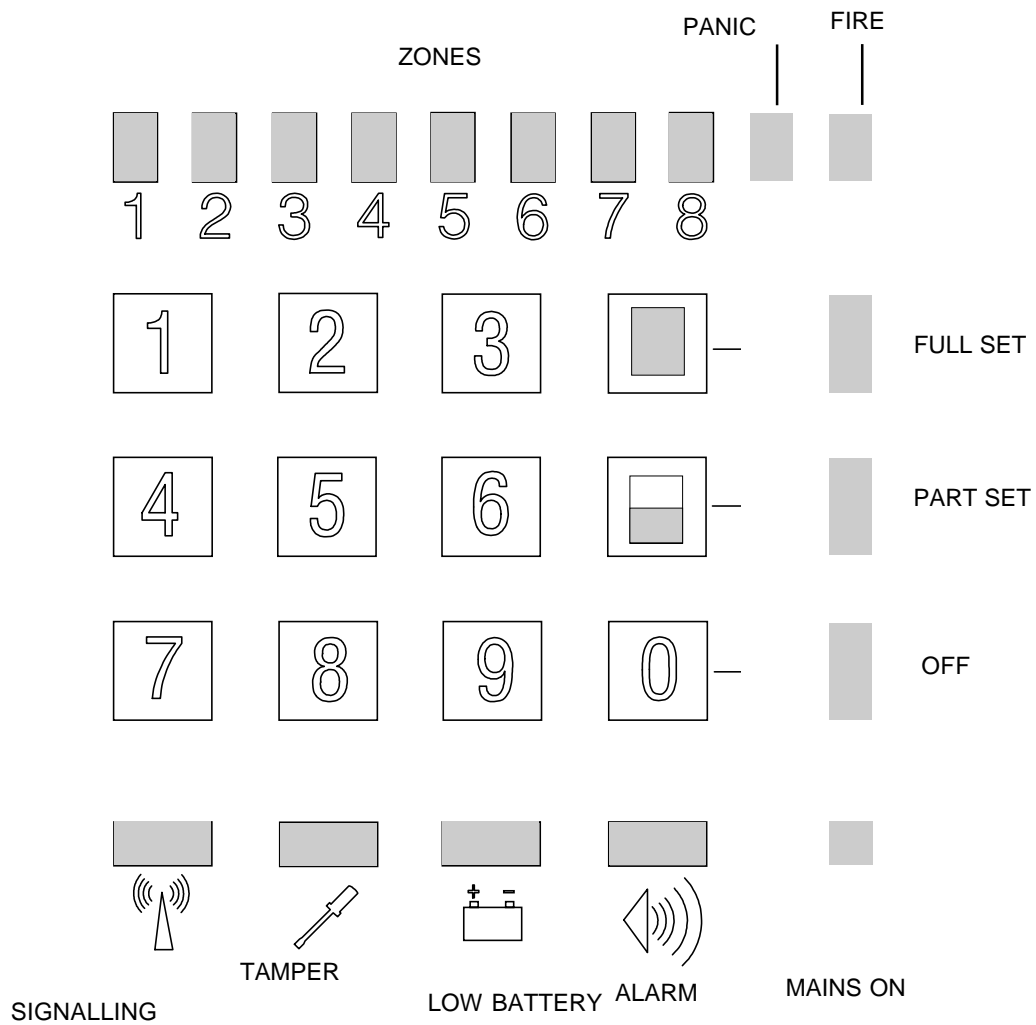


FM4000 ALARM SYSTEM

TRAINING MANUAL



FM Electronics Ltd Manufacturer of quality wireless products

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10	4100 PIR
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13	4650 Contact transmitter
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16	4173 Remote Control
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67	Customer Information Record
68	Issue Changes of Software

NOTES ON THE CLASS 6 REQUIREMENTS & HOW THEY ARE ADDRESSED BY THE FM4000 SYSTEM.

A2-A3

Factory preset codes of greater than 1 million differs are fixed in the detectors. The actual No. is 1,048,576.

A4

Transmissions are sent several times and 3 are required before a valid message is accepted.

A5

The class 6 system is on 173.225MHz with 12kHz bandwidth.

A6

Contact transmitters have rear tamper switch, PIR's have tilt switch to detect removal of a detector.

A7

All remote receiving antenna are protected by tamper.

A8

Conventional SAB connections are provided.

A9

Low battery indication can trigger a communicator via the dialler output 6.

A10

Auto reporting is every 30 mins. Failure within 2.5 hours generates an anoutput at the dialler output 7.

A11

Radio interference which lasts for 30 seconds causes local indication. If more than 5 mins goes to dialler output.

If jamming is present whilst trying to arm the system the jamming LED illuminates and prevents arming.

A12

Portable panic buttons are not auto reporting.

A13

Setting and unsetting the 4000 series of control panels can be achieved via optional remote control. The unsetting can be programmed to operate only after the entry timer has begun.

A14

System records are the responsibility of the installer and must include:

- i) System record with type of signalling.
- ii) Record of signal strength. This is obtained by the use of a digital voltmeter to record the signal strength in volts. The meter connections are located inside the control panel.

A16

The manufacturer upon request will issue a C of C. as per NACOSS NACP12 document.

A17

Documentation and training certification is available upon agreement with the manufacturer.

A18

The installer shall upon request provide a C of C to the customer or Police representative.

A19

The installer shall maintain a record of false alarms and the nature of their causes.

NACOSS CLASS 6

- **UNIQUE DETECTOR CODING SYSTEM
(OVER 1 MILLION DIFFERS)**
- **NARROW BAND TRANSMISSION SYSTEM**
- **BACK TAMPER ON DETECTORS**
- **SUPERVISED DETECTORS**
- **SIGNAL STRENGTH MEASUREMENT**
- **FAULT OUTPUTS FOR SIGNALLING TO CENTRAL STATION**
 - Supervisory failure
 - Low battery
 - Jamming
- **TRAINING**
- **SYSTEM RECORDS**
 - Installers C of C for Police upon request
 - Record of signal strength
 - Record of false alarms and their causes

FM4000 SYSTEM FEATURES

- 1. TO NACOSS CLASS 6 & BS6799 CLASS 3**
- 2. 8 WIRELESS ZONES + FIRE & PANIC**
- 3. 2 HARD WIRED ZONES**
- 4. PART SET + UPSTAIRS DOWNSTAIRS**
- 5. REMOTE ARMING OPTIONS**
- 6. LOW BATTERY & TAMPER BY ZONE**
- 7. ALL ZONES ARE PROGRAMMABLE**
- 8. ZONE OMIT**
- 9. CHIME**
- 10. AUXILIARY ZONES**
- 11. DOUBLE KNOCK**
- 12. WALK THROUGH**
- 13. 8 DIALLER OUTPUTS**
- 14. NON VOLATILE MEMORY**

USER FACILITIES

SIMPLE DISPLAY

4 DIGIT ACCESS CODE

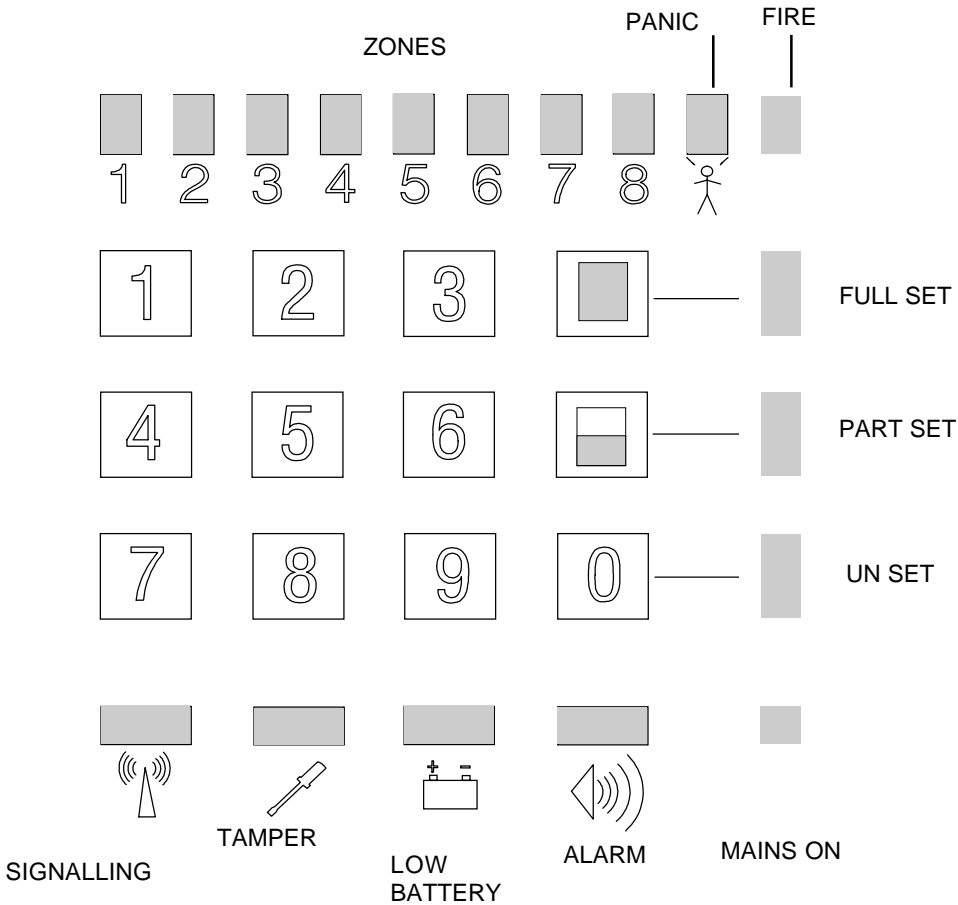
PART SET

ZONE OMIT

CHIME

WALK TEST

ALARM MEMORY RECALL



ENGINEER PROGRAM OPTIONS

12	FULL SET EXIT TIME	32	COURTESY STROBE/LIGHT
13	PART SET EXIT TIME	33	WALK THROUGH ZONES TRIGGER ENTRY TIMER IN PART SET
14	ENTRY TIME	34	JAMMING
15	BELL DURATION	35	MAINS FAILURE PREVENTS ARMING
16	BELL DELAY	36	REMOTE UNSET ONLY DURING ENTRY TIME
17	FULL SET ZONES	37	DIALLER DELAYED
18	PART SET ZONES	38	NO EXTERNAL BELL OR DIALLER IN PART SET
19	OMIT PERMIT ZONES		
20	FINAL EXIT ZONES	39	LINE FAULT AUDIBLE
21	WALK THROUGH ZONES	40	SUPERVISION
22	DOUBLE KNOCK ZONES	41	SUPERVISORY FAULT
23	AUXILIARY ZONES	42	ENGINEER RESET
24	24 HOUR ZONES	43	RE-ARMING TIMES
25	SOAK TEST ZONES	44	RESET TO FACTORY DEFAULTS
26	CHIME ZONES	45	RECEIVER AUDIBLE
27	SILENT P.A.	46	ENGINEERS LOG
28	DOUBLE BUTTON P.A.	47	ENGINEER ACCESS CODE
30	UPSTAIRS/DOWNSTAIRS	48	DIALLER OUTPUT
31	8 SECOND STROBE ON SET & UNSET	49	PA ON ZONE 2

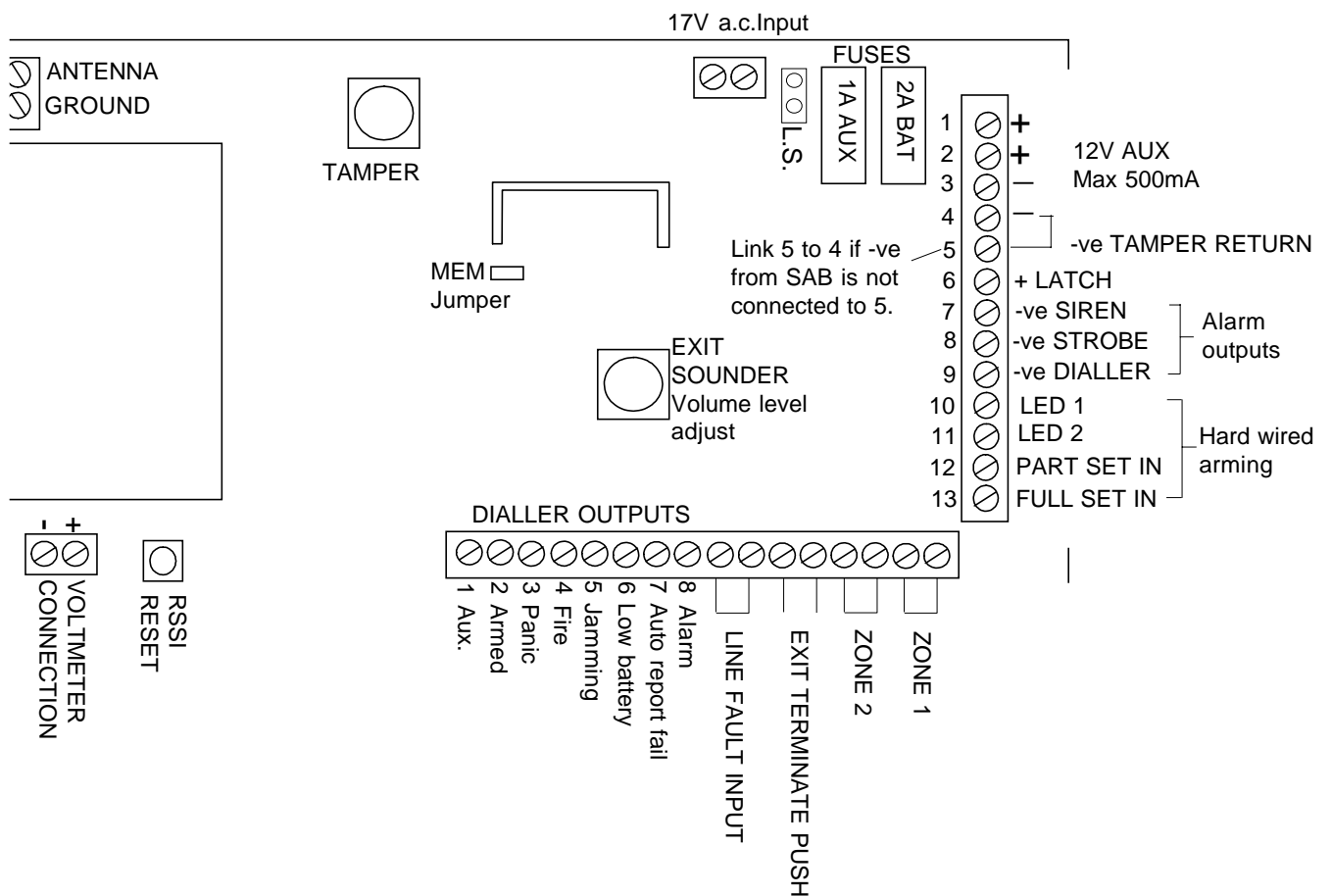
CONNECTIONS

MAINS SUPPLY

SAB -VE TAMPER RETURN

CONNECTIONS TO REMOTE SIGNALLING AND OR AUTODIALLER

2.1 AH STANDBY BATTERY



INSTALLATION PROCEDURE

1. LABEL DETECTORS WITH ZONE NUMBER
2. COMPLETE USER RECORD
3. COMPLETE SYSTEM RECORD SHEET
4. LOCATE CONTROL PANEL
5. PROGRAM DETECTORS INTO PANEL
6. RANGE TEST FROM DETECTOR LOCATIONS
7. FIX DETECTORS
8. PROGRAM PANEL
9. MEASURE RECEIVED SIGNAL STRENGTH
10. FULL SYSTEM TEST

4100

12m WIDE ANGLE WIRELESS PIR

The 4100 is a Class 3 wireless PIR, for operation with the FM400 panel.

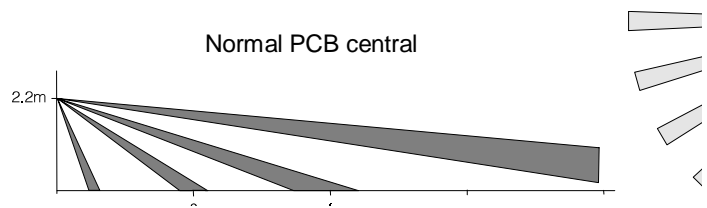
INHIBIT To prevent repeated transmissions and resultant battery drain, the detector incorporates a 2 minute inhibit timer. When movement is detected, a transmission is sent to the control panel. When movement is detected again, further transmissions are inhibited for 2 minutes. If no movement is detected for 2 minutes, the detector will transmit again.

PULSE COUNT FEATURE A unique memory system is employed which counts pulses from the piroelectric sensor and analyses these pulses to determine if an alarm should be sent. This system helps to overcome false alarms from many of these sources.

RECOMMENDED BATTERIES Two AA size Alkaline batteries are recommended. Duracell or Eveready are recommended. (Available from FM Electronics)

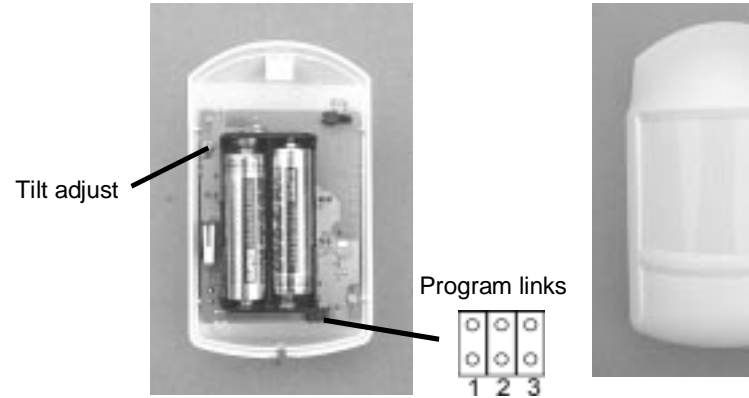
MOUNTING Corner mount the detector at a height of 2.2 meter so that the detection beams entering the room pass across the detection beams. Do not mount so that the beams are looking at a window, or heat source such as a boiler, radiator etc.

TILT ADJUSTMENT The detection range and beam location can be adjusted by adjusting the angle of tilt. This is accomplished by loosening the two screws and sliding the PCB up or down as shown below.



WALK TEST SWITCH The light guide on the front of the detector has a walk test switch. When pressed for one second sends a Learn transmission to the control panel, enabling the device to be learned in and RSSI measurements taken.

1. When pressed for one second sends a Learn transmission to the control panel, enabling the device to be learned in and RSSI measurements taken.
2. Provides a user walk test facility for one minute.



PROGRAM LINKS

- NO LINKS FITTED - Normal (pulse count 2 mode)
 - LINK 1 FITTED - No pulse count
 - LINK 2 FITTED - Pulse count = 4
 - LINK 3 FITTED - Overrides the 2 minute inhibit. V
- PIR will transmit again after 2 minutes with continuous movement present. Link 3 is unaffected by links one and two.

