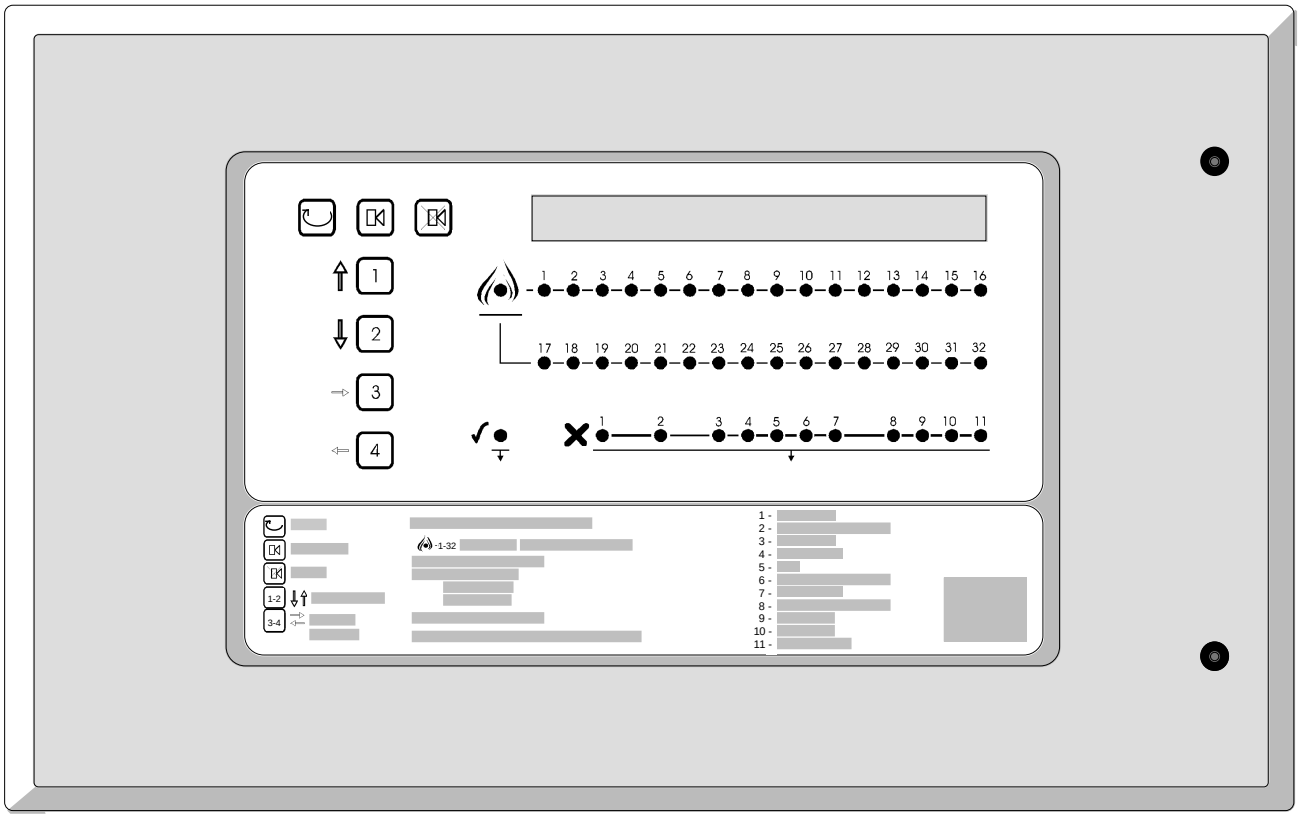


AFP 1 OR 2 LOOP ANALOGUE ADDRESSABLE FIRE PANEL

Installation & Commissioning Instructions
Main Software Revision 08xxx

APPROVED DOCUMENT No. DFU0701001 REVISION 4

THIS DOCUMENT MUST NOT BE LEFT ACCESSIBLE TO THE USER

1 Installation

1.1 Important Notes

Fire Alarm system design is beyond the scope of this document. A basic level of understanding of general Fire Alarm system components and their use is assumed.

Contact the Fire Officer concerned with the property at an early stage in case he has any special requirements. We strongly recommend that a suitably qualified and competent person is consulted in connection with the design of the Fire Alarm system and that the system is commissioned and serviced in accordance with the laid down specification and national standards. If in doubt please consult your supplier.

We recommend reading BS 5839: Pt 1: 2002 "Fire Detection and Alarm Systems for Buildings (Code of Practice for System Design, Installation, Commissioning and Maintenance)" available at your local reference library or from the BSI. Other national standards of installation should be referenced where applicable.

This equipment is not guaranteed unless the complete installation is installed and commissioned in accordance with the laid down national standards (in the UK BS 5839: Pt 1: 2002) by an approved and competent person or organisation.

This equipment must only be installed and maintained by a suitably skilled and technically competent person.

This equipment is a piece of Class 1 equipment and MUST BE EARTHED

No responsibility can be accepted by the manufacturer or distributors of this range of fire panels for any misinterpretation of an instruction or guidance note or for the compliance of the system as a whole.

The manufacturers policy is one of continuous improvement and we reserve the right to make changes to product specifications at our discretion and without prior notice. E&OE.

1.2 What is an Analogue Addressable Fire System?

Just like a conventional Fire Alarm System, its primary job is to alert people to the detection of fire via Fire Alarm sounders and aid in the evacuation of a building. To this end it is no different than any other type of Life Safety system.

Unlike a conventional system it uses 'intelligent' detectors, sounders, and call points that communicate constantly with the analogue addressable control panel, reporting a vast amount of data almost 'invisibly'. This sophisticated communication system allows a degree of control and reporting unattainable with conventional systems. Very accurate control and monitoring of many parameters is easily achievable, without the need for expensive and complex wiring schemes.

Because of the diversity offered with Analogue Addressable Fire Alarm Systems a degree of programming is required that is unnecessary with conventional systems. This programming can be a daunting task to the uninitiated but the majority of those who have done it once are eager and willing to do it again. Our aim with the AFP range of Analogue Addressable Fire Panels has been to bring the installation of Analogue Systems within the capability of the average Fire Alarm installer. To this end and to cover the diversity of uses that this product will be put, we have devised two methods of programming, to suit differing needs, details of which appear later in this document.
From now on this analogue addressable fire panel is referred to as the AFP.

1.2.1 Similarities to Conventional Fire Alarm Systems

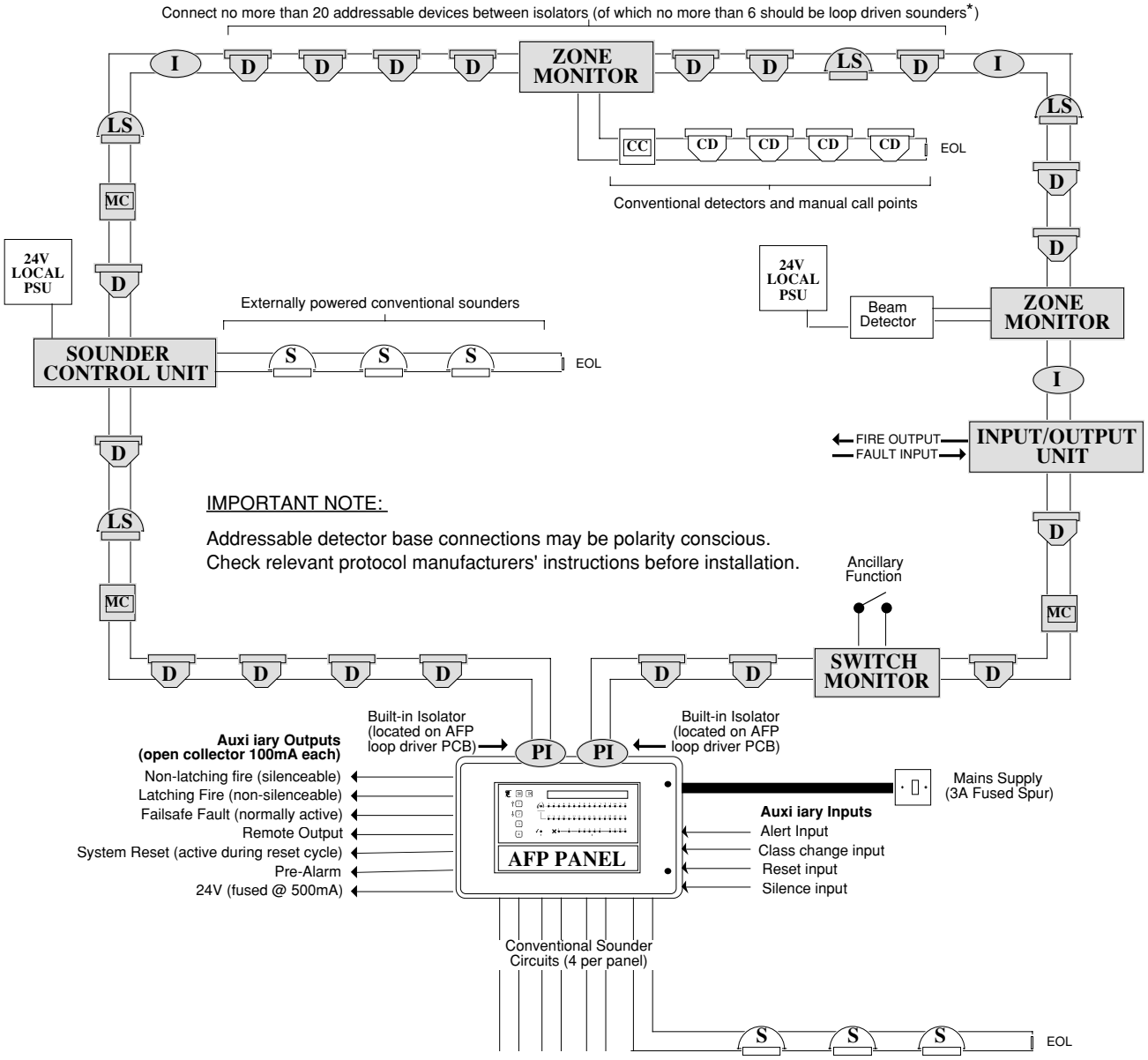
- The equipment normally runs from a mains derived 24V supply.
- 24V VRLA Valve Regulated Lead Acid (formally called Sealed Lead Acid) batteries are required as the standby for the equipment.
- Conventional sounder circuits are provided (four on the AFP) and can be used in preference to, or as well as, addressable loop powered and controlled sounders.
- Facilities are provided for connection to external devices, e.g. remote alarm output to manned centre.
- Zonal lamps are provided to give discrete indication of zones in FIRE.
- The same types of Fire Resistant cable that may be used for conventional systems can be used for Analogue Addressable systems, e.g. FP200™, Firetuff™, Pyro etc.

1.2.2 Differences from Conventional Fire Alarm Systems

- Circuits with addressable devices are wired in 'loops' beginning and ending at the control equipment.
- Devices placed on a 'loop' need to be addressed with a unique number so that the control panel can communicate with them on an individual basis.
- There may be several hundred devices on a 'loop' that may be split up to cover several zones.
- Sounders may be put on the 'loop' and be addressable.
- Because data is moving along the 'loop' screened cable should always be used to minimise interference with other electronic systems and to ensure compliance with EMC (Electro Magnetic Compatibility) regulations.
- Sophisticated cause and effect scenarios may be programmed into the system as required by the system designer or the requirements of the local enforcing authority, e.g. phased evacuation, delayed response, intermittent sounders, or a combination of all three!
- A pre-alarm facility is available, indicating that a smoke or heat detector is registering an increase in conditions that could lead to a fire (i.e. slow smouldering smoke is present).
- A variety of engineer diagnostic and fault-finding features are provided. For example, it is possible to check a detector to see if it requires cleaning; to illuminate it's indicator; to change its status via the fire panel, etc.
- The equipment ALWAYS requires programming.
- The panel display allows information to be presented the user in a more comprehensive way than the lamps on a conventional panel.
- Every single fault, action, keypress, etc. is recorded in the onboard datalogger. In fact the last 999 events are recorded and available to print out or view. Resetting the system, removing power completely, or removing memory chips will not wipe any events stored in the datalogger.

1.2.3 A Typical Analogue Addressable Loop

Below is a diagram of a typical analogue addressable loop complete with loop isolators, detectors, loop-powered sounders, modules and monitors. The descriptions and availability of the devices shown may not be applicable to all manufacturers protocols – please check with your supplier for further details. Please note: a list of specific devices currently supported by the AFP can be found in Appendix 1 at the back of this manual.



D	Analogue Addressable Smoke or Heat Detector
MC	Analogue Addressable Manual Call Point
I	Loop Isolator
PI	Loop Isolator (built into panel)
EOL	End of Line Device
LS	Loop Powered Analogue Addressable Sounder
S	Conventional Sounder
CC	Conventional Manual Call Point
CD	Conventional Smoke or Heat Detector

■ All conventional devices must be interfaced to an appropriate addressable unit before connection to the loop.

* Any limitations shown are a consequence of the relevant protocol manufacturers' devices and not the AFP loop drivers – for further details please refer to section 1.3 'Cable Types and Limitations' on page 6.

1.3 Cable Types & Limitations

All system wiring should be installed to meet current national standards (in the United Kingdom these are BS 5839 pt 1 : 2002 and BS7671 (Wiring Regulations)).

Fire resistant screened cable should be used throughout the installation. This not only shields the data moving up and down the cables from outside interference but is essential to ensure compliance with EMC regulations. Cables such as FP 200, Firetuff™, Firecel™and MICC may be acceptable provided they are properly terminated at the control panel and meet national standards / the system specification as applicable.

Consult Clause 26 of BS 5839 pt 1 : 2002 for more detailed information on cables, wiring and other interconnections.

A critical wiring design problem with analogue systems is the combined effect of loop resistance, loop capacitance and the current demand of connected items.

Things that influence loop resistance are: -
- Length of loop
- Cable diameter and material
- Number and type of loop isolators

Items that influence loop capacitance are: -
- Length of loop.
- Cable diameter
- Type of cable e.g. MICC, Firetuff™ etc. (MICC cable has up to 50% greater capacitance per metre than other cables).

Items that influence current drawn are: -
- Number of devices connected
- Types of devices connected (especially loop sounders which take a relatively large amount of current when operating).
- Numbers of items connected between loop isolators.

There are no hard and fast maximum conditions for loops, every situation being unique.

With the AFP range of fire panels, we would advise the following:
- Absolute maximum loop length 1km, with either $1mm^2$ or $1.5mm^2$ cables.
- No more than 20 addressable devices between loop isolators of which no more than 6 may be loop sounders.
- If loop sounders are used, then use $1.5mm^2$ cable and do not fit more than 32 per loop in total.
- If more than 10 loop sounders are used per loop then maximum loop length per loop should be no greater than 750m.

