



SYSTEM 3000



ENGINEERS QUICK GUIDE

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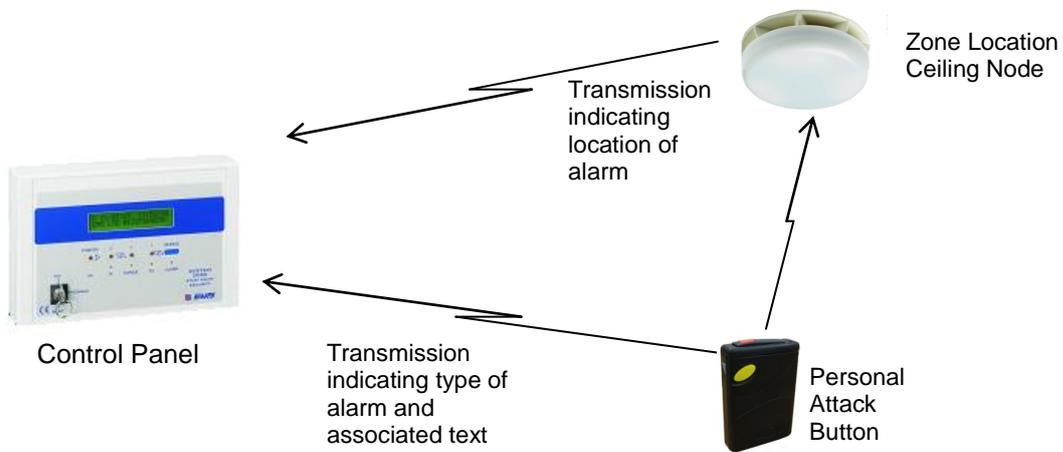
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Introduction

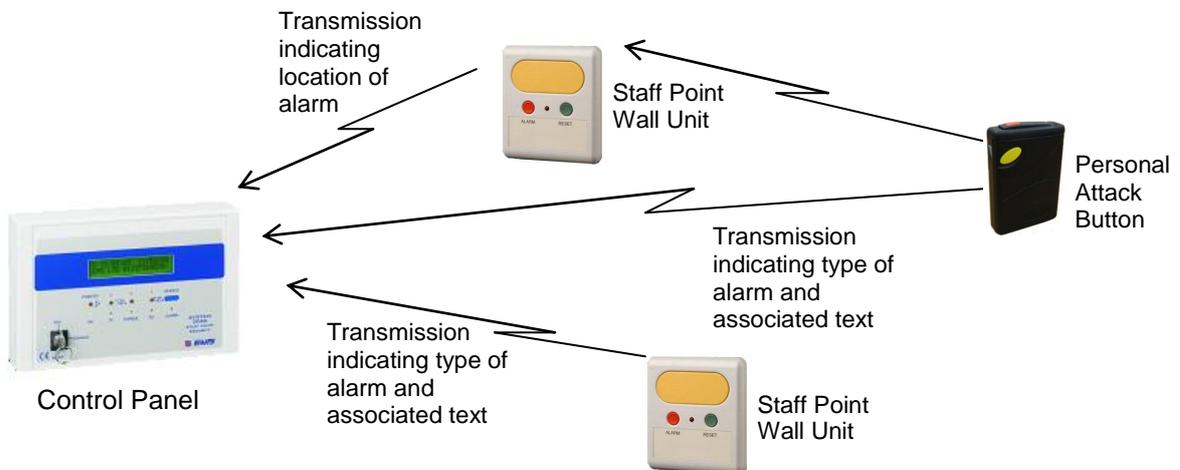
The following system 3000 instructions have been written as a step-by-step guide, covering the most commonly used functions of the system. A PS2 keyboard is required for any changes to the programme, although diagnostics and fault finding information is available from the onboard display. The instructions include device operation and a guide to testing the system. If further information is required, please contact the EMS Technical Support Department on 0871 271 0804, Mon – Fri, 8am - 6pm.

System Overview

Zone Location:



Nurse call:



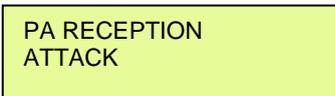
System Operation

Testing the systems operation can be carried out on completion of the installation and verification of signal strength readings of devices.

The system installation must be completed as per the site survey report. The report will indicate panel and device locations along with aerial positioning. It is imperative this is carried out as per the report, to ensure radio communications are achieved at an acceptable level.

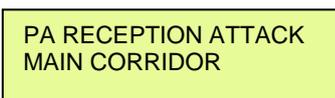
To check the control panel's device signal levels see the "To View Individual Device Signal Strengths" section. Once these are at an acceptable level, (see below for details) on how the system can be tested.

To achieve this operate each of the devices on the system into an alarm condition. (Details on device operation is shown in, "Device Operation" section)
Ensure that correct description is shown on the display and relay 1 operates.



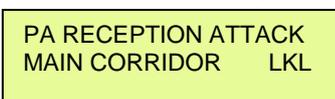
PA RECEPTION
ATTACK

If the system is using Zone Location Nodes the location will be displayed on the bottom line of the screen, as shown below:



PA RECEPTION ATTACK
MAIN CORRIDOR

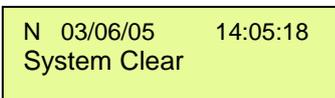
Note: If a node has not seen the alarm condition because the device is not in range of a node when activated, the last known location (LKL) will be displayed on the screen.



PA RECEPTION ATTACK
MAIN CORRIDOR LKL

After each alarm activation, the system should be reset. This is achieved by activating a reset signal from the device which has generated the alarm (Details on device operation is shown on page 5).