ADDING A DETECTOR TO THE FM4000 CONTROL PANEL

1. Connect the batteries. The detector will take approx. 6 minutes to learn. During this time you can program it, the PIR will not detect movement for 6 minutes.
2. Enter the engineers program by keying in 4679. (The alarm LED will indicate that you are in engineer mode).
3. Key in the number of the zone to which the detector is to be allocated. (1 for zone 1, 2 for zone 2, etc.)

4600

12m WIDE ANGLE WIRELESS PIR

The 4600 is a Class 6 (Supervised) wireless PIR, for operation via wireless control panel. A mercury tilt switch gives additional tamper detect attempted removal of the detector from the wall.

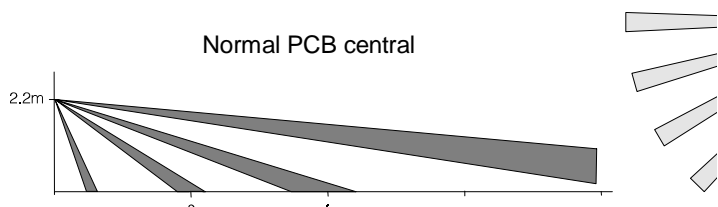
INHIBIT To prevent repeated transmissions and resultant battery incorporates a 2 minute inhibit timer. When movement is detected transmitted and then further transmissions are inhibited for 2 minutes has seen no movement for two minutes.

PULSE COUNT FEATURE A unique memory system is employed pulses from the piezoelectric sensor and analyses these pulses before alarm. This system helps to overcome false alarms from many of the sources.

RECOMMENDED BATTERIES Two AA size Alkaline batteries Eveready or Duracell are recommended. (Available from FM Electronics)

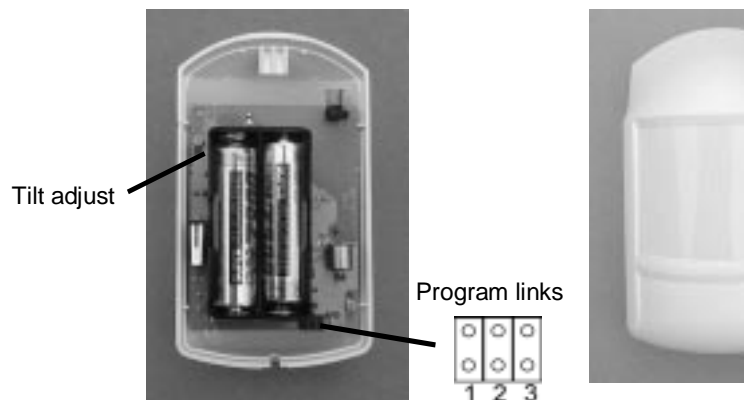
MOUNTING Corner mount the detector at a height of 2.2 meters entering the room passes across the detection beams. Do not mount so that the beams are looking at a window, or heat source boiler, radiator etc.

TILT ADJUSTMENT The detection range and beam location can be adjusted by adjusting the angle of tilt. This is accomplished by loosening the screws and sliding the PCB up or down as shown below.



WALK TEST SWITCH The light guide on the front of the detector has two functions:

1. When pressed for one second sends a Learn transmission to the control panel enabling the device to be learned in and RSSI measurements taken.
2. Provides a user walk test facility for one minute.



PROGRAM LINKS

- NO LINKS FITTED - Normal (pulse count 2 mode)
- LINK 1 FITTED - No pulse count
- LINK 2 FITTED - Pulse count = 4
- LINK 3 FITTED - Overrides the 2 minute inhibit. When movement is detected the PIR will

transmit again after 2 minutes with continuous movement present. Link 3 is unaffected by links one and two.

ADDING A DETECTOR TO THE FM4000 CONTROL PANEL

1. Connect the batteries. The detector will take approx. 6 minutes to learn. During this time you can program it, the PIR will not detect movement for 6 minutes.
2. Enter the engineers program by keying in 4679. (The alarm LED will indicate that you are in engineer mode).
3. Key in the number of the zone to which the detector is to be allocated.
1. 08 for zone 8.

WIRELESS CONTACT TRANSMITTER

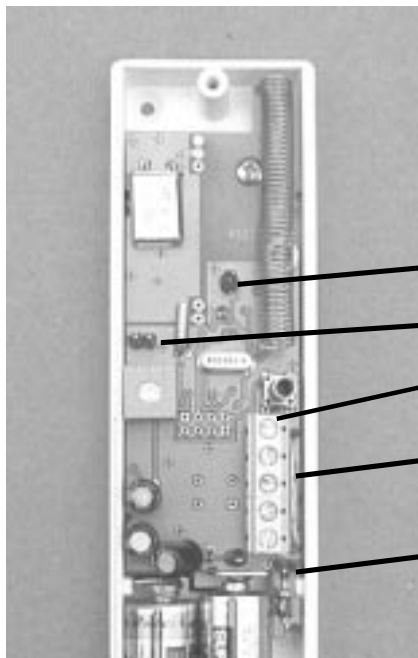
The 4150 is a Class 3 general purpose transmitter for use with the panel.

This transmitter is suitable for operation with magnetic door contacts close contact.

NORMALLY CLOSED CONTACTS The internal reed switch is f magnet can be mounted alongside the transmitter.

Connection terminals are provided for 4 wire connection to external contacts.

RECOMMENDED BATTERIES Two AA size Alkaline batterie Eveready or Duracell are recommended. (Available from FM Electron



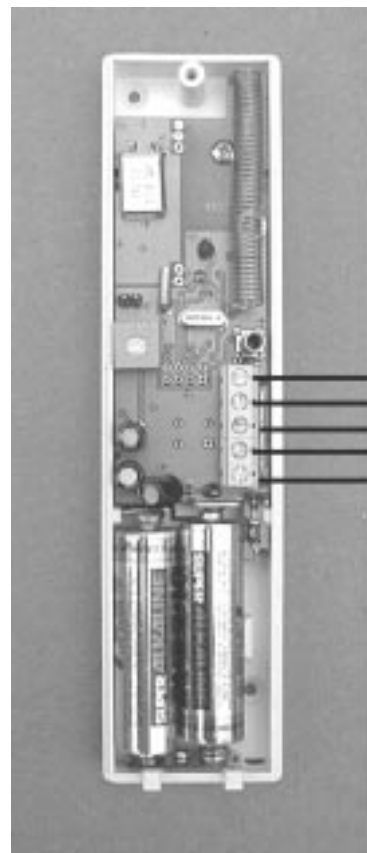
- LED
- Learn jumper
- Connection terminals
- Internal reed contact
- Reed shorting jumper (R using internal reed conta

12

LED The LED illuminates momentarily on transmission as an engine

LEARN JUMPER Short out momentarily to transmit a learn signal. U programming the contact into the FM4000 control panel.

CONNECTIONS



ADDING A I FM4000 CO

1. Connec
2. Enter th by keyir LED wil that you mode).
3. Key in t zone to to be all zone 1.
4. Short o The cor twice ar illumina detector that zon
5. Press th accept.
6. Key in 4 programm

4650

WIRELESS CONTACT TRANSMITTER

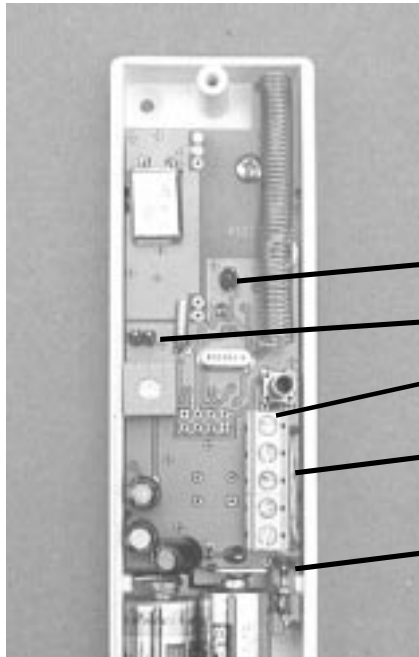
The 4650 is a Class 6 (Supervised) general purpose transmitter in a tamper for use with the FM4000 control panel.

A general purpose transmitter for operation with magnetic door or normally close contact.

NORMALLY CLOSED CONTACTS The internal reed switch is if a magnet can be mounted alongside the transmitter.

Connection terminals are provided for 4 wire connection to external contacts.

RECOMMENDED BATTERIES Two AA size Alkaline batteries Eveready or Duracell are recommended. (Available from FM Electronic)

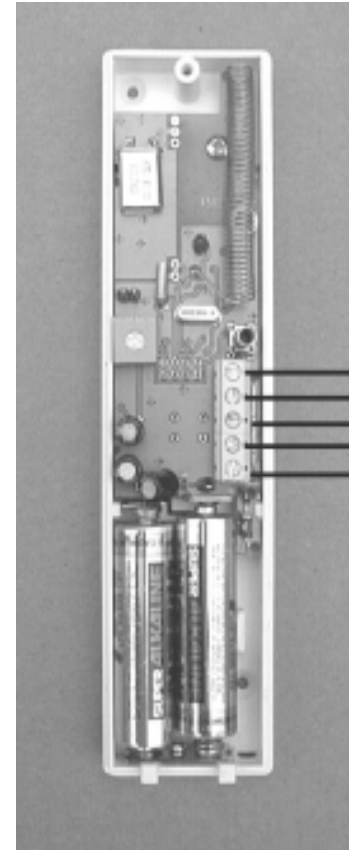


- LED
- Learn jumper
- Connection terminals
- Internal reed contact
- Reed shorting jumper (R) using internal reed contact

LED The led illuminates momentarily on transmission as an engineer

LEARN JUMPER Short out momentarily to transmit a learn signal. Use the contact into the FM4000 control panel.

CONNECTIONS



Tamper loop

N.C. contact

Exit terminate push button if required

4160-GB WIRELESS SMOKE DETECTOR

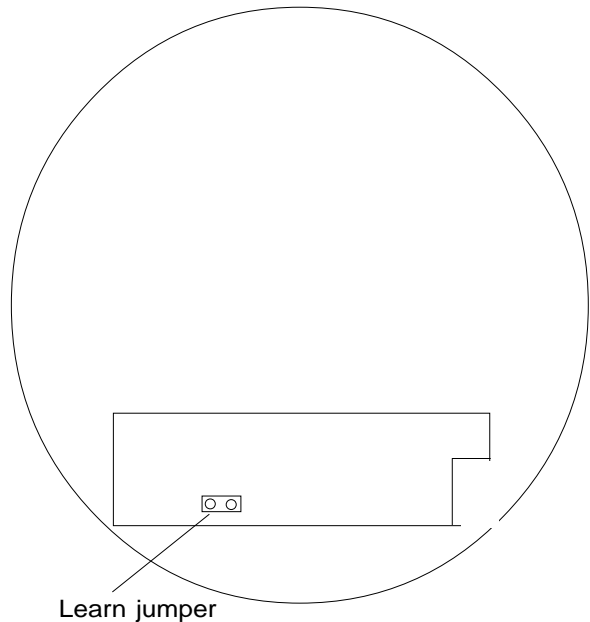
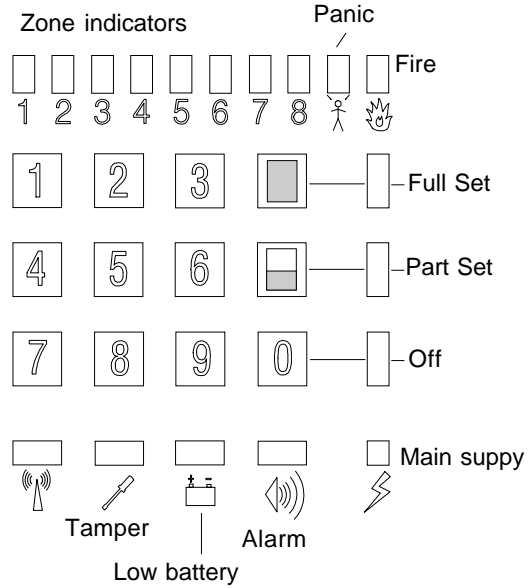
The 4160 is a Class 3 wireless smoke detector for operation with the FM4000 control panel.

RECOMMENDED BATTERIES Detector head, Duracell MN1604 or Eveready Energiser, Detector transmitter, 2 x Quality AA cells Duracell or Eveready Energiser preferred.

ADDING A DETECTOR TO THE FM4000E CONTROL PANEL

Connect the detectors battery.

1. Enter the engineers program mode by keying in the engineer code 4679
(The alarm LED will illuminate to indicate that you are in the engineer mode)
2. Key in 10.
3. Short out the learn jumper on the detector.
(The panel will bleep twice and zone 1 LED will illuminate to indicate that one detector is programmed onto that zone).
To remove all detectors from the zone, press both the Off and Part Set key. (All zone LED's will go out).
4. Press the Full Set key to accept.
5. Key in 48 to exit engineer programming.



4660-GB WIRELESS SMOKE DETECTOR

The 4660 is a Class 6 wireless smoke detector for operation with the FM4000 control panel.

RECOMMENDED BATTERIES Detector head, Duracell MN1604 or Eveready Energiser, Detector transmitter,

ADDING A DETECTOR TO THE FM4000X CONTROL PANEL

Connect the detectors battery.

1. Enter the engineers program mode by keying in the engineer code 4679 (The alarm LED will illuminate to indicate that you are in the engineer mode)

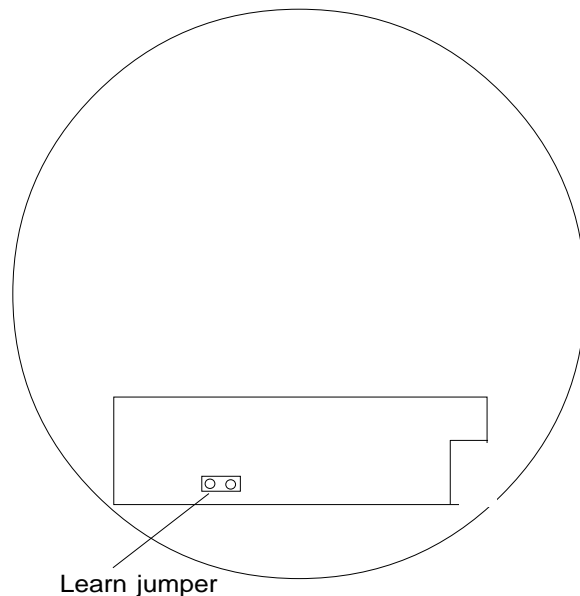
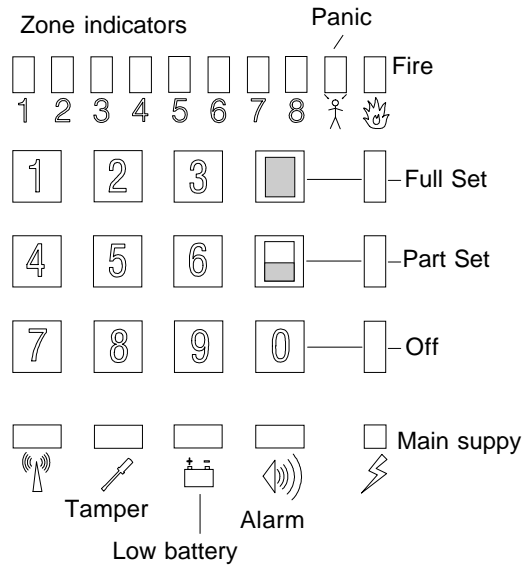
2. Key in 10 then the device number i.e. 1 for the first device 2 for the second etc..

3. Short out the learn jumper on the detector. (The panel will bleep twice and zone 1LED will illuminate to indicate that one detector is programmed onto that zone).

To remove a detector from the zone, press both the Off and Part Set key. (The appropriate zone LED will go out).

4. Press the Full Set key to accept.

5. Key in 48 to exit engineer programming.



4173

WIRELESS REMOTE CONTROL

The 4173 is a remote control transmitter for use with the FM4000 control panel. Providing remote arming, disarming and portable Panic facility.

The green LED indicates battery status. If the LED does not illuminate, replace the batteries as soon as possible.

Button Operation



DISARM Press button for one second



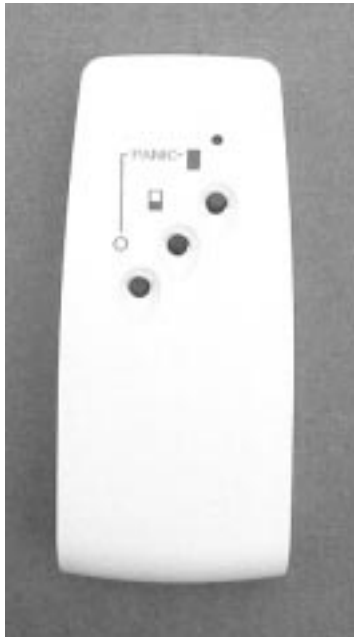
PART ARM Press button for one second



FULL ARM Press button for one second

PANIC Press button for one second

LEARN When the FM4000 C is sent by operator



RECOMMENDED BATTERIES Two 20mm 3v Lithium cells CR20 (from FM Electronics)

TO REPLACE THE BATTERIES

1. Press and slide off the battery cover.
2. Pull back the spring contact and tip the batteries out.
3. Fit the new batteries one at a time ensuring that the +ve side is correct.
4. Check operation of the LED.
5. Replace the battery cover.

ADDING A REMOTE CONTROL TO THE FM4000 CONTROL PANEL

1. Enter the control code in engineer mode by keying in the code 4679. (The green LED will illuminate to indicate that the system is in engineer mode).
2. Key in 11.
3. Transmit PA remote control code. The panel will indicate that the code is programmed. The number of LEDs that illuminate indicates how many remote controls are programmed to the system.

To remove all remote controls from the system, key in 11 and Part set key. The zone LED's will indicate that the system is in engineer mode.

4. Press the Full Arm button.





4180 WIRELESS KEYPAD

The 4180 is a remote wireless keypad for use in conjunction with the FM4000 control panel. Features include a 4 digit security code (user programmable), and Panic facility.

INSTALLATION

1. Avoid siting close to metalwork or large metal objects as this may affect radio range.
2. Before fixing into position, go to the control panel and program the keypad into the system as described on page 3.
3. Once programmed into the panel, check that the radio range at the desired location is satisfactory by arming and disarming using the keypad.
4. Fix the base to the wall with two screws (not provided).
Note; Now that the keypad is on the system, the tamper alarm will operate when opening up the keypad to fix it. Cancel the alarm by entering the user code on the panel keys.
5. After installation the received signal strength can be measured using the FM4000 control panels normal signal strength facility by sending a panic alarm from the keypad. (refer to the FM4000 instruction manual).

OPERATING THE ALARM FROM THE KEYPAD

OFF	1	2	5	4	0
PART SET	1	2	5	4	
FULL SET	1	2	5	4	

The green LED illuminates to confirm valid code, when led is on enter function (Off Part or Full). Wait until the LED goes out before entering the code again.

