate list (alarm list, supervisory list, or trouble list). Points within these lists can be selected as follows:

1. Press the appropriate acknowledge key to enter the list. For example, press the FIRE ALARM ACK key to enter the list of current fire alarms, or press the TROUBLE ACK key to enter the list of current troubles.
 2. Use the NEXT and PREV keys to scroll through the entries in this list. Stop scrolling when the point you are interested in is highlighted.
 3. Press the "More Info" softkey to access the point.
-

Selecting Points with the Entry Keypad

Overview

The entry keypad, shown below, allows you to quickly select a category of points. For example, pressing the ZONE key on the upper left side of the keypad opens the direct point call-up screen and places the cursor at the first monitor zone point. Press an additional number to move the cursor closer to the desired point or use the arrow keys to move the cursor manually.



Figure 5-1. Flexible User Interface keypad

You can use the keypad to select either a local point or a network point. A local point is physically connected to the panel, and a network point is one that is located on a different panel and is programmed so that it can be selected and controlled from another panel.

Refer to the following table for information on using the keypad to select local points on this panel.

Key	Data to Enter
ZONE - allows you to select a Monitor Zone point.	ZN, where ZN represents a zone card and is a number from 1 to n. n represents the number of the last zone in your system. After selecting a zone, use NEXT and PREV to scroll through the points.
SIG - allows you to select a NAC.	SIG, where SIG represents a Notification Appliance Circuit (NAC) and is number from 3 to n. n represents the number of the last signal point in your system. After selecting a signal point, use NEXT and PREV to scroll through the signal points.
AUX - allows you to select an Auxiliary Relay.	AUX, where AUX represents an auxiliary relay and is a number from 3 to n. n represents the number of the last auxiliary relay in your system.
FB - allows you to select a feedback point.	FB, where FB represents a feedback point and is a number from 3 to n. n represents the number of the last feedback point in your system.

Selecting Points with the Entry Keypad, *continued*

Key	Data to Enter
IO - allows you to select a point on a 24 Point I/O card.	IO, where IO represents a point and is a number from 1 to n. n represents the number of the last I/O point in your system.
IDNet - allows you to select an IDNet, MAPNET, or VESDA point.	<p>C-D, where C represents the IDNet, MAPNET, or VESDA channel and D represents the device number. You must insert the dash between channel and device. Use the (NET/ -) key to insert the dash.</p> <p>Notes:</p> <ul style="list-style-type: none"> • IDNet. Specify the channel with a number from 1 through 30. Use the number 0 to represent channel 10. Device numbers on each IDNet channel run from 1 to 250. • MAPNET. Specify the channel then the device. Device numbers on each MAPNET channel run from 1 to 127. • VESDA. Specify the channel then the device. Device numbers on each VESDA channel run from 1 to 127.
P / A / L - allows you to select a digital (P), analog (A), or List (L) pseudo point.	Enter the number corresponding to the digital pseudo, analog pseudo, or list point. For example, pressing the P key and entering a 1 selects the alarm silence key pseudo point.
NET - allows you to select a network point.	Enter a network NODE number. The system then prompts for the type of point you want to select. Press the keypad key corresponding to the type of point (E.g., Zone or Signal) Use the descriptions above for information on selecting the specific point.
ADDR = address of the point in the system.	Specify the address using the format C-P-S, where C is the card, P is the point, and S is the subpoint. You must insert the dash between the components of the address. Use the NET key to enter the dash.

Continued on next page.

Selecting Points with the Entry Keypad, *continued*

Direct Point Call-Up Screen Options

Figure 5-2 shows an example of the Direct Point Call-Up screen. The options available in the Direct Point Call-Up screen are listed in the table below:

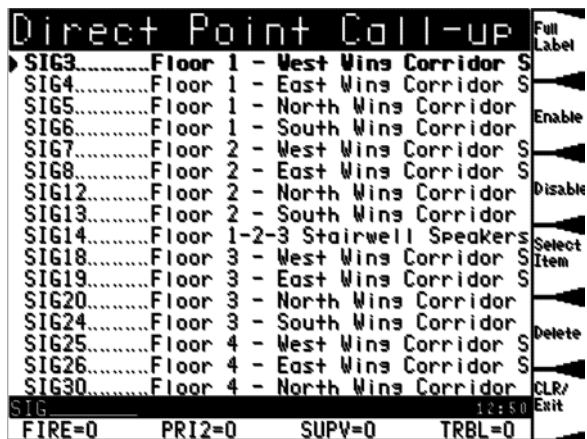


Figure 5-2. Direct Point Call-up Screen

Action	Description
Full Label	Shows the entire custom label on the line. Release the button to revert back to the standard format.
Enable	Enables the selected point.
Disable	Disables the selected point. Refer to 579-688 for guidelines on disabling active points.
Select Item	Displays point information on screen. "Enter" can also be pressed to display the point info to the display.
Delete	Deletes a character from the prompt. When searching for a point, the screen will attempt to match the point based on the keys pressed. Deleting a character will force an additional match attempt based on the remaining characters.
CLR/Exit	Exits the screen. The CLR/Exit button on the entry keypad can also be used to exit the screen.

Chapter 6

Advanced Functions

Introduction

This chapter describes advanced functions that you can perform from the operator interface.

In this Chapter

Refer to the page number listed in this table for information on a specific topic.

Topic	See Page #
Logging In and Out of the System	6-1
Setting System Time and Date	6-3
Viewing the Time at which an Event Occurred	6-3
Enabling and Disabling Points	6-4
Forcing Points On and Off	6-4
Displaying and Clearing Historical Logs	6-5
Printing Reports	6-6

Logging In and Out of the System

Introduction

The 4100U system has four access levels. Level 1 is the lowest access level; level 4 is the highest access level. Each display function may be programmed for any access level from the 4100U Programming tool. By default, access level 1 is adequate for typical front panel operations, such as Alarm Acknowledge, Signal Silence and System Reset. To see the access levels from within the 4100U Programmer, select the "Panel" tab. The third item is named "Access Levels." Select this tab to see a list of all display functions and the assigned access level.

