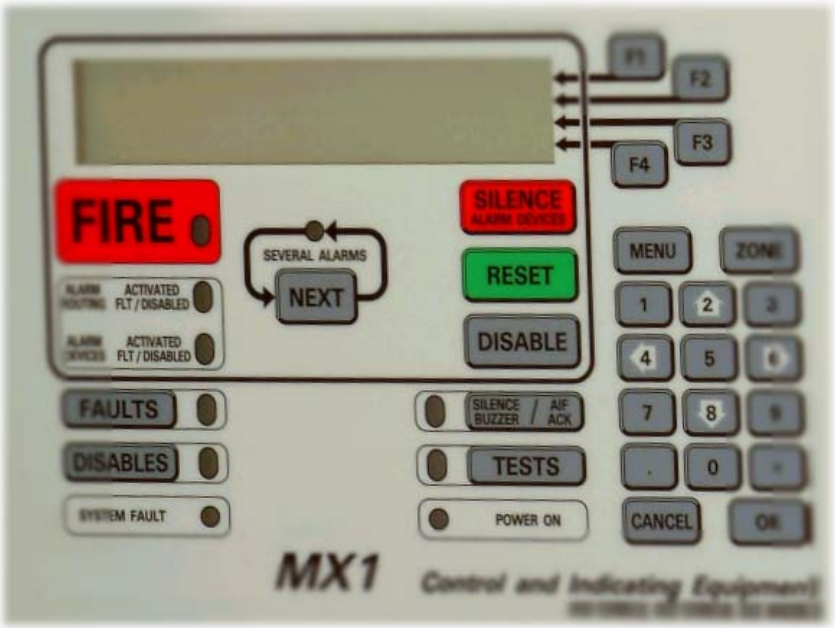
MX1

Fire Alarm System

Operator Manual



LT0344
Issue 1.1

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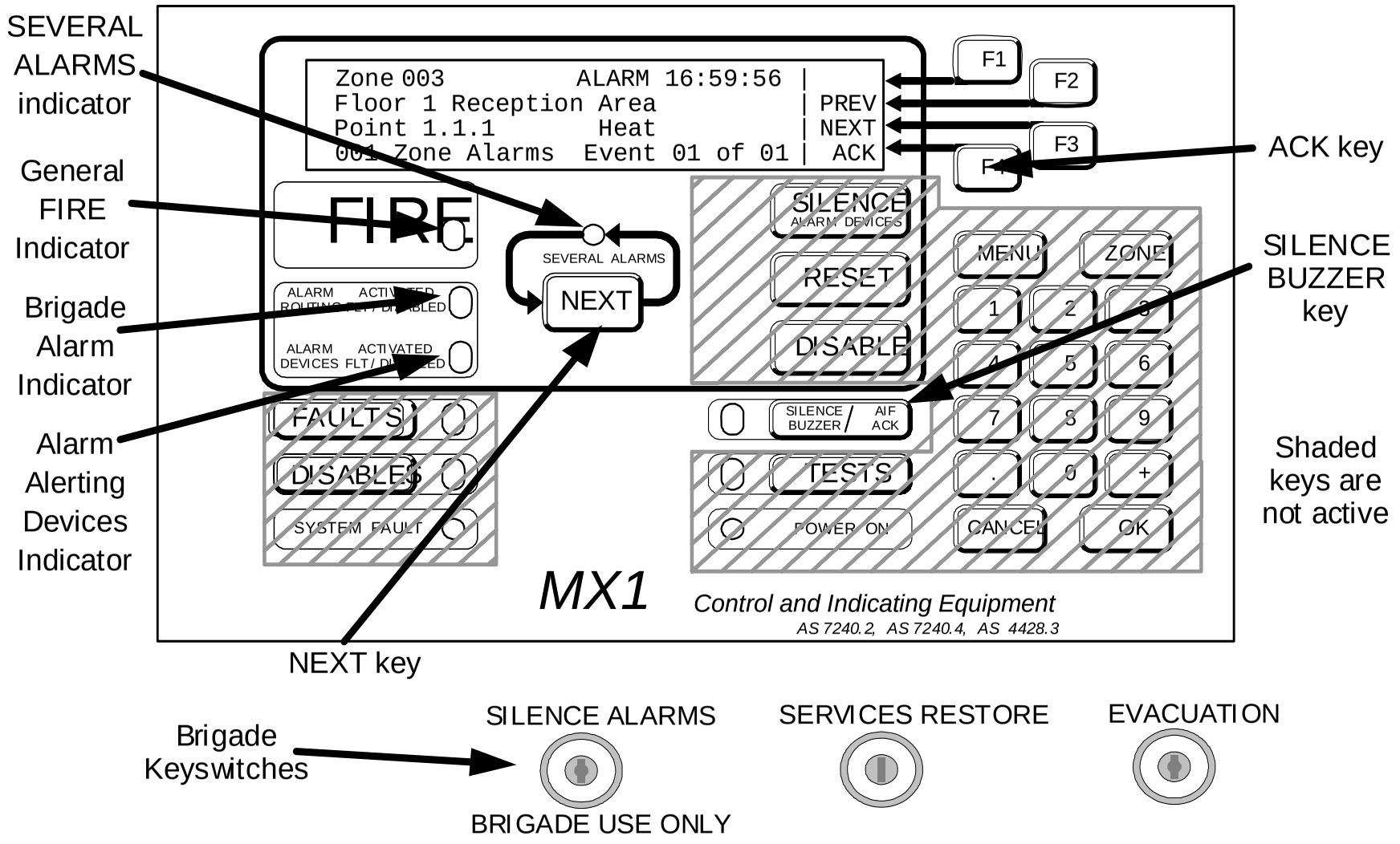
Fire Fighter's Interface – New Zealand Operation – Quick Reference



Fire Fighter's Interface, showing active keys and interfaces in New Zealand operation

Alphanumeric Display – shows alarm detail: zone number, time and date of alarm, zone location and alarm type. It also shows which alarm is being displayed and what the total number of alarms is.

General FIRE Indicator – is lit if there is any unisolated alarm, whether brigade calling or not.

SEVERAL ALARMS Indicator – lit when there are two or more alarms, to show that there are multiple alarms.

Brigade Alarm Indicator (red) – is lit when a Fire signal is being transmitted to the brigade signalling device.

Alarm Devices Indicator (red) – is lit when the alarm alerting devices (sounders, evacuation system etc) are activated.

NEXT Key – steps the alarm display forward to the following alarm. The **F3** key has the same effect.

ACK Key – Function Key **F4** marks an alarm as acknowledged in the alphanumeric display. Acknowledgement of an alarm may make the corresponding flashing zone alarm indicator go steady and may acknowledge the alarm at a remote display.

PREV Key – Function Key **F2** steps the alarm display backwards to the previous alarm.

SILENCE BUZZER Key – is used to silence the internal buzzer in the panel. A pulsing buzzer indicates a new alarm. A continuous buzzer indicates a fault.

SILENCE ALARMS Keyswitch – operating this switch deactivates the alarm alerting devices (the Alarm Devices indicator goes out). The FAULTS indicator will light and the fault buzzer will sound (continuously).

When this switch is restored to normal, all current alarms will be automatically disabled/isolated (the **DISABLES** indicator will light) and the alarm detail display will be replaced by the general fault display.

EVACUATION Keyswitch – operating this switch activates the alarm alerting devices.

SERVICES RESTORE Keyswitch – operating this switch restores selected building services to normal operation after a fire alarm (dependent on system configuration).

Other keys - While the door is shut and the key turned fully clockwise, all other keys on the keypad cannot be used.

Fire Fighter's Interface – New Zealand Operation – Quick Reference

Manufacturer's Details

Approvals	NZS 4512:2003, AS/NZS CISPR 22
Manufacturer	The *MX1* is manufactured by: Tyco Safety Products, 17 Mary Muller Drive, Christchurch New Zealand
Copyright and Trademark Information	
Document	Document Number : LT0344 Issue: 1.1 28 August 2006
Firmware Revision	1.2
Amendments	Various updates.

Product/Site

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.(AS/NZS CISPR 22:2006 s.4.2).

MX1 Panel Supplied by:	
Installation Location	
Contract/Job Number	
As-installed FIP System Drawing Number	
Panel Installation Date	
Panel Commissioned Date	
Weekly Battery Test Day & Time	
Maintenance Company	
Telephone	
Service Contact	

Cautions & Warnings

Some of the operation of the *MX1* as described in this manual is dependent on site-specific configuration performed by the field engineer. If the configuration is not well-designed, then operation may differ from this manual and compliance to local installation standards may be invalidated.

The *MX1* has a facility to protect against unauthorised use by using Access Levels to control operator access. The configuration of your system may result in Access Levels that differ in some respects from this manual.

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Table of Contents

Chapter 1
Introduction

Introduction

This chapter provides an overview of the *MX1* system function and describes the normal appearance of the operator interface.

It also describes the concept of Access Levels for access to commands, and the conventions used in this manual to refer to parts of the display when describing these commands.

In this Chapter

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

How to Use this Manual

Intended Use

This manual covers the operations and displays available on the *MX1*'s front panel.

This manual is intended for use by building owners and managers, fire brigade staff, and front line service staff. It assumes that the reader has a basic knowledge of automatic fire alarm systems.

It does **not** cover:

- system design, or installation and operational requirements specified in local standards or building codes.
- more detailed service functions that require access to the inside of the cabinet, or use of more advanced diagnostic functions for fault finding or performance analysis.

These and other topics are covered in the "*MX1* System Design Manual", part number LT0361 and the "*MX1* Service Manual", part number LT0366.

Organisation of Chapters

The topics in this manual are generally arranged in decreasing order of urgency. The Fire Fighter's Guide is at the very front, with the section on dealing with alarms shortly afterward.

This is followed by less urgent actions, dealing with Faults and Disables, Point and Zone Status Recalls, Testing, and System Status Recall, with Periodic Maintenance recommendations at the end.

System Operation

Overview

The *MX1* is a Control and Indicating Equipment (CIE) that forms the heart of a fire alarm system using *MX* addressable analogue detectors.

It is designed to comply with the requirements of NZS4512:2003 “Fire Detection and Alarm Systems in Buildings”, AS7240.2:2004 “Fire Detection and Alarm Systems” and AS4428.3:2004 “Fire brigade panel”.

Up to 250 *MX* devices (detectors and addressable input/ output modules) may be connected to the detection loop. The *MX* DIGITAL communication protocol used on the detection loop provides high reliability and fault resistance. The *MX1* evaluates the analogue values returned from the detectors using software algorithms.

MX FASTLOGIC is a fuzzy logic-based algorithm applied to photoelectric and heat-enhanced smoke detection. It is designed to discriminate between the smoke and temperature patterns of real fires and typical causes of unwanted alarms.

SMARTSENSE is a field-proven, reliable detection algorithm, reducing false alarms, compensating for ambient conditions, with a wide range of programmable sensitivity settings.

Both algorithms provide:

- Detector pre-alarm sensing for early warning of a potential alarm.
- Compensation for soiling and changes in ambient conditions.
- Logging of “detector dirty alert” when compensation limits are about to be exceeded, to allow service to be scheduled.

Physical

The *MX1* is supplied in a compact metal cabinet with integrated operator keypad and display.

For some markets, an external windowed door may be fitted to physically secure the keypad and other controls that may be fitted.

Easy Operation

Operation is straightforward using the *MX1*’s keypad and four line alphanumeric display. The display provides clear indication of the alarm location, including the zone and point numbers, and text description of the point in alarm.

The display allows easy scrolling through the 99 event alarm buffer.

Current faults and disabled zones and points can also be separately recalled. An internal history log stores the previous 900 events, and these can be recalled to the display.

Basic System Function

Overview

The *MX1* has four general functions:

- It monitors fire detectors (smoke detectors, heat detectors, manual call points, etc).
- It activates fire alarm devices (evacuation systems, bells, strobes) and routing devices (brigade call) when a detector activates.
- It displays the location of an activated detector on the alphanumeric display and/or the zone indicators.
- It monitors and controls ancillary building equipment (fan controls, relays, etc).

The *MX1* operator interface allows an operator to monitor and control the site-specific components connected to the *MX1*.

Operator Interface

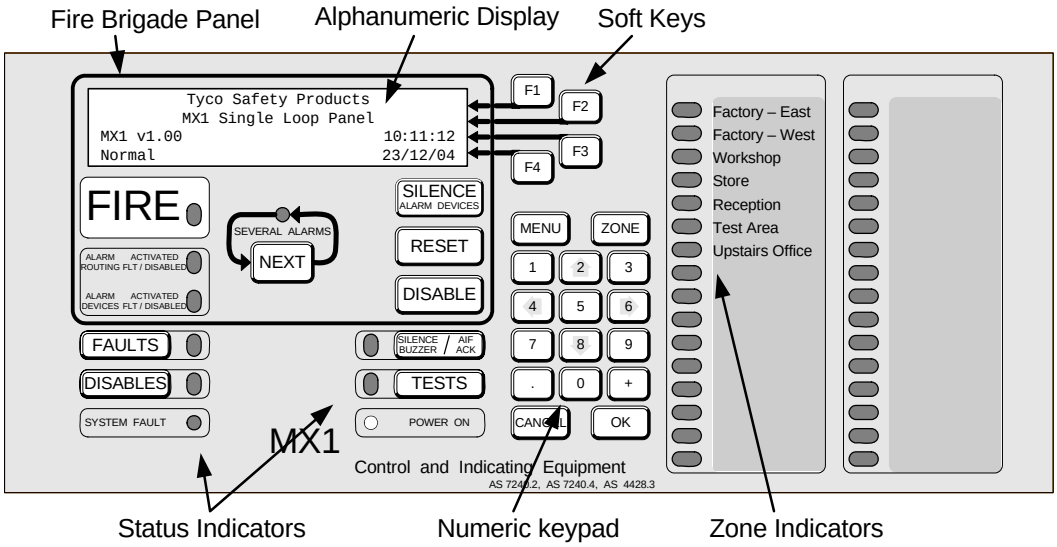


Table 1-1. Components of the Operator Interface	
Component	**Description**
Alphanumeric Display	Displays details about alarms, faults, and other service-related system information, as well as menus of command options and messages.
Fire Brigade Panel	Controls within the border are for use by brigade personnel during alarms. See the quick reference guide at the front of the manual, or page 2-2 for more detail.
Soft Keys	These function keys have different meanings, depending on the current display. Each key's function at any time is shown by the text displayed at the right side of the display.
Status Indicators	LED indicators showing the presence of faults, disabled items, tests in progress and power status. The associated keys provide

	a direct way to display this information.
Numeric Keypad	Commonly used keys are **OK** and **CANCEL**, to confirm or cancel commands, **MENU** to display the current possible actions on the item displayed, and **ZONE** to provide direct access to zone functions. Other keys are used for detailed servicing of the system. Press **CANCEL** once to move back one display, or press and hold to return to the base display.
Zone Indicators (optional)	These show the state of individual zones or groups of zones. • A red indicator shows alarm, or operate, • a flashing red indicator is an unacknowledged alarm, • a flashing yellow indicator is a fault, • a steady yellow indicator shows a disabled zone.

Important Note: The degree to which you can control the system depends on the Access Level you have. See page 1-10 in this chapter for more about Access Levels.

Normal Appearance of Operator Interface

Description

The *MX1* operator interface shows the following under normal conditions.

- Green POWER ON indicator is ON – indicating the panel is receiving power.
- All other LEDs are off.
- Alphanumeric display reports that the system is normal and shows the current time and date, as shown below.

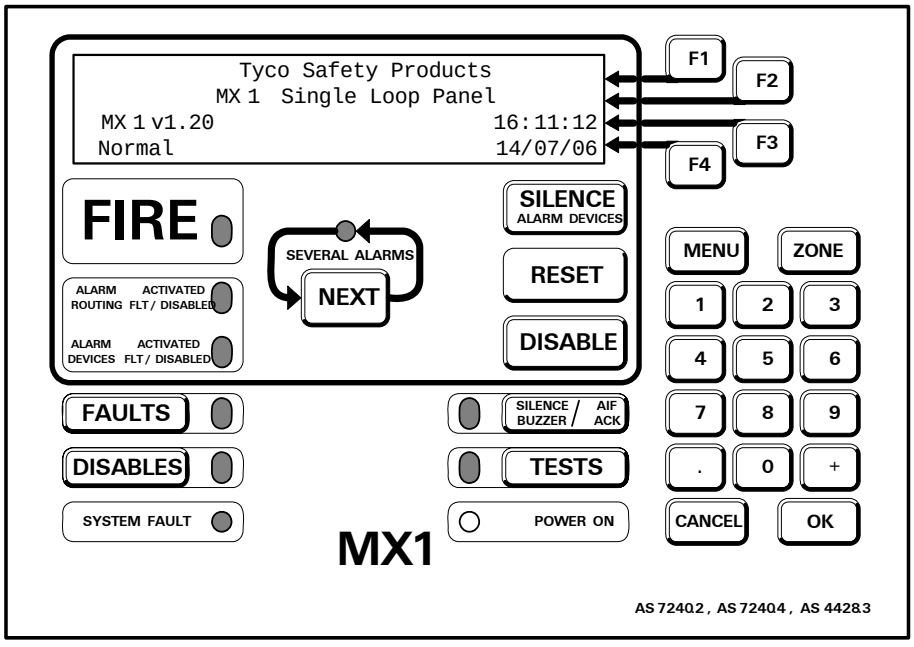


Fig 1-2 - Normal Appearance of Display

If the general state of the operator interface is not as shown above, refer to the information in Chapters 2 and 3 for instructions on managing the alarm, fault, or disable condition.

Description of Operator Interface

Status Indicators

FIRE
Flashes red to indicate the presence of an alarm. Messages about current alarms will normally be displayed on the LCD simultaneously.

SEVERAL ALARMS
Lights red to indicate that more than one alarm is present.

ALARM ROUTING ACTIVATED FLT/DISABLED

- Lights red to indicate that an alarm condition is being transmitted to a brigade signalling device.
- Lights yellow to indicate that the alarm routing has been disabled (this is not usually permitted on most installations).
- Flashes yellow to indicate a fault with the alarm routing, e.g. the SGD has been removed.

Note that both the red and yellow LEDs may be lit simultaneously.

ALARM DEVICES ACTIVATED FLT/DISABLED

- Lights red to indicate that the warning devices, for example sounders, sirens etc, have been activated.
- Lights yellow to indicate that warning devices have been disabled.
- Flashes yellow to indicate that there is a fault with one or more warning devices.

Note that both the red and yellow LEDs may be lit simultaneously.

FAULTS
Lights yellow to indicate the presence of faults in the system. Press to recall these (requires Access Level 2 or higher).

DISABLES
Lights yellow to indicate the presence of disabled items in the system. Press to recall these (requires Access Level 2 or higher).

SYSTEM FAULT
Lights steady yellow to indicate an internal hardware or software fault.

SILENCE BUZZER /AIF ACK
This indication is not implemented in the current system.

TESTS
Lights yellow to indicate the presence of active tests within the system, for example a zone fault test. Press to recall these (requires Access Level 2 or higher).

POWER-ON (GREEN LED)
This has three states;
- on-steady (mains power is on, battery is present and charged)
- flashing (mains power is off or disconnected, panel is running from battery power)
- off (panel is not receiving power).

ZONE INDICATOR LEDs
For each zone, these LEDs show
- red for alarm
- yellow steady to indicate that the zone is disabled
- yellow flashing to indicate that the zone is in fault.

Keys

F1- F4
These keys are assigned functions as required according to the menu being displayed on the LCD.

NEXT
Allows the display to be stepped to the next item, for example Alarm, Fault etc.

FAULTS
This function can be accessed from Level 2 and higher. It allows the operator to view zones and points in fault, and to reset or disable them.

Refer to “Viewing Fault Conditions” (p3-3) for more information.

DISABLES
This function can be accessed from Level 2 and higher. It allows the operator to view Zones, Points or Alarm Devices that are in the Disabled state, and to enable them.

The yellow DISABLES LED will illuminate when one or more disables are present.

Refer to “Viewing Disables Conditions” (p3-5) for more information.

SILENCE ALARM DEVICES
Provides a convenient means to disable and enable the alarm devices. Refer page 3-7.

Does not affect the *MX1* internal sounder.

RESET

This function can be accessed from Level 2 and higher. It allows the operator to reset Zones and Points. With Level 3 access, the RESET key allows the whole system to be rebooted.

DISABLE

This function can be accessed from Level 2 and higher. Options are given to disable a zone or point, a range of zones or points, or to disable the alarm devices.

For further information refer to the following sections; “Disabling Zones in Alarm” (p2-4) and “Disabling and Enabling Points” (p6-6).

SILENCE BUZZER / AIF ACK

The SILENCE BUZZER function can be accessed from Level 1 and higher. It is used to silence the *MX1*’s internal buzzer.

The AIF ACK function is not yet implemented.

TESTS

This function can be accessed from Level 2 and higher. Pressing the TESTS button will display tests that are in progress, or indicate that there are no tests in progress. The display will then show menu options for testing Zones, Points or Alarm Devices.

The TESTS LED will illuminate when one or more tests are in progress.

For more information about tests refer to “Testing Zones” (p6-10), “Testing Points” (p6-13) and “Power Supply Status and Battery Testing” (p8-5).

MENU

Press this key to access functional options from various displays. The options shown in any given display may vary according to the login level.

ZONE

This key provides a convenient method to enter a zone function. Refer” Displaying Zone or Point Command Menu” (p 6-2) for more information.

