EUROFIRE
Fire Control Panel

User and Engineers Manual

Revision 4 5th January 2000

EMERGI-LITE SAFETY SYSTEMS LTD
Bruntcliffe Lane, Morley,
Leeds, West Yorkshire, LS27 9LL

Tel: 0113 281 0600
Fax: 0113 281 0601

Note: This is an important document. It should be read and retained by the user of the Fire Control System

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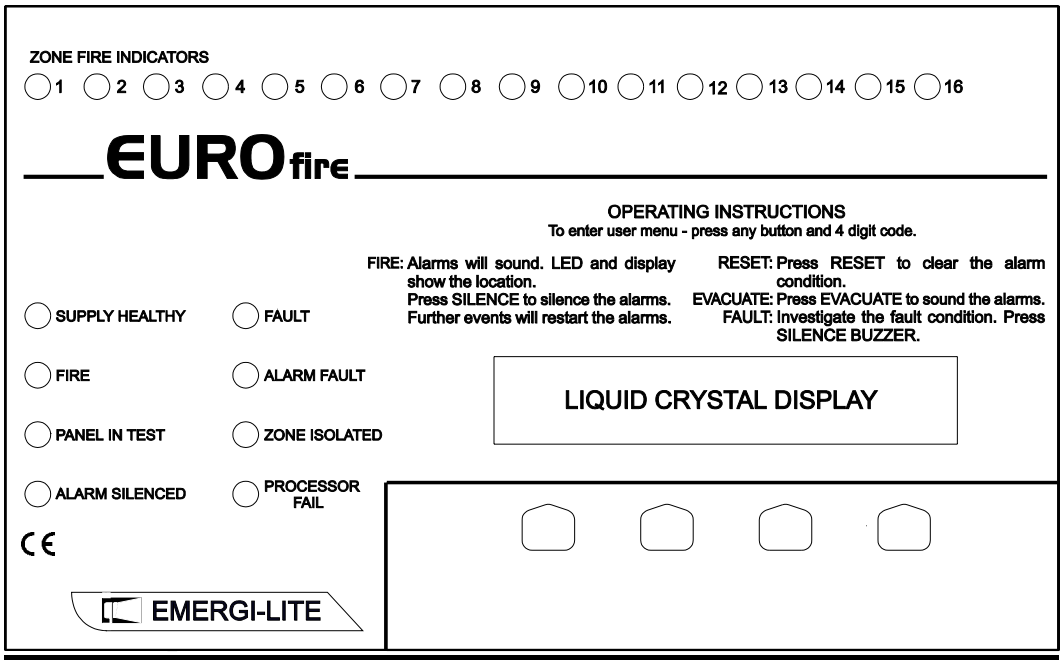
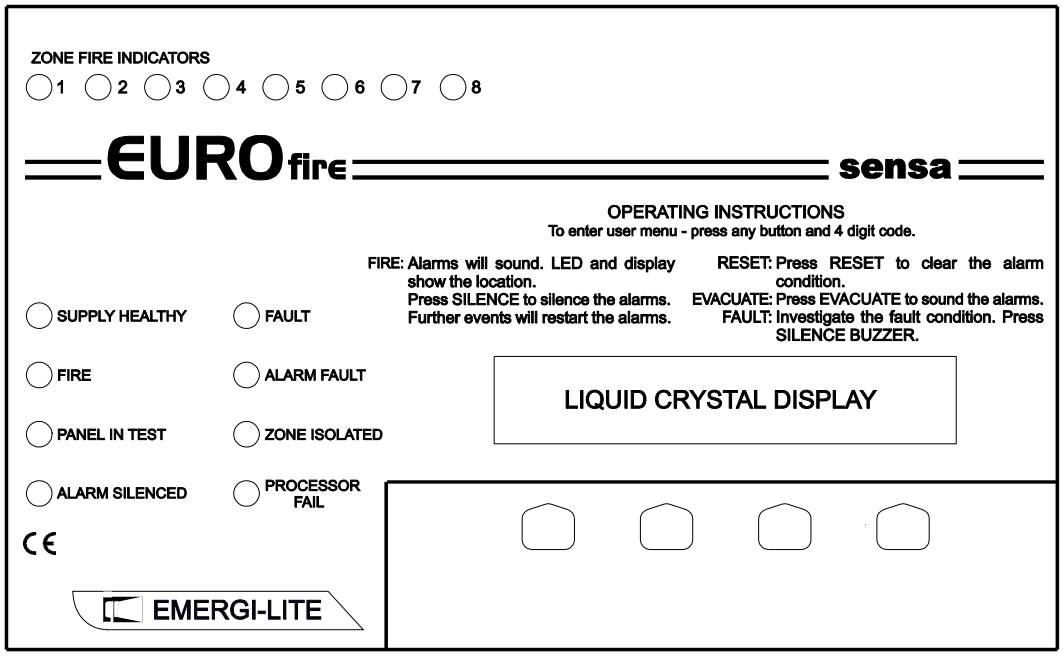
Eurofire Front Panel Layout



EUROFIRE



EUROFIRE SENSA

Eurofire sensa is a new conventional fire detection system specially designed for detectors and sounders to be connected to the same pair of field wires.

The Eurofire panel includes all the attributes and advantages of the standard '4-wire' panel and is available for operation in premises requiring up to 8zones of fire cover. Panels and repeaters can be networked using the RS485 link.

Emergi-Lite joins proven advanced panel design with the pedigree of Apollo Alarm Sense detectors to produce a reliable two-wire technology system.

The Concept

A standard conventional system uses two pairs of wires (4-wire), one pair is used to connect detectors and call points, the other pair for alarm devices (sounders, bells or strobe lights).

The Eurofire-sensa uses a common pair for the connection of detectors, callpoints and alarm sounders to give the scheme designer greater choice, while retaining compliance with the relevant standards,
Benefits can be seen with time saving, reduced wiring cost, and ease of installation.

INDICATOR DETAILS

Fire	- Illuminates when the panel has detected a fire activation or the Evacuate button has been pressed.
Fault	- Illuminates if the panel has detected a fault, and flashes if the fault has cleared.
Alarm fault	- Illuminates if the panel has detected a fault in the sounder wiring.
Supply healthy	- Illuminates if the power supply and standby battery system are working satisfactorily.
Panel in test	- Illuminates when the panel is in Walk Test mode.
Zone Isolated	- Illuminates when a Fire zone has been disabled.
Alarm silenced	- Illuminates when the external sounders have been silenced during a fire condition or illuminates when the silence button has been pressed to reduce the frequency of the bleep of the internal sounder during a fault condition.
Processor fail	- Illuminates if the panel has 'crashed' for any reason and has been restarted by the internal watchdog circuit.
Zone 1-16 Fire	- Illuminates in a fire condition to provide a quick indication of the zone(s) that activated the panel.

The Eurofire panel is a modern highly sophisticated fire control panel which uses the latest technology to combine high performance and reliability with ease of operation.

The panel incorporates a two line 24 character liquid crystal display (LCD) to give information quickly and clearly to the user.

1. Panel Basics

The Fire panel is operated by the 4 buttons mounted under the liquid crystal display (LCD). To gain access to the panel's functions it is necessary to enter a 4 digit code – this is to prevent unauthorised access.

To enter the user code first press **ANY** button on the panel, the display will then show:-

****ENTER USER CODE****
1 2 3 4

Each of the numbers is above its relevant button, enter the code by pressing the appropriate buttons, the user code is 4114. If the correct code is entered the display will then show:-

** **User menu ****
Reset Evac Menu Silen

Each push button on the panel is then associated with the function above it on the display, the functions are:-

Reset - RESET is used to return the Fire alarm system to the normal clear condition resetting any Fire alarm detectors and silencing all the sounders and resetting other devices connected to the panel.

Evac - EVACUATE, pressing this button causes the main fire alarm sounders to ring, but does not trigger any device connected to the auxiliary contacts (typically a digital communicator and/or heating/ventilation control). The internal buzzer in the panel will sound and the FIRE indicator will illuminate.
To reset the panel from the evacuate condition press the reset button as described above.

