DX CONNEXION™

MORLEY IAS
FIRE SYSTEMS
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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.
- These instructions cover the use and operation of the DX Connexion Series Fire Alarm Control Panels. The Product Manual (P/N 996-203-000-X) provides details of how to install, program and maintain the system.

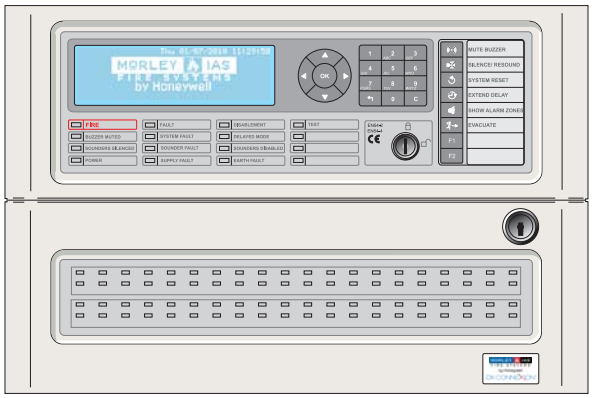
For use with software version 1.02, or later.

- The DXc1, DXc2 and DXc4 Fire Alarm Control Panels are 1, 2 and 4 loop panels for use with approved and compatible analogue addressable devices.

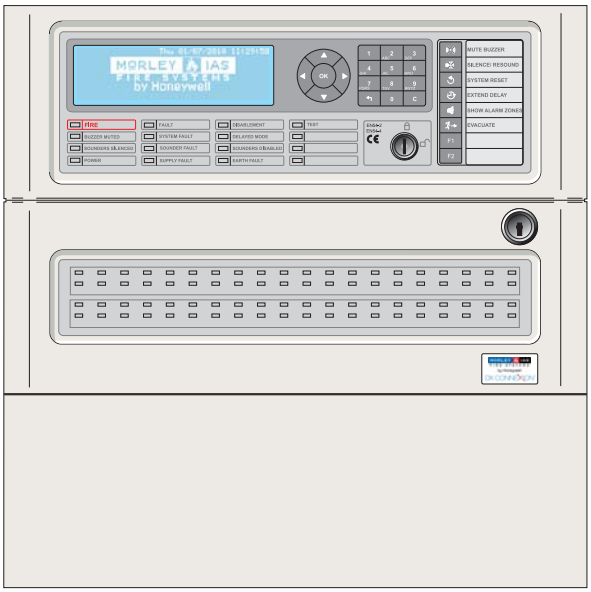
1.2 Models

- The DX Connexion Series Fire Alarm Control Panels are available in two enclosure sizes: a small enclosure for 1 loop variants and medium enclosure for 2 or 4 loop variants.
- Each panel is capable of supporting up to 80 fire detection zones.

Note: When a panel forms part of a network the zone numbers are shared across all the panels on the network (network zones). The number of zones available to a panel will be reduced.



DXc1: 1-Loop Panel



DXc2: 2-Loop Panel or
DXc4: 4-Loop Panel

Note: Panels shown have the optional 80 Fire Zone LEDs and keyswitches fitted.

2 User Control Levels

2.1 Level Definition

- The DX Connexion Series Fire Alarm Control Panels have three user control levels: Level 1, Level 2 and Level 3.
- At all three levels, the LCD is the primary indicator of the status of the installation and provides detailed information about any current fire alarm, fault, test or disablement conditions. The Zone LEDs, if fitted, indicate the location of any fire alarm.
- USER LEVEL 1 - the LCD primary display and LED indicators are functional. The MUTE BUZZER key function is operable at this level. The SHOW ALARM ZONES key function may be operable.
- USER LEVEL 2 - all front panel user controls are functional and some system operation parameters and functions can be changed. User Level 2 is reached either by entering a passcode from user Level 1 or using a keyswitch, if fitted and configured for this function.
- USER LEVEL 3 - all front panel user controls are functional and full system configuration and programming is possible. User Level 3 is reached by entering a passcode from either user Level 1 or user Level 2. User Level 3 is intended for use by the system installer/ maintenance provider.
- All of the mandatory indications that may not be suppressed during a fire alarm condition are shown using LED Indicators. If fitted, LED Indicators show fire alarms 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 head) keys at Level 1.

2.2 User Passcodes

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

3 DX Connexion Series Controls and Indications

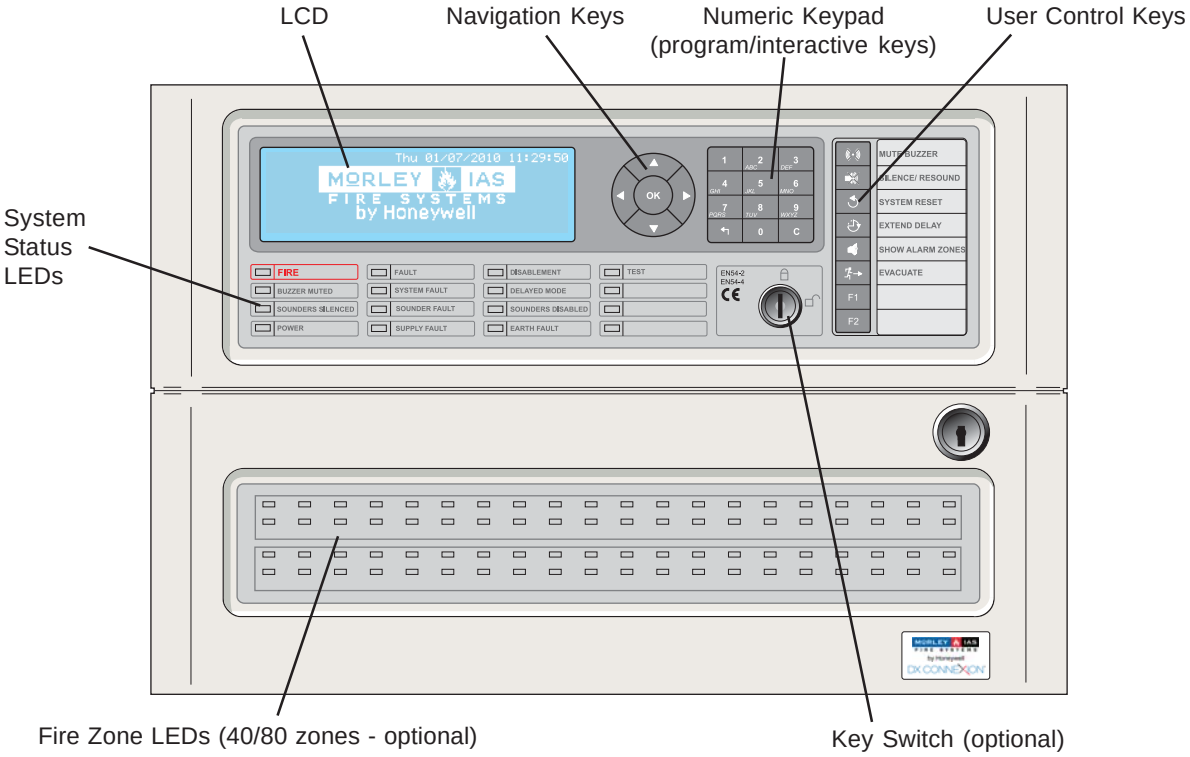


Figure 1 - Typical Controls and Indications

3.1 User Control Keys - Function Descriptions

- The user control keys are disabled at User Level 1, except for the MUTE BUZZER key function (SHOW ALARM ZONES key function may be operable). Pressing any of the other user control keys or one of the numeric keys the LCD prompts for the entry of a User Level 2 passcode. At the prompt, enter the access level 2 passcode or operate the keyswitch, if fitted and enabled for user Level 2 access, to enable the controls keys.

Key Legend	Symbol	Function
MUTE BUZZER		Press to silence the internal buzzer.
SILENCE / RESOUND		Press to turn off ALL activated sounders. Press again to re-activate the sounders.
SYSTEM RESET		Press to cancel all alarm/fault conditions and reset the panel.
EXTEND DELAY		If the panel is configured for 2-stage delays, press to start the stage 2 delay timer to extend the investigation delay.
SHOW ALARM ZONES		Displays fire alarm information. If there is more than one zone in alarm, shows order of zones in fire.
EVACUATE		Press to turn on ALL Sounder Outputs, i.e. evacuate building manually.
FUNCTION KEY 1	F1	Function Key. User programmable; may be configured, e.g. as Bomb Alert, Class Change, Detection Mode start/stop.
FUNCTION KEY 2	F2	Function Key. User programmable; may be configured, e.g. as Bomb Alert, Class Change, Detection Mode start/stop.

