



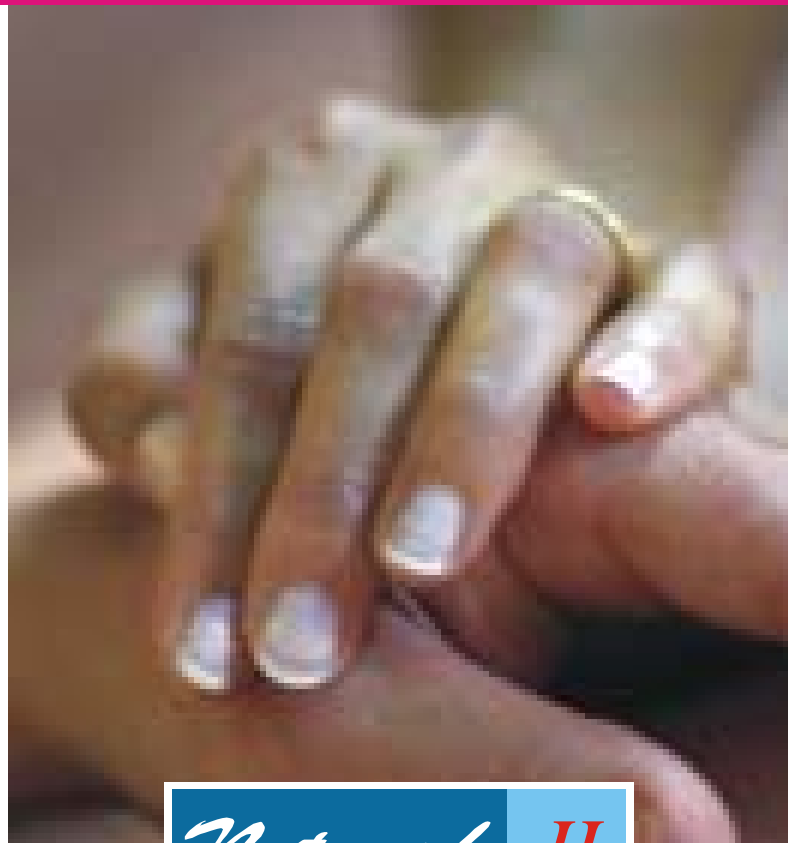
SPECIALIST ALARM SERVICES

caring technology

MANUFACTURERS OF NURSE CALL & STAFF ATTACK SYSTEMS



RED)))ALERT



Network II

INSTALLATION MANUAL

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Specialist Alarm Services Ltd - Network 2 and Red Alert installation manual.

Second edition 2004

Disclaimer

This manual has been validated and reviewed for accuracy. The instructions and descriptions it contains are accurate for Specialist Alarm Services Ltd Network 2 and Red Alert systems at the time of this manual's production. However, succeeding system components and manuals are subject to change without notice. Specialist Alarm services assumes no liability for damages incurred directly or indirectly from errors, omissions or discrepancies between the system and the manual.

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Foreword

As the installation procedure is very similar this manual covers two products, Red Alert – staff protection system and Network 2 - Nurse call system. It is mainly the type of units connected that depicts whether it is a Red Alert (RED205) or Network 2 (NET205) it is possible to have both types on one system. Network 2 conventions can be substituted for Red Alert convention and vice versa for the purposes of this installation manual.

The most basic Network 2 nurse call system comprises the following elements

- i) A room unit to place a call on the system (NET205)
- ii) A hub to receive the call (NET201)
- iii) A device to display the call (NET243)

There are also other accessories for Network 2 including

- i) An over door light to indicate alarm status outside the room
- ii) A serial printer interface
- iii) A computer output
- iv) An alpha-numeric paging system
- v) A tone paging system
- vi) A door monitor alarm point (for fire door security etc)

The Network 2 hub (NET201) supplies bi-directional data and a positive voltage supply through one conductor, which is depicted as **R**, its ground reference (0 volts) is depicted as **B**. Every device compatible with Network 2 requires these two connections. A power terminal is available at the hub depicted **Y** this line is fused at 3 amps and is essential for the indicator panel units (NET243) in addition to the R and B connection.

Network 2 devices such as room units (NET205) over door lights (NET210) can be connected at any point on a radial, star or spur wiring formation of the **R** and **B**. In other words there is no longer a need to have a wire pair for each individual room; each room unit is digitally addressable allowing ease of wiring in a radial fashion where applicable.

Although Network 2 system components are protected against electrostatic discharge, care should be taken when handling these components, in particular the integrated circuits inside the casing, which will be exposed during installation.

To meet **minimum requirements**, the cable recommended for installation of call points is CW1308 or CW1600 3 pair, subject to the client's or employer's specification. The cable recommended for installation of the indicator panels is CW1308 or CW1600 4 pair, subject to the client or employer's specification. This allows for an extra pair in both cases, should any volt drop problems arise on the system.

Cables And Their Routing

Although Specialist Alarm Services Ltd do not supply any cable it is, non-the-less, a critical component for the correct functioning of the system. The system is designed to be as robust as possible and can therefore, under certain circumstances, function as expected with a cable fault (e.g. short circuit). The system is very versatile it can 'sit on' existing cabling however if problems occur then provision must be made to route extra cables to remedy the problem.

Specialist Alarm Services Ltd recommends the following cable as a **minimum requirement** for installations where either the cabling is renewed or is brand new. For installation of call points use CW1308 or CW1600 3 pair, subject to the client or employer's specification and for installation of indicator panel(s) use CW1308 or CW1600 4 pair, subject to the client or employer's specification. This allows for an extra pair in both cases, should any volt drop problems arise on the system. It is recommended that, in a multi-storey building, the hub be situated on the floor with the highest concentration of call points.

However, in large systems (over 100 points), it is prudent to run in heavier cables (up to 10 pair) where cable runs exceed 300 metres or the amount of call units on one cable exceeds 40.

Hints & tips

- 1) Plan for 25 **NEN** per radial but do not exceed 30 **NEN (Network Equivalent Number)** per radial (about 300m), **300 NEN per system**. See Table 1
- 2) Rather than using an indicator panel as a cable junction, a junction box or similar could be used.
- 3) Rooms in the vicinity of the hub can be wired directly back to the hub or be wired in a radial from it.
- 4) If excessive cable lengths are unavoidable make sure at least a six pair cable is implemented or other such heavy conductors to accommodate voltage drop.
- 5) Displays should be mounted at or above eye level.
- 6) It is highly recommended to identify all cables entering into the hub box with their destination. You may also find it helpful to write these destinations on the PCB in their allocated location (see NET / RED 201 wiring details)
- 7) A tidy wiring policy ensures ease of fault finding, servicing, and extensions to the system
- 8) Ensure that the client or employer, before installation, approves the locations of the equipment.

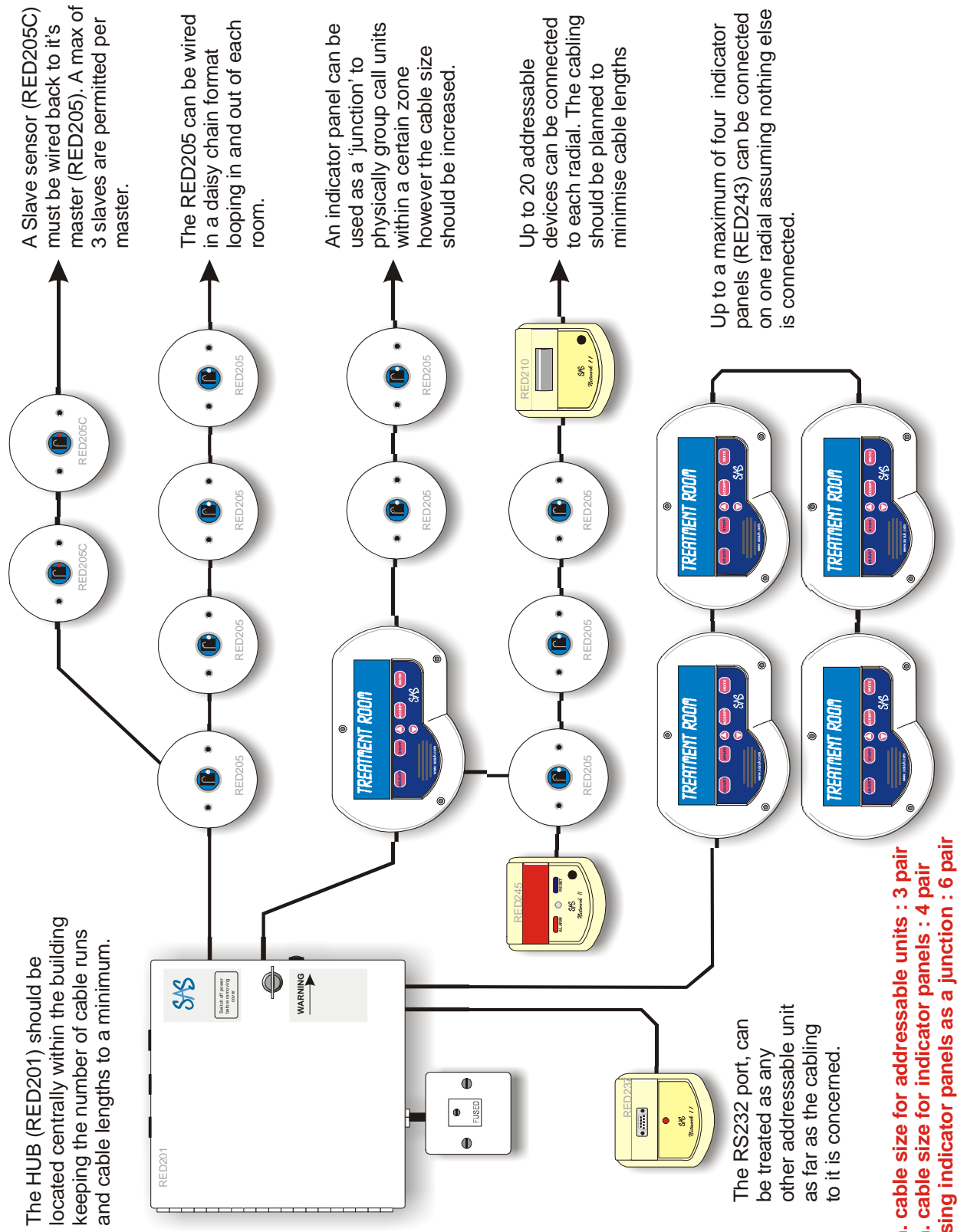
Table 1

Part number	Description	NEN
NET/RED203 or 243	Indicator panel	1
NET/RED205	Call point	1
NET207	Call point with infrared receiver	1.5
NET/RED210	Over door light	1.5
NET/RED218	Door monitor	1

Figure 1 and Figure 2 show the many different possibilities for wiring a system

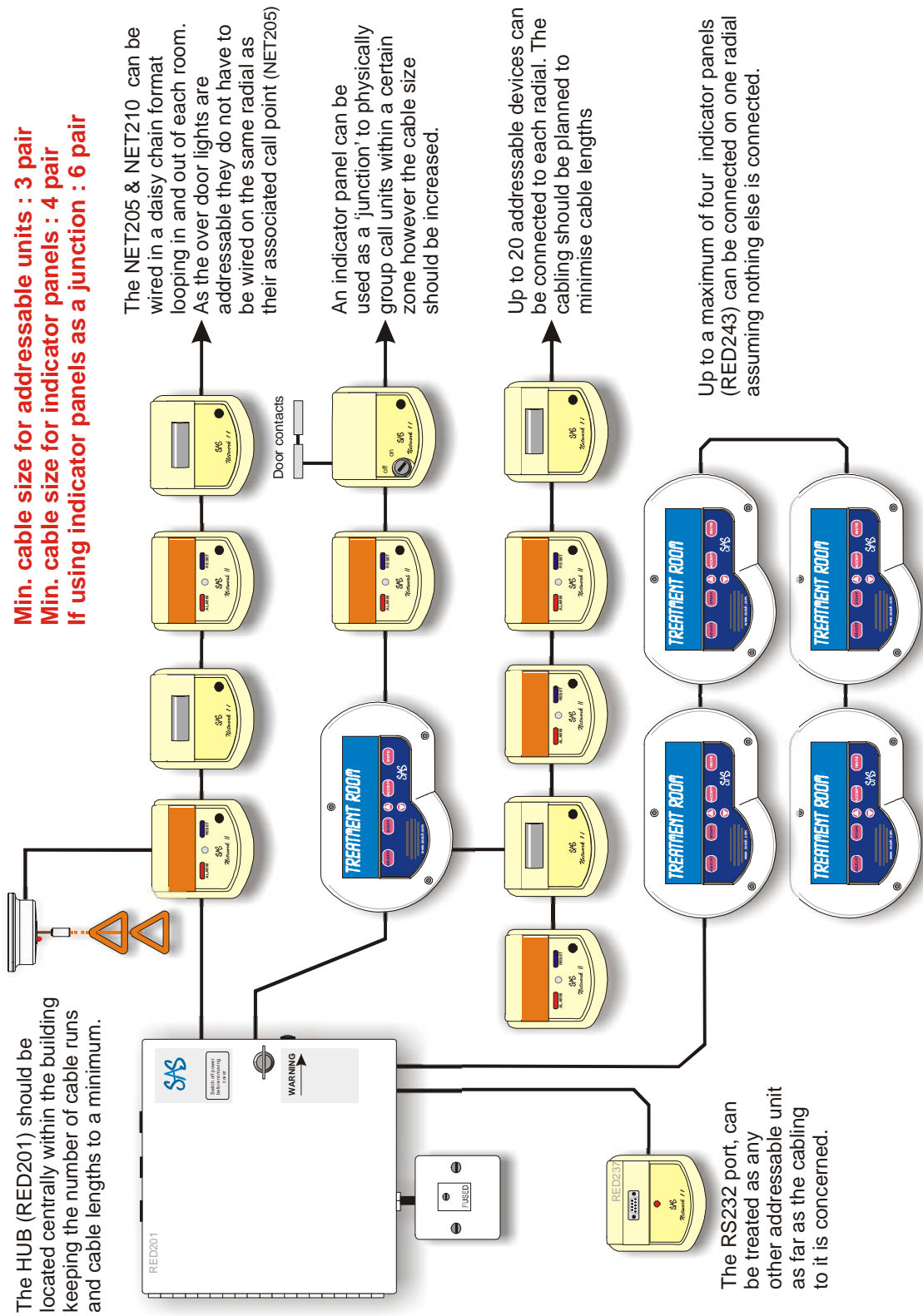
If in doubt, regarding the wiring scheme, cable suitability or system size contact Specialist Alarm Services Ltd for advice.

Figure 1 - Red Alert Wiring Schematic



Min. cable size for addressable units : 3 pair
Min. cable size for indicator panels : 4 pair
If using indicator panels as a junction : 6 pair

Figure 2 - Network 2 Wiring Schematic



Min. cable size for addressable units : 3 pair
Min. cable size for indicator panels : 4 pair
If using indicator panels as a junction : 6 pair

The NET205 & NET210 can be wired in a daisy chain format looping in and out of each room. As the over door lights are addressable they do not have to be wired on the same radial as their associated call point (NET205)

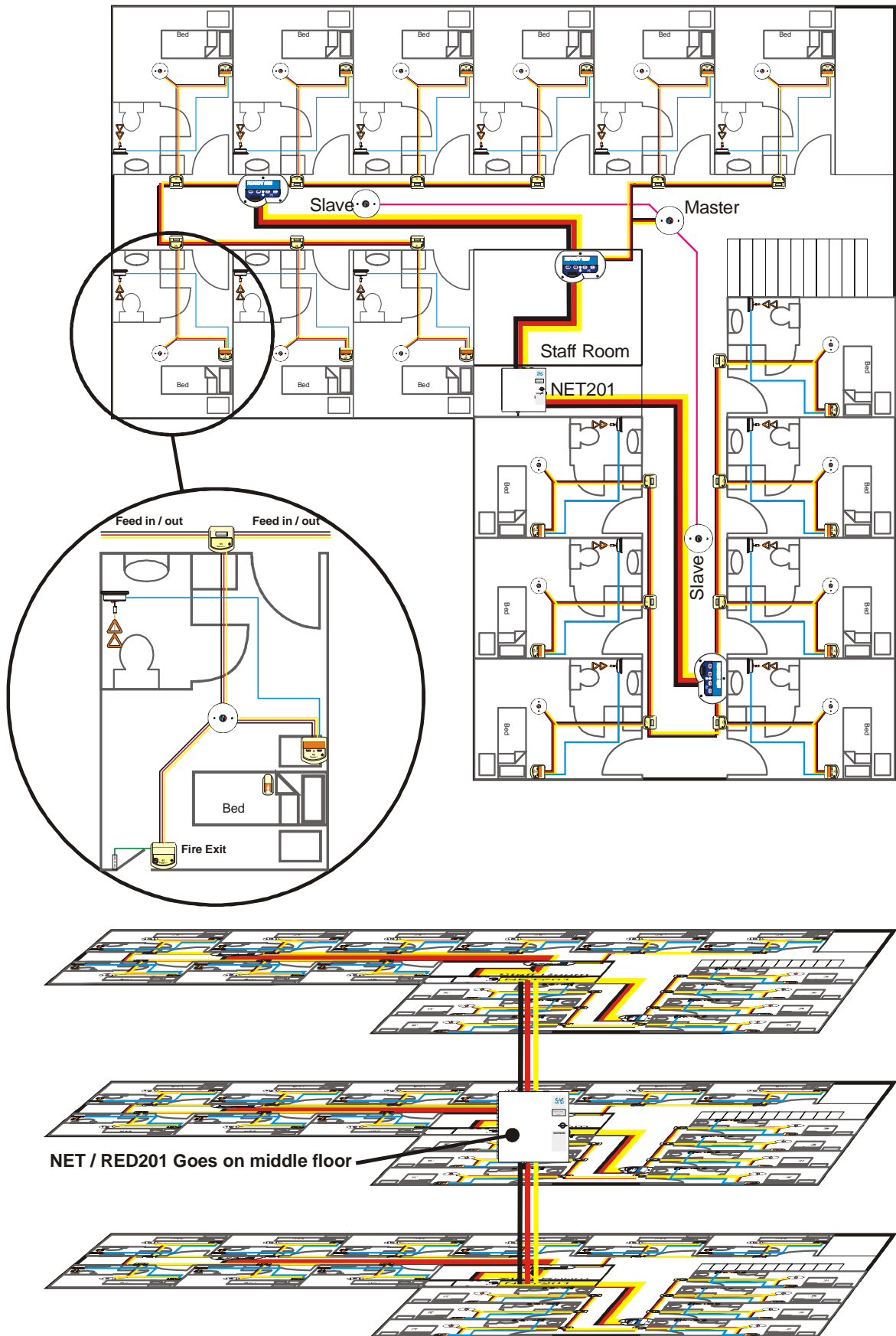
An indicator panel can be used as a 'junction' to physically group call units within a certain zone however the cable size should be increased.

