

**Elite 1 - N**

**Elite 1 - A**

**Analogue Addressable  
Fire Control Panel**

**For**

**Nittan Protocol**

V2.0 and above

**or**

**Apollo XP95 Protocol**

V3.0 and above

***Operating Manual***

**MASTER  
MANUAL**

MELITE-02 Issue 3.0 June 2000

# Contents

---

Introduction .....	4
About this manual .....	4
The Surveyor Elite 1 Control Panel .....	5
General description .....	5
Normal Operation .....	5
Fire Alarm Event .....	5
Fault Event .....	5
Control Event .....	5
Glossary .....	6
Address .....	6
Addressable system .....	6
Analogue/addressable system .....	6
Automatic system .....	6
Device .....	6
Detector .....	6
Disabled .....	7
Field device .....	7
Fire procedure .....	7
Input/output (I/O) device .....	7
Loop .....	7
Manual call point (MCP) .....	7
Sensor .....	7
Short circuit isolator (SCI) .....	7
Sounder .....	8
System type .....	8
Zone .....	8
System Information .....	9
Fire Procedures .....	10
Log Book .....	11
Event data .....	12
Event Data .....	13
Event Data .....	14
Event Data .....	15
Routine Testing .....	16
Daily attention by the user .....	16
Weekly attention by the user .....	16
Monthly attention by the user .....	17
Quarterly inspection and test .....	17
Annual inspection and test .....	18
Panel Controls (see figure 1 page 18) .....	19
Panel Indicators (see figure 1 page 18) .....	20
Control Panel Fascia .....	21

LCD Display .....	22
Single Loop Addressable Panel .....	22
Access Levels .....	23
Operation - Fire Alarm .....	24
Normal .....	24
Fire Alarm .....	24
Silencing the alarm .....	25
Resounding the alarm .....	25
Resetting the system .....	25
Panel buzzer .....	26
Operation - General .....	26
Evacuate .....	26
Operation - Fault .....	27
Monitoring .....	27
Fault condition .....	27
Fault Location .....	28
Action by the user after a fire .....	29
Action by the user after a false alarm .....	30
Action by the user following a fault .....	30
Avoiding false alarms .....	31
Manual call points .....	31
Detectors .....	31
Panel functions .....	32
General .....	32
Function buttons .....	32
Level 2 Options menu .....	32
Menu Option procedures .....	33
Enable/disable remote outputs .....	34
Manual .....	34
Auto enablement .....	35
Enable/disable zones .....	36
Manual .....	36
Auto enablement .....	37
Enable/disable address .....	38
Individual device isolation .....	38
Disable sounders .....	39
Set time and date .....	40
View active disablements .....	41
View Active Faults .....	42
Zone Test .....	43
Change Access Level .....	44

# Introduction

---

The Surveyor Elite 1 is a single loop, analogue/addressable fire alarm control panel complete with integral power supply and standby battery. The control panel can monitor up to 167 Nittan or 126 Apollo field devices comprising smoke and heat detectors, manual call points and input/output units. The control panel has two sounder circuits and voltfree contacts which can be used for remote signalling and controlling ancillary services. The control panel is manufactured in accordance with BS 5839 : Part 4 : 1988 and EN54-2, and it complies with European Directives (CE marked).

The control panel is designed to operate with the Nittan-AS or Apollo XP95 range of detectors and other field devices

## About this manual

---

This manual provides instructions for operating the Surveyor Elite 1 Fire Alarm Control Panel and details the user's responsibilities for testing and maintaining the system of which it is a part. The information is based on the requirements of BS 5839 : Part 1 : 1988, full copies of which may be obtained from BSI Customer Services, BSI Standards, 389 Chiswick High Road, London, W4 4AL.

The manual incorporates a Log Book section for recording fire alarms, faults, maintenance visits, etc. which should be maintained by the responsible person. It also provides guidance on what to do in the event of a fire and after a fire, and gives advice on avoiding false alarms.

The control panel includes many features to facilitate system testing, isolating parts of the system, changing the time and date, etc. The manual describes how to access and operate these functions and explains how they can be implemented. However; access to the panel controls should be restricted to authorised personnel and if there is any doubt concerning any function the service company should be consulted.

This manual does not provide any information on changing the system configuration and no attempt should be made to add, remove or change field devices without first consulting the service company.

The manual refers to various field devices but does not describe them in detail. For full information on each device the manufacturer's literature should be consulted.

It is recommended that the responsible person, and any other person likely to operate the control panel in an emergency, reads and fully understands the basic operating instructions so that fire and fault events can be managed effectively.

# The Surveyor Elite 1 Control Panel

---

## ***General description***

The control panel comprises a sheet-steel wall mounted enclosure with a lockable hinged door. All the user controls and indicators are mounted on the fascia of the unit - there are no user controls within the panel.

## ***Normal Operation***

In the normal operating mode only the green Supply Healthy LED (light emitting diode) should be illuminated. The LCD (liquid crystal display) should be showing the current time and date.

Refer to pages 16-18 for a full description of the controls and indicators.

## ***Fire Alarm Event***

A fire alarm event is caused by the activation of a field device. It may be generated automatically by a smoke or heat detector sensing smoke or heat, or manually by the operation of a call point. In either case it will cause an audible alarm to be given (usually throughout the building) and the event details to be displayed and indicated on the control panel.

**NOTE.** Each system is individually configured for the required operation. Space is provided in the manual to record the method of operation of this system, which should be completed by the installer.