NUMERIC KEYPAD

For zone and point number, decimal point and other numeric value entries.

CANCEL

When used in confirmation menus it permits an operator-initiated action to be cancelled without further action.
Press and hold this key to return the LCD to the base display.

OK

This key is used to confirm operator-initiated actions when prompted via the LCD.

Keyswitches

An NZ *MX1* control panel has three keyswitches:

SILENCE ALARMS

This keyswitch requires a Bulgin key to operate. When this keyswitch is operated:

- all alarm devices are silenced,
- new alarms will not re-sound the alarm devices,
- the **COMMON DEFECT** and **FAULTS** indicators will be lit,
- the key cannot be removed.

When the Silence Alarms keyswitch is restored to normal, all zones currently in alarm will be automatically disabled. Refer to the next section ("Resetting Zones in Alarm", p2-4) for instructions for resetting and enabling these zones.

SERVICES RESTORE

This keyswitch provides a means to restore selected building services in a way controlled by the system configuration. For example it may enable lift operation that has been disabled by the *MX1* during an alarm.

EVACUATION

This keyswitch activates the alarm devices. It overrides the Silence Alarms keyswitch.

Operator Commands

In nearly all cases, the operator commands described in this manual consist of a series of keypresses on the keyboard on the front of the *MX1* panel.

Some of the keys have fixed labels and meanings, e.g., the key labelled "NEXT" immediately below the alphanumeric display. This key will be referred to as the **NEXT** key. Similarly, other keys with fixed labels will be referred to as **RESET**, **MENU**, **OK**, etc.

The four keys to the right of the alphanumeric display have meanings that change depending on what is being displayed. The current meaning of each key is displayed at the right hand end of the alphanumeric display, alongside each key.

For example, a common meaning for **F2** and **F3** is to step through a list, when they are labelled "**PREV**" and "**NEXT**". This will be referred to in the command descriptions as **PREV**←**F2** and **NEXT**←**F3**.

"CANCEL" option Unless indicated otherwise, pressing the **CANCEL** button or (**F**-key option if applicable) will return the LCD to the previous menu.

Operator Access Levels

Description

The *MX1* operator interface uses the concept of Access Levels to manage access to front panel commands that display or affect the state of the system. These Access Levels are based on the descriptions found in ISO 7240-2. The NZ Brigade Key Switches are unaffected by the Access Level and are available at all times.

There are four Access Levels: 0, 1, 2 and 3.

Level 0

When the system is fully secured and no alarms are present, and the *MX1* is configured for the keypad to be completely disabled.
There is some viewing ability but no control.

This is the default NZ configuration.

Level 1

This is the level when the system is fully secured, i.e., cabinet door closed and locked and there is an alarm, or (for local mode panels) the fault sounder is active. In NZ operation, Level 1 access will only be available while there is an alarm condition present, and for NZ Local panels if the fault sounder is on.

In NZ operation at this level, you can:

- View the Alarms list
- Silence the *MX1* sounder
- Acknowledge alarms (if this function is enabled)

You cannot affect the operation of the system at this level.

Level 2

Access to this level requires a key to the cabinet door. Insert the key in the door lock and turn it 45° anticlockwise to enable this level.

At this level, you can:

- Use all the level 1 commands.
- Reset or Disable zones.
- Silence or re-sound the alarm devices and internal buzzer.
- Recall the status of zones or points.

Level 3

Access to this level requires a key and a usercode and PIN. Refer to Chapter 7 for instructions on how to log on to Access Level 3.

At this level, you can:

- Use all the level 1 and level 2 commands.
- View low level system status displays.
- Disable and test system points.

You cannot alter the system configuration at this level.
These lists are not exhaustive, but indicate the degree of system control available at each level.

Screen Timeout

In the absence of keypad input, Access Level 3 users will be logged out after approximately 10 minutes and the screen returned to the base display.
Additionally, certain user prompt screens will return to the previous display after approximately 15 seconds. Access Level is unaffected by this.

Terminology used in this Manual

In order to get the best use of this manual, you should be familiar with the concept of points and zones.

Points

A point is a representation of a component of a fire alarm. This component may be a detector such as a heat sensor, or it may be a relay that controls alarm devices such as bells, or it may be some internal part of the control equipment.

The point that represents this component has a state, which can be one or more of:

- **Normal** – the component is operational and no other condition is present.
- **Fault** – the component is in a condition that may adversely affect its ability to function correctly.
- **Disabled** – the component has been disabled by the operator to prevent it from affecting system operation.
- **Pre-Alarm** – the component is a detector that has reached a condition suggesting an impending alarm.
- **Alarm** – the component is a detector and has activated (see Chapter 2). Generally, this calls the fire brigade.
- **Active** – the component is an input device that is being driven out of its normal condition, but is not in alarm or fault.
- **Operated** – the component is an output device (relay, transistor etc) and has activated.
- **Device Fail** – communication with this *MX* device is not possible (for example, because it has been removed from the loop).
- **Type Mismatch** – the wrong type of *MX* device is installed/programmed at this address.

As well as having a state, some points can also have values. For a smoke detector point, one value might represent the smoke level. For a heat detector, one might represent the current temperature. For an internal system point for battery status, one might represent the battery voltage.

MX1 uses points to represent most of its internal and external components. The system configuration controls the way these points interact to provide the required system operation.

Zone and point information can be accessed from the *MX1* front panel.

Creating the system configuration requires special training and tools and is beyond the scope of this manual.

Point Numbers

A point number has the form ***Eq.Pt.Sub*** which consists of three parts:

- ***Eq*** is the equipment number, which indicates which equipment part of the system is involved.
- ***Pt*** is the point number within the particular equipment part, which will usually relate to a single part of the system such as a detector or power supply.
- ***Sub*** is the sub-point number, which indicates which part of a particular point is required. Many point types do not have more than one sub-point, which means that their only valid sub-point number is 0.

For example, point **241.25.2** refers to the Battery Connection point which registers the status of the battery connection. The parts of this point number are as follows:

241 is the equipment number of the controller in the *MX1*,
25 is the Power Supply status point,
2 is the sub-point for the Battery Connection.

This is entered as **2 4 1 . 2 5 . 2 OK**

Point numbers for devices on the *MX* addressable loop can be readily constructed if you know their addresses. For a device with address ***A***, enter point number **1.*A*** which will show the state of subpoint 0. The addressable loop is always equipment number 1. Use **NEXT←F3** to step through any other sub-points of the device, e.g., the photo and heat parts of a multi-sensor detector. On *MX* points, subpoint 0 is used to record the communications status and device type faults.

For *MX* loop devices, sub-point 0 represents the physical device, and is responsible for logging to the history and printer the Device Fail and Type Mismatch events. Note that when these events occur, all sub-points will enter the fault state, but only sub-point 0 will log these events. Disabling 0 will prevent the logging and signalling of fault by sub-point 0, but will not prevent the fault being signalled on the other sub-points.

Disabling sub-point 0 of an *MX* device will prevent the logging and signalling of Device Fail and Type Mismatch events by sub-point 0, but not the other sub-points. Therefore when disabling an *MX* Point that is in Device Fail and Type Mismatch, it will be necessary to disable all sub-

points of the device to remove the fault indication.

Whole Point Number

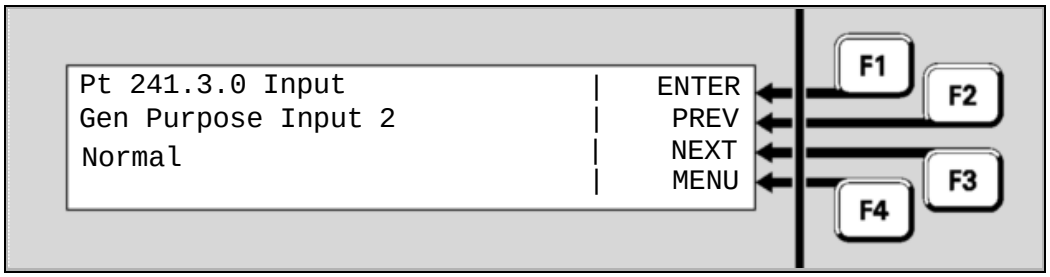
The "whole point" is represented by a point number **Eq. Pnt** and is used to perform operator actions on all subpoints of that point, without performing commands individually or requiring an operator to successfully enter the subpoint range. For example, entering a point number 1.1 at the Disable Point command will disable all subpoints on this device that can be disabled. For some points there is only one subpoint 0, thus commands to the whole point or subpoint 0 have the same effect.
Note that the *MX1* treats a whole point entry as a range entry covering all subpoints on the specified point, thus menus will behave as if a range had been entered and will not display location texts.

Equipment numbers

Equipment numbers are:

- 1 – *MX* loop
- 241 – controller board points
- 242 – pseudo points – these are virtual points whose state can be controlled by logic equations in the system data file. These are usually used to produce special operations in some installations.
- 243 – LCD/keyboard points
- 244 – RZDU/RDU points/equipment (if an RDU has not been enabled in the panel configuration, these points will not be viewable).

In the absence of any other information, a point can be found by entering the first point in the particular equipment part (for example, entering 241 will bring up the first sub-point on the controller board), and stepping through the list of points and subpoints with **NEXT**. The point text will show what system element is represented by each point, for example;



Zones

A zone is a subdivision of the area covered by the fire alarm system, used by emergency personnel to manage the responses to alarms.

Each zone will contain one or more devices, and the *MX1* combines the states of the points representing these devices to produce a common zone status indication for use by brigade staff and other emergency personnel.

Additionally, the zone can display a status of

- Resetting – while reset command is in progress
- First Alarm – when the first alarm has been detected on a zone that is configured for dual-hit operation
- AlarmTst, FltTst, TestOp, AutoReset, AlTstFail – when a zone test is in progress or has failed.

ISO terms compared

In general, this manual uses terminology taken from ISO 7240-2. This table matches these with other common industry terminology:

ISO Term	Equivalent industry term
Alarm	Fire
Fault	Defect
Disable/Enable	Isolate/De-isolate

Note that when referring to the control of points and zones, “isolate” is the term traditionally used in New Zealand and Australia, while the ISO-standard term “disable” is becoming more widely used.

General Terminology

Alarm Devices	The devices which are used to warn the occupants of the protected premises of an alarm. These are generally sounders, e.g., bells, hooters, sirens, EWIS systems with speech, but may also include visual indicators such as beacons or strobe lights.
Alarm Routing	The transmission of an alarm indication to a remote monitoring centre which will summon the fire brigade. The same transmission medium is often used to also transmit a fault indication (Fault Routing) to the monitoring centre to summon a service agent.
Activated	This is the state of a point which is not in its "normal" or idle condition, nor faulty. Examples are: a detector in alarm, a relay or LED turned on, an input switch being closed.
Off-normal (point)	The point is in a condition other than Normal, e.g., faulty, disabled, active, etc.
Off-normal (system)	A system condition where there is no fault or alarm condition, but the system is not in a fully normal condition. The most common example of this is when some part of the system is disabled.
Dirty [detector]	Refers to the build up over time of dust or dirt in a smoke detector. This reduces the ability of the detector to reliably detect the presence of smoke in a real fire. The *MX1* monitors the background detector readings as these increase due to dirt build up, and signals a dirty state for the detector when these readings reach a level that limits the smoke detection ability of the detector.
Acknowledge	An operator action on the indicated zone alarm has been seen and processed. This may affect zone LED indications and indications at RDUs.

Example Screens

This manual includes a number of example MX1 LCD displays. The information shown in most of these is defined by the actual configuration and template used, and so will differ for most systems.

Chapter 2
Managing Alarm Conditions

Alarm Condition

An alarm condition occurs when a fire detection device (such as a manual call point, smoke detector, etc.) activates.

The *MX1* indicates the presence of the alarm condition through messages on the alphanumeric display, by illuminating the FIRE indicator and zone indicators (if fitted), and by activating the building's alarm devices and activating the alarm routing output.

This chapter describes using the keypad to investigate and manage alarm conditions.

Alarms can be viewed at Access Level 1.

Alarms cannot be reset or disabled unless you have a key to enable Access Level 2. The NZ brigade Silence Alarms keyswitch can be used to disable all active alarms.

See page 1-10 for more information about Access Levels.

In this Chapter

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

Viewing Alarms

What the System Does When an Alarm Occurs

When the first alarm condition is detected by the *MX1*, the panel does the following to indicate the presence of the alarm:

- The red Fire and Zone Alarm indicators are lit. Unacknowledged zone alarm indicators flash.
- The buzzer pulses.
- Alarm devices are activated, shown by the red ALARM DEVICES ACTIVATED indicator.
- Brigade routing outputs are operated, shown by the red ALARM ROUTING ACTIVATED indicator.

Alarm Detail Display

The alphanumeric display will show the alarm detail for the first alarm:

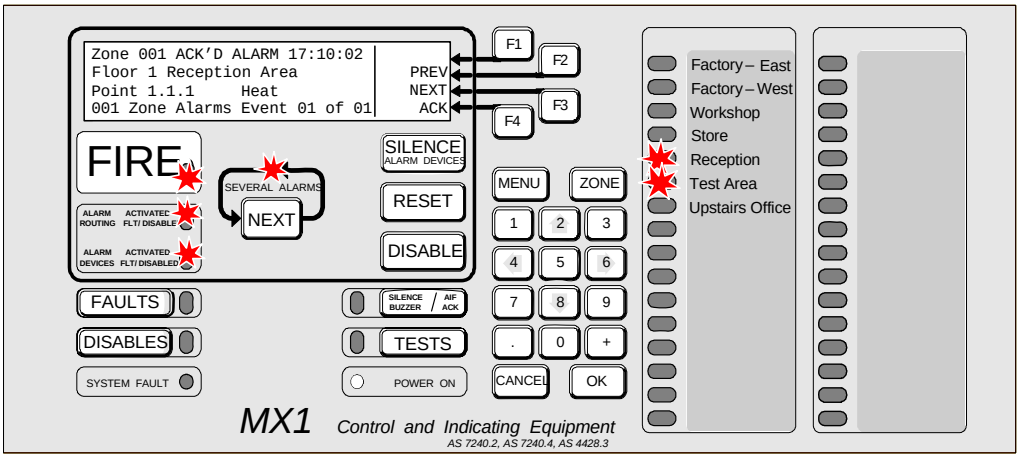


Fig 2-1 Example of an Alarm Detail Display

- The first line shows the zone number and the time of the alarm. If the Acknowledge feature is enabled, this line will also show whether this alarm has been acknowledged.
- The second line shows the detailed location text for the point that caused this alarm.
- The third line shows the number of the point that caused this alarm, and its alarm type.
- The fourth line shows the number of zones in alarm, and shows which alarm is being viewed out of the total number of alarms (events) present (in the example shown, it is the only alarm). The number of Alarm Events shown will always be equal to or greater than the number of Zone Alarms, since for each instance where a point in alarm maps to one or more zones, an Alarm Event is generated.
- The SEVERAL ALARMS indicator lights if there are two or more alarms.

In the Alarm Detail display, you can:

- Press **NEXT** key or **NEXT←F3** soft key to step to the next (later) alarm,
- Press **PREV←F2** soft key to step to the previous (earlier) alarm,
- Press **ACK←F4** soft key (if enabled) to mark the alarm as acknowledged. The acknowledgement time and date is recorded in the history log.

Silencing the Buzzer

To silence the internal alarm buzzer in the *MX1* cabinet, press the **SILENCE BUZZER** key. This can be done at Access Level 1.

If a new alarm is detected, the alarm buzzer will start sounding again.

Acknowledging Alarms

To acknowledge an alarm, press **ACK←F4**. If more than one device is in alarm, press **NEXT←F3** or **PREV←F2**, as described above, to step to the next or previous alarm.

Acknowledging an alarm has the effect of indicating acknowledgement on the LCD, may make any associated flashing zone alarm indicator go on-steady and may also acknowledge the corresponding indication at a remote display.

Silence Alarms keyswitch

In NZ, silencing of the alarm devices is achieved with the Silence Alarms keyswitch, for use by brigade staff.

This keyswitch requires a Bulgin key to operate. When this keyswitch is operated:

- all alarm devices are silenced,
- new alarms will not re-sound the alarm devices,
- the **COMMON DEFECT** and **FAULTS** indicators will be lit,
- the key cannot be removed.

When the Silence Alarms keyswitch is restored to normal, all zones currently in alarm will be automatically disabled. Refer to the next section (“Resetting Zones in Alarm”) for instructions for resetting and enabling these zones.

Note that if the alarm devices are silenced by use of this keyswitch, they will remain off until the keyswitch is returned to normal.

Resetting Zones in Alarm

Overview

The Alarm state latches within the *MX1* system so that it can be viewed and acknowledged. When the latched alarms are no longer required they can be reset.

The condition that caused each alarm must be cleared before the *MX1* can be reset to the normal state, (e.g. smoke cleared from smoke detectors, manual call point restored to normal).

Requirements

This is an Access Level 2 operator function. You must have a cabinet key.

In the Alarm Detail display

Scroll the display with **NEXT** until the particular zone alarm is on the display.

- Press **RESET**.
- Press **OK** to confirm the reset command.

While the item is being reset, “Resetting” will be shown on the LCD.

If the particular zone in alarm is reset successfully, the alarm will disappear from the display, and the alarm count will reduce by one.

Note that the reset command also has the effect of acknowledging the alarm.

If the Alarm will not reset

If one or more detectors or devices in the zone are still active, the zone alarm state will not reset. At the end of the reset period, any points still in the alarm condition are re-annunciated as new alarms.

Disabling Zones in Alarm

Overview

When a zone is disabled, it cannot put the system into alarm or fault. Being disabled also prevents alarms or faults from causing outputs to operate.

Requirements

This is an Access Level 2 operator function. You must have a cabinet key to enable this Access Level. See page 1-10 for more about Access Levels.

If using the Alarm Detail display

Scroll the display with **NEXT** until the particular zone alarm is on the display.

- Press **DISABLE**.
- Press **OK** to confirm the disable command.

When the particular zone is disabled, the alarm will disappear from the display, and the alarm count will reduce by one.

Enabling disabled zones

Refer to Chapter 3, “Managing Fault and Disable Conditions”, for details on how to enable zones that are disabled.

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Chapter 3
Managing Fault and Disable Conditions

Fault condition

A fault condition occurs when a system component is in a condition that may affect its ability to function correctly.

The *MX1* continually checks the condition of its internal and external components, and will generate indications on the front panel and signals to alarm/fault routing, etc., when it detects a fault.

Examples of faults are:

- an *MX* detector is removed from its base,
- a field wiring problem (circuit break, short circuit or ground connection) between the *MX1* and any of its detectors,
- a problem with an output relay wiring,
- a problem with the *MX1*'s internal memory or communications,
- a problem with the power supply or battery.

Disable condition

A disable condition occurs when an operator takes a component out of service for an extended period, e.g., to prevent a false alarm when maintenance work such as building repairs or welding is being done in an area, or because it is faulty and repair may take some time.

A disabled component is prevented from contributing to alarm and fault indications or outputs. However, since the system is not in a "normal" state, under most configurations the presence of disabled components is shown by indications on the front panel.

Off-normal Condition

The zone or point is in a condition other than Normal, but it is not fault or alarm. This is usually due to a service function such as: Brigade transmission device is isolated, Database Write Enable link is fitted, etc.

The LCD will display a message "SYSTEM IS OFF-NORMAL" when any points are off-normal, but not in alarm or fault. This usually due to a service error such as :

- Brigade transmission device is isolated
- Database Write Enable link is fitted, etc.

In this Chapter

This chapter describes using the operator interface to investigate the details of the fault condition, and to manage disable conditions.

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

Viewing Fault Conditions

How the *MX1* Indicates the Presence of a Fault

When a fault condition that has not been disabled is detected by the *MX1*, the operator interface does the following:

- The yellow “FAULTS” indicator lights.
- A yellow zone indicator may flash for a zone fault.
- The buzzer sounds continuously (if configured).
- The alphanumeric display on the interface panel indicates the presence of a fault condition and may show a fault action, for example to call the service company, as shown below:

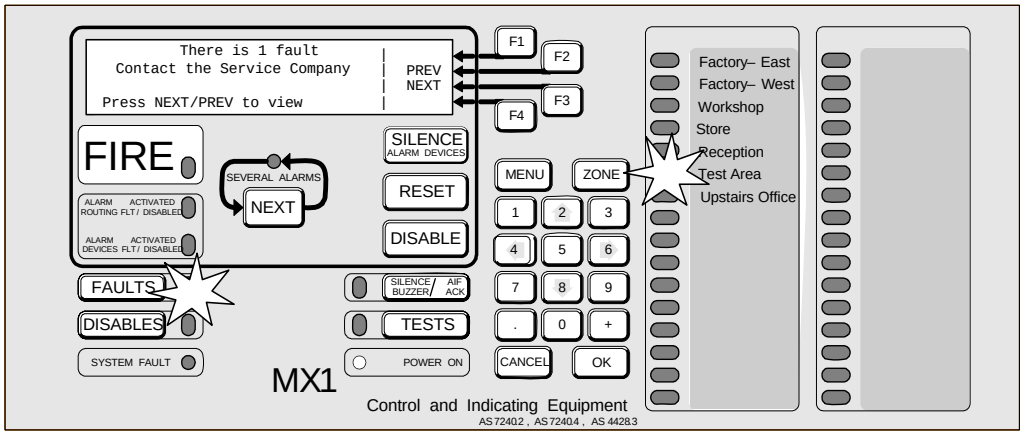


Fig 3-1 Operator Interface Showing Fault Condition

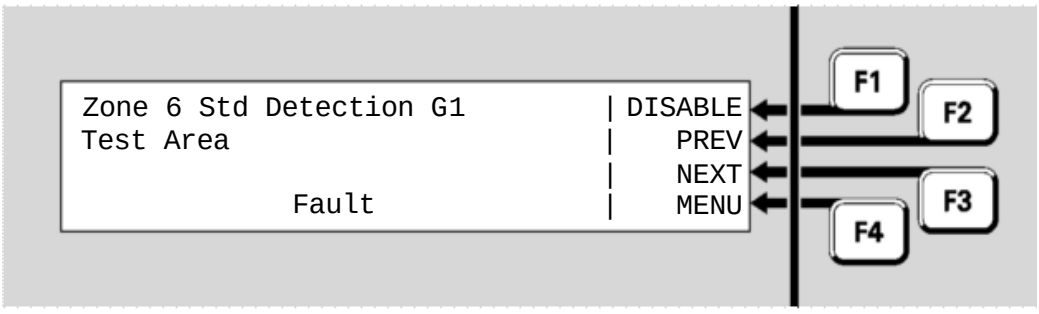
If a fault condition occurs on a disabled item then no indication is given, but the fault(s) can be viewed by pressing the **FAULTS** key.

