Zerio

EDA-Z1000

Radio Fire Alarm System

Operation and Installation Manual

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Revision History

Version	Author	Date	Description
V1.00	DR	01-10-05	First Release

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1. Introduction

Electro Detectors has been manufacturing radio fire alarm systems for over 16 years and has now complimented its range of products with a smaller purposely designed control panel. The Zerio system has been designed for smaller systems and is capable of handling 99 devices in 8 zones. Typical installations would be small offices, private houses, HMO's, guest houses and small hotels.

The system has been designed to allow very simple set up with most operations being automated.

The system is capable of displaying full text and having sophisticated cause and effect programming.

The panel requires a single 2.8Ahr Lead Acid battery to achieve 48 hours standby.

Devices for the system are visually the same as the standard Millennium devices but are labelled differently with a yellow label. In order to maintain compatibility, the Zerio panel can re-program a Millennium device to operate with the Zerio format, providing the devices are version V1.6 or later.

A memory module is plugged into the processor board. This stores a copy of any set-up information including device text and cause and effects. This is used as a means of swapping data between panels. It is also used to error check the information stored within the main processor.

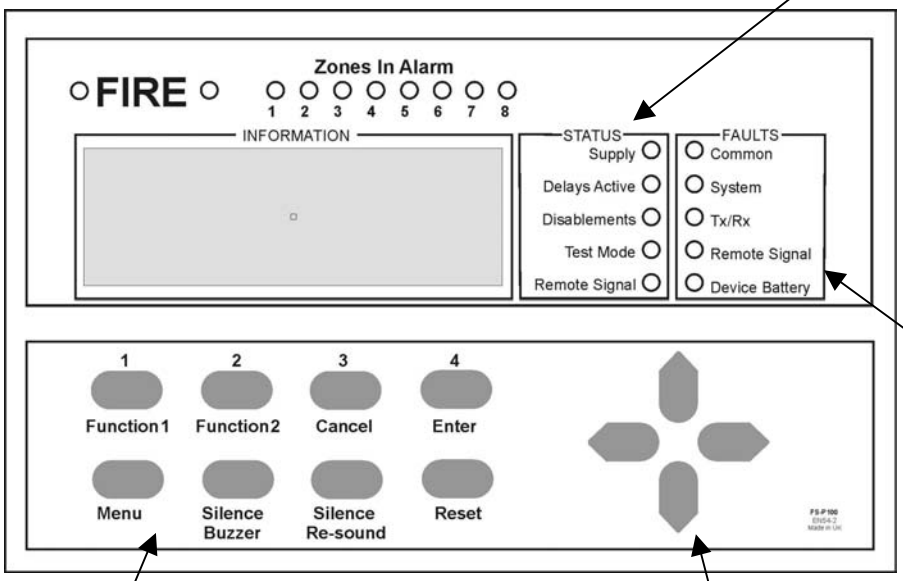
In order to log devices and program devices into the system, they need to be connected via a programming lead. The system will also store the data that is programmed into each device so that a device can be changed using the original settings. Devices can have the unit number, zone number, sensitivity (except call points) and text location entered. In the case of sounders, the volume and sounder area can be selected.

Prior to installation, the building where the system is to be installed must be surveyed to ensure that each device to be fitted has a good radio communication path to the control panel. If this is not achieved the system will operate unreliably. Having successfully completed this survey, when installing the devices, they must be positioned as per the survey. Installing a device only a few 10's of centimetres away from the surveyed position can reduce the signal strength significantly, especially if some metal work is contained in the ceiling above the new position.

Each device when manufactured is programmed with a unique ID. Whenever a device transmits a message this ID is included as part of the message. Also included in the message is the status, i.e. alarm condition, unit removal, low battery etc. The amount of smoke inside the head at the time of the transmission is included as part of the message. Even if there is no change in status, the device will transmit an 'I'm OK' message approximately every 3 minutes. If these transmissions are not received for more than 120 minutes then a 'Verify Fail' fault is generated.

2. Front Panel Display and Keys

Figure 1.1 Front Panel Display and Buttons



Status
Supply – This LED will be illuminated when mains is present
Delays Active – Illuminated if a fire condition exists and delays are programmed.
Disablements-Illuminated if any devices or zones are isolated.
Test Mode-Illuminated if any test modes are operational. The buzzer will pulse and can be silenced by pressing 'Silence Buzzer'
Remote Signal-Not implemented.

Faults
Common – Device or panel has a fault – see the main display for details.
System – Not implemented.
Tx/Rx – Not implemented.
Remote Signal – Not implemented.
Device Battery – Not implemented.

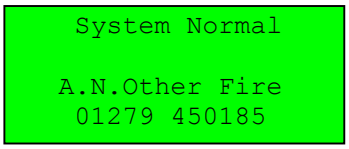
Keys
Function 1 & 2 - Not implemented.
Cancel - Used to return to the main screen from a menu or to return to the menu from a programming screen.
Enter - This is used to accept information programmed into the panel.
Menu - To enter the menu system. In order to test the lamps, hold this button down for longer than 4 seconds will cause all LED's to flash.
Silence Buzzer- Silences the buzzer for all currently displayed faults (fault acknowledgement).
Silence / Re-Sound - If the panel is in a fire condition this will silence the sounders. If the sounders are already silenced and the panel not reset, pressing this button will re-sound the sounders.
Reset – Resets the panel from an alarm condition.

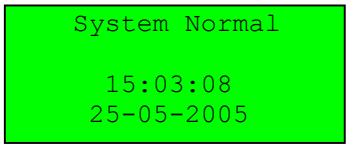
Navigation Keys
In a multiple fault or alarm condition, the up and down arrow keys allow the user to scroll through all the current events. The display will also scroll automatically every 6 seconds. Used to navigate through the menu structure and programming / status screens.

3. User Operation

3.1 System Normal

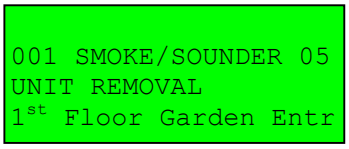
In normal operation a 'system normal' message will be displayed and a single green "Supply" LED lit. The screen will also show either the date and time or contact details depending on the customers parameter settings.





3.2 Fault Conditions

If a fault occurs, a message describing the fault will be displayed and the internal buzzer will sound. This will detail the device type, a description of the fault, the unit / device number and a location description (if programmed). The description has a maximum length of 60 characters and will scroll across the screen. Appropriate action should be taken to remedy the fault as this may affect the operation of the fire alarm system. If in doubt the maintenance company should be contacted.



If more than one fault exist on the system they will scroll round every 5 seconds. Pressing the cursor keys will automatically move to the previous or next fault.

3.3 To Silence a Fault

Press 'Silence Buzzer'.

Once the 'Silence buzzer' button has been pressed the panel assumes that the fault has been acknowledged and does not resound the buzzer. If a different fault occurs, the panel will sound the buzzer until the new fault has been acknowledged.

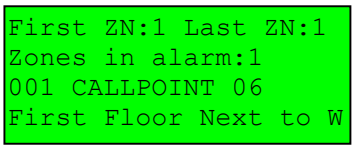
3.4 To Reset a Fault

Assuming the fault has been rectified, pressing reset will reset the system and the system normal screen will be displayed. If the fault is still present or re-occurs it will be re-displayed (this could take some time depending on the type of fault).

For a list of faults, their most common causes and ways to rectify faults see Appendix 2.

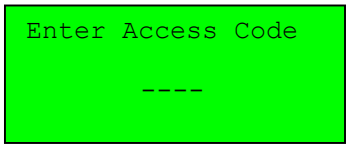
3.5 Alarm Conditions

If the Alarm Sounds the premises should be evacuated. A screen will be displayed similar to below. The Fire LEDs will flash and the appropriate zone LED(s) will flash. The first line details the first zone that has set the alarm off and the last zone to operate. The second line details a list of all zones in alarm. The third line details the event number device type and number and the last line details the text location of the device in alarm. If the description is longer than 20 characters it will scroll across the screen. If more than 1 event occurs, the bottom two lines will scroll.



3.6 To Silence the Sounders.

When it is certain that it is safe to return to the building the 'Silence / Re-Sound' button should be pressed. The user will then be prompted to enter a password. Any valid password will be accepted and the sounders will begin to silence. Please note that it can take a few seconds for all sounders to silence. If the device is still in an alarm condition the sounders will not sound again unless another device goes into alarm. The sounders will automatically silence after 30 minutes.



3.7 To Re-Sound the Sounders

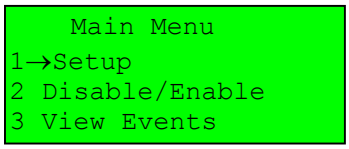
Once the sounders have be silenced there may be a reason why they should be re-sounded. For example, if the reason for the alarm was genuine but someone mistakenly pressed silence. To do this press the 'Silence / Resound' button. The system may prompt for a password. The sounders will re-sound after a short delay.

3.8 To Reset the Alarm

Assuming the reason for the alarm condition has been investigated, pressing 'Reset' will return the system to its 'System Normal' condition. The user will need to enter a valid password. The screen will display any faults that were detailed prior to the alarm condition or any that might have occurred during the alarm condition.

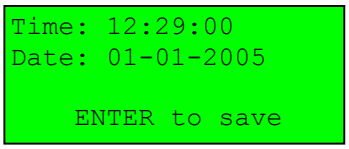
3.9 Menu Navigation

To enter the menu system, press 'MENU' and once the correct password is entered 'Main Menu' will appear. To scroll through the menu the '↑' or '↓' keys should be pressed. In order to select a menu option the '→' key should be pressed. To return to the previous menu screen from a sub-menu the '←' should be pressed. Pressing 'Cancel' will return to the system screen where any faults or alarms will be displayed if present. Once a screen with information contained is selected the 'cancel' button should be pressed to return to the previous menu.



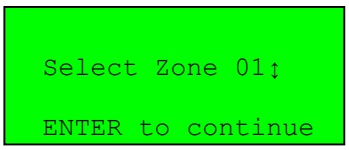
3.10 To change the date and time

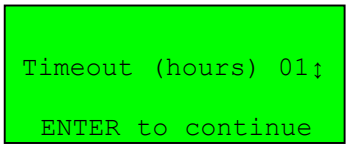
To set the date and time, press 'MENU', enter the correct password, select '1-Setup', '1- Time & Date'. Use the < and > keys to navigate to the value to change and the ↑ or ↓ keys to select the desired value. Press 'ENTER' to accept or 'CANCEL' to exit. The Zerio panel automatically adjusts the clock for daylight savings.

