

# NURSECALL 800E MK3 SYSTEM INSTRUCTIONS BASIC WIRING



## IMPORTANT

The Social Services register Rest Homes and Health authorities register Nursing Homes. Please check your system complies.

## WIRING

**Do not use solid core cable as it breaks easily.**

Four core stranded burglar alarm wire (7/0.2) is ideal for call points and sounders. Multi-core cable may be used to reduce wiring runs.

**Panels. Run two 1mm<sup>2</sup> and three 0.2mm<sup>2</sup> control wires plus 1 0.2mm<sup>2</sup> core per zone between panels.**

*Sounders.* Run 1 core plus 1 or 2 common cores to the nearest panel.

*Call Points.* Run 1 signal wire per zone plus a common negative and a common positive to the nearest panel.

*Overdoor Lights.* Connect to the signal wire of the zone being indicated and to common negative and common positive.

**We strongly recommend you leave 20–25% spare cores in each cable run to allow for future changes.**

## DEFINITIONS

*Call points* are used to make a call and should be installed in bedrooms, bathrooms, WCs and communal rooms.

Each light on a panel indicates a separate *zone*. A *zone* is usually one room and can contain several call points.

An *area* is a group of zones connected so as to operate a light whenever any zone calls.

A *standard call* is a continuous signal made by a resident operating any call point.

A call is *reset* by an attendant touching a magnetic reset key to a reset 'target' in the room. (Or by inserting a reset key or pressing a reset button out of reach of the resident).

An *emergency call* is a signal made by a member of staff touching a special emergency 'target' with the magnetic reset key. (Or by pressing an emergency button out of reach of the resident). It also overrides and **resets** a standard call on that zone.

The *mute* switch (supplied uninstalled) silences the sounders but leave the light(s) lit. A new call operates the sounders again.

*Emergency calls* cannot be muted.

## GENERAL

Call points and ceiling pulls use similar electronics and can be wired together on one zone.

Non-emergency call points and reset points may be installed but should preferably be magnetic reset types to keep system operation simple.

Ceiling pulls and latch modules need a call point or reset point to reset them.

One master and up to ten repeater panels can be connected.

Up to three sounders can be connected to each master and repeater panel.

A set of auxiliary relay contacts (rated at 500milliAmps at 12 VDC) in the master panel operate when there is a standard call and pulse when there is an emergency call.

Another set of auxiliary relay contacts (also rated at 500milliAmps at 12 VDC) operate when there is an emergency call.

A 240 VAC to 12 VDC 400mA power supply is fitted in master panels.

A 12 V 1.9AHr sealed lead acid battery **should** be fitted for standby use especially if emergency call/reset points are fitted. High power consumption accessories such as radio pagers must have their own power supply.

## 1ST FIX

Use standard shallow (25mm) UK single gang back boxes (surface or flush) for wall mounted accessories.

*Latch modules* and input expanders are small (30 x 20 x 15mm) sealed units with self adhesive fixing and wire termination. Mount them in any suitable box.

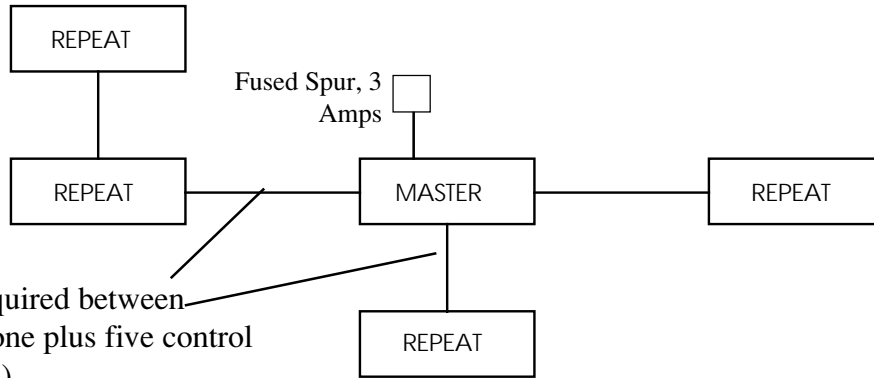
*Panels* are surface mounted.

Ten to thirty zone panels are 406mm wide x 214mm high x 98mm deep. Forty to sixty zone panels are 406mm wide x 428mm high x 98mm deep. Seventy to ninety zone panels are 406mm wide x 565mm high x 98mm deep. Larger panels are available.

When equipment and cables have been run remove panel fronts from site and cover mounting boxes with blank plates until second fix.

