



Pearl™ Fire Alarm Control Panel Operating Manual

997-670-000-2

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1 Pearl™ 2-Loop Fire Control Panel

1.1 Introduction

This document explains how to use the Pearl™ panel's built-in control functions to access various menu functions and/or carry out regular mandatory procedures required by the local fire industry regulations. Helpful descriptions and tips are also provided within this document to assist the user in understanding the status information provided by the Pearl™ panel's LCD and LED indicators.

The Pearl™ Fire Alarm Control Panel has been designed to meet the requirements of EN54-2.

1.2 User Interface

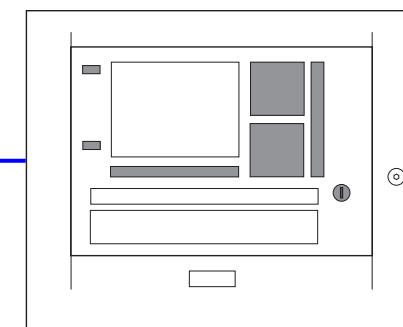
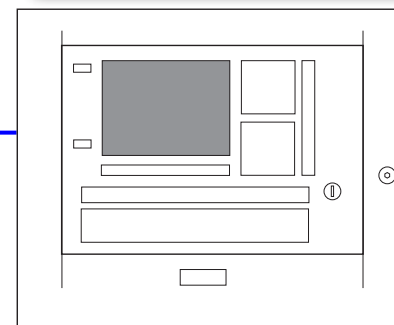
The Pearl™ fire alarm control panel (hereafter referred to as the 'panel') is provided with all required indicators to allow the user to review the system status and, with appropriate user (keyholder) access, perform approved system maintenance functions in accordance with the requirements of the local fire regulations.

LCD. The panel's user interface presents a large LCD (320 by 240 pixels) as the primary system status indicator.

See Section 1.2.1 LCD Primary Status Indicator.

Function Keys. The user interacts with the information displayed on the panel's LCD using the various function keys. These keys are located in various places on the panel's fascia: to the left, right and below the LCD. Entering a valid access Level 2 passcode or using the keyswitch will make these keys functional.

See Section 1.2.2 Function Keys.



Context-sensitive Help Button. When responding to a change in system status or when navigating the panel's various menus, press the context-sensitive information button (i) at any time for guidance and helpful tips.

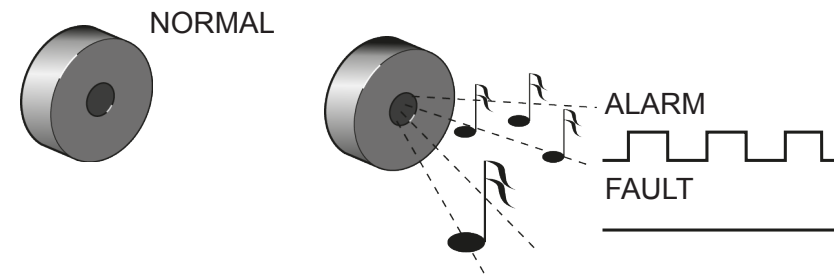
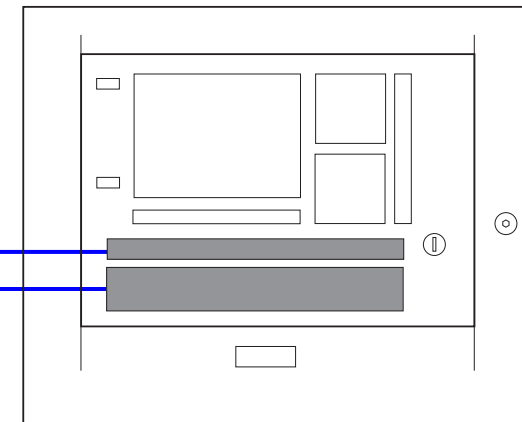
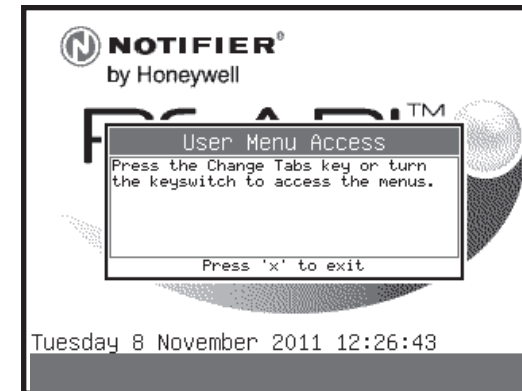
LEDs. System status LEDs are also provided and these are located below the four user function keys below the LCD. These LEDs are divided into two groups:

- Fire Zone Indicators (optional). Up to 64 zones can be indicated; depending whether the panel is working in stand-alone mode or as part of a network the 64 zones comprises either local zones or network zones. In either case the maximum number of zones managed by each panel is still 64.
- System Status LEDs. The following status indication LEDs are provided: FIRE, FAULT, DISABLE, TEST, PRE-ALARM, SYSTEM FAULT, DELAY ACTIVE, ALARM FAULT/DISABLED, FIRE PROTECTION ACTIVE, FIRE PROTECTION FAULT/DISABLED, FIRE OUTPUT ACTIVE, FIRE OUTPUT FAULT/DISABLED, POWER, TECHNICAL ALARM, DAY MODE.

See **Section 1.2.3 LED Status Indicators.**

Internal Buzzer. This audible device activates to alert the keyholder to take immediate action whenever the system detects any condition such as a fire or fault event. Depending on the type of event, the buzzer activates (sounds) using a different tone pattern: a pulsing tone for fire events or a continuous tone for faults.

The MUTE BUZZER control key is used to silence (mute) the internal buzzer in the event of these conditions occurring. This function is available at all access levels.



1.2.1 LCD Primary Status Indicator

The LCD is the panel's primary status indicator. This allows all event information, required to be displayed to meet the requirements of EN54-2 for any system condition or detected event, to be displayed on the LCD and in a clear and concise way.

When the panel is in the status Normal condition the LCD displays the panel name or the authorised servicing company name/logo and contact details, such as a telephone land line/mobile contact number, etc. The panel in Status Normal mode is shown at right, with the panel's model name (default) displayed on the LCD.

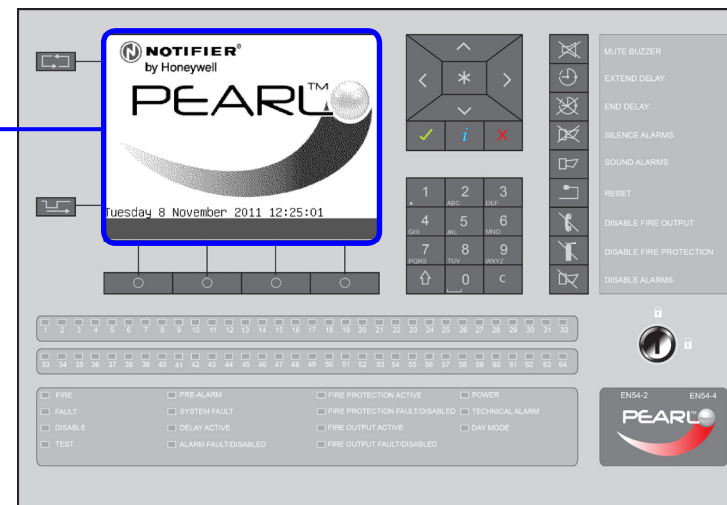
1.2.1.1 Non-quietescent Status Display

When the system enters a fire or fault condition, i.e. it is no longer in a quietescent condition, the LCD Status Normal screen is replaced with a display containing all the required information describing the nature and location of the detected event. In the event that more than one event has been detected, some of the control keys (keyholder access only) can be used to scroll down the list of all current events to review those 'hidden' from view (not all events are required by EN54-2 to be displayed at user access Level 1, only the first and last event).

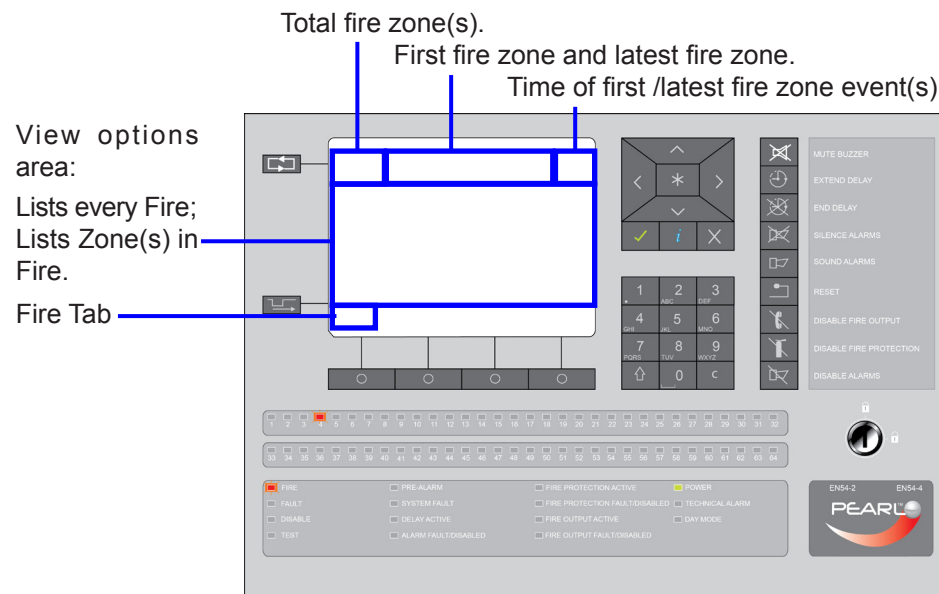
FIRE EVENT

If the detected alarm event is from a loop device the first zone in alarm, the latest zone in alarm and the time each zone went into the fire condition is displayed. Also, the total number of zones in alarm is given. For fire events, the information on the LCD is supported by the lighting of the appropriate zone fire LED (if fitted) and the FIRE LED. The buzzer pulses and the MUTE BUZZER function key flashes.

An example of a typical fire indication is provided at right. Press the  key to display details of the device that raised the alarm. See **Section 2.1.1 What do I Need to do?** for details on how to proceed when a fire condition has been detected.



Fire Summary information area:



FAULT EVENT

If the panel detects a fault, the Status Normal screen on the LCD is replaced by a fault summary screen, the buzzer sounds in steady mode, the FAULT LED pulses and the MUTE BUZZER function key flashes.

In this mode some of the function keys become available (see **Section 1.2.2 Function Keys**) at access Level 1, to allow any user to review details of the nature of the fault event(s). The general FAULT LED flashes and any other applicable fault LED(s) illuminate. Fault LED indications for individual zones are not provided.

Note: The LCD backlight is turned off and pushbutton backlights are dimmed with the loss of the primary power, i.e. mains supply. Pressing any button turns on the LCD backlight again to the configured brightness setting; pushbuttons backlights remain dimmed until primary power is restored.

An example of a typical LCD fault display is provided at right. See **Section 2.2.1 What do I Need to do?** for details on what to do when a fault condition has been detected.

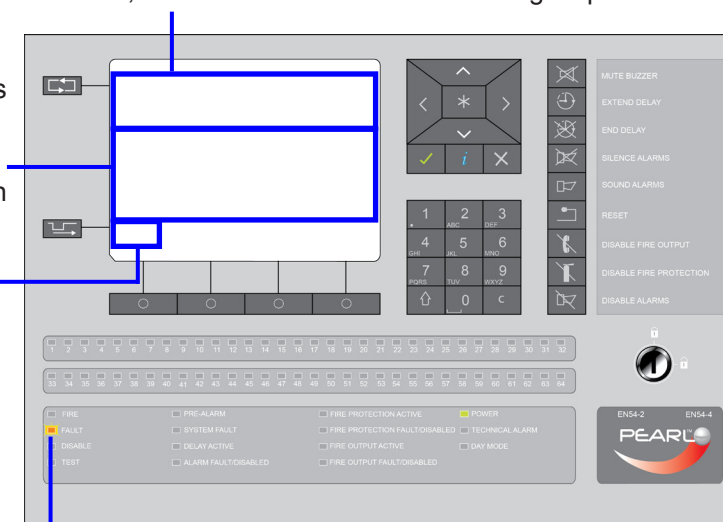
Fault summary information area, which includes:

Total individual faults, detection zones in fault and wiring loops in fault.

View options area:

Lists every Fault;
Lists 'Zones in Fault'.

Fault Tab



General Fault LED (pulsing)

1.2.2 Function Keys

Panel operation, at user access Levels 1 and 2, is controlled by the various function keys located on the front fascia.

The group of keys to the right of the LCD provide the following user functions:

1. Function Control Keys.

These are single-function activation keys and, apart from the MUTE BUZZER and CHANGE TAB keys, require the panel to be at user access Level 2 before they can be selected, for example the EXTEND DELAY function during the first stage of an active two-stage delay period.