Menu - MENU this button will put the panel in to the main user menu, please see the relevant section.

Silen - SILENCE is used to turn off the external Alarm sounders after a fire activation. The panel will however continue to indicate the fire condition and the internal buzzer will continue to bleep. Any subsequent fire activation will re-sound the external fire alarm sounders.
In a fault condition the silence option is used to reduce the frequency of the panel's internal buzzer.

Menu Operation (See page 14 for menu structure)

Menu: This button is used to gain access to the user functions from a series of menus - the following operations can be performed.

1 Set clock
2 Walk test
3 View event log
4 Isolate a zone
5 Lamp test
6 View fire/processor fail count
7 View power supply status

The display shows the following when the menu button has been pressed:-

```
** User menu **
clk   walk  log  next
```

The functions are:-

clk : Sets the panel clock
walk: Enters the user into walk test mode
log : View the event log
next : To go to the next level

Pressing the next button brings up the following display:-

```
** User menu **
 isol  lamp   next
```

The functions are:-

isol : Zone isolation
lamp: Lamp test
next: To the next level

Pressing the next button bring up the following display:-

```
** User menu **
stat power exit menu
```

The functions are:-

Stat : displays the panel fire/processor fail count
Power : displays the panel power supply status
exit : returns the panel to the normal condition
menu : goes back to the top user menu level

Menu Function Description

A. **Clk**:- clock sub-menu

On entry the LCD displays the following:-

```
      set time/date?
Time  Date  Year  exit
```

Pressing the appropriate button does the following:-

Time: Brings up the following display

```
   13       58
 hour      min     exit
```

------- the current panel time in 24 hour format

Press the hour button to increment the hour
Press the min button to increment the minute
When you are happy with the time press the exit button to set the new panel time.

Date: Brings up the following display:-

```
  01     01      1995
 day   month    year   exit
```

The operation is similar to the Time function described above:-

Press day to increment the day of the month.
Press month to increment month of the year.
Press the year to increment the year.

When you are happy with the date settings press the exit button and the panel will save the new date.

B. **Walk:-** walk test function.

This function enables the user to test the fire detectors and callpoints on the fire alarm system.

```
Walk test in progress
                    R  finish
```

When a detector is activated and the panel is in walk test, the appropriate fire zone LED will illuminate, the sounders will ring for approx. 1 second and then reset. Thus the user can verify the operation of each of the detectors/callpoints on each zone of the fire alarm system.

Note: When the panel is in the walk test mode any auxiliary devices connected to the panel via the auxiliary contact will **NOT** be triggered, and obviously the panel is disabled from normal fire detection.

When the walktest is complete press the finish button to return the panel to the normal condition (note after 10 minutes the panel will exit from walk test automatically).

C **Log:-** view event log.

This Function allows the user to view previous events. The panel stores up to 50 events with time and date of each event.
If no events have been recorded the panel will display briefly…

There are no events stored!

…and will then return to the normal condition.

If there are events stored the LCD will display the last event, for example the LCD could display the following:-

FIRE IN ZONE 01 50 14:16 10/09/99

date of event entry

time of event

event number

To aid description of procedures the buttons will be named on the panel from left to right F1 to F4.

FIRE IN ZONE 01 50 14:16 10/09/99

F1	F2	F3	F4

To scroll back through the event log press F2, to move up the event log press F1 and F4 to exit.

The event types are as follows:-

Fire Zone X	: Fire activation in Zone number 1 to 16.
Net Fire Panel X	: Panel 1-8 Fire Activation.
Zone X open circuit	: Zone 1-16 end of line device missing.
Zone X short circuit	: Zone 1-16 short circuit.
Zone X detector removed	: A detector on zone 1 to 16 has been removed.
Evacuate operated	: Evacuate button operated.
Net Evacuate Panel X	: Panel 1-8 evacuate button pressed.
Class change operated	: The class change input has operated.
Fault on bell circuit X	: Fault on sounder wiring 1 to 4.
Ac mains missing	: 240V ac input disconnected.
Battery not charging	: The standby battery is disconnected or faulty.
Alarms Silenced	: Silence button pressed.
Net Silenced Panel X	: Alarm or fault sounders silenced from a network panel.
Panel Reset	: The fire control panel is being reset.
Data Ram CRC error	: Software data has become corrupted.
ROM CRC error	: The fire control panel software has become corrupted.
Net Reset Panel X	: Panels on the network have been reset by a panel.
Auxiliary fuse blown	:The 27.5v auxiliary supply fuse has blown.
Walk test	: A Fire test has been performed.
Zones isolated	: A Fire Zone has been isolated.
Net device missing X	: A panel/device on the network is not responding.
Earth Fault	: An earth fault has been detected on the system wiring.
2 Wire status error	: A error has occurred with the SENSA 2 wire Circuit Board.

D. **Isol**:- Isolate Zones.

This function allows the user to isolate any of the 16 zones of the panel – isolation turns "off" a particular Zone, thus any fire or fault activations on an isolated zone will be ignored.

On entry the LCD will show the following:-

Zone isolation menu Zone 01 = Normal exit

F1	F2	F3	F4

F2 cycles through the available zones

F3 toggles the status of the current zone for example pressing F3 in the above example will isolate Zone 1 as shown on the LCD:-

Zone isolation menu Zone 01 = Isolated exit

The status of any zone can be viewed by using F2 to cycle to the required zone

When finished, press F4 to return the panel to the normal condition. If any zones are isolated the message- "ZONES ISOLATED!" will be displayed on the top line of the display, the internal sounder will bleep and ZONES ISOLATED LED will illuminate.

E. Lamp Test

This option illuminates all the LED's on the control panel and sounds the internal buzzer, the display will show:-

****** Lamp test ******

After 2 seconds the LED's revert to their previous state and the panel reverts to the normal condition.

F. **Stat**:–View alarm/processor status.

The panel keeps account of the number of fire activations and processor failures. A processor failure is where the microprocessor has stopped working for some reason, this could be due to an internal error or some external abnormal interference, this is detected by the panels watchdog circuit which resets and restarts the panel automatically.

The STAT procedure displays the following:-

Processor fails = 000 – number of restarts
Fire count = 012 – number of fire activations

G. **Power**:– view power supply status

This shows the current state of the power supply, it displays the current DC supply voltage along with a message on the overall state of the supply, for example:-

SUPPLY HEALTHY dc supply 27.71v exit

Press exit to return the panel to its normal condition.

2. Panel Operation

In the normal condition the LCD will display:-

Emergi-lite Safety Sys 11:31:02

____ or similar message set on commission
____ time

However if a zone has been isolated the internal buzzer/sounder will bleep intermittently and the LCD display will show:-

ZONES ISOLATED! 11:31:02

If a fault occurs the internal buzzer will sound and the common fault indicator will illuminate. Any devices connected to the fault relay will be triggered (e.g. digital communicator).
The LCD will display one of the following messages:

a)

*** SYSTEM FAULT *** Zone X detector removed

Indicates that a detector has been removed from Zone X (1-16).
This can be checked simply by physically investigating the zone in question until the relevant detector is found.

b)

*** SYSTEM FAULT *** Zone X open circuit

Indicates that the panel cannot detect an end of line device on the zone wiring X (1-16).

c)

*** SYSTEM FAULT *** Zone X short circuit

Indicates that the panel has sensed a fault on the Zone wiring.

d)

*** SYSTEM *** Fault on alarm circuit X

Indicates that the panel has detected a fault in the sounder wiring on circuit number X (1-4), the panel will illuminate the alarm fault indicator.

e)

*** SYSTEM FAULT *** Battery not charging!

Indicates that the fault has developed with the standby battery system, the panel will also extinguish the supply healthy indicator.

f)

*** SYSTEM FAULT *** AC mains missing!

Indicates that the 240v Ac mains supply to the panel has become disconnected, the panel will also extinguish the supply healthy indicator. The fire panel installation will have the capability to run the fire alarm system for nominally 72 hours in the event of mains failure. After this period fire monitoring by the system will be lost, thus the cause of the failure will need investigating and rectifying to prevent loss of cover.

g)

*** SYSTEM FAULT *** Processor failure

This indicates that the microprocessor inside the fire panel had failed for some reason and has been restarted by the watchdog circuit. If the circuits inside the panel have been damaged it might not be possible for the watchdog circuit to successfully restart the fire panel system, in which case the above LCD message will **NOT** appear. However, any devices connected to the fault relay will be triggered, the processor failure indicator will be illuminated and the internal buzzer will sound.