The prescribed emergency fire alarm drill should commence immediately the alarm is heard (see Procedures)

## ***Fault Event***

A fault event is generated when the control panel detects an internal malfunction or a fault on an external circuit or device. A fault is indicated by the relevant LED/s and the buzzer sounding. A fault description is shown on the LCD.

## ***Control Event***

A control event is caused by the operation of one or more of the fascia pushbuttons. All controls are inoperable until the 'Controls' keyswitch is set to the 'on' position, to prevent unauthorised operation. Control pushbuttons are provided to silence and reset the system following a fire or fault event, initiate an evacuation alarm, and to access the panel functions.

# Glossary

---

## ***Address***

An address is the unique identification applied to each field device in an addressable system

## ***Addressable system***

An addressable system is one where each field device has an address which can be identified and displayed in an abnormal condition or for normal monitoring purposes. The address is normally accompanied by a user-defined text message describing the device location, e.g. 'First floor corridor'. Addressable devices are usually wired in a loop configuration.

## ***Analogue/addressable system***

In addition to device addressability, the detectors employed are analogue devices transmitting data to the control panel which is then analysed and processed so that the appropriate condition can be displayed. Analogue systems can provide greater immunity to false alarms and give advance information about impending fire conditions.

## ***Automatic system***

An automatic system is one which includes detectors of some description, as opposed to one fitted with manual call points only.

## ***Device***

A component of an addressable system connected to the loop circuit. It can be an input device such as a detector or call point, or an output device such as a relay or sounder controller. Devices in an addressable system are uniquely numbered and there is a finite number which can be connected to a single loop.

## ***Detector***

A device which detects either flame, smoke or heat. Analogue detectors are often referred to as sensors because of their ability to transmit variable data to the control panel.

## ***Disabled***

The condition of the system when part or parts of it have been isolated for any reason. It is possible to disable individual addresses, complete zones and/or remote outputs. The normal condition is 'enabled'.

## ***Field device***

See Device

## ***Fire procedure***

A written procedure describing the actions to be taken in the event of a fire alarm. Procedures should also include the actions required after a fire and in a fault condition. All staff should be conversant with the fire procedures.

## ***Input/output (I/O) device***

A device which either monitors a remote function or provides a signal to control a remote function, or both. Used with analogue/addressable systems to interface with other services. Each I/O unit has an address.

## ***Loop***

The method of wiring an addressable or analogue/addressable system whereby the circuit connecting the devices is wired from the panel and is returned to the panel to form a loop. With this method a break in the loop circuit, although indicated as a fault, does not disable the operation of any devices.

## ***Manual call point (MCP)***

Also known as a break glass unit, initiates a fire alarm condition when activated. MCPs comprise a standard call point assembly fitted with an input module on analogue/addressable systems, and have a unique address.

## ***Sensor***

See Detector

## ***Short circuit isolator (SCI)***

A device connected to the loop circuit which limits the loss of devices in a short circuit condition. They are generally fitted between each zone to restrict the loss of detection to one zone in accordance with BS 5839 Part 1.

SCIs do not have an address and do not limit the number of devices on a loop, although there may be a limit on the number of SCIs.

### ***Sounder***

A device which provides an audible warning of a fire alarm condition. Sounders may be bells but are often electronic devices with a range of sound options and volume control. In most systems the sounders must achieve a minimum level of audibility throughout the protected premises.

### ***System type***

Systems complying with BS 5839 Part 1 are classified depending on the application. There are two main categories, i.e. Life Protection (L type) and Property Protection (P type). Each category is sub-divided depending on the level of protection required for the particular risk.

### ***Zone***

A zone is the sub-division of a building separated by fire resisting walls to form a compartment. When applied to a fire alarm control panel it refers to the number of fire indicators available to identify the location of a fire within a building. Each fire compartment generally comprises one or more zones. Each floor of a multi-storey building is a separate zone, and each vertical structure (staircase, liftshaft, etc.) is a separate zone. Smaller zones may be required in areas of high risk. In an analogue/addressable system the zonal indicator denotes the general area of the fire whilst the LCD indicates the actual activated device.



# System Information

---

Date installed .....

Installed by .....

Maintained by .....

---

Number of zones used .....

Number of manual call points .....

Number of ionisation detectors .....

Number of optical detectors .....

Number of heat detectors .....

Number of short circuit isolators .....

Number of input/output devices .....

Number of sounders .....

Alarm operation, e.g. general, 2 stage, etc. ....

Number of repeaters .....

Auxiliary functions (specify) .....

.....

.....

## Remote link - Central station details

Name .....

Contact .....

Tel. ....

Code/Id .....

# Fire Procedures

---

In accordance with BS 5839 Part 1: 1988, written procedures should be produced for dealing with alarms of fire, fault warnings, and the isolation of any part of the system.

The responsible person should ensure that users of the system are instructed in its proper use and are familiar with the procedures.

## On hearing the fire alarm:

### CARRY OUT THE PRESCRIBED PROCEDURE

Subsequent action will depend on the circumstances and may include silencing the audible alarms and resetting the system as described later.

## To evacuate the premises:

Insert the control panel key into the CONTROLS key switch and turn clockwise to the ON position.

Press the EVACUATE pushbutton.

To cancel the **Evacuate** signal, refer to the **Silencing** section under **Operation**

## Fault Indication:

If the control panel indicates a **System Fault** condition, make a note of all illuminated indicators, refer to the chart on page 25 and contact the service company.

Normal hours:

Telephone no. ....

Contact .....

Out of hours:

Telephone no. ....

