MORLEY IAS
FIRE SYSTEMS
by Honeywell

Document No. 996-148-000-4 Issue 4

DX user manual

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1 Introduction

1.1 Notice

- The material and instructions covered in this manual have been carefully checked for accuracy and are presumed to be correct. However, the manufacturer assumes no responsibility for inaccuracies and reserves the right to modify and revise this document without notice.

For use with software version 02.05 onwards

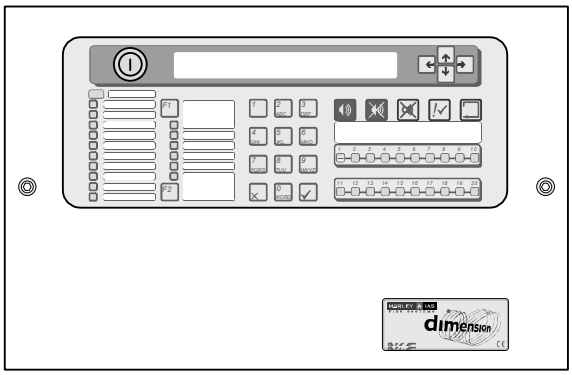
- These instructions cover the use and operation of the Dimension Series Fire Alarm Control Panels. Refer to the Product Manual (P/N 996-147-000) for details of how to install, program and maintain the system.
- The DX1, DX2 and DX4 Fire Alarm Control Panels are 1, 2 and 4 loop panels for use with analogue addressable devices from the following detector manufacturer ranges: -

1.2 Models

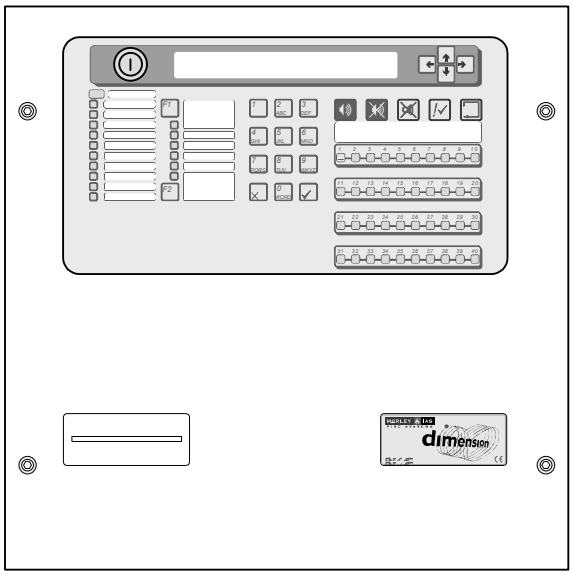
- The Dimension Series Fire Alarm Control Panels are available in a range of enclosure sizes. A printer is available as a factory fit option on all models except for the small enclosure. This manual covers the following models: -

Model	No. of Loops	Enclosure	Printer	Max. Battery Size	No. of Zones
DX1e-20S	1	Small	☒	7Ah	20
DX1e-40M	1	Medium	Option	12Ah	40
DX1e-40MP	1	Medium	☑	12Ah	40
DX2e-40M	2	Medium	Option	12Ah	40
DX2e-40MP	2	Medium	☑	12Ah	40
DX2e-40L	2	Large	Option	17Ah	40
DX2e-40LP	2	Large	☑	17Ah	40
DX4e-40L	4	Large	Option	17Ah	40
DX4e-40LP	4	Large	☑	17Ah	40

☒ = A printer cannot be fitted in this enclosure
☑ = A printer is fitted as standard
Option = A printer is not fitted as standard but may be fitted as a retrofit item

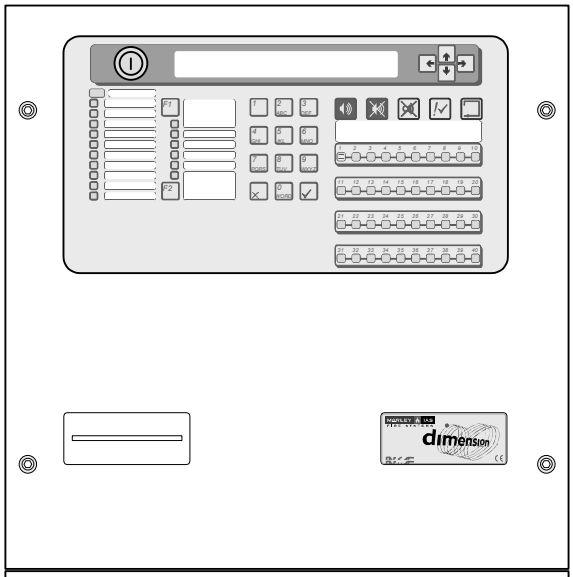


DX1e-20S



DX1e-40M, DX1e-40MP

DX2e-40M, DX2e-40MP



DX2e-40L, DX2e-40LP

DX4e-40L, DX4e-40LP

Installer Fit Options:

A front panel key-switch, P/N 795-083, can be installed in all models. This can be used for:

a) Level 2 Access Control

b) Class Change

c) Bomb Alert

Specials: Large Enclosure Only. The following future typical special options can be installed in the lower cabinet area.

Examples:

a) Graphical Mimic Display

b) Up to 4 Key-Switches

c) DIN Rail mounted modules

For further information on either of these options, contact your supplier / maintenance contractor.

1.3 Warnings and Cautions

These instructions contain procedures to follow in order to avoid injury and damage to equipment. It is assumed that the user of this manual has been suitably trained and is familiar with the relevant regulations.

This panel is CE Marked to show that it conforms to the requirements of the following European Community Directives:

- **Electromagnetic Compatibility Directive 89/336/EEC (and the amending directive 92/23/EEC)**
- **Low Voltage Directive 73/23/EEC**

- **This panel has been tested and found to comply with the Year 2000 requirements.**
- **NOTE: The end date for all date functions is 31/12/2063.**
- **In the year prior to reaching the calendar end date, consult the Original Equipment Supplier/ Current Maintenance Contractor for advice.**

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Maximum of 512 sensors / manual call points per panel.

- The Dimension Series range of panels has many features which, if used inappropriately, may contravene the requirements of EN54. Where such a possibility may arise, a suitable warning is given with brief details of the EN54 requirement and the relevant section to which it pertains. A typical EN54 non-compliance warning is illustrated.

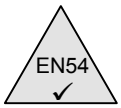
1.4 National Approvals

This equipment must be installed and operated in accordance with these instructions and the appropriate national, regional and local regulations specific to the country and location of the installation. Consult with the appropriate Authority Having Jurisdiction (AHJ) for confirmation of the requirements.

All equipment is to be operated in accordance with the appropriate standards applicable

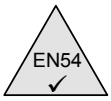
This equipment must be installed in accordance with these instructions and the appropriate national, regional and local wiring regulations. In the UK the wiring must conform to the requirements of BS7671 (IEE Wiring Regulations – Sixteenth Edition).

1.5 EN54 Information



- **This Fire Alarm Control Panel complies with the requirements of EN54-2/4 1997. In addition to the basic requirements of EN54, the panel conforms to the following optional functions.**

Option		EN54-2 Clause
Indication:	**Fault signals from points**	8.3
	Alarm Counter	7.13
Controls:	**Coincidence Detection**	7.12
	Delays to Outputs	7.11
	Disablement of each addressable point.	9.5
	Test condition	10
Outputs:	**Outputs to fire alarm devices**	7.8



- **The power supplies for the Dimension Series of panels comply with the following clauses of EN54-4.**

DX1/2/4e Power Supply Functions	EN54-4 Clause
Derive power supply from main power source	5.1
Derive power supply from a standby battery source	5.2
Charge and monitor the standby battery source	5.3
Detect & signal power supply faults	5.4

- **In addition to the functions required by EN54-2, the panel supports a number of ancillary functions that are not required by EN54. These are outlined below: -**

Ancillary Function	Manual Section
Auxiliary supply output	Refer to Product Manual
Peripheral loop output & supported devices	Refer to Product Manual
Auxiliary relay outputs	Refer to Product Manual
Printer option	8
Class Change Input	0
Group Disable	5.3.5.3

2 User Control Levels

2.1 Level Definition

- The DX1e, DX2e and DX4e Fire Alarm Control Panels have three user control levels.
- At all three levels, the LED Displays indicate the condition of the installation, the Zone LED Displays indicate the location of any fire alarm and the alphanumeric display gives more detailed fire alarm, fault, and test or disablement information.
- At USER LEVEL 1, all the displays are functional but the front panel control keys are inhibited.
- At USER LEVEL 2, all front panel controls are functional and some system operation parameters and functions can be changed. User Level 2 is reached by entering a password from level 1.
- At USER LEVEL 3, all front panel controls are functional and full system configuration and programming is possible. User Level 3 is reached by entering a password from either Level 1 or Level 2. User Level 3 is intended for use by the system installer / maintenance contractor.

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Viewing Suppressed Information.

- All of the mandatory indications that may not be suppressed during a fire alarm condition are shown using Light Emitting (LED) Indicators. Fire Alarms are shown using LED Indicators for each zone.
- It is possible to view all other conditions such as points in fire, faults, zones in test and disablement conditions using the navigation (arrow) keys at Level 1.

2.2 User Passwords

- Up to ten USER LEVEL 2 passwords can be programmed into the panel.
- The USER LEVEL 2 passwords can be assigned / changed at Level 3 by the installer / maintenance contractor. Level 2 passwords do not allow access to Level 3 functions.