If the panel has "crashed" completely, fire cover will be lost, this will need rectifying immediately. If the processor has been restarted successfully then the above message will appear on the LCD display and the panel will function as normal, however, the reason for the failure will need investigating by a fire alarm engineer.

h)

NET FAULT PANEL X BLOCK A

_____ Panel location info (entered on commission)

This indicates that the panel shown is in a fault condition, investigate the fault in the usual way.

i)

NET DEVICE MISSING X BLOCK B

___ Panel location info (entered on commission)

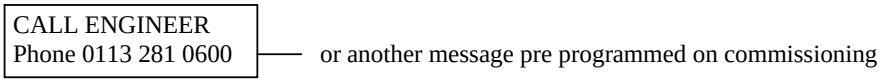
Indicates that the panel described is not responding, this could be due to a fault in the wiring between the panels on the network or a fault with the panel itself. Investigate and call an engineer if necessary.

j)

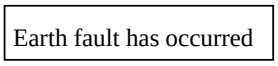
** SYSTEM FAULT! ** DATA RAM CRC ERROR	or	** SYSTEM FAULT! ** DATA EEROM CRC ERROR	or	** SYSTEM FAULT!** ROM CRC ERROR

Indicates that the panels internal self check procedures has detected an error.

The panel will display any faults on the system and will show the message:-



k)



Indicates that a fault has occurred with the system earthing, for example, a zone wire or sounder circuit has a connection to mains earth.

If the Earth Fault is present, then the clock will not be updated on the display. Should it have occurred and cleared, then the clock will be updating on the display.

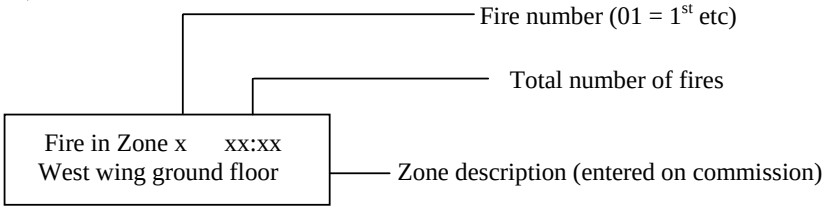
When the wiring fault has been corrected, the display can be cleared using RESET.

Any of the above faults could reduce the systems capability to detect fires, thus they will require investigation by a fire alarm engineer.

3. Fire Activation

In the event of a Fire activation the panel will sound the internal buzzer and turn on the external alarm sounders in a sequence pre-programmed at the commissioning stage. The fire indicator and the relevant zone fire indicator will illuminate, the display will show:-

a) For local Fire Zone



If more than one zone or networked panel is in fire, the display will cycle through each zone along with the zone/text description.

To silence the external sounders enter the user code in the normal way and press ‘Silen’.
To reset the panel enter the user code & press ‘reset’.

4. Networking

The Eurofire has the capability to allow the interconnection of other Eurofires or devices together using 2 or 4 core data cable to a distance up to 1000m apart.

The ‘Devices’ are:-

1: Eurofire Repeater
2: Eurofire main panel
3: 8cct alarm + 8cct auxiliary extender board

For more information on the above items contact Emergi-lite Safety Systems.

SYSTEM MAINTENANCE

The following checks are recommended by Emergi-lite Safety Systems in accordance with BS5839 pt 1 1988.

1)	**Daily Inspection**	Check the system healthy indication on the LCD display, check the supply indicator is illuminated. Inspect for any fault indicators showing or sounder operating.
2)	**Weekly Test**	Perform a lamp test, ensure all indicators illuminate. Put the panel into walk test & operate a call point or sensor to test the fire alarm system and sounders, (remember that in walktest mode the sounders will operate for 1 second and then reset). Each week choose a different zone in rotation, also use a different call point or sensor so that all sensors/call points are tested in rotation.
3)	**Quarterly Test**	Check all previous log book entrys and verify that remedial action has been taken. Visually examine the battery and its connections. Operate a callpoint or sensor in each zone to test the fire alarm as in 2) above. Return panel to normal mode, isolate mains supply & perform evacuate to ensure the battery is capable of supplying the alarm sounders.
4)	**Annual Test**	As in 2) and 3) above additionally test all call points and sensors for correct operation.
5)	**Every 2-3 years**	Have the smoke detectors cleaned by a fire alarm engineer to ensure correct operation and freedom from false alarms. Contact ESS if in doubt.
6)	**Every 5 years**	Replace the sealed lead acid batteries. Consult ESS for more information.
	Servicing	Emergi-lite Safety Systems can offer a regular maintenance contract.

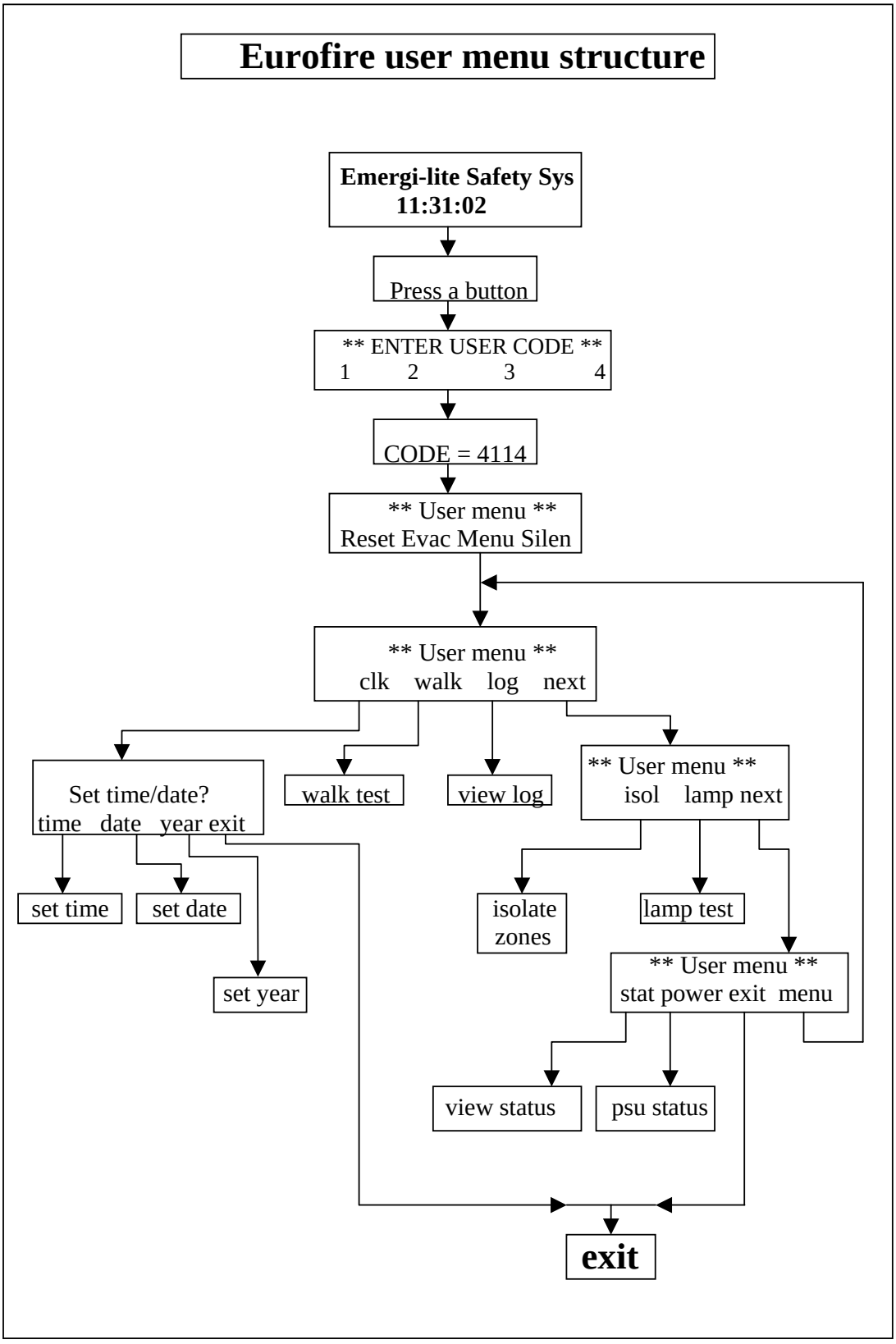
Emergi-Lite Safety Systems Ltd.
Bruntcliffe Lane, Morley,
Leeds, West Yorkshire, LS27 9LL

