

Display Panel V4.01a

Installation Guide



Aidcall operates a policy of continual product improvement and reserves the right to modify the specification of its products.

If any variation to the details in this document are suspected please contact Aidcall's Technical Support.

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1. PRODUCT OVERVIEW

Touchsafe Pro Display Panels will usually be located in the Main Office or Reception area and in addition there may be others located in corridors or other strategic areas throughout the building.

Calls from Call Points, Pullcords, Door Monitors, etc. will be displayed on the Panels with colour coded banners and different alarm tones to help staff easily identify the different call types and priority levels. On multi-panel systems all calls may be displayed on all panels or the system may be setup with zones so calls from specific areas are only displayed on the Panel located in that area. The Panels may also be setup to operate differently during the day or night, e.g. all calls can be displayed on one panel at night and alarm tones can be silenced.

Other options include over-door Audio Visual Indicators (AVI's) to sign post a call to staff on duty, radio paging to alert staff of a call no matter where they are, and Call Logging software to create reports on the call history from a local PC.

Battery replacement warnings, tamper alarms and regular polling of radio devices automatically keeps the system functioning properly all of the time.

Antimicrobial

Touchsafe Pro Display Panels are embedded with an antimicrobial agent during manufacture. This prevents the growth of harmful micro-organisms thereby preventing the spread of germs and disease.



*V4.01a software onward includes 869MHz NTR and 869MHz Telecare compatibility.
Note: 169MHz TCR's and 169MHz Telecare devices can still be used with V4.01a onward.*

2. SAFETY INSTRUCTIONS

	Read and understand these instructions before use. Keep these instructions for future reference.
	To reduce the risk of electric shock do not disassemble this product unless you are qualified. Opening or removing covers may expose you to dangerous voltages or other hazards.
	No user serviceable parts inside. Refer all servicing to qualified service personnel.
	This product should only be connected to a 220-240VAC 50/60Hz mains supply. If you are unsure of the type of power supply consult your local power company.
	Danger of explosion if the internal battery is incorrectly replaced. Use only manufacturer approved rechargeable battery as identified in this manual.
	Only use manufacturer approved cable during installation. Refer to the relevant installation guides for details of cable types, recommended colour codes and cable length restrictions.
	USB Ports are for Engineers use only – they are not suitable for charging Smartphones or Tablets. Do not push objects of any kind into the USB Ports as this may result in damage.
	This product should be located at least 2 metres away from other electronic equipment (except that shown in section 8 below). Failure to provide this separation may result in reduced radio range.
	Do not locate this product above a radiator or other heat source. Slots in the product housing are provided for ventilation. These openings must not be blocked or covered. Do not push objects of any kind through the slots as this may result in damage or injury.
	Do not expose to direct sunlight.
	Do not expose this product to dripping or splashing water. As with any electronic equipment take care not to spill liquids into any part of the system. Liquids can cause a failure and/or a fire hazard.
	Clean with a hard-surface disinfectant wipe or a damp cloth and a non-abrasive cleaning product. Polish with a dry duster. DO NOT use a wet cloth. The display can be cleaned with proprietary screen cleaners or wipes.
	Avoid using harsh, abrasive, or corrosive cleaning agents or detergents (e.g. scouring powders, bleaches, polishes, etc.) when cleaning this product.
	At the end of its life this product should be disposed of and recycled in accordance with the environmental regulations. See the Regulatory Information in section 3 below.

3. REGULATORY INFORMATION

	We declare this product complies with the relevant UK legislation on condition that it is used in the manner intended, and in accordance with the current installation standards and/or the manufacturer's recommendations. A copy of the full UKCA Declaration of Conformity is available on request.
	We declare this product complies with the relevant European legislation on condition that it is used in the manner intended, and in accordance with the current installation standards and/or the manufacturer's recommendations. A copy of the full CE Declaration of Conformity is available on request.
	This symbol on the product indicates it is classed as Electrical or Electronic Equipment and should not be disposed of with other commercial waste at the end of its working life. The Waste of Electrical and Electronic Equipment (WEEE) Directive (2012/19/EU) has been put in place to recycle products using the best available recovery and recycling techniques to minimise impact on the environment, treat hazardous substances and avoid increasing landfill. For product disposal please contact your supplier and check the terms and conditions of the purchase contract and ensure this product is not mixed with other commercial waste for disposal.
	This symbol on batteries indicates separate collection. Batteries contain chemicals that can be hazardous to health and the environment and should not be disposed of in the waste bin. The EU Directive (2006/6/EC) has been put in place to ensure the safe disposal and recycling of batteries. Return used batteries to your supplier or drop-off at your local municipal waste recycling depot.

4. MAINTENANCE & CARE

For peace of mind and to ensure your system is maintained to the highest standard Aidcall recommend an annual maintenance contract. This will provide vital assistance in times of need from a nationwide team of trained Service Engineers who specialise in wireless Nursecall systems.

A preventative maintenance visit (PMV) is also available from Aidcall, this covers the replacement of all batteries, a full system test, software updates (where applicable) and a Service Certificate.

For more information on Maintenance Contract Packages and PMV's please contact our customer services team on 01670 357431 or visit our website; <https://www.aidcall.co.uk/maintenance/>

MONTHLY MAINTENANCE

Display Panels should be regularly cleaned with anti-bacterial wipes, at the same time they should be checked for signs of external physical damage. Broken or cracked plastic cases can trap dirt and contribute to the spread of germs. Products needing repair can be returned via the website; <https://www.aidcall.co.uk/returns-procedure/>

ANNUAL MAINTENANCE

Although the Display Panel battery is monitored and a poor state of charge is reported automatically it is best practice to have the battery tested every year and replaced every 5 years. See section 18 for the correct type of battery to be used. At the same time a full system test should be performed to ensure all radio devices are communicating correctly.

	In the unlikely event that a panel needs to be restarted, please ensure all active calls are actioned before proceeding.
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5. DISPLAY PANEL OPTIONS

There are 2 different models of Touchsafe Pro Display Panel; up to 32 panels of any combination can be installed on the same site.

Description	Part No.
Touchsafe Pro 10" Display Panel with Internal RFE	ZNC511
Touchsafe Pro 15" Display Panel with Internal RFE	ZNC516

Touchsafe Pro 10" Display Panels are supplied with a separate battery backed power supply unit in its own metal box whereas the 15" Panels have the power supply module and standby battery built in.

Display Panels with an internal RFE (Radio Front End) include an 868MHz transceiver and helical antenna on the top.

ZNC511 – 10" Panel

with internal RFE



10" Panel Boxed
Power Supply Unit



ZNC516 – 15" Panel

with internal RFE



The 10" Panel has a separate battery backed PSU, the 15" Panel has the PSU & battery built in.

6. DISPLAY PANEL FEATURES

Both the 10" and 15" Display Panel options operate exactly the same and have all the same features, it's only the screen size that differs.



POWER LED

The power LED should normally be illuminated **STEADY GREEN** when the mains supply is connected. The power LED will **FLASH GREEN** when the panel is operating on standby battery alone. Text on the screen will also indicate the power status and if the standby battery is disconnected.

USB PORTS

The Mini USB Port and 4 x standard USB 2.0 Ports are hidden behind a screw-fixed cover on the 10" panel or inside the sliding door on the 15" panel. These are for Engineer software updates only and should not be left accessible to the user.

SD CARD

The panel has an internal SD memory card to store the system configuration files and event logs. It is recommended that data from this card is copied to an Engineers Laptop as a system backup.

RESET BUTTON

The Reset Button is also hidden behind the screw-fixed cover on the 10" panel or inside the sliding door on the 15" panel. This is for Engineers use only should not be left accessible to the user.

PANEL FIXINGS

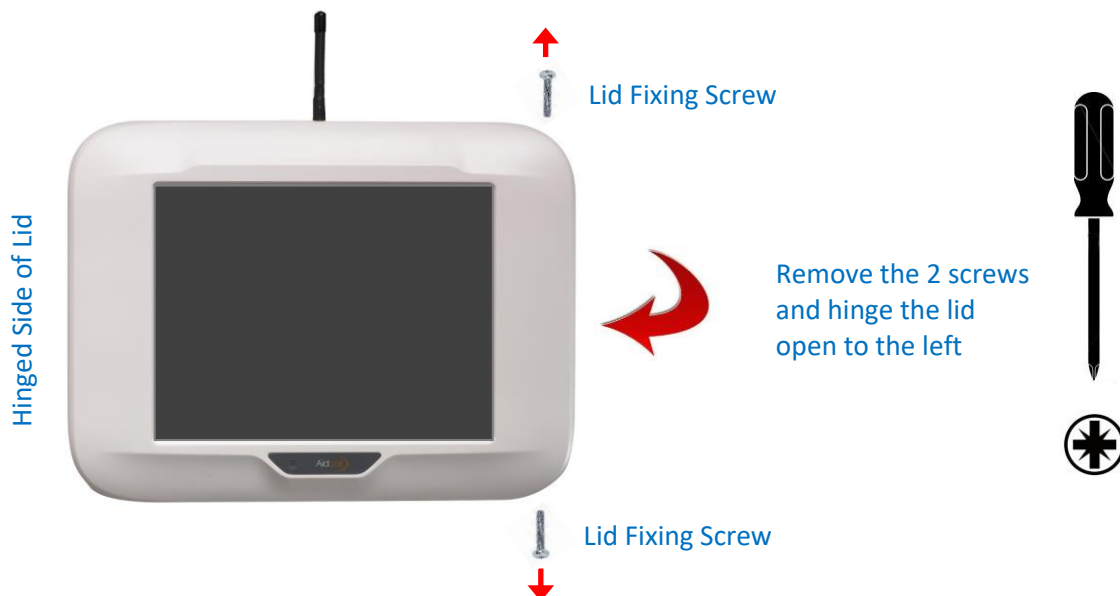
Screw fixing centres for both the 10" and 15" panel options are given in the relevant installation sections of this manual. Both panels also have VESA fixings on the rear (4 x M4 x 10mm threaded inserts on 100mm square centres) for an optional desk mount stand or other off-the-shelf flat screen TV wall brackets.

ALARM SOUNDER

All alarm calls, system alerts, reminders etc. play different tones through the internal loudspeaker to identify the different call types. Some tones can be silenced from the panel whereas others (e.g. Emergency) have to be silenced at source. A volume control is available in the panel settings.

7. OPENING THE DISPLAY PANEL LID

Both the 10" and 15" panel lids are fixed with 2 No. M4 x 20mm Pozi Pan Head screws. The screws are recessed in the top and bottom right hand corners, once removed the lid hinges open on the left hand side.



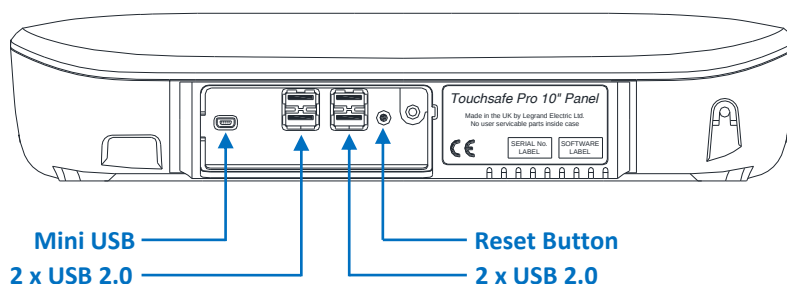
WARNING: disconnect the mains supply before opening the Display Panel lid during installation and service.



The Display Panel lid should only be opened during installation and service – it must be screwed shut at all other times to prevent the risk of electric shock.

DATA PORT & RESET ACCESS

Engineers USB ports and a hardware Reset button are concealed on the lower face of both Display Panels. Access is behind the screw-fixed cover on the 10" panel or inside the sliding door on the 15" panel. The user has no reason to access these Ports or the Reset button therefore the cover should always be left fitted/closed during normal operation.

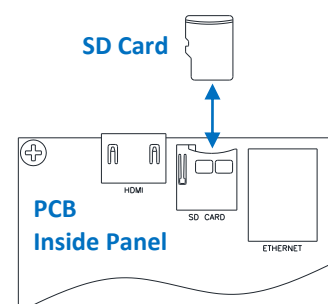


REMOVING THE SD CARD

Switch off the mains supply and disconnect the battery before removing the SD card. Push down to release the SD card mechanical latch, to refit push down until the latch clicks into place.

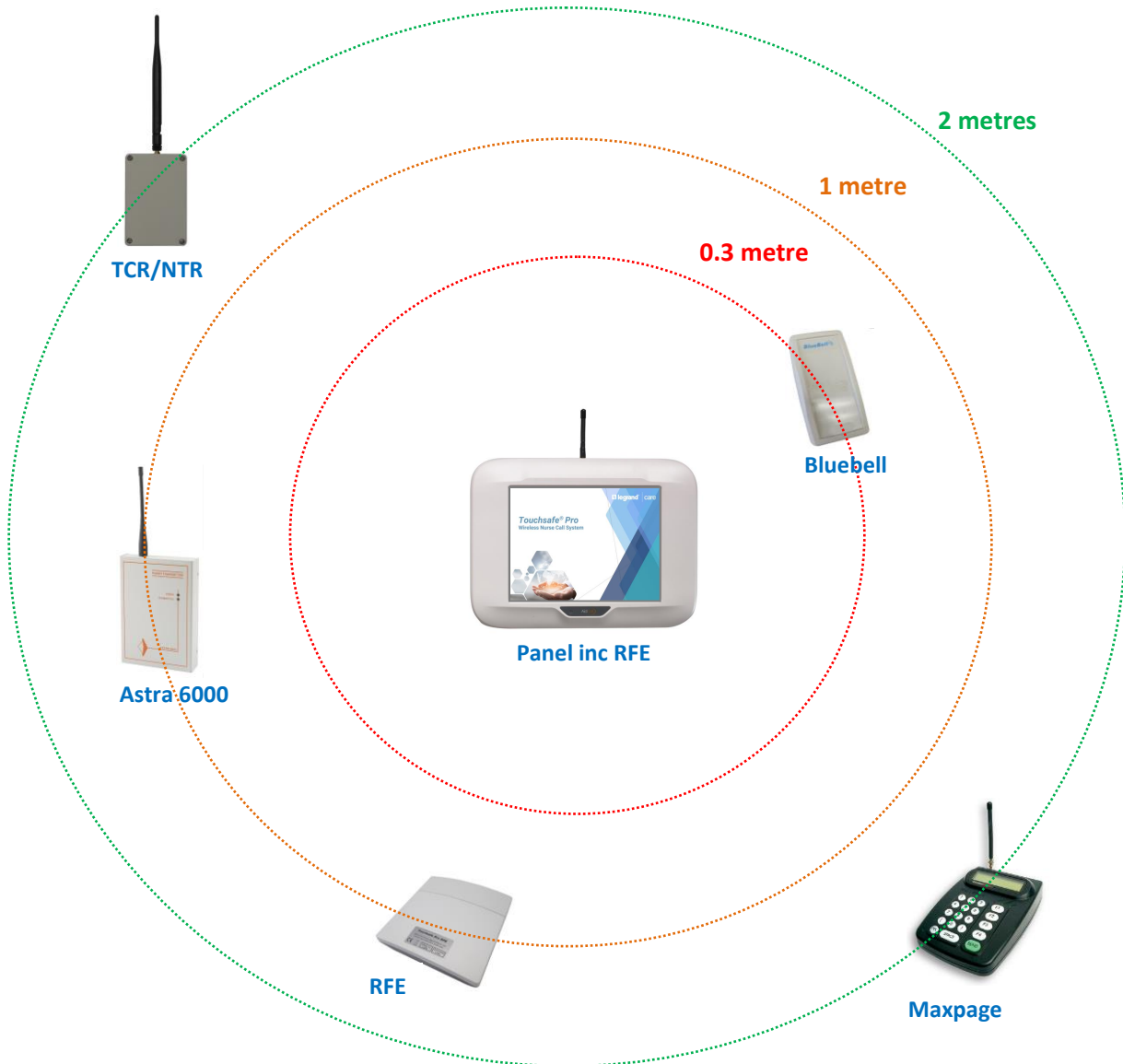


ATTENTION: Electrostatic Sensitive Device - observe precautions before handling.