Log-in at access level 4 causes a "Service Mode" trouble. This trouble requires a "warm-start" to clear. To warm-start the panel, either press the reset switch (located on the edge of the CPU card) for approximately 1 second or activate the front panel menu option.

Continued on next page.

Logging In and Out of the System, *continued*

Procedure

Follow these steps to log into the system at access level two, three, or four. The keypad used to enter the passcode is located behind the interface panel access door.

1. Obtain the passcode for the access level at which you want to operate.
2. Press MENU on the entry keypad, located on the right side of the interface panel.
3. Press the direction keys until the cursor highlights “Access.” Press ENTER or the “Select Item” softkey.
4. Scroll the cursor to the “Login” command, and press ENTER or the “Select item” softkey. The following screen appears.

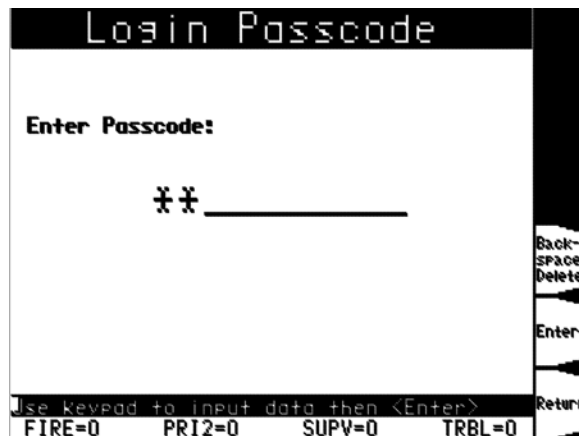


Figure 6-1. Login screen.

5. Enter the passcode for the access level. The passcode can be up to 10 numbers in length. Press the ENTER key on the Display/Action keypad or the “Enter” softkey when you have finished entering the code. An asterisk is displayed for each digit of your passcode, as shown above.

Log Out Procedure

Failure to log out allows unauthorized personnel access to the various passcode protected functions. If no keypad activity is detected for ten minutes, the system returns to Level 1 access.

Perform the following procedure to log out and return the operator access level to Level 1.

1. Press the MENU key.
 2. Scroll to the “Access” command, and press ENTER or the “Select Icon” softkey.
 3. Scroll to “Log Out” and press ENTER. The panel is at access level 1.
 4. Press CLR/Exit to go back to the normal operation screen.
-

Setting System Time and Date

Overview

Follow these steps to set the time and date used by the 4100U FACP. Ensuring that the current time and date are correct on the system is important. In particular, the accuracy of historical logs and reports depends on the system time.

Procedure

1. Press the MENU key. Press the NEXT or PREVIOUS key until the display shows the option for setting time and date.
2. Press the ENTER key. The system responds as follows:

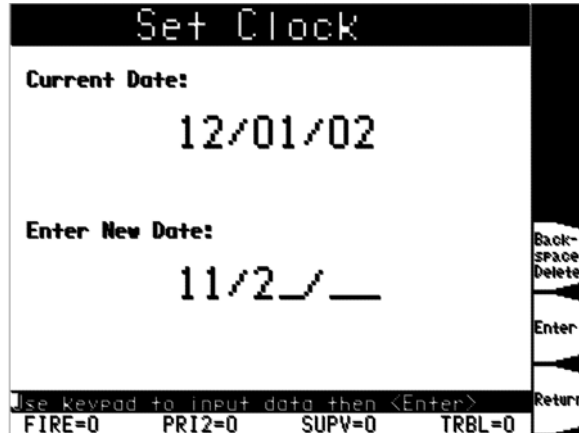


Figure 6-2. The Set Date Screen

3. The display shows the current date followed by a the new date filled by blank underlined characters. Use the entry keys to enter the new date, or press ENTER to leave the date unchanged.
 4. The next screen displays the time in a similar format to the Figure 6-2. Use the entry keys to enter the time, and press ENTER when complete. To leave the date unchanged, press ENTER without entering a new time.
-

Viewing the Time at which an Event Occurred

Overview

The system records the time at which each alarm, trouble, and supervisory event occurs. You can view this information in one of two ways:

- By displaying or printing the historical alarm or trouble log. Refer to "Displaying and Clearing Historical Logs" later in this chapter for information on doing this.
 - By scrolling through the list of active alarm, trouble, or supervisory conditions, selecting a specific event, and using the EVENT TIME key. Refer to the procedure below for information on doing this.
-

Continued on next page.

Viewing the Time at which an Event Occurred, *continued*

Procedure

1. Select the alarm, trouble, or supervisory event whose event time you want to display. To do this, follow these steps.
 - a Press the FIRE ALARM ACK, PRIORITY 2 ACK, TROUBLE ACK, or SUPERVISORY ACK key to enter the appropriate list of events. (For example, press the FIRE ALARM ACK key to enter the list of active fire alarms.)
 - b Use the NEXT and PREVIOUS keys to scroll through the list until the alarm in which you are interested is displayed.
 - c Press and hold the “Event Time” softkey. The time at which the alarm, priority 2 alarm, trouble, or supervisory occurred appears in the display.
-

Enabling and Disabling Points

Overview

Enabling and disabling points is sometimes necessary when performing maintenance on the system. When using this function, it is critical that you understand whether custom control (either the system's default custom control or any user custom control) makes reference to the point or not. Actions driven by custom control are suspended for the duration of time the point is disabled, but execute immediately after the point is enabled.

Example: Suppose you disable a signal point and during the time the point is disabled, a custom control equation executes that turns the point ON. This action is suspended for the duration of time the point is disabled. However, when the point is subsequently enabled, the point's state updates and the custom control equation turning the point ON executes, turning the signal ON.

Procedure

Follow these steps to enable or disable a point.