When the device has been reset the Control Panel will automatically clear and show the system clear display:



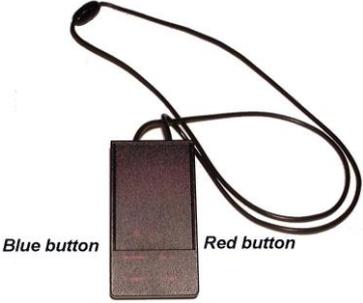
N 03/06/05 14:05:18
System Clear

Note: When resetting the personal attack button in conjunction with a location node activation it is recommended that the button be reset under the location node, which has activated. This will ensure the node also resets. The led on the node will extinguish when it has reset to confirm this has been carried out successfully.

Note2: Relay output 1 is programmed as default to activate on receipt of an alarm condition and reset when the system is clear, when the key is in the Night position on the control panel.

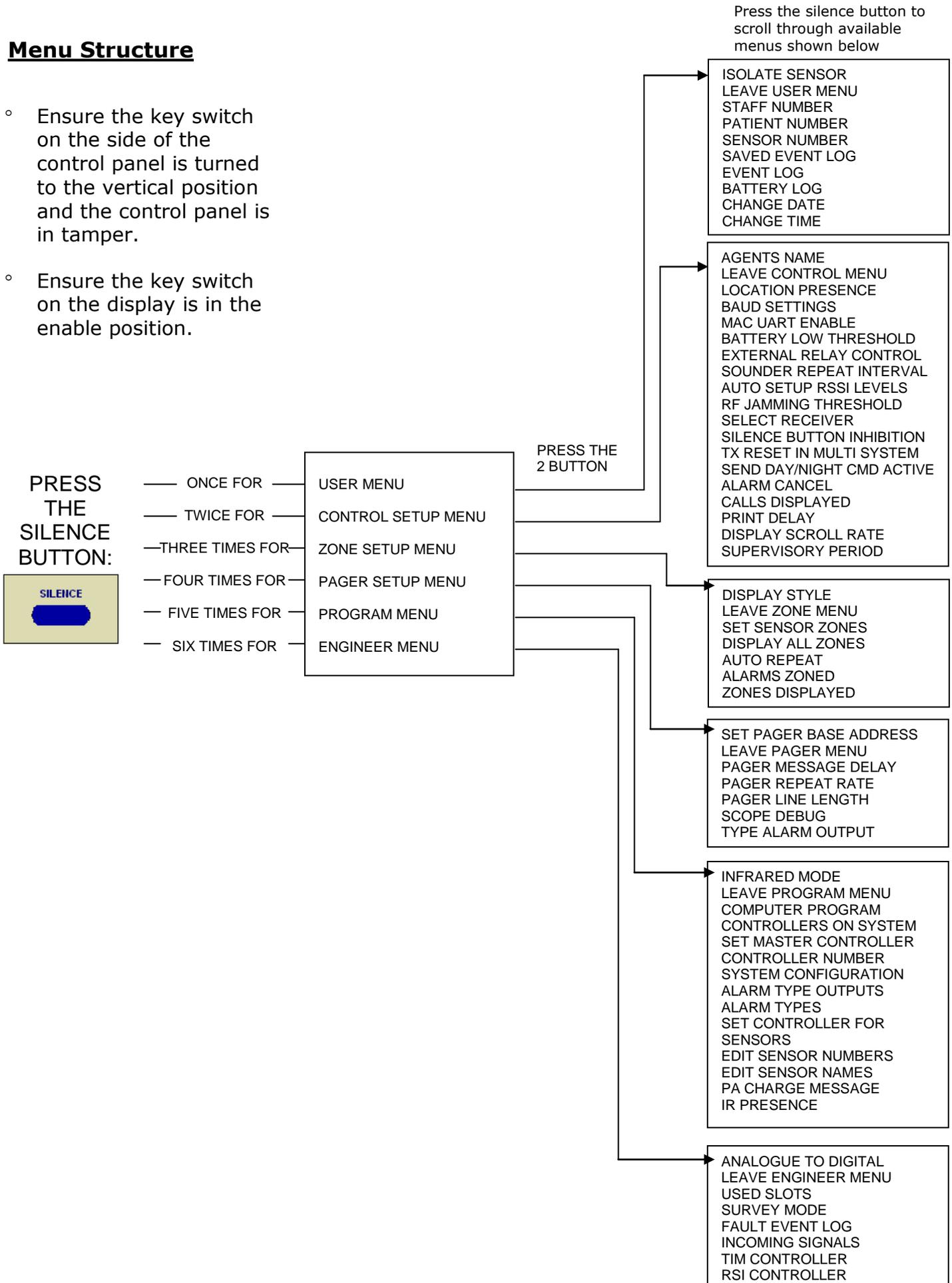
Once all of the above tests have been completed the system is fully operational and ready for use.