NOTE: If a wrong code is entered, wait 5 seconds before entering the code again.

PROGRAMMING YOUR OWN SECURITY CODE

1,2,5,4 is the factory set **security code**. If the battery is removed the keypad will revert to the factory code.

1,2,5,1 is the factory set **programming code**.

TO PROGRAM A NEW SECURITY CODE.

- key in 1,2,5,1, followed by pressing the Part and Full set keys together twice.



The green LED will illuminate leave for approx 6 seconds to ensure that you are in programming mode.

- Now enter a 6 digit number.

The first 4 are your new security code.

The first 3 and 5th digits are the new programming code, which must be used next time to change the code.

The 6th digit can be any number and just completes the programming sequence at this stage the led will extinguish.

EXAMPLE If you enter 1,2,3,4,5,6 your new security code is 1,2,3,4 and the new programming code is 1,2,3,5. The last digit is ignored.

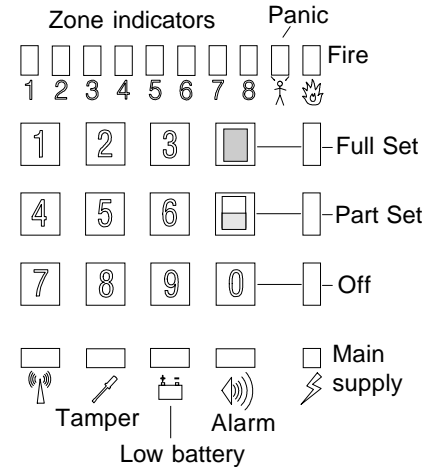
PANIC If two vertically adjacent keys are pressed together simultaneously e.g. 1&4 or 5&8 a panic alarm will be activated.

Note: This facility can be disabled by keying in the programming code 1251. and re enabled by keying in the programming code again.

LOW BATTERY If the battery falls to a point close to the end of its useful life a buzzer within the keypad will sound when setting or unsetting from the keypad. The keypad may continue to operate for some time, however call your alarm company to have the battery replaced as soon as possible

Note: The low battery will not be signalled to the panel.

ADDING A KEYPAD TO THE FM4000 CONTROL PANEL



Connect A 9V Battery to the 4180 (Use only Eveready Energizer or Duracell MN1604).

- Enter the engineers program mode by keying in the engineer code 4679 into the control panel.

(The alarm LED will flash to indicate that you are in the engineer mode)

- Key in 11 to select remote control programming.

- Press keys 1 and 4 together (on the 4180) to send a Panic alarm.

(The panel will bleep twice and a zone LED will illuminate to indicate that a remote control or keypad is programmed onto the panel).

To remove all remote controls or keypads from the panel, press both the 0 and Part Set key on the 4000. (All zone LED's will go out).

- Press the Full Set key on the panel to accept.

- Key in 48 on the panel to exit engineer programming.

Note: Remote setting devices are not supervised.

SYSTEM RECORD

Page ____ of ____

Date _____

00 INVERTED BELL OUTPUT 0=NORMAL* 1=INVERTED

RSSI VOLTAGE

01 ZONE 1	_____
02 ZONE 2	_____
03 ZONE 3	_____
04 ZONE 4	_____
05 ZONE 5	_____
06 ZONE 6	_____
07 ZONE 7	_____
08 ZONE 8	_____
09 PANIC BUTTONS	_____
10 FIRE ALARM DEVICES	_____
11 REMOTE CONTROLS	_____

12 FULL SET EXIT TIME 1=2s 2=10s 3=20s* 4=30s 5=45s 6=1min 7=2min 8=3min

13 PART SET EXIT TIME 1=2s 2=5s 3=10s* 4=15s 5=20s 6=30s 7=1min 8=Same as full set

14 ENTRY TIME 1=1s 2=10s 3=20s 4=30s* 5=40s 6=50s 7=1min 8=2min

15 BELL DURATION 1=Silent 2=15 Sec. 3=2m 4=3m 5=10m 6=15m 7=20mins* 8=Continuous

16 BELL DELAY 1=0* 2=1m 3=3m 4=4m 5=5m 6=6m 7=7m 8=10mins

17 FULL SET ZONES _____

18 PART SET ZONES _____

19 OMIT PERMIT ZONES _____

20 FINAL EXIT ZONES _____

21 WALK THROUGH ZONES _____

22 IGNORE ZONE
IF FIRST TO ALARM Zones _____

23 AUXILIARY ZONES _____

24 24 HOUR ZONES _____

25 SOAK TEST ZONES _____

26 CHIME ZONES _____

34 JAMMING 1=Full alarm
0=Indication only*

35 MAINS FAILURE or PANEL LOW BATTERY
PREVENTS ARMING 1= Yes 0= No*

36 REMOTE CONTROL UNSETS ONLY IN
ENTRY 1=Yes 0=No*

37 DIALLER DELAYED (20 seconds abort time)
1=Yes 0=No*

38 NO EXTERNAL SIREN OR DIALLER IN PART
SET 1=Yes 0=No*

39 LINE FAULT IN DAYTIME AUDIBLE
1=Audible 0= Visual
only*

40 SUPERVISORY 1=Yes 0=No*

41 SUPERVISORY FAULT
1=Full alarm 0=Indicator only*

42 ENGINEER RESET 1=Yes 0=No*

43 No. OF TIMES THE SYSTEM AUTO REARMS
1=0, 2=1, 3=2, 4=ALWAYS

45 AUDIBLE RECEIVE TEST MODE

46 ENGINEERS LOG

47 ENGINEERS ACCESS CODE
Default = 4679

49 DIALLER OUTPUT FOR PA
1=PA output only 0=PA and ALARM output*

50 PA ON ZONE 2
1=Zone 2 is a PA zone 0=Zone 2 is a standard
zone*

27 P.A. SILENT/AUDIBLE 1=Silent 0=Audible*

28 DOUBLE BUTTON P.A. 1= Double 0= Single*

29 SILENT PART SET 1= Yes 0= No*

30 UPSTAIRS / DOWNSTAIRS 1=Yes 0= No*

31 8 SECOND STROBE ON FULL SET / UNSET
1=Yes 0= No*

32 COURTESY STROBE / LIGHT DURING ENTRY
/ EXIT IN FULL SET 1=Yes 0= No*

33 WALK THROUGH ZONES TRIGGER ENTRY
TIMER IN PART SET 1=Yes 0= No*

4000 SERIES CLASS 3 AND CLASS 6 UK. PRODUCTS

CLASS 3 SYSTEM

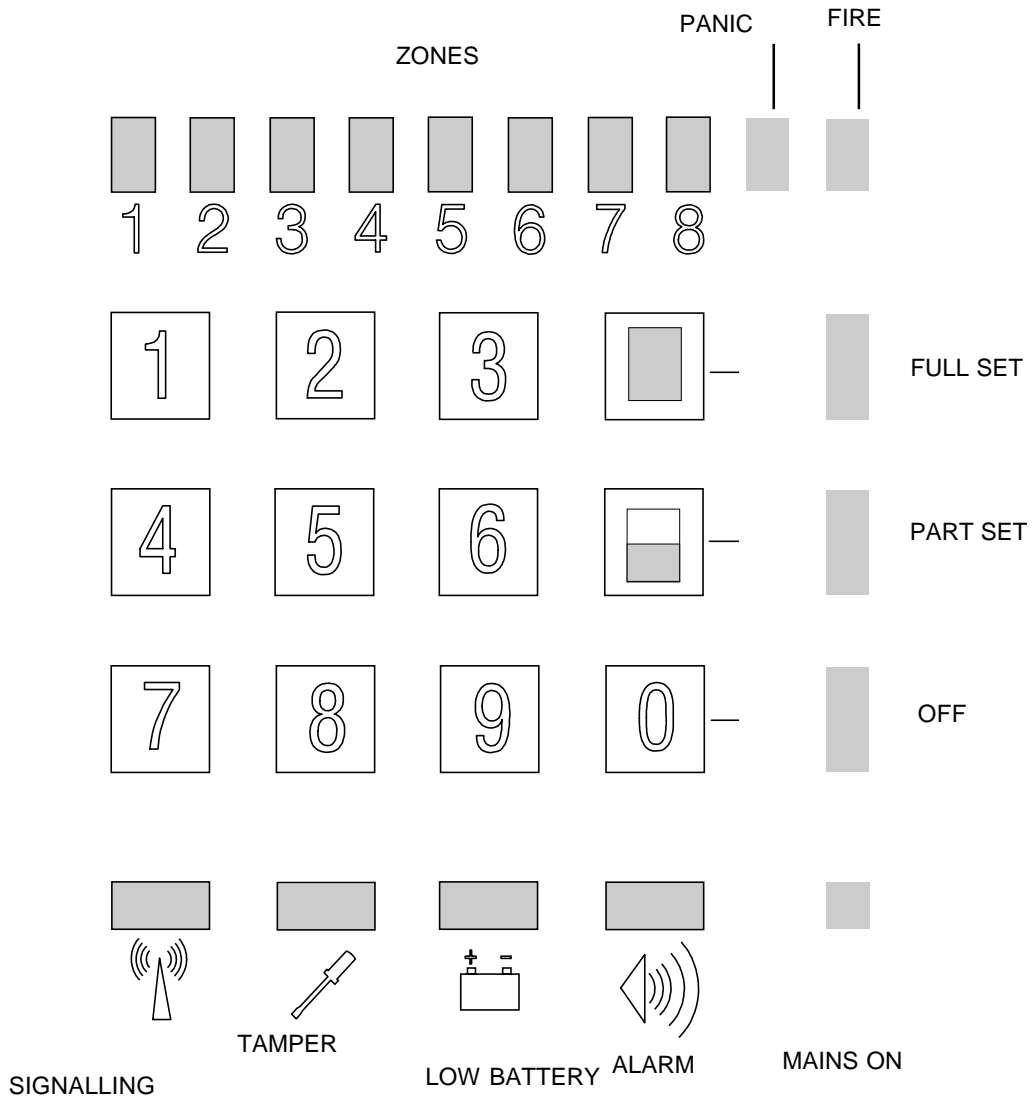
FM4000E	CONTROL PANEL
A4000E	MAIN PCB
A173RX	RECEIVER PCB
4005	TAMPER MODULE
4007	REMOTE ANTENNA
4150-GB	DOOR CONTACT
A4150-GB	MAIN PCB
4173-GB	REMOTE CONTROL
A4173-GB	MAIN PCB
4180	RADIO KEYPAD
A4180	MAIN PCB
4100-GB	WIDE ANGLE PIR
A4100	MAIN PCB
FM173T	TRANSMITTER PCB
LENSPACK	ALTERNATIVE LENSES FOR THE ABOVE PIR
4155	INERTIA DETECTOR
A4155	MAIN PCB
4160-GB	SMOKE DETECTOR
A4160	SMOKE DETECTOR TX
(Variant of contact tx pcb)	

CLASS 6 SYSTEM

FM4000X	CONTROL PANEL
A4000X	MAIN PCB
A173RX	RECEIVER PCB
FM4001	64 ZONE EXPANSION PANEL
A4001	MAIN PCB
4005	TAMPER MODULE
4007	REMOTE ANTENNA
4650-GB	DOOR CONTACT
A4650-GB	MAIN PCB
4173-GB	REMOTE CONTROL
A4173-GB	MAIN PCB
4180	RADIO KEYPAD
A4180	MAIN PCB
4600-GB	WIDE ANGLE PIR
A4600	MAIN PCB
FM173T	TRANSMITTER PCB
LENSPACK	ALTERNATIVE LENSES FOR THE ABOVE PIR
4655	INERTIA DETECTOR
A4655	MAIN PCB
4660-GB	SMOKE DETECTOR
A4660	SMOKE DETECTOR TX
(Variant of C6 contact tx pcb)	

FM4000 CONTROL PANEL

INSTALLATION INSTRUCTIONS



FM Electronics Ltd Manufacturer of quality wireless products

CONNECTIONS (RIGHT HAND SIDE)

1-4 12V Auxiliary supply output. Maximum load current 500mA

5 Tamper -ve return. If connecting a Self Actuating Bell (SAB) then connect the -ve tamper return to this terminal. If not fitting a SAB this terminal must be connected to -ve Aux.

6. This terminal provides a +ve output on alarm, which is reset next time the panel is armed. It is provided for use with hard wired detectors that have a latching LED facility.

7. -ve to trigger Siren. Goes from open circuit to 0v to operate a bell or siren. Max 500mA.
Resets after the bell time set in engineer program.

8. -ve Strobe. Goes from open circuit to 0v in alarm to operate a strobe. Remains on until the system is disarmed.

9. Dialler trigger output. Is provided for triggering an autodialler. This output goes to 0v on full alarm.
Once triggered it remains until the panel is disarmed, so as not to trigger any more until the system is turned off.

10 Fault LED output for remote wired arming. Indicates that a fault is present which will prevent arming.

11. System Off LED output for remote hard wired arming. Indicates when disarmed.

12. Part Set hard wired arming input. Apply +12v to arm. Remove to unset.

13. Full Set hard wired arming input. Apply +12v to arm. Remove to unset.

CONNECTIONS ALONG BOTTOM EDGE

HARD WIRED INPUTS 1 & 2

Must be linked out if not used. These inputs are normally closed, Opening in alarm. Zone 2 can be programmed to be a PA zone.

EXIT TERMINATE PUSH

Connection for a normally open push button which sets the alarm when pressed during the exit time.

LINE FAULT INPUT

Normally closed input. Open for line fault. To trigger with applied negative, leave the link in place and apply 0v for line fault.

DIALLER OUTPUTS 1-8

These outputs are for connection to a digital communicator employing +ve trigger inputs.

The outputs go to +5v in alarm.

RECEIVED SIGNAL STRENGTH INDICATION (RSSI)

For connection to a digital voltmeter to indicate the Signal Strength of a transmission received from a detector. (Refer to section on using the RSSI output).

INSTALLATION

The factory defaults for the user and engineer codes are:-

USER CODE = 1 2 3 4

ENG CODE = 4 6 7 9

The recommended installation procedure is as follows:

1. Label detectors.

Each detector has a label inside for you to write the zone number onto for reference during installation and for later service reference.

2. Complete the User Record

The back page of the user instruction booklet should be completed and left with the operator for their reference. It gives them information about the zones and entry exit times etc.

3. Complete a system record sheet

A system record sheet should be completed before commencing programming. This acts as a reference when programming and can form part of the installation records.

4. Locate the control panel

For best radio coverage the control panel is best located at a central point in the building.

The higher it is the better for radio reception.

(Do not mount at floor level on a ground floor)

Metal objects cause radio reflections which oppose the signal being received from the detector with a resultant reduction in the received signal strength. Metalwork close by can result in complete cancellation, therefore do not site the control panel or detectors near to large metal objects, metal piping, girders, concentrations of mains cabling, fuse boxes etc.

Consider the ease of wiring to the external siren when making your choice.

The Panel may be temporarily sited whilst a test is carried out to verify the reception from distant detectors.

When satisfied the panel must be fixed using the three fixing points provided.

Mains supply to the control panel must be provided by a competent electrician to the current issue of the IEE regulations.

A 12v sealed lead acid stand-by battery should be connected, after all wiring has been completed and tested. 12v 1.9AH is recommended.

5. Program detectors onto the panel

Each detector has an internal "Learn" jumper. To add a detector to the system:

Go into the engineer program. Select the zone number. Short out the learn jumper on the detector. Remove the learn jumper after programming

The detector transmits its identity together with a learn bit. The panel stores the detectors identity code and adds it to the chosen zone.

(Refer to engineer programming section)

6. Carry out range test

If you keep a 4174 remote control for testing, you can program this onto the system and then go to each detector location in turn and verify that the control can be armed and disarmed from all detector locations.

7. Mount the detectors

Refer to the detector instructions for recommended mounting positions.

As reflections from metalwork act to cancel the transmission, avoid siting near to any metalwork.

Reflections like this can often be overcome by a small movement in position of 15 to 20cm.

8. Making panel program changes.

Complete a system record sheet before making any changes.

Once programmed the program is stored in non-volatile memory, so data will remain stored even in the event of complete power failure.

9. Radio test using the RSSI output

To measure the signal strength received from a detector.

- i) Connect a Voltmeter to the RSSI output terminals.
- ii) Press the reset button next to the RSSI terminals. The voltmeter should now read zero volts.
- iii) Go to the detector and operate the learn jumper.

iv) Return to the panel. The voltmeter now displays a voltage representing the strength of the transmission received. It will ignore any other transmissions and only respond to the learn message or a Panic or Off message from a remote control or panic button.

The voltage reading should be a minimum of 1.0v.

The readings for each detector can be recorded on the system record sheet for future reference.

10. Full system test

A walk test facility is provided in the Operating instructions. This may be used to do a test of the detectors only.

Once the Sounders and dialler have been connected and the installation completed a full test with remote signalling should be carried out.

PROGRAMMING

1. Enter the engineers code 4 6 7 9
The Alarm led will flash slowly to indicate that you are in the program mode.
2. Key in the two digit program number.
(The zone led's indicate which option is set.)
3. Key in the option required
(The zone led's indicate your choice)
4. Press the Full Set key to exit that program step.
5. When finished with programming key in 48 to exit engineer mode.

ERROR CORRECTION VIA PART SET KEY

If you accidentally enter an engineer program number and change an option value, you can undo the change by pressing the Part Set key before exiting the program step via the Full Set key.

EXAMPLE: To set the Full set entry timer to 1 minute.

Key in 4 6 7 9 The alarm indicator will illuminate to indicate that you are now in engineer program mode

Key in 1 2 To select Full set exit time (program No. 12.)

Key in 6 To select the 1 minute option.

Zone 6 LED indicates your choice

Press the Full Set button to exit program Step.

Note: The Full set button must be pressed to exit from each program step. Until the Full Set button is pressed any key press just changes your choice of option.

Key in the next program Number you wish to change.

When all programming is complete Key in 48 to exit engineer mode

00 INVERT SIREN OUTPUT

Normally -ve applied in alarm.(0v in alarm)

0 = -ve applied in alarm

1 = -ve removed in alarm

LEARNING DEVICES

When installing the system you may find it easier to label each detector with its zone number and learn them into the panel before installation. Once programmed into the panel's memory, the information will not be lost even when power is removed from the panel.

01 PROGRAM DEVICES ONTO ZONE 1

Select program number 01. The numbered LED's will indicate how many detectors are already on that zone. eg. if LED's 1, 2 and 3 are lit then there are 3 devices on that zone.

To delete all detectors from that zone press Part set & 0 keys together.

To add a detector to a zone, briefly short out the learn jumper on the detector and ensure that the learn pins are not left permanently shorted.

The panel will emit 2 short blips to indicate that it has learnt the detector and the new total of devices on that zone will be displayed on the numeric LED's.

Press the Full Set key to exit.