8. RECOMMENDED FIXING DISTANCES

Radio transmitters can induce a voltage in a receiver if they are placed too close together; the effect is to block the receiver from accepting its own signal. Below are the recommended minimum distances for siting other radio equipment in proximity of the Touchsafe Pro Display Panel including RFE.

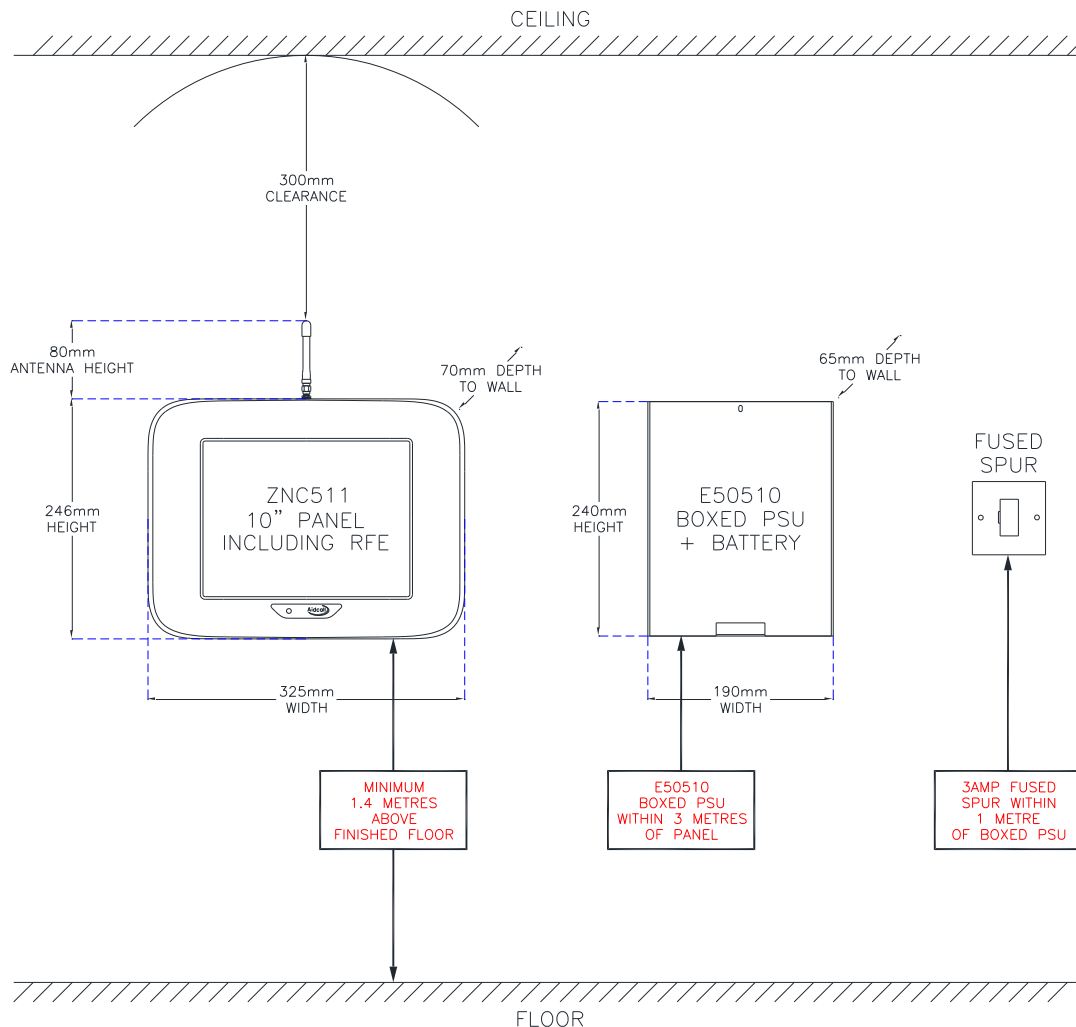


NOT TO SCALE

9. 10" DISPLAY PANEL INSTALLATION

The 10" Display Panel should be securely screw-fixed to the wall so the bottom of the panel is a minimum of 1.4 metres above floor level.

The separate boxed PSU for the 10" Panel must be wall mounted within 3 metres cable run of the panel. The PSU also requires connection to the mains supply via a local Fused Spur.



IMPORTANT: AVOID LOCATING THE 10" DISPLAY PANEL AND PSU...



WITHIN 2 METRES OF
OTHER ELECTRONIC
EQUIPMENT



DIRECTLY ABOVE
A HEATER



IN DIRECT SUNLIGHT



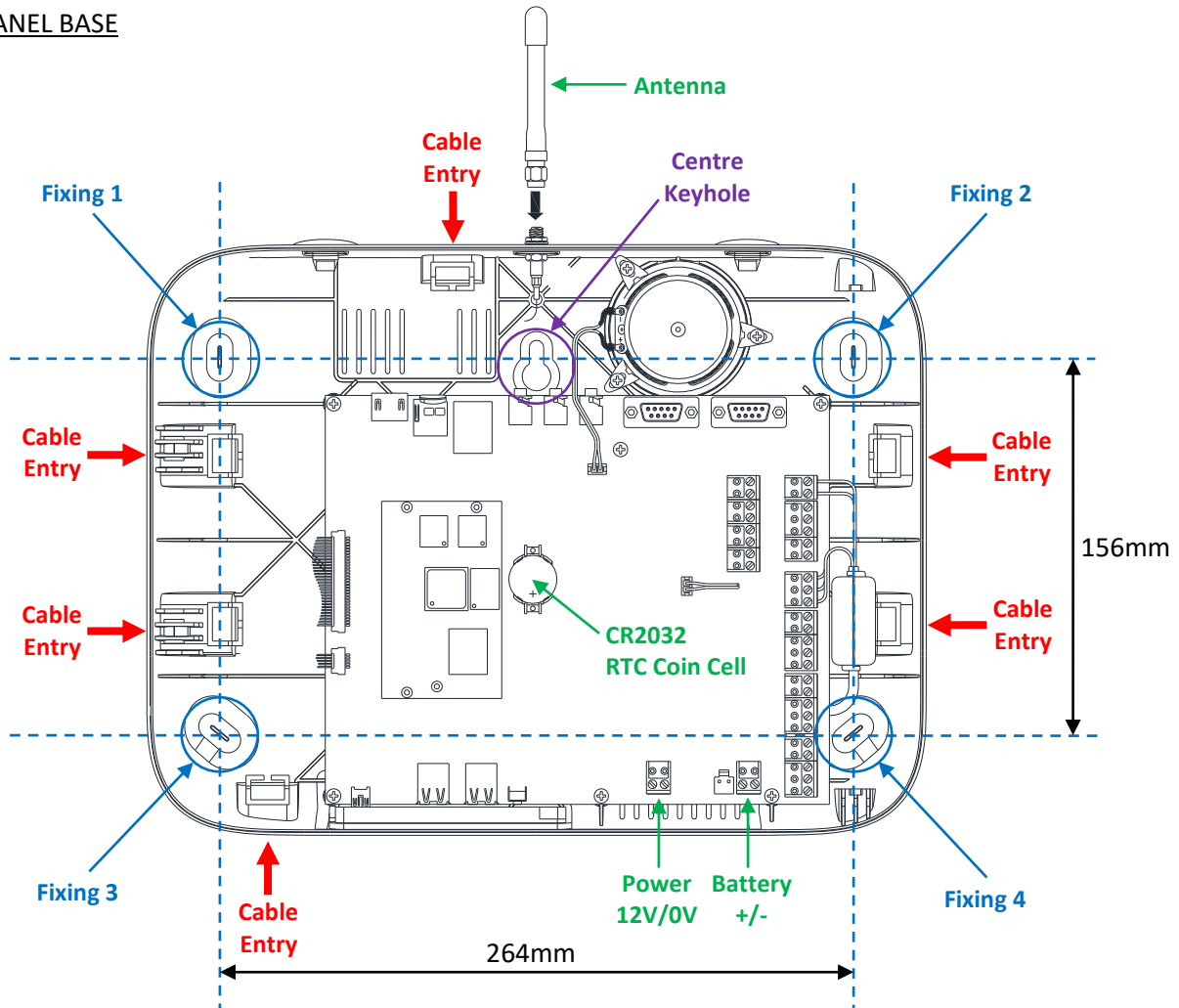
NEAR TO
SPLASHING WATER

9. 10" DISPLAY PANEL INSTALLATION

Select the most appropriate cable entry points for surface 16mm mini trunking and pre-drill the relevant knockout areas in the rear of the case before fixing to the wall.

Use the 10" Display Panel Wall Marking Temple (Aidcall Ref. No. SK0487) supplied with the panel to mark the 4 corner fixings on the wall in the desired position. Drill the wall and insert appropriate wall plugs before fixing the panel using 4 x No.8 x 1 ½" Pozi screws.

10" PANEL BASE



IMPORTANT: when marking out, drilling and fixing the panel to the wall take care not to accidentally detach the lid from its hinges or damage the LCD screen/leads.

ANTENNA

Carefully screw the SMA Helical Antenna onto the bulk head socket on the top face of the Display Panel after installation.

POWER & BATTERY CONNECTION

The power supply and standby battery is connected from the separate PSU using the 5 core cable provided. Note: the green/yellow Earth wire in the 5 core cable is not connected and should be cut-off.

CR2032 RTC COIN CELL

Fit the CR2032 real time clock battery backup in the holder marked BT1 during installation. Note: fit with positive side facing up.



9. 10" DISPLAY PANEL INSTALLATION

Hang the power supply unit on the single centre keyhole fixing and mark the wall for the lower 2 screw fixings. Remove the power supply before drilling and inserting wall plugs.

Remove the 2 No. 20mm knockouts on the top face of the power supply unit and fit the M20 cable glands or 20mm grommets provided. **Use the LHS cable entry for Mains in and the RHS for Low Voltage out.**

MAINS & EARTH CONNECTION

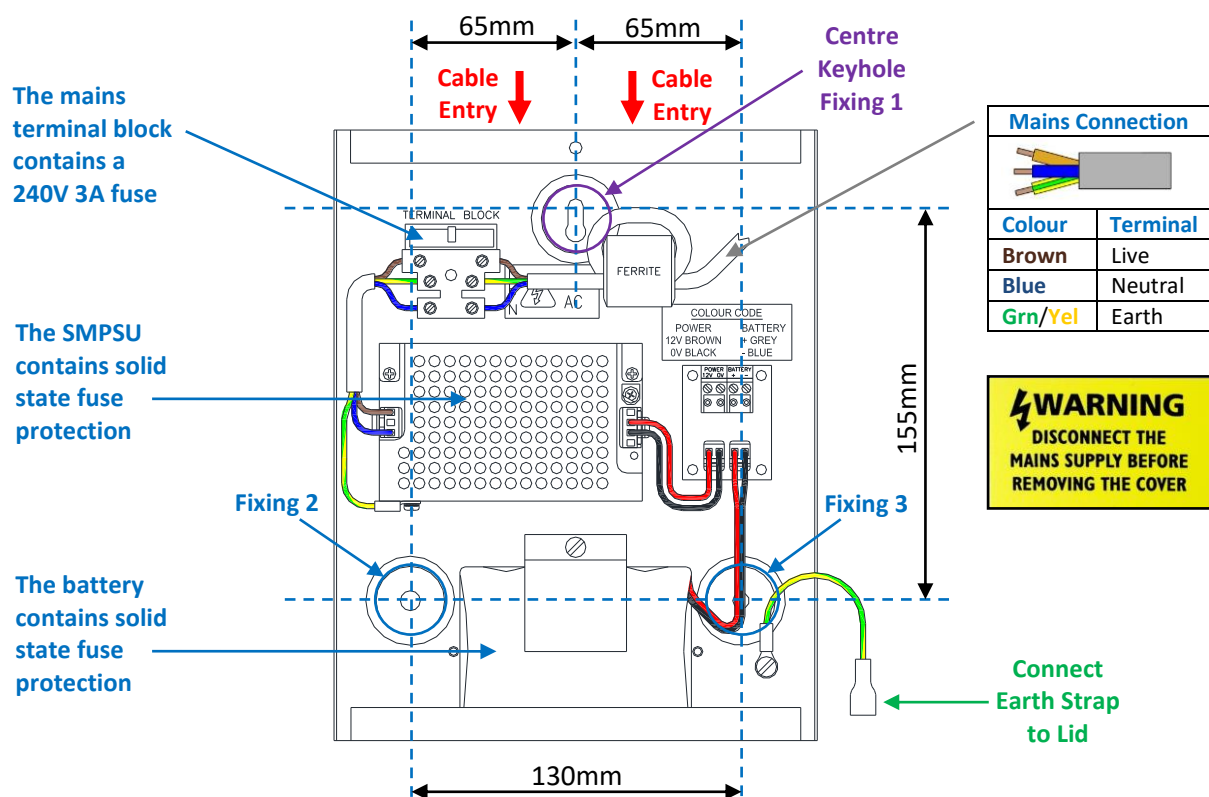
The power supply is pre-wired with 2.5m of 3 core 0.75mm² mains flex for connection to a local fused spur. The mains flex must be enclosed in 20mm conduit or mini cable trunking.

The fused spur must be installed in line with the latest Edition of IEE Regulations by a qualified Electrician.

The fused spur should be fitted with a 240V 3A BS1362 fuse.

It must be possible to isolate the mains supply from the power supply unit via a double-pole isolator switch located in the building's Consumer unit.

The protective Earth of the equipment must be connected to the protective Earth of the building.



LOW VOLTAGE CONNECTION

3 metres of 5 core 0.75mm² cable is provided to connect the power supply and battery to the Display Panel. This cable can be cut down in length but it **MUST NOT** be extended.

Use the colour code in the table below, this is also on a label inside the power supply and Display Panel.

Power		Battery	
12V	Brown	+	Grey
0V	Black	-	Blue

Note: the **Green/Yellow** Earth wire in the 5 core cable is not used

Connect the Safety Earth Strap to the spade inside the power supply unit lid before refitting.

