

4100 Fire Indicator Panel Operator's Manual



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Manufacturer's Details

Approvals

Australian Standard AS 4428.1, Control and Indicating Equipment.
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Panel Details

Panel Sticker

4100 Panel Supplied by:	
Installation Location	
Contract/Job Number	
As installed, FIP System Drawing Number	
Panel Installation Date	
Panel Commissioned Date	
Maintenance Company	
Telephone	
Service Contract	

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 Simplex.



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 (use the 553-484 Static Control Kit).
- 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.

Table of Contents

Approvals	V
Manufactured by	V
Copyright and Trademark Information	V
Chapter 1 Overview	1-1
Introduction	1-1
In this Chapter	1-1
Door Up – Firefighter Facility Operator Interface	1-2
Introduction	1-2
Indicators	1-3
Alphanumeric Display	1-4
Door Down – Service Related Features	1-6
Introduction	1-6
Control Keys	1-6
F1, F2, F3, and F4 Keys	1-7
Display Keypad	1-7
Action Keys	1-9
Entry Keypad	1-10
FAULT / ISOLATE Keys	1-10
Chapter 2 Managing Alarm Conditions with the Firefighter Facility	2-1
Introduction	2-1
In this Chapter	2-1
Acknowledging Alarms	2-2
What the System Does When an Alarm Occurs	2-2
Overview – Acknowledging Alarms	2-2
Procedure	2-2
Isolating (Silencing) the EWS or External Bell	2-4
Overview	2-4
Isolating the EWS	2-4
Isolating the External Bell	2-4
Resetting Points and Zones	2-5
Overview	2-5
Reset Procedure	2-5
Isolating / De-isolating a Point / Zone	2-7
Overview	2-7
Isolating a Point / Zone Currently in Alarm	2-7
De-Isolating a Point / Zone Currently in Alarm	2-8
Viewing the Status of an Individual Point within a Virtual Zone	2-9
Overview	2-9
Procedure	2-9
Chapter 3 Managing Fault and Isolate Conditions	3-1
Introduction	3-1
In this Chapter	3-1
Acknowledging Fault or Isolate Conditions	3-2

How the 4100 Indicates the Presence of a Fault.....	3-2
What Acknowledge Does.....	3-2
Panel Operating Procedure – Fault Condition.....	3-3
Resetting Fault Conditions	3-3
Viewing Fault or Isolate Conditions	3-4
Overview.....	3-4
Chapter 4 Testing and Controlling Points.....	4-1
Introduction.....	4-1
In this Chapter	4-1
Alarm and Fault Test for Monitor Points.....	4-2
Alarm Test	4-2
Fault Test.....	4-2
Isolating and De-isolating Non-Alarm points	4-3
Overview.....	4-3
Isolating a Non-Alarm Point.....	4-3
De-Isolating a Non-Alarm Point	4-3
Virtual Zones.....	4-3
Disabling and Enabling Points.....	4-4
Overview.....	4-4
Disabling a Point.....	4-4
Enabling a point.....	4-4
Virtual Zones.....	4-5
TURNING A POINT ON OR OFF.....	4-6
Overview.....	4-6
Turning a Point OFF	4-6
Turning a Point ON.....	4-6
Returning a Point to Automatic Operation	4-6
Chapter 5 Selecting Points for Status or Control	5-1
Introduction.....	5-1
In this Chapter	5-1
Selecting Points from the Menu.....	5-2
Overview.....	5-2
Procedure	5-2
Selecting Points with the Entry Keypad.....	5-3
Overview.....	5-3
Selecting Points	5-4
Chapter 6 Displaying and Modifying Detailed Point Attributes.....	6-1
Introduction.....	6-1
In this Chapter	6-1
Display-Only Attributes	6-2
Step 1. Select a Point	6-2
Step 2. Press the FUNCTION Key to See the Attributes	6-2
Summary of Display-Only Attributes.....	6-2
Modifiable Point Attributes.....	6-5
Overview.....	6-5
Step 1. Select a Point	6-5
Step 2. Press the FUNCTION Key to See the Attributes	6-5

Summary of Modifiable Attributes.....	6-6
Chapter 7 Setting Access Levels and Logging In.....	7-1
Introduction	7-1
In this Chapter	7-1
Operator Access Levels	7-2
Overview.....	7-2
Logging In and Out of the System.....	7-4
Introduction	7-4
Log In Procedure	7-4
Log Out Procedure	7-6
Chapter 8 Viewing and Clearing Historical Logs	8-1
Introduction	8-1
In this Chapter	8-1
Viewing and Clearing the Historical Alarm and Fault Logs	8-2
Viewing Logs	8-2
Clearing the Logs.....	8-2
Chapter 9 Service-Related Operations	9-1
Introduction	9-1
In this Chapter	9-1
Setting Time and Date.....	9-2
Procedure	9-2
Displaying Software Revision	9-4
Overview.....	9-4
Viewing Card Status Information	9-5
Procedure	9-5
Power Supply/Charger Voltage and Current Readings.....	9-5
Displaying Network Node Information	9-6
Overview	9-6
Procedure	9-6
Lamp Test.....	9-7
Procedure	9-7
Displaying MAPNET Device Status.....	9-8
Introduction	9-8
MAPNET Display Information.....	9-8
MAPNET Point Addressing	9-8
How to Display a MAPNET System Point	9-8
What To Do If a MAPNET Point Will Not Reset	9-8
TrueAlarm Sensor Display Values.....	9-9
Chapter 10 System Test Procedures	10-1
Introduction	10-1
In this Chapter	10-1
Walk Test™	10-2
Overview.....	10-2

WalkTest™ by Group.....	10-2
Zone Coding Option.....	10-3
Silent Walk Test.....	10-4
Walk Test Operation.....	10-5
Walk Test™ FEATURES.....	10-6
Introduction.....	10-6
Abort Audible and Delay on Reactivation.....	10-7
Active/Not Active.....	10-7
Auto Abort on Alarm.....	10-7
Auto Abort on Time-Out.....	10-7
Control List.....	10-7
Delay Before Reset.....	10-7
Logging Option (Log/No Log).....	10-8
Monitor Zone List.....	10-8
Programmer Configuration.....	10-8
Sig/No Sig (Silent Walk Test™ Selection).....	10-8
System Fault.....	10-9
Fault Audible.....	10-9
Zone Code/Zero Code.....	10-9
Walk Test™ PROCEDURES.....	10-10
How to Enter Walk Test Mode.....	10-10
How to Exit Walk Test Mode.....	10-12
How to Turn a Point Off.....	10-13
How to Return a Point to Auto.....	10-15
How to Enable a Disabled Point.....	10-16
What to do in Case of System Malfunction.....	10-17

Chapter 11 Printing Reports..... 11-1

Introduction.....	11-1
In this Chapter.....	11-1
Setting Printer Options.....	11-2
Available Options.....	11-2
Printing a Report.....	11-3
Overview.....	11-3
Overview.....	11-4

Chapter 12 Maintenance Procedures..... 12-1

Introduction.....	12-1
In this Chapter.....	12-1
Weekly Tests.....	12-2
Procedure.....	12-2
Procedure.....	12-3
Monthly Tests.....	12-3
Annual Tests.....	12-4
Procedure.....	12-4
Introduction.....	1
In this Chapter.....	1
Compatible Actuating Devices.....	2
Analog Addressable Sensors.....	2
Tyco Range.....	3
Hochiki Range.....	3
Olsen Range.....	3
Apollo Range.....	4

Apollo Range	4
Panelect/ Panasonic	4
Compatible Batteries	5
Compatible Addressable Field Devices.....	6
4100 Specifications	7
Expansion Modules	7
INDICATORS and DISPLAY	10
SOFTWARE FEATURES	10

Chapter 1 Overview

Introduction

This chapter describes the operator interface panel for the following versions of the 4100 Fire Indicator Panel (FIP).

- A 4100 Fire Indicator Panel operating in standalone mode.
- A 4120 Network Indicator Panel (which is a 4100 connected to a network).
- A 4120-8821 Network Display Unit with Command Centre.

Note: The operations described in this manual may vary due to custom programming and local code requirements.

In this Chapter

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

Topic	See Page #
Door Up – Firefighter Facility Operator Interface	1-2
Door Down – Service Related Features	1-6

Door Up – Firefighter Facility Operator Interface

Introduction

When the panel access door is in the up position, as shown in **Figure 1-1**, the keys, alphanumeric display, and indicators that appear are referred to as the *Firefighter facility*. It is the area in the center of the panel with the red line containing the text “FIREFIGHTER FACILITY.” The Firefighter Facility is an AS 4428-compliant interface that provides firefighters with a standard set of alarm displays and controls for use in managing fire alarm conditions.

The components of the Firefighter Facility – Indicators, Alphanumeric display, and Firefighter Facility keys – are discussed in separate sections below.

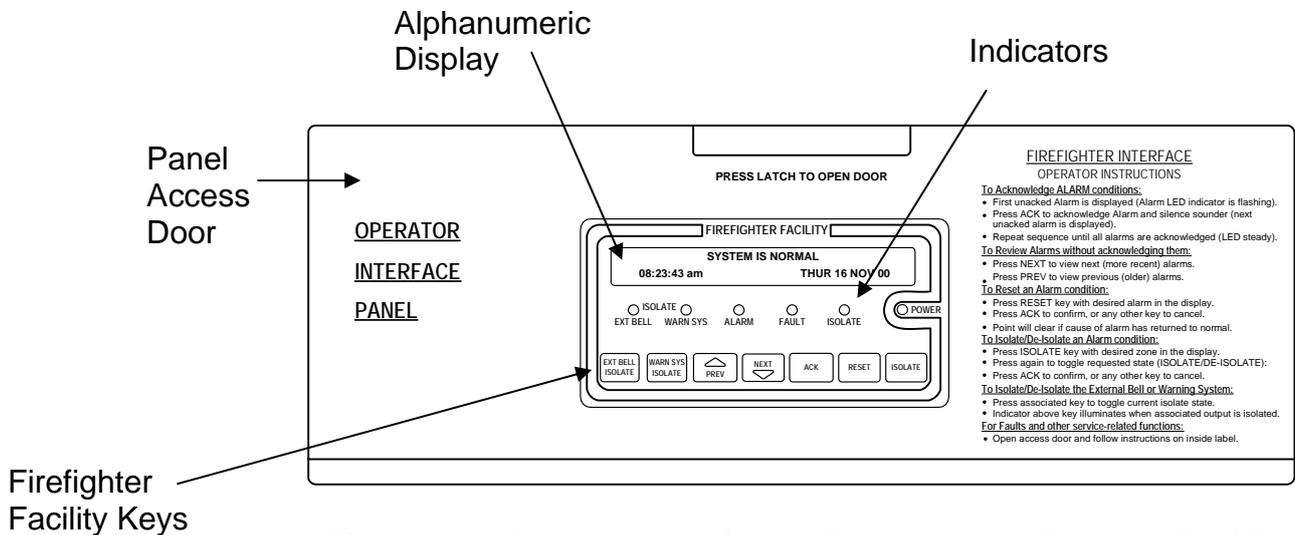


Figure 1-1. Operator Interface – Panel Access Door Up Position

Continued on next page

Door Up – Firefighter Facility Operator Interface, *Continued*

Indicators

Table 1-1 provides an introduction to the indicators located on the Firefighter Facility.

Table 1-1. Firefighter Facility Indicators

Indicator State	Description
EXT BELL Isolate Indicator	Indicator On Steady. Indicates the FIP's External Bell output is isolated. The bell connected to this output identifies the building location nearest the FIP to the fire brigade.
WARN SYS Isolate Indicator	Indicator On Steady. Indicates the FIP's Early Warning System (EWS) output is isolated. The EWS consists of horns and strobes used to notify building occupants that an alarm condition exists.
Alarm Indicator	Indicator Flashing. Indicates the presence of an unacknowledged alarm condition; refer to Chapter 2 for information on acknowledging alarms. Indicator On Steady. Indicates the presence of an alarm condition that has already been acknowledged by an operator. The condition causing the alarm must clear and the alarm must reset before the panel can return to normal. Refer to Chapter 2 for information on resetting an alarm.
Fault Indicator	Indicator Flashing. Indicates the presence of a fault condition. These types of conditions are considered to be service conditions and cannot be managed via the Firefighter Facility. Refer to Chapter 3 for information on fault conditions. Indicator On Steady. Indicates the presence of an acknowledged fault condition. These types of conditions are considered to be service conditions and cannot be managed via the Firefighter Facility. Refer to Chapter 3 for information on fault conditions.
ISOLATE Indicator	Indicator On Steady. Indicates the presence of an acknowledged isolate condition. Indicator Flashing. Indicates the presence of an unacknowledged isolate condition. Note that this rarely occurs, as the system automatically acknowledges most isolate conditions. Refer to Chapter 2 for information on isolating and de-isolating points in alarm.
POWER Indicator	Indicator On Steady. Indicates AC power is present at the panel.

Continued on next page

Door Up – Firefighter Facility Operator Interface, *Continued*

Alphanumeric Display

The 4100 FIP uses the alphanumeric display for the following:

- Communicate the presence of abnormal system conditions (alarms, faults, and isolates) to the operator.
- Provide prompts and messages related to specific system operations. For example, when logging in to the system to perform service-related functions, a message appears on the display to indicate the current access level. After pressing the appropriate key, this message is followed by a prompt directing the user to enter a passcode associated with the new access code.

Display scrollable lists of system points. Points are the individual input and output components of the 4100 FIP. Smoke detectors, relays, horns, strobes, etc. are all examples of points. In some cases, an operation must be performed on a specific point. The alphanumeric display allows you to step through point lists for each type of device that can be wired to the 4100.

