

NURSE CALL SYSTEM

SPECIFICATION

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NURSE CALL SYSTEM with EMERGENCY (nurse assistance) and TV CONTROL HANDSETS (Interchangeable with LED PEAR PUSH)

GENERAL DESCRIPTION

The nurse system enables the patient to call a nurse for assistance from his bed or from a bath, shower and toilet. The system also enables the STAFF to call for assistance (EMERGENCY CALL) from any bed and treatment room etc.

When a patient nurse call or staff emergency call is enabled the system must produce an intermittent AUDIBLE chimes or bleeper tone at the nurses station or/and duty room.

Three different sounding tones must be produced for normal patient call, Bathroom call and emergency (nurse assistance) call.

The system must also provide a VISUAL indication, at the nurse station (LED mimic panel and/ or Computer Monitor), above the door to the passage of the activated unit, and at the actual activated unit (reassurance LED).

The system must be so designed that any call may ONLY be RESET at the point of origin.

The system must automatically activate a nurse call when the Hand Held Unit (Handset) or Pear Push unit is accidentally pulled out from the Bed Head Unit.

The Bed Head Unit must be compatible with Hand Held Unit & Pear Push. (Inter-changeable)

A Central Monitoring PC ,or PC per duty station replacing Mimic Panel, must keep records of all events. (Optional)

The system must be purpose made and aesthetically pleasing with components (call & reset units etc) manufactured from matching injection moulded ABS plastic. A system made up of push buttons etc mounted directly onto standard electrical plates will not be accepted.

SYSTEM COMPONENTS

1. MIMIC LED Indicator Panel (1 per section)
2. Central Monitoring Computer (optional)
3. Sealed LED Illuminated Pear Push unit (1.8m)
4. Patient Hand Held Unit with nurse call / light control & TV remote control
5. BEDHEAD unit with emergency call / reset with inline UB4 socket for HHU or PP
6. Emergency Call/ Cancel unit (for treatment room)
7. Bathroom IMPULSE PUSH Call unit
8. Bathroom IMPULSE PULL Call unit
9. Bathroom RESET units
10. Over door light
11. Termination Box (Krone Junction Box & Chimes PCB - 1 per section)
12. 24V 4A dc Regulated Power supply (1 per section)
13. Cables
14. System Overview

DESCRIPTION of COMPONENTS

1. MIMIC LED Indicator Panel (**MM-Mimic**)

The Mimic Panel can be desk or wall mounted surface or flush mounted and is generally mounted at the nurse duty station. The faceplate must be manufactured from photo anodised 2mm aluminium, must include the room /bed numbers and graphically represent the ward layout. A 5 or 3mm flush mounted Hi-bright LED must be provided for each bed and bathroom /toilet complex. The Panel must incorporate a Bleeper for the Emergency and bathroom tones, a loudspeaker for the nurse call tone and a latching switch to attenuate the nurse call tone at night. The panel must include a “power on” indication LED. The Panel’s size is to be approximately 300 x 200 x 50mm. (Exact size dependant on ward design and size)

2. Central Monitoring computer – Dynamix monitoring PC (optional)

The monitoring PC to consist of the following:
17” LCD Monitor + 101 keyboard & mouse
STD Tower case with 300W PSU, MB, CDR/W, 80GHD
Pentium 4 2.8G Processor, 512M/RAM,
External Modem
A4 Laser Printer
Data logging software (time, date & duration of all types of calls)
Active Graphical representations of all areas (duty station mimics)

3. LED Pear Push Unit (**MH-PUB**)

The PP unit consists of an impulse Red push button and LED sealed inside a pear shaped moulded plastic housing attached to a 1.8m 4 core 0.5mm double insulated cable. A UB4 plug is factory sealed onto the end of the cable. Part of the Pear shaped housing must be opaque to allow the LED to illuminate when activated to re-assure the patient that a call has been registered. The cable, housing and plug must be white in colour. The PP must automatically activate a nurse call when accidentally pulled out from the Bed Head Unit.

4. Hand Held Unit with TV Control (**MH-T08**)

The patient hand held unit is a modern and robust unit with a control keypad or push buttons for the various functions. The functions of the switches are depicted by symbols that are internationally recognised. The TV is controlled via an infrared link that is externally wired from the TV Connector PCB housed inside the Bed Head Trunking or ceiling space. Audio is provided via a headphone that is connected to the headphone socket on the handset.