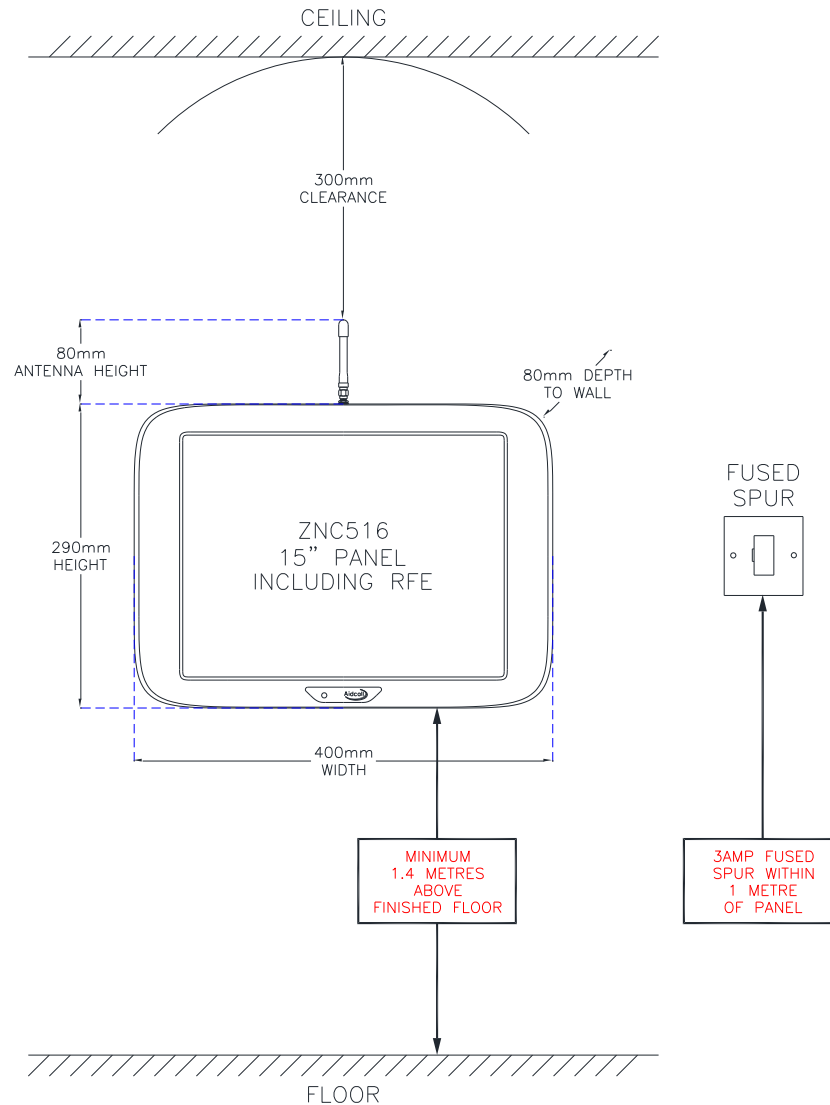


IMPORTANT: to avoid damage through accidental short circuit always unplug the battery from the termination PCB during installation and connection of the power supply wiring.

10. 15" DISPLAY PANEL INSTALLATION

The 15" Display Panel should be securely screw-fixed to the wall so the bottom of the panel is a minimum of 1.4 metres above floor level.

The 15" Display Panel requires connection to the mains supply via a local fused spur.



IMPORTANT: AVOID LOCATING THE 15" DISPLAY PANEL...



WITHIN 2 METRES OF
OTHER ELECTRONIC
EQUIPMENT



DIRECTLY ABOVE
A HEATER



IN DIRECT SUNLIGHT



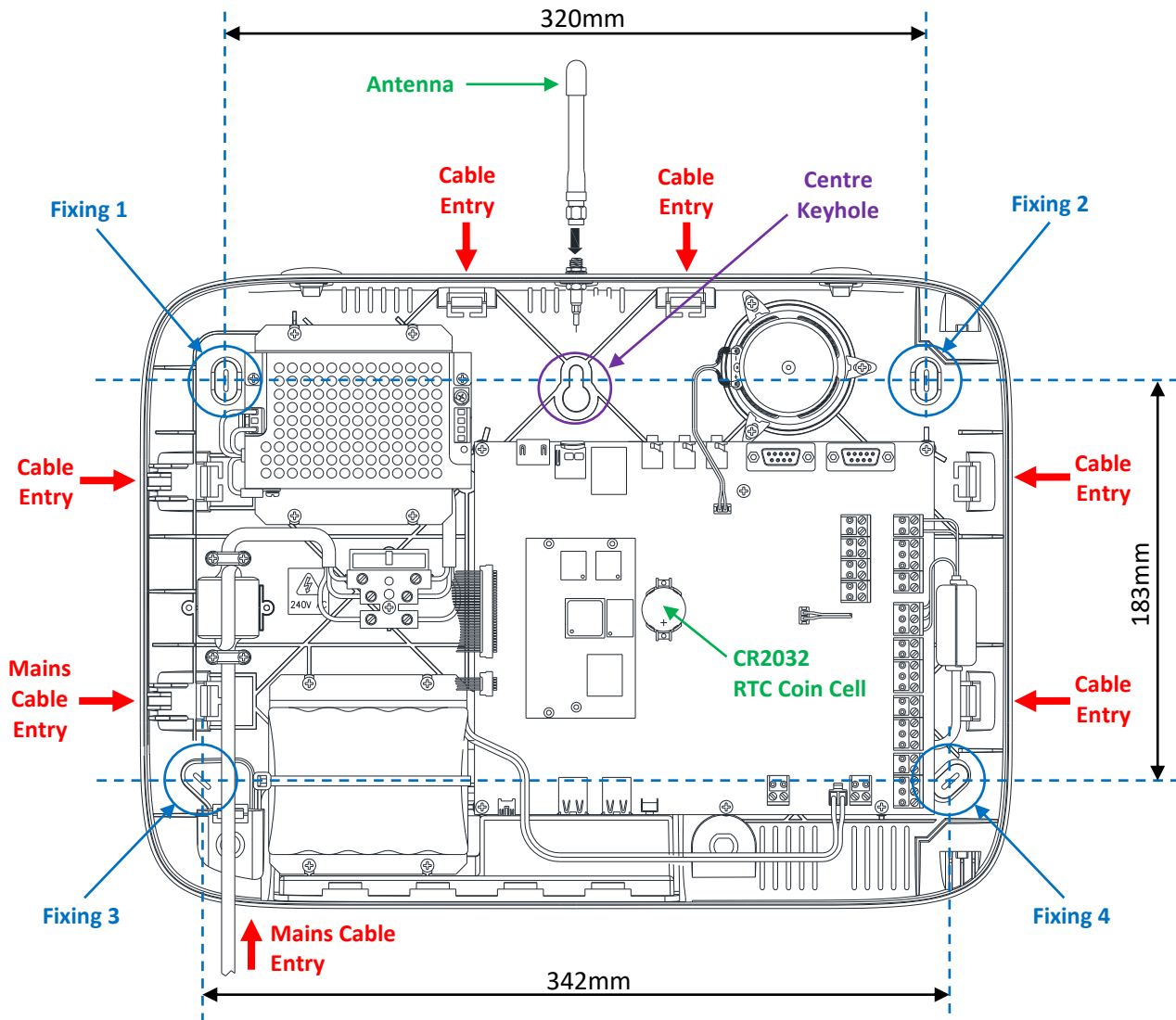
NEAR TO
SPLASHING WATER

10. 15" DISPLAY PANEL INSTALLATION

Select the most appropriate cable entry points for surface 16mm mini trunking and pre-drill the relevant knockout areas in the rear of the case before fixing to the wall.

Use the 15" Display Panel Wall Marking Temple (Aidcall Ref. No. SK0488) supplied with the panel to mark the 4 corner fixings on the wall in the desired position. Drill the wall and insert appropriate wall plugs before fixing the panel using 4 x No.8 x 1 ½" Pozi screws.

15" PANEL BASE



IMPORTANT: when marking out, drilling and fixing the panel to the wall take care not to accidentally detach the lid from its hinges or damage the LCD screen/leads.

ANTENNA

Carefully screw the SMA Helical Antenna onto the bulk head socket on the top face of the Display Panel.

CR2032 RTC COIN CELL

Fit the CR2032 real time clock battery backup in the holder marked BT1 during installation.

Note: fit with positive side facing up.



10. 15" DISPLAY PANEL INSTALLATION

MAINS & EARTH CONNECTION

The 15" Display Panel is pre-wired with 2.5 metres of 3 core 0.75mm² mains flex for connection to a local fused spur. **Always use one of the Cable Entry points identified below for the mains flex.**

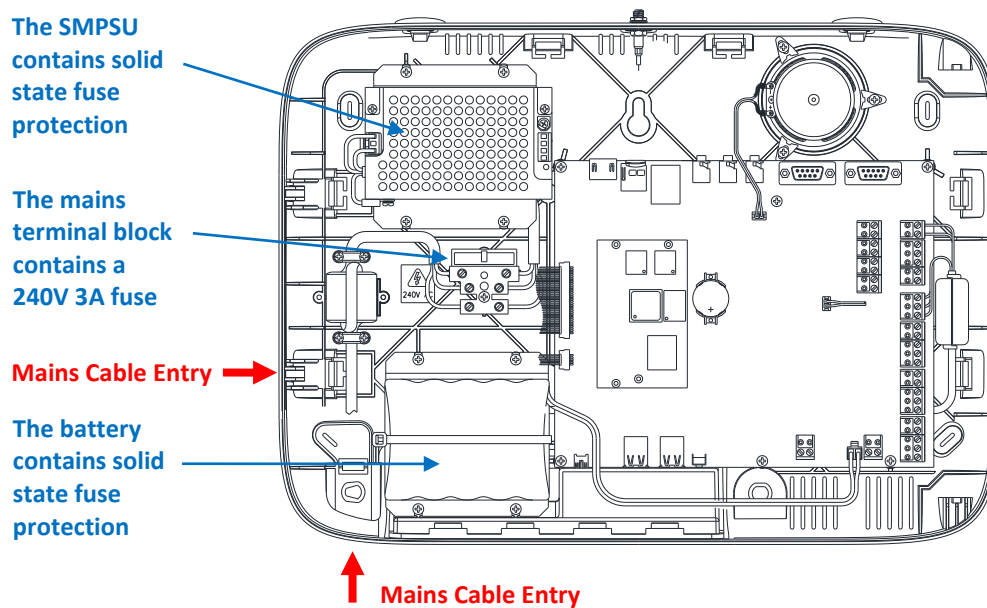
The mains flex must be enclosed in 20mm conduit or mini cable trunking.

The fused spur must be installed in line with the latest Edition of IEE Regulations by a qualified Electrician.

The fused spur should be fitted with a 240V 3A BS1362 fuse.

It must be possible to isolate the mains supply from the Display Panel via a double-pole isolator switch located in the building's Consumer unit.

The protective Earth of the equipment must be connected to the protective Earth of the building.



Connect the mains flex to the fused spur using the colour code below;

Mains Connection	
	
Colour	Terminal
Brown	Live
Blue	Neutral
Green/Yellow	Earth



11. TOUCHSAFE PRO DIGIMESH NETWORK

INTRODUCTION

DigiMesh is a proprietary peer to peer networking protocol for use in wireless end-point connectivity solutions. It provides the ideal solution for designs that require:

- Robust mesh networking
- A power-optimized protocol with support for battery-dependant applications
- Support for advanced mesh networking, including dense networks
- Peer to peer structure that allows easy network setup

The XBee 868LP devices (nodes) that are deployed in the Touch Safe Pro Nursecall System are fully certified modules that provide wireless operation across 30 channels within the 868MHz band. Of these channels 29 of them adopt the Listen-Before-Talk (LBT) and Automatic-Frequency-Agility (AFA) method that allows them to:

- Bypass the duty cycle limitation
- Avoid radio interference

The 30th channel, named the g4 band assumes a 100% duty cycle, disables the LBT and AFA and defaults itself to 5mW output power level. So transmissions occur blindly on this channel.

When discovering routes between devices on the mesh network the DigiMesh protocol uses an algorithm called “Ad-hoc On-demand Distance Vector” to find the quickest and most reliable route. This means that messages on the network will be sent to the recipient by the most efficient route at all times. If for whatever reason a node is lost from the network the network will try to self-heal by attempting to find alternative routes using other network nodes (RFE's).

TOUCHSAFE PRO NETWORK BRING-UP

Each time the master panel is reset or powered-up it attempts to discover all the remote panels on the mesh network. It does this in the following manner:

- Execute a Discover Node (DN) command to RFE_{xx} (remote panel wired RFE). This allows the master panel to build a route to the remote panel number xx. Where xx is the remote panel 2 to 32.
- Broadcast an Aggregate Address (AG) command to inform the remote panels to respond with a power-up event. This builds routes from the recipients back to the master panel.
- If no power-up event is received at the master panel then perform a unicast to the unresponsive remote panel to ask for a power-up event directly.

Note: the two types of message transmission used on the Touchsafe Pro Nursecall system are broadcast and unicast. Broadcast means a message to all nodes on the network whereas unicast means a message from one node to another.

Each time a remote panel is reset or powered-up it attempts to discover the master panel on the mesh network. It does this in the following manner:

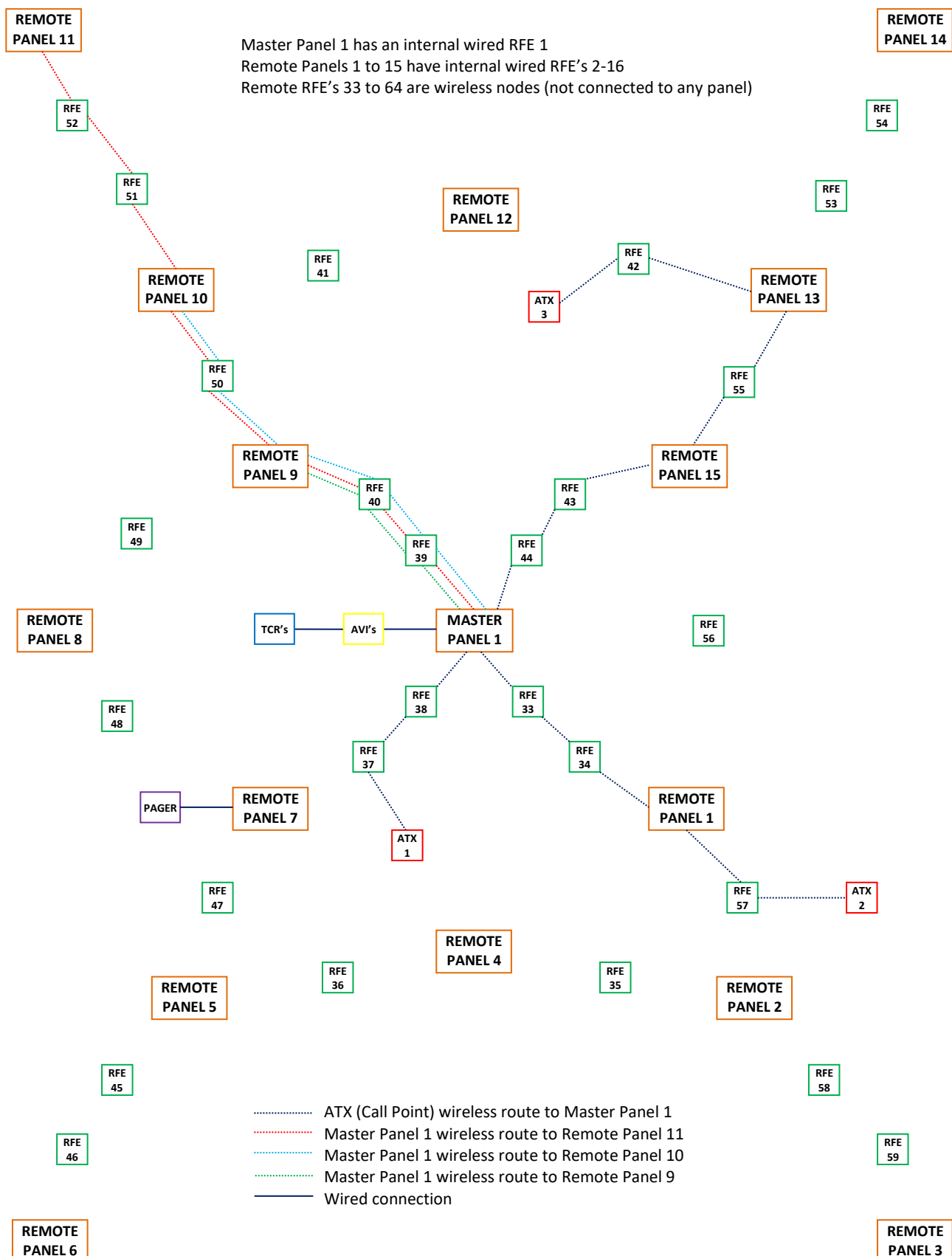
- Execute a Discover Node (DN) command to RFE01 (master panel wired RFE). This allows the remote panel to build a route to the master panel.
- Send a unicast power-up event to the master panel to let it know it is online.
- If no master panel is discovered it constantly repeats the discovery procedure every minute.