1. Select the point. Refer to Chapter 5 for information on selecting points.
2. Press either the “Disable” or “Enable” softkey.

The system indicates that the command has been accepted, and generates a "Disable Trouble" to remind you that the point is disabled. When you enable the point again, the trouble clears.

Forcing Points On and Off

Overview

Forcing control points ON and OFF allows a precise degree of manual system control. For example, you can force a relay or signal point ON to test or execute its function. Unlike ENABLE/DISABLE (see description in previous section), a point that you force OFF does not refresh its state when the point is turned back ON.

Example: Suppose you turn a signal point OFF, and during the time the point is disabled, a custom control equation executes that turns the point ON. When the point is subsequently returned to automatic operation, the point's state does not update and the custom control equation turning the point ON does not execute.

Continued on next page.

Forcing Points On and Off, *continued*

Forcing Points ON or OFF

Follow these steps to force a point ON or OFF.

1. Select the point. Refer to Chapter 5 for information on selecting points.
2. Press the "Select Item" softkey or press ENTER to access the point.
3. Scroll down to show the various softkey operations.
4. Press either the "On" or "Off" softkey.

The system indicates that the command has been accepted and generates a "Manual Override Trouble" for the point to remind you that the point has been forced ON or OFF.

Returning a Point to Automatic Operation

Automatic operation is the normal operation of the point. For example, if the point is a signal point, a setting of AUTOMATIC indicates that the signal is under the control of the job executing on the panel.

To return the state of a point that is currently ON or OFF to AUTOMATIC, follow these steps.

1. Select the point. Refer to Chapter 5 for information on selecting points.
2. Press the "Select Item" softkey or press ENTER to access the point.
3. Scroll down to show the various softkey operations.
4. Press the "Automatic" softkey.

The system clears the "Manual Override Trouble."

Displaying and Clearing Historical Logs

Overview

Historical logs provide a record of both the events that have occurred on the system and the actions taken by an operator to manage those events. The system contains the following logs:

- **Historical Alarm Log.** Provides detailed information on each alarm, including time and date stamp, that has occurred since the last time the logs were cleared.
 - **Historical Trouble Log.** Provides detailed information on each trouble, including time and date stamp, that has occurred since the last time the logs were cleared.
-

Displaying/Clearing Historical Logs

1. Press the MENU key. Use the NEXT and PREVIOUS keys to scroll through the choices until the "DISPLAY HISTORICAL ALARM LOG" or "DISPLAY HISTORICAL TROUBLE LOG" choice is displayed.
 2. Press ENTER to access the log file.
 3. Use the NEXT and PREVIOUS keys to scroll through the entries in the selected log.
-

Printing Reports

Overview

The system can generate any of the following reports.

Report	Description
Alarm History Log Report	Report includes all information contained in the alarm history log - device, custom label, time and date device entered alarm.
Trouble History Log Report	Report includes all information contained in the trouble history log - device, custom label, type of trouble, time and date device experienced trouble.
TrueAlarm Status Report	Reports the following information for each point. <ul style="list-style-type: none">• Device• Custom Label• Current Sensitivity of the Point• Point Status: Normal, Trouble, Alarm• Almost Dirty Status: Points which are almost dirty have an asterisk in this field to denote this.
TrueAlarm Service Report	Reports the following information for each point. <ul style="list-style-type: none">• Device• Custom Label• Alarm Level (sensitivity level of the device)• Average Value• Current Value• Percent of Alarm: Shows the current value for the sensor. Value is shown as a percentage of 100 percent (alarm). For example, if the value shown is 9%, it means that the sensor is currently at 9% of the value required to trigger an alarm.• Peak Value. Shows the highest value that the sensor has reached. Value is shown as a percentage of 100 percent (alarm). For example, if the value shown is 9%, it means that the peak value experienced by the sensor was 9% of the value required to trigger an alarm.• Current State: Possible values include Normal, Trouble, Dirty, Excessively Dirty, and Almost Dirty.

Procedure

1. Press the MENU key. Use the NEXT and PREVIOUS keys to scroll through the choices until the "REPORTS" choice is displayed. Press ENTER.
2. Use the NEXT and PREVIOUS keys to scroll through the categories of report (e.g., Alarm History or Trouble History).
3. When the category of report you want to print is displayed, press ENTER. The system prompts you to confirm that you want to generate the report. Press ENTER again.

The report prints on the panel's report printer.

Chapter 7

System Test Procedures

Introduction

Note: This section describes the system tests that can be performed from the front panel of the 4100U.

In this Chapter

Refer to the page number listed in this table for information on a specific topic.

Topic	See Page #
WalkTest™ Overview	7-2
Setting WalkTest Options	7-3

WalkTest Overview

Overview

WalkTest allows the function of the system's initiating devices and signals to be tested by a single person. Conducting a WalkTest requires you to perform the following steps.

1. **Create WalkTest Groups.** The 4100U supports up to eight WalkTest groups. This allows the building to be divided into small portions for the WalkTest, while the rest of the building is protected by the fire alarm panel. Each group has a list of control points (initiating devices) and a list of the signal circuits that activate when one of the group's control points activates.

Refer to Chapter 9 of the *4100 Fire Alarm PC Programmer Programming Manual (574-849)* for information on adding control points (initiating devices) and signals/relays to a WalkTest group.

2. **Enable WalkTest Options from Front Panel.** These options include the following:
 - Which WalkTest Group is enabled.
 - Whether the group's signals turn on when a control point in the same group activates. Turn this option on (along with the WalkTest logging option) to perform a silent WalkTest on the system.
 - Whether logging of WalkTest information is enabled or not. Enable this option to perform a silent WalkTest.

Refer to the "Setting WalkTest Options" later in this section for information on setting these options.

Continued on next page.