2. Menu Navigation/option Selection Functions Keys.

With the panel at user access Level 2 these keys, in association with the alphanumeric keypad, are now functional.

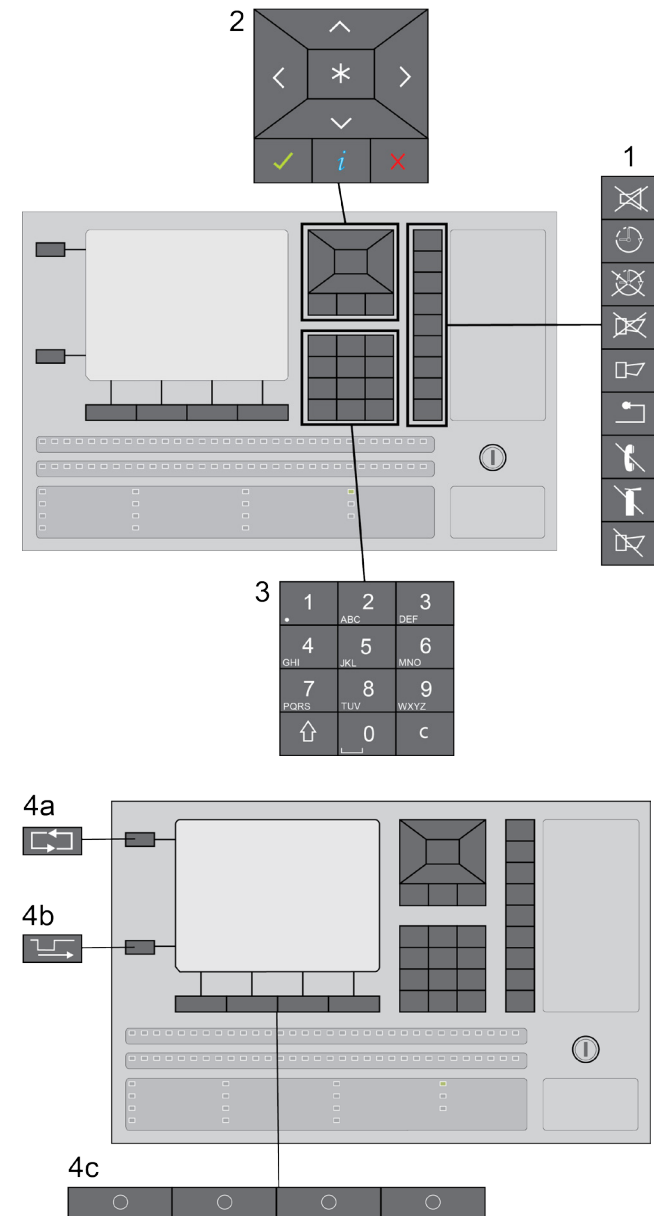
3. Alphanumeric Keys

These keys are available when the panel is at user access Level 2 and the user menus are available. Menu options can be selected using these keys, as an alternative method to the $\wedge$ or $\vee$ navigation and $\checkmark$ keys.

4. Other Function Keys

These are located to the left and below the LCD and comprise the following:

- Show More Zones in Fire key
- Change Tabs key
- Four user (programmable) Function keys.

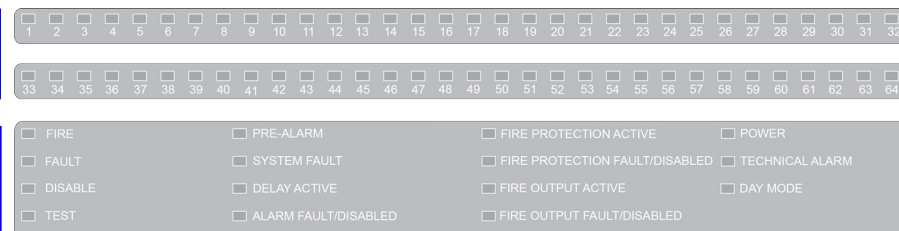


1.2.3 LED Status Indicators

In addition to details of detected events being displayed on the LCD, a number of LED status indicators are provided in the lower area of the panel fascia.

The upper two banks of LEDs are zone fire LEDs (zones 1 to 64) and may not be fitted.

The lower bank of LEDs contains all the required system status indicators to support the primary indicator, i.e. the LCD. With most panel- or loop-related events these LEDs are able to provide a quick indication of the possible cause of the panel status change.



The following status indicators are provided:

LED Name	Colour	Description
FIRE	Red	A fire condition exists.
FAULT	Yellow	A fault condition exists.
DISABLE	Yellow	One or more devices are disabled.
TEST	Yellow	A test condition has been entered,
PRE-ALARM	Yellow	A pre-alarm condition exists.
SYSTEM FAULT	Yellow	The system has failed.
DELAY ACTIVE	Yellow	Programmed delay(s) are in effect.
ALARM FAULT/DISABLED	Yellow	A fire output, if configured, is disabled or has a fault.
FIRE PROTECTION ACTIVE	Red	An output to the fire protection system, if configured, is active.
FIRE PROTECTION FAULT/DISABLED	Yellow	An output to the fire protection system, if configured, is disabled or has a fault.
FIRE OUTPUT ACTIVE	Red	The fire relay (and fire output if configured) is active.
FIRE OUTPUT FAULT/DISABLED	Yellow	The fire relay is disabled or the Fire output (if configured) is disabled or has a fault.
POWER	Green	System power (mains or battery) is available.
TECHNICAL ALARM	Yellow	Technical Alarm device activated.
DAY MODE	Yellow	The DAY MODE has been entered.

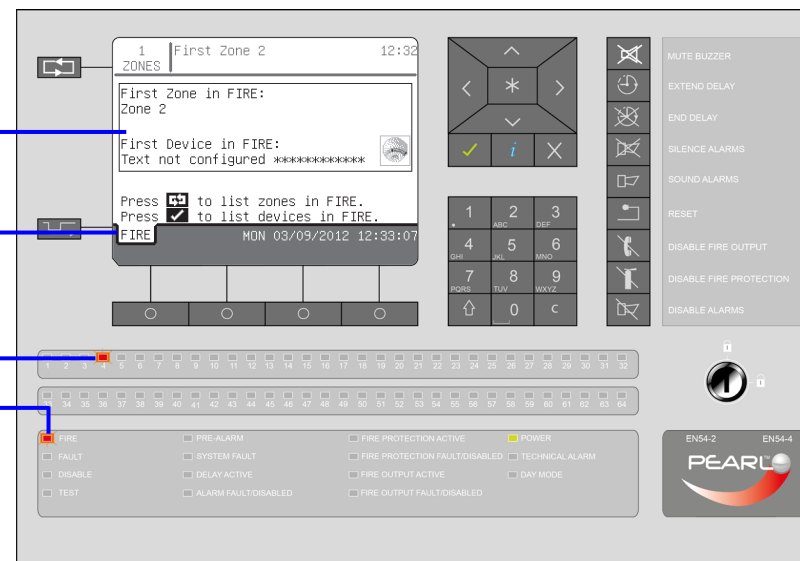
2 Fire & Fault Events - What to do

2.1 Fire Event

If the panel enters the alarm state, i.e. a Fire condition has been detected, the following visual and audible indications are given:

- The LCD displays information about the fire event, such as first and latest zone and first device in alarm. A Fire Tab is displayed at the bottom left-hand corner of the LCD.
- The appropriate zone(s) LED lights
- The General FIRE LED (red) lights (not with First Fire condition)
- The internal buzzer operates (pulsing tone)

Any outputs programmed to operate immediately, including sounder devices, are activated.



2.1.1 What do I Need to do?

Press the MUTE BUZZER key to silence the panel's internal buzzer. This is the only key action able to be performed at user access Level 1. In some cases the END DELAY key function is selectable at user access Level 1, but only if this function was configured during system commissioning.

Use the information provided by the LCD and the LEDs to understand quickly what action needs to be taken. To assist this process, the panel's LCD indicates the zone location(s) of the fire event(s) and the device(s) responsible for the alarm condition. Use the information provided to identify the geographic source of the fire alarm.

2.1.2 Log Book Entry

Enter information about the fire alarm in the log book. Ensure the entry contains the relevant information, date and keyholder's name/ signature. Information about the alarm event is also stored in the fire control panel's event log and can be accessed by the service engineer.

The following user level control keys are available:

Access Level 1:

- MUTE BUZZER
- CHANGE TAB
- END DELAY (if configured during commissioning).

Access Level 2:

- MUTE BUZZER
- CHANGE TAB
- END DELAY and EXTEND DELAY
- SILENCE ALARMS

Also, the , , and keys and numeric keypad are available. When backlit, the Information key () is available and its selection provides helpful, context-related help. The and the keys are selectable in alarm without a keyswitch operation or a request for a passcode entry.

2.1.3 Day Mode Operation

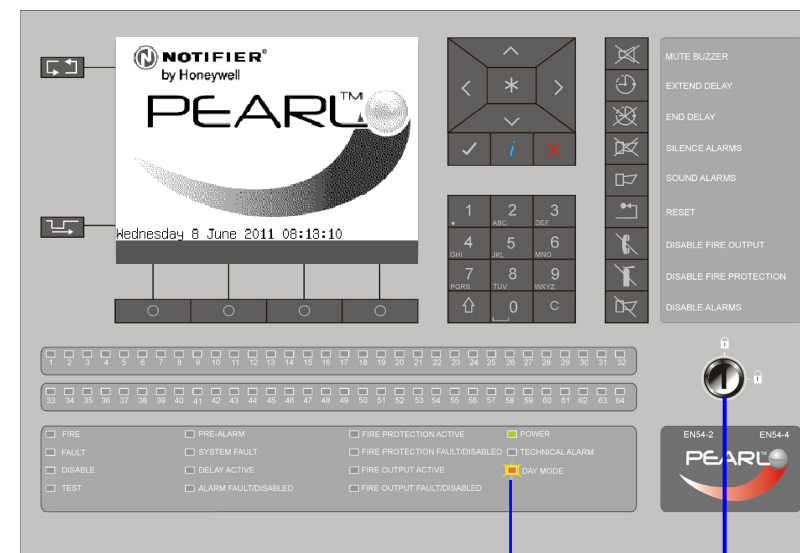
If a Day Mode program has been configured and is currently active (the DAY MODE LED is lit), the sensitivity of sensors will be changed automatically as configured when the panel was commissioned. In most cases the sensitivity of sensors is reduced to avoid the incidence of false alarms when the building is occupied. In the event a real fire condition is detected the panel responds in the normal way but after a short alarm condition verification period. At the end of this verification period activation of the required outputs, such as ringing the alarm bells and calling the fire brigade, occurs.

Note: The authorised person (key holder) needs to have been made aware that the panel has been configured that such a delay is imposed before a full fire condition is indicated by the panel.

2.1.4 Delays - What do I Need to do?

If the panel has been configured to delay the operation of sounders, etc. the detection of a fire may indicate a zone fire condition but without the FIRE LED being lit. This indicates that a fire condition has been detected, but the panel is waiting for another device to enter the fire condition before a fire is fully recognised. The condition of having more than one fire indication before activating outputs is known as coincidence.

It is also possible that the panel has been configured to delay the activation of any outputs when a fire has been detected. In this case, a detected fire alarm condition starts the first of two configured timers allowing the authorised person (key holder) a reasonable period in which to react to permit the delay to be extended, thereby allowing a proper search to be conducted. This is achieved using the EXTEND DELAY key (only available at user access Level 2). The second timer period, normally set to be longer than the first period, starts its countdown; the first timer has now been overridden by the second timer. Press the END DELAY key (can be available at user access Level 1) to end any delays and enable the full fire condition to be entered.

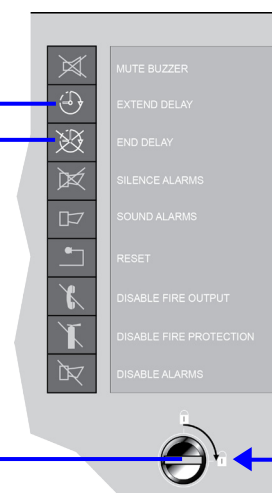


DAY MODE LED

EXTEND DELAY key

END DELAY key

KEYSWITCH
(to enable user Access Level 2)



2.2 Fault Event

If the panel enters a fault state, i.e. a fault condition has been detected, the following visual and audible indications are given:

- The LCD displays information about the fault event, such as panel condition or zone and device information.
- The General FAULT LED (yellow) lights
- The internal buzzer operates (continuous tone)
- The SYSTEM FAULT LED or other FAULT LED(s) may light

In addition, any configured fault routing outputs are activated.