Device Operation

<p>Pendant Operation:</p> <table border="1"> <tr> <td>Single Red Button Activated twice</td> <td>Assist Alarm</td> </tr> <tr> <td>Dual Red & Blue Button Activated</td> <td>Attack Alarm</td> </tr> <tr> <td>Pullcord Activated</td> <td>Attack Alarm</td> </tr> <tr> <td>Single Blue Button Activated for 5 seconds</td> <td>Reset signal including confirmation tone</td> </tr> </table> <p>Part No for Pendant: <ul style="list-style-type: none"> 3-3901/S64 </p> <p>Unit requires 2 x 1.5V Duracell MN9100 batteries</p> <p>Part No for batteries: <ul style="list-style-type: none"> 110111 </p> 	Single Red Button Activated twice	Assist Alarm	Dual Red & Blue Button Activated	Attack Alarm	Pullcord Activated	Attack Alarm	Single Blue Button Activated for 5 seconds	Reset signal including confirmation tone	<p>Handset Operation:</p> <table border="1"> <tr> <td>Red Attack Button Activated Twice</td> <td>Attack Alarm</td> </tr> <tr> <td>Yellow Assistance Button Activated Twice</td> <td>Assist Alarm</td> </tr> <tr> <td>Blue Reset Button Held for five seconds, whilst aiming the yellow button at the alarmed ceiling or room unit</td> <td>Reset signal including double beep emitting confirmation tone</td> </tr> <tr> <td>Snatch Cord removed. (Reinserted to enable reset)</td> <td>Attack Alarm</td> </tr> </table> <p>Part No's for Handset: <ul style="list-style-type: none"> 3-3900/S64 3-3900/MD/S64 (c/w Man down option) </p> <p>Unit requires 1 x 3.6V AA Lithium battery</p> <p>Part No for batteries: <ul style="list-style-type: none"> BAT-AANL </p> 	Red Attack Button Activated Twice	Attack Alarm	Yellow Assistance Button Activated Twice	Assist Alarm	Blue Reset Button Held for five seconds, whilst aiming the yellow button at the alarmed ceiling or room unit	Reset signal including double beep emitting confirmation tone	Snatch Cord removed. (Reinserted to enable reset)	Attack Alarm
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Snatch Cord removed. (Reinserted to enable reset)	Attack Alarm																
<p>Staff Point Wall Unit Operation:</p> <table border="1"> <tr> <td>Yellow Button Activated</td> <td>Staff Call Alarm</td> </tr> <tr> <td>Red Button Activated</td> <td>Emergency Alarm</td> </tr> <tr> <td>Pullcord Activated</td> <td>Patient Alarm</td> </tr> <tr> <td>Green Reset Button</td> <td>Reset signal including confirmation tone</td> </tr> </table> <p>Part No's: for Staff Point: <ul style="list-style-type: none"> 3-3920/S64 (c/w Push Button) 3-3920/IR/S64 (c/w Push Button and Infrared) 3-3921/S64 (c/w Pullcord) 3-3921/IR/S64 (c/w Pullcord and Infrared) 3-3922/S64 (c/w Air bulb) 3-3922/IR/S64 (c/w Air bulb and Infrared) 3-3926/S64 3-3926/IR/S64 (c/w Infrared) </p> <p>Unit requires 1 x 1.5V AA NCIR3 battery pack</p> <p>Part No for batteries: <ul style="list-style-type: none"> BAT-AANC </p> 	Yellow Button Activated	Staff Call Alarm	Red Button Activated	Emergency Alarm	Pullcord Activated	Patient Alarm	Green Reset Button	Reset signal including confirmation tone	<p>Ceiling Node:</p> <p>Part No's for Ceiling Node: <ul style="list-style-type: none"> 3-3950/S64 3-3950/MD/S64 (c/w Man down facility) 3-3950/EX/S64 (for External Installation) </p> <p>Unit requires 3 x 1.5V Duracell C Cell batteries</p> <p>Part No for batteries: <ul style="list-style-type: none"> 5-5810 </p> 								
Yellow Button Activated	Staff Call Alarm																
Red Button Activated	Emergency Alarm																
Pullcord Activated	Patient Alarm																
Green Reset Button	Reset signal including confirmation tone																

Menu Structure

- Ensure the key switch on the side of the control panel is turned to the vertical position and the control panel is in tamper.
- Ensure the key switch on the display is in the enable position.



To View Panels Background Noise

This menu option allows the control panel's background noise to be viewed. This level should be noted for future use as it is used in determining acceptable device to panel signal parameters.

1. Ensure the key switch on the side of the control panel is turned to the vertical position and the control panel is in tamper
2. Attach the 1M whip antenna to the control panel ensuring it is installed as per the survey report. If this is being carried out as part of a survey, locate the aerial as close to the proposed position as possible.
3. Turn the key switch on the display to the enable position

4. Press the silence button until the screen displays:



ENGINEER MENU
↑↓ to select

5. Press the 2 button once and the screen will display:



Analogue to Digital
rssi ****

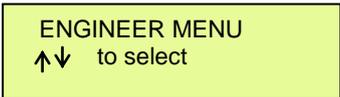
6. Here we can see the RSSI background level. To allow a comparable signal against devices, the first 3 numbers of the RSSI Level shown should be noted. I.e., RSSI 500 gives a background noise level of 50. The noise level will vary from location to location. Generally the lower the noise level, the better with 30 – 50 being acceptable levels.
7. To exit the menu, turn the key switch on the display back to it's original position and then hold in the front tamper switch until the screen displays system clear.

To View Individual Device Signal Strengths

This option allows viewing of the signal strength for all units on the system. Use the field keys to scroll through the sensors. This function is used in conjunction with the background noise menu to determine the devices are within the systems acceptable signalling parameters for reliable communication. This operation is shown below. It is recommended that the system is left as installed for 30 minutes prior to this check being carried out to enable the devices time to signal to the control panel.

1. Ensure the key switch on the side of the control panel is turned to the vertical position and the control panel is in tamper.
2. Ensure the 1M whip antenna is installed as Indicated on the survey report.
3. Turn the key switch on the display to the enable position.