Table 1 - Control Key Functions

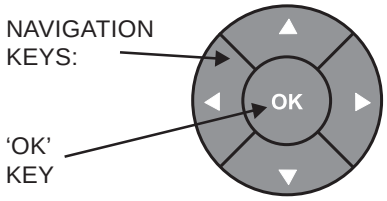
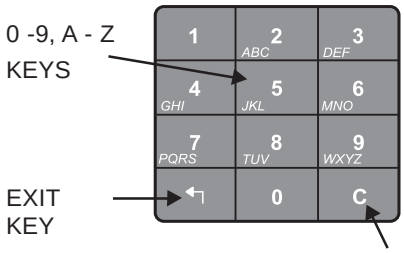
Key Legend	Function
	Press ▲, ▼, ◀ and ▶ keys to select and scroll through Level 1 display functions for fire, fault, disablement and test conditions. Press OK to confirm changes or select a menu option.
	Numeric keypad for entering numbers. May also be used during programming to enter letters of the alphabet for text message entry. This works in a similar fashion to a mobile telephone keypad. Press ↰ to cancel a change or return to a previous menu without changing a configuration option. Use back-space function in text editing mode. In certain menus this functions to allow the deletion of user-defined data.

Table 2 - Alphanumeric and Interactive Control Keys

3.2 Front Panel LED Indications

Indicator	Colour	Function	How to Clear
FIRE	Red	The panel has detected a fire alarm condition.	Correct the condition causing the alarm and then perform a panel reset
BUZZER MUTED	Yellow	A fault or alarm has been acknowledged and the internal buzzer silenced.	Correct the condition causing the alarm and then perform a panel reset.
SOUNDERS 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.
POWER	Green	STEADY: Indicates presence of power (either AC mains and/or batteries).	Not applicable.
FAULT	Yellow	The panel has detected a fault.	Correct the condition causing the fault and then perform a panel reset.
SYSTEM 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 fault with one or more of the sounder outputs.	Correct the fault condition and then perform a panel reset.
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.
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).	This is an automatic indication; can be cleared by the user. Refer to Detection Mode.
SOUNDERS DISABLED	Yellow	The sounders have been disabled.	Refer to Disablement Function.
TEST	Yellow	The system is in test mode. The LCD shows which zones are being tested.	Cancel / Stop test when finished.
Zone FIRE (if LEDs fitted)	Red	STEADY. The zone is in a fire alarm condition.	Correct the alarm condition and then perform a panel reset.

Table 3 - LED Functions

3.3 Status Display Indications

- The 240 by 64-pixel, graphical Liquid Crystal Display (LCD) is the primary status indicator. The LCD is illuminated to assist viewing under dim ambient light conditions.

- If the panel has one of the following conditions:

  a. Fire

  b. Fault

  c. Disablement

  d. Test

  The LCD and LED indicators show the status of the panel for each of these conditions. Events being displayed follow a priority order as listed above; indications of fire always have priority over ALL other events indicated at the panel.

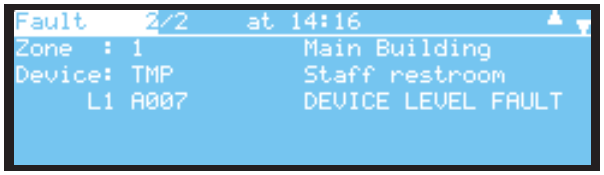
3.3.1 LCD Conditions - Normal State

- The LCD displays different information depending on the status of the panel or system. With the panel in a normal state, the LCD shows the following information: the customer-programmable graphic, the Morley-IAS (default) is shown below, plus the day of the week, date and time (24hr format), typically as shown below:



3.3.2 Loop Devices - Fault or Fire Condition

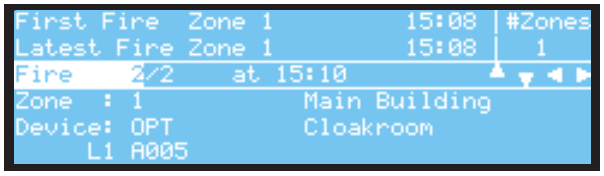
- The LCD is updated automatically to show zonal information about the latest device to enter a fault or fire condition. In the example below, fault 2 of 2 is displayed with brief details about the type of fault, the device in fault and its location.



- Use the ▶ key to view the individual device/point details within the affected zone.
- Use the ▲/▼ keys to view different events in the same condition.
- Use the ↰ key to exit the summary display.

3.3.2.1 Indication of Multiple Event Types

- When the panel has multiple event types which cannot be displayed together, pressing the ◀ and ▶ keys allow details of the 'hidden' event(s) to be viewed. The example below shows two fire events with another condition accessible using the ◀ and ▶ keys. As with single-type events the ▲/▼ keys allow other events of the currently-displayed type to be viewed.



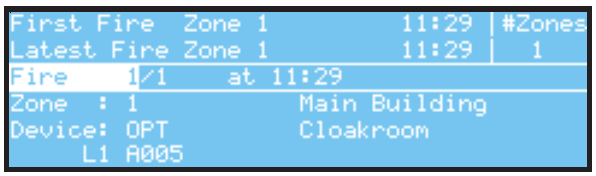
3.3.3 Non-quiescent Condition

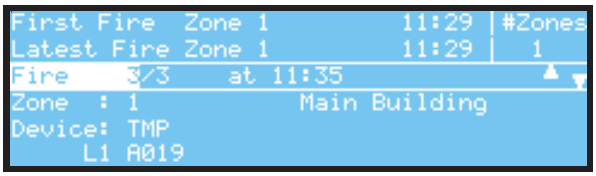
- The LCD displays information about any of the above events using a similar layout and includes as a minimum:

  a. Zonal information

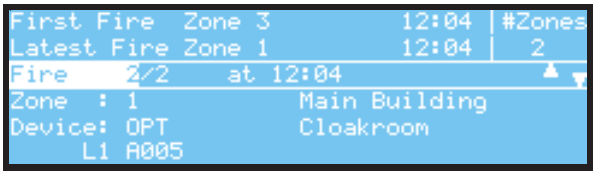
  b. Device information

  c. The number of zones in fire/fault; the first and latest event registered by the panel is displayed as well as the number of zones in fire/fault; or the number of zones/devices disabled; or zones in test.





- To view the information about one of the above displayed conditions, use the ▲/▼ keys to view any other similar events. Use the ◀ and ▶ keys to change the LCD to tab between event screens, e.g. fires, faults, etc., if applicable. In the screen below two zones are in fire with the first and last zones displayed.

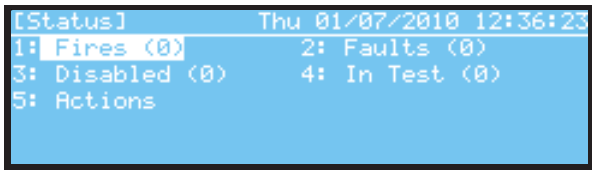


- All of the mandatory indications that may not be suppressed during a fire alarm condition are shown using Light Emitting (LED) Indicators. Fire Alarms for each zone are shown using LED Indicators, if fitted.
- It is possible to view all other conditions such as points in fire, faults, zones in test and disablement conditions using the ▲, ▼, ◀ and ▶ keys at user Level 1 (refer to Section 3.3.2.1).
- To view the information for a particular condition, use the ▲, ▼, ◀ and ▶ keys to select the required condition (the highlight moves to the selected option) and then press the OK key to select and view further detail.

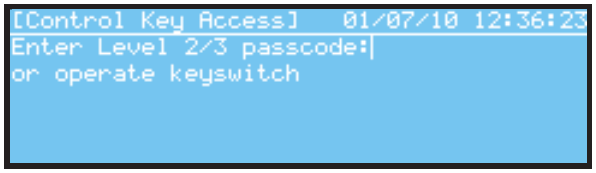
3.4 Level 2 Menu Displays

- Access Level 2 is entered either by turning the keyswitch, if fitted and configured for level 2 access, clockwise through 90° or by entering the Level 2 passcode and then pressing the OK key.

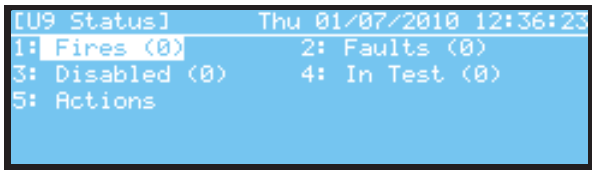
- If, from the Status Normal screen, any of the navigation (arrows) keys, the OK key or alphanumeric keys are pressed the following panel Status menu screen is displayed:



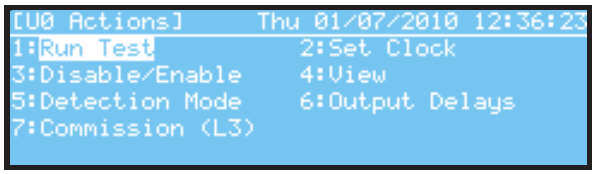
- At access Level 1 if the user presses the SYSTEM RESET or EVACUATE control keys the following control key function screen is displayed prompting for the entry of an access Level 2/3 passcode:



- If, from the Status Normal screen or the screen shown above, the keyswitch is turned clockwise, the following panel Status menu screen is displayed:



- This screen is very similar to the screen displayed without a passcode entry of keyswitch action except that the square brackets on the top line now include user access level information, i.e.'U9' or 'U0', depending on whether the passcode (U0) or keyswitch (U9) was used.
- If menu option '5: Actions' is selected from the Status menu by entering the user Access Level 2 passcode followed by pressing the OK key, the Level 2 menu is displayed, as below:



- Use the ▲, ▼, ◀ and ▶ keys to move the highlight to any of the menu options and press the OK key to select or, using the numeric keypad, enter the number of the desired option.