**Overview
(continued)**

- 3. Manually Activate Initiating Devices in Each Group and Interpret Signals.**
Individually activate each initiating device in the group, using a magnet or canned smoke. Make sure to proceed in a logical manner (i.e., start with the lowest IDNet or MAPNET address and work toward the highest). Each time you activate an initiating device, the system's signals pulse a code that allows you to verify exactly which initiating device triggered the signals. For hardwired monitor zones, the signal code corresponds to the number of the zone. (For example, if the zone number is eight, the signals pulse eight times to indicate zone eight.) For IDNet and MAPNET devices, the first set of pulses from the signals correspond to the channel. The signals then pause momentarily and the second set of pulses correspond to the number of the device on the channel. For example, if you activate an IDNet smoke detector with an address of M1-25, the signals would sound once to indicate channel one, pause for a short duration, and then sound 25 times indicate device 25.

In some cases, immediately after verifying the function of an initiating device, you may also want to verify its ability to generate a trouble condition. To do this, cause a trouble on the device (i.e., remove the sensor from a TrueAlarm device), and then listen to the signals. The signals sound steady for 4 seconds to indicate trouble conditions, then reset.

Important Notes

Signals and initiating devices (with the exception of pull stations) automatically acknowledge and automatically reset, allowing for one-man testing without the need for someone at the main control panel to acknowledge and reset the system each time an initiating device and its associated signals activate.

A silent WalkTest may be performed (no signals will sound) and logging of events may be selected. Refer to "Setting WalkTest Options" below for additional information.

If an alarm condition is detected from a zone that is not in the present active WalkTest™ group, the system will operate as a fire alarm panel and the active WalkTest™ groups are aborted.

Continued on next page.

Setting WalkTest Options

Enabling a WalkTest Group

1. Press the MENU key and then use the NEXT and PREV keys until "Service" is highlighted. Press ENTER.
2. Use the NEXT and PREVIOUS keys to scroll to "Walktest". Press ENTER. A screen similar to the following appears:

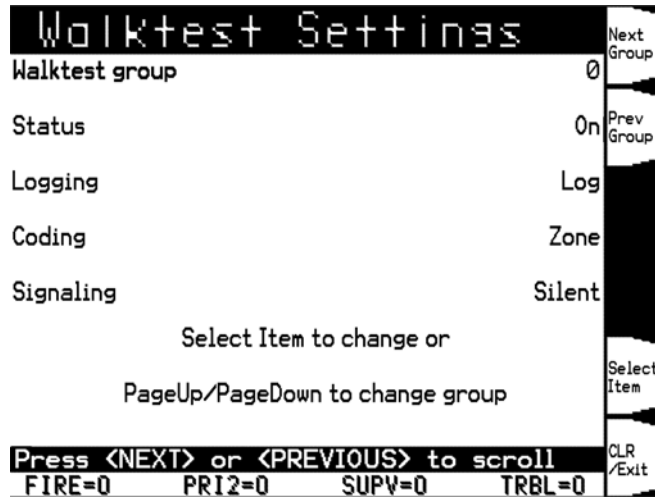


Figure 7-1. Walktest Screen

3. Press the "Next Group" and "Prev Group" softkey until the your desired Walktest group appears.

Setting Options

Each of the options shown in Figure 7-1 above can be selected by pressing the NEXT or PREVIOUS buttons to scroll to the feature.

The options are as follows

Option	Description
Status	Turns WalkTest on and off for the selected group. Press 1 on the keypad to toggle the setting of the option.
Logging	Allows you to enable or disable logging. If the arrow points to LOG, logging is enabled. If the arrow points to NO, logging is disabled. Press 2 on the keypad to toggle the setting of this option.
Coding	When ZONE is selected, the signals play a code that indicates the activated initiating device's address. (For hardwired zones, the signals sound the number of the zone. For IDNet and MAPNET, the code has two parts, separated by a pause. The first part indicates the channel and the second part indicates the device number. When ? is selected, the signals play 2 ¼ second pulses. Press 3 on the keypad to toggle the setting of this option.
Silent	Allows you to configure a silent WalkTest (i.e., no signals are used). Make sure to enable the logging of WalkTest events, which allows each zone with an abnormal condition to be time tagged and added to the log. See previous option above. When SIG is selected, signals sound during the WalkTest. When NO is selected, no signals are used during the WalkTest.

Chapter 8

Audio Operations

Introduction

The 4100U audio system provides the following functionality.

- **Automatic, Pre-recorded Messages**, which automatically play in response to system events. For example, when a fire alarm is detected on the system, a message known as the Primary Evacuation message automatically plays.
 - **Manually Selected, Pre-Recorded Messages**. Some systems are capable of playing a prerecorded message when a specific button is pressed. For example, you may press a button to play an attention tone and phrase before using the microphone to make a live audio announcement.
 - **Live Audio**. Microphones connected to the audio system allow operators to issue live announcement messages.
-

In this Chapter

Refer to the page number listed in this table for information on a specific topic.

Topic	See Page #
Single Channel Audio Operation	8-1
Single Channel Audio Plus Paging	8-4
Two Channel Audio Operation	8-6
Three to Eight Channel Audio System Operation	8-9

Single Channel Audio Operation

Overview

This section describes the single channel and single channel plus paging audio systems. The term Single Channel Audio refers to the audio capability of the system.

- A Single Channel Audio system has the ability to play pre-recorded messages or live audio messages, but it cannot do both at one time. For example, suppose the building's audio system is divided into eight groups, each of which represents a floor of the building. A single channel audio system can play a pre-recorded message or live audio one floor at a time.
-

Continued on next page.