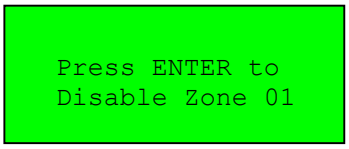


3.11 To Isolate a Zone

Once a zone is isolated it will not display any fault or alarm occurrences for devices located in this zone. Press 'MENU', enter the correct password, select '2-Disable/Enable', select '1-Disable', select '1-Disable Zone'. Using the ↑ or ↓ keys, select the zone number to be disabled and press 'ENTER' Select the timeout (in hours) and press 'ENTER'. After this time has expired the zone that was isolated will automatically be enabled. Assuming the information is correct, press 'ENTER' to isolate the zone. The 'Disablements' LED will be illuminated. If more zones are to be isolated press 'ENTER' or press 'CANCEL' to exit.

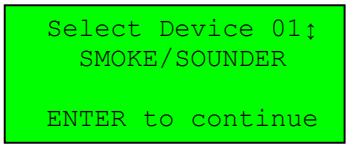


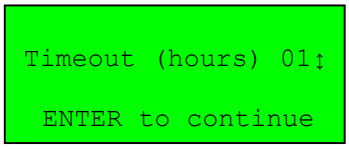


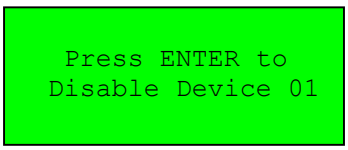


3.12 To Isolate a Device

Once a device is isolated it will not display any fault or alarm occurrences. Press 'MENU', enter the correct password, select '2-Disable/Enable', select '1-Disable', select '2-Disable Device'. Using the ↑ or ↓ keys select the device number to be disabled and press 'ENTER' Select the timeout (in hours) and press 'ENTER'. After this time has expired the device that was isolated will automatically be enabled. Assuming the information is correct, press 'ENTER' to isolate the device. The 'Disablements' LED will be illuminated.

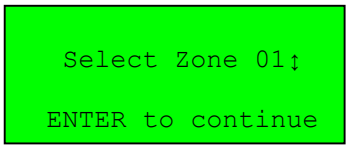


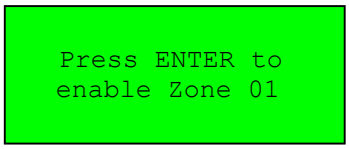




3.13 To Enable a Zone

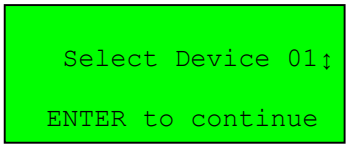
To enable a previously isolated zone, press ‘MENU’, enter the correct password, select ‘2-Disable/Enable’, select ‘2-Enable’, select ‘1-Enable Zone’. Using the ↑ or ↓ keys select the zone number to be enabled and press ‘ENTER’. To enable more zones press ‘ENTER’ or ‘CANCEL’ to exit. If all zones have been enabled ‘No Zones to enable’ will be displayed and the ‘Disablements’ LED will extinguish (assuming that no other ‘Disablement’ conditions such as isolated devices exist).





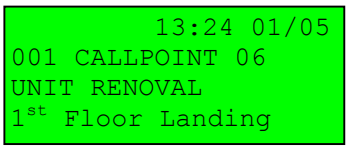
3.14 To Enable a Device

To enable a previously isolated device, press ‘MENU’, enter the correct password, select ‘2-Disable/Enable’, select ‘2-Enable’, select ‘2-Enable Device’. Using the ↑ or ↓ keys select the device number to be enabled and press ‘ENTER’. To enable more devices press ‘ENTER’ or ‘CANCEL’ to exit. If all devices have been enabled ‘No Devices to enable’ will be displayed and the ‘Disablements’ LED will extinguish (assuming that no other ‘Disablement’ conditions such as isolated zones exist).



3.15 Viewing System History of Events

In order to view what has previously happened on the control panel, press ‘MENU’, enter the correct password and select ‘3-View Events’. A sub menu will appear detailing ‘ALL EVENTS’. Using the cursor keys select this. The panel stores the last 255 fire or fault events in memory. A description of the fault or fire is recorded together with the date and time of the event. When the log becomes full the oldest entries are automatically removed to make room for new ones. To scroll through the event log use the cursor keys.



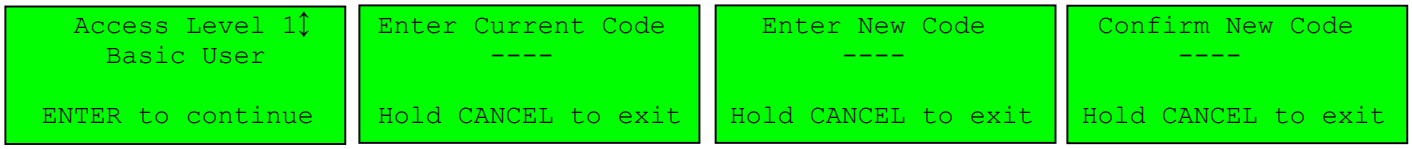
4. Advanced User Operations

4.1 General

Assuming the correct password is entered, the user can sign on as an advanced user. This allows some extra functions not available to the basic user. Only people who have been trained in the operation of the system should be allowed access at this level as certain operations of the fire alarm can be disabled (although they will be automatically enabled after a short timeout period)

4.2 Changing Access Codes

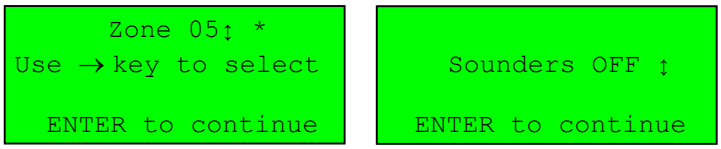
An advanced user can change the password for the basic and advanced user. The password is a 4 digit number with each digit ranging from 1 to 4. To change the password, press the 'MENU' button, select '1-Setup' and select '2-Access Codes'. Using the cursor keys, select either the 'advanced user' (Access Level 2) or the 'basic user' (Access Level 1) password. Once selected press 'ENTER' first of all, using the numbered keys enter the current password. Assuming this matches, enter the new password and then re-enter the new password to confirm. Assuming this is correct then press 'ENTER' to save the new password. A message will be displayed indicating that the password is being saved to the SIM and flash memory.



4.3 To Select the Test Mode

The test mode is available to an advanced user so that a system can be tested with minimal disruption to the occupants of a building. BS5839 and EN54 specify what tests should be performed at what intervals. As a rough guide the system should be tested weekly, but sounders only need to be tested every month. The test mode allows various output devices and/or sounders to be disabled.

To select the option press 'MENU', select '4-Test Modes', select '1-System Test' and select '1-Enable Test'. For each device that is to be tested, the zone that the device is located in must be selected by scrolling to the appropriate zone number and pressing the '→'. A '*' will be indicated by the zone for any zones selected. Failure to select the zone will mean the system will operate as normal if the device is set into alarm.



Having selected the zones that are to be tested press 'Enter'. The operation of the alarm can now be selected.

Sounders
If sounders are not required to sound set 'Sounders' to OFF.

Tone
If sounders are set to sound, you can set an option so that once the sounders have sounded they automatically silence after 6 seconds. The options are 'FULL' for continual sounding or 'SHORT' for a 6 second tone. All sounders and combined sounder detectors will sound for the 6 second duration.

Actuators
If actuators are not required to operate then set 'Actuators' to OFF. Actuators are output devices used to control such items as magnetic doors, switching other alarms on, switching gas valves off, switching air conditioning off, operating fire dampers etc. It would be normal for actuators to be isolated in an alarm test.

Sound areas
Setting this to zero will sound all sounders providing the sounder option is on. By selecting a specific sound area a certain group of sounders can be operated that are programmed to this area. A specific sounder could be programmed so that in a test it would always operate.

Fire Relay
If the fire relay inside the panel is required to be disabled this should be set to OFF. This is often used as a way of triggering a link to the fire brigade.

Timeout
This is the amount of time before the system will automatically reset the test mode operation. This should be set slightly longer than the test should take. It can be set in 1 hour intervals and is selected using the cursor keys. A maximum of 48 hours can be set.
The user should now press enter to enable the test mode. The 'Test Mode' LED will illuminate.

Devices that require testing should now be set into a fire condition and the details on the screen checked. Care should be taken to ensure the correct devices are tested as failure to do this could result in all the bells sounding and the fire brigade attending.

Once the tests are complete and the user is satisfied that everything functioned correctly, the test mode should be disabled. If this procedure is forgotten the test mode will automatically time out after the selected period.

4.4 To Disable the Test Mode

Press the 'MENU' button, select '4-Test Modes' select '1-System Test and select '2-Disable Test' Press 'ENTER' to disable test. The LED will extinguish.

5. Panel Installation

5.1 General

The control panel should be mounted on a wall in a suitable position by a competent person. The antenna position should be away from any solid objects, especially electronic equipment and metal structures .The wall should be even, clean and dry and not prone to vibration. Should the wall not be level, the panel should be mounted on a wooden board. The panel should be mounted using 3 x No. 6 screws. Note that it is not advisable to disconnect any of the components connected to the interconnect cable while the panel is powered up.

5.2 Panel Layout

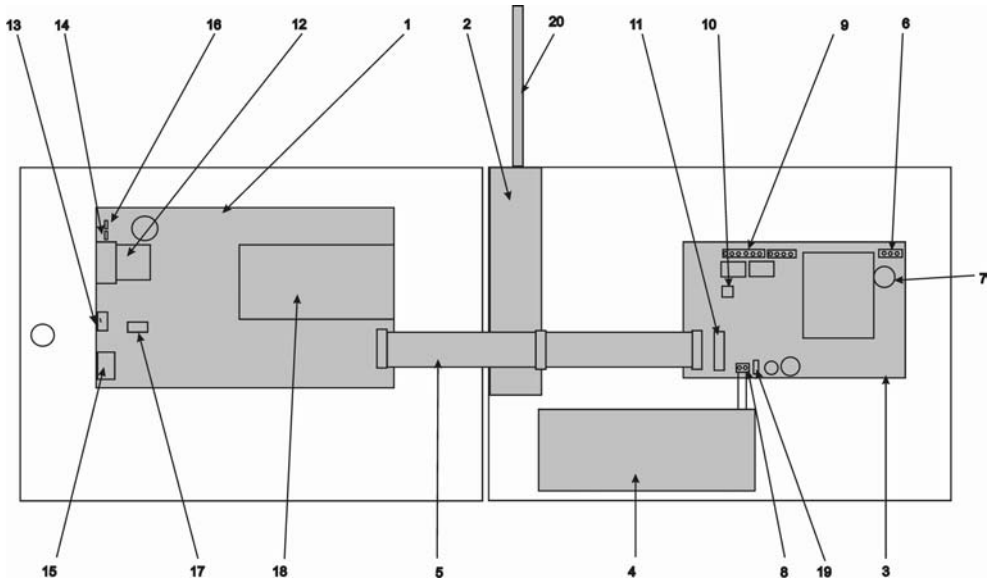
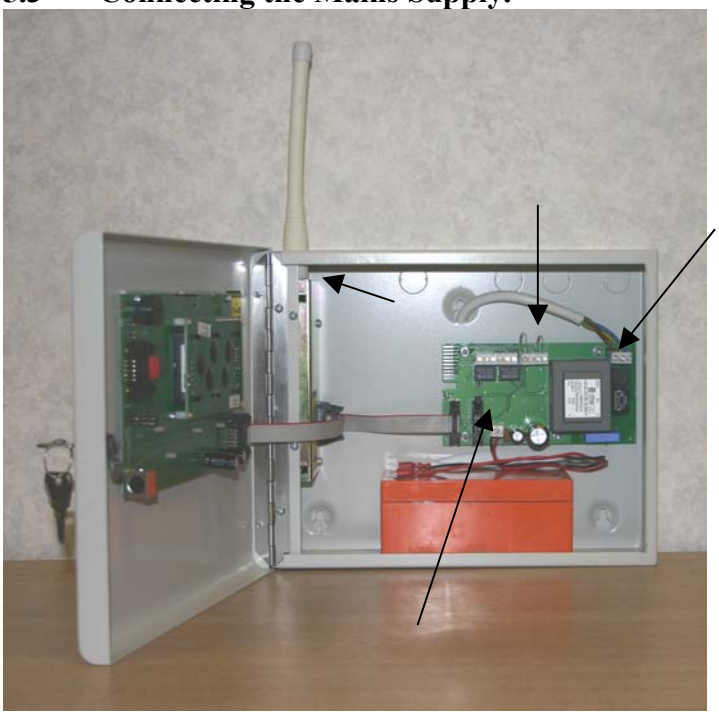