4. Press the silence button until the screen displays:



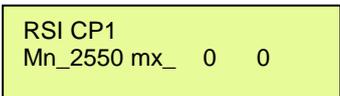
```
ENGINEER MENU
↑↓ to select
```

5. Press 2 button and the screen will display:



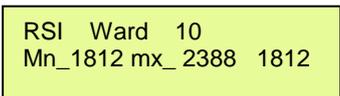
```
Analogue to Digital
rssi **.*v
```

6. Press the silence button until the screen displays:



```
RSI CP1
Mn_2550 mx_ 0 0
```

7. Press the 3 button above TX to show the first devices on the system. An example is shown opposite:



```
RSI Ward 10
Mn_1812 mx_ 2388 1812
```

The first number is the minimum signal reading since the last reset. The second number is the maximum reading since the last reset. The last number is the last signal reading seen from the device.

Therefore, in the example:

Minimum signal reading from ward 10 = 1812

Maximum signal reading from ward 10 = 2388

Last signal reading from ward 10 = 1812

The first 3 numbers of the signal reading are used i.e, minimum 181, maximum 238 and last reading 181.

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To calculate whether this is an acceptable signal level for the device, we take the background noise reading and subtract it from the last reading seen. The result must be greater than 60.

I.e,

Last reading 181 – background 50 = 131  **Acceptable**

If,

Last reading 95 – background 50 = 45  **Not acceptable**

The above calculations must be carried out for all devices on the system to ensure they are at an acceptable level.

Note: To reset the signal levels on all units logged to the panel press the printer button within the relevant controller number at the top of the screen. I.e, RSI CP1 = main panel. RSI CP2 = panel 2, etc.

8. To exit the menu, turn the key switch on the display back to it's original position and then hold in the front tamper switch until the screen displays system clear.

To View Device Call-In Times

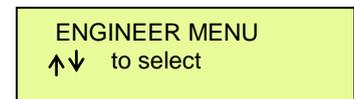
This function allows the call in times for each device on the system to be viewed. Use the 2 and 3 buttons to scroll through the devices. The first number is the time between the last two call-in signals. The next number is the maximum time between two consecutive call-in signals. The last number is how long since the last call in signal. The numbers are in minutes.

Pressing the printer button will reset the call-in times.

1. Ensure the key switch on the side of the control panel is turned to the vertical position and the control panel is in tamper.

2. Turn the key switch on the display to the enable position.

3. Press the silence button until the screen displays:



ENGINEER MENU
↑↓ to select

4. Press the 2 button, and the screen will now display:



Analogue to Digital
rssi ***

5. Press the silence button until the screen displays:



TIM CONTROLLER 1
1st_*** max_*** ***

6. Press the 2 or 3 button to scroll up and down through the devices on the system. E.g.



TIM PA 1
1st_10 max_45 2

The above screen shot shows PA 1, which shows that there were 10 minutes between the last two sign-ins. It's maximum time between two consecutive sign-ins is 45 minutes. It's last call in was 2 minutes ago. The maximum time between call-in signals is 240 minutes. If this time is reached a fault will be displayed on the control panel. Each device sends a call in signal every 5 – 13 minutes.

7. To exit the menu, turn the key switch on the display back to it's original position and then hold in the front tamper switch until the screen displays system clear.

To View The Historical Event Log

This function logs all events on the system and allows the last 500 events to be viewed by scrolling through the event list, using the 2 and 3 buttons. Press the printer button to print the log from the currently displayed event to the last event.

1. Ensure the key switch on the side of the control panel is turned to the vertical position and the control panel is in tamper.
2. Turn the key switch on the display to the enable position.
3. Press the silence button until the screen displays:

4. Press the 2 button and the screen will display:

5. Press the silence button until the screen displays:

6. Press the 2 or 3 buttons to scroll up and down through the devices on the system. E.g.


The above screen shot shows that event number 345 had occurred at half past eight on the 4th May. The event was a fault code number 8 and came from a device with the text description BED 5. The device codes determine the type of event and are also linked to the type of device the event has originated from. For the example shown BED 5 is a nurse call unit. Therefore code 8 from a Nurse Call unit represents a signal fault from the device.

7. To exit the menu, turn the key switch on the display back to it's original position and then hold in the front tamper switch until the screen displays system clear.

A full list of event codes are shown on page 12:

Type:	3
Mode:	3: PA BUTTON
Alarm No	Legend (17 characters)
1	ALARM 1
2	LO BAT
3	ASSIST
4	SPARE I/P
5	IR FLT
6	DO NOT USE
7	ATTACK
8	RF FLT

Type:	4
Mode:	4: NURSECALL UNIT
Alarm No	Legend (17 characters)
1	ALARM 1
2	LOW BATTERY
3	STAFF CALL
4	EMERGENCY
5	Do not use
6	PATIENT
7	JACK REMOVED
8	RF FAIL

Type:	6
Mode:	6: LOCATION NODE
Alarm No	Legend (17 characters)
1	ALARM 1
2	LOW BAT
3	STAFF
4	EMERG
5	Do not use
6	PATNT
7	T/FLT
8	RF FAIL

Type:	9
Mode:	9: CONTROLLER 1
Alarm No	Legend (17 characters)
1	ALARM 1
2	ALARM 2
3	PANEL TAMPER
4	BATTERY LOW
5	DEVICE RF JAM
6	PANEL RF JAM
7	ALARM 7
8	RF FAIL

Type:	10
Mode:	10: CONTROLLER 2
Alarm No	Legend (17 characters)
1	ALARM 1
2	ALARM 2
3	MAINS FAIL
4	OUTPUT 1 FAULT
5	OUTPUT 2 FAULT
6	ALARM INPUT 1
7	ALARM INPUT 2
8	RF FAIL

Viewing Incoming Device Signals

This allows signals received by the panel from devices to be viewed as they occur.