Each time any of the peripheral devices are reset or powered-up they attempt to discover the master panel on the mesh network. It does this in the following manner:

- Execute a Discover Node (DN) command to RFE01 (master panel wired RFE). This allows the remote panel to build a route to the master panel. See [Light Blue](#) line in Example 1 diagram (Page 16).
- If no master is found then the DN procedure is repeated every 30 seconds for 5 attempts.

11. TOUCHSAFE PRO DIGIMESH NETWORK

EXAMPLE 1: SYSTEM WITH 16 DISPLAY PANELS



11. TOUCHSAFE PRO DIGIMESH NETWORK

MESH NETWORK OPERATING SPECIFICATION

In terms of defining an operating specification for the Touch Safe Pro Nursecall system's mesh network the most important factors in this calculation are the following:

- Network hops – this is the number of nodes a network message must pass through in order for it to reach its destination
- Throughput (Kbps) – this is the amount of message data bits that can be passed across 2 points on the mesh network and is heavily dependent on the number of hops between the message initiator and the recipient.

Table 1 below details the number of network hops, message data throughput and delivery time.

TABLE 1: UNICAST HOPS VERSUS TIME

Configuration	Approx Data Throughput	Message Delivery Time (30 bytes)
Mesh unicast, 1 hop	35.6 kb/s	8.43mS
Mesh unicast, 2 hops	17.8 kb/s	16.85mS
Mesh unicast, 3 hops	11.9 kb/s	25.2mS
Mesh unicast, 4 hops	8.9 kb/s	33.7mS
Mesh unicast, 5 hops	7.1 kb/s	42.25mS
Mesh unicast, 6 hops	5.9 kb/s	50.85mS
Mesh unicast, 7 hops	5.1 kb/s	58.8mS
Mesh unicast, 8 hops	4.5 kb/s	66.67mS
Mesh unicast, 9 hops	4.0 kb/s	75mS
Mesh unicast, 10 hops	3.6 kb/s	83.3mS
Mesh unicast, 11 hops	3.24 kb/s	92.6mS
Mesh unicast, 12 hops	2.97 kb/s	101mS

11. TOUCHSAFE PRO DIGIMESH NETWORK

EXAMPLE 1

Based on a payload of 30 bytes, the timings in Table 1 above and the fact that the master panel sends out 3 commands (remote panel alarm message, pager message & AVI data) for every alarm at 250mS intervals the time taken to display 2 alarms on all remote panels is shown in Table 2 below;

TABLE 2: ROUTING TIME FOR 2 ALARM MESSAGES TO BE DELIVERED TO ALL REMOTE PANELS

Source	Destination	Hops	Panel Command Time + Delivery Time
Call Point (ATX) 1	Master Panel 1	3	0 + 25.2mS
Master Panel 1	Remote Panel 1	3	250ms + 25.2mS
Master Panel 1	Remote Panel 2	5	0 + 42.25mS
Master Panel 1	Remote Panel 3	8	0 + 66.67mS
Master Panel 1	Remote Panel 4	7	0 + 58.8mS
Master Panel 1	Remote Panel 5	5	0 + 42.25mS
Master Panel 1	Remote Panel 6	8	0 + 66.67mS
Master Panel 1	Remote Panel 7	3	0 + 25.2mS
Master Panel 1	Remote Panel 8	5	0 + 42.25mS
Master Panel 1	Remote Panel 9	3	0 + 25.2mS
Master Panel 1	Remote Panel 10	5	0 + 42.25mS
Master Panel 1	Remote Panel 11	8	0 + 66.67mS
Master Panel 1	Remote Panel 12	7	0 + 58.8mS
Master Panel 1	Remote Panel 13	5	0 + 42.25mS
Master Panel 1	Remote Panel 14	8	0 + 66.67mS
Master Panel 1	Remote Panel 15	3	0 + 25.2mS
Master Panel 1	Remote Panel 7 (Pager)	3	250mS + 25.2mS
Master Panel 1	AVI's	0	250ms + 0
			Sub Total = 1.49 seconds
Call Point (ATX) 2	Master Panel 1	5	0 + 42.25mS
Master Panel 1	Remote Panel 1	3	250mS + 25.2mS
Master Panel 1	Remote Panel 2	5	0 + 42.25mS
Master Panel 1	Remote Panel 3	8	0 + 66.67mS
Master Panel 1	Remote Panel 4	7	0 + 58.8mS
Master Panel 1	Remote Panel 5	5	0 + 42.25mS
Master Panel 1	Remote Panel 6	8	0 + 66.67mS
Master Panel 1	Remote Panel 7	3	0 + 25.2mS
Master Panel 1	Remote Panel 8	5	0 + 42.25mS
Master Panel 1	Remote Panel 9	3	0 + 25.2mS
Master Panel 1	Remote Panel 10	5	0 + 42.25mS
Master Panel 1	Remote Panel 11	8	0 + 66.67mS
Master Panel 1	Remote Panel 12	7	0 + 58.8mS
Master Panel 1	Remote Panel 13	5	0 + 42.25mS
Master Panel 1	Remote Panel 14	8	0 + 66.67mS
Master Panel 1	Remote Panel 15	3	0 + 25.2mS
Master Panel 1	Remote Panel 7 (Pager)	3	250mS + 25.2mS
Master Panel 1	AVI's	0	250mS
			Sub Total = 1.51 seconds
			Total = 3 Seconds

11. TOUCHSAFE PRO DIGIMESH NETWORK

Since the cancel function requires an extra message command to be sent back to the call point unit in order to display outstanding calls the timings for a cancel to all panels in Example 1 are as follows:

TABLE 3: ROUTING TIME FOR 2 CANCEL MESSAGES TO BE DELIVERED TO ALL REMOTE PANELS

Source	Destination	Hops	Panel Command Time + Delivery Time
Call Point (ATX) 1	Master Panel 1	3	0 + 25.2mS
Master Panel 1	ATX1 (Pending Calls)	3	250mS + 25.2mS
Master Panel 1	Remote Panel 1	3	250ms + 25.2mS
Master Panel 1	Remote Panel 2	5	0 + 42.25mS
Master Panel 1	Remote Panel 3	8	0 + 66.67mS
Master Panel 1	Remote Panel 4	7	0 + 58.8mS
Master Panel 1	Remote Panel 5	5	0 + 42.25mS
Master Panel 1	Remote Panel 6	8	0 + 66.67mS
Master Panel 1	Remote Panel 7	3	0 + 25.2mS
Master Panel 1	Remote Panel 8	5	0 + 42.25mS
Master Panel 1	Remote Panel 9	3	0 + 25.2mS
Master Panel 1	Remote Panel 10	5	0 + 42.25mS
Master Panel 1	Remote Panel 11	8	0 + 66.67mS
Master Panel 1	Remote Panel 12	7	0 + 58.8mS
Master Panel 1	Remote Panel 13	5	0 + 42.25mS
Master Panel 1	Remote Panel 14	8	0 + 66.67mS
Master Panel 1	Remote Panel 15	3	0 + 25.2mS
Master Panel 1	Remote Panel 7 (Pager)	3	250mS + 25.2mS
Master Panel 1	AVI's	0	250ms + 0
			Sub Total = 1.77 seconds
Call Point (ATX) 2	Master Panel 1	5	0 + 42.25mS
Master Panel 1	ATX 2 (Pending Calls)	5	250mS + 42.25mS
Master Panel 1	Remote Panel 1	3	250mS + 25.2mS
Master Panel 1	Remote Panel 2	5	0 + 42.25mS
Master Panel 1	Remote Panel 3	8	0 + 66.67mS
Master Panel 1	Remote Panel 4	7	0 + 58.8mS
Master Panel 1	Remote Panel 5	5	0 + 42.25mS
Master Panel 1	Remote Panel 6	8	0 + 66.67mS
Master Panel 1	Remote Panel 7	3	0 + 25.2mS
Master Panel 1	Remote Panel 8	5	0 + 42.25mS
Master Panel 1	Remote Panel 9	3	0 + 25.2mS
Master Panel 1	Remote Panel 10	5	0 + 42.25mS
Master Panel 1	Remote Panel 11	8	0 + 66.67mS
Master Panel 1	Remote Panel 12	7	0 + 58.8mS
Master Panel 1	Remote Panel 13	5	0 + 42.25mS
Master Panel 1	Remote Panel 14	8	0 + 66.67mS
Master Panel 1	Remote Panel 15	3	0 + 25.2mS
Master Panel 1	Remote Panel 7 (Pager)	3	250mS + 25.2mS
Master Panel 1	AVI's	0	250mS
			Sub Total = 1.8 seconds
			Total = 3.6 Seconds

11. TOUCHSAFE PRO DIGIMESH NETWORK

Please note that the figures in Tables 2 & 3 on the previous pages assume that no network retries are required down to interference. Interference will introduce delays due to the LBT and AFA algorithms used to work around the interference.

If you notice in Example 1 on page 16 the **Red** line indicates that an alarm message has been sent from the master panel 1 to remote panel 11. This message passes via remote panels 9 and 10 but the message does not actually get delivered to these panels. This is because unicast messages are sent from one point, the message initiator, with only one recipient. To get the alarm message to remote panels 9 and 10 separate unicast messages need to be sent to these panels individually. You can see in Example 1 that the lines in **Green** and **Light Blue** represent these separate unicast messages to these remote panels.

Please note all of these hop timing values are theoretical and have been taken from the XBee 868LP user manual where they have been stated with the provision that there is no interference present. In a typical network when multiple messages such as device polls, alarms and events are being sent around the network interference is going to occur. The level of this is determined by the size of the network and the usage of the system.

CONCLUSION

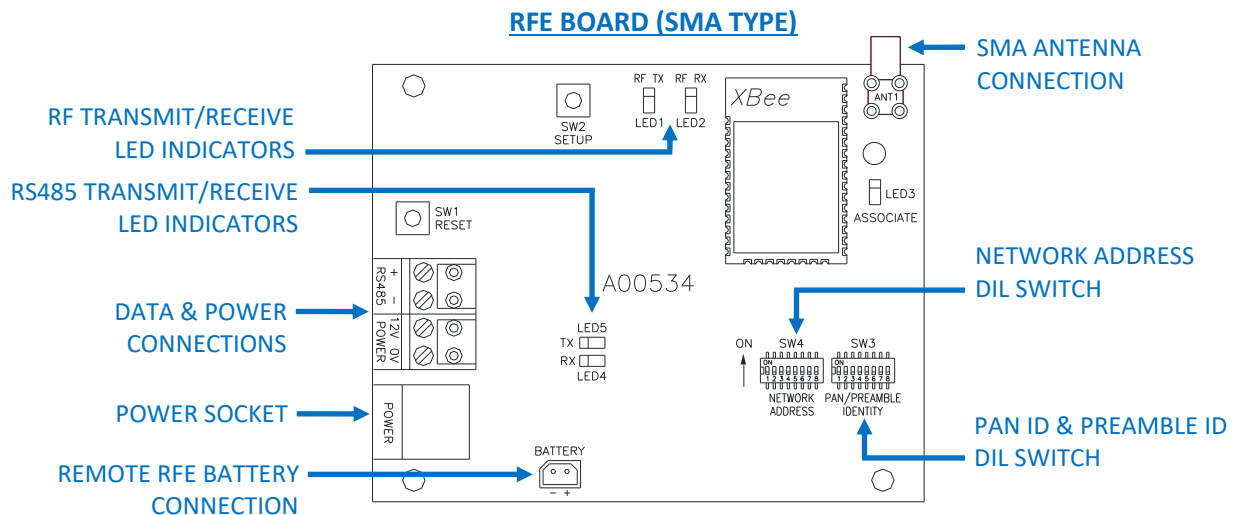
The time it takes for the master panel to send out commands is set to 250mS for each due to the response time of the Windows Compact Embedded 7 operating system. This time is set and as such the only other factor that effects the delivery time of the network messages is the number of hops. As you can see the delivery time for a message over 3 hops as opposed to 8 hops only differs by 41.52mS which is not very large. If this time difference is then applied over 16 panels the time difference is still only 664mS, with 32 panels on the system the times for delivery of the network messages to all panels should simply double. Based on the 1st alarm above in Tables 2 & 3 with no interference each alarm and cancel would take approximately 3 & 3.6 seconds respectively. Please note however this is a multiple so if we had 4 alarms triggered in very close succession it would take approximately 12s for all alarms to be displayed on the 32 panels. This would only take 6 seconds on a 16 panel system.

12. RADIO FRONT END (RFE) SETUP

A maximum of 64 RFE's can be fitted per site; up to 32 "Network Nodes" are connected to Display Panels plus a further 32 "Wireless Nodes" can be sited in remote locations throughout the building.

RFE's transmit and receive radio signals between all the wireless devices on the system; the total number and positioning of the RFE's will be determined by an RF site survey prior to commencing the installation. Each Display Panel has an RFE (Network Node), the remote RFE's (Wireless Nodes) each require a local mains supply or a hardwired connection to a 12V DC battery backed power supply – these do not require a data connection to a panel.

ZNC511 10" and ZNC516 15" Display Panels are factory fitted with internal RFE's, you will find them mounted on the rear of the LCD screen inside the panel lid.



NETWORK ADDRESS DIL SWITCH

DIL switches 1 to 6 are used to set the Network Address on each RFE board.

Network Nodes (i.e. RFE's with a data and power connection to Panel) addresses start at 0 for Panel 1 (Master) and continue sequentially to address 31 (Panel 32).

Wireless Nodes (i.e. RFE's with no data connection to a Panel) addresses start at 32 and continue sequentially to address 63 max. The Addresses are set in Binary as below;

DIL Switch No.	1	2	3	4	5	6	7	8
Binary Code	1	2	4	8	16	32	Batt	Spare
Panel 1	OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF
Panel 2	ON	OFF	OFF	OFF	OFF	OFF	ON	OFF
Panel 3	OFF	ON	OFF	OFF	OFF	OFF	ON	OFF
	↓	↓	↓	↓	↓	↓	↓	↓
Panel 32	ON	ON	ON	ON	ON	OFF	ON	OFF
Remote RFE 1	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF
Remote RFE 2	ON	OFF	OFF	OFF	OFF	ON	OFF	OFF
Remote RFE 3	OFF	ON	OFF	OFF	OFF	ON	OFF	OFF
	↓	↓	↓	↓	↓	↓	↓	↓
Remote RFE 32	ON	ON	ON	ON	ON	ON	OFF	OFF

DIL switch 7 enables/disables standby battery monitoring.

DIL switch 7 should be ON for RFE's powered from a Display Panel or a separate battery backed PSU.

DIL switch 7 should be OFF for RFE's powered from the mains supply with a standby battery connected.

12. RADIO FRONT END (RFE) SETUP

IMPORTANT: all RFE's must be assigned in the Display Panel(s) as **House Code 000** with ID's 001 to 032 for Network Nodes and ID's 033 to 064 for Wireless Nodes. See "ADD ATX" in the System Configuration section 16 of this manual.

PAN/PREAMBLE IDENTITY DIL SWITCH

The PAN ID is a number (0 - 31) to identify separate Networks on the same site. Separate buildings or wards on the same system can be set on different Networks.

The Preamble ID is a number (0 - 7) to identify the site. Separate sites with independent systems that are within radio range of each other should be set with different Preambles.

