C-TEC

a guide to NURSECALL 800

WHAT IS NURSECALL 800?

NURSECALL 800 is part of C-TEC's popular 800 Series of Call Systems. It is an economical, reliable and cost-effective call system that can be used in all kinds of nursing and residential homes.

Two versions are available, a Standard (one call level) version and an Emergency (two call levels) version. Datalogging and paging can be added to both.

The wiring is simple and, for most installations, four core stranded security alarm cable is ideal. The system operates at 12 VDC (nominal) and current consumption is very low.

WHAT DOES THE SYSTEM DO?

(1) It allows patients to call for assistance; (2) it confirms that the call got through; (3) it makes sure the caller is visited; and, if required (4) it provides an emergency call facility for the staff (Nursecall 800 emergency system only).

HOW DOES THE SYSTEM WORK?

Standard system: The resident presses the button on a wall call point, pulls the cord of a ceiling pull or operates the remote button of a tail call lead. A confidence light comes on and overdoor lights, area indicators and panel indicators illuminate (as fitted). A sounder operates continuously.

When the attendant arrives at the origin of the call, a reset button is pressed or a small magnetic key is used to cancel the call. (If using reset buttons, call points must be placed out of reach of residents to avoid accidental call cancellation).

Emergency system: The emergency system works like the standard system but the sounders can be muted by pressing an optional MUTE button (a new call re-sounds the panel(s) sounders). In addition, an emergency call, which flashes all relevant lights and pulses the sounders, can be made using a magnetic reset key or an emergency button. Emergency calls cannot be muted.

PLANNING AN INSTALLATION

Rules vary, so please check with the relevant body before starting a job.

For UK rest homes: Social Services will usually approve the installation and the standard system is normally ideal. Their main requirement is for the reset point to be within sight of the caller to ensure the call is attended to properly.

For UK nursing homes: the local health authority will usually approve the installation and the standard system may be satisfactory but some authorities will want the emergency facility. Also, some authorities only allow button operated emergency call/reset points and others require the magnetic key type.

DESIGNING A SYSTEM

Before installation begins, be sure to check with the relevant person(s) in case there are any special requirements.

Indicator Panels: Decide where to site the master panel and, if required, any repeater panels. Panels must be sited internally in a clean dry area which is readily accessible by the panels user(s). The master panel needs a mains supply from a fused spur. Up to three repeaters can be fitted to a standard system. Up to ten repeaters can be fitted to an emergency system as these consume much less current.

Call Points, Reset Points and Overdoor Lights: Any number of call points (of any kind), reset points and overdoor lights can be wired on one zone. Call points should be positioned next to each bed, in each bathroom and WC, and in lounges, dining rooms, etc (ceiling pulls may be preferred for bathrooms and WCs but these must be connected to a call point or reset point). Call points are not required in corridors or staff areas. There are two methods of reset: (1) using a magnetic reset key (NC803M), or (2) by reset button. Reset buttons are ideal as long as residents cannot reach them. Magnetic keys should be used where residents are likely to reset calls. When fitted, Overdoor lights are normally installed outside rooms above the door.

Sounders and other outputs: Three remote sounders can be connected to the sounder output on each panel. Voltage free relay contacts are provided to operate more sounders or other devices such as pagers.

Area Indication: Any number of zones can be connected via input expanders to operate overdoor lights, interface modules or panel lights and give area indication. Send in a marked drawing and clear specification if you want advice.

Paging: Two paging options are available. Single channel paging operates a tone pager which will sound with a standard or emergency call, or with both. Alphanumeric paging can only be provided in conjunction with a datalogger and gives the full description of the room calling and the type of call, plus system malfunction warnings.

Datalogging: A datalogger will record the time of every call and reset, along with the type of call and room description. It is ideal for showing that staff have attended all calls and for effective staff management.

Fire Exit / Drug Cupboard Monitoring: Door monitoring points make a call if fire exits, etc. are opened. An override key may be provided so doors can be left open during the day.

Door bell monitoring: Doorbell points allow most kinds of doorbell to trigger a call.

Latch Modules: Any device with a switch output, such as passive infra-red sensors, pressure mats, etc. can be connected to a latch module and then to the system as though it were a call point. (Please note: a separate power supply may be required).

Interface Modules: External relays or sounders can be connected to any zone or group of zones via interface modules.