Viewing the Fault Details

This operation requires Access Level 2 or higher.

To view the list of current faults, press the **FAULTS** key.

The **FAULTS** key will work from most displays as well as the base display.



This will display the first item in the Faults list.

The Profile name displayed (Std Detection G1 in this example) identifies the set of configuration settings in use for the zone.

Zone Faults

If there are zone faults as well as point faults, the zones will be shown first in the list. A zone fault will only be registered if one of the points associated with that zone is or was in a fault condition.

See page 1-11 for more about the difference between zones and points.

Fault indications for points are non-latching, i.e., when the point fault is cleared, the fault indication will automatically clear. Zones can be configured to latch their faults, i.e., to maintain the fault indication even after the point fault that originally caused it has cleared.

Therefore, while it is usual to find zones and points in the Faults list, it is possible to find only zones in the list, if the point faults have cleared.

The zones in fault are listed first, in numerical order, followed by the points in fault, also in numerical order.

To step the Fault Detail display to the next item, press the **NEXT** key or **NEXT**←**F3** soft key.

To step to the previous item, press the **PREV**←**F2** soft key.

Point Faults

In some instances a fault on a device will put all of the subpoints of that device into the fault state, for example Device Fail and Type Mismatch faults. Thus a single device fault may result in more than one fault being indicated on the system.

However, only subpoint 0 will log the event to Event history or to the printer.

All of the associated subpoints can be disabled at once if no subpoint is specified with the disable command.

Resetting a Fault Indication

This operation requires Access Level 2.

To reset a latched fault indication:

- Press **FAULTS** to display the Fault Detail display, if necessary,
- Step through the Fault list to the zone or point to be reset,
- Press **RESET** and **OK** to confirm the reset.

If the reset was successful, the state of the zone or point will change from Fault to Normal. If the fault is still present, the fault indication will not clear, or may clear for only a few seconds.

If the fault on a zone does not clear then the fault condition is still present

on one or more points, and these point faults will need to be cleared before the zone fault can be reset.

Note: For NZ systems most faults do not latch and clear when the cause is removed.

Viewing Disables Conditions

How the *MX1* Indicates the Presence of Disabled Items

When there are one or more zones, points or components that have been disabled, the operator interface does the following:

- The yellow “DISABLES” indicator lights.
- A yellow zone indicator may be lit steadily for a disabled zone.
- The alphanumeric display on the interface panel indicates the presence of an Off-Normal condition, as shown below.

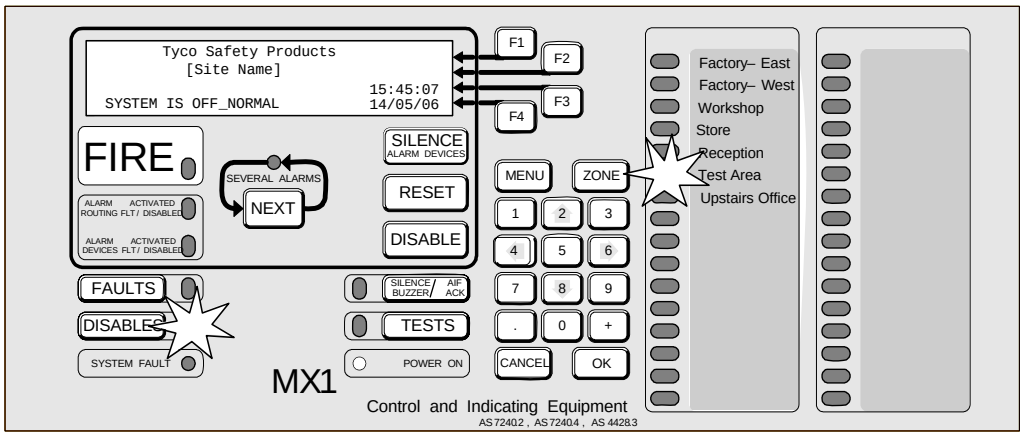


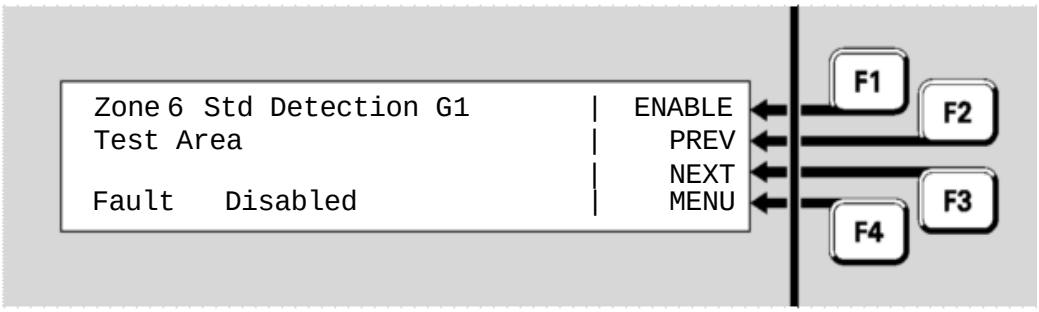
Fig 3-2 Operator Interface Showing Disables Condition

Viewing the Disable Details

This operation requires Access Level 2.

To view the list of disabled items, press the **DISABLES** key.

The **DISABLES** key will work from most displays as well as the base display. This will show the first item in the Disables list.



In the example here, zone 6 has a fault as well as being disabled, but the Disabled condition means that this will not produce a Fault indication. However, it will still appear in the list of items that can be viewed by pressing the **FAULTS** key.

Disabling a zone is a convenient way of hiding the state of all the points associated with that zone. However, the points themselves are not disabled by disabling the zone and may still affect other zones or outputs that they are mapped to.

Note that the point or zone may have other conditions present (fault, alarm, etc) as well as Disabled, but that these indications are blocked by the point or zone being disabled.

See page 1-11 for more about the difference between zones and points.

The disabled zones are listed first, in numerical order, followed by the disabled points, also in numerical order.

To step the Disables Detail display to the next item, press the **NEXT** key or **NEXT**←**F3** soft key.

To step to the previous item, press the **PREV**←**F2** soft key.

If there are no disabled items, the display shows “no disables found” and then changes to the “Disable” menu. See page 3-7, “Disable Menu Options”.

Enabling a Disabled Item

This operation requires Access Level 2.

To enable a disabled item:

- Press **DISABLES** to display the Disables Detail display, if necessary,
- Step through the Disables list with **NEXT**←**F3** or **PREV**←**F2** to the zone or point to be enabled,
- Press **DISABLE** or **ENABLE**←**F1** and then **OK** to confirm the enabling.

Warning: if the disabled zone or point is in Alarm, enabling it may cause the system to enter the Alarm state.

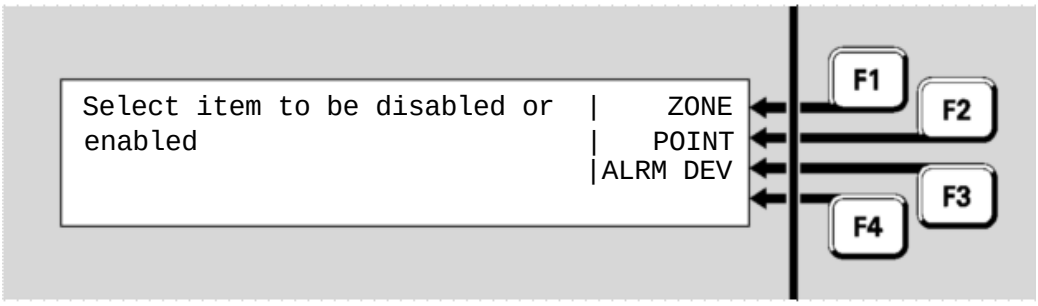
At Access Level 2, other Disable options are available from the Disable detail display by pressing the MENU key. These are described in the next section.

Disable Menu Options

At Access Level 2, there are commands available from the Disables display to disable or enable whole blocks of zones or points as well as individual zones or points.

If necessary, press **DISABLES** to show the list of Disables. If there are no disabled points or zones and the system is not in alarm condition, a "No Disables Found" message appears and the options menu appears automatically after 2-3 seconds.

Otherwise press **MENU** to see the options. Alternatively press the **DISABLE** key from the base display.



- **ZONE←F1** allows a zone or range of zones to be enabled/disabled. Refer to Disabling or Enabling a Zone (p6-8).
- **POINT←F2** allows a point or range of points to be enabled/disabled. Refer to Disabling or Enabling a Range of Points (p6-4).
- **ALRM DEV←F3** allows the Alarm Devices to be enabled/disabled. Depending on the system configuration, the **SILENCE ALARM DEVICES** key may also be used for this purpose (see below).

Alarm Devices

From the Disables Menu display:

- Press **ALRM DEV←F3** to disable the alarm devices, indicated by a steady yellow light on the "Alarm Devices" indicator. You will be prompted to press **OK** to confirm.
- Press **ALRM DEV←F3** again to enable the alarm devices. You will be prompted to press **OK** to confirm.

Internal Silence Alarms

This is an Access Level 2 operator function. You will need a cabinet key to enable this Access Level. See Chapter 1 for more about operator Access Levels.

To activate the internal Silence Alarms function, press the **SILENCE ALARM DEVICES** key.

The yellow **ALARM DEVICES DISABLED** indicator will light and the

alarm devices will be switched off, if they were on.

Cancelling Internal Silence Alarms

To cancel the Internal Silence Alarms function, press the **SILENCE ALARM DEVICES** key again. The *MX1* will ask for confirmation of this action. Press **OK** to confirm.

The yellow **ALARM DEVICES DISABLED** indicator will go out, as well as the **DISABLES** indicator if there are no other disables present.

If cancelling the Internal Silence Alarm will turn the alarm devices on, for example because an alarm is present, then a confirmation screen is shown. Press **OK** to complete the action. The alarm devices will then operate.

Chapter 4
Viewing the Event History Log

Introduction

This chapter describes using the *MX1*'s alphanumeric display to view the Event History log.

In this Chapter

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

Viewing Event History

Capacity

The *MX1* maintains an internal event log of up to 900 events.

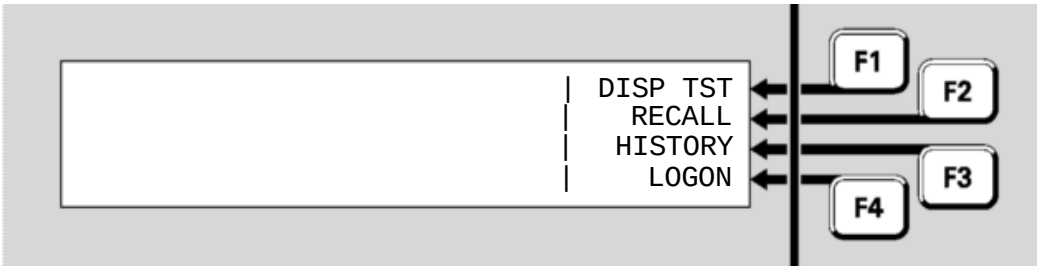
This event history can be viewed on the front panel display at Access Level 2 or higher. See page 1-10 for more about Access Levels.

The internal log is stored in non-volatile memory, so it will not be lost even if the power supply to the *MX1* completely fails.

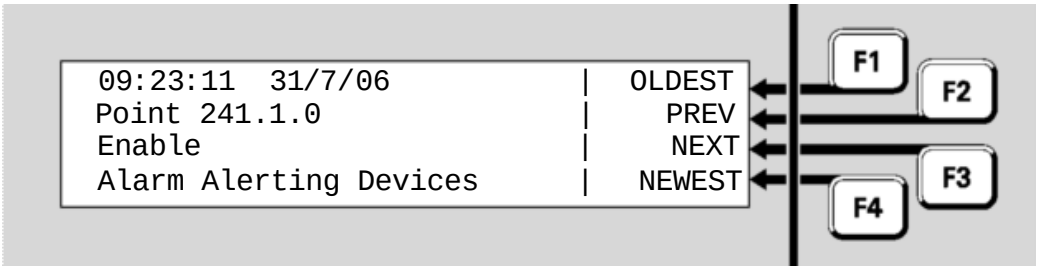
Displaying Event History

If the *MX1* display is not showing one of the base displays, i.e., Normal, Off-Normal, Fault or Alarm, press and hold **CANCEL** until the current base display is shown.

Press **MENU** to see a set of options:



Press **HISTORY←F3** to display the event log. The most recent event will be displayed first.



The display shows:

- the time and date of the event,
- the number of the zone or point,
- the type of event, e.g., Disabled, Enabled, Alarm, Fault,
- the text description of the zone or point involved.

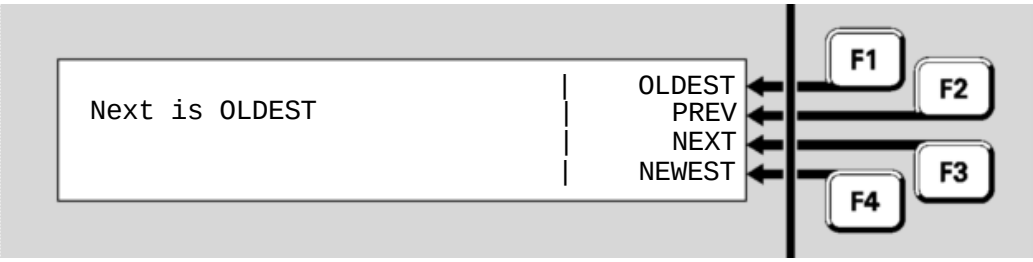
Explanations of the event messages are given in Chapter 9.

History Navigation Keys

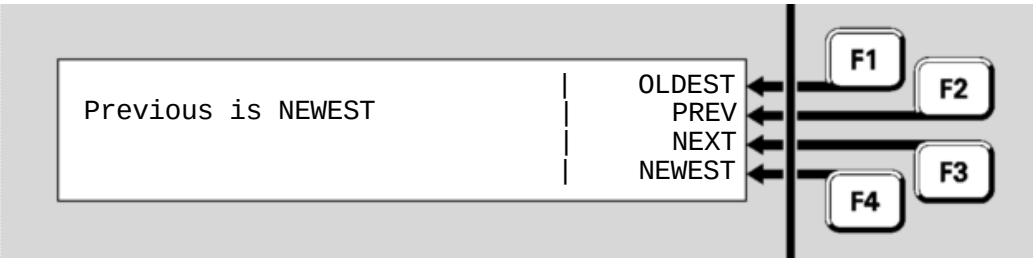
The soft keys **F1** - **F4** are used to step forward and backward through the event log.

- **NEXT** or **NEXT←F3** steps to the next (later) event,
- **PREV←F2** steps to the previous (earlier) event,
- **OLDEST←F1** shows the oldest event in the log,
- **NEWEST←F4** shows the newest (most recent) event.

Stepping **NEXT←F3** from the newest event will return to the oldest event after a brief message:



Stepping **PREV←F2** from the oldest event will return to the newest event after a similar message:



Press **CANCEL** to return to the base display.

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Chapter 5
Recalling Zone and Point Status

Introduction

This chapter describes using the front panel to view the status of zones and points.

All these commands require Access Level 2. See page 1-10 for more information about Access Levels.

Note; some points may be recallable and appear to be in various "normal" states, but cannot have commands performed upon them. This may be due to the configuration settings used in a particular *MX1* installation, or to the points being for displaying status only.

Equipment Points are listed in "Equipment Point Descriptions" on page 9-5.

In this Chapter

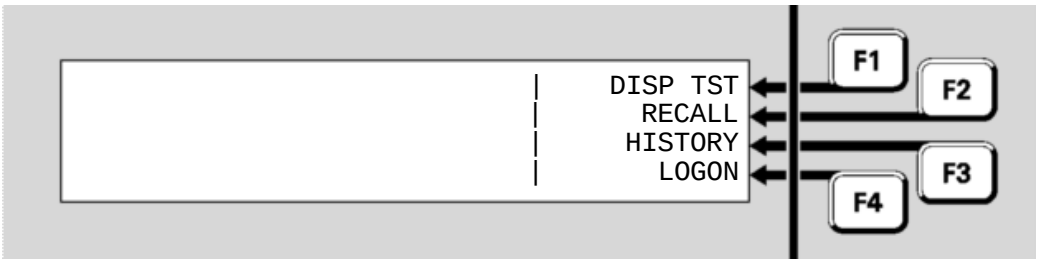
Refer to the page number listed in this table for information on a specific topic.

Recall Menu Options

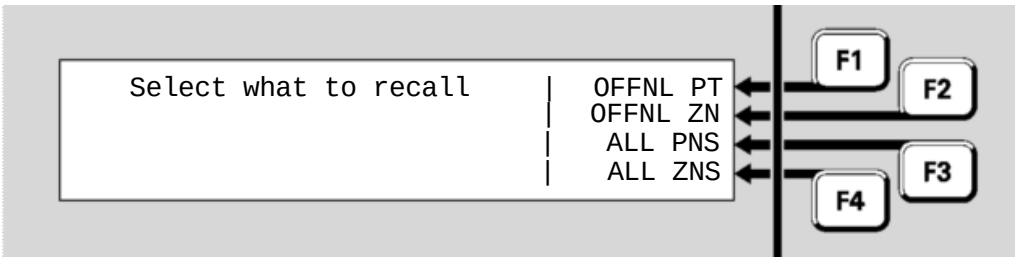
Requirements

If the *MX1* display is not showing one of the base displays, i.e., Normal, Off-Normal, Fault or Alarm, press and hold **CANCEL** until the base display is reached.

Press **MENU** to see a set of options:



Press **RECALL**←**F2** to see the Recalls menu:



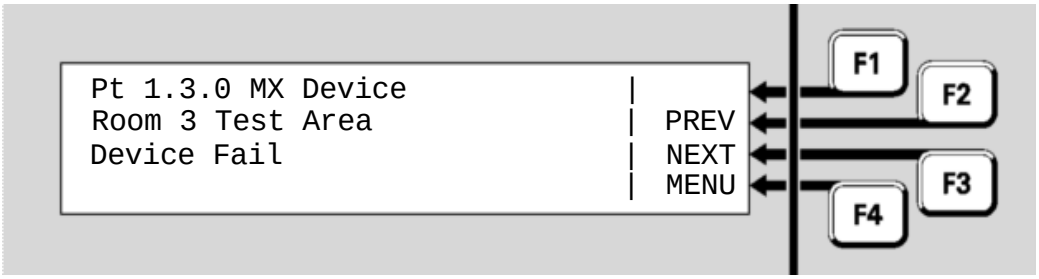
- **OFFNL PT**←**F1** shows all points that are not in a Normal state.
- **OFFNL ZN**←**F2** shows all zones that are not in a Normal state.
- **ALL PNS**←**F3** shows the state of all points.
- **ALL ZNS**←**F4** shows the state of all zones.

In the subsequent point or zone displays, pressing **MENU**←**F1** or **MENU** displays a menu of commands that may be applied to the zone or point. These are described in Chapter 6, “Zone and Point Functions”.

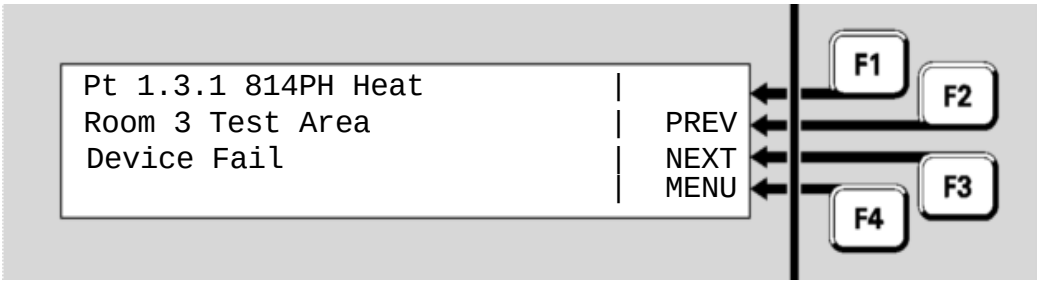
Recalling Off-Normal Points and Zones

Off-Normal Points

The points in this list are those in an off-normal condition, (e.g. alarm, fault, dirty, etc). They are displayed in numerical order, starting with the lowest numbered point. In this example, point 1.3.1 is a device which has been removed or become disconnected, hence the Device Fail status. ”Room 3 Test Area” is the point description set in the configuration. It indicates the physical location of the device.