3 Controls and Indications

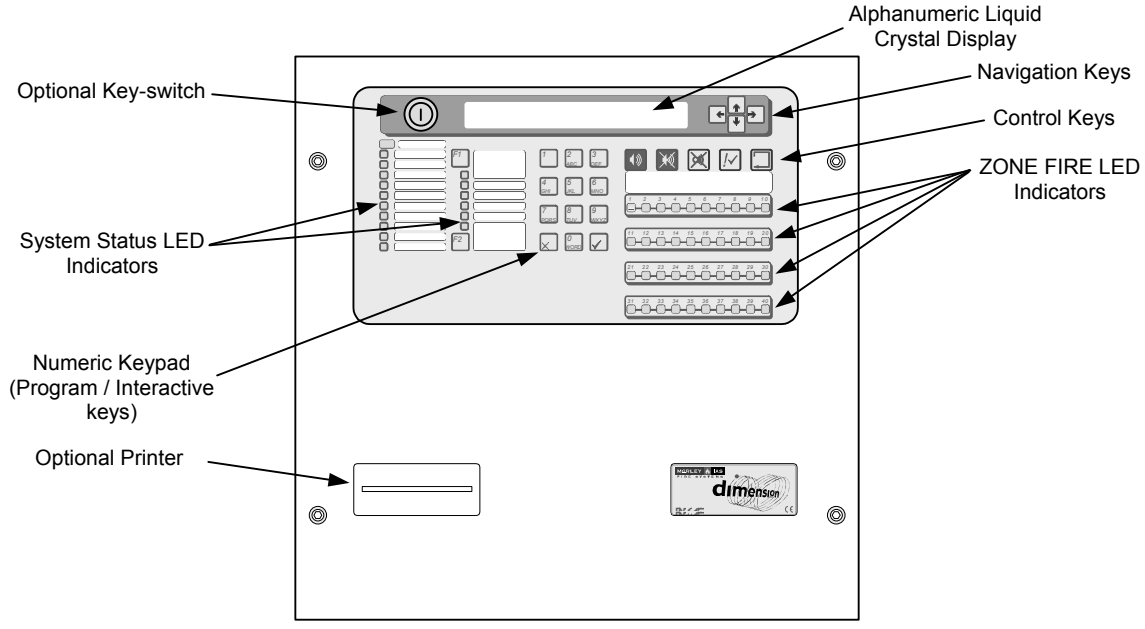


Figure 1 – Typical Controls and Indications

- The diagram above shows the controls and indications on the DX2e-40MP model. This is typical for all models.

3.1 Control Keys

Key Legend	Symbol	Function
Sound Alarms		Press to Turn on ALL Sounder Outputs (i.e. evacuate building manually).
Silence / Resound		Press to Turn off all activated sounders. Press again to re-activate the sounders.
Mute Buzzer		Press to silence the internal buzzer.
Accept		Press to accept a Stage 1 Investigation Delay Alarm
System Reset		Press to cancel all alarm / fault conditions and reset the panel.

Table 1 – Control Key Functions

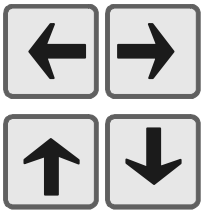
Key Legend	Symbol	Function
Function Key		Programmable Function Key. Default is used as an event view short-cut function or alternatively can be assigned to the following: Bomb Alert, Class Change, Detection Mode start / stop.
Function Key		Programmable Function Key. May be assigned to the following: Bomb Alert, Class Change, Detection Mode start / stop.
Navigation Keys		Press to select and scroll through Level 1 display functions for fire, fault, and disablement and test conditions. Press to select and scroll through menu options. Follow the on screen prompts.
0 – 9 A – Z, WORD		Numeric keypad for entering numbers. May also be used during programming to enter letters of the alphabet and 'words' for text message entry. This works in a similar fashion to a mobile telephone keypad.
No		Press to answer No, or cancel a display option and return to a previous menu.
Yes		Press to answer Yes, to Enter / Select or to Confirm changes.

Table 2 - Alphanumeric and Interactive Control Keys

- The control keys are disabled at USER LEVEL 1. Pressing a control or number key will cause the display to prompt for entry of the Level 2 password. The password must be entered to re-enable the control keys at Level 2.

3.2 Front Panel LED Indications

Indicator	Colour	Function	How to Clear
Block 1			
FIRE	Red	The panel has detected a fire alarm condition, or the 'Sound Alarms' key has been pressed.	Correct the condition causing the alarm and then perform a panel reset.
FAULT	Yellow	The panel has detected a fault.	Correct the condition causing the fault and then perform a panel reset.
Test	Yellow	The system is in test mode. The LCD shows which zones are being tested.	Cancel / Stop test when finished.
Disablement	Yellow	Part of the system, either input or output, has been disabled manually by the user.	Re-enable the device or devices. Refer to Disablement Function.
Delayed Mode	Yellow	This indicates that the system is operating with delays to the sounder outputs and the delays are active (in force).	The delays may be enabled or disabled. Refer to Disablement Function.
Alarms Silenced	Yellow	The sounder outputs have been silenced.	Correct the alarm condition and then perform a panel reset. NOTE: Press SILENCE / RESOUND again to reactivate the sounders. If an alarm occurs in a new zone, the alarms will automatically resound.
Buzzer Muted	Yellow	A fault or alarm has been acknowledged and the internal buzzer silenced.	Correct the condition causing alarm or fault and then perform a manual reset. NOTE: If an alarm occurs in a new zone or fault occurs, the internal buzzer automatically resounds.
Sounders Disabled	Yellow	The sounder outputs have been disabled.	Refer to Disablement Function.
Relays Disabled	Yellow	The relay outputs have been disabled.	Refer to Disablement Function.
Fire Routing Equipment	Red	Indicates the output to fire routing equipment (i.e. Fire Brigade) is activated. NOT CURRENTLY USED.	
Power	Green	STEADY: Indicates presence of power (either AC Mains and / or batteries).	
Block 2			
Function 1	Yellow	Function programmed when commissioned – refer to site notes.	
Supply Fault	Yellow	There is a problem with the power supply, battery or supply input.	Correct the fault condition and then perform a panel reset.
System / CPU Fault	Yellow	The CPU has reset or a system fault has occurred.	Correct the problem, if appropriate, and then perform a panel reset.
Sounder Fault	Yellow	This indicates a wiring fault with one of the sounder output circuits.	Correct the fault condition and then perform a panel reset.
Earth Fault	Yellow	An earth connection fault has occurred on a cable.	Correct the fault condition and then perform a panel reset.
Function 2	Yellow	Function programmed when commissioned – refer to site notes.	
Block 3			
Zone FIRE	Red	STEADY: The zone is in a fire alarm condition.	Correct the alarm condition and then perform a panel reset.

Table 3 - LED Functions

- The Level 1 LED Indicators are divided into three blocks as described in Table 3 opposite. The LED Indicators illuminate as red, yellow or green.
- Block 1 contains LED Indicators showing the state of the fire alarm control panel.
- Block 2 contains LED Indicators showing specific fault conditions. In addition, there are two programmable indicators.
- Block 3 contains the Zone Fire LED Indicators. There are either 20 or 40 LED Indicators depending on the model.

3.3 Alphanumeric Display Indications

- The alphanumeric liquid crystal display (LCD) gives 80 characters of information on a 2-line display. The display is illuminated to assist viewing under dim ambient light conditions.

3.3.1 Normal Condition

- If the panel is in the quiescent condition the display shows the day of the week, date and time (24hour format) as follows:

```
        Wed 07/05/2003 11.38:59
 All devices are inside working limits
```

3.3.2 Other Conditions

3.3.2.1 Loop Device Faults/ Fires

- The alphanumeric display will automatically update to show zonal information about the latest device to enter a fault or fire condition.

```
IN FAULT ZONE 1 1/1                X:Summary
< ZONE TEXT >                  →: Device Details
```

- Use the right arrow key to view the individual device/point details within the affected zone.
- Use the up/down arrow keys to view different zones in the same condition.
- Use the ‘X’ key to exit the summary display.

3.3.2.2 F1 Short-cut Navigation Key

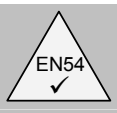
- Where the F1 function key is not programmed to provide a specific function e.g. Bomb alert, Class change etc, it will operate as a navigation shortcut key.
- Press the ‘F1’ function key once and the alphanumeric display will show the first active event from the highest priority category available (fires, faults, disablements).
- Use the up/down arrow keys to navigate through all active events in that category. The events are listed in a purely chronological order i.e. no zonal or other grouping is applied.
- Press the ‘F1’ key again to toggle to the next highest priority event category available. Where no category is available, the display will revert to the original summary/zone display.
- Press ’X’ or any numeric key when viewing the active events and the display will revert to the summary display.

3.3.2.3 Panel Status Summary

- If the panel is in a fire and/or a fault and/or a test and/or a disablement condition the display shows the status of the panel as follows:

```
<FIRES>    :1   FAULTS      :1   ←↕→:Select
 DISABLED :0   IN TEST     :0    ✓:Details
```

- The display shows the number of fire alarms, faults, disablements and zones in test. The above example shows that there is one fire alarm and one fault condition present.



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Viewing Suppressed Information.

- All of the mandatory indications that may not be suppressed during a fire alarm condition are shown using Light Emitting (LED) Indicators. Fire Alarms are shown using LED Indicators for each zone.
- It is possible to view all other conditions such as points in fire, faults, zones in test and disablement conditions using the arrow keys at Level 1.

- To view the information for a particular condition, use the ←↑↓→ keys to select the required condition (the '<' and '>' brackets move to the selected option and flash) and then press the ✓ key to select and view further detail.

3.3.3 Level 2 Menu Displays

- When the Level 2 Menu Displays are selected, the display shows a number of listed options. The example below shows the main Level 2 Menu options. All other menus are similar.

```
[U0]  1:Commission  2:Test  3:Clock
      4:Disable/Enable  5:View Mode
```

4 Level 1 Display Functions

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Display of functional conditions.

- At Level 1, the panel operates in a display only mode with the control keys disabled.
- If fire alarm, fault, test or disablement conditions exist, the LED Indicators will show these. Detailed information can be viewed on the alphanumeric display using the navigation keys.

The way the panel displays information at level 1 is configurable for one of two options, 'zonal' (EN54-2 compliant) or 'by event' (not EN54-2 compliant).