Up to 20 addressable devices can be connected to each radial. The cabling should be planned to minimise cable lengths

Up to a maximum of four indicator panels (RED243) can be connected on one radial assuming nothing else is connected.

The RS232 port, can be treated as any other addressable unit as far as the cabling to it is concerned.

Figure 3 Typical Wiring layout

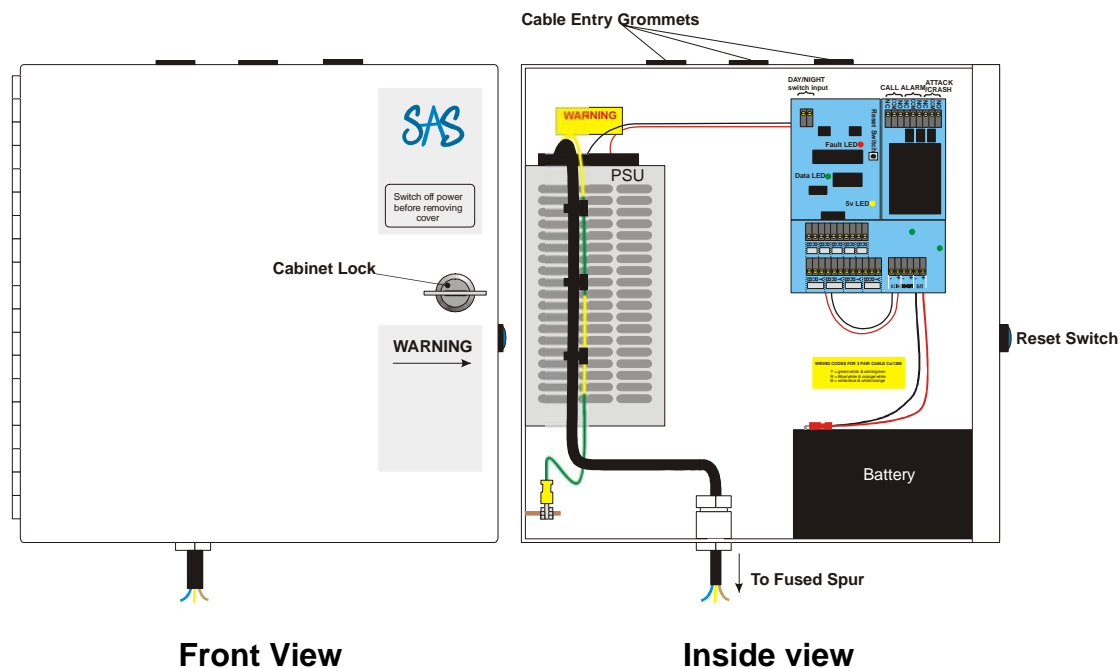


Power Supply & Control Unit

Applies to

NET201 Power Supply & Control Unit
RED201 Power Supply & Control Unit

Figure 4 - External appearance



Installation

First Fix

Step1: Choosing location for hub within building.

When deciding where to put the hub/power supply (NET201) consider the following:

- Access to mains voltage supply
- Cable access capability
- The NET201 should be placed in, or near to the centre of the building and located within an adequately ventilated area.
- Accessible for service personnel

Step2: Choosing location for hub on the wall

Mains (240Vac / 50-60Hz) connection to the NET201 power supply should be made via an un-switched fused spur.

The hub should be placed at head height or above on a wall to avoid interference with the surroundings, yet allow easy access.

Cable entry at the top of the box is recommended, as a battery, if fitted, would interfere with incoming cables at the bottom.

To meet **minimum requirements**, the cable recommended for installation of call points is CW1308 or CW1600 3 pair, subject to the client's or employer's specification. The cable recommended for installation of the indicator panels is CW1308 or CW1600 4 pair, subject to the client or employer's specification. This allows for an extra pair in both cases, should any volt drop problems arise on the system.

Figure 5 - Ideal “Hub” component positioning

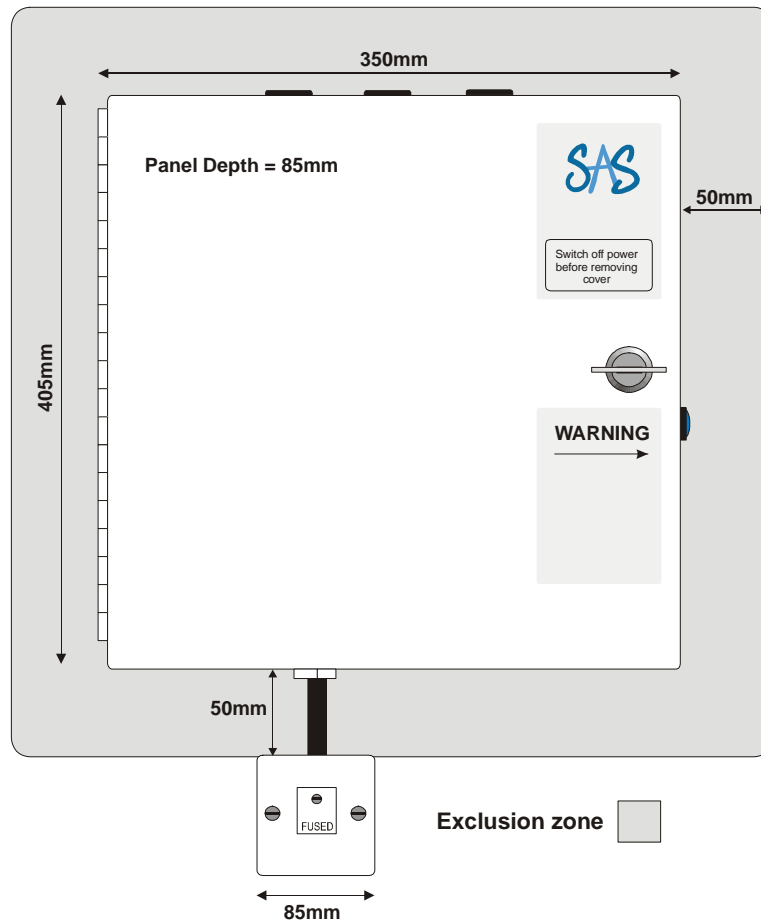
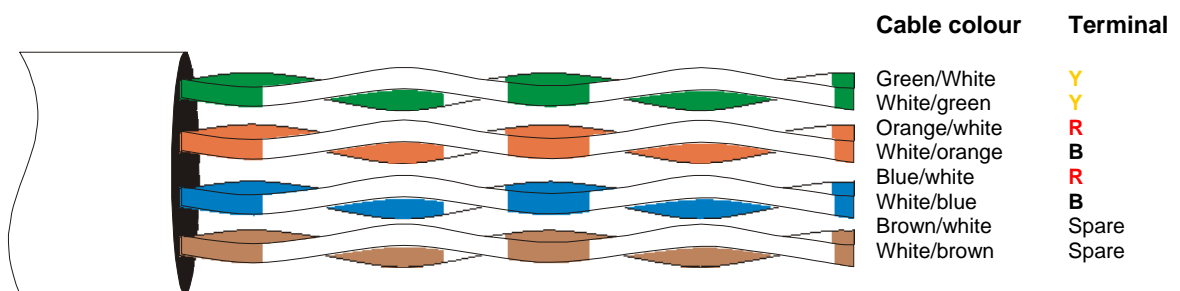


Figure 6 - Recommended Cable usage. CW1308 or CW1600 (3 pair for room units 4 pair for displays)



Step 3: Work out a wiring scheme

Figure 3 Typical Wiring layout shows an ideal wiring scheme:

- The hub as near as possible to the centre of the building,
- A cable feeding the displays,
- A cable feeding the room units and over door lights in a radial (ring) formation local to the indicator panel.

Second fix

Mains (240Vac / 50-60Hz) connection to the NET201 from the fused spur is made using the trailing mains cable. The + and – (R and B) wires are already run from the DC side of the power supply and are connected to the screw terminals marked DC IN + and - on the hub PCB.

Figure 7

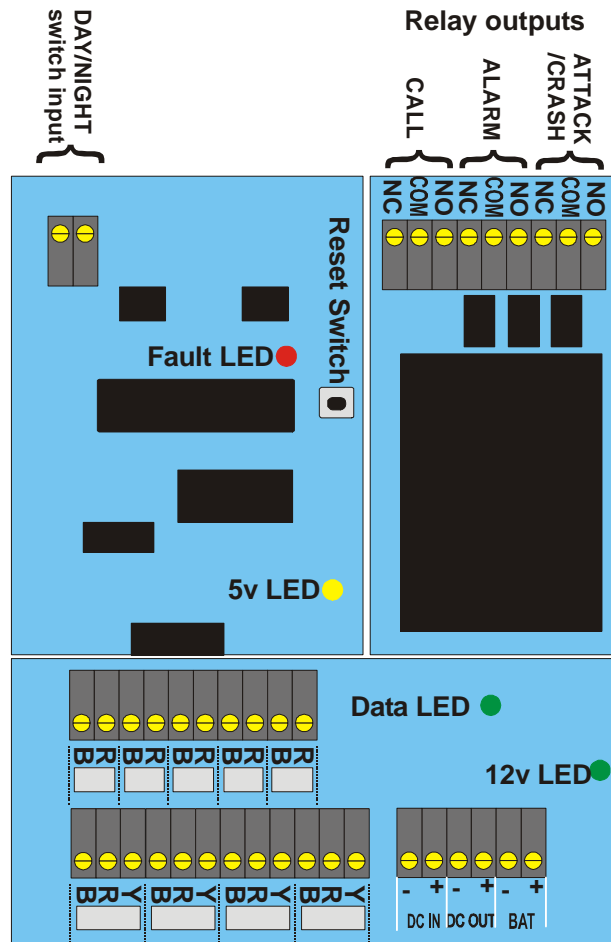


Figure 7 shows a NET/RED201 PCB and terminal connections. The outputs are all connected together; they are presented this way for ease of connection and neatness of the finished wiring loom. A software reset switch (SW1) is present which can be used to reset the system if it misbehaves during installation. This switch is very useful when the unit is battery backed up and releasing the power is not possible. However care should be taken to not coil excess cable in the vicinity of the switch as when the lid is in position it could hold the control unit in a reset state. There is also a hardware-reset push button located on the side of the cabinet; this switch, mainly for use by staff, cuts the power to the entire system in the event of an alarm condition that cannot be cancelled in the usual way.

Power Up

Connect a 12volt rechargeable battery to the BATTERY terminals (optional). Then apply mains power. LD1 on Power/Drive card and LD2 on the Processor card will illuminate immediately, followed shortly afterwards by LD3 on the Processor card (flickers slightly).

If LD1 on the Processor card illuminates or flashes a fault exists on the Network II wiring and the outputs should be isolated until the fault is rectified.

The reset switch SW1 should then be pressed after the fault has been cleared.

Fuses FS1 or FS2 will "trip" and disconnect the outputs in any condition which generates current above their ratings.

To reset the fuses FS1 and FS2 remove the fault and power the system down for a few seconds.

Important: Never connect the wires from the power supply (NET201) into the R, Y or B connectors. This will result in system degradation and / or failure.

Table 2 - LED description

LED Ref	LED colour	Description	Correct status
LD1	Green	12v healthy	On Constantly
LD2	Amber	5v healthy	On Constantly
LD2	Green	Data healthy	On or pulsing
LD1	Red	Fault indicator	Always off

Figure 8 – Wiring of the 201

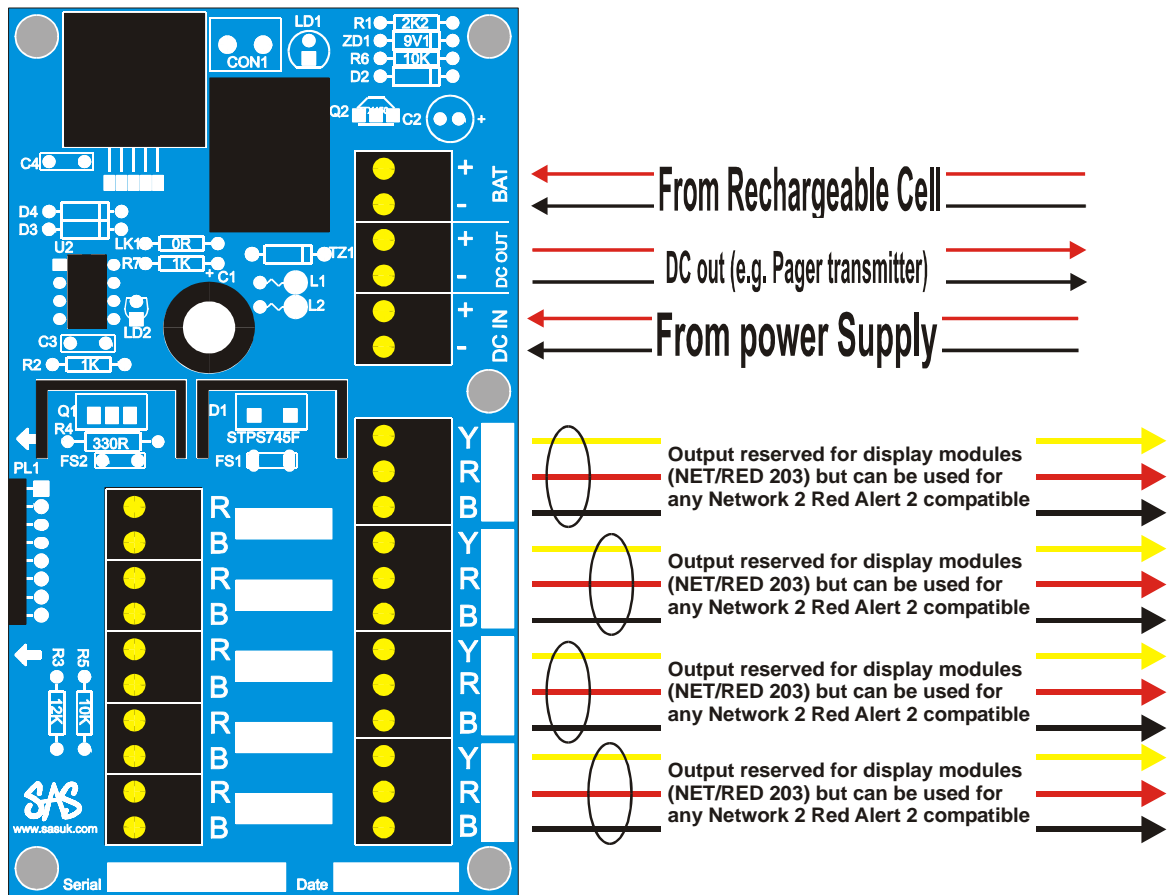


Figure 9 Recommended Cable usage.

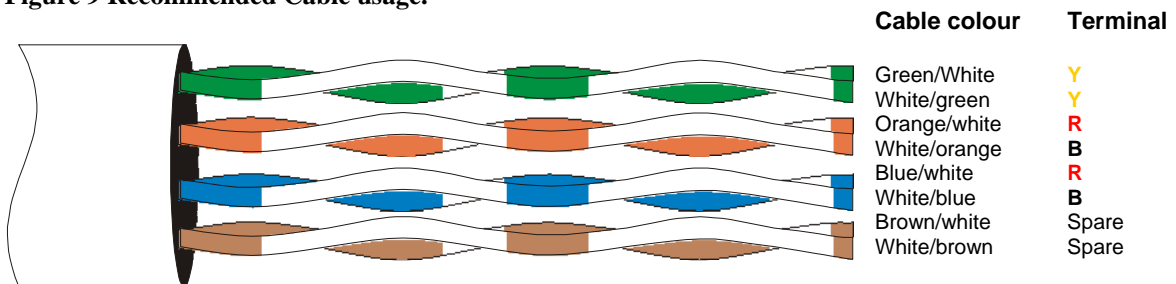
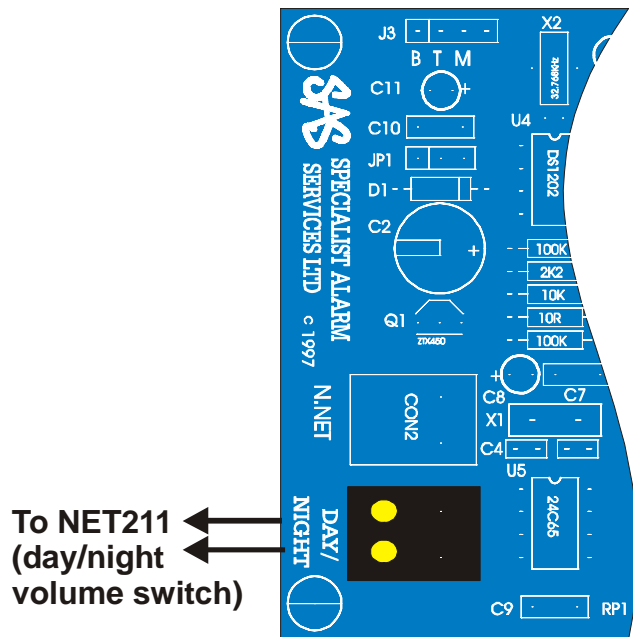
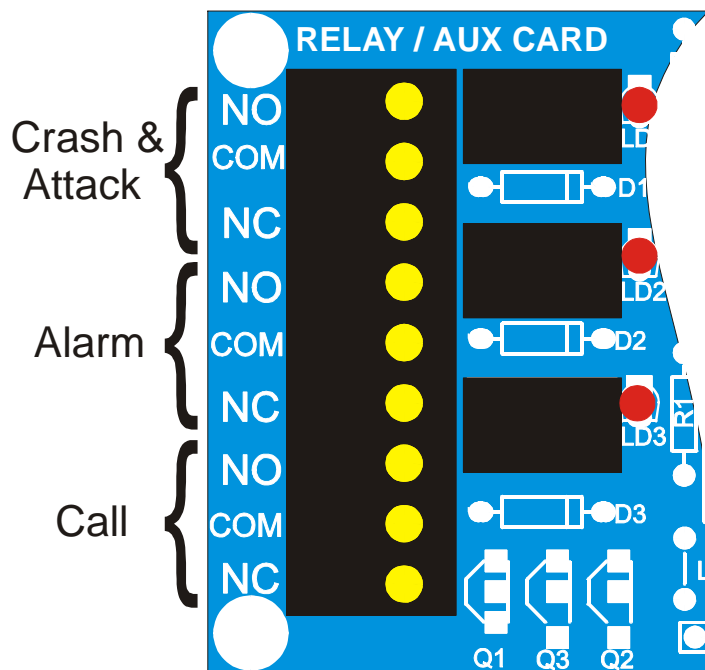


Figure 10 – Adding a day / night volume switch



On the indicator panels (NET/RED243) there are two volumes available; night and day. If a day / night switch is not ordered then the hub will automatically switch between these volumes at 0900h and 2100h respectively. If the manual option is desired then the hub should be factory programmed accordingly, and the switch wired to the terminals shown in Figure 10

Figure 11- Relay outputs



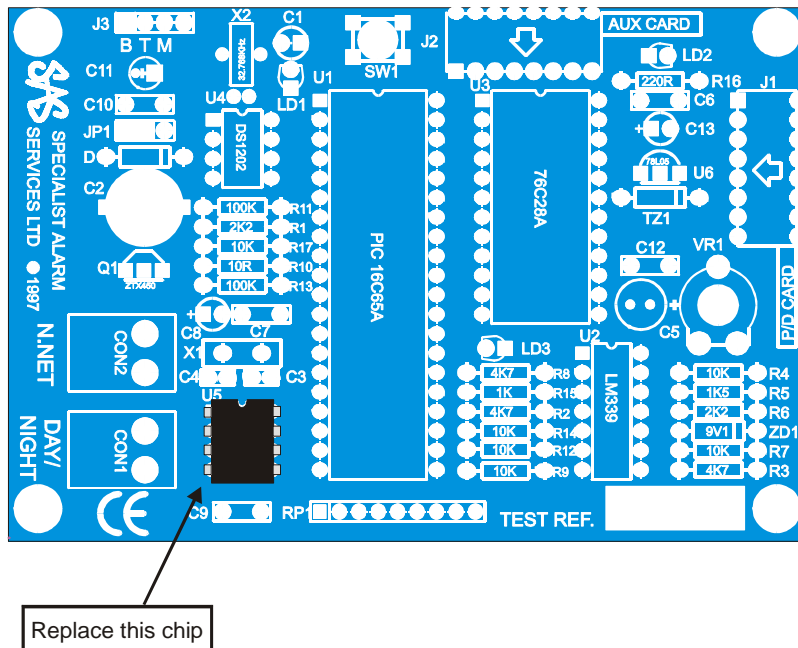
There is a relay output for each alarm condition. Three voltage free contacts are available. Each relay energises for the duration of the alarm call or until it is accepted. Each relay is independent therefore every relay will be energised if there is a call, alarm & crash alarm condition on the system. A red led illuminates next to the corresponding relay when energised.