Single Channel Audio Operation, *continued*

Overview (continued)

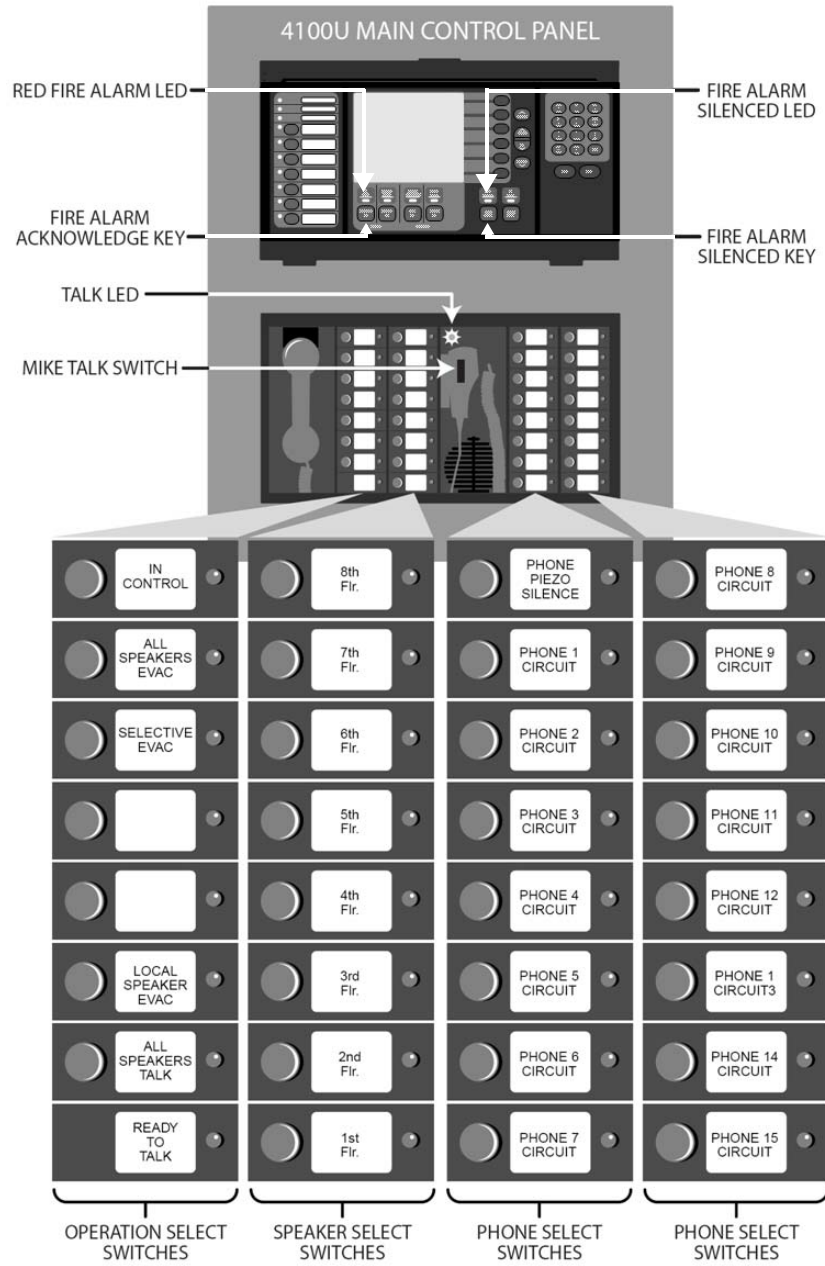


Figure 8-1. Single Channel Audio

Continued on next page.

Single Channel Audio Operation, *continued*

Evacuate Entire Building

1. Press the **All Speakers Evac** button to play the Primary Evacuation message on every speaker circuit connected to the audio system.

To indicate that the All Speakers Evac function has been activated, the LED associated with this button illuminates, as do the LEDs for each of the speaker groups (floors).

Evacuate Specific Floors when No Alarms are Present

Specific floors in the building can be manually evacuated at any time, even when no fire alarm condition is present. To do this, follow these steps.

1. Press the speaker circuit buttons corresponding to the speaker group (floors) you want to evacuate. The LEDs corresponding to the selected speaker groups illuminate.
2. Press the Selective Evac button. The LED associated with the Selective Evac button illuminates and the Primary Evacuation message plays on the selected speaker circuit.

Example: To evacuate floors 1 and 2, you would first press the buttons labeled Floor 1 and Floor 2. Their LEDs light to let you know that these are the selected floors. Next, press the Selective Evac button. The Selective Evac LED lights and the message plays on the selected floors.

Evacuate Additional Floors During an Alarm

When a fire alarm occurs, the evacuation message automatically plays on specific floors but other areas of the building may not automatically play the message. Additional floors can be evacuated, as follows:

1. Press the speaker circuit button(s) for the additional floors. When you do this, the LEDs for the selected floors illuminate and the message plays on the speaker circuits for those floors.

Note: The evacuation message does not re-start when additional speaker circuits are activated. For example, if the entire message is, "Please evacuate this Floor. Proceed to your designated assembly area," and you activate the speaker circuit button when the message is half through, only the second half of the message will play on the additional speaker circuit.

Page Entire Building

1. Press the **All Speakers Talk** button. The LED associated with this button illuminates, along with the LEDs for each of the speaker circuits.
 2. Key the microphone (depress the talk switch) and wait for the Ready to Talk LED to illuminate. When this LED is ON, talk into the microphone. The page is routed to all speaker circuits connected to the system.
-

Page Only Floors Being Evacuated

1. Key the microphone (depress the talk switch).
 2. Wait for the Ready to Talk LED to illuminate. (It will not illuminate until the evacuation message has finished playing.)
 3. Speak into the microphone to page the floors being evacuated.
-

Continued on next page.

Single Channel Audio Operation, *continued*

Page Additional Floors

While an evacuation is in progress, you can page additional floors. To do this, follow these steps.

1. Press the buttons associated with the additional floors prior to keying the microphone. The LEDs associated with these floors turn ON.
 2. Key the microphone and wait for the Ready to Talk LED to illuminate. Once this LED illuminates, speak into the microphone. The message is played on the additional floors.
-

Listen to What is Being Played Using the Local Speaker

Press the button labeled "Local Speaker" to hear what is being played at that time. The LED associated with this button illuminates when the button is pressed to indicate the function is active.