The Firefighter Facility keys allow fire brigade personnel to manage alarm conditions. The keys and their function are defined by the AS 4428 standard. Refer to Table 1-2 for information on each of these keys.

Continued on next page

Table 1-2. Firefighter Facility Keys

Key	Description
EXT BELL ISOLATE	Used to isolate and de-isolate the 4100 output connected to the External Bell. Pressing this key toggles the state of the output (i.e., pressing it when the External Bell is not isolated causes the system to isolate the bell. Likewise, pressing this key when the External Bell is isolated causes the system to de-isolate the bell).
WARN SYS ISOLATE	Used to isolate and de-isolate the 4100 output connected to the building's warning system (horns and strobes). Pressing this key toggles the state of the output (i.e., pressing it when the warning system is not isolated causes the system to isolate the warning system. Likewise, pressing this key when the warning system is isolated causes the system to de-isolate the warning system).
PREV	Used to scroll through lists, menus, or menu options. Pressing this key once shows the previous item in the list.
NEXT	Used to scroll through lists, menus, or menu options. Pressing this key once shows the next item in the list.
ACK	Used to acknowledge the presence of an alarm condition. Refer to Chapter 2 of this manual for information on these functions.
RESET	Used to reset a specific point or zone. If no point or zone is in alarm, pressing this key performs a system reset.
ISOLATE	Used to isolate or de-isolate a specific fire point or zone.

Door Down – Service Related Features

Introduction

The panel access door normally conceals the keys identified in Figure 1-2. Each of these keys is discussed in a separate section later in this chapter.

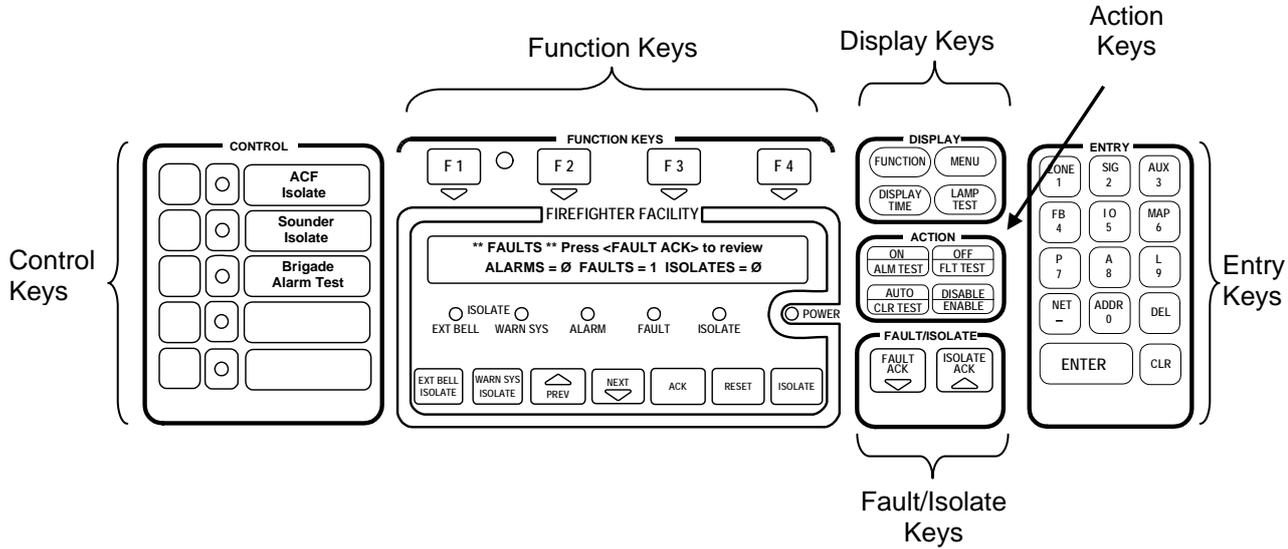


Figure 1-2. Door Down – Service Keys

Control Keys

The control keys and their associated LEDs are located on the far left of the panel. A custom label is used to identify each key's function. These keys are programmable, meaning their function depends on how they are programmed. Contact your local Simplex office for more information on the way in which these keys have been programmed for your system. Note that the use of these keys may be password-protected. Example uses for these keys are:

- Battery Test
- ACF Isolate

CAUTION: OPERATION OF THESE KEYS MAY CAUSE ALARM SIGNALS TO SOUND OR FAULT CONDITIONS TO BE GENERATED BY THE SYSTEM.

These keys can be pressed anytime, and the key feedback (tone-alert beep) may be the only acknowledgment of the action. Typically, the indicator tracks the function and illuminates each time its respective key is pressed.

Continued on next page

Door Down – Service Related Features, *Continued*

F1, F2, F3, and F4 Keys

Four function keys (<F1>, <F2>, <F3>, and <F4>) are located directly above the alphanumeric display. Within the menu options, these key definitions will change as required to perform specific actions for selected menu options and within point displays. Some menu options may not require any key operation, while others will require all four. The definitions of each physically activated key will be shown on the top line of the alphanumeric display as an aid to the user. Pressing a key immediately performs its defined task. Pressing a key that has no defined action for the current function has no effect, however, the tone-alert will acknowledge the key press with a "beep".

Display Keypad

The "DISPLAY " keypad provides keys that allow users with appropriate access level the ability to perform controlling functions on the system zones, MAPNET devices, signals, and auxiliary control relays. Four keys are associated with the Display keypad.

Key	Description
<p><FUNCTION> Key</p>	<p>The <FUNCTION> key is used to obtain more information concerning the point in the display. Pressing the <FUNCTION> key scrolls through all the status information. This data will be displayed on the bottom line.</p> <p>A point will normally be displayed with its forty character custom label on the top line. If no custom label exists for the point, the top line will display the point identifier.</p> <p>The bottom line will contain the device type and its present status. Point types are assigned when the system is configured, and are determined by their card type and the physical devices on its zones. The following are available for display on the alphanumeric display.</p> <ul style="list-style-type: none"> • Point address and Zone number. • Card type and Point type. • Present Status (Normal, Alarm, Fault). • Disconnect/Disable Status. • McCulloh Fault (Status of Class "A" Cards). • Relay status for Control or Signal Points. • Verification Tallies for Verification Zones. • Coding Status for Coded Zones.

Continued on next page

Door Down – Service Related Features, *Continued*

Display Keypad,
(continued)

Key	Description
	<ul style="list-style-type: none"> • Control Priority for Relays. • Feedback Point Status for Outputs. • Counts for Lists and Virtual Zones. <p>In addition to the items above, the following items are for TrueAlarm sensors only:</p> <ul style="list-style-type: none"> • Present sensitivity selected • Average value • Alarm value • Current value (per cent of alarm) • Peak value (per cent of Alarm)
<p><MENU> Key</p>	<p>The <MENU> key will call up the Main Menu and display the first option on the list. The Main Menu provides operations which are separate from those used for fire alarm conditions. These non-critical functions are selected with the <MENU> key.</p> <p>The <NEXT> and <PREVIOUS> keys, located within the Firefighter Facility are used to scroll through the menu options. The <ENTER> key selects the displayed option. The following are the Main Menu options:</p> <ul style="list-style-type: none"> A. Access Level B. Set Time and Date? C. Display Historical Alarm/Fault Log? D. Select a List of Points? E. Display Software Revision Level? F. Display Card Status? G. Enable Walk Test? H. Run Diagnostic Functions? I. Programmer Download? J. Exit Menu List?

Continued on next page

Door Down – Service Related Features, *Continued*

Display Keypad,
(continued)

Key	Description
<LAMP TEST> Key	Pressing the <LAMP TEST> key will turn on the five Control Key indicators, Isolate indicator, System Alarm indicator, System Fault indicator, and the LEDs on local indicator/switch modules. All segments on the alphanumeric display will be turned on as a test pattern. After a three seconds sustained press, the Tone-alert will be turned on. When the <LAMP TEST> key has been released, all LEDs, alphanumeric display, and tone-alert will be restored to their previous states.
<DISPLAY TIME> Key	Pressing this key does either of the following: <ul style="list-style-type: none"> • When a point is selected, it displays the time at which a specific alarm, fault, or isolate event occurred. To do this, you first press the ALARM ACK, FAULT ACK, or ISOLATE ACK key to display the list of events. Use the NEXT or PREV keys to scroll through the list of events. When the event you want is displayed, press the DISPLAY TIME key. The system then searches the appropriate history log and displays the last alarm, trouble, or isolate condition associated with the selected point. • Displays the system time when a point is not selected.

Action Keys

The action keys allow you to quickly perform common control functions. There are four action keys on the display/action keypad:

- Disable/Enable
- Off/FLT TEST - Turning a point OFF
- On/ALM TEST - Turning a point ON
- Auto - Return a point to Auto Control

Continued on next page

Door Down – Service Related Features, *Continued*

Entry Keypad

The ENTRY keypad is located to the far right on the operator interface panel and is concealed by the access door. There are fourteen keys on this keypad as shown below.

These keys are used to enter passcodes, identifiers, or numeric data for the system. Whenever the system expects numeric data input, the user is notified with a prompt. Numeric data input requires an **<ENTER> key** press to complete the keypad entry. Numeric keys also double as "prefix" keys. When entering a point, a prefix key must be used to identify how the entry is made. Pressing the zone key (key 1) indicates that the next numeric entry is a zone number. Pressing the address key (key 0) indicates that an address identifier is entered.

The <CLR> key is used to cancel operations and escape from menus and return to the System Normal screen.

FAULT / ISOLATE Keys

There are two keys – FAULT ACK and ISOLATE ACK – contained in the area labeled FAULT/ISOLATE keys. These keys are used to acknowledge an unacknowledged fault or isolate condition. If no unacknowledged fault or isolate conditions exist, these keys select either the Fault or Isolate list.

Chapter 2

Managing Alarm Conditions with the Firefighter Facility

Introduction

An *alarm condition* occurs when an actuating device (such as a manual call point, smoke detector, etc.) activates. The 4100 indicates the presence of the alarm condition through messages it displays on the alphanumeric display, by illuminating the ALARM indicator, and by activating the building's EWS and external bell.

This chapter describes using the Operator Interface Panel keys to investigate and manage alarm conditions.

In this Chapter

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

Topic	See Page #
Acknowledging Alarms	2-2
Isolating (Silencing) the EWS or External Bell	2-4
Resetting Points and Zones	2-5
Isolating / De-isolating a Point / Zone	2-7
Viewing the Status of an Individual Point within a Virtual Zone	2-9

Acknowledging Alarms

What the System Does When an Alarm Occurs

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

- Red ALARM indicator flashes
- Sounder (buzzer) pulses
- EWS and External bell activates

Alphanumeric display on the interface panel shows alarm zone, location, type (smoke, call point, etc.), alarm count (for example, 1 of 2), and the status of the alarm condition. An example is shown in Figure 2-1.

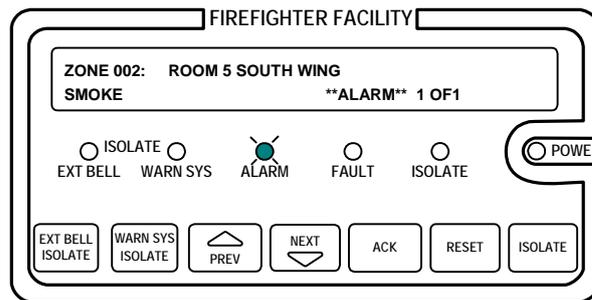


Figure 2-1. Firefighter Facility, Showing Typical Alarm

Overview – Acknowledging Alarms

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 the alarm and stores that information in the system’s historical log.

If multiple alarms are present, the system displays specific data for the next alarm when you press the <ACK> key.

The <ACK> key, which is used to acknowledge alarms, is located within the Firefighter’s Facility. Refer to Figure 2-1 for its location.

Procedure

Use the following procedure to acknowledge alarm(s).

1. Unlock and open the enclosure door. **Read** the alphanumeric display within the Firefighter Facility. It reports the location of the alarm, the type of alarm (in the example below, the type is SMOKE, indicating a smoke detector is in alarm), and the number of alarm conditions.



Continued on next page

Acknowledging Alarms, *Continued*

Procedure, (*continued*)

2. Press the <ACK> key. The manner in which the system responds depends on whether there are multiple alarms present, as follows:

- **If a Single Alarm is Present.** If the alphanumeric display reads 1 of 1 in the lower right corner, there is only a single alarm condition present in the system.

In this case, pressing the ACK key causes the following to occur:

- Sounder silences
- ALARM indicator changes from flashing to steady ON
- The zone status updates (ACKD ALARM appears in the display) to indicate that the alarm has been acknowledged.

- **If Multiple Alarms are Present.** If the alphanumeric displays shows the presence of more than one alarm (for example, text such as 1 of 5 appears in the lower right corner of the display), there are multiple alarm conditions present in the system.

Follow these steps if multiple alarms are present.

1. Press the ACK key once. When you do this, the following occurs.

- Sounder silences
- ALARM indicator remains flashing (when all alarms have been acknowledged, the alarm indicator changes from flashing to steady ON)
- Alphanumeric display updates the zone status (ACKD ALARM)
- Information on the next alarm in the list automatically appears

2. Press the NEXT or PREV key to see the next unacknowledged alarm. Each time an unacknowledged alarm appears in the display, press the ACK key (**reading the display each time to determine the zone, location, and type of alarm**) until the ALARM indicator changes from flashing to steady ON. When this occurs, all alarms have been acknowledged.