Default level 1 display option – zonal

- In this mode the display shows a summary of the panel status including the number of zones in fire, fault, test and disablement.
- Manual intervention is required for more detailed point information.

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Indication of zones in alarm & faults

Alternative level 1 display option – by event

- In this mode the display scrolls through detailed point information, one point at-a-time with no manual intervention required.
- It is important to note that operating the panel in this mode means that the panel does not comply with the EN54-2 clauses highlighted opposite.

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Audible Indication.

- In a fire alarm condition, the buzzer will sound continuously. It will automatically resound (if previously muted) for fire alarms from a new zone.
- In a fault condition, the buzzer will sound intermittently (1-second on / 1-second off). It will automatically resound (if previously muted) for any new fault condition registered.
- The internal buzzer can be silenced at Level 1 – press the MUTE BUZZER key.

4.1 Normal Conditions

- When the system is in a normal condition, the green AC Power LED will be illuminated. The alphanumeric display will show the time and date and an "All systems normal" status message.

```
        Wed 07/05/2003 11.38:59
All devices are inside working limits
```

4.2 Other Conditions – zonal (default) display option

- The display shows the status of the panel if any fire, fault, test or disablement conditions occur.

```
<FIRES>    :1   FAULTS      :1   ←↕→:Select
 DISABLED :0   IN TEST     :0    ✓:Details
```

- Press **'X'** in any of the following sub menus to return immediately to this display.

4.2.1 Fire Alarm Conditions

- If the control panel initiates an alarm condition, the FIRE LED Indicators will be illuminated and, if appropriate, the relevant ZONE FIRE LED Indicators will illuminate. The internal buzzer will sound and the alphanumeric display will indicate the number of fires.
- To view more detailed information regarding the fire alarm location use the navigation keys as follows.
- Press the ←↑↓→ keys to select the FIRES option, then press the ✓ key and the display shows the following for example:

```
TOTAL PANEL FIRES     :1    →:Panel Events
TOTAL ZONES IN FIRE   :2    ↓:Zone Details
```

- This display indicates that there are two zones in fire and that a fire alarm has been raised at the panel. To view these, press the → key to view the fire alarm initiated at the panel and press the ↓ key to view the zones in fire.

4.2.1.1 Panel Fire Alarms

```
FIRE         01/01                      11:22
EVACUATE                          ←:back ↕:more
```

- The above example shows there are one of one fire alarm raised at the panel. This was an "Evacuate" raised at 11:22AM when the "Sound Alarms" key was pressed.
- If there is more than one fire alarm indicated, use the ↑ and ↓ keys to view these (Note: The '↕: more' option is not shown if there is only one event, the '↓' and '↑' keys are shown for the first and last entries in the list). Press the ← key to return to the previous display.

4.2.1.2 Zone Fire Alarms

- When selected, the display shows the first zone with a fire alarm condition. For example:

```
IN FIRE    ZONE 3   1/ 2      ↕:More Zones
<Zone-Location-Text>      →:Device Details
```

- The display shows the Zone number and Zone Location Text (20 character description).
- To view other zones in fire (or to return to the previous display), press the ↑ and ↓ keys.
- To view the devices (points) in a fire alarm condition, press the → key. The display then shows the first point in alarm in the selected zone. For example:

```
FIRE        01/02  Z04 L1 A011 MCP 11:45
<Point-Location-Txt>      ←:back ↕:more
```

- The display shows the alarm number and the total number of devices (points) in a fire alarm condition in this zone (01/02), the Zone number (Z04), the loop number to which this device is connected (L1), the address of this device on the loop (A011), the type of device (MCP), the time at which the device entered the alarm condition (11:45) and the Point Location Text (20 character description) for this device.
- To view other points in fire in this zone, press the 🡅 and 🡇 keys (Note: The '↕: more' option is not shown if there is only one event, the '↓' and '↑' keys are shown for the first and last entries in the list).
- To return to the list of zones in fire, press the 🡄 key.

4.2.1.3 Override Delays

EN54 ✓

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Override delays at Level 1

- The DX1e, DX2e and DX4e control panels can be configured to operate with delays to outputs. In this case, a manual call point (MCP) will be located next to the panel.
- To override any delays and immediately activate the bells and other fire alarm output devices, break the glass in the call point.

4.2.2 Fault Conditions

- If the panel detects a fault, the FAULT LED is illuminated along with other appropriate system condition LED Indicators. The internal buzzer will sound and the alphanumeric display will indicate the number of faults.
- To view more detailed information regarding the fault locations use the navigation keys as follows.
- Press the 🡄🡅🡇🡆 keys to select the FAULT option and then press the ✓ key. The display shows further information on the faults. For example:

```
TOTAL PANEL FAULTS   :3    →:Panel Events
TOTAL ZONES IN FAULT :1    ↓:Zone Details
```

- This display indicates that there is one zone in fault and that three panel related faults have been registered. To view these, press the 🡆 key to view the panel related faults and press the 🡇 key to view the zones in fault.

4.2.2.1 Panel Faults

```
FAULT       02/03  MON INPUT 1      12:15
INPUT OPEN CIRCUIT          ←:back ↕:more
```

- The above example shows there are three panel related faults and fault number two is shown. This was an input open circuit on "Monitored Input 1" registered at 12:15PM.
- If there is more than one fault indicated, use the 🡅 and 🡇 keys to view these (Note: The '↕: more' option is not shown if there is only one event, the '↓' and '↑' keys are shown for the first and last entries in the list). Press the 🡄 key to return to the main display.

4.2.2.2 Zone Faults

- When selected, the display shows the first zone with a fault condition. For example:

```
IN FAULT   ZONE 1  01/01    ↕: More Zones
<Zone-Location-Text>     →:Device Details
```

- The display shows the Zone number and Zone Location Text (20 character description).
- To view other zones in a fault condition (or to return to the main display), press the ↑ ↓ keys.

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Fault Signals from points.

- To view the devices (points) in a fault condition, press the → key. The display then shows the first point in a fault condition in the selected zone. For example:

```
FAULT       01/02  Z01 L1 A010 OPT 12:19
NO REPLY FROM DEVICE←:back ↕:more →:text
```

- The display shows the fault number and the total number of devices (points) in a fault condition in this zone (01/02), the Zone number (Z01), the loop number to which this device is connected (L1), the address of this device on the loop (A010), the type of device (OPT), the time at which the device entered the alarm condition (12:19) and a description of the fault.
- To view other points in fault in this zone, press the ↑ ↓ keys (Note: The '↕: more' option is not shown if there is only one event, the '↓' and '↑' keys are shown for the first and last entries in the list).
- To return to the list of zones in fault, press the ← key.
- To view the location texts for this device press the → key. The display then shows the Zone Location Text and the Point Location Text (20 character description each) for this device. For example:

```
FAULT       01/02  Z01 L1 S010 OPT 12:19
<Zone-Location-Text><Point-Location-Txt>
```

- To return to the previous display, press the ← key.

4.2.3 Test Conditions

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Test Condition.

- If zones have been configured to be in a test condition (i.e. weekly walk test), the TEST LED is illuminated.

- To view the zones in a test conditions use the navigation keys as follows.
- Press the ←↑↓→ keys to select the TEST option and then press the ✓ key and the display shows further information on the faults. For example:

```
IN TEST    ZONE 1  01/02    WITH SOUNDERS
<Zone-Location-Text>  ←:back ↕:More Zones
```

```
IN TEST    ZONE 2  02/02    NO SOUNDERS
<Zone-Location-Text>  ←:back ↕:More Zones
```

- The display shows the Zone number and Zone Location Text (20 character description) of the first zone in a test condition. It also indicates whether the sounders / bells will ring briefly when a device in the zone is tested.
- To view other zones in a test condition press the ↑ and ↓ keys.
- To return to the previous display, press the ← key.

4.2.4 Disablement Conditions

- If zones, input devices, output devices or other disablement conditions have been programmed, the DISABLEMENT LED is illuminated along with other appropriate system condition LED Indicators.
- To view more detailed information regarding the disablement conditions use the navigation keys as follows.
- Press the ←↑↓→ keys to select the DISABLED option, then press the ✓ key and the display shows further information on the faults. For example:

```
TOTAL PANEL DISABLED :3    →:Panel Events
TOTAL ZONES DISABLED :3    ↓:Zone Details
```

- This display indicates that there are three zones in either a full or partial disablement condition and that three panel related disablements have been configured. To view these, press the → key to view the panel related disablement and press the ↓ key to view the zones in disablement.

4.2.4.1 Panel Disablements

```
DISABLED    01/03                    12:15
DISABLE ALL SOUNDERS        ←:back ↕:more
```

- The above example shows there are three panel related disablements and the first disablement is shown. This was a disablement of all sounders / bells configured at 12:15PM.
- If there is more than one disablement indicated, use the ↑ and ↓ keys to view these (Note: The '↕: more' option is not shown if there is only one event, the '↓' and '↑' keys are shown for the first and last entries in the list). Press the ← key to return to the main display.

4.2.4.2 Zone Disablements

- When selected, the display shows the first zone with a disablement condition. For example:

```
DISABLED   ZONE 1  01/03    ↕: More Zones
<Zone-Location-Text>  ZONE FULLY DISABLED
```

- The display shows the Zone number and Zone Location Text (20 character description), the disablement number and total number of zones in a disablement condition (01/03) and whether the zone is fully disabled. If the zone is only partially disabled, the display is as follows:

```
DISABLED   ZONE 1  02/03    ↕: More Zones
<Zone-Location-Text>     →:Device Details
```

- To view other zones in a disablement condition (or to return to the main display), press the ↑ and ↓ keys.

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Disablement of each addressable point.