Note: If the user picks up the local phone or keys the microphone while the local speaker is active, the speaker shuts off to prevent feedback. The local speaker turns back on when the page is complete.

Silencing the Audio System

Press the Alarm Silence button on the front panel to silence the audio system. When you do this, the speakers remain on, but play nothing.

Resetting the Audio System

Press the System Reset button to reset the audio system. When you do this, the following occurs:

- All speakers and associated LEDs turn OFF.
 - The local speaker turns off.
 - Any paging that is in progress is canceled.
-

Single Channel Audio Plus Paging

Overview

A Single Channel Audio System Plus Paging can play one prerecorded message and one live message at the same time. In other words, a prerecorded message can be playing on Floor 1 while an announcement is being made on Floor 2. The hardware (microphone, switches, LEDs, etc.) is the same as single channel audio. Refer to Figure 8 1 for an example of the hardware configuration.

Evacuate Entire Building

1. Press the **All Speakers Evac** button to play the evacuation message on every speaker circuit connected to the audio system.

To indicate that the All Speakers Evac function has been activated, the LED associated with this button illuminates, as do the LEDs for each of the speaker circuits (floors).

Continued on next page.

Single Channel Audio Plus Paging, *continued*

Evacuate Specific Floors when No Alarms are Present

Specific floors in the building can be manually evacuated at any time, even when no fire alarm condition is present. To do this, follow these steps:

1. Press the speaker circuit buttons corresponding to the speaker group (floors) you want to evacuate. The LEDs corresponding to the selected speaker groups illuminate.
2. Press the Selective Evac button. The LED associated with the Selective Evac button illuminates and the primary evacuation message plays on the selected speaker circuit.

Example: To evacuate floors 1 and 2, you would first press the buttons labeled Floor 1 and Floor 2. Their LEDs light to let you know that these are the selected floors. Next, press the Selective Evac button. The Selective Evac LED lights and the message plays on the selected floors.

Evacuate Additional Floors During an Alarm

When a fire alarm occurs, the evacuation message automatically plays on specific floors but other areas of the building may not automatically play the message. Additional floors can be evacuated, as follows:

1. Press the speaker circuit button(s) for the additional floors. When you do this, the LEDs for the selected floors illuminate and the message plays on the speaker circuits for those floors.

Note: The evacuation message does not re-start when additional speaker circuits are activated. For example, if the entire message is, "Please evacuate this Floor. Proceed to your designated assembly area," and you activate the speaker circuit button when the message is half through, only the second half of the message will play on the additional speaker circuit.

Page Entire Building

1. Press the **All Speakers Talk** button. The LED associated with this button illuminates, along with the LEDs for each of the speaker circuits.
 2. Key the microphone (depress the talk switch) and wait for the Ready to Talk LED to illuminate. When this LED is ON, talk into the microphone. The page is routed to all speaker circuits connected to the system.
-

Page Only Floors Being Evacuated

1. Key the microphone (depress the talk switch).
 2. Wait for the Ready to Talk LED to illuminate. (It will not illuminate until the evacuation message has finished playing.)
 3. Speak into the microphone to page the floors being evacuated.
-

Page Additional Floors

While an evacuation is in progress, you can page additional floors. To do this, follow these steps.

1. Press the buttons associated with the additional floors prior to keying the microphone. The LEDs associated with these floors turn ON.
 2. Key the microphone and wait for the Ready to Talk LED to illuminate. Once this LED illuminates, speak into the microphone. The message is played on the additional floors.
-

Continued on next page.

Single Channel Audio Plus Paging, *continued*

Listen to What is Being Played Using the Local Speaker

Press the button labeled "Local Speaker" to hear what is being played at that time. The LED associated with this button illuminates when the button is pressed to indicate the function is active.

Note: If the user picks up the local phone or keys the microphone while the local speaker is active, the speaker shuts off to prevent feedback. The local speaker turns back on when the page is complete.

Silencing the Audio System

Press the Alarm Silence button on the front panel to silence the audio system. When you do this, the speakers remain on, but play nothing.

Resetting the Audio System

Press the System Reset button to reset the audio system. When you do this, the following occurs:

- All speakers and associated LEDs turn OFF.
- The local speaker turns off.
- Any paging that is in progress is canceled.

Two Channel Audio Operation

Overview

A Dual Channel Audio System can play one prerecorded message and one live message at the same time. In other words, a prerecorded message can be playing on Floor 1 while an announcement is being made on Floor 2.

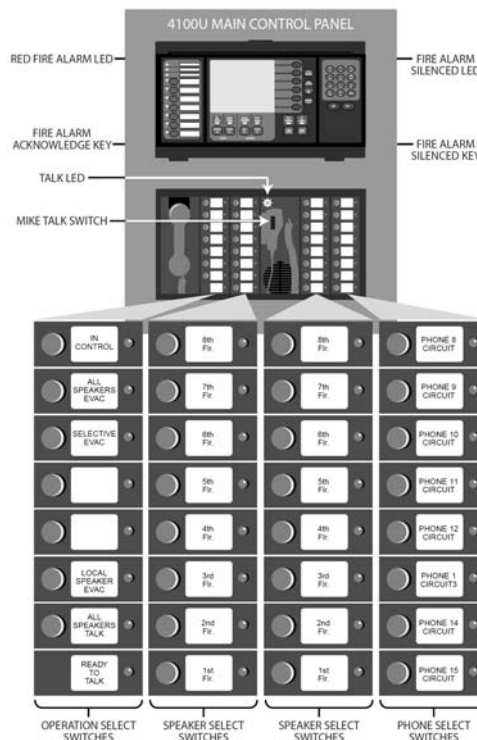


Figure 8-2. Two Channel Hardware

Continued on next page.