  The 'U0 Actions' displayed in the top-left corner of the LCD indicates that the panel has entered user Access level 2 using the default access Level 2 passcode.
- If 'U9 Actions' is displayed in the top-left corner of the LCD the panel is at user Access level 2, where the key switch was used to access this menu.
- The layout of other menus is similar.

4 Level 1 Display Functions

- At user access Level 1, the panel operates in a display-only mode with the control function keys disabled, except for MUTE BUZZER and, in an alarm condition, SHOW ALARM ZONES.
- If one or more fire alarm, fault, test or disablement conditions exist, more information can be viewed on the LCD using the navigation keys. The LED indicators show any changes to the panel status.

Displayed Event Information

- In this mode the LCD shows a summary of the panel status including the number of zones in fire, fault, test and disablement. This replaces the 'Status Normal' LCD screen.
- Manual intervention is required for more detailed point information.

Audible Indication

- FIRE - With fire alarm event(s) the buzzer will sound continuously. It will resound automatically (if previously muted) for any new fire alarms.
- FAULT - In this 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 access Level 1 – press the  (MUTE BUZZER) key.

4.1 Normal Conditions

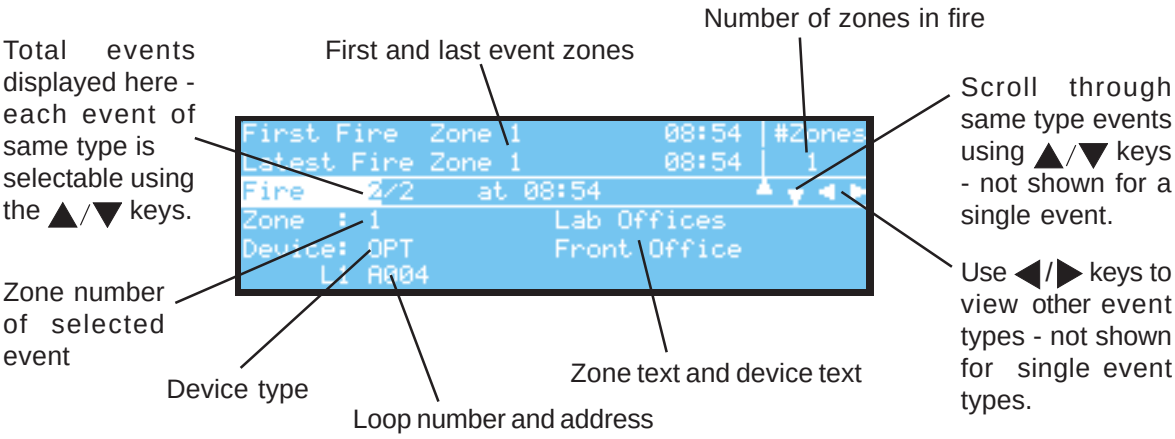
- When the system is in a normal condition, the green AC Power LED will be illuminated. The LCD will show the date and time and the the MIAS logo (default), typically as below:



Note: The logo shown above may have been replaced with the servicing company's logo during system commissioning.

4.2 Fire/ Fault Conditions

- If the panel detects conditions such as fire or fault events, the 'Status Normal' LCD screen is replaced by a screen which shows information about the type and number of events: the first and last zone events and the number of zones in a fire, or any fault event conditions are given.
- In the example below, the panel shows information about the second of two fire events; which are both in the same zone.



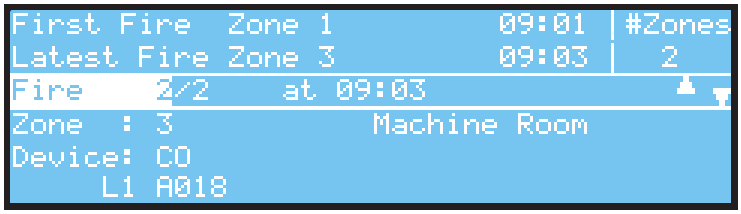
4.2.1 Fire Alarm Conditions

- If the control panel initiates an alarm condition, the FIRE LED indicator lights and, if fitted, the relevant ZONE FIRE LED indicator lights and the internal buzzer sounds. The LCD shows details of device(s) in alarm, the first and latest zones in alarm and the the number of zones in alarm.

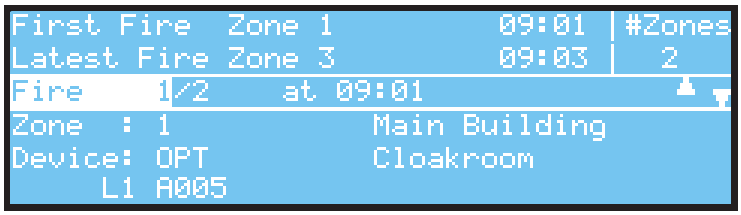
-- Use the ▲/▼ keys to scroll through multiple events.

4.2.1.1 Zone Fire Alarms

- When the panel detects a zone alarm the LCD shows the **first and latest** zones in an alarm condition. In the example below, two fire events are in different zones, 1 and 3. The '#Zones 2' in the top-right corner of the LCD confirm that two zones with fire alarms have been detected.



- The LCD shows the first and latest zone location text (20 characters maximum description).
- To view other devices (points) in alarm, press the▲/▼ keys to scroll through the events. For example:



- The display shows the alarm number and the total number of devices (points) in a fire alarm condition (2), the Zone number (1) and zone text (up to 20 character description), the loop number to which this device is connected (L1), the address of this device on the loop (A005), the type of device (OPT), the time at which the device entered the alarm condition (09:01) and the Point Location Text (up to 20 character description) for this device.
- To view other points in fire, press the ▲/▼ keys.

  Note: The arrows are not shown when there is only one event.

- Press key to exit and display the Level 1 menu options.

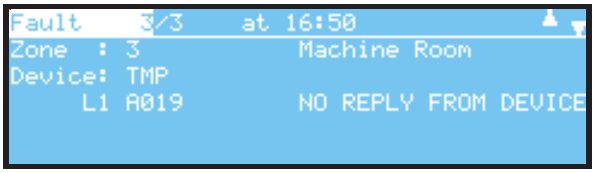
4.2.1.2 Override Delays

- The Connection range of control panels may be configured to operate with delays to outputs. In this case, a manual call point (MCP) is 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.

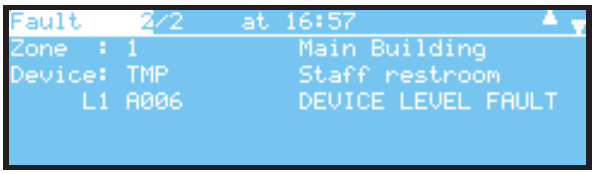


4.2.2 Fault Conditions

- If the panel detects a fault, the FAULT LED is illuminated along with other appropriate system condition LED Indicators. The internal buzzer will sound intermittently and the LCD displays information about the fault condition. Depending on the type of fault condition there may be other panel indications (see Panel Faults below).



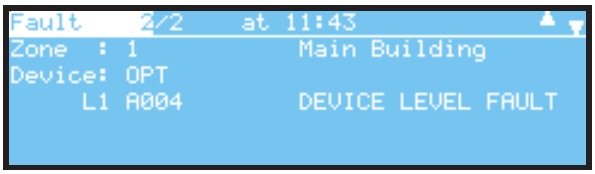
- To view other faults, if applicable, press the ▲/▼ keys to scroll through the events.
- In the example below the panel has detected 2 faults; the LCD displays details of the latest.



- Press the ↰ key to display the access Level 1 menu.

4.2.2.1 LCD Details

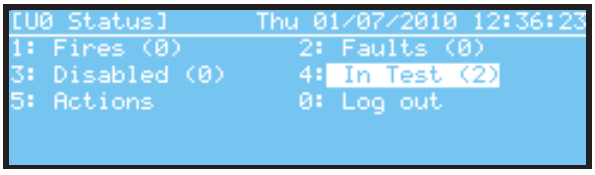
- Panel faults and zone (point) faults are displayed on the LCD, in chronological sequence, in the same way as fire alarms.
- The example shown below of 'Device Level Fault' at address 4 on loop1 is indicated as fault 2 of 2. If there is more than one fault indicated, use the ▲/▼ keys to view the other events.



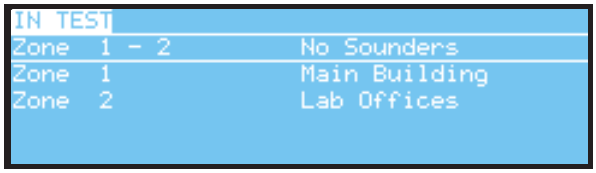
- Press the ↰ key to exit the fault display information screen and return to the access Level 1 menu.