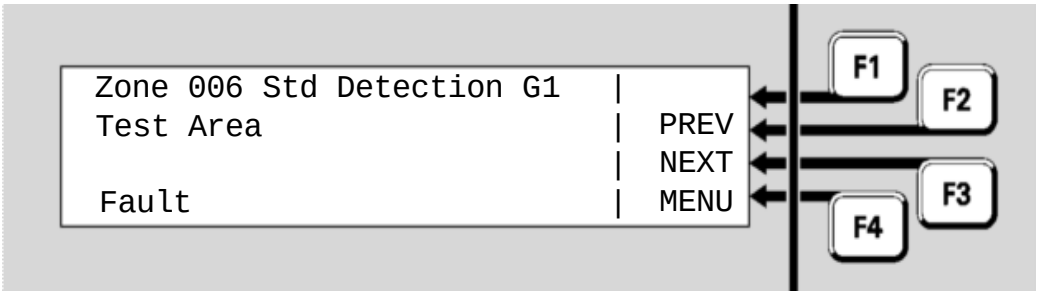
From the Recall Point Status display, **NEXT** or **NEXT**←**F3** steps to the next off-normal point, which in this case is a sub-point of this detector.



After the highest numbered point, the list wraps around to the lowest numbered point again. **PREV**←**F2** steps to the previous sub-point in the list.

Off-Normal Zones

The zones in this list are those in an off-normal condition (e.g. alarm, fault, disable, etc). They are displayed in numerical order, starting with the lowest numbered. In this example, Zone 6 is the zone associated with the faulty device in the Off-Normal Points example above.



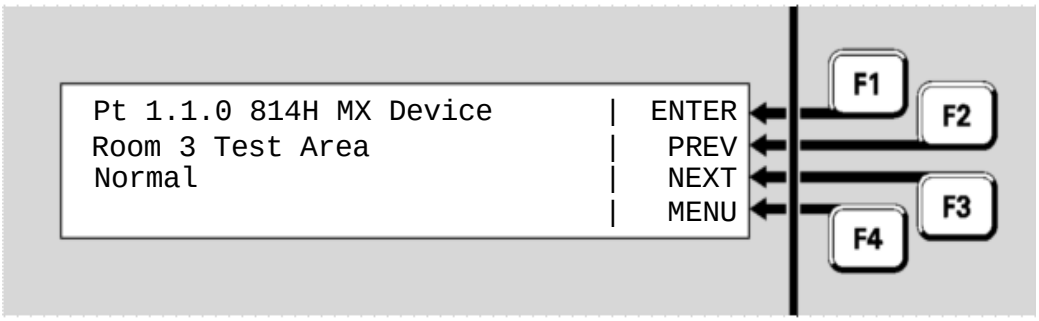
Function keys **NEXT**←**F3** and **PREV**←**F2** step forwards and backwards

through the list of zones.

Recalling All Points

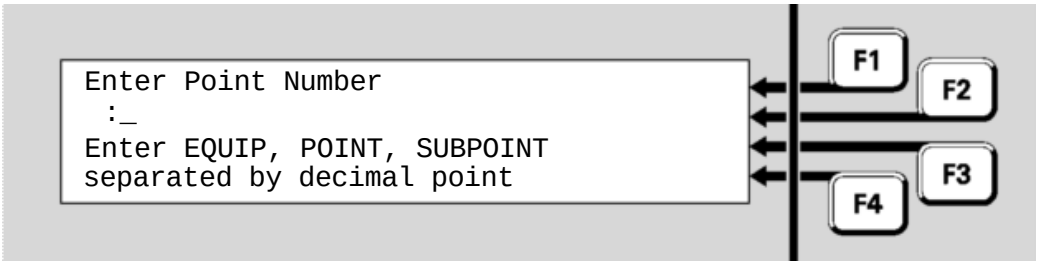
All Points

From the Recall Menu display (above), function key **ALL PNS**←**F3** shows the list of all points, regardless of status, starting with the lowest numbered point. The display shows the number, device type, subpoint type, description and state of the point.



Entering Point Numbers

From the All Points status display, you can directly enter the number of a new point to be displayed. Press **ENTER**←**F1** to show the point number entry display:



Key in the required point number and press **OK**.
Point numbering and usage is described in detail in Chapter 1, Point Numbers (p1-12).

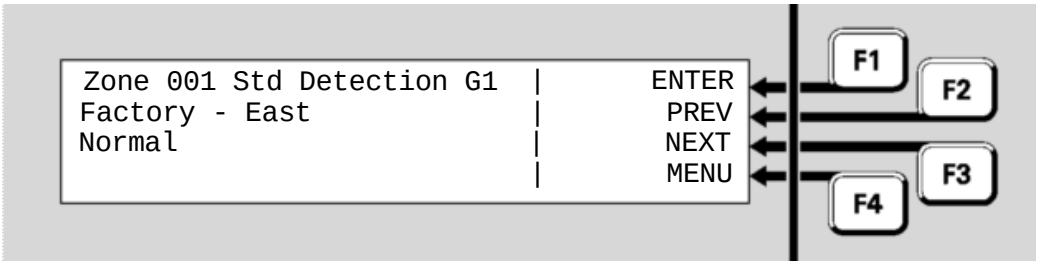
Excluded Points

Note: some points may be programmed to be excluded from off-normal or fault displays because they are not used in a particular *MX1* installation. Therefore, these will never appear in the Faults list or the Off-Normal Points list. However, they may still be programmed to appear in the All Points list, and may show a state other than Normal. Some points may be programmed to never be displayed, and these points will not appear in any of the recall lists.

Recalling All Zones

All Zones

Pressing **ALL ZNS**←**F4** from the Recall Menu display will show the recall zone status display, starting at the lowest numbered zone.



"001" is the number of the zone. "STD" is the name of the operating profile that has been programmed for the zone.

"Factory – East" is an example of a description given to the zone to associate it with its general physical location.

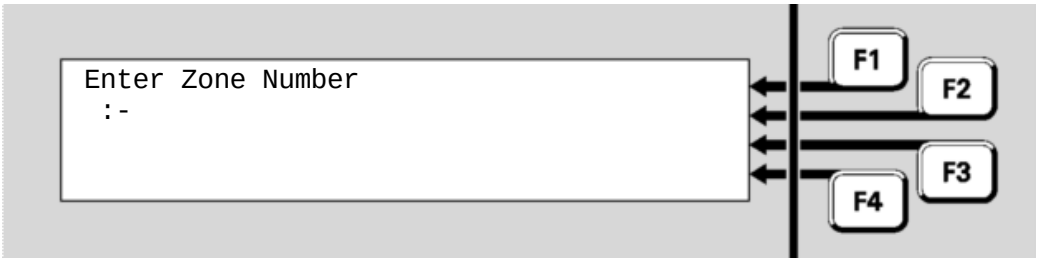
"Normal" indicates that no alarms, faults or other conditions have been reported for this zone.

Press **NEXT←F3** to navigate forward to the next zone, and **PREV←F2** to move back to the previous zone.

Press **MENU←F4** to display the commands available for the zone. These are described in Chapter 6.

Entering Zone Numbers

From the All Zones status display, you can directly enter the number of a new zone to be displayed. Press **ENTER←F1** to show the zone number entry display:



Enter the number of the zone to be viewed using the numeric keypad, followed by **OK**.

No entry will be displayed for unallocated zone numbers. If the entered zone is not configured, then the next configured zone will be shown.

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Chapter 6
Zone and Point Functions

Introduction

This Chapter describes use of the front panel to change the status of zones and points.

Except where noted, all these commands require operator Access Level 2. See page 1-10 for more information about Access Levels.

Equipment points are described in the section “Equipment Point Descriptions” at the end of this manual.

In this Chapter

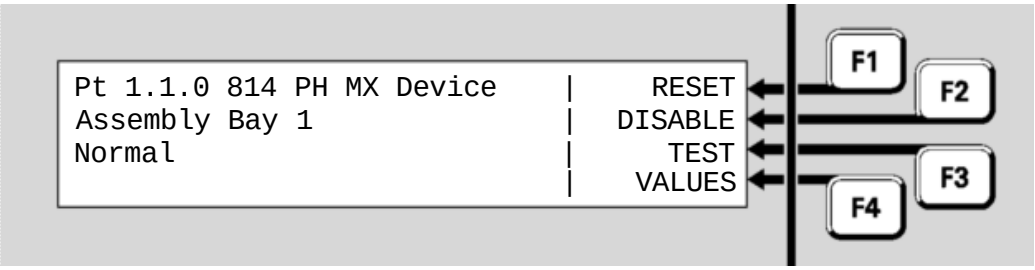
Refer to the page number listed in this table for information on a specific topic.

Displaying Zone or Point Command Menu

From any of the Recall point or zone status displays described in the previous chapter, you can press **MENU** or **MENU←F4** to see the commands available for the currently displayed item.

Alternatively, for a zone, press **ZONE** from the base display, enter the required zone number and press the **OK** key. This will show the Recall Zone Status Display for that zone.

For example,



- **RESET←F1** will reset the displayed point or zone. See the next section for more detail.
- **DISABLE←F2** will disable or enable the displayed point or zone. See page 6-6 for more detail.
- **TEST←F3** will test the point or zone. See pages 6-10 and 6-13 for more detail.
- **VALUES←F4** will display analogue values for a point. This option is displayed only at Access Level 3 and is not displayed for a zone. See page 6-15 for more detail. See page 1-10 for more about Access Levels.

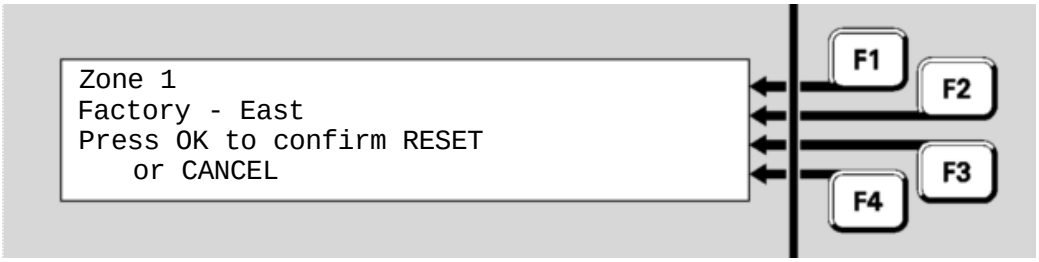
Pressing **MENU** again will switch back to the Recall Point or Zone Status display.

Resetting Zones or Points

Resetting a Zone

From the Recall Zone Status display, press **MENU** or **MENU**←**F4** to display the zone menu commands.

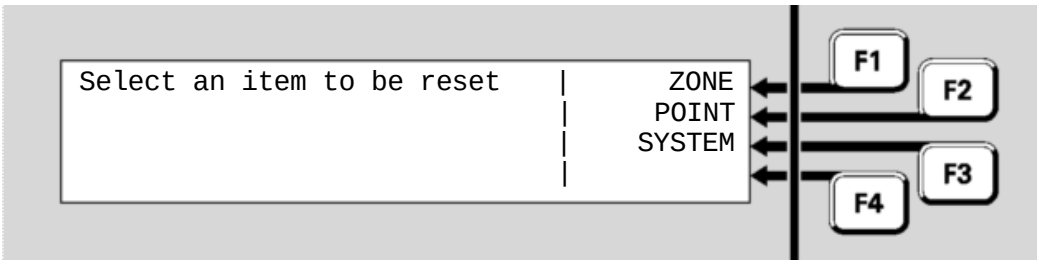
Press **RESET**←**F1** or **RESET** to reset the zone.



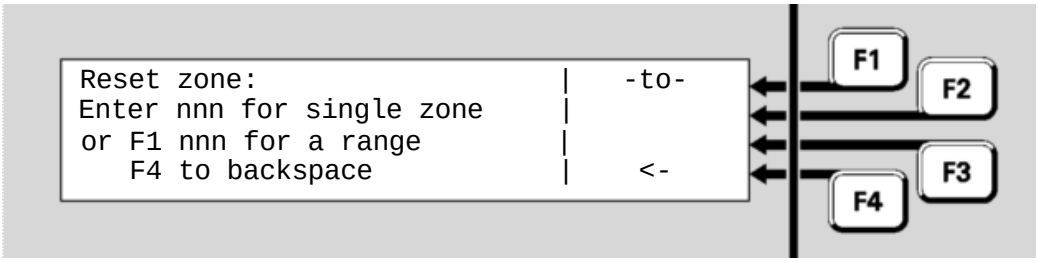
In the confirmation display, press **OK** to confirm the reset or **CANCEL** for no action.

Resetting a Range of Zones

A range of zones can be reset with one action by using the base display **RESET** command. From the base display, press the **RESET** button. Reset options are as shown below. Note that the **SYSTEM**←**F3** option requires Access Level 3.

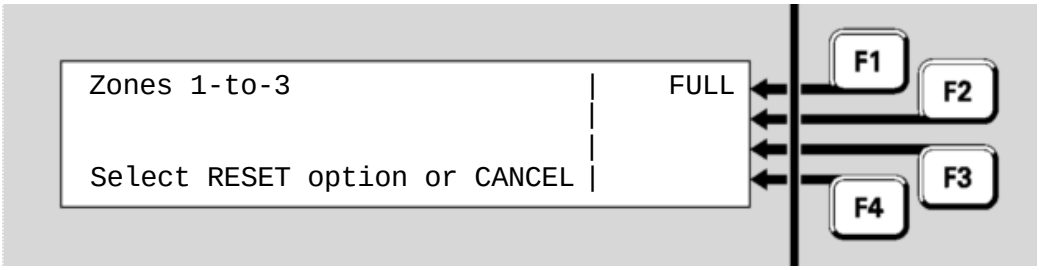


Press **ZONE**←**F1**.



Enter the first zone in the range to be reset. Then press **F1** and enter the last zone in the range. Press **OK**. **F4** can be used as a backspace key.

The resulting menu offers one or more reset options and a cancel option:

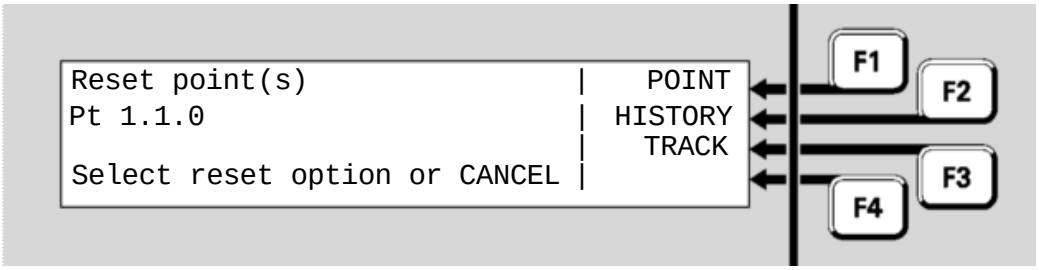


Select the reset type **FULL**←**F1** and press **OK**, or **CANCEL**. The system will perform the reset and then display the Recall Zone Status display for the first zone so that the result of the command can be viewed.

Resetting a Point

From the Recall Point Status display, press **MENU** or **MENU**←**F4** to display the point commands.

Press **RESET**←**F1** or **RESET** to reset the point. There are several options for resetting a point:



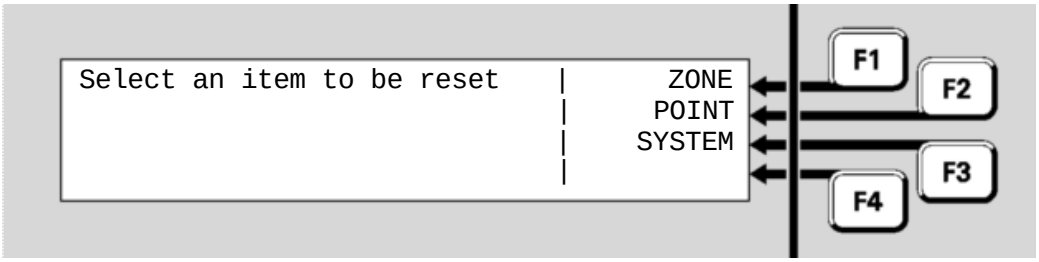
- **POINT**←**F1** is the basic reset to restore a point to a Normal state. Only the point concerned is reset. This option would normally be used only for latching devices.
- **HISTORY**←**F2** sets the point's History High and History Low values to the current value, if it has history values. If it does not, this has no effect. Generally, only analogue addressable detectors have History values.
- **TRACK**←**F3** resets the point's Tracked value, if it has one. If not, this has no effect. Generally, only analogue addressable detectors have Tracked values. This option sets the tracked (long term average) value to the current value. It is useful for resetting the tracking after a new or cleaned detector has been installed.

After selecting the type of reset required you will be asked to confirm or cancel the reset. Pressing **OK** will confirm the reset and display the recall display for the point concerned. Pressing **CANCEL** will return the display to the screen shown above.

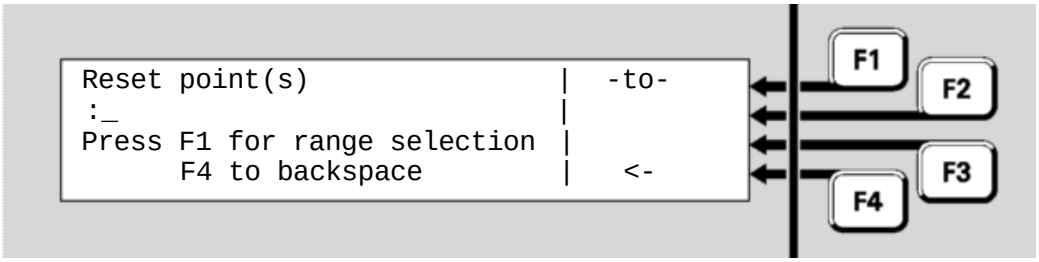
Resetting a Range of Points

A range of points may be reset with one action by using the base display **RESET** command. From the base display, press the **RESET** button. Reset options are as shown below. Note that the **SYSTEM**←**F3** option

requires Access Level 3.



Press **POINT**←F2 **.**



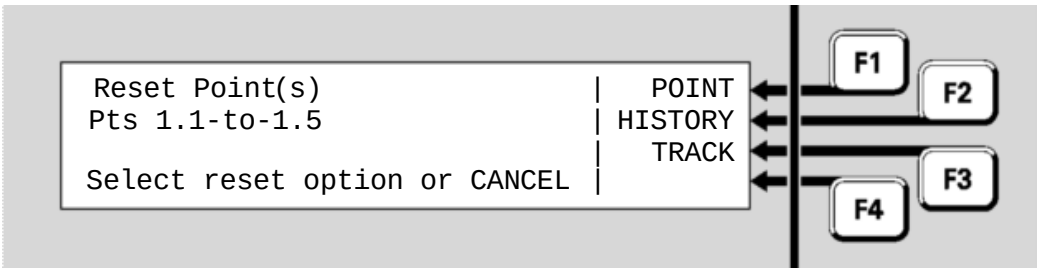
Enter the first point in the range that is to be reset. Then press F1 and enter the last point in the range. Press OK. F4 can be used as a backspace key to correct wrong entries.

Note that only

- ranges of whole points, or
- ranges of subpoints within the same point

can be entered. For information on point numbers and ranges refer to “Point Numbers” (page 1-12). The *MX1* automatically enters the end-point in the range at the same level as the start point already entered by the operator. For example, if the first point in the range is entered as “1.1.1” and **ENTER**←F1 is then pressed, the prompt “1.1._” will appear.

You will then be asked to select the reset type;



Press **POINT**←F1, **HISTORY**←F2 or **TRACK**←F3. You will then be asked for confirmation. Press OK.

The available points in the range will be reset for the selected type.

The display will then show the recall point status display for the first point in the selected range. Use the menu options to navigate through the

point range, or press **CANCEL** to return to the base display.

If no points are configured in the selected range, the message "No Items found" will be shown briefly. The next valid point will then be displayed.

Refer to "Resetting a Point" (page 6-4) for details of the point reset types.

Disabling and Enabling Points or Zones

Description of Operation

In general, each zone, each point, and each subpoint may be disabled to stop conditions on the item affecting the system. For example, the smoke sensor subpoint of an 814PH detector may be disabled to stop alarm monitoring for smoke while certain building work is going on around the detector. This will leave the heat sensor subpoint still operational and able to detect alarms.

If a zone is disabled then usually this will disable functionality for all its points as well, unless the (sub)points map to another zone or their status is used directly. In that case it will be necessary to disable the (sub)points directly.

If all (sub)points that map to a zone are disabled then the zone becomes disabled automatically. It will not be possible to enable that zone until at least one (sub)point that maps to the zone is enabled.

Note that you must separately enable the zone after you have enabled the (sub)point.

Disabling or Enabling a Point

Point numbers are listed in Equipment Point Descriptions on page 9-5.

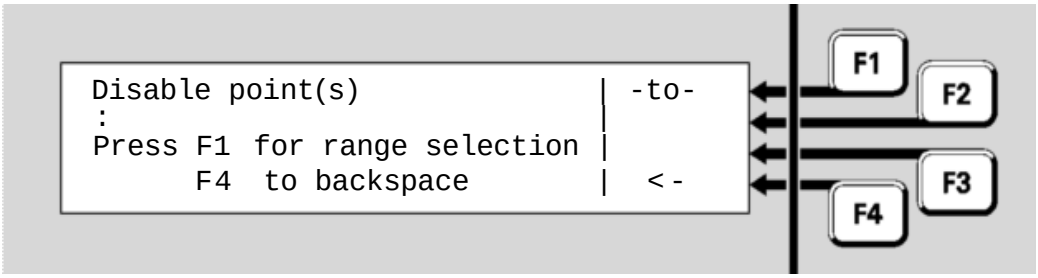
Press **PREV←F2** or **NEXT←F3** to reach the required point, then press **MENU←F4.**

Press **DISABLE←F2** or **DISABLE** to disable or enable the point. In the confirmation display, press **OK** to confirm or **CANCEL** for no action.