Figure 1.2 Panel Layout

1 Processor Printed Circuit Board
2 Receiver Module
3 Power Supply Printed Circuit Board
4 12V Battery (2.8Ahr)
5 Interconnect cable
6 Mains 230V AC input
7 Fuse (0.5A T rating 20mm)
8 Battery Connection
9 Auxiliary Relay and Monitor Input Connections
10 Configuration Links
11 Expansions Port
12 Memory SIM Card EDA-Z1010
13 Detector Programming Lead Port
14 Write Enable Link for Memory Card
15 PC / PS2 Keyboard Port
16 Buzzer Enable
17 Processor Configuration Links
18 LCD
19 Battery Fuse (TE5 Quick Blow 3.15A)
20 Receiver Antenna

5.3 Connecting the Mains Supply.



A 230V AC supply is required which should be derived from a separate fused spur. This spur should not incorporate a switch and should be labelled 'Fire Alarm Equipment – Do Not Switch Off'. The supply should be terminated in the terminal block labelled 6 in Fig. 1.2. Care should be taken to ensure no loose strands protrude from the terminal block. Any earth cables should not be removed.

Once the connection has been made, the panel fuse (500mA ceramic T type) should be removed from the panel, labelled 7 in Fig.1.2, by turning half a turn anti-clockwise. The fused spur can then be energised by inserting the mains fuse. To power up the panel, push down on the fuse holder and give a half turn clock-wise. Mains power should always be applied prior to connecting a new battery. Once the mains has been applied, the green LED on the PSU should illuminate. System normal will be displayed and the time and date will indicate 00:00:00 01-01-2005. After approximately 100 seconds the panel will indicate a low battery condition and the buzzer will sound. This can be silenced by pressing 'Silence Buzzer'. During set-up the buzzer can be temporarily disabled by removing the link marked 16 in figure 1.2. If the panel fails to power up correctly, briefly short the two reset pads (located to the left of the buzzer) together using a screwdriver. The clock should be seen to start counting.

5.4 Connecting the Battery

Connect the battery using the supplied terminal connections. The connection is fused using a 3.15A TE5 fuse. A single 12V 2.8Ahr lead acid sealed battery should be used giving a 48 Hour stand-by. Ensure the correct polarity is used as marked by the coloured wires (Red +, Black -). Once connected, the 'Reset' button can be pressed to clear the screen. 'System normal' should now be displayed. Assuming everything is running OK 'System Normal' will remain. If 'low battery', appears check the connections and polarity. If the battery is connected incorrectly it is likely that the fuse will blow. The wiring should be corrected and the fuse replaced.

5.5 Fitting the Antenna

The standard helical stub antenna supplied with the panel should be fitted to the BNC connector on the top left hand side of the panel as marked by the arrow above. If a higher gain antenna is being used, the stub antenna should be removed and the new antenna be fitted in its place. If a BNC connector is to be fitted to the antenna then it must be a 50Ω connector suitable for use with RG58 c/u coaxial cable. When making off the cable, ensure that no stray shielding wires are shorting.

5.6 Connecting the Relays

The panel is equipped with two "volt free" relays rated at 30 volts DC @ 1 amp maximum. The fault relay is a "fail safe" relay that energises on power up and de-energises in fault. Consequently the normally open and normally closed terminals are reversed. The other relay activates on an alarm condition. Note that these outputs are not monitored for open or short circuit conditions.
For details on programming the relays see section 9.2.4 "Altering cause and effects for panel operations".

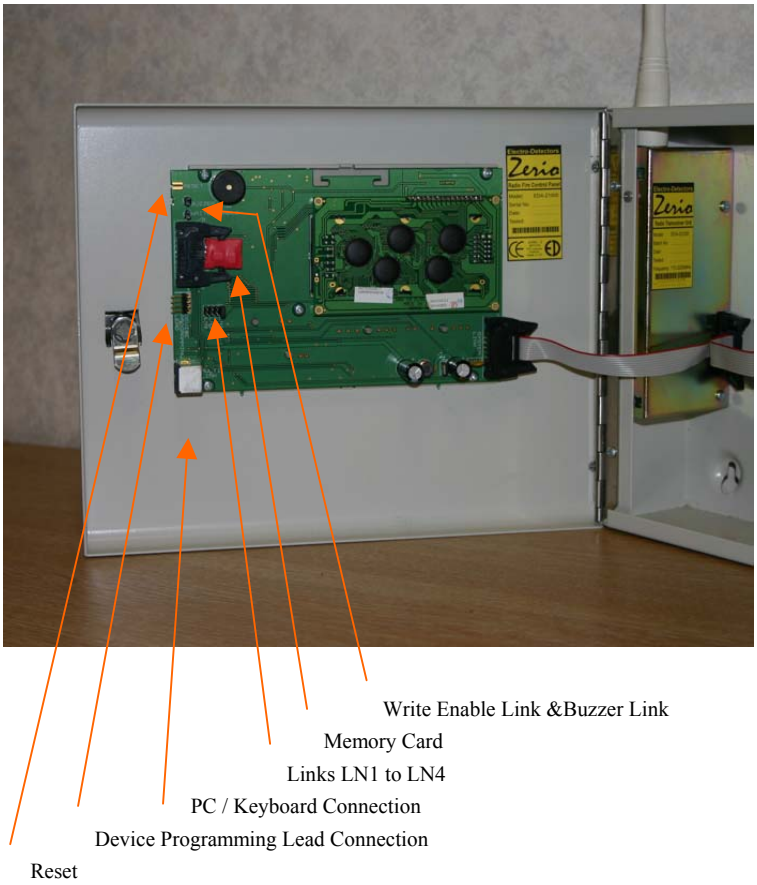
5.7 Connecting the Inputs

The panel features two monitored inputs that can be programmed either as latching or non-latching. It is important to note that before using these inputs they must be enabled and programmed in the panel options. If the option is enabled then 4K7 end of line resistors must be fitted at the termination. If the option is not enabled then these resistors do not require fitting. For details on programming the inputs see section 9.2.4 "Altering cause and effects for panel operations".

5.8 Inter-panel connections

A ribbon cable connects the internal panel boards together. These should be connected to the system link / bus connections on the boards. The expansion plug is designed to be used to connect other modules onto the system. These are still under development.

5.9 Processor Board Links and Connections



LN 1 to 4
Links 1 to 4 should not be fitted in normal operation. These are used to enable certain modes during programming.

Buzzer
To enable the buzzer this link should be fitted. Removal of this link will prevent the buzzer operating and the system will not comply with BS5839 or EN54.

Write/enable
In normal operation this link should not be fitted but should be left inside the panel connecting just one of the pins. If any changes to the system are required this link will have to be fitted.

Memory Card
The memory card should be fitted at all times. The memory card stores a complete set of the system settings including text and options. It is used as a means of checking that the memory actually being processed by the CPU is correct and is also used to transfer data to a new processor board.

PC / Keyboard Connection
In order to program the panel with text information for description, phone numbers company names etc a PS 2 keyboard or PC running Hyper Terminal is connected to this port. We recommend connecting the appropriate device prior to selecting the option. The product code for the Zerio to PC lead is EDA-Z1020

Device Programming Lead Connection
In order to add and program devices on to the system, a programming lead is connected to this port and the other end connected to the device. The marked edge of the connector is connected to the port marked with a white bar on the board and the 'on' position on the device. Each panel is supplied with a one of the leads but should a replacement be required the product code is EDA-Z1030

Reset
In the unlikely event that the panel 'locks up' and doesn't respond to any key presses then connecting a terminal screw-driver between the two gold pads will cause the processor to reset. This will cause the system to clear any faults and return to the system normal state. No programmed information will be lost. Another common sign that the panel has 'locked up' is that the clock will fail to update.

6.0 Service Engineer Operations

6.1 Event Log Operations

View Event Log.

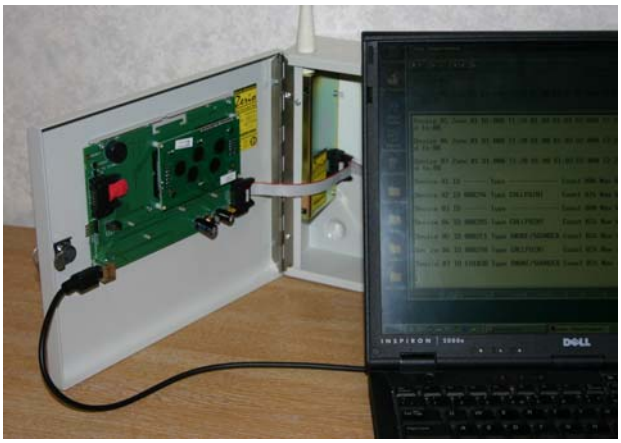
In order to view what has previously happened on the control panel, press 'MENU' and select '3-View Events'. A sub menu will appear detailing what type of events should be displayed. Using the cursor keys select the method for display. The panel stores the last 255 fire or fault events in memory. A description of the fault or fire is recorded together with the date and time of the event. When the log becomes full the oldest entries are automatically removed to make room for new ones. To scroll through the event log use the cursor keys.

```
         13:24 01/05
001 CALLPOINT 06
UNIT RENOVAL
1st Floor Landing
```

To Clear the Event Log

A service engineer can also clear the event log by selecting '5-Clear Event Log' and then pressing 'ENTER' to confirm.