4.2.3 Test Conditions

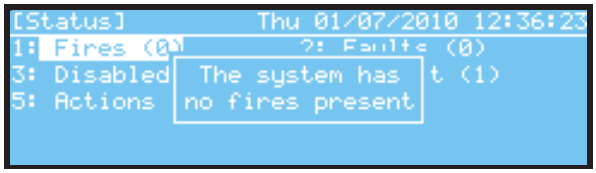
- If zones have been configured to be in a test condition (i.e. weekly walk test), the TEST LED is illuminated.
- The LCD will show the number of active tests the panel has, as in the following example:



- To view more detailed information regarding the test locations either use the navigation keys to highlight option '4: In Test (n)' and then press the OK key to select or, using the numeric keypad, enter '4' to directly highlight the 'In Test' menu option.
- In the example below, details are displayed about the current test conditions for the two zones in test; the zones are being tested, without sounders, and the zone text is also given.

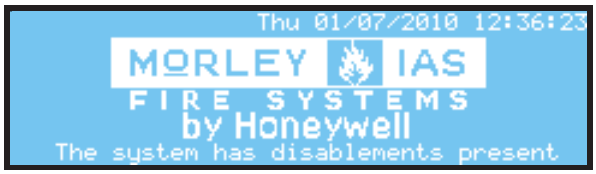


- Press the ↰ key to exit the fault display information screen and return to the access Level 1 menu.
- If a menu option is selected where there are no current events no further information is displayed and the LCD displays an advisory message, typically as in the 'Fires' example below:



4.2.4 Disablement Conditions

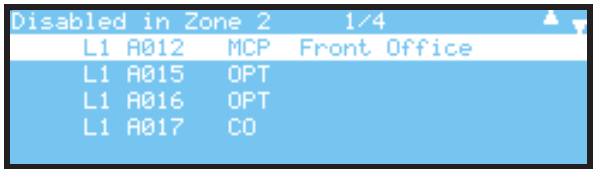
- If zones, input devices, output devices or other disablement conditions have been configured, the DISABLEMENT LED is illuminated along with other system condition LED indicators. The 'Status Normal' screen will now include the statement 'The system has disablements present' located immediately below the MIAS logo.



- To view more information regarding the disablement conditions use the navigation keys to highlight '3: Disabled' and then press the OK key to select or, using the numeric keypad, enter '3' to directly select the 'Disabled' menu option.



- The example above shows that zone 2 has been fully disabled. Press the OK key to display information about the disabled device. If there is more than one disabled device, use the ▲/▼ keys to view the others.



- Press the ↰ key to exit this view and return to the access Level 1 menu.

4.3 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 LCD's back light illumination will be turned off.
- If both the AC MAINS input and the Battery Standby Input fail then the LCD and all LED indicators will be off.
- Possible fault conditions are:

  a. NO MAINS SUPPLY

  b. BATTERY LOW

  c. BATTERY DISCHARGED

  d. BATTERY MISSING

  e. CHARGER FAILURE.

4.4 List of Device Abbreviations

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

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

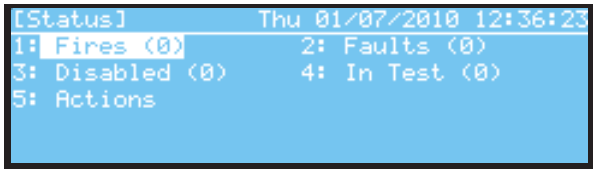
5 Level 2 Display/Control Functions

5.1 Display Functions

- All of the LCD and control functions available at Level 1 are also available at Level 2.

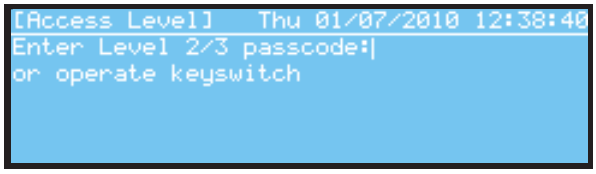
5.2 Control Functions

- The main control keys are locked at access Level 1. MUTE BUZZER is always enabled and SHOW ALARM ZONES is enabled when an alarm is present. To enable the access Level 2 control functions, pressing the OK key or any of the navigation or numeric keys the LCD will display the panel Status screen:

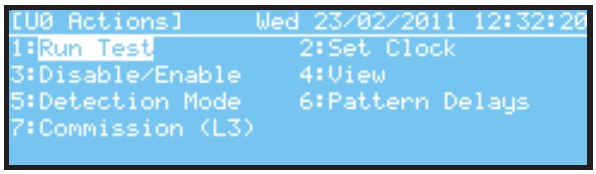


Note: Pressing either the SYSTEM RESET or EVACUATE control key the LCD text in the square brackets changes to 'Control Key Access' and entering the passcode from here will reset the system or will display a user prompt to confirm/cancel activation of the sounder outputs.

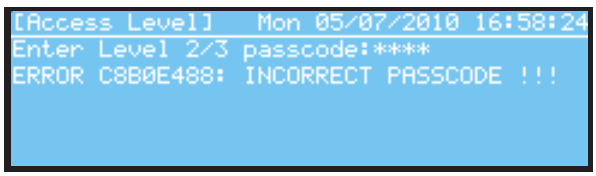
- Using the numeric keypad, press the '5' key. The access level entry prompt is displayed as follows:



- Using the numeric keypad enter the access Level 2 passcode (for example, the default passcode is 1234). As each digit is entered a '*' character is displayed and the flashing cursor moves to the right. When all four digits have been entered, press the OK key. If an incorrect digit is entered, just press the C key to clear any incorrect entries and then simply try again. Do not press the ↰ key as this will take you out of the passcode entry screen and re-display the previous screen information. Alternatively, turn the keyswitch, if fitted and configured for this purpose, clockwise through 90°.
- If the passcode is correct the LCD displays the access Level 2 panel Status menu, as below:



- Level 2 access using a passcode will remain available for 10 minutes (programmable from 1 to 60 mins). At the end of this period the LCD re-displays the Status Normal screen.
- Press the required control key to perform the desired action.
- When prompted for entry, if the passcode is entered incorrectly, or not entered at all and allowed to time out, the display will show this message briefly:



- Press the ↰ key to go back to the panel Status menu screen.

Note: The eight-character number on the bottom line is a control code and is only relevent to access Level 3 use.

- Alternatively, if the keyswitch option is fitted and programmed to enable Level 2 access, insert the key and turn clockwise through 90° to enable access Level 2 Control functions.

5.2.1 SILENCE/RESOUND

- To silence the sounder outputs press the SILENCE/ RESOUND key. To re-activate all silenced sounder outputs press the SILENCE/ RESOUND key again.

5.2.2 SYSTEM RESET

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

5.2.3 EXTEND DELAY

- 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 EXTEND DELAY key to acknowledge the alarm and enter the Investigation Phase – refer to **Section 6 Delayed Mode Operation** for further information.

5.2.4 SHOW ALARM ZONES

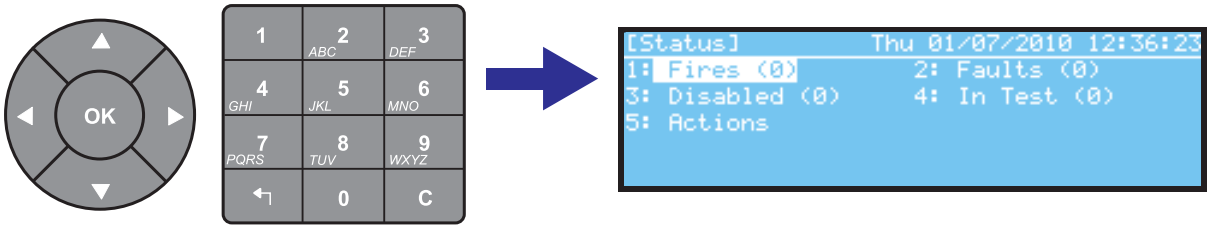
- When the panel has more than one zone in fire, pressing SHOW ALARM ZONES causes the details per event to be replaced by a list of all zones in alarm.

5.2.5 EVACUATE

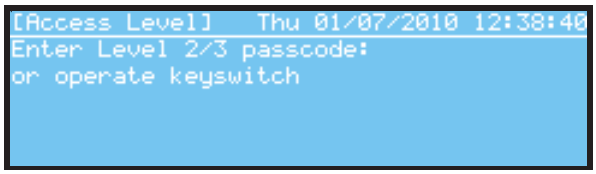
- To activate all sounder outputs and evacuate the building press the EVACUATE key.

5.3 Level 2 Menu Functions

- Press any of the panel keys shown below to display the access Level 1 menu functions.



- To access the Level 2 menus press '5' on the numeric keypad and then enter the access Level 2 passcode followed by pressing the OK key.