If the above conservative advice is followed then the loop **WILL** almost certainly work. However, the above information should **NOT** be considered the maximum operating conditions for the AFP.
Many other scenarios are possible, the permutations of which are virtually limitless and therefore beyond the scope of this document. Those with sufficient knowledge and experience are welcome to implement other scenarios provided they keep within the impedance and capacitance guidelines of the loop drivers (see Appendix 5 at the back of this document). Please note: Any limitations are not a consequence of the AFP loop drivers but of the device manufacturers' protocol, coupled with the cable characteristics. AFP loop drivers are easily capable of driving lightly loaded loops up to 4 km long, without a problem. However, devices connected at the end of 4 km may not be able to read the data once corrupted by the cable.

1.4 Panel Location

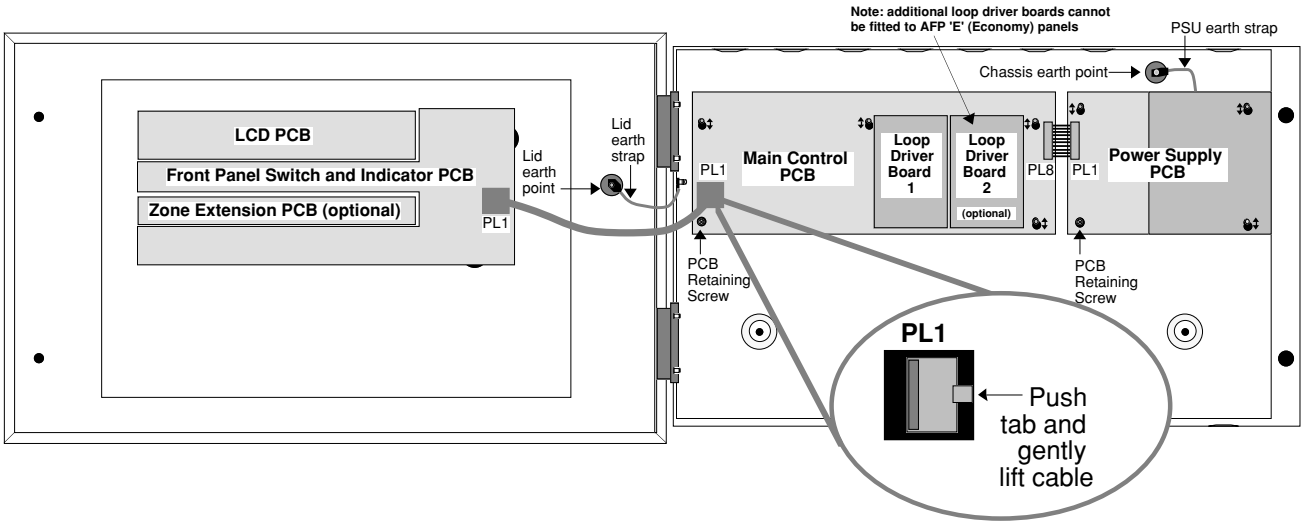
The panel MUST be sited internally and MUST NOT be subject to conditions likely to affect its performance e.g. damp, salt-air, water ingress, extremes of temperature, physical abuse etc.
The panel should be sited at a height where it is easily accessible and in a prominent position within the building. This means in most situations that the LCD should be at eye level.

Typical locations for a panel are in the entrance foyer/hallway of a building at ground floor level (the first and most obvious point of contact for emergency services) or a security office that is likely to be permanently manned.
Places not to fit the panel include the manager's office, the electric cupboard, above the ground floor, under the stairs, locked up somewhere to prevent vandalism, by the boiler or hidden under the counter in reception.

1.4.1 Mounting the Enclosure

The AFP is supplied with a hinged lid, a metal back box and a minimum of four separate PCBs. The relative location of these PCBs is indicated below:

Figure 1 : PCB arrangement



The AFP can be surface or semi-flush mounted (see *Figure 2*). To expose the base mounting holes, the base PCBs must first be removed. It is also recommended that the hinged lid is removed to prevent accidental damage during the fixing process.

To remove the lid: -

- Take the panel out of it's box and undo the two screws on the right hand side of the lid using the allen key provided.
- Hinge the lid 180° to the left and remove the lid earth strap from the base earth connection (do not overbend the hinges).
- Disconnect the lid/base connecting cable (PL1) from the Main Control PCB. Care should be taken when detaching this connector to depress the telecoms-style locking tab to prevent damage (see the inset in figure 1 above).
- Carefully remove the four M4 retaining nuts that secure the hinges.

To remove the base PCBs: -

- Ensure power has been removed from the panel and that the PSU PCB is safe to handle (see section 1.5.1 on page 9).
- Disconnect the connector cable (PL8) on the Main Control PCB.
- Pull the PSU earth strap off the spade connector at the main chassis earth point.
- Carefully undo the PCB retaining screw located at the bottom left hand side of the relevant PCB using a crosshead screwdriver.
- Push the PCBs upwards and then pull forwards over the mounting pillars taking care not to damage any of the components.

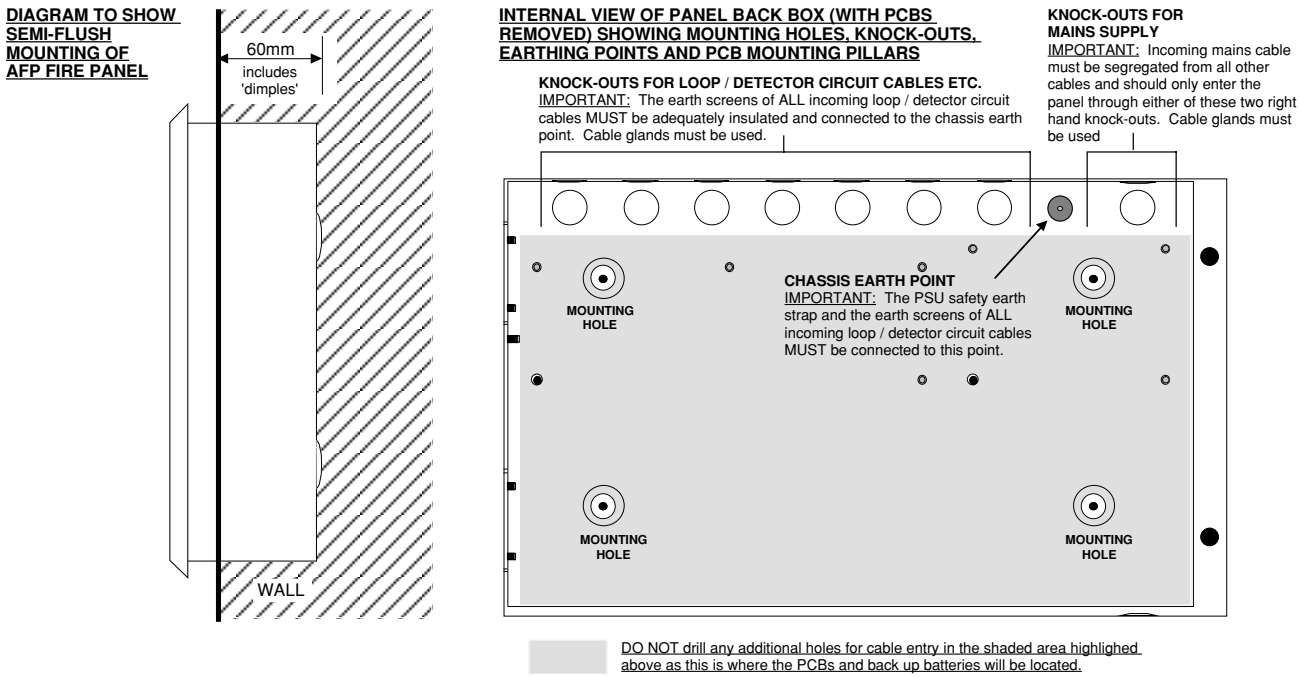
The panel lid and base PCBs can now be removed from site to prevent accidental damage.
Please note: The base PCBs are static-sensitive and we strongly advise that relevant anti-static handling precautions are observed when handling them. Refer to Appendix 4 for further details.

Decide carefully how the wiring will be brought into the panel with reference to figure 2 overleaf and remove the required knock-outs for cable entry. Always ensure if a knock-out is removed, the hole is filled with a good quality cable gland. Any unused knock-outs must be securely blanked off.

It is essential that the 230Va.c. cable comes into the enclosure via one of the inlets at the top right hand corner of the enclosure. For further CRITICAL information on mains connection please refer to section 1.5.1.1 on page 10.

Using the four mounting holes, fix the base securely onto/into the wall. The mounting holes are suitable for use with No.8 roundhead or countersunk woodscrews. Assess the condition and construction of the wall and use a suitable screw fixing. Any dust or swarf created during the fixing process must be kept out of the fire panel and great care must be taken not to damage any wiring or components.

Figure 2 : Semi-Flush Mounting of AFP panel and Internal View of Panel Back Box



Notes on cable terminations

It is vitally important with Analogue systems that the cables are terminated correctly according to the cable manufacturers instructions. Cable glands must be fitted where cables enter the panel. Any holes made but subsequently not used MUST be sealed with a flame retardant gland or other such barrier. Excessive tails should not be left, especially within the control panel. **The earth screen of the incoming cables MUST be adequately insulated and connected to the chassis earth point (see section 1.5.2.1 for connection diagram).**

Failure to correctly terminate the screens to the chassis earth point **WILL** lead to a faulty installation. Typical symptoms are: -

- Accidental connection of screen to lethal voltages.
- Missing devices on a loop.
- Disconnecting an earth on one loop leads to failure of another loop.
- Bad communications on a loop and intermittent faults.
- Double addressing.

1.5 Connecting the Panel

Connecting the panel's internal connections and PCBs is best undertaken immediately prior to commissioning but after conventional and analogue devices have been correctly connected to the loop, addressed as appropriate (with reference to the device manufacturer's instructions), and the cable integrity verified.
Faults occurring in the wiring or addressing, and not picked up at this stage will almost certainly result in spurious and intermittent faults when the equipment is energised. We strongly recommend that all aspects of the installation are verified and logged by the installer. With a view to aiding this, sample copy installation schedules/certificates are given in Appendix 3 of this document. The commissioning agent should furnish the installer of the cabling scheme with these forms to help verify the installation. Copying and use of these forms is permitted providing that their source is acknowledged.

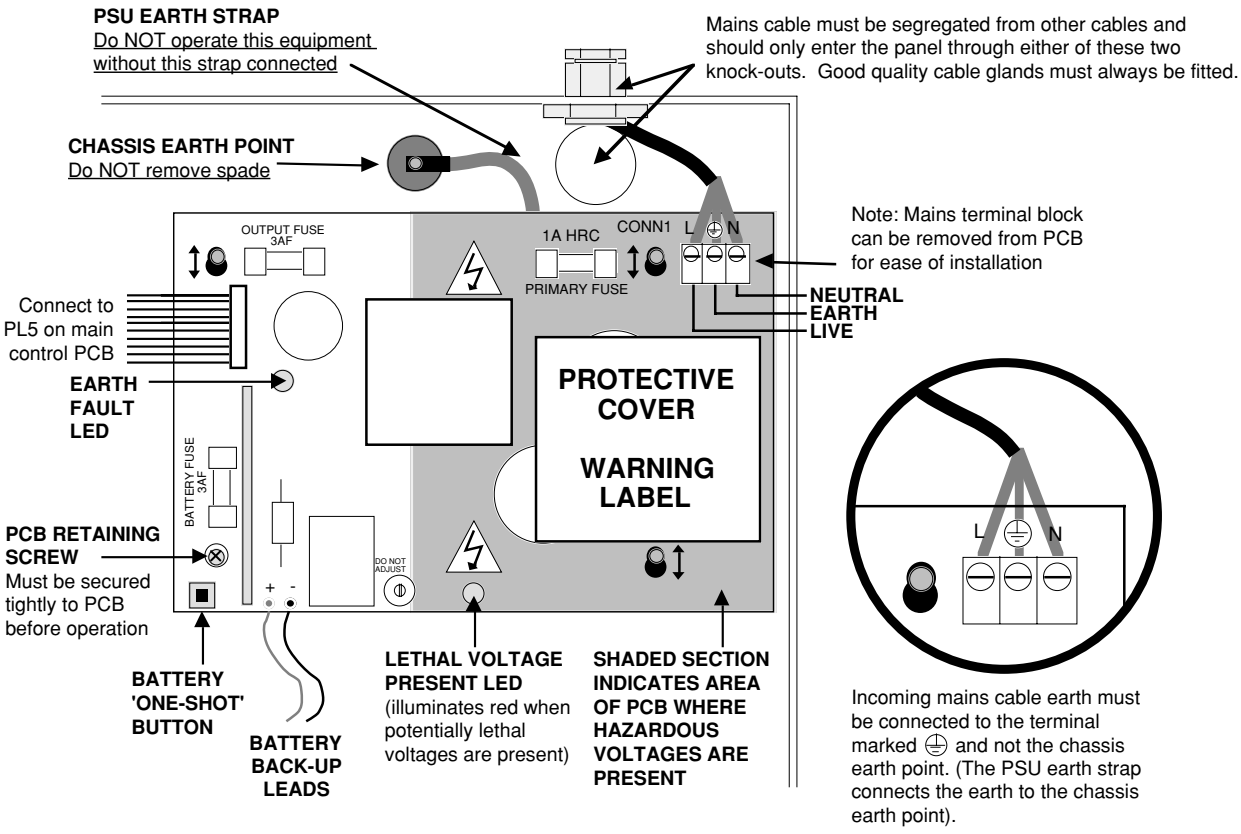
Re-fit the panel lid and PCBs which were previously removed. Re-connect the lid earth and lid/base connecting cable and ensure that the PCB retaining screws are firmly fastened down. (These screw connections play an important part in the panel's electrical safety and overall EMC immunity and it is essential that a good and sound electrical connection is made at this point.) **The PCB's must be securely fastened before operation.**

Following is a description of each PCB together with connection details.

1.5.1 Power Supply PCB

The AFP's PSU is a 185-265Va.c. 50-60Hz off line switched mode power supply that combines the functions of a power supply unit, battery charging unit, battery monitoring unit and earth fault monitoring unit.
THIS UNIT STORES VOLTAGES AT UP TO 400Vd.c. AND MAY BE LETHAL IF TOUCHED.
DO NOT TOUCH THIS PCB WHILST THE RED 'LETHAL VOLTAGE PRESENT' INDICATOR IS LIT.
THIS UNIT MUST BE EARTHED.
DO NOT connect mains to this unit until the installation is complete and all the circuit boards are correctly attached within the panel. The PSU earth strap must be fitted to the chassis earth point before connecting the mains supply. DO NOT OPERATE THE PSU OUT OF THE ENCLOSURE.