To Copy the Event Log to a PC



From the 'View Events' menu, using the cursor keys, select '6-Dump Event Log'. Ensure a PC is connected to the PS2 port on the panel using lead EDA-Z1020, as shown opposite. The PC should be running Hyper Terminal. To check the settings see the appendices. If you require to save this to a file then select the option in Hyper Terminal to capture text in the transfer menu. Once connected press 'ENTER' to dump the log to the PC. An example is detailed below.

```
001 13:50 01/01 UNIT REMOVAL       CALLPOINT 76     Ground Floor West Wing Fire Exit
002 13:50 01/01 RESET FAULT        CONTROL          Reception
003 13:49 01/01 RESET ALARM        CONTROL          Reception
004 13:49 01/01 SILENCE ALARM      CONTROL          Reception
005 13:49 01/01 FIRE               CALLPOINT 07     1st Floor Drawing Room by Snooker Table
006 13:48 01/01 UNIT REMOVAL       CALLPOINT 07     1st Floor Drawing Room by Snooker Table
007 13:37 01/01 SIM LINK FAULT     CONTROL          Reception
008 13:37 01/01 BATTERY LOW        CONTROL          Reception
009 10:48 01/01 RESET FAULT        CONTROL          Reception
010 10:47 01/01 ENABLE DEVICE 05   CONTROL          Reception
011 10:46 01/01 ENABLE ZONE 01     CONTROL          Reception
012 09:36 01/01 DISABLE DEVICE 05  CONTROL          Reception
013 09:36 01/01 DISABLE ZONE 01    CONTROL          Reception
End of Log
```

6.2 Operating Test Modes

Refer to the advanced user section for the basic test mode operation. The service engineer also has additional test modes as detailed below. In order to sound individual sounders or combined sounder detectors, the unit number can be selected and the device instructed to sound. From the 'Test Mode' select '2-Device Test'. Using the cursor keys, select the device number and then press 'ENTER'. The cursor keys can then be used to transmit messages to the unit. Only one message is transmitted each time the key is pressed.

```
Select Device 05↕
  SMOKE/SOUNDER

ENTER to continue
```

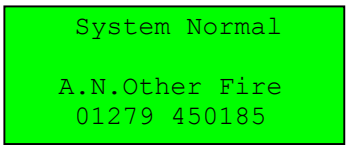
```
↑  Activate
← Silence
→ Reset
   CANCEL to exit
```

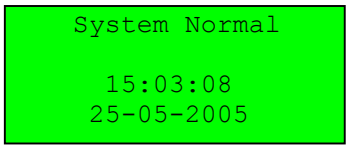
6.3 Changing Access Codes

Refer to the advanced user section. The Service Engineer can change all passwords up to service engineer privilege.

6.4 To Change System Default Settings

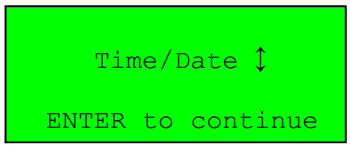
The system normal screen can be adjusted to display either the date and time or the agents name and address. In order to display the agents details, they will have to have been programmed. These details will also be displayed on the first line of the LCD in fault conditions. If un-programmed, the screen will remain blank.





To change the option:

- From the 'Main Menu', enter the correct password.
- Using the cursor keys, select '1-Setup'
- Select '3-Front Screen'
- Using the cursor keys select either 'Time/Date' or 'Agent Details'.
- Press 'ENTER' to select the option.
- Press 'ENTER' to save the details.
- Press 'CANCEL' to return to the menu.

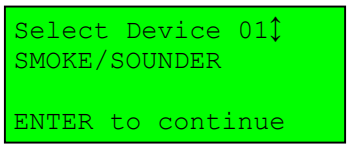


6.5 Verify and Signal Strengths

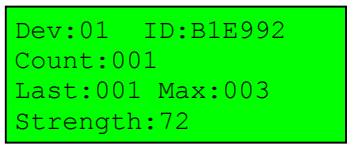
To view the signal strength for a single device

The verify information is essential to the engineer to ensure the system is set-up correctly. Although the system may appear to be working when tested, if the signal strength is not adequate, any devices with weak signal strengths are likely to fail over a period of time.

- Using the cursor keys select the device number you wish to view details for and press 'ENTER'.
- Once in this screen the cursor keys can be used to quickly move between devices.
- The information detailed is listed below:



Dev	The device / unit number.
ID	The unique ID of the unit that is transmitted to the control panel.
Count	The time in minutes since the device last transmitted. A device transmits approximately every 3 to 5 minutes and this time would be expected to be less than 10 minutes in a system that was operating normally.
Last	The time in minutes between the last two successive transmissions. This time would be expected to be less than 10 minutes in a system that was operating normally.
Max	The maximum time between two successive transmissions since the table was last reset. This time would be expected to be less than 20 minutes in a system that was operating normally.
Strength	The signal strength of the device in the last few transmissions. This value should be above 37 for a system that is operating normally. Should it fall below this value then the possibility for verify fails increases. To increase the signal strength the communication path has to be improved. This can be achieved by improving antennas or by moving the device to a better radio propagation position. Moving the device by just 20 cm can make a significant difference.



To Clear the Event Log

It is often necessary to clear the event log, especially if many events have been created by an engineer during a service visit. This can lead to confusion if the event log is not cleared.

- From the 'Main Menu', using the cursor keys, select '3-View Events'
- Select '2-Clear Event Log'
- Press 'ENTER' to confirm the clearing of the event log.
- Press 'CANCEL' to return to the menu.

To dump the verify table to a PC

It is advisable after commissioning is complete and at least once a year as part of the routine service to record the verify information for the system. The easiest way to achieve this is to dump the information to a PC and record this on a disk or print a copy out.

- From the main menu using the cursor keys select '5-Verify Table'.
- Connect a PC to the 'Multi Link' port as shown opposite.
- Run 'Hyper-terminal' with the correct settings. See appendices.
- Select '3-Dump Table' and press 'ENTER' to continue.
- When the screen requests to 'Dump verify table', press 'ENTER'
- The screen will scroll through the device numbers as they are transferred to the PC and the data will appear on the screen. TO SAVE
- A message will be displayed on the panel once complete. Press 'CANCEL' to exit.

```
Dump Verify Table?

ENTER to continue
```

```
Dump Complete

CANCEL to exit
```

```
Device 01 ID B1E992 Type TRANSMITTER   Count 001 Max 009 Strength 45
Device 02 ID 01AC49 Type SMOKE/SOUND   Count 002 Max 000 Strength 63
Device 03 ID 0600A4 Type CALLPOINT     Count 002 Max 003 Strength 73
Device 04 ID F22D11 Type HEAT          Count 003 Max 003 Strength 75
Device 05 ID 000454 Type SMOKE         Count 001 Max 006 Strength 41
Device 06 ID 40DF4A Type SOUNDER       Count 000 Max 004 Strength 47
Device 07 ID 5300A2 Type STROBE        Count 001 Max 003 Strength 64
```

6.6 Examine Panel Settings

To determine Panel Status

- From the 'main menu', using the cursor keys, select '6-System Settings'
- Select '1-Panel Settings'
- Select '1-Status'. Information about the panel and system is detailed.
- The system number, which is used to control any sounders and output devices, is detailed.
- Devices: is the number of devices logged to the system.
- Uptime: is the length of time, in days, hours, minutes, the panel has been operational since last powered down or reset. Press 'Cancel' to exit.

```
Sys No: 64996
Devices: 24

Uptime 0356d22h01m
```

To Examine panel Inputs

- From the 'main menu', using the cursor keys, select '6-System Settings'
- Select '1-Panel Settings'
- Select '2-Panel Inputs'. Information about the panels' inputs are detailed.

```
IP1:055 IP2: 055
CHARGE:000 FLOAT:000
VBUS:171 RSSI:020
ANT:027 EXT ANT:182
```

IP1: Various equipment can be connected to the panel to operate different effects. The normal use for these inputs is for a hardwired call point mounted close to the control panel. This input can be monitored for short and open circuit conditions. The value ranges from 0 (open circuit) to 127 (short circuit). Other uses are for a non latching class-change input from a hardwired control panel.

IP2: This is an additional input the same as IP1.

Charge: The battery charge current. This ranges from 0 to 255.

Condition	Value (Approx)
Battery not connected	0
Battery fully charged	12
Battery charging at max rate	90

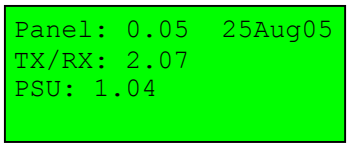
Float: The charge voltage for the battery. This can vary but is typically in the order of 100.

Vbus:	The voltage on the internal bus. This is usually ranges from 100 to 190 depending of the loading of the panel.
Rssi:	Received signal strength indicator. This value represents the background noise or the level of transmission being received. The typical value is between 15 and 25.
Ant:	Antenna monitoring value. With a stub antenna fitted this can vary from 20 to 55. With the stub antenna removed the voltage will rise.
Ext Ant:	This value is used to monitor remote antennas.

6.7 To Determine Software Versions

Each panel contains three separate electronic circuit boards, each with a processor running a particular version of firmware. When reporting faults with the control panel, these versions will be required to diagnose the fault.

- From the 'Main Menu' using the navigation keys select '6-System Settings'
- Select '1-Panel Settings'
- Select '3-S/W Versions'. A similar screen to the one opposite will appear with the compiled date and time of software, alternating.
- Press 'CANCEL' to exit to the menu.



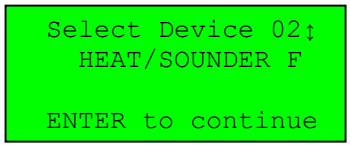
6.8 To Examine Device Settings

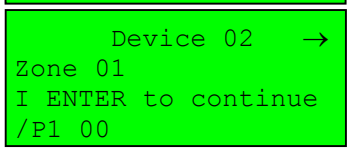
Device Settings

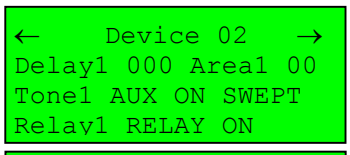
A device can be programmed to various different things in the event of an alarm condition. A list of these settings and how to view them is described below.

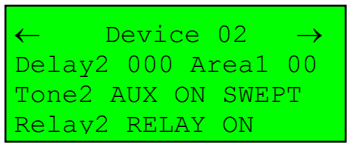
- From the 'main menu', using the cursor keys, select '6-System Settings'
- Select '2-Device Settings'
- Select '1-View Settings'
- Using the cursor keys, select the device number you wish to examine and press 'Enter'
- To view the rest of the settings use the cursor keys to navigate through the screens shown opposite.