Contact .....

# Log Book

---

It is recommended that this log book is maintained by a responsible executive who should ensure that every event is properly recorded. An event includes fire alarms (whether real or false), faults, tests, dates of temporary disconnection or isolation, and the dates of service and maintenance visits with a brief note of work carried out or outstanding.

## Site name

.....

## Address

.....

.....

.....

## Responsible person

..... Date .....

..... Date .....

..... Date .....

## Service contact

..... Tel.....

..... Tel.....

## Event data

---

# Event Data

---

# Event Data

---

## Event Data

---

# Routine Testing

---

In order to ensure that the system is fully operational, and to comply with the requirements of BS 5839 Part 1: 1988, the following routine attention is recommended:

## ***Daily attention by the user***

A check should be made every day to ascertain the following :-

- a) that either the panel indicates normal operation, or if not, that any fault indicated is recorded in the log book and that fault tracing actions have been taken.
- b) that any fault warning recorded the previous day has received attention.

If any connection to the public fire brigade or other remotely manned centre is not continuously monitored then it should be tested daily in accordance with the supplier's instructions.

**NOTE:** On one day each week the daily test will be incorporated in the weekly test.

## ***Weekly attention by the user***

The following tests should be made every week to ensure that the system is capable of operating under alarm conditions.

- a) At least one detector or call point on one zone should be operated to test the ability of the control and indicating equipment to receive a signal and to sound the alarm and operate any other warning devices. Each circuit should be tested in turn; if there are more than 13 zones then more than one zone may need to be tested in any week so that the interval between tests on one circuit does not exceed 13 weeks. It is preferable that each time a particular circuit is tested a different trigger device is used. An entry should be made in the log book quoting the particular trigger device that has been used to initiate the test.

If operation of the alarm sounders has been prevented by disconnection then a further test should be carried out to prove the final reinstatement of the sounders, and, if permissible, of the alarm transmission circuits.

- b) If the batteries are open or accessible, a visual examination of the



battery and its connections should be made to ensure that they are in good condition. Action should be taken to remedy any defect, including low electrolyte level.

- c) The fuel, oil, and coolant levels of any standby generator should be checked and topped up as necessary.
- d) Any printer should be checked to ensure that its reserves of paper, ink or ribbon are adequate for at least 2 weeks normal usage.

Any defect should be recorded in the log book and reported to the responsible person, and action should be taken to correct it.

### ***Monthly attention by the user***

If an automatically started emergency generator is used as part of the standby supply, then it should be started up once each month by a simulation of a failure of the normal power supply, and allowed to energise the fire alarm supply for a continuous period of at least 1 hour. The fire alarm system should be monitored to identify any malfunctioning caused by the use of the generator. At the end of the test period the normal supply should be restored and the charging arrangements for the starting battery checked for proper functioning. The fuel tanks should be left filled and the oil and coolant levels topped up as necessary.

**NOTE:** Frequent starting of the generator followed by a few minutes on-load is not recommended. It is important that when the engine is running, the generator is loaded to at least 50% of the engine's capacity to prevent sooting up with resultant loss of performance.

### ***Quarterly inspection and test***

The responsible person should ensure that every 3 months the following check is carried out by a competent person.

- a) Entries in the log book should be checked and any necessary action taken.
- b) Batteries and their connections should be examined and tested as specified by the supplier to ensure that they are in good serviceable condition and not likely to fail before the next quarterly inspection.
- c) Where applicable, secondary batteries should be examined to ensure that the specific gravity of electrolyte in each cell is correct. Any necessary remedial action should be taken.

- d) Primary batteries, including reserves, should be tested to verify that they are satisfactory for a further period of use by taking measurements that are indicative of the conditions of each cell e.g. its voltage on a known and very high rate of discharge. The test conditions and the significance of the readings will depend on the type of cell and the use to which it is being put. These should be clearly specified by the supplier or commissioning company and applied with care. Primary batteries should in any case be replaced within the period of shelf life stipulated by the battery manufacturer. The alarm functions of the control and indicating equipment should be checked by the operation of a detector or call point in each zone. The operation of the alarm sounders and any link to a remote operated centre should be tested where practical. All fault indicators and their circuits should be checked, preferably by simulation of fault conditions. The control and indicating equipment should be visually inspected for signs of moisture ingress and other deterioration.

### ***Annual inspection and test***

The responsible person should ensure that, in addition to the quarterly checks, each device on the system is tested and that a visual inspection is made of the cable fittings and equipment.

**NOTE:** The control panel case may be cleaned periodically by wiping with a soft, damp cloth. **Do not** use any solvents.

## Panel Controls (see figure 1 page 18)

---

The following control switches are provided on the panel fascia to enable alarm and fault conditions to be processed, and to access the panel functions:

### CONTROLS OFF/ON

This key switch is normally in the OFF position with the key withdrawn and stored where it can be accessed by authorised personnel in the event of an alarm or fault.

For the pushbutton controls to be operable, the key switch must be operated to the ON position.

**NOTE:** It is not possible to withdraw the key in the ON position.

### SILENCE

The **Silence** button has two functions:

- a) In an alarm condition, pressing the **Silence** button silences the sounders on the system.
- b) In a fault condition, pressing the **Silence** button changes the pulsing buzzer to an intermittent tone.

### RESET

The **Reset** button is pressed to restore the system to normal operation following an alarm condition. The Reset button doubles as a lamp test function button and illuminates all the LEDs when pressed. A lamp test can be carried out at any time.

It is also used in the engineering mode to select menu options and enter instructions.