Back Boxes: All wall mounted accessories fit on shallow single gang flush or square cornered surface back boxes (MK2160). Ceiling pulls mount on BESA centres.

NEW Infra-Red Ceiling Receivers / Infra-Red Call Points: These devices can be used in conjunction with the NC312 range of infra-red transmitters to remotely trigger standard or emergency calls. The NC312RXC transmitter can be used by patients to remotely trigger standard calls in TV lounges, shared bedrooms, etc. The NC312RXA and the NC312RXCA transmitter can be used by staff to remotely trigger emergency calls, helping to protect them against disturbed patients (in EMI wards), aggressive visitors or intruders. For important information on the siting of infra-red receivers contact the technical department.

WIRING

Use four core stranded security alarm cable (7/0.2) for each zone or sounder (this will leave approx. 25% spare cores in most cable runs).

Zones may be wired to the nearest panel on which they are indicated (see example wiring configurations for typical bedroom layouts - fig. 1 below).

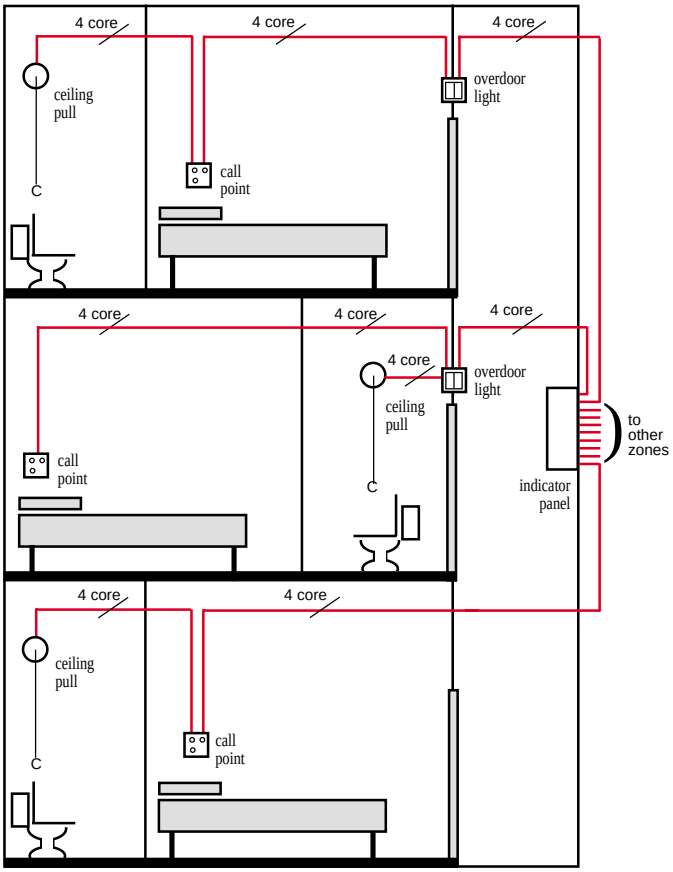
If multi-core cable is used you need one common wire (two for the emergency system), plus one wire per zone or sounder, plus 25% spares. Therefore, on an emergency system, seven zones need 2 +7 (=9) +25% =12 cores.

Voltage drop is not normally a problem on standard systems, but may be on emergency systems where cable runs exceed 50 metres.

Use four cores between standard master and repeater panels, plus one per zone being indicated, plus 25% spares.

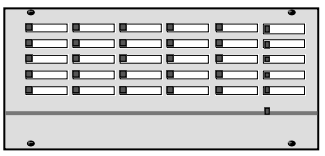
Use five cores between emergency master and repeater panels, (two of which should be 1.0 mm to minimise voltage drop), plus one per zone being indicated, plus 25% spares.

Fig. 1: Example wiring configurations for typical bedroom layouts.



NURSECALL 800 STANDARD SYSTEM COMPONENTS

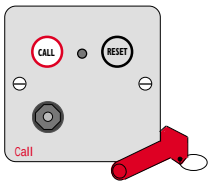
STANDARD INDICATOR PANELS



Standard indicator panels have a light grey fascia with white spaces for labelling (use an electronic 9mm labeller such as Brother's PT system). 10, 20, 30, 40, 50, 60, 70, 80 and 90 zone versions are usually available ex-stock with larger sizes available to order. The cabinet, which is constructed of black metal, is designed to be surface mounted and includes a regulated power supply to charge a 12V 2.1AHr back-up battery (not supplied). Each panel incorporates one zonal alarm LED per zone, an integral buzzer and a supply healthy LED. All panels measure 406mm wide x 83mm deep. 10-30 zone panels are 191mm high, 40-60 zone panels are 380mm high and 70-90 zone panels are 565mm high.