If this point is configured so that it cannot be disabled, a message "**`This point cannot be disabled`**" will be displayed briefly.

Disabling or Enabling a Range of Points

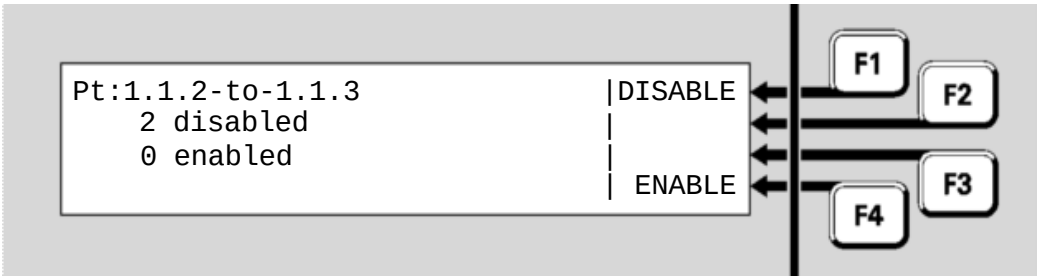
From the base display, press **DISABLE**, then **POINT←F2**.



Enter the first point or sub-point in the range, then **F1** followed by the last point or sub-point in the range. Point numbering is described in "Point Numbers" on page 1-12.
Note that the selected range cannot span equipment numbers. If the starting point is a whole point then the end point must be another whole point on the same equipment number. If the start point is a subpoint then the end point must be a subpoint on the same device. After pressing the **-to-←F1** key, the end point entry is automatically configured to the allowed range.

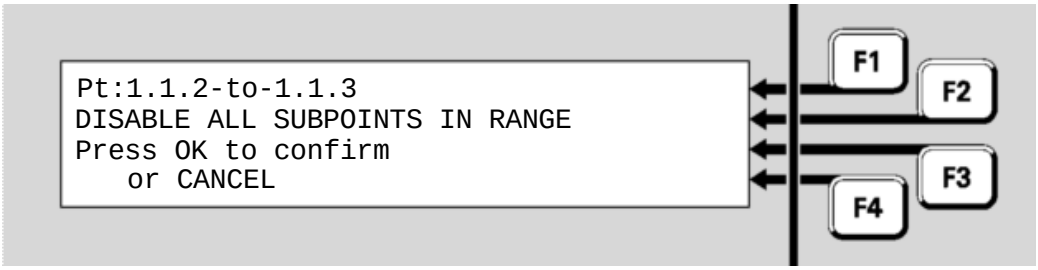
F4 can be used to backspace to correct wrong entries.

Press **OK**.



This screen shows the number of configured subpoints in the range that are already disabled and enabled.

Press **F1** to disable the range of (sub)points, or **F4** to enable the range of subpoints. A confirmation screen will be shown.



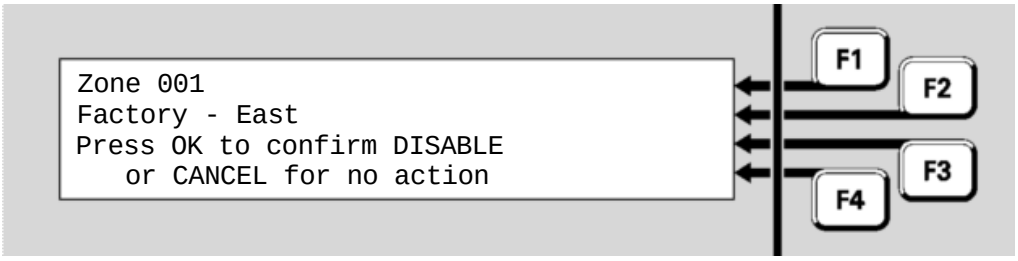
Press **OK** to confirm. The display will show the recall point status display for the first point in the range. Press **CANCEL** to return to the base display.

Disabling or Enabling a Zone from Recall Display

The Disable/Enable options for a zone are the same as for a point. From the Recall Zone Status display, press **MENU** or **MENU←F4** to display the zone commands.

To jump to a specific zone, press **ENTER←F1** from the Recall Zone Status display and enter the required zone number - for example, Zone 23. This would be entered as **2** **3** **OK**.

Press **DISABLE**←**F2** or **DISABLE** to disable the zone. In the confirmation display, press **OK** to confirm or **CANCEL** for no action.



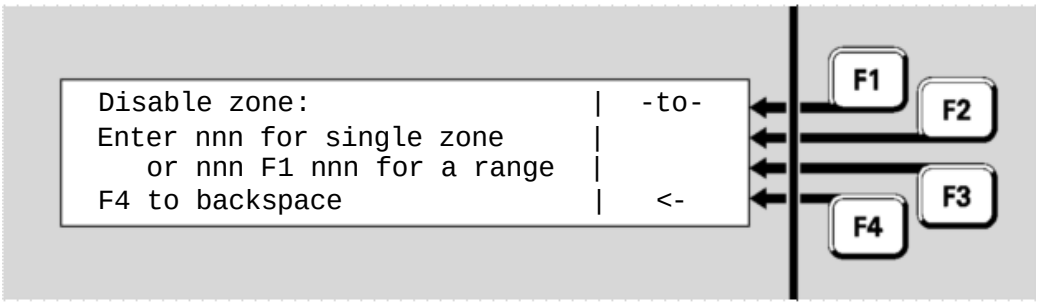
If the zone is already disabled, the confirmation prompt will show **ENABLE** instead of **DISABLE**.

When a zone is disabled, the corresponding zone indicator will show steady amber.

If this zone is configured so that it cannot be disabled, a message, "**This zone cannot be disabled**", will be displayed briefly.

Disabling or Enabling a Zone or a Zone Range

From the base display press **DISABLE**, then **ZONE**←**F1**. A single zone or a range of zone numbers is entered in this screen:

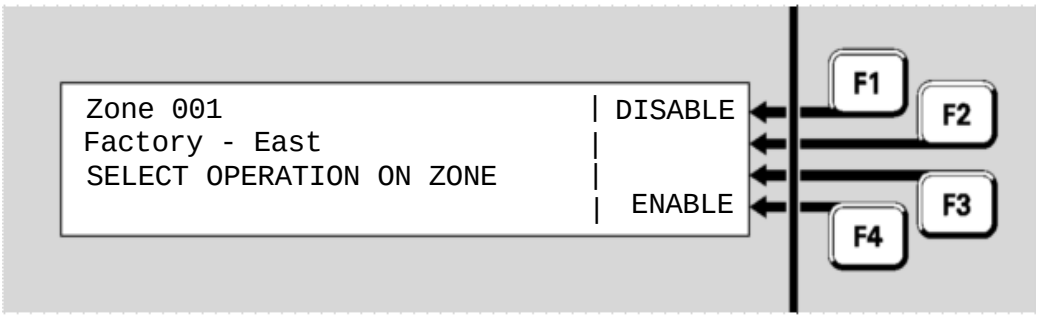


Enter a single zone or the required range and press **OK**. For example:

- If zone 2 only is to be disabled, this is entered as **2** **OK**.
- If the zone range 23 to 38 inclusive is to be enabled or disabled, this would be entered as **2** **3** **F1** **3** **8** **OK**.

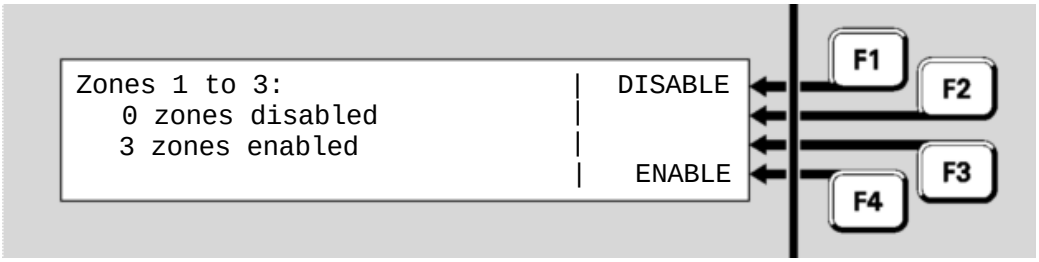
F4 can be used as a backspace key to correct entry mistakes.

If a single zone has been entered, this screen results;

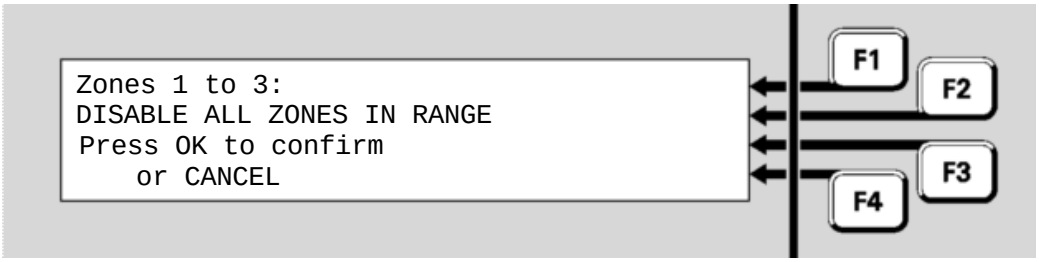


Press **DISABLE**-**F1** to disable the zone or **ENABLE**-**F4** to enable the zone. Press **OK** in the following confirmation screen to complete the command, or **CANCEL** to abort it.

If a range of zones has been entered, the next screen shows how many disabled and enabled zones there are in this range. Note that the entered zone range may include zone numbers that are not defined for this system, and therefore the sum of the disabled and enabled zones displayed may not tally with the apparent number of zones.

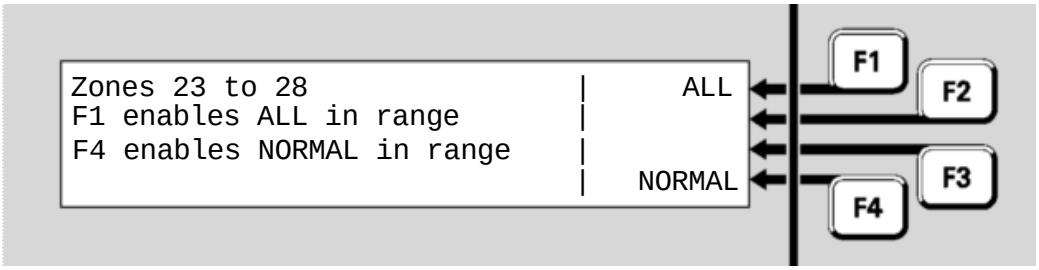


To disable the range of zones, press **DISABLE**←**F1**, and a confirmation display will result.



Press **OK** to confirm the command. You will be returned to the Zone Status recall screen for the first zone in the specified range. Press **CANCEL** to return to the base display.

To enable the zones in the range, press **ENABLE**←**F4**.



Selecting **ALL**←**F1** will enable all zones in the selected range, regardless of each zone's state.

If any of these zones are in Alarm or Fault states, they will resume their programmed behaviour in terms of driving alarm devices and fault outputs once they have been enabled.

If **NORMAL←F4** is selected, only those zones in the range that are in the normal state will be enabled. Since (dependant on the configuration in use) enabling zones in alarm could activate remote signalling, alarm devices etc, this option permits the system to be returned to service without accidentally enabling an alarm and perhaps signalling the brigade.

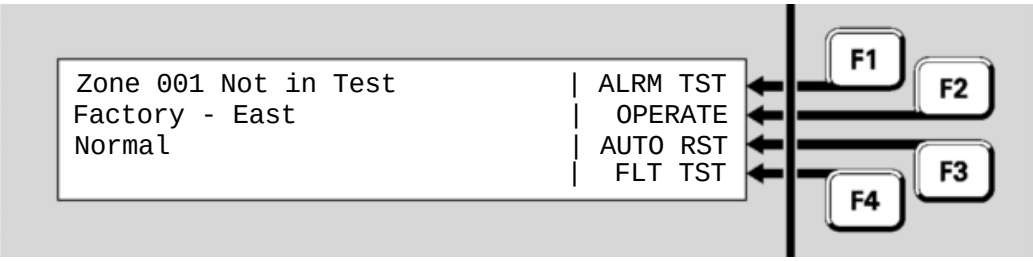
In the confirmation screen press **OK** to enable all the zones in the range, or **CANCEL** to abort the command.

Note that attempting to enable a zone that has all of its points disabled will not work even though it falls within the specified range of zones. To enable the zone, one or more of its points will need to be enabled first.

Testing Zones

Testing Zones

From the Recall Zone Status display, press **MENU** or **MENU←F4** to display the zone menu options, then press **TEST←F3** to display the zone test menu. Alternatively, from the base display press **TESTS**, **ZONE←F1** and enter the zone number.



Test options for a zone are:

- **ALRM TST←F1** – perform an alarm test on this zone.
- **OPERATE←F2** – force all output points mapped to this zone to operate.
- **AUTO RST←F3** – put this zone into Auto Reset test mode.
- **FLT TST←F4** – put this zone into Fault test mode.

If any of these test options is selected, a confirmation screen/prompt will be displayed. Press **OK** to confirm that the test should start.

While the test is running, none of the other tests can be started for this zone. However, tests can be started or stopped on other zones, and other front panel functions can be used, e.g., viewing history, point status recalls, etc.

To stop any of the tests on a zone, return to the zone test menu display for that zone, and select the appropriate menu option.

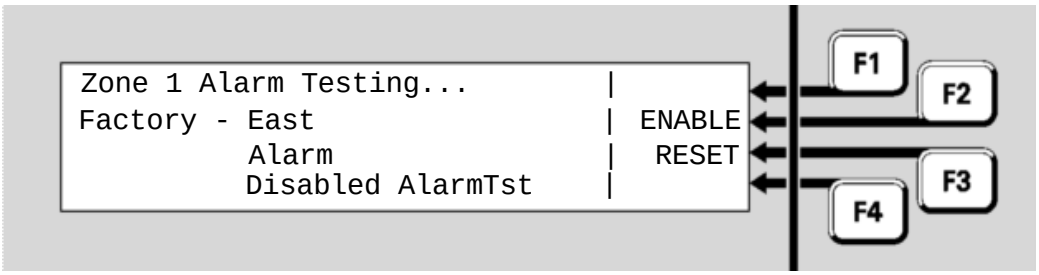
Alternatively, the zone test can be stopped by resetting the zone. This is most easily done by pressing the **TESTS** key to display the list of items

currently being tested, stepping to the desired zone under test by pressing **NEXT**, and pressing **RESET** then **OK** to confirm the reset.

Alarm Test

This test simulates an alarm in this zone by finding all points that are mapped to the zone and putting them into a test alarm condition. Those devices with a physical alarm test capability will have it activated. Other devices will have an alarm condition simulated by the *MX1*. The zone will be automatically disabled for the duration of the test.

If it is required to enable the zone during the test, press **DISABLES**. While under test the zone can be enabled and disabled by toggling **F1**. Note that enabling the zone while the alarm test is in progress will sound alarm devices.



Pressing **RESET**←**F3** will end the test and clear any alarm indication. It will also re-enable the zone if it was enabled prior to the test.

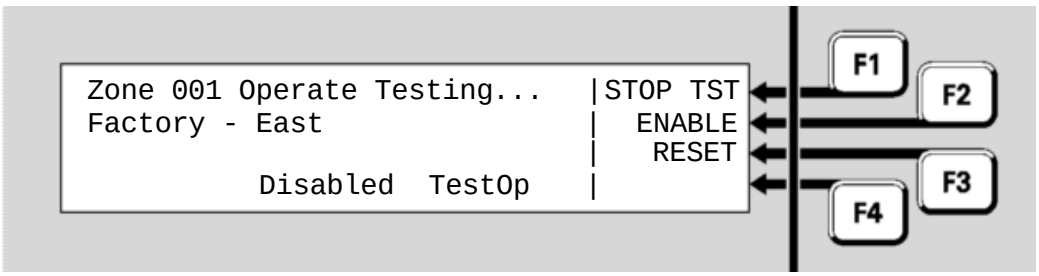
The zone can be manually re-enabled during the test so that the flow-on effects can be observed – if so, it will remain enabled after being reset.

The test is passed when the zone goes into the alarm condition. The zone will only go into alarm condition only when all points mapped to it have gone into alarm, and if this does not occur within three minutes the test is failed.

Operate Test

This test will allow all the output points directly mapped to this zone to be operated. After the test command is confirmed, the zone will be disabled, and it is necessary to enable the zone to actually operate all the output points. They will then operate for a programmed time or until the zone is disabled, the test stopped, or the zone reset.

In general, depending on the system configuration, testing will not operate alarm devices or alarm routing equipment. If in doubt, disable the alarm devices and alarm routing before starting the test.



During the test, the menu options are:

- **STOP TST**←**F1** – stops the operate test on this zone.
- **ENABLE**←**F2** – will enable the zone in order to allow the actual output points to be operated.
- **RESET**←**F3** – stops the operate test and also resets any latched states for this zone.

Press **OK** in the confirmation screen to end this test.

Auto Reset

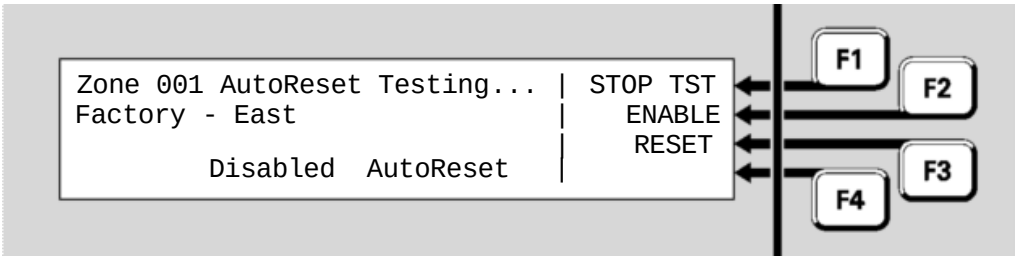
This test enables the Auto Reset test mode for this zone. The zone is automatically disabled, to prevent operation of the alarm devices and alarm routing equipment.

If the zone is manually enabled during Auto Reset testing all devices mapped to the zone (including, for example, brigade signalling equipment) will operate, therefore for normal test requirements the zone should not be enabled.

Note: If the zone is configured so that it cannot be disabled, Auto Reset mode cannot be used.

In Auto Reset test mode, each time a new alarm is detected for a point mapped to this zone the alarm devices are operated briefly (for approximately 2 seconds) even though the alarm devices may be disabled, then the point is reset automatically, ready for an alarm from another input point. The zone status display and alarm LED continue indicating alarm even though the point(s) have been reset.

The alarm events will be recorded in the event history log, if event logging has been configured for this zone. See Chapter 4 for more about viewing the history log.



During the test, the menu options are:

- **STOP TST**←**F1** – stops the Auto Reset test on this zone.
- **ENABLE**←**F2** – will enable the zone in order to allow the actual output points to be operated.
- **RESET**←**F3** – stops the Auto Reset test and also resets any latched indications for this zone.

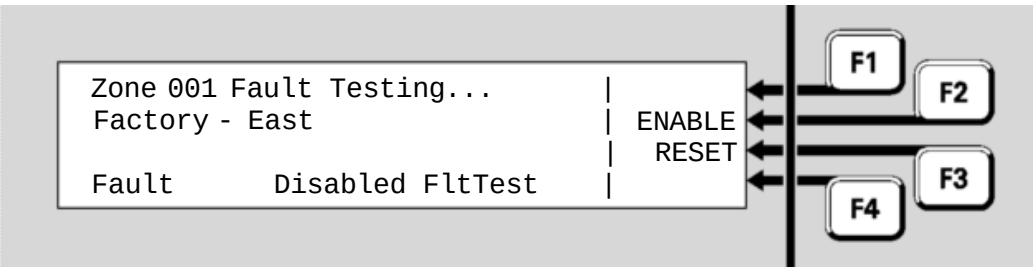
Note: stopping Auto Reset mode does not automatically re-enable the

zone. This must be done manually by pressing **CANCEL** once to return to the zone menu display, and selecting the **ENABLE** option.

Auto Reset test mode will automatically cancel itself if no new alarm is received for two hours. In this case, the zone will automatically revert to the state it was, i.e., enabled or disabled, when Auto Reset mode was started.

Fault Test

This option enables the Fault test mode for this zone. You will be asked to confirm or cancel the test. The following display will be shown during the test;



If the zone does not go into fault, the test is failed.

To stop the test, press **RESET←F3.**

Note that alarm and fault tests disable the zone being tested, and the fault is simulated. If it is required to test how the system is affected by the zone fault, the zone must be enabled manually during the test by pressing **ENABLE←F2**.

Testing Points

From the Recall Point Status display, press **MENU** or **MENU←F4** to display the point menu options.

Testing Points

Press **TEST←F3** to display the test options for the point, which will depend on the point type, as described in the following sections.

Alternatively, from the base display, press the **TESTS** button and select **POINT←F2**.

Enter the point number, then press **OK**.

This will display the test options for the point, which will depend on the point type, as described in the following sections.