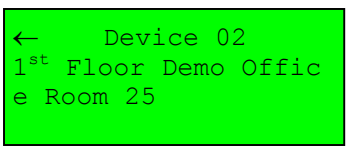
Zone:	The zone number that the device is located in.
I/P1:	If the device has a second input i.e. dual transmitter unit or a sounder with a call-point input then this value will be set as the unit number of the second input.
Linked to:	If the unit is a second input then the master unit will be set in this value.
Delay1:	When the control panel receives an alarm signal from this device, the panel will delay for this period (in seconds) before sounding the sounders. If the delay is set to 0 then the sounders will operate immediately
Area1:	If the sounders have been programmed into areas, the system can be programmed to sound different areas of the building. Area 0 will sound all sounders even if they are programmed to a different area.
Tone1:	The tone that the sounder(s) should sound. These are listed in the appendices.
Delay2:	Once delay1 has expired, the control panel will delay for this period of time before operating the sounders with the programmed values for tone2 and area2.
Area2:	The area to sound after delay 2 has expired. Area 0 will sound all sounders even if they are programmed to a different area.
Tone2:	The tone that the sounder(s) should sound. These are listed in the appendices.
Text:	The last screen details the text location for the device that has been programmed.









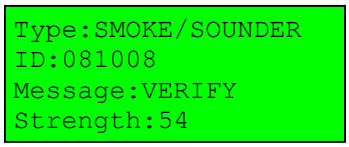


6.9 To View Transmissions in the Airwaves

In order to see any transmissions that occur in the airwaves, a menu option is available. This is particularly useful to see that the receiver of the panel is operational. Only Zerio devices will be displayed. Millennium or the older 'A series' devices will not be displayed. The screen only displays information for the last received transmission. When another message is received the previous one is over-written. The displayed transmissions can be filtered using the following options.

Selection	Description
View All	List every signal received
View Single Device	Select the device number using the cursor keys. Only the messages received for this device are listed.
View This System	Only messages from devices that have previously programmed on to this system will be listed.
View Type	Select the device type using the cursor keys. Only the messages received for these types are listed.

- From the 'main menu', using the cursor keys, select option '7-View Airwaves'
- Select the particular set of transmissions that you wish to be viewed.
- Press 'CANCEL' to return to the menu.

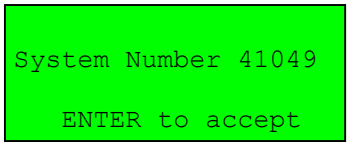


7.0 Commissioning Engineer Access Level

7.1 Set-up a New System (Standard)

If a new system is being installed the panel must be cleared of any data. See 'Memory Operations' later in this section. The system automatically chooses a system number and then each device should be programmed by connecting them to the control panel.

- From the 'Main Menu', using the cursor keys, select '8-Setup System'
- Select '1-Full Set up'
- Select either, '1-Standard System' or '2-Advanced System'. The standard option allows the user to set up the basic options inside the devices. The advanced menu allows the less frequently used options to be set.
- Press ENTER to start. If the system number already exists in the memory and you wish to keep this same system number then press the '→' key to skip, otherwise press ENTER. The system will light each of its 8 zone LED's whilst the system number is being chosen. The system number will be displayed.
- Press 'ENTER' to set up the devices.
- To add devices to the system see '7.2 Add Device'. The operation is the same as add device once the menu system has been navigated.



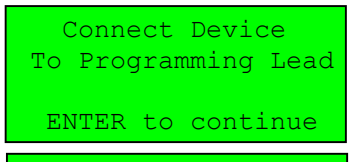
7.2 To Add a Device

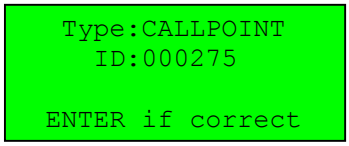
Additional devices can be added to the system at any time. Ensure you have the correct information prior to programming the devices, although these values can be changed at a later date. The information is dependant on what type of device is being installed which is listed below. See the glossary for a description of the settings.

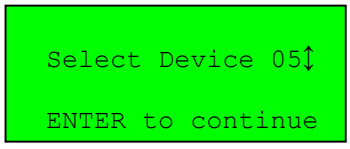
Model Number	Zone	Device Description	Sensitivity/ Alarm Value	Volume	Alarm Verification	Sounder Area
EDA-C1000	1-8	Callpoint	X	X	X	X
EDA-R1000	1-8	Smoke Detector	High, Medium or Low	X	0-60s	X
EDA-R2000	1-8	Smoke Detector and Sounder	High, Medium or Low	0 - 10	0-60s	0 – 255
EDA-S1000	1-8	Heat Detector (Fixed Point)	50 – 99 ^{0}C	X	X	X
EDA-S1000	1-8	Heat Detector (Rate of Rise)	High, Medium or Low	X	X	X
EDA-S2000	1-8	Heat Detector and Sounder (Fixed Point)	50 – 99 ^{0}C	0 – 10	X	0-255
EDA-S2000	1-8	Heat Detector and Sounder (Rate of Rise)	High, Medium or Low	0 – 10	X	0-255
EDA-A2000	1-8	Wall Mounted Sounder	X	0 – 10	X	0-255
EDA-A2060	1-8	Wall Mounted Strobe	X	X	X	0-255
EDA-A2080	1-8	Wall Mounted Output Unit	X	X	X	0-255
EDA-T1000	1-8	Transmitter / Input Unit	X	X	0-60s	X

Note: X denotes option not available

- From the 'Main Menu' screen using the cursor keys, select '8-Setup System'
- Select '2-Add Device'.
- The write/enable link must be fitted.
- The device to be added to the system should now be connected to the 4 way connector, the other end being connected to the panel as shown in the picture. The coloured edge of the connector should face the 'on' position on the device and upwards on the panel. The led will flash and the unit will usually beep once as it is connected.
- A screen, shown below, will prompt you to press 'ENTER' to read the device. During reading, which takes about 3 seconds, the device will occasionally beep.
- Once read, the unique ID will be displayed on the screen. This should be checked against the unique ID printed on the bar-coded label. If the unique ID already exists on the system a message will appear and the unit will not be able to be added.
- The device number the new unit is to be assigned to should be selected using the cursor keys. When correct press enter.
- You will now be prompted to select various options for the device depending on what type of device is being programmed. Listed below are all the possibilities. All of these options are entered through the control panels' key pad using the cursor keys, except for the text location which is entered using either a PS2 keyboard or PC running Hyper Terminal. Both of these devices are connected via the 'Multi Link' port. It is recommended to have the PC or keyboard connected before the menu option is entered. To set up hyper terminal see the appendices.







Select Zone 01↕
ENTER to continue

- If a call point, smoke or heat detector is being programmed using the '↑' and '↓' select the zone number and press 'enter'

Sensitivity HIGH↕
ENTER to continue

- If a smoke or heat detector is being programmed then using the '↑' and '↓' select the sensitivity for this unit and press 'enter'. Smoke and Fixed Rate of Rise Heat Detectors can be set as either 'High' (most sensitive) 'Med' and 'Low' (least sensitive). Fixed Point Heat Detectors can be set in a range of 50°C to 99°C in 1° intervals.

- If a sounder, beacon, I/O unit or combined sounder detector is being programmed then using the '↑' and '↓' select the volume (0-no sound to 10 max volume) and the correct sounder area.
- To enter location text, using either a PS2 type keyboard or a PC running hyper terminal, which should already be connected, type the text as required. Do not type too quickly as some key presses get missed. Back space, delete, insert, shift etc are all functional. Once the text is entered press 'Enter' on the control panel.

Programming Device
Please Wait

- Press Enter to save settings. Once pressed the following messages will be displayed as the information is written to the device, followed by the processors internal memory and to the SIM card. Once stored a message, 'Data Saved OK' appears on the screen. Wait for the device to give a confirmation beep before removing the programming lead.

Data Saved OK
ENTER to continue

- If required the next device can now be connected and the process repeated.
- Once all devices have been programmed the 'write enable' link can be removed. This set-up information can be changed at a later date.

7.3 To Remove a Device(s)

To Remove a Single Device

If a device is not required on the system it must be removed to prevent it causing a fault on the system because it is no longer fitted.

Select Device 01↕
ENTER to continue

- From the main menu, using the cursor keys select '8-Setup System'.
- Select '3-Remove Device'.
- Select '1-Remove One Device'.

Remove Device 02?
ENTER to continue

- Using the cursor keys select the device number and press enter.
- Press enter to confirm the removal. All programming and text will be deleted.

To Remove all Devices

It would be unusual to remove all devices from a system unless a system was being completely re-installed.

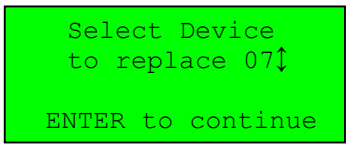
Remove All Devices?
ENTER to continue

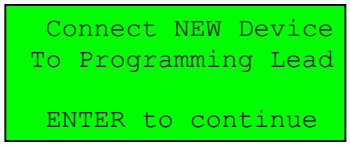
- From the main menu, using the cursor keys select '8-Setup System'.
- Select '3-Remove Devices'.
- Select '1-Remove All Devices'.
- Press 'ENTER' to confirm removal of all devices from the system. All programming and text will be deleted.

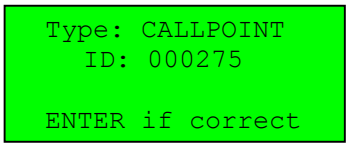
7.4 To Replace a Device

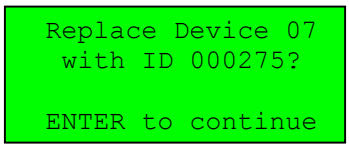
A device on the system can be replaced. Devices can be replaced either with a unit of the same type or a different device. If a
different device type is being replaced then care should be taken setting up the device options and the cause and effects. Using this menu will allow you automatically to change the device type as well.

- Remove the original device from its base and remove the power link. Care should be taken to ensure this is the correct one to be removed.
- Fit the Write / Enable link on the inside door Fig 1.2 (14).
- From the 'Main Menu' screen, using the cursor keys, '8-Setup System' should be selected.
- Select '4-Replace Device'. The following screens will be displayed.
- First, select the device number of the device to be replaced (the one just removed).
- Connect the new unit to the programming lead with the marked edge facing the on position.
- Press 'ENTER' to read the device.
- The unique ID will be displayed and 'ENTER' should be pressed to confirm the correct unique ID number.
- If the device is a different type to the one being replaced, then all of the settings will have to be set as detailed in section '7.2 Add a device'. The text description is not required to be changed as the location should be the same. If it is different then the text is changed using the 'Edit Device/ Panel' menu option
- Once 'ENTER' is pressed to confirm the unit number to be replaced, the following messages will be displayed:-
  'Programming device', 'Saving to flash', 'Saving to SIM', 'Data saved OK'
- Press cancel to exit.