- Alternatively, if the optional keyswitch is fitted and configured to enable Level 2 access, insert the key and turn 90° clockwise before selecting any of the Level 2 Menu options. Pressing '5' will display the access Level 2 menu. When the keyswitch is used the L2 menu is the same except that 'U0' in the square brackets is replaced by 'U9', as shown below:



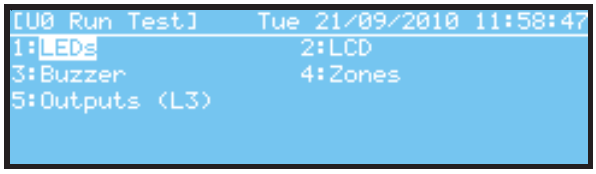
Function	Description
Run Test	Allows the user to test parts of the system. The following tests can be performed: LEDs - to test the LED indicators. The test automatically tests all status indicators and each zone LED, if fitted, in turn. LCD - Enables the LCD to be put through a number of pattern tests. A Buzzer - Allows the internal buzzer to tested. Zones - Used when a 'Walk Test' on one or more zones is to be performed. If the test is performed 'With Sounders' all sounder outputs will be activated in continuous mode regardless of pattern logic. Outputs - Used to test the relay and sounder outputs (not available for access Level 2 users).
Set Clock	To change the date and time displayed and used by the panel in recording event information.
Disable/Enable	To disable zones, devices, groups, outputs, detection mode, output delays and local inputs.
View Mode	To view devices, log, faults and other system status conditions.
Detection Mode	Turns on or off the detection mode function.
Pattern Delays	Turns on or off the phased evacuation delays (using patterns).
Commission (L3)	This option requires the entry of the access Level 3 passcode and is not available to access Level 2 users.

Table 5 - User Menu Functions

- When using a passcode, access to Level 2 menu functions will automatically be cancelled after 10 minutes (default) if no buttons are pressed. It will be necessary to re-enter the passcode to re-enable the Level 2 menu functions. Access using the keyswitch does not time out and the access Level 2 menus will still be accessible. The keyswitch must be turned in an anti-clockwise direction to cancel out of access Level 2.
- Press the ↰ key to manually exit the access Level 2 Actions menu and re-display the panel Status menu. Using the numeric kepypad, press the '0' key to log out of access Level 2 and return the panel to the Status Normal screen.

5.3.1 Run Test

- To display the Run Test menu ensure that the Run Test menu option is highlighted and press the OK key, or, using the numeric keypad, press '1'. The Test menu is displayed as below:



- Using the menu it is possible to perform tests of the following:
  a. The panel's LEDs
  b. The LCD
  c. The internal buzzer
  d. The detection and alarm initiating devices connected to the signalling loop (i.e. Zone Walk Test)
  e. The sounder outputs and other alarm condition output devices connected to the system (access Level 3).

5.3.1.1 LED Test

- To perform the LEDs test ensure that menu option '1: LEDs' is highlighted then press the OK key. Alternatively, using the numeric keypad, press '1'.
- To terminate the test, press the ↰ key.
- The panel will cycle through all of the System Status LED Indicators and through all of the Zone FIRE LED Indicators, if fitted. Also during this test, the LCD displays intermittently the message 'TESTING LEDs !'. The test will stop automatically after 60 seconds.

5.3.1.2 LCD Test

- To test the LCD ensure that menu option '2: LCD' is highlighted then press the OK key. Alternatively, using the numeric keypad, press '2'.
- To terminate the test, press ↰ key.
- The LCD will flash all displayable characters in all positions of the display. The test will stop automatically after 60 seconds.

5.3.1.3 Audible Indicator (Buzzer) Test

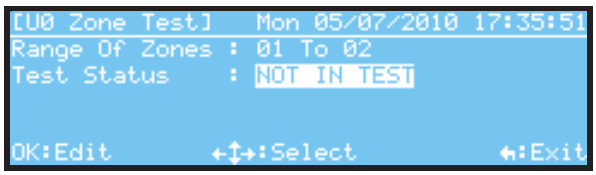
- To test the LCD ensure that menu option '3: Buzzer' is highlighted then press the OK key. Alternatively, using the numeric keypad, press '3'.
- To terminate the test, press ↰ key.
- The buzzer will sound intermittently. The test will stop automatically after 60 seconds.

5.3.1.4 *Zones Test*

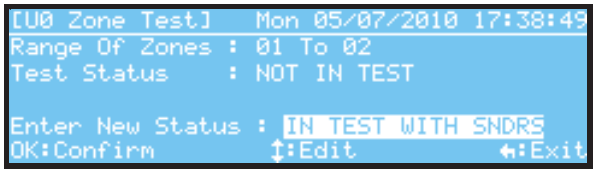
- When zones have been configured to be in a test condition (i.e. weekly walk test), the TEST LED is illuminated.
- The test condition must be cancelled manually.

5.3.1.4.1 *Introduction*

- To test one or more Zones (Walk Test) ensure that the menu option '4: Zones' is highlighted then press the OK key. Alternatively, using the numeric keypad, press the '4' key. The following screen is displayed:



- The Run Test screen allows the user to select one zone or a range of zones to be put into test mode. Then the type of test, with sounders or without sounders, needs to be selected. In the example below, zones 1 and 2 have been selected for testing **with** bells/sounders; these will ring for a few seconds whenever a device is tested.



5.3.1.4.2 *Configuring / Stopping Individual Zone Tests*

- When the screen is first displayed, the first zone is highlighted in a range of zones that may be specified for purposes of testing. The first use of this test menu both zones are specified as '1', i.e. no range of zones. To change the zone, or to specify a range of zones to be tested, use the ◀ or ▶ keys to move the highlight and the OK key to edit the zone. Use the numeric keypad or ▲ and ▼ keys to change the desired zone(s) to be tested.
- To select a test function again use the ◀, ▲, ▼ or ▶ keys to move the highlight so that 'NOT IN TEST' is highlighted and then use the OK key to enable selection of the mode of testing: press the ▲ or ▼ key to select 'IN TEST WITH SNDRS' or 'IN TEST - NO SNDRS' and then press the OK key. The first zone (of the range of zones to be tested) is highlighted again. Press the ↩ key and you are prompted to start the test. Press the OK key to start the test. To cancel the test, press the ↩ key.
- Selecting either of these test options the TEST LED will illuminate.

5.3.1.4.3 *Stopping ALL Zone Tests*

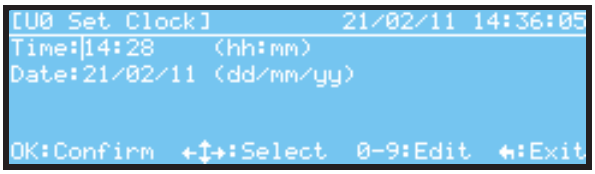
- To stop all zone (walk) tests immediately, with option '4: Zones' highlighted press the OK key. The screen displays the highlighted message: 'Stop test ?'. Press the OK key to stop the test and exit the Zone Test screen. To continue with the test, press the ↩ key and exit the Zone Test screen.

5.3.1.5 *Outputs Test (Access Level 3)*

- This menu option is not available for users at access Level 2. An access Level 3 passcode is required. Refer to the Product Manual for more information.

5.3.2 Set Clock

- From the Access Level 2 menu, use the navigation keys to highlight option '2: Set Clock' and press the OK key to select. Alternatively, using the numeric keypad press the '2' key. The 'Set Clock' screen is displayed, as follows:



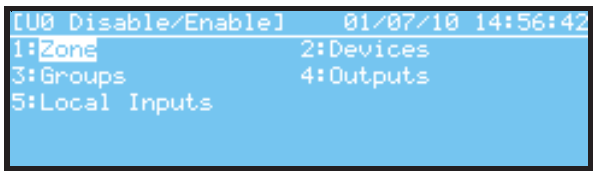
Note: The DXc1 panel will not show the current time and date, as shown above, from power up and dashes will appear in the editable fields. The DXc2/4 panels will display current time and date values and these may not, therefore, require editing.

5.3.2.1 Change the Time/Date

- The time and date may be changed using the screen above by entering numeric values in the 'Time' and/or 'Date' entry fields. A time and/or date must be entered in full (see below).
- By default, the cursor is placed in the 'Time' edit field (24hour clock) at the first 'hour' edit field. Use the numeric keypad to enter the current time; when a value is entered the cursor moves automatically to the right. To change an entered value, press the C key to move the cursor to the left; the previously-entered value is replaced by the flashing cursor and the user may now enter a new value.
- Zeros (0) must be entered in all fields in order to move the cursor to the next entry field. A value must be entered in each field, although just changing the time the date does not also need to be edited - just leave the entry fields blank - and *vice versa*.
- An invalid entry is rounded down to the maximum value which is valid for that specific field and the cursor moves to the right. For example, the user will not be permitted to enter a value greater than '3' in the first 'hours' field; doing so this value is rounded down to '2' automatically.
- To move between the date and time entry fields use the ▲ / ▼ keys.