### EVACUATE

Pressing the **Evacuate** button causes the sounders to operate irrespective of whether there is a fire condition existing.

### SCROLL

The **Scroll** button is used to view events when more than one exists on the system.

It is also used in the engineering mode to change data.

### OPTION

The **Option** button is used to invoke the main function menu and to select menu options.

## Panel Indicators (see figure 1 page 18)

---

All the panel indicators are LED type and are coloured according to their function. Fire alarm indicators are red, the 'Healthy' indicator is green, and all other fault/abnormal indicators are yellow. Fire and fault indicators initially flash on alarm and go steady when the Silence button is pressed.

<b>SUPPLY HEALTHY</b>	Normally illuminated to indicate the system is operating correctly. It is extinguished if the mains supply fails and the system is operating on batteries.
<b>SILENCED</b>	Illuminates in conjunction with the <b>Silence</b> pushbutton to indicate the system status.
<b>CPU FAULT</b>	Indicates a critical panel fault which requires immediate attention.
<b>MORE</b>	Indicates there are more events to be viewed by operating the <b>Scroll</b> button.
<b>ARW</b>	Automatic Reset Warning - must be reset to clear.
<b>TEST MODE</b>	Indicates the system is in engineer's test mode.
<b>REMOTE SIGNAL ISOLATED</b>	Indicates that the remote fire output has been isolated for maintenance or testing.
<b>SOUNDER FAULT</b>	Indicates a fault on a sounder circuit.
<b>SYSTEM FAULT</b>	Indicates a fault on the system and may be accompanied by other fault indicators, depending on the condition.
<b>BUZZER SILENCED</b>	Indicates the buzzer has been silenced in a fault condition .
<b>DISABLED</b>	Indicates that part of the system is disabled (isolated).
<b>REMOTE SIGNAL</b>	Indicates that remote output relay contacts have operated.
<b>PRE-ALARM</b>	Indicates a detector has reported a higher than normal analogue value which could signal an impending fire condition.
<b>COMMON FIRE</b>	Twin LEDs that illuminate in any fire condition and when the <b>Evacuate</b> button is activated.
<b>ZONE FIRE</b>	Sixteen indicators (Zones 1-16) to indicate which area (group of devices) has activated in a fire condition.

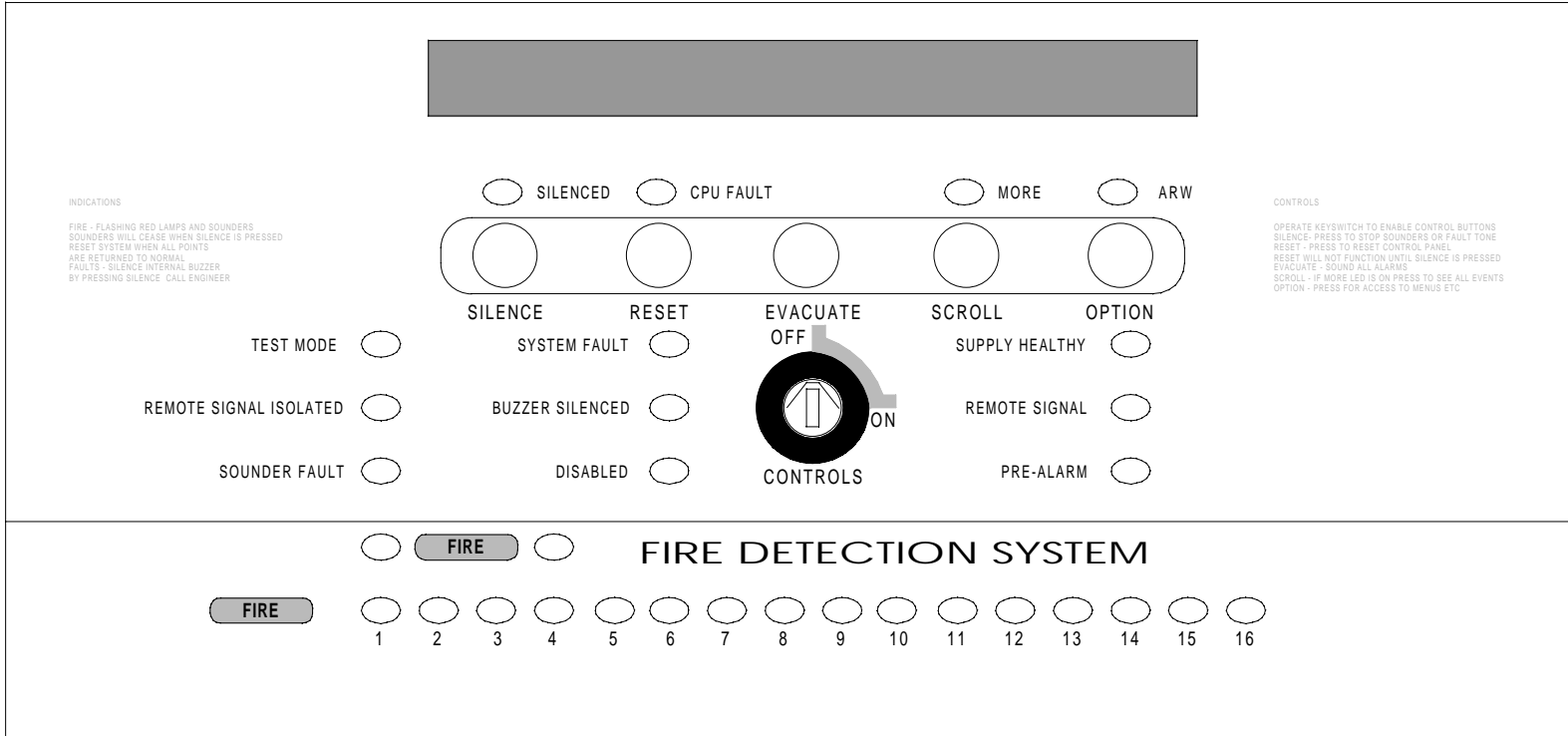


Figure 1 - Control Panel Fascia Layout

# LCD Display

---

The LCD displays event information, status information, and the menu options. It has two lines of text, each with 40 characters, and is backlit when there is an active event on the system.