2.2.1 What do I Need to do?

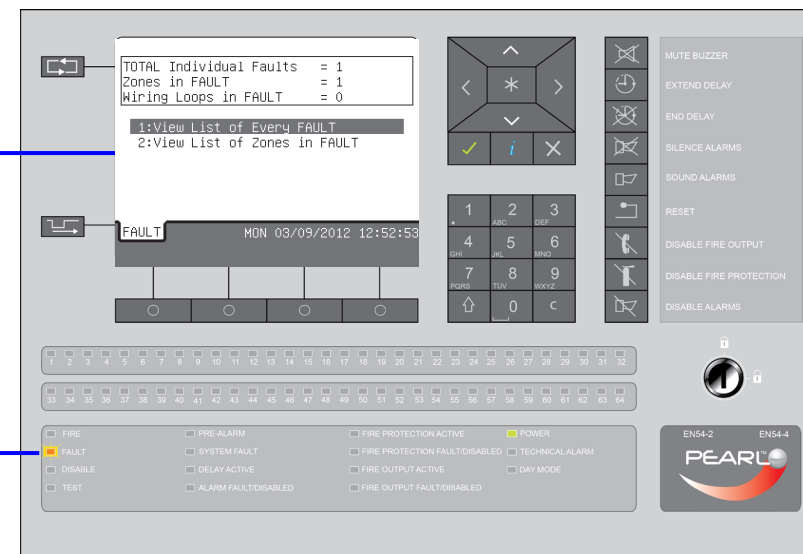
Press the MUTE BUZZER key to silence the panel's internal buzzer. This is the only action performed by this control key.

Use the information provided by the LCD and the LEDs to for guidance on the action that needs to be taken. To assist this process, the panel's LCD indicates the nature of the fault; if it is a faulty detection device the zone location and the device(s) responsible for raising the fault indication may be accessed using those control keys enabled at access Level 1. Selectable keys are backlit to confirm this state.

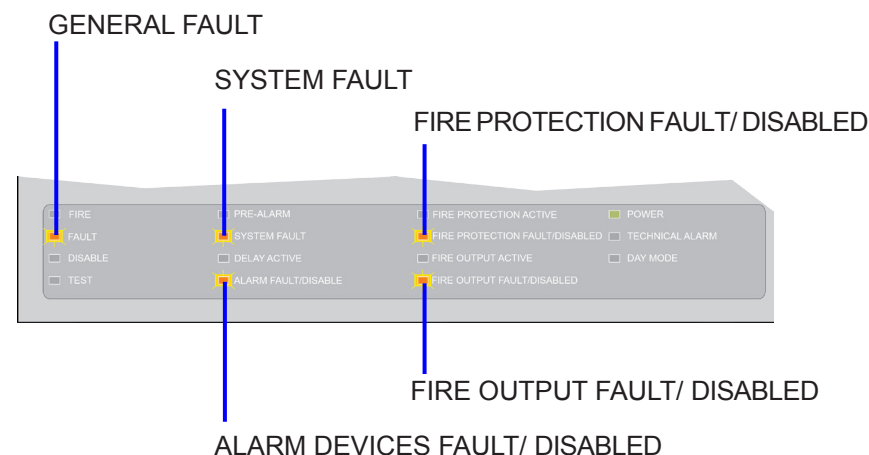
Using the information provided, identify the type and location of the fault event so that effective action may be taken to resolve it or, if this is not possible, seek assistance from the authorised servicing company.

2.2.2 Log Book Entry

Enter information about the fault in the log book. Ensure the entry contains the relevant fault information, date and keyholder's name/ signature. Information about the fault event is also stored in the fire control panel's event log and can be accessed by the service engineer.



FAULT LED INDICATIONS



2.3 RESET Key

The RESET key is used to clear all fire and fault status indications on the panel and return it to its normal condition.

Note: The RESET key must not be used to clear fire or fault indications without the appropriate actions having been taken to investigate and remedy the cause of any such events.

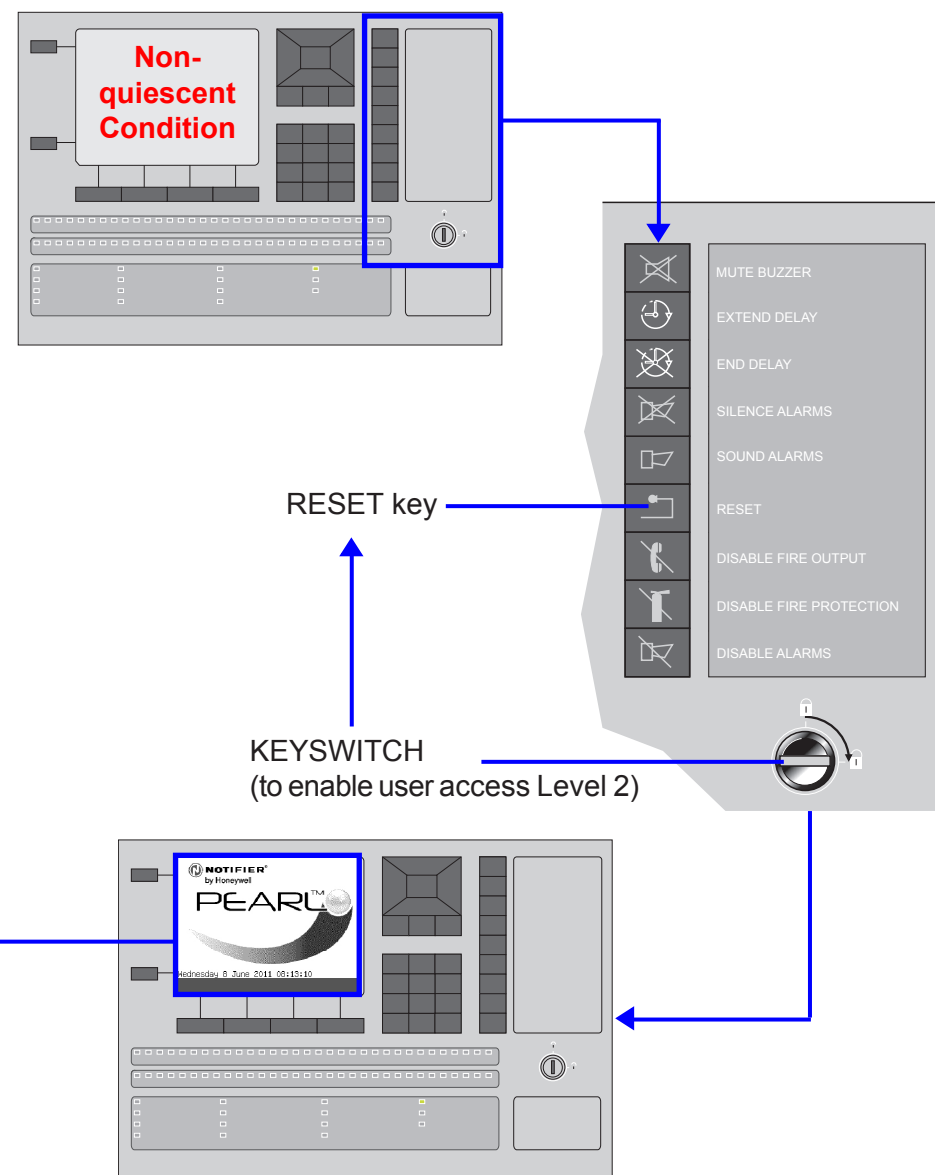
The RESET key can only clear fire or fault event indications when they have been satisfactorily removed from the system.

To perform a reset action, either insert the key and turn through 90° in a clockwise direction or enter a valid user access Level 2 passcode and then press the RESET key. The LCD will re-display the Status Normal screen and all alarm or other event-related indicators will be extinguished.

After pressing the RESET key any conditions still present in the system will, once again, cause the panel to display and indicate the existence of such events until they have been satisfactorily remedied.

The POWER LED does not extinguish.

Remove the access Level 2 entry key or, if a passcode was used, press the **X** key until the Status Normal screen appears. When the Status Normal screen reappears, the panel has been returned to access Level 1.



3 Panel Status & User Level 1 Functions

3.1 Status Normal

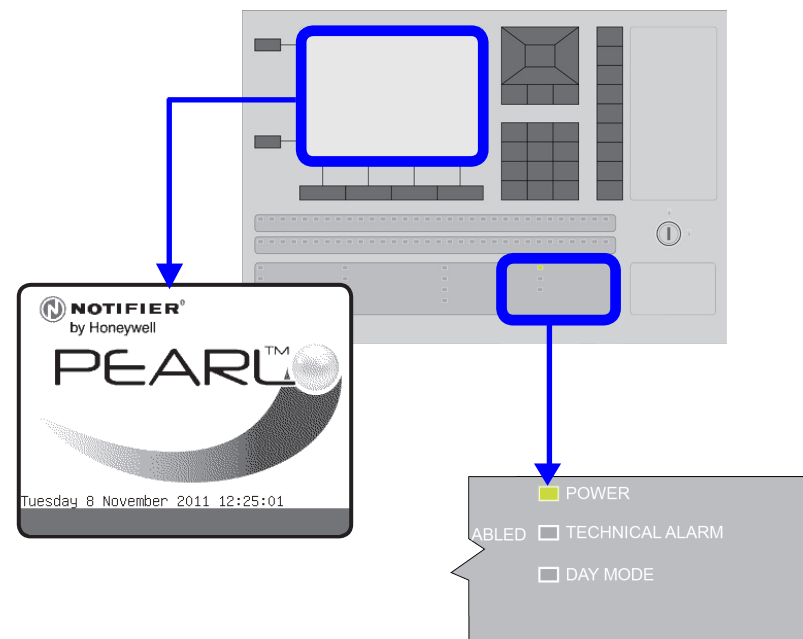
The following control keys function at user access Level 1:

- MUTE BUZZER 
- CHANGE TABS 

With the panel at user access Level 1 and also in the quiescent state, i.e. the panel status is normal, the following indications are present:

- **LCD.** This displays the 'Status Normal' screen - no user menus are shown but the panel name or authorised servicing company information/logo is displayed.
- **POWER LED** (green). This is lit continuously when the panel is powered.

No other front panel LEDs are lit and the internal buzzer is silent.



3.2 Panel Controls and Menus

No control functions or menus are available to the user at access Level 1, except the  key to display the user level passcode entry screen. To enable the panel control keys and gain access to the user level menus requires entry of a valid Level 2 passcode or to insert and turn the key (clockwise) in the keyswitch.

Refer to **Section 4 Enabling user Access (Level 2)** for more details.

Access to the commissioning menus requires the entry of a commissioning engineer's passcode - details of this function are not provided in this document.

4 Enabling User Access (Level 2)

4.1 Passcode Entry

With the Status Normal screen displayed on the LCD, pressing the  key will present the user access level passcode request entry screen.

Entry of a valid passcode enables the user to access the appropriate panel menus. Which menu is displayed next depends upon the access passcode entered: user or commissioning level.

To enter the access Level 2 passcode make sure that 'Standard User' is highlighted and then press the  key. The screen now presents the user with a passcode entry field. Using the numeric keypad enter the appropriate access passcode and press the  key again to enter.

A correct passcode entry displays the main user level menu (Main Menu).

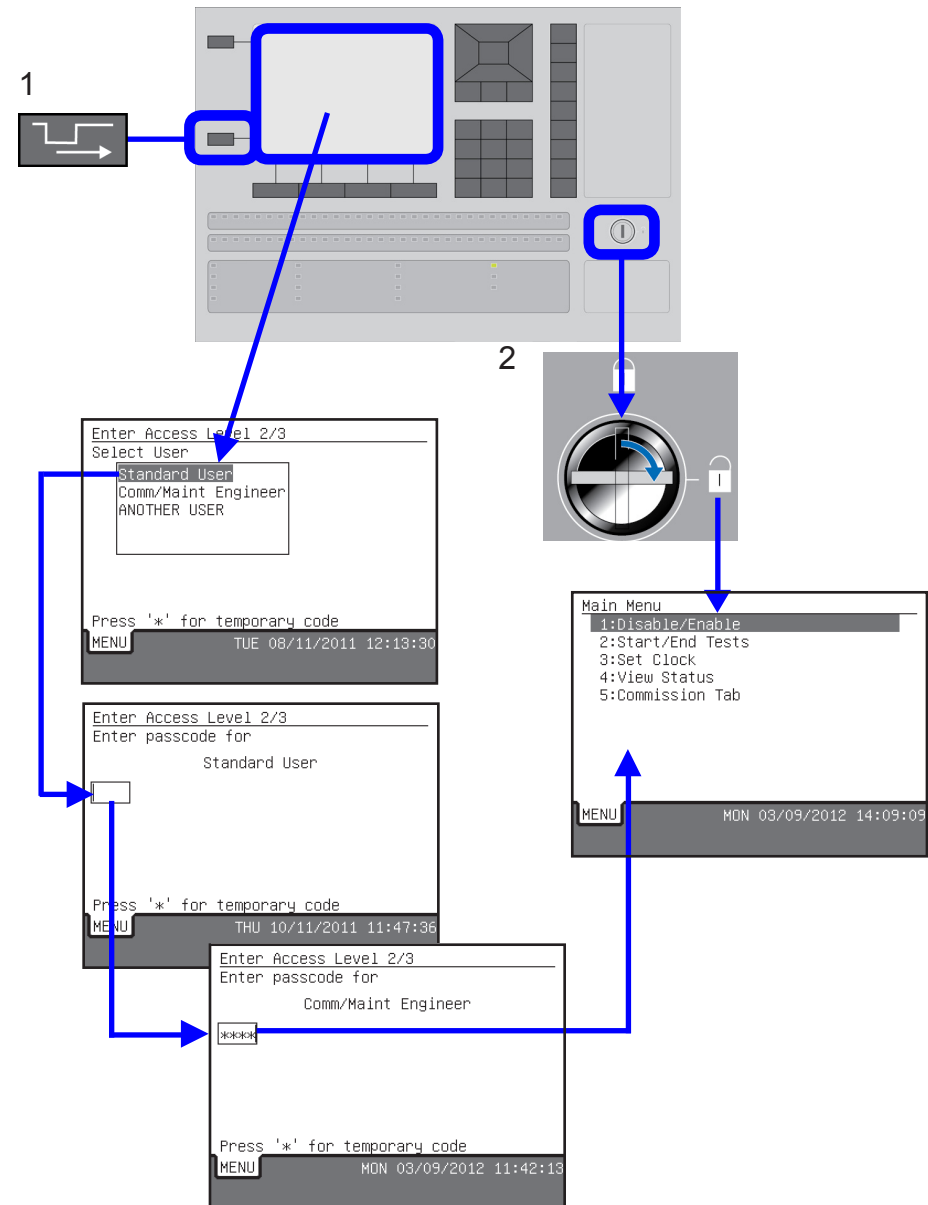
Press the  key to abandon an invalidated passcode entry attempt and re-try the passcode entry. Press the  key and repeat the process above.