As the Panel receives signals from transmitting units, it will display the serial number of the unit, and the signal strength.

1. Ensure the key switch on the side of the control panel is turned to the vertical position and the control panel is in tamper.
2. Turn the key switch on the display to the enable position.

3. Press the silence button until the screen displays:



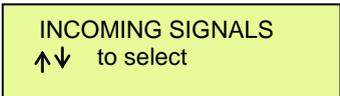
ENGINEER MENU
↑↓ to select

4. Press the 2 and the screen will display:



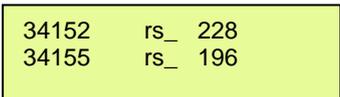
Analogue to Digital
rssi ***

5. Press the silence button until the screen displays:



INCOMING SIGNALS
↑↓ to select

6. Press the 2 button and the screen will display: E.g.



34152 rs_ 228
34155 rs_ 196

As more signals are received the screen will refresh to show these as they occur, firstly stating the devices serial number, followed by the devices signal level.

7. To exit the menu, turn the key switch on the display back to it's original position and then hold in the front tamper switch. Then press the silence button and the screen will display system clear.

To Re-Text The Location Of An Existing Unit

1. Ensure that the key switch on the side of the control panel is in the vertical position and that the key switch on the display is in the enable position.
2. Unlock the panel's memory by moving the jumper from the top pin of LK1 and linking the bottom two pins as shown on page 20.
3. LED1 will illuminate when the panel's memory is successfully unlocked as also shown on page 20.
4. Connect a PS2 keyboard to the socket on the inside of the display as shown on page 22.
5. Press the silence button until the screen displays:

PROGRAM MENU
↑↓ to select
6. Press the 2 or 3 button to scroll up and down through the menu options until the screen displays:

INFRARED MODE ON
↑↓ to select
7. Press the silence button until the Screen displays:

EDIT SENSOR NAMES
press enter
8. Press the return key on the keyboard. The screen should now display:

Sensor_000 type_00
L_sensor 0
9. Now enter on the keyboard the sensor number of the unit you wish to re-label.
10. Once you have found the desired unit number, press the return key twice with a noticeable gap between presses to move to the label field on the lower line.
11. You can now overwrite the existing text by entering the letters on the keyboard. (Max 13 characters). Should you make an error press the backspace key on the keyboard to go back and simply overwrite such unwanted letters.
12. Should the new description be shorter than the old one, use spaces to clear the excess characters.
13. Once you have the desired description press the return key on the keyboard.
14. Should you require changing more devices texts repeat the above steps from step 9 onwards.
15. Once you have finished altering the device texts turn the keypads key switch back to its original position. Return the LK1 jumper back to the top pin to lock the Memory as shown on page 20.
16. To exit the menu, turn the key switch on the display back to its original position and then hold in the front tamper switch until the screen displays system clear.

To Replace An Existing Unit With A New Unit

1. Turn the key switch on the side of the control panel to the vertical position.
2. Turn the key switch on the display to the enable position
3. Now we need to unlock the panel's memory by moving the jumper from the top pin of LK1 and linking the bottom two pins as shown on page 20.
4. LED1 will illuminate when the panel's memory is successfully unlocked as also shown on page 20.
5. Connect a PS2 keyboard to the socket on the inside of the Display as shown on page 22.

6. Press the silence button until the screen displays:

PROGRAM MENU
↑↓ to select

7. Press the 2 or 3 button to scroll up and down through the menu options until the screen displays:

INFRARED MODE ON
↑↓ to select

8. Press the silence button until the screen displays:

EDIT SENSOR NUMBERS
press enter

9. Press the return key on the keyboard to enter the Serial number setup screen. The screen should now display:

Setup serial numbers
Add Edit Del View

10. Press the 'E' key on the keyboard and the screen should display:

Setup serial numbers
EDIT Sensor num 000

11. Type the sensor number of the unit you are replacing and press the return key on the keyboard. The screen should now display:

Setup serial numbers
Sen_XXX Ser_YYYYY

Where XXX is the sensor number you just entered and YYYYY is the serial number of the unit to be replaced.

If the screen displays:

Setup serial numbers
Sensor num not found

Then the sensor number was not on the system. Press the Return key on the keyboard and repeat from steps 9 and 10.

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12. On the keyboard, enter the serial number of the unit you are adding then press the return key. (The serial number can be found inside the unit on a white sticker on a chip). There will sometimes be two stickers with serial numbers on them. The serial number will be on a sticker that does NOT say PVE on it.
13. The screen should now display:

Setup serial numbers
Add Edit Del View
14. If you wish to change the text description associated with the unit, please see 'To re-text the location of an existing unit'
15. To replace more units, please repeat from step 9.
16. When completed, turn the keypad's key switch back to its original position. Move the LK1 jumper back to the top pin to lock the memory, as shown on page 20.
17. To exit the menu, turn the key switch on the display back to its original position and then hold in the front tamper switch until the screen displays system clear.

To Add A New Unit To The System

1. Turn the key switch on the side of the panel to the vertical position.
2. Turn the key switch on the front of the display to the enable position.
3. Unlock the panel's memory by moving the jumper from the top pin of LK1 and linking the bottom two pins, as shown on page 20.
4. LED1 will illuminate when the panel's memory is successfully unlocked as also shown on page 20.
5. Connect a PS2 keyboard to the socket on the inside of the display as shown on page 22.