In the normal operating mode the backlight is off and the top line displays a default text message or user-defined text. The second line displays the current time and date, e.g.

```
Single Loop Addressable Panel
09:36 15/01/97
```

When an event occurs, the backlight is activated and the LCD shows the event details, e.g.

```
Fire           Z003   A002   MAN   1   (Fires)
Ground floor corridor by photocopier
```

The display shows the event type, i.e. Fire, the zone that the activated device is in, i.e. zone 3, the address number of the activated device, i.e. 002, the device type, i.e. manual call point, and the number of events, i.e. 1.

The bottom line displays a text message describing the device location.

In the engineering mode, menu options are displayed as follows:

```
Options Menu
5 - Set Time & Date
```

The control buttons are used to navigate through the menu options and select functions as described later.

# Access Levels

---

To prevent unauthorised operation of the panel controls and functions, access is restricted in accordance with the requirements of BS 5839 : Part 4: 1988 and EN54-2.

The following access levels apply:

Level 1	No restrictions	There are no functions available at this level
Level 2	CONTROL keyswitch ON	The control switches are operable and limited menu functions are available
Level 3	Access code	An access code must be entered to gain access to the configuration and advanced options
Level 4	Configuration software	Download facilities are available for off-site programming.

**NOTE:** Amending the system configuration can have serious effects on the operation of the system and should only be undertaken by a competent person who has information concerning the devices installed and the specified operational requirements.

The system should be fully tested after any alterations to the configuration program.

# Operation - Fire Alarm

---

## **Normal**

During normal operation the only active indication on the control panel is the green Supply Healthy LED. The LCD shows the system normal message and the time and date, and the backlight is off.

The control keyswitch should be in the OFF position and the key should be removed and stored in a secure place, readily available when required.

## **Fire Alarm**

If a manual call point is activated, or an automatic detector senses smoke or heat, a fire alarm signal is generated and the following occurs:

- 1 The alarm sounders operate in accordance with the programmed configuration. This is normally a general evacuation (continuous) alarm throughout the building, but may be an alert (intermittent) signal, or alarm in certain parts of the building only.
- 2 The two common **FIRE** LEDs flash.
- 3 The relevant zone LED flashes (1-16).
- 4 The LCD illuminates and displays the event information.
- 5 The internal buzzer pulses rapidly.
- 6 The remote contacts operate and signal the fire brigade (if applicable).
- 7 Remote control functions are initiated in accordance with the program, e.g. doors closed, ventilation shutdown, etc.

The actions to be taken in the event of a fire alarm should be fully documented and implemented immediately upon hearing the alarm.

After the event, the following actions are required to restore the system to normal operation.

First note the event details, i.e. the activated zone and the device details if not already determined.



## ***Silencing the alarm***

Before the alarm sounders can be silenced, or any other control function activated, the CONTROLS keyswitch must be set to the ON position by inserting the key and turning it clockwise a quarter of a turn.

With the controls enabled press the SILENCE button once:

- 1        Sounders on the system are silenced.
- 2        The Silenced LED illuminates to indicate the current status.
- 3        The flashing common fire and zone LEDs go steady.
- 4        The buzzer tone changes to an intermittent bleep.
- 5        The LCD continues to show the event information.

**NOTE:** If another device is activated, the sounders are re-energised and the new event information is displayed. Press the Silence button again to accept the event.

If there are multiple events on the system, the information for each event may be viewed by pressing the Scroll button. The MORE LED is illuminated if there are other events. The LCD shows the total number of events.

## ***Resounding the alarm***

If, having silenced the sounders, it is necessary to reactivate them, e.g. because there are still personnel within the building, press EVACUATE .

## ***Resetting the system***

To restore the system to normal operation after a fire alarm it is necessary to reset the control panel by pressing the RESET button.

All the LEDs illuminate for 3 -4 seconds (lamptest function) following which the panel reverts to its normal mode.

**NOTE:** It is **not** possible to reset the system until the alarms have been silenced.

The system will not reset if the cause of the alarm is still present, i.e. broken glass in call point or smoke/heat in the vicinity of a detector.

# Operation - General

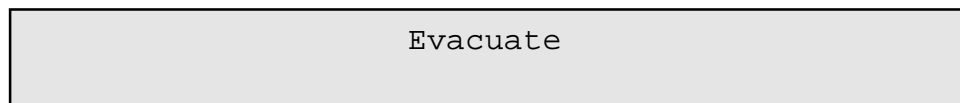
---

## **Evacuate**

The EVACUATE button may be operated at any time to activate the alarm sounders.

The CONTROLS keyswitch must be in the ON position.

Press the EVACUATE button once:



The sounders are energised and the common FIRE LEDs flash.

### **To turn the Evacuate signal off:**

Press the SILENCE button (the Silenced LED illuminates and the flashing fire LEDs go steady).