LD1, LD2 and LD3 show the status of the three output relays, these relays have voltage free contacts rated at 1amp @ 12 volts, and can be used to switch sounders or beacons etc. Through special software, it is possible to change the configuration of the relay output – contact Specialist Alarm Services Ltd for further information.

Configuration

The hub is programmed in the factory to suit the user requirements, should anything be inadvertently omitted it is possible to reprogram the unit on site using a programming unit (NET236) with a special adapter, or alternatively surrender the desired configuration to Specialist Alarm Services Ltd and a bespoke IC (chip) (see Figure 12) will be programmed to your requirement. Possible changes include automatic / manual day night switching and RS232 enabling / disabling.

Figure 12



Chip Change Procedure

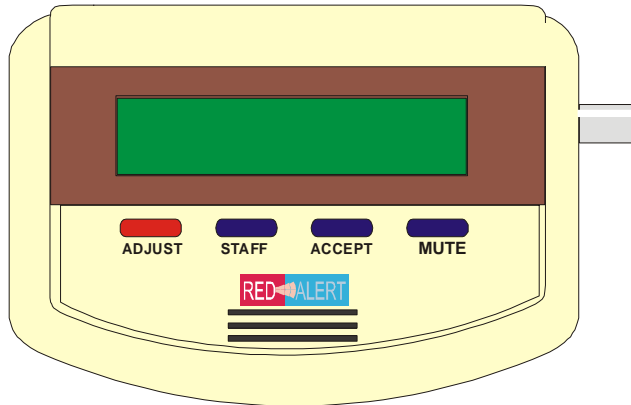
- 1. Power down the system.**
- 2. Remove 8 pin IC (chip) U5 (marked 24C65) with a screwdriver.**
- 3. Insert new IC into socket observing the correct orientation.**
- 4. Power up the system.**

Indicator Panel

Applies to

NET203	Network 2 indicator panel
RED203	Red Alert indicator panel
NET238	Network 2 indicator panel (vandal resistant)
RED238	Red Alert indicator panel (vandal resistant)

Figure 13 – External appearance (RED203)



Overview

The indicator panel is the main respondent-system interface. This unit annunciates to attract the attention of the respondent and then he or she can see where the call was initiated. The sound can be muted; the call can be accepted* to notify others of intention to attend, also staff can be located throughout the building when used in conjunction with the nurse presence feature on the NET205. * Only on Network 2, feature unavailable on Red Alert.

The indicator panel reports, in order of priority, the locations from which a call has been placed. If a standard call is placed on the system from a location called say BEDROOM 4 then the text "BEDROOM 4" will be displayed on line one of the LCD with a line of arrows underneath them (Figure 14). If an alarm is then placed on the system from BEDROOM 20, then, BEDROOM 20 (alarm) then takes priority over BEDROOM 4 (call) and is displayed on line 1 displacing BEDROOM 4 to line 2 (Figure 15). If any more calls are placed on the system two down arrows start flashing in the bottom left and right regions of the display (Figure 16).

Figure 14



Figure 15



Figure 16



From the speaker within the NET203 an audible tone can be heard relative to the alarm condition of line 1 on the LCD. If there is any confusion as to what the sound is indicating, press the **ADJUST** button momentarily to reveal the "**statistics window**" (Identification number, alarm condition and the time at which the call was initiated).

If mute is enabled the sound can be shut off at any particular indicator panel at any time by pressing the mute button. (For further details on mute time and mute time settings refer to Configuration).

A call can be accepted from any indicator panel by pressing the **ACCEPT*** button. When a call is accepted the following occurs:
 The priority of that particular call is dropped to a minimum (allowing other calls to be displayed).
 The sounder switches to night volume and the tone pattern changes.
 The text on the display drops from upper to lower case allowing others to see the intention to respond.

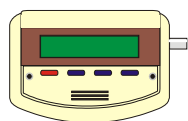
The room unit led glows green instead of red as does the over door light.

Note: only the location displayed on line 1 is accepted if any other call is to be accepted use the scroll knob to move the desired location to line 1 before pressing the ACCEPT button.

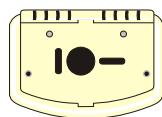
By pressing and holding in the **STAFF** button, all the room units in nurse presence mode are displayed on the LCD. (See Wall Mounted Call Point)

The **ADJUST** button has two functions one is to view the statistics window the other is to enter into adjust settings / utilities mode.

Kit Contents (NET/RED203)



Indicator panel Facia and control. 1 off



Indicator panel Back box 1 off



Self-adhesive label 1 off



"Plastite" screws 2 off

Installation

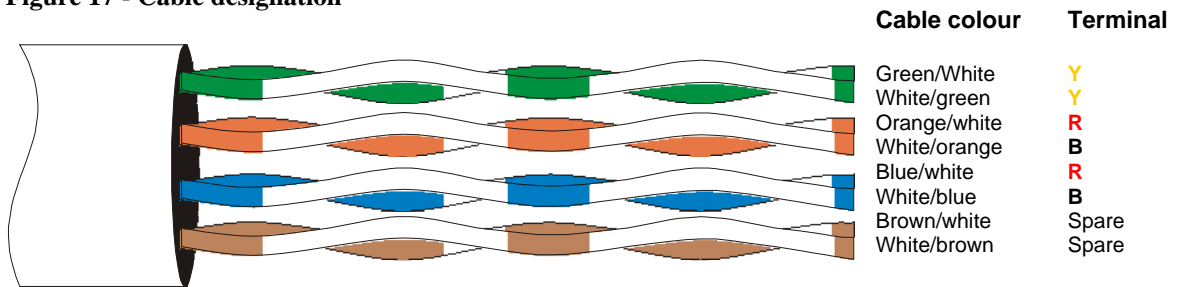
First Fix

Step1: Choosing a location for indicator panel within a building. The location of displays within a building is critical to the efficiency of the whole system. They should be placed in areas of high staff activity or traffic e.g. in, or just outside a staff meeting area or in the reception. 26 indicator panels can be incorporated onto any one system. The indicator panel also contains the sounder, so thought should be given to the level of audibility throughout the whole building bearing in mind the adjustable volume of the indicator panel has a more tolerable level than that of a fire alarm siren for example.

Step 2: Choosing a location for the indicator panel on the wall. The ideal viewing angle of the **Liquid Crystal Display** is at 90° so the indicator panel should be mounted at just below eye level. A scroll knob protrudes from the right hand side of the unit so give adequate clearance to any architrave or any other wall mounted objects in the vicinity.

Step 3: Working out a wiring scheme. The indicator panel requires three conductors denoted as **R**, **B** & **Y**. The following configuration is recommended using Telecom cable CW1308 or CW1600.

Figure 17 - Cable designation



This wiring regime is adopted mainly to lower electromagnetic emissions. The system will work on any configuration on any cable provided there are at least 3 conductors (e.g. burglar alarm cable) however adopting the above configuration has two distinct advantages; 1, An engineer can attend a site and know immediately the wiring scheme. 2, the system has been proved and is “quieter” with this configuration.

The brown/white and the white/brown pair are spare. However this spare pair is highly recommended especially on the larger system where voltage drop down long cables becomes an issue. It is possible in such cases to use another core of this pair for either the **Y** or **B** hence boosting the voltage by increasing the cross sectional area of the conductor.

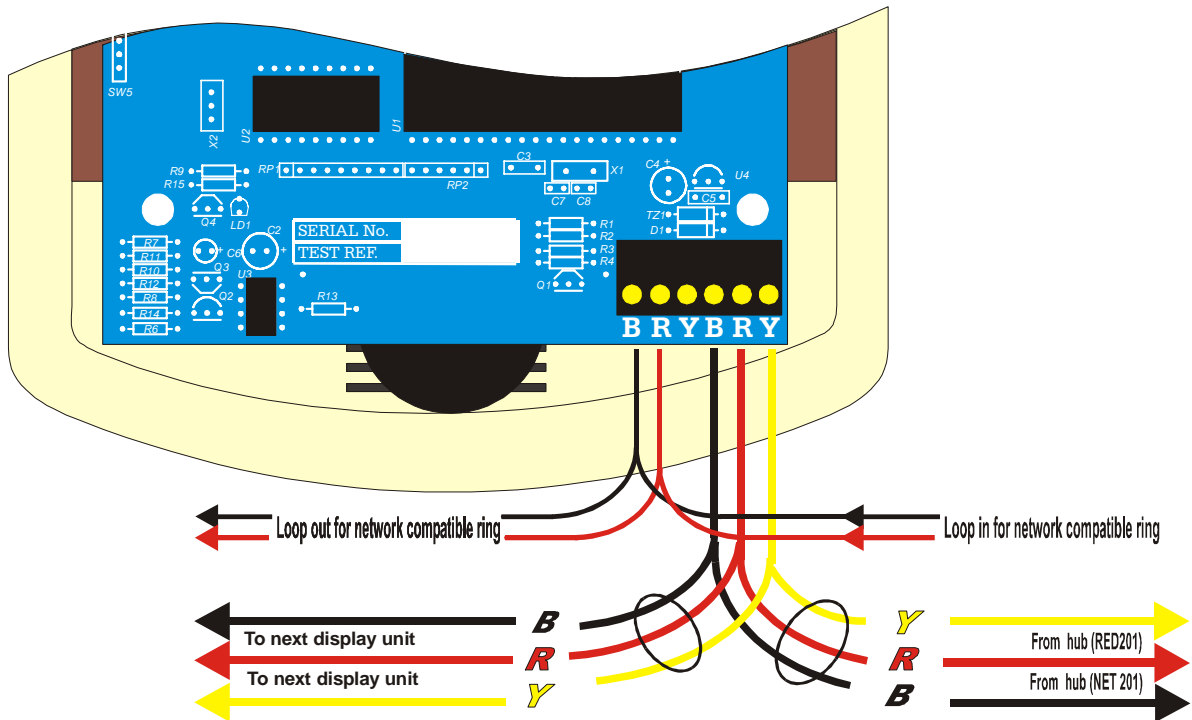
Back box requirements:

NET/RED203: Always surface mounted in front of single socket box.

NET/RED238: Always flush mount – bespoke galvanised back box supplied (155x100x43mm)

Second fix

Figure 18 – Terminating the indicator panel



The indicator panel can be wired in many ways, however remember that the current draw on the system is significant. So if the cabling route to the indicator panel is over 200m then use a cable with a greater cross-sectional area or more cores of a multi core. Cat. 5 cable can be used but it will prove a lot less cost effective if the shielded cable is opted for.

To meet **minimum requirements**, the cable recommended for installation of call points is CW1308 or CW1600 3 pair, subject to the client's or employer's specification. The cable recommended for installation of the indicator panels is CW1308 or CW1600 4 pair, subject to the client or employer's specification. This allows for an extra pair in both cases, should any volt drop problems arise on the system.

Configuration

The Indicator panel has many options for you to configure. Below is a list of all of them and there respective default values.

Table 3 – Indicator panel and sounder module values

Feature	Description	Default Value
Day Volume	Desired volume for day time use	9 (0min – 9max)
Night Volume	Desired volume for night time use	9 (0min – 9max)
Mute Time	Time the unit will remain muted (1 = 30secs, 2 = 1min etc)	1 (mute enabled)
Group	NA	NA
ID	Assigns a unique letter (A-Z) to the indicator panel	A (time set enable)

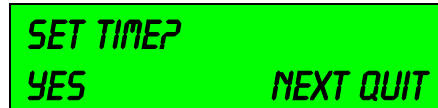
The system has two volumes, referred to as “day” and “night”, which can be switched either manually or automatically. These volume settings are implemented as a lot of installations require a lower volume at night time to not disturb the patients / residents. The mute time is how long the sounder will remain muted after the mute button is momentarily pressed; the range is from 0 – 4.5 minutes in increments of 30 seconds. (E.g. 5 would yield a mute time of 2.5 minutes). **Note:** a volume of 0 is very quiet and not off.

The shaded items belong to a hidden menu, which only the site engineer should access. Instruction to enter this hidden menu will be given later in this chapter. The values contained in this hidden menu are system critical and the user of the system should be unaware of there existence.

The **ID** is critical to the smooth operation of the system. It makes the indicator panel unit addressable, which allows features such as individual displays accepting a call, scrolling etc. If all the displays have the same ID number, then when accept is pressed on one, all the displays would flash up “Please respond”. Also the time can be set from only the indicator panel with an ID of “**A**”. It is good housekeeping to install indicator panel “A” near the main office as a responsible ear may over hear any unauthorised key presses. Alternatively set the time and then change the ID to any unused letter.

Adjust settings mode

To enter this mode press and hold in the adjust switch until the following. Only an indicator panel with an ID of 'A' allows the user to set the time. Otherwise go to Setting volumes section.



SET TIME?
YES NEXT QUIT

Press:

QUIT to resume normal operation
NEXT refer to setting volumes
YES see below

Note: The indicator panel will revert to normal operation in 10 seconds if no buttons are pressed.

Setting system time



00:00
HRS MINS NEXT

Press:

HRS adjust hours
MINS adjust minutes
NEXT see below

Setting system date



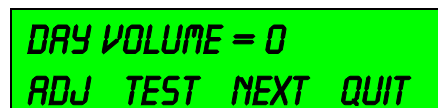
00/00/00
DAT MON YEAR QUIT

Press:

DAT to adjust date
MON to adjust month
YEAR to adjust year
QUIT to resume normal operation

Setting volumes

a) Day volume



DAY VOLUME = 0
ADJ TEST NEXT QUIT

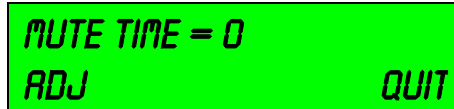
Press:

ADJ to adjust volume
TEST to test new volume setting
NEXT see below
QUIT to resume normal operation

a) Night volume

See above

Setting mute time



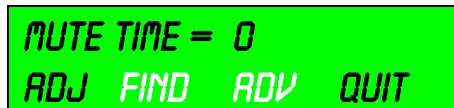
MUTE TIME = 0
ADJ QUIT

Press:

ADJ to adjust mute time
QUIT to resume normal operation

Note: setting the mute time to zero disables the mute function of the indicator panel

Advanced settings



MUTE TIME = 0
ADJ FIND ADV QUIT

As highlighted above, there are two hidden functions whose button identities do not appear on the LCD. Also, to access these functions the relative button must be depressed for a period of about 15 seconds, this is to avoid accidental entry

Press:

FIND: to find unused NET II **ID** number. When the button has been pressed for the specified time a key acknowledgement bleep will sound to signify function start, release the button immediately and the indicator panel will show the unused location on line 1 (**NOT LOGGED ON**). If the adjust button is pressed quickly then the ID number can be read for a period of about 5 seconds the indicator panel will resume normal operation automatically.

Tip: Do not assume that the 'find number' is giving you a starting point. It gives you the lowest available number. E.g. if 20 is available do not assume 21 is available too.

ADV: to set the indicator panel's identity and group.



ID = A
ADJ NEXT QUIT

Press:

ADJ to adjust identity (A – Z)
NEXT see below
QUIT resume normal operation



GROUP = 0
ADJ QUIT

Press:

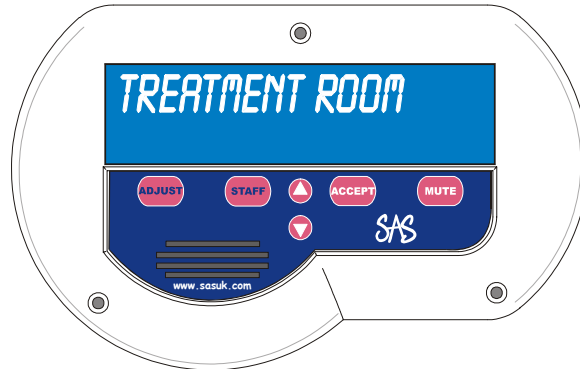
ADJ to adjust group (leave as zero unless specified)
QUIT resume normal operation

Large Text Indicator Panel

Applies to

NET243	Large text indicator panel
RED243	Large text indicator panel
NET248	Large text indicator panel (Vandal resistant)
RED248	Large text indicator panel (Vandal resistant)

Figure 19 – External appearance (NET/RED243)



Overview

The indicator panel is the main respondent-system interface. This unit annunciates to attract the attention of the respondent and then he or she can see where the call was initiated. The sound can be muted or the call can be accepted* to notify others of intention to attend, also staff can be located throughout the building when used in conjunction with the nurse presence feature on the NET205. * Only on Network 2, feature unavailable on Red Alert.