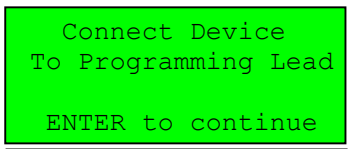
7.5 To Adjust a Device's Settings

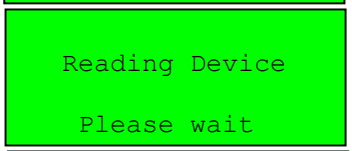
Each device has certain settings, which are stored inside the device, determining how they function. For example, a smoke detector contains a setting, which determines how much smoke is required inside the chamber before an alarm condition is transmitted to the control panel. Other settings are listed in the table below. As this information is stored inside the actual device, the device is required to be re-programmed at the control panel, using the programming lead connected to the control panel

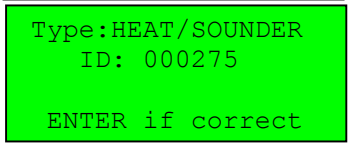
Model Number	Zone	Device Description	Sensitivity/ Alarm Value	Volume	Alarm Verification	Sounder Area
EDA-C1000	1-8	Callpoint	X	X	X	X
EDA-R1000	1-8	Smoke Detector	High, Medium or Low	X	0-60s	X
EDA-R2000	1-8	Smoke Detector and Sounder	High, Medium or Low	0 - 10	0-60s	0 – 255
EDA-S1000	1-8	Heat Detector (Fixed Point)	50 – 99 ^{0}C	X	X	X
EDA-S1000	1-8	Heat Detector (Rate of Rise)	High, Medium or Low	X	X	X
EDA-S2000	1-8	Heat Detector and Sounder (Fixed Point)	50 – 99 ^{0}C	0 – 10	X	0-255
EDA-S2000	1-8	Heat Detector and Sounder (Rate of Rise)	High, Medium or Low	0 – 10	X	0-255
EDA-A2000	1-8	Wall Mounted Sounder	X	0 – 10	X	0-255
EDA-A2060	1-8	Wall Mounted Strobe	X	X	X	0-255
EDA-A2080	1-8	Wall Mounted Output Unit	X	X	X	0-255
EDA-T1000	1-8	Transmitter / Input Unit	X	X	0-60s	X

Note: X denotes option not available

- Remove the device from its location and remove the 'power link'
- Attach the programming lead to the control panel as shown in section 7.2
- Fit the programming lead into the device with the marked edge of the plug facing the on position. Ensure the LED on the device is flashing.
- From the main menu select, '8-Setup System'.
- Select '6-Program Device'.
- Select '1-Re-program Device'.
- Assuming the device is connected press the 'ENTER' button on the front of the panel. The device will beep and the screen will display the ID and device type.
- If this is correct press 'ENTER'. If not then press 'CANCEL' and try again. Depending on the device type, the following screens will vary. The previous table lists the available options that can be programmed and their range of







values. Using the ↑ and ↓ keys the values can be selected. Once all values have been set you will be invited to program the unit by pressing enter.

- If a call point, smoke or heat detector is being programmed using the '↑' and '↓' select the zone number and press 'enter'

- If a smoke or heat detector is being programmed then using the '↑' and '↓' select the sensitivity for this unit and press 'enter'. Smoke and Rate of Rise Heat Detectors can be set as either 'High' (most sensitive) 'Med' and 'Low' (least sensitive). Fixed Point Heat Detectors can be set in a range of 50°C to 99°C in 1° intervals.

- If a sounder, beacon, I/O unit or combined sounder detector is being programmed then using the '↑' and '↓' select the volume (0-no sound to 10 max volume) and the correct sounder area.

- To enter location text using either a PS2 type keyboard or a PC running hyper terminal, which should already be connected, type the text as required. Do not type too quickly as some key presses get missed. Back space, delete, insert, shift etc. are all functional. Once the text is entered press 'Enter' on the control panel.

- Press Enter to save settings. Once pressed messages will be displayed as the information is written to the device, the processors' internal memory is updated as is the SIM card. Once stored, a message 'Data Saved OK' appears. Wait for the device to give a confirmation beep before removing the programming lead.

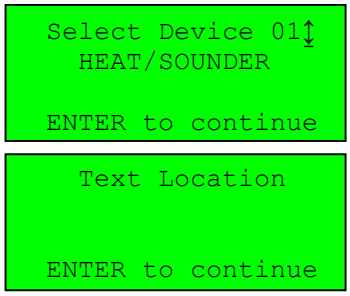
- If required the next device can now be connected and the process repeated.

- Once all devices have been programmed the 'write enable' link can be removed.

7.6 To Change Location Description Text

Each device can have location text programmed into the control panel using either a PS2 keyboard or a PC running Hyper-Terminal. programmed when the device is being added or can be entered or amended at a later date.

- Fit the 'SIM write / Enable' link
- Connect the keyboard or PC to the PS2 connector. A special lead will be required if using a PC (See the appendices for settings).
- From the 'Main Menu', using the cursor keys, select '8-System Setup'
- Select '5-Edit Device/Panel'
- Select '2-Device Text'
- Using the cursor keys select the device number which requires text amending or adding
- Using either the keyboard or PC type the location text. Do not type too fast as characters may be lost. Insert, shift, delete and backspace are all functional.
- Once complete press 'ENTER' on the control panel.
- Press 'ENTER' to save the data.
- Press 'ENTER' once saved.
- Press 'ENTER' if more text is to be amended / added otherwise press 'CANCEL' to return to the menu.
- Remove the 'SIM Write Enable' link once all text is amended / added.

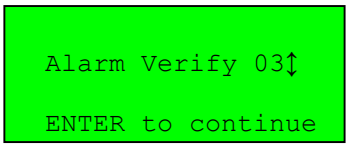


7.7 To Change Panel Settings

To Change the Alarm Verification.

Alarm verification is the confirmation period, in seconds, that a smoke, heat detector or transmitter unit has to remain in alarm before the panel responds to the condition. The default value is 3 seconds. If this is set for devices other than the ones listed, the value is ignored.

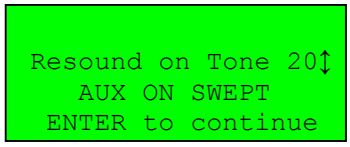
- Ensure the 'SIM Write / Enable' link is fitted
- From the 'Main Menu', select '8-Setup System'
- Select '5-Edit Device/Panel'
- Select '3-Panel Options'
- Use the cursor keys to change the value and press 'ENTER'
- Continue to press 'ENTER' through the rest of the options until the screen details 'Press ENTER to save settings
- Press 'ENTER' to save.
- Remove the 'SIM Write / Enable' link



To Change the Re-sound Tone

Once the panel has operated the sounders after an activation, and the user has silenced the system by mistake, pressing the 'Silence / Re-sound' will cause the system to re-sound the sounders. The tone that is sounded can be changed to various sounds that are listed in the appendices.

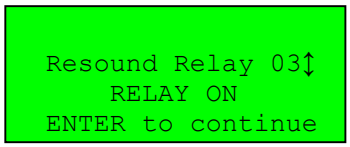
- Ensure the 'SIM Write / Enable' link is fitted
- From the 'Main Menu', select '8-Setup System'
- Select '5-Edit Device/Panel'
- Select '3-Panel Options'
- Press 'ENTER' until the screen opposite appears.
- Use the cursor keys to select the appropriate value and press 'ENTER'
- Continue to press 'ENTER' through the rest of the options until the screen details 'Press ENTER to save settings
- Press 'ENTER' to save.
- Remove the 'SIM Write / Enable' link



To Change the Re-sound Alarm Relay

Once the panel has operated the sounders after an activation and the user has silenced the system by mistake, pressing the 'Silence / Re-sound' will cause the system to re-sound the sounders and operate the internal fire relay. The relay can be programmed as to what should happen in the event of this. The relay can either be set so as to not operate, operate or pulse.

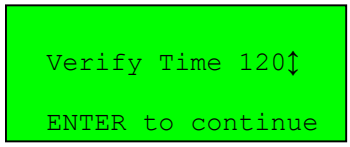
- Ensure the 'SIM Write / Enable' link is fitted
- From the 'Main Menu', select '8-Setup System'
- Select '5-Edit Device/Panel'
- Select '3-Panel Options'
- Press 'ENTER' until the screen opposite appears.
- Use the cursor keys to select the appropriate value and press 'ENTER'
- Continue to press 'ENTER' through the rest of the options until the screen details 'Press ENTER to save settings
- Press 'ENTER' to save.
- Remove the 'SIM Write / Enable' link



To change the verify fail time

All devices, at regular intervals, radio an 'I'm OK, verify' signal. The verify fail time is the length of time, in minutes, that has to pass without the panel receiving a signal from a particular device before a fault is indicated. If this time is exceeded for a device a verify fail fault is generated.

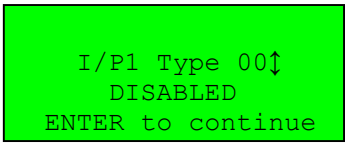
- Ensure the 'SIM Write / Enable' link is fitted
- From the 'Main Menu', select '8-Setup System'
- Select '5-Edit Device/Panel'
- Select '3-Panel Options'
- Press 'ENTER' until the screen opposite appears.
- Use the cursor keys to select the appropriate value and press 'ENTER'
- Continue to press 'ENTER' through the rest of the options until the screen details 'Press ENTER to save settings
- Press 'ENTER' to save.
- Remove the 'SIM Write / Enable' link

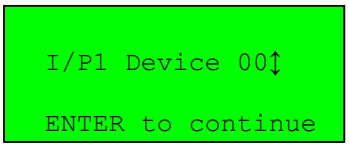


To Change the Hardwired Panel Input Operation

The control panel is equipped with two hardwired inputs. These can be used either as local hardwired call-points or non-latching inputs. The cable run can be a maximum of 3m. The input is monitored for short and open circuit, generating an appropriate fault. A 470 Ω operates the alarm and a 4K7 is required as an end of line. If the input is not set-up, a resistor does not need to be fitted inside the panel. The inputs can also be set as non-latching inputs. The inputs can also be programmed for setting the system into alarm, silencing and resetting the system remotely. A 470Ω resistor across the inputs sets the system into alarm. A 2K2 resistor will cause a silence to be generated and a 4K7 will force the system to reset.

- ❑ Ensure the 'SIM Write / Enable' link is fitted
- ❑ From the 'Main Menu', select '8-Setup System'
- ❑ Select '5-Edit Device/Panel'
- ❑ Select '3-Panel Options'
- ❑ Press 'ENTER' until the screen opposite appears.
- ❑ Use the cursor keys to select the appropriate value and press 'ENTER' The available options are 'DISABLED, CALLPOINT and NON-LATCHING CP'
- ❑ If anything other than disabled is selected you should then select a value for 'I/P1 Device' on the following screen. This number is the device number that the system will assign it to and cannot already be allocated to another device on the system.
- ❑ Continue to press 'ENTER' through the rest of the options until the screen details 'Press ENTER to save settings
- ❑ Press 'ENTER' to save.
- ❑ Remove the 'SIM Write / Enable' link

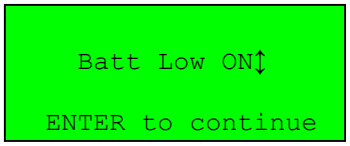


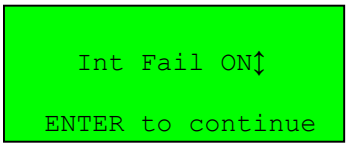


To Enable/Disable Battery Low and/or Internal Fail for Device.