Note: The operation of the NEXT and PREV keys depends on whether there are unacknowledged alarms present in the system. If there are unacknowledged alarms in the system, the NEXT and PREV keys scroll through the list of unacknowledged alarms – i.e., acknowledged alarms do not appear in the list. If all alarms have been acknowledged, the NEXT and PREV keys scroll through the list of acknowledged alarms.

Isolating (Silencing) the EWS or External Bell

Overview

When an alarm condition exists, the building's warning system activates to warn the building's occupants about the alarm condition. In addition, the external bell sounds to indicate the building location nearest the 4100 FIP.

Isolating the EWS

The following occurs when the <WARN SYS ISOLATE> key is pressed.

- WARN SYS ISOLATE indicator is steady ON.
- The EWS turns OFF.

The 4100 is unable to activate the EWS again until the <WARN SYS ISOLATE> key is pressed again. When all zones have been reset, you need to press this key again to "reset" the 4100's connection to the EWS.

Isolating the External Bell

The <EXT BELL ISOLATE> key toggles the state of the external bell output.

When the output is on and the bell is sounding due to an alarm condition, pressing the <EXT BELL ISOLATE> key does the following

- EXT BELL ISOLATE indicator is steady ON.
- The External Bell turns OFF.

The 4100 is unable to activate the external bell again until the <EXT BELL ISOLATE> key is pressed again. When all zones have been reset, you need to press this key again to "reset" the 4100's connection to the external bell.

Resetting Points and Zones

Overview

Each point or zone that goes into alarm must be individually reset before the system can be returned to a normal state. For zones, the state of all devices within the zone must first return to normal (i.e., all alarm conditions within the zone must clear) before the zone reset can be performed. This is also true for individual points (i.e., the point's alarm condition must be clear) before the point can be reset.

Reset Procedure

1. If multiple alarms are present in the system, use the <NEXT> and <PREV> keys, located in the Firefighter Facility portion of the operator interface panel, to scroll through the alarm list until the alarm that you want to reset appears in the display. In the example, below, there are five alarms in the system (1 of 5 appears in the lower right corner).

```
ZONE 002:          ROOM 5 SOUTH WING
SMOKE              ACKD-ALARM
1 of 5
```

2. Press the <RESET> key. The display updates, directing you to press the <ACK> key to confirm the reset operation.

```
Press ACK to confirm RESET
Monitor Zone: ZN2
```

3. Press the <ACK> key. What happens next depends on whether the alarm condition is clear or not, as follows:
 - **If the Alarm Condition is Clear.** In this case, the system outputs two messages. One indicates that the system is processing the action. This message is followed by a message stating, "Alarm Cleared – Zone Reset Complete." If the system the individual acknowledge option is enabled on the system, you may also need to acknowledge the alarm again when it clears.
 - **If the Alarm Condition is Not Clear.** The system attempts to reset the zone for 25 seconds. During this interval, it displays a message that reads, "Reset in Progress -- Waiting for Clear." A 25 second countdown timer also appears in the display. When the timer hits zero, the system displays a message that reads, "Alarm not Cleared – Zone Reset Not Complete." (If the reset is being performed on an individual point, the word "Zone" does not appear.)

Continued on next page

Resetting Points and Zones, *Continued*

Note: If this occurs, you must clear (fix) the condition that is causing the alarm or isolate the zone from the panel. Refer to “Isolating a Point / Zone” later in this chapter for information on doing this.

4. If other zones are in alarm, you must reset or isolate each before the system can reset. Repeat Steps 1 through 3 above to reset all zones. When all zones are reset or isolated, the system automatically resets. When it does this, it displays one message that reads “System Reset in Progress” and follows this with a message that reads “No Alarms Present, System Reset Complete.”
-

Isolating / De-isolating a Point / Zone

Overview

Situations such as malfunctioning detectors and damaged wiring prevent a zone from being reset, which in turn prevents the system from being reset. Isolating a point / zone allows the system to be reset while repairs are being made.

Isolating a Point / Zone Currently in Alarm

1. Acknowledge the alarm, as described in “Acknowledging Alarms” earlier in this chapter.
2. If multiple alarms are present in the system, use the <NEXT> and <PREV> keys, located in the Firefighter Facility portion of the operator interface panel, to scroll through the alarm list until the point / zone you want to isolate appears in the display. In the example, below, there are five alarms in the system (1 of 5 appears in the lower right corner).

```
ZONE 002:          ROOM 5 SOUTH WING
SMOKE              ACKD-ALARM
1 of 5
```

3. Press the <ISOLATE> key. (This key is located in the Firefighter Facility.) The display updates, directing you to press the <ACK> key to confirm the isolate operation.

```
Press ACK to confirm ISOLATE
Monitor Zone: ZN2
```

4. Press the <ACK> key. The system does the following:
 - Displays two messages “Processing Action” and “Action Taken.”
 - If this is the first point / zone to be isolated, it illuminates the ISOLATE indicator. This indicator remains lit until all isolated points / zones are de-isolated.
 - Includes the text “ISOL-ALARM” within the alarm’s text message.

Isolating / De-isolating a Point / Zone, *Continued*

De-Isolating a Point / Zone Currently in Alarm

In most cases, you should reset the alarm before de-isolating the point. This prevents the point from going into an alarm condition again when the point is de-isolated.

1. Acknowledge the alarm, as described in “Acknowledging Alarms” earlier in this chapter.
2. If multiple alarms are present in the system, use the <NEXT> and <PREV> keys, located in the Firefighter Facility portion of the operator interface panel, to scroll through the alarm list until the point / zone that you want to de-isolate appears in the display.
3. Press the <ISOLATE> key. The display updates, directing you to press the <ACK> key to confirm the de-isolate operation.

```
Press ACK to confirm DE-ISOLATE
Monitor Zone: ZN2
```

4. Press the <ACK> key.

```
Press ACK to confirm, ISOLATE to
CANCEL
ZN2           will ALARM if DE-
ISOLATED
```

5. Press the <ACK> key again. The system responds by doing the following:
 - Displays two messages “Processing Action” and “Action Taken.”
 - If there are no other isolated points / zones, the system extinguishes the ISOLATE indicator. (This indicator remains lit until all isolated points / zones are de-isolated.)
 - Removes the text “ISOL-ALARM” within the alarm’s text message.
 - Activates the EWS, if it is not isolated.

See “Resetting Points and Zones” for information on resetting a de-isolated point.

Viewing the Status of an Individual Point within a Virtual Zone

Overview

Virtual zones are collections of points that are treated as a single point. System actions such as acknowledge and reset affect all points within a zone. When a zone cannot be reset, it is important to determine which specific point within the zone is preventing the zone from being reset.

Procedure

To view the status of an individual point within a virtual zone, follow the procedure outlined below.

1. If multiple alarms are present in the system, use the <NEXT> and <PREV>, located in the Firefighter Facility portion of the operator interface panel, to scroll through the alarm list until the zone whose individual point status you want to determine is displayed.
 2. Lower the door and press the <ENTER> key.
 3. Use the <NEXT> and <PREV> keys to scroll through the devices within the zone. When the faulty device appears, "FIRE ALARM" will appear in the lower right corner of the display, indicating the specific point that is causing the alarm.
-

Chapter 3

Managing Fault and Isolate Conditions

Introduction

Fault conditions are used to indicate the presence of a field wiring problem (circuit break or ground) somewhere between the 4100 and one of its points. Faults are also used to indicate a problem with the 4100's option cards, power supplies, network card, etc.

Isolate conditions are points that have been manually isolated by an operator.

This chapter describes using the operator interface panel keys to investigate the details of the fault condition, and to view isolate conditions.

In this Chapter

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

Topic	See Page #
Acknowledging Fault or Isolate Conditions	3-2
Viewing Fault or Isolate Conditions	3-4

Acknowledging Fault or Isolate Conditions

How the 4100 Indicates the Presence of a Fault

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

- Yellow indicator, labeled “FAULT” or “ISOLATE” flashes
- Tone-alert (piezo buzzer) sounds steady

The alphanumeric display on the interface panel indicates the fault or isolate condition, as shown below.

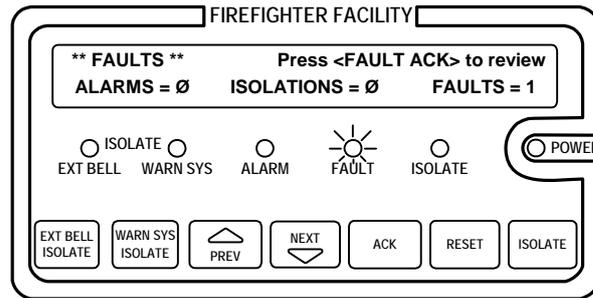


Figure 3-1. Interface Panel Showing Fault Condition

What Acknowledge Does

The first step in managing a fault or isolate condition is to *acknowledge* the condition. Acknowledging a fault or isolate condition 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 <FAULT ACK> or <ISOLATE ACK> key, the system displays specific data on the location of the condition.

Note: Isolate conditions typically auto-acknowledge and most times do not require manual intervention. In some cases, however, you may be required to manually acknowledge the isolate condition as described in this section.

It is important to understand that the 4100 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 <FAULT ACK> or <ISOLATE ACK> key acknowledges **every** point currently reporting a fault or isolate condition.

Continued on next page

Acknowledging Fault or Isolate Conditions, *Continued*

What Acknowledge Does, *(continued)*

Individual Acknowledge. If individual acknowledge is enabled, the <FAULT ACK> or <ISOLATE ACK> key must be pressed repeatedly to individually acknowledge each fault or isolate condition.

The <FAULT ACK> and <ISOLATE ACK> keys are located under the cover of the panel. If these keys are passcode-protected (by default, they are not), you cannot use these keys to acknowledge fault or isolate unless you have the required passcode.

Panel Operating Procedure – Fault Condition

1. Unlock and open the panel door. The alphanumeric display shows a message similar to the following. (This example shows a fault. The screen for isolate conditions is similar.

```
  **FAULT**  Press FAULT ACK to
review.
ALARMS = 0  FAULTS = 1  ISOLATES = 0
```

2. Press the <FAULT ACK> or <ISOLATE KEY> key. Both are yellow keys, located to the right of the Firefighter facility. The manner in which the system responds depends on whether global or individual acknowledge is enabled on the panel.
 - **Global Acknowledge.** The panel acknowledges all faults that are currently active, displays the message “Global Acknowledge” for approximately two seconds, turns off the sounder, and changes the FAULT or ISOLATE indicator from a flashing state to ON steady.
 - **Individual Acknowledge.** The panel acknowledges only the fault that is currently displayed on the alphanumeric display. If additional faults remain, the sounder does not turn off and the FAULT or ISOLATE indicator continues to flash. Use the NEXT and PREV keys to display information on the other faults and then use the <FAULT ACK> or <ISOLATE ACK> key to acknowledge them.
-

Resetting Fault Conditions

Most faults *automatically clear* from the system when the problem causing the fault (wiring, device, etc.) has been fixed. Some faults, such as open circuit faults on MAPNET and RUI communications lines, latch until they are reset manually or cleared by pressing the <RESET> key once the fault condition has been fixed.

Viewing Fault or Isolate Conditions

Overview

You can view the list of acknowledged fault or isolate conditions at any time by using the following procedure.

1. Press the <FAULT ACK> or <ISOLATE ACK> key to enter the fault or isolate list. The first fault or isolate condition in the list appears in the display. The top line indicates the custom label of the point. The bottom line contains two parts. The left side of the bottom line shows the type of device. The right side of the bottom line identifies the type of condition, fault or isolate.
 2. At this point, each time you press the <FAULT ACK> or <ISOLATE ACK> key, the next point in the list appears. (You can also use the <NEXT> and <PREV> keys to do this.)
-

Chapter 4

Testing and Controlling Points

Introduction

This chapter describes using the panel's action keys (ALM TEST, ON, OFF, etc.) to test and control system points.

In this Chapter

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

Topic	See Page #
Alarm and Fault Test for Monitor Points	4-2
Isolating and De-isolating Non-Alarm points	4-3
Disabling and Enabling Points	4-4

Alarm and Fault Test for Monitor Points

Alarm Test

Alarm Test forces a monitor point into the alarm state. Once the point is in alarm, you can check to see if the system reacts in the way that it has been programmed (i.e., do signals sound in the correct manner, do relays function correctly, etc.).

Note: When you force a point into alarm, the point enters the alarm state for a momentary period of time and then returns to its normal state. However, because the alarm **latches** (remains) on the FIP, you need to reset the alarm to clear it from the system.

By default, the alarm test function is passcode-protected. If necessary, log in to the system at the appropriate access level prior to performing these steps.

Follow these steps to perform an alarm test on a point.

1. Select the point on which you want to perform the alarm test. Refer to the next chapter for information on selecting points.
2. Press the ALARM TST key. A prompt appears, directing you to press the ENTER key.
3. Press the ENTER key.
4. Press RESET, followed by ENTER to reset the point. (The point is automatically acknowledged when you perform the reset.)

Fault Test

The fault test allows you to simulate a fault condition on a point. This allows you to test the manner in which the FIP reacts following the fault. For example, you may want to verify the operation of the brigade interface. To clear the fault condition following a fault test, use the FAULT ACK key as described in Chapter 3. Unlike the alarm test function, the fault test does not latch and clears after you acknowledge it.

Follow these steps to perform a fault test on a monitor point.

1. Select the point on which you want to perform the fault test. Refer to Chapter 5 for information on selecting points.
2. Press the FAULT TST key. A prompt appears, directing you to press the ENTER key.
3. Press the ENTER key.

The system simulates a fault condition on the point that you specified in Step 1. Acknowledge the fault, as described in Chapter 3, to clear the fault from the system.