4.2 Keyswitch Entry

Similarly, inserting the access entry key into the keyswitch and turning it clockwise through 90° will display the access Level 2 Main Menu. The MENU tab at the bottom of the screen confirms this.

Note: The MENU tab is also present when the passcode entry screen is displayed.

Note: In the unlikely event that the required user access passcode has been forgotten and the key has been misplaced, contact the servicing company for assistance. You will be asked to quote the code displayed when the  key is pressed. No other method is available to access the menus in this situation.



5 Navigating the Panel Menus

Once access to the user access Level 2 menus is obtained (see **Section 4 Enabling User Access (Level 2)**), selection of menu options is very simple to do.

With a menu option highlighted press the ✓ or * key to select. Alternatively, use the numeric keypad and press the number of the desired menu option to select that function. By default, when first displayed the first available menu option is highlighted.

With the Main Menu all the listed options are available and the first is highlighted.

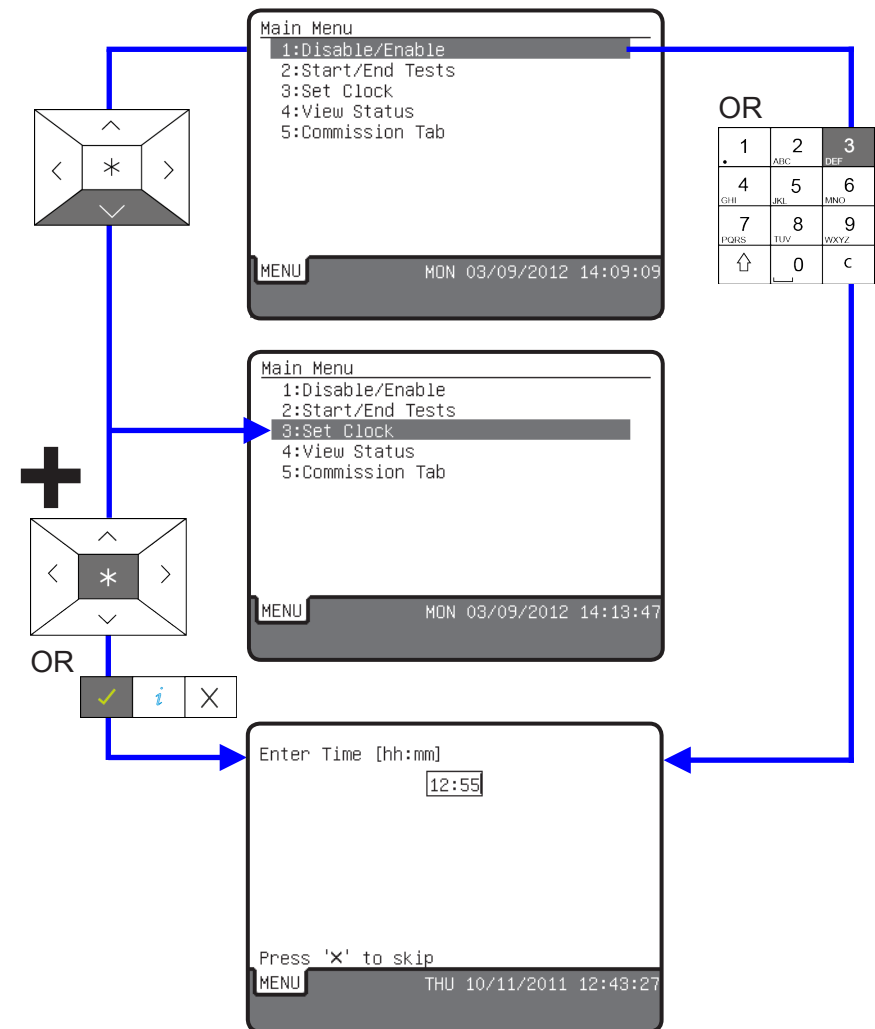
Working Example - Set/Change the Date/Time

With the Main Menu displayed on the LCD, press the numeric key '3' to select the 'Set Clock' option.

Alternatively, use the ∇ key to move the highlight down to option 3 and press either the ✓ or * key to select the Set Clock function. The ∇ function is cyclic, so if you overshoot the desired option just try again using the same key.

See **Section 5.3 Setting Time/Date** for more details on how to set/change the time and date.

If the panel is part of a network you will be prompted to enter the node ID (number) of the panel when accessing many of the user menus described in this section.



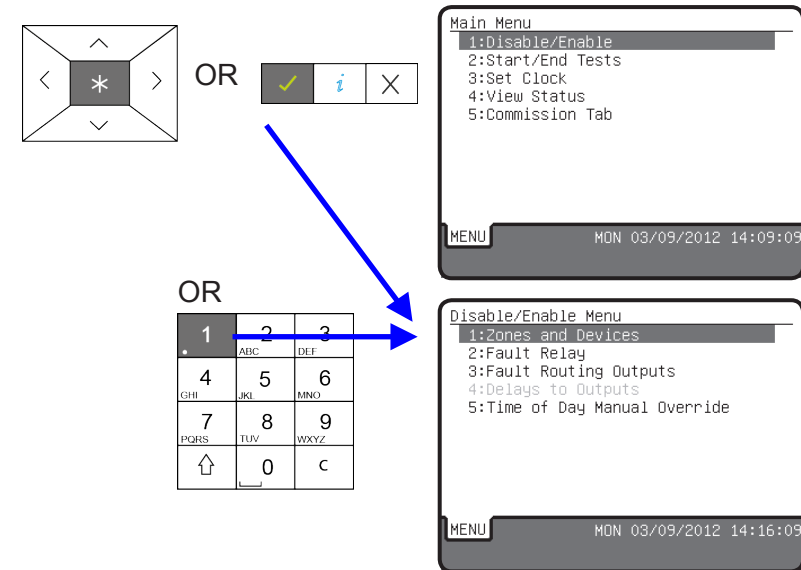
5.1 Disable/ Enable Menu

The Disable/Enable function is available from the user access Level 2 Main Menu. Enter the user access Level 2 passcode or insert the key and turn clockwise through 90° to display the Main Menu. The MENU tab is also displayed once the Main Menu is accessed.

With menu option **1: Disable/Enable** highlighted, press the ✓ or * key or, using the numeric keypad, press the '1' key to access the Disable/Enable menu.

The following disable/enable functions are available:

- Zones and Devices (full disablement/enablement)
- Fault Outputs
- Delays to Outputs (if configured during commissioning)
- Time-of-Day Manual Override (if configured during commissioning).

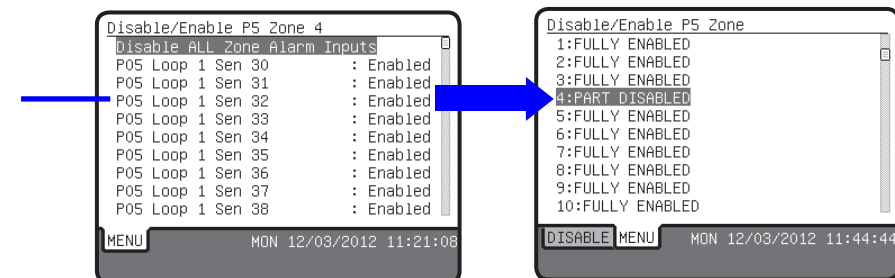


5.1.1 Zones and Devices

Select option **1: Zones and Devices** to disable/enable a zone or select devices to disable individually. Only configured zones are displayed; if a zone has not been configured it will not appear in the list of zones.

Zones may be fully or partially disabled. A zone only requires one device to be disabled for its state to change to 'partially disabled'. When the configured zones are displayed the enabled/disabled status of each is given. In the nearest example at right, all zones are shown as fully enabled, i.e. no individual devices have been disabled on these two zones. The furthest screen shows that zone 4 is partially disabled, with the 'DISABLE' tab also displayed - the DISABLE LED will also be lit.

With the desired zone highlighted, pressing the ✓ key displays the zone devices and their individual enabled/disabled states.



5.1.1.1 To Disable a Zone or Device

This description is for a panel working in stand-alone mode. Performing disablements over a network is described after this.

- 1 Use the  or  navigation buttons to highlight the zone to be disabled/enabled and then press the  key to change its state. The user is now given the choice of disabling/enabling ALL the **zone alarms inputs** (highlighted by default) or individual devices for the selected zone. In the example opposite, zone 4 was selected and all the devices in that zone are listed together with an indication of their individual current enabled/disabled state - in this case all devices are 'Enabled'.

Note: Devices that are not zone alarm inputs can be disabled individually. However, zone output devices, such as sounders, cannot be disabled individually.

- 2 To disable/enable the entire zone (default selection) press the  key. Each press of the  key toggles the state of the zone: disabled or enabled. After disabling a zone or device(s), press the  key to display the 'DISABLE' tab and view the disabled devices.

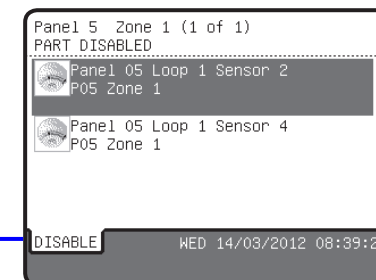
However, if the toggle function is used for a part-disabled zone then, depending on whether any devices are not zone alarm inputs, the 'part-disabled' state is retained, even though the  key has been pressed to toggle the state. Also, with any device in the list highlighted pressing the  key toggles its 'enabled/disabled' state.



5.1.1.2 Panel Disablements over a Network

When disabling a zone on a network you will be prompted to enter a panel ID number before the zone selection can be made. Enter the panel ID number and then make the zone or device selection as for a stand-alone panel (see above).

With any active disablements all the panels on the network display the DISABLE tab with all the disabled devices listed.