Figure 3 : Power Supply PCB Layout



1.5.1.1 Mains Connection

Please note: These guidelines are based on BS 5839: Pt1: 2002 and BS 7671 (Wiring Regulations). Other national standards of installation should be used where pertinent.
It is important that mains supply is brought into the enclosure at the top right hand side as indicated in *Figure 3* above. The requirement for the mains supply to this equipment is fixed wiring, using three core cable (no less than 1mm^2 and no more than 2.5mm^2) or a suitable three conductor system, fed from an isolating switch fuse spur, fused at 3A. This should be secure from unauthorised operation and be marked "FIRE ALARM: DO NOT SWITCH OFF". This mains supply must be exclusive to the fire panel.
Correctly terminate the incoming cables as shown in the *Figure 3* above. If required, the 5mm connector block (CONN1) can be pulled from the PCB for ease of installation. Ensure that the incoming mains earth is connected directly to this connector block and NOT to the chassis earth point. (The PSU earth strap must be connected to the chassis earth point before operation).

The PSU PCB is connected to the Main Control PCB by a 10-Way 0.1" pitch connector. This connects from PL1 on the Power Supply PCB to PL5 on the Main Control PCB.

Primary Fuse: 20 x 5mm 1A HRC Ceramic to IEC 127 (EN60127 Part 2). For safety reasons and to avoid nuisance tripping, it is important that this type of fuse is used. DO NOT USE A QUICK BLOW FUSE OR A FUSE OF ANY OTHER RATED CURRENT IN THIS POSITION.

Battery and Output Fuses: 20 x 5mm 3A F to IEC 127 (EN60127 Part 2). The battery fuse and main PSU fuses act independently to supply the main PCB.DO NOT USE ANY OTHER TYPE OR SIZE OF FUSE IN THESE POSITIONS

Protective Cover: This cover complete with warning label protects the installer/programmer from accidental contact with circuit components that may be charged at up to 400Vd.c. This may be lethal. DO NOT ATTEMPT TO TOUCH OR PROBE ANY COMPONENT COVERED BY THIS LABEL OR ADJACENT TO IT.

Lethal Voltage Present LED: Whilst this red LED is lit, voltages in excess of 400 Vd.c. are present on the PCB - DO NOT TOUCH. If it is not lit this does NOT mean it is safe to touch. Take great caution. The only sure and recommended way of handling the power supply unit is to remove the mains connector (after isolating) then watch the red LED extinguish. The LED is extinguished completely when the voltage present is less than 50Vd.c.

Earth Short LED: When lit, this LED indicates there is a short to earth on the fire alarm system, NOT that there is a problem with the main earth connection.

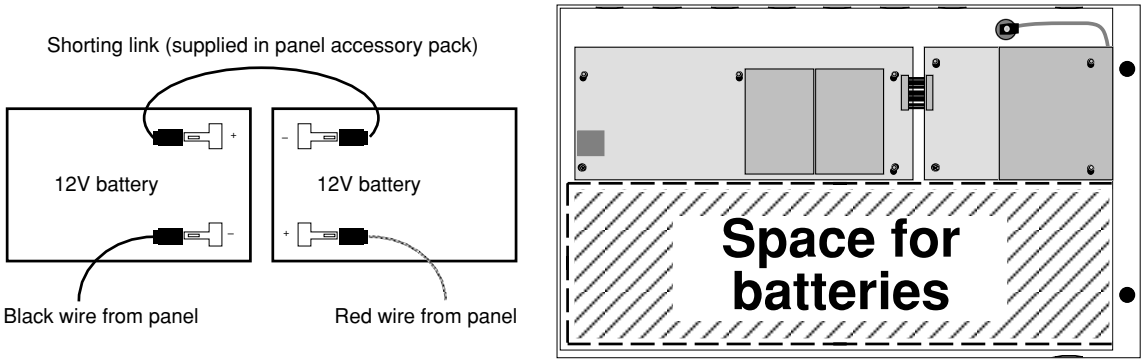
Battery One Shot Button: The PSU PCB contains circuitry that not only charges the stand-by batteries, but also measures the condition of them to protect them against deep discharge. One feature of this circuitry is that it allows commissioning/maintenance personnel to power the system without connecting the mains supply. For this to work, two fully charged 12V 7AHr VRLA batteries must be connected in series, as shown in *Figure 4*. (Always ensure correct polarity connection). Pressing the Battery One Shot Button for around 2-3 seconds allows the panel to measure battery voltage and, if everything is okay, to activate the system circuitry. Checking the LCD display whilst pressing the button will report any poor battery conditions.

PCB Retaining Screw: Under no circumstances should this equipment be operated without this screw secured tightly to the PCB as it plays an important part in the electrical safety and EMC immunity of this product.

Battery back-up leads: These should be connected to two x 12V 7AHr VRLA batteries connected in series as indicated in *Figure 4* below.

1.5.1.2 Battery Connection

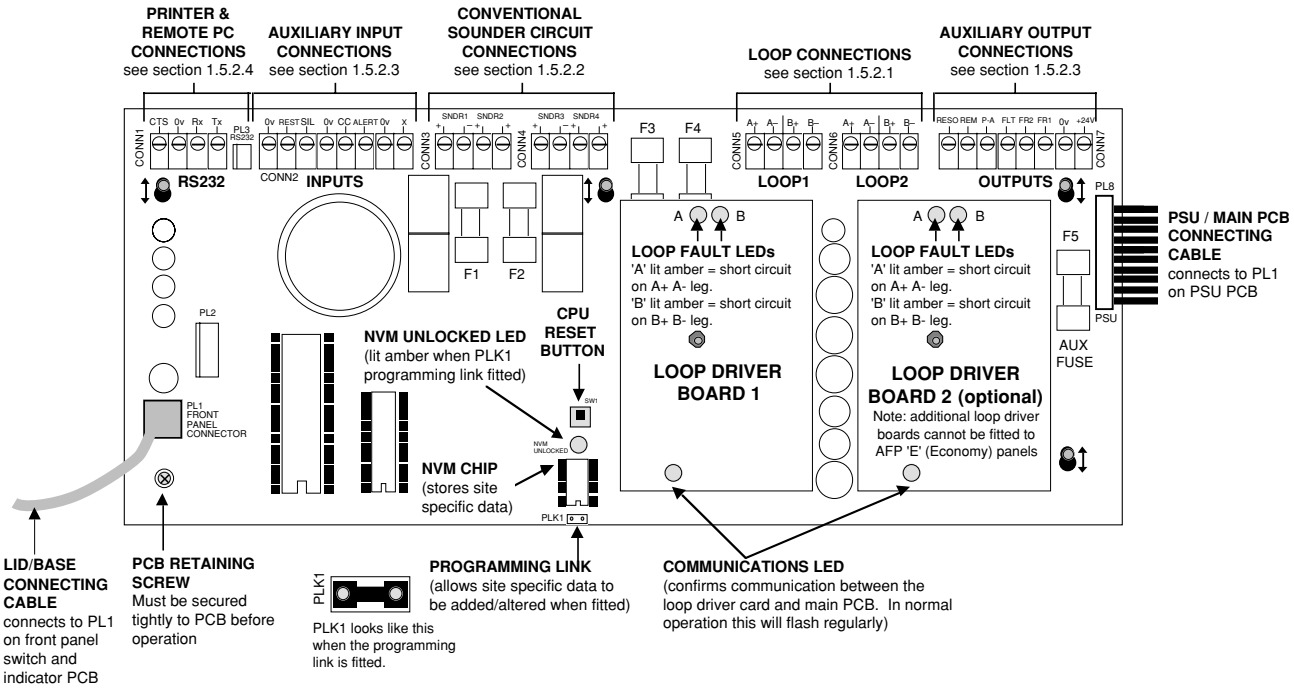
Figure 4: Battery Location and Connection Details



1.5.2 Main Control PCB

The Main Control PCB connects to the Power Supply PCB via a 10-Way 0.1" pitch connector (PL8) and to the Front Panel Switch and Indicator PCB via an 8-way telecoms style cable (PL1). Care should be taken when detaching this connector to depress the locking tab to prevent damage to the cable. See the inset in Figure 1 for further details.

Figure 5 : Main Control PCB layout



NVM (Non-Volatile Memory) Chip: The site data NVM chip is located in an 8 Pin DIL socket. It may be removed or inserted and is the subject of a separate programming section later in this document. The panel cannot be programmed without an NVM chip being fitted. Do not attempt to remove or replace this chip without taking normal anti-static handling precautions – see Appendix 4 for further details. If in doubt, DO NOT touch this chip. It is essential that the NVM chip is fitted the correct way round and that all of its pins are correctly socketted. Failure to do so may blow the chip up and cause the panel to fail.

Programming Link: When altering or adding site-specific data it is necessary for the Programming link (PLK1) to be fitted. It is not possible to do an autolearn or change any site-specific data without this link being fitted. Please note: It is not possible to enter the normal mode when the programming link is fitted. Therefore the link must be removed when site-specific data entry has been completed. A visual and audible fault warning is given at Access Level 1 indicating that the link should be removed.

NVM Unlocked LED: This amber LED is lit when the PLK1 Programming Link is fitted.

Fuses: F1 – 20 x 5mm 1A F to IEC 127 (EN60127 Part 2) – Sounder Circuit 1.
F2 – 20 x 5mm 1A F to IEC 127 (EN60127 Part 2) – Sounder Circuit 2.
F3 – 20 x 5mm 1A F to IEC 127 (EN60127 Part 2) – Sounder Circuit 3.
F4 – 20 x 5mm 1A F to IEC 127 (EN60127 Part 2) – Sounder Circuit 4.
F5 – 20 x 5mm 1A F to IEC 127 (EN60127 Part 2) – +24V Auxiliary Outputs.

Loop Driver Cards: The panel will accommodate up to two loop driver cards of the same protocol. It is normally supplied with loop driver card number 1 already fitted. Fitting instructions are provided with each extra loop driver card. For further information on loop driver cards refer to section 1.5.3 on page 13.

CPU Reset Button: Pressing this button resets the main processor. Pressing the Reset button does not erase any site-specific data stored in the NVM chip.

PCB Retaining Screw: Under no circumstances should this equipment be operated without this screw secured tightly to the PCB as it plays an important part in the electrical safety and EMC immunity of this product.

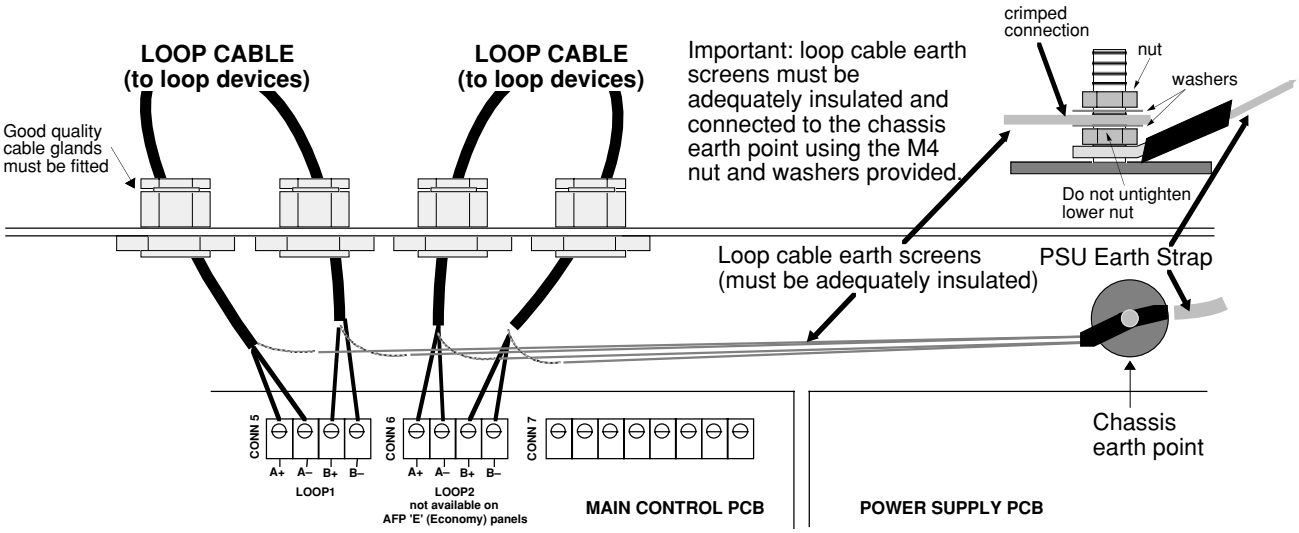
1.5.2.1 Loop Connections

Loop cable must always be segregated from the mains cable and brought into the enclosure via the knock-outs provided (see *Figure 2* on page 8). Good quality cable glands must be fitted into all used knockouts.

Before connecting the loop(s), check the circuit continuity of each conductor. N.B. if loop isolators are installed, it will not be possible to check the circuit continuity of the two loop legs unless the isolators are temporarily shorted out. The earth screen connections should also be continuous.

Once the loop wiring has been checked, gently remove the 'pull off' 5mm connector blocks from their PCB connectors (CONN5 for loop 1, CONN6 for loop 2). Connect the checked loop wiring to the connector blocks without leaving excessive spare cable within the panel, paying due regard to figure 6 below. Remember to label cables accordingly.

Figure 6 : Loop Cable Connection Details

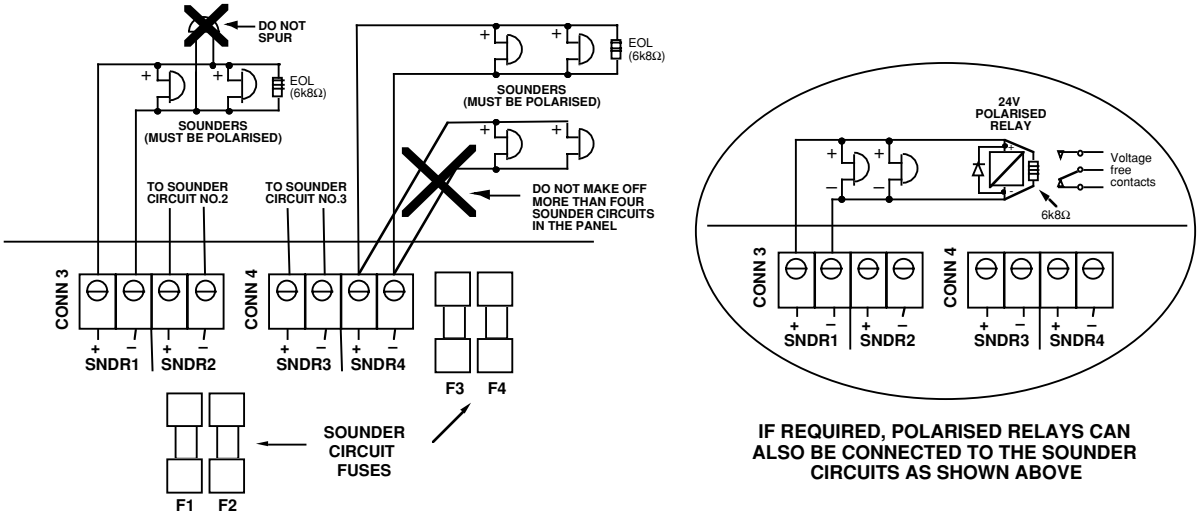


1.5.2.2 Conventional Sounder Circuit Connections

The conventional sounder circuit cables must be segregated from the mains cable and brought into the enclosure via the knock outs provided and good quality cable glands must always be fitted. All sounders must be polarised. Unpolarised sounders will show a sounder fault. The two 5mm connector blocks (CONN3 for sounder circuits 1&2 and CONN4 for sounder circuits 3&4) can be gently removed from the PCB for ease of installation. However, these connector blocks MUST be reconnected the correct way round.