Isolating and De-isolating Non-Alarm points

Overview

Chapter 2 of this manual describes isolating and de-isolating points in alarm. This section describes isolating and de-isolating non-alarm points. Isolating a non-alarm point does not prevent it from entering an alarm condition.

There are not separate ISOLATE and DE-ISOLATE keys. Both operations use the ISOLATE key, but the function of the key depends on the state of the selected point (i.e., if the state of the point is isolated, pressing the key de-isolates the point. Likewise, if the state of the point is de-isolated, pressing the key isolates the point).

Isolating a Non-Alarm Point

1. Select the point on which you want to perform the isolate operation. Refer to Chapter 5 for information on selecting points.
 2. Press the ISOLATE key.
 3. Press the ISOLATE ACK key to confirm the isolate operation.
-

De-Isolating a Non-Alarm Point

1. Select the point on which you want to perform the de-isolate operation. Refer to Chapter 5 for information on selecting points
 2. Press the ISOLATE key.
 3. Press the ISOLATE ACK key to confirm the de-isolate operation.
-

Virtual Zones

Do the following when isolating/de-isolating a point within a virtual zone.

1. Select the point within the virtual zone. For example, press the MAP key on the keypad and then enter the channel and device number. (Use the NET key to insert the hyphen between the channel and device.)
 2. Press the ISOLATE key. **Read the display** to make sure the operation you want to perform is selected. If necessary, press the ISOLATE key again to toggle the operation of the ISOLATE key.
 3. Press the ISOLATE ACK key to confirm the operation.
-

Disabling and Enabling Points

Overview

Disabling a monitor point is similar to isolating a monitor point. It takes the point “offline.” Unlike the isolate operation, however, disabling a point prevents the point from entering an alarm condition for the duration of time it is disabled.

The Enable/Disable key toggles the disable/enable state of the point. In other words, if the point is currently disabled, pressing this key enables the point. If the point is currently enabled, pressing this key disables the point.

Disabling a Point

Follow these steps to disable a point.

1. Select the point that you want to disable. Refer to Chapter 5 for information on selecting points.
2. Press the DISABLE/ENABLE key.
3. Press the ENTER key.

The system generates a message, indicating that the point is disabled.

Enabling a point

Follow these steps to disable a point.

1. Select the disabled point that you want to enable. Refer to the next chapter for information on selecting points
2. Press the DISABLE/ENABLE key.
3. Press the ENTER key.

Note: The system displays a message indicating that the point will be enabled in 60 seconds. If the state of the device is such that an alarm condition will occur when the point is enabled, the system warns you that this will occur. You can abort the enable operation before the countdown timer expires by pressing the DISABLE/ENABLE key.

Continued on next page

Disabling and Enabling Points, *Continued*

Virtual Zones

Do the following when enabling or disabling points within a virtual zone.

1. Select the point within the virtual zone. For example, press the MAP key on the keypad and then enter the channel and device number. (Use the NET key to insert the hyphen between the channel and device.)
 2. Press the DISABLE/ENABLE key. **Read the display** to make sure the operation you want to perform is selected. If necessary, press the DISABLE/ENABLE key again to toggle the operation.
-

TURNING A POINT ON OR OFF

Overview

It may be necessary during maintenance of the system to turn the outputs (notification appliances and relays, for example) off. This prevents maintenance actions that generate an alarm condition from triggering the NACs or relays.

Turning a Point OFF

1. Select the output point that you want to turn off. Refer to Chapter 5 for information on selecting points.
 2. Press the OFF/FLT TEST key.
 3. Press the ENTER key to confirm the operation.
-

Turning a Point ON

1. Select the output point that you want to force ON. Refer to Chapter 5 for information on selecting points.
 2. Press the ON/ALM TEST key.
 3. Press the ENTER key to confirm the operation.
-

Returning a Point to Automatic Operation

Turning an output point on or off generates a “Manual Override Trouble,” which is used to remind you that the point has been manually turned on or off. When you are ready to return the system to automatic operation (i.e., system not operator controls the outputs), you need to acknowledge the trouble (individual acknowledge systems only), select the point, and then press the <AUTO> key.

Chapter 5

Selecting Points for Status or Control

Introduction

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

- Alarm, Fault, or Isolate List. Points that are reporting an alarm or fault condition can be selected from the alarm or fault list. Refer to Chapters 2 and 3 for information on selecting points from these lists.
- Using the Menu.
- Using the Entry keys.

In this Chapter

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

Topic	See Page #
Selecting Points from the Menu	5-2
Selecting Points with the Entry Keypad	5-3

Selecting Points from the Menu

Overview

Every system point is part of the “Select a List of Points” list in the main menu. All points can be displayed sequentially by address order using this list option. To facilitate the search for a particular point, lists may be selected by type groupings (monitors, signals, auxiliary, input/output, pseudo points, etc.). A list of points may be selected, then scrolled through by using the <NEXT> and <PREVIOUS> keys.

The following lists are available for selection with the “Select a List of Points” option from the Main Function Menu:

- All Monitor Zones
- All Signal Points
- All Auxiliary Relay Points
- All Auxiliary Feedback Points
- All Zones of 24-Point I/O Card
- All Digital Pseudo Points
- All Analogue Pseudo Points
- All List Pseudo Points
- All Points by Address List
- All Network Points.

Procedure

1. Press the MENU key to enter the panel’s menu system.
2. Press the NEXT key until the alphanumeric display reads as follows:

```
Press <NEXT> or <PREVIOUS> to scroll  
Select a List of Points?
```

3. Press ENTER. The display reads as follows:

```
Press ENTER to select a list of  
points  
All Monitor Zones?
```

4. Press the NEXT key to scroll through the categories of points until the appropriate category is shown. Press the ENTER key. The first point in the selected category appears. In the example below, the point shown is the first one in the monitor zone category.

```
MONITOR CARD 1 ZONE NUMBER 1  
FIRE MONITOR ZONE  
NORMAL
```

5. Press the NEXT key to scroll through the list of points in the category. When the point that you want to select is displayed.
-

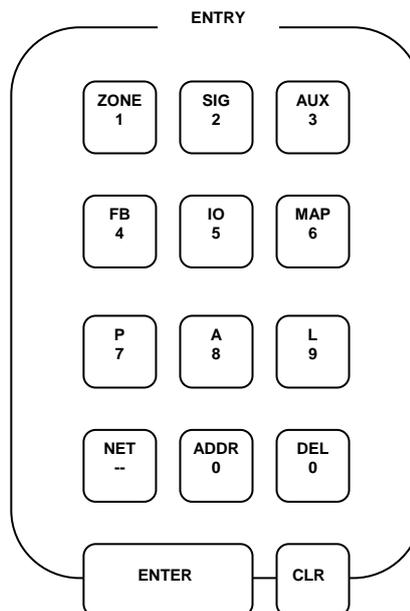
Selecting Points with the Entry Keypad

Overview

The Entry Keypad, shown below, allows you to quickly select points. For example, pressing the ZONE key on the upper left side of the keypad selects the monitor zone category. After selecting a category, messages on the display prompt you for the specific point in the category. After a point has been displayed, you can scroll through all the points in the system from that point, or select another point directly by entering another identifier using the keypad.

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

You have the choice of entering a point number or an address number. The format for entering a point identifier address requires a hyphen. Only numbers and the hyphen keys are valid entries. The maximum number of digits allowed in an identifier input is eleven (11), including the hyphens, excluding the <ENTER> key.



Continued on next page

Selecting Points with the Entry Keypad, *Continued*

Selecting Points

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

Press this Key on Keypad	Data to Enter
ZONE – allows you to select a Monitor Zone point.	<i>ZN</i> , followed by ENTER, where <i>ZN</i> represents a zone card and is a number from x to y. After selecting a zone, use NEXT and PREV to scroll through the points.
SIG – allows you to select a Signal point.	<i>SIG</i> , followed by ENTER, where <i>SIG</i> represents a signal card and is number from x to y. After selecting a signal card, use NEXT and PREV to scroll through the signal points.
AUX – allows you to select an Auxiliary Relay	<i>AUX</i> , followed by ENTER, where <i>AUX</i> represents an auxiliary relay and is a number from x to y.
FB – allows you to select a feedback point.	<i>FB</i> , followed by ENTER, where <i>FB</i> represents a feedback point and is a number from x to y.
MAP – specifies that you want to select a MAPNET point.	<i>C-DD</i> , followed by ENTER, where <i>C</i> represents the MAPNET channel number and <i>DD</i> is the device on the channel. <i>C</i> has a value of 1 through 0 and <i>DD</i> is 1 through 127. For example, to select point M1-13, you would press the MAP key and then enter 1 (channel). Next press the NET key to enter the dash, and then press the 1 and 3 keys to enter 13 (device number).
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, followed by ENTER. The system then prompts for the type of point you want to select. Press the keypad key corresponding to the type of point (Zone, Signal, etc.) Use the descriptions above for information on selecting the specific point. For example, to select zone 3 on node 2, you would first press the NET key and then enter a 2 (node). Next you would press the key labeled ZN (key 1) and then enter 3 for the zone.

Continued on next page

Selecting Points with the Entry Keypad, *Continued*

Press this Key on Keypad	Data to Enter
ADDR = sw address of the point in the system None	<p>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 do this.</p> <p>For example, to select address 0-7-3 (Brigade Alarm Relay), you would first press the ADDR key. Next, enter the 0. Press the NET key to enter the hyphen and then press the 7 key. Press the NET key to enter the hyphen and then press the 3 key.</p>

Chapter 6

Displaying and Modifying Detailed Point Attributes

Introduction

This chapter describes displaying and modifying the attributes of a point.

In this Chapter

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

Topic	See Page #
Display-Only Attributes	6-2
Modifiable Point Attributes	6-5

Display-Only Attributes

Step 1. Select a Point

Points can be selected in one of three ways: through the alarm, fault, or isolate list, using the MENU keys, or with the ENTRY keypad. Refer to Chapter 5 for information on selecting a point.

Step 2. Press the FUNCTION Key to See the Attributes

1. Press the FUNCTION key. When you do this, the alphanumeric display shows the first attribute in the list. (The list is context-sensitive, meaning the list of attributes displayed for a monitor point differs from the list of attributes displayed for an output point, such as a relay.)
 2. Press the FUNCTION key again. The next option in the list of attributes appears. Continue to press the FUNCTION key (or use the NEXT and PREV keys) until the option that you want to display is shown.
 3. Press ENTER to see the detailed information for the attribute.
-

Summary of Display-Only Attributes

The following table summarizes the attributes available for display via the FUNCTION key.

Continued on next page

Display-Only Attributes, *Continued*

Table 6-1. Display-Only Attributes

Category	Attribute	Description
General	Point address and Zone number	Displays the point address and zone number of the selected. Point. If the point's status is monitored frequently, record this address for use as a shortcut when subsequently selecting the point. Refer to Chapter 5 for information on selecting a point by address.
	Card Type and Point type	Displays the point type, which defines the specific function of the point, and the card type (for example, Class B Multi-Purpose Monitor Card).
	Present Status (Normal, Alarm, Fault)	The present status of the point – Normal, Alarm, or Fault -- appears on the lower right of the display after you select a point.
	Disconnect/Disable Status	Indicates whether the point has been manually disabled from the system.
	McCulloh Fault (Status of Class "A" Cards)	Displays whether the Class A card is experiencing a fault somewhere in the wiring between the card and its devices.
	Relay status for Control or Signal Points	Displays the relay status for a control or signal point. Status reports as "Relay Status is ON" or "Relay Status is OFF".
	Verification Tallies for Verification Zones	If the selected point is part of a verification zone, the number of unverified points in the zone appears.
	Coding Status for Coded Zones	
	Control Priority for Relays	Allows you to see the control priority for a relay. The control priority is typically used with Custom Control.
	Feedback Point Status	Shows the status – ON or OFF – for a feedback point.
Counts for Lists and Virtual Zones	Indicates the number of points in a list or virtual zone.	

Continued on next page

Display-Only Attributes, *Continued*

Display-Only Attributes (Continued)

Category	Attribute	Description
TrueAlarm Sensors Only	Present sensitivity selected	Displays the current sensitivity of the device.
	Average value	Displays the average smoke obscuration value recorded by the sensor.
	Alarm value	Displays the smoke obscuration value required to trigger an alarm.
	Current value (per cent of alarm)	Displays the current smoke obscuration value.
	Peak value (per cent of Alarm)	Displays the maximum smoke obscuration value reported by the detector as a percentage. Note that this is the maximum value reported since the last time this counter was cleared.

Modifiable Point Attributes

Overview

This section describes using the FUNCTION key to modify the attributes of a point.

Step 1. Select a Point

Points can be selected in one of three ways — through the alarm, fault, or isolate list, using the MENU keys, or with the ENTRY keypad. Refer to Chapter 5 for information on selecting a point.

Step 2. Press the FUNCTION Key to See the Attributes

1. Press the FUNCTION key. When you do this, the alphanumeric display shows the first attribute in the list. (The list is context-sensitive, meaning the list of attributes displayed for a monitor point differs from the list of attributes displayed for an output point, such as a relay.)
 2. Press the FUNCTION key again. The next option in the list of attributes appears. Continue to press the FUNCTION key (or use the NEXT and PREV keys) until the option that you want to display is shown.
 3. Follow the directions on the display to change the attribute. (The directions specify which key – F1, F2, F3, or F4 -- to press to change the attribute.)
-

Continued on next page

Modifiable Point Attributes, *Continued*

Summary of Modifiable Attributes

The following point attributes can be modified using the operator interface.