## INTER-PANEL WIRING

One master panel and up to ten repeater panels may be fitted. All inter-panel connections are in parallel. The master panel is best placed centrally to minimise volt drop but may be anywhere. Call points etc. do not need to be connected directly to the master panel and can be wired to the most convenient repeater panel.



The number of cores required between panels is one for each zone plus five control cores. (Plus 25% spares.)

### KEY

- S REMOTE SOUNDER, NC888C
- SS SWITCHABLE SOUNDER, NC887C
- C CALL POINT, NC802CM
- C CEILING PULL, NC807C
- R RESET POINTNC, NC809CM
- EC EMERGENCY CALL POINT, NC802EM, NC804E
- ER EMERGENCY RESET POINT, NC809EM
- L  OVERDOOR LIGHT, NC806C

## OPERATION

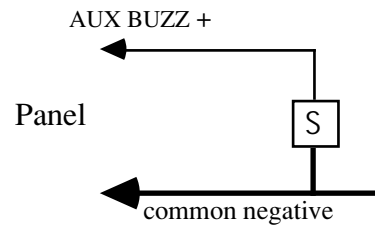
A **standard** call is made by pressing a button or pulling a ceiling pull cord. The "CALLING" light comes on and the relevant panel light(s) and corridor light come on. Sounders operate and radio pagers may be triggered. A call is also made if a remote lead is plugged in or out.

An **emergency** call is made by touching a special 'target' with a magnetic reset key or by pressing a button placed out of reach of the resident. All indicator lights flash and the sounders pulse. A different signal may be triggered on a radio pager. Standard calls on the same zone are reset but standard calls on the rest of the installation remain and can still be dealt with normally.

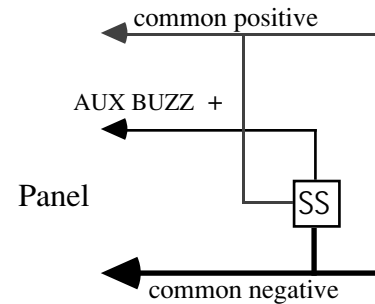
Standard and emergency calls can only be reset by attending the room and using a magnetic reset key or by inserting a reset key or pressing a reset button.

## SOUNDERWIRING

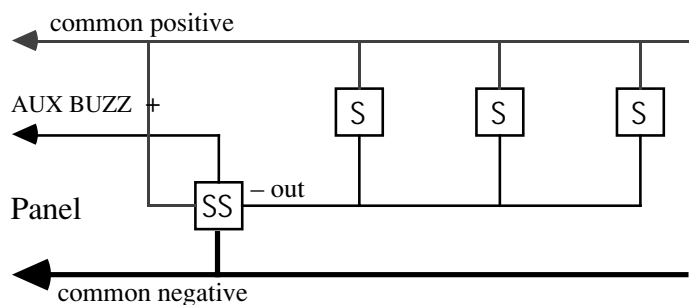
*Remote sounders* need two connections, an AUX BUZZ positive from the nearest panel and a common negative.



*Switchable sounders* need a common positive as well.



Up to three remote sounders can be controlled by a switchable sounder.



## ZONE WIRING

Signal wires from call points connect to any terminal A to J at the nearest panel.

### IMPORTANT

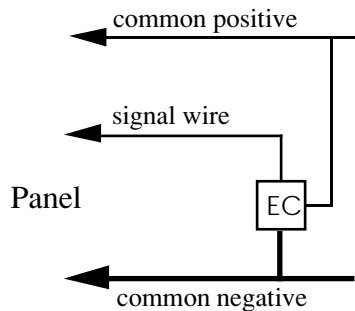
When overdoor lights are installed the voltage drop which occurs when several lights are lit at once may prevent emergency calls from being recognised by the panel, especially on cable runs exceeding 50 metres..

To avoid this:-

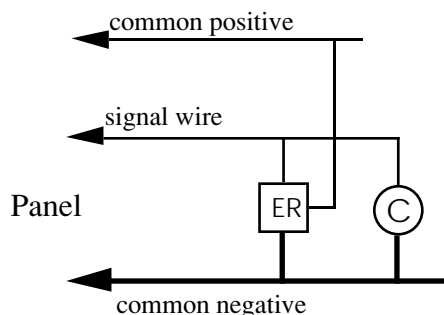
- Make sure that 1mm<sup>2</sup> cables are used for the common negative and positive between master and repeater panels (terminal 1,+; terminal 2,-).
- Use two or three cores for the common negative on each cable run.