STANDARD CALL POINTS

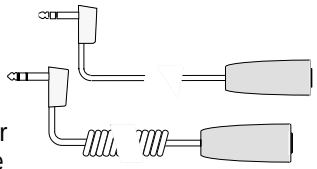
NC802DB Button reset call point
NC802DM Magnetic reset call point



NC802DB call points incorporate a CALL button, a confidence light, a remote socket and a RESET button. The **NC802DM** call point looks the same but has a RESET 'target' instead of a RESET button, operated by an NC803M Magnetic reset key.

TAIL CALL LEADS

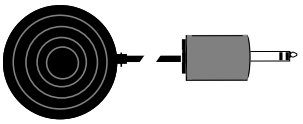
NC805C/6 6ft. Tail call button
NC805C/14 14 ft. Tail call button
NC805D 4–12 ft. Tail call button with coiled lead



Tail call leads consist of a pear push, a lead and a right angled jack plug to connect it to a call point's remote socket. A call is made by pressing the pear push or by pulling the plug out (to ensure it cannot be accidentally removed without staff knowing about it).

HAND/FOOT OPERATED PNEUMATIC PADS

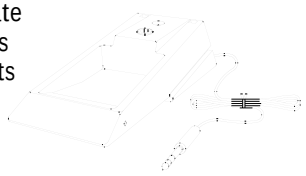
NC805P Hand/foot operated pneumatic pad
NC805AS Remote air switch



An **NC805P** pneumatic pad, when used in conjunction with an **NC805AS** air switch, is ideal for patients who find it difficult to press buttons. Applying pressure to the pad operates the highly-sensitive air switch which, when connected to a call point's remote socket, triggers a call.

PORTABLE MOVEMENT DETECTORS

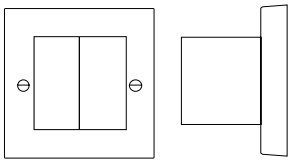
NC805MD Portable movement detector



The **NC805MD** is a simple to operate adjustable weight sensor which sits under the leg of a bed and connects to a call point's remote socket via a jack plug. A call is triggered when the bed is vacated, thus alerting staff to the prospect of a wandering patient.

OVERDOOR LIGHTS

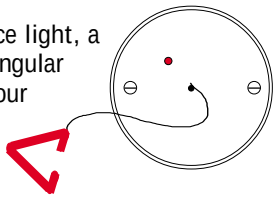
NC806C Overdoor light
NC806CS Overdoor light with sounder



Overdoor lights use ultra-bright LEDs for long-life and low current consumption. Up to four zones can indicate on one overdoor light and they can be used in conjunction with input expanders for area/direction indicators at the end of corrdiors, etc.

CEILING PULLS

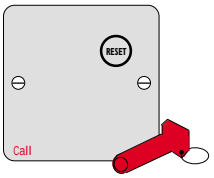
NC807C Ceiling pull cord unit



Ceiling pulls incorporate a confidence light, a six foot cord and an open-sided triangular pull for ease of use by the infirm. Four knockouts are provided for 16 mm square mini trunking (YT1) and the backplate fits BESA centres. They can be reset at a reset point or at a wall call point.

RESET POINTS

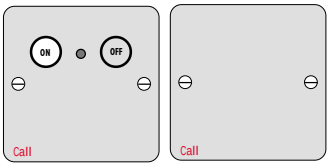
NC809DB Button reset point
NC809DM Magnetic reset point



NC809DB and **NC809DM** reset points can be used for resetting ceiling pulls and, if required, wall call points. They should be sited out of reach of residents. The NC809DB has a RESET button whereas the NC809DM has a RESET target which is operated by an NC803M Magnetic reset key.