DIL switch SW3 is used to set the PAN ID and the Preamble ID on each RFE board.

The PAN ID is set from 0 to 31 using DIL switches 1 to 5.

The Preamble ID is set from 0 to 7 using DIL switches 6 to 8.

The ID's are set in Binary as below;

DIL Switch No.	1	2	3	4	5	6	7	8
Function	PAN ID					Preamble ID		
Binary Code	1	2	4	8	16	1	2	4
PAN ID 0	OFF	OFF	OFF	OFF	OFF			
PAN ID 1	ON	OFF	OFF	OFF	OFF			
PAN ID 2	OFF	ON	OFF	OFF	OFF			
	↓	↓	↓	↓	↓			
PAN ID 31	ON	ON	ON	ON	ON			
Preamble ID 0						OFF	OFF	OFF
Preamble ID 1						ON	OFF	OFF
Preamble ID 2						OFF	ON	OFF
						↓	↓	↓
Preamble ID 7						ON	ON	ON



All wireless devices i.e. Call Points, Pullcords, Door Monitors and Pendants must be setup with the same PAN ID and Preamble as the RFE's within in their local network or site.

LED INDICATORS

Each RFE board has LED indicators to show it is operating correctly;

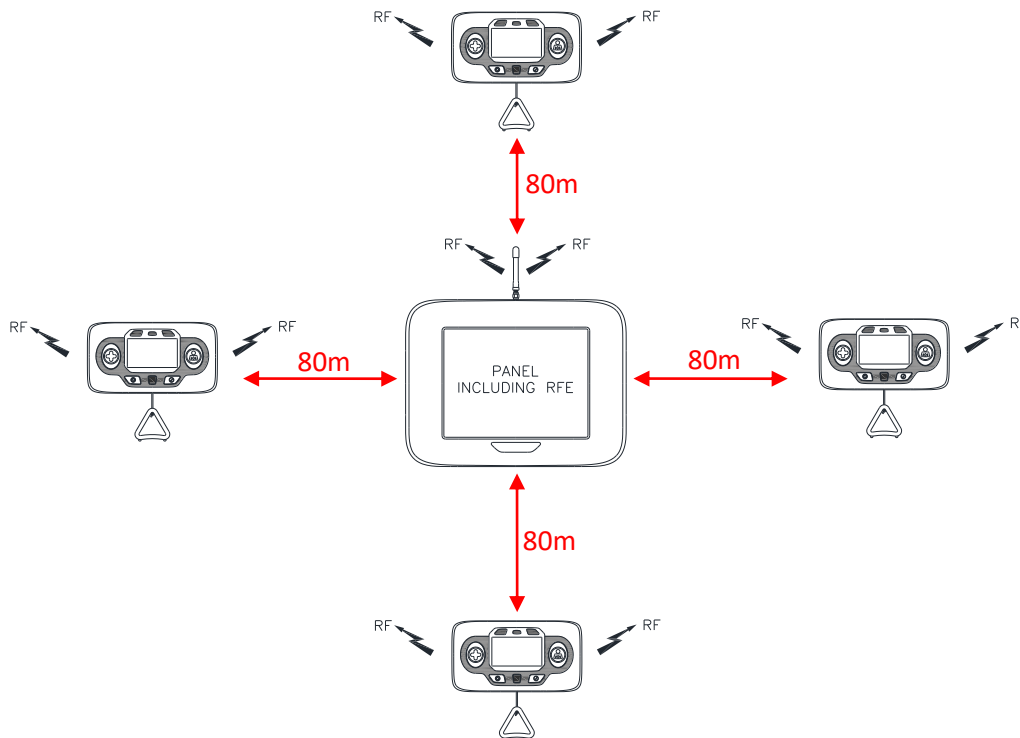
LED No.	PCB Ref.	Function
1	RF TX	Flash Red when Radio Signal Transmitted to RF Devices
2	RF RX	Flash Yellow when Radio Signal Received from RF Devices
3	ASSOCIATE	Flash Green when RFE's are communicating OK
4	RX	Flash Yellow when RS485 Data Received from Panel
5	TX	Flash Red when RS485 Data Transmitted to Panel

PUSHBUTTONS

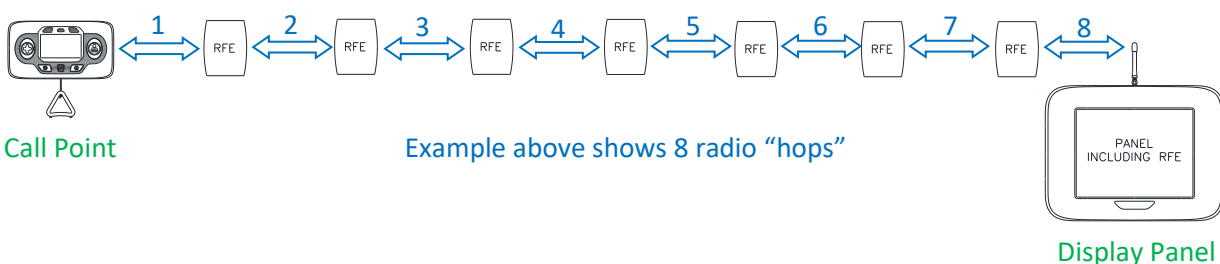
The RESET button will restart microprocessor and XBee RF module. The SETUP button will look for new devices added to the Network; this also happens automatically on power-up or following a RESET.

13. SINGLE PANEL SYSTEMS

A single Display Panel installation requires a local mains supply and at least one Network Node RFE to transmit/receive radio signals to/from all radio devices on the site. The Network Node RFE can be built into the panel or be wired from the panel and mounted separately. Ideally the Display Panel should be located centrally on the site to achieve best radio coverage, if this is not possible or the site is too large for a single RFE then additional remote RFE's (Wireless Nodes) can be added. A typical range of 80 to 100 metres between a Call Point and an RFE can be expected indoors, however, construction materials such as foil backed plasterboard, reinforced concrete or stone walls will reduce range. Environmental conditions such as high levels of transmission at nearby frequencies or emissions from other electrical equipment may further reduce range. Clear line-of-sight will give best range.



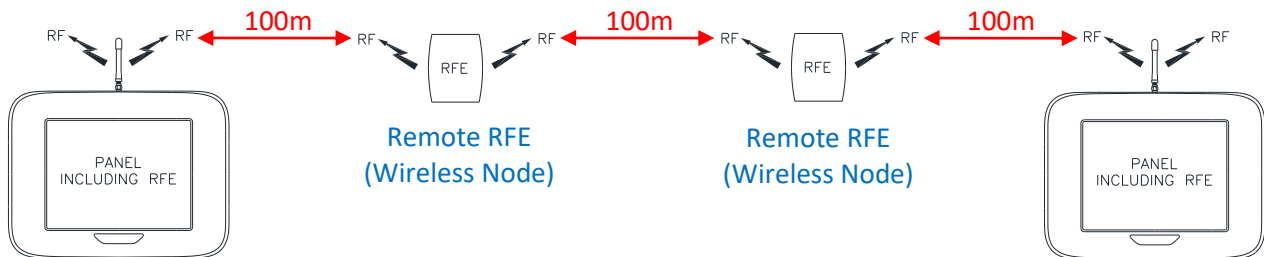
Up to 32 Wireless Nodes can be added per site to achieve full radio coverage. A typical range of 100 to 150 metres between an RFE to RFE or an RFE to a Display Panel can be expected indoors. Remote RFE's need a mains power connection only or they can be line powered from a battery backed 12V DC PSU. When planning an installation it is important that there are no more than 12 radio "hops" between any given Call Point, through the RFE's and back to the Display Panel.



Each radio "hop" will incur a delay as the signal is received and re-transmitted. With the maximum of 12 hops it will take 101mS for the call to be displayed on the panel.

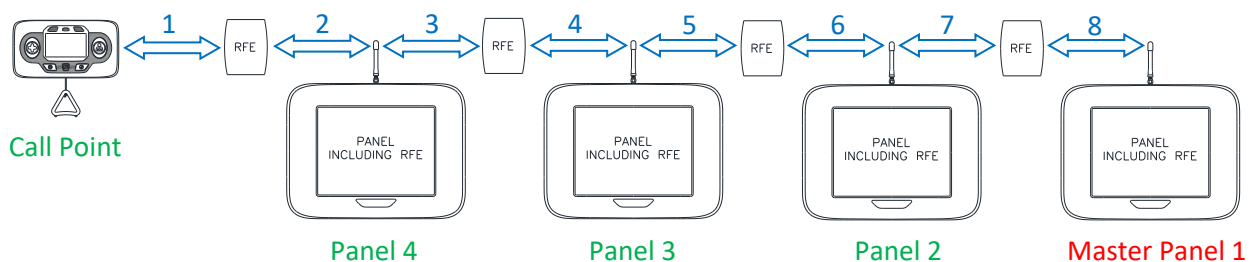
14. MULTI PANEL SYSTEMS

Up to 32 Display Panels can be installed on the same site; each panel requires a mains supply and a Network Node RFE. Panels must be within radio range of each other (100 to 150 metres typical indoors) otherwise additional remote RFE's (Wireless Nodes) will be required to bridge the gaps in between.



Up to 32 Wireless Nodes can be added per site to achieve radio coverage between multiple panels and all radio devices on the site. These remote RFE's need a mains power connection only or they can be line powered from a battery backed 12V DC PSU. When planning an installation it is important that there are no more than 12 radio "hops" between any given Call Point, through the RFE's (Network or Wireless) and back to the Master Panel (ID 1).

Example below shows 8 radio "hops"

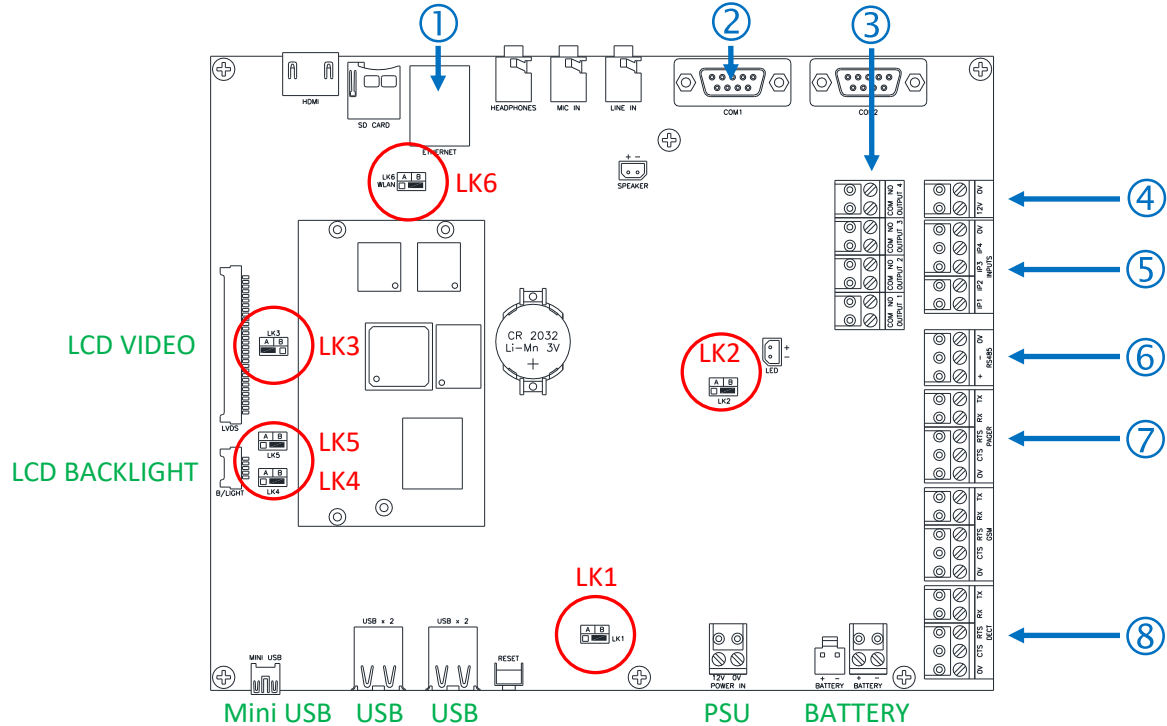


15. ANCILLARY CONNECTIONS & LINK SETTINGS

Although Call Points, Pullcords, Pendants and Door Monitors operate wirelessly there are some optional parts of the Nursecall system that must be wired to the Display Panel; these include a Call Logger, external RFE's, Telecare Receivers (TCR's), Over Door Lamps (AVI's), Radio Pagers and DECT telephones.

Connections are made to the main board inside the Display Panel – see below;

PCB Jumper Links will be factory set and should not normally be moved – see table for correct positions.



Port	Function	Cable Type
①	Ethernet Port – for connection to a local PC with Call Logger software	RJ45 Patch Lead
②	Com 1 – RS232 Port for connection of GSM modem	9DB Lead
③	4 Relay Outputs – normally open clean contact general purpose outputs	8 Core
④	12V DC Output – for powering an external RFE and up to 8 TCR's max	As required
⑤	4 Inputs – switched 0V general purpose inputs	4 Core
⑥	RS485 Port – common bus connection for RFE's, AVI's and TCR's	8 Core
⑦	RS232 Pager Port – for connection of Bluebell, Astralink or Maxpage interface	8 Core
⑧	RS232 DECT Port – for connection of Kirk Fusion CCM DECT interface	8 Core

Link	Function	Default
LK1	5V Switch Bypass: A = 5V Switch Bypass & B = No 5V Switch Bypass	Position B
LK2	Debug/Power LED Driver: A = Debug & B = Power LED Driver	Position B
LK3	LVDS Display Touch: A = LVDS Touch Disable & B = Standard Touch Enable	Position A
LK4	Display Contrast Control: A = Win CE Module & B = Cortex Slave MCU	Position B
LK5	LVDS Display SPI: A = SPI Disable & B = SPI Enable	Position B
LK6	WiFi: A = Enable & B = Disable	Position B

ETHERNET PORT

If a local PC running Aidcall's Call Logger software is being installed then this should always be connected to the Ethernet Port in the Master Panel (ID 1) only. All calls are processed by the Master Panel; if a Call Logger is connected to any other panel on the network then call data not routed and displayed on these panels will not be logged. A 3 metre Cat5e patch lead is supplied with the Call Logger kit.

15. ANCILLARY CONNECTIONS

COM1 RS232 PORT

A GSM Modem can be connected to the COM1 Port on the Master Panel (ID 1) to perform remote diagnostics. The cable run between the Panel and the GSM Modem should not exceed 5 metres. Connection details and setup information will be supplied with the GSM Modem (Aidcall P/No. ZNC520).

RELAY OUTPUTS

Four normally open clean contact relay outputs are available; Output 1 = common Emergency, Output 2 = common Cardiac. *Relay outputs 3 & 4 are currently not used.*

INPUTS

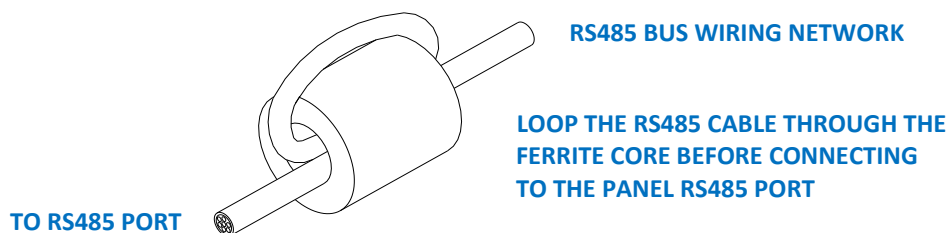
Four inputs can be configured during setup for custom applications. *These are for future use only and are currently not used.*

RS485 PORT

If the Display Panel does not have an internal RFE then an external Line Powered RFE can be connected locally on the RS485 Port of any panel on the network.