02 PROGRAM DEVICES ONTO ZONE 2

03 PROGRAM DEVICES ONTO

ZONE 3

04 PROGRAM DEVICES ONTO ZONE 4

05 PROGRAM DEVICES ONTO ZONE 5

06 PROGRAM DEVICES ONTO ZONE 6

07 PROGRAM DEVICES ONTO ZONE 7

08 PROGRAM DEVICES ONTO ZONE 8

09 RADIO PANIC BUTTONS

To delete all Panic Buttons already on this option press Part & 0 keys together. To add a new device press the panic button. The panel will emit 2 short blips to indicate that it has read the panic button and LED 1 will indicate that one PA has been programmed in.

You can add up to 8 PA's to the panic zone by simply pressing each one in turn.

Press the Full Set key to exit.

10 FIRE ALARM DEVICES

To delete all Fire sensors press Part & 0 keys together.

To add a fire sensor, short out the learn jumper.

The panel will emit 2 short blips to indicate that it has read the sensor and zone 1 LED will indicate that one sensor has been programmed in.

Up to eight sensors can be programmed onto the fire zone by simply shorting out the learn jumper of each one in turn.

Press the Full Set key to exit.

11 REMOTE CONTROLS

To delete all Remote Controls press Part & 0 keys together.

To add a remote control press the Panic button. The panel will emit 2 short blips to indicate that it has read the remote control and LED 1 will indicate that one remote has been programmed in. You can add up to 8 remote controls by simply pressing each one in turn. Press the Full Set key to exit.

12 FULL SET EXIT TIME

1= 2 secs 2= 10 secs 3= 20 secs*
4= 30 secs 5= 45 secs 6= 1 min
7= 2 mins 8= 3 mins

Press Full Set to exit

* = FACTORY DEFAULT

13 PART SET EXIT TIME

1= 2 secs 2= 5 secs 3= 10 secs*
4= 15 secs 5= 20 secs 6= 30 secs
7= 1 mins 8= As full set exit time.

Press Full Set to exit

14 ENTRY TIME

1= 1 sec 2= 10 secs 3= 20 secs
4= 30 secs* 5= 40 secs 6= 50
secs 7= 1 min 8= 2 min

Press Full Set to exit

15 BELL DURATION

1= Silent 2= 15 secs 3= 2 mins
4= 3 mins 5= 10 mins 6= 15 mins
7= 20 mins* 8= Continuous

Press Full Set to exit

16 BELL DELAY

1= 0 mins* 2= 1 min 3= 3 mins
4= 4 mins 5= 5 mins 6= 6 mins
7= 7 mins* 8= 10 mins

Press Full Set to exit

17 FULL SET ZONES

The factory default is all zones active.
The zone LED's indicate which zones are active in full set.

Use the keys 1 to 8 to select or deselect zones. The 0 key deletes all.

Press the full set key to exit.

18 PART SET ZONES

The factory default is zones 1 to 4 active.
The zone LED's indicate which zones are active in part set.

Use the keys 1 to 8 to select or deselect zones. The 0 key deletes all.

Press the full set key to exit.

19 OMIT PERMIT ZONES

(The zones that the user is allowed to omit)

The factory default is all zones allowed to be omitted except zone 1.

The zone LED's indicate which zones are allowed to be omitted.

Use the keys 1 to 8 to select or deselect zones. The 0 key deletes all.

Press the full set key to exit.

20 FINAL EXIT ZONES

(Zones that start the entry time)

The factory default is zone 1 only.

The zone LED's indicate which zones will start the entry timer.

Use the keys 1 to 8 to select or deselect zones.

The 0 key deletes all.

Press the full set key to exit.

21 WALK THROUGH ZONES

The factory default is none.

The zone LED's indicate which zones are walk through during entry.

Use the keys 1 to 8 to select or deselect walk through zones.

The 0 key deletes all.

Press the full set key to exit.

22 IGNORE ZONE IF FIRST TO ALARM (Double Knock)

Alarm only if two zones are triggered.

The factory default is none.

The zone LED's indicate which zones are double knock.

Use the keys 1 to 8 to select or deselect double knock zones.

The 0 key deletes all.

Press the full set key to exit.

23 AUXILIARY ZONES

Technical alarm. ie. Freezer giving internal audible and technical alarm channel of dialler.

The factory default is none.

The zone LED's indicate which zones are auxiliary zones.

Use the keys 1 to 8 to select or deselect aux. zones.

The 0 key deletes all.

Press the full set key to exit.

24 24 HOUR ZONES

The factory default is none.

The zone LED's indicate which zones are 24 hour.

Use the keys 1 to 8 to select or deselect 24 hour zones.

The 0 key deletes all.

Press the full set key to exit.

NOTE: If you do not want a 24 hour zone to be omitted, remove the zone from omit permit via program No.19.

25 SOAK TEST ZONES

The factory default is none.

The zone LED's indicate which zones are on soak test.

Use the keys 1 to 8 to select or deselect soak test zones.

The 0 key deletes all.

Press the full set key to exit.

26 CHIME ZONES

The factory default is none.

The zone LED's indicate which zones are on chime.

Use the keys 1 to 8 to select or deselect chime zones.

The 0 key deletes all.

Press the full set key to exit.

27 P.A. SILENT / AUDIBLE

The factory default is audible.

1= Silent O= Audible *

Press the full set key to exit.

28 DOUBLE BUTTON P.A.

(To activate a panic from a remote control, both PA & OFF buttons must be pressed simultaneously)

The factory default is single button.

1= Double O= Single*

Press the full set key to exit.

29 SILENT PART SET

1= Silent O= Audible*

Press the full set key to exit.

30 UPSTAIRS / DOWNSTAIRS

This option tells the panel to accept part set button as a separate alarm system. eg. The Part Set button becomes the alarm system in the flat & the Full set button is a separate alarm system in the office. In this mode the user can set either one or the other, or both systems by selection when arming.

1 = Select Upstairs/Downstairs mode.

O= Normal Part / Full set mode.*

Press the full set key to exit.

31 8 SECOND STROBE WHEN FINAL SET AND UNSET

If selected the strobe output operates for 8 seconds at the moment the panel is full set. i.e. when the exit timer terminates.

The strobe also operates for 8 seconds when the panel is Unset from Full Set.

1 = 8 sec. Strobe 0 = No 8 second strobe

Press the full set key to exit.

32 COURTESY STROBE IN FULL SET ENTRY / EXIT

If selected the strobe output terminal 8 operates when Full setting the panel. The strobe output also operates for the entry time when unsetting from Full Set.

(If a mains relay was connected via this output a mains courtesy light could be switched on by disarming from outside with a remote control.)

1= Courtesy strobe on 0=off*

Press the full set key to exit.

33 WALK THROUGH ZONES BECOME FINAL EXIT IN PART SET

To prevent false alarms in part set it is often useful to make walk through zones initiate the entry timer.

1= Yes 0= No*

Press the full set key to exit.

34 JAMMING

1 = Jamming generates a full alarm when set

0= indicator only*

Press the full set key to exit.

(Jamming is signalled to the dialler outputs.)

35 MAINS FAILURE & PANEL LOW BATTERY PREVENTS ARMING

1 = Mains failure or Panel battery failure prevents arming.

0 = Does not prevent arming*

Press the full set key to exit

36 REMOTE CONTROL UNSETS ONLY IN ENTRY

1= Unset only after entry timer has been started.

0= Unset not inhibited*

Press the full set key to exit.

37 DIALLER DELAYED

(20 second abort time)

1= Delayed 0= Instant *

Press the full set key to exit

38 NO EXTERNAL BELL OR DIALLER IN PART SET

(Internal bells only in Part Set).

1= Internal sounder only in Part Set.

0= Dialler and siren In both full or part set*

Press the full set key to exit

39 LINE FAULT IN DAYTIME AUDIBLE

1= Audible and visual 0= visual only*

Press the full set key to exit.

40 SUPERVISORY

Do not select supervisory unless all your detectors are 4600 series.

Do not select supervisory if using zoned Panic buttons.

1= Supervision 0= No supervision*

Press the full set key to exit.

41 SUPERVISORY FAULT

1= audible when unset 0= silent when unset*

Press the full set key to exit

42 ENGINEER RESET

1= Engineer reset 0= No*

Press the full set key to exit.

43 REARMING

1= none 2= once 3= twice 4=always*

Press the full set key to exit

44 RESTORE ENTIRE NV RAM TO FACTORY DEFAULT VALUES

Short out the MEM link while keying in 44.

All zone LED's will come on, the panel will emit a long bleep and will go out of engineering mode into the day state.

WARNING: This will delete all detectors from the system.

45 AUDIBLE RECEIVE MODE

The output from the receiver can be heard on the panel loudspeaker.

Press the full set key to exit.

46 DISPLAY ENGINEERS LOG

Press keys 1 to 8 to view the last 8 events.

Most recent is displayed on key 1.

Key 9 shows the last "First to Alarm"

Press the full set key to exit.

47 CHANGE ENGINEERS ACCESS CODE

Key in a 4 digit code twice.

48 LEAVE ENGINEER MODE

If any devices have their tampers open, the display shows which zones are tampered and will generate an error beep.

The tampers must be restored before leaving engineer mode by pressing 48 again.

49 DIALLER OUPUT FOR PA

1=PA Triggers PA dialler output

0=PA Triggers both PA and ALARM dialler outputs*

Press the full set key to exit

50 PA ON ZONE 2

1=Zone 2 is a PA zone

0=Zone 2 is a standard zone*

Press the full set key to exit

This feature enables hardwired PA buttons to be connected to the panel via the zone 2 hardwire input. Radio devices including PIR's and contacts programmed onto zone 2 will also trigger a PA alarm if this option is selected.

REMOTE ENGINEER RESET FACILITY

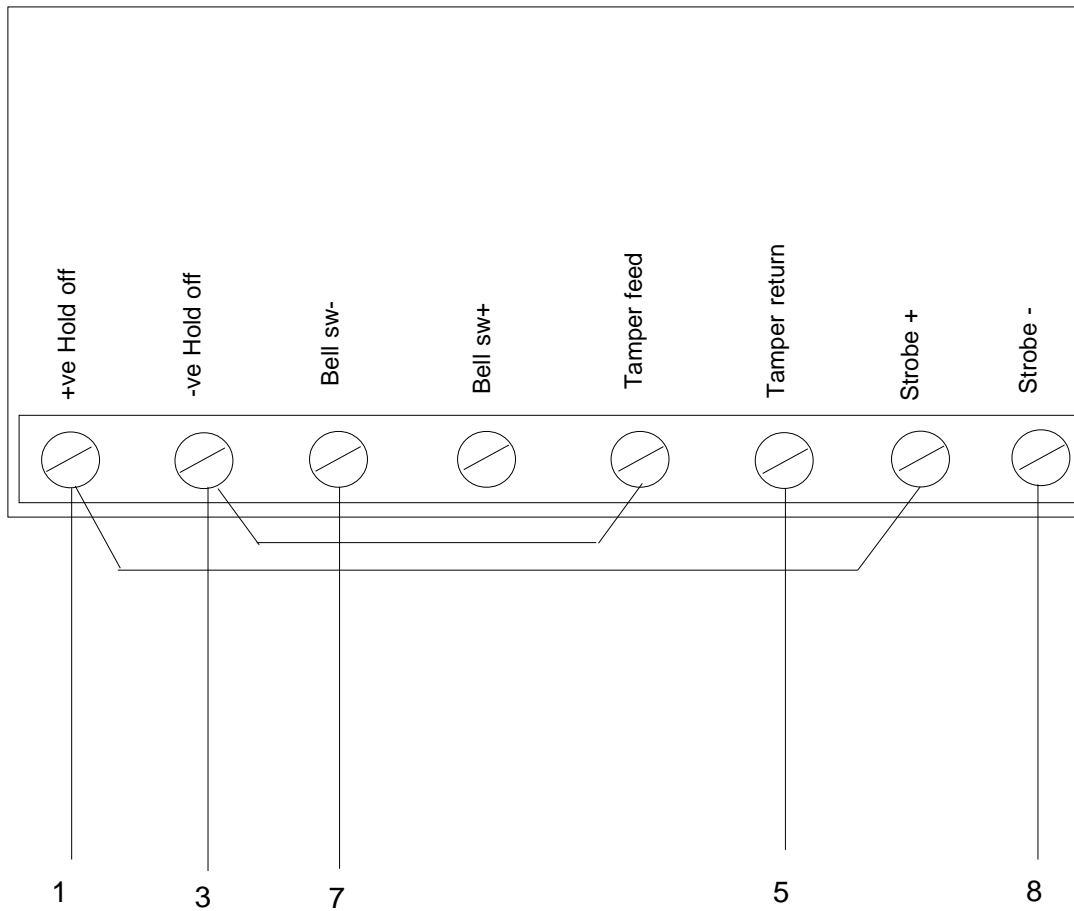
When an alarm occurs which requires an engineer reset, the user can call the Central Station and obtain the access code number to key in to the panel.

The panel zone LED's will illuminate randomly.

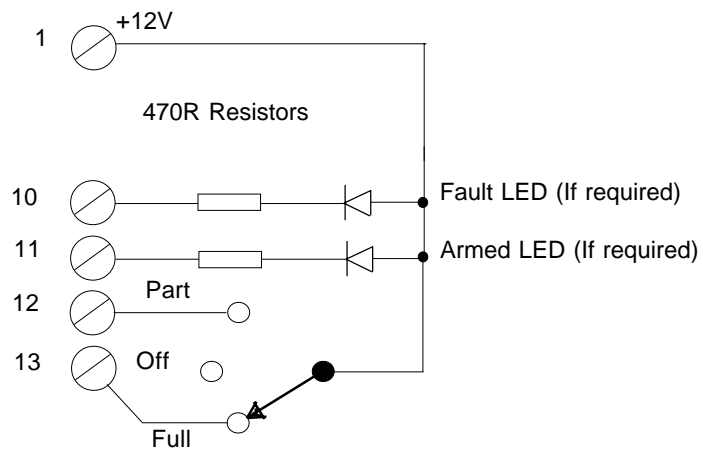
From the LED's the Central Station operator can refer to a reference table and instruct the user what code to enter to perform an engineer reset.

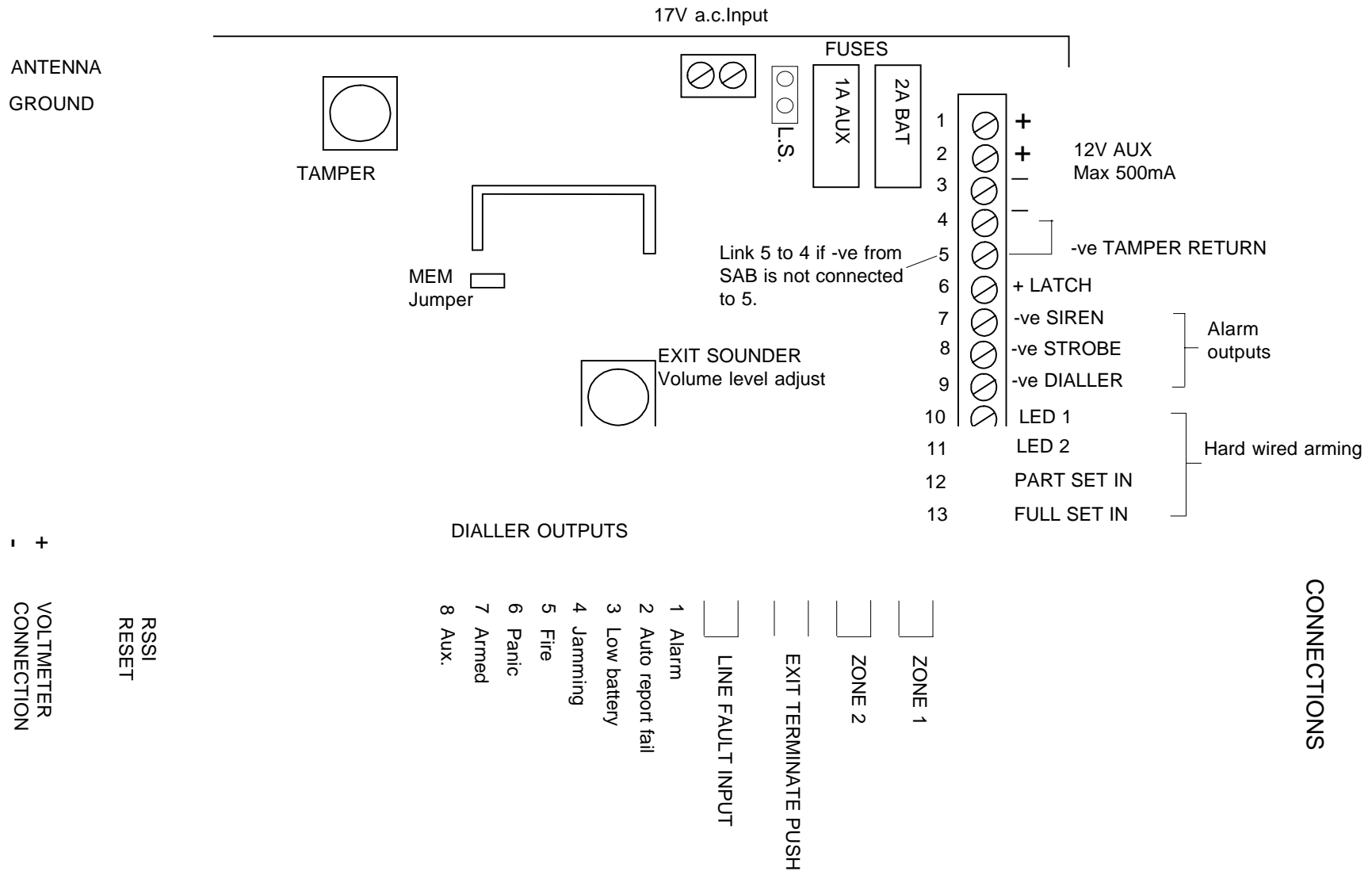
Next time the alarm operates the reset code number will have changed.

SAB CONNECTION TO THE FM4000



WIRED KEYPAD ARMING





FAULT FINDING GUIDE

CUSTOMER HAD AN ALARM Ask them to press the Full set button and tell you what indicators are on.

The LED's indicate the cause of the alarm and also the setting status at the time.

MAINS LED FLASHING Mains failure (Restore supply)

ZONE LED FLASHING (in exit) Check that doors and windows are closed.
Flashing with tamper LED. (A detector has an open tamper).
Flashing with Battery LED. (The detectors battery needs replacing).

ALARM LED ON Full alarm. The LEDs indicate what caused the alarm.
If Engineer reset is programmed into the panel an engineer reset will be required before the system can be re-armed.

FLASHING WITH ZONE LED A detector on soak test has triggered whilst the system was armed.

FLASHING WITHOUT A ZONE LED An engineer reset is required.

BATTERY LED ON The control panel's battery is disconnected or needs replacement.

FLASHING: Detector has a low battery. The zone LED will flash to indicate which one.

SIGNALLING LED ON The system is being blocked by a continuous transmission.