5.3.3 Disable/Enable Functions

- From the Access Level 2 menu, use the navigation keys to highlight option '3 Disable/Enable' and press the OK key to select. Alternatively, using the numeric keypad press '3'. The 'Disable/Enable' menu is displayed as follows:



- This menu allows the user 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 inputs and outputs of the device*.
3	Groups	Disables both the inputs and outputs of the devices in the group*.
4	Outputs	Disables the selected output types so that they will not activate.
5	Local Inputs	Disables the panel's in-built inputs.

* Individual sounder type outputs can only be disabled using this option if this function has been configured during panel commissioning.

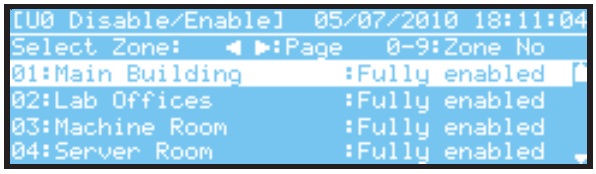
- Selecting any of the above disablement options will illuminate the DISABLEMENT LED. Conversely, re-enabling the option will extinguish this LED, unless other disablements are active.

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

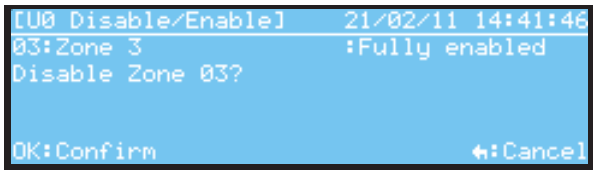
If a device is faulty or if it is reporting a fire condition erroneously, the device can be disabled to prevent this condition from being registered by the panel. In this case, first disable the device (or zone, group, input or output as required), then press the SYSTEM RESET key to clear the latched 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.

5.3.3.1 Disable/Enable Full Zones

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



- Use the ▼ and ▲ keys to highlight the zone to be disabled and then press the OK key. Alternatively, using the numeric keypad, press the number of the zone. Note: If the zone number being selected is 10 or higher, enter the first digit quickly followed by the second digit. For example to enter zone 23, using the numeric keypad, pressing the '2' key the highlight moves to zone 2. Pressing the '3' key within 0.5 seconds will now highlight zone 23 and not zone 3.
- Use the ◄ or ► keys to go quickly to an alternative zone listing than the one currently displayed.
- With the zone to be disabled/ enabled now selected using either method above, the LCD now prompts the user to confirm a disable or enable action. The current status of the zone is given as in the example below:



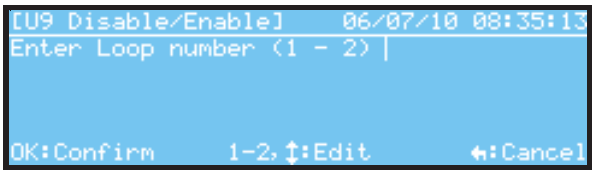
Note: The status of unconfigured zones is not displayed.

- Press the OK key to confirm the action. Press the ↵ key to cancel. The user is returned to the Zone Disable/ Enable menu screen.
- To select another zone to be disabled/enabled repeat the procedure described above.
- Press the ↵ key to return to the acess Level 2 user menu.

Note: Entering the disable/enable zone menu screen may indicate that a zone has been 'Part Disabled'. This condition results from one or more devices/points having been disabled individually. The zone disable/enable function only allows a zone to be fully disabled or re-enable a zone to the partial disablement condition (the panel remembers the individual devices that have been disabled).

5.3.3.2 *Disable/Enable Individual Devices /Points*

- Individual detection devices can be disabled.
- To disable or enable a device, press ‘2’; if the panel is equipped with 2 or 4 loops the display prompts the user to select the loop that contains the device, as in the example below:



- Using the ▼ and ▲ keys, select the loop that contains the device to be disabled or enabled and then press the OK key. *All devices on the selected loop and their current status are listed*.
- The device at the first address on the loop is highlighted. Either press the OK key to change its disabled/enabled status or, using the ▼ and ▲ keys, select a device at another address. If the address of the device is known then, using the numeric keypad, enter this value to select it.

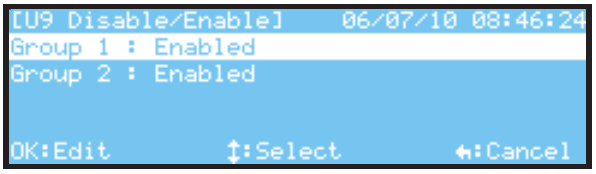
  Note: the LCD will only list devices that are connected to the panel.
- Press the ↰ key to return to the Disable/Enable menu.

  Note: A zone will only be fully enabled/ disabled if all of the devices within the zone are enabled/ disabled.

  Note: Sounder type outputs can only be disabled using this option if this function has been configured during panel commissioning.

5.3.3.3 *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 or enabled with one action rather than having to disable or 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:



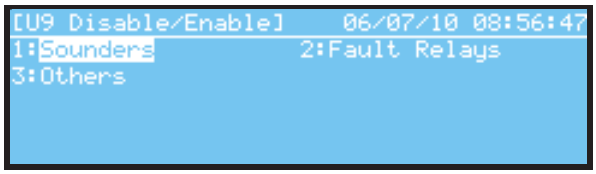
- The first group is highlighted. Use the ▼ /▲ keys to select Group 2
- Press the OK key to change the enable/disable state of the group. The new status is shown on the display as ‘Enabled’ or ‘Disabled’ as appropriate and the user is then taken back to the previous screen.
- Press the ↰ key to return to the Disable/Enable menu.

  Note: A zone will only be fully enabled or disabled if all of the devices within the zone are enabled or disabled. The devices included in a group are programmed in the ‘Commission’ menu options.

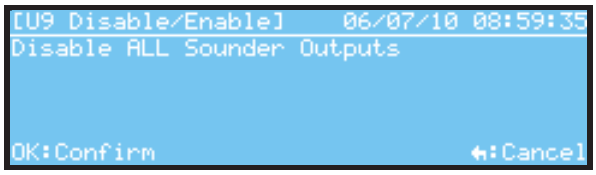
  Note: Sounder type outputs can only be disabled using this option if this function has been configured during panel commissioning.

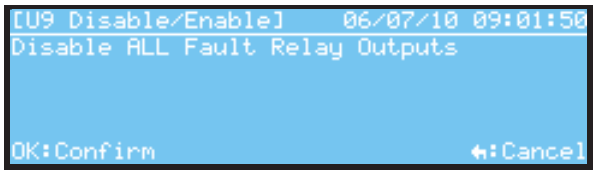
5.3.3.4 Disable/Enable Specific Output Circuits

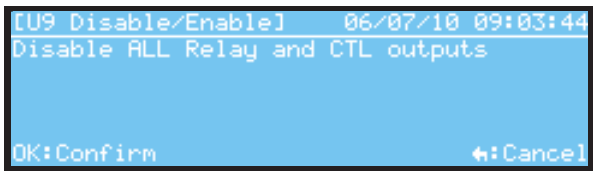
- It is possible to disable outputs to fire alarm devices (sounders/ bells) independently.
- It is possible to disable the fault output independently.
- It is possible to disable other outputs independently.
- To disable or enable a type of output circuit, press ‘4’ and the display shows a menu of the types of outputs. For example:



- 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
- Press ‘1’, ‘2’ or ‘3’ as required. The LCD shows the following if the outputs are currently enabled:



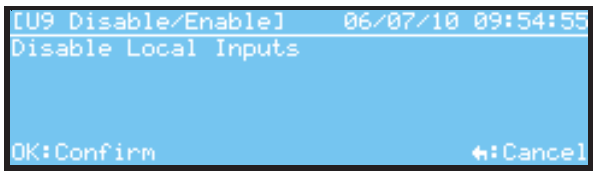




- Press the OK key to disable the output. The DISABLEMENT LED illuminates for all outputs. If the sounder outputs are disabled the SOUNDERS DISABLED LED illuminates also.
- Press the ↰ key to return to the Disable/Enable menu without making a change.
- To re-enable any disabled outputs repeat the procedure described above for each option. The LCD screens are the same except the user is now asked to ‘Enable’ the outputs rather than ‘Disable’ them.
- The DISABLEMENT LED extinguishes; if the sounder outputs are enabled the SOUNDERS DISABLED LED also extinguishes.
- Press the ↰ key to return to the Disable/Enable menu without making a change.

5.3.3.5 Disable/Enable Local Inputs

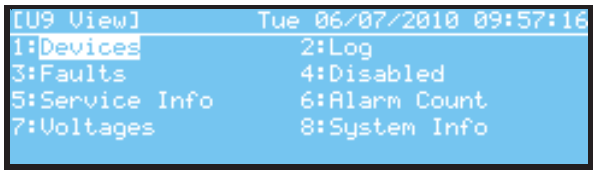
- The local inputs comprise the front panel keyswitch (if fitted), the front panel function keys (F1 & F2), monitored input circuits and panel state inputs. The installer will have programmed the operation of these inputs.
- To disable/ enable all local inputs, press the '7' key and the LCD prompts for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



- Press the OK key to disable/ enable these input circuits, as appropriate.
- Press the ↩ key to cancel and make no changes.