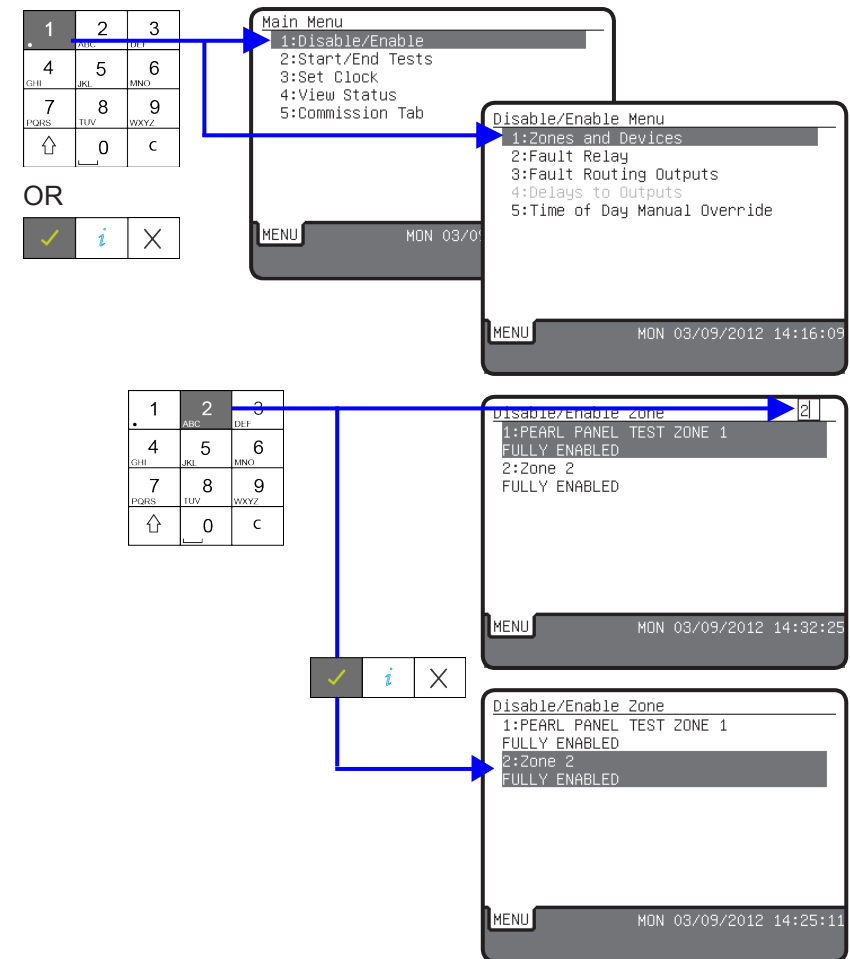


Working Example - Disable Zone 3

With the Main Menu displayed on the LCD, press the numeric key '1' to select the 'Disable/Enable' option.

Press the '1' key on the numeric keypad to select 'Zones and Devices'. The list of all configured zones is displayed, the first zone in the list is highlighted. Use the $\checkmark$ key to select another zone for disablement, in this case zone 2.

Press the $\checkmark$ key to change the status of the selected zone, i.e. disable or enable depending on its current status.

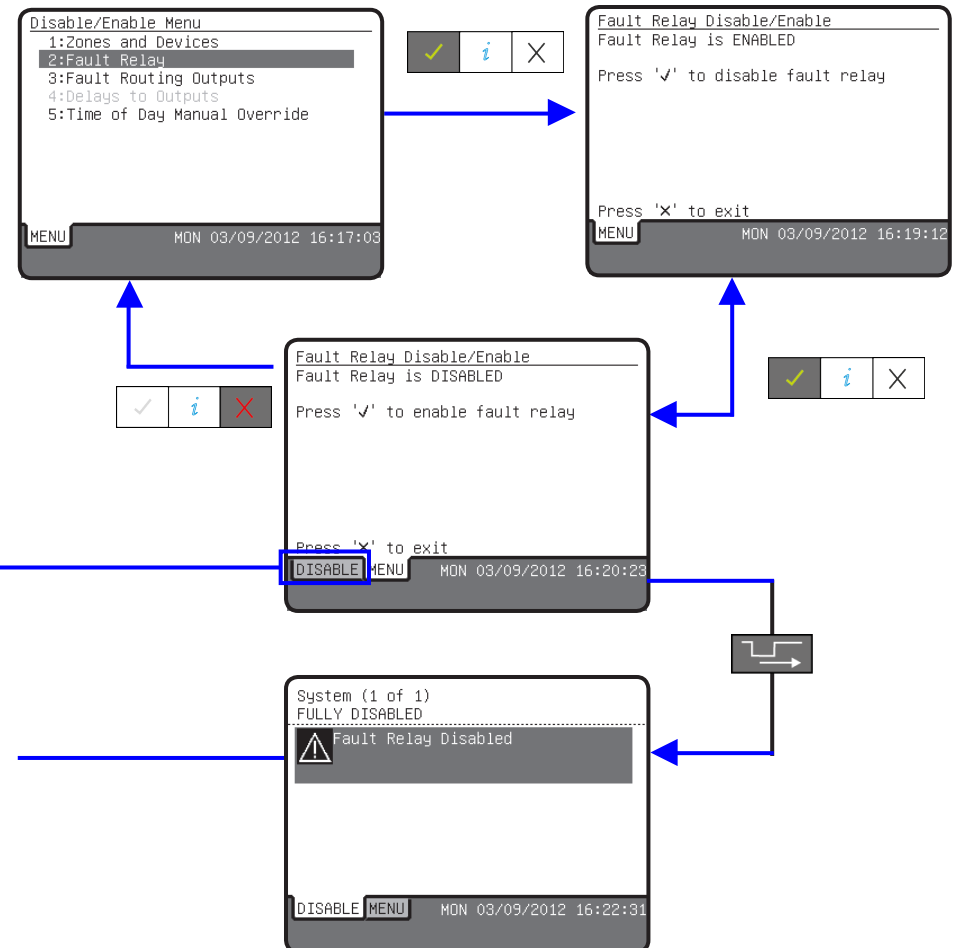


5.1.2 Fault Relay Output

Select option **2: Fault Relay** to enable/disable the fault relay output.

To enable/disable the fault relay output press the  key. Each time the  key is pressed the enable/disable state is changed.

With the fault relay output in a disabled state, the DISABLE LED is lit.



The DISABLE tab is displayed with disabled fault relay output.

Press the  key to bring the DISABLE tab to the front and display details about this disablement.

Press the  key again to bring the MENU tab to the front. Press the  key at any time to exit.

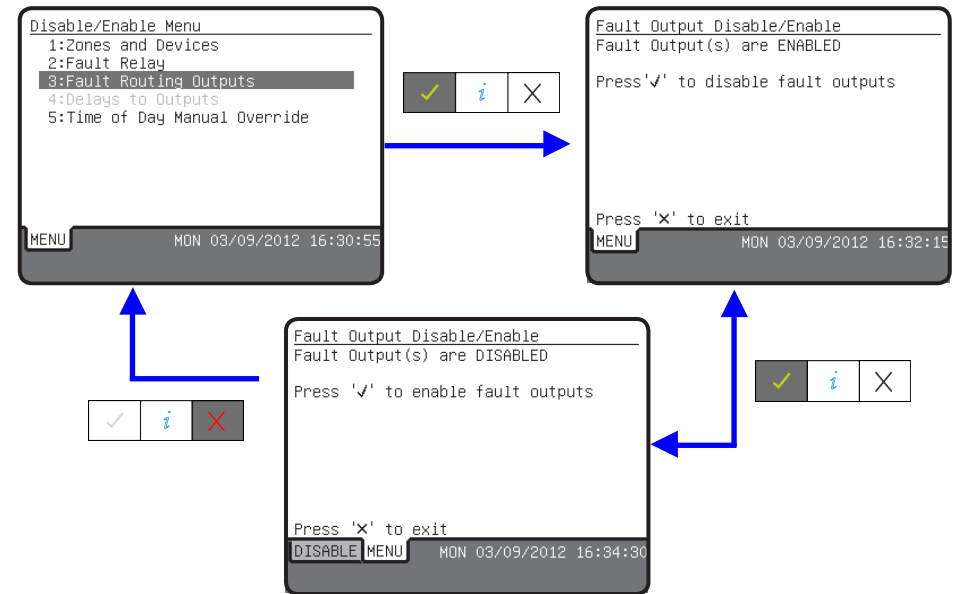
Note: Fault relay output state change remains until the menu option is again accessed and the state toggled as described above.

5.1.3 Fault Routing Outputs

Select option **3: Fault Routing Outputs** to enable/disable the fault routing output circuit(s).

To enable/disable the fault routing output(s) press the  key. Each time the  key is pressed the enable/disable state changes (toggled).

Press the  key at any time to exit.



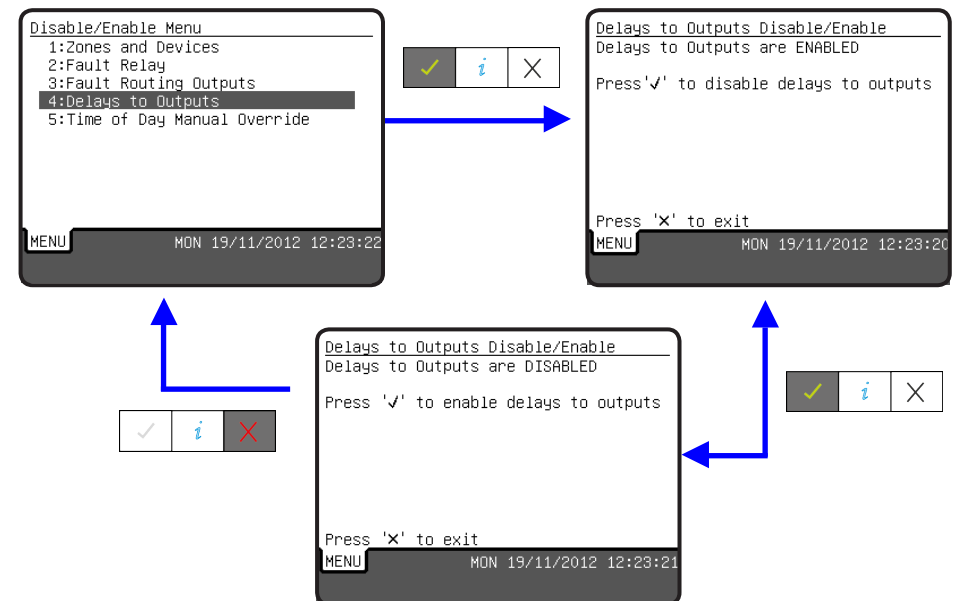
5.1.4 Delays to Outputs

This option is only available when delays have been configured as part of one or more Cause & Effect rules. If any such delays are configured the DELAYS ACTIVE LED is lit.

Select option **4: Delays to Outputs** to disable/enable the delay to alarm outputs.

To disable/enable any configured delays press the  key. Each time the  key is pressed the delay enable/disable state changes (toggled).

Press the  key at any time to exit.

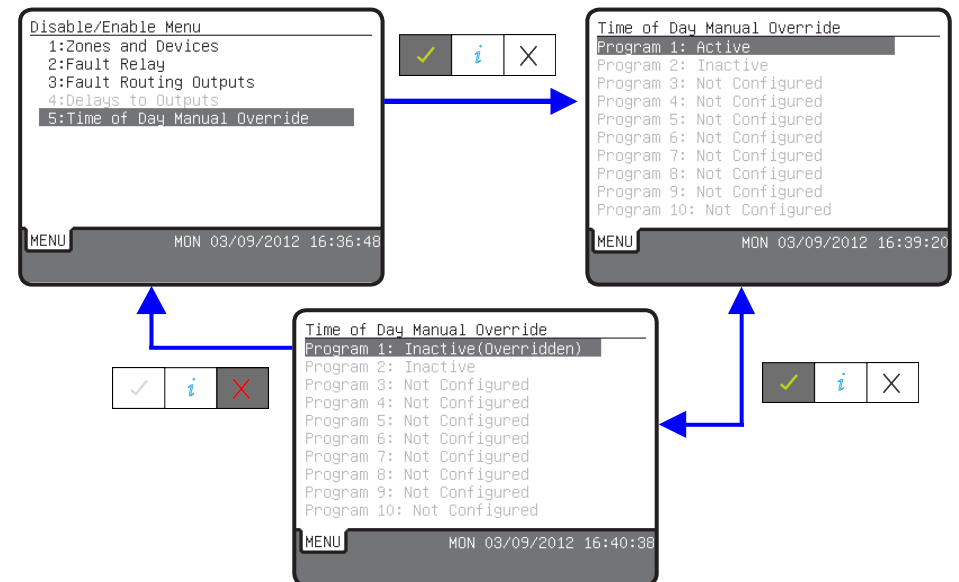


5.1.5 Time-of-Day Manual Override

Select option **4: Time-of-Day Manual Override** to manually override an active Time-of-Day program. This override function is only possible if a program (up to ten programs are configurable) was configured at system commissioning. If a Time-of-Day program is active the DAY MODE LED is lit. However, if it has been overridden using this menu option the DAY MODE LED extinguishes until the next configured day mode period occurs or the Time-of Day program, if still active, has been restored using this menu option.

In the example shown here only Time of -Day program 1 has been configured. To disable this program, i.e. disable the configured change to sensor sensitivity, press the  key. To cancel out of this function, press the  key.

Note: The overridden Time-of-Day program will return to its non-overridden state for the beginning of the next configured day mode period.



5.2 Start/End Testing

Various parts of the fire alarm system may be tested at user access Level 2, as well as performing a function test of the panel's visual indicators and internal buzzer.

When a zone walk test is in progress, the TEST LED lights. When a walk test is in progress the TEST tab is shown on the LCD display.