SOUNDERS

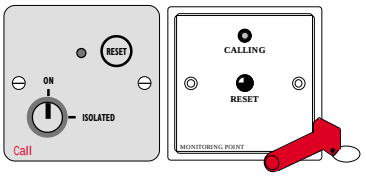
NC887D Switchable sounder
NC888D Remote sounder



NC888D Remote sounders use low current beepers with an insistent tone. **NC887D** Switchable sounders can be switched off when not required. When OFF, a red light shows as a warning and an orange light comes on if a call point is activated (when ON a green light comes on when a call point is activated). Each switchable sounder can control up to three NC888D remote sounders. Relay contacts are provided at all master and repeater panels (except emergency repeaters) to operate other sounders, radio pagers, etc. if required.

MONITORING POINTS

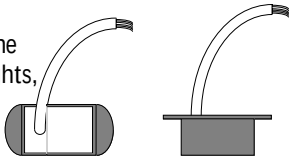
NC894DKB Isolatable button reset door monitoring point
NC894DKM Isolatable magnetic reset door monitoring point
NC895DM Magnetic reset doorbell point



NC894DKBs and **NC894DKM**s have an isolation keyswitch, confidence light and RESET button or 'target'. When a door is opened a call is triggered. Doorbell points connect to the bell push wiring. The bell is powered by its own low voltage supply. When the bell push is operated the bell rings normally and a call is triggered on the system. Illuminated pushes cannot be used.

INPUT EXPANDERS

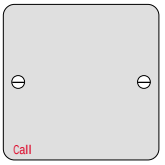
NC884 5:1 Input expander with 'pull up'
NC885 5:1 Input expander



Input expanders are used to give area indication and have five inputs and one output which can operate overdoor lights, interface modules, or zone indicators on a panel in another part of the building. The outputs of several input expanders can be connected together. Size 53mm x 25mm x 20mm. Fix by self-adhesive pad. Contact the technical dept. for details.

INTERFACE MODULE

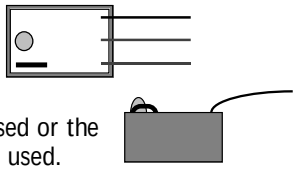
NC886C Interface module



Interface modules switch a voltage output (12VDC @ 500 mA max.) and connect like overdoor lights. They can drive devices such as sounders and, when used with input expanders, give output flexibility for any requirement. NB: The standard nursecall power supply may not be able to power the additional device. Contact the technical dept. for details.

CALL LATCH MODULE

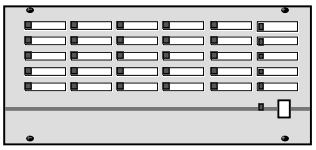
NC889 Call latch module



Latch modules connect like any other kind of call point. The module triggers when a n/o or n/c switch connected to it is operated. A reset point may be used or the master reset on the panel may be used. Size 25mm x 20mm x 15mm. Fix by self-adhesive pad.

NURSECALL 800 EMERGENCY SYSTEM COMPONENTS

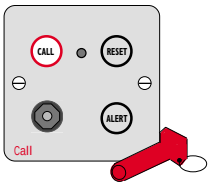
EMERGENCY INDICATOR PANELS



Emergency indicator panels are the same size and appearace as standard indicator panels. They include a regulated power supply to charge a 12V 2.1AHr back-up battery (supplied), one zonal alarm LED per zone, an integral buzzer, a supply healthy LED and an optional mute button for silencing standard calls. 10, 20, 30, 40, 50, 60, 70, 80 and 90 zone versions are usually available ex-stock with larger sizes available to order. Standard system accessories will work with the emergency system but cannot make emergency calls. If area indication is required, NC884DE 5:1 Emergency input expanders must be used. Contact the technical department for details.

EMERGENCY CALL POINTS

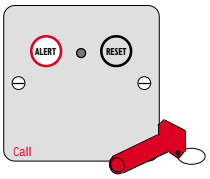
NC802DEB1/2 Two Button Emergency Call Point
NC802DEM Magnetic Emergency Call Point



NC802DEB1/2 call points incorporate a CALL button, a confidence light, a remote socket, an ALERT button and a RESET button. The **NC802DEM** call point looks the same but has an ALERT 'target' and a RESET 'target' instead buttons, operated by an NC803M Magnetic reset key.

EMERGENCY CALL / RESET POINTS

NC804DE Button Operated Emergency Call / Reset Point
NC809DEM Magnetic Reset Point / Emergency Call Point



NC804DE call/reset points incorporate an ALERT button (for triggering emergency calls), a confidence light and a RESET button. The **NC809DEM** looks the same but has ALERT and RESET 'targets' instead of buttons, operated by an NC803M Magnetic reset key.