FLASHING If flashing on its own, an external line monitor has signalled that the telephone line is at fault.

Flashing together with a zone indicator. The system is set as a supervised system and the detector indicated by the flashing zone LED has failed to report in. (Re-site the detector where there is good radio reception. Use the RSSI output to check.

CONTACT TRANSMITTER NOT WORKING Check the magnetic contact is operating correctly. Open lid and check what zone it should be on. Go into the panel engineer mode and check if it has been programmed onto the correct zone.

Note: the panel will not allow you to program a detector onto two zones. When programmed onto a zone any previous zone allocation will be deleted.

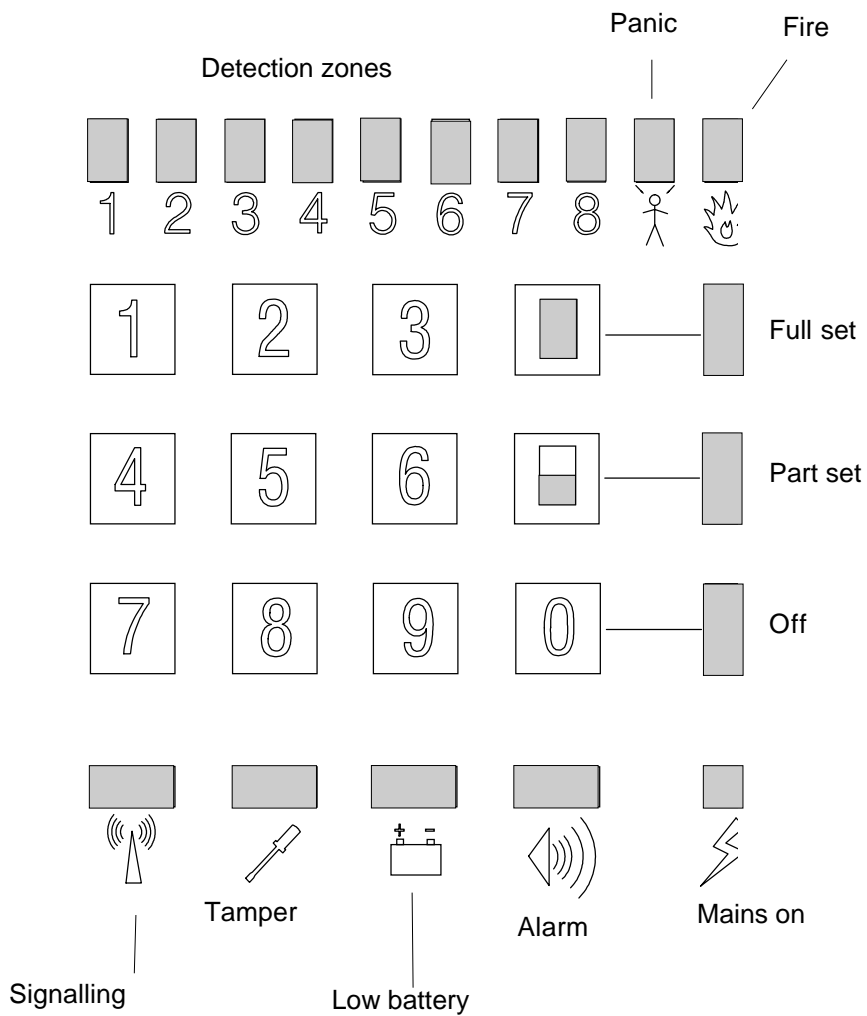
PIR NOT WORKING The detector needs 6 minutes to settle on power up.

Set the control into operator walk test mode and walk test the detector with the cover removed. Removing the cover opens the tamper and overrides the 2 minute inhibit timer. If the test jumper inside is fitted and the cover replaced it overrides the 2 minute inhibit, but allows you to walk test it without a tamper alarm.

CUSTOMER HAS FORGOTTEN THEIR CODE Open the panel and short out the MEM jumper. The user and engineer codes will be restored to the factory defaults 1234 & 4679. No other programming is affected.

FM4000 ALARM SYSTEM

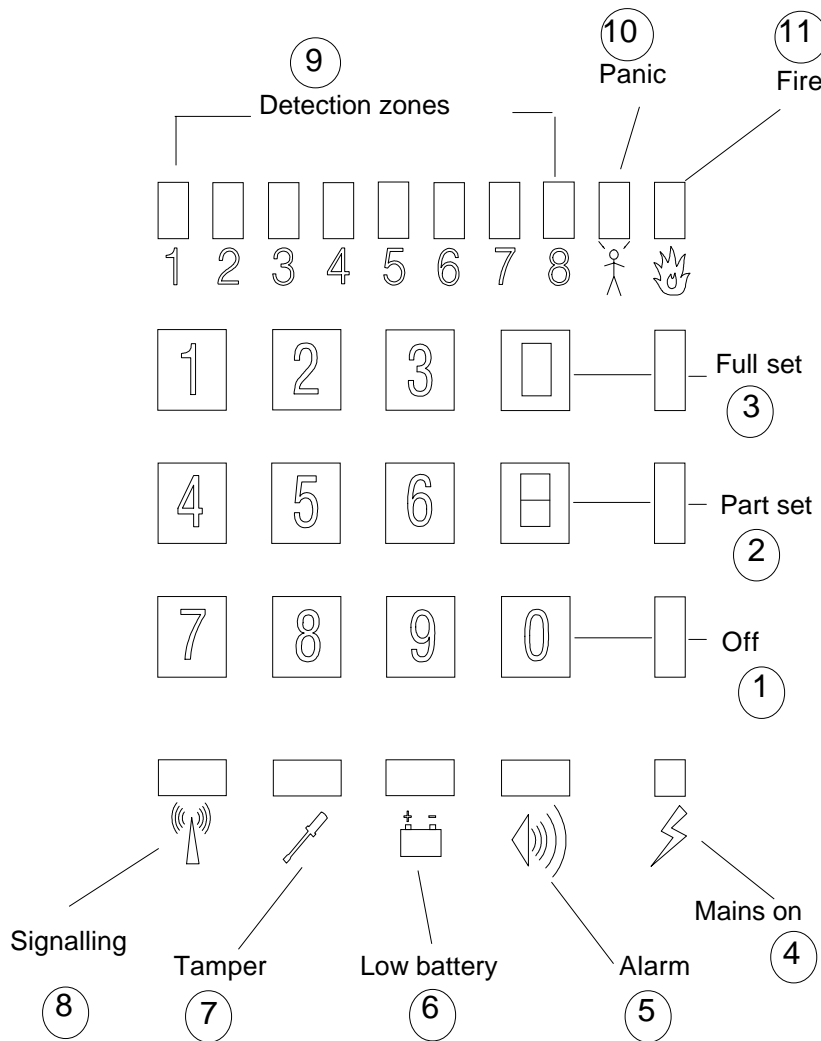
OPERATING INSTRUCTIONS



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CI-085 iss4

Explanation of indicators on the control panel



- ① Off Illuminated when the system is disarmed.
- ② Part set Illuminated when the system is Part armed.
- ③ Full set Illuminated when the system is Fully armed.
- ④ Mains on Illuminated - indicates mains supply is present.
Flashing - is a warning that mains supply is disconnected.
- ⑤ Alarm Illuminated - Indicates an alarm has occurred.
Flashing - An alarm has occurred and the system needs an engineer reset. (Call your alarm company)

- ⑥ Low battery Illuminated - Control panel battery fault. (Call your alarm company)
Flashing with a zone indicator - A detector battery needs replacing. Call your alarm company.
- ⑦ Tamper Illuminated - The control panel or external siren has been tampered or incorrect pin numbers have been entered
Flashing with a zone indicator - A detector has been tampered with.
(Call your alarm company)
- ⑧ Signalling Illuminated - A radio signal of a similar frequency is present for more than 45 seconds. If it continues call your alarm company.
Flashing with a zone indicator - A detector has failed to report.
(Call your alarm company)
Flashing on its own - The telephone line is not operational.
(If the line remains faulty call your alarm company)
- ⑨ Zones 1 to 8 - If an alarm has occurred they indicate which detector first triggered the alarm.
- ⑩ Panic - Indicates that a panic alarm has been operated.
- ⑪ Fire - Indicates that a fire sensor has operated.

ARMING THE ALARM SYSTEM WHEN LEAVING THE PREMISES

1. **Key in your 4 digit pin number. (Factory default is 1 2 3 4)**
2. **Press Full set key**
3. The indicators illuminate to show which zones are being armed.
To add or remove a zone, press the appropriate number key.
A flashing indicator means that a door has been left open.
4. **Vacate the protected area via your designated exit route.**
5. **Wait for the exit timer bleep to stop.** The system is then armed.
If the bleep does not stop, return to the panel to identify where the fault is.

If the detectors are not clear to set, i.e.. A door is still open. The affected zone indicator will flash and will prevent arming until either the door has been closed or that zone is omitted.

When armed all zone and fault indicators will be extinguished.

ARMING THE ALARM SYSTEM WHILST REMAINING ON THE PREMISES

1. **Key in your 4 digit pin number.**
2. **Press Part set key**
3. The indicators illuminate to show which zones are being armed.
To add or remove a zone, press the appropriate number key.
A flashing indicator means that a door has been left open.
4. **Vacate the protected area via your designated exit route.**
5. **Wait for the exit timer bleep to stop.** The system is then armed.
If the bleep does not stop, return to the panel to identify where the fault is.

If the detectors are not clear to set, i.e.. A door is still open, the affected zone indicator will flash and will prevent arming until either the door has been closed , or that zone is omitted.

When armed all zone and fault indicators will be extinguished.

DISARMING THE ALARM SYSTEM

1. **Enter the protected area by the designated entry route.**
2. **Go straight to the panel.**
3. **Key in your 4 digit pin number.**
If you do not disarm the system before the entry time has expired, the alarm will operate.

PROTECTION WHILST YOU ARE AT HOME

If you have a portable panic button a full alarm will be initiated by pressing the Panic button for one second. Refer to the rear page to see if your panic button has been set for silent or audible operation.

The Part Set facility allows part of the system to be armed whilst you are at home. For example detectors downstairs can be armed whilst you are in bed. Or a part of the building can be armed whilst you are working in another part of the premises.

CHANGING YOUR PIN NUMBER.

You can change your 4 digit PIN number at any time by the following sequence.

1. Enter your 4 digit pin number.
2. Press key 7.
The full set indicator on the panel will flash.

3. Key in your new 4 digit pin number twice.
The flashing indicators will now stop.

If you make a mistake when keying in a number, press the Full Set key to exit and start again. The number will not change until you have keyed in the same 4 digit PIN number twice.

If no key is pressed for 20 seconds the program mode is aborted and the panel will revert to the original pin number.

ALARM MEMORY

Following an alarm the event leading to the alarm is stored in memory. At any time whilst unset, the alarm display can be recalled in order to verify what occurred.

Press the full set button - The detector or fault which initiated the last alarm will be displayed.

Pressing the Part Set button - Recalls the most recent event.

Pressing 0 returns the display to normal.

CHIME OPTION

If you require a detector to trigger a chime. i.e. To give an audible indication when someone enters via the front door, you may set the sensor on that door to operate a chime.

To set or remove chime:

1. **Key in your pin number**
2. **Press the 8 key.**
The Full set indicator will flash.
3. **Press the number keys** to select which zones will chime.
The zones with their indicators illuminated will chime.
The zones not illuminated will not chime.
4. **Press the Full Set key** when you have set the desired chime zone

KEYPAD TAMPER

If incorrect attempts are made to enter the pin number, a tamper alarm will operate, (Internal audible in daytime. Full alarm when armed).

TESTING YOUR ALARM SYSTEM

If your system incorporates an automatic telephone dialler going through to a neighbour let your neighbour know you are carrying out a test .

If you have Police response via a Central Station connection, triggering the alarm will not be acceptable to the Police.

Facility exists for you to test the detectors without causing a full alarm.

To select walk test:

1. **Key in your pin number**
2. **Press the 9 key.**
3. **Walk around the building triggering each detector.**

Each time a detector is triggered a chime tone will be generated.

On return to the panel, the zone indicators will be illuminated, indicating which zones have been triggered.

Pressing the Off "0" key will clear the indicators.

PIR movement detectors have a 2 minute battery save timer. This means that once it has sensed movement and transmitted its alarm signal, the detector must see no movement for 2 minutes before it becomes active again.

Before testing PIR detectors ensure that no one has walked past them for 3 minutes.

A detector with a low battery will operate the internal audible alarm when triggered.

To return the zone indicators to normal operation:

1. **Key in your pin number**
2. **Press the 6 key.**

In normal operation the zone lights indicate when a door is open and go out again when the door is closed.

The panel will return to normal display next time you arm the system in any case.

TESTING YOUR OUTSIDE BELLS / SIREN

Facility exists for you to test the outside bells.

To operate the bells for 10 seconds:

1. **Key in your PIN number**
2. **Press the 4 key**
3. **The outside siren will sound for 8 - 12 seconds.**

PREVENTING FALSE ALARM

1. When you are away from home with the alarm system armed, Dogs or Cats must not be allowed access to rooms protected by PIR movement detectors.
2. Always disarm the system immediately on entry and ensure that children or pets do not deviate from the entry route until the system has been disarmed.
3. When going away do not turn off the electricity supply to the alarm.

WHAT HAPPENS IF THE ALARM OPERATES WHILST YOU ARE AWAY

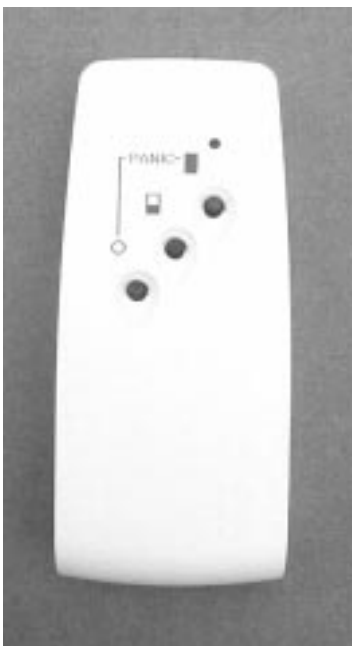
The Siren will operate for a pre-determined time and then turn off to avoid noise nuisance.

The strobe will continue to flash until the system is disarmed.

The system will automatically re-arm after the siren has cut out.

To reset the alarm, if the alarm light is flashing, contact your alarm company. If the alarm light is on constantly then enter your 'user code' followed by zero on the control panel. You can now operate the system as normal.

USING THE 4173-GB REMOTE CONTROL



Button Opera



DISARM Press
button for one



PART ARM P
arm button for



FULL ARM F
Full arm butt

PANIC Press
Full buttons si
one second

Always ensure each button is depressed for at least 1 second.

FM4000X 4001 SYSTEM FEATURES

1. TO NACOSS CLASS 6 & BS6799 CLASS 3
2. 64 WIRELESS ZONES + 8 FIRE & PANIC
3. 2 HARD WIRED ZONES
4. PART SET + UPSTAIRS DOWNSTAIRS
5. REMOTE ARMING OPTIONS
6. LOW BATTERY & TAMPER BY ZONE
7. ALL ZONES ARE PROGRAMMABLE
8. ZONE OMIT
9. CHIME
10. AUXILIARY ZONES
11. DOUBLE KNOCK
12. WALK THROUGH
13. 8 DIALLER OUTPUTS
14. NON VOLATILE MEMBORY
15. ZONE DESCRIPTION IDENTIFICATION
16. LCD DISPLAY
17. RS232 PRINTER OUTPUT
18. 500 EVENT TIME AND DATE STAMPED ENGINEERS LOG
19. DIALLER OUTPUT POLARITY CAN BE INVERTED

FM4000X SYSTEM RECORD

Page _____ of _____ Date _____

00 INVERTED BELL OUTPUT 0=NORMAL* 1=INVERTED

12 FULL SET EXIT TIME 1=2s 2=10s 3=20s* 4=30s 5=45s 6=1min 7=2min 8=infinite

13 PART SET EXIT TIME 1=2s 2=5s 3=10s* 4=15s 5=20s 6=30s 7=1min 8=Same as full set

14 ENTRY TIME 1=1s 2=10s 3=20s 4=30s* 5=40s 6=50s 7=1min 8=2min

15 BELL DURATION 1=Silent 2=15 Sec. 3=2m 4=3m 5=10m 6=15m 7=20mins* 8=Continuous

16 BELL DELAY 1=0* 2=1m 3=3m 4=4m 5=5m 6=6m 7=7m 8=10mins

17 FULL SET ZONES _____

18 PART SET ZONES _____

19 OMIT PERMIT ZONES _____

20 FINAL EXIT ZONES _____

21 WALK THROUGH ZONES _____

22 IGNORE ZONE
IF FIRST TO ALARM Zones _____

23 AUXILIARY ZONES _____

24 24 HOUR ZONES _____

25 SOAK TEST ZONES _____

26 CHIME ZONES _____

27 P.A. SILENT/AUDIBLE 1=Silent 0=Audible*

28 DOUBLE BUTTON P.A. 1=Double 0=Single*

29 SILENT PART SET 1=Yes 0=No*

30 UPSTAIRS / DOWNSTAIRS 1=Yes 0=No*

31 8 SECOND STROBE ON FULL SET / UNSET
1=Yes 0=No*

32 COURTESY STROBE / LIGHT DURING EN-
TRY / EXIT IN FULL SET
1=Yes 0=No*

33 WALK THROUGH ZONES TRIGGER ENTRY
TIMER IN PART SET 1=Yes 0=No*

34 JAMMING 1=Full alarm
0=Indication only*

35 MAINS FAILURE or PANEL LOW BATTERY
PREVENTS ARMING 1=Yes 0=No*

36 REMOTE CONTROL UNSETS ONLY IN
ENTRY 1=Yes 0=No*

37 DIALLER DELAYED (20 seconds abort time)
1=Yes 0=No*

38 NO EXTERNAL SIREN OR DIALLER IN PART
SET
1=Yes 0=No*

39 LINE FAULT IN DAYTIME AUDIBLE
1=Audible 0=Visual only*

40 SUPERVISORY 1=Yes 0=No*

41 SUPERVISORY FAULT
1=Full alarm 0=Indicator only*

42 ENGINEER RESET 1=Yes 0=No*

43 No. OF TIMES THE SYSTEM AUTO REARMS
1=0, 2=1, 3=2, 4=ALWAYS*

45 AUDIBLE RECEIVER LISTEN TEST

46 ENGINEERS LOG

47 ENGINEERS ACCESS CODE
Default = 4679

48 EXIT ENGINEER MODE

49 DIALLER OUTPUT FOR PA
1=PA output only 0=PA and ALARM output*

50 PA ON ZONE 2
1=Zone 2 is a PA zone
0=Zone 2 is a standard zone*

51 FINAL EXIT SET
1=Yes
0=No*

52 REMOTE CONTROL FULL SET EXIT TIME
1=2s 2=10s* 3=20s 4=30s 5=45s
6=1min 7=2min 8=infinite

53 REMOTE CONTROL PART SET EXIT TIME
1=2s 2=5s 3=10s* 4=15s 5=20s
6=30s 7=1min 8=as Full set

54 ABORT (Not available on this version)

55 ALARM VERIFICATION (Not available)

56 DIALLER TEST
1=Jamming
2=Low Battery
3=Alarm
4=Supervisory failure
5=Auxiliary alarm
6=System armed
7=Panic alarm
8=Fire alarm

Key in 56 then 3 to trigger Alarm channel,
press Full set when test completed.