Tel: 0113 281 0600
Fax: 0113 281 0601

SYSTEM LOG BOOK

Date	System Healthy	Lamp Test	Callpoint-Sensor Check	Callpoint Used	Battery Test	Comments	signed

Eurofire user menu structure



ENGINEERS MANUAL

INTRODUCTION

This manual provides the necessary guidance for the correct installation and commissioning of a 'Eurofire' control panel.
Persons carrying out system design and installation should be familiar with BS5839 pt 1, which is the code of practise regarding the installation of fire detection and alarm system in buildings. The 'Eurofire' panel is an advanced fire detection system based on microprocessor control circuitry. It is therefore recommended that Emergi-lite Safety Systems Ltd are contacted for initial commissioning and future service requirements of any 'Eurofire' equipment.

SYSTEM DESIGN GUIDE

When installing the Eurofire, the system designer should ensure:-

1. The installation complies with BS5839 pt 1.

2. Sounder current consumption should not exceed the panel maximum. The maximum load for each set of contacts is 1A, however the total sounder current should not exceed the panel maximum of 1.25A.
   If higher sounder output levels are required an external high current power supply can be connected. Contact ESS for more information.

3. All detectors are sited in accordance with British Standard recommendations.

4. The total current consumption for each zone of detectors does not exceed 4mA.

5. The correct end of line devices on the detection zones and alarm circuits (including those not in use). These devices must be fitted after the last detector, callpoint or sounder.

6. The detector and alarm sounder circuits have no spurs or branches.

7. That if the 24v auxiliary output is used for powering an auxiliary circuit that battery standby period is checked.

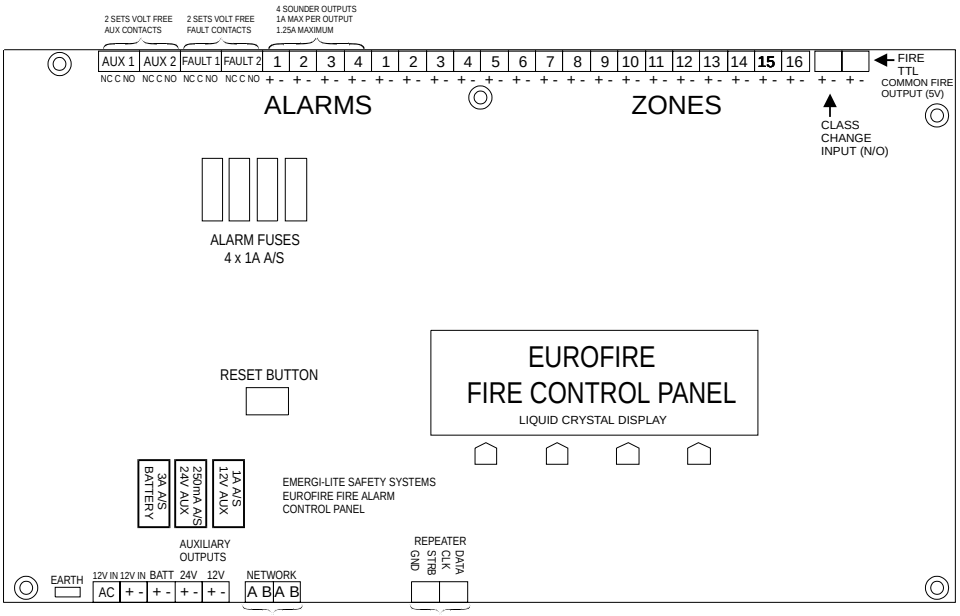
8. That only detectors and callpoints used are compatible with the Eurofire panel and that only devices recommended by ESS are used.

9. The detector bases must have a diode fitted as shown in fig 1. Otherwise the removal of a detector from a base prevents subsequent detectors or callpoints on the zone from functioning.

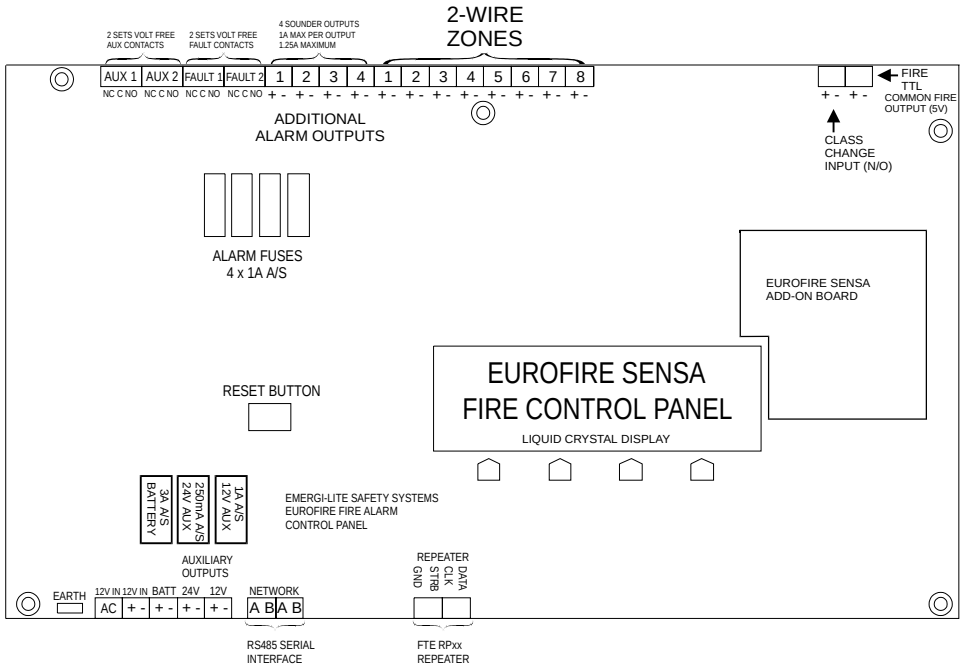
10. The sounders have a series blocking diode fitted that only allows current to flow through the sounders when the supply sounder supply is polarized in accordance with the markings on the control panel PCB sounder terminal markings.

11. That all earths are bonded and a connection is made to the earth monitoring circuit which is located on the Printed Circuit Board. Without connection to the earth monitoring circuit, the fire control panel will be unable to monitor any voltages (+VE and –VE) on the earth.