Press RESET.

## **Panel buzzer**

The internal panel buzzer operates whenever an abnormal event is on the system.

It operates in the following modes:

Fire/Evacuate	Fast pulse
Fault	Slow pulse
Disablement	Double pulse
Silenced	Intermittent bleep

# Operation - Fault

---

## **Monitoring**

The control panel internal circuitry is fully supervised in accordance with the requirements of BS 5839 : Part 4 : 1988 and EN54-2 and indicates a failure as a fault condition. Loop and sounder circuits are monitored for open circuit and short circuit fault conditions. Essential fuses are monitored.

## **Fault condition**

When the control panel detects a fault condition the following occurs:

- 1 The SYSTEM FAULT LED flashes.

**NOTE:** If the fault is on a sounder circuit the SOUNDER FAULT LED flashes also.

- 2 The buzzer pulses (slow pulse)
- 3 The LCD displays the event information, e.g.

No response	Z02	A003	OPT	1 (Faults)
Ground floor reception area				

The fault message is normally self-explanatory, for instance, in the above example the message is 'No response' indicating that the panel cannot communicate with the device (A003), which could indicate that it had been removed.

The fault condition can be 'accepted' by pressing the SILENCE button.

The flashing LED/s go steady and the buzzer tone changes to an intermittent bleep.

The panel automatically returns to normal operation when the fault condition clears; however, certain faults, e.g. CPU Fault, require the panel to be reset.

The details of any fault condition should be recorded and the service company advised (see Fault Chart on page 25).

# Fault Location

---

The following chart describes typical fault messages. The list is not complete and any fault that does not have a logical explanation should be immediately reported.

**WARNING:** High voltages are present within the panel which could cause fatal shock. The front door should only be opened by a competent engineer. There are no user serviceable parts inside the panel.

## If in doubt - call engineer

Display	Indication	Possible Cause	Action
None	None	No power to panel	Call engineer
'Mains fault'	System Fault LED (Supply Healthy LED extinguished)	No mains supply to panel	Check mains supply - if OK call engineer
'Battery fault'	System Fault LED	Battery failed or disconnected Fuse F1 blown	Carry out visual check and call engineer.
'No response'	System Fault LED	Device faulty or missing	Visual check - call engineer
'Type error'	System Fault LED	Wrong device type fitted, i.e. does not comply with program	Visual check - call engineer
'Loop fault'	System Fault LED	Break in loop circuit	Call engineer
'Sounder x shorted/open	System Fault LED Sounder Fault LED	Open or short circuit on sounder wiring F6 or F7 blown	Call engineer
'Earth fault'	System Fault LED	Circuit in contact with earth	Call engineer
'Duplicate address'	System Fault LED	Two devices with the same address	Call engineer
'HI/Lo voltage'	System Fault LED	Fuse F2 blown	Call engineer
'Evacuate'	Common Fire LEDs Sounders operating	Evacuate button pressed	Press Silence then Reset

## Action by the user after a fire

---

The following information is taken from BS 5839 : Part 1 : 1988

The responsible person should ensure that the following work is carried out as soon as possible after any fire, and that normal use of the area is not resumed until the work is complete.

- a) If the system includes detectors containing radioactive material (ionisation type), then special precautions may be required and the servicing company should be consulted.
- b) Each device which may have been affected by the fire should be tested.
- c) Each fire alarm sounder should be tested.
- d) A visual examination should be made of areas which might have been damaged by the fire, including power supplies, control equipment and interconnections.
- e) Any defect found should be recorded in the log book and immediate action taken to rectify the defect.
- f) The servicing company should be advised and instructed to carry out a check of the system.

The responsible person should also ensure that the following work is carried out, although this can take place after normal working has resumed.

- a) A check should be made of the state of the battery and charger.
- b) The servicing company should be instructed to carry out a full inspection and test of the system to verify its operation. This may include cables which are buried and areas that may be hidden.
- c) If the fire was not detected by the system, or the response was unacceptably slow, then the reasons for this should be investigated and a report obtained. Consideration should be given to modifying or upgrading the system if necessary.

On completion of the work a certificate should be obtained.

## Action by the user after a false alarm

---

**Any alarm from the system should be treated as an alarm of fire until it can be proved to be false.** False alarms can lead to a loss of confidence in the system and the responsible person should take steps to minimise the risk of such occurrences.

There are prescribed levels for the rate of false alarms and if this level is exceeded the responsible person must instigate special attention to resolve the problem.

The average number of false alarms from an installation should not exceed one false alarm per year for each 10 detectors, and the number of false alarms from an individual detector should not exceed one false alarm per 2 years.

The following actions should be taken following a false alarm:

- a) Where possible, identify the device which has initiated the alarm.
- b) Do not attempt to reset the system before establishing the cause.
- c) Record the event in the log book and inform the servicing company.

## Action by the user following a fault

---

If a fault is indicated on the system then the responsible person should ensure that the following actions are taken:

- a) Determine the area affected by the fault and decide whether special action (such as fire patrols) are needed in that area.
- b) If possible, determine the reason for the fault, or note the activities in the area immediately prior to the fault occurring.
- c) Record the fault in the log book and advise the servicing company.

# Avoiding false alarms

---

Generally, false alarms are avoided by good system design and a properly designed system should provide troublefree service for many years. However; changes can occur in the layout of a building or the uses to which it is put which can affect the reliability of the system.

An awareness of the type of situation which can cause false alarms to be generated may prevent the effectiveness of the system being jeopardised.