If it is required for the system no to display internal fails and / or battery low conditions from devices the faults can be disabled.

- ❑ Ensure the 'SIM Write / Enable' link is fitted
- ❑ From the 'Main Menu', select '8-Setup System'
- ❑ Select '5-Edit Device/Panel'
- ❑ Select '3-Panel Options'
- ❑ Press 'ENTER' until the screen opposite appears.
- ❑ Use the cursor keys to select the appropriate value and press 'ENTER' With the value set to ON the fault will be displayed.
- ❑ Continue to press 'ENTER' through the rest of the options until the screen details 'Press ENTER to save settings
- ❑ Press 'ENTER' to save.
- ❑ Remove the 'SIM Write / Enable' link

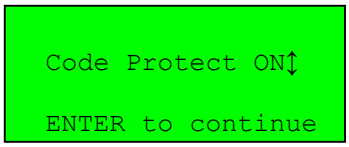




To Disable / Enable Password Entry for Silence and Reset

By default, in order to silence and reset the system a password is required. If the panel is installed in a location that is not accessible to misuse, the password system for silencing and reset can be disabled.

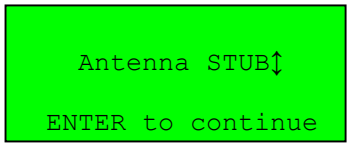
- ❑ Ensure the 'SIM Write / Enable' link is fitted
- ❑ From the 'Main Menu', select '8-Setup System'
- ❑ Select '5-Edit Device/Panel'
- ❑ Select '3-Panel Options'
- ❑ Press 'ENTER' until the screen opposite appears.
- ❑ Use the cursor keys to select the appropriate value and press 'ENTER'. Setting the value to ON means the password has to be entered.
- ❑ Continue to press 'ENTER' through the rest of the options until the screen details 'Press ENTER to save settings
- ❑ Press 'ENTER' to save.
- ❑ Remove the 'SIM Write / Enable' link



To Change an Antenna Setting

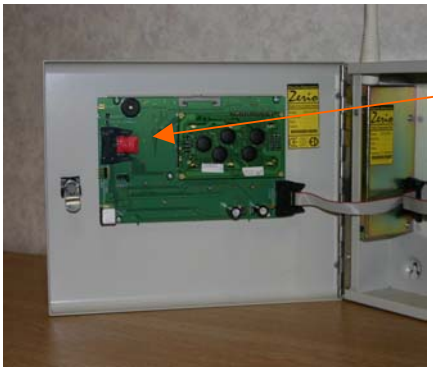
The main control panel can be fitted with different sorts of antennas. The system allows the use of either a helical (Stub) which is supplied with the panel or a 1m antenna. The system monitors for connection of the antenna but the panel needs to be configured correctly to monitor for the antenna fitted.

- Ensure the 'SIM Write / Enable' link is fitted
- From the 'Main Menu', select '8-Setup System'
- Select '5-Edit Device/Panel'
- Select '3-Panel Options'
- Press 'ENTER' until the screen opposite appears.
- Use the cursor keys to select the appropriate antenna type and press 'ENTER'.
- Continue to press 'ENTER' through the rest of the options until the screen details 'Press ENTER to save settings
- Press 'ENTER' to save.
- Remove the 'SIM Write / Enable' link



7.8 Memory Operations

The control panel has two types of memory. The flash memory is internal to the main processor which is fitted on the reverse of the processor board and contains all system set-up information. A SIM, the red memory card, contains a copy of the set-up information. It is used as a means of transferring data to a panel and as a means to store a back-up. If the processor board fails, the set-up memory will be contained in this memory and can be loaded into a new processor board. Whilst the system is being programmed the SIM is continually updated.



To clear the panel of all data and set up default operation.
When installing a new system this option should be executed prior to any programming. All devices that are contained within the panel will be deleted, all passwords will be set to the default values and all panel settings will be set to factory defaults. Both the SIM and Flash memories should be cleared.

- From the 'Main Menu', using the cursor keys, select '8-Setup System'
- Select '8-Initialisation'
- Ensure the 'SIM Write / Enable' link is fitted.
- Select '1-Set to default'
- Select '3-Both'
- Press 'ENTER' to confirm. The process takes about 10 seconds.
- Press 'CANCEL' to proceed.
- Remove the 'SIM Write / Enable' link

```
Set to default
   Settings

ENTER to continue
```

To load the system set-up from a SIM
If a processor board is being replaced or a set-up needs to be loaded from the SIM memory module, the data contained can be copied into the main processors flash memory.

```
Load data from SIM?

ENTER to continue
```

- From the 'Main Menu', using the cursor keys, select '8-Setup System'
- Select '7-SIM operations'
- Ensure the 'SIM Write / Enable' link is fitted.
- Select '1-Load from SIM'
- Press 'ENTER' to confirm. The process takes about 15 seconds.
- Press 'CANCEL' to proceed.
- Remove the 'SIM Write / Enable' link

To store the system set-up into a SIM
If a copy of the memory is going to be stored on a back-up SIM, or EDA have requested a copy of the memory, the data can be copied on to another SIM.Remove the panels SIM and insert a blank one

```
Save data to SIM?

ENTER to continue
```

- From the 'Main Menu', using the cursor keys, select '8-Setup System'
- Select '7-SIM operations'
- Ensure the 'SIM Write / Enable' link is fitted.
- Select '1-Load from SIM'
- Press 'ENTER' to confirm. The process takes about 15 seconds.
- Press 'CANCEL' to proceed.
- Remove the 'SIM Write / Enable' link
- Remove the SIM and insert the original one

Appendices

1. Default Passwords

User	1111
Advanced User	2222
Service Engineer	3333
Commissioning Engineer	4444

2. Glossary

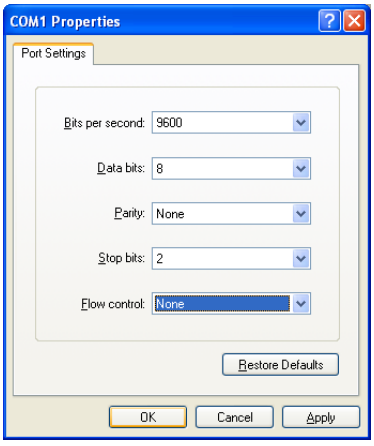
Flash Memory	The panel's internal memory that stores all set-up data and information.
Sim Card	The back-up memory which stores a copy of customer set-up options. The same information is also stored in the flash memory.
Unique number	Each device has a unique unit number, set during the manufacturing process, which is transmitted every time the device transmits a message. The control panel uses this information to determine which device is transmitting.
Unit number	When a device transmits its unique ID, the control panel references this to a unit number in the range of 1 to 99. This number is displayed on the control panel whenever a fault or alarm message is received from a device.
Sensitivity	Each smoke and heat detector can be set to a value so that when this value is exceeded, they generate an alarm condition. For smoke and rate of rise heat detectors, this can be set to high, medium or low. For fixed point heat detectors, this can be set to a value between 50 and 99 degrees centigrade.
Sounder Area	Areas of buildings or separate buildings can be set up so that only these areas sound when an alarm in this area occurs. These areas are could sounding areas. Each sounder must be programmed to the appropriate area and the cause and effect programming be altered so that each device sounds the appropriate area. A sounder programmed to area 0 will always sound, irrespective of the sounder area number being transmitted and can be used as a global alarm sounder.
Text Location	60 characters of text, programmed into the panel corresponding to the location of the device / panel. In order to display the full text, the characters scroll across the screen.
Volume	Every sounder and combined detector and sounder have a value programmed into them ranging from 0 to 10. 10 is the maximum volume and 0 would be silent. The value would usually be programmed to 10.
Zone Number	Each device can be programmed into a logical fire area called a zone. When the unit transmits an alarm, the unit number and its corresponding zone is displayed on the screen.

3. Setting up Hyper-Terminal

It is always best to set up hyper-terminal and connect it to the PC before starting to program the system. A special 9 way d-type to PS2 connector is required (EDA-Z1020).

Hyper-Terminal is supplied free with windows and can usually be found by clicking on start, then on programs and then on accessories. In this folder there is usually a communications folder. Within this click on Hyper-Terminal.

If you are setting up for the first time then enter a name 'EDA_ZERIO' under 'Connection Description' and click on OK. Select the com port that the PC is using (usually COM1) under the 'Connect To' screen. Enter the com port settings as shown below and click on OK

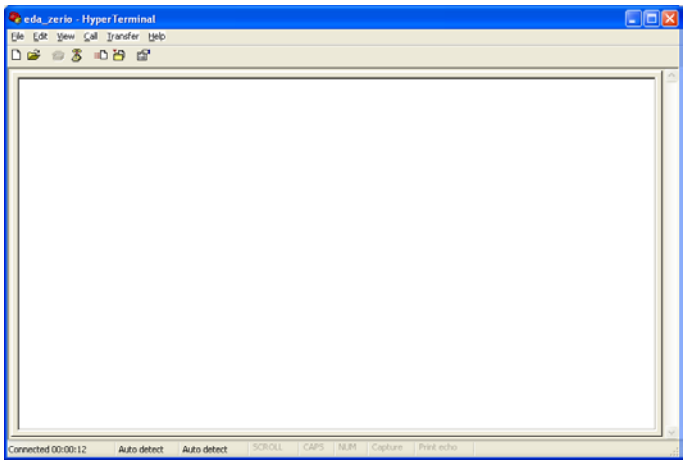


If Hyper-terminal has been used before then selecting 'File', 'Open' and select 'EDA-Zerio' will load the settings.

A blank screen as shown below will appear.

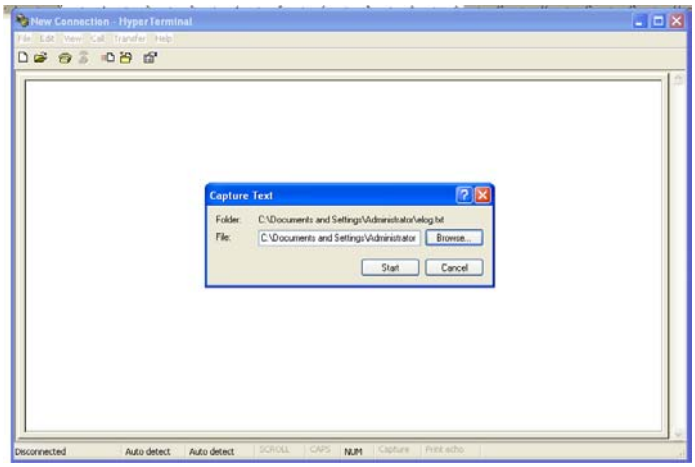
Text should be typed in to the computer and will appear on the panels' display. Backspace is used to delete characters but the 'Delete' cannot be used . ←&→ will move through the text and allow the text to be overwritten (no text can be inserted). The ↑ & ↓ keys have no effect. 60 characters can be entered and will scroll to the right of the screen.