Table 6-2. Modifiable Attributes

Attribute	Description
Card LED	Allows the state (ON or OFF) of the card LED to be toggled.
Device LED	Allows the state (ON or OFF) of a MAPNET device (typically a smoke detector) to be toggled ON or OFF. This can be very useful when the point address of the smoke is not known. In this case, illuminating the LED and then use the information in the display to determine the device address.
Control Priority Change	Allows the control priority, which is a priority level used with Custom Control to be incremented or decremented. This option is available for all control points – relays, notification appliances, TrueAlarm devices with relays and sounders, and all digital pseudo points. The priority is a value from 0-15.
Analog Pseudo Point Value and Status	Allows you to manually store a value for an analog pseudo point. The type of value stored depends on the point type of the pseudo point (i.e., if the point type is a counter, a counter value is stored; likewise, if the point type is timer, a timer value is stored).
Alarm Verification Tallies for Monitor Points (Clear)	Allows you to manually clear alarm verification tallies. This is useful when attempting to determine how frequently the system is going through the verification cycles. Dirty devices and bad Custom Control applications are possible contributors to frequent verification cycles.
Ground Fault Isolation Relay	Allows you to manually turn on and off the GFI relay on a control point.
TrueAlarm Peak Analog Values	Allows you to clear the peak value of a TrueAlarm sensor.
Sensitivity (Alarm Threshold)	Allows you to set the target value at which the device goes into alarm. Target value can be either of the following. <ul style="list-style-type: none"> • Sensitivity of smoke detectors • Threshold of analog ZAMs, heat detectors and VESDA devices.

Chapter 7

Setting Access Levels and Logging In

Introduction

This chapter describes setting the time and date on the system, logging in and out, and setting access levels for use by system operators.

In this Chapter

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

Topic	See Page #
Operator Access Levels	7-2
Logging In and Out of the System	7-4

Operator Access Levels

Overview

Operator access levels 1 through 4 are available to support the system. Level 1 is the lowest operator access level and does not require a passcode to be entered to access functions identified at this level. Level 2 through 4 require a passcode of the required level or higher to be entered prior to performing the passcode protected function. Controlling actions may be classified with access levels 2 through 4. Routine actions are assigned to low access levels while access level 4 is reserved for special, highly sensitive operations (normally reserved for Simplex personnel). Entering a level 4 passcode enables you to access all the functions of the system.

A valid passcode must contain a minimum of 3 digits and not more than 10 digits. The available digits are 0 through 9. Passcodes are specified during order entry; then, programmed during system configuration. When passcodes are not specified, the following default passcodes are assigned.

LEVEL PASSCODE RANK

1	NONE	LOWEST
2	222	SECOND
3	333	THIRD (Highest Operator Access Level)
4	XXX	HIGHEST (Normally used by Simplex Personnel)

The operator access level defaults to level 1 when power is first applied to the system, after 10 minutes of keypad inactivity, and when the user elects to log out. The <SYSTEM RESET> key press has no effect upon the access level.

The only way to increase the operator access level in the system is to select the "Change Access Level?" option in the Main Function Menu. Decreasing the level resets system access level to 1. Increasing the level requires a valid level 2, 3 or 4 passcode. The user is prompted to enter a passcode. The input is compared to all the valid system codes, and the system operator access level is set accordingly. If an invalid code is input, you will be notified with the message "ERROR. . . INVALID PASSCODE", and will be allowed up to three chances to enter a valid code. After three unsuccessful tries, the message "ACCESS DENIED" will be displayed for a short time. The access level will not be altered, but you will no longer be in the "Change Access Level" menu option.

Continued on next page

Operator Access Levels, *Continued*

Overview, *(continued)*

If a correct passcode is entered, the message "ACCESS GRANTED" is displayed. The new operator access level will be in effect until the keypad is inactive for 10 minutes or you manually reset the level through the "Change Access Level" option. While entering a passcode with the keypad, the key presses are acknowledged by a "beep". The digits entered are not displayed. The cursor moves along, filling the position with an X to indicate that a digit has been entered. The key can be used to delete the last digit. The <ENTER> key press is required to enter the passcode into the system.

Logging In and Out of the System

Introduction

The 4100 system uses four access levels, referred to by the numbers one through four, to control what system operators can do with the system. The system typically operates at access level one, which allows an operator to accomplish basic tasks without logging in to the system.

Other functions – for example, the use of the user-defined function keys – are passcode protected to prevent access by unauthorized personnel.

Log In Procedure

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

1. Obtain the passcode for the access level at which you want to operate.
2. Press the <MENU> key, which is one of the Display keys, located on the upper right side of the interface panel. The alphanumeric display shows the following message.

Press <NEXT> or <PREVIOUS> to scroll
Change Access Level?

Continued on next page

Logging In and Out of the System, *Continued*

Log In Procedure, (continued)

3. Press the <ENTER> key on the Display/Action keypad. The following message displays.

```
F1 = Login    F2 = Logout  
CURRENT ACCESS LEVEL = 1
```

4. Press the F1 key on the Display/Action keypad. The display shows the following message.

```
Enter a Passcode followed by <ENTER>
```

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 when you have finished entering the code. An X is displayed for each digit of your passcode, as shown below.

```
Enter a Passcode followed by <ENTER>  
XXX
```

If the passcode entered in Step 5 is correct, the following message is shown.

```
Enter a Passcode followed by <ENTER>  
ACCESS GRANTED
```

After a brief pause, the system displays the granted access level, such as the level 2 message shown below.

```
F1 = Login    F2 = Logout  
CURRENT ACCESS LEVEL = 2
```

Continued on next page

Logging In and Out of the System, *Continued*

Log In Procedure, (continued)

Press the <CLR> key twice. The display shows the system status, as shown below.

```
F1 = Login    F2 = Logout
CURRENT ACCESS LEVEL = 2
```

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. The following message is displayed.

```
Press <NEXT> or <PREVIOUS> to scroll
Change Access Level?
```

2. Press the <ENTER> key. The following message is displayed.

```
F1 = Login    F2 = Logout
CURRENT ACCESS LEVEL = 2
```

Note: Logging in at access level 4 creates a non-clearable fault that requires the system to be restarted to clear. This ensures that the system is returned to its normal operating mode following service.

3. Press the <F2> key. After a brief pause, the display shows a message similar to the one below.

```
1 = Login    2 = Logout
CURRENT ACCESS REDUCED TO LEVEL 1
```

4. Press the <CLR> key to exit. The display shows the system status.
-

Chapter 8

Viewing and Clearing Historical Logs

Introduction

When an abnormal condition occurs, a record of the event is placed in one of two logs generated by the system, depending on the nature of the condition. These logs are:

- Historical Alarm Log
- Historical Fault Log

The historical logs contain a time stamp of the events surrounding abnormal conditions in the system. The information displayed with these lists are historical data only and will not contain any current point status. Separate lists are maintained for alarms and for isolates/faults. This chapter describes displaying and clearing these lists.

In this Chapter

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

Topic	See Page #
Viewing and Clearing the Historical Alarm and Fault Logs	8-2

Viewing and Clearing the Historical Alarm and Fault Logs

Viewing Logs

The Historical Alarm and Fault Logs can be viewed either from the 4100 Operator Panel.

1. Press the **<MENU>** key.
2. Using the **<NEXT>** and **<PREVIOUS>** keys, scroll through the Main Menu items until the "Display Historical Alarm Log?" or "Display Historical Fault Log?" menu prompt appears on the alphanumeric display.
3. Press the **<ENTER>** key on the ENTRY keypad.
4. Using the **<NEXT>** and **<PREVIOUS>** keys on the DISPLAY/ACTION keypad scroll through the list of logged events, until the desired event is shown on the display.

NOTE: Pressing the **<PREVIOUS>** key first, causes the most recent event to be displayed.

5. When finished, press the **<CLR>** key to escape from the main menu.
-

Clearing the Logs

1. Press the **<MENU>** key.
 2. Using the **<NEXT>** and **<PREVIOUS>** keys, scroll through the Main Menu items until the "Display Historical Alarm Log?" or "Display Historical Fault Log?" menu prompt appears on the alphanumeric display.
 3. Press the **<ENTER>** key.
 4. Press the FUNCTION key
 5. Press the F3 key to clear the log.
-

Chapter 9

Service-Related Operations

Introduction

This chapter describes service-related status and control procedures.

In this Chapter

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

Topic	See Page #
Setting Time and Date	9-2
Displaying Software Revision	9-4
Viewing Card Status Information	9-5
Displaying Network Node Information	9-6
Lamp Test	9-7
Displaying MAPNET Device Status	9-8

Setting Time and Date

Procedure

Follow these steps to set the time and date on the panel.

1. Press the <MENU> key. The following appears on the alphanumeric display.

**Press <NEXT> or <PREVIOUS> to scroll
Change Access Level**

2. Press the <NEXT> key. The following appears.

**Press <NEXT> or <PREVIOUS> to scroll
Set Time and Date**

3. Press the <ENTER> key. The current time and date information displays, along with instructions:

**Press <FUNCTION> to change time and date
0:09:23 FRI 01 JAN 88**

4. Press the <FUNCTION> key. The cursor, current time and date along with function key definitions are displayed:

**F1=Left F2=Right F3=Inc F4= Dec
0:09:23 FRI 01 JAN 88**

NOTE: The cursor is positioned under the hour. Function key **F1** will move the cursor **left**. Function key **F2** will move the cursor **right**. Function key **F3** will **increase** the data above the cursor. Function key **F4** will **decrease** the data above the cursor. Set the time 1 minute ahead of source time.

5. Use the required function key to position the cursor under the data to be changed (hour, minutes, seconds, date of month, month, and year). Day of week is set by the system. Time entered does not start until the <ENTER> key is pressed.

Continued on next page

Setting Time and Date, *Continued*

Procedure, *(continued)*

6. Use Function key **F3** or **F4** to increase or decrease data, as required.

When time and date are correct, press the **<ENTER>** key. The display will show the updated time and date. The time entered will not start until the **<ENTER>** key is pressed.

<p>Press <FUNCTION> to change time and date 22:04:46 WED 27 SEP 00</p>

Displaying Software Revision

Overview

Follow these steps to display software revision information.

1. Press the MENU key.
2. Press the NEXT and PREV keys until the prompt reads, "Display Software Revision Level?"
3. Press ENTER. A display similar to the following appears.

```
SYS REV: A9.02.13      CFGI  
FORMAT: 96JOB: JOB1   REV:6  
13-OCT-00
```

4. Interpret this information as follows.
 - SYS REV. Specifies the revision of the executive software (operating system of the FIP) loaded on the panel.
 - CFGI FORMAT: Defines the compatibility of the executive and the programmer.
 - JOB: Specifies the name of the job loaded on the panel.
 - REV. Specifies the revision of the job.
-

Displaying Network Node Information

Overview

Network systems consist of multiple panels linked via a 4120 network. Each panel includes a user-defined node number, used to identify the panel on the network. The following section describes how to determine a panel's node number. The node number is required when selecting a network point. See "Selecting Points" in Chapter 5 for more information on doing this.

Procedure

1. Press the MENU key.
 2. Press the NEXT and PREV keys until the prompt reads, "Display Network Node Identification?"
 3. Press ENTER. The display shows the network node information and indicates the node number of the panel you are at with an asterisk (*).
-

Lamp Test

Procedure

The “LAMP TEST” push-button on the operator interface panel is used to determine local lamp failures within the system. Lamps on the 4100 operator interface panel illuminate along with the five function and acknowledge LEDs. All segments on the LCD also change to squares. Perform the following procedures to determine lamp failures.

1. Press the “LAMP TEST” push-button. All LEDs should illuminate (lamps should stay illuminated as long as the push-button is depressed). Holding the push-button in for more than 3 seconds will test the tone-alert.
 2. Perform an individual lamp test on all remote LCD annunciators using the key switch on the operator interface panel.
 3. If you find defective lamps/LEDs, contact your local Simplex branch office.
-

Displaying MAPNET Device Status

Introduction

The MAPNET option allows the use of addressable devices and TrueAlarm sensors with the 4100 FIP. Addressable devices communicate the exact location of an alarm to the system operator interface panel, improving recognition of the condition and subsequent response. It also pinpoints the precise location of fault conditions via the device custom label.

MAPNET Display Information

When a MAPNET device changes to an abnormal condition, or the operator enters a MAPNET device address, the LCD display shows the current status of the MAPNET device. After entering a MAPNET device address, press the <FUNCTION> key on the operator interface panel to display additional device information.

MAPNET Point Addressing

Each MAPNET device must have a point address in order to communicate with the 4100 FIP. these point addresses along with their custom labels are located in the Programmers Report. The Programmers Report shows the address for each device, separated by hyphens. Hyphens must be used when entering a MAPNET address into the system. An example of a MAPNET device address is "M1-5". The "M1" portion of the address identifies the MAPNET loop or channel , loop 1 or channel 1. The "5" portion of the address, identifies the device number, number 5. MAPNET loop numbers range from 1 through 9, and 0, with MAPNET loop 0 actually being channel 10.

How to Display a MAPNET System Point

See section 5, "How to Use DISPLAY / ACTION Keys to Display System Points" for MAPNET operations.

What To Do If a MAPNET Point Will Not Reset

If a MAPNET device will not reset, you may decide to disable the point with the <DISABLE> key. When the disable procedure is performed, a System Fault occurs to remind you that the point is disabled. The disable procedure is the same for all system points (see section 2, "How to Disable a Point"). Maintenance personnel must be called immediately to repair the malfunction.

After the MAPNET point is repaired, you can enable the point again .