- To view the devices (points) in a zone with only partial disablement condition, press the → key. The display then shows the first point in disablement in the selected zone. For example:

```
DISABLED    01/02  Z01 L1 A010 OPT 12:19
<Point-Location-Txt>       ←:back ↕:more
```

- The display shows the disablement number and the total number of devices (points) in a disablement condition in this zone (01/02), the Zone number (Z01), the loop number to which this device is connected (L1), the address of this device on the loop (A010), the type of device (OPT), the time at which the device was disabled (12:19) and the Point Location Text (20 character description) for this device.
- To view other points in disablement in this zone, press the ↑ and ↓ keys (Note: The '↕: more' option is not shown if there is only one event, the '↓' and '↑' keys are shown for the first and last entries in the list).
- To return to the list of zones in a disablement condition, press the ← key.

4.3 Other Conditions – by event display option

- The display always shows point details, for example :

```
FIRE        01/02  Z04 L1 A011 MCP 11:45
<Zone-Location-Text><Point-Location-Txt>
```

- Each event is displayed for approximately 8 seconds, then the next event is displayed.
- After every 2 events an appropriate instruction screen in displayed, for approximately 3 seconds, for example :

```
   USE ARROW KEYS TO VIEW MORE EVENTS
↑ PREVIOUS EVENT            ↓ NEXT EVENT
```

4.3.1 Fire Alarm Conditions

- If the control panel initiates an alarm condition, the FIRE LED Indicators will be illuminated and, if appropriate, the relevant ZONE FIRE LED Indicators will illuminate. The internal buzzer will sound and the alphanumeric display will scroll though each fire in turn, starting with the first fire. For example :

```
FIRE        01/02  Z04 L1 A011 MCP 11:45
<Zone-Location-Text><Point-Location-Txt>
```

- The panel alphanumeric display may be configured by the installer to scroll though only those fires of interest, and keep other fires in the background. Fire scrolling options are as follows :
    - 1st fire only (default)
    - 1st and last fire
    - First 4 fires
    - All fires
- Press the ↑↓ keys to scroll through the fire list manually. If no key is pressed for 60 seconds, auto-scrolling will resume.
- Whilst fire alarm conditions are present (including panel fire alarms) then faults, disablements and tests are not displayed.
- Non-displayed fires, faults, tests and disablements are always available by pressing the → key, as indicated on the instruction screen. The subsequent event list will display all events in a priority order.

The order is (highest-to-lowest) – fires, bomb alerts, security alerts, plant alarms, faults, disablements and tests.

- After viewing all events to return to the fire list starting at the first point in fire press the ← key.

4.3.1.1 Zone Fire Alarms

```
FIRE        01/02  Z04 L1 A011 MCP 11:45
<Zone-Location-Text><Point-Location-Txt>
```

- In the example above, the display shows the alarm number and the total number of devices (points) in a fire alarm condition, the Zone number (Z04), the loop number to which this device is connected (L1), the address of this device on the loop (A011), the type of device (MCP) and the time at which the device entered the alarm condition (11:45).
- The bottom line shows the Zone Location Text (20 character description) and the Point Location Text (20 character description) for this device.

4.3.1.2 Panel Fire Alarms

Example :

```
EVACUATE                    01/01       11:22
```

- Panel fire alarms are displayed along with other fire alarm conditions as detailed in the section above.

4.3.1.3 Override Delays

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Override delays at Level 1

- The DX1e, DX2e and DX4e control panels can be configured to operate with delays to outputs. In this case, a manual call point (MCP) will be located next to the panel.
- To override any delays and immediately activate the bells and other fire alarm output devices, break the glass in the call point.

4.3.2 Fault Conditions, Disablement conditions and Test conditions

- If the panel detects a fault or a device is disabled or a zone is put into test, the appropriate system condition LED Indicators are lit. If the event is a fault the internal buzzer will sound. The alphanumeric display will scroll though each event in turn, starting with the first event. For example :

```
 OUTPUT SHORT CIRCUIT  01/02  Z01 L1 A054
<Zone-Location-Text><Point-Location-Txt>
```

4.3.2.1 Panel Faults

Example :

```
  INPUT OPEN CIRCUIT  01/02  MON INPUT 1
```

- In the example above, the display shows a description of the fault, event number and the total number of events and a panel input identifier.
- Press the ↑↓ keys to scroll though the event list manually. If no key is pressed for 60 seconds, auto-scrolling will resume.

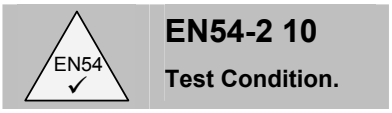
4.3.2.2 Zone Faults

Example :

```
 OUTPUT SHORT CIRCUIT  02/02  Z01 L1 A054
<Zone-Location-Text><Point-Location-Txt>
```

- In the example above, the display shows a description of the event, event number and the total number of events, the Zone number (Z01), the loop number to which this device is connected (L1) and the address of this device on the loop (A054).
- The bottom line shows the Zone Location Text (20 character description) and the Point Location Text (20 character description) for this device.
- Press the ↑↓ keys to scroll though the event list manually. If no key is pressed for 60 seconds, auto-scrolling will resume.

4.3.2.3 Test Conditions



- If zones have been configured to be in a test condition (i.e. weekly walk test), the TEST LED is illuminated.

The alphanumeric display will show details of the zone in test. For example :

```
WALK TEST              01/12   Z01  03:22
```

- In the example above, the display shows the event number and the total number of events, the Zone number (Z01) of the zone in test and the time at which the zone entered the test condition (03:22).
- Press the ↑↓ keys to scroll though the event list manually. If no key is pressed for 60 seconds, auto-scrolling will resume.

4.3.2.4 Disablement Conditions

- If zones, input devices, output devices or other disablement conditions have been programmed, the DISABLEMENT LED is illuminated along with other appropriate system condition LED Indicators.
- The alphanumeric display will show details of the disablement For example :

```
DISABLED     09/10 Z01 L1 A054 MCP 09:34
<Zone-Location-Text><Point-Location-Txt>
```

4.3.2.4.1 Panel Disablements

```
DISABLE ALL SOUNDERS  01/03          12:15
```

- In the example above, the display shows a description of the event, the event number and the total number of events and the time at which the event (sounders disabled) was programmed (12:15).

- Press the ↑↓ keys to scroll though the event list manually. If no key is pressed for 60 seconds, auto-scrolling will resume.

4.3.2.4.2 Zone Disablements

```
DISABLE FULL ZONE      02/03  Z01   03:36
```

- In the example above, the display shows a description of the event, the event number and the total number of events, the zone that is disabled and the time at which the event (zone disabled) was progammed (03:36).
- Press the ↑↓ keys to scroll though the event list manually. If no key is pressed for 60 seconds, auto-scrolling will resume.

4.3.2.4.3 Point disablements

Example :

```
DISABLED     09/10 Z01 L1 A054 MCP 09:34
<Zone-Location-Text><Point-Location-Txt>
```

- In the example above, the display shows a description of the event, the event number and the total number of events, the Zone number (Z01), the loop number to which this device is connected (L1), the address of this device on the loop (A054), the type of device (MCP) and the time at which the device was disabled (09:34)
- The bottom line shows the Zone Location Text (20 character description) and the Point Location Text (20 character description) for this device.
- Press the ↑↓ keys to scroll though the event list manually. If no key is pressed for 60 seconds, auto-scrolling will resume.

4.4 Power Supply Fault Conditions

- If the AC MAINS power source is interrupted or if the panel registers other fault conditions associated with its power supply, the Supply Fault LED and Fault LED Indicators will be lit. Further details of the fault can be viewed on the display.
- The back light illumination of the alphanumeric display will be turned off.
- If both the AC MAINS input and the Battery Standby Input fail then all LED and alphanumeric display indicators will be off.
- Possible fault conditions are:

NO MAINS SUPPLY, BATTERY LOW, BATTERY DISCHARGED, BATTERY MISSING and CHARGER FAILURE.

4.5 List of Device Abbreviations

- The following table gives a list of the device (point) abbreviations shown on the alphanumeric display.

Abbreviation	Description
CO	Carbon Monoxide Detector
FLM	Flame Detector
ION	Ionisation Smoke Detector
I/O	Input / Output Module
LSR	Laser Smoke Detector
MCP	Manual Call Point
MLT	Multi-Criteria Detector
MON	Monitored Input
OPT	Optical Smoke Detector
RLY	Relay
SDR	Sounder / Bell
TMP	Temperature Detector
ZMX	Zone Monitor Module

Table 4 – Device Type Abbreviations

5 Level 2 Display / Control Functions

5.1 Display Functions

- All of the display functions available at Level 1 are also available at Level 2.

5.2 Control Functions

- The four main control keys are locked at Level 1 (Note: Mute Buzzer key is always enabled). To enable the Level 2 control functions, press any control key and the following display will be shown:

```
CONTROL KEY LOCKED – ACCESS REQUIRED
Enter Level 2/3 passcode          ←:BackSp
```

- Enter the Level 2 pass-code (for example, the default pass-code is 1234) using the **number** buttons. As each number is entered, a **'*'** character is shown on the display. When all four digits have been entered, press the **'✓'** key. (If a wrong number key is pressed, press the ← key to erase the number entered and re-enter the correct / required number).
- If the pass-code is correct, the display will revert to the normal display. Level 2 access will remain available for 5-minutes (programmable). Press the required control to perform the desired action – see below.
- If the pass-code is entered incorrectly, the display will show the following message for 60 seconds. Press the **'X'** button to revert immediately to the normal displays. The eight-character number on the bottom line is a control code and is only relevant to Level 3 use.

```
ERROR – INCORRECT PASSCODE !!!
C8B0E488
```

- Alternatively, if the key-switch option is fitted and programmed to enable Level 2 access, insert the key and turn clockwise to enable Level 2 Control functions.

5.2.1 Sound Alarms / Evacuate

To activate all sounder outputs and evacuate the building press the SOUND ALARMS key.

5.2.2 Silence / Resound Alarms

To silence the sounder outputs press the SILENCE / RESOUND key.
To reactivate all silenced sounder outputs press the SILENCE / RESOUND key again.