Sounder circuit earth screens must be adequately insulated and connected to the chassis earth point using the nut and washers provides for this as per the loop earth screens illustrated in figure 6 above using eyed crimp connectors.

Figure 7 : Conventional Sounder Circuit Connection Details



1.5.2.3 Auxiliary Input and Output Connections

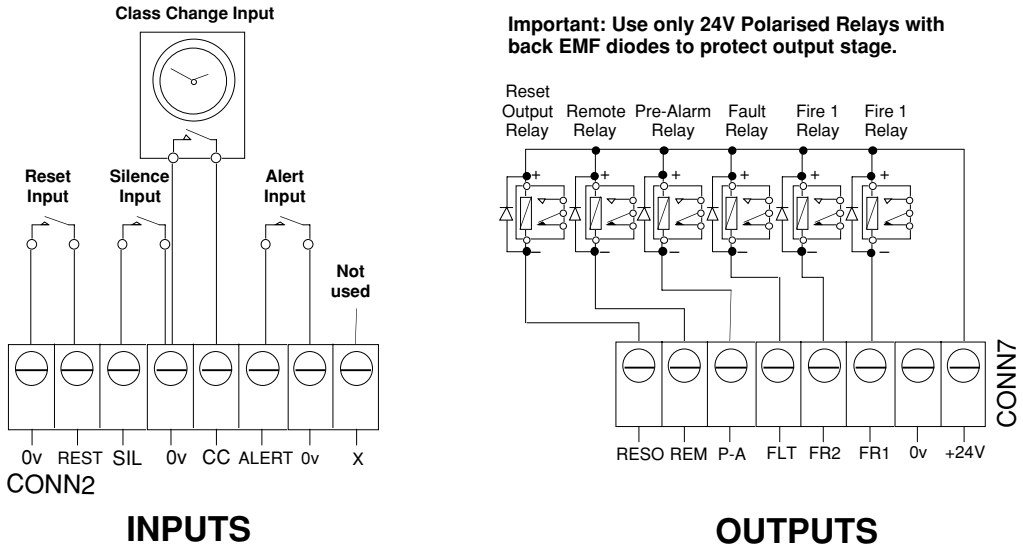
A variety of auxiliary input and output connections are available on the AFP as indicated below: -

Inputs:
- **Class Change Input:** causes continuous activation of alarm sounders (non-latching)
- **Alert Input:** causes pulsing activation of alarm sounders (non-latching)
- **Reset Input:** resets the system
- **Silence Input:** silences the system

Outputs (open collector type, rated at 100mA each):
- **Fire 1 Output:** Energised for any Fire condition. Reset when Panel Reset.
- **Fire 2 Output:** Energised for any unsilenced Fire condition. Reset when Alarm Silenced.
- **Fault Output:** Normally energised. Turns off for any Fault condition and turns back on when all faults are cleared.
- **Pre-alarm Output:** Energised for any Pre-Alarm condition. Reset when no Pre-Alarm conditions exist.
- **Remote Signal Output:** Energised for any Fire condition. Programmable delay/isolate.
- **Reset Output:** Energised during the Reset cycle.
- **+24V Output:** Fused at 1A F to IEC 127 (EN60127 Part 2).

Figure 8 below shows a general arrangement where all inputs and outputs are used.

Figure 8 : Auxiliary Inputs and Outputs Connection Details



1.5.2.4 Printer / Remote PC Connection

An RS232 connection is available on the Main Control PCB that can be used for connecting a PC or a standard 80 column serial printer to the AFP. Please note: if either of these devices are earthed an earth fault may show at the panel. For further information on connecting a PC to this PCB for programming purposes, please refer to the instructions supplied with the AFP upload/download software kit.

1.5.2.5 Panel Multiplexing

This option is not available at the current time. Contact your distributor for further details/availability dates.

1.5.3 Loop Driver Cards

The AFP is normally supplied with one loop driver card installed. Fitting instructions for a second loop driver card are included with the optional extra loop driver kit. **NOTE: Additional loop driver cards cannot be fitted to AFP 'E' Economy Panels.** The Main Control PCB automatically recognises the presence of the loop driver card and it's protocol type (this is stated on the loop driver card itself.) DO NOT MIX DIFFERENT PROTOCOL TYPES IN THE SAME PANEL – THIS WILL CAUSE THE PANEL TO CRASH.

Loop Driver Cards are static-sensitive and we strongly advise that relevant anti-static handling precautions be observed when handling them. Refer to Appendix 4 for further details.

Communications LED: The green LED indicator on the loop driver card is a visible indication of communication between the loop driver card and the main PCB. In normal operation it will flash regularly. The LED is also active when an event happens on that particular loop. When resetting and during loop learn this indicator is highly active.

Loop Fault LEDs: The Loop Driver card has two loop isolators built in (one for each end of the loop). If a short occurs on either leg of the loop, then the isolator nearest the short will automatically operate, and the respective amber LED will be illuminated. When the fault is cleared the LED goes out automatically.

The quantity of devices and the features available is dependent on the facilities provided by the particular protocol manufacturer. The full operating parameters supported by the AFP are as indicated in Appendix 1 at the back of this manual – **please read it.**

1.5.4 Front Panel Switch and Indicator PCB

This PCB mounted to the lid is for the display and control of the system. It provides facilities for the connection of the 2-line x 40-character LCD display and extra zone LED indictors.

Contrast Control: This controls the contrast of the LCD. It is factory set and does not normally require any adjustment.

1.5.5 Zone Extension PCB (optional extra)

The front panel lid comes complete with 16 separate zone indicator LEDs. An extra card is available to extend to a total of 32 zones the number of indicated zones. Fitting instructions are provided with this zone extension kit

2 Commissioning

2.1 Important Note

All commissioning is performed at Access Level 3. It is therefore imperative that the entry code chosen for this access level (if not the default code) is one that can easily be remembered.

2.2 General Description

Commissioning is the setting to work of the equipment and it is the most critical part of the installation. The efficiency with which it is done depends on several factors. These are: -

- The accuracy of information received regarding the wiring and devices fitted.
- The freedom of the installation from faults and errors.
- The completeness of the information received from the client/specifier as regards text information and the manner in which the equipment is to operate.
- The method used to commission the AFP.

The only factor normally within the control of the commissioning engineer is the final item – the method used to commission the panel. Even if this part of the job is done perfectly, the final quality of the installation will always be based upon the quality of the first three factors.

The AFP range of panels uses a method of automatically learning analogue addressable devices connected to a loop. For this function to work correctly it is necessary for the loop to be intact. This 'Loop Learn' function is carried out on a loop by loop basis and it is possible to select which loop is being learned.

2.3 Overview of AFP Commissioning Methods

There are two different ways to carry out the programming function of the AFP. These are: -

- **(1) Directly using the front panel buttons and the LCD**. This is the easiest way to start programming the AFP. All aspects of programming can be undertaken using this method and no other piece of equipment or knowledge is required. It is however more time consuming than the other two methods. It is particularly useful for changing specific information and mistakes that have been programmed by, say, an IBM compatible computer (PC), especially when the alterations need to be implemented straight away.
- **(2) Directly using the AFP upload/download software tools running on a PC connected to the panel's RS232 port.** This gives a clearer graphical representation of the functioning of the software and allows quick and easy input of data directly into the AFP. It is generally much quicker than the above method and provides the added bonus of allowing programming away from site, providing of course that all the relevant information has been supplied from site in time. It is also possible to archive programming information for future reference.

Only the first way is covered in detail in this manual. Programming via the AFP programming tools are covered in the instructions and help files accompanying the product.

Before commissioning commences:

- Obtain from the installation engineer the necessary and completed first fix sheets (see Appendix 3)
- Consult with the client/interested parties as to the zoning/naming and functioning of the system so as to determine its exact mode of operation.
- Verify the integrity of the cabling using extra low voltage meters, etc. NB: DO NOT MEGGER. Remove all electronic devices if 500V testing is demanded.

When the criteria above has been satisfied:

- Perform loop learn on the respective loops.
- Rectify any problems resulting from loop learns (e.g. double addresses, missing devices, incomplete loops etc).
- Assign points to zones and name.
- Name the zones.
- Assign Sounders to Groups and name.
- Assign Output Units to Sets
- Map zones to sounder groups and panel circuits as required.
- Assign delays to zones (if required).
- Assign phased evacuation (if required).
- Verify by testing that the system functions as per the specification.

Ensure the panel lid is secured down and instruct the client or their agents in the operation of the system, complete and/or hand over any necessary paperwork or manuals prior to leaving site.

This manual does not contain any user/operator instructions and therefore must NOT be left accessible to the end user. (A separate user manual/log book is available highlighting user controls – document no. DFU0701002).

Notes:

1/ The panel assumes that the last effective loop learn (performed manually or via the upload/download software) is the correct system. Any devices missing from this configuration will be flagged missing and any devices extra will be ignored until a new loop learn is done.

2/ Unlearnt devices going into 'fire' will result in an 'unrecognised device - fire' condition being flagged at the control panel. During this type of fire condition, the panel will beep but the system's sounders **WILL NOT** sound.

3/ Unlearnt devices subsequently removed from the system **WILL NOT** be flagged as missing.

Sounder Programming

Addressable Loop powered Sounders and Sounder Control Units, are programmed to be members of a Group. Zones are programmed to activate the Groups, and also the Sounder Circuits connected directly to the panel (Panel Circuits). The method of activation can be continuous or pulsed as required.
All of the Sounders may be activated after a delay by using the Phased Sounders function.

Sets

Output Units are programmed to be members of Sets. Zones are programmed to activate Sets.

Delays

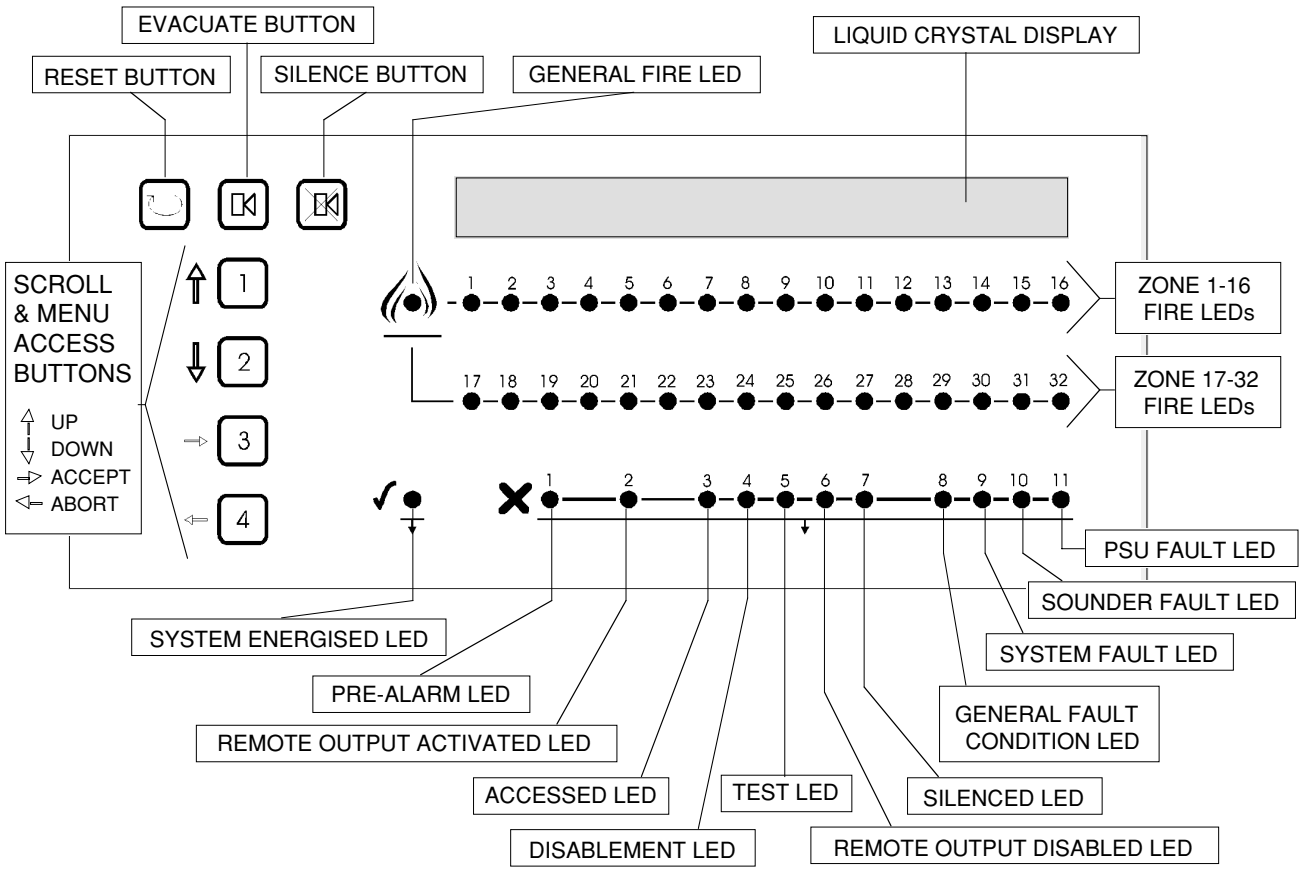
Each Zone can have a different delay programmed into it, than can be apply to Detectors and / or Call Points. When the delay has expired the Sounders and Outputs for that Zone are activated.

Non Fire Zones

If a Zone is programmed for **Non Fire**, and a device is triggered on that Zone, it will not be processed in the normal way, in that a Fire condition is never established, there will be no indication, and Sounders will not be operated. However, associated Output Set(s) will be activated for that Zone. When the device that initiated the Non-Fire condition returns to normal, the Output Set(s) will be turned off. Note that since Non Fire Zones do not trigger Sounders then no Sounder function can be programmed for them, and a warning to that effect will be presented if Sounder programming is attempted for a Non Fire Zone.

This facility may, for example, be used for controlling Door release system, that needs to be released in the evening, and energised again in the morning. The door release system also needs to be released in the case of a fire. To do this, use an input unit that is triggered at the required time by an external timer, the timer returning the input unit to normal in the morning. This input unit would be allocated to a Zone that has been made Non - Fire. The doors would be controlled by an Output unit, that has been allocated to a Set, programmed to operate from the Non Fire Zone, and any other Zone required to release the Door Release system in the case of a fire.

2.4 Description of Front Panel Label & Controls



RESET Button: Resets the system and indicators. Only active at Access Levels 2&3 AFTER the system has been SILENCED. Please refer to section 2.6 on page 19 for a detailed explanation of Access Levels.

EVACUATE Button: Pressing this button instantly puts all sounders into Evacuate and energises the remote output. Only active at Access Levels 2&3 although pressing it in Access Level 1 will override any active timer delays.