Two Channel Audio Operation, *continued*

Evacuate Entire Building

1. Press the **All Speakers Evac** button to play the evacuation message on every speaker circuit connected to the audio system.
 2. To indicate that the All Speakers Evac function has been activated, the LED associated with this button illuminates, as do the LEDs for each of the speaker circuits (floors).
-

Evacuate Specific Floors when No Alarms are Present

Specific floors in the building can be manually evacuated at any time, even when no fire alarm condition is present. To do this, follow these steps.

1. Press the speaker circuit buttons corresponding to the speaker groups (floors) you want to evacuate. The LEDs corresponding to the selected speaker groups illuminate.
2. Press the Selective Evac button. The LED associated with the Selective Evac button illuminates and the Primary Evacuation message plays on the selected speaker circuit.

Example: To evacuate floors 1 and 2, you would first press the buttons labeled Floor 1 and Floor 2. Their LEDs light to let you know that these are the selected floors. Next, press the Selective Evac button. The Selective Evac LED lights and the message plays on the selected floors.

Evacuate Additional Floors During an Alarm

When a fire alarm occurs, the evacuation message automatically plays on specific floors but other floors (or areas) of the building may not automatically play the message. Additional floors can be evacuated, as follows:

1. Press the speaker circuit button(s) for the additional floors. When you do this, the LEDs for the selected floors illuminate and the message automatically plays on the speaker circuits for those floors.

Note: The evacuation message does not re-start when additional speaker circuits are activated. For example, if the entire message is, "Please evacuate this Floor. Proceed to your designated assembly area," and you activate the speaker circuit button when the message is half through, only the second half of the message will play on the additional speaker circuit.

Alert Specific Floors

Follow these steps to play the Alert message on specific floors (areas) of the building.

1. Press the speaker circuit buttons corresponding to the speaker groups (floors) on which you want to play the Alert message. The LEDs corresponding to the selected speaker groups illuminate.
 2. Press the Selective Alert button. The LED associated with the Selective Alert button illuminates and the Alert message plays on the selected speaker circuit.
-

Continued on next page.

Two Channel Audio Operation, *continued*

Evacuate Floors On Which Alert Message is Playing

Follow these steps to convert the Alert message playing on a group of speakers to an Evacuation message.

1. On the EVAC display card, press the buttons corresponding to the floors currently playing the Alert message (the LEDs on the Alert display card for these floors are lit).
2. Press the Selective Evac button.

When you do this, the following occurs.

- The Alert message stops playing
- The Evacuation message starts playing
- The LEDs on the Alert Display Card turn off
- The LEDs on the EVAC display card that correspond to the buttons pressed in Step 1 turn on

Note: If other floors were playing the Evacuation message, the evacuation message would start at the point it is at on the other floors.

Page Entire Building

1. Press the All Speakers Talk button. The LED associated with this button illuminates, along with the LEDs for each of the speaker circuits.
 2. Key the microphone (depress the talk switch) and wait for the Ready to Talk LED to illuminate. When this LED is ON, talk into the microphone. The page is routed to all speaker circuits connected to the system.
-

Page Specific Floors

1. Press the buttons corresponding to the floors requiring the page. The LEDs associated with the selected buttons illuminate.
 2. Key the microphone (depress the talk switch).
 3. Wait for the Ready to Talk LED to illuminate and speak into the microphone to page the floors selected in Step 1.
-

Page Additional Floors

While a page is in progress, you can add floors to the existing page. To do this, follow these steps.

1. Press the buttons associated with the additional floors. The LEDs associated with these floors turn ON and the page is heard on their speaker circuits.
-

Listen to What is Being Played on the EVAC Channel Using the Local Speaker

Press the button labeled "Local Speaker" to hear what is being played on the EVAC channel at that time. The LED associated with this button illuminates when the button is pressed to indicate the function is active.

Note: If the user picks up the local phone or keys the microphone while the local speaker is active, the speaker shuts off to prevent feedback. The local speaker turns back on when the page is complete.

Continued on next page.

Two Channel Audio Operation, *continued*

Silencing the Audio System

Press the Alarm Silence button on the front panel to silence the audio system. When you do this, the speakers remain on, but play nothing.

Resetting the Audio System

Press the System Reset button to reset the audio system. When you do this, the following occurs:

- All speakers and associated LEDs turn OFF.
- The local speaker turns off.
- Any paging that is in progress is canceled.

Three to Eight Channel Audio System Operation

Overview

Triple channel audio:

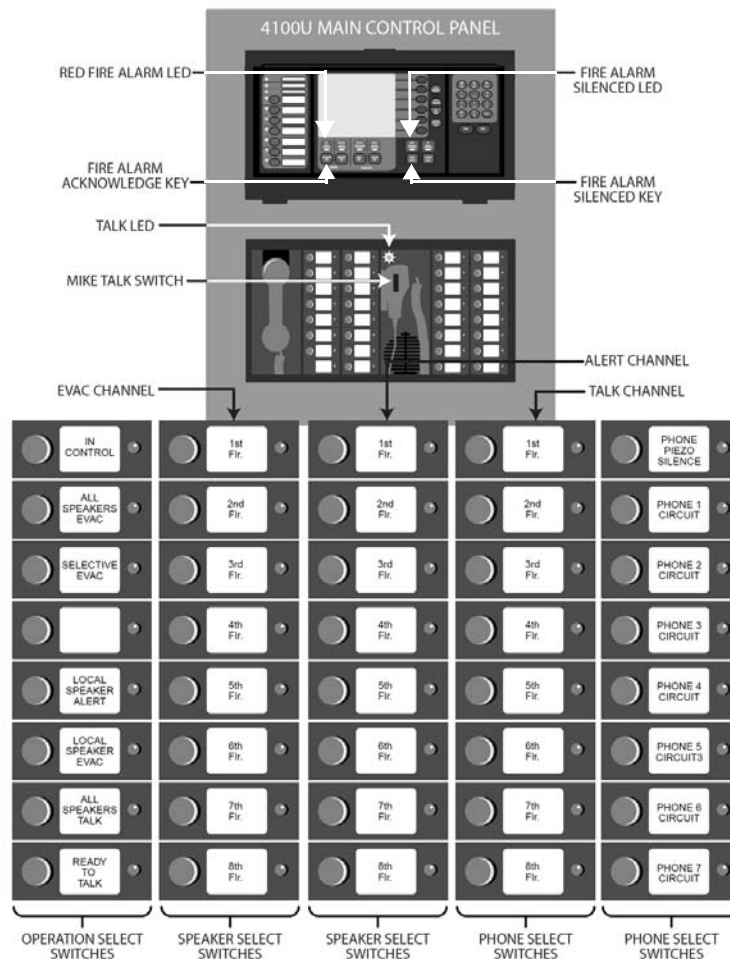


Figure 8-3. Three to Eight Channel Hardware

Continued on next page.