5.2.3 Accept / Delayed Day Mode Alarms

If the system is programmed to operate with the Delayed Day Mode function the panel will indicate the alarm but will not immediately activate the outputs (sounders or relays). Press the ACCEPT key to acknowledge the alarm and enter the Investigation Phase – refer to Section 6 for further information.

5.2.4 Reset

To reset the panel from a fire alarm or fault condition, firstly correct and rectify the problem and then press the RESET key. To prevent fault conditions being registered from faulty devices disable the device – refer to the Enable / Disable Menu.

5.3 Level 2 Menu Functions

- Press any number (**0 – 9**) key to display the Level 2 Menu Functions. These are normally inhibited from use and the alphanumeric display will prompt for entry of the Level 2 pass-code as follows.

```
ACCESS TO MENUS RESTRICTED
Enter Level 2/3 passcode,        ←:BackSp
```

- Enter the Level 2 pass-code, as described above, and the display will then show the Level 2 Menu Functions.
- Alternatively, if the key-switch option is fitted and programmed to enable Level 2 access, insert the key and turn clockwise before selecting Level 2 Menu functions.

```
[U0]  1:Commission  2:Test  3:Clock
      4:Disable/Enable  5:View Mode
```

Function	Description	
Commission	This option is not available to Level 2 users. It requires the entry of the Level 3 password before the programming mode can be entered.	
Test	Allows the user to test parts of the system. The following tests can be performed:	
	LED	To test the LED indicator lamps. This test will automatically test all status indicators and each zone indicator, in turn, and then terminate.
	LCD	To test the alphanumeric display.
	ZONES	To perform a 'Walk Test' on one or more zones. If the test is performed 'With Sounders' all relay and sounder outputs will be activated in continuous mode regardless of pattern logic.
	OUTPUTS	To test the relay and sounder outputs connected to the system.
	BUZZER	To test the internal buzzer.
Clock	To change the date and time in the panel.	
Disable / Enable	To enable zones, inputs, outputs, delays and day mode operation.	
View	To view devices, log, faults and other system status conditions.	

Table 5 - User Menu Options

- The display will automatically revert to the Normal display after 60-seconds (programmable) if no buttons are pressed. Press any number (**0 – 9**) key to return to the Level 2 menu display.
- Access to Level 2 menu functions will automatically be cancelled after 5-minutes (programmable) if no buttons are pressed. It will be necessary to re-enter the pass-code to re-enable the Level 2 menu functions.
- Press the **'X'** key to manually return to the normal display and cancel Level 2 access.

5.3.1 Test

- To display the Test Menu, press **'2'** and the display shows:

```
[U0 Test]  1:LEDs  2:LCD  3:Zones
           4:Outputs  5:Buzzer
```

- It is possible to test:
  1. The LED's on the front panel display.
  2. The alphanumeric (liquid crystal) display.
  3. The detection and alarm initiating devices connected to the signalling loop (i.e. Zone Walk Test).
  4. The sounder outputs and other alarm condition output devices connected to the system.
  5. The internal buzzer.
- NOTE: If the panel is in a fire alarm condition then the LED, LCD and Buzzer Tests are inhibited.

5.3.1.1 LED Test

- To select the option, press **'1'**.
- To terminate the test, press **'X'**.
- The panel will cycle through all of the System Status LED Indicators and through all of the Zone FIRE LED Indicators. The test will automatically stop after 60 seconds.

5.3.1.2 LCD Test

- To select the option, press **'2'**.
- To terminate the test, press **'X'**.
- The alphanumeric display will flash all displayable characters in all positions of the display. The test will automatically stop after 60 seconds.

5.3.1.3 Zones Test

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Test Condition.

- When zones have been configured to be in a test condition (i.e. weekly walk test), the TEST LED is illuminated.
- The test condition must be cancelled manually.

5.3.1.3.1 Introduction

- To select the option, press **'3'**. The display then presents a number of options. For example:

```
[U0 Zones]  1:Set-up Zone Tests
            2:Stop All Zone Tests
```

- The two menu options permit the following tests / actions to be performed:
  1. To configure or stop an individual zone (walk) test. The bells / sounders can be configured to ring for a few seconds whenever a device is tested.
  2. To stop all zone (walk) tests immediately.

5.3.1.3.2 Configuring / Stopping Individual Zone Tests

- To configure or stop the testing of one or more zones individually, press **'1'** and a new display is shown from which the zones to be tested can be selected as follows:

```
[WALK TEST] Zone 1: NOT IN TEST
↕:Select Zone     ←→:Change       X:Exit
```

- The display shows the current test state for Zone 01.
- Press the ↑ and ↓ keys to select the required zone.
- Press the ← or → keys to change the test status of a zone. There are three options: NOT IN TEST, IN TEST WITH SOUNDERS, IN TEST – NO SOUNDERS and each button press cycles through the options.
- If an alternate test is selected, after about 2-seconds, the display will prompt for confirmation that this state should be entered as follows:

```
[WALK TEST] Zone 1: IN TEST WITH SNDRS
Press ✓ to confirm                X:Exit
```

- Press the '✓' key to confirm the change of test state or press the **'X'** key to cancel any changes.
- Repeat for each zone as required.

5.3.1.3.3 Stopping ALL Zone Tests

- Press **'2'** to select the stop all tests option. The display then shows:

```
Stop all Zones in Walk Test ?
Press ✓ to confirm              X:Cancel
```

- Press the '✓' key to confirm the termination of all zone (walk) tests or press the **'X'** key to cancel and keep the configured zones in the test condition. The display then returns to the zone test menu.
- Remember to ensure that call points are returned to their normal condition and allow sufficient time for smoke to clear from smoke detectors before stopping any zone tests. Otherwise, a full fire alarm condition may result.

5.3.1.4 Output Test

- To select the option, press **'4'**. The display shows the following menu options to test outputs internal to the panel or outputs connected to the detection loop.

```
[U0 Outputs]  1:Internal  2:Loop
```

- NOTE: Any output test in progress will automatically be cancelled after 60-seconds if no button is pressed.

5.3.1.4.1 Internal Outputs

- To select the option, press **'1'** and the display shows to first available panel output circuit as follows:

```
[Internal Test]  B:01  Sounder 1
✓:Start Test    ↕:Select Output    X:Exit
```

- Press the ↑ and ↓ keys to select the required output. A full list of available outputs is detailed in the table below:
- To start a test on the device and turn the output on, press the **'✓'** key. The display then shows:

```
[Internal Test]  B:01  Sounder 1
Output test in progress           X:Stop
```

- Press the **'X'** key to stop the test.

Type of Output
Sounder Output 1
Sounder Output 2
Fault Relay
Fire Relay
Programmable Relay

Table 6 – Panel Internal Output Circuits

5.3.1.4.2 Loop (SLC) Outputs

- To select the option, press **'2'** and the display shows to first available loop output circuit as follows:

```
[SLC Test]  A008   SDR
✓:Start Test    ↕:Select Output    X:Exit
```

- Press the ↑ and ↓ keys to select the required output. The display shows the address of the device (i.e. A008) and its type abbreviation code (i.e. SDR).
- To start a test on the device and turn the output on, press the **'✓'** key. The display then shows:

```
[SLC Test]  A008   SDR
Output test in progress           X:Stop
```

- Press the **'X'** key to stop the test.
- Note that if the panel is equipped with 2 or 4 loops then the display will first prompt for selection of the required signalling / detection loop.

5.3.1.5 Audible Indicator (Buzzer) Test

- To select the option, press **'5'**.
- To terminate the test, press **'X'**.
- The buzzer will beep on and off. The test will automatically stop after 60 seconds.

5.3.2 Clock

- To display the Clock Menu, press **'3'** and the display shows:

```
[U0 Clock]  1:Time  2:Date
```

5.3.3 Change the Time

- To change the time, press **'1'** and the display shows:

```
ENTER NEW TIME  (format hh:mm)
--:--          ←:BackSp  ✓:Confirm  X:Exit
```

- Enter the time in 24-hour format using the number keys (i.e. for 1:30PM enter 1330). The numbers entered are echoed on the display. If an incorrect digit is entered, press the ← key to backspace and erase the number. (Note: leading zeros must be entered, i.e. 8:30AM must be entered as 0830).
- Press the **'✓'** key to confirm the change and return to the clock menu.
- Press the **'X'** key to cancel any change and return to the clock menu.
- If the time entered is not recognised, a brief message is shown before returning to the clock menu, as follows:

```
Invalid Value Entered !
```

5.3.4 Change the Date

- To change the date, press **'2'** and the display shows:

```
ENTER NEW DATE  (format dd/mm/yy)
--/--/--       ←:BackSp  ✓:Confirm  X:Exit
```

- Enter the date in the format shown using the number keys (i.e. dd=day, mm=month, yy=year). The numbers entered are echoed on the display. If an incorrect digit is entered, press the ← key to backspace and erase the number. (Note: leading zeros must be entered, i.e. for 3rd of May 2003 enter 030503).
- Press the **'✓'** key to confirm the change and return to the clock menu.
- Press the **'X'** key to cancel any change and return to the clock menu.
- If the date entered is not recognised, a brief message is shown before returning to the clock menu, as follows:

```
Invalid Value Entered !
```

5.3.5 Disable / Enable Functions

- To display the Disable / Enable Menu, press **'4'** and the display shows the first page of options. Press the ↑ and ↓ keys to view the additional menu display:

```
[U0 Disable/Enable]  1:Zone  2:Devices
      3:Groups  4:Outputs          ↕:More
```

```
[U0 Disable/Enable]  5:Detection Mode
6:Output Delays 7:Local Inputs     ↕:More
```

- It is possible to enable or disable:

1.	Each Zone fully	Disables the inputs of the devices in the zone. Any outputs in the zone will still activate as programmed.
2.	Individual Devices / Points	Disables both the input and output of the device.
3.	Groups	Disables both the input and output of the devices in the group.
4.	Outputs	Disables the selected output types so that they will not activate.
5.	Detection Mode	Turns on or off the detection mode function.
6.	Output (Pattern) Delays	Turns on or off the phased evacuation delays.
7.	Local Inputs	Disables the panel's in-built inputs.