SILENCE Button: Pressing this button when the panel is in a fire condition silences all sounders and mutes the fault warning buzzer if allowed. Only active at Access Levels 2&3.

Scroll and Menu Access Buttons 1 & 2: At Access Level 1 these buttons allow scrolling through any current Fire, Pre-Alarm and Fault Conditions which are indicated on the liquid crystal display. At Access Levels 2 & 3 they also allow scrolling up and down through the panel's various system set-up menu selections.

Scroll and Menu Access Buttons 3 & 4: At Access Level 1 these buttons operate as access code input buttons to Access Levels 2&3. At Access Levels 2&3, button 3 acts as an Accept button, and button 4 acts as an Abort button, or returns to the previous system set-up menu selection

Liquid Crystal Display: This display gives information appertaining to the system's status in Access Levels 1, 2 & 3. The entire panel can be programmed using this display and the buttons numbered 1, 2, 3 & 4 if required.

General Fire LED (red): This LED illuminates when the panel has registered a fire alarm condition on any zone. The LED flashes until silenced. Subsequent fire conditions will restart the LED flashing until it is silenced again.

Zonal Fire LEDs 1-16 (red): These LEDs illuminate to provide more specific indication of a fire alarm condition. For example, LED 1 illuminates when there is a fire condition in zone 1; LED 2 illuminates when there is a fire condition in zone 2 and so on.

Zonal Fire LED's 17 – 32 (red): If fitted, these LEDs perform the same function as those highlighted above but for zones 17-32. Please note: this set of LEDs is an optional extra that is not fitted to all systems.

System Energised LED (green): This LED indicates the system is normal and running OK with all power supplies functioning correctly and intact. If this LED is NOT illuminated, please contact the designated site maintenance engineer immediately. It is <u>not</u> just a mains on indicator.

✗ **1 - Pre-Alarm LED (amber):** This LED indicates that a smoke/heat detector is registering an increase in the conditions that could lead to a fire. The LED extinguishes when the pre-alarm condition is cleared.

✗ **2 - Remote Output Activated LED (red):** This LED indicates that the onboard remote signalling output has been energised.

✗ **3 - Accessed LED (amber):** This LED indicates that the system is in Access Level 2 or 3. (Please note: the system automatically reverts to Access Level 1 after five minutes without a key press and this LED is extinguished. Any Access Level 2 information entered but not accepted at this stage will be lost). The LED extinguishes when the panel is returned to Access Level 1.

✗ **4 - Disablement LED (amber):** This LED illuminates when any detector, zone, or output has been disabled. When there are no disablements, the LED is extinguished.

✗ **5 - Test LED (amber):** This LED illuminates when the panel is in a test condition. On leaving the test condition, the LED is extinguished.

✗ **6 - Remote Output Disabled LED (amber):** This LED illuminates when the remote signalling output has been disabled. The LED extinguishes when the remote output is enabled.

✗ **7 - Silenced LED (amber):** This LED illuminates when there is a Fire or Fault Condition that has been silenced but not reset or cleared.

✗ **8 - General Fault LED (amber):** This LED illuminates when ANY fault condition occurs and remains present. When the relevant faults are cleared, the LED is extinguished.

✗ **9 - System Fault LED (amber):** Illuminates when any system error has been detected and remains illuminated whether or not the fault has automatically been cleared. (These are types of errors associated with microprocessor watchdog errors and checksums).

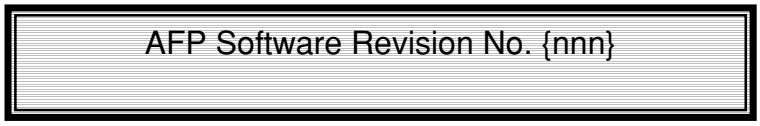
✗ **10 - Sounder Fault LED (amber):** Illuminates whenever a fault is detected on the four monitored conventional sounder circuits (including blown fuses) or on a loop powered sounder. The LED extinguishes automatically when the fault goes away or is repaired.

✗ **11 - PSU Fault LED (amber):** Illuminates whenever a fault is detected on the stand-by PSU. The LED extinguishes when the fault goes away or is repaired.

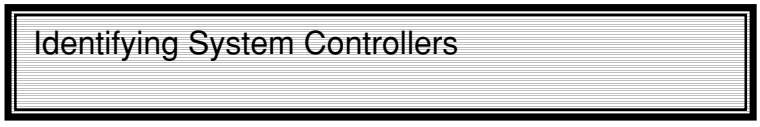
2.5 Powering Up

Do not connect power to the equipment until all the connections have been correctly made. Be aware that if mains is not connected, the battery one shot switch must be depressed momentarily after the back-up battery supply is connected to power up the equipment. (Read section 1.5.1.1 on page 10). When power is first applied, system start up messages will be displayed.

The first message is the equipment version number.



A message indicating that the system is identifying the various pieces of equipment connected follows this.
If incompatible component parts are identified at this stage, then an error message is displayed.



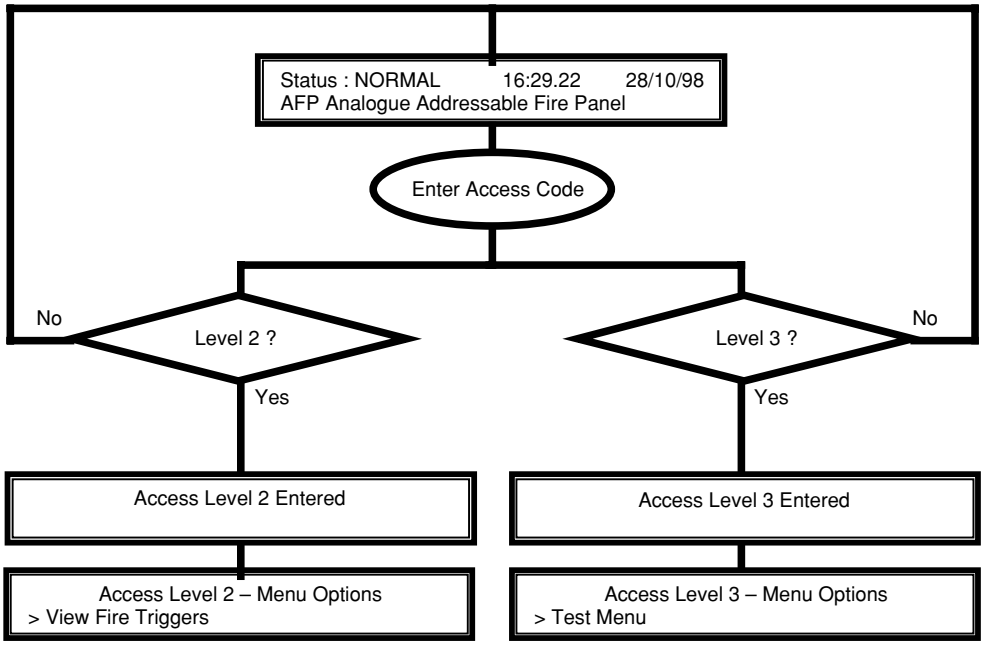
If all is well, after an initial panel reset, the panel starts polling the loop(s).
Provided there are no faults present, the normal display appears. The system will be at Access Level 1 with the keys inactive except for code access to another level.

2.6 Access Levels

There are three access levels available at the front panel. Virtually all programming and control is carried out using the buttons numbered 1-4.

The Silence, Reset and Evacuate buttons are used for these functions alone and are only active at Access Levels 2 or 3.

Below is a diagram explaining how to enter the different Access Levels. If the incorrect code is entered or is not completed within one minute the system reverts to the normal display and the process must be started again.



Level 1: This is the NORMAL user level. Only very limited access is allowed to either scroll through the current Fire, Pre-Alarm and Fault Conditions using the up and down keys (1&2) or to enter the access code to Access Levels 2 & 3, (A four digit combination of the buttons 1 to 4). If there are no Fire Alarm conditions present then the only function that can be performed at Access Level 1 is code entry to enter another level. All system fault messages are displayed at Access Level 1 (see User Manual for further details).

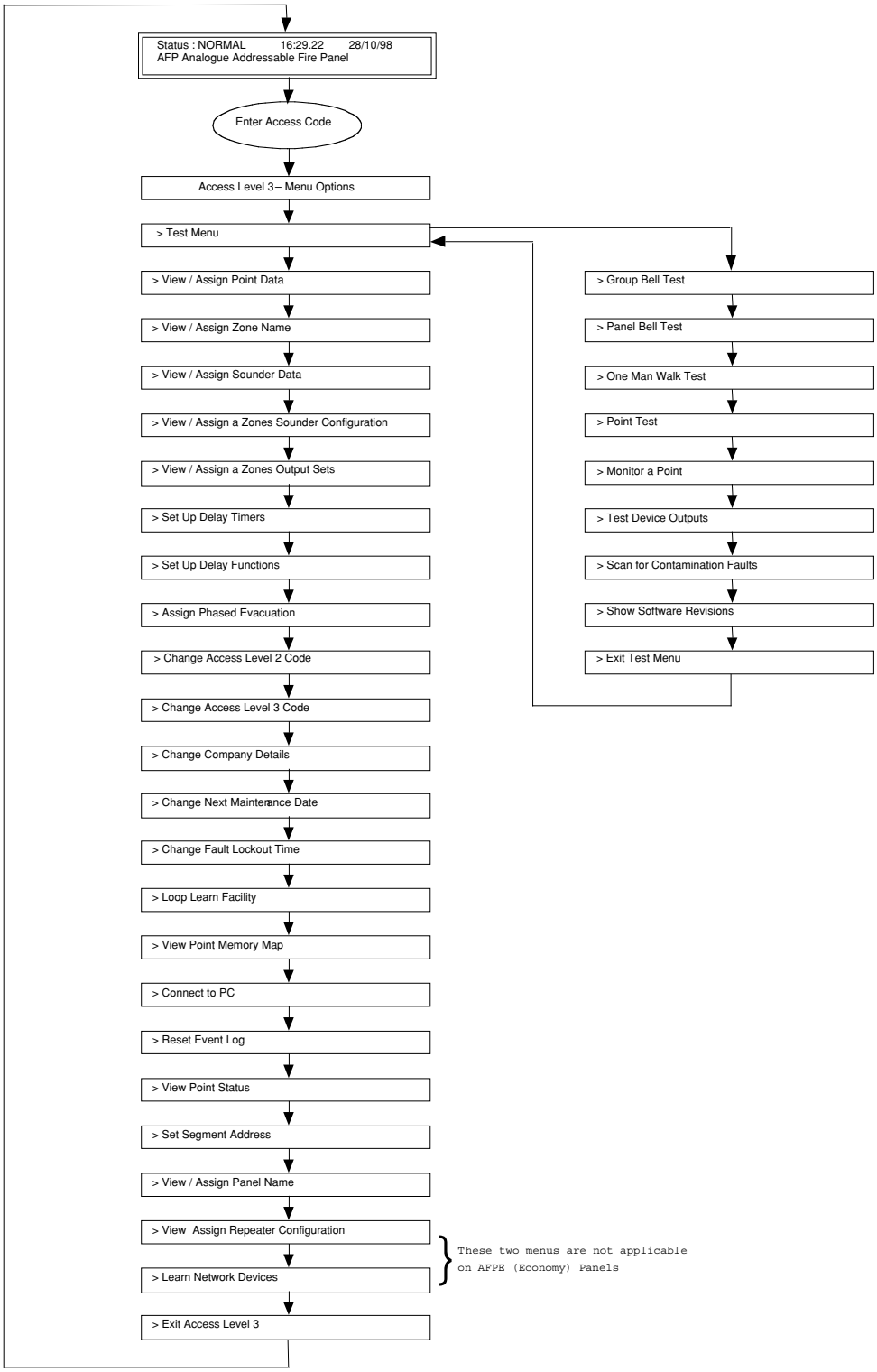
Level 2: This is the authorised user level. It is entered by inputting the Access Level 2 access code (**Default code is 3333**). Silence Reset and Evacuate are active at this level. You are also able to view fire triggers, pre-alarms, faults, disablements and event history and enable or disable devices, zones, sounders, remote fire outputs and fault outputs. Other functions available are changing the Level 2 access code, setting date and time, changing and altering clock accuracy, as well as printing the event log. For a complete and full explanation of these functions please consult the User Manual.

Level 3: This is the engineer level. (**Default code is 4444**). All programming functions are available, including changing the Level 2 and Level 3 access codes, as well as operation of the Silence, Reset, and Evacuate keys. N.B. if the system is reset then it will revert to normal mode and the entry code will need re-entering. The next section deals with the menus and functions available at Access Level 3.

Note: It is good practice, especially at Access Level 3, to perform a RESET after the manipulation of any data.

2.7 Commissioning Using The Front Panel Keys at Access Level 3

This is the easiest way to programme the AFP as NO additional equipment is required. However, it is also the most time consuming. Access to the Level 3 Programming Menu is necessary. All programming functions are available at this level, although it should be noted that it is not possible to enter lower case characters using this method. This method is most often used to alter or amend incorrect data previously entered using a different method, although full programming of the system is not precluded. Below is a diagram highlighting the various menu options available at Access Level 3.
A detailed description of each option is given later on in this section.
Remember to fit the Programming Link (see Section 1.5.2) when adding/amending site specific data. If not fitted, the software will give a warning prompt to fit it **EVERYTIME** her is an attempt to change any site-specific data.



Glossary of this Section

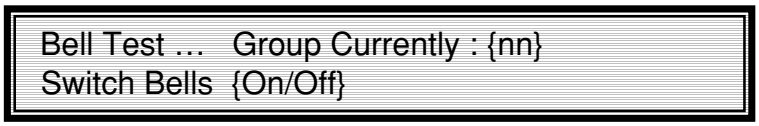
Lp.{n} = Loop Number
A.{nnn} = Device address number
Zone.{nn} = Zone number
Type.{nn} = The addressable device type – see Appendix 1 for further details
{} = Variable Alphanumeric Text. Only uppercase text can be input using the front panel keys.

2.7.1 Test Menu

This is the entry point to the Access Level 3 Menu. Pressing the DOWN button continues to the next option. Pressing the ACCEPT button enters the dedicated test sub-menu. Please note: Whilst any test is active the panel's internal buzzer sounds intermittently and **CANNOT** be silenced.

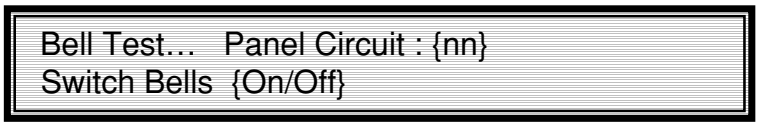
2.7.1.1 Group Bell Test

This menu allows test activation any of the system's 15 sounder groups.
Select the sounder group to test using the UP/DOWN/ACCEPT buttons and toggle the 'Switch Bells On/Off' option as required.
When 'On', all of the sounders in the sounder group selected will sound for 1 second in every 10. To end the test, toggle the 'Switch Bells On/Off' option to 'Off' and press ACCEPT.