## CALLPOINTS, CEILING PULLS & RESETS

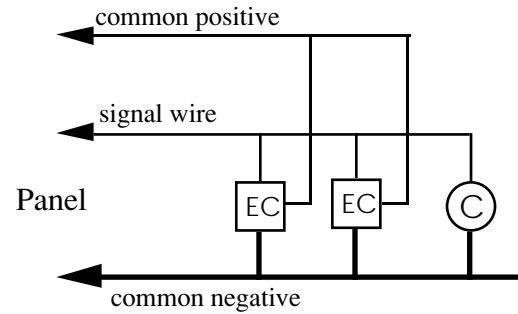
An *emergency call point* needs three connections, a common negative, a common positive, and a signal wire.



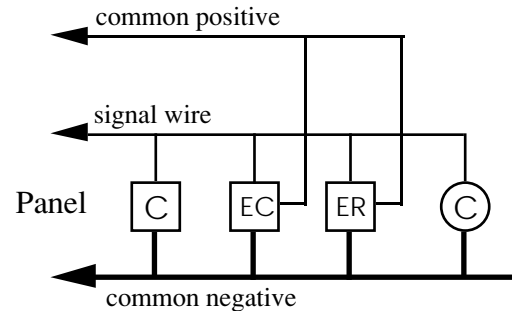
A *ceiling pull* needs two connections, a common negative and a signal wire, but an *emergency reset point* also needs a common positive.



Where two or more emergency call points are fitted on one zone a *ceiling pull* in an en-suite bathroom will be reset by either emergency call point.

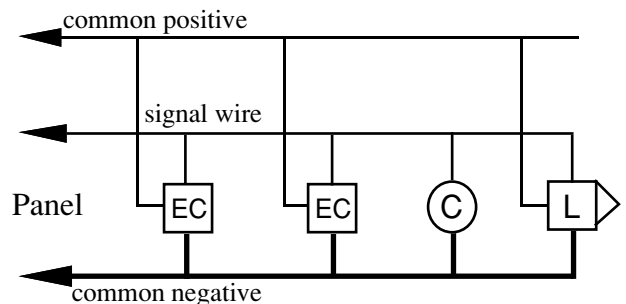


Any number and combination of *call points* and *ceiling pulls* can be connected to one zone. An emergency call will cancel a standard call on that zone only. A *standard call point* cannot make an emergency call.



## OVERDOORLIGHTS

*Overdoor lights* connect to the common negative, common positive, and the signal wire of the zone they indicate.

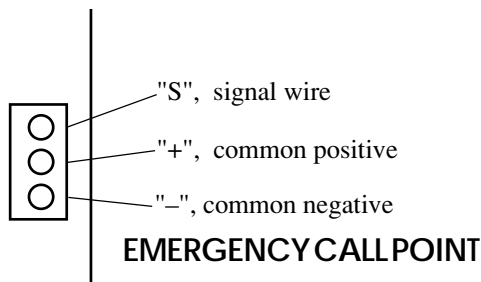


Connecting an overdoor light to call points

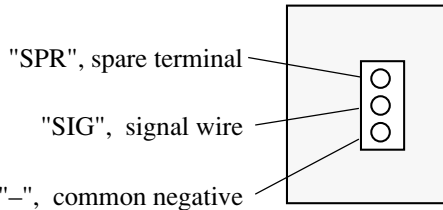
## AREA INDICATION / SPLIT SYSTEMS

Area indication (Lights at the ends of corridors etc.) and split indication at panels (Part of the panel showing calls in that area only, the other part of the panel showing which area is calling.) can be easily achieved but we recommend you contact the manufacturer for information on your particular requirements. A set of marked plans will make it much easier for us to help you.

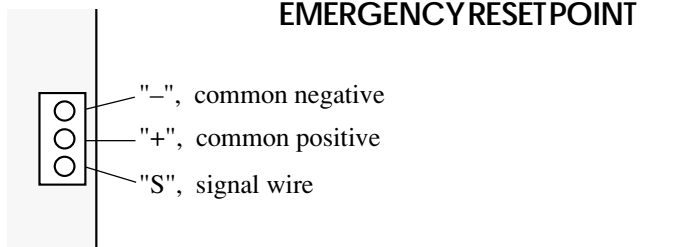
## 2ND FIX



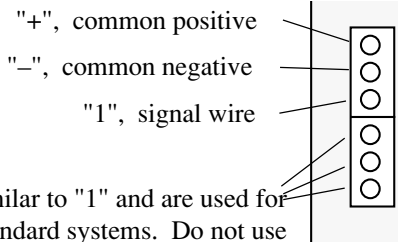
### CEILING PULL



### EMERGENCY RESET POINT

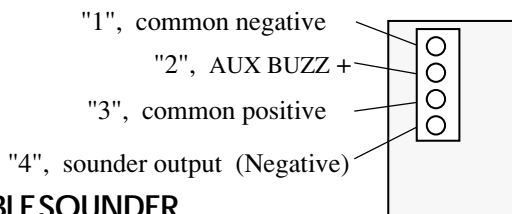
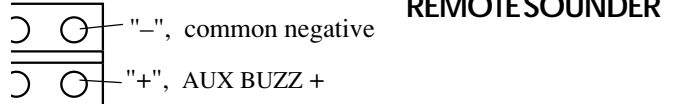


### OVERDOORLIGHT



Inputs 2, 3, 4 are similar to "1" and are used for **area indication** on standard systems. Do not use them with emergency systems as emergency calls may not indicate properly.