It is possible to isolate (disable) Individual zones, devices, groups or outputs prior to testing / maintenance to prevent unwanted activation of bells or other outputs.

If a device is faulty or if it is erroneously reporting a fire condition, the device can be isolated (disabled) to prevent this condition from being registered by the panel. In this case, 1) disable the device (or zone, group, input or output as required), 2) press the RESET key to clear the latched fault or fire condition. NOTE: If the condition still exists when the disablement is cleared (i.e. re-enabled) the fire or fault will be registered.

5.3.5.1 Disable / Enable Full Zones

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Disablement of each zone.

- It is possible to disable each zone individually.
- To disable or enable a full zone, press **'1'** and the display shows:

```
[Disable/Enable] Zone _
Enter Zone Number          ←:BackSp  X:Exit
```

- Enter the required Zone Number using the **number** keys. The numbers entered are echoed on the display. If an incorrect digit is entered, press the ← key to backspace and erase the number. Press **'X'** to return to the enable / disable menu. Press the **'✓'** key to confirm the zone number and the display shows the zone and its current enable / disable state. For example:

```
[Disable/Enable] Zone 01    Fully Enabled
←→Change  ↕:More Zones              X:Exit
```

- Press the ← or → keys to change the enable/disable state of the zone. The new status is shown on the display as "Fully Enabled" or "Fully Disabled" as appropriate.
- Press the ↑ and ↓ keys to select a different zone.
- Press **'X'** to return to the enable / disable menu.

- NOTE: On entry, the display may indicate that the zone is “Part Disabled”. This is because one or more devices / points have been disabled individually. This zone disable / enable function will only FULLY Disable the zone or will re-enable the zone to the partial disablement condition (the panel remembers those devices that are individually disabled).

5.3.5.2 Disable / Enable Individual Devices / Points

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Disablement of each addressable point.

- Individual detection devices can be disabled.
- To disable or enable a device, press **‘2’** and the display shows the first available device and its current enable / disable state. For example:

```
[device address text ]      A010 Enabled
←→Change   ↕:More devices          X:Exit
```

- Note that if the panel is equipped with 2 or 4 loops then the display will first prompt for selection of the required signalling / detection loop.
- Press the ← or → keys to change the enable/disable state of the device. The new status is shown on the display as “Enabled” or “Disabled” as appropriate.
- Press the ↑ and ↓ keys to select a different device. (Note: The display will only show devices that are connected to the panel).
- Press **‘X’** to return to the enable / disable menu.
- NOTE: A zone will only be fully enabled / disabled if all of the devices within the zone are enabled / disabled.

5.3.5.3 Disable / Enable Groups

- A number of devices may have been configured to belong to a group. This function allows all of the devices within this group to be disabled / enabled with one action rather than having to disable / enable each individual device.
- To disable or enable a group of devices, press **‘3’** and the display shows the first available group and its current enable / disable state. For example:

```
[Disable/Enable] Group 1          Enabled
←→Change   ↕:More Groups           X:Exit
```

- Press the ← or → keys to change the enable/disable state of the group. The new status is shown on the display as “Enabled” or “Disabled” as appropriate.
- Press the ↑ and ↓ keys to select a different group. (Note: There are two groups available).
- Press **‘X’** to return to the enable / disable menu.
- NOTE: A zone will only be fully enabled / disabled if all of the devices within the zone are enabled / disabled. The devices included in a group are programmed in the commission menu options.

5.3.5.4 Disable / Enable Specific Output Circuits

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Disablement of outputs.

- It is possible to disable outputs to fire alarm devices (sounders / bells) independently.
- It is possible to disable the fault output independently.
- It is possible to disable other outputs independently.

- To disable or enable a type of output circuit, press **‘3’** and the display shows a menu of the types of outputs. For example:

```
[U0 Disable/Enable]  1:Sounders
        2:Fault Relays  3:Others
```

- It is possible to enable or disable:
  1. ALL Sounder Type Outputs.
  2. ALL Fault Relay Type Outputs.
  3. ALL Other Relay and Control Type Outputs
- NOTE 1: The 'Sounder' device setting is used to differentiate between Sounder Type Outputs and Other/Control Type Outputs. Refer to the Product Manual for more information.
- NOTE 2: Certain Hochiki devices (CHQ-BS, CHQ-WS, CHQ-AB, CHQ-ARI) behave as Sounder Type Outputs in alarm. This means they may activate even if the 'Sounder' setting is set to NO and Other/Control Type Outputs have been disabled.
- Press **'1'**, **'2'** or **'3'** are as required. The display then shows the following if the outputs are currently enabled.

```
Disable ALL Sounder Outputs
Press ✓ to Confirm              X:Cancel
```

```
Disable ALL Fault Relay Outputs
Press ✓ to Confirm              X:Cancel
```

```
Disable ALL Relay and CTL Outputs
Press ✓ to Confirm              X:Cancel
```

- The display shows the following if the outputs are currently disabled.

```
Enable ALL Sounder Outputs
Press ✓ to Confirm              X:Cancel
```

```
Enable ALL Fault Relay Outputs
Press ✓ to Confirm              X:Cancel
```

```
Enable ALL Relay and CTL Outputs
Press ✓ to Confirm              X:Cancel
```

- Press the **'✓'** key to confirm the enable / disable action and return to the enable / disable outputs menu.
- Press **'X'** to return to the enable / disable outputs menu without making a change.

5.3.5.5 Disable / Enable Detection Mode

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Delays to Outputs.

- It is possible to manually override (turn on / off) detection mode delays.

- Detection Modes can be Stage 1 / Stage 2 Investigation Mode (see section 6) or Sensitivity Mode (Detector sensitivity is adjusted at certain times of the day) or Alarm Verification Mode (The signals from smoke detectors must be verified after a programmed period of time before a fire alarm is raised). All of these modes are useful in reducing false alarms and will have been programmed by the commissioning engineer to suit the requirements / use of the building.
- The normal activation of these modes is based on a '7-day' clock timer to be active at specific times of day or night. The clock timers can be overridden to turn on / off the operation manually. Starting the detection mode will activate the function until it is next scheduled to turn off automatically. Ending the detection mode will de-activate the function until it is next scheduled to turn on automatically. Note: If there are no 7-day timers programmed, the enable / disable function simply turns on / off the detection mode programmed.
- To end (disable) or start (enable) the operation of the detection mode, press **'5'** and the display prompts for whether the detection mode should be started or ended depending in its current operational state. For example:

```
Start Detection Mode
Press ✓ to Confirm              X:Cancel
```

```
End Detection Mode
Press ✓ to Confirm              X:Cancel
```

- The detection modes available are programmed in the Level 3 Commissioning Mode Functions. If there are no detection modes configured, this option has no effect.
- Press the **'✓'** key to start / end the function, as appropriate.
- Press the **'X'** key to cancel and make no changes.
- The "Delayed Mode" LED Indicator will illuminate when the detection mode is currently active and will turn off when the detection mode is not currently active.

5.3.5.6 Disable / Enable Output (Pattern) Delays

- Delays to sounder and other outputs may have programmed as part of a "phased evacuation plan" for the building.

These delays should not normally be turned off (disabled), as this will compromise the effective, safe evacuation of the building in the event of a fire.

- To disable or enable the operation of any output delays, press **'6'** and the display prompts for whether the delays should be disabled / enabled depending in the current operational state. For example:

```
Disable Delays
Press ✓ to Confirm              X:Cancel
```

```
Enable Delays
Press ✓ to Confirm              X:Cancel
```

- The delays are programmed in the Level 3 Commissioning Mode Functions. If there are no Pattern Delays configured, this option has no effect.
- Press the **'✓'** key to disable / enable these delays, as appropriate.
- Press the **'X'** key to cancel and make no changes.

5.3.5.7 Disable / Enable Local Inputs

- The local inputs comprise the front panel key-switch (if fitted), the front panel function keys (F1 & F2), monitored input circuits and panel state inputs. The installer will have programmed the operation of these inputs.
- To disable / enable all local inputs, press '**7**' and the display prompts for the appropriate action depending on the current state. For example:

```
Disable Local Inputs
Press ✓ to Confirm              X:Cancel
```

```
Enable Local Inputs
Press ✓ to Confirm              X:Cancel
```

- Press the **'✓'** key to disable / enable these input circuits, as appropriate.
- Press the **'X'** key to cancel and make no changes.

5.3.6 View Mode

- To display the View Mode Menu, press **'5'** and the display shows the first page of options. Press the ↑ and ↓ keys to view the additional menu display:

```
[U0 View]  1:Devices  2:Log  3:Faults
   4:Disabled  5:Service Info      ↕:More
```

```
[U0 View]  6:Alarm Count  7:Voltages
           8:Version              ↕:More
```

- It is possible to view:
  1. The current analogue value and other operating parameters for an individual loop device.
  2. The Event Log.
  3. Any Faults registered.
  4. Any Disablements.
  5. Service Information.
  6. The Alarm Counter.
  7. Operating voltages and other panel diagnostic information.
  8. The software part numbers and versions of the software installed in the panel and loop drivers.

5.3.6.1 View Devices

- This function shows the information returned from the selected signalling loop device and is updated each time it is polled. The information is presented in a different for each protocol.
- As each device status is 'viewed', the device LED for that address is illuminated – this can be a useful means of identifying individual devices on the system.