6. Press the silence button until the screen displays:

PROGRAM MENU
↑↓ to select

7. Press the 2 or 3 button until the screen displays:

INFRARED MODE ON
↑↓ to select

8. Press the silence button until the display shows.

EDIT SENSOR NUMBERS
press enter

9. Press the return key on the keyboard and the screen will display:

10. Press the 'A' key on the keyboard and the screen will display:

Setup serial numbers
ADD Sensor num 000

11. Now enter the sensor number of the unit you wish to Add (between 1 and 234) and press the return key on the keyboard. The screen will now display:

Setup serial numbers
Sen_XXX Ser_YYYYY

Where XXX is the sensor number you have just entered and YYYYY is the serial number.

If the screen displays:

Setup serial numbers
sensor num exists

Then the sensor number has already been used for another unit. If the unit being added is a replacement, please see the EDITING A UNITS SERIAL NUMBER section.

To enter the sensor to another slot press the return key on the keyboard and repeat from step 9.

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12. Once you have found an empty slot the screen will display:

```
Setup serial numbers
Sen_XXX Ser_YYYYY
```

13. Enter serial number of the unit you are adding on the keyboard and press the return key. (The serial number can be found inside the unit on white stickers).

14. The screen will now display:

```
Setup serial numbers
Add Edit Del View
```

15. Press the silence button until the Screen displays:

```
EDIT SENSOR NAMES
press enter
```

16. Press the return key on the keyboard and the screen should display:

```
Sensor_000 type_00
L_Sensor 0
```

17. Now on the keyboard enter the sensor number of the unit you are adding.

18. Once you have reached the desired sensor number press the return key on the keyboard to move to the type field. The screen should now display:

```
Sensor_0** type_00
L_Sensor 0
```

19. Now enter the sensors type number. NOTE: Refer to the tables on page 12.

20. Press the return key to move to the label field. The screen should now display:

```
Sensor_0** type_0*
L_Sensor 0
```

21. Now enter the text you wish to be displayed, when the unit sends a call.

You can now overwrite the existing text by entering the letters on the keyboard. (Max of 13 characters). Should you make an error press the backspace key on the keyboard to go back and simply overwrite the unwanted letters. Furthermore, should your new label be shorter than the original, use the space bar to erase the surplus letters.

22. Once you have your desired label displayed on the screen, press the blue silence button.

23. To add another unit, repeat these instructions from step 7.

When all new units have been added, move the LK1 jumper back to the top pin to lock the memory, as shown on page 20.

24. To exit the menu, turn the key switch on the display back to it's original position and then hold in the front tamper switch until the screen displays system clear.

To Delete An Existing Unit From The System

1. Turn the key switch on the side of the panel to the vertical position.
2. Turn the key switch on the front of the display to the enable position.
3. Now we need to unlock the panel's memory by moving the jumper from the top pin of LK1 and linking the bottom two pins as shown on page 20.
4. LED1 will illuminate when the panel's memory is successfully unlocked as also shown on page 20.
5. Connect a PS2 keyboard to the socket on the inside of the display as shown on page 22.

6. Press the silence button until the screen displays:

PROGRAM MENU
↑↓ to select

7. Press the 2 or 3 button to scroll up and down through the menu options until the screen displays:

INFRARED MODE ON
↑↓ to select

8. Press the silence button until the screen displays:

EDIT SENSOR NUMBERS
press enter

9. Press the return key on the keyboard and the screen should display:

Setup serial numbers
Add Edit Del View

10. Now enter 'D' on the keyboard to select Delete a Serial Number. The screen should now display:

Setup serial numbers
DEL sensor num 000

11. Enter the sensor number of the unit you wish to remove and press the return key. The screen should now display:

Setup serial numbers
Add Edit Del View

If the display shows:

Setup serial numbers
Sensor num not found

Then there was no unit set as that sensor number.

12. To retry, go back to step 10.
13. When the required unit has been deleted, move the LK1 jumper back to the top pin to lock the memory as shown on page 20.
14. To exit the menu, turn the key switch on the display back to its original position and then hold in the front tamper switch until the screen displays system clear.