57 Dialler output polarity (1 to 8 as above)
Not displayed = +ve removed / -ve applied
Displayed = +ve applied / -ve removed
Press Full set when selection completed

58 Display software issue.

* = FACTORY SETTINGS

CI-122 iss 2

1 zone type:	RSSI VOLTAGE
011	
012	
013	
014	
015	
016	
017	
018	

2 zone type:	
021	
022	
023	
024	
025	
026	
027	
028	

3 zone type:	
031	
032	
033	
034	
035	
036	
037	
038	

4 zone type:	
041	
042	
043	
044	
045	
046	
047	
048	

5 zone type:	
051	
052	
053	
054	
055	
056	
057	
058	

6 zone type:	RSSI VOLTAGE
061	
062	
063	
064	
065	
066	
067	
068	

7 zone type:	
071	
072	
073	
074	
075	
076	
077	
078	

8 zone type:	
081	
082	
083	
084	
085	
086	
087	
088	

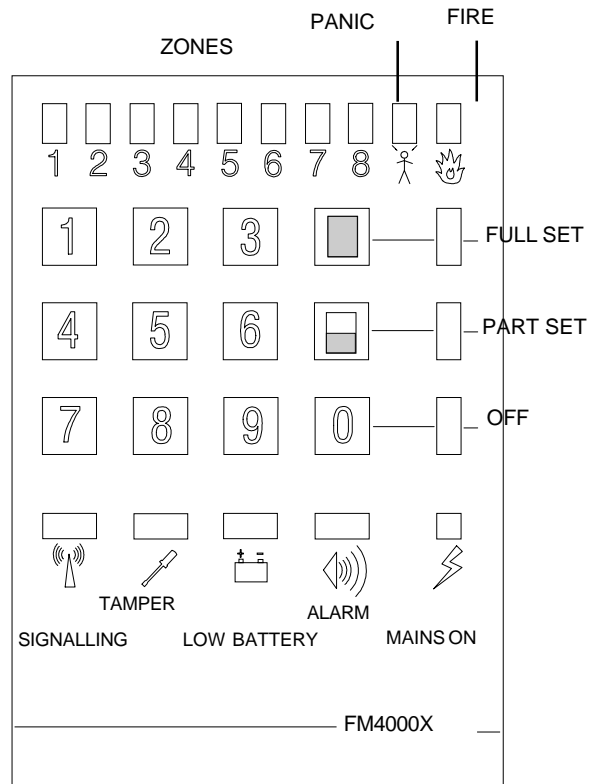
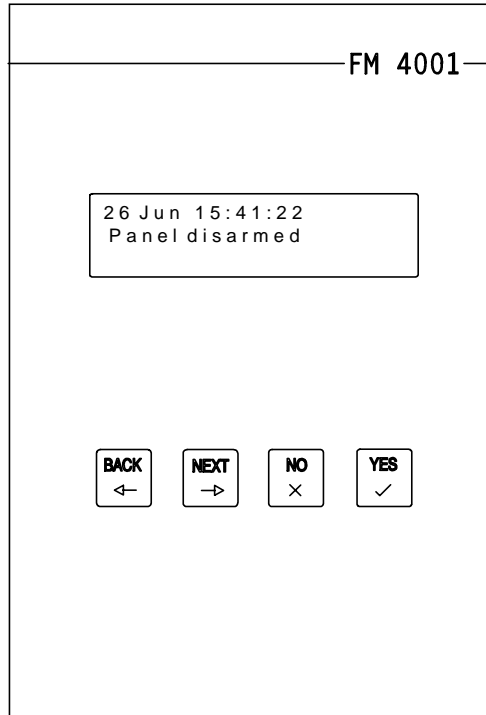
PANIC
091
092
093
094
095
096
097
098

REMOTE
111
112
113
114
115
116
117
118

FIRE
101
102
103
104
105
106
107
108

FM4000X and FM4001
CONTROL PANEL

INSTALLATION INSTRUCTIONS



CONTENTS

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FM4000X CONNECTIONS

CONNECTIONS (RIGHT HAND SIDE)

1-4 12V Auxiliary supply output.
Maximum load current 500mA

5 Tamper -ve return. If connecting a Self Actuating Bell (SAB) then connect the -ve tamper return to this terminal. If not fitting a SAB this terminal must be connected to -ve Aux..

6. This terminal provides a +ve output on alarm which is reset next time the panel is armed. It is provided for use with hard wired detectors that have a latching LED facility.

7. -ve to trigger Siren. Goes from open circuit to 0v to operate a bell or siren. Max 500mA.
Resets after the bell time set in engineer program.

8. -ve Strobe. Goes from open circuit to 0v in alarm to operate a strobe. Remains on until the system is disarmed.

9. Dialler trigger output. Is provided for triggering an autodialler. This output goes to 0v on full alarm.
Once triggered it remains until the panel is disarmed so as not to trigger any more until the system is turned off.

10 Fault LED output for remote wired arming. Indicates that a fault is present which will prevent arming.

11. System Off LED output for remote hard wired arming. Indicates when disarmed.

12. Part Set hard wired arming input. Apply +12v to arm. Remove to unset.

13. Full Set hard wired arming input. Apply +12v to arm. Remove to unset.

CONNECTIONS ALONG BOTTOM EDGE

HARD WIRED INPUTS 1 & 2

Must be linked out if not used. These inputs are normally closed, opening in alarm. Zone 2 can be programmed to be a PA zone.

EXIT TERMINATE PUSH

Connection for a normally open push button which sets the alarm when pressed during the exit time.

LINE FAULT INPUT

Normally closed input. Open for line fault. To trigger with applied negative, leave the link in place and apply 0v for line fault.

DIALLER OUTPUTS 1-8

These outputs are for connection to a digital communicator employing +ve removed trigger inputs.

The outputs go from +5v to 0v in alarm.
These outputs are also available on the FM4001

RECEIVED SIGNAL STRENGTH INDICATION (RSSI)

For connection to a digital voltmeter to indicate the Signal Strength of a transmission received from a detector. (Refer to section on using the RSSI output).

FM4001 CONNECTIONS

The FM4000 LCD unit is supplied with a connecting lead which plugs into the FM4000x expansion port connector. Mount the LCD display at a height of about 4ft 6in. so that the display can be viewed correctly.

Mount the FM4000X directly below the LCD unit and plug in the connecting lead.

12v SUPPLY TO THE FM4001

Connect to the 12v aux output of the FM4000x

TAMPER OUTPUT.

Clean contact normally closed output.
Tamper return from the siren can be routed via this contact. If the tamper is operated a tamper alarm will occur.

STAND-BY BATTERY

Connections are provided for an additional stand-by battery inside the FM4001 for situations where a battery is required in addition to the one already in the FM4000x .

LINE FAULT OUTPUT TO FM4000X

This output is used when employing a plug on dialler. The dialler should be programmed for -ve applied on line fault. This connection can then be connected to the line fault input on the FM4000. (Leave the link fitted in the line fault input) .

DIALLER OUTPUTS 1 - 8

These outputs are identical to the 8 outputs in the FM4000x. They are provided for convenience since it is easier to locate a digi dialler into the FM4001.
See connection diagrams at back of manual.

INSTALLATION

The factory defaults for the user and engineer codes are:-
USER CODE = 1 2 3 4
ENG CODE = 4 6 7 9

The recommended installation procedure is as follows:

1. Label detectors.

Label each detector with its zone number for reference during installation and for later service reference.

2. Complete the User Record

The back pages of the user instruction booklet should be completed and left with the operator for their reference. It gives them information about the zones etc.

3. Complete a system record sheet

System record sheets should be completed before commencing programming. This acts as a reference when programming and can form part of the installation records.

4. Locate the control panel

For best radio coverage the control panel is best located at a central point in the building. The higher it is the better for radio reception. (Do not mount at floor level on a ground floor)

Metal objects cause radio reflections which oppose the signal being received from the detector with a resultant reduction in the received signal strength. Metalwork close by can result in complete cancellation, therefore do not site the control panel or detectors near to large metal objects, metal piping, girders, concentrations of mains cabling, fuse boxes etc.

Consider the ease of wiring to the external siren when making your choice.

The Panel may be temporarily sited whilst a test is carried out to verify the reception from distant detectors.

The panels must be fixed using the three fixing points provided. Ensure that the LCD display on the FM4001 is approx. 4ft 6 in. high for ease of viewing and that the FM4000X is mounted directly below it. For larger installations a remote tamper protected antenna is available.

Mains supply to the control panel must be provided by a competent electrician to the current issue of the IEE regulations.

A 12v sealed lead acid stand-by battery should be connected after all wiring has been completed and tested. 12v 2.3AH is recommended.

INSTALLATION cont...

5. Program detectors onto the panel

Each detector has an internal "Learn" jumper.

To add a detector to the system:

Go into the engineer program. Select the zone and device number. Short out the learn jumper on the detector. Remove the learn jumper after programming.

The detector transmits its identity together with a learn bit. The panel stores the detectors identity code and adds it to the chosen zone.

(Refer to engineer programming section)

6. Carry out range test

If you keep a 4174 remote control for testing, you can program this onto the system and then go to each detector location in turn and verify that the control can be armed and disarmed from all detector locations.

7. Mount the detectors

Refer to the detector instructions for recommended mounting positions.

As reflections from metalwork act to cancel the transmission, avoid sitting near to any metalwork.

Reflections like this can often be overcome by a small movement in position of 15 to 20cm.

8. Making panel program changes.

Complete a system record sheet before making any changes.

Once programmed the program is stored in non-volatile memory, so data will remain stored even in the event of complete power failure.

9. Radio test using the RSSI output

To measure the signal strength received from a detector.

- i) Connect a Voltmeter to the RSSI output terminals.
- ii) Press the reset button next to the RSSI terminals. The voltmeter should now read zero volts.

iii) Go to the detector and operate the learn jumper.

iv) Return to the panel. The voltmeter now displays a voltage representing the strength of the transmission received.

It will ignore any other transmissions and only respond to the learn message or a Panic or Off message from a remote control or panic button.

The voltage reading should be a minimum of 1.0v.

The readings for each detector can be recorded on the system record sheet for future reference.

10. Full system test

A walk test facility is provided in the Operating instructions. This may be used to do a test of the detectors only.

Once the Sounders and dialler have been connected and the installation completed a full test with remote signalling should be carried out.

PROGRAMMING

1. Enter the engineers code 4 6 7 9

The Alarm led will flash slowly to indicate that you are in the program mode.

2. Key in the two digit program number.

(The zone led's indicate which option is set.)

3. Key in the option required

(The zone led's indicate your choice)

4. Press the Full Set key to exit that program step.

5. When finished with programming key in 48 to exit engineer mode.

ERROR CORRECTION VIA PART SET KEY

If you accidentally enter an engineer program number and change an option value, you can undo the change by pressing the Part Set key before exiting the program step via the Full Set key.

EXAMPLE: To set the Full set exit timer to 1 minute.

Key in 4 6 7 9 The alarm indicator will illuminate to indicate that you are now in engineer program mode

Key in 1 2 To select Full set exit time (program No. 12.)

Key in 6 To select the 1 minute option.

Zone 6 LED indicates your choice

Press the Full Set button to exit program step.

Note: The Full set button must be pressed to exit from each program step. Until the Full Set button is pressed any key press just changes your choice of option.

Key in the next program Number you wish to change.

When all programming is complete Key in 48 to exit engineer mode

LEARNING DEVICES

When installing the system you may find it easier to label each detector with its zone number and learn them into the panel before installation. Once programmed into the panel's memory, the information will not be lost even when power is removed from the panel.

01 PROGRAM DEVICES ONTO ZONE 1

Select program number 01.

The LCD display will show "LEARN ZONE 1 DEVICE ?

The LEDs 1 to 8 indicate which of the 8 devices are already programmed onto zone 1.

Use keys 1 to eight to select the device number.

Short out the learn jumper on the detector and **ensure that the learn pins are not left permanently shorted.**

The panel will emit 2 short blips to indicate that it has learnt the detector.

The corresponding LED will illuminate and the LCD will display the unique 5 digit identity code of the device with the message LEARN OK.

If the device was already programmed on the system at a different location the message will say MOVED FROM xx (where xx is the old zone and device number).

If a device was already programmed in the location the LCD will show the message ALREADY STORED

and the new device will overwrite it. Automatically deleting the old one.

Press the Full Set key to exit.

DELETING DEVICES FROM ZONE 1

Select program number 01.

The LCD display will show LEARN ZONE 1 DEVICE ?

The LEDs 1 to 8 indicate which of the 8 devices are already programmed onto zone 1.

Use keys 1 to eight to select the device number to be deleted.

If a device did exist at that location the LCD will show ALREADY STORED.

To delete the device press PART SET and OFF keys together.

The LCD will show that the device has been deleted.

Press the Full Set key to exit

DETECTOR PROGRAMMING cont...

02 PROGRAM DEVICES ONTO ZONE 2

03 PROGRAM DEVICES ONTO ZONE 3

04 PROGRAM DEVICES ONTO ZONE 4

05 PROGRAM DEVICES ONTO ZONE 5

06 PROGRAM DEVICES ONTO ZONE 6

07 PROGRAM DEVICES ONTO ZONE 7

08 PROGRAM DEVICES ONTO ZONE 8

09 RADIO PANIC BUTTONS

Key in 091 to program the first PA button onto the system. The Panic button is operated instead of a learn jumper.

Up to 8 Panic buttons can be programmed onto the PA zone, i.e. devices 091 to 098.

The LCD display will refer to the panic buttons as P1 to P8.

Press the Full Set key to exit.

10 FIRE ALARM DEVICES

Key in 101 to program the first Fire detector onto the system. Short out the learn jumper.

(Ensure learn jumper is removed after programming).

Up to 8 Fire detectors can be programmed onto the Fire zone, i.e. devices 101 to 108.

The LCD display will refer to the Fire detectors as F1 to F8.

Press the Full Set key to exit.

11 REMOTE CONTROLS

Key in 111 to program the first Remote Control onto the system. The Panic button is operated instead of a learn jumper.

Up to 8 Remote Controls can be programmed onto the system, i.e. devices 111 to 118.

The LCD display will refer to the remote controls as R1 to R8.

Press the Full Set key to exit.

EXIT ENTRY

12 FULL SET EXIT TIME

1= 2 secs 2= 10 secs 3=20secs*

4= 30 secs 5= 45 secs 6= 1 min.

7= 2 mins. 8= Infinite

Press Full Set to exit

* = FACTORY DEFAULT

13 PART SET EXIT TIME

1= 2 secs 2= 5 secs 3=10secs*

4= 15 secs 5= 20 secs 6= 30 secs

7= 1 mins. 8= As full set exit time.

Press Full Set to exit

14 ENTRY TIME

1= 1 sec 2=10 secs 3= 20 secs

4= 30 secs* 5= 40 secs 6= 50

secs 7= 1 min. 8= 2 mins.

Press Full Set to exit

SIREN

00 INVERT SIREN OUTPUT

Normally -ve applied in alarm. (0v in alarm)

0 = -ve applied in alarm

1 = -ve removed in alarm

15 BELL DURATION

1= Silent 2= 15 secs 3= 2 mins.

4= 3 mins. 5=10 mins. 6= 15 mins.

7= 20 mins.* 8= Continuous

Press Full Set to exit

16 BELL DELAY

1= 0 mins.* 2= 1 mins. 3= 3 mins.

4= 4 mins. 5= 5 mins. 6=6 mins

7=7 mins* 8= 10 mins

Press Full Set to exit

ZONE PROGRAMMING

IMPORTANT: Remember that all devices on a particular zone will respond to the zone option selected. So if zone 1 has final exit detectors, all detectors on zone 1 must also be final exit.

17 FULL SET ZONES

The factory default is all zones active.

The zone LED's indicate which zones are active in full set.

Use the keys 1 to 8 to select or deselect zones. The 0 key deletes all.

Press the full set key to exit.

18 PART SET ZONES

The factory default is zones 1 to 4 active.

The zone LED's indicate which zones are active in part set.

Use the keys 1 to 8 to select or deselect zones. The 0 key deletes all.

Press the full set key to exit.

19 OMIT PERMIT ZONES

(The zones that the user is allowed to omit)

The factory default is all zones allowed to be omitted except zone 1.

The zone LED's indicate which zones are allowed to be omitted.

Use the keys 1 to 8 to select or deselect zones. The 0 key deletes all.

Press the full set key to exit.

20 FINAL EXIT ZONES

(Zones that start the entry time)

The factory default is zone 1 only.

The zone LED's indicate which zones will start the entry timer.

Use the keys 1 to 8 to select or deselect zones.

The 0 key deletes all.

Press the full set key to exit.

21 WALK THROUGH ZONES

The factory default is none.

The zone LED's indicate which zones are walk through during entry.

Use the keys 1 to 8 to select or deselect walk through zones.

The 0 key deletes all.

Press the full set key to exit.

22 IGNORE ZONE IF FIRST TO ALARM (Double Knock)

Alarm only if two zones are triggered.

The factory default is none.

The zone LED's indicate which zones are double knock.

Use the keys 1 to 8 to select or deselect double knock zones.

The 0 key deletes all.

Press the full set key to exit.

23 AUXILIARY ZONES

Technical alarm. i.e.. Freezer giving internal audible and technical alarm channel of dialler.

The factory default is none.

The zone LED's indicate which zones are auxiliary zones.

Use the keys 1 to 8 to select or deselect aux. zones.

The 0 key deletes all.

Press the full set key to exit.

24 24 HOUR ZONES

The factory default is none.

The zone LED's indicate which zones are 24 hour.

Use the keys 1 to 8 to select or deselect 24 hour zones.

The 0 key deletes all.

Press the full set key to exit.

NOTE: If you do not want a 24 hour zone to be omitted, remove the zone from omit permit via program No.19.

25 SOAK TEST ZONES

The factory default is none.

The zone LED's indicate which zones are on soak test.

Use the keys 1 to 8 to select or deselect soak test zones.

The 0 key deletes all.

Press the full set key to exit.

26 CHIME ZONES

The factory default is none.

The zone LED's indicate which zones are on chime.

Use the keys 1 to 8 to select or deselect chime zones.

The 0 key deletes all.

Press the full set key to exit.

OTHER PROGRAMS

27 P.A. SILENT / AUDIBLE

The factory default is audible.

1= Silent 0= Audible *

Press the full set key to exit.