- Press **'1'** to select the View Devices option. The display prompts for selection of the required signalling loop, showing the number of loops available, as follows (unless the panel is a DX1e in which case it immediately shows the first device on the loop):

```
Enter Loop number (1 – n)
```

- Enter the required signalling loop number using the **number** keys and then press the **'✓'** key to select. The display then shows the information for the device located at address 001 on the loop. The following display shows the information present for System Sensor or Morley-IAS devices – see other examples below for Apollo and Hochiki devices.

```
[L1  Sensor 001] Type OPT  Level 029%
PW1:149 2:149 3:443 4:0355 5:0445 X:Exit
```

- The display shows, for example; the loop number (L1), the address of the device, the type of device (OPT), the current analogue value of the fire level (29%) and the timing values for the return current pulses.
- Press the ↑ and ↓ keys to view other devices.
- Press **'X'** to return to the View menu.

5.3.6.1.1 System Sensor / Morley-IAS Device Information

```
[L1 Sensor 001] Type OPT  Level 029%
PW1:149 2:149 3:443 4:0355 5:0445 X:Exit
```

- The display shows the following information:

Device Type:	OPT	For a list of the device type abbreviations refer to **Error! Reference source not found.**.
Level:	29%	(Analogue Value - This is a normalised number in the range 0% - 100% irrespective of device type. For sensors; default pre-alarm level is 80%, default fire alarm level is 100%)
PW1:	149	(Timing pulse – nominally 150uS for Morley-IAS, 300uS for System Sensor)
PW2:	149	(For Sensors; normal = 1xPW1, fire test = 2xPW1. For modules; normal = 1xPW1, output on = 2xPW1)
PW3:	149	(For Sensors; manufacturer ID, 1x, 2x or 3xPW1. For modules; normal = 1xPW1, open circuit = 2xPW1, input active or short circuit = 3xPW1)
PW4:	0355	(Raw analogue value)
PW5:	445	(Device Type)

- For further information refer to manufacturers data sheets.

5.3.6.1.2 Apollo Device Information

```
[L1 Sensor 001] Type OPT  Level 023
DISCOV  Input(2-0):LLL Drift:+00 Mode:03
```

- The display shows the following information:

Device Type:	OPT	For a list of the device type abbreviations refer to **Error! Reference source not found.**.
Level:	023	(Analogue Value - For sensors; default pre-alarm level is 45, default fire alarm level is 55. For modules; fault level is 4, normal level is 16 and input activated level is 64)
Family:	DISCOV	(S90, XP95, DISCOVERY)
Input Bits:	LLL	(Digital Input Status for input bits 0-2, H=Logic High, L=Logic Low)

Output Bits:	LLL	Not shown in example, used for multiple output I/O modules only (Digital Output Status of individual device outputs, H=Logic High, L=Logic Low)
Drift:	+00	(Shows the amount of drift compensation employed by the device, range ±16, – Discovery Only)
Mode:	03	(Shows the operating mode of the device, range 1-5, – Discovery Only)

- For further information refer to manufacturers data sheets.

5.3.6.1.3 Hochiki Device Information

```
[L1 Sensor 001] Type OPT  Level 023
S:062  ZP:061  FP:188  Mode:--
```

- The display shows the following information:

Device Type:	OPT	For a list of the device type abbreviations refer to **Error! Reference source not found.**.
Level:	023	(Analogue Value - This is a normalised number to account for offsets, calibration and differences in device type. For sensors; default pre-alarm level is 45, default fire alarm level is 55. For modules; fault level is 4, normal level is 16 and input activated level is 64).
S:	062	(Unprocessed raw analogue value returned by the device)
ZP:	061	(Zero Point Value when the device was last calibrated)
FP:	188	(Fire Point Value when the device was last calibrated)
Mode:	--	(Current detection mode enabled in the multi-sensor or multi-mode heat detector)

- For further information refer to manufacturers data sheets.

5.3.6.1.3.1 Hochiki Multi Input/ Output devices

- For Hochiki devices with multiple digital inputs and/or outputs, the status of each individual input and output is shown. The example below shows how the current status of the 1 input and 2 outputs of a CHQ-B module might be displayed. In the example, the 'L' symbol associated with the input indicates a Logic Low (inactive) condition, the 'H' symbol is associated with output 'a' (Logic High / Active state) and the 'L' indicates a Logic Low/ inactive output 'b' condition.

```
[L1 Sensor 001] Type I/O  Level 000
      Inputs(1-1): L   Outputs(a-b): HL
```

5.3.6.2 View The Event Log

- Press **'2'** to select the View Log option. The display shows the latest entry in the log. For example:

```
[LOG 001/512]              08/05/03 11:23
MUTE INTERNAL BUZZER
```

- The latest entry is always indexed as the entry number 001. The log has a maximum capacity of 512 entries.
- Press the ↑ and ↓ keys to view previous entries. For example:

```
[LOG 005/512] S10  OPT     08/05/03 11:22
NO REPLY FROM DEVICE
```

```
[LOG 015/512] Z01          08/05/03 09:18
DISABLE ZONE
```

- Press **'X'** to return to the View menu.

5.3.6.3 View Faults

- Press **'3'** to select the View Faults option. The display shows the first fault. For example:

```
FAULT       01/03  Z01 L1 S010 OPT 11:22
NO REPLY FROM DEVICE←:back ↕:more →:text
```

- Press the ↑ and ↓ keys to view other faults. For example:

```
FAULT       02/03  MON INPUT 1      11:23
INPUT OPEN CIRCUIT         ←:back ↕:more
```

- Press **'X'** to return to the View menu.
- If there are no fault conditions present, the display shows the following:

```
The system has NO faults present
                                    X:Exit
```

- Press **'X'** to return to the View menu.

5.3.6.4 View Disablements

- This function shows any disablement conditions that are present. Press **'4'** to select the View Disabled option. The display then shows the information for any disablements present. For example:

Typical Zone Disablement:

```
DISABLED    01/03                    12:19
DISABLE FULL ZONE          ←:back ↕:more
```

Typical Output Circuit Disablement:

```
DISABLED    01/02                    12:19
DISABLE FAULT RELAYS       ←:back ↕:more
```

Typical Device Disablement:

```
DISABLED    01/02  Z01 L1 A010 OPT 12:19
<Point-Location-Txt>       ←:back ↕:more
```

- The information shown is the same as presented using the Level 1 disablement views. If there are no disablement conditions the following is shown:

```
The system has no disablements present
                                   X:Exit
```

- Press the ↑ and ↓ keys to view other disablements.
- Press **'X'** to return to the View menu.

5.3.6.5 View Service Information

- Press **'5'** to select the View Service Information option. The display shows the date of the next scheduled service visit, the reference name of the site and the telephone number of the service organisation as follows:

```
Next Service Due:09/10/03
< Panel Name Text  >01234 567890
```

- Press **'X'** to return to the View menu.

5.3.6.6 View the Alarm Counter

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Alarm Counter.

- It is possible to view the alarm counter.
- The counter is incremented every time the panel enters the fire alarm condition. The counter cannot be reset.

- Press **'6'** to select the View Alarm Counter option. The display shows the total number of times that the panel has entered the fire alarm condition. For example:

```
Current Alarm Count is   88
                                   X:Exit
```

- Press **'X'** to return to the View menu.

5.3.6.7 View Voltages

- Press **'7'** to select the View Voltages option. The display initially shows the voltage across the battery. For example:

```
[U0 VOLTS]          BATTERY VOLTS = 23.6
                          ↕:Select    X:Exit
```

- Press the ↑ and ↓ keys to view other readings (see table below for full list of signals that can be viewed and their normal values). For example:

```
[U0 VOLTS]                CHARGER = 26.5
                          ↕:Select    X:Exit
```

- Press **'X'** to return to the View menu.

Signal	Description	Value	Normal Reading / Range
BATTERY VOLTS	Measurement of the Battery Voltage	Volts	24 (19-28)
CHARGER	Measurement of the Charger Output Voltage	Volts	27 (20-29)
AC POWER	Measurement of the AC Power Input	Volts	240 (190-260)
MONITORED INPUT 2	Measurement of the input signal condition	Count	500 (480-520)
MONITORED INPUT 1	Measurement of the input signal condition	Count	500 (480-520)
SOUNDER 2	Measurement of the output wiring condition	Count	190 (170-210)
SOUNDER 1	Measurement of the output wiring condition	Count	190 (170-210)
EARTH	Measurement of the earth condition	Count	270 (240-300)
Measurement readings shown are for indicative purposes only.			

Table 7 – Voltage / Analogue Value Readings

5.3.6.8 View Version

- Press **'8'** to select the View Versions option. The display shows the part number and version of the software installed in the panel. It also shows the loop driver protocol and software version loaded into the signalling loop driver circuit. For example:

```
[U0 VERSION] System : SW993-667      1.00
             Loop   : Apollo         3.00
```

- Press **'X'** to return to the View menu.

6 Delayed Day Mode Operation

- The panel can be configured to operate in a delayed day mode during the daytime for any specified zone.
- During this time, high sensor signals received from a detector will generate a fire alarm message on the panel but delay the ringing of the sounders. The panel will initiate a full fire alarm condition if no action is taken on this warning within a specified period.
- If a second device indicates a fire alarm (from the same or another zone), the delayed day mode function will be overridden and the panel will initiate a full fire alarm condition immediately.
- The use of delayed day mode must be configured at Level 3 by an installer / maintenance contractor before it is available for use at Level 2.
- The delayed day mode can be configured to only operate at specified times of the day. The maximum time allowed acknowledging stage 1 and stage 2 times can be programmed in intervals of one second.
- Whilst the Delayed Day Mode Function is in the active period the Delayed Mode LED will be illuminated.