Continued on next page

Displaying MAPNET Device Status, *Continued*

TrueAlarm Sensor Display Values

Using the 4100 LCD and the display/action keys, the control panel can display various status conditions for each TrueAlarm sensor, the sensor's present selected sensitivity level as a percent of obscuration per foot. This selected sensitivity level is the value at which the FIP will cause an alarm condition. Seven (7) sensitivity levels are available for the TrueAlarm photo-electric sensor. The most sensitive setting is 0.2% OBS/FT (0.5% OBS/M) with the least sensitive setting being 3.7% OBS/FT (11.5% OBS/M)

Other individual sensor status conditions that can be displayed on the LCD display are shown below. These displays are accessed by either confirming a MAPNET device number for a normal device (Map/6 Key) or by pressing the FAULT ACKnowledge key for an abnormal device. To display each of the categories the function key and the NEXT and PREVIOUS keys are used as shown below.

M1-1 Level 3 - Room 74 Smoke Detector	AZF1 Normal
--	------------------------

Press the <FUNC> key to obtain the next display:

Device Address: 3-1 Mapnet Device: M1-1
--

Press the <NEXT> key to obtain the next display:

F1-Force on card LED MAPNET CARD	Type: Mapnet 1
---	-----------------------

Pressing function key <F1> will turn on the LED indicator on the MAPNET Card in the FIP control rack as long as the function key is depressed. Press the <NEXT> key to move onto the next display.

F1-Force on device LED Variable Sense PHOTO with Sounder	Type: PVPHOTO
---	----------------------

Continued on next page

Displaying MAPNET Device Status, *Continued*

TrueAlarm Sensor Display Values, *(continued)*

Pressing function key <F1> will turn on the LED indicator on the selected smoke detector and as long as the function key is depressed. Press the <NEXT> key to move onto the next display.

Level 3 - Room 74 Smoke Detector	ON-LINE
---	----------------

Press the <NEXT> key to move onto the next display to verify correct device type:

Level 3 - Room 74 Smoke Detector	Correct Device
---	-----------------------

Press the <NEXT> key to display the current selected sensitivity

Level 3 - Room 74 Present Sensitivity Selected - 3.7% Smoke
--

To view the average value of samples received from the sensor press the <NEXT> key again

Level 3 - Room 74 Average Value = 75 / Alarm Level - 135

This is the present average of the last 2048 samples received from the sensor. The Alarm Level is the binary value that is used to determine alarm conditions. This value will change over time as the panel compensates for environmental conditions. This value will be different for each of the (7) sensitivity levels.

To view the last binary value that was received from the sensor press the <NEXT> key again

Level 3 - Room 74 Value = 75 / 6% of Alarm / 0.1% Smoke
--

This value is displayed as a % of alarm and a % of smoke obscuration.

Continued on next page

Displaying MAPNET Device Status, *Continued*

TrueAlarm Sensor Display Values, *(continued)*

Press the <**NEXT**> key again to View the highest binary value that was received and stored from the sensor since power-up .

F1- Clear PEAK Value PEAK= 106 / 51% of Alarm / 1.0% Smoke

The peak is displayed as a % of alarm and a % of smoke obscuration. Through the use of a system pseudo point all new peak values per sensor can be stored in the history trouble log and printed on the 4100 system printer. Printing of peak values is done at the time the peak value is received at the FIP. This peak value is helpful in determining if a sensor should be made more or less sensitive.

Chapter 10

System Test Procedures

Introduction

These procedures should be followed when the system is installed and during periodic testing as required by code. Check local codes to determine how frequent your system should be tested. Always inform appropriate personnel (Fire Brigade, etc.) that you will be testing the system.

In this Chapter

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

Topic	See Page #
Walk Test™	10-2
Walk Test™ FEATURES	10-6
Walk Test™ PROCEDURES	10-10

Walk Test™

Overview

Walk Test™ is a software-based function and is programmed to meet the customer requirements. The system will pulse the signals for alarm conditions, then reset. The signals will sound steady for 4 seconds to indicate fault conditions, then reset. A silent Walk Test™ may be performed (no signals will sound) and logging of events may be selected.

The auto reset/auto acknowledge operation allows for one-man testing without the need for someone at the main control panel to acknowledge and reset the system. The Walk Test™ mode also bypasses many of the delays that are inherent to the normal reset procedure, thereby allowing for a faster test. The automatic reset (5 second power drop) only occurs on the zone that comes in after a configurable time delay (default = 15 seconds). This delay can be optimally set (with the programming unit) for the time it should take for a zone to clear (i.e. magnet vs smoke tester).

If an alarm condition is detected from a zone that is not in the present active Walk Test™ group, the system will operate as a fire alarm panel and the active Walk Test™ groups are aborted. The system has an automatic abort or timeout for the Walk Test™ mode. If no zone within the active Walk Test™ group is activated within 8 hours, the system will abort the Walk Test™ mode and return to normal.

WalkTest™ by Group

The 4100 will support up to eight Walk Test™ groups. This allows the building to be divided into small portions for the Walk Test™, and allows the rest of the building to be protected by the fire alarm panel. Each group has a list of monitor zones and signal circuits which activate when selected.

If you select the Walk Test™ by group mode, a system fault will be reported to remind you that the Walk Test™ is enabled.

Whenever a Walk Test™ group is aborted, manually or automatically, the panel will sound the abort signal (three sets of two short pulses) to indicate that group is going back into service. If a control point in the list is already active (because of an abnormal condition), it is not used to signal the abort.

The group is placed into normal operation 60 seconds after the abort signal is heard. This delay protects against an unwanted alarm should an automatic abort occur while a device is being tested.

Continued on next page

Walk Test™, Continued

WalkTest(by Group), (continued)

The system is default-programmed to allow the Walk Test™ to be performed without sounding audible signals. (See “Silent Walk Test™” and “Sig/No Sig”.) The Walk Test™ will not activate any point which is disabled. Therefore, you have the ability to manually exclude any point from the test. (See How to Disable a Point.)

You may enable the logging of Walk Test™ events, which allows each zone with an abnormal condition to be time tagged and added to the fault log. This is beneficial when a 100% silent Walk Test™, without visuals, is required. When testing the devices, use the alarm LED on the smoke detector, or a simple delay, to know when to continue to the next device. After test completion, check the log to verify that all zones activated the correct number of times and in the correct order.

Zone Coding Option

The system supports two types of audible signaling to indicate an alarm condition on a zone. By default, “zone coding” is used. This code matches the “ZONE” number associated with that point. The zone code is only used the first time a zone is reported. For subsequent alarms on the same zone, a single “0 CODE” (two short pulses) is used. Examples of Zone Coding are shown below.

— — — = Zone 3 (three long pulses)
— — — — = Zone 12 (one long, pause, two long pulses)
— — — — = Zone 20 (two long and two short pulses)
— — — — = Zone 102 (one long, two short, and two long pulses)

NOTE: Zero Code = 2 short pulses.

Zone coding may be disabled for each of the eight Walk Test™ groups, Group 0 through Group 7, using the interface panel’s display. When zone coding is disabled (<F3> key to ZERO), a “0” code is always used, even for the first alarm. This method of testing is more appropriate for maintenance testing, once all wiring is verified.

When a control point is pulsed by Walk Test™, it is done without affecting the priority of that point regardless of its present value. This guarantees that Walk Test™ does not interfere with any required SMPL (software) operations during a real alarm.

MAPNET II® monitor devices sound the zone code, with the first digit being the channel number, followed by the device’s address number. Example: M1-1 sounds a 1,1 code. M4-123 sounds a 4, 1, 2, 3 code. MAPNET II® signal devices cannot annunciate codes.

Continued on next page

Walk Test™, Continued

Silent Walk Test

The control points to be activated (pulsed) during Walk Test™ are determined by the contents of the control lists which are configured when programmed. Several options are available when configuring a silent Walk Test™ control list. The first option is to NOT put any audible signals into the control list. The second option is to disable the audible control points from the front panel, one at a time. The last option is to use the “NO<sig>” option (controlled by the <F4> key) when in the Walk Test™ menu. If this last option is selected, none of the points in the control list will code (see “Sig/No Sig”).

Walk Test™ is enabled through the interface panel’s alphanumeric LCD (Liquid Crystal Display). Walk Test™ is passcode protected. The Walk Test™ menu will not appear unless the operator is at the proper access level. To enter one of these levels, press the menu key, select the “Change Access Level” option, press the <F1> key to log in, and then type in the correct passcode for the level you desire.

Select the “Enable Walk Test™” option on the Main Menu, and press the ENTER key. Then use the following FUNCTION KEYS (<F1> through <F4>) to select the various Walk Test™ options.

- <F1> Key - Enables/disables the Walk Test™ group. Press this key to enter Walk Test™ for the specified group. Press the key again to exit Walk Test™.
- <F2> Key - Enables/disables the logging of events occurring during Walk Test™. When selected, all abnormal conditions are recorded in the historical fault log.
- <F3> Key - Allows you to choose between Zone Coding and Zero Coding. In Zone Coding a PNIS code for the tested zone is played (.e.g. Zone 12 is code 1-2). In Zero Coding, two quick pulses (code 0) are heard. In both cases, when a fault is reported from a zone, the signal circuits turn ON for 4 seconds.
- <F4> Key - Enables/disables silent Walk Test™. When this key is pressed, it toggles the system to audible Walk Test™, where the signal circuits are turned ON to play the codes selected with the <F3> key, described above. Silent Walk Test™ is used in conjunction with the logging function when audible signals might disturb the building occupants.

During the Walk Test™, the first line of the LCD shows changes, including the status of the device under test. The second line of the LCD shows device status.

Continued on next page

Walk Test™, *Continued*

Walk Test Operation

When the 4100 system is placed in Walk Test™ mode, any zone in the active Walk Test™ group(s) can be tested in any order. If zone coding is enabled, there is an advantage in testing all devices within one zone before going on to the next zone.

You should simulate an alarm and fault condition for each device being tested. If you are using an audible or visual indication, wait for it to clear before you test the next device. Otherwise, wait for an appropriate amount of time (based on the system reset delay) before moving on to the next zone. The LED on a smoke detector helps you in this area because it indicates when the alarm is sensed, and when the detector resets. If zone coding is enabled, verify that the code heard or seen is correct.

Walk Test™ FEATURES

Introduction

The Walk Test™ function has the following features:

- Abort Audible and Delay on Reactivation
- Active/Not Active
- Auto Abort on Alarm
- Auto Abort on Time-out
- Control Lists
- Delay Before Reset
- Log/No Log (Logging Option)
- Monitor Zone List
- Programmer Configuration
- Sig/No Sig (Silent Walk Test™ Selection)
- System Fault
- Fault Audible
- Zone Code/Zero Code.

These features are discussed in the following paragraphs.

Continued on next page

Walk Test™ FEATURES, *Continued*

Abort Audible and Delay on Reactivation

Whenever a Walk Test™ group is aborted, either manually or automatically, the control list sounds the abort signal “TESTING COMPLETED” (or 0-0-0) to indicate that the group is going back into service. If a control point in the list is already active, possibly because another alarm has come in, the “TESTING COMPLETED” message will play *before* the alarm message. The group is put back into normal operating service 60 seconds after the abort signal is heard (if there are signals in the control list). This delay protects against an unwanted alarm should an auto abort occur while a device is being tested.

Active/Not Active

The <F1> key on the interface panel is used to toggle ON and OFF a given Walk Test™ group. All groups are initially inactive at system start-up. Any number of groups can be enabled at any one time. When a Walk Test™ group is enabled, its associated fault pseudo point is turned ON and must be acknowledged. If multiple Walk Test™ groups are required, press the fault acknowledge key after all Walk Test™ groups are selected.

Auto Abort on Alarm

When an alarm is detected from a zone that is not in the active Walk Test™ group, all normal control functions take place and the active Walk Test™ group is aborted. When a non-audio Walk Test™ is aborted, the system sounds a zero code three times. If an audio Walk Test™ is aborted, the system announces “TESTING COMPLETED” over the speaker circuits for the Walk Test™ group under test.

Auto Abort on Time-Out

If there has been no activity within an active Walk Test™ group for 8 hours, the system aborts the Walk Test™ automatically.

Control List

A Control List is a point list that contains those control points (signals and/or relays) that are to be activated by a Walk Test™ group. By default, this list is initially filled by the system for Group 0, and includes all signal, visual, or coded control points.

Delay Before Reset

The programmer has the ability to set a Reset Time Delay. The delay time period starts after a zone alarm is detected and runs until the detector is reset. The length of the delay may be from 15 to 60 seconds, and may be adjusted depending on the method used to simulate an alarm. A longer value is desired if smoke is used to bring in each detector. By default, the delay is set to 15 seconds.

Continued on next page

Walk Test™ FEATURES, *Continued*

Logging Option (Log/No Log)

By default, the system enables the logging of Walk Test™ events. When logging is enabled, each zone that comes into alarm or fault is time-tagged and added to the Historical Fault Log. This is very beneficial in cases where a 100% silent test is required. When testing, remember to record the identity and order of the devices tested. When the Walk Test™ is finished, compare this record with the Historical Fault Log and verify that all zones activated correctly. The <F2> key is used to enable/disable the logging of Walk Test™ events to the Historical Fault Log. By default, logging is enabled. If the system is configured for a printer and the PRINT REPORT option is selected, the Historical Fault Log is printed on the system printer.

Monitor Zone List

A Monitor Zone List is a point list that contains those monitor zones within a defined area of a building. This list is initially filled by the system for the first group, and includes all monitor zones. It can be edited using the tag list feature of the 4100 Programming Unit. An empty list signifies that a Walk Test™ group is not used. The programmer has the option of changing the label of this point list so that it is more meaningful for panel operation.. You cannot have the same zone in more than one Walk Test™ group.