The following shall be incorporated on the handset :

Unit functions:

- Nurse call push button
- Nurse call reassurance LED
- Television on/ off
- Television Channel select: Up / Down

- Sound volume setting: Up / Down
- Light on/ off for over bed down light
- A clip for hanging the handset on the side of the headboard (slide in type)
- Socket for connecting headphone jack (TV and radio Audio from TV)
- Unit Compatible with any TV
- 2m cord with UB4 plug

5. **Bed Head Unit with Emergency call & Reset (MB-EUB-R)**

The purpose made nurse Bed call unit may be mounted in a standard 100x100 or 100x50 electrical box or flush mountable in an aluminium Bed Head Trunking

BHU functions:

- Emergency call push button
- Nurse call/ emergency call common RESET push button
- Nurse call/ emergency call common reassurance LED
- Automatic Nurse activation when HHU or PP is pulled out.
- Plug-in Socket (USB-type) on a 150mm flexible white cable for connecting to the patient Hand Held Unit or Pear Push.

The unit must be designed so that no damage will be caused to the unit by accidentally pulling out the HHU or PP unit from any direction.

6. **Connector PCB with TV Control (MP-TVR)**

The Connector PCB contains the relevant software to control the TV via the IR LED. It also serves as a termination point for Bed Head Unit, on-suite Bathroom, Overdoor light unit, Infra-red LED & TV audio. The PCB may be housed in the Bed Head Trunking or in the ceiling space by the TV.

Connector PCB functions:

- Provides TV Control signals (via IR LED)
- Termination of all cables per bedroom & bathroom

The Connector PCB is available with or without Light Relay.

7. **Emergency Push Call/ cancel unit (MB-PBL-ER)**

The purpose made Emergency call/ cancel unit may be mounted in a standard 100x100 or 100x50 electrical box or flush mountable in a Bed Head Trunking.

The purpose made ABS plastic clip-in Emergency Call unit must include:

An EMERGENCY CALL switch for nurse assistance

A RESET switch

Re-assurance LEDs

8. Bathroom Impulse PUSH call unit (MW-PKI-C)

(Used in conjunction with the Bathroom RESET unit)

The purpose made Impulse Push call unit may be mounted in a standard 100x100 or 100x50 electrical box. The ABS plastic clip-in Call unit must include:

A large keypad type call switch with locating nipple

Re-assurance LEDs

9. Bathroom Impulse PULL call unit (MW-PLI-4x4)

(Used in conjunction with the Bathroom RESET unit)

The purpose made Impulse pull call unit may be mounted in a standard 100x100 or 100x50 electrical box. The ABS plastic clip-in Call unit with a Blue label must include:

A strong impulse micro switch attached to a 2.2m nylon string

Re-assurance LEDs

10. Bathroom RESET unit (RES) (MW-RES-C)

(Used in conjunction with the Bathroom Push & Pull CALL units)

The purpose made Reset unit may be mounted in a standard 100x100 or 100x50 electrical box.

The ABS plastic clip-in Reset unit must include:

A large keypad type reset switch.

Re-assurance LEDs

11. Over door lights (MI-ODL-C)

The purpose made over door light unit may be mounted in a standard 100x100 or 100x50 electrical box or directly onto the ceiling tile & fastened onto a round end box in the ceiling space.

The OD light contains 4 hi bright LEDs mounted on a clip-in plastic. The barrel shaped white lens becomes red when activated.

12. Cable Termination box (Junction Box)

The J/B must be centrally located preferably near the duty station and accessible for ease of maintenance. The J/B must consist of a Krone plastic box housing the krone frame, disconnect modules, the Chimes PCB and the optional 16way monitoring PCB's. The cables for all devices to be terminated at the J/B neatly onto the krone disconnect modules.

13. Power supply (PSU)

The power supply must be a Regulated 24V/3.75A dc and mounted near the J/B. The PSU must include Batteries & supply at least 4 hours of standby power. One PSU must be installed per section.