2.7.1.2 Panel Bell Test

This menu allows test activation any of the panel's four conventional sounder circuits.
Select the panel sounder circuit to test using the UP/DOWN/ACCEPT buttons and toggle the 'Switch Bells On/Off' option as required.
When 'On', all of the sounders in the panel sounder circuit selected will sound for 1 second in every 10. To end the test, toggle the 'Switch Bells On/Off' option to 'Off' and press ACCEPT.



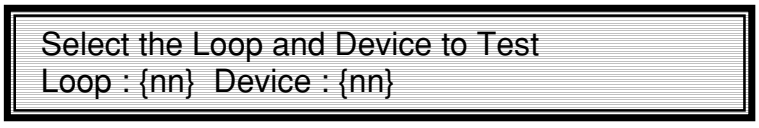
2.7.1.3 One Man Walk Test

This allows a zone, or all Zones to be selected for test mode. Select the zone to be tested using the UP/DOWN/ACCEPT buttons.
Selecting Zone 00 will put all Zones into test.
Toggle the 'Test Off/On' option.

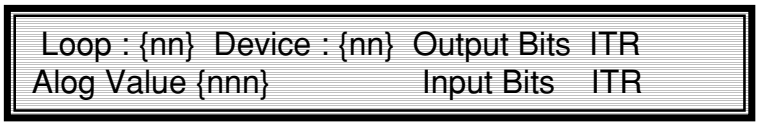
When turned to On, the zone is automatically reset from any fire condition by the panel after five seconds. If 'Sounders On' is selected, the sounders will trigger momentarily for the zone under test when in a fire condition. Please note: Once the 'Test Off/On' option has been toggled to 'Test On', the Abort to Escape option is not active. The Test must be Off in order to Escape.

2.7.1.4 Point Test

This allows the interrogation of any point, to show its current status, and to change its status if required.
Use the UP/DOWN/ACCEPT buttons to select the loop that the device to be interrogated is on and to select the address of the device.



The following window will appear (note: Alog = Analogue):
Use the UP/DOWN/ACCEPT buttons to put the device into fire or to assert it's internal LED or remote LED (if connected). The relevant output bit to be asserted will appear reversed out when selected.
On detectors, I = Internal LED, T = Test (puts the detector into a fire condition) and R = Remote LED.
Please note: different output bits will be displayed for other system devices.



2.7.1.5 Monitor a Point

This shows a graphical representation of the analogue status of a point.
Select which loop the device to be monitored is on by using the UP/DOWN/ACCEPT buttons. Use the buttons again to select the address of the device.

```
Select the Loop and Device to Test
Loop : {nn}  Device : {nn}
```

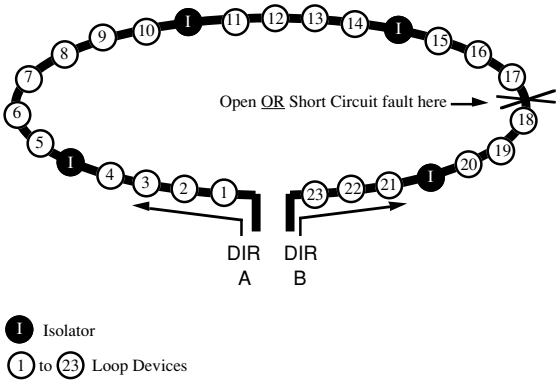
The following window will appear:
The moving pointer indicates the analogue value of the point under test. Also displayed is a numerical value of the analogue graphical representation.

```
F          NORM          P    FULL     VALUE
             ↑                            {nn}
```

Note: F = Fault; NORM = Normal; P = Pre-Alarm; FULL = Full Alarm.

2.7.1.6 Test Device Outputs

This menu allows momentary assertion of the LED outputs of loop devices such as detectors and manual call points in one continual sweep. LEDs are asserted on a step-by-step basis (approximately once every six seconds) and in address number order, (i.e. address 1 first, followed by addresses 2, 3, 4, 5, 6, 7 etc). With Apollo protocol, Loop driven sounders can also be selected to momentarily trigger during this continuous cycle. The test can be carried out from either end of the loop or from both ends at the same time. This is a particularly useful function for helping to locate any open or short circuit faults in the loop wiring. An example illustration of how the test might work in practice is shown below:



For a fault between points 17 and 18 on the example loop illustrated left:

OPEN CIRCUIT FAULT:
If Direction A (Dir A) is selected, all devices 1-17 will periodically illuminate with devices 18-23 not illuminated.
If Direction B (Dir B) is selected, all devices 18-23 will periodically illuminate with devices 1-17 not illuminated.
This would therefore identify an open circuit fault between devices 17 and 18.

SHORT CIRCUIT FAULT:
If Direction A (Dir A) is selected, then all devices 1-14 will periodically illuminate.
The short circuit isolator between devices 14 and 15 will have been activated and all other devices 15-23 will not be lit.
If Direction B (Dir B) is selected, then devices 21-23 will periodically illuminate.
The short circuit isolator between devices 20 and 21 will have beeen activated and all other devices 1-20 will not be lit.
This would therefore identify a short circuit fault somewhere between the two isolators containing devices 15-20.

When the Test Device Outputs option is selected, the following menu will appear:

Use the UP/DOWN/ACCEPT buttons to select on which loop to carry out the test out. Toggle between 'Dir A On/Off', 'Dir B On/Off' and 'Sounders On/Off' as appropriate.

```
Test Detector LEDs on Loop : {n}
Dir A: {On/Off) Dir B: {On/Off} Sounders:{On/Off}
```

Notes: 1/ All addresses are tested whether they are in the panel memory or not.
2/ Addresses do not have to be fitted in sequential order for this facility to work.
3/ The Sounders On/Off option is not available with System Sensor or Nittan protocol.

2.7.1.7 Scan for Contamination Faults

This allows each detector point to be checked for contamination. (Contamination can occur due to the build up of dust in the detectors over an extended period of time). There is a facility to adjust the contamination limit by as much as -33% of that recommended by the manufacturer, therefore increasing the sensitivity of the scan if required. Use the UP/DOWN/ACCEPT buttons make and select the adjustment.
Every connected detector point is checked, thus this test can take a number of minutes to complete.

This message will appear whilst this test is in progress.

```
Scanning for Contamination faults…
Lp.{n}  Detector.{nnn}   *** Please Wait***
```

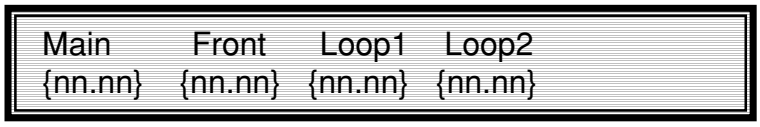
If any detector points are found to be contaminated, the results are shown in the format below.

The analogue (Alog) level is shown in the top left of the display. The zone name and address name are shown in order to assist in the location of the contaminated point for inspection.

Use the UP/DOWN/ACCEPT buttons to view any more contaminated points that may have arisen in the test.

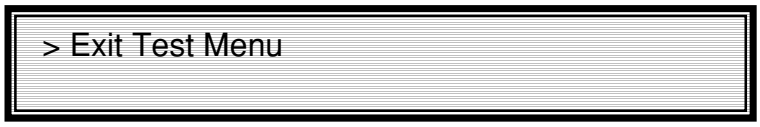
2.7.1.8 Show Software Revisions

This allows shows the software revision number of all of the AFP's PCBs.



2.7.1.9 Exit Test Menu

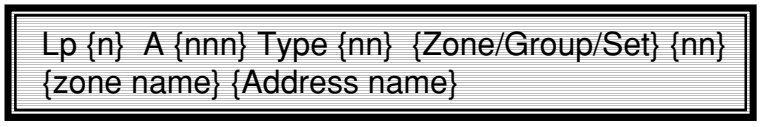
Pressing ACCEPT exits the sub-test menu options and returns to the main Access Level 3 menu options.



2.7.2 View Assign Point Data

This function allows individual naming of an addressable device and to associate it with the relevant zone, Group or Set.

There is a choice of whether to show all devices or just those that are fitted, use the UP/DOWN/ACCEPT buttons to make the appropriate choice.



Select the loop (Lp) that the point is on by using the UP/DOWN/ACCEPT buttons. Scroll through to the address (A) of the point to be assigned. The 'Type' field presents a shorthand name for the type of point being assigned (this is protocol specific – refer to Appendix 1 at the back of this manual for a full list of supported devices). The type field may be modified, by scrolling through the list of devices, using the UP/DOWN/ACCEPT buttons. Designating any device as "REMOVE", or any device that is shown as "REMOVE", means that it is not fitted.

Again using the UP/DOWN/ACCEPT buttons, select the Zone, Group or Set number to which the point is to belong. The type of device dictates whether it belongs to a Zone, Group or a Set.

Note that Apollo Input Output Units are unique in that the Input bits belong to a Zone, and the Output belongs to a Set, and they must both have the same number e.g. Zone / Set 4. This does not mean that an alarm in Zone 4 activates Set 4, since the relationship between Zones and Sets is programmed separately, See View / Assign a Zone's Sets configuration.

To modify the address point name using the panel text editor as outlined in Appendix 2 at the back of this manual. A total of 24 characters are available for this purpose which INCLUDES any spaces between words. Note: the 'Zone' name cannot be modified at this menu – this has to be done under the 'View/Assign Zone Name' menu (see below).

2.7.3 View/Assign Zone Data

This function allows naming of a zone.

Use the UP/DOWN/ACCEPT buttons to select the zone number to edit.

Then use UP/DOWN/ACCEPT buttons to Select Yes or No for the Zone being Non Fire. See Page16 for explanation of the Non-Fire function.

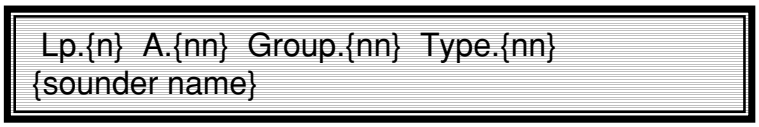
Modify the 'Zone' name using the panel text editing method as outlined in Appendix 2 at the back of this manual. A total of 15 characters are available for this purpose, which INCLUDES any spaces between words.

2.7.4 View/Assign Sounder Data (Apollo an Nittan Protocol Panels)

For System Sensor protocol driven panels see section 2.7.5.

This function allows naming of Apollo and Nittan addressable sounders and to select which group it belongs to. (A group is a collection of sounders driven via the loops).

Use the UP/DOWN/ACCEPT buttons to select the loop that the sounder to be assigned is on. Again using the buttons, select the address of the sounder. Then select the Group.



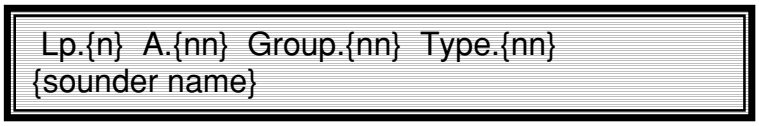
The Type is a non-changeable field that shows that the device is a Sounder. Using the panel text editor, enter the name of the sounder as outlined in Appendix 2 at the back of this manual. A total of 15 characters are available for this purpose which INCLUDES spaces between words.

2.7.5 View/Assign Sounder Data (System Sensor Protocol Panels)

For Apollo protocol driven panels see section 2.7.4.

This menu has two functions with System Sensor protocol driven panels. It allows (a) naming of a System Sensor addressable sounder and selection of which group it belongs to and (b) naming of a System Sensor Output Unit and to select which zone it belongs.

Use the UP/DOWN/ACCEPT buttons to select the loop that the sounder or output unit is on.



Use the UP/DOWN/ACCEPT buttons, to select the address of the sounder / output unit. When the device has been selected, toggle the Type field between 'Sounder' and 'Output' as required. Next, use the UP/DOWN/ACCEPT buttons to select which group the sounder belongs to or, in the case of output units, which zone it belongs to. Finally, using the panel text editor, enter the name of the sounder or output unit as outlined in Appendix 2 at the back of this manual. A total of 15 characters are available for this purpose which INCLUDES spaces between words.

2.7.6 View/Assign a Zone's Sounder configuration

This function designates how each sounder group and panel circuit will operate when any particular zone is in a fire condition. Use the UP/DOWN buttons to scroll to the required Zone, and then press Accept.

Note: that it is not possible to programme sounders for a Zone that has been designated Non Fire. A warning prompt will presented if programming Sounders for a Non Fire Zone is attempted.

The 15 'Group' characters correspond to each of the addressable sounder groups, i.e. the first character (from the left hand side) is for sounder group one, the second character is for sounder group two etc.

The characters meanings are: ✓ = operates continuously A = Alert i.e. pulses X = does not operate

Use the UP/DOWN buttons to scroll to the required character, then the ACCEPT button to move onto the next sounder. Pressing ACCEPT for the last Group Sounder, moves the selection back to the first Group.
Pressing ABORT moves from the 'Group' field to the 'Panel' field.
The four 'Panel' characters relate to the panel's four conventional sounder circuits i.e. the is for panel sounder circuit one, the second character is for panel sounder circuit two and so on. Again, use the UP/DOWN buttons to chose the appropriate character, and the ACCEPT button to move onto the next sounder.
Pressing ACCEPT for the last Panel circuit Sounder, moves the selection back to the first panel circuit.
Pressing ABORT moves from the 'Panel' field to the save changes function.

Please note: The operation of all sounders is also dependent on the configuration selected under phased evacuation.

2.7.6 cont View/Assign a Zone's Sets configuration

This function designates how each of the 32 Output Sets will operate when any particular zone is in a fire condition. Use the UP/DOWN buttons to scroll to the required Zone, and then press Accept.

The 32 characters correspond to each of the Sets, i.e. the first character (from the left hand side) is for Set one, the second character is for Set two and so on.

```
Assign Sets Zone {nn} will trigger
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xx
```

The characters meanings are: ✓ = operates X = does not operate

Use the UP/DOWN buttons to scroll to the required character, then the ACCEPT button to move onto the next Set. After the configuration for the last Set has been Accepted the function is completed.

2.7.7 Set Up Delay timers

This function allows sounder delay and remote output delay times to be set for any or all of the zones on the system.

Use the UP/DOWN buttons to select the zone for which the delay timer(s) will operate. The sounders and the Remote Output can each have separate delay times of up to 9.9 minutes in 0.1 minute steps.

```
Set up Delay Time in Mins for Zone {nn}
Sounders : {n.n}     Remote O/P {n.n}
```

(The default setting for both timers is '0.0', i.e. no delay). Use the UP/DOWN/ ACCEPT buttons to select the delay time(s) as appropriate. If either timer completes its delay period then the appropriate output will be asserted. Pressing Evacuate will override the delays at any Access Level. Pressing Silence at Access Levels 2 or 3 will stop the delays. If another point is triggered (i.e. double knock), delays are overridden and delayed outputs immediately turned on.
NB: The time field may be set to '-.-' which is infinity. This means that if only one device is tripped then the system NEVER times out. However on activation of another point ANYWHERE on the system (i.e. double knock), the timers immediately time out and the sounders allocated to that zone are activated, as programmed under section 2.7.5 (above).
N.B. To meet the requirements of EN54-2, the Remote Output IS NOT delayed when a manual call point is activated. It therefore follows that the delay to the remote output can only apply to devices other than manual call points.