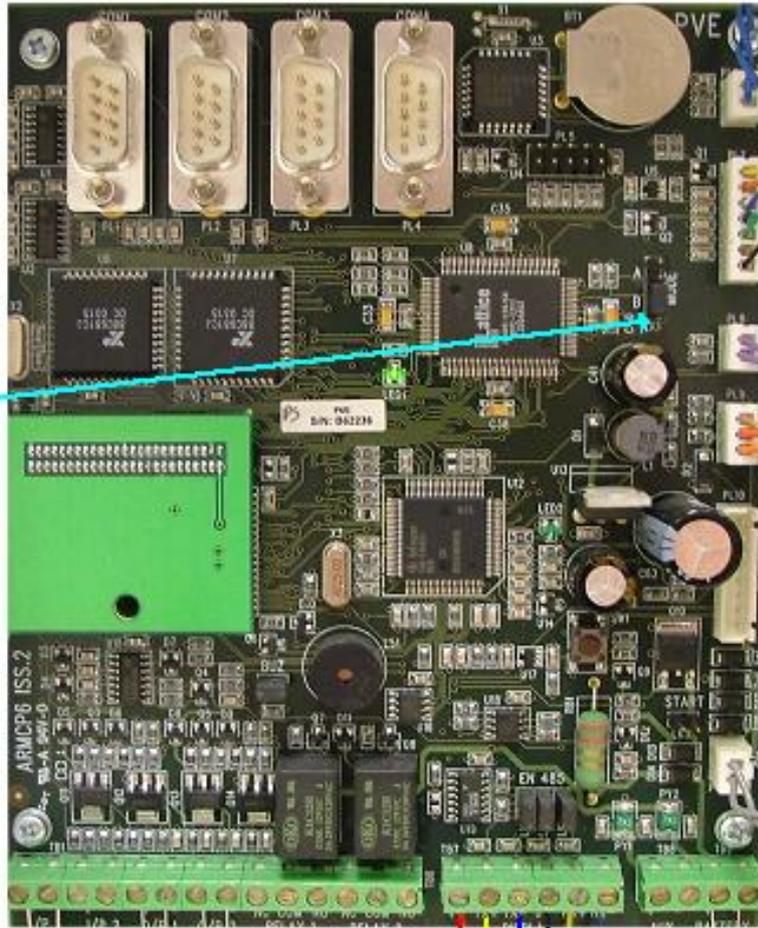
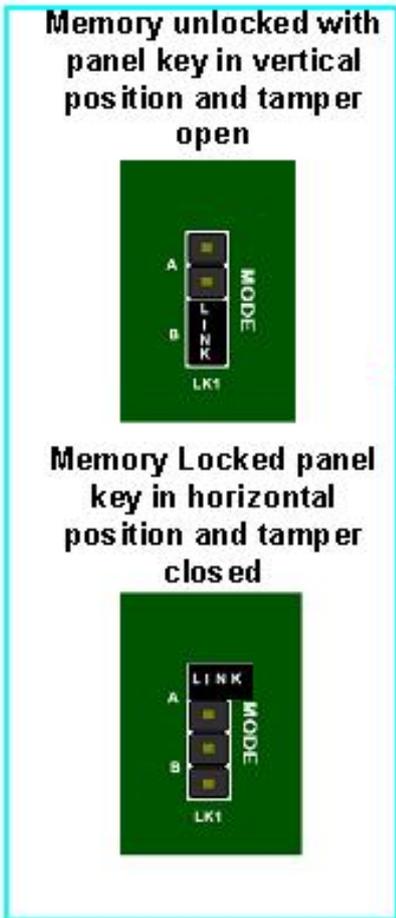
Comm Ports

Com 1 = RS232 connection to 40way relay card

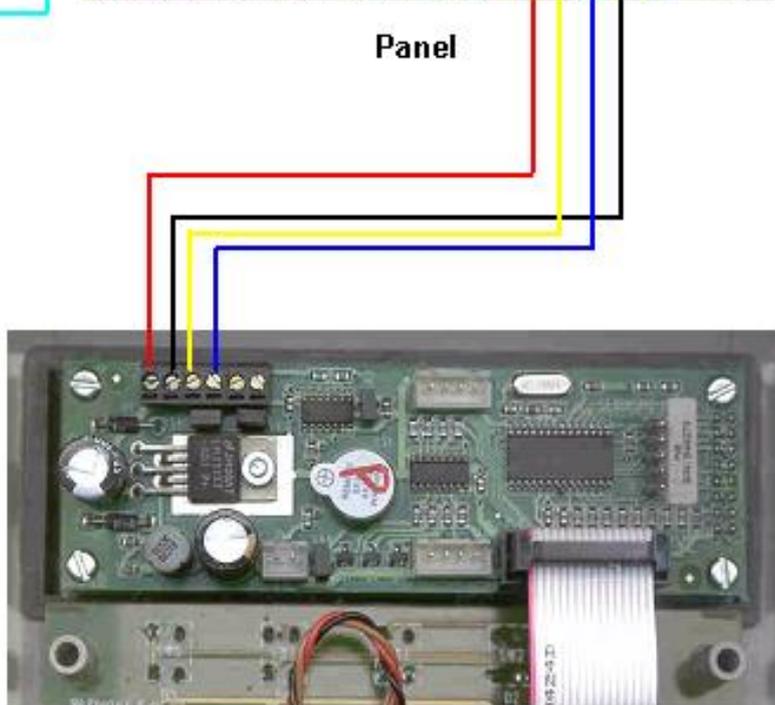
Com 2 = RS232 connection to laptop using CPConfig for uploading/downloading setup files