Typical problem areas are as follows:

## ***Manual call points***

MCPs do not normally cause problems unless they are sited where they can be inadvertently damaged, e.g. by fork lift trucks or trolleys, etc. One cause of false alarms from call points is malicious damage, i.e. vandalism which can occur if they are in an area accessible to the public.

## ***Detectors***

Probably the largest single cause of false alarms, smoke detectors can be susceptible to a number of factors in addition to smoke. Careful siting eliminates most of the problems but smoke detectors can be activated by any of the following:

- a) Insects - can affect systems at certain times of the year and are more of a problem in some parts of the country. Detector manufacturers have long been aware of the problem and have introduced more sophisticated measures to eliminate them.
- b) Cooking - a common cause of false alarms is people cooking especially in bedrooms and mess rooms where toasters and similar appliances are often used.
- c) Air currents - draughts from open windows and air flows from ventilation systems or air conditioning units can activate detectors.
- d) Smoking - can activate detectors but is usually easily resolved by eliminating smoking in the immediate area.
- e) Steam/fumes - Steam from kitchens and laundries and fumes from vehicles, industrial processes, etc. can all cause unwanted alarms.
- f) Heat detectors are obviously affected by any form of heat and care should be taken with the siting of heating appliances in the vicinity of detectors.

# Panel functions

---

## **General**

The control panel incorporates facilities to alter the status of the system, e.g. it is possible to isolate parts of the system if there is work in progress, or a particular device is faulty and causing unwanted alarms. The system can be put into test mode to allow an engineer to activate devices without causing a general alarm, and the time and date can be changed, e.g. for British Summer Time.

These functions are accessible to the user at access level 2 but care should be exercised when utilising the functions as it is possible to disable some or all of the system. It is recommended that before attempting to enter the options menu the features are fully understood, and the controls used to navigate the menus and select options are familiar.

## **Function buttons**

**Three** of the control buttons are used as function buttons when the options menu is invoked. All of the panel functions, including configuration, are controlled by these buttons which have the following functions:

**OPTION**      The Option button is used to initially invoke the options menu and thereafter to scroll the menu options and sub-menu options

**SCROLL**      The Scroll button is used to edit data within a menu option, e.g. changing the hour and minute values in the clock setting option.

**RESET**      The Reset button is used to select a menu item from the options menu and, following editing, to enter the new data.

The Reset button also reverts the display to the main menu if it is necessary to escape from the current menu option.

## **Level 2 Options menu**

- 1      Enable/disable Remote Outputs
- 2      Enable/disable Zones
- 3      Enable/disable Addresses
- 4      Disable Sounders
- 5      Set Time and Date
- 6      View Active Disablements
- 7      View Active Faults
- 8      Zone Test
- 9      Change Access Level
- 10     Quit Menu



# Menu Option procedures

---

The following procedures are common to all of the menu options and should be understood before attempting to alter the system status.

To access the Options Menu the CONTROLS key switch must be in the ON position.

Press the OPTION button to display the following:

```
Elite 1 Fire Alarm System
Options Menu
```

Press RESET to access the Options menu.

```
Options Menu
1 - Enable/disable remote outputs
```

Use the OPTION button to scroll through the options. It is only possible to scroll in one direction, therefore if you scroll past the required option you must continue to scroll until it appears again.

When the required option is displayed, press the RESET button.

Depending on the option selected, there may be sub-menu items which are accessed by pressing the OPTION button again. Press RESET to select the option required.

To change the current information the SCROLL button is used. Where there are several items to be edited, the program defaults to the first item which can then be edited with the SCROLL button. Pressing the OPTION button moves to the next item to be edited, and so on.

When you are satisfied with the data, press RESET to confirm the instruction.

The display reverts to the Exit option (10). Press RESET to exit, or turn the CONTROLS key OFF.

The display reverts to normal and the new instructions are implement, i.e. if part of the system has been disabled the DISABLED LED is illuminated and the buzzer emits an intermittent double pulse.

The panel remains in this condition until the function is either manually reset or the auto-reset cancels the function (see Auto enablement).

# Enable/disable remote outputs

---

## *Manual*

Isolates the remote output for system testing, etc.

Press the OPTION button to display the first option, i.e.

```
Options Menu
1 - Enable/disable remote outputs
```

Press RESET

```
1 - Enable/disable remote outputs
Manual enablement selected
```

Press RESET

```
1 - Enable/disable remote outputs
Remote outputs enabled
```

Press SCROLL to toggle enabled/disabled

```
1 - Enable/disable remote outputs
Remote outputs disabled
```

Press RESET

```
Options Menu
10 - Exit
```

Press RESET.

The display reverts to normal. The DISABLED LED is illuminated and the buzzer sounds until the remote outputs are enabled by repeating the above procedure.

To enable the outputs automatically, use the Auto-enable feature (see page 32).

## **Auto enablement**

Automatically cancels the disablement at a pre-set time and date. The output can be manually disabled as described on page 31 before setting the auto enable.

Display the following option as previously:

```
1 - Enable/disable remote outputs
Manual enablement selected
```

Press OPTION

```
1 - Enable/disable remote outputs
Auto enablement selected
```

Press RESET

```
1 - Enable/disable remote outputs
Auto enable at 00:00 00/00/00
```

Press SCROLL to advance the hours to the required setting (it is not possible to scroll backwards).

Press OPTION to move to the minutes, press SCROLL to advance the minutes to the required setting.