28 DOUBLE BUTTON P.A.

(To activate a panic from a remote control, both PA & OFF buttons must be pressed simultaneously)

The factory default is single button.

1= Double 0= Single*

Press the full set key to exit.

29 SILENT PART SET

1= Silent 0= Audible*

Press the full set key to exit.

30 UPSTAIRS / DOWNSTAIRS

This option tells the panel to accept part set button as a separate alarm system.) e.g..

The Part Set button becomes the alarm system in the flat & the Full set button is a separate alarm system in the office. In this mode the user can set either one or the other, or both systems by selection when arming.

1 = Select Upstairs/Downstairs mode.

0= Normal Part / Full set mode.*

Press the full set key to exit.

31 8 SECOND STROBE WHEN FINAL SET AND UNSET

If selected the strobe output operates for 8 seconds at the moment the panel is full set. i.e. when the exit timer terminates.

The strobe also operates for 8 seconds when the panel is Unset from Full Set.

1 = 8 sec. Strobe 0 = No 8 second strobe

Press the full set key to exit.

32 COURTESY STROBE IN FULL SET ENTRY / EXIT

If selected the strobe output terminal 8 operates when Full setting the panel. The strobe output also operates for the entry time when unsetting from Full Set.

(If a mains relay was connected via this output a mains courtesy light could be switched on by disarming from outside with a remote control.)

1= Courtesy strobe on 0=off*

Press the full set key to exit.

33 WALK THROUGH ZONES BECOME FINAL EXIT IN PART SET

To prevent false alarms in part set it is often useful to make walk through zones initiate the entry timer.

1= Yes 0= No*

Press the full set key to exit.

34 JAMMING

1 = Jamming generates a full alarm when set

O= indicator only*

Press the full set key to exit.

(Jamming is signalled to the dialler outputs.)

35 MAINS FAILURE & PANEL LOW BATTERY PREVENTS ARMING

1 = Mains failure or Panel battery failure prevents arming.

O = Does not prevent arming*

Press the full set key to exit

36 REMOTE CONTROL UNSETS ONLY IN ENTRY

1= Unset only after entry timer has been started.

O= Unset not inhibited*

Press the full set key to exit.

37 DIALLER DELAYED (20 second abort time)

1= Delayed O= Instant *

Press the full set key to exit

38 NO EXTERNAL BELL OR DIALLER IN PART SET

(Internal bells only in Part Set).

1= Internal sounder only in Part Set.

O= Dialler and siren In both full or part set* Press the full set key to exit

39 LINE FAULT IN DAYTIME AUDIBLE

1= Audible and visual O= visual only*

Press the full set key to exit.

40 SUPERVISORY

Do not select supervisory unless all your detectors are 4600 series.

Do not select supervisory if using zoned Panic buttons.

1= Supervision O= No supervision*

Press the full set key to exit.

41 SUPERVISORY FAULT

1= audible when unset O= silent when unset*

Press the full set key to exit

42 ENGINEER RESET

1= Engineer reset O= No*

Press the full set key to exit.

43 REARMING

1= none 2= once 3= twice 4= always*

Press the full set key to exit

44 RESTORE ENTIRE NV RAM TO FACTORY DEFAULT VALUES

Short out the MEM link while keying in 44. All zone LED's will come on, the panel will emit a long bleep and will go out of engineering mode into the day state.

WARNING: This will delete all detectors from the system.

45 AUDIBLE RECEIVE MODE

The output from the receiver can be heard on the panel loudspeaker.

Press the full set key to exit.

46 DISPLAY ENGINEERS LOG

Press keys 1 to 8 to view the last 8 events. Most recent is displayed on key 1.

Key 9 shows the last "First to Alarm"

Press the full set key to exit.

47 CHANGE ENGINEERS ACCESS CODE

Key in a 4 digit code twice.

48 LEAVE ENGINEER MODE

If any devices have their tampers open, the display shows which zones are tampered and will generate an error beep.

The tampers must be restored before leaving engineer mode by pressing 48 again.

49. DIALLER OUTPUT FOR PA

1= PA Triggers PA dialler output
0= PA Triggers both PA and ALARM dialler outputs*

Press the full set key to exit.

50. HARD WIRED PA ON ZONE 2

1= Zone2 is a PA zone
0= Zone2 is a standard zone*

Press the full set key to exit.

This feature enables hardwired PA buttons to be connected to the panel via the zone 2 hardwire input.

CAUTION: Radio devices including PIRS and contacts programmed onto zone 2 will also trigger a PA alarm if this option is selected.

51 FINAL EXIT SET

1= Yes 0= No*

If yes the exit time will terminate when the final exit door is closed.

52 REMOTE CONTROL FULL SET EXIT TIME

1=2s 2=10s 3=20s 4=30s 5=45s 6=1min
7=2min 8=infinite

This applies to remote control and remote keypad only.

The exit time when armed from the panel keypad (option 12) is not affected.

53 REMOTE CONTROL PART SET EXIT TIME

Enables the exit time to be set for part set via the remote control/keypad. The exit time set by option 13 still applies when arming from the panel keypad.

1=2s 2=5s 3=10s 4=15s 5=20s 6=30s
7=1min 8=infinite

54 ABORT (not operational on this version)

55 VERIFICATION (always available, options not selectable on this version)

56 DIALLER TEST

Key in 56 followed by a number key to operate a dialler channel. The number selected will be displayed.

1= Jamming
2= Low Battery
3= Alarm
4= Supervisory failure
5= Auxilliary Alarm
6= System Armed
7= Panic Alarm
8= Fire Alarm

Press full set key when test is completed.

57. DIALLER TRIGGER INVERT

All the dialler outputs are positive removed as the default setting, but can be inverted to Negative removed if required. To invert an output key in 57 followed by the required output to be inverted, using the same list as used for the dialler test.

Press full set key when outputs have been selected, outputs will change to the selected settings when the full set key is pressed.

58. DISPLAY SOFTWARE ISSUE.

Displays the software issue of the 4000X panel, press full set to exit.

REMOTE ENGINEER RESET FACILITY

When an alarm occurs which requires an engineer reset, the user can call the Central Station and obtain the access code number to key in to the panel.

The panel zone LED's will illuminate randomly.

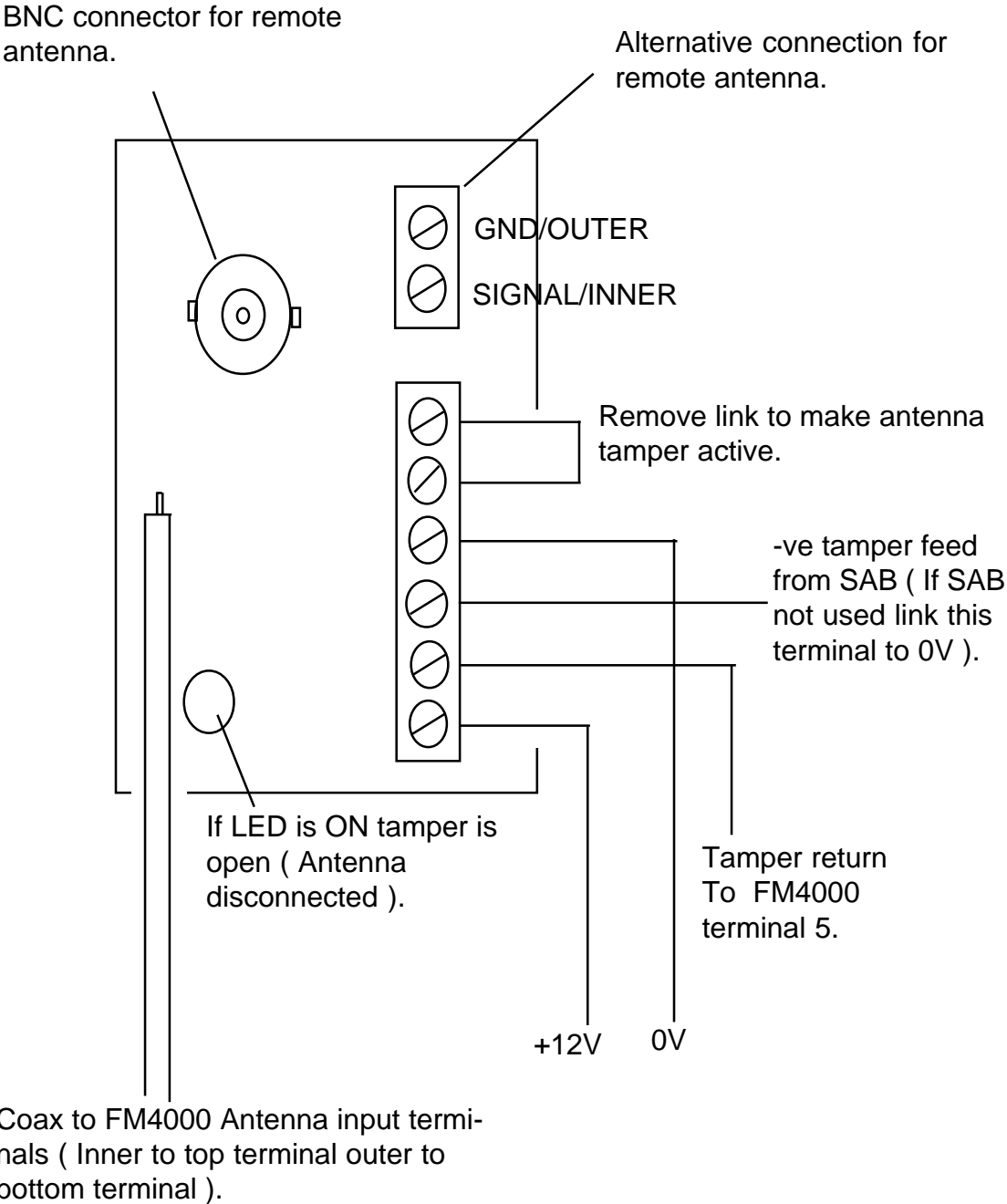
From the LED's the Central Station operator can refer to a reference table and instruct the user what code to enter to perform an engineer reset.

Next time the alarm operates the reset code number will have changed.

4005 ANTENNA TAMPER MODULE

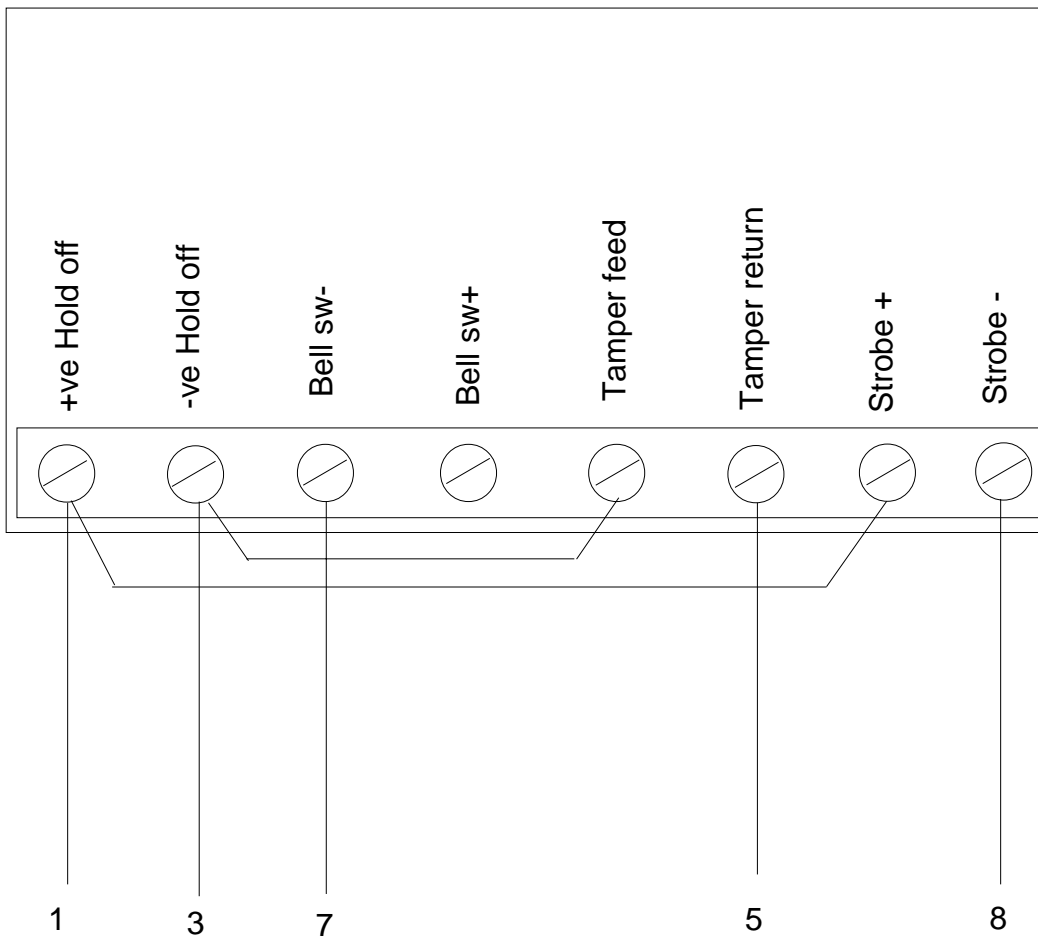
The 4005 is for use with tampered remote antennas. When fitted into the FM4000 panel the -ve tamper return from an external siren is connected to this module as shown below.

Mount the module to the right hand side of the transformer in the FM4000 with the single screw supplied.



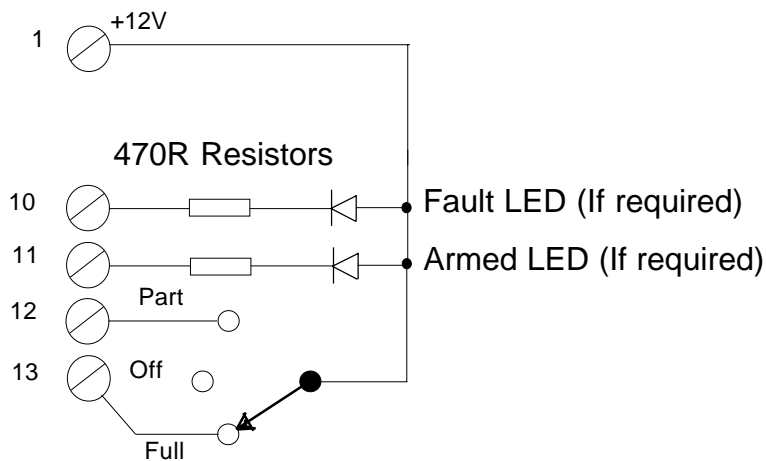
Always mount the remote antenna away from other wiring, any other metal objects and as high as practically possible to obtain the best working range from the 4000X control panel.