The indicator panel reports, in order of priority, the locations from which a call has been placed. If a standard call is placed on the system from a location called say BEDROOM 4 then the text "BEDROOM 4" will be displayed on line one of the LCD with a line of arrows underneath them (Figure 20). If an alarm is then placed on the system from BEDROOM 20, then, BEDROOM 20 (alarm) then takes priority over BEDROOM 4 (call) and is displayed on line 1 displacing BEDROOM 4 to line 2 (Figure 21). If any more calls are placed on the system two down arrows start flashing in the bottom left and right regions of the display (Figure 22). It is possible for the installer to disable unwanted switches using the DIL switches on the PCB.

Figure 20



Figure 21



Figure 22



From the speaker within the NET243 an audible tone can be heard relative to the alarm condition of line 1 on the LCD. If there is any confusion as to what the sound is indicating, press the **ADJUST** button momentarily to reveal the "**statistics window**" (Identification number, alarm condition and the time at which the call was initiated).

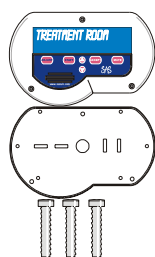
If the 'mute' option is enabled the sound can be shut off at any particular indicator panel at any time by pressing the mute button. (For further details on mute time and mute time settings refer to Configuration).

- A call can be accepted from any indicator panel by pressing the **ACCEPT*** button. When a call is accepted the following occurs:
- The priority of that particular call is dropped to a minimum (allowing other calls to be displayed).
- The sounder switches to night volume and the tone pattern changes.
- The text on the indicator panel drops from upper to lower case allowing others to see the intention to respond.
- The room unit led glows green instead of red, as does the over door light.

Note: only the location displayed on line 1 is accepted if any other call is to be accepted use the scroll knob to move the desired location to line 1 before pressing the ACCEPT button.

- By pressing and holding in the **STAFF** button, all the room units in nurse presence mode are displayed on the LCD (see Wall Mounted Call Point).
- The **ADJUST** button has two functions. One is to view the statistics window and the other is to enter into adjust settings / utilities mode.

Kit Contents



Indicator panel Facia and control.	1 off
Indicator panel Back box	1 off
"Plastite" screws	3 off

Installation

First Fix

Step1: Choosing a location for indicator panel within a building. The location of the indicator panels within a building is critical to the efficiency of the whole system. They should be placed in areas of high staff activity or traffic e.g. in, or just outside a staff meeting area or in the reception. 26 indicator panels can be incorporated onto any one system. The indicator panel also contains the sounder, so thought should be given to the level of audibility throughout the whole building.

Step 2: Choosing a location for the indicator panel on the wall. The ideal viewing angle of the Liquid Crystal Display is at 90° so the indicator panel should be mounted at just below eye level.

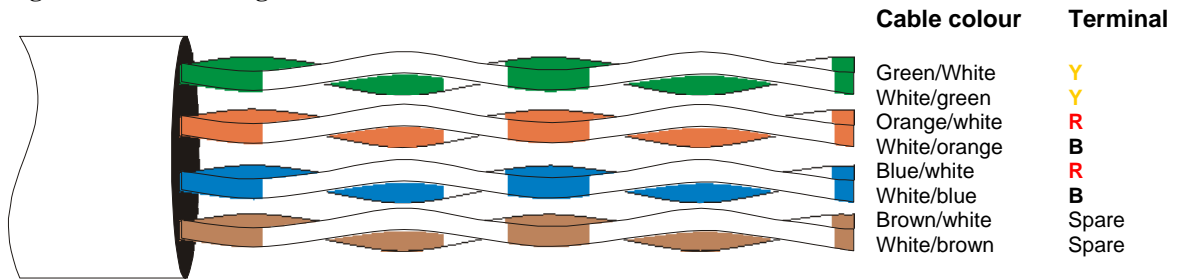
Step 3: Working out a wiring scheme. The indicator panel requires three conductors denoted as **R, B & Y**. The following configuration is recommended using Telecom cable CW1308 or CW1600.

Back box requirements:

NET/RED243: Always surface mounted in front of single or double socket box.

NET/RED248: Always flush mount – bespoke galvanised back box supplied (290x105x50mm)

Figure 23 - Cable designation



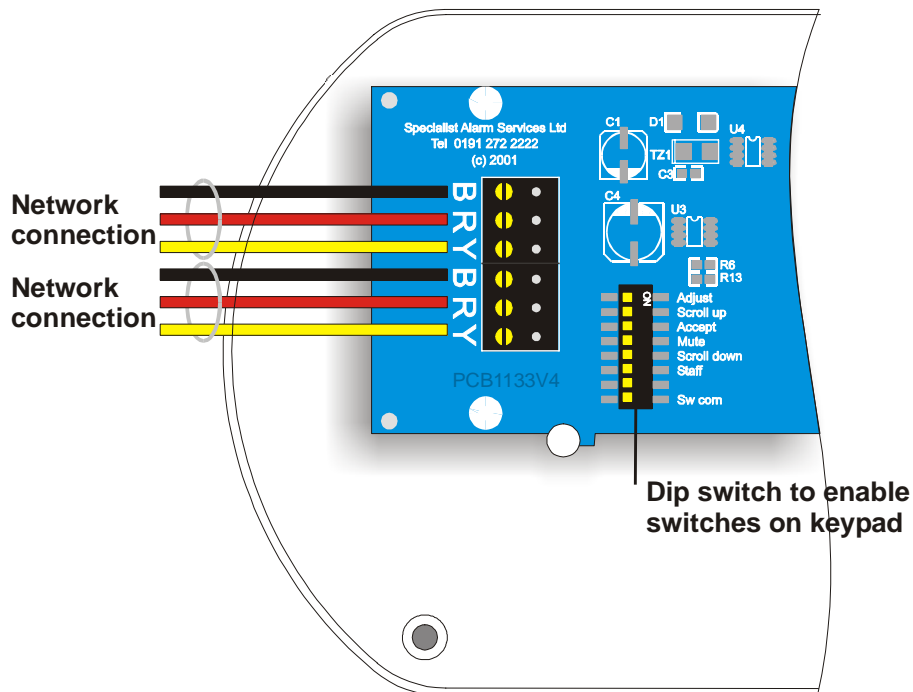
This wiring regime is adopted mainly due to lower emissions of the electromagnetic variety. The system will work on any configuration on any cable provided there are at least 3 conductors (e.g. burglar alarm cable) however adopting the above configuration has two distinct advantages; 1, An engineer can attend a site and know immediately the wiring scheme. 2, the system has been proved and is “quieter” with this configuration.

The brown/white and the white/brown pair are spare. It is not essential but highly recommended especially on the larger system where voltage drop down long cables becomes an issue. It is possible in such cases to use another core of this pair for either the Y or B hence boosting the voltage by increasing the cross sectional area of the conductor.

To meet **minimum requirements**, the cable recommended for installation of call points is CW1308 or CW1600 3 pair, subject to the client’s or employer’s specification. The cable recommended for installation of the indicator panels is CW1308 or CW1600 4 pair, subject to the client or employer’s specification. This allows for an extra pair in both cases, should any volt drop problems arise on the system.

Second fix

Figure 24 – Terminating the indicator panel



The indicator panel can be wired in many ways, however the current draw on the system is significant. So if the cabling route to the indicator panel is over 200m then use a cable with a greater cross-sectional area or more cores of a multi core. Cat. 5 cable can be used but it will prove a lot less cost effective if the shielded Cat. 5 cable is opted for. B is directly connected to B, R is connected to R etc to assist loop through connection.

Configuration

The Indicator panel has many options for you to configure. Below is a list of all of them and their respective default values.

Table 4 – Indicator panel values

Feature	Description	Default Value
Day Volume	Desired volume for day time use	9 (0min – 9max)
Night Volume	Desired volume for night time use	9 (0min – 9max)
Mute Time	Time the unit will remain muted (1 = 30secs, 2 = 1min etc)	1 (mute disabled)
Group	NA	NA
ID	Assigns a unique letter (A-Z) to the indicator panel	A (time set enable)

The system has two volumes, referred to as “day” and “night”, which can be switched either manually or automatically. These volume settings are implemented as a lot of installations require a lower volume at night time to not disturb the patients / residents. The mute time is how long the sounder will remain muted after the mute button is momentarily pressed; the range is from 0 – 4.5 minutes in increments of 30 seconds. (E.g. 5 would yield a mute time of 2.5 minutes).

The shaded items belong to a hidden menu, which only the site engineer should access. Instruction to enter this hidden menu will be given later in this chapter. The values contained in this hidden menu are system critical and the user of the alarm should be unaware of their existence.

The **ID** is critical to the smooth operation of the system. It makes the indicator panel addressable, which allows features such as individual displays accepting a call, scrolling etc. If all the displays had the same ID number, then when accept is pressed on one, all the displays would flash up “Please respond”. Also the time can be set from only the indicator panel with an ID of “**A**”. It is good housekeeping to install indicator panel “A” near the main office as a responsible ear may over hear any unauthorised key presses. Alternatively set the time and then change the ID to any unused letter.

Adjust settings mode

To enter this mode press and hold in the adjust switch until the following. Only an indicator panel with an ID of 'A' allows the user to set the time. Otherwise go to Setting volumes section.



SET TIME?
YES NEXT QUIT

Press:

QUIT to resume normal operation
NEXT refer to setting volumes
YES see below

Note: The indicator panel will revert to normal operation in 10 seconds if no buttons are pressed.

Setting system time



00:00
HRS MINS NEXT

Press:

HRS adjust hours
MINS adjust minutes
NEXT see below

Setting system date



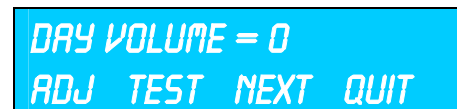
00/00/00
DAT MON YEAR QUIT

Press:

DAT to adjust date
MON to adjust month
YEAR to adjust year
QUIT to resume normal operation

Setting volumes

a) Day volume



DAY VOLUME = 0
ADJ TEST NEXT QUIT

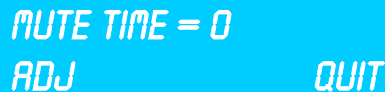
Press:

ADJ to adjust volume
TEST to test new volume setting
NEXT see below
QUIT to resume normal operation

a) Night volume

See above

Setting mute time




MUTE TIME = 0
ADJ QUIT

Press:

ADJ to adjust mute time
QUIT to resume normal operation

Note: setting the mute time to zero disables the mute function of the indicator panel

Advanced settings



MUTE TIME = 0
ADJ FIND ADV QUIT

As highlighted above, there are two hidden functions whose button identities do not appear on the LCD. Also, to access these functions the relative button must be depressed for a period of about 15 seconds, this is to avoid accidental entry.

Press:

FIND: to find unused NET II ID number. When the button has been pressed for the specified time a key acknowledgement beep will sound to signify function start release the button and the indicator panel will show the unused location on line 1. If the adjust button is pressed quickly then the NET II id number can be read for a period of about 5 seconds the indicator panel will resume normal operation automatically

Tip: Do not assume that the 'find number' is giving you a starting point. It gives you the lowest available number. E.g. if 20 is available do not assume 21 is available too.

ADV: to set the indicator panel's identity and group.



ID = A
ADJ NEXT QUIT

Press:

ADJ to adjust identity (A – Z)
NEXT see below
QUIT resume normal operation



GROUP = 0
ADJ QUIT

Press:

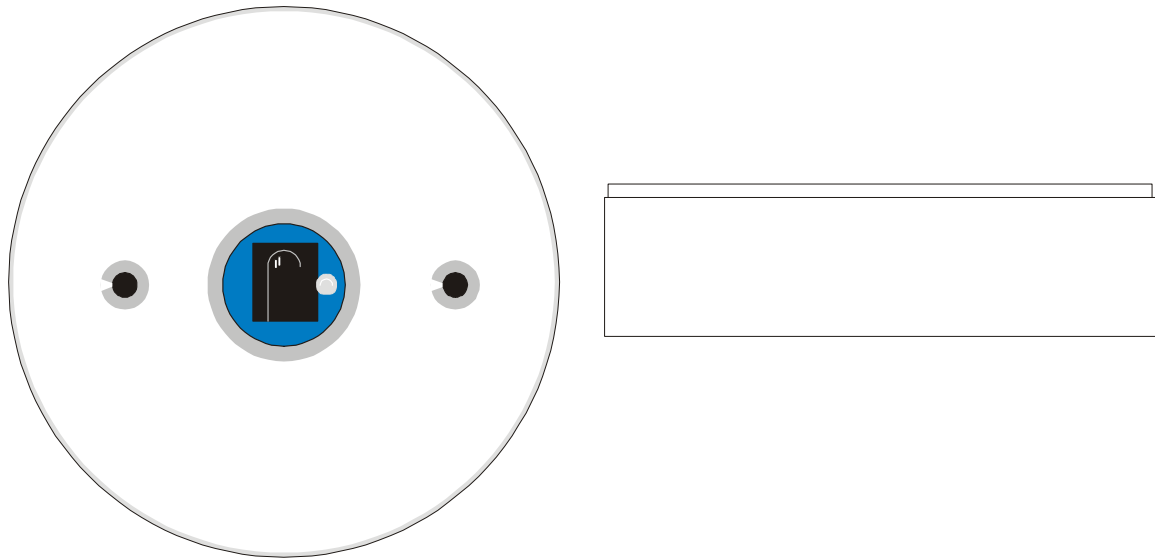
ADJ to adjust group (leave as zero unless specified)
QUIT resume normal operation

Infrared Receiver

Applies to

RED205	Infrared receiver
RED205C	Infrared receiver Slave
RED255	Infrared receiver (External)
RED265	Infrared receiver (Vandal resistant)
RED265C	Infrared receiver slave (Vandal resistant)

Figure 25 – External appearance (RED205 & 205C)



Overview

The infrared ceiling mounted call unit fitted to a ceiling in a room monitors coded infrared signals. On receipt of a recognised signal the unit goes into the respective alarm condition. If the signal is an alarm level (as opposed to a reset signal) the unit will become active and the red LED will start to flash and the call will be displayed throughout the system. On reset, the LED briefly pulses green. If the reset is received whilst dormant the unit goes into visit mode. The LED rapidly flashes green. The duration of this condition is a few seconds and is invisible to the system, what it does, however, is allow the user to check the system is functioning correctly without initiating an alarm condition. In a large room up to 3 infrared ceiling **slave** units (RED205C) can be incorporated.

Tip: The visit signal (blue button on reset transmitter) is also useful here to find the master device (RED205), as the slave does not have a green LED.

The unit has an input for a normally open switch (generates a call), commonly used for panic buttons in certain situations. A 'slave' input for the RED205C and an output for an external LED usually in conjunction with the Slave (RED205C).

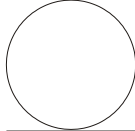
Specification

Size	Φ92 x 23 mm
Weight	67g
Current consumption inactive (active)	4mA (20mA)
Max Voltage	18v
Current limit on L+	20mA
Temp range	0-50°C

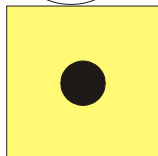
Kit contents (RED205)



Infrared facia unit



Self-adhesive label



Optional wooden Ceiling tile assistant

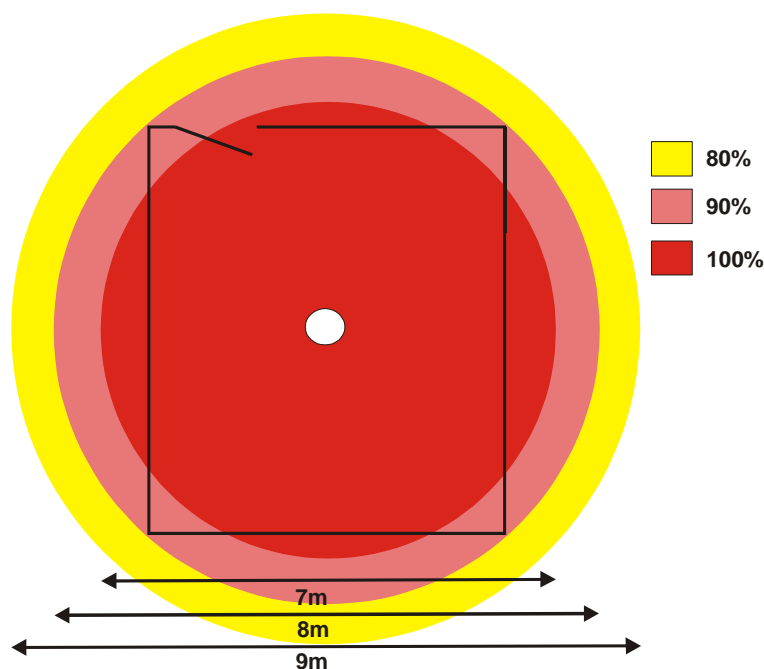
Back box requirements: Surface mounted or flush circular conduit box

Installation

First fix

Step 1: Choosing a suitable location for the sensor within a room. As the environment into which the receiver is installed can greatly affect the performance of the system it is necessary to lay down some guidelines.

Figure 26 – Guidelines for placement of receiver within room



Referring to Figure 26, the ideal position within the room is dead centre in the ceiling. The receiver has 100% coverage within a 3.5m radius. The corners of the room fall in the 90% sensitivity region but in this instance it is acceptable.