Characters will not appear by default on the PC screen as you type, however if 'File', 'Properties', 'settings', 'ASCII set-up' is selected and 'Echo Typed Characters Locally' checked, all characters sent to the panel will be displayed on the screen.



To Save the Data to a file

Prior to the data being displayed on the screen, the information can be saved to a file.
Click on ‘Transfer’ in the main menu bar and then select ‘Capture Text’. You will be prompted to enter a file name where the file would be stored. This is a .TXT file and can be viewed later. Select the option on the panel to dump the information to the PC.



4 Customer Parameter Options

When in system normal, the screen can either display the date and time or the installers' name and telephone number.

5 Sounder tones

Sound Number	Auxiliary	Tone	Sound Number	Auxiliary	Tone
0	OFF	No Sound	16	ON	No Sound
1	OFF	Constant High Frequency Tone	17	ON	Constant Frequency Tone
2	OFF	Constant Low Frequency Tone	18	ON	Constant Frequency Tone
3	OFF	Warble Tone	19	ON	Warble Tone
4	OFF	Swept Tone	20	ON	Swept Tone
5	OFF	Pulsed Constant Low Frequency Tone	21	ON	Pulsed Constant Low Frequency Tone
6	OFF	Pulsed Warble Tone	22	ON	Pulsed Warble Tone
7	OFF	Pulsed Swept Tone	23	ON	Pulsed Swept Tone
8	OFF	No Sound	24	ON	No Sound
9	OFF	4 Seconds Pulsed Low Tone	25	ON	4 Seconds Pulsed Low Tone
10	OFF	4 Seconds Pulsed Warble Tone	26	ON	4 Seconds Pulsed Warble Tone
11	OFF	6 Seconds Pulsed Low Tone	27	ON	6 Seconds Pulsed Low Tone
12	OFF	6 Seconds Pulsed Warble Tone	28	ON	6 Seconds Pulsed Warble Tone
13	OFF	6 Seconds Low Tone	29	ON	6 Seconds Low Tone
14	OFF	6 Seconds Warble Tone	30	ON	6 Seconds Warble Tone
15	OFF	6 Seconds Swept Tone	31	ON	6 Seconds Swept Tone

6 Menu – Quick Guide

FIRST LEVEL MENU		LEVEL 2	LEVEL 3	LEVEL 4
Setup		Time & Date		
		Access Codes		
		Front Screen		
Disable/Enable		View Active		
		Disable	Disable Zone	
			Disable Device	
		Enable	Enable Zone	
			Enable Device	
View Events		All		
		Fire Events		
		Fault Events		
		Disable/Enable Events		
		Clear Event Log		
		Dump Event Log		
Test Mode		System Test	Enable Test	
			Disable Test	
		Device Test		
Verify Table		View Table		
		Clear Table		
		Dump Table		
System Settings		Panel Settings	Status	
			Panel Inputs	
			Software Versions	
		Device Settings		
View Airwaves		View All		
		View Single Device		
		View This System		
		View Type		
Setup System		Full Setup	Standard System	
			Advanced System	
		Add Device		
		Remove Device	Remove 1 Device	
			Remove All Devices	
		Edit Device / Panel	Device Options	
		Replace Device		
			Device Text	
			Panel Options	
			Agent Name	
			Agent Phone	
		Program Device	Reprogram Device	
			Set To Rate of Rise	
			Set To Fixed	
		SIM operations	Load From SIM	
			Save to SIM	
		Initialise	Set to default	
			SIM Card	
			Both	

7. Faults.

The following provides a list of common faults. It is sub-divided into device and panel faults.

Device faults	EXPLINATION	ACTION TO RECTIFY
BATTx LOW	The battery in the device is nearly flat. Typically devices continue to have another 60 days of active life left.	Replace the batteries in the device within the next 30 days.
I/P1 or I/P2 OPEN CCT	One of the input circuits inside the control panel has gone open circuit. Note that the inputs are only monitored if they are enabled in the panel options.	The inputs are monitored for a 4k7 ohm end of line resistance. Check the wiring of any inputs going into the panel. If none are fitted, check the end of line resistors are fitted and tightened properly.
I/P1 or I/P2 SHORT CCT	One of the input circuits inside the control panel has gone short circuit. Note that the inputs are only monitored if they are enabled in the panel options.	The inputs are monitored for a 4k7 ohm end of line resistance. Check the wiring of any inputs going into the panel. If none are fitted, check the end of line resistors.
DEVICE NUMBER xx INT FAULT	This usually appears when programming a device. If it occurs during normal operation it is usually a precursor of another fault such as a dirty head or a low battery.	Reset the device and reset the panel. If the fault returns notify the maintenance company.
DEVICE xx UNIT REMOVAL	Device number xx has been removed from its base.	Check the device and reset as necessary. If the device will not reset check that it is correctly seated in the mounting base. Reset the panel. If the fault returns try slackening the mounting screws on the base.
DEVICE xx TYPE ERROR	This usually appears when programming a device. If it occurs during normal operation contact the maintenance company.	During programming – reset device and panel. If it re-occurs see the section on removing and adding a device. If the fault reoccurs do not use the device and contact the maintenance company.
Panel faults		
PANEL FAULT	The panel cannot communicate with all internal components.	Disconnect standby battery and remove power supply fuse. Wait 60 seconds then re-insert fuse and reconnect battery.
SUPPLY FAULT	Mains failure.	Check 500mA fuse and fused spur.
SYSTEM FAULT	Flash memory checksum failed	Contact the maintenance company.
SIM CARD FAULT	SIM card not fitted or faulty	Check SIM card is fitted. Remove and refit
BATTERY LOW	Panel standby battery low.	Check battery voltage is above 10 volts.
INTERFERENCE	Interference	Reset fault. If it re-occurs notify maintenance company.
SIM LINK FAULT	SIM write enable link left enabled.	Remove jumper. (marked 14 in fig 1.2).
CONFIGURATION FAULT	Faulty flash.	Contact maintenance company.
ID ALREADY ASSIGNED TO DEVICE XXXX	The same unit will not be allowed to be programmed twice on to the system	

8. Common Problems

No display on Panel
If the green LED is off then check the mains supply.
If the green led is on, then the mains supply is OK. There is a resetable fuse on the PSU. Power down panel for 1 minute and re-apply power. If the fuse has reset the green led should come on.

Panel Battery Low
Check battery voltage should be between 11 and 14 volts. – check fuse – check battery terminal connections at both end of cable Disconnect battery and measure battery voltage approx 12V.

Devices won't program
Lead connected incorrectly – ensure the marked edge of the connector faces the on position on the device and faces upwards on the panel.
The device should flash its LED prior to being able to be programmed. If not, the unit should be Reset or powered down. Ensure the LED is flashing before programming. Sounders can be reset by shorting out the pads to the right hand side of the power link. Devices must be either Zerio devices or Millennium device version 1.6 or greater.

9.0 Software Version

Software is continually being developed to improve the operation of the system. Different versions of software are fitted in the main processor / display module (EDA-Q1030), the power supply module (EDA-Q1010) and the transceiver module (EDA-Q1020). A list of the versions are detailed below with the improvements and whether the upgrade should be made. Upgrades are available by changing the actual board or using a special lead and upgrading via a PC.

The update field indicates the importance to update the firmware as described below:

1 – Update immediately
2 – Update when engineer next available
3 – Update at next service visit
4 – No update required

EDA-Q1010 – Zerio Power supply Module.

Version	Date	Description	Update (1-4)
1.03	27/06/05	Original release	
1.04	18/08/05	Battery low monitoring algorithm improved	5

EDA-Q1020 – Zerio Transceiver Module

Version	Date	Description	Update (1-4)
2.04	27/06/05	Original release	
2.06	15/07/05	Sounder pre-amble messages improved	4
2.07	12/08/05	Tx/Rx latching up on power up corrected	3

EDA-Q1030 – Zerio Processor / Display Module

Version	Date	Description	Update (1-4)
0.04	01/08/05	Original release	
0.05	03/08/05	Production test mode added, extra silences transmitted to sounders	4
0.06	29/09/05	Back door password entry added. Device 32 & 33 can now be added. Menu changes	4
0.07	02/10/05	Antenna monitoring and programmable aux relay moved to access level 4	4
0.08	05/10/05	Production test mode improved and hidden from user	4

10. Product, Ancillary and Replacement Part Numbers

Control Panel

Product	Description
EDA-Z1000	Zerio 8 Zone Control Panel

Devices

Below is a list of devices that operate with the Zerio system. Units are supplied from new fitted with batteries. Should replacements be required the following part numbers should be used.

Product	Description	Battery Required
EDA-R1000	Zerio Optical Smoke Detector	EDA-Q660
EDA-R2000	Zerio Optical Smoke Detector with Combined Sounder	EDA-Q670 x 2
EDA-D1000	Zerio Heat Detector	EDA-Q660
EDA-D2000	Zerio Heat Detector with Combined Sounder	EDA-Q660 x 2
EDA-C1000	Zerio Call-point	EDA-Q670
EDA-T1000	Zerio Transmitter Unit	EDA-Q670
EDA-A2000	Zerio Sounder	EDA-Q620 + EDA-Q630
EDA-A2050	Zerio Actuator to operate door releases (requires EDA-A010)	EDA-Q620 + EDA-Q630
EDA-A2060	Zerio Strobe / Beacon	EDA-Q620 + EDA-Q630
EDA-A2080	Zerio Output Unit	EDA-Q620 + EDA-Q630

Ancillary Parts

Part Number	Description
EDA-Z1010	SIM Memory Card
EDA-Z1020	Zerio to PC Programming Lead
EDA-Z1030	Zerio to Detector Programming Lead
EDA-Z1040	Zerio Slimline PS2 Keyboard
EDA-Z1041	Zerio Economy PS2 Keyboard
EDA-Y100	Stub / Helical Antenna
EDA-Y200	3m End Fed Colinear Dipole Antenna
EDA-Y600	1m End Fed Dipole Antenna

Replacement Boards/Parts

Part Number	Description
EDA-Q1010	PSU
EDA-Q1020	Transceiver
EDA-Q1030	Processor and keypad including LCD
EDA-Q1040	SPI Processor/PSU/Transceiver IDC Cable