Programmer Configuration

Walk Test™ is a configured feature that may be set up during factory programming, although it is best programmed in the field with the 4100 Programming Unit. By default, Walk Test™ is protected at Access level 3. The access level required to enable your Walk Test™ is shown on the Programmer's Report. Walk Test™ groups are selected from the LCD Main Menu. Selecting Walk Test™ on the Main menu brings up the Walk Test™ configuration screen which lists the setup for the Walk Test™ groups.

Sig/No Sig (Silent Walk Test™ Selection)

The <F4> key is used to enable the selection of the Silent Walk Test™. By default, the Silent Walk Test™ is enabled.

Continued on next page

Walk Test™ FEATURES, *Continued*

System Fault

The Walk Test™ has the ability to test signal circuits for fault (i.e. open/short) conditions. This is accomplished by using the Walk Test™ output lists (L50 through L57) as the input lists for signal fault conditions.

For example, if a signal circuit fault occurs on a point in Walk Test™ output list L50 (Group 0), and Walk Test™ Group 0 is enabled, the Walk Test™ fault code will play on all signal/speaker circuits in Walk Test™ list L50. Note that the signal fault is not inhibited. An actual fault condition will occur at the operator interface panel, but will be logged as a Walk Test™ fault for that signal.

This fault automatically clears when the signal circuit is returned to normal in a Global Acknowledge system. In an Individual Acknowledge system, Point P4 (FORCE GLOBAL ACKNOWLEDGE) must be turned ON before performing a signal circuit Walk Test™. If Walk Test™ is not enabled for the group containing the signal circuit in fault, the fault condition passes through without playing the Walk Test™ code.

Fault Audible

When a zone fault is detected, the Walk Test™ signals sound continuously for four seconds.

Zone Code/Zero Code

The <F3> key is used to enable/disable Zone Coding. By default, Zone Coding is enabled.

Walk Test™ PROCEDURES

How to Enter Walk Test Mode

Once the passcode has been entered, you may enter the Walk Test™ mode by performing the following procedures.

1. Press the MENU key. The LCD shows the following message.

**Press <NEXT> or <PREVIOUS> to Scroll
Change Access Level?**

2. Press the NEXT key until the LCD displays the following message.

**Press <NEXT> or <PREVIOUS> to Scroll
Enable Walk Test?**

3. Press the ENTER key. The following message is displayed.

**F1 = on>OFF F2 = no>LOG F3 = ?>ZONE F4 = NO<sig
WALK TEST GROUP 0**

Continued on next page

Walk Test™ PROCEDURES, *Continued*

How to Enter Walk Test Mode, *(continued)*

4. Select the desired Walk Test™ data using Function keys <F1> through <F4>.
 - <F1> Key - Function key <F1> is used to toggle the Walk Test™ mode. Turn Walk Test™ ON and OFF by pressing the <F1> key. Pressing this key causes an arrow to point to the active state (which is displayed in capital letters).
 - <F2> Key - Function key <F2> is used to enable/disable logging of Walk Test™ events. Walk Test™ events are logged into the Historical Fault log if selected. Pressing this key causes an arrow to point to the active state (which is displayed in capital letters). By default, logging is enabled.
 - <F3> Key - Function key <F3> is used to enable/disable zone coding. Pressing this key causes an arrow to point to the active state. By default, zone coding is enabled.
 - <F4> Key - Function key <F4> is used to enable/disable the silent Walk Test™. Pressing this key causes an arrow to point to the active state (which is displayed in capital letters). By default, the silent Walk Test™ is enabled.
5. Press the <F1> key to enable/disable the Walk Test™ mode. The SYSTEM FAULT LED illuminates, the tone-alert sounds, and the LCD displays the following message.

F1 = ON>off F2 = no>LOG F3 = ?>ZONE F4 = NO<sig WALK TEST GROUP 0
--

Continued on next page

Walk Test™ PROCEDURES, *Continued*

How to Enter Walk Test Mode, (*continued*)

To enable multiple Walk Test™ groups, press the <NEXT> key to scroll to the next Walk Test™ group. Then press the <F1> key to enable that group. Continue scrolling, then press the >F1> key to select required Walk Test™ groups. Once all Walk Test™ groups are selected, press the fault acknowledge key, then continue. When a Walk Test™ group with no configured points is selected, the display shows the following message.

**No walk test points configured for:
WALK TEST GROUP X**

Note: X equals 0 through 7.

How to Exit Walk Test Mode

When the Walk Test™ has been satisfactorily completed, exit from the Walk Test™ mode by performing the following procedure.

1. Press the <MENU> key.
2. Press the <NEXT> key to select the Walk Test™ function.
3. Press the <ENTER> key.
4. Press the <F1> key to turn off a Walk Test™ group. Press NEXT, then <F1> to turn OFF each enabled Walk Test™ group.

Note: The system activates a one-minute timer when exiting from the Walk Test™ mode. This timer ensures that monitor points have had ample time to clear (smoke) prior to enabling the system. After the one-minute delay, the system Walk Test™ fault automatically clears.

5. Press <MENU>. The Change Access Level menu is shown.
6. Press <ENTER>.
7. Press <F2> to log out.
8. If Access Level 4 was entered, fault will continue to exist in the system. Access Level 4 is normally used by Simplex personnel and additional steps must be performed. Call Simplex to restore the system.
9. Inform required personnel when system testing is completed.

Continued on next page

Walk Test™ PROCEDURES, *Continued*

How to Turn a Point Off

The <OFF> key press will turn a control point off and prevent the automatic override, thus causing it to remain OFF. This action will result in a system fault. The normal state of all control points is AUTO. The <OFF> key press has no effect on monitor points.

The point to be turned OFF must first be identified to the system. This is accomplished by entering the identity of the point to be turned OFF through the ENTRY keypad, and then pressing the <OFF> key. If the <OFF> key is passcode protected, perform the system Log In procedures.

To turn a point OFF, perform the following procedures.

1. Ensure the point to be turned OFF is shown on the alphanumeric display. A typical point (SIG2) is shown below.

MASTER SIGNAL POINT 2, SIG2 SIGNAL CIRCUIT	ON
---	-----------

2. Press the <OFF> key. A typical display is shown below.

Press <ENTER> to force OFF SIGNAL CIRCUIT: SIG2
--

3. Press the <ENTER> key. A typical display is shown below.

MASTER SIGNAL POINT 2, SIG2 SIGNAL CIRCUIT	OFF
---	------------

4. Press the <CLR> key. The display shows the following message.

** FAULT **	Press <ACK> to review		
FIRE = 0	PRI2 = 0	SUPV = 0	FLT = 1

Continued on next page

Walk Test™ PROCEDURES, *Continued*

How to Turn a Point Off, *(continued)*

The <ON> key press will manually turn a control point ON, and prevent automatic operation by increasing its priority, causing it to remain ON. With the exception of pseudo points, this action will result in a system trouble. The normal state of all control points is AUTO. The <ON> key press has no effect on monitor points.

The points to be turned ON must first be identified to the system. This is accomplished by selecting/entering the identity of the required point on the alphanumeric display, and pressing the <ON> key. If the <ON> key is passcode protected, perform the system Log In Procedures.

How to Turn a Point Off,

To turn a point ON, perform the following procedures.

1. Ensure the point to be turned ON is shown on the alphanumeric display. A typical point (SIG2) is shown below.

MASTER SIGNAL POINT 2, SIG2 SIGNAL CIRCUIT	OFF
---	------------

2. Press the <ON> key. A typical display is shown below.

Press <ENTER> to force ON SIGNAL CIRCUIT: SIG2

3. Press the <ENTER> key. A typical display is shown below.

MASTER SIGNAL POINT 2, SIG2 SIGNAL CIRCUIT	ON
---	-----------

4. Press the <CLR> key. The display shows the following message.

** FAULT **	Press <ACK> to review		
FIRE = 0	PRI2 = 0	SUPV = 0	FLT = 1

Continued on next page

Walk Test™ PROCEDURES, *Continued*

How to Return a Point to Auto

The <AUTO> key press leaves a point in its current state (ON or OFF), but allows the system program to control it. AUTO is the normal state for all control points. A fault exists if any control point is taken out of the AUTO state.

The point to be turned to AUTO must first be identified to the system. This is accomplished by selecting/entering the required point on the alphanumeric display, and then pressing the <AUTO> key. If the <AUTO> key is passcode protected, perform the Log In Procedures.

To return a point to AUTO, perform the following procedures.

1. Ensure the point to be turned AUTO is shown on the alphanumeric display. A typical point (SIG2) is shown below.

MASTER SIGNAL POINT 2, SIG2 SIGNAL CIRCUIT OFF
--

2. Press the <AUTO> key. A typical display is shown below.

Press <ENTER> for AUTOMatic control SIGNAL CIRCUIT: SIG2

3. Press the <ENTER> key. A typical display is shown below.

MASTER SIGNAL POINT 2, SIG2 SIGNAL CIRCUIT OFF OFF
--

4. Press the <CLR> key. The display shows the following message.

SYSTEM IS NORMAL 9:27:40 WED 27-SEP-00

Continued on next page

Walk Test™ PROCEDURES, *Continued*

How to Enable a Disabled Point

If a device was disabled for any reason and has been restored, you can enable the point. This point must first be identified to the system. The disabled point causes a system fault condition which is continually shown on the alphanumeric display. This can be viewed by pressing the fault <ACK> key and reading the alphanumeric display. The point can be enabled by using the <ENABLE> key. If the <ENABLE> key is passcode protected, perform Log In Procedures, then continue.

To enable a disabled point, perform the following procedures.

1. Press the <FAULT ACK> key until the point to be enabled is shown on the alphanumeric display, as shown in the following example.

MONITOR CARD 1	ZONE NUMBER 12
FIRE MONITOR ZONE	DISABLE FAULT

2. Press the <ENABLE> key. The following message is displayed.

Press <ENTER> to ENABLE
MONITOR ZONE: ZN12

Note: Read the warning below before performing the following step.

3. Press the <ENTER> key. The alphanumeric display shows the following message.

Please stand by . . .
ZONE 12 will ENABLE in 60 seconds

Continued on next page

Walk Test™ PROCEDURES, *Continued*

**How to Enable
a Disabled
Point,**
(continued)

WARNING

If the zone is still in alarm, a **WARNING** is displayed which tells you that the system will sound an alarm if the timer (60 seconds) times out. **TO ABORT THE ENABLE, PRESS THE <DISABLE> KEY.** If an alarm condition exists, the following is shown on the alphanumeric display.

**** WARNING ** Press <DISABLE> to abort
ZN12 will ALARM in 60 seconds**

IF THE ABOVE WARNING IS SHOWN ON the ALPHANUMERIC DISPLAY, PRESS the <DISABLE> OR AN <ACK> KEY. FAILURE TO ABORT THE ENABLE WILL CAUSE AN ALARM CONDITION.

If the enable process is successful, the following message is shown on the alphanumeric display.

ENABLE COMPLETED

4. Repeat steps 1 through 3 above to enable required points.
5. Press the <CLR> key to exit. This will allow the panel to show the Time and Date.

**What to do in
Case of System
Malfunction**

CALL YOUR LOCAL SIMPLEX BRANCH OFFICE, WHICH IS LISTED IN THE YELLOW PAGES, FOR ALL MALFUNCTIONS, OR IF YOU WOULD LIKE A QUALIFIED SIMPLEX TECHNICIAN TO ASSIST YOU WITH INSTALLATION, TESTING AND TROUBLESHOOTING THE SYSTEM.

Chapter 11

Printing Reports

Introduction

This chapter describes printer options and how to print a report.

In this Chapter

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

Topic	See Page #
Setting Printer Options	11-2
Printing a Report	11-3

Setting Printer Options

Available Options

The 4100 includes two printer options: Select Report Printer and Terminate Current Report. Follow these steps to set these options.

1. Press the MENU key.
 2. Press the NEXT and PREV keys until the prompt reads, "Printer Options?"
 3. Press ENTER.
 4. Press the NEXT and PREV keys to select either
 - Select Report Printer. When you select this option, the
 - Terminate Current Report. Select this option to terminate the the report currently being printed on the 4100's report printer.
-

Printing a Report

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 number, custom label, time and date device entered alarm.
Trouble History Log Report	Report includes all information contained in the trouble history log – device number, custom label, type of trouble, time and date device experienced trouble.
TrueAlarm Status Report	<p>Reports the following information for each point.</p> <ul style="list-style-type: none"> • Device Number. • 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	<p>Reports the following information for each point.</p> <ul style="list-style-type: none"> • Device Number. • 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.

Continued on next page

Printing a Report, *Continued*

Overview

1. Press the MENU key. Use the NEXT and PREVIOUS keys to scroll through the choices until the "PRINT REPORTS?" choice is displayed.
2. Use the NEXT and PREVIOUS keys to scroll through the categories of report (Alarm History, Trouble History, etc.).
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 12

Maintenance Procedures

Introduction

It is a requirement of AS1851 - Part 8, The Standards Association of Australia Code for Maintenance of Automatic Fire Alarm Systems, that tests be carried out to ensure the system is fully functional.

The owner or tenant of the premises usually carries out the weekly test described. The installation company, under a Service Agreement, typically carries out the monthly and annual tests.

In this Chapter

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

Topic	See Page #
Weekly Tests	12-2
Monthly Tests	12-3
Annual Tests	12-4

Weekly Tests

Procedure

Weekly tests should be conducted and should include the following:

- a. Carry out a fire alarm call by simulating an alarm on detector zones as follows;
 1. Isolate any system outputs you wish not to respond to the testing of the system such as the exterior bell (using the EXT BELL ISOLATE button), the warning system (using the EXT BELL ISOLATE button, and any other Auxiliary Control Functions (ACF) including AC Shutdown and MDH controls using the ACF ISOLATE FUNCTION.
 2. Place the fire brigade transmitter selector switch in the isolate position.
 3. Operate the "ALM TEST" key. First select a point or zone and then press the key to activate the actuating devices and test the response of the system's signals.