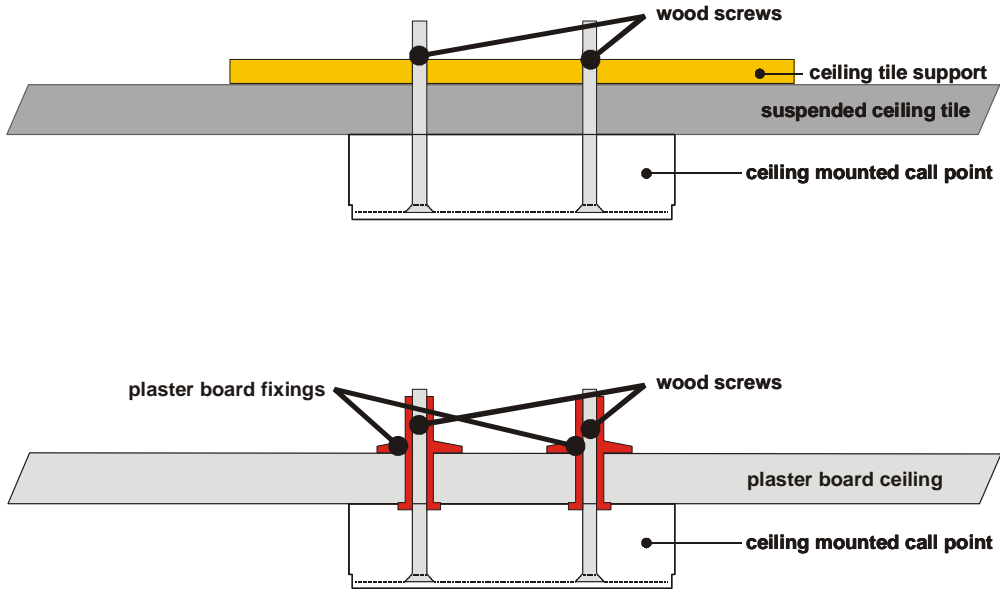
Table 5 – Factors to consider when placing receiver(s) within a room

<u>Performance Impeding</u>	<u>Performance enhancing</u>
High ceilings (over 3m).	Reflective floor (tiled, laminate etc)
Proximity to light fittings.	Large mirrors or framed paintings
Some florescent light fittings.	Reduced ambient sunlight
Open plan workspace.	Low ceilings
Ceiling obstructions (e.g. signs, emergency lights etc)	Small room
No walls (External receiver, conservatory).	Painted rooms
Low batteries in transmitter.	New transmitter Batteries – checking and changing when required
Large furniture, acoustic screens, room dividers	

Table 5 shows some factors influencing the performance of the system; these should always be taken into account whilst surveying the site for coverage. If the survey is conducted on a dull day and there is a conservatory or other similar glass construction then consideration must be given to the fact that performance will reduce on a bright day and, if necessary fit an extra receiver or a 'slave' unit to ensure coverage.

Step 2: Fixing to the ceiling

Figure 27 – Affixing the receiver unit to the ceiling



Once the unit is screwed into position, attach the self-adhesive label in recess to hide screw heads.

If a conduit system is requested then a circular conduit box should be installed in the required position.

Second fix

Step 3: Wiring the receiver. The receiver is wired in standard 3 pair cable (CW1308 or CW1600). Although the diagram below (Figure 29) depicts only three conductors being used for the R, B and Y terminals, this is for ease of viewing. The cabling regime should be the same as before (see Figure 17). The Y conductor need not be connected into the spare terminal but a significant advantage of doing this is to allow extension of the system, i.e. if an extra indicator panel requires installation then the cabling can be picked up at the call point rather than installing a new cable.

Figure 28 - Cable designation

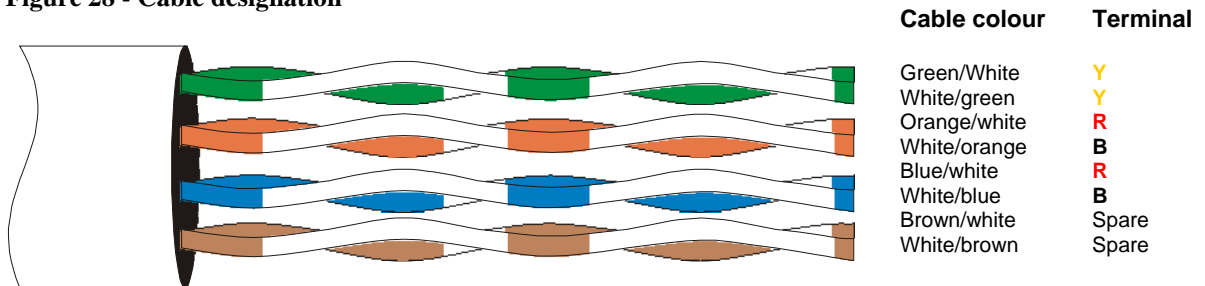
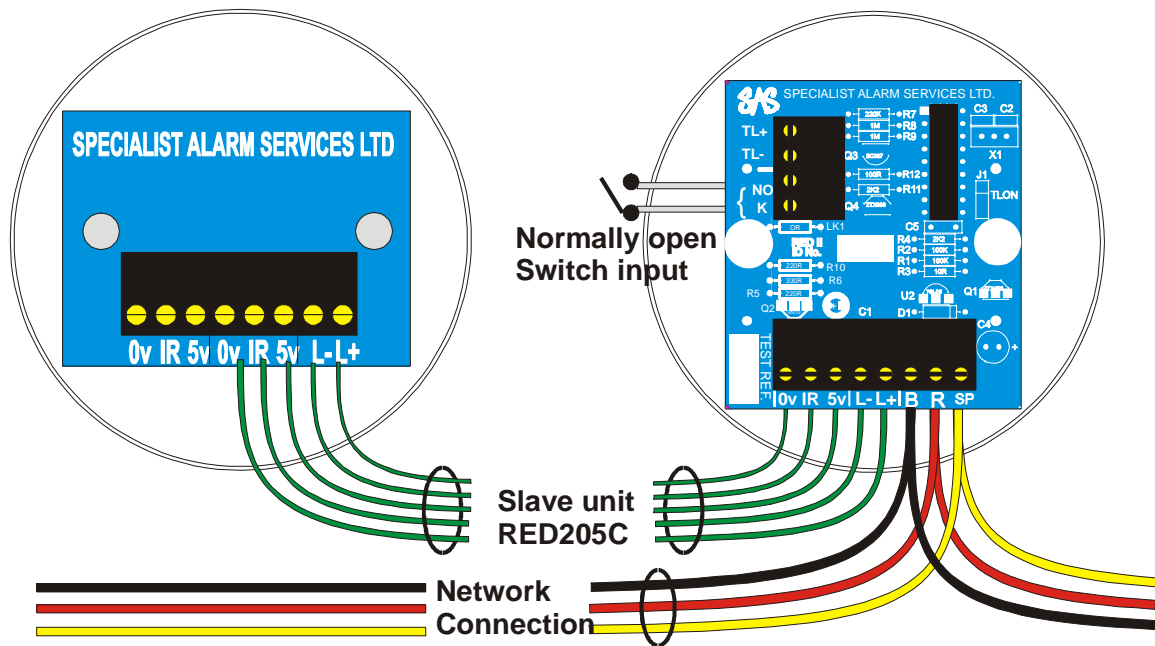


Figure 29 - Wiring designation for RED205 and RED205C



The Y/sp connection is not necessary however, if possible, should be connected through to provide for future extensions.

To meet **minimum requirements**, the cable recommended for installation of call points is CW1308 or CW1600 3 pair, subject to the client's or employer's specification. The cable recommended for installation of the indicator panels is CW1308 or CW1600 4 pair, subject to the client or employer's specification. This allows for an extra pair in both cases, should any volt drop problems arise on the system.

Configuration

Each RED205 contains the text "**NOT PROGRAMMED**" with an identification number of "**0254**" when it leaves the factory. This number must be changed, on site, to a unique number between 1 and 254 using the infrared programmer (RED236) The programmer also allows the installer to change the text "NOT PROGRAMMED" to suit individual room names. **When the programmer is ready to transmit it must be pointed at the receiver unit within a range of about 1 meter.** The programmer is de-tuned so a multitude of receiver units cannot be accidentally programmed with the same information.

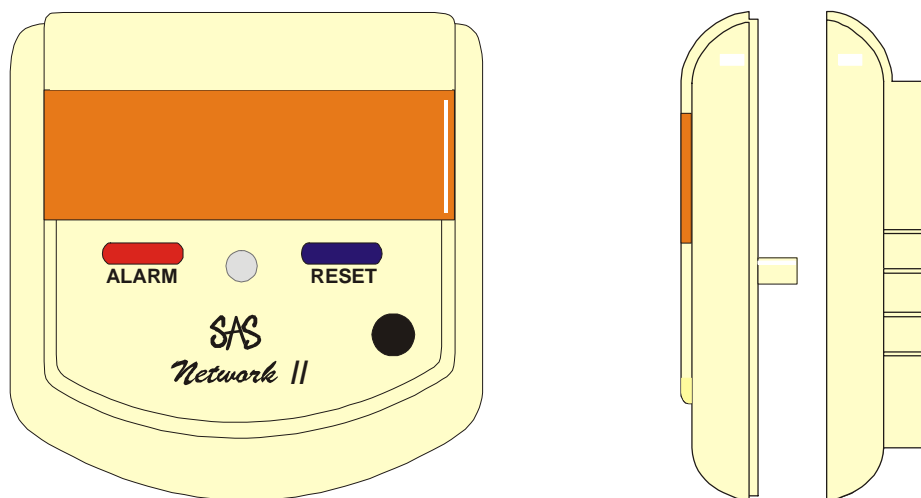
A slave unit RED205C does not need any programming, these are used when an excessively large area needs to be covered e.g. a long corridor. It is possible to connect up to three slave units to one RED205 (master) however only the master needs programming.

Wall Mounted Call Point

Applies to

NET204	Reset unit
NET204M	Reset unit (manual push button reset)
NET205	Call point (staff key required)
NET205M	Call point (manual push button reset)
NET207	Call point with infrared sensor
NET207M	Call point with infrared sensor (manual push button reset)
RED245	Call point (staff key reset) Paddle is red instead of orange.
RED245M	Call point (manual push button reset) Paddle is red instead of orange.

Figure 30 – External appearance (NET205M)



Overview

The wall mounted call point is the patient / system interface. When the patient requires assistance he / she simply presses the large orange paddle switch to initiate a call. The lamp emits a constant red light; the text programmed into the call unit appears on all the displays throughout the system. The attending nurse can change the call condition into a higher priority, by pressing the alarm button (or alternatively waving the magnetic staff key in front of the position marked alarm). This alarm condition can be upgraded again to a crash call by pressing the orange paddle switch once more. Each alarm level has a different lamp pulse rate assigned to it, whilst the sounder in the indicator panel has a distinctive tone for each. The call can be reset by pressing the “reset” button twice, pressing it once will enter the unit into presence mode for a maximum of 20 minutes. Every call point has a push-to-call lead (NET206) input in the form of a ¼” jack socket.

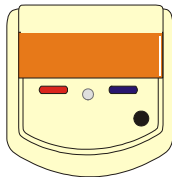
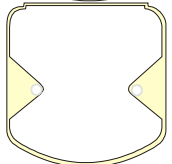
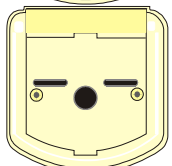


The NET204 (M) is designed to be triggered by a remote switch e.g. a door bell push, lift alarm call point, or bathroom ceiling pull switch.

The NET207 (M) has an infrared sensor built in which allows the unit to receive all alarm / reset signals sent via an infrared transmitter. However this does not allow the unit to be programmed using the RED236 (infrared programmer).

Specification

Size	96x 105 x 36 mm
Weight	67g
Current consumption inactive (active)	4mA (20mA)
Max Voltage	18v
Current limit on L+	20mA
Temp range	0-50°C

Kit contents

	Call point facia	1 off
	Either*	
	Mounting collar (for flush mount fixing)	1 off
	Or*	
	Back box (for surface mount fixing)	1 off
	Self-adhesive label	1 off
	Plastite screw or machine screw	2 off

* Specified at time of order

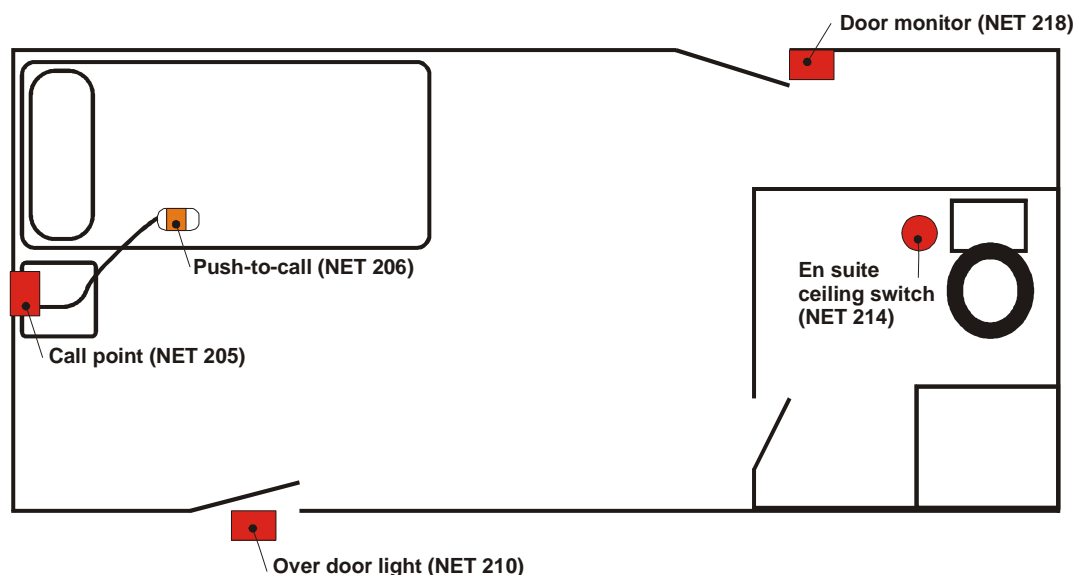
To meet **minimum requirements**, the cable recommended for installation of call points is CW1308 or CW1600 3 pair, subject to the client's or employer's specification. The cable recommended for installation of the indicator panels is CW1308 or CW1600 4 pair, subject to the client or employer's specification. This allows for an extra pair in both cases, should any volt drop problems arise on the system.

Installation

First fix

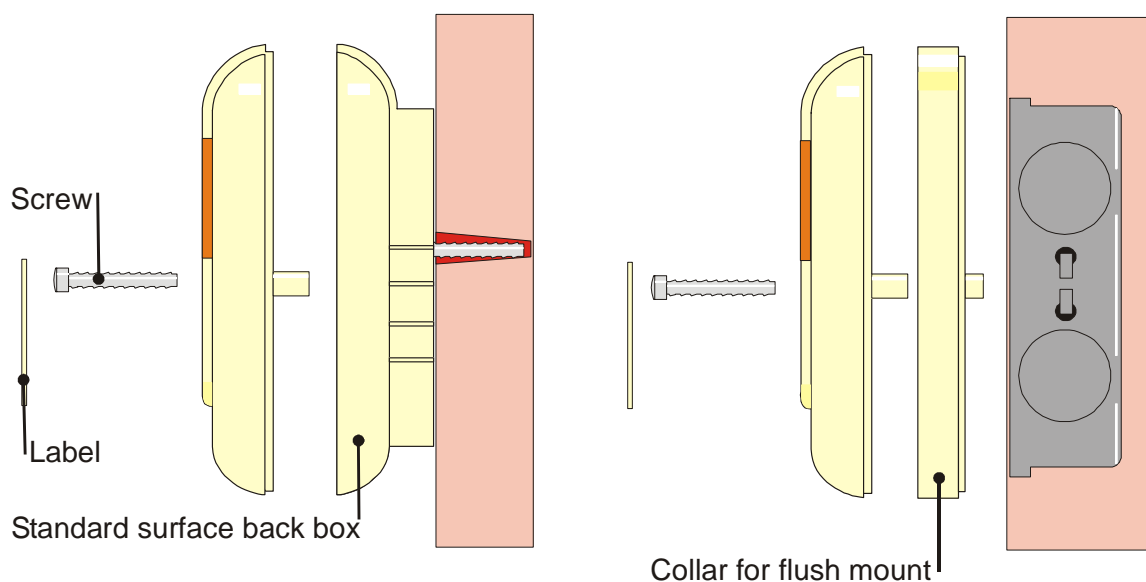
Step1: Choosing a location for call point within room. The call point should be mounted near to the headboard or as near to the bed as possible. Usually push-to-call leads (optional) are plugged into the unit and these should ideally be able to reach the patient / resident in bed.

Figure 31 – Typical room plan



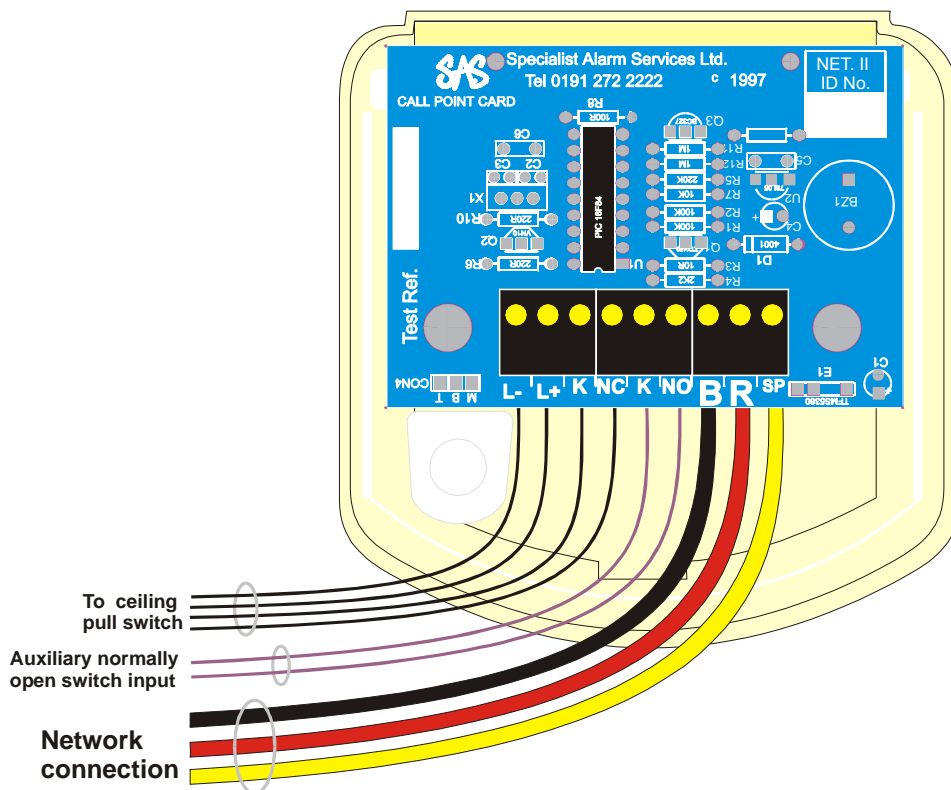
Step2: Fixing to wall. There are two methods of fixing to a wall: surface and flush mounting, both are apparent in the diagram below. Once mounted attach self-adhesive label in recess provided to hide screw heads etc. The labels can be reused if maintenance needs to be carried out.