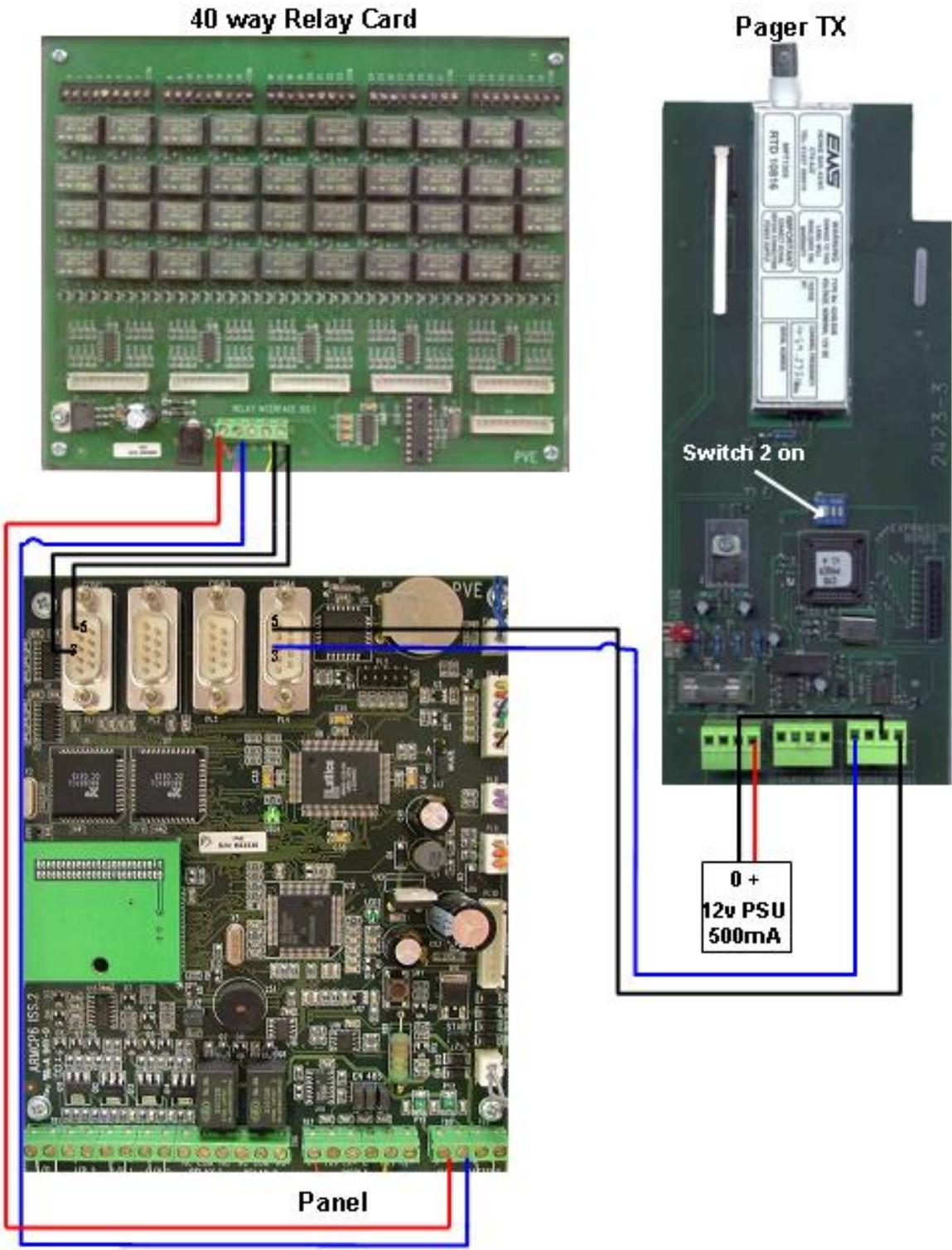
Com 3 = RS232 connection to Windows HyperTerminal

Com 4 = RS232 connection to pager transmitter

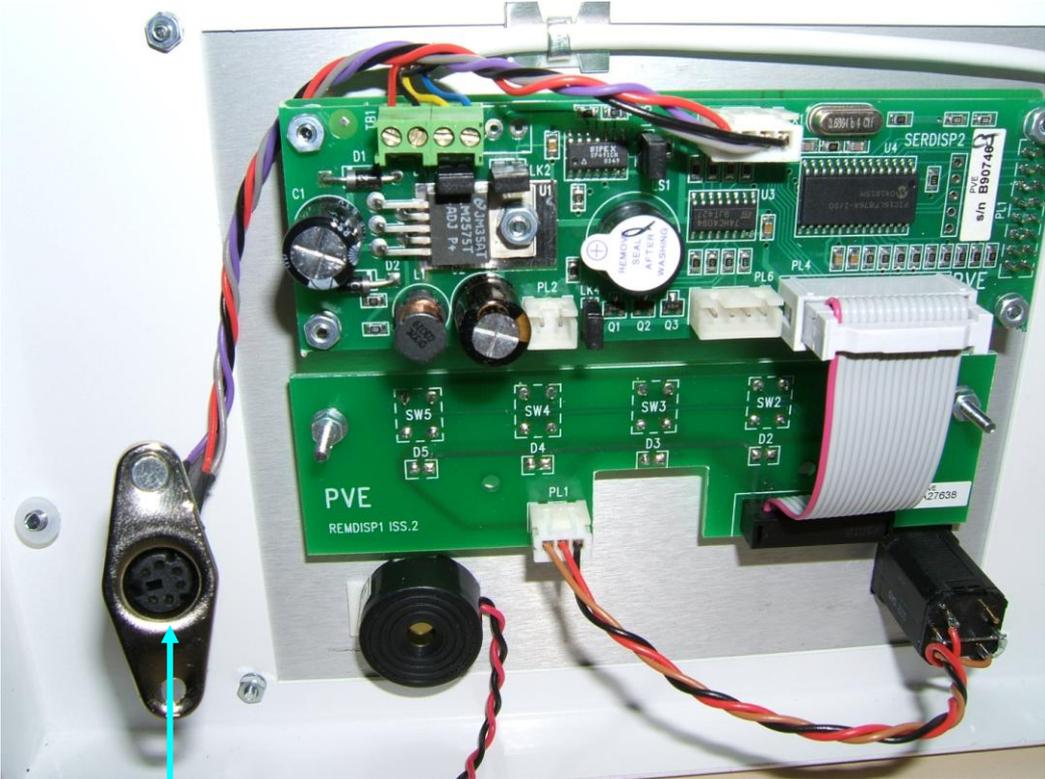


Panel





Connecting a PS2 Keyboard



**PS2
Keyboard**



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