The following tests may be carried out from this menu:

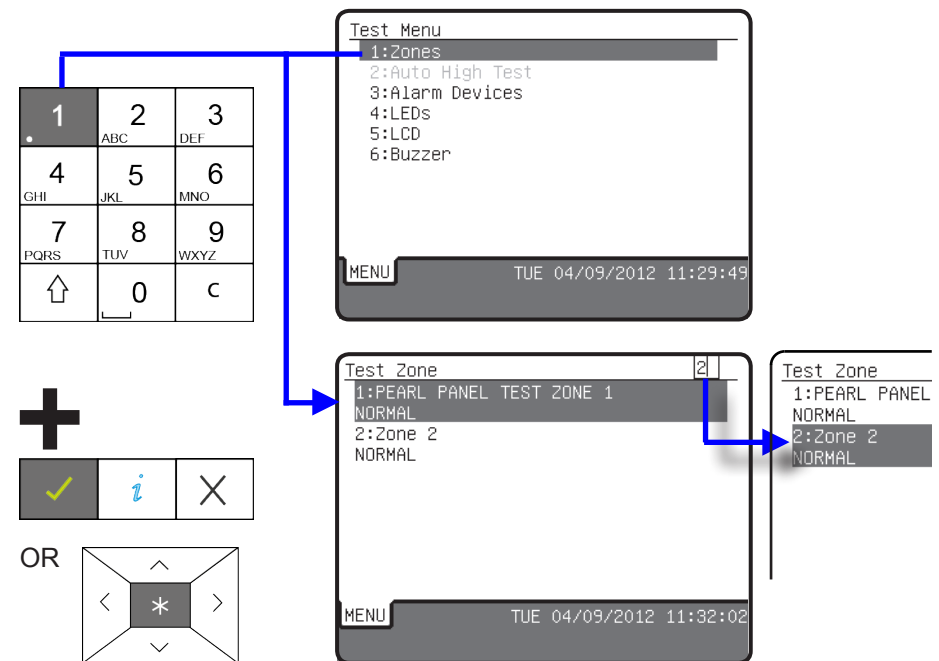
- Perform one or more zone walk tests (see **Section 5.2.1 Zones**)
- Test alarm devices (see **Section 5.2.3 Alarm Devices**)
- Perform a function test of the panel's LEDs and function key backlights (see **Section 5.2.4 LEDs**)
- Test the function of the LCD (see **Section 5.2.5 LCD**)
- Test the internal buzzer (see **Section 5.2.6 Internal Buzzer**).

5.2.1 Zones

To perform a zone walk test select option **1: Zones** from the Test Menu; press the '1' key on the alphanumeric keypad or, if highlighted, press the  or  key.

From the list of zones displayed, use numeric keypad to enter the zone number or the  navigation buttons to highlight the zone to be tested then press the  key. The indicated status of the zone changes from NORMAL to IN TEST and a TEST tab appears behind the MENU tab.

Use the  key to bring the TEST screen to the top so that the current test status of each device in the zone under test may be viewed. Each device on the zone is listed with its status, NOT TESTED/TESTED, displayed below the device icon. At the start of testing all devices will show a status of NOT TESTED. Each time a device is tested its status will change to TESTED on this screen.

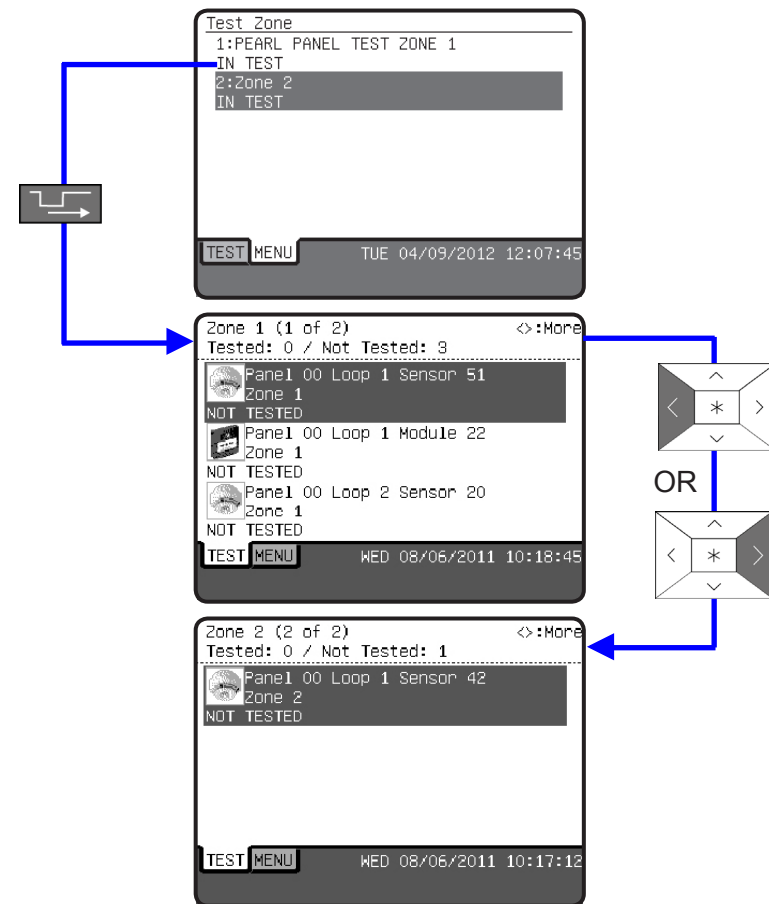


5.2.1.1 Testing Multiple Zones

More than one zone may be tested at the same time. Press the $\vee/\wedge$ navigation buttons to highlight another zone in the list and then press the $\checkmark$ key to select for testing.

If required, repeat this procedure for other zones to be tested.

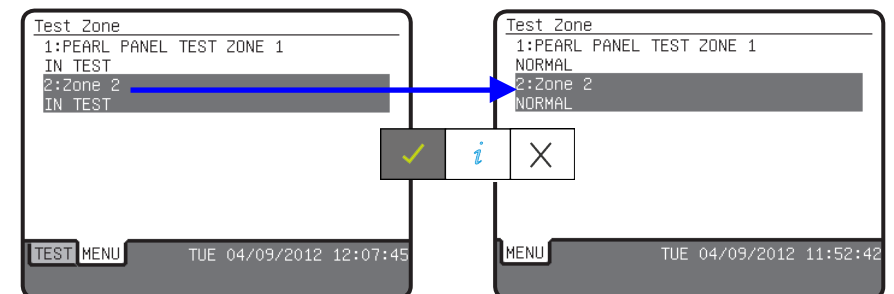
To view the status of the devices in any other zones in test use the $\langle / \rangle$ navigation buttons to move from one zone to another.



5.2.1.2 To Cancel a Zone Walk Test

A zone walk test can only be cancelled from the MENU tab screen and not from the TEST tab screen - press the CHANGE TAB key to bring the MENU tab screen to the front, highlight the zone test to be cancelled and press the $\checkmark$ key. This is confirmed when the indicated status of the zone returns to NORMAL.

Each zone must be cancelled individually using this method.



5.2.2 Auto High Test

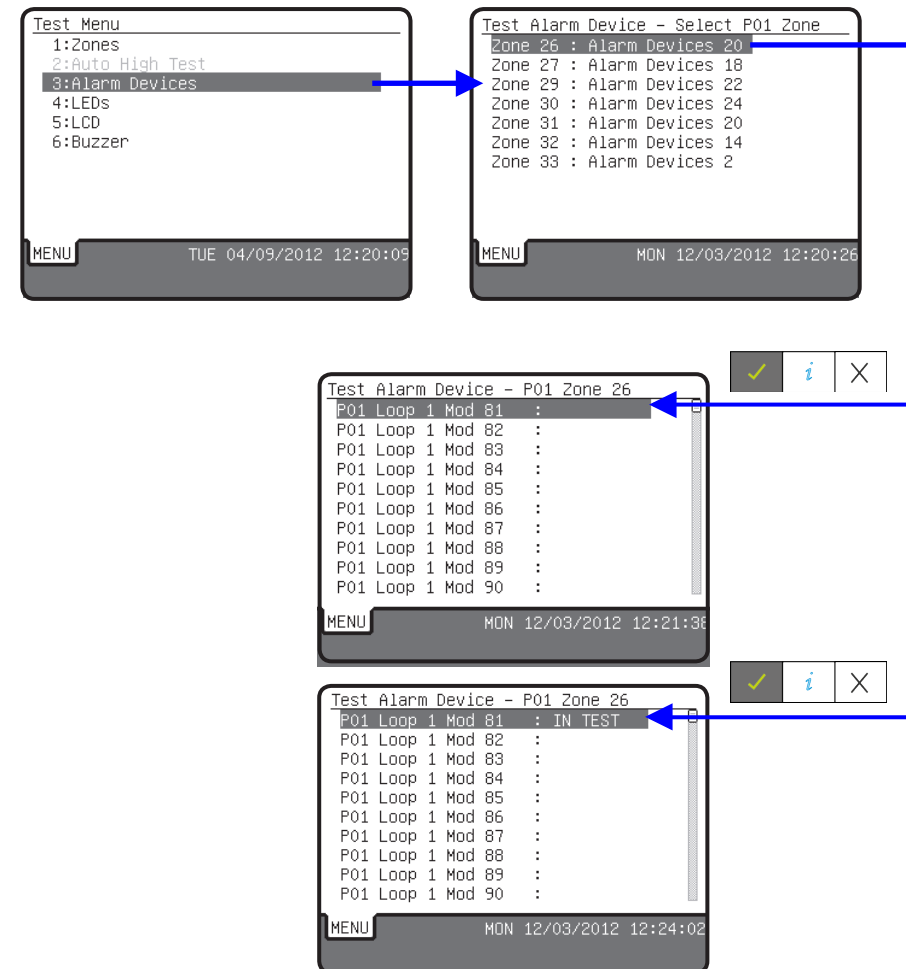
This is a maintenance facility only and is only available using an access Level 3 passcode.

5.2.3 Alarm Devices

Alarm devices, such as sounders or control modules (set as type SNDR, STRB but not as type CTRL), may be tested. Multiple devices may be tested at the same time.

- 1 To test a device, or a selection of devices, first select the zone which contains the device(s). If the panel is part of a network you will be prompted for a node ID (number), even if the devices that require testing are connected to the current panel.
- 2 Press the $\swarrow/\nearrow$ navigation buttons to highlight the first device in the list and then press the $\checkmark$ key to select for testing. For each device selected for testing the IN TEST message is displayed in the right-hand column. In the example provided at right module 81 on zone 26 is in test mode.
- 3 To stop testing of devices, select each device in test and press the $\checkmark$ key to cancel. The IN TEST message is removed to reflect the status change. Alternatively, if a number of devices are in test mode, press the $\times$ key to cancel ALL alarm device testing.

Note: Unlike zone walk testing the TEST LED is not lit during alarm device testing periods.

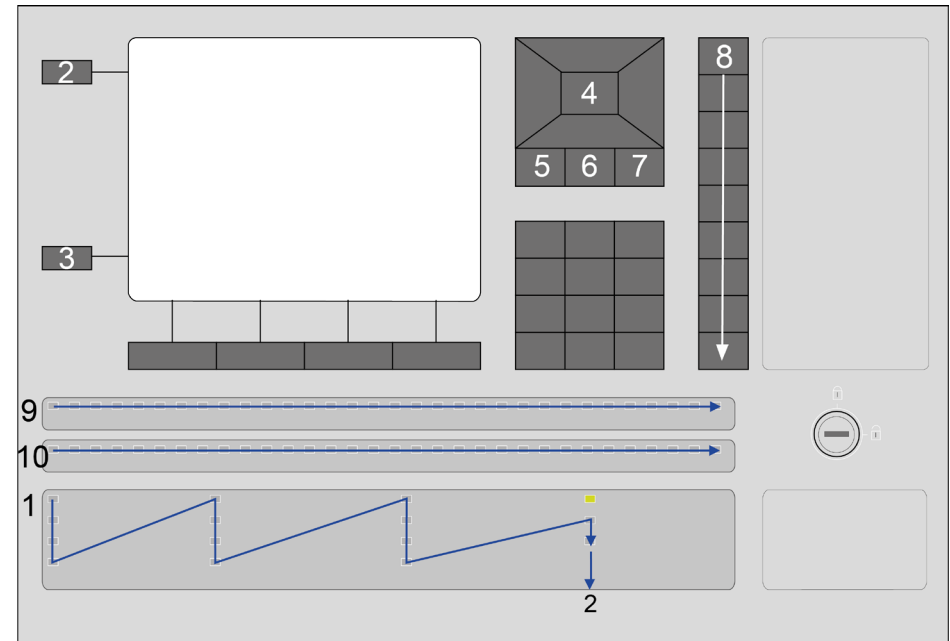


5.2.4 LEDs

To test all of the panel's LEDs and function key backlights, select option **4: LEDs** from the Test Menu.