Figure 32 - Affixing the call point to the wall



Second fix

Figure 33 - Wiring designation

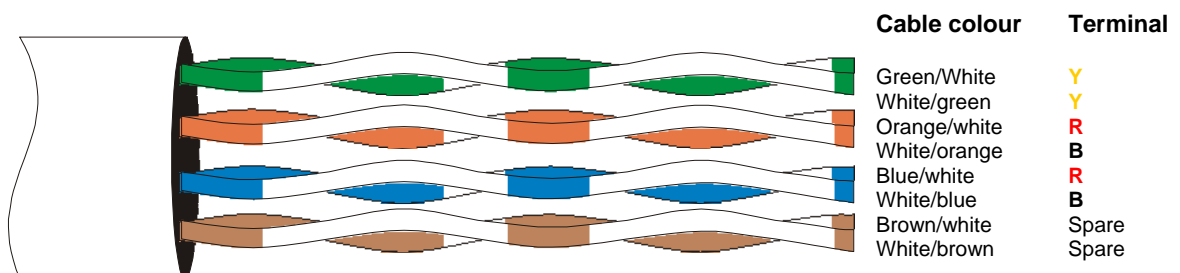


Step 3: Wiring the call point. The call point is wired in standard 3 pair cable (CW1308 or CW1600). Although the diagram above (Figure 33) depicts only three conductors being used for the R, B and Y terminals, this is for ease of viewing. The cabling regime should be the same as before (see Figure 17). The Y conductor need not be connected into the spare terminal but a significant advantage of doing this is to allow extension of the system, i.e. if an extra indicator panel requires installation then the cabling can be picked up at the call point rather than installing a new cable.

Configuration

Each NET205 contains the text **“NOT PROGRAMMED”** with an identification number of **“0254”** when it leaves the factory. This number must be changed on site to a unique number between 1 and 254 using the programmer (NET236). The programmer also allows the installer to change the text **“NOT PROGRAMMED”** to suit individual room names.

Figure 34- Cable designation

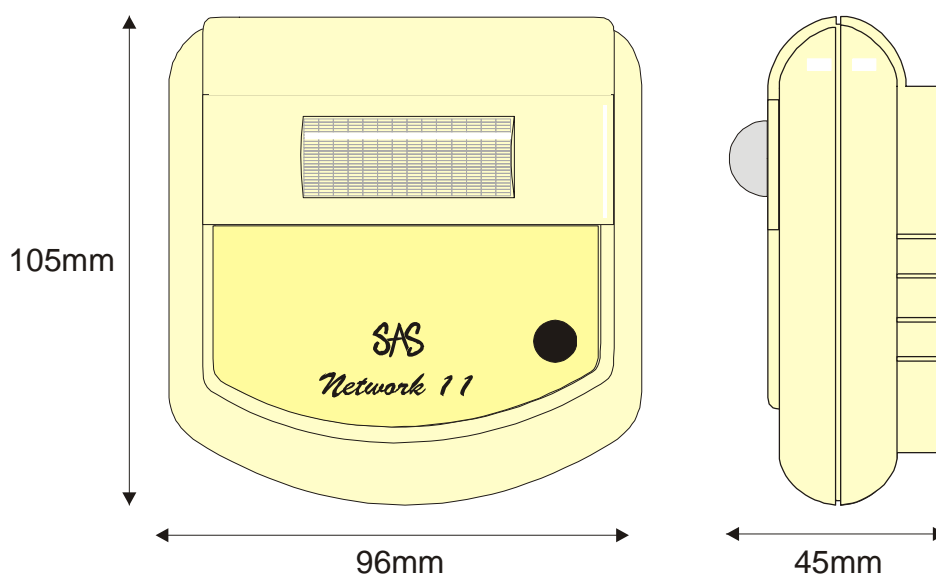


Over Door Light

Applies to

NET210	Over door light
NET219	Over door light with sounder
NET210R	Over door light with relay output
RED210	Over door light
RED219	Over door light with sounder
RED210R	Over door light with relay output

Figure 35 – External appearance (NET210)



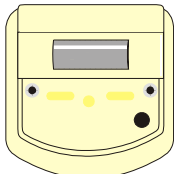
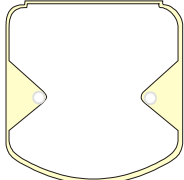
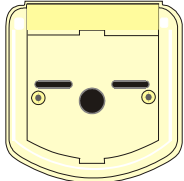


Overview

Over door lights are usually fitted outside a room, situated, as the name suggests, above the door. The device works in conjunction with the call point inside the room. Whenever its assigned call point is activated the over door light flashes the corresponding pattern for that alarm condition. They are used, commonly, for rapid, obvious detection of an alarm condition as they can be seen down a corridor. A relay (with dry contacts) version is available to interface with other systems. Also there is a sounder version available, these are usually used in conjunction with door monitors (NET218). Each over door light can be configured to respond to up to eight addressable call points.

Specification

Size	96 x 105 x 45 mm
Weight	67g
Current consumption inactive (active)	4mA (30mA)
Max Voltage	18v
Current limit on L+	20mA
Temp range	0-50°C

Kit contents

	Over door light facia	1 off
	Either*	
	Mounting collar (for flush mount fixing)	1 off
	Or*	
	Back box (for surface mount fixing)	1 off
	Self-adhesive label	1 off
	Plastite screw or machine screw	2 off

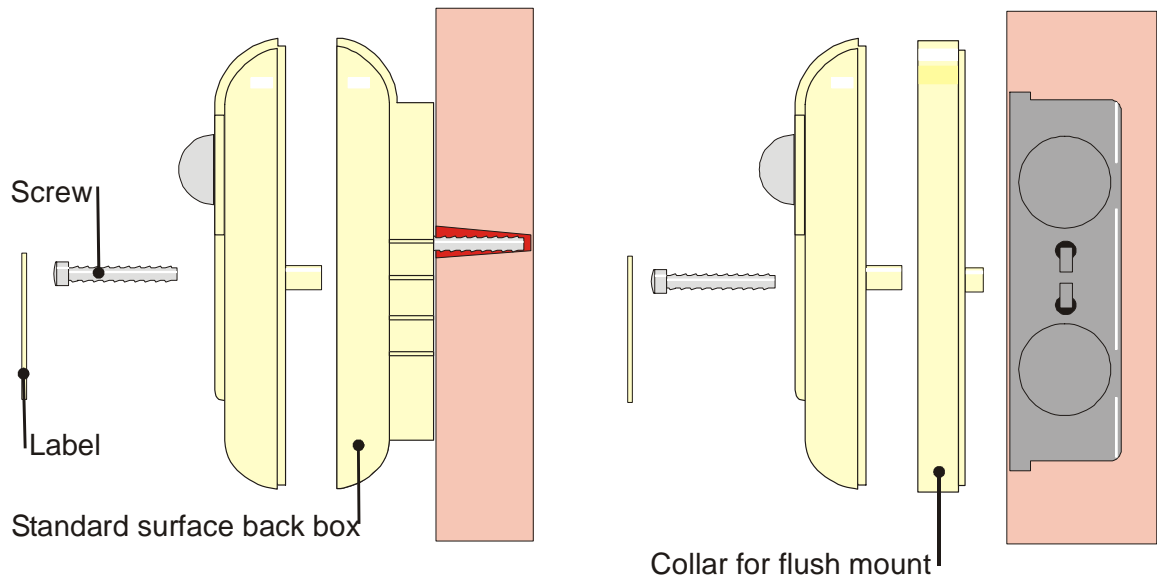
* Specified at time of order

Installation

First fix

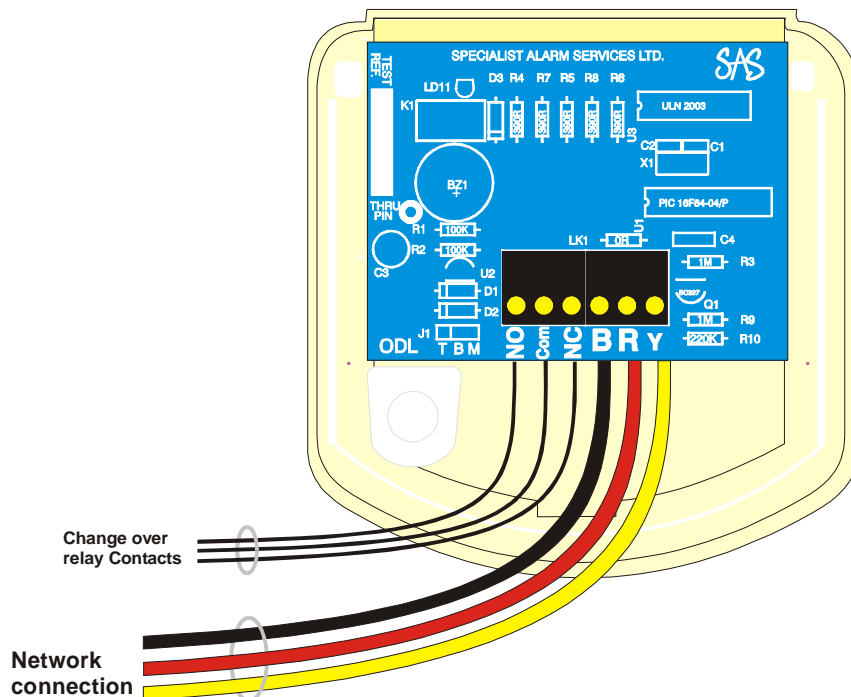
The over door light is addressable, therefore works off the R and B of the network connection. The unit should be situated, for example, directly outside the room it is representing or at the beginning of the corridor if it is covering a group of call points at a height of approximately two metres.

Figure 36 – Affixing the over door light to the wall



Second fix

Figure 37 – Wiring designation



The over door light is wired in standard 3 pair cable (CW1308 or CW1600). Although the diagram above (Figure 37) depicts only three conductors being used for the **R**, **B** and **Y** terminals, this is for ease of viewing. The cabling regime should be the same as before (see Figure 17). The **Y** conductor need not be connected (**except in case of relay version (NET210R)**) but a significant advantage of doing this is to allow extension of the system, i.e. if an extra indicator panel requires installation then the cabling can be picked up at the over door light rather than installing a new cable.

Configuration

Each NET210 contains the text “**NOT PROGRAMMED**” with an identification number of “**0254**” when it leaves the factory. This number must be changed on site to a unique number between 1 and 254 using the programmer (NET236) The programmer also allows the installer to change the text “NOT PROGRAMMED” to suit individual room names however changing the text has no significance as far as the system operation is concerned. The over door light only compares the identification number. After programming a call point the programmer automatically asks the user if there is a corresponding over door light to be programmed.

Tip: You do not need to program text into the ODL as only the ID number counts.

To program an over door light to respond to up to 8 call points it should be programmed as if it were a call point. Using the text **INCX** (where **X** is the number of call points you wish the over door light to respond to) typed where the name of the call point should be. The call points set to trigger said over door light must have sequential identification numbers. The ID number given to the over door light must be that of the lowest ID number from all the call points it reacts to.

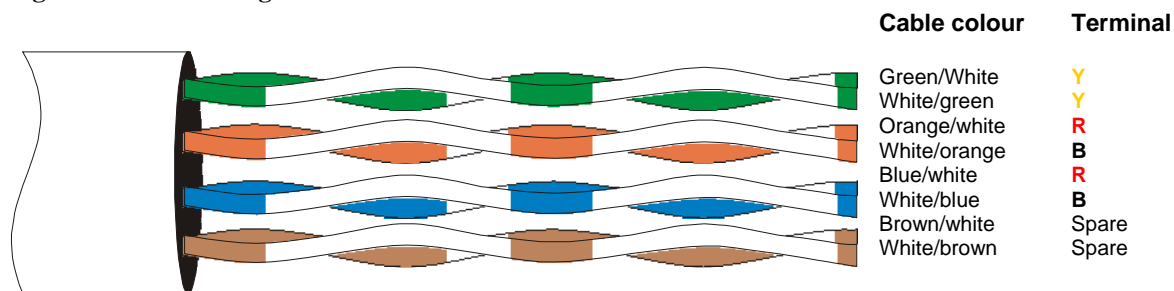
E.g.

<u>ID No</u>	<u>Name</u>
4	BEDROOM 17
5	BEDROOM 17

BEDROOM 17 is a twin room requiring only one over door light, which should be programmed as:

<u>ID No</u>	<u>Name</u>
4	INC2

Figure 38 - Cable designation



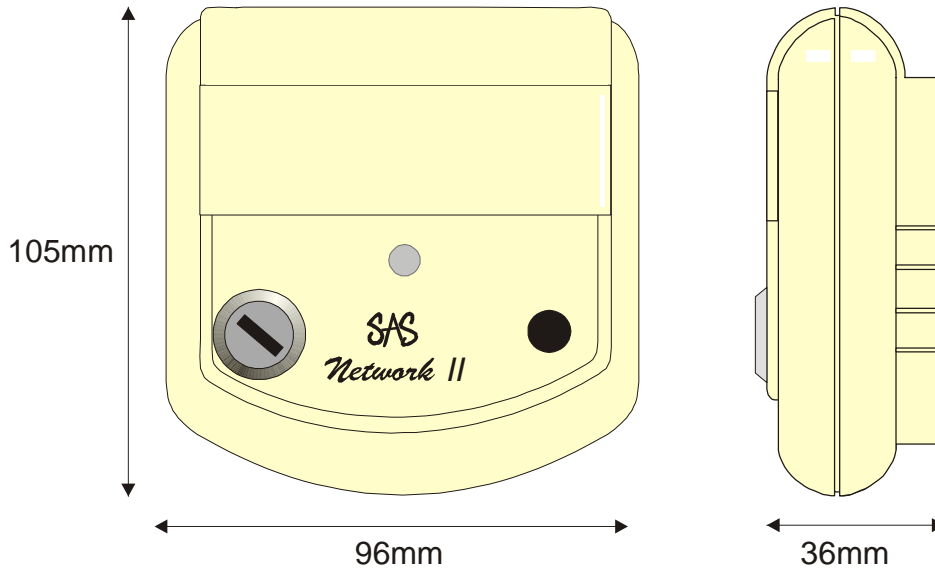
To meet **minimum requirements**, the cable recommended for installation of call points is CW1308 or CW1600 3 pair, subject to the client’s or employer’s specification. The cable recommended for installation of the indicator panels is CW1308 or CW1600 4 pair, subject to the client or employer’s specification. This allows for an extra pair in both cases, should any volt drop problems arise on the system.

Door Monitor

Applies to

NET218 Door Monitor
RED218 Door monitor

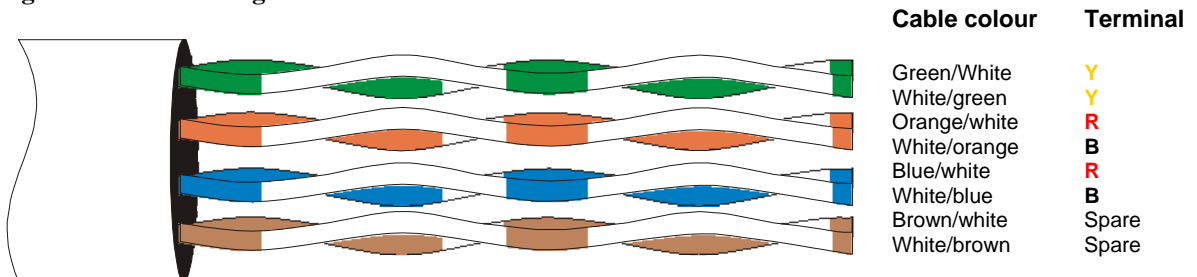
Figure 39 - External appearance (NET218)



Overview

Door monitors are located adjacent a door that requires monitoring. This can be any thing from a fire door to a drug cabinet. The unit generates an alarm when the door is breached. A key switch is provided to electronically isolate the door when it needs to be opened. The same key is used to reset the device after activation. Flush and surface fitting door contacts NET220 & NET223 are commonly connected to the normally closed input of the door monitor. A timed override feature can be provided to allow the staff to open a door without triggering the alarm. The override trigger is connected to the normally open input of the door monitor and is commonly in the form of a magnetic swipe key or coded access panel. A Door monitor generates an 'alarm' type of condition which cannot be reset until the door is closed. Also a PIR feature can installed to monitor activity within a room.

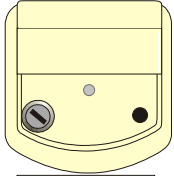
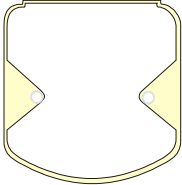
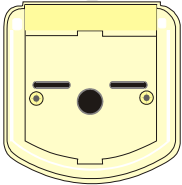


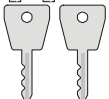
Figure 40 – Cable designation



Specification

Size	96 x 105 x 45 mm
Weight	67g
Current consumption inactive (active)	4mA (20mA)
Max Voltage	18v
Current limit on L+	20mA
Temp range	0-50°C

Kit contents

	Door monitor facia	1 off
	Either*	
	Mounting collar (for flush mount fixing)	1 off
	Or*	
	Back box (for surface mount fixing)	1 off
	Self-adhesive label	1 off
	Plastite screw or machine screw	2 off
	Keys	2 off

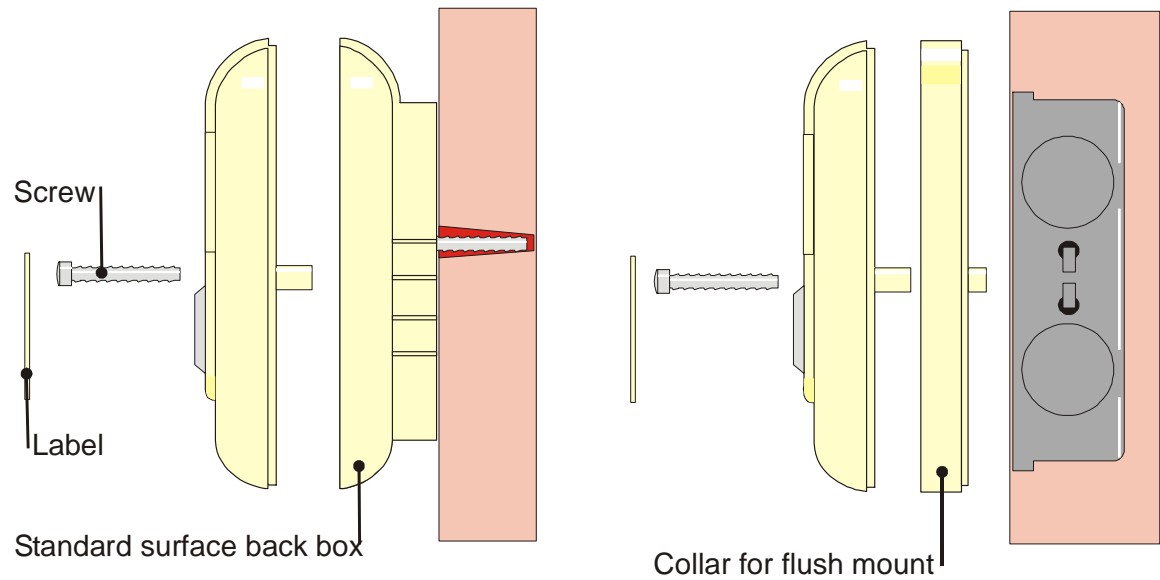
* Specified at time of order.