5.3.4 View

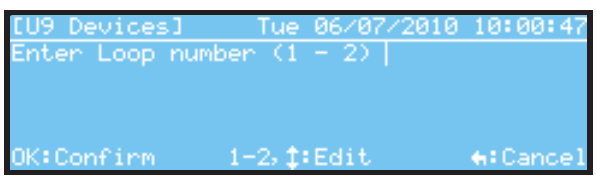
- To display the View Menu, press the '4' key and the LCD displays the following options.



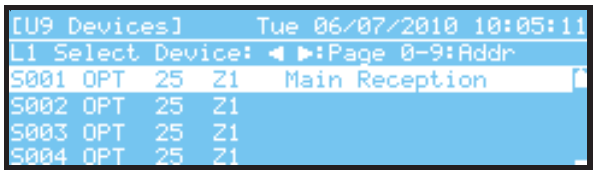
- It is possible to view:
  1. The current analogue value and other operating parameters for an individual loop device.
  2. The Event Log.
  3. Any Faults registered.
  4. Any Disablements.
  5. Service Information.
  6. The Alarm Counter.
  7. Operating voltages and other panel diagnostic information.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

5.3.4.1 View Devices

- This function shows the information returned from the selected signalling loop device and is updated each time it is polled.
- 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 the '1' key to select the Devices option. The LCD prompts for selection of the required signalling loop, showing the number of loops available, as follows (unless it is a 1-loop panel, in which case it immediately shows the first device on the loop):



- Enter the required signalling loop number using the numeric keys and then press the OK key to select. The display then shows the information for the first four device addresses on the loop.



- Press the OK key to display information about the highlighted device or, using the ▼ and ▲ keys, select a device at another addres on the loop and press the OK key to select.
- The user is presented with information related to the specific device. The display shows the loop number (L1), the address of the device, the type of device (OPT), the current status analogue values.
- The presented device information is only meaningful to the service engineer, therefore, no further details are provided here.
- Press the ↰ key to exit the device information screen and return to the listed loop devices.
- Press the ↰ key again to return to the View menu.

5.3.4.2 View the Event Log

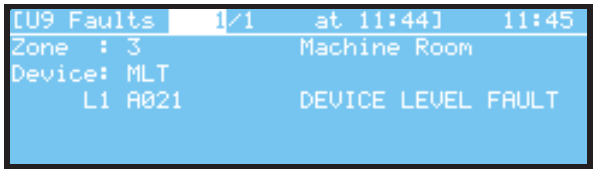
- Press the '2' key to view the Log. Alternatively, use the ▲, ▼, ◀ or ▶ keys to highlight 'Log' and press the OK key.The LCD displays the latest entry in the log, for example:



- The latest entry is always indexed as entry '001'. The log has a maximum capacity of 999 entries.
- Press the ▲ and ▼ keys to view the other log entries.
- Press the ↰ key to exit the event log screen and return to the View menu.

5.3.4.3 View Faults

- Press the '3' key to select ViewFaults. Alternatively use the ▲, ▼, ◀ or ▶ keys to highlight 'Faults' and press the OK key. The LCD shows the first fault condition, for example:

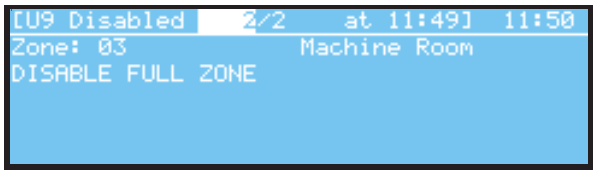


- Press the ▲, ▼ keys to view other faults, if applicable.
- If there are no fault conditions present selecting ‘Faults’ an overlay message is displayed to advise the user that the system has no faults present.
- Press the ↰ key to exit the ‘Faults’ screen and return to the View menu.

5.3.4.4 *View Disablements*

- This function allows the user to find information about any current disablement conditions. Press the ‘4’ key to select the ‘Disabled’ option. The LCD displays details of any disablements present. For example:

Typical Zone Disablement:



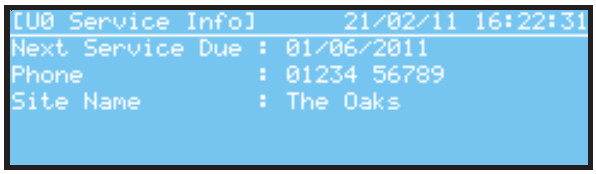
Typical Outputs Disablement:



- Press the ▲, ▼ keys to view other disablements.
- Press the ↰ key to exit the ‘Disabled’ screen and return to the View menu.

5.3.4.5 *View Service Information*

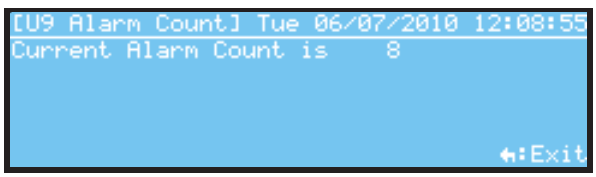
- Press ‘5’ key to select the View Service Info option. The display shows the date of the next scheduled service visit, the reference name of the site and the telephone number of the service organisation as follows:



- Press the ↰ key to exit the ‘Service Info’ screen and return to the View menu.

5.3.4.6 *View the Alarm Count*

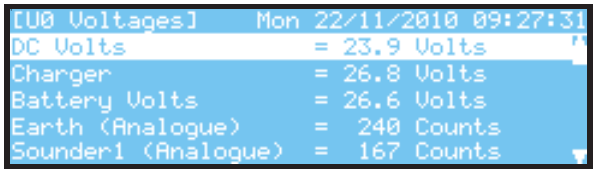
- The counter is incremented every time the panel enters the fire alarm condition.
- It is possible to view the current alarm count status. The counter cannot be reset.
- Press the ‘6’ key to select the Alarm Count option. The LCD displays the total number of times that the panel has entered the fire alarm condition. For example:



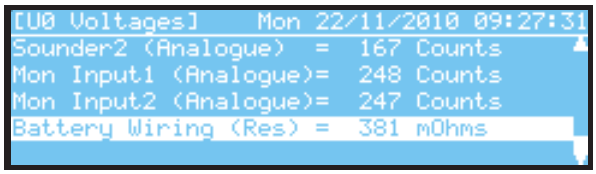
- Press the ↰ key to exit the ‘Alarm Count’ screen and return to the View menu.

5.3.4.7 *View Voltages*

- Press the '7' key to select the View Voltages option. The LCD displays a number of voltage values and analogue values (relevant to access level 3 use). The first screen is displayed with 'DC Volts' highlighted.



- Press the ▼ key to view the other voltages and analogue values, for example:



- Press the ↰ key to exit the 'Voltages' screen and return to the View menu.

Signal	Description	Value	Normal/ Range
BATTERY VOLTS	Measurement of the Battery Voltage	Volts	24 (19-28)
CHARGER	Measurement of the Charger Output Voltage	Volts	27 (20-29)
BATTERY WIRING	Measurement of the battery wiring resistance[1]	mOhms	381 (200-500)
MONITORED INPUT 1	Measurement of the input signal condition	Count	248 (75-560)
MONITORED INPUT 2	Measurement of the input signal condition	Count	248 (75-560)
SOUNDER 1	Measurement of the output wiring condition	Count	165 (145-190)
SOUNDER 2	Measurement of the output wiring condition	Count	165 (145-190)
EARTH	Measurement of the earth condition	Count	270 (240-300)

Measurement readings shown are for indicative purposes only.

[1] The measurement reading depends also on battery capacity and condition.

Table 6 - Voltage / Analogue Value Readings

5.3.4.8 *View System Information*

- Press the '8' key to select the 'System Info' option. The LCD displays the panel's serial number, 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.
- Press the ↰ key to exit the 'System Info' screen and return to the View menu.

5.3.5 Disable/ Enable Detection Mode

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

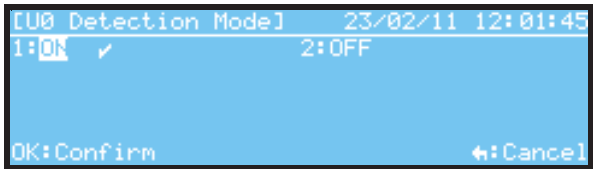
  Detection Modes can be Stage 1/ Stage 2 Investigation Mode (see Section 6) or Sensitivity Mode (detector sensitivity is adjusted at certain times of the day) or Alarm Verification Mode (the signals from smoke detectors must be verified after a programmed period of time before a fire alarm is raised). 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.

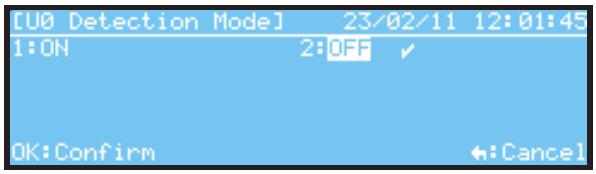
  Note: If there are no 7-day timers programmed, the enable/ disable function simply turns on/ off the detection mode programmed.