Addressable Detectors and Modules

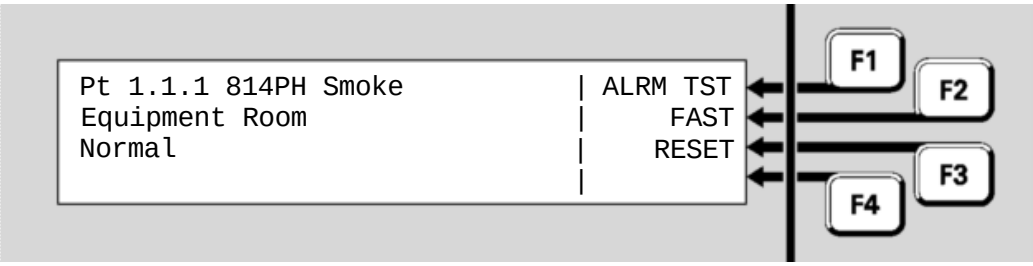
Addressable devices, such as detectors, are the most complex type of point, having subpoints of several different types. For example, an *MX* 814CH detector has:

- An analogue input subpoint for the CO sensor,
- An analogue input subpoint for the heat sensor,
- An output subpoint for the in-built LED,
- An output subpoint for the remote indicator,
- An output subpoint for a functional base.

Each subpoint can be tested independently.

Analogue Input Subpoint

The test options for an analogue input subpoint are:



- **ALRM TST**←**F1** starts a full alarm test. Any programmed delays and algorithms for the point will be included.
- **FAST**←**F2** starts a fast alarm test, bypassing any programmed delays and algorithms.
- **RESET**←**F3** resets the subpoint.

NOTE: the Alarm and Fast point tests do not automatically disable the point (or mapped zones) so all alarm devices and alarm routing operate as though for a real alarm.

Disabling the point or mapped zone(s) before the test will prevent these operating, and only the display and zone indicator will show the alarm.

The amount of time taken for an Alarm or Fast test is dependent on the type of device being tested, and on detailed settings in the system configuration. For example, heat and smoke detectors with false alarm rejection algorithms will react more slowly to an Alarm test than to a Fast test, whereas a contact input point will react quickly to both Alarm and Fast tests.

Input Points

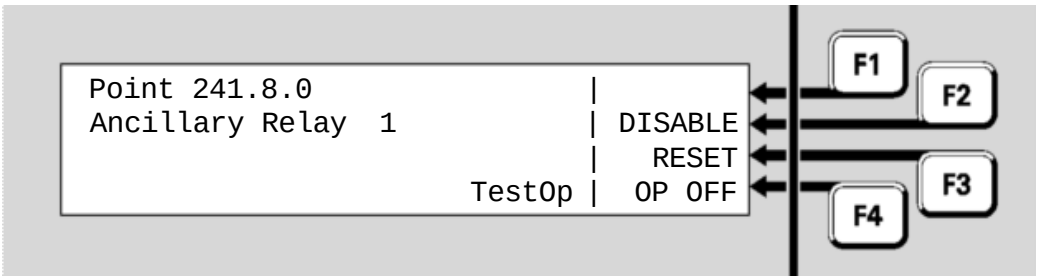
An input point is something such as General Purpose Input 1 on the controller board. There are no test options for these points.

Output Points

An output point is something that can be controlled, such as an ancillary relay.

Test options for output points are:

- **OPON**←**F1** puts the point into the Operated state, after a confirmation prompt.
- **RESET**←**F3** resets the point, including any latched states.



While the Operate Test is active, the test options are:

DISABLE←**F2** will disable the point. If the point is already disabled this option will be **ENABLE**←**F2**.

- **RESET**←**F3** resets the point (stopping the test), including any latched states.
- **OPOFF**←**F4** puts the point into the unoperated state, after a confirmation prompt, without affecting any latched states.

Viewing Point Values and Settings

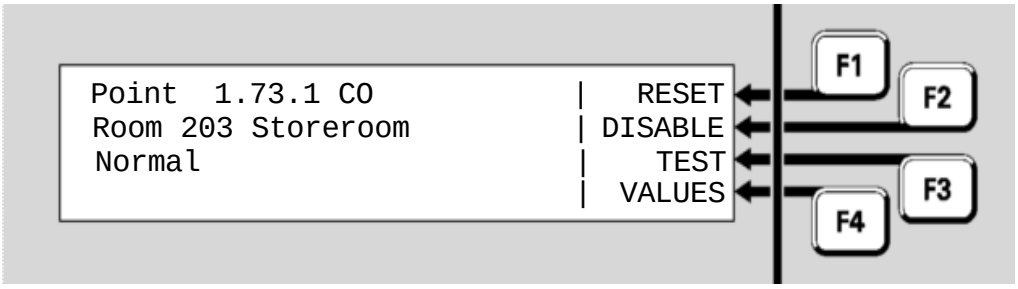
Using point value

At operator Access Level 3, the analogue values of points or subpoints can be viewed on the display.

These are intended for system fault or performance diagnosis, and are not very meaningful without a good understanding of the system.

Displaying point values

From the Recall Point Status display, press **MENU** or **MENU**←**F4**:



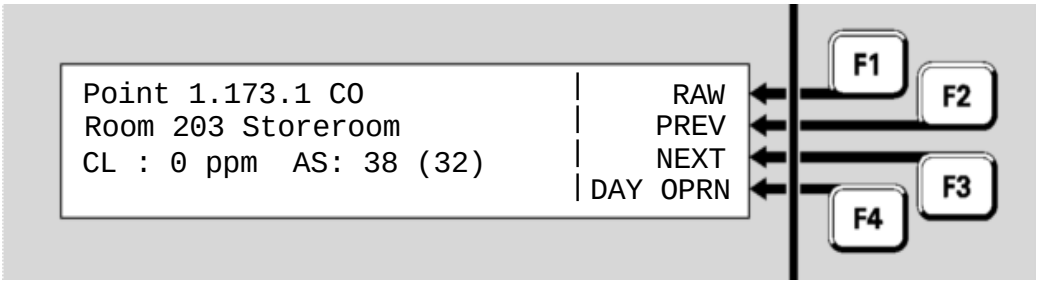
Press **VALUES**←**F4** to view the point's analogue values. Note that most non-MX loop points do not have analogue values, and this option will have no effect for these points.

Current Level Values

These examples show typical displays for the subpoints of an *MX* 814CH combined carbon monoxide and heat addressable detector.

Initially the display will show the sensor/input current level, that is, a value converted from a raw value into meaningful units, together with the

pre-alarm and alarm thresholds.

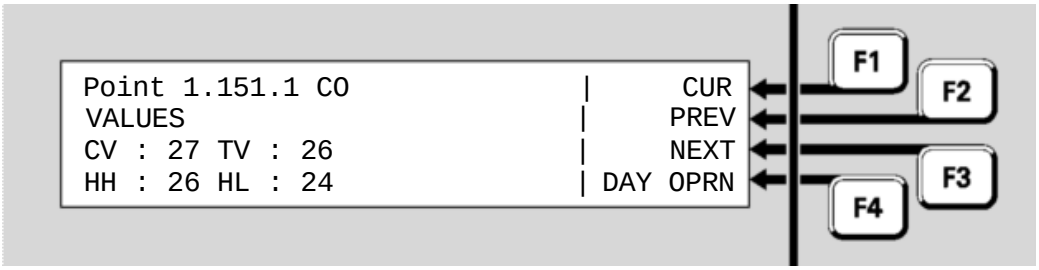


- CL - Current level in appropriate units for the device type, in this case, parts per million of carbon monoxide.
- AS - Alarm Sensitivity (threshold) in parts per million of carbon monoxide, followed by the Pre-Alarm Sensitivity (threshold) in parts per million of carbon monoxide in brackets.
- For heat devices, the fourth line may also contain Rate-of-Rise (ROR) information.

The displayed values will be updated at about 5 second intervals, as new readings are received from the detector.

Raw (unconverted) data readings

Pressing **RAW←F2** will show the raw (unconverted) readings from the sensor/input:

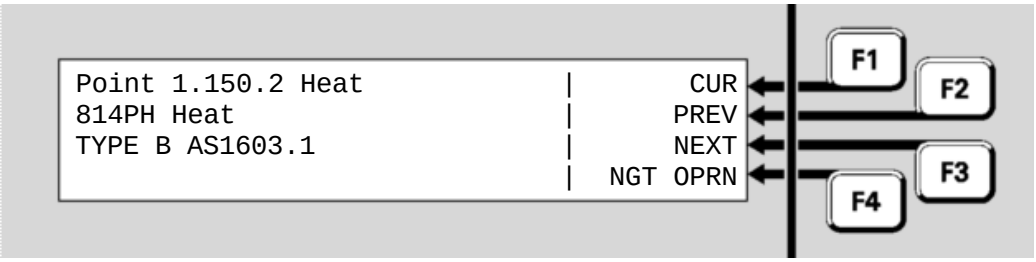


- CV - Current Value, the unconverted Current value.
- TV - Tracked Value, a long-term smoothed version of CV.
- HH and HL - History High and History Low are the highest and lowest values of CV since the point's history was last reset (see page 6-4).
- For heat sensors that have Rate-of-Rise enabled the current rate-of-rise (RoR) and the highest rate-of-rise (RoRHH) values are shown.

Pressing **CUR←F1** will show the current level (converted) readings again.

Algorithm

Pressing the **DAY OPRN←F4** option on any point value display will show the algorithm settings for that subpoint.



The display lists the point number, point type and alarm type. It also displays the algorithm setting used for the device. The first setting shown is the “Day Operation” setting, and the **NGT OPRN**←F4 command displays the Night Operation setting, if used. If no Night Operation setting is used, the Day Operation is always used.

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Chapter 7
Logging On to Access Level 3

Introduction

Most basic service functions are available at Access Level 2, which is enabled with a door key.

More complex service functions are available at Access Level 3 which, as well as a door key, requires a Usercode and a PIN.

A common level 3 function is setting the system time and date.

In this Chapter

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

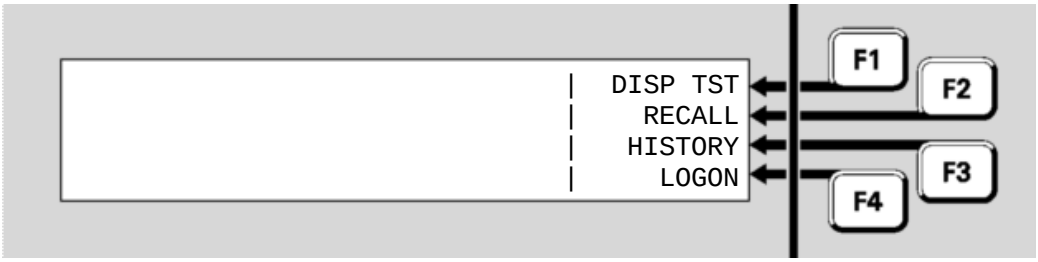
Logging On to Access Level 3

Insert the key in the door and turn it at least 45° anticlockwise, to enable Access Level 2.

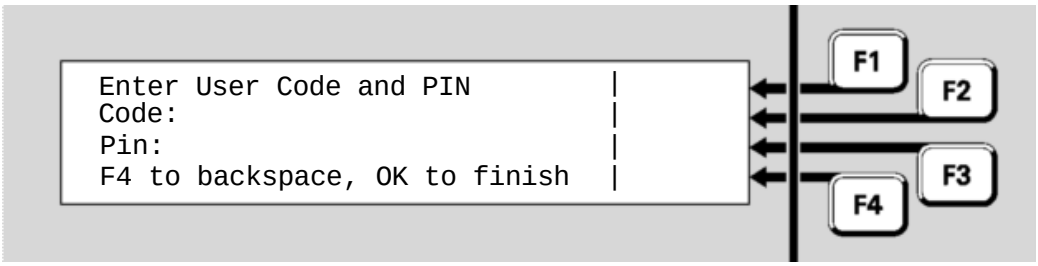
Logging On

If the *MX1* display is not showing one of the base displays, i.e., Normal, Off-Normal, Fault or Alarm, press **CANCEL** until the base display is reached.

Press **MENU** to see a set of options:



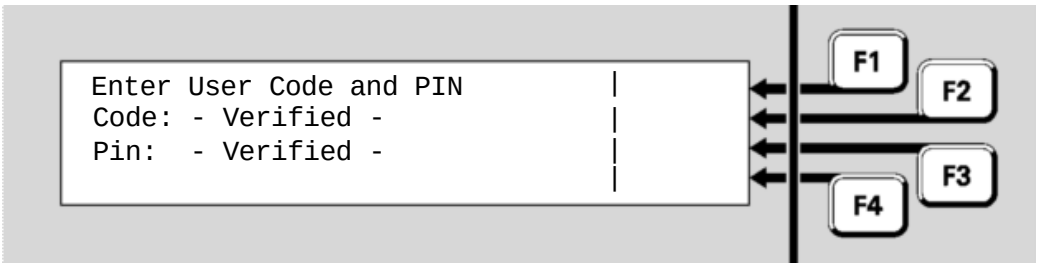
Press **LOGON←F4** to see the Log On screen:



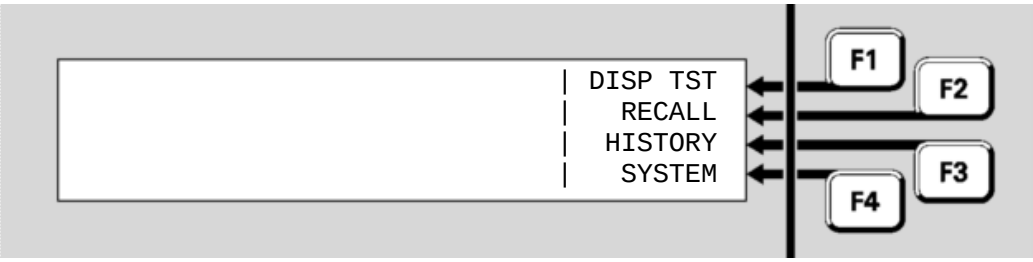
Using the numeric keypad, enter the single digit User Code followed by the PIN for this User Code. Press **OK** after the PIN is entered.

Each digit of the User Code and PIN are represented on the display by an '*' symbol when you enter them. If you mis-key a number, press **F4** to backspace over it, then re-enter the correct number.

If the User Code and PIN match, a "verified" display will show briefly:



This will be followed by the previous Menu display, but with the **LOGON←F4** option replaced by a **SYSTEM←F4** option. The inclusion of the **SYSTEM←F4** option in the menu display indicates that you are currently logged on to operator Access Level 3.



This **SYSTEM←F4** option is used to access the Level 3 service functions described in Chapter 8.

Logging Off

You will remain logged on until one of the following happens:

- The cabinet door is closed and locked (which operates the door switch).
- The door switch is operated manually for more than one second.
- The system is restarted as part of loading a new configuration data file.
- The system is powered down and powered up again.
- Ten minutes elapse since the last keypad input by the operator.

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Chapter 8
Other Service Functions

Introduction

This chapter describes other service functions that are available from the *MX1* front panel.
Most of these commands require operator Access Level 3. See Chapter 7 for how to log on to operator Access Level 3.

In this Chapter

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

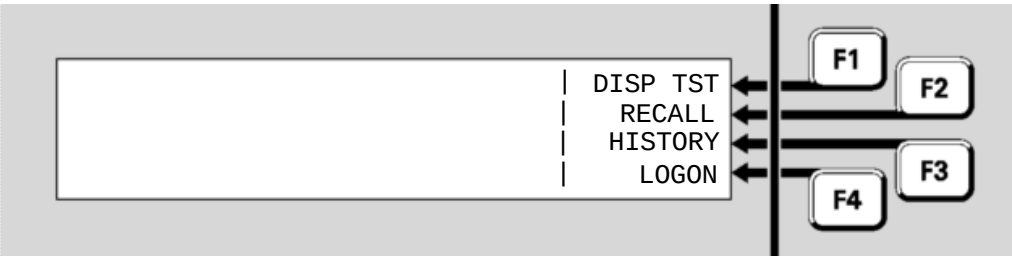
Front Panel Display Test

Testing the Front Panel Display

The alphanumeric display and indicator lights on the front panel of the *MX1* can be quickly checked for correct operation.

If the *MX1* display is not showing one of the base displays, i.e., Normal, Off-Normal, Fault or Alarm, press **CANCEL** until the base display is reached.

Press **MENU** to see a set of options. The level 2 options are shown here. If a higher Access Level is in effect, then additional options will be shown as well.



Press **DISP TST**←**F1** to start the display test:

- All the keypad indicators apart from the zone indicators will light steadily for the entire test.
- Each column of each set of 16 zone indicators will light in sequence, followed by each row of each set of zone indicators lighting in sequence.
- The alphanumeric display will go blank and a solid black horizontal bar will step from the top row to the bottom of the display.

At the end of the test, the above menu will be shown again.

Commissioning Mode

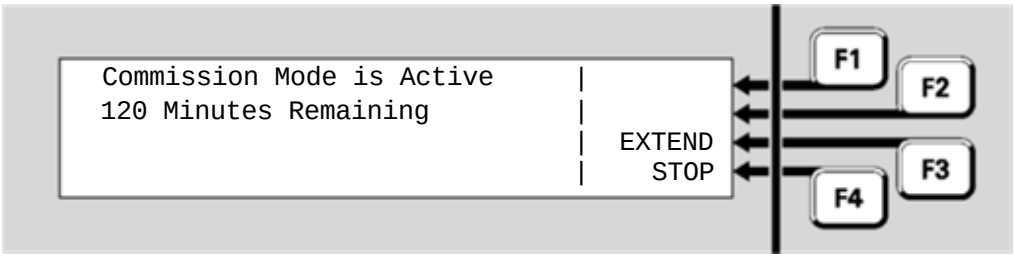
Commissioning Mode reduces the time required for detector tests and setup procedures to be performed, by removing the processing algorithms.

To initiate Commissioning Mode, login to Level 3 and use the following procedure.

1. Press the **TESTS** button on *MX1* control panel. If no tests are in progress, the display will show “No Tests Found”.

2. Press the **MENU** button until “**COMMISSN**” appears in the display.

3. Select **COMMISSN**←F2, then select **START**←F1. The following LCD indication should appear and a countdown from 120 minutes should begin. Commissioning mode will end when this countdown is complete or it is manually stopped.



4. If the message “Commission Mode is Stopped” appears, press **START**←F1.

5. To extend Commissioning Mode by returning the countdown to 120, press **EXTEND** ←F3.

6. To end Commissioning Mode, press **STOP**←F4.

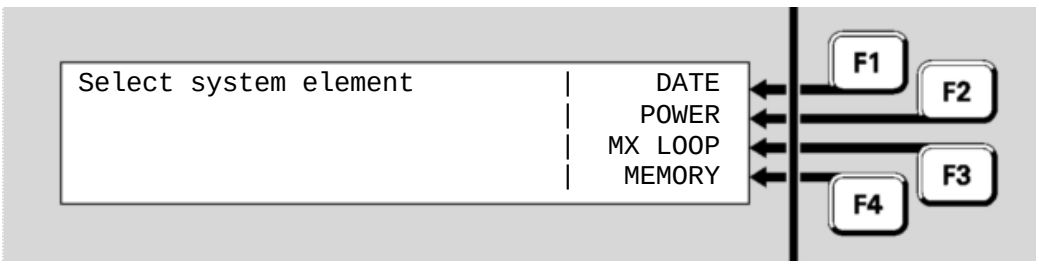
Note, you cannot stop the test by pressing TESTS and then attempting to Reset or Disable the point (241.27.10) indicating that Commissioning Mode is active. You need to repeat the steps above and press **STOP**←F4.

Setting System Time and Date

System Element Selection Menu

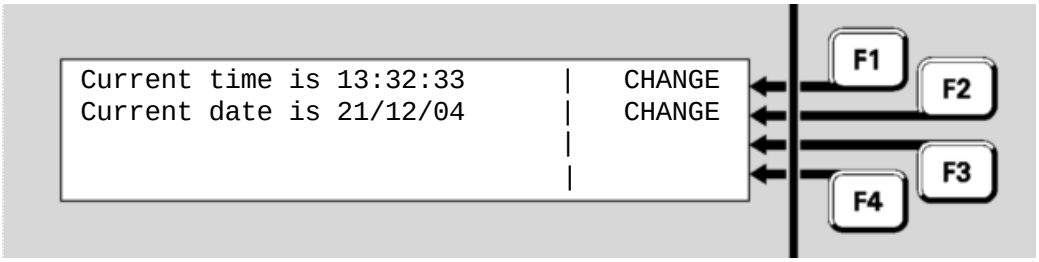
This requires Operator Access Level 3. See Chapter 7 for detail of how to log on to Level 3.

From the base display, press MENU and **SYSTEM**←F4 to see the system element selection menu:



Setting the Time and Date

Press **DATE**←F1 to select the Date/Time menu:



Setting the Time

To change the system time, press **CHANGE**←**F1**. All the digits are set to zeroes.

Enter the current time in 24-hour format as **HHMMSS**. Separators between the hours and minutes, and minutes and seconds, figures are not required. The time is set as soon as the seconds entry is complete.

For example, a time of 1:35:00pm would be entered as **1 3 3 5 0 0**.

To move to the system date field, press **OK**, then **CHANGE**←**F2**.

Setting the Date

To change the system date, press **CHANGE**←**F2**. All the digits are set to zeroes.

Enter the current date as **DDMMYY**. Separators between the days and months, and months and years, are not required. The date is set as soon as the years entry is complete.

For example, a date of 21 December 2004 would be entered as **2 1 1 2 0 4**.