14. A: Cables - Nurse call with TV Control

Cable requirements as follows:

- An individual 4pair CAT5 UTP cable from each SINGLE or 2 BEDROOM (Connector-TV PC Board) back to the central Junction Box. Loop CAT5 cable to 2nd Connector board in case of 2 bed ward.
- 2 x 4pair CAT5 cables from each 4 BEDROOM (Connector-TV PC Boards) back to the central junction box. (1 CAT5 cable per 2bed)
- A 4pair CAT5 cable from each BHU to its corresponding CONNECTOR-TV PC BOARD. (Connector Board may be mounted in Bed Head Trunking or in Ceiling space)
- A 4pair CAT5 or 8core Comms cable from each on-suite bathroom RESET to the closest bed unit or JB
- An 8core comms cable from each bathroom CALL unit to its corresponding RESET unit outside.
- A 4core comms cable from the OVER DOOR light back to the nearest Connector board.
- A 2pr mylar screened cable from the CONNECTOR-TV PC BOARD to the TV for IR control & TV audio. Terminate the IR LED to 1st pair & rest the LED under the TV inside the fibre glass bracket. Terminate an RCA or Jack plug to 2nd pair & plug into back of TV for TV audio (we also recommend an LT77 isolation transformer inline for the audio).
- A multi-core 20pr cable from the J/B to the MIMIC panel. (size depending on quantity of LEDs in the MIMIC)
- An individual 4pair CAT5 UTP cable looping from each JB at the duty stations back to the central Monitoring PC. (Only for PC systems)
- A Krone Junction Box per Section (eg surgical ward) is recommended for terminating all cables.

B: Cables - Nurse call (No TV)

Cable requirements as follows:

- An individual 4pair CAT5 UTP cable from each SINGLE or 2 BEDROOM (BHU) back to the central Junction Box.
- 2 x 4pair CAT5 cables from each 4 BEDROOM (at BHU's) back to the central junction box. (1 CAT5 cable per 2bed)
- A 4pair CAT5 or 8core Comms cable from each on-suite bathroom RESET to the closest bed unit or JB
- An 8core comms cable from each bathroom CALL unit to its corresponding RESET unit outside.
- A 4core comms cable from the OVER DOOR light back to the nearest bed unit.
- A multi-core 20pr cable from the J/B to the MIMIC panel. (size depending on quantity of LEDs in the MIMIC)
- An individual 4pair CAT5 UTP cable looping from each JB at the duty stations back to the central Monitoring PC. (Only for PC systems)
- A Krone Junction Box per Section (eg surgical ward) is recommended for terminating all cables.

OPERATION:

*The following happens when a call is activated from a **PEAR PUSH or HAND HELD UNIT** plugged into the bed call unit:*

The re-assurance LED in the Bed call unit and PEAR PUSH illuminates
The Over door light outside the corresponding room illuminates
The corresponding LED in the mimic panel illuminates
The chimes unit will sound & continue every 10 seconds until the call is reset at originated unit.
The corresponding bed at the monitoring PC will change from green to red and a call will be logged in the data base.
All LEDs & chimes will stop when the call is reset (from the activated unit).

*The following happens when a call is activated from an **Emergency call or bed call** unit (not the pear push or hand held unit):*

The re-assurance LED in the Bed call unit and PEAR PUSH flash ON & OFF (1 second intervals)
The Over door light outside the corresponding room will flash ON & OFF (1 second intervals)
The corresponding LED in the mimic panel will flash ON & OFF (1 second intervals)
The Emergency Bleeper will sound & continue at one second intervals until the call is reset.
The corresponding bed at the monitoring PC will change from green to flashing red and an emergency call will be logged in the data base.
All LEDs & bleeper will stop when the call is reset (at the activated unit).

*The following happens when a call is activated from a **BATHROOM PULL or PUSH call** unit:*

The re-assurance LED in the Bathroom call unit illuminates
The Over door light outside the corresponding room illuminates
The re-assurance LED in the Corresponding RESET unit illuminates
The corresponding LED in the mimic panel illuminates
The Continuous tone Bleeper or alternate tone will sound & continue until the call is reset.
The corresponding bathroom at the monitoring PC will change from green to red and a call will be logged in the data base.
All LEDs & beepers will stop when the call is reset at the activated RESET unit.

1.1 Training Programme

Tenders shall allow for at training of at least four (4) persons, as nominated by the User department.

1.2 Operating Manuals

Three complete sets of the Operating Manuals, in English, shall be provided to be used by the User's personnel who will operate the system.

1.3 Guarantees and Maintenance

With effect from the date of the First Delivery Certificate the contractor shall at his own expense undertake the regular servicing of the installation during the maintenance period of 12 months and shall make all adjustments necessary for the correct operation thereof.

TYPICAL SYSTEM OVERVIEW