SAB CONNECTION TO THE FM4000



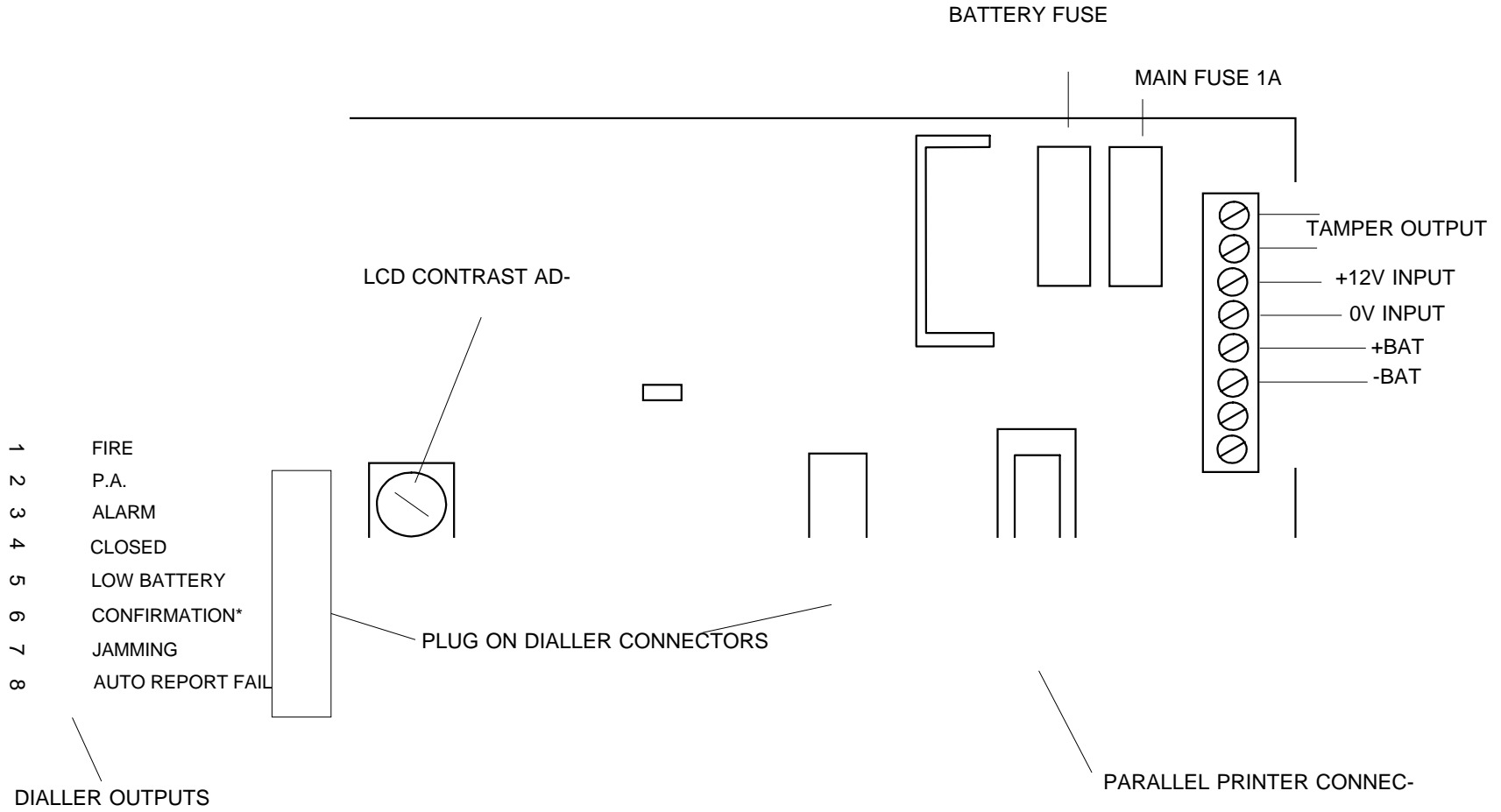
Connections on the FM4000 main board

WIRED KEYPAD / KEYSWITCH ARMING

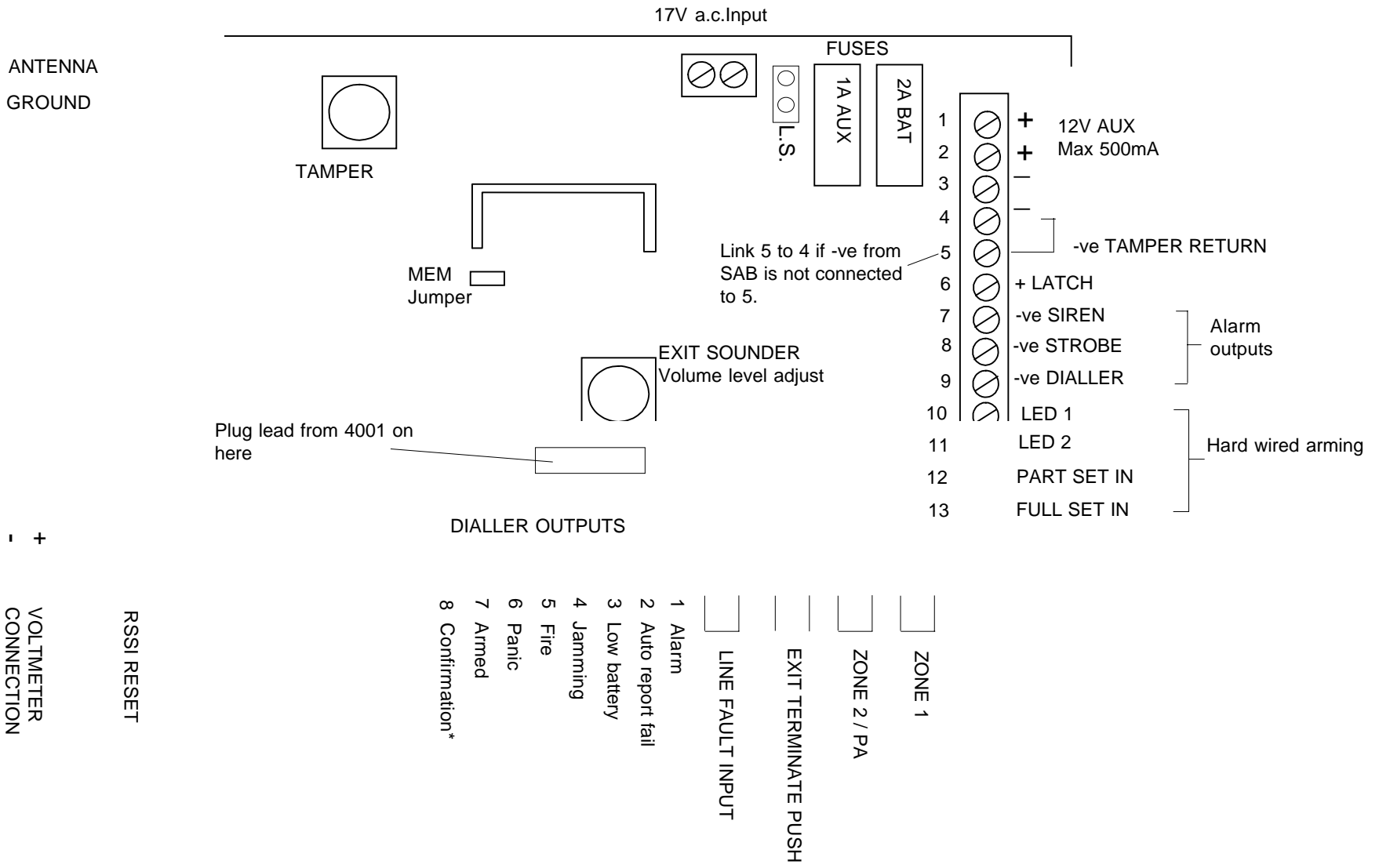


FM4001 LCD DISPLAY

* Issue 4 control panel software and later, Issue 3 and earlier software versions, this terminal is used for auxiliary.



FM4000X CONTROL PANEL



* Issue 4 control panel software and later, Issue 3 and earlier software versions, this terminal is used for auxiliary.

IMPORTANT NOTE

Programming detectors is different to the standard FM4000.

e.g. Key in 012 to select device 2 on zone 1.

The LED's will indicate which devices are already programmed on that zone & if the LCD expansion unit is fitted the LCD will also display the zone selected.

(Refer to page 5 of Installation instructions).

FAULT FINDING GUIDE

CUSTOMER HAD AN ALARM Ask them to press the Full set button and tell you what indicators are on.

The LED's indicate the cause of the alarm and also the setting status at the time.

MAINS LED FLASHING Mains failure (Restore supply)

ZONE LED FLASHING (in exit) Check that doors and windows are closed.
Flashing with tamper LED. (A detector has an open tamper).
Flashing with Battery LED. (The detectors battery needs replacing).

ALARM LED ON Full alarm. The LEDs indicate what caused the alarm.
If Engineer reset is programmed into the panel an engineer reset will be required before the system can be re-armed.

FLASHING WITH ZONE LED A detector on soak test has triggered whilst the system was armed.

FLASHING WITHOUT A ZONE LED An engineer reset is required.

BATTERY LED ON The control panel's battery is disconnected or needs replacement.
FLASHING: Detector has a low battery. The zone LED will flash to indicate which one.

SIGNALLING LED ON The system is being blocked by a continuous transmission.
FLASHING If flashing on its own, an external line monitor has signalled that the telephone line is at fault.

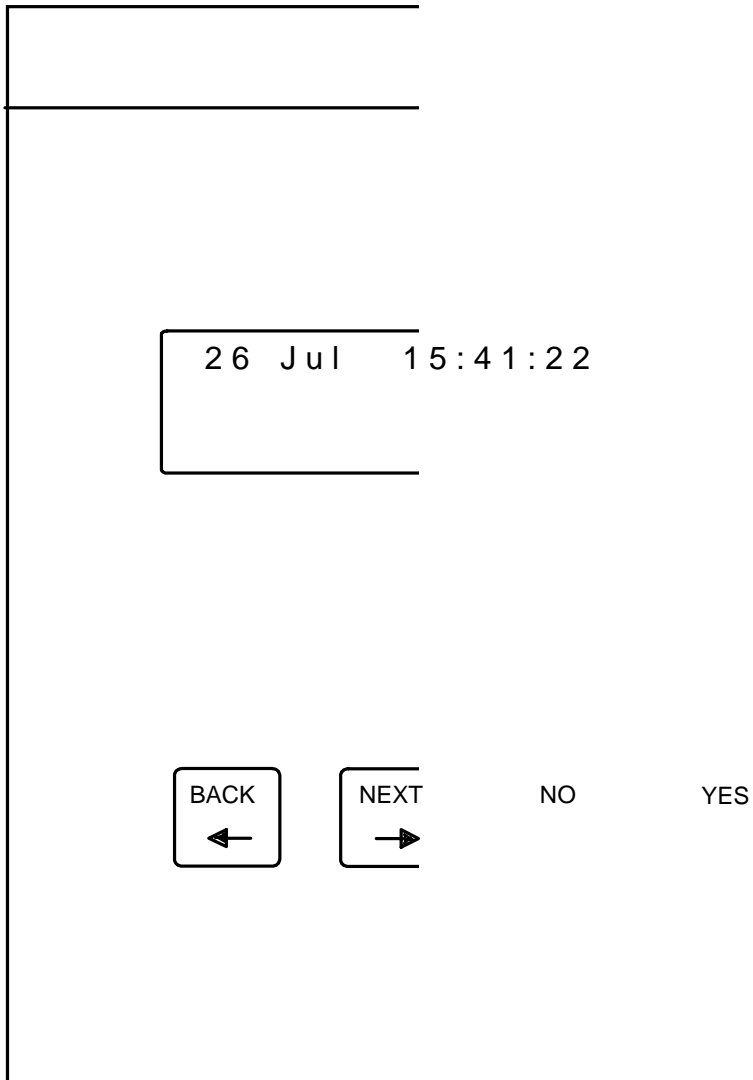
Flashing together with a zone indicator. The system is set as a supervised system and the detector indicated by the flashing zone LED has failed to report in. (Re-site the detector where there is good radio reception. Use the RSSI output to check.

CONTACT TRANSMITTER NOT WORKING Check the magnetic contact is operating correctly. Open lid and check what zone it should be on. Go into the panel engineer mode and check if it has been programmed onto the correct zone.
Note: the panel will not allow you to program a detector onto two zones. When programmed onto a zone any previous zone allocation will be deleted.

PIR NOT WORKING The detector needs 6 minutes to settle on power up.
Set the control into operator walk test mode and walk test the detector with the cover removed. Removing the cover opens the tamper and overrides the 2 minute inhibit timer. If the test jumper inside is fitted and the cover replaced it overrides the 2 minute inhibit, but allows you to walk test it without a tamper alarm.

CUSTOMER HAS FORGOTTEN THEIR CODE Open the panel and short out the MEM jumper. The user and engineer codes will be restored to the factory defaults 1234 & 4679. No other programming is affected.

*FM4001
LCD DISPLAY*



FM Electronics Ltd. *Manufacturer of quality wireless products.*

CI-121 iss2

The FM4001 enables you to expand your alarm system up to a maximum of 64 alarm detectors.

INTERNAL MEMORY

Each operation of the alarm system is stored in an internal memory called the "SYSTEM LOG" which has a capacity of storing the last 511 events together with the time and date that they occurred. The system log can be read out on the LCD display when required. It is also possible for your engineer to connect a printer to the FM4001 and obtain a full print out of the log.

DETECTION DEVICE DESCRIPTIONS

A facility is included for you to program descriptions up to 16 characters in length to identify each alarm detector individually.

DEVICE DATA

A facility used for indicating the number of times a device has transmitted. This count includes all transmissions and is for indication of device operation only.

CHANGING THE TIME & DATE

The internal clock is used to identify the time of alarm operation.

To set the time

1. Enter your 4 digit pin number.

2. Wait 3 seconds
Display shows

Show manager's menu?

 Press the YES button.

3. Display shows

16 Jun 19:03:46 Set the time?

 Press YES

4. Display shows

16 Jun 19:03:46 Set the hour?

 Press YES to change the hour

Use the arrow keys to set the hour. Hold down the arrow key to scan quickly through the hours. Press YES when the correct hour is displayed.

5. Display shows

16 Jun 19:03:46 Set minutes?

 Press Yes to change the minutes.

Use the arrow keys to set the minute. Hold down the arrow key to scan quickly through the minutes. Press YES when the correct minute is displayed

6. Display shows

16 Jun 19:03:46 Set the date?

 Press YES to change
NO to make no change.

7. If you answer YES
display shows

```
1 6 J u n   1 9 : 0 3 : 4 6
Y e a r = 1 9 9 6
```

Use the arrow keys to select the year
When the correct year is displayed press YES

8. Display shows

```
1 6 J u n   1 9 : 0 3 : 4 6
M o n t h = J u n
```

Press YES to change

Use the arrow keys to select the month
When the correct month is displayed press YES

9. Display shows

```
1 6 J u n   1 9 : 0 3 : 4 6
D a y = 1 6
```

Press YES to change

Use the arrow keys to select the day
When the correct day is displayed press YES

10. The display now asks you if you wish to review any other user information. Press NO to each question until END OF MENU is displayed.

```
-----
E n d   o f   m e n u
```

CHANGING OR ENTERING DETECTOR DESCRIPTIONS.

If no descriptions have been programmed, each alarm sensor will be identified by its zone and device number.

A 16 character description may be entered if preferred to make identification easier. To key in a description.

1. Key in your 4 digit PIN number.

2. Display shows

```
S h o w   m a n a g e r ' s
m e n u ?
```

Press YES.

3. Display shows

```
1 6 J u n   1 9 : 0 3 : 4 6
S e t   t h e   t i m e ?
```

Press NO.

4. Display shows

```
1 6 J u n   1 9 : 0 3 : 4 6
S e t   t h e   d a t e ?
```

Press NO

5. Display shows

```
R e v i e w
d e s c r i p t i o n s ?
```

Press YES

6. Display shows

```
Device number 11
Zone 1 Device 1
```

Use the arrow keys to select the device number you require.

8. Press YES if you want to change the description
(NO key takes you out of description programming altogether).

9. If you press YES the display will delete the current description and will display a choice of characters.

Use the arrow keys to find the character required and press YES to enter it.

```
F > G < H    5 8
LOUN_
```

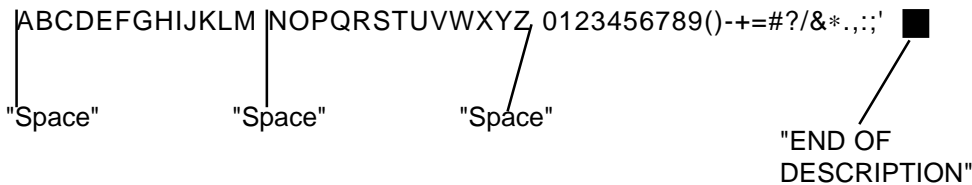
The above diagram shows the letter G selected. Key YES to enter.

To delete the last letter press the NO key.

The number seen in the top right hand corner is the zone and device number.
Find the next character using the arrow keys and YES to enter it.

Repeat until the word is built up and then finish with the end of description character

Characters available:



DISPLAYING THE SYSTEM LOG

1. Key in your 4 digit pin number.

2. Press the NO key until the LCD displays

```
Show system
log?
```

Press YES

3. The first item in the log is the most recent event

Press the BACK arrow key to move backwards in time.
The arrow keys can be used to move up and down the log.
Press NO key to exit from the log.

```
26 Jun 20:02:23
```


REVIEW DEVICE DATA

1. Key in your 4 digit pin number, wait 3 seconds.

Sh o w m a n a g e r ' s
m e n u ?

Press YES

2. Press the NO key
until the LCD displays

Review Device Data?

Press YES

3. The display will show

Review Device Data?
 Please Wait.

4. After this the display will show

11 XX
FRONT DOOR

5 This display is now showing

11 = Zone One Device One

XX = The Number of transmissions since the panel was last set, up to a maximum of 94 Note this figure will not equal the number of device activations as some conditions will transmit more times than others.

FRONT DOOR is the text description programmed against the relevant device.

6 You can use the arrow keys to look through all the devices on your system or select a particular device.

7 When you have looked at all the required devices press either the Yes or the No key to exit the Menu.

E n d o f m e n u

ZONE 1

11 _____

12 _____

13 _____

14 _____

15 _____

16 _____

17 _____

18 _____

ZONE 2

21 _____

22 _____

23 _____

24 _____

25 _____

26 _____

27 _____

28 _____

ZONE 3

31 _____

32 _____

33 _____

34 _____

35 _____

36 _____

37 _____

38 _____

ZONE 4

41 _____

42 _____

43 _____

44 _____

45 _____

46 _____

47 _____

48 _____

ZONE 5

51 _____

52 _____

53 _____

54 _____

55 _____

56 _____

57 _____

58 _____

ZONE 6

61 _____

62 _____

63 _____

64 _____

65 _____

66 _____

67 _____

68 _____

ZONE 7

71 _____
72 _____
73 _____
74 _____
75 _____
76 _____
77 _____
78 _____

FIRE DETECTORS

F1 _____
F2 _____
F3 _____
F4 _____
F5 _____
F6 _____
F7 _____
F8 _____

ZONE 8

81 _____
82 _____
83 _____
84 _____
85 _____
86 _____
87 _____
88 _____

REMOTE CONTROLS

R1 _____
R2 _____
R3 _____
R4 _____
R5 _____
R6 _____
R7 _____
R8 _____

PANIC BUTTONS

P1 _____
P2 _____
P3 _____
P4 _____
P5 _____
P6 _____
P7 _____
P8 _____

DISPLAYS AND WHAT THEY MEAN

The time displayed will be the time that the alarm or fault occurred.
The display will automatically clear next time you arm the system.
If you want to clear a display enter your PIN number followed by Off.

26	June	15:41:22
	Panel disarmed	

Normal daytime display

26	June	15:41:22
	Exit fault	

When arming the system with a door open. The display also shows which door has been left open.

26	June	15:41:22
	Entry alarm	

The alarm was activated by exceeding the entry time when disarming. Have your alarm company extend the entry time.

26	June	15:41:22
	Alarm	

An alarm occurred whilst the system was armed. The detector which triggered the alarm will also be displayed

26	June Low battery	15:41:22
----	---------------------	----------

A detector has reported a low battery. The detector which sent the signal will also be displayed. If it re-occurs have the battery replaced.

26	June Keypad tamper	15:41:22
----	-----------------------	----------

15 incorrect key presses have been recorded at the control panel, or a remote keypad has been tampered with. Cancel by entering your 4 digit PIN number.

26	June Line fault	15:41:22
----	--------------------	----------

The telephone line has developed a fault. Call your alarm company if it does not clear.

26	June Supervisory fault	15:41:22
----	---------------------------	----------

The radio transmission from a detector has not been received correctly. If it persists call your alarm company.

26	June Tamper	15:41:22
----	----------------	----------

A detector has reported a tamper. i.e. a detector cover has been removed.

26	June Mains restored	15:41:22
----	------------------------	----------

The control panel has recorded a mains interruption.

26	June Walk test	15:41:22
----	-------------------	----------

When you have carried out a customer walk test the display will show the last detector triggered. You can examine the log to see all the detectors operated during walk test.

When you have completed your walk test, key in your PIN number followed by 6 to come out of test mode.

26	June Panel tamper	15:41:22
----	----------------------	----------

Either the control panel lid has been opened or a fault has developed on the wiring to your external siren. Call your alarm company.

26	June Panic alarm	15:41:22
----	---------------------	----------

A panic alarm has been received from a remote control, a panic button or a remote keypad. Enter your PIN number to cancel the alarm.

26	June 24 hr alarm	15:41:22
----	---------------------	----------

A detector which is set to be active 24Hrs per day has reported an alarm. The detector will be displayed.

26	June Auxiliary alarm	15:41:22
----	-------------------------	----------

A detector such as a temperature or water level alarm has operated. The device will be displayed.

26	June Soak test	15:41:22
----	-------------------	----------

A detector which has been disconnected from the alarm system for tests has alarmed. Inform your alarm company.

Software changes on 4000 series control panels

4000 Control Panel. Issue 1 to issue 2 changes.

- i Continuous tone during exit (when no exit faults are present).
- ii Bell output can now be inverted.
- iii A user bell test is now included.
- iv Engineer can now exit engineers mode with tampers still violated.
- v Smoke detectors can now only be learned via the learn jumper.
- vi Auto-learn facility has now been deleted from software.

4000X & 4001 Issue 1 to issue 2 changes.

- i Final exit set feature added.
- ii Separate timers for exit set for panel and remote options.
- iii Dialler test.
- iv Dialler outputs are individually programmable for polarity.
- v System programming parameters can now be printed.
- vi Device data can be reviewed/printed.
- vii LCD now displays all engineer options as they are selected.

IMPORTANT NOTES:

**WHEN FITTING 4000X & 4001 CONTROL PANELS.
BOTH PANELS MUST EITHER VERSION 1 SOFTWARE OR
BOTH MUST BE VERSION 2 SOFTWARE
SOFTWARE VERSIONS MUST NEVER BE MIXED.**