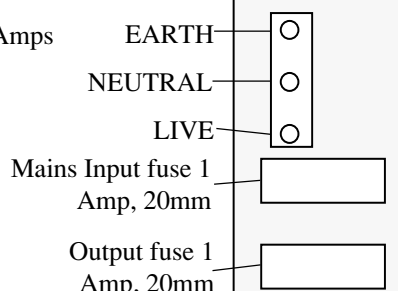
### REMOTE SOUNDER



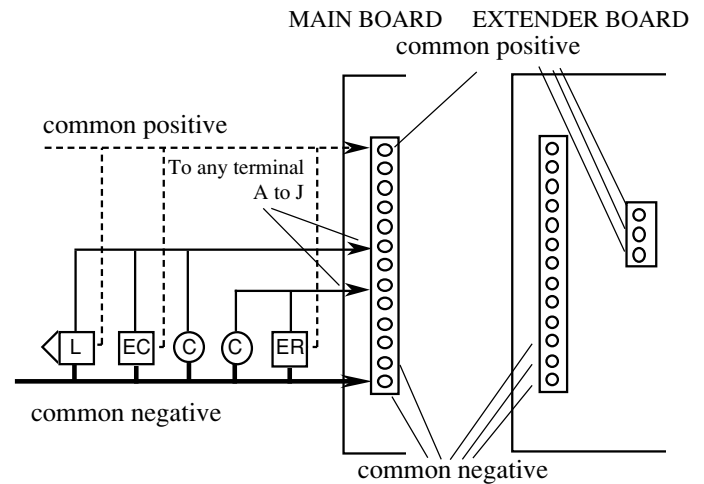
### SWITCHABLE SOUNDER

### POWER SUPPLY

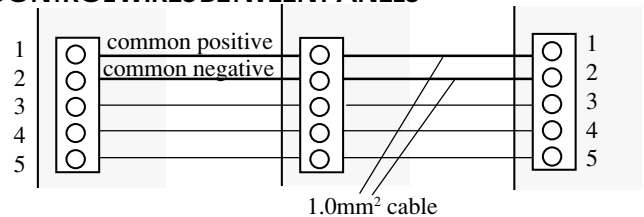
Connect to a fused spur fused at not more than 3 Amps



## CONNECTING CALLPOINTS TO PANELS



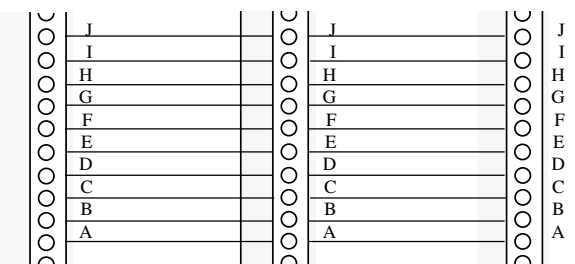
## CONTROL WIRES BETWEEN PANELS



### MAIN BOARDS IN MASTER AND REPEATER PANELS

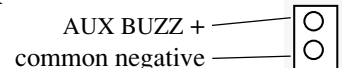
### SIGNAL WIRES BETWEEN PANELS

### MAIN AND EXTENDER BOARDS IN MASTER AND REPEATER PANELS



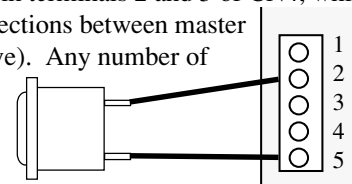
## SOUNDER CONNECTIONS

MAIN BOARD IN MASTER AND REPEATER PANELS ONLY

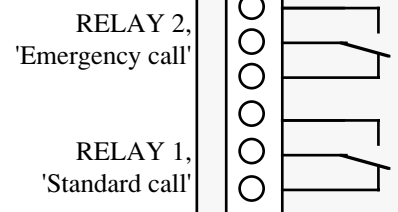


## SOUNDER MUTE BUTTON

Fit the mute button through the hole in the fascia by the Power Light. Connect the wires in terminals 2 and 5 of CN4, which are also used for the connections between master and repeater panels (Above). Any number of normally open mute buttons may be connected.