6.1 Stage 1

- When a fire alarm condition is detected during delayed day mode, the internal buzzer will sound. The sensor location (including zone location and point location text) will be shown on the display along with a warning that the panel has entered stage 1 of a delayed alarm. The time remaining to acknowledge the alarm is indicated and counts down from the programmed limit.

```
FIRE STG 1  01/01  Z01 Stage 1 TIME : 30s
<Zone-Location-Text><Point-Location-Text>
```

- The lower line of the display cycles through the following messages every second.

```
<Zone-Location-Text><Point-Location-Text>
```

```
Press X to view Faults/Disablement/Test
```

```
Press ACCEPT key to start stage 2 timer
```

- If the warning is not acknowledged, by pressing **ACCEPT**, within the time allowed for stage 1, then a full fire alarm condition will be raised and the sounder outputs will activate.
- Press **ACCEPT** within the time allowed to enter the stage 2 (investigation phase) of the delayed alarm.
- Press **MUTE BUZZER** to silence the internal buzzer.
- If required, press **'X'** to return the display to the normal display indicating the number if fires, faults, disablements and test conditions. The details of other conditions can now be viewed.

6.2 Stage 2

- The stage 2 timer commences counting down as soon as ACCEPT key is pressed.
- If the panel is not reset, using the **SYSTEM RESET** key, within the time allowed then a full fire alarm condition will be raised and the sounder outputs will activate.

```
FIRE STG 2  01/01  Z01 Stage 2 TIME : 57s
<Zone-Location-Text><Point-Location-Text>
```

- The lower line of the display cycles through the following messages every second.

```
<Zone-Location-Text><Point-Location-Text>
```

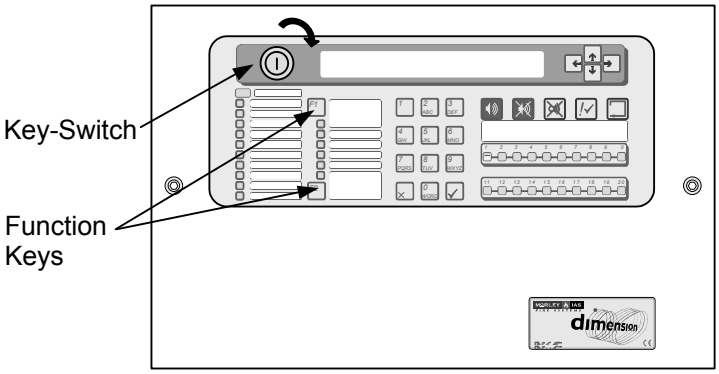
```
Press X to view Faults/Disablement/Test
```

- Investigate the cause of the fire alarm signal.
- If the fire alarm is found to be a false alarm, press **SYSTEM RESET** within the time allowed thereby resetting the panel.
- If the fire alarm is found to be genuine, activate a call point to override the remaining delays if possible (in any case, the panel will automatically sound the alarms at the end of the stage 2 period).
- Press **MUTE BUZZER** to silence the internal buzzer.
- If required, press **'X'** to return the display to the normal display indicating the number if fires, faults, disablements and test conditions. The details of other conditions can now be viewed.

Manual Call Points (alarm boxes) will always generate an immediate fire alarm condition regardless of any delayed day mode settings.

7 Key-Switch and Function Key Operation

- The optional key-switch and the function keys (F1 and F2) can be used for a number of functions. The use of these keys is programmed by the installer / commissioning engineer.
- Typical applications are as follows:



7.1 Key-Switch

- The key-switch can be programmed to enable Level 2 access, provide a “class change” input or provide a “bomb alert” input.
- If the key-switch is configured to provide Level 2 access, insert the key and turn clockwise. All Level 2 functions are now available and the entry of the pass-code is not requested. The key is trapped in the lock in this position and cannot be removed. To turn off Level 2 access, turn the key anti-clockwise and remove.
- If the key-switch is programmed for “class change” or “bomb alert” functions, insert the key and turn clockwise. The sounders / bells will ring as programmed whilst the key is in this position. Turn the key anti-clockwise and remove to silence the sounders / bells.

7.2 Function Keys

- The function keys (F1 & F2) can be programmed to act as a “class change” input or a “bomb alert” input or to switch the detection mode on/ off. The function keys require Level 2 access and the display will prompt for entry of the pass-code before the action is performed (alternatively, insert and turn the key if the key-switch is programmed to provide Level 2 access).
- For class change and bomb alert, press the button once to turn on the sounders / bells and then press the button again to turn off the sounders / bells.
- For “detection mode” use, each press will turn on (start) or turn off (end) the operation of the detection mode function (refer to section 5.3.5.5 for further information).

8 Printer Operation

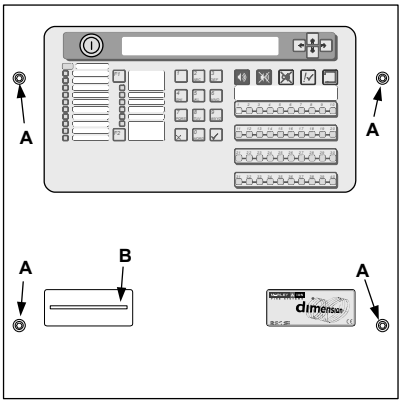
8.1 Printout Samples

- The printer automatically prints fire alarm, fault conditions and other events as they are written to the log.
- An example is shown opposite.
- The nature of the event is printed in upper case letters. In addition, the date and time when the event occurred along with further details are printed.
- For Fire Alarm events, the zone number, device address, device type and text descriptors are also printed.

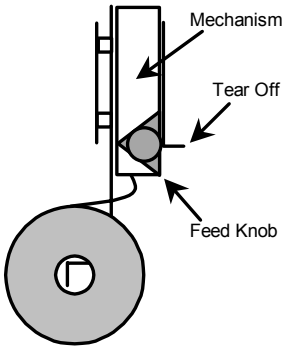
```
RESOUND SOUNDERS
Tue 17/06/2003 14:55:10
SILENCE SOUNDERS
Tue 17/06/2003 14:53:05
FIRE ALARM
< zone text description  >
< device text description>
Tue 17/06/2003 14:51:45 Z01 S05 OPT
FIRE ALARM
< zone text description  >
< device text description>
Tue 17/06/2003 14:51:12 Z02 S99 OPT
```

8.2 Changing the paper roll

- Firstly, remove the cover. Use the special tool to unlock the half-turn fixings (marked 'A' opposite).
- Disconnect the earth lead from the back of the cover and place the cover in a safe place.
- Tear off the printer roll and remove the roll from the spindle. Use the green knob to feed the residual paper from the printer mechanism.
- Take a new roll and place on the spindle in the orientation shown.



- Unroll the paper roll and tear / cut off about 20cm (8") leaving a clean straight edge.
- Offer the paper up to the entry slot in the printer (between the roller and the back of the printer) – the printer will automatically grab the paper and feed the paper through the mechanism.
- Replace the panel cover ensuring that the paper is free to exit from the slot (B). (REMEMBER to connect the earth lead to the back of the cover).



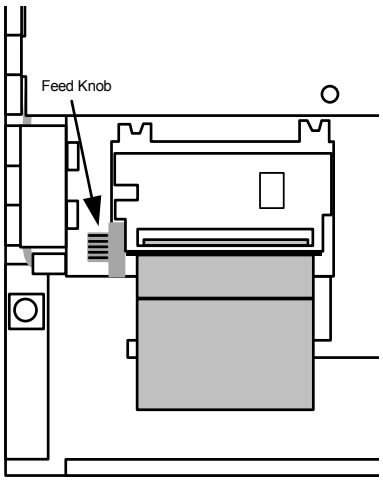


Figure 2 – Changing the Paper Roll

Note: Refer to the Product Manual for instructions on enabling/ disabling the printer – access level 3 operation.

9 Level 3 Programmer Functions

- Refer to the Product Manual (996-147) for complete information on installation, commissioning and programming the DX1e, DX2e and DX4e Fire Alarm Control Panels.

10 Maintenance / Inspection

BS5839-1: 2002

Clauses 45 & 47

Inspection, Service and User Responsibilities.

- The Equipment Owner shall ensure that a periodic Inspection and Servicing Maintenance Schedule be followed. The implementation of a maintenance contract with a 3rd party approved Fire Alarm Service and Maintenance Company is recommended.
- The aim is to provide a complete check and test of the entire fire alarm system within a 12-month period.
- The Equipment Owner shall appoint a single, named Responsible Person to oversee all aspects related to the fire alarm system, including record keeping, testing and false alarm management. Refer to the standard for a complete list of the Responsible Person's recommended duties.

- In accordance with best practice, the Responsible Person should maintain a logbook to record all events resulting from or affecting the system. The logbook should be kept in a place accessible to authorized persons (preferably near the main panel).
- All events should be properly recorded (events include real and false fire alarms, faults, pre-alarm warnings, tests, temporary disconnection's and service visits). A brief note of any work carried out or outstanding should be made.

10.1 Inspection / Testing

- It is recommended that the Responsible Person undertake the following test schedule.

10.1.1 Daily Attention

- Check the following:

1. The panel should indicate normal operation & if not the fault should be recorded in a logbook & reported to the servicing organization.
2. Any faults previously reported have received attention.

10.1.2 Weekly Attention

- Check the following:

1. Every week, at approximately the same time each week, a manual call point should be operated during normal working hours. Check that the system responds to the fire alarm and turns on appropriate alarm outputs. Where permissible, any link to the fire brigade or remote manned centre should also be operated.
2. A different manual call point shall be used each week so that ALL manual call points are exercised in rotation.

10.1.3 Monthly Attention

- Check the following:

1. Any stand-by generators should be started and fuel levels checked.

10.2 Log Book Examples

- Example pages are provided below and can be photocopied to produce a suitable logbook. The sample below is for reference data (e.g. the name of the responsible person), while the sample on the next page is for the entry of event information.

REFERENCE DATA

Site Name and Address:			
Site Telephone Number:			
Responsible Person:		Date	
		Date	
		Date	
		Date	
The system was installed by:			
		Date	
And is maintained under contract by:			
		Until	
Contact Telephone Number:		if Service is Required.	

Table 8 - Logbook Reference Data

EVENT DATA

Date	Time	Counter Reading	Event	Action Required	Date Completed	Initials

Table 9 - Logbook Event Data

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