EUROFIRE



EUROFIRE SENSA



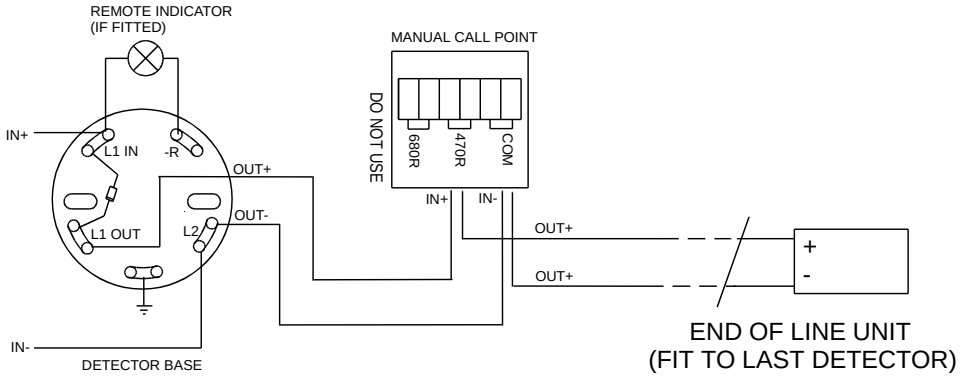


Fig.1 CONVENTIONAL DETECTOR AND CALLPOINT WIRING

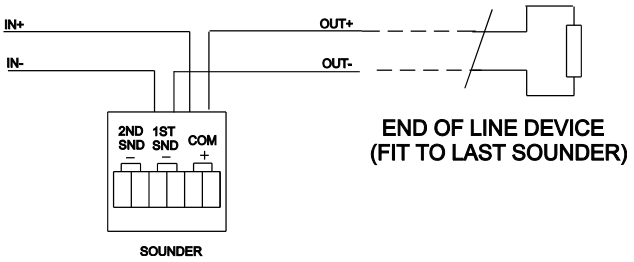


Fig.2 CONVENTIONAL SOUNDER WIRING

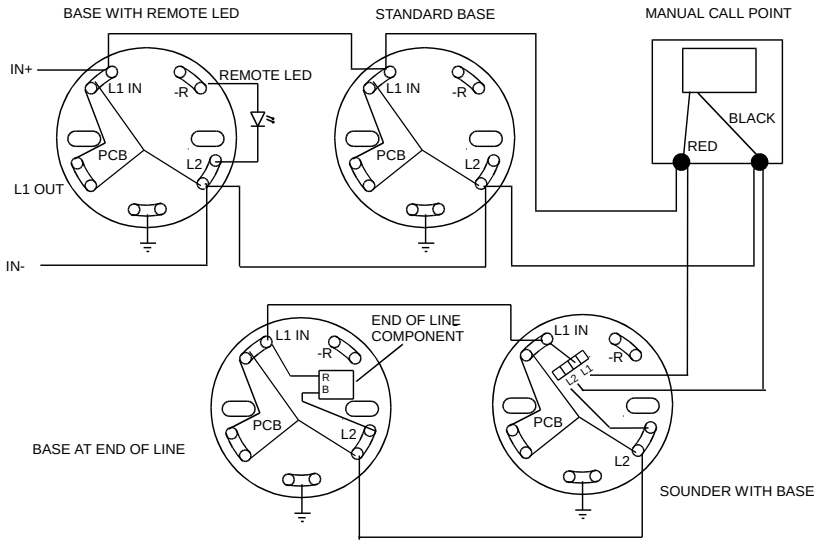


Fig.3 2 WIRE WIRING DETAILS

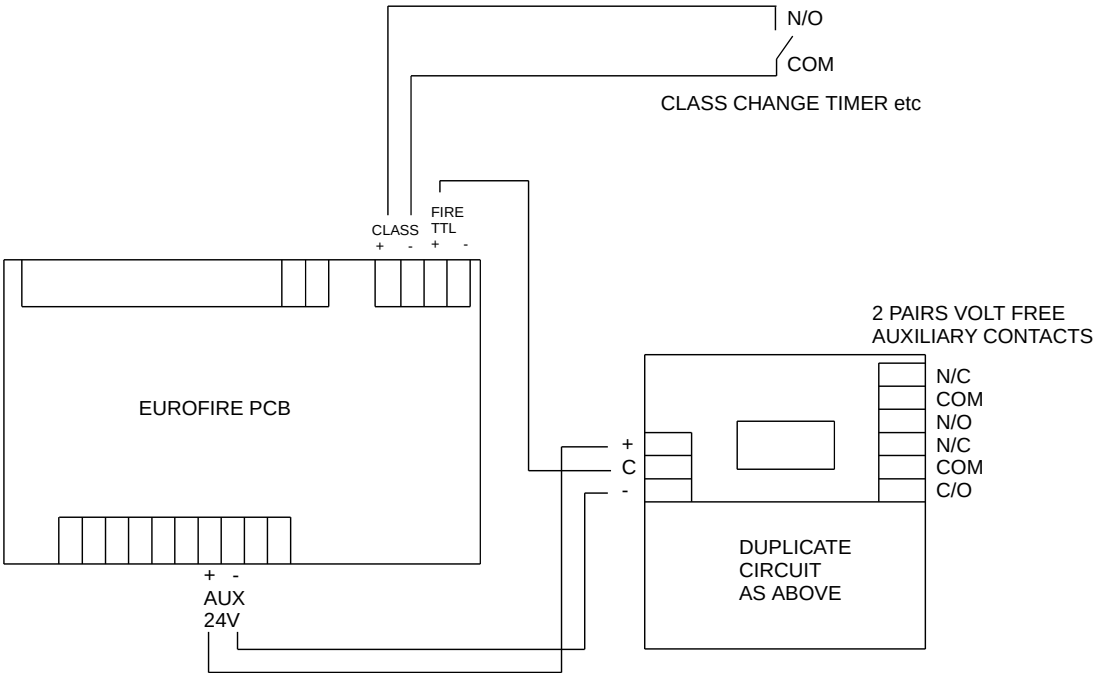


Fig.4 4WAY AUXILIARY RELAY PCB WITH TWIN CONTROL CIRCUITS

INSTALLATION PROCEDURE

The following instruction should be followed, it is however recommended that installation is delayed until all building or maintenance work has been completed. If building work is being carried out in the vicinity of the installation it may result in damage to the panel.

A. Remove the fire panel from its packing but retain the packing for future storage of panel parts during installation.

B. To remove the front – remove two screws located under the bottom edge, pull the bottom edge out then lift up. Store it face down in the packaging box, taking care of the LED light guides on the back.

C. Disconnect battery, earth and transformer wires. Remove the 6 * 4mm screws securing the main printed circuit board from the box. It is essential that once the main PCB has been removed it is stored safely, observing anti-static precautions. Use the Eurofire packing if no anti-static containers are available. Keep the 4mm screws in a safe place.

D. Once the cable entry routes have been decided remove the appropriate knock-outs from the top of the enclosure. **Only use the knockouts near the mains terminal block for mains entry.**

E. Note the two 11mm-6mm keyhole slots and the two 6mm holes are cut in the back of the enclosure and set in dimples.

F. The enclosure can now be securely fixed to the fabric of the building in the following way. Hold the enclosure on the wall in the desired mounting position and mark the location of the fixing holes. The panel should be mounted at a height such that the liquid crystal display is at eye level to the user.

G. Drill and plug the wall in the four marked positions then fit the enclosure to the wall with appropriate fixing screws.

H. Feed the required cables into the enclosure then make off a reasonable working length (identify each cable). Remove any debris from the enclosure. Conduct all insulation tests (note the insulation tests must be done with the detectors and any other electronic devices disconnected from the wiring involved, failure to observe this could result in severe damage to the electronic parts in the fire panel and associated detectors etc).

I. Refit the control panel PCB taking into account the anti-static precautions previously mentioned. Any further insulation tests are prohibited once the PCB has been re-fitted. Do not terminate cables in the terminals on the control panel PCB.

J. Fit the two 12 volt batteries in the enclosure but do not connect the batteries into the control panel PCB yet.

IMPORTANT NOTE: The two 12v batteries are connected in parallel.

K. Refit the outer lid using the two 4mm screws and contact Emergi-lite Safety Systems to arrange commissioning of the fire alarm system.