Press **CANCEL** as required to return to the base display.

To move to the system time field, press **OK**, then **CHANGE**←**F1**.

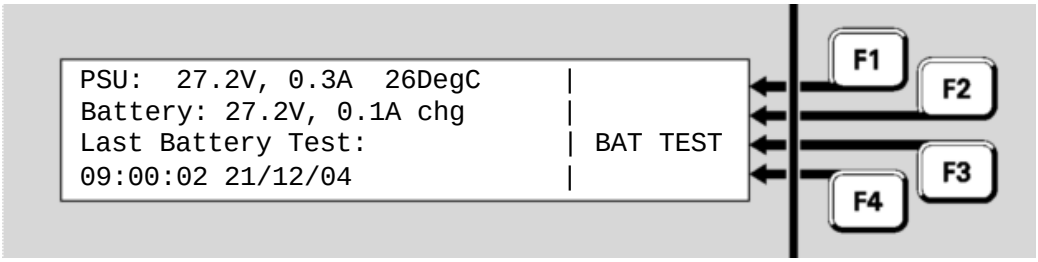
Daylight Saving

The Daylight Saving indication is set in SmartConfig.

Power Supply Status and Battery Testing

This requires Access Level 3. See Chapter 7 for detail of how to log on to Level 3.

From the system element selection menu, press **POWER←F2** to view the Power Supply Status.



The following information is displayed:

- **PSU:** is the power supply output voltage and current. The voltage reading may periodically fluctuate slightly when a Battery Connection check is made. Note that the current includes both battery-backed and non-battery-backed loads.
- **Temperature:** is the approximate temperature in the *MX1* cabinet in °C. This is purely informational, and does not affect any system function.
- **Battery:** is the voltage and current flowing at the battery terminals of the controller. The current is shown as **chg** for charge current flowing into the battery, and **dis** for discharge current flowing out of the battery.
- **Last Battery Test:** is the time and date of the most recent battery test.

Pressing **BAT TEST←F3** will start a manual battery test. The duration of this battery test is determined by the system configuration (usually 1 minute). The test will not start if the mains power is off, or a battery test (automatic or manual) is already in progress.

During the battery test, a progress indication will be displayed showing the number of minutes remaining for the test. A manual battery test cannot be cancelled once under way. The battery test disables the battery charger so that the panel and loads are powered by the battery. Note this does not qualify as a monthly battery test to the requirements of NZS 4512.

Automatic Battery Tests

MX1 also carries out automatic battery tests. The scheduling and duration of these tests are determined as part of the *MX1* configuration, and require no operator intervention under normal conditions.

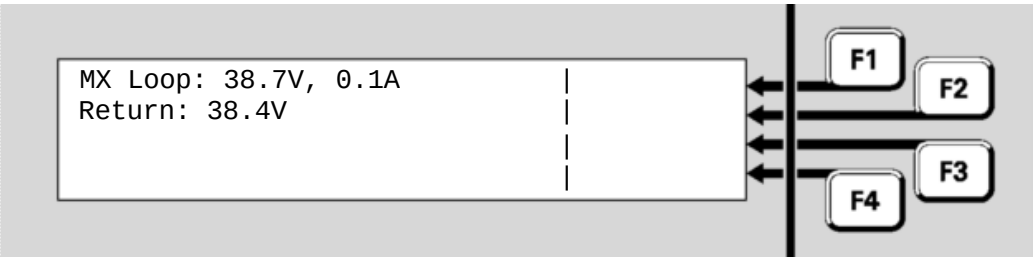
If the battery fails an automatic test the FAULTS indicator will light and

the failure will be logged in the Event History (see Chapter 9). Where available, the service company will be notified. If the panel is set up for local operation the internal buzzer may sound, depending on the configuration.

MX Loop Status

Requirements This requires Access Level 3.

From the system element selection menu, press ***MX*** **LOOP**←F3 to view the *MX* Loop Status.



- ***MX*** **Loop**: is the voltage and current being fed to the loop wiring.
- **Return**: the voltage at the return end of the loop.

There are no control options for this display.

The example display shows a typical situation. The power feed is being applied to the start of the loop, which is drawing only a light load current. The voltage at the end of the loop is being monitored to detect any breaks in the wiring.

If power is being fed to both ends because of an open circuit, the Return voltage displayed will be 0V. If the loop is drawing too much current, the *MX* Loop voltage display will also be 0V.

A more detailed assessment of the *MX* loop condition can be gained from the state of these system points:

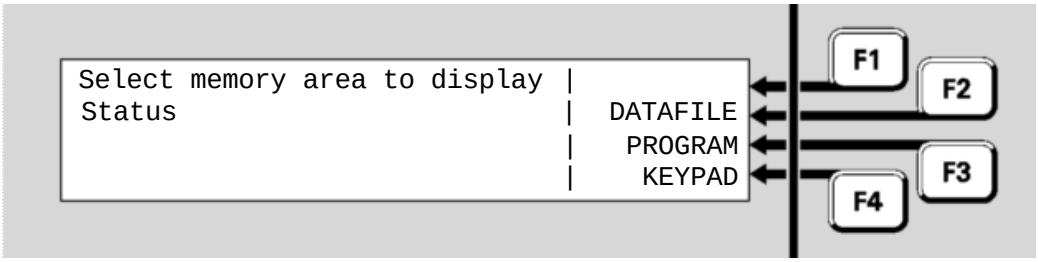
- ***MX*** **Loop Left S/C** – is in Fault if there is a short circuit between the AL+ and AL- terminals.
- ***MX*** **Loop Right S/C** – is in Fault if there is a short circuit between the AR+ and AR- terminals.
- ***MX*** **Loop Open Circuit** – is in Fault if there is an open circuit in the loop wiring. Note that an activated short circuit isolator will also register as an open circuit fault.
- ***MX*** **Loop Overload** – is in Fault if too much current is being drawn by the *MX* Loop.

System Memory Status

Requirements

This requires Access Level 3.

From the system status menu, press **MEMORY**←F4 to view the System Memory Status menu:



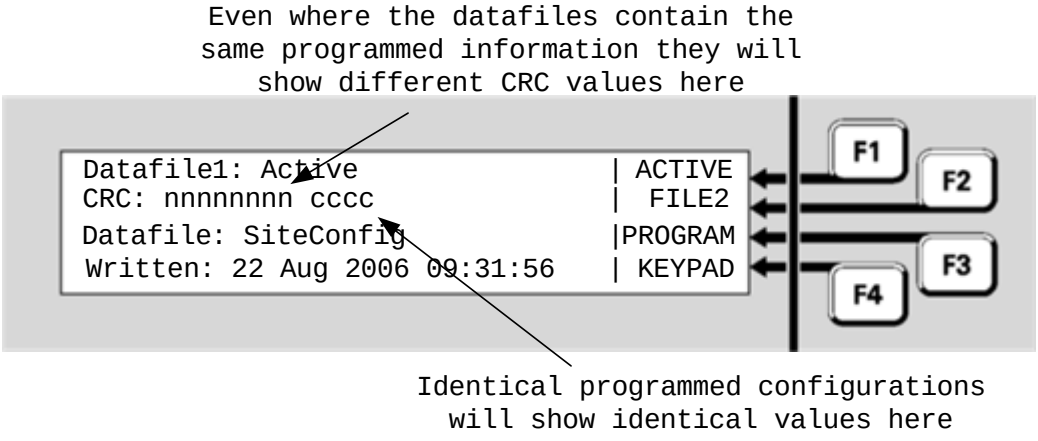
Menu options are:

- **DATAFILE**←F2 displays information about the two configuration data files. There are two copies of the data file; only one of these will be active at any time.
- **PROGRAM**←F3 displays information about the controller software.
- **KEYPAD**←F4 displays information about the LCD/keyboard software.

Viewing Data file Status

Press **DATAFILE**←F2 to show the status of the first copy of the site-specific data file.

The filename, date and CRCs of the datafiles stored in the *MX1* can be viewed. This will also show which datafile is active.



The following information is displayed:

- **Datafile**: this shows Active if this datafile is being used or Disabled if not being used.
- **CRC**: this shows two values. The first is the most recently internally calculated integrity checksum for this data file, followed by the CRC for the database. The correctness of the integrity checksum controls

a system point, **Database 1 CRC**, which will produce a fault indication if the checksum is not correct. Note that the first value shown on line 2 for each datafile will be different even where the datafiles are identical. The second value shows the database CRC. This is the same value as calculated and displayed by SmartConfig using the Show CRC command, so these can be compared to confirm that the database in the *MX1* is the same as that in SmartConfig. For datafiles generated with SmartConfig V1.3 or earlier, the CRC value is shown on line 3 of the display as part of the database filename.

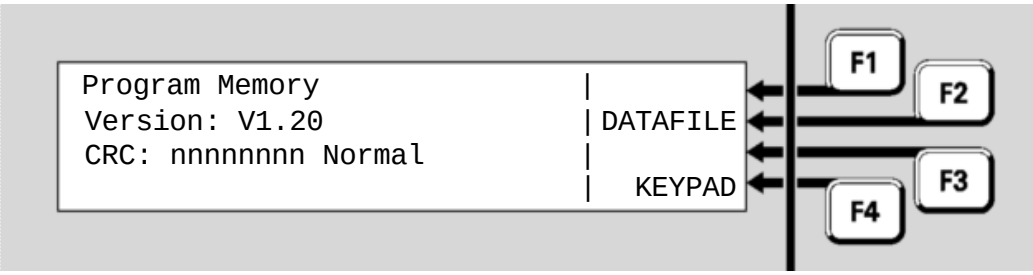
- **Datafile**: the name of the SmartConfig file when it was downloaded into the *MX1* and for older systems the CRC of the database as calculated by SmartConfig. The database CRC is the same as SmartConfig displays for a check CRC command and can be used to confirm the datafile in the *MX1* matches the particular datafile on your PC.
- **Written**: the date that the SmartConfig file was last changed before it was downloaded.

Menu options are:

- **ACTIVE**←F1 forces this data file to become the active copy. A confirmation prompt is displayed. Press **OK** to restart the system and switch to this data file.
  If this copy is not valid, the system will automatically switch back to the other data file.
- **FILE2**←F2 switches to the equivalent status display for the second copy of the configuration data file.
- **PROGRAM**←F3 displays information about the controller software.
- **KEYPAD**←F4 displays information about the LCD/keyboard software.

Viewing Program Status

From the System Memory Status menu, press **PROGRAM**←F3 to show the status of the controller firmware.

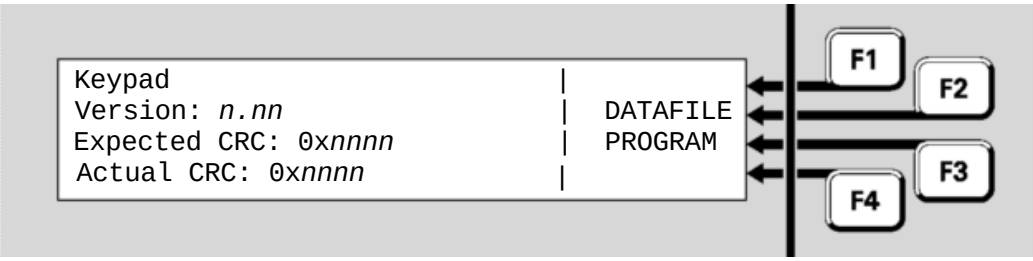


The following information is displayed:

- **Version**: is the version of the controller firmware. This is also shown in the base display when the system is normal.
- **CRC**: the most recently calculated integrity checksum for the controller firmware and the correctness of the result. This checksum status controls a system point (241.27.3 **Firmware CRC)**, which will produce a fault indication if the checksum is not correct.

Viewing Keypad Program Status

From the Memory Status menu, press **KEYPAD**←**F4** to show the status of the LCD/keyboard firmware program.



The following information is displayed:

- **Version**: is the version of the keyboard firmware. This is shown briefly on the alphanumeric display when the system powers up.
- **Expected CRC**: the correct value for the integrity checksum for the keyboard firmware.
- **Actual CRC**: the actual calculated checksum for the keyboard firmware. This checksum status controls a system point (243.1.6 **Keypad Firmware CRC**), which will produce a fault indication if the actual checksum does not match the expected value.
- **DATAFILE**←**F2** displays information about the two configuration data files.
- **PROGRAM**←**F3** displays information about the controller software.

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Chapter 9
Event History Messages

Introduction

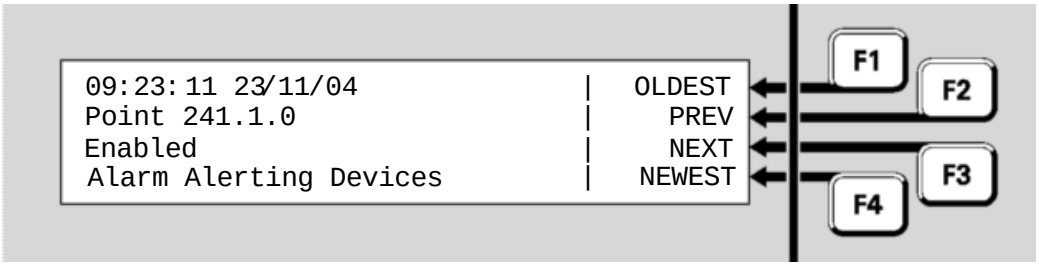
This chapter explains the meaning of the messages in the Event History display. Refer to Chapter 4 for information on how to view the Event History.

Contents

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

General Message Format

Each message in the Event History log shows a change in the state of some system component, e.g. a zone or a point. The message shows the new state, the component that changed, and the time and date when the change was registered.



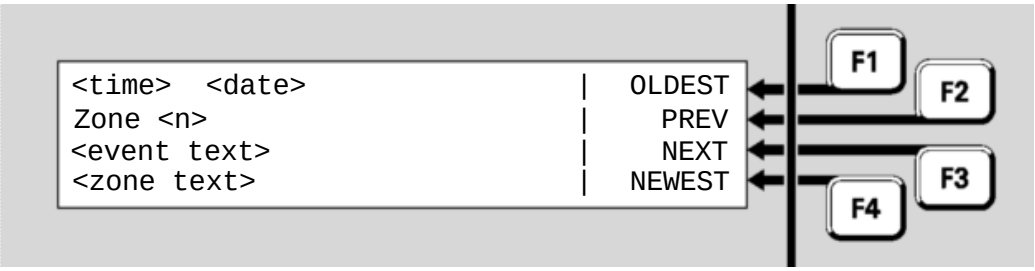
In this example, the message is saying that at 9:23:11 am on 23rd November 2004, the point numbered 241.1.0, representing the Alarm Alerting Devices, was enabled.

There are three types of event message:

- System, where line 2 of the display says "**`Local event`**"
- Zones, where line 2 of the display says "**`Zone nnn`**"
- Points, where line 2 of the display says "**`Point e.p.s.`**".

The following sections describe these in more detail.

Zone Event Messages

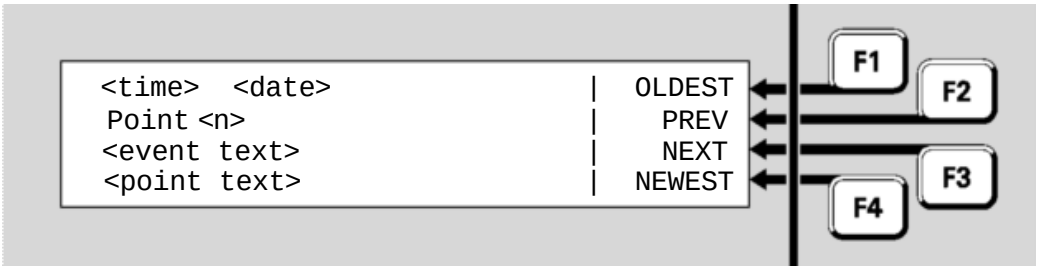


The **<zone text>** is the descriptive text for the zone.
The **<event text>** is one of the following:

Event Text	Meaning
Normal	This zone has returned to normal.
Alarm	One or more of the detectors in this zone has gone into Alarm.
Alarm clear	The alarm on this zone has cleared.
Prealarm	One or more of the detectors in this zone is in a pre-alarm condition.
Pre-Alarm clear	The pre-alarm condition on this zone has cleared.
Fault	One or more of the devices in this zone is faulty.
Fault clear	All faults on this zone have cleared.
Alarm ACK'D	The alarm on this zone has been acknowledged.
Reset	This zone has been reset by an operator command.
Disable	This zone has been disabled/isolated or enabled/deisolated by an operator command, respectively.
Enable	
Auto disable	This zone has been automatically disabled/isolated, for example following operation and restoration of the NZ Silence Alarms keyswitch.
Alarm Test Start	A test of the processing of Alarm conditions in this zone has been started.
Fault Test Start	A test of the processing of Fault conditions in this zone has been started.
Operate Test Start	An Operate Test command has been issued for this zone. This will result in all the zone's output points being test-operated.
Test Pass	The current test on this zone has passed.
Test Fail	The current test on this zone has failed.
Test Abort	The current test on this zone has been cancelled.
Auto Reset Test	Auto Reset mode has been started for this zone.
Auto Reset Timeout	Auto Reset mode for this zone has been cancelled due to a timeout period with no new alarms.
First alarm	A detector mapped to this zone has signalled alarm, but the zone alarm is not signalled yet because a second point in alarm is required (the

	zone is programmed for dual-hit operation).

Point Event Messages



The **<point text>** is the configured descriptive text for this point.
The **<event text>** is one of the following:

Event Text	Meaning
Pre-Alarm	This detector has gone into a pre-alarm condition.
Pre-Alarm clear	The pre-alarm condition on this device has cleared.
Alarm	This detector or device is in alarm.
Alarm Clr	The alarm condition on this device has cleared.
Fault	This device or system component is faulty.
Fault Clr	The fault condition on this device or system component has cleared.
Dirty Alert	This detector is still functional but requires service due to dirt build-up.
Dirty Alert Clr	This detector is no longer dirty.
Device Fail	This addressable device is not responding to polling requests from the *MX1.*
Device Fail Clear	This addressable device is now responding to polling requests.
Control CB Fail	This relay output point will not switch to its required state.
Control CB Nml	This relay output point is now in its required state.
Point Type Mismatch	The reported and configured types differ for this device.
Point Type OK	The reported and configured types now agree for this device.
Window Fault	This flame detector device has a dirty window.
Device Fault	This flame detector device has a fault other than a window fault.
Normal On	This point was unoperated and faulty, and is now operated and normal.
Normal Off	This point was operated and faulty, and is now unoperated and normal.
Load Supply Fail	The separate supply to this device, e.g., DIM800 or SNM800, is faulty..
S/C Fault	An input or output device has a short circuit or

O/C Fault	open circuit in the wiring connected to it.
Parameter Error	This device has been incorrectly set up at the factory and requires replacement.
Unstable Input	An input to the device is not stabilising to a well defined state.
Test Start Not nml	This point is not Normal at the start of a self test, for example type mismatch, device fail.
Unassigned point	There is a device at this address which is not in the system data file.
Duplicate Device	There is more than one addressable device using this address.
Disable	This point has been disabled/isolated.
Enable	This point has been enabled/de-isolated.
Input activated	An input device has changed into or out of an activated condition, respectively.
Input deactivated	
Operate	An output device has been switched into or out of an operated condition.
De-operate	
Alarm test start	An alarm test on this detector has started or stopped, respectively.
Alarm test stop	
Alarm test fail	This device has failed its alarm test.
Test Operate	This output device has been switched into or out of an operated condition as part of a device test.
Test De-operate	
Auto reset start	Auto reset mode for this (detector) device has been started or stopped, respectively.
Auto reset stop	
Reset	This device has been reset.
Alarms reset	The alarm on this detector has been reset.
Reset tracking	The tracking value on this detector has been reset.
Reset history	The History High and Low values on this detector have been reset.
Reset error counts	The communication error counts for this device have been reset.