- To end (disable) or start (enable) the operation of the detection mode, press the '5' key and the display prompts for whether the detection mode should be started or ended, depending in its current operational state. If detection mode is enabled, as in the example below, use the numeric keypad and press the '2' key to highlight 'OFF' and then press the OK key to disable Detection Mode:



- Conversely, if detection mode is disabled, use the nuneric keypad and press the '1' key to highlight 'ON' and then press the OK key to enable Detection Mode:



- 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 and the following advisory text is displayed:



- Press the OK key to start/ end the function, as appropriate.
- Press the ← 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 not currently active.

5.3.6 Disable/ Enable Pattern Delays

- Delays to sounder and other outputs may have been 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 pattern output delays, press the ‘6’ key and the LCD prompts for whether the delays should be disabled/ enabled, depending on the current operational state.



- To disable delays, for example, the LCD displays this prompt.



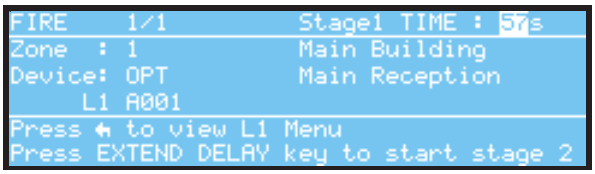
- Use the numeric keys to select ON or OFF and the OK key to disable/ enable these delays, as appropriate.
- The delays are programmed in the Level 3 Commissioning Mode Functions. If there are no Pattern Delays configured, this option has no effect.
- Press the ↰ key to cancel and make no changes.

6 Delayed Day Mode Operation

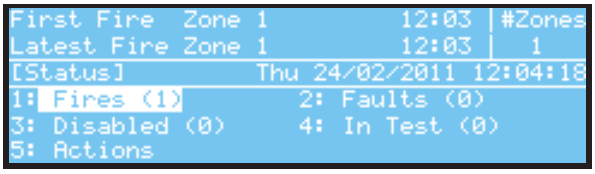
- The panel may have been configured to operate in a delayed day mode during daytime.
- If this is the case, during this time high sensor signals received from a detector will generate a fire alarm indication on the panel LCD, internal buzzer and LED indicators but delay the ringing of the sounders. 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.
- This function is only available for use at Level 2 if delayed day mode was configured at Level 3 by the installer/ maintenance provider.
- The delayed day mode may have been configured to only operate at specified times of the day.
- When the Delayed Day Mode Function is in the active period the Delayed Mode LED is lit.

6.1 Stage 1

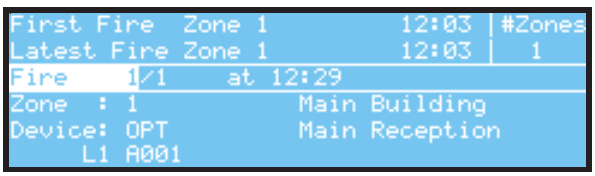
- When a fire alarm condition is detected during delayed day mode, the internal buzzer will sound. The sensor location (including zone location and point location text) is shown on the display together with a warning that the panel has entered stage 1 of a delayed alarm. The time remaining to acknowledge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



- If the warning is not acknowledged by pressing EXTEND DELAY within the time allowed for stage 1, then a full fire alarm condition will be raised and the sounder outputs will activate.
- Press EXTEND DELAY within the time allowed to enter the stage 2 (investigation phase) of the delayed alarm.
- Press MUTE BUZZER to silence the internal buzzer.
- Press the ↰ key to display the access Level 1 menu screen if it is necessary to view details of other event types during the delay period.

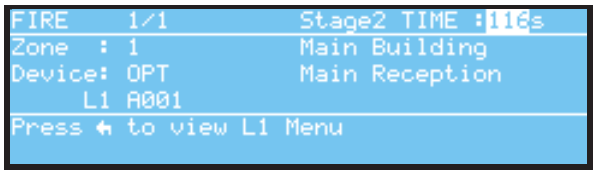


- Enter the number of the desired option to view details of the event(s). In the example below the ‘Fires’ option was selected.



6.2 Stage 2

- The stage 2 timer commences counting down as soon as the EXTEND DELAY 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.



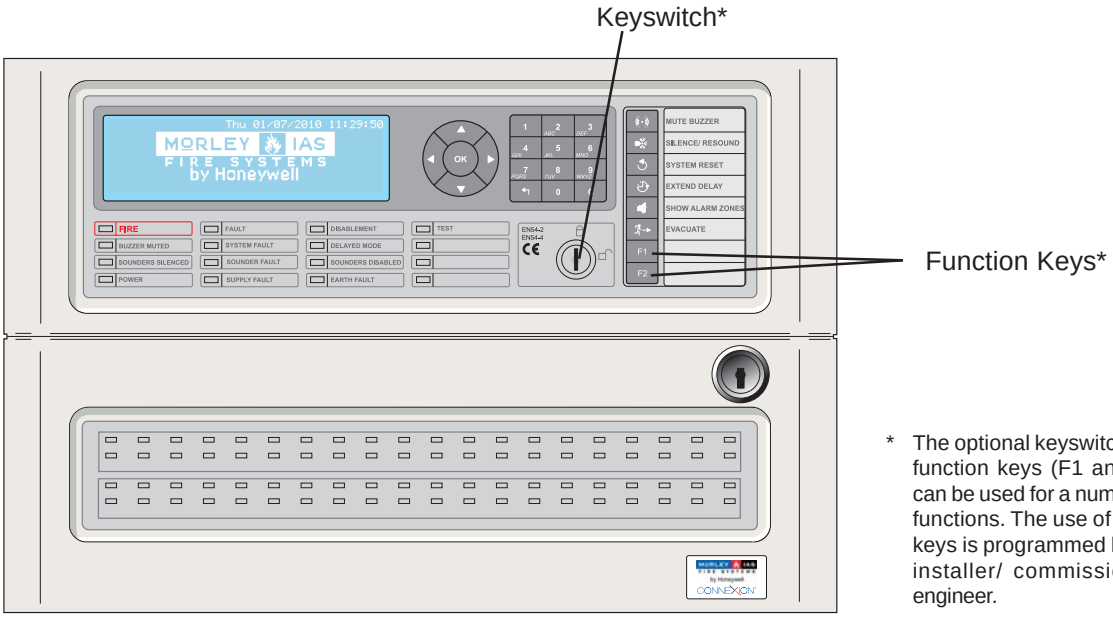
- Investigate the cause of the fire alarm signal.
- If the fire alarm is found to be a false alarm, press the SYSTEM RESET key within the time allowed thereby resetting the panel.
- If the fire alarm is found to be genuine, activate a call point to override the remaining delays if possible (in any case, the panel will automatically sound the alarms at the end of the stage 2 period).
- Press the MUTE BUZZER key to silence the internal buzzer.
- Press the ↰ key to see the access Level 1 menu screen if it is necessary to view other event conditions during the stage 2 period.



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

7 Keyswitch and Function Key Operation

- The optional keyswitch and the function keys (F1 and F2) may have been configured to perform a dedicated function as described below. If the installer/ commissioning engineer has configured any of these functions, he will have explained and demonstrated these functions to you.



* The optional keyswitch and 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.

Figure 2 - Keyswitch and Function Keys

7.1 Keyswitch

- The keyswitch can be used to enable Level 2 access, provide a 'class change' input or provide a 'bomb alert' input.
- If the function of the keyswitch is to provide Level 2 access, insert the key and turn clockwise. All Level 2 functions are now available and the entry of the passcode is not requested. While in this position the key is trapped in the lock and cannot be removed. To turn off Level 2 access and remove the key, turn the key anti-clockwise.
- If the keyswitch has been programmed for 'class change' or 'bomb alert' functions, insert the key and turn clockwise. The sounders/ bells will ring as programmed while 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 passcode before the action is performed (alternatively, insert and turn the key if the keyswitch 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 Disable/ Enable Detection Mode** for further information).

8 Level 3 Programmer Functions

- Refer to the Product Manual (996-203-000-X) and Product Market Variations Manual (996-220-X0X-X) for complete information on installation, commissioning and programming the DX Connection Series range of Fire Alarm Control Panels.

9 Maintenance/ Inspection

- The Equipment Owner shall ensure that a periodic Inspection and Servicing Maintenance Schedule be followed. The implementation of a maintenance contract with a Third-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 log book to record all events resulting from or affecting the system. The log book 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.

9.1 Inspection / Testing

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

9.1.1 Daily Attention

- Check the following:

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

9.1.2 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.

9.1.3 Monthly Attention

- Check the following:

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

9.2 Log Book Examples

- Example pages are provided below and can be photocopied to produce a suitable log book. 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 7 - Logbook Reference Data

EVENT DATA

Date	Time	Counter Reading	Event	Action Required	Date Completed	Initials