Installation

First fix

The door monitor is addressable, therefore works off the R and B of the network connection. The door monitor should be situated near to the door it is protecting, as door contact cable lengths should be kept to a minimum. This also aids recognition in the event of an alarm condition. They should be mounted at an accessible height allowing staff easy operation of the key switch.

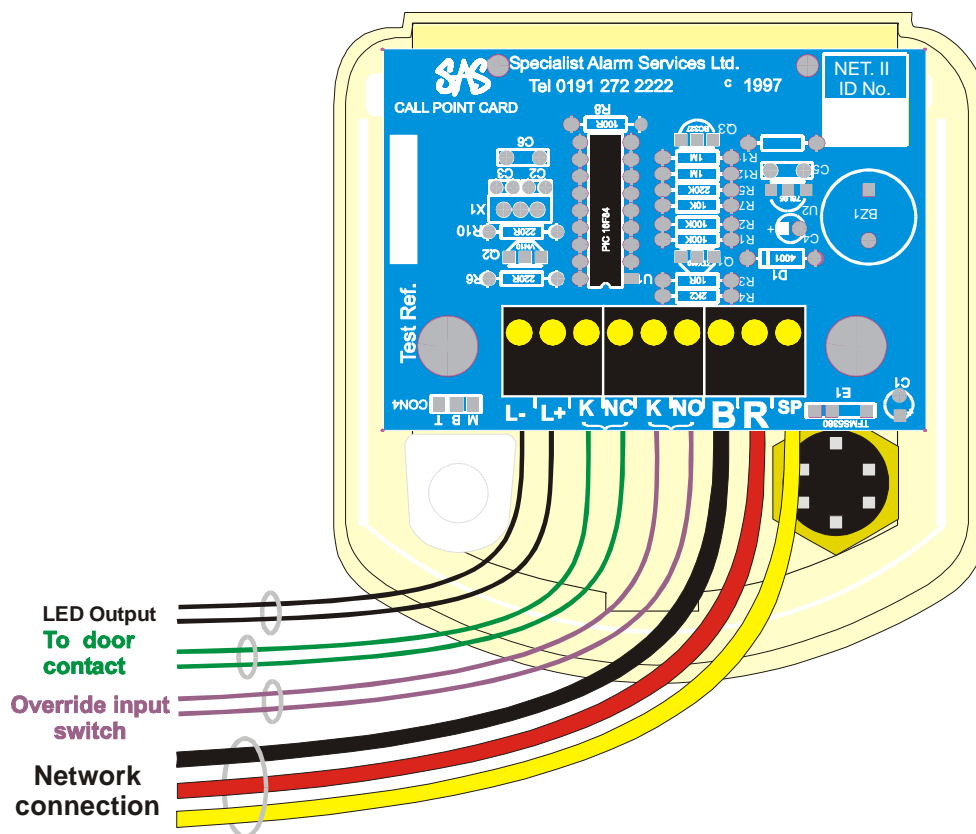
Figure 41 – Affixing the door monitor to the wall



To meet **minimum requirements**, the cable recommended for installation of call points is CW1308 or CW1600 3 pair, subject to the client's or employer's specification. The cable recommended for installation of the indicator panels is CW1308 or CW1600 4 pair, subject to the client or employer's specification. This allows for an extra pair in both cases, should any volt drop problems arise on the system.

Second fix

Figure 42 - Wiring designation



The door monitor is wired in standard 3 pair cable (CW1308). Although the diagram above (Figure 42) depicts only three conductors being used for the **R**, **B** and **Y** terminals, this is for ease of viewing. The cabling regime should be the same as before (see Figure 17). The Y conductor need not be connected into the spare terminal but a significant advantage of doing this is to allow extension of the system, i.e. if an extra indicator panel requires installation then the cabling can be picked up at the call point rather than installing a new cable.

Configuration

Each NET218 contains the text “**NOT PROGRAMMED**” with an identification number of “**0254**” when it leaves the factory. This number must be changed on site to a unique number between 1 and 254 using the programmer (NET236) The programmer also allows the installer to change the text “NOT PROGRAMMED” to suit individual room names.

Timed Exit / Door Contact override (OPTIONAL)

If there is any character programmed into the 20th character of the door monitor text and the contacts of the normally open connector become momentary closed, a timer is initialised to inhibit any alarm call from the door contact (across the normally closed input). A typical application is where a monitored door needs to be breached, without using the key switch, for a brief period of time (i.e. Enough time for the door to be opened and then closed again.)

The actuation of the override feature could be from a keypad, card swipe, PIR, reed switch etc anything with a normally open switch output. When in ‘override mode’ the LED on the facia flashes green rapidly (similar to “visit”) to signify the door can be safely opened. When the LED is not flashing green it is *unsafe* to open the door. There is no level of call associated with this inhibit action. (It cannot be sent to a indicator panel, printer or computer etc.)

The duration of the inhibit delay depends on the 20th character programmed in the name of the door monitor. The following table shows the relevant inhibit times per character used. **Note:** if the 20th character is left blank the normally open switch input acts as a normally open switch input.

20 th Character	Override Delay Time (seconds)
0	0
1	2
2	3
3	5
4	6
5	8
6	10
7	11
8	12
9	14
J	15
K	17
L	19
M	20
N	22
O (not zero)	24

Timings are approximate!

E.g. Name => “EMERGENCY EXIT 1 5” Would give an inhibit delay of 8 seconds

Computer / Printer / Pager Interface

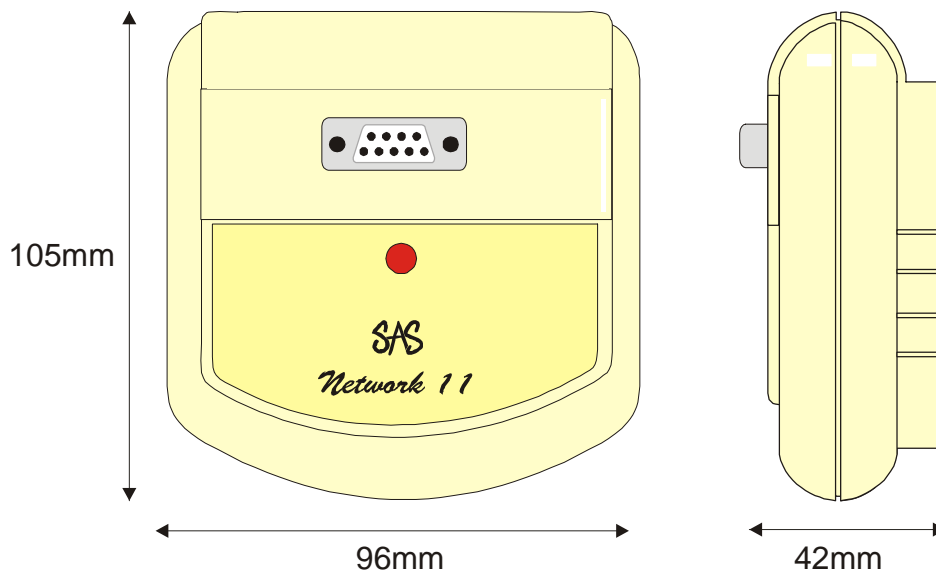
Applies to

NET237C/PR/PG RS232 Interface (Generic)
RED237C/PR/PG RS232 Interface (Generic)

Comes integral with:

NET234 Datastore 2 Computer software package
NET235 Data logging printer package
NET228 Alphanumeric pager transmitter interface package
RED234 Datastore 2 Computer software package
RED235 Data logging printer package
RED228 Alphanumeric pager transmitter interface package

Figure 43 – External appearance (NET237 & RED237)



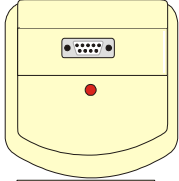
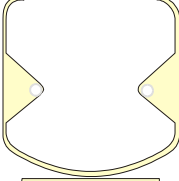
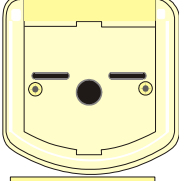


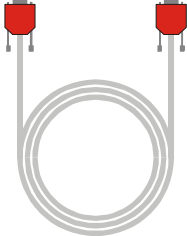
Overview

The RS232 interface allows connection to other intelligent devices such as a computer, printer and alphanumeric pagers. When ever information is transferred from the port the LED on the facia plate illuminates briefly.

Specification

Size	96 x 105 x 45 mm
Weight	67g
Current consumption inactive (active)	4mA (20mA)
Max Voltage	18v
Temp range	0-50°C

Kit contents

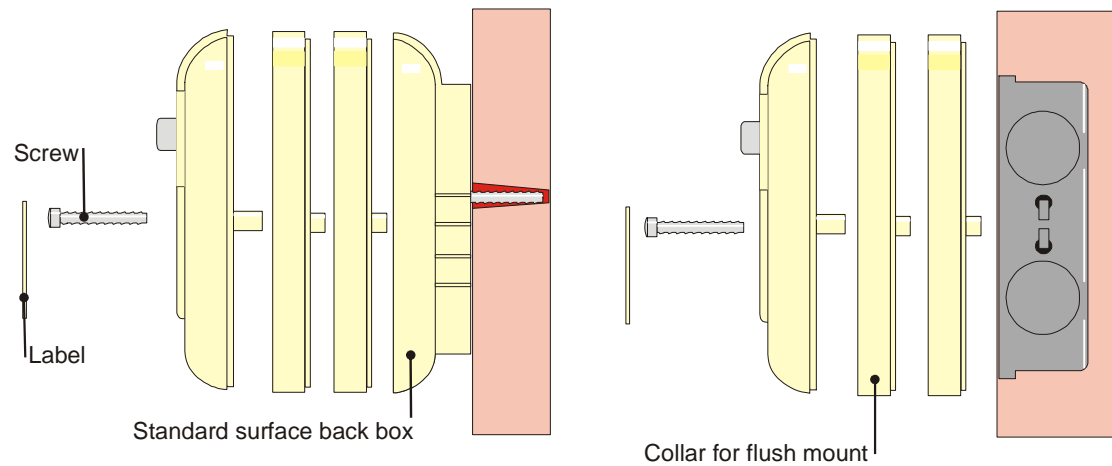
	RS232 facia	1 off
	Mounting collar (for flush mount fixing)	2 off
	Back box (for surface mount fixing)	1 off
	Self-adhesive label	1 off
	Machine screw	2 off
	Connecting cable	1 off

Installation

First fix

The unit should be situated within a 1.5m cable run from the system to which it is interfacing (i.e. computer, Pager), this is dictated by the supplied connecting cable.

Figure 44 - Affixing the interface to the wall



Second fix

Figure 45 - Wiring Designation

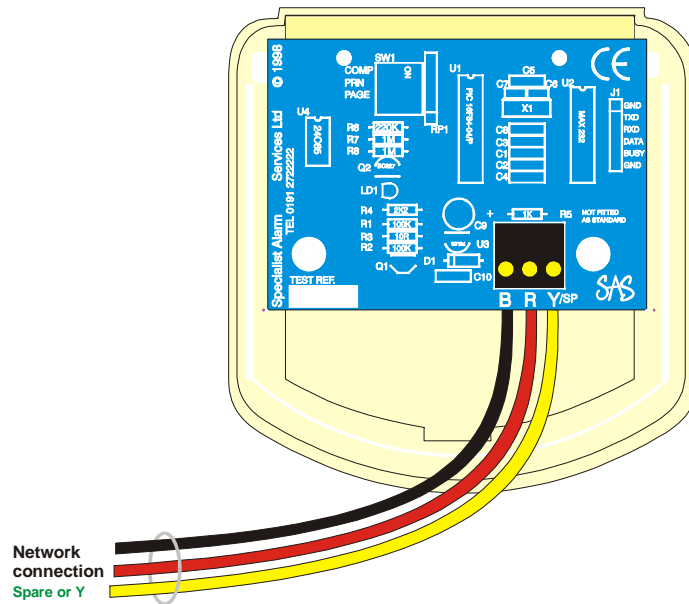
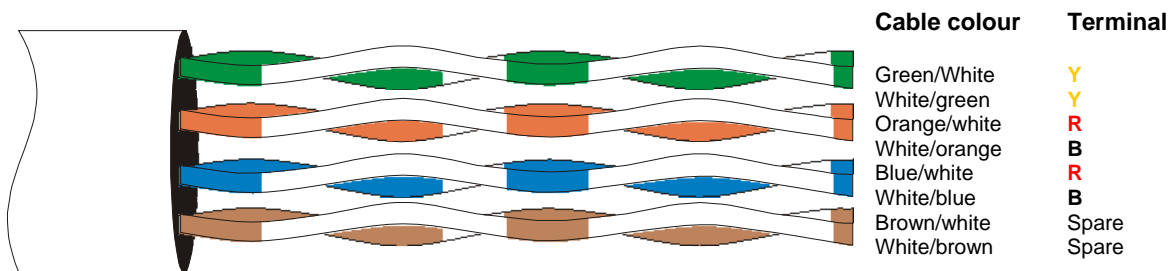


Figure 46 - Cable designation



Configuration

This device does not need to be individually programmed, however the Hub (NET201) needs to be programmed to accept a RS232 interface. This is done in the factory when the system is built. If a RS232 device is to be added at a later date then the installer must follow instructions outlined in Figure 12.

When the unit communicates with a computer / printer / pager the LED on the face briefly illuminates. This is usually every time the state of the system is changed (i.e. a call is activated or reset). However there are certain circumstances where the LED will not illuminate or will illuminate very dimly. E.g. if the computer is not connected to the port, or Datastore 2 is not running then communication will be halted and the hub will buffer up to 200 events. If the printer runs out of paper or becomes disconnected then communications will halt. A pager port, on the other hand, will transmit unconditionally whether paging equipment is connected or not. Hence the reason for a printer buffer if a pager and printer are connected to the same hub. It is possible to filter system events that go to the pager (factory programmed option). E.g. send only 'attack calls', in such instances the LED will blink very dimly when a filtered event is rejected by the pager port.

Tip: To find out if a hub is programmed to allow RS232 simply disconnect the R & B going to all the RS232 ports on a system then reset it. Within 5 minutes a message saying 'Check printer' will be reported to the display if RS232 is enabled.

About the RS232 Protocol (For those who are interested)

Baud rate	9600
Data bits	8
Parity	none
Stop bit	1
Flow control	none
Terminals used	TXD
	DTR
	GND

Example output to a PC:

[DD/MM/YY] [HH:mm]_[ALARM LEVEL][20 CHARACTER IDENTIFICATION]
LINE FEED, CARRIAGE RETURN

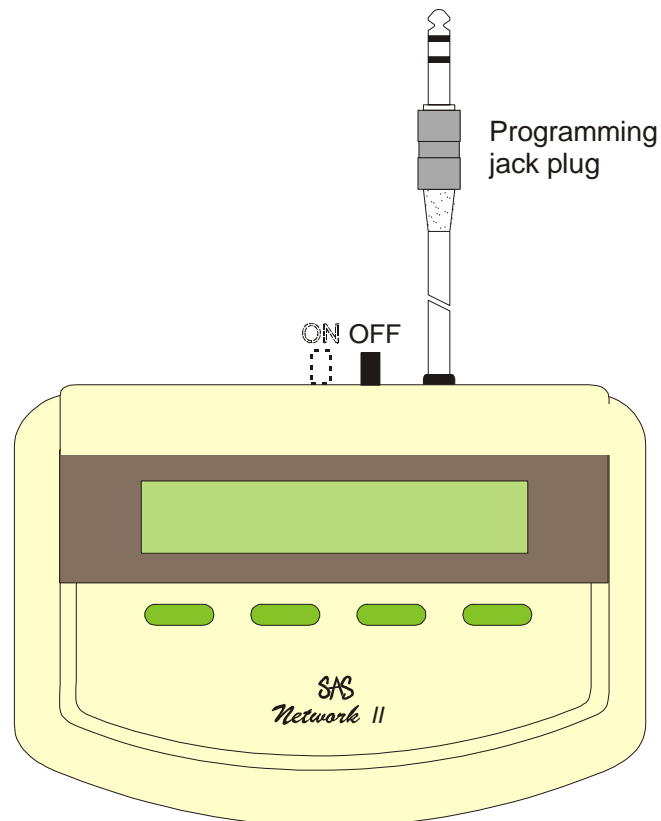
DD:	Day (e.g. 09)
/	
MM:	Month (e.g. 12)
/	
YY:	Year (e.g. 98)
Space	
HH:	Hours (e.g. 12)
:	
mm:	Minutes (e.g. 08)
Space	
[Alarm level]:	6-digit alarm level 'ATTACK' 'CRASH' 'ALARM' 'CALL' 'ACCEPT' 'RESET' 'VISIT' 'PRESNT' 'UNIDNT'
[20 CHAR ID]:	20-character name (ASCII programmed into call point)
0x0A:	LINE FEED
0x0D:	CARRIAGE RETURN

System Programming Unit

Applies to:

NET236 Network 2 jack plug programmer
RED236 Red Alert infrared programmer

Figure 47 - External appearance (NET236)



Overview

To assign or edit text belonging to a call point or over door light a Programmer is required. For Network 2 and Red Alert to function correctly all call points have to be assigned a unique number between 1 and 254. This number constitutes the address of the device on the system. **The system will not tolerate two or more of the same identification numbers;** therefore it is wise to start with ID number 1 and program units sequentially from that, keeping a running record.

Programming a call point or over door light

Turn the programmer on by sliding the switch into the left position. After a two second boot time the programmer's LCD will show the following:

Option 1



PROGRAM CALL POINT?
NO YES

Press **NO** to

Option 2



READ CALL POINT?
NO YES

Press **NO** to

Option 3



BATCH PROGRAM?
NO YES

Press **NO** to go to **option 1**

Option 1 – Programming from scratch

This option should be made for programming from the factory default setting (ID number- 254, message - NOT PROGRAMMED group- 0) of the room unit / over door light. (To edit a room's identity choose **option 2.**) The following screen appears:

Step 1 choose a number



NUMBER = 0001
NO YES

If the number displayed is inadequate press the button under **NO** the following screen appears (if **YES** then go to step 2)



NUMBER = 0001
UP DWN OK

A cursor starts flashing next to the ID number and using the **UP** and **DOWN** denoted buttons the number can be incremented or decremented to suit. When the desired number has been selected press the **OK** button.