Equipment Point Descriptions

Equipment 241 – *MX1* Controller

Point Number	Point Text	Description
241.1	ALM DEV	This point indicates the system Alarm Devices status and is used to enable/disable the Alarm Devices. "Alarm Devices" are devices (e.g. sounders and sirens) that operate to signal to building occupants that a fire is present and the area should be evacuated. The state of the Alarm Devices is controlled by output logic, such that it is operated when there is an alarm on a non-disabled zone that is mapped to the Alarm Devices. When the Alarm Devices are disabled, the Alarm Devices point indicates disabled and the Alarm Devices Disabled/Fault LED on the *MX1* front panel is on steady, i.e. enabling/disabling this point enables/disables the alarm devices. If the Alarm Devices point is in fault, then the Alarm Devices Disabled/Fault LED on the front panel flashes (if the Alarm Devices point is not disabled). Do not disable the Alarm Devices to stop signalling of an Alarm Devices fault since this will also prevent the alarm devices from operating. Disable the source of the fault. This point does not indicate if Trial Evac or Silence Alarms are active. When the Alarm Devices are test operated, this point indicates a status of "TestOp".
241.2	GPIN1	Provides the status of the G.P IN 1 input (J2-1). It uses the profile set in SmartConfig's General Purpose Input Profiles to set the input voltage bands and the state for each band.
241.3	GPIN2	Provides the status of the G.P IN 2 input (J2-2). It uses the profile set in SmartConfig's General Purpose Input Profiles to set the input voltage bands and the state for each band.
241.4	GPOUT1	GPOUT1 is an open collector output (J7-1) with supervision capability. The Operate state of the output can be controlled by system or user logic. If supervision has been enabled in SmartConfig then the Fault state is determined and shown by the supervision input point GPOUT1S.
241.5	GPOUT1S	GPOUT1S is the supervision point for GPOUT1. If supervision is enabled on GPOUT1 then the Fault state of the output will show on this point. If supervision is not enabled on GPOUT1 then this point can be used as an input.
241.6	GPOUT2	GPOUT2 is an open collector output (J7-2) with supervision capability. The Operate state of the output can be controlled by system or user logic. If supervision has been enabled in SmartConfig then the Fault state is determined and shown by the supervision input point GPOUT2S.
241.7	GPOUT2S	GPOUT2S is the supervision point for GPOUT2. If supervision is enabled on GPOUT2 then the Fault state of the output will show on this point. If supervision is not enabled on GPOUT2 then this point can be used as an input.
241.8	ANC1	ANC1 is an ancillary relay with supervision capability (J4). The Operate state of the point can be controlled by system or user logic to energise the relay. If supervision has been enabled in SmartConfig then the Fault state is determined and shown by the ANC1S (241.9) point.
241.9	ANC1S	ANC1S is the supervision input (J4-5) for ancillary relay 1. If supervision is enabled on ANC1 then the Fault state of the output will show on this point. If supervision is not enabled on ANC1 then ANC1S is a clean contact input with the states Normal for S/C to 0V and ActiveInput for O/C. (No other states can be generated).
241.10	ANC2	ANC2 is an ancillary relay with supervision capability (J5). The Operate state of the point can be controlled by system or user logic to energise the relay. If supervision has been enabled in

		SmartConfig then the Fault state is determined and shown by the ANC2S (241.11) point.
241.11	ANC2S	ANC2S is the supervision input (J5-5) for ancillary relay 2. If supervision is enabled on ANC2 then the Fault state of the output will show on this point. If supervision is not enabled on ANC2 then ANC2S is a clean contact input with the states Normal for S/C to 0V and ActiveInput for O/C. (No other states can be generated).
241.12	ANC3	ANC3 is an ancillary relay with supervision capability (J6). The Operate state of the point can be controlled by system or user logic to energise the relay. If supervision has been enabled in SmartConfig then the Fault state is determined and shown by the ANC3S (241.13) point.
241.13	ANC3S	ANC3S is the supervision input (J6-5) for ancillary relay 3. If supervision is enabled on ANC3 then the Fault state of the output will show on this point. If supervision is not enabled on ANC3 then ANC3S is a clean contact input with the states Normal for S/C to 0V and ActiveInput for O/C. (No other states can be generated).
241.14.0	FIP Pwr Nml	This point is unused and included for future enhancement only. The output this point is designed to represent is the "FIP PWR NORM-" pin (J8-7) on the Brigade Signalling Interface. This open collector output is operated when power is supplied to the panel and de-operated when power is removed. There is no link between the FIP Pwr Nml point and this output.
241.14.1	FIP Comms OK	Provides the status of the "FIP COMMS OK-" pin (J8-6) of the Brigade Signalling Interface. S/C to 0V gives the Normal state and O/C gives the Fault state.
241.14.2	FIP Isol	The Operate state of the FIP Isol point controls the "FIP ISOL-" pin (J8-8) on the Brigade Signalling Interface, the DISABLE/ISOL relay (J11) and the isolate component of the ASE+ signal on the ASE Interface (J12).
241.14.3	FIP Fire	The Operate state of the FIP Fire point controls the "FIP FIRE" pin (J8-4) on the Brigade Signalling Interface, the FIRE/ALM relay (J11) and the fire component of the ASE+ signal on the ASE Interface (J12).
241.14.4	FIP Def	The Operate state of the FIP Def point is ORed with the Fault state of the points RAM test, DB1 CRC Fault, DB2 CRC Fault, FW CRC, S/W Faults and also a check on whether output logic is running, and then controls the "FIP DEF-" pin (J8-1) on the Brigade Signalling Interface, the FAULT/DEF relay (J10) and the fault component of the ASE+ signal on the ASE Interface (J12).
241.14.5	Brig Test	Provides the status of the "Brigade Test-" pin (J8-2) of the Brigade Signalling Interface. S/C to 0V gives the ActiveInput state and an O/C gives the Normal state.
241.14.6	Brig Isol	Provides the status of the "Brigade Isol-" pin (J8-3) of the Brigade Signalling Interface. S/C to 0V gives the state ActiveInput and an O/C gives the Normal state.
241.14.7	SGD Flt	Provides the status of the "SGD FLT+" pin (J8-5) of the Brigade Signalling Interface. S/C to 0V gives the Normal state and O/C gives the Fault state.
241.15	Temperature	Point is unused but included for future enhancement. Temperature is currently provided by means other than this point.
241.16	LED1	LED1 is the "FAULT" LED (LD1). The Operate state can be controlled with system or user logic to turn the LED on or off. In the event that the system is started with no valid database then this LED is controlled by the system to toggle every 2 seconds (1/4Hz).
241.17	LED2	LED2 is the "A" LED (LD2). The Operate state can be

		controlled with system or user logic to turn the LED on or off.
241.18	LED3	LED3 is the "B" LED (LD3). The Operate state can be controlled with system or user logic to turn the LED on or off. This LED is currently used as a diagnostic LED by system logic. It is toggled every 3 passes of logic to indicate output logic is running.
241.19	LED4	LED4 is the "C" LED (LD4). This LED is currently used as a diagnostic LED by the system. It is toggled approximately every 500ms to indicate the system is operating normally. This LED is not available for use by the user.
241.20	CALLPT	Shows the state of the manual call point input (J3-3). Fault is >0.95V (O/C), Normal is 0.35-0.95V (2K7 EOL), Alarm is <0.35V.
241.21	DOOR	Provides the status of the door which uses a clean contact switch. Normal is S/C to 0V, ActiveInput is O/C.
241.22	FW WR EN	Provides the status of the "Firmware Write Enable" jumper. ActiveInput when jumper is fitted, Normal when not fitted.
241.23	DB WR EN	Provides the status of the "Database Write Enable" jumper. ActiveInput when jumper is fitted, Normal when not fitted.
241.24.0	Batt Voltage	Point is unused but included for future enhancement.
241.24.1	PSU I	Point is unused but included for future enhancement.
241.24.2	PSU V	Point is unused but included for future enhancement.
241.25.0	Mains	Provides the state of the mains power supply to the panel. This subpoint is placed into Fault when the mains power has failed, and Normal otherwise.
241.25.1	Batt Low	Indicates battery voltage low level. Subpoint will be in Fault when the battery voltage drops below the threshold set in SmartConfig, and Normal otherwise.
241.25.2	Batt Conn	Indicates battery connectivity. The state is Normal if the battery is found to be connected or Fault if the battery is disconnected or very discharged.
241.25.3	Earth	Indicates earth monitoring fault condition. Subpoint will be in Fault when an earth fault is detected, Normal otherwise.
241.25.4	Battery Test	Indicates battery test state. Subpoint will be in ActiveInput when battery test is active, Normal otherwise.
241.25.5	VBF1	Provides the status of the fuse (F3) protecting the ANC1 power supply (J4-1). Normal indicates the fuse is intact, Fault indicates that the fuse has blown or is not fitted.
241.25.6	VBF2	Provides the status of the fuse (F4) protecting the ANC2 power supply (J5-1). Normal indicates the fuse is intact, Fault indicates that the fuse has blown or is not fitted.
241.25.7	VBF3	Provides the status of the fuse (F5) protecting the ANC3 power supply (J6-1). Normal indicates the fuse is intact, Fault indicates that the fuse has blown or is not fitted.
241.25.8	RZDU Fuse	Provides the status of the fuse (F2) protecting the RZDU power supply (J24-1). Normal indicates the fuse is intact, Fault indicates that the fuse has blown or is not fitted.
241.25.9	Batt Capacity	Indicates that the long-term battery test has failed. Subpoint will be in Fault while test is running and has failed, Normal otherwise.
241.25.10	VNBF Fuse	Provides the status of the fuse (F6) protecting the non-battery backed power supply (J15-1). Normal indicates the fuse is intact, Fault indicates that the fuse has blown or is not fitted.
241.25.11	Charger High	Provides indication of whether the charger voltage is higher than it should be. The threshold is determined by the Charger High voltage setting in the System Profile. Normal indicates the charger voltage is less than the specified voltage, Fault

		indicates that the charger voltage is too high.
241.25.12	Charger Low	Provides indication of whether the charger voltage is lower than it should be. The threshold is determined by the Charger Low voltage setting in the System Profile. Normal indicates the charger voltage is higher than the specified voltage, Fault indicates that the charger voltage is too low.
241.25.13	Battery Fail	Provides indication of whether the battery voltage is at or below the level at which the battery is considered totally discharged. The threshold is determined by the Battery Fail voltage setting in the System Profile. Normal indicates the battery voltage is higher than the specified voltage, Fault indicates that the battery voltage is too low, thus the battery is totally discharged and system performance may be affected.
241.25.14	System Power Fail	Provides indication of whether the system voltage is at or below the level at which system operation cannot be guaranteed. The threshold is determined by the System Power Fail voltage setting in the System Profile. Normal indicates the system voltage is higher than the specified voltage, Fault indicates that the system voltage is too low, thus system operation cannot be guaranteed.
241.26.0	Left S/C	Indicates a short circuit on the left hand side of the *MX* Detector Loop connector (J31). The point state is Fault if a short circuit is detected between the AL+ (J31-1) and AL- (J31-2) terminals, otherwise the point is Normal.
241.26.1	Right S/C	Indicates a short circuit on the right hand side of the *MX* Detector Loop connector (J31). The point state is Fault if a short circuit is detected between the AR+ (J31-3) and AR- (J31-4) terminals, otherwise the point is Normal.
241.26.2	O/C	Indicates that an open circuit fault has been detected on the *MX* Detector Loop connector (J31). The point state is Fault if an open circuit is detected on either the +ve loop or the -ve loop, otherwise the point is Normal.
241.26.3	Overload	This point indicates an over-current fault on the *MX* Detector Loop (J31). The point state goes to Fault while an *MX* Loop overload induced reset takes place and also if there have been 5 of these resets within the preceding 5 minutes, otherwise the point is Normal.
241.26.4	Polling Rate	Indicates an *MX* Polling loop rate fault condition. A fault state on this point occurs when the *MX1* is unable to communicate with the *MX* loop devices quickly enough, which may affect correct operation of detectors and modules. The fault condition will remain for 30 minutes from when the *MX1* becomes able to communicate quickly enough. The fault condition can also be cleared by resetting this point – if the fault condition remains the point will re-enter the fault condition within a short period of time.
241.26.5	Common Foreign Point	Has a fault status if a device that is not programmed into the *MX1* database is detected on the *MX* loop. The fault status automatically clears when the presence of the foreign device is no longer detected.
241.26.6	Common Dirty Alert	Has a fault status if there are any non-disabled points with a status of dirty.
241.27.0	S/W Faults	This point indicates whether there have been any software faults detected. The point state is Fault if there are any software faults, otherwise Normal. Note that it is possible for a software fault to clear. Refer to the history and/or printer log for "Software Fault" events that give more detail as to the cause of the fault.
241.27.1	DB1 CRC Fault	Provides the status of database1. The point state is Fault if a CRC check of database1 fails, otherwise the state is Normal.
241.27.2	DB2 CRC	Provides the status of database2. The point state is Fault if a

	Fault	CRC check of database2 fails, otherwise the state is Normal.
241.27.3	FW CRC	Provides the status of the application code firmware. The point state is Fault if a CRC check of the firmware fails, otherwise the state is Normal.
241.27.4	RAM Test	Provides the status of the Controller boards RAM. The point state is Fault if an error is detected with the RAM, otherwise the state is Normal.
241.27.5	Auto Test	Point is unused but included for future enhancement.
241.27.6	Self Test	Point is unused but included for future enhancement.
241.27.7	Cold Start	Point is unused but included for future enhancement.
241.27.8	Warm Start	Point is unused but included for future enhancement.
241.27.9	Foreign RZDU	This point indicates that there are one or more foreign RZDUs detected in the system. The point state is Fault if a reply is received from an RZDU with an address that corresponds to an RZDU that is not enabled in the database. The fault will automatically clear if replies from the foreign RZDU stop being received.
241.27.10	Commission Test	Provides status of the *MX1* Commission Test function, for recall on the LCD and to light the Tests indicator on the keypad. When Commission Mode is active, the status of this point will show Active Input and Test Operate. Otherwise it will show Normal.
241.27.11	Startup Flags	This point signals Fault for 12 seconds following restart of the panel. This includes cold starts, user initiated reboots, and system controlled or uncontrolled watchdog restarts. The Startup Flags status can be used to ensure that a fault is sent to the brigade signalling equipment, or not.
241.27.12	Output Logic	This point signals fault if the *MX1* has what appears to be an uncorrupted database which contains compiled Output Logic with fatal problems. If this fault is signalled, the ability of the *MX1* to act as a fire alarm is severely compromised. The *MX1* firmware will force the System Fault and Faults indicators on, and will force the fault relay into its de-energised state. This fault can only be corrected by restarting the panel using a database with output logic compiled without the problem, which could be either the alternative database stored in the *MX1* or a newly downloaded database.
241.28	ISO Sys Fault	Point is unused but included for future enhancement.
241.29.0	Sil Alms	This point indicates whether any Silence Alarms keyswitches are active. The status of this point is determined by output logic in the system logic page. When the equation for ESA (External Silence Alarms) is true, this point indicates both ActiveInput and Fault. The default equation for ESA includes the local Silence Alarms keyswitch on the *MX1* front panel and the Silence Alarms keyswitches on any connected RZDUs. NZS 4512 requires a defect be signalled when any Silence Alarms keyswitch is active, which is why this point is assigned a status of fault (as well as ActiveInput) when the equation for ESA is true. The operation of Alarm Devices outputs are inhibited when Silence Alarms is true, though this will not prevent Trial Evac from operating the Alarm Devices.
241.29.1	Trial Evac	This point indicates whether any Trial Evac keyswitches are active. The status of this point is determined by output logic in the system logic page. When the equation for TEV is true, this point indicates a status of ActiveInput. The default equation for TEV includes the local Trial Evac keyswitch on the *MX1* front panel and the Trial Evac keyswitches on any connected RZDUs.
241.29.2	Services Restore	This point indicates whether any Services Restore keyswitches are active. The status of this point is determined

		by output logic in the system logic page. When the equation for BSR (Building Services Restore) is true, this point indicates a status of ActiveInput. The default equation for BSR includes the local Services Restore keyswitch on the *MX1* front panel and the Services Restore keyswitches on any connected RZDUs.
241.29.3	Auto Dis. Zones Pres	This point will be set to Fault when there are zones automatically disabled due to the zones being in alarm at the time of a silence alarms keyswitch restoration to normal, otherwise the state is Normal.
241.30.0	Common Routing	Provides the common status of the routing outputs. The status will show Alarm when the Alarm routing output should be activated, Active Input when the Fault or Disables routing outputs should be activated. It will become disabled when all of the Alarm, Fault and Disables routing subpoints are disabled. It cannot be enabled until at least one of those subpoints becomes enabled.
241.30.1	Alarm Routing	Provides the alarm routing status. The status will show Active Input when the alarm routing output should be activated, Fault if an Alarm Routing Fault is present, Disable if the Alarm Routing is disabled (in which case the Alarm Routing output is not activated when this point has an Active Input status.)
241.30.2	Fault Routing	Provides the fault routing status. The status will show Active Input when the fault routing output should be activated, Fault if a Fault Routing Fault is present, Disable if the Fault Routing is disabled (in which case the Fault Routing output is not activated when this point has an Active Input status.)
241.30.3	Disables Routing	Provides the disables routing status. The status will show Active Input when the disables routing output should be activated, Fault if a Disables Routing Fault is present, Disable if the Disables Routing is disabled (in which case the Disables Routing output is not activated when this point has an Active Input status.)

Equipment 242 – Pseudo Points

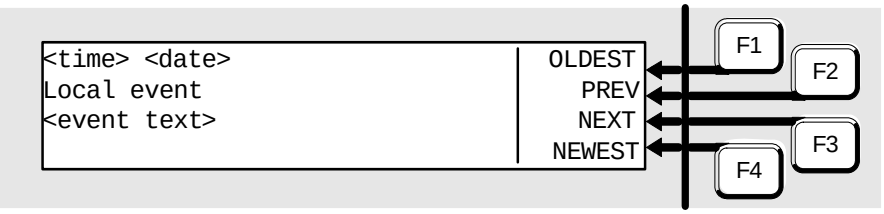
These are points generated by system programming.

Equipment 243 – LCD/Keyboard

Point	Subpoint Desc.	Description
243.1.0	Scan Fail	Keypad presence is monitored from the Controller board. Once deemed unavailable, this point is placed into fault.
243.1.1	Enable	This subpoint determines whether the keypad will be set up to ignore or accept keypresses from the keypad. If the operate state is true, the keypad will be enabled and accept keypresses.
243.1.2	LED Board	This subpoint is placed into fault when the keypad detects an LED board fault.
243.1.3	Keyboard	This subpoint is placed into fault when the keypad detects a fault on the numeric keypad.
243.1.4	Ext Fault	This subpoint is placed into fault when the keypad external fault input has been activated.
243.1.5	Micro Test	This subpoint is placed into fault when the keypad micro test fails.
243.1.6	CRC Fail	This subpoint is placed into fault when the keypad program CRC check fails.

243.1.7	RAM Test	This subpoint is placed into fault when the keypad RAM test fails.
243.1.8	Channel A	This subpoint is placed into fault when communication channel A is detected to be in fault. Currently not implemented.
243.1.9	Channel B	This subpoint is placed into fault when communication channel B is detected to be in fault. Currently not implemented.
243.1.10	2	This subpoint determines whether the menu will be in Access Level 2. If the operate state is true, menu level 2 access is enabled.
243.1.11	Alarm Buzzer	This subpoint shows the state of the alarm buzzer on the keypad, which is controlled directly by internal logic. It is also sent to any RDUs allowing the buzzer to be mimicked. ActiveInput indicates that the alarm buzzer is active.
243.1.12	Fault Buzzer	This subpoint shows the state of the fault buzzer on the keypad, which is controlled directly by internal logic. ActiveInput indicates that the fault buzzer is active. It is also sent to any RDUs allowing the buzzer to be mimicked. A separate configuration item , Keypad Notified of Fault Sander, controls whether the Active input state is actually sent to the Keypad and RDU.
243.1.13	LCD Fault	This subpoint is placed into fault when the keypad LCD fails.
243.2.0 through to 243.19.0	Switch Input n	This point is placed into ActiveInput if switch input n on the keypad is active.
243.20.0 through to 243.35.0	Open Collector Output n	This point drives the open collector output n. Its operate state can be driven by the mapped zone's operate state, by logic, or by nothing.
243.36.0	FRC Monitor	This point is placed into fault when the keypad signals that the FRC to the 26 way Switch Input connector is removed.
243.36.1	Switch Input set 0 Monitor	This point is placed into fault when the end-of-line resistor is missing from switch input set 0, which contains inputs 16-18.
243.36.2	Switch Input set 1 Monitor	This point is placed into fault when the end-of-line resistor is missing from switch input set 1, which contains inputs 1-3.
243.36.3	Switch Input set 2 Monitor	This point is placed into fault when the end-of-line resistor is missing from switch input set 2, which contains inputs 4-6.
243.36.4	Switch Input set 3 Monitor	This point is placed into fault when the end-of-line resistor is missing from switch input set 3, which contains inputs 7-9.
243.36.5	Switch Input set 4 Monitor	This point is placed into fault when the end-of-line resistor is missing from switch input set 4, which contains inputs 10-12.
234.36.6	Switch Input set 5 Monitor	This point is placed into fault when the end-of-line resistor is missing from switch input set 5, which contains inputs 13-15.

System Event Messages



The **<event text>** is one of the following:

Event Text	Meaning
Cold start	The *MX1* has been powered up
Warm start	The *MX1* has restarted without being powered down, e.g., change of data file
Logic vars restore fail	Retrieval of non-volatile logic variables failed during start up
Zn disables restore fail	Retrieval of non-volatile zone disable states failed during start up
Pnt disables restore fail	Retrieval of non-volatile point disable states failed during start up
History restore fail	Retrieval of non-volatile event messages failed during system start up
Logic vars reset	The values of non-volatile logic variables were reset (usually following a restore failure)
Zone disables reset	Non-volatile zone disable states were reset (usually following a restore failure)
Pnt disables reset	Non-volatile point disable states were reset (usually following a restore failure)
History Reset	Non-volatile event messages were all cleared (usually following a restore failure)
Daylight Save Start	Daylight Saving Time correction to the system clock has been started or stopped, respectively
Daylight Saving End	
RZDU Cmd rec'vd	An operator command was received from a connected RZDU
RZDU test timeout	An RZDU failed to report that a self-test passed, within 4 minutes of starting
DB Programming access	A user able to change the system data file logged on or logged off the diagnostic port, respectively
DB Programming end	
Diagnostic Port logon	A user able to use diagnostic functions logged on or logged off the diagnostic port, respectively
Diagnostic Port logoff	
LCD logon (x) name	A user able to use level 3 functions logged on or logged off, respectively. X = user number, name = user name
LCD logoff (x) name	
Keypad restart	The keypad/LCD controller program has restarted
Time changed	The system time or date has been changed

Date changed	
System running	This is a daily timestamp, with no other meaning
Commission Mode On/Off	Commissioning mode has been started/stopped

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