If AVI's (Audio Visual Indicators) and TCR's (Telecare Receivers) are being installed then these MUST all be connected to the RS485 Port on the Master Panel (ID 1) only. AVI's and TCR's cannot be connected to the RS485 Ports on any other panels on the network.

The RS485 cable should be looped through a ferrite core before being connected to the RS485 Port inside the Display Panel. This will suppress any voltage transients induced on the RS485 Bus wiring and greatly reduce the likelihood of damage to the main CPU board.



A ferrite core is provided with each Touchsafe Pro panel - for additional ferrite cores order Aidcall P/No. T06050.

RS232 PAGER PORT

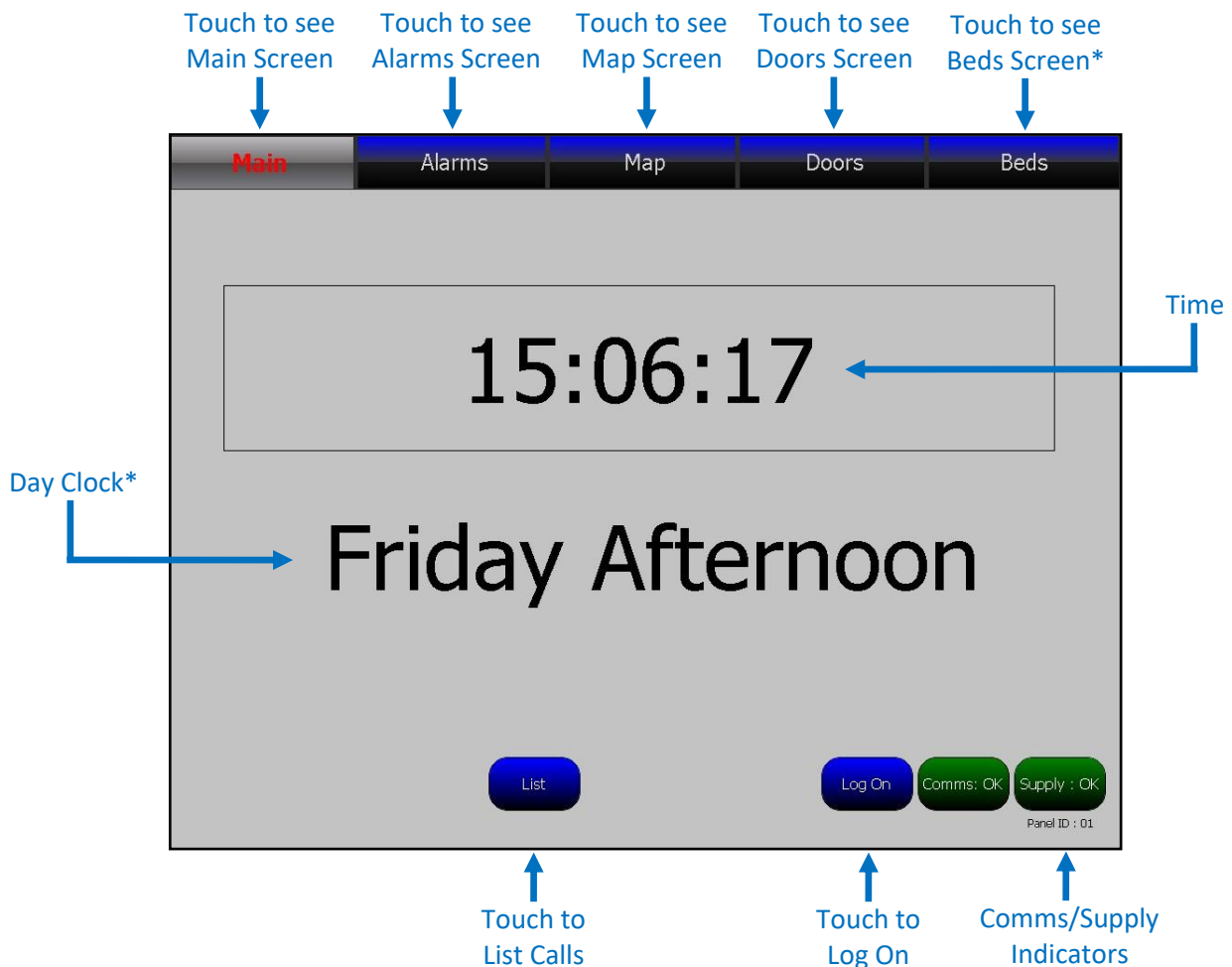
A Bluebell, Astralink or Maxpage interface can be connected to the RS232 Pager Port on any panel on the network. The cable run between the panel and the pager should not exceed 20 metres. The panel ID number with the pager connected must be setup on the Master panel configuration; the pager interface type must be set on the local panel configuration. Connection details and setup information will be supplied with the relevant Pager Kit.

RS232 DECT PORT

A Kirk Fusion CCM DECT interface can be connected to the RS232 DECT Port on any panel on the network. The cable run between the panel and the DECT interface should not exceed 20 metres. The panel ID number with the DECT connected must be setup on the Master panel configuration. Connection details and setup information will be supplied with the relevant DECT Kit.

16. SYSTEM CONFIGURATION

On power-up the main screen will display the time similar to below. The buttons along the top of the screen are coloured **BLUE** on the Master panel, all other panels on the network will have **YELLOW** buttons.



Note: the **Beds button will only be displayed when the Bed Status feature is enabled in the Call Points and the **Day Clock** can be turned on/off from the Panel Details setup screen.*

LOG ON OPTIONS

Touch the **Log On** button and an “**Enter Password**” box will open on the screen as shown below...

There are 3 Log On options; Engineer, Manager or Matron. Choose the required Log On from the pull down box.

The factory default passwords are:

Engineer: 2371
Manager: 9876
Matron: 1234

Enter the required password and touch the Log On button in the bottom left hand corner of the keypad.

The screen will change to show the parameters available for each Log On – see the following page for details.



Note: Engineers and Managers can change the factory default passwords

16. SYSTEM CONFIGURATION

ENGINEERS LOG ON



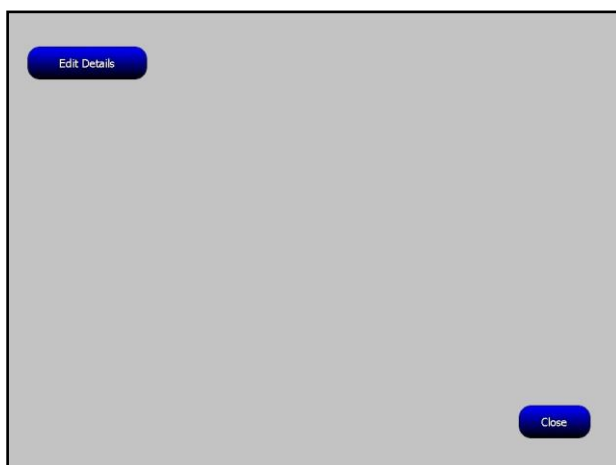
Engineers have full access to change all system parameters

MANAGERS LOG ON



Managers have limited access to change system setup. They can also copy data to/from an SD card and connect the GSM modem for remote Engineer diagnostics.

MATRONS LOG ON



Matrons have access to edit Client details only

The function of each button on the Engineers Log On screen is described on the following pages...

16. SYSTEM CONFIGURATION

EDIT DETAILS

Filter

Device (Unfiltered) Count : 99

Residents Name (Max 16 Characters)

Room Name (Max 16 Characters)

Notes (Max 100 Chars)

House Code

Unit ID

Active Panels

Zone Name

Map

x: y:

Reminder Enabled

Reminder Type

Interval

Duration

Start

Save

Close

Add ATX

Config Maps

Active Panels

Panel Details

Set IP Address

View Comms

Calibrate Touch

Paging Setup

Notes

Follow Me

Close

This allows the editing of a client's details. *Note: edits performed on the Master panel are saved and sent to all other panels on the Network.*

Select the **Device** to edit from the pull-down box (or type its ID in the **Filter** box).

Use the keypad to change the Residents/Room Name.

IMPORTANT: the Room Name must be unique.

Text entered in the **Notes** box will be displayed on-screen by touching the banner for a call or Reminder.

Select which **Zone/Ward/Bed** AVI's you want to operate with this call point.

Select if you want a **Reminder Enabled**, choose the **Reminder Type** as **Fixed** (for Medication at fixed times) or **Variable** (for Reminders at fixed intervals). Set the **Start** time for the first reminder, the **Interval** between reminders and **Duration** (time until last reminder) from the pull-down boxes.

Touch **Save** when done then **Close** to exit.

PANEL SETTINGS

Screen Saver Image

TouchsafePro.jpg

ScreenSaver Timeout(Minutes)

5

Volume(%)

0

Accept Timeout(Minutes)

1

Mute All Alarms Timeout (Minutes)

2

Bed Clean Refresh Time

10

☒ Display ATX Removed From Bracket

☒ Display PearPush Removed

☒ Active Caller Upgrade

☐ Screen Taps Off

☒ Screen Taps Soft

☐ Screen Taps Loud

Devices : 1 Total

Filter

000001_01

Cardiac Tone

None

Emergency Tone

None

Assist Tone

None

☒ Use HTM Tones

Call Tone

None

Monitoring Tone

None

Remove

Save

Close

Add ATX

Config Maps

Active Panels

Panel Details

Set IP Address

View Comms

Calibrate Touch

Paging Setup

Notes

Follow Me

Close

Select the **Screen Saver Image** from the pull-down box and set the **Screen Saver Timeout** in the box below.

Set the **Volume** of the panel alarm tones from 0 (off) to 100% (full volume) in 20% increments.

Set the **Accept Timeout** - this the duration for which a call can be in the 'Accept' state during which time the associated audible tones are silenced and the alarm has a lower priority.

Set the **Mute All Alarms Timeout** - this is the duration for which all audible tones can be silenced.

Set the **Bed Clean Refresh Time** - this is the interval at which the "Bed To Be Cleaned" event will be reported. It can be set as 10, 20 or 30 minutes;

If set as 10 it will report at 00, 10, 20, 30, 40 & 50
If set as 20 it will report at 00, 20 & 40
If set as 30 it will report at 00 & 30

Display ATX Removed From Bracket – if a Call Point is removed from its wall bracket an alarm will be displayed on the panel(s).

Display Pear Push Removed – if a Pear Push is unplugged from its Call Point an alarm will be displayed on the panel(s).

Active Caller Upgrade – audible tones on the AVI's and Panels will be upgraded to the next level of call every 120 seconds.

Screen Taps – select one of 3 options (off/soft/loud) for the sound that is made when the screen is touched.

Use HTM Tones – If checked the system audible tones for alarms are played from the processor. If unchecked the system will play .wav files from the windows operating system. Default tones will be played for each alarm level unless an alternative tone is selected from the drop down boxes.

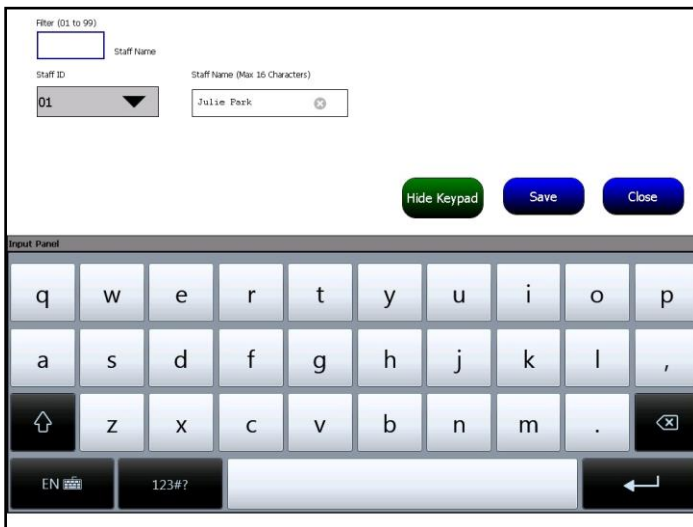
Remove – this can be used to remove a device that has previously been on the system and has reported through as a fault or cannot be removed from the screen for some other reason. The number of active devices on the system is shown above the grey pull-down box. In order to reduce the number of options included in the pull-down box a Filter is provided. For example if a failed unit is from House Code 123, then entering 123 into the Filter box will show only devices that start with 123. When the desired unit is selected; press the Remove button. An “Are you sure you want to Delete prompt” will appear, if ‘Yes’ is selected the device will be removed from the Active Device List until a new alarm/poll is received from the device. This will prevent the unit from reporting through as a “Please Test” every 2 hours. Once this action is complete you can remove the event from the display by pressing ‘Accept’ on the associated Alarm Banner on the main screen. If ‘No’ is selected the device will remain on the Active Devices List and will report as a fault every 2 hours until the fault is rectified.

Push Notifications Enabled – the Push Notification feature can be enabled/disabled by the Manager using this check box. If Push Notifications are enabled in the Engineers Setup then they will always be re-enabled when the panel is restarted.

Touch **Save** when done then **Close** to exit.

16. SYSTEM CONFIGURATION

STAFF ID



This allows a staff name to be assigned to an Infra-Red Buddy ID or a Bluebell Pager ID.

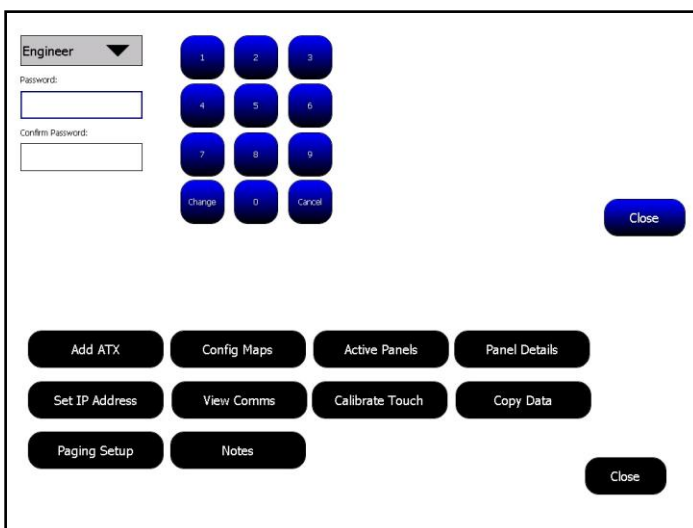
When these devices are used (to clear an alarm call down for example) the staff name is recorded against that event in the System Log.

Select the [Staff ID](#) you want to assign a name to from the pull-down box (or type the ID in the [Filter](#) box). The Staff ID's are assigned from 01 to 99.

Use the keypad to enter the [Staff Name](#).

Touch [Save](#) when done then [Close](#) to exit.

CHANGE PASSWORD



Passwords are a 4 digit number and can be changed if the user has permission.

Note: passwords changed on the Master panel are saved and sent to all other panels on the Network.

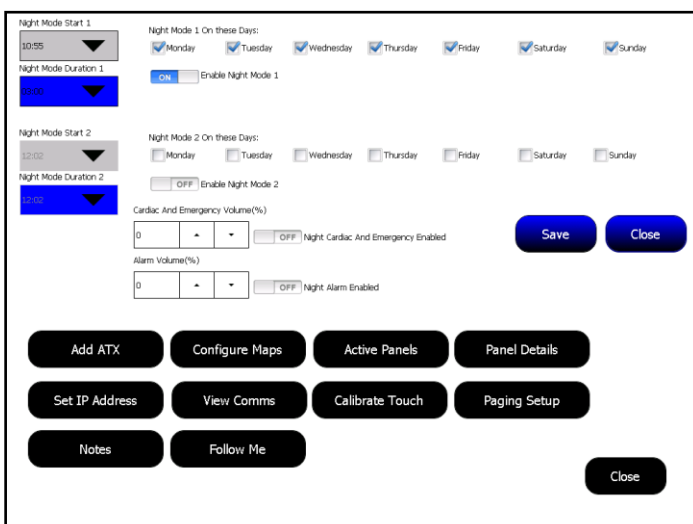
An Engineer can change all passwords, a Manager can change the Manager and Matron passwords only and a Matron cannot change passwords.