5 Panel Specification

Complies with BS5839 pt 4 1988 plus amendments

Panel Order Code	FEUR-4	FEUR-8	FEUR-12	FEUR-16
No. of Zones (25 detectors per zone max)	**4 Zone**	**8 Zone**	**12 Zone**	**16 Zone**
No. of alarm lines	4 (expandable to 16 programmed in groups of 4)			
Maximum alarm load	Total = 1.25A. Maximum per line or circuit = 1A			
Auxiliary outputs	• Two sets of volt-free auxiliary programmable contacts (rated 2A @ 30V d.c.) • Two sets of volt-free fault contacts (rated 2A @ 30V d.c.) • Auxiliary d.c. o/p 24V d.c. @ 250mA fused & monitored			
Inputs	Class change			
Display	2 x 24 character LCD + zone fire LED's			
Mains input voltage	230Vac + 10%, -6%. 50Hz			
Output d.c. voltage	24V d.c. @ 1.5A			
Battery size	12V 7AH x 2 (connected in parallel)			
Extra alarm load	Up to 2.75A total using additional external power supply			
Panel aesthetics	Metal back box with moulded polycarbonate front panel in cool grey			
Panel dimensions (mm) hwd	469 x 373 x 103			
Standby duration	72 hours as standard			
Detector units	Apollo 60 series smoke and heat with diode base. 220-680 Ohm call-point			

*** Further programmable alarm/relay lines can be network extended using 8-way alarm/relay extender units.**
*** For networking please specify the isolated driver, FNETISO.**
*** For product codes please see page 8.**

EUROFIRE s e n s a 2 wire fire detection panel

Product code		FEW2-4	FEW2-8	
No. of zones		4 zone	8 zone	
Detectors per zone		25 maximum	25 maximum	
Sounders per zone		25 maximum	25 maximum	
	Low	Medium	High	
Sounder current	4ma	8ma	16ma	note [1]
Sounders per panel	200	160	80	note [1]
Inputs	Class change			
Fire output	TTL active – high on fire			note [2]
Display	2 x 24 character LCD with zone and system LED's			
Mains input voltage	230 vac = 10% -6% 50Hz			
DC output auxiliary voltage	24 vdc = +/- 0.25v 250ma (fused)			
Battery size	12v7AH x 2 (connected in parallel)			
Battery standby	48 hours			
Panel dimensions (mm) hwd	469 x 373 x 103			
Programmable features	Extensive via 4 buttons and LCD display			
RS485 Network	Panel and repeater combinations via RS485 link			
Ancillary outputs:				
Alarm signal	4			note [3]
Expanded alarm lines note [4]	16			note [5]
Alarm current total	100ma			
Alarm current/line	100ma (fused)			
Auxiliary outputs	2 sets of volt free contacts, rated @ 2A 30Vdc			
Fault outputs	2 sets of volt free contacts, rated @ 2A 30Vdc			

Notes.
[1] – Current is dependent on sound level (2) ad tone (4) outputs. Total current must not exceed 80 high output sound levels. 4 lows = 1 high.
[2] – 5 volt signal, 1 ma maximum current.
[3] – Alarm signal lines only (sounders are on the zones).
[4] – 8 way alarm extender can be one of the network addresses.
[5] – Expander used with external supply to provide additional power.

Alarmsense is a registered trade name of Apollo Fire Detectors Ltd.

1. **Indicators: Eurofire**

24*2 character LCD display.

16*Zone fire	LED's (8 * zone fire for Eurofire Sensa).
Common fire	LED
Common fault	LED
Alarm silenced	LED
Mains healthy	LED
System test	LED
Zone isolated	LED
Panel in test	LED
Alarm fault	LED
Processor fail	LED

2. Controls:

   Reset button
   Evacuate button
   Menu button
   Silence button

   Panel reset (Engineer only, contained internally within the panel)

3. Class change input

4. Serial RS485 interface. For remote keypads/mimics/relay boards etc.

5. Internal Sounder – min level 50dBa @ 1m.

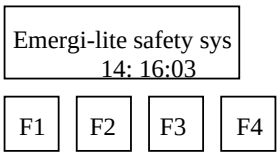
6. Features:

User zone isolation
User lamp test
50 event history log (with time and date)
16*24 character zone description test
Programmable Alarm + Aux relays.
Unlatched Zone option
Short – circuit fire option
Panel networking option
8 way alarm – auxiliary relay extender option
Repeater option
Call engineer message
Configurable system healthy message
Automatic restart in the event of software failure
Panel configuration stored in non-volatile memory
2 wire option which displays whether a callpoint or detector is activated
Zones monitored for oc/sc, detector and end of line removal
Alarm outputs monitored for oc/sc and end of line removal
Ac mains and battery supply monitored
Earth fault monitoring

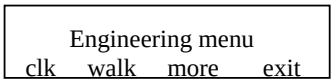
6 Panel Commissioning

Engineering mode

To aid description of procedures the buttons are named on the panel from left to right F1 to F4.



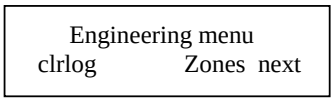
To gain access to the engineering menu, remove the front of the fire panel by removing the two 4mm screws on the bottom edge of the front. Press the reset button on the control panel PCB and at the same time press F2, then release the reset button. Hold F2 until the LCD displays the following main engineering menu:-



Each button on the panel is then associated with the option shown above it on the display, each option does the following:-

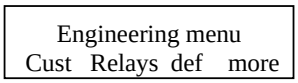
clk : Set the panel clock
walk : Puts the panel into walktest
more : Moves on to the next menu level
exit : Returns the panel to the normal condition

Pressing the 'more' button to bring up the next display:-



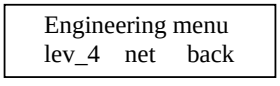
clrlog : Clears the event log
Zones : Enters the Zone config procedure
next : Goes to the next menu level

Pressing the 'next' button brings up the display



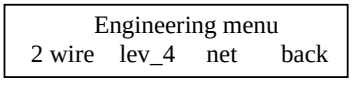
Cust : customize menu
Relays : Set relay delay/types
def : reset panel programming to default
more : Next engineering menu level

Press more enters the last engineering menu which displays the following dependent, on whether or not the Eurofire SENSA 2 wire option is installed.



lev_4 : Level 4 engineering functions
net : Network configuration menu
back : Returns to main engineering menu

Display with SENSA 2 wire option installed



2 wire : 2 wire option installed
1ev_4 : Level 4 engineering functions
net : Network configuration menu
back : Returns to main engineering menu

Engineering menu function description:-

A. **clk**: sets the panel clock

On entry the LCD displays the following:-

Set time/date			
Time	Date	Year	exit

Pressing the relevant button does the following:-

Time: Brings up the following display

13	58	
hour	min	exit

Press the hour button to increment the hour count
Press the min button to increment the minute count
Pressing the exit button the panel saves the new time and exits.

Date: Brings up the following display:-

01	01	1995	
day	month	year	exit

The operation is similar to the Time function described above:

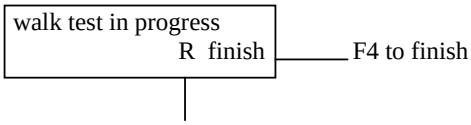
Press the day button to increment the day number
Press the month button to increment the month number
Press the year button to bring up the following display

1999		
up	down	exit

Press the up button to increment the year.
Press the year button to decrement the year.
Upon exit the panel saves the new year.

B. **walk –** walk test function.

This function is to enable the user to test the detectors and callpoints on the fire alarm system. On entry the LCD displays the following:-

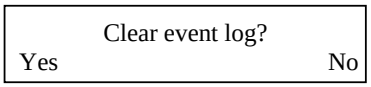


When a detector or callpoint is triggered the appropriate zone fire indicator is illuminated. If the bell ring mode is on then the local fire alarm sounders connected to the panel sound for 1 second and then silences. The panel then resets the zone in fire to allow the user/engineer to test all callpoints and detectors on any or all of the zones as required. Press the finish button when the walk test is complete.

Note: when the panel is in walk test any devices connected to the panel via its auxiliary contacts or devices on the network will NOT be triggered.

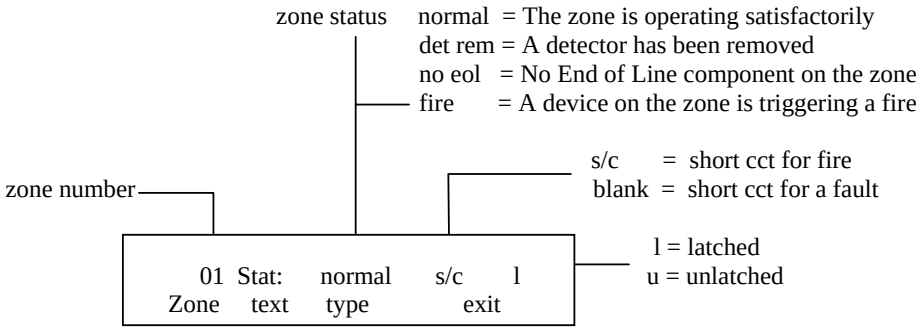
C. Clrlog

This is used to clear the event log.