2.7.8 Set Up Delay Functions

This menu allows selection of which devices (detectors and/or manual call points) will invoke the delay timers as described in section 2.7.6
Use the UP/DOWN/ACCEPT buttons to select the zone. Toggle between 'Detectors Delayed Y/N' and again between 'MCP (Manual Call Point) Delayed Y/N' as appropriate.

```
Set Up Delay Functions for Zone {nn}
Detectors Delayed {Y/N}   MCP Delayed {Y/N}
```

Selecting Y (Yes) will invoke the delay time. Selecting N (No) will not apply the delay time. If the remote output delay time has been set, in line with EN54-2, it will not apply to manual call points.

2.7.9 Assign Phased Evacuation

This menu allows sounders that are not designated to a zone in fire to provide warning that a fire condition is underway either immediately or after a pre-programmed delay time. During the sounder delay period, phased sounders (i.e. those not belonging to a group allocated to a zone in fire – see 2.7.5) can be made to pulse or remain silent. When the sounder delay timer has expired, all phased sounders will sound continuously provided the active delay timer (as per section 2.7.6) has expired.
Use the UP/DOWN buttons to increase/decrease the length of time that the phased delay timer will run. This can be set from '0.0' (Phased Evacuation immediate i.e. no phased evacuation) to '9.9' minutes, also '-.-' is available, which means an infinite delay, i.e. the phased sounders will never operate. Press the ACCEPT button to confirm the changes. If the phased delay time is set for 5.0 minutes, then in the event of a fire, only sounders designated to the zone in fire will operate. As soon as this time period has elapsed, all of the sounders on the system will sound continuously, provided the active delay timer (as per section 2.7.6) has expired.

```
Phased Delay Time : {n.n} Minutes
-.- indicates an infinite delay
```

Please note: The phased delay time MUST be greater than the delay timer delays (as per section 2.7.6) for this facility to work correctly.

2.7.10 Change Access Level 2 Code.

This allows changes to the code needed to gain access to the Level 2 menu.
Use the UP/DOWN/ACCEPT buttons to set the number for each digit of the four digit code number.Each digit can be in the range of one to four except the first digit, which has to be three or four. (Pressing the ACCEPT button on each digit moves to the next digit field).

```
Change Access Level 2 Code
Enter New Access Level 2 Code >{nnnn}
```

IMPORTANT: BE SURE TO KEEP A RECORD OF THE NEW CODE.

2.7.11 Change Access Level 3 Code.

This allows changes to the code needed to gain access to the Level 3 menu.
Use the UP/DOWN/ACCEPT buttons to set the number for each digit of the four digit code number. Each digit can be in the range of one to four except the first digit, which has to be three or four. (Pressing the ACCEPT button on each digit moves to the next digit field).

```
Change Access Level 3 Code
Enter New Access Level 3 Code >{nnnn}
```

IMPORTANT: BE SURE TO KEEP A RECORD OF THE NEW CODE.

2.7.12 Change Company Details.

This is the special text line displayed when the panel is in the Normal condition displaying the Service Company's name.
Modify company details using the panel text editing method as outlined in Appendix 2 at the back of this manual. A total of 40 characters are available for this purpose which INCLUDES spaces between words.

```
Change Company Details …
{company name}
```

2.7.13 Change Next Maintenance Date.

This option will flag a fault warning that the maintenance date has expired on the display.
Set the year, month and day that the maintenance date is to show using the UP/DOWN/ACCEPT buttons.

```
Change Maintenance Date
{Year} {Month} {Day}  {Enabled/Disabled}
```

The message will show at 11.00am on the chosen date if this option is Enabled, otherwise the maintenance message is never shown.

2.7.14 Change Fault Lockout Time.

This option allows setting of the time period during which momentary faults generated by loop devices with extended reset times (such as a zone monitoring unit controlling a beam detector) will be ignored.

The time period can be set using the UP/DOWN/ACCEPT buttons between 0-9.9seconds. Default is 1.0 second.

```
Change Fault Lockout Time
{nnn} Seconds
```

2.7.15 Loop Learn Facility.

The panel automatically finds the addressable devices that are connected to it (remember - the PLK1 programming link must be fitted – see section 1.5.2 on page 11).
First, select the loop for which the devices are to be learned using the UP/DOWN/ACCEPT buttons

```
Do you want to learn loop - {n}. ?
Press Accept to learn, Quit to abort.
```

The panel will then interrogate every address location to see if an addressable unit is present. During the process, it will show a running total of each type of device found, and which device is being interrogated.

```
Learning  ION TEMP OPT  CP OTHER DEVICE
{Protocol} {No}  {No}  {No}  {No}  {No}  {Device}
```

At the end of the interrogation period, the number of each type of detector/module found will be displayed as follows:

Results	ION	TEMP	OPT	CP	OTHR	TOTAL
Of Learn	{nnn}	{nnn}	{nnn}	{nnn}	{nnn}	{nnn}

Please note: The loop learn WILL only overwrite data pertaining to the device type or whether it is fitted or not. All other data remains unchanged. E.g. The Zone allocation of a detector, or the name of the device will both be the same as before the Loop Learn.

2.7.16 View Point Memory Map.

This option displays the known addressable units that are in the memory. It does not give a list of what is currently on the loop at the exact time of the memory view (i.e. unlearnt devices will not show but faulty/missing devices will still show)
Select the loop to be viewed using the UP/DOWN/ACCEPT buttons.

```
View Point Memory Map for Loop – {n}
Press Accept to View, Quit to Abort
```

This window will appear:
Use the UP/DOWN arrow keys to view the memory map. Each line in the memory map spans 25 device slots for address locations indicated. A letter indicates a location that has a device assigned to it.
The letter displayed will be dependent upon the type of device at that address location.

```
01 {nnnnn nnnnn nnnnn nnnnn nnnnn} 25
26 {nnnnn nnnnn nnnnn nnnnn nnnnn} 50
```

C = Call Point
I = Ionisation Detector
O = Optical Detector
S = Loop Driven Sounder
T = Temperature Detector
X = Device not fitting into the above categories
Z = Zone Monitor
? = Device type not recognised by Panel.

Press ABORT to return to the previous menu.

Note: If a System Sensor protocol panel, detectors will be located in addresses 1-99 and modules will be located in addresses 101-160.

2.7.17 Connect to PC.

This menu is used to send site specific information from the panel to a PC and vice versa. Please refer to the instructions accompanying the AFP Upload/Download Software for further details.
IMPORTANT: Do not remove the NVM link whilst the PC is uploading or downloading data as this will result in data corruption.

2.7.18 Reset Event Log.

This option clears the log of all the system events that have been recorded.
Use the UP/DOWN/ACCEPT buttons to confirm the erasing of the log.

```
Reset Event Log?
{Yes/No}
```

2.7.19 View Point Status.

This option gives a view of the status of any device connected to the loop.
Use the UP/DOWN/ACCEPT buttons to select the loop and device to view. After a short period of time, the following window will appear:

```
Select the Loop and device to View
Loop : {nn}   Device : {nn}
```

```
L: {n} A : {nnn} Fitted : {Yes/No} Ptest : {Yes/No}
Dis:{Yes/No} Zone:{nn} Type:{nn}  Ztest:{Yes/No}
```

L: indicates the loop number the device is on.
A: indicates the Point address of the device.
Fitted: indicates if the point is fitted or not.
Ptest: indicates if the point is currently under test.
Dis: indicates if the point is currently disabled.
Zone: indicates the point the zone is allocated to.
Type: indicates the type number of the detector fitted (this value is protocol specific – please refer to Appendix 1 at the back of this manual for a full list of supported devices and type numbers)
Ztest: indicates if the zone the point is allocated to is in Test.

Please note: no information can be altered via this window. To return to the previous window, press the ABORT button.

2.7.20 Set Segment Address

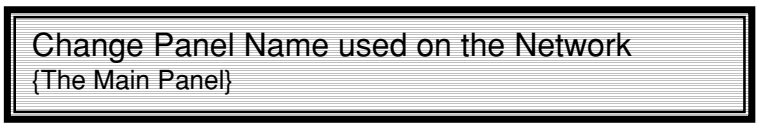
This menu options allows the commissioning engineer to set the Segment address number of the Master Panel. The address has a range 1-15, and must match the Segment address number of any Repeaters in use. For further information consult the AFP Repeater Manual. If Repeaters are not used the Segment address number does not matter.

Use the UP/DOWN buttons to locate the Set Segment Address menu.
Press the ACCEPT button. The following message will appear:

Use the UP/DOWN/ACCEPTbuttons to set the Segment Address. This can be any number between 1 and 15 but MUST be the same as the Segment number of all of the Repeater's on the network.

2.7.21 View / Assign Panel Name

This menu options allows the commissioning engineer to set the name of the Master Panel. This name is used to help differentiate between the Master and Repeater panels. The name is limited to a maximum of 15 characters.
If Repeaters are not used the Master Panel name must still be set.
Use the UP/DOWN buttons to locate the 'View/Assign Panel Name' menu and press the ACCEPT button.
The following message will appear:



Use the UP/DOWN/ACCEPT buttons to name the Master Panel.
A total of 15 characters are available for this purpose, which INCLUDES any spaces between words.

2.7.22 View / Assign Repeater Configuration

NOTE This function is not applicable on E' (ECONOMY) PANELS, since they cannot support Repeaters.

This menu option allows the commissioning engineer to select a Repeater, then select whether it is fitted or not and finally to name it.
Using the UP/DOWN buttons, locate the 'View/Assign Repeater Configuration" menu and press ACCEPT. The following message will appear:

{nn} = shows the number of the Repeater.
Fitted/Not Fitted = shows the current status of the Repeater.
Name = shows the name given to Repeater in question..
Use the UP/DOWN/ACCEPT buttons to scroll though and edit the above as required.
A total of 15 characters are available for naming each Repeater which INCLUDES any spaces between words. The PLK1 programming link must be fitted before any changes to the above can be made.

If Repeaters are not being used then the Fitted status for all Repeaters must be set to No since any designated as fitted will be monitored for being present and as such will be declared faulty.

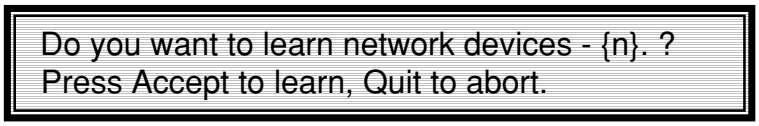
2.7.23 Learn Network Devices

NOTE This function is not applicable on E' (ECONOMY) PANELS, since they cannot support Repeaters.

This menu option allows the commissioning engineer to make the Master Panel interrogate the RS485 Network (if fitted) and locate any Repeaters present.
Use the UP/DOWN buttons to locate the 'Learn Network Devices' menu and press ACCEPT. The following message will appear:

Press ACCEPT to learn network devices (a repeater is a network device).

The following dialogue will appear during the interrogation period:
{nn} = shows the number of the Repeater being interrogated.
Fitted/Not Fitted = shows whether the Repeater was located or not.



This facility is not required when Repeaters are not fitted. For further information see the Repeater Installation Manual.

2.7.24 Exit Access Level 3

This will take the panel out of the Level 3 menu without resetting it and return it to Normal status (Access Level 1).

2.8 Commissioning Using the AFP Upload/Download Software & a PC

Details on this method of commissioning are covered in the instructions and Help File accompanying the AFP upload/download software.

Section 3

Appendices

Appendix 1:
(a) Apollo Supported Devices / Type Numbers
(b) System Sensor Supported Devices / Type Numbers
(c) Nittan Supported Devices / Type Numbers

Appendix 2:
Text Editing Method

Appendix 3:
AFP Programming Sheet – Loop Device Details
AFP Programming Sheet – Zone Details
AFP Programming Sheet – Sounder Configuration Details

Appendix 4:
Anti-Static Handling Guidelines

Appendix 5:
AFP Range Key Features / Technical Specifications

Appendix 1(a): Apollo Supported Devices / Type Numbers

XP95 SENSORS / CALL POINTS

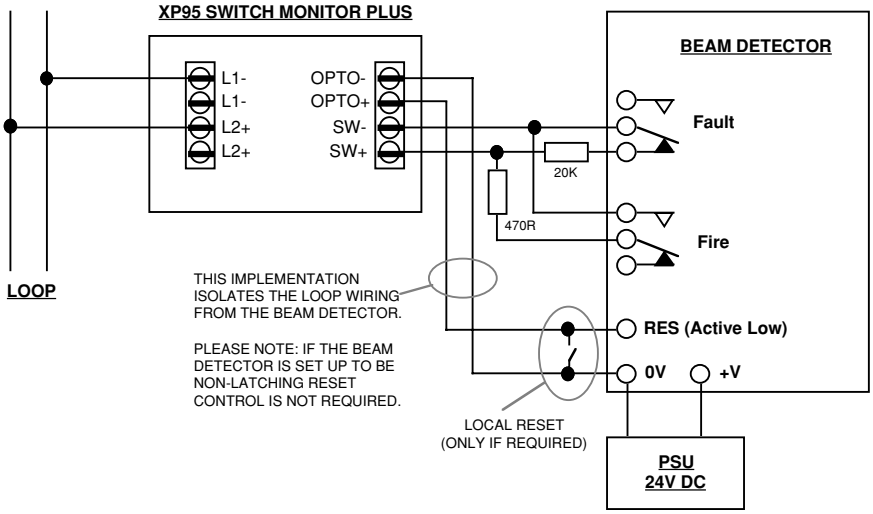
Description	Type Number	Type Name
XP95 Optical Smoke Detector	5	Opt
XP95 High Sensitivity Optical Smoke Detector	13	Opt
XP95 Ionisation Smoke Detector	3	Ion
XP95 Standard Temperature Heat Detector	6	Temp
XP95 High Temperature Heat Detector	14	Temp
XP95 Manual Call Point	31	MCPXP

SERIES 90 SENSORS / CALL POINTS

Description	Type Number	Type Name ■
Series 90 Optical Smoke Detector	5	Opt
Series 90 Ionisation Smoke Detector	3	Ion
Series 90 Standard Temperature Heat Detector	6	Temp
Series 90 Manual Call Point	7	MCP90

XP95 SOUNDERS / MODULES

Description	Type Number	Type Name ■
XP95 Sounder Control Unit	1	LPS
Sounder groups, sounder synchronisation, phased (alert) sounders and external fault monitoring all supported		
XP95 Loop Powered Sounder – all variants	1	LPS
Sounder groups and phased (alert) sounders supported.		
Zone Monitor	4	ZMU
Reset is applied during the reset cycle.		
Input / Output Unit	2	I/O
Input only supported with loop driver 1A63 and on.		
Input Zone and Output Set must have same number.		
Mini-switch Monitor with Interrupt	31	MCP
Same identity and function as a XP95 Call Point		
Output Unit	16	OUTPUT
Loop learnt as an I/O unit, manually change to Output Unit		
Put into Output Set		
Mini-Switch Monitor	12	SWM
Switch Monitor	12	SWM
Switch Monitor Plus	12	SM+
The optically isolated output is activated during the reset cycle.		
This device is typically used for resetting beam detectors (for connection details see below).		