The panel's LEDs are then lit (4 rapid flashes) individually in the following pre-defined sequence:

- 1 The System Status LEDs. Each LED is lit in turn, starting with the Fire LED and working down first and then across to the last LEDs on the right. The POWER LED is not tested as this will already be lit (continuously) under normal conditions.
 - 2 The SHOW MORE ZONES IN FIRE key.
 - 3 The CHANGE TAB key
 - 4-7 The ✱, ✓, ⓘ and ✕ keys
 - 8 The Function Keys: MUTE BUZZER, EXTEND DELAYS, END DELAY, SILENCE ALARMS, SOUND ALARMS, RESET, DISABLE FIRE OUTPUT, DISABLE FIRE PROTECTION, DISABLE ALARMS
 - 9 Zone Fire LEDs 1 to 32*
 - 10 Zone Fire LEDs 33 to 64*.
- * With markets that do not require zone indications these LEDs are fitted and, consequently, are still included in this test.

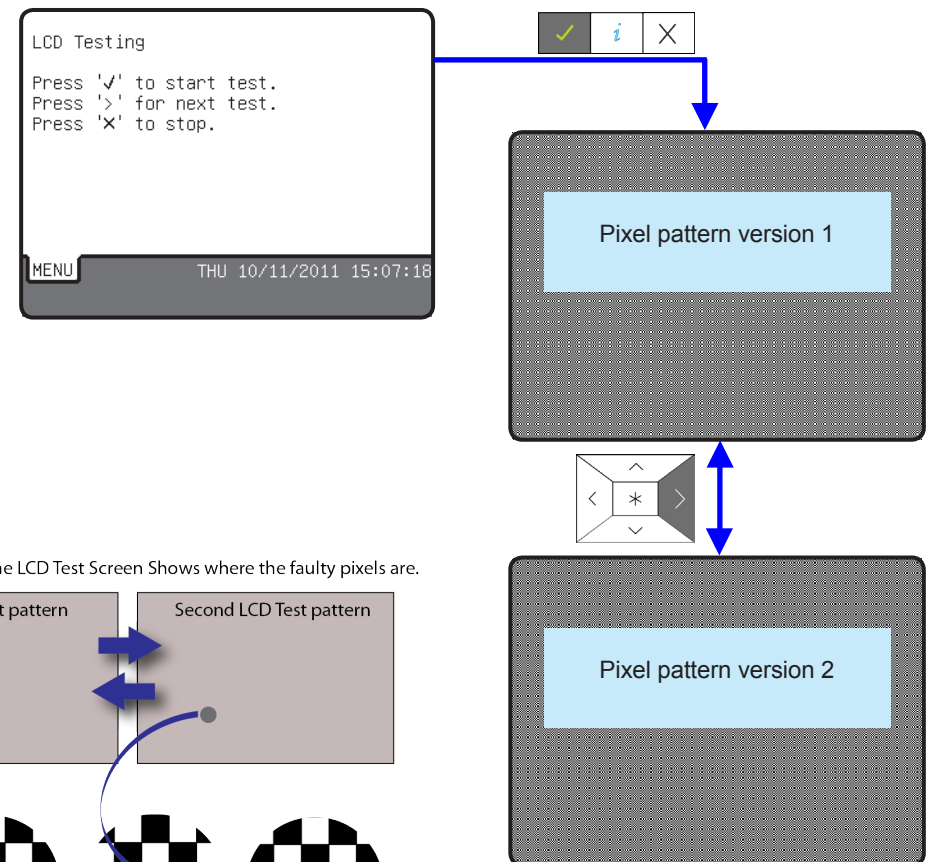


5.2.5 LCD

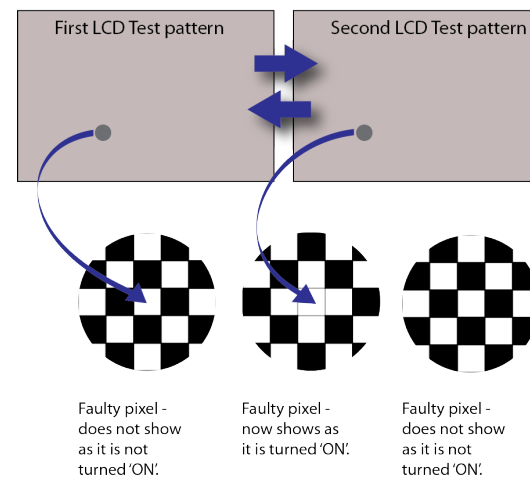
Selection of option **5: LCD** displays a test start screen as shown opposite. Pressing the  key displays a grey screen - the grey screen is made up from every other pixel turned on, the pixels between are turned off. Pressing the  navigation button inverts the on or off state of the pixels. This means that pixels previously not turned on are now turned on and the pixels that were turned on are now turned off. This pixel state inversion happens every time the  navigation button is pressed.

While carrying out this test look at the patterns displayed on the LCD; this test should identify easily any non-functioning pixels (see the example of the expanded pixel patterns shown below).

Press the  key at any time to exit the LCD test.



How Changing the LCD Test Screen Shows where the faulty pixels are.

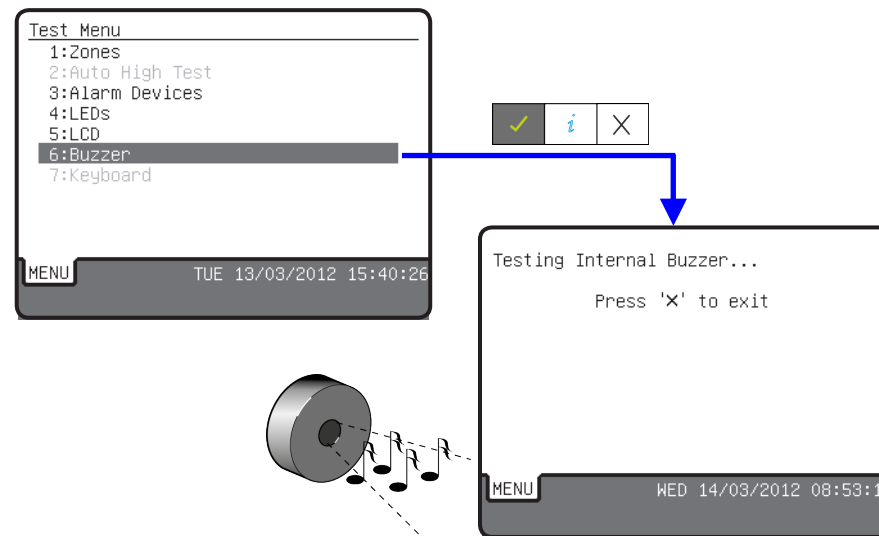


5.2.6 Internal Buzzer

Select option **6: Buzzer** from the Test Menu to test the panel's internal buzzer. Press the '6' key on the alphanumeric keypad or, if highlighted, press the  key.

When selected the buzzer is activated with a rapid-pulsing output pattern.

Press the  key at any time to cancel the buzzer test.



5.3 Setting Time/Date

To set or change the time and/or date, from the Main Menu select option **3: Set Clock**. Press the '3' key on the alphanumeric keypad to select the Set Clock function. Alternatively, use the  navigation buttons to move the highlight to the desired option in the list and press the  or  key. The  function is cyclic, so if you overshoot the desired option, just try again using the same key.

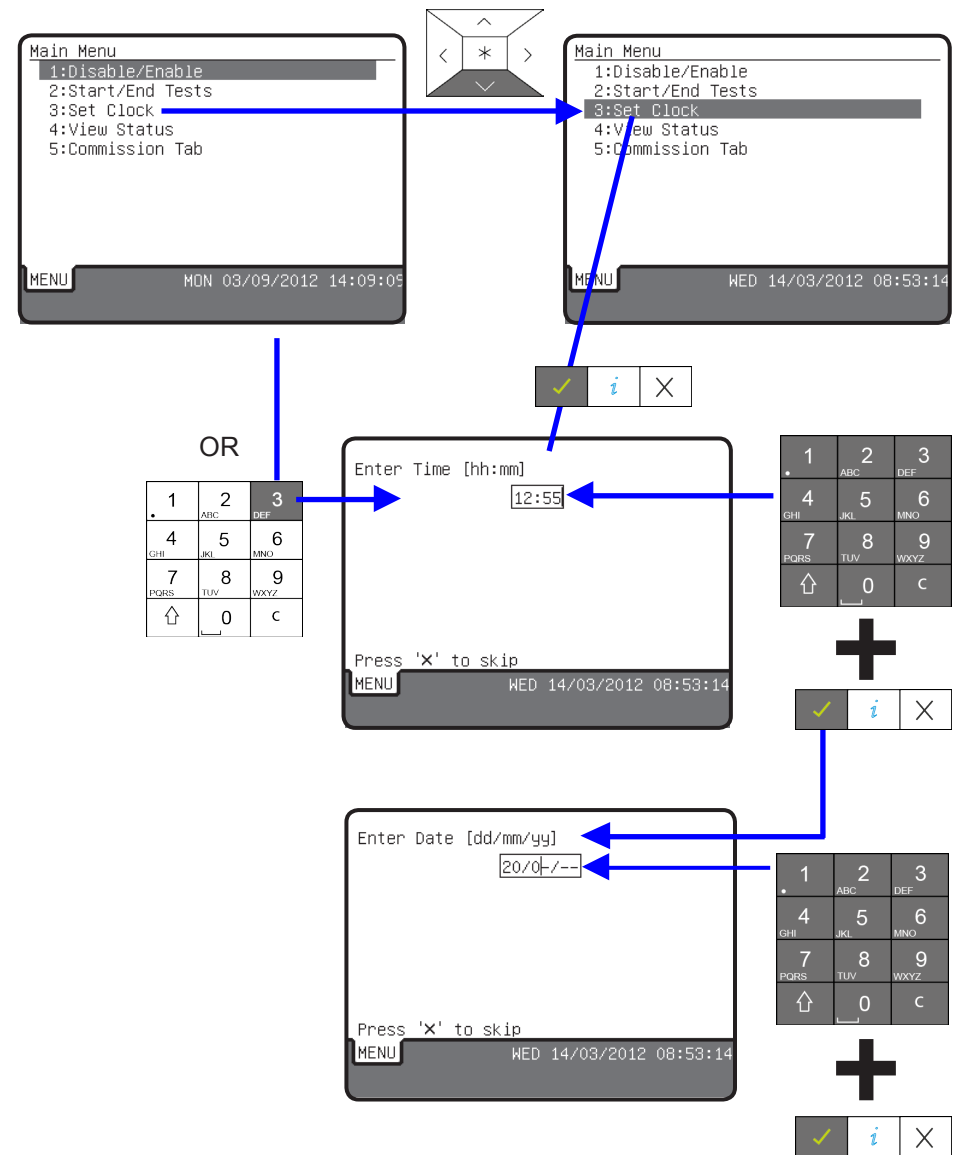
5.3.1 Time

When the Set Clock option is selected the 'Enter Time' screen is presented first. Use the numeric keys to enter the correct time; to enter the hours and minutes use the 24-hour clock format. As a number is entered the cursor moves one place to the right automatically. However, if an incorrect number was entered, use the 'C' key to clear the entry and enter it again. When the time has been entered correctly, press the  key to confirm the time entry and save the changes.

5.3.2 Date

The display of the 'Enter Date' screen follows the 'Enter Time' screen using the  key exit option from the Time edit screen, whether the time was changed or not. Use the numeric keys to enter the correct date. When entering numbers less than '10', first enter a '0' followed by the number.

As a number is entered the cursor moves one place to the right automatically. However, if an incorrect number was entered, use the 'C' key to clear the entry and enter it again. When the date has been entered correctly, press the  key to confirm the date entry and save the changes. The Main Menu is re-displayed.



5.4 View Status Menu

Various system-related data and event information can be displayed using these options.