C-TEC

Nursecall 800 is manufactured in England by C-TEC

Quality System Certificate No. 176
Assessed to ISO 9001 : 1994

For further information on C-TEC products:

UK Sales Tel: 01942 322744
UK Sales Fax: 01942 829867
UK Sales E-Mail: sales@c-tec.co.uk

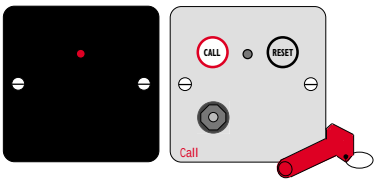
Export Sales Tel: +44-161-2572541
Export Sales Fax: +44-161-2258817
Export Sales E-Mail: exportsale@dial.pipex.com

Visit our website at **www.c-tec.co.uk**

Approved Document No: DNS0800101 Rev 5

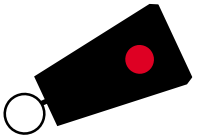
INFRA-RED CEILING RECEIVERS / CALL POINTS

NC802DERB Emergency Infra-Red Call Point, Button Reset
NC802DERM Emergency Infra-Red Call Point, Magnetic Reset
NC302RXC Infra-Red Master Ceiling Receiver
NC302RXCS Infra-Red Slave Ceiling Receiver



NC802DERBs & **NC802DERM**s operate similarly to NC802DEB1/2 and NC802DEM call points and they can also be triggered remotely via the NC312 Range of Infra-Red Transmitters. The **NC302RXC** master ceiling receiver can also trigger standard and emergency calls but, as it has no on-board reset facility, 1 x NC899IRR keyswitch reset point and 1 x NC809DB/DM reset point must be used to cancel it's emergency and standard calls. Up to three **NC302RXCS** slave receivers can be used per NC302RXC master. For important information on the siting of infra-red receiving devices contact the technical department.

INFRA-RED TRANSMITTERS



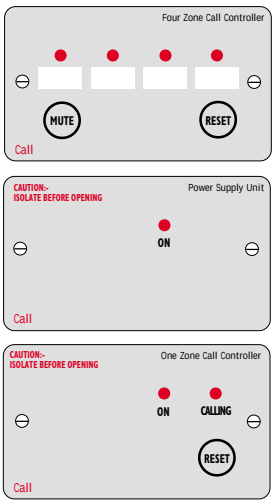
The NC312 range of Infra-Red Transmitters have a minimum transmitting range of 10m (line of sight). They will remotely trigger the four infra-red receiving devices highlighted above. They will not trigger any other Nursecall 800 call point. The table below shows the call level(s) each transmitter is capable of generating.

PART NUMBER	BUTTON COLOUR	CALL LEVEL ON PRESS OF BUTTON	CALL LEVEL ON BELT-CLIP REMOVAL
NC312RXA	RED	EMERGENCY CALL	EMERGENCY CALL
NC312RXCA	ORANGE	STANDARD CALL	EMERGENCY CALL
NC312RXC	ORANGE	STANDARD CALL	NONE

Instead of a belt-clip, the NC312RXC transmitter is supplied with a 50cm pendant chain which can be worn around a patients neck. Replacement battery modules are available (part no. NC312BM).

MULTI-PURPOSE 1-8 ZONE CALL INDICATOR PANELS

NC944 4 zone double gang call controller
NC930 12v double gang power supply unit, 250mA
NC941 1 zone double gang call controller c/w PSU



In addition to Nursecall 800's 10-90 emergency indicator panels, a range of small double gang call controllers and power supplies are available which are compatible with all standard and emergency system components. The **NC944** four zone emergency call controller includes a buzzer, four zonal alarm LEDs, a MUTE button to silence standard calls and a RESET button to globally cancel all standard calls (MUTE and/or RESET can be disabled). Emergency calls can only be cancelled at the device from which they were initiated. The controller derives it's power from the **NC930** power supply to which up to two NC944's can be connected for a maximum of 8 zones.

The **NC941** is a combined double gang one zone call controller/ power supply incorporating an internal buzzer, a RESET button and a zonal alarm LED. Ideal for use in disabled persons toilet alarm systems, the NC941 is also available as part of the NC951 and NC950 Disabled Persons Toilet Alarm kits which include everything required for a compliant and reliable disabled persons toilet alarm (except cable and fixings). Contact the Sales Office for details.