Relay contacts rated at 0.5 Amp 12VDC maximum. Use external relays to switch larger loads.



## AUXILIARY RELAYS

Errors and omissions excepted. The manufacturers pursue a policy of continuous development and whilst every effort has been made to ensure this information is correct no liability will be accepted for errors.



# I0-90 ZONE EMERGENCY INDICATOR PANEL

This product carries the CE mark. This is to meet the requirements of the low voltage directive 73/23/EEC and the CE marking directive 93/68/EEC, and other directives such as EMC as applicable. As a responsible manufacturer, it has always been our aim to give our customers the best service possible, and also at the same time to satisfy these directives. The information contained in this document is supplied **in supplement** to the **installation instructions** and **should be read first**. If there are any contradictions, **this information should be treated as correct**.

Please always ensure the following:

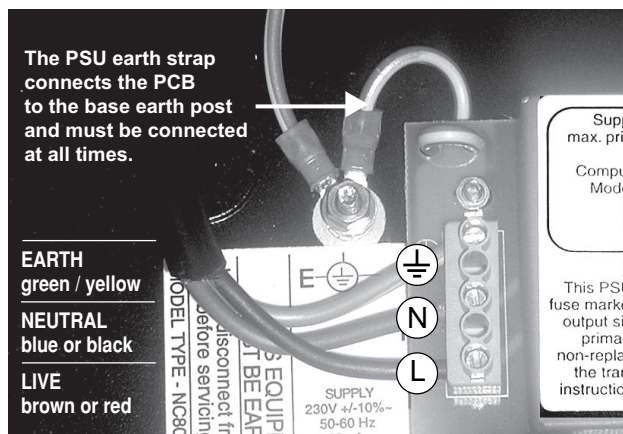
**This equipment must only be installed and maintained by a suitably skilled and technically competent person.**

**This equipment is a piece of class I equipment and must be earthed  
WARNING: THIS EQUIPMENT MUST BE EARTHED**

The panel must be sited internally in an area not subject to conditions likely to affect its performance, such as damp, salt-air, water ingress, extremes of temperature, physical abuse, etc. It should be sited at a height where it is easily accessible by its intended user(s) and its ambient light and sound levels should allow the status of its indicators and internal beepers to be clearly seen/heard. Ideally, the indicators on the front of the enclosure should be at eye level.

### Connecting the mains

All mains should be provided in accordance with the current edition of the IEE Wiring Regulations, 16th Ed (BS 7671 1993) or in accordance with the relevant national wiring rules.



The general requirement for the mains supply to the indicator panel is fixed wiring, using suitable three core cable (no less than 0.75mm<sup>2</sup> and no more than 2.5mm<sup>2</sup>) or a suitable three conductor system that meets the appropriate national wiring regulations.

The panel should be fed from an isolating switched fused spur, fused at 3A. This should be secure from unauthorised operation and be marked 'CALL SYSTEM: DO NOT SWITCH OFF'. The mains supply must be exclusive to the indicator panel. The earth, neutral and live connections should be made to the terminals marked  $\oplus$ , N and L respectively on the power supply PCB as shown left.

**IMPORTANT: ONLY USE THE FOLLOWING FUSE RATINGS**  
Fuse 2, output fuse F 1A L 20 x 5mm to IEC(EN60127 pt 2)



Before powering up, ensure the 4 way PSU loom is connected between PL1 on the power supply PCB to CN3 on the master indicator PCB (the board with the buzzer on). Connection to any other indicator panel connector may result in system malfunctions.

### Mounting the enclosure

The panel must be securely fixed to a wall, using the mounting holes provided. The mounting holes are suitable for use with No. 8 round head or countersunk woodscrews. Assess the condition and construction of the wall and use a suitable screw fixing. Any dust created during the fixing process must be kept out of the electrical and electronic systems and care must be taken not to damage any wiring or components.

### Low voltage zonal wiring

All system wiring must be carefully planned before starting the job. Plan and route the wiring as indicated below right (the dotted lines show the preferred wiring routes for all external wiring). Always segregate low voltage wiring from mains wiring. All external wiring brought into the panel should be adequately insulated with PVC or Neoprene. Always ensure if a knockout is removed, the hole is filled with a good quality cable gland.

### Connecting the stand-by power supply.

A 2.1A hr 12V sealed lead acid battery is provided for the emergency standby power supply. The battery must be connected as shown below. Always dispose of used batteries according the battery manufacturers instructions.