Select the [User](#) password you want to change from the pull-down box.

Use the keypad to enter the new password (4 digits) into the [Password](#) box then enter the same number again in the [Confirm Password](#) box below.

Press the [Change](#) button then [Close](#) to exit.

NIGHT MODE



The panel can be set to operate the same 24 hours a day (i.e. Day Mode) or operate differently in either Night Mode 1 or Night Mode 2.

Set the [Night Mode 1 Start](#) time, [Duration](#) and [Days](#) on which it applies and repeat for Night Mode 2 if required. There are buttons to [Enable Night Mode 1](#) or [Enable Night Mode 2](#) independently or both together.

If Night Mode 2 starts while Night Mode 1 is active then Night Mode 1 will take priority.

If the panel is operating in Night Mode it is possible to set the Cardiac and Emergency Volume to 0, 20% or 40%. This will override the volume setting for the panel in "Panel Settings". The same option is also available for all other Alarm Volumes in Night Mode.

Press the [Save](#) button then [Close](#) to exit.

16. SYSTEM CONFIGURATION

ZONE ROUTING

Zones: First Floor

Day Enabled: OFF

Night Enabled: OFF

Display Day Time Zone Calls on these Panels:

Display Night Time Zone Calls on these Panels:

Save Close

Add ATX Config Maps Active Panels Panel Details

Set IP Address View Comms Calibrate Touch Copy Data

Paging Setup Notes

Close

Calls from each zone can be set to display on specific panels during the day and different panels at night.

Select the **Zone** from the pull-down box, set the **Day Enabled** switch on and tick the check boxes for the **Day Time Panels** you want this zone calls to be displayed on during the day.

Set the **Night Enabled** switch on and tick the check boxes for the **Night Time Panels** you want this zone calls to be displayed on during the night.

Repeat for each zone in the pull-down box.

Note: the night start time and duration is set in the Night Mode option.

Press the **Save** button then **Close** to exit.

IMPORTANT: zoned calls will override common calls.

COMMON CALLS

Grouped Common Call: Cardiac

Day Enabled: OFF

Night Enabled: OFF

Display Day Time Common Calls on these Panels:

Display Night Time Common Calls on these Panels:

Save Close

Add ATX Config Maps Active Panels Panel Details

Set IP Address View Comms Calibrate Touch Copy Data

Paging Setup Notes

Close

Common call types can be set to display on specific panels during the day and different panels at night.

Select the **Grouped Common Call** from the pull-down box, set the **Day Enabled** switch on and tick the check boxes for the **Day Time Panels** you want these call types to be displayed on during the day.

Set the **Night Enabled** switch on and tick the check boxes for the **Night Time Panels** you want these call types to be displayed on during the night.

Repeat for other call types in the pull-down box.

Note: the night start time and duration is set in the Night Mode option.

Press the **Save** button then **Close** to exit.

IMPORTANT: if common calls are being setup ensure that zoned calls (above) are disabled.

TELECARE

Add Telecare Device:

Filter:

Room (Unfiltered) Count:

Location ID:

Enable Location:

Save Cancel

Set IP Address View Comms Calibrate Touch Paging Setup

Notes Follow Me PMV

Close

Delete Telecare Device:

Room:

House Code:

ID:

Delete Close

The system can have 169MHz TCR's and/or 869MHz NTR's installed if the Panel has V4.01 software onward.

Each 169MHz/869MHz Telecare Device has a unique Radio ID printed on its product label. Use the keypad to enter this number in the **Add Telecare Device** box then type a zone in the **Filter** box. Select the Call Point ID being used to cancel the call from the **Room** pull-down box then press **Save**.

If a Location Pendant is being added, touch the **Enable Location** checkbox so it is set with a Tick ✓. Use the keypad to enter the **Location ID** (1-99) previously programmed into the Location Pendant.

To **Delete a Telecare Device** select the required ID (prefixed with a "T") from the pull-down list box. The room, house code and ID will be displayed for the device chosen, if correct press **Delete**.

Press the **Close** button to exit.

16. SYSTEM CONFIGURATION

SYSTEM LOG

Zone	HC	ID	Type	Receive Time	Receive Date	Cancel Time	Cancel Date	Location	Staff ID
Version C AT76	555	003	Power Up Event Normal	17:59:54	06/01/15	---	---	ATX 003	---
Grahams ATX	799	002	Power Up Event Normal	17:59:54	06/01/15	---	---	Grahams room 2	---
Version C AT76	555	004	Power Up Event Normal	17:59:54	06/01/15	---	---	ATX 004	---
Version C AT76	555	005	Pull Cord Power Up Normal	17:59:48	06/01/15	---	---	ATX 001 P2	---
door monitors	888	003	Door Status Closed	17:59:47	06/01/15	---	---	door001	---
door monitors	888	001	Door Status Closed	17:59:46	06/01/15	---	---	door001	---
door monitors	888	001	Power Up Event Normal	17:59:45	06/01/15	---	---	door001	---
door monitors	888	003	Power Up Event Normal	17:59:45	06/01/15	---	---	door001	---
Olney Ward	022	001	Power Up Event Normal	17:59:33	06/01/15	---	---	Bedroom001	---
Version C AT76	555	002	Power Up Event Normal	17:59:31	06/01/15	---	---	ATX 002	---
door monitors	888	002	Door Status Closed	17:59:29	06/01/15	---	---	door002	---
Version C AT76	555	001	Pull Cord Power Up Normal	17:59:28	06/01/15	---	---	ATX 001 P3	---
door monitors	888	002	Power Up Event Normal	17:59:28	06/01/15	---	---	door002	---
Battery tests	002	001	Pull Cord Power Up Normal	17:59:24	06/01/15	---	---	unit 001 P1	---
Battery tests	002	001	Pull Cord Power Up Normal	17:59:17	06/01/15	---	---	unit 001 P2	---
Version C AT76	555	004	Power Up Event Normal	17:54:50	06/01/15	---	---	ATX 004	---
Grahams ATX	799	002	Power Up Event Normal	17:54:31	06/01/15	---	---	Grahams room 2	---
Version C AT76	555	002	Power Up Event Normal	17:54:30	06/01/15	---	---	ATX 002	---
Version C AT76	555	003	Power Up Event Normal	17:54:30	06/01/15	---	---	ATX 003	---
Olney Ward	022	001	Power Up Event Normal	17:54:29	06/01/15	---	---	Bedroom001	---
Version C AT76	555	001	Emergency	17:53:53	06/01/15	17:53:39	06/01/15	ATX 001	---
Battery tests	002	001	Call	17:52:40	06/01/15	17:54:11	06/01/15	unit 001	---
Olney Ward	022	001	Cardiac	17:52:33	06/01/15	17:53:47	06/01/15	Bedroom001	---
Version C AT76	555	001	Emergency	17:51:58	06/01/15	17:52:07	06/01/15	ATX 001	---
Battery tests	002	001	Call	16:49:56	06/01/15	16:50:03	06/01/15	unit 001	---
Olney Ward	022	001	Cardiac	16:48:49	06/01/15	16:49:30	06/01/15	Bedroom001	---
Version C AT76	555	001	Emergency	16:48:06	06/01/15	16:48:14	06/01/15	ATX 001	---
Version C AT76	555	001	Nurse Present	16:47:52	06/01/15	16:47:58	06/01/15	ATX 001	---
Version C AT76	555	001	Emergency	15:30:27	06/01/15	15:30:33	06/01/15	ATX 001	---
Version C AT76	555	001	Emergency	15:30:13	06/01/15	15:30:18	06/01/15	ATX 001	---
Version C AT76	555	001	Emergency	15:29:55	06/01/15	15:29:59	06/01/15	ATX 001	---
Version C AT76	555	001	Emergency	15:29:34	06/01/15	15:29:41	06/01/15	ATX 001	---
Version C AT76	555	001	Emergency	15:29:09	06/01/15	15:29:14	06/01/15	ATX 001	---
Version C AT76	555	001	Emergency	15:28:49	06/01/15	15:28:53	06/01/15	ATX 001	---
Version C AT76	555	001	Emergency	15:28:31	06/01/15	15:28:36	06/01/15	ATX 001	---
Version C AT76	555	001	Emergency	15:28:06	06/01/15	15:28:11	06/01/15	ATX 001	---

Select a date from the pull-down box and choose a filter option to narrow the search and then press **Show**.

This will display all events on the panel for the selected date/filter.

Press the **Close** button to exit.

ZONED PAGERS

Zones
▼

Cardiac
Emergency
Assistance
Call
Nurse Present
Maintenance
Monitoring
Beds

Zone Day
000

Zone Night 1
000

Zone Night 2
000

Save
Close

Input Panel

q	w	e	r	t	y	u	i	o	p
a	s	d	f	g	h	j	k	l	,
↑	z	x	c	v	b	n	m	.	⌫
EN 123#?									

The scheme must have a Maxpage or Astra Transmitter with J25/Scope Pagers or a Bluebell system installed.

Select a **Zone** from the pull-down box then enter the 3 digit Pager ID's¹² you want to be notified during the **Day**, **Night 1** and **Night 2** modes in the boxes alongside each call type (**Cardiac**, **Emergency**, etc.).

The keypad will be displayed when you click on a box to enter a pager ID – you may need to press the **123#?** button to select the numeric keypad.

Press the **Save** button then **Close** to exit.

¹²Note: only enter the last 3 digits of the Pager ID's.

IMPORTANT: zoned pager calls will override common pager calls.

COMMON PAGERS

Group Day
Group Night 1
Group Night 2

Cardiac
Emergency
Assistance
Call
Nurse Present
Maintenance
Monitoring
Beds

000
000
000
000
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000
000
000
000
000

Save
Close

Input Panel

q	w	e	r	t	y	u	i	o	p
a	s	d	f	g	h	j	k	l	,
↑	z	x	c	v	b	n	m	.	⌫
EN 123#?									

The scheme must have a Maxpage or Astra Transmitter with J25/Scope Pagers or a Bluebell system installed.

For each call type group (**Cardiac**, **Emergency**, etc.) enter the 3 digit Pager ID's¹² in the boxes alongside for the ones you want to be notified during the **Day**, **Night 1** and **Night 2** modes.

The keypad will be displayed when you click on a box to enter a pager ID – you may need to press the **123#?** button to select the numeric keypad.

Press the **Save** button then **Close** to exit.

¹²Note: only enter the last 3 digits of the Pager ID's.

IMPORTANT: if common pagers are being setup ensure that zoned pagers (above) are disabled.

16. SYSTEM CONFIGURATION

DATE/TIME

Date: Thursday, February 12, 2015 Time: 16:29:13

Timezone: (UTC) Dublin, Edinburgh, Lisbon, London

☒ Automatically Adjust Clock For Daylight Saving

Save Close

Add ATX Config Maps Active Panels Panel Details

Set IP Address View Comms Calibrate Touch Copy Data

Paging Setup Notes

Close

The date and time must be set on the Master Panel (1). Once set, the date and time is sent to all other panels on the network every minute to synchronise them.

Select the [Date](#) and [Time](#) from the pull-down boxes then select the local [Timezone](#). Tick the checkbox to enable [Automatic Daylight Saving](#) adjustments every March and October

Press [Save](#) and the time & date is synchronised from the Master to all other panels every minute.

Press the [Close](#) button to exit.

COPY DATA

Copy All To USB

Copy Logs To USB

Current Directory : 0 %

Copy All From USB

Copy JPG From USB

Close

Add ATX Config Maps Active Panels Panel Details

Set IP Address View Comms Calibrate Touch Copy Data

Paging Setup Notes

Close

When Master Panel (1) has been setup, plug a USB memory stick into one of the USB Ports on the lower face of the Panel. Press [Copy All To USB](#) and wait until the [Current Directory](#) box shows 100%. Press [Close](#) and remove the memory stick.

Insert the memory stick into another Panel on the Network, open the "Copy Data" option and select [Copy All From USB](#). Wait until the [Current Directory](#) box shows 100% then press [Close](#) and remove the memory stick. Check panel data and edit as required.

Use the [Copy Logs To USB](#) to export all the system log records from the Panel.

Use the [Copy JPG From USB](#) to import screen savers. These must be stored on the root directory of the USB memory stick, they should be 1024 x 768 pixels and the file size should be as small as possible (~100k typical).

Press the [Close](#) button to exit.

GSM MODEM

Connect

Accept Call From: 07717123456 Remote IP Address: 62.102.103.104 SIM Number: 00353872313697

☐ Text Error to Caller ☐ ConnectToAidcall

Signal Strength

Error : Modem Signal Strength Error

Start Connection = false;

Modem Connected = false;

Force Shutdown = false;

Reset Modem

Save

Clear List

Please Check That a Modem is Connected, Then Press the 'Signal Strength' Button

The scheme must have a GSM Modem installed for the remote diagnostics feature to function.

Should you require Technical Support from an Engineer over the telephone they may request to access the Panel data via the GSM Modem.

To allow the GSM Modem connection you must press the [Connect](#) button when asked.

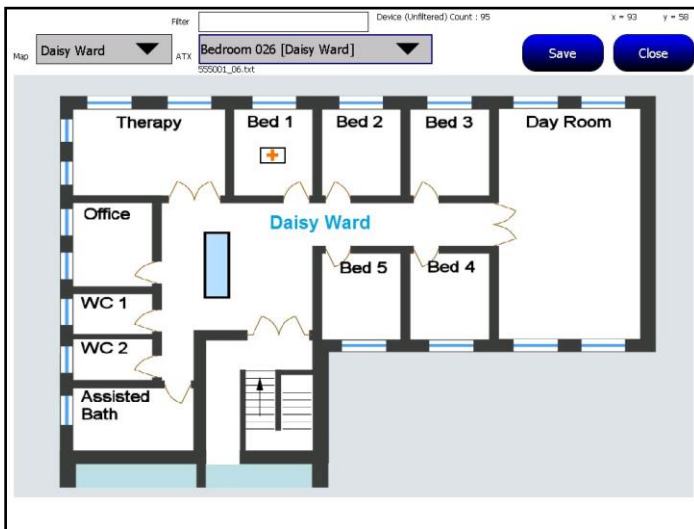
Once the Engineer is satisfied a connection is established press the [Close](#) button to exit.

For details of all other settings refer to the relevant GSM Modem manual;

For Sierra Wireless Modem: Aidcall Doc No. FM5625
For Robustel Modem: Aidcall Doc No. FM5626

16. SYSTEM CONFIGURATION

CONFIG MAPS



Maps must be created as 1024x768 Jpegs and be copied onto the SD card “Maps” folder.

Select a [Map](#) from the list in the pull-down box and it will appear on the screen.