Continue to edit the date setting using the SCROLL and OPTION buttons. When the required value is displayed, press RESET.

```
Options Menu
10 - Exit
```

Press RESET.

The display reverts to normal. The DISABLED LED is illuminated and the buzzer sounds until the remote outputs are enabled at the designated time and date.

To enable the outputs manually, repeat procedure on page 31.

# Enable/disable zones

---

## *Manual*

This function allows a zone to be disabled.

Press OPTION until the zone option is displayed

```
Options Menu
2 - Enable/disable zones
```

Press RESET

```
2 - Enable/disable zones
Manual enablement selected
```

Press RESET

```
2 - Enable/disable zones
Zone 1 enabled
```

Press OPTION to change the zone number, and SCROLL to toggle enable/disable.

When the required zone indicates 'disabled', press RESET

```
Options Menu
10 - Exit
```

Press RESET.

The display reverts to normal. The DISABLED LED is illuminated and the buzzer sounds until the zone is enabled by repeating the above procedure.

To enable the zone automatically, use the Auto-enable feature (see page 34).

## Auto enablement

Automatically cancels the disablement at a pre-set time and date. The zone can be manually disabled as described on page 33 before setting the auto enable.

Display the following option as previously:

```
2 - Enable/disable zones
Manual enablement selected
```

Press OPTION

```
2 - Enable/disable zones
Auto enablement selected
```

Press RESET

```
2 - Enable/disable zones
Auto enable at 00:00 00/00/00
```

Press SCROLL to advance the hours to the required setting (it is not possible to scroll backwards).

Press OPTION to move to the minutes, press SCROLL to advance the minutes to the required setting.

Continue to edit the date setting using the SCROLL and OPTION buttons. When the required value is displayed, press RESET.

```
Options Menu
10 - Exit
```

Press RESET.

The display reverts to normal. The DISABLED LED is illuminated and the buzzer sounds until the zone is enabled at the designated time and date.

To enable the zone manually, repeat procedure on page 33.

**NOTE:** All zones are enabled at the auto enablement time.

# Enable/disable address

---

## *Individual device isolation*

This function allows selected devices to be disabled.

Display the following option.

```
Options Menu
3 - Enable/disable address
```

Press RESET

```
3 - Enable/disable address
Address 001 TEM enabled
```

Press OPTION to change address, and SCROLL to toggle enable/disable.

**NOTE:** The device type, e.g. TEM (heat detector) is shown by default.

When the required addresses show disabled, Press RESET

```
Options Menu
10 - Exit
```

Press RESET.

The display reverts to normal. The DISABLED LED is illuminated and the buzzer sounds until the address is enabled by repeating the procedure.

## Disable sounders

---

Allows the alarm sounders to be isolated if required.

Display the following option:

```
Options Menu
4 - Disable sounders
```

Press RESET

```
4 - Disable sounders
Sounders enabled
```

Press SCROLL to toggle enabled/disabled, and press RESET

```
Options Menu
10 - Exit
```

Press RESET.

The display reverts to normal. The DISABLED LED is illuminated and the buzzer sounds until the sounder are enabled by repeating the procedure.

## Set time and date

---

Allows the time and date to be adjusted, or amended for British Summer Time.

Display the following option:

```
Options Menu
5 - Set Time & Date
```

Press RESET

```
5 - Set Time & Date
Scroll=Set, Options=Next 08:42 16/01/97
```

A flashing cursor indicates the currently selected digit. Press SCROLL to change the value, and OPTION to move to the next digit/character.

When the correct time and date is displayed, press RESET.

```
Options Menu
10 - Exit
```

Press RESET.

The display reverts to normal with the new time and date displayed.



## View active disablements

---

This facility allows parts of the system that have been isolated to be identified.

Display the following option:

```
Options Menu
6 - View active disablements
```

Press RESET

```
Zonal Disablements
No disabled zones
```

or

```
Zonal Disablements
Zone 01
```

Similar information is provided for remote outputs and addresses by pressing OPTION.

Press RESET to exit and return to the main menu.

```
Options Menu
10 - Exit
```

Press RESET.

The display reverts to normal.

## View Active Faults

---

This option provides a method of viewing active faults on the system.

Display the following option:

```
Options Menu
7 - View Active Faults
```

Press RESET

```
View active faults
No fault found
```

or

```
View active faults
No response  Z02  A004  OPT
```

Press OPTION to scroll the active faults.

Press RESET to exit and return to the main menu.

```
Options Menu
10 - Exit
```

Press RESET.

The display reverts to normal.

# Zone Test

---

Zone test (walktest) is an engineering function to enable the devices (detectors, call points, etc) to be tested without generating a full alarm, and without the need to reset the system after each activation.

Display the following option:

```
Options Menu
8 - Zone test
```

Press RESET

```
Zone test
With sounders
```

Press OPTION to toggle With sounders/Without sounders.

When the required option is displayed, press RESET.

```
Zone 01 in test mode
```

Press SCROLL until the required zone to be tested is displayed.

The selected zone is now in test mode.

Devices assigned to the selected zone can be activated and will automatically reset after a few seconds. Detector LEDs illuminate to indicate the device operation.

The device address and type is displayed.

If the 'With sounders' option is selected, the alarm sounders operate for 2-3 seconds each time a device is activated.

Press RESET to exit and return to the main menu.

Press RESET.

The display reverts to normal.

## Change Access Level

---

This option enables the level 3 menus to be accessed and requires a code to be entered before access is permitted.

Level 3 menus allow the system configuration to be changed and is normally restricted to engineering personnel only.