5.4.1 Historic Log

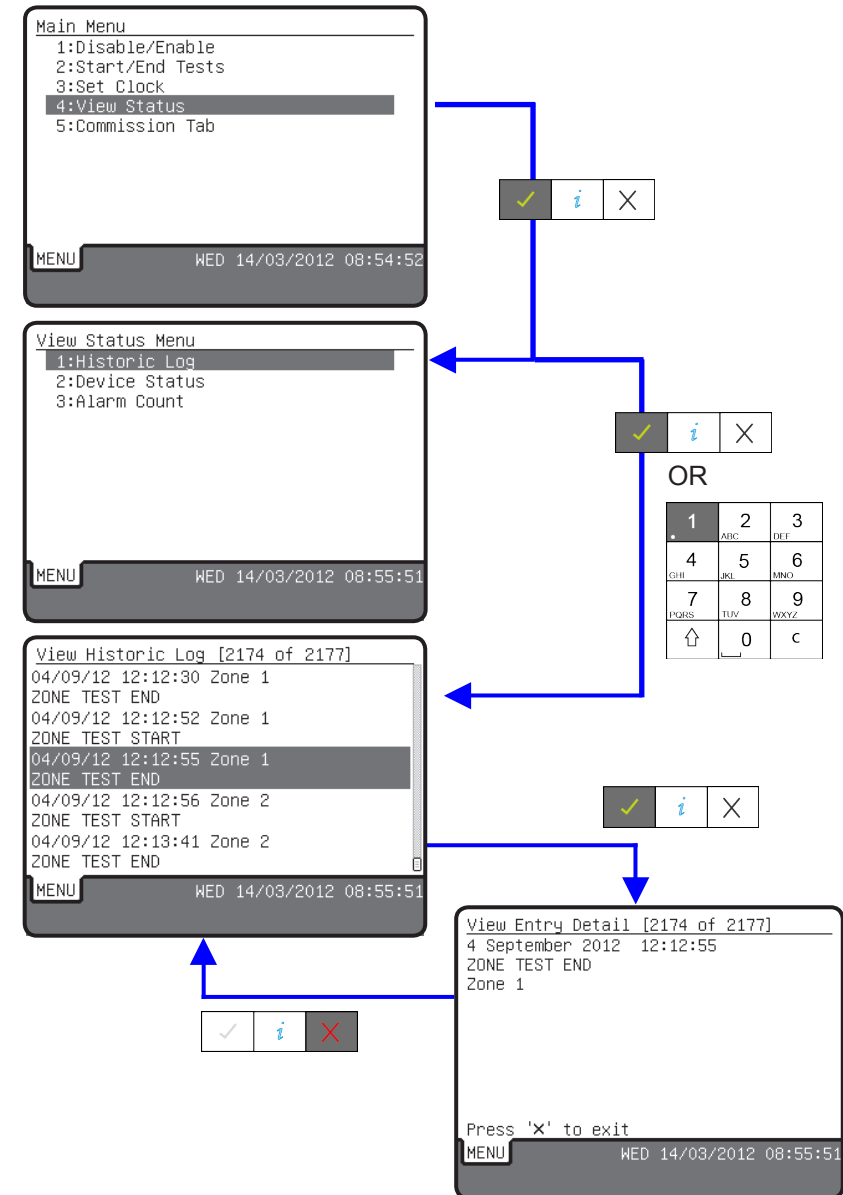
Each status change event registered by the panel, including those resulting from control key actions, such as mute buzzer, reset, etc. and fire and fault conditions are stored in a single historic event log. All such events are stored in memory (a minimum of 50,000 can be logged) and each event is time and date stamped.

With the View Status Menu screen displayed press the ✓ key to select option **1: Historic Log**. If it is not highlighted press the '1' key on the numeric keypad to select. All events logged by the panel since it was installed will be listed, the last event logged is highlighted.

Use the   navigation buttons to scroll through the list. The top line of the display indicates how many events have been logged and which event is currently selected.

With an event selected, pressing the ✓ key displays further details about that specific historic event log.

Press the ✗ key to exit and return to the historic log listing.



5.4.2 Device Status

This option allows the type and status of any loop device to be viewed. Other information related to the device is also displayed but the type of data displayed depends upon the device protocol, as follows:

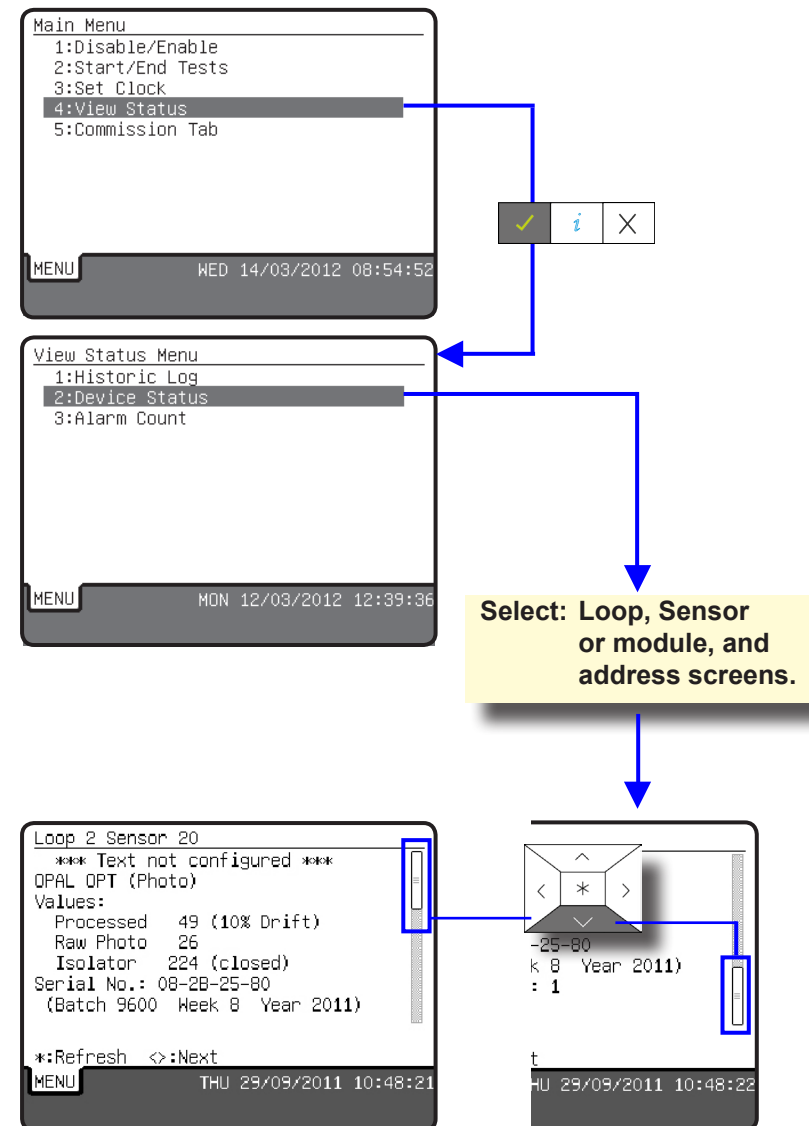
- CLIP loop protocol: the device type and its current state (analogue PW values) are displayed. The PW values displayed reflect those at the time the device was interrogated and collected.
- OPAL loop protocol: the device type and serial number information is displayed together with its analogue status, internal isolator state and firmware revision level. Note that other information is also displayed but this is only meaningful to the device manufacturer.

Using the numeric keypad, press '2' to select option **2: Device Status**. Alternatively, use the $\surd$ key to highlight the Device Status option and press the $\checkmark$ key.

The user is then prompted, through a number of steps, to specify the loop number, device type - sensor or module - and the loop address of the device. If a device has been configured at the address entered it is momentarily interrogated for data about its state and then displayed; again the content is determined by the protocol of the device and the device type.

Because the displayed device data is a 'snapshot in time' it is, however, possible to refresh these displayed values by pressing the $\ast$ key. Each time the $\ast$ key is pressed the device again is interrogated and the 'updated' data is displayed (the only data to change will be the interrogated analogue values from the device). However, it is quite normal for these values to fluctuate slightly each time the device is interrogated.

The example shown here for an OPAL Photo sensor, located at address 20 on loop 2, shows processed and raw analogue values, including a drift value of 10%, the serial number and the manufacturer's batch data. Press the $\surd$ key for more details of the device.



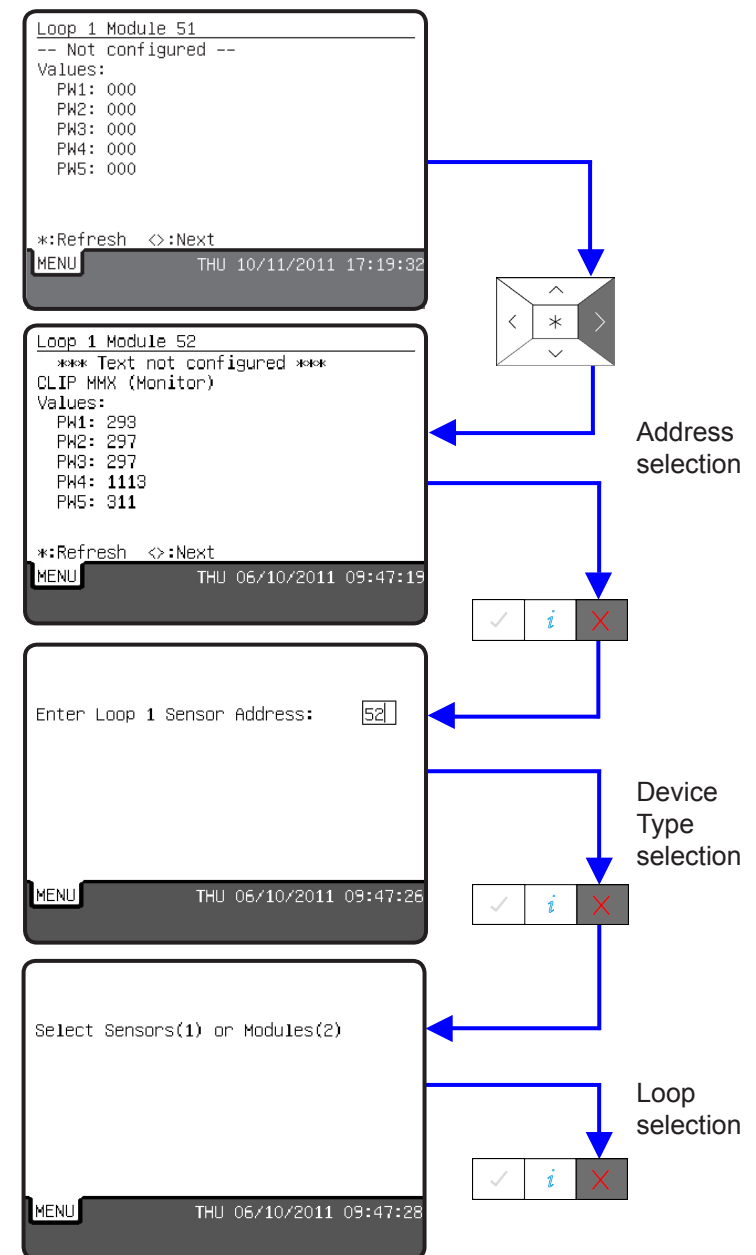
Note: Following the configuration of Opal devices as CLIP the device status screen shows the CLIP values as well as the Opal-related values for those devices. The CLIP values are displayed on the LCD; page down to view the Opal values.

If a configured device is not found at the address entered, the LCD displays a screen typically as shown with no PW values (all shown as '000').

However, if the device address entered was incorrect, but is numerically close, use the $\langle \rangle$ navigation buttons to move to and display the status of the intended device. In the examples provided at right, address '51' was entered instead of '52', so the $\rangle$ navigation button was used to find and select the correct address.

Should the data of another device need to be displayed when, for example, it is located on a different loop or it is of a different type, such as a module or sensor, then:

- Use the $\times$ key to return to the address and device type selection screens to re-enter the required address information.
- If the device is located on another loop then press the $\times$ key once more to display the 'Select Loop' entry screen.



5.4.3 Alarm Count

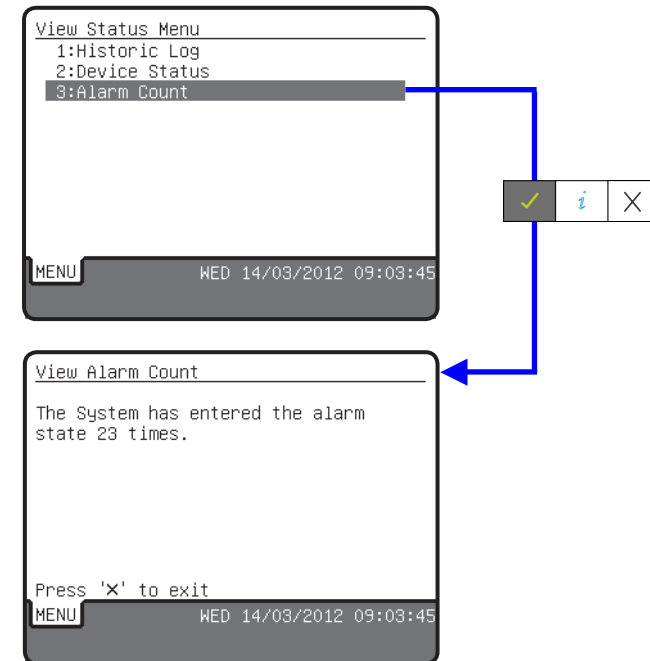
Each time the panel enters the alarm state since the system was installed these events are logged, i.e. stored in memory for later retrieval by the service engineer.

This menu option allows the alarm event total to be displayed on the LCD.

Using the numeric keypad, press '3' to select option **3: Alarm Count**. Alternatively, use the  key to highlight the Alarm Count option and press the  key to select.

The number of times the alarm state has been entered is displayed.

Press the  key to exit the alarm count screen and return to the View Status Menu screen.



5.5 Commissioning Menus

Access to the commissioning menus requires the entry of an access Level 3 passcode. These functions are not described in this document.