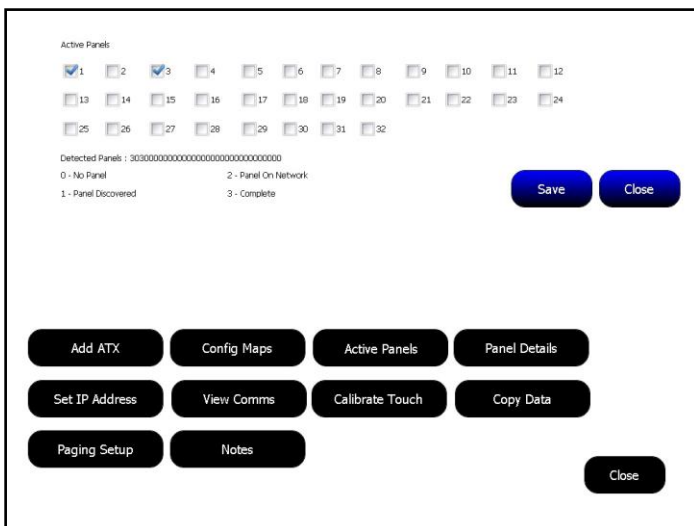
Select a device from the list in the [ATX](#) pull-down box and touch the screen in the area on the map that the device will reside.

When you’re happy with the position press [Save](#). Repeat for other devices on the same map or select another map and repeat.

If you want to find out the location of a particular device leave the Map field blank and select the device from the ATX list. The map will be displayed or a text box will state “the device is not configured for a map”.

Press the [Close](#) button to exit.

ACTIVE PANELS



This is used to tell the Master Panel on the system how many panels it should look for on the Network.

Tick the [Active Panels](#) check boxes to select which panels you want on the system then press [Save](#) and [Close](#) to exit.

Go back to the Main Screen and the [Comms](#) indicator will flash between [Scan](#) ([Purple](#)) and [Panel](#) ([Yellow](#)) then when found it show [Comms:OK](#) ([Green](#)).

Go back into the Active Panel screen and the successfully discovered panel(s) will have a status of ‘3’ in the [Detected Panels](#) string.

Press the [Close](#) button to exit.

16. SYSTEM CONFIGURATION

PANEL DETAILS

Panel ID: 3 (Refresh)

Available SD Memory: 919089152
Memory Load: 43 %
Total Physical: 473849856
Total Virtual: 272957440
Available Physical: 1073741824
Available Virtual: 1053229056
Total Page File: 0
Available Page File: 0

IP Addresses: 192.168.55.101

Languages: English-US

Cardiac And Emergency Volume(%): 100
☐ Override Cardiac And Emergency

☐ Nurse Call Mode
☐ Warden Call Mode

☐ Common Cardiac Relay
☐ Common Emergency Relay
☐ Use Follow Me Lights
☐ Run AVI's Silent
☐ Use HTM Banner Colours
☒ Dementia Clock

The Panel Is Not the Controller

Save Close

Add ATX Configure Maps Active Panels Panel Details
Set IP Address View Comms Calibrate Touch Paging Setup
Notes Follow Me Close

Panel Details must be setup manually on every Panel on the Network.

Select the **Panel ID** from the pull-down box. Panel 1 is the Master panel and must have its RFE Network Address set as 0. Panel 2 is set as RFE Network Address 1 etc. All panels/addresses should run sequentially.

Select the **Panel ID** the radio pager is connected to from the **Paging Panel** pull-down box. Note: this only needs to be set on the Master Panel (1).

Select the number of Telecare Receivers connected from the **Total TCR's** pull-down box. Note: this only needs to be set on the Master Panel (1).

The **IP Addresses** for the Call Logger PC connected to the Ethernet Port is displayed on the Master Panel (1) only.

Select English-US, Italian or French from the **Languages** the pull-down box.

Press the **Refresh** button and the Memory Status of the Panel will be displayed.

Override Cardiac and Emergency – set this switch ON to control the volume of Cardiac and Emergency alarms; the volume can be set to 60, 80 or 100%. This option can only be set at Engineer Password level ensuring the Panel will always sound for these events. This option overrides the default volume levels and any Night Mode settings for Cardiac and Emergency.

Select if the system will be used in **Nurse Call Mode** where calls must be cancelled at source or in **Warden Call Mode** where calls can be cancelled from the Panel.

Common Cardiac Relay – set this switch ON to activate Relay 2 in the Panel and any AVI with its address set as 255.

Common Emergency Relay – set this switch ON to activate Relay 1 in the Panel and any AVI with its address set as 254.

Use Follow Me Lights – set this switch ON if AVI's are being used in Follow Me mode (AVI V2.00a firmware onwards is required).

Run AVI's Silent – set this switch ON to silence the beeper in all AVI's.

Use HTM Banner Colours – set ON to display plain HTM coloured banners or OFF for gradient banners.

Dementia Clock – set ON to display the Dementia Clock on the Main Screen.

Text indicates if **This Panel is the Controller** (i.e. Master Panel 1) or if it is **NOT the Controller** (i.e. a Remote Panel 2-32).

Press the **Save** button then **Close** to exit.

SET IP ADDRESS

Ethernet Port
☐ Use DHCP

IP Address: 192.168.168.228
Subnet Mask: 255.255.255.0
Gateway: 192.168.168.1

Push Notification IP: 192.168.168.41
☒ Enable Push Notifications

Set IP Save Close

Add ATX Config Maps Active Panels Panel Details
Set IP Address View Comms Calibrate Touch Paging Setup
Notes Follow Me Close

An IP address must be setup if a PC running the optional Call Logger software is connected to the Ethernet Port of this Panel.

If **Use DHCP** is unchecked, a fixed **IP Address**, **Subnet Mask** and **Gateway** can be entered into the relevant fields.

Press the **Set IP** button to save these settings.

The Push Notification option available with Call Logger software V2.00a onwards will send Fault, Low Battery, Bed Status and Tamper alerts to a mobile device.

If this feature is being used then enter the IP Address of the Call Logger PC in the **Push Notifications IP** field and Tick the **Enable Push Notifications** check box.

Press the **Save** button to save these settings.

Press the **Close** button to exit.

Note: if the Call Logger is not running on the local PC the Push Notification feature should be disabled otherwise an error message will appear on the panel every time a message push is attempted. The message will prompt the user to disable the function in Panel Settings (see page 29). The function will remain disabled until it is re-enabled or the Panel is restarted.

16. SYSTEM CONFIGURATION

VIEW COMMS

[illegible]

This shows the data packets that are passed from the Panels microprocessor to the Windows Module and vice versa. A document will be available to specify the fields and action characters used.

Press the **Close** button to exit.

CALIBRATE TOUCH

Carefully press and briefly hold stylus on the center of the target.
Repeat as the target moves around the screen.
Press the Esc key to cancel.



If the on-screen button presses are off-target from your finger then the touch screen can be re-calibrated.

Follow the on-screen instructions.

PAGING SETUP

Protocol None

Re paging Delay 01:00

Cardiac	6	Call	6
Emergency	5	NursePresent	0
Assistance	3	Monitoring	4
Bed	4	Maintenance	5

Add ATX
Config Maps
Active Panels
Panel Details

Set IP Address
View Comms
Calibrate Touch
Paging Setup

Notes
Follow Me
Close

If Pocket Pagers are being used then this only needs to be setup on the Panel with the Radio Pager connected to it.

Select the appropriate **Protocol** for the type of Radio Pager system being connected to the Panel;

- ☐ None = no pager connected
- ☐ ESPA/MaxPage
- ☒ Astra/Bluebell

Select the **Beep Codes** (i.e. the beep pattern) you want the Pager to sound from the pull-down boxes alongside each call type. *Refer to the installation manuals provided with each Pager type for more details.*

Set the **Re Paging Delay** from the pull-down box; if a pager call is not accepted when this period expires the call will be resent.

Press the **Save** button then **Close** to exit.

16. SYSTEM CONFIGURATION

NOTES

Notes: Enter notes about the panel here

Save Close

Input Panel

q w e r t y u i o p
a s d f g h j k l ,
↑ z x c v b n m . ↵
FN 123#? ←

This is a free text page to allow any notes to be added relevant to the Panel setup or history etc.

Type the notes using the keypad.

Note: you may need to swap between letters and numbers using the ABC/123 button on the keypad.

Press the [Save](#) button then [Close](#) to exit.

FOLLOW ME

Device (unfiltered) Count: 98

ATX 005 [Version C ATXs]

555005_06.txt

001 002 003 004 005 006 007 008 009 010 011 012
013 014 015 016 017 018 019 020 021 022 023 024
025 026 027 028 029 030 031 032 033 034 035 036
037 038 039 040 041 042 043 044 045 046 047 048
049 050 051 052 053 054 055 056 057 058 059 060
061 062 063 064 065 066 067 068 069 070 071 072
073 074 075 076 077 078 079 080 081 082 083 084
085 086 087 088 089 090 091 092 093 094 095 096
097 098 099 100 101 102 103 104 105 106 107 108
109 110 111 112 113 114 115 116 117 118 119 120
121 122 123 124 125 126 127 128

Remove Clear All Test

Standard AVI configuration of Zone/Ward/Bed is setup via the [Edit Details](#) page. To allow greater flexibility of AVI setup the Follow Me lights feature has been added in V2.00a software.

If required, this feature must be enabled from the [Panel Details](#) page and all AVI's fitted on the scheme must also have V2.00a firmware onwards.

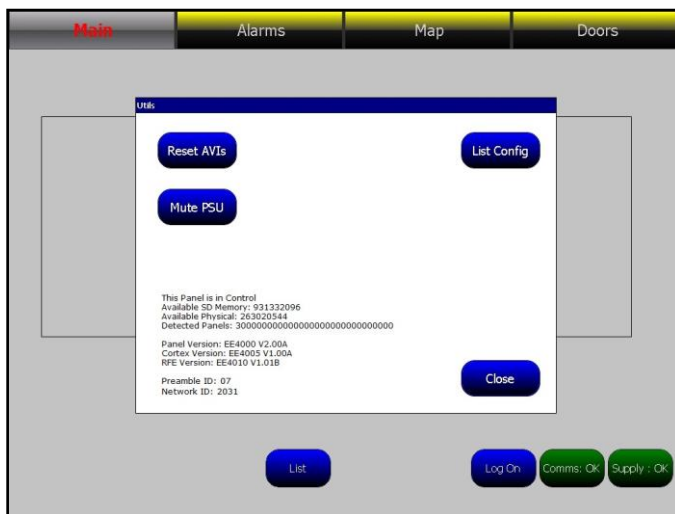
If the Follow Me feature is being used then only the Bed AVI should be set in the Edit Details page, the Zone and Ward AVI's must be left at 000 or blank.

The Bed AVI should NOT be included in the array of check boxes on the Follow Me page shown here.

For details on setup of Follow Me lights refer to the AVI V2.00a Installation Guide (Aidcall Doc No. FM5550).

17. LIST CONFIGURATION

Touch and hold the **“Supply: OK”** button in the bottom right hand corner of the Main Screen for 6 seconds then release, a Utilities Window will appear on the screen as below;



Details of the SD Card Memory, Software Versions and Preamble/Networks ID are listed.

Press the **Reset AVI's** button to send a reset command to all AVI's on the RS485 bus.

Press the **Mute PSU** button to silence the warning tones associated with power supply faults i.e. mains fail, battery low, battery critical etc.

Press the **List Config** button to display the system configuration. This can be tabbed along the bottom of the screen.

Press the **Close** button to exit.

← **PRESS AND HOLD FOR 6 SECONDS THEN RELEASE**

LIST CONFIG SCREEN



← **USE THE SCROLL BAR TO VIEW THE ENTIRE CONFIG LIST**

← **SELECT THE CONFIG YOU WANT TO VIEW ON THESE TABS**

18. REPLACING THE BATTERIES

Each Display Panel has a 12V rechargeable battery to maintain normal operation for several hours in the event of a mains power failure. This battery is inside the separate boxed power supply unit provided with the 10" Panel and inside the 15" Panel itself.

The rechargeable battery should be removed and tested by a Service Engineer on an annual basis and replaced every 5 years.

Only replace with Manufacturer Approved battery type:

18670: 12V 4300mAh NiMH Battery Pack

Replacement batteries are available from Aidcall; order Part No. F00045

IMPORTANT: always mark the battery with the date it was replaced for reference on future Service visits.



Each Display Panel also has a 3V cell to maintain the real time clock settings when the mains power is turned off. The cell is on the Main PCB inside the 10" and 15" Panels.

It is recommended that this cell is replaced by a Service Engineer every 5 years.

Only replace with Manufacturer Approved battery type:

CR2032: 3V Lithium Coin Cell

Replacement coin cells are available from Aidcall; order Part No. F00160



19. OPTIONAL ACCESSORIES

The accessories listed below are available for Touchsafe Pro Display Panels. For more information please contact Aidcall Customer Services on 01670 357431.

Description	Part No.
Touchsafe Pro Call Logger Kit (inc Crossover Lead)	E50520
Touchsafe Pro Call Logger Kit (inc Patch Lead)	E50525
Touchsafe Pro 10" Display Panel Desk Mount Kit	E50550
Touchsafe Pro 15" Display Panel Desk Mount Kit	E50555
Touchsafe Pro GSM Modem	ZNC520
Touchsafe Pro Collector	ZNC530

20. SPECIFICATION

Approvals	
Safety	Compliance to Safety Requirements EN IEC 62368-1:2020+A11:2020
EMC	Compliance to Electromagnetic Compatibility Directive 2014/30/EU
Radio	Compliance to Radio Equipment Directive 2014/53/EU
Materials	Compliance to EU Directive RoHS 2011/65/EU
Design	Compliance to Department of Health's guidelines HTM 08-03
Transmission	
Radio Frequency	868MHz Mesh Network (30 x 200kHz Channels)
Radio Range (internal RFE)	100 to 150 Metres Typical (indoor)
Radio Range (external RFE)	100 to 150 Metres Typical (indoor)
No. of Preamble ID's	8
No. of Network ID's	32
No. of House Codes	999
No. of Unit ID's	999
Features	
Operating System	Windows Compact 7
External Pushbutton	Engineers Hardware Reset
Removable Memory	1GB Micro SD Card (larger capacity cards may be used)
Ethernet Port	1 No. (Call Logger)
USB Ports	4 No. USB 2.0 + 1 No. Mini USB
Video Out	1 No. HDMI
Inputs	4 No. N/O inputs (switched 0V)
Outputs	4 No. N/O relay outputs (125VAC/60VDC/1A rated)
RS485 Port	1 No. (RFE/AVI/TCR bus)
RS232 Ports	3 No. (Pager, GSM & DECT)
Line Out	External Loudspeaker
Real Time Clock	Auto DST adjustment, Dementia Day Clock
Visual Indicator	Front Panel Green Power LED
Audible Indicator	Internal 8R 3W Loudspeaker
Mechanical	
10" Display	10.4" TFT LCD with LED backlight and Antimicrobial coating
15" Display	15.0" TFT LCD with LED backlight and Antimicrobial coating
Resolution	XGA (1024 x 768 pixels) 16.2M colours
Enclosure	Antimicrobial Polycarbonate (RAL 9003)
Flammability Rating	HB75
10" Panel Dimensions	246mm x 325mm x 70mm (HxWxD)
10" Panel PSU Dimensions	240mm x 190mm x 65mm (HxWxD)
10" Panel Weight	1.80kg (including RFE & Antenna)
10" Panel PSU Weight	2.75kg
15" Panel Dimensions	290mm x 400mm x 80mm (HxWxD)
15" Panel Weight	4.50kg (including RFE & Antenna)
Power	
Standby Battery	1 No. 12V 4300mAh NiMH Rechargeable (18670/F00045)
RTC Battery	1 No. CR2032 3V Lithium Coin Cell
Power Supply	220-240VAC 50/60Hz
Power Consumption	625mA (max) 150VA
Mains Cable	3183Y white 0.75mm 3 core x 2.5 metres long
Battery Standby	6 Hours Typical (based on a 30 sec call every 5 mins with 1 RFE + 1 TCR)
Environmental	
Relative Humidity	Non-condensing
Operating Humidity Range	20% to 90% RH
Operating Temperature Range	0°C to 25°C
Storage Temperature Range	-20°C to 60°C