Yes:- Clears all the events in the log.
No:- Returns to previous menu without clearing event log.

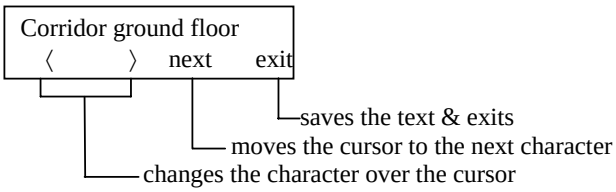
Zones:
This procedure sets the Zone text and Zone latch/unlatch configuration, it also displays the current zone status, on entry the LCD will show:-



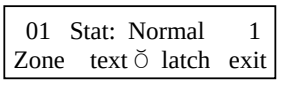
F1 to increase zone number
F2 to edit text for current zone
F3 to toggle zone latch/unlatched/short cct fire/normal fire mode
F4 to return to main engineering menu

The short circuit fire option is used whenever the Eurofire is used to replace a fire alarm system designed to BS3116 using old style detector & callpoints, thus it is unnecessary to upgrade the entire system when updating the panel, zones can be updated as necessary.

Pressing the 'text' option (F2) enters the text editor and shows the text allocated to the current zone typically:-



On entry a small cursor blinks under the first character of the text in the above example the letter 'C' in 'Corridor', to change the character use the 〈 and 〉 keys to cycle through the characters available on the LCD. To move onto the next character press the 'next' button. When you are happy with the text press the exit button to save the current text, this also enables text for the current zone, shown by a tick to the right of the 'text ' above F2 as shown:-



To disable text for the zone press the 'text' button again and the tick disappears.

D. Cust:

This option is used to edit the various display messages available. On entry the display shows the following:-

```
Engineering menu
system  phone  exit
```

Press **system** - Edits the 'panel normal' message.
phone - Edits the call engineer phone message.
next - To return to main engineering menu.

The method of editing messages are the same. By selecting the relevant option the display will show something like:-

```
Emergi-lite safety sys
〈        〉  next  exit
```

Editing text is the same as editing the zone text which has been described in the previous section.

E. Relays

The Eurofire panel has been designed to allow flexible programming of the alarm and auxiliary relays. Each of the alarm and auxiliary relays can be programmed to be continuous or pulsed with or without an initial turn-on delay. Each Zone can then be allocated one of 16 patterns - each pattern determines which relays are operated and how they operate. For example, pattern 1 could be programmed to pulse only alarm relay 1 and zone 3 being allocated to this pattern. Therefore when zone 3 is triggered the sounders on alarm circuit 1 would bleep. Likewise Pattern 2 could be programmed to trigger alarm relay 2-4 plus the auxiliary relay. This pattern could the be allocated to zones 3-9. Thus if zone Z3-9 were to be activated then alarm relays 2-4 would be triggered and also the auxiliary relay. Thus the fire systems alarm response can be programmed to the individual needs of any particular installation.

On entry to this option the LCD shows:-

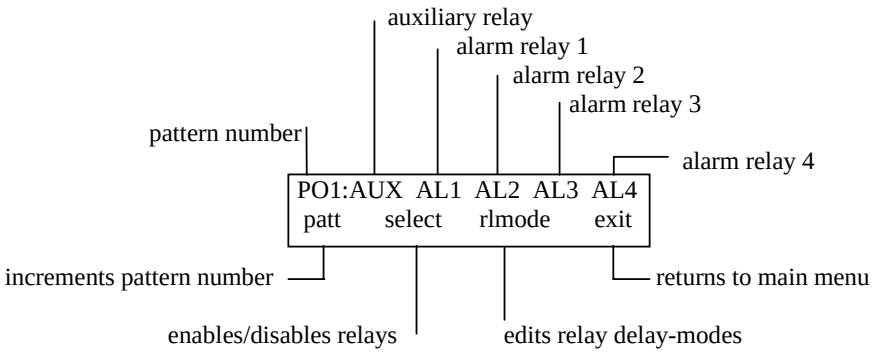
```
Engineering menu
Patt   test   Zn = pat   exit
```

exits to custom menu
allocates pattern/zone number
relay test sub menu
edits the relay/pattern allocation

Note there are a total of 26 programmable patterns:-

1-16 are reserved for allocation to the zones
17-24 are reserved for the networked panels address 0-7 net fire ringing.
25 is the class change ringing pattern
26 is the evacuate ringing pattern

Pressing the patt button brings up the pattern edit menu like:-

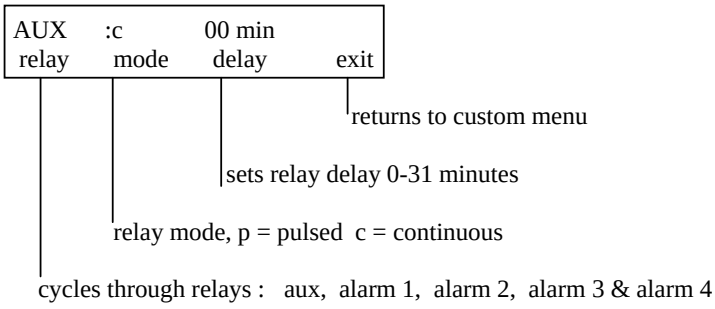


The example above shows that the Auxiliary & alarm 1-4 relays are allocated to pattern number 1.
Press:

patt moves to the next pattern number
select enable/disable relays for this pattern (relay enabled visible, disabled blank)
rlmode to edit relay delay/ring modes for this pattern
exit returns to main relay menu.

Press the rlmode buttons to change the relay operation modes for the relevant pattern.

The LCD display will show:-

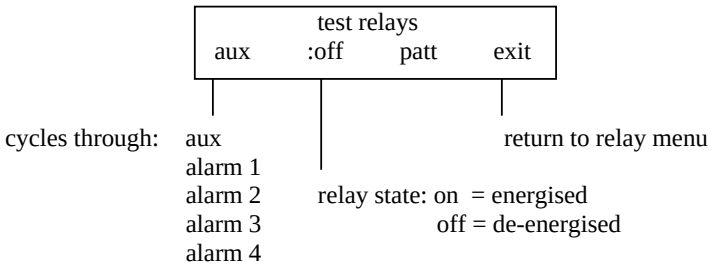


Press: **relay** to move to the next relay
mode to toggle relay mode between pulsed/continuous
delay to increment bell delay period (between 0-31 mins)
exit to return to the main custom menu

Test

Test is used to individually energize each of the Eurofires internal relays to check their operation.

On entry the LCD will show:-

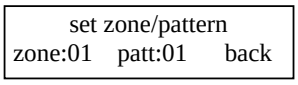


Press: F1 to cycle through relays
F4 to exit

Note: The alarm extender relays are tested at the extender PCB. It is necessary to use an alarm extender configuration display interface (available from ESS) to configure/test the alarm extender PCB.

Zn = PAT

The Zn = Pat option is used to allocate the alarm pattern to the zones, on entry the procedure displays the following message:-



The above example shows that zone 1 is allocated ringing pattern 1.

Press: **zone** to go to next zone.
patt to change pattern number for zone (1-16).
back to save configuration and return to main engineering menu.

F. DEF – Reset panel to default settings.

This function will erase all settings – zone text – network programming – pattern/relay programming – log and will reset panel to default settings as per factory, so use with **care**!.

On entry LCD will show:-

reset panel to default ?	
yes	no

Press:

Yes to reset panel to default.
No to abort & return to main menu.