Three to Eight Channel Audio System Operation, *continued*

Evacuate Entire Building

Press the **All Speakers Evac** button to play the evacuation message on every speaker circuit connected to the audio system.

To indicate that the All Speakers Evac function has been activated, the LED associated with this button illuminates, as do the LEDs for each of the speaker circuits (floors).

Evacuate Specific Floors when No Alarms are Present

Specific floors in the building can be manually evacuated at any time, even when no fire alarm condition is present. To do this, follow these steps.

1. Press the speaker circuit buttons corresponding to the speaker groups (floors) you want to evacuate. The LEDs corresponding to the selected speaker groups illuminate.
2. Press the Selective Evac button. The LED associated with the Selective Evac button illuminates and the Primary Evacuation message plays on the selected speaker circuit.

Example: To evacuate floors 1 and 2, you would first press the buttons labeled Floor 1 and Floor 2. Their LEDs light to let you know that these are the selected floors. Next, press the Selective Evac button. The Selective Evac LED lights and the message plays on the selected floors.

Evacuate Additional Floors During an Alarm

When a fire alarm occurs, the evacuation message automatically plays on specific floors but other floors (or areas) of the building may not automatically play the message. Additional floors can be evacuated, as follows:

1. Press the speaker circuit button(s) for the additional floors. When you do this, the LEDs for the selected floors illuminate and the message automatically plays on the speaker circuits for those floors.

Note: The evacuation message does not re-start when additional speaker circuits are activated. For example, if the entire message is, "Please evacuate this Floor. Proceed to your designated assembly area," and you activate the speaker circuit button when the message is half through, only the second half of the message will play on the additional speaker circuit.

Alert Specific Floors

Follow these steps to play the Alert message on specific floors (areas) of the building.

1. Press the speaker circuit buttons corresponding to the speaker groups (floors) on which you want to play the Alert message. The LEDs corresponding to the selected speaker groups illuminate.
 2. Press the Selective Alert button. The LED associated with the Selective Alert button illuminates and the Alert message plays on the selected speaker circuit.
-

Continued on next page.

Three to Eight Channel Audio System Operation, *continued*

Evacuate Floors On Which Alert Message is Playing

Follow these steps to convert the Alert message playing on a group of speakers to an Evacuation message.

1. On the EVAC display card, press the buttons corresponding to the floors currently playing the Alert message (the LEDs on the Alert display card for these floors are lit).
2. Press the Selective Evac button.

When you do this, the following occurs.

- The Alert message stops playing.
- The Evacuation message starts playing.
- The LEDs on the Alert Display Card turn off.
- The LEDs on the EVAC display card that correspond to the buttons pressed in Step 1 turn on.

Note: If other floors were playing the Evacuation message, the evacuation message would start at the point it is at on the other floors.

Page Entire Building

1. Press the **All Speakers Talk** button. The LED associated with this button illuminates, along with the LEDs for each of the speaker circuits.
 2. Key the microphone (depress the talk switch) and wait for the Ready to Talk LED to illuminate. When this LED is ON, talk into the microphone. The page is routed to all speaker circuits connected to the system.
-

Page Specific Floors

1. Press the buttons corresponding to the floors requiring the page. The LEDs associated with the selected buttons illuminate.
 2. Key the microphone (depress the talk switch).
 3. Wait for the **Ready to Talk** LED to illuminate and speak into the microphone to page the floors selected in Step 1.
-

Page Additional Floors

While a page is in progress, you can add floors to the existing page. To do this, follow these steps.

1. Press the buttons associated with the additional floors. The LEDs associated with these floors turn ON and the page is heard on their speaker circuits.
-

Play Announcements on Specific Floors

Multi channel audio systems have the capability to play specific announcements on specific floors. To do this, follow these steps.

1. Press the button corresponding to the floors.
2. Press the Start All Selected button.

When you do this, the LEDs on the display card light and the announcement plays over the speakers.

Continued on next page.

Three to Eight Channel Audio System Operation, *continued*

Listen to What is Being Played on the EVAC Channel Using the Local Speaker

Press the button labeled "Local Speaker" to hear what is being played on the EVAC channel at that time. The LED associated with this button illuminates when the button is pressed to indicate the function is active.

Note: If the user picks up the local phone or keys the microphone while the local speaker is active, the speaker shuts off to prevent feedback. The local speaker turns back on when the page is complete.

Listen to What is Being Played on the Alert Channel Using the Local Speaker

Press the button labeled "Local Speaker Alert" to hear what is being played on the Alert channel at that time. The LED associated with this button illuminates when the button is pressed to indicate the function is active.

Note: If the user picks up the local phone or keys the microphone while the local speaker is active, the speaker shuts off to prevent feedback. The local speaker turns back on when the page is complete.

Silencing the Audio System

Press the Alarm Silence button on the front panel to silence the audio system. When you do this, the speakers remain on, but play nothing.

Resetting the Audio System

Press the System Reset button to reset the audio system. When you do this, the following occurs:

- All speakers and associated LEDs turn OFF.
 - The local speaker turns off.
 - Any paging that is in progress is canceled.
-