Step 2 choose a name



NAME?
UP DWN OOPS OK

Enter text or numbers using the **UP** or **DOWN** buttons. The characters scroll through the following sequence:

ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz(),-./9876543210

Do not use the '/' Character if a pager is connected to the system. (It interferes with the paging format)

Once a character has been chosen press the **OK** button to move onto the next character in the name, if an error is made, use the **OOPS** button to backspace. When 20 characters have been entered the name is deemed complete entering into the next stage:

Tip: The system centres the text on one line, so you don't have to.

Tip: Avoid using lower case characters as accepted calls are all in lower case.

Tip: After typing the name in, press and hold the **OK** button to automatically fill the rest of the line with spaces and step to the next stage.



```
GROUP = 0
UP      DWN      OK
```

Do not alter the GROUP setting; this is reserved for future compatibility

The next screen is a prompt screen to make sure that no amendments are to be made



```
READY?
NO      YES
```

This screen appears to allow the programmer to become physically connected to call point, ODL etc. via a ¼ " socket / plug. **The programmer must be turned on when inserting it into its recipient. In particular when inserting the plug into the NET205 it must be done in one motion, if the red LED illuminates remove the jack plug reset the call and try again.**

Once connection has been made press the **YES** button to begin data exchange.

If a problem is encountered the programmer will recognise it and prompt you to try again. If not the LED in the call point will flash red – green 4 times to acknowledge a successful transfer.

When the data has been transferred successfully you will be asked if you wish to program an over door light to the same number.



```
OVER DOOR LIGHT?
NO      YES
```

If no over door light is present press **NO** to complete the programming cycle (i.e. the ID number auto increments ready to program the next location) and remove the programmer from the call point then turn off the programmer (the identification number will be remembered next time you turn on). A call will be initiated immediately from the NET205 when the programmer is removed, so the newly allocated name can be checked on the indicator panel (NET243)

If there is an over door light at that location remove programmer from call point and insert the programming jack plug into the over door light and press **YES** to proceed. The programmer will then transfer the exact same data to the over door light. The over door light will flash 4 times to acknowledge a successful transfer. It is recommended that you fill in the appropriate sections in the commissioning record shown concisely in **Appendix A - Identification History**

Option 2 – Reviewing stored information

This option should be made for reviewing or editing the information held within the call point / over door light. The following screen appears:

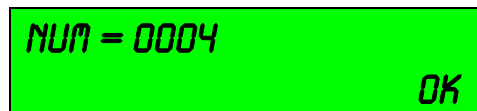


READ CALL POINT?
NO YES

Press NO for option 3

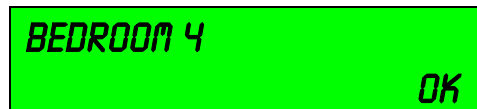
Insert the programmer into the call point / over door light you wish to review / edit and press the **YES** button. The programmer then retrieves the data and displays it

Example



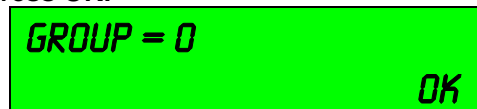
NUM = 0004 OK

Press OK!



BEDROOM 4 OK

Press OK!



GROUP = 0 OK

Press OK!

If you then wish to alter the text (e.g. BEDROOM 4) then go straight to option 1 “program call point” the number, text and group will be stored in the buffer.

Programming the ODL (multiple respondents)

To program an over door light to respond to up to 8 call points it should be programmed as if it is a call point. Using the caption **INCX** (where **X** is the number of call points you wish the over door light to respond to) typed where the name of the call point should be. The call points that trigger said over door light must have sequential identification numbers. The ID number given to the over door light must be that of the lowest ID number from the call points.

E.g.

<u>ID No</u>	<u>Name</u>
4	BEDROOM 17
5	BEDROOM 17

BEDROOM 17 is a twin room requiring only one over door light, which should be programmed as:

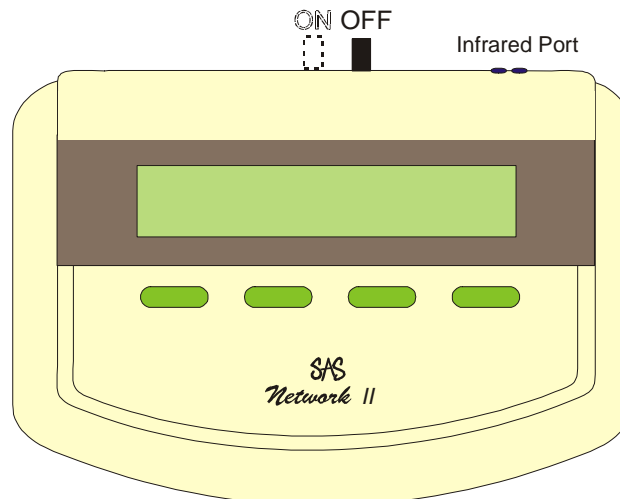
<u>ID No</u>	<u>Name</u>
4	INC2

Option 3 – Batch programming

This option allows all the numbers in the call points and over door lights to be rapidly programmed in conjunction with a bespoke smart card. Please contact Specialist Alarm Services Ltd for further details.

Infrared Programmer (RED236)

Figure 48

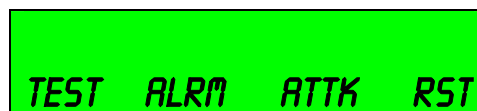


The infrared programmer differs slightly from the above-mentioned pear push programmer. Primarily the installer is unable to read the device ID and the text in an infrared ceiling call unit. There is, however, an extra menu item:



This allows as the name assigned to the room to be altered with out even knowing the ID number of the unit. This is used once the system has been fully commissioned and a room name needs to be edited.

Also a test facility has been added which transforms the programmer into a 4-button transmitter allowing the unit to be tested. **Note** The range of the infrared transmission has been detuned so it is possible to test each individual receiver and slave without triggering all surrounding call points.



To exit the 'TEST' mode press and hold the key assigned to RST (reset) for about 3 seconds.

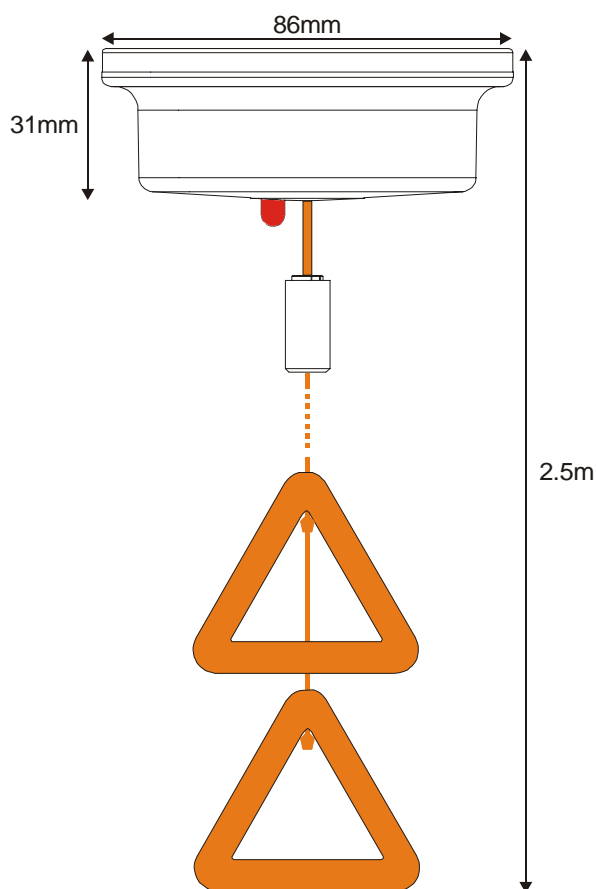
The infrared programmer must be held with in a range of about 1 metre from the infrared ceiling call unit for successful programming and testing.

Ceiling Mounted Pull Switch

Applies to:

NET14	1K LED	
NET214	1K LED	Network 2 standard switch with reassurance LED
NET14R	1K LED	
G14R	1K LED	
G142.2	2K2 LED	
G14	No LED	
G14RV	Zero link LED	

Figure 49 – External appearance



Overview

The ceiling switch provides a means of activating an alarm from a WC; it interfaces seamlessly with all Network 2 call points. The switching action is momentary and provides a LED for reassurance. There are two triangles attached to the cord, which can be set to any position for ease of operation. The switch cord is designed to break away from the switch when over tensioned. The switch output can be normally open or normally closed.

Specification

Size	Φ86 x 31 mm
Weight	64g
Current consumption with LED inactive (active)	0.5mA (20mA)
Breaking strain	5Kg
Temp range	0-50°C

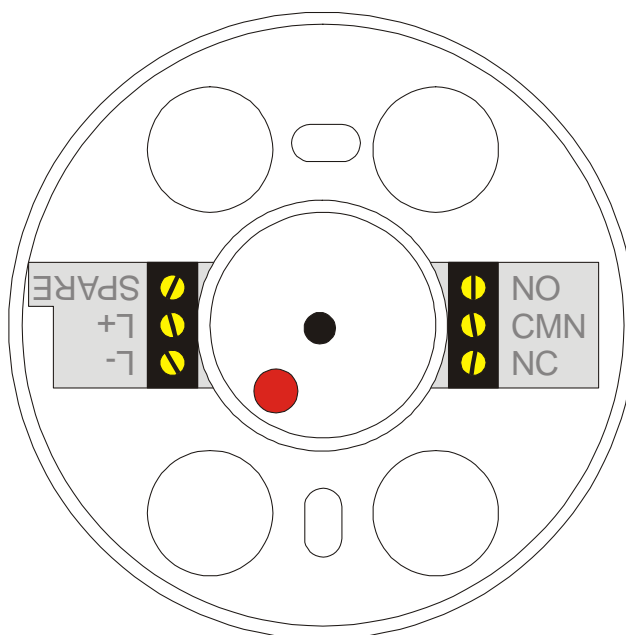
Installation

First fix

In a bathroom the ceiling switch should be located near to the toilet and/or bath in a location where the cord will not interfere with access to appliances. It is possible to connect up to three ceiling switches in series / parallel allowing placement near a bath and shower etc. However, if three are being used, it is advisable to use the G142.2 variant to maintain brightness of the LEDs. Series or parallel connection depends on normally closed / open switch arrangement.

Second fix

Figure 50 - Cable Designation



Configuration

If a normally closed switch configuration is desired (recommended) connect the switch pair between **CMN** and **NC**, if a normally open switch configuration is desired connect the switch pair between **CMN** and **NO**. The terminal marked **SPARE** can be used to terminate all the wires of the 3 pair cable, which are unused. The **CMN** terminal is to be connected to the terminal(s) marked **K** on the call point. **L+** and **L-** need only be connected if the unit has an LED. **Keep the switch cables separate to the data cables.**

Infrared Transmitter

Applies To

RED208/5 Infrared alarm transmitter
RED209/5 infrared reset transmitter

Overview

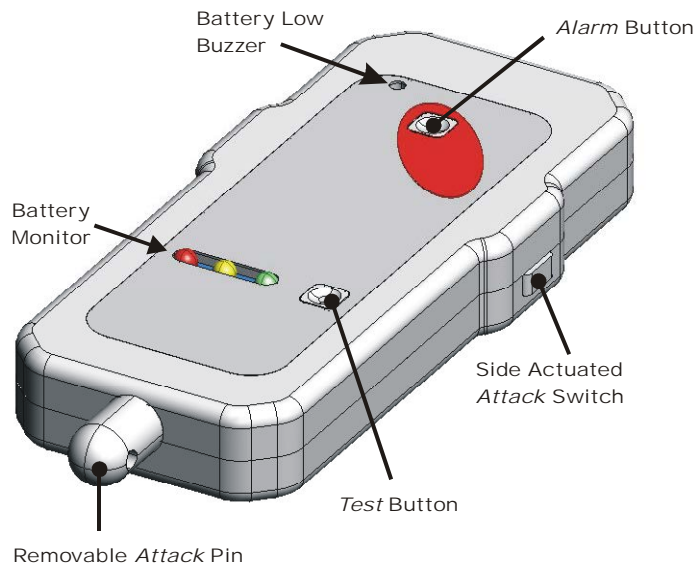
Built on the existing reliability and strength of the Red Alert transmitter, the revised version was designed with versatility and practicality in mind. The new shape, although larger, actually fits in the hand better and therefore facilitates easier operation when called upon. Aside from a more ergonomic design, many new features have been squeezed into it to give the user heightened confidence in a potentially unstable environment.

Key Features

- **Test button** – flashes the room receiver's red LED when pressed (if in range).
- **Battery Monitor** – shows the remaining battery capacity.
- **Multi-system compatible** - Network, Network2, Pinpoint etc.

Optional Extras

- **Infrared port** – for future security features.
- **Foolproof 'squeeze' switch** – Avoids accidental activation.
- **Programmable buttons** – assign any alarm level to any button.



Alarm Button.

When pressed, in reach of an infrared receiver an 'Alarm' call will be placed on the Red Alert system.

Attack Pin.

The unit can be detached from the retaining pin, usually attached to a belt loop, with a sharp jerk to initiate the 'Attack' call. In many cases, the assailant will try to retrieve the transmitter giving the victim time to make good an escape.


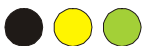

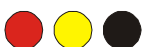

Optional Side Switches (Squeeze Switch).

When the user throwing something from his/her person could accelerate a potentially violent situation, the discreet side actuated switches are ideal. Both of these have to be pressed at the same time to initiate the 'Attack' call reducing the risk of any accidental activation.

Test Button

The test button is multi-functional it allows the following:

1. The range of transmission within a certain room to be checked (The room receiver briefly pulses red)
2. The battery capacity to be visually checked (see table below)

	Battery good
	Battery healthy
	Battery poor (battery on decline)
	Battery bad (change battery)
	Battery critical (change battery)

Replacing the battery

When the battery needs replacing unscrew the two screws on the rear of the transmitter with a small 'star head' screwdriver and pull the two halves apart. Remove the existing battery and replace with a new one making sure the polarity is correct. Put the two halves back together and refit the two screws.

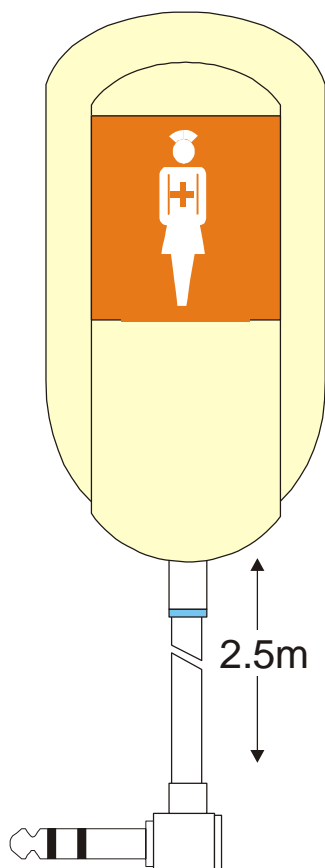
Note: The battery life is hard to predict as it depends strongly on the amount of use of the transmitter. In storage, the transmitter, with battery in it, will last approximately 1 year.

Push-to-Call Lead (Pear Push)

Applies to

NET206	Push-to-call lead
NET206c	Push-to-call lead with linen clip

Figure 51 – External Appearance (NET206)



Overview

Designed to plug into a call point, the push to call lead comes equipped with a sturdy, 2.5m lead with moulded jack plug. The pear push provides a remote method to activate the nurse call system. If the lead is accidentally removed from the call point a 'call' condition will be generated to make the staff aware.

The push 2 call lead has a wall-mounted holster to provide a home for it when not in use and a linen clip to hold it safely at hand.

Although this unit requires no installation, as such, it is important to mention that it needs 'plugging in' to complete the installation ready for hand over.

Appendix A - Identification History

A commissioning record is provided either with every system or upon request. These records are updated during commissioning and allow easy maintenance of that system. Basically the record holds every piece of information someone attending site needs to know from the name of the customer to where the display is that can be used to set the time.



Commissioning Record

THE ORIGINAL
SPECIALIST ALARM SERVICES

SAS job no.

Site Name:

Site Address

Post code Telephone no.

Contact name

Client/
Contractor

Contact name. Telephone no.

Hub Serial No. and location
Pager Serial No. and location

Equipment Schedule	Part No.	Description	Qty	Part No.	Description	Qty

Display ID	Location	Day vol.	Night Vol.	Mute time	Group
A					
B					
C					
D					
E					
F					
G					
H					
I					
J					
K					
L					
M					

ID	Location	Day vol.	Night Vol.	Mute time	Group
N					
O					
P					
Q					
R					
S					
T					
U					
V					
W					
X					
Y					
Z					

Notes

Signed _____ Name: _____ Date: _____

EQUIPMENT CHECK LIST

ID	Location														
1															
2															
3															
4															
5															
253															
254															

Appendix B – Trouble shooting

Symptom	Possible Remedy
No Power LEDs illuminate.	Check fuse in fused spur.
	Check for interference with big blue reset button on the side of the NET/RED201 cabinet
No data through out system (cart wheel frozen on indicator panel)	Remove all out going wiring if pulsing commences then reconnect one by one to see if there is a faulty leg causing malfunction.
	Check output voltages on R (11-12V) Y (12-13.8).
False calls shown on indicator panels	By pressing adjust on indicator panel you can determine the nature of the call. If it is a 'system' call then it means the named device cannot communicate with the hub. There could be a break in the wiring or a short circuit.
	Sometimes if the Room unit is screwed up too tight to the wall it can deform causing switches to be pressed. Loosen screws by a turn or two.
	Check all infrared transmitters are not transmitting.
	Double check that there are no double IDs on the system.
Strange messages appear on indicator panel	When connecting devices to the network 'live', false data can be passed around. If the display shows "/////////" or "NOT LOGGED ON" simply reset the system after everything is connected in correctly.
Mute button not working	Check indicator panel mute time value is not set to zero.
Unable to reset door monitor	Make sure door is closed.
	Check normally closed contact is closed.
Datastore is not logging calls	Check hub & computer time and date are set correctly.
	Check RS232 lead is connected to the appropriate port of the PC.
	Check the LED on the NET/RED 237 is Pulsing when a call is initiated on the system.
Master Reset (Blue Button) is not working	Check power for pager transmitter is connected to 'DC OUT'
Check printer' displayed by indicator panel	Check connection between NET/RED 237 and computer / printer / pager.
	Check connection of NET/RED 237 to the Hub NET/RED 201.
	Check the printer has a paper roll correctly fitted.



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