The default settings are as follows:-

Aux & alarm relays set to continuous with no delay
Event log Erased
All zones set to normal mode
All zones allocated to pattern 1
All patterns allocated all relays & no delay & continuous mode
System healthy message "Emergi-lite safety sys"
No call engineer message
No Zone text
Network turned off
No devices allocated on network
All network ringing patterns set as per pattern 1
All network ringing patterns set to alarm s1 to 4 continuous & no delay
Evacuate & class change pattern set to alarms 1 to 4 continuos & no delay

G. SENSA 2 Wire

This option will only be available if a SENSA 2 wire board is installed.

It allows greater flexibility in the areas where alarms are sounded. This is achieved by placing sounders on the loop.

01	yes	01	
Alarm	Sounds	Zone	Back

Sounders placed on the 2-wire zone circuits and arranged into zones can be selected to ring when specific alarms are triggered. In the above example, 2-wire sounders on zone 1 will be activated when alarm 1 is activated. Pleases refer to relay programming on page 27 to set the alarm patterns for 1-4.

Alarm -	Press alarm button to increment through alarms 1-4
Sounds -	Press sounds button to choose whether or not to sound loop powered sounders.
Zone	Press zone button to select which zone the loop powered sounders should be activated 1-8.

H. Networking

Networking allows signalling of fires, faults & evacuates over a number of interconnected panels allowing the reporting and control of this information from panels located in adjacent buildings etc.

The Eurofire can be interconnected to a number of other panels or devices. The panel signals using a two wire (4 for repeater, 2 signal + 2 power) interconnection using RS485 signalling, this allows the devices to be up to 1000m apart (using screened data cable).

The devices are:- 1 Other Eurofires
2 Eurofire repeaters
3 8 way alarm auxiliary extender PCB

1) Eurofires

Fire: The Eurofire will signal a fire to other Eurofires & pass Zone number but NOT zone text. The Eurofire will send ringing information to any 8 way alarm extender PCB allocated to it.

Evacuate: Eurofire sends Evac message to other Eurofires and 8 way alarm PCBs on the network.

Silence: Eurofire will send silence signals to other Eurofires and 8 way alarm PCBs.

Reset: Eurofire will reset other Eurofires and 8 way alarm PCBs.

Fault: Sends Net device fault message to other Eurofires. The Nature of the fault is not shown on the remote panels, thus it is necessary to go to the **panel concerned** to investigate the fault.

2) Eurofire repeater

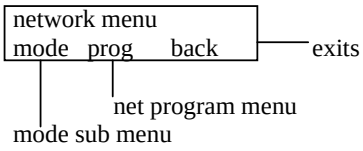
The Eurofire repeater gives all visual indications and allows full control of a Eurofire control panel remotely - all user functions are available at the repeater. Up to 7 repeaters can be connected to a single Eurofire panel. For more information contact ESS.

3) 8 alarm 8 auxiliary extender PCB

This unit allows an extra 8 sounder circuits plus 8 auxiliary outputs to be controlled from a Eurofire control panel. The sounder & auxiliary circuits are individually programmable as per Eurofire - a maximum of 7 extender PCB's can be controlled off a single Eurofire panel.
The alarm extender incorporates an internal power supply and battery back-up. For more information contact Emergi-lite Safety Systems Ltd.

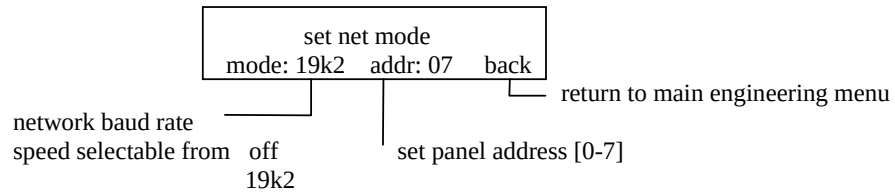
NET – Networking Menu

On entry to the net menu the display shows:-



Mode sub menu function description

The mode sub menu is used to set the network communications baud rate and the panels network address. When programming the network ensure that each panel or device on the network is set to a unique address and ensure that other panels on the network are set to the same baud rate. It is not necessary to set the baud rates for the Eurofire repeater or 8 way alarm extender PCB since they automatically detect the correct speed.



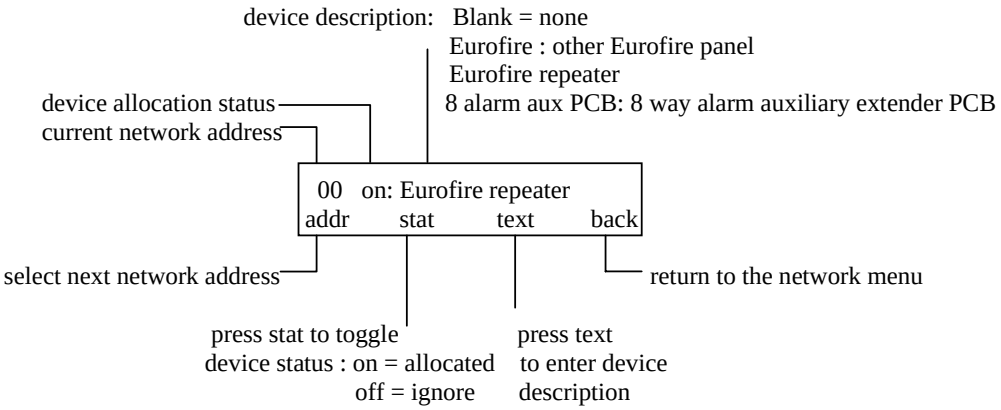
FTE-RPxx Serial Repeater

The serial repeater gives all the LED visual indications of a Eurofire control panel remotely. Its is a single panel repeater over a serial connection (**Note it does <u>not</u> use RS485 signalling.)** It is available in 4, 8, 16 zones and also an 8 zone volt free change over relay version. This device is not connected on the RS485 network. There is a direct connection (4 signal + 2 power @ 12V) on the Eurofire PCB.

PROG sub menu

The prog menu is used to set up and allocate any compatible device connected to the panel via the RS485 network.

In the prog menu the panel polls the network for any panels or devices connected. The engineer can then set up the panel as required:



The text menu is used to enter device location information, e.g. for a panel the location of the panel would be entered. The method is exactly the same as for entering the zone description text.

Alarm Programming

Each panel on the network has a ringing pattern allocated to it, network address 0 has pattern 17 allocated to it, address 1 has pattern 18 allocated etc. Thus it is then possible to individually tailor the ringing requirements to suit the site location for each panel. For example, panel A can be programmed not to ring its local alarm sounders when panel B signals a fire, instead an 8 way alarm extender PCB controlled by panel A can be programmed to ring its sounders in a remote location.

Clone:- Upload, down load mode

Cone allows the Eurofire programming information to be downloaded or be programmed (uploaded) to other Eurofire panels.

To upload or download from the Eurofire the following is required:-

- Connect a programming interface between the two Eurofire A & B RS485 terminals.
- Select **UPLOAD** for the panel receiving the programming information.
- Then select **DOWNLOAD** for the panel whose information is being copied.

This will make a copy of the programming information from one panel to another.

EUROFIRE PROGRAMMING SHEET

Customer:_____
Site:_____
Commission Date:_____/_____/_____
Panel Serial No:_____

ZONE	PAT	ZONE TEXT (24 characters)
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		

SYSTEM HEALTHY MESSAGE (24 Characters)

CALL ENGINEER MESSAGE (24 Characters)

PATTERN PROGRAMMING

Mode = 'P' for pulsed, 'C' for continuous or 'OFF' for relay not enabled
Delay = 0 to 31 minutes.

PATTERN	AUX		ALARM 1		ALARM2		ALARM3		ALARM4	
	MODE	DELAY	MODE	DELAY	MODE	DELAY	MODE	DELAY	MODE	DELAY
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
Network Address Patterns										
17 (Addr 0)										
18 (Addr 1)										
19 (Addr 2)										
20 (Addr 3)										
21 (Addr 4)										
22 (Addr 5)										
23 (Addr 6)										
24 (Addr 7)										
Class Change and Evacuate Patterns										
25 (Class c)										
26 (Evac)										

NETWORK PROGRAMMING

ADDR	On/Off	TYPE	LOCATION TEXT (24 characters)																								
0																											
1																											
2																											
3																											
4																											
5																											
6																											
7																											