To check the alarm bell, or any other ancillary circuit operation press the EXT BELL ISOLATE key again.

Note: The correct operation of the bell should be checked each week.

- b. First select a point or zone and then press the "FLT TEST" key.

The system will automatically fault test the selected point or zone and will indicate a system fault during testing.

- c. Operate the "Battery Test" switch.

The FIP will load test all batteries for 1 hour and will then reset.

Note: Battery Test operates automatically at 8.00am each Tuesday.

- d. On completion of the tests ensure that all switches are in the correct operating position and that the system has been returned to its normal status. Should a fault condition exist, or if a circuit indicator did not illuminate when tested immediately contact your Maintenance company to rectify the problem.
 - e. Record the results of the tests in the logbook and check that all tests were logged by the system printer. If the printer logs any test as having failed, immediately contact your Maintenance company to rectify the problem.
-

Monthly Tests

Procedure

In addition to the weekly test specified previously, the following inspection and testing procedures should be carried out each month:

- a. Check all battery terminals and electrolyte levels, where appropriate. Maintain all batteries in a serviceable condition.
 - b. Check condition of battery enclosure for corrosion and ensure the batteries are stored in a safe and secure condition.
 - c. Check that all visual indicators operate correctly, including those on mimic or repeater panels.
 - d. Check the operation of all aural and visual indicators external to the control and indicating equipment.
 - e. Simulate fault conditions on all alarm zones to ensure that fault indicators, both aural and visual where applicable, are operating correctly from each alarm zone facility.
 - f. Check that all control and indicating equipment is in a clean and operational condition, and effectively dust-sealed.
 - g. Ensure that all fire indicator panels, sub-indicator panels, repeater panels, and mimic panels, are clearly visible and readily accessible (see AS1670).
 - h. Ensure that all controls are returned to the normal condition.
 - i. Record the results of all monthly maintenance procedures in the logbook, including all items requiring corrective action, adjustment, and the like.
 - j. Check that items previously recorded as requiring attention have been attended to, or record the reason why corrective actions have not been completed.
-

Annual Tests

Procedure

The annual tests shall consist of all the inspection and testing procedures specified in the previous clause and the following:

- a. Visually inspect all detectors and sampling points for any condition which is likely to adversely affect their operation, such as excessive deposition of dust or coating with paint.
- b. Remove at least one detector on each alarm zone circuit and confirm the fault signal is registered at the appropriate alarm zone facility.
- c. Check the operation of 20 percent of the installed heat detectors and 50 percent of the installed smoke detectors, and sampling points in each alarm zone. The procedure for testing shall be such that all detectors are checked not less than once every 5 years for heat detectors, and not less than once every 2 years for smoke detectors, and sampling points.
- d. Detectors and sampling points that fail to operate shall be clearly marked and reported in the logbook.
- e. Check the operation of an ancillary control facilities and ensure that each controlled device can be correctly initiated.
- f. Check operation of all manual call points.
- g. Check the power supply supervision alarm by disconnecting all power supplies to the fire indicator panel, including battery supplies.
- h. Visually inspect control and indicating equipment components for any evidence of deterioration.
- i. Check for any building alterations, changes in the environment, or utilisation of the protected area which would require modifications to the system.
- j. Ensure spare glasses for manual call points are available in the control panel and a tool for replacing such glasses.
- k. Record the results of all yearly maintenance procedures in the logbooks, including details of detectors and sampling points that do not pass the visual inspection or fail to operate satisfactorily, and notify the owner or his agent of any faults within the installation.
- l. Check that each sprinkler monitor point i.e. pumps running, main stop valve shut etc. operate correctly.
- m. Test all stair pressurization fans for automatic and manual start-stop and correct status indicator at the Fire Indicating Panel.

Appendix A

Compatible Actuating Devices and Specifications

Introduction

This appendix describes the following:

- It lists devices that been approved as compatible devices for use with the 4100 FIP.
 - It contains the 4100 FIP's Specification
-

In this Chapter

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

Topic	See Page #
Compatible Actuating Devices	A-2
Compatible Batteries	A-5
Compatible Addressable Field Devices	A-6
4100 Specifications	A-7

Compatible Actuating Devices

Analog Addressable Sensors

4098-9701	High / Very High sensitivity Photoelectric smoke
4098-9731	Type A / Type B Heat
4098-9781	Addressable LED Indicating base
4098-9782	Addressable LED Indicating base with Sounder
4098-9783	Addressable LED Indicating base with Relay driver
4098-9714/9714EA	TrueAlarm Photoelectric smoke
4098-9717/9717EA	TrueAlarm Ionization smoke
4098-9733/9733EA	TrueAlarm Type A / Type B Heat
4098-9754/9754EA	TrueAlarm Multi-Sensor Photo/Type A/ Type B Heat
4098-9789/9789EA	TrueAlarm Addressable LED Indicating base
4098-9794/9794EA	TrueAlarm Addressable LED Indicating base with Sounder
4098-9795/9795EA	TrueAlarm Addressable Multi-Sensor LED Indicating base with Sounder
4098-9796/9796EA	TrueAlarm Addressable Multi-Sensor LED Indicating base
4098-9752/9752EA	TrueAlarm Addressable Photoelectric Duct Probe
4098-9755/9755EA	TrueAlarm Addressable Photoelectric Duct Probe

Conventional Detectors

4098-9413	Heat detector Type A
4098-9414	Heat detector Type B
4098-9415	Heat detector Type C
4098-9416	Heat detector Type D
2098-9201	Photoelectric smoke detector
2098-9576	Ionisation smoke detector
2098-9211	Universal base.
4098-9618EA	Heat detector Type A
4098-9619EA	Heat detector Type B
4098-9621EA	Heat detector Type D
4098-9601/9601EA	Photoelectric smoke detector
4098-9603/9603EA	Ionisation smoke detector
4098-9788/9788EA	2 Wire Universal base.

Compatible Actuating Devices, *Continued*

Tyco Range

Conventional Detectors

Detector Type	4100-5001/2/4 8 Zone Module	2190-9156 Monitor ZAM	4090-9101 Monitor ZAM
614CHCO/Heat Detector	37	25	25
614I Ionisation Detector	40	29	29
614P Photo-electric Detector	28	19	19
614T Heat Detectors – Type A, B, C, D	30	20	20
T614 Heat Detectors – Type A, B, C, D	30	20	20

Hochiki Range

Conventional Detectors

DCA-B-60R MK V	Type A heat detector
DFE-60B	Type B heat detector
DCA-B-90R MK 1	Type C heat detector
DFE-90D	Type D heat detector
DFG-60BLKJ	Type B heat detector
SPA-AB	Beam type smoke detector
SIH-AM	Ionisation smoke detector
SLK-A	Photoelectric smoke detector
SLG-AM MK 1	Photoelectric smoke detector
HF-24A MK 1	Ultraviolet smoke detector
YBC-R/3A	Plain - non indicating base
YBF-RL/4AH4	LED Indicating base

Olsen Range

Conventional Detectors

B111B	Beam type smoke detector
C24B	Ionisation smoke detector
C29B	Ionisation smoke detector
FW81B	Heat detector cable
P24B	Photoelectric smoke detector
P29B	Photoelectric smoke detector
R24B	Dual spectrum infrared flame detector
T54B	Probe type heat detector type E
T56B	Heat detector types A,B,C,D with Z55B base
T56B	Heat detector types A,B,C,D with Z54B base
V41B/V42B	Ultraviolet flame detector

Continued on next page

Compatible Actuating Devices, *Continued*

Apollo Range

Conventional Detectors

Heat detector	Type A
Heat detector	Type B
Heat detector	Type C
Heat detector	Type D
Series 20	Photoelectric smoke detector
Series 30	Ionisation smoke detector

Apollo Range

Conventional Detectors

Heat detector	Type A
Heat detector	Type B
Heat detector	Type C
Heat detector	Type D
Series 20	Photoelectric smoke detector
Series 30	Ionisation smoke detector

Panelect/ Panasonic

Conventional Detectors

PFS-A	Heat detector Type A
PFS-B	Heat detector Type B
PFS-C	Heat detector Type C
PFS-D	Heat detector Type D
PFS-P	Photoelectric smoke detector
PFS-I	Ionisation smoke detector

Compatible Batteries

- Power Sonic PS12 Series
- Sonnenschien A200 Series
- Sonnenschien A300 Series
- Yuasa NP Series

Compatible Addressable Field Devices

2190-9156 Mapnet 2 Monitor ZAM
2190-9162 Mapnet 2 Signal ZAM
2190-9164 Mapnet 2 Control ZAM
2190-9169 Mapnet 2 Line Powered Short Circuit Isolator
2190-9172 Mapnet 2 Supervised IAM
2190-9173 Mapnet 2 Loop powered 2 Point Input / Output Module
4099-9032NL Mapnet 2 Addressable Manual Call Point

4100 Specifications

General	System Capacity	1,000 points of addressable input / output devices or conventional zones.
	Cabinet Size(mm)	Dependent on system configuration
	Cabinet Material	1.5mm Mild grade steel
	Cabinet Finish	Powder coated
	Cabinet Colour	Magnolia Ripple
	Mounting	Wall mount
	Mains Input	240V AC, +6%,-10%, 50Hz
	Internal Power Supply	24V DC @ 8.0A
	Standby Battery	24V sealed lead acid up 110Ah
	Battery Charger	27.6V DC (nominal) @ 4.0A,
	PSU Supervision	Charger high/low, Battery low/fail
	Temperature	-5 C to 45 C
	Humidity	10% to 90% RH non-condensing.
	PSU Heat Loss	85 watts (under full load)

Note: The 4100A-0157 PSU does not provide the option to disconnect the battery when the final voltage is reached as this is not a requirement of AS4428.1

Expansion Modules

Maximum Number:	119 modules
4100-5004	Conventional zone module Eight zone circuits per module Supports standard 20V detectors plus normally open contact devices
4100-3003 module	Eight CPU controlled auxiliary relays per SPDT contacts rated for 3 amps @ 24VDC or 30VAC

Continued on next page

4100 Specifications, *Continued*

**Expansion
Modules,
(continued)**

4100-0113	RS-232 / 2120 Communications Module Provides two RS-232-C outputs for remote printers and/or CRT Five RS-232-C ports maximum per 4100 system. Can be configured for communication with a host 2120 system, or it can be configured as a Computer Port for communications to a remote system (i.e. BMS or BAS Systems).
4100-0149	4120 Modular Network Interface Module Provides Network Interface with plug-in media modules for: RS485 Communications copper cable Fiber Optics Media Card
4100-0142 Media module	RS485 Communications copper cable
4100-0143	Fiber Optics Media Card
4100-0110	MAPNET® TRUEALARM™ Addressable Loop Module Up to 127 MAPNET Addressable devices or TrueAlarm Analog Sensors Up to 10 MAPNET Loop Cards per 4100 system Supports MAPNET Short Circuit Line Isolator Modules
4100-0304	Remote Unit Interface Module Provides a supervised serial communications channel to remotely located distributed Miniplex® Transponders and LCD Annunciators Up to 32 distributed Miniplex® Transponders and/or LCD Annunciators per 4100 system

Continued on next page

4100 Specifications, *Continued*

4100-3024 Motherboard	24 Relay Input / Output Relay 24 CPU controlled relays Each of the 24 relays can be individually configured as either an input or an output SPST contacts rated for 0.5 amps @ 24VDC or 30VAC
4100-0301	64/64 LED / SWITCH Controller Interfaces up to 64 LEDs and 64 switches to the master controller for front panel annunciation
4100-0111	Mapnet 2 Quad Isolator Module The Mapnet Quad isolator provides fault tolerance and electrical isolation capabilities to 4100 Mapnet lines. The fault tolerance is twofold: loop open circuit (Class A operation) and short circuit disconnection
4100-0157A	Provides a 24 VDC, 12 Amp Power Supply with integral 4 Amp battery charger.
4100-0302	24 Point Graphic Input / Output Module This card provides up to 24 inputs or outputs to be programmed and connected into the system. These 24 points can be split up into any combination of inputs or outputs to suit individual system needs.
4100-4321	6 Supervised Relay Module Each card provides 6 circuits of Style Y (class B) signal circuits All 6 circuit also have two power inputs, one for every three signal circuits. Every signal circuit is supervised for ground faults, opens and line-to-line shorts
4100-0154	VESDA HLI Module Provides a high level interface to control up to 30 VESDA LaserPlus, Laser Compact , Mini scanners or E70D units. The module occupies a Mapnet channel address and requires a VESDA Net Interface unit to connect to the VESDA units

Continued on next page

4100 Specifications, *Continued*

INDICATORS and DISPLAY

Zone Status:	2 line by 80 character backlight Liquid Crystal Display
LED Status Indicators:	Alarm, Fault and Isolate, EXT Bell (Isolate), WARN SYS (Isolate), AC Power
Audible Buzzer:	Alarm And Fault Indications, Keypress feedback
Operator Keypad:	
AS4428 Firefighter Facility:	Ext Bell Isolate, Warn Sys Isolate, Prev, Next, Ack, Reset Power
Service Technician:	20 keys including:- Alarm Test, Fault Test, Keypad, Fault Isolate, Battery Test and Lamp test

SOFTWARE FEATURES

- WALK TEST System Test
 - 4 Operator Access Levels
 - 600 Event Historical Logging
 - Zone selectable Alarm Verification
 - Individual Circuit Disconnect / Isolate
 - Nonvolatile Flash EPROM for field editable program changes
-