SERIES 90 SOUNDERS / MODULES

■ Please note: Series 90 modules are not supported by the AFP.

Appendix 1(b): System Sensor Supported Devices / Type Numbers

IMPORTANT NOTES:

System Sensor Protocol contains two distinct types of devices – detectors (smoke and heat detectors) and modules (control modules, switch modules, etc. It should be noted that manual call points also fall into this category). On the AFP Range of Fire Panels, up to 99 detectors and a MAXIMUM of 60 modules can be used (i.e it is not possible to use System Sensor's full protocol amount of 99 modules).

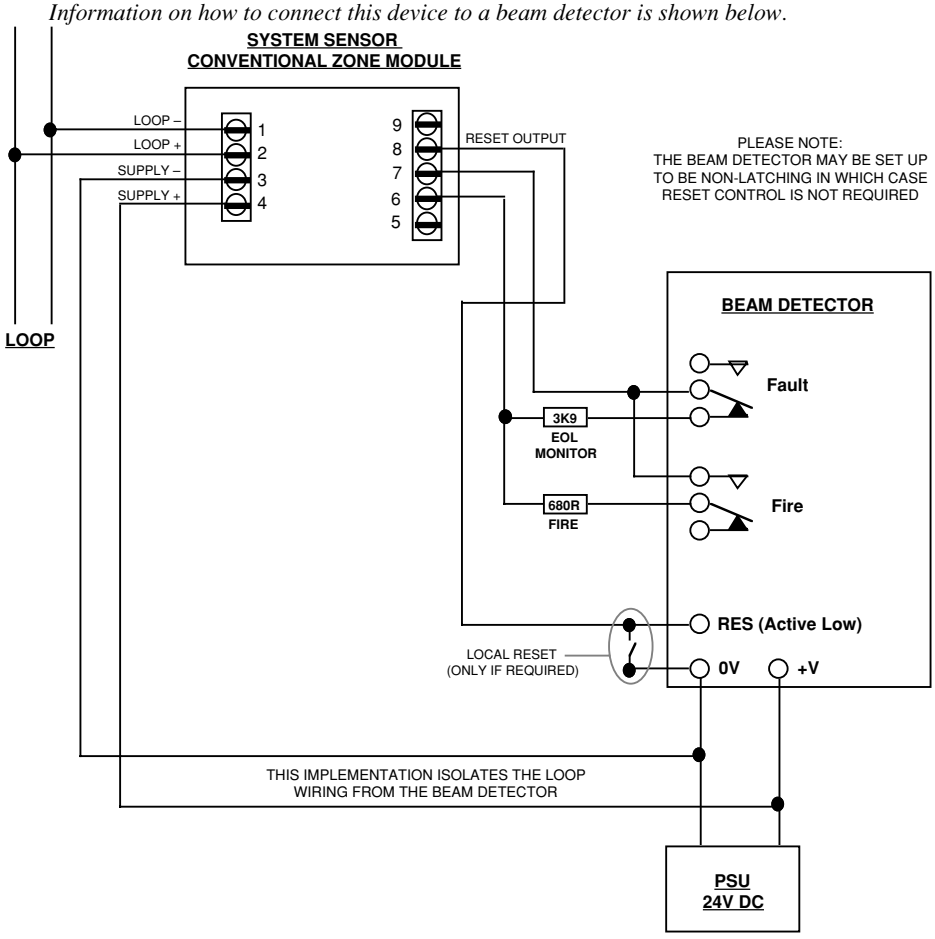
SYSTEM SENSOR DETECTORS

Description	Type Number	Type Name
Optical Smoke Detector	3	Opt
Ionisation Smoke Detector	2	Ion
Heat Detectors	1	Temp
Omni-Sensor (multi-criteria detector)	4	OMNI

SYSTEM SENSOR SOUNDERS / MODULES

Description	Type Number	Type Name
Manual Call Point	5	MCP
Input Unit	5	MCP
Input units are effectively the same as Manual Call Points		
Sounder Control Unit, Loop Powered Sounder	6	LPS
Sounder groups, sounder synchronisation and phased sounders supported. Sounder Tone B not available.		
Control Module	8	OCM
Put in Output Sets		
Zone Monitor	7	ZMU

Reset is applied during the reset cycle. Can be used to interface to conventional detectors, call points, beam detectors, etc. Information on how to connect this device to a beam detector is shown below.



Appendix 1(c): Nittan Supported Devices / Type Numbers

The AFP supports Nittan AS protocol.

NITTAN DETECTORS

Description	Type Number	Type Name
Optical Smoke Detector	5	Opt
Ionisation Smoke Detector	3	Ion
Temperature Heat Detectors	6	Temp

NITTAN SOUNDERS / MODULES

Description	Type Number	Type Name
Manual Call Point	31	MCP
Input Unit *Input units are effectively the same as Manual Call Points*	12	IM
Sounder Control Unit *Sounder groups and phased sounders supported.*	1	LPS
Loop Powered Sounder *Sounder groups supported.*	1	LPS
Output Unit *Put in Output Sets*	2	OCM
Zone Monitor	4	ZMU

N.B. Early modules, Manual Call Points, Input Units, Sounder Control Units etc, have all the same type, and are learnt by the panel as Manual Call Points. These must be manually converted into the appropriate device afterwards. If another loop learn is carried out, then these modules will be converted back to Manual Call Points once more.
Later modules have different type codes, and are learnt automatically.

Appendix 2: Text Editing Method

The AFP's text editing facility allows alphanumerical text to be entered using the UP, DOWN, ACCEPT and ABORT buttons on the panel front. It is used at the following Access Level 3 menu options:

- View/Assign Point Data
- View/Assign Zone Data
- View/Assign Sounder Data
- Change Company Details

On heavily populated loops, entering site-specific text can be a very time-consuming exercise. To help speed up the text entry process, in addition to upper and lower case letters A to Z, numbers 0 to 9 and symbols / - : and **@,** the AFP's text editing facility has a number of special characters built into it. These are:

C This clears the character you have selected and ALL characters to the right of it.

E This allows you to select the end input character on a particular field, i.e. MEETING ROOM E
When accepted, this saves you from having to enter blank characters all the way to the end of a text field.

D This deletes the character you have selected and moves ALL characters to the right of it one position to the left.

I This inserts one space BEFORE the character you have selected

Characters can be inserted as follows:
Use the UP/DOWN buttons to scroll through to the desired letter/symbol/number.
Press ACCEPT to enter the character and move onto the next letter to be edited.
Pressing ABORT moves the editing cursor back one position.
Please note that the AFP upload/download programming tools allow a greater range of characters to be programmed into text messages. However, if the panel Text Editing Method is used to subsequently edit these messages, then any unsupported characters will be replaced by "."

Appendix 3(a): AFP Programming Sheet – Loop Device Details

Co. Name:	Site Name:
Co. Address:	Site Address:
Protocol:	No. of Loop Isolators:

DC Resistance of Loop	-Ve leg: Ω	+Ve leg: Ω	Earth Screen: Ω

LOOP No.	DEVICE No.	DEVICE TYPE	ZONE No.	DESCRIPTION (NB: No. of characters limited to 24 max)

Sheet completed by (name):	Sheet No. of	Date:

Appendix 3(b): AFP Programming Sheet – Zone Details

Co. Name:	Site Name:
Co. Address:	Site Address:

Under 'Timer Delays', select the length of time you wish the sounders and remote output to be delayed for each particular zone. This can be anything between 0.0 (no delay) and 9.9 minutes (max. delay). Under 'Functioning With', select the type of devices you wish the delay to apply to, i.e. detectors, call points or both. Please note: In line with EN54-2, the remote output cannot be delayed for manual call point activation.

Zone No.	ZONE DESCRIPTION (no more than 15 characters incl. spaces between words)	Timer Delays		Functioning with	
		For Sounders	For Remote o/p	Detectors	MCPs
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					

Sheet completed by (name):	Sheet No. of	Date:

Appendix 3(c): AFP Programming Sheet – Sounder Configuration Details

Co. Name:	Site Name:
Co. Address:	Site Address:

On the grid below, tick which loop sounder groups and panel circuits will sound when the relevant zone is triggered. (The default condition is ALL zones trigger ALL loop sounder groups and ALL panel sounder circuits, i.e. all boxes are effectively ticked)

Zone No.	LOOP SOUNDER GROUP No.															PANEL CIRCUIT No.			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	1	2	3	4
1																			
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
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28																			
29																			
30																			
31																			
32																			

Sheet completed by (name):	Sheet No. of	Date:

Appendix 4: Anti-Static Handling Guidelines

Before handling PCBs or any other static-sensitive components, please ensure that the following electro-static handling precautions are taken.

Operators should rid themselves of any personal electro-static charge by momentarily touching any of the earth studs in the AFP's metal back box with all circuit boards and connections correctly in place. This should be done immediately prior to handling the sensitive components. If not in the vicinity of the back box, any other sound connection to safety earth may be touched. Static sensitive items may now be handled with care. Important: DO NOT touch the legs of any component and always handle PCB's by their sides.

PCBs should be stored in a clean, dry place which is free from vibration, dust and excessive heat.
Retaining the PCBs in a suitable cardboard box will also guard them against mechanical damage.

Appendix 5:

AFP Range *key features / technical specifications*

POWER SUPPLY SPECIFICATION	
Mains supply voltage	230 Va.c. ± 10% 50/60Hz
Internal power supply	27Vd.c.
Total output current limited to	3A @ 230 Va.c. (1.5A on AFPE)
Auxiliary power output	27 Vd.c. Nominal monitored
for failure	Yes
Battery charger monitored for failure	Yes
Batteries monitored for disconnection & failure	Yes
Quiescent current drain (1 loop unloaded)	<80mA
Quiescent current drain (2 loop unloaded)	<100mA
Earth fault monitoring	Yes - any conductor to Earth
Temperature compensated charging	Yes
DETECTOR LOOP DRIVER SPECIFICATION	
Maximum number of Loop Drivers allowed	2 (1 on AFPE)
Maximum cable length per loop	1Km
Line Fault monitored for Open Circuit	Yes
Line Fault monitored for Short Circuit	Yes
Onboard loop isolators with LED indication when active	Yes
Auto-Polling from each loop end	Yes
Maximum allowable loop impedance (each conductor)	20 Ohm
Maximum cable capacitance	.27uF
Maximum loop output current	350mA
Peripheral modules supported	Yes - as detailed in manual.
Max no. addressable points per loop (Apollo XP95)	126
Max no. addressable points per loop (System Sensor)	99 sensors + 60 modules
LOOP POWERED SOUNDERS	
Number of programmable Groups	15
Maximum number per loop (Apollo XP95)	32
Maximum number per loop (System Sensor)	32
PANEL CONVENTIONAL SOUNDER CIRCUIT SPECIFICATION	
Number of Programmable circuits	4
End of Line Resistor Value	6800 Ohm 5% Tol. 0.25W
Line Fault monitored for Open Circuit	Yes
Line Fault monitored for Short Circuit	Yes
Outputs fused at	1 Amp
Maximum total output current all outputs	3 Amps (1.5Amps on AFPE)
Maximum No. of Bells @ 25 mA	120 (60 on AFPE)
Maximum No. of electronic sounders @ 20 mA	150 (75 on AFPE)

AUXILIARY OUTPUTS	
Max sink current	100mA each (300mA total)
Type	Open Collector
Max open circuit voltage	27Vd.c.
Reset Output	Active low during reset cycle
Remote Output *(to manned centre)*	Active low during any fire condition + isolate/delay facility
Pre-Alarm Output	Active low during any pre-alarm condition
Fire1 Output	Active low during any fire condition
Fire2 Output	Active low during any fire condition *unless silenced*
Fault	Active low when **NO** faults are present - failsafe to o/c
24v Aux Power Output	1 Amp - fused

FUSES	
Mains Fuse	1A HRC Ceramic 20mm
Sounder Outputs (F1, F2, F3, F4)	1A F 20mm
Auxiliary Output (F5)	1A F 20mm
Battery Fuse	3A F 20mm
All fuses compliant to IEC (EN60127 PT2)	

AUXILIARY INPUTS	
Reset	0V Trigger (active low)
Silence	0V Trigger (active low)
Class Change (Evacuate)	0V Trigger (active low)
Alert (Phased Evacuate)	0V Trigger (active low)

CONNECTION BLOCK	
Plug on Type - largest acceptable conductor size = 1.5mm	
FRONT PANEL CONTROLS & INDICATORS	
Control Buttons	Silence, Reset, Evacuate
Scroll/Menu Access Buttons	Up (1); Down (2); Accept (3); Abort (4)
Liquid Crystal Display	2 lines x 40 Characters (backlit)
LED Indicators	1 x General Fire (red)
	16 x Zonal Fire, expandable to 32 (all red)
	1 x System Energised (green)
	1 x Pre-Alarm (amber)
	1 x Remote Output Activated (red)
	1 x Menus Accessed (amber)
	1 x Disablement (amber)
	1 x Test (amber)
	1 x Remote Output Disabled (amber)
	1 x Silenced (amber)
	1 x General Fault (amber)
	1 x System Fault (amber)
	1 x Sounder Fault (amber)
	1 x PSU Fault (amber)
APPROXIMATE DIMENSIONS	
Back Box (W x H x D)	410 x 250 x 80mm (metal)
Lid (W x H x D)	435 x 270 x 5mm (metal) 439 x 274 x 7mm (plastic)
Weight (without batteries)	4.5Kg
CABLING	
Fire proof, screened cable (min. size 1mm)	
PROGRAMMING & PRINTER CONNECTION	
2 x RS232	1 x Plug on connector and 1 x 0.1 Molex header
PROGRAMMING METHODS	
(1) On site using the AFP's fascia buttons.	
(2) On or off-site using a Windows-based PC running the AFP upload/download software.	
MENU ACCESS LEVELS	
Access Level 1	Scroll events
Access Level 2	Silence, Reset, Evacuate
	Override delays
	View active Fire, Pre-Alarms, Faults & Disablements
	Disable / Enable Points, Zones and Outputs
	Set time and date
	Change User PIN code
	Review event log
Access Level 3	View and edit Point information
	View and assign a zone's sounder configuration
	Set delays / Assign phased evacuation
	Set next maintenance date
	Change User and Engineer PIN code
	Invoke Commissioning utilities
	Invoke Test and Maintenance utilities
	Clear event log

SITE SPECIFIC DATA
User and Engineer Pin Code
40 Characters free text for company name, etc
Next due maintenance date.
Data protected by internal manual link
Configuration may be edited via front panel buttons or a PC programme running Windows 95.

We reserve the right to alter product specifications without prior notice.
Errors and omissions excepted.