

# **UB4 NURSE CALL SYSTEM WITH TV CONTROL**

## **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 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 C-View iP Monitoring PC, at the duty station, must keep records of all events.

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**

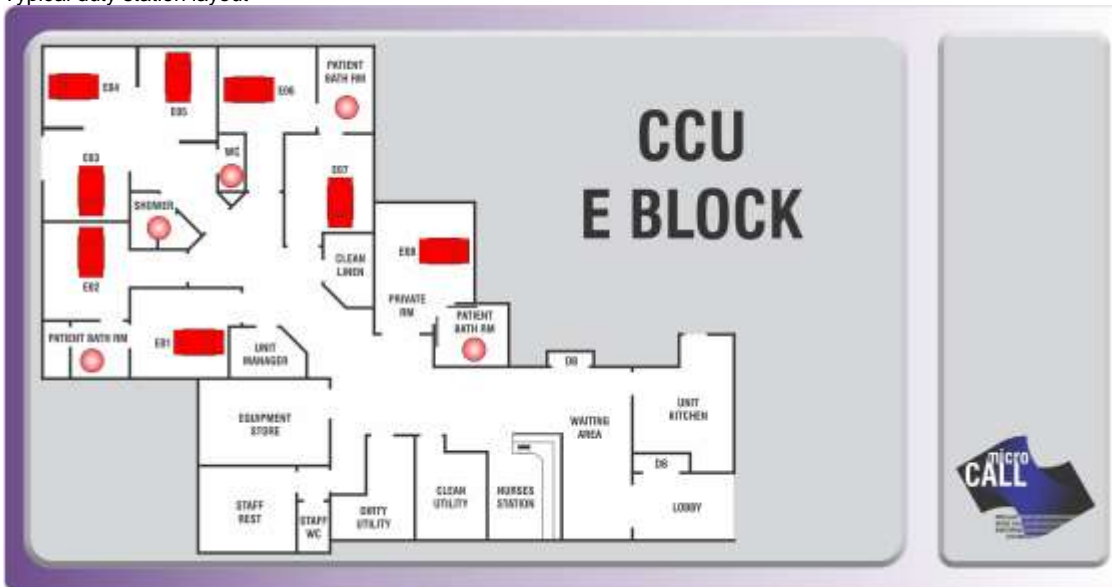
1. C-View iP Monitoring Computer (with reporting)
2. Sealed LED Illuminated Pear Push unit (1.5m)
3. Patient Hand Held Unit with nurse call / light control & TV remote control
4. BEDHEAD unit with emergency call / reset with inline UB4 socket for HHU or PP
5. Emergency Call/ Cancel unit (for treatment room)
6. Bathroom IMPULSE PUSH Call unit
7. Bathroom IMPULSE PULL Call unit
8. Bathroom RESET units
9. Over door light
10. MChip iP Termination Box (Junction Box c/w 24V PSU, 3 Tone Chimes PCB)
11. Cable requirement
12. System Overview

## DESCRIPTION of COMPONENTS

### 1. C-View iP Monitoring Computer (with reporting)

The C-View iP monitoring system is designed to actively monitor existing nurse call systems, or similar equipment, and to display any change in status on a graphic layout of the ward. The event will also be saved by the data logger for future processing and reporting.

Typical duty station layout



The C-view iP embedded computer with 19"LCD – monitor is installed at the duty station and replaces the traditional mimic panel. The system is configured that even if the network or computer is switched off or fails, all nurse calls must still be able to be activated by the patients and identified by the nursing staff by means of the overdoor light and chime / bathroom tones.

All the nurse call active leads are connected to a MPi Junction box, available in 16,32 48 and 64 input versions. The embedded computer card will process all call activations and send the information via iP network to the duty station Display.

It is also possible with factory programming to send alarm information to other stations and central server once these displays are connected to one network.

The basic requirements of the system:

1. Nurse call or other systems must operate on 24V DC
2. Alarm condition to monitoring system must be a continuous a 0V (neg) signal for the duration of the alarm.
3. 16 Inputs (beds) connect to one Mimic monitor interface card.
4. Input monitor cards are addressable and up to 4 cards can be connected in one MChip cabinet.
5. C-View and MChip operating software and ward layout embedded, no SD cards
6. Can be remotely monitored and updated eg. With Teamviewer access

## **2. 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 USB plug is factory moulded 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. This device is normally used where no TV control is required.

## **3. Hand Held Unit with TV Control (Model: MH-T08)**

The patient hand held unit is a modern and robust unit with a control keypad for the various call and control 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 functions shall be incorporated on the handset:

- 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 (Reading light)
- A clip for hanging the handset on the side of the headboard (slide in type)
- Socket for connecting headphone jack (TV Audio from TV)
- Unit Compatible with any TV
- Moulded 1.8m cord with USB plug

## **4. Bed Head Unit with Emergency call & Reset (Model no: MB-EUB-R)**

The purpose made ROUND nurse Bed call unit, that can be mounted in a standard 100x100 or 100x50 electrical box or flush mountable in an aluminium Bed Head Trunking by screwing it into a 59mm round hole

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.

## **5. Connector PCB with TV Control (Model no: 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 in versions with or without Light Relay.

## **6. TV Installation interface (Model no: MP-LT77)**

The TV installation interface wires between the TV set and the MP-TVR connector board. It comes complete with terminated Infra-red LED and audio headset jack to plug into TV headset socket. The PCB is normally mounted in the ceiling space closer to the TV.

PCB functions:

- Provides safety and audio isolation via LT77 transformer
- Screw termination of all between MP-TVR and TV set

## **7. Emergency Push Call/ cancel unit (Model no: MB-EXX-R)**

This unit is normally used in "Procedure Rooms" etc where staff members might require assistance in case of emergency.

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 round Emergency Call unit must include:

An EMERGENCY CALL switch for nurse assistance  
A RESET switch  
Re-assurance LEDs

## **8. Bathroom Impulse PUSH call unit (Model no: 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 switch with locating nipple  
Re-assurance LEDs

## **9. Bathroom Impulse PULL call unit (Model no: MW-PLI-4x4/2)**

(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) (Model no: RES M04 000)**

(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 (Model no: MI-ODL-C/R)**

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 x high bright LEDs mounted on a clip-in plastic. The barrel shaped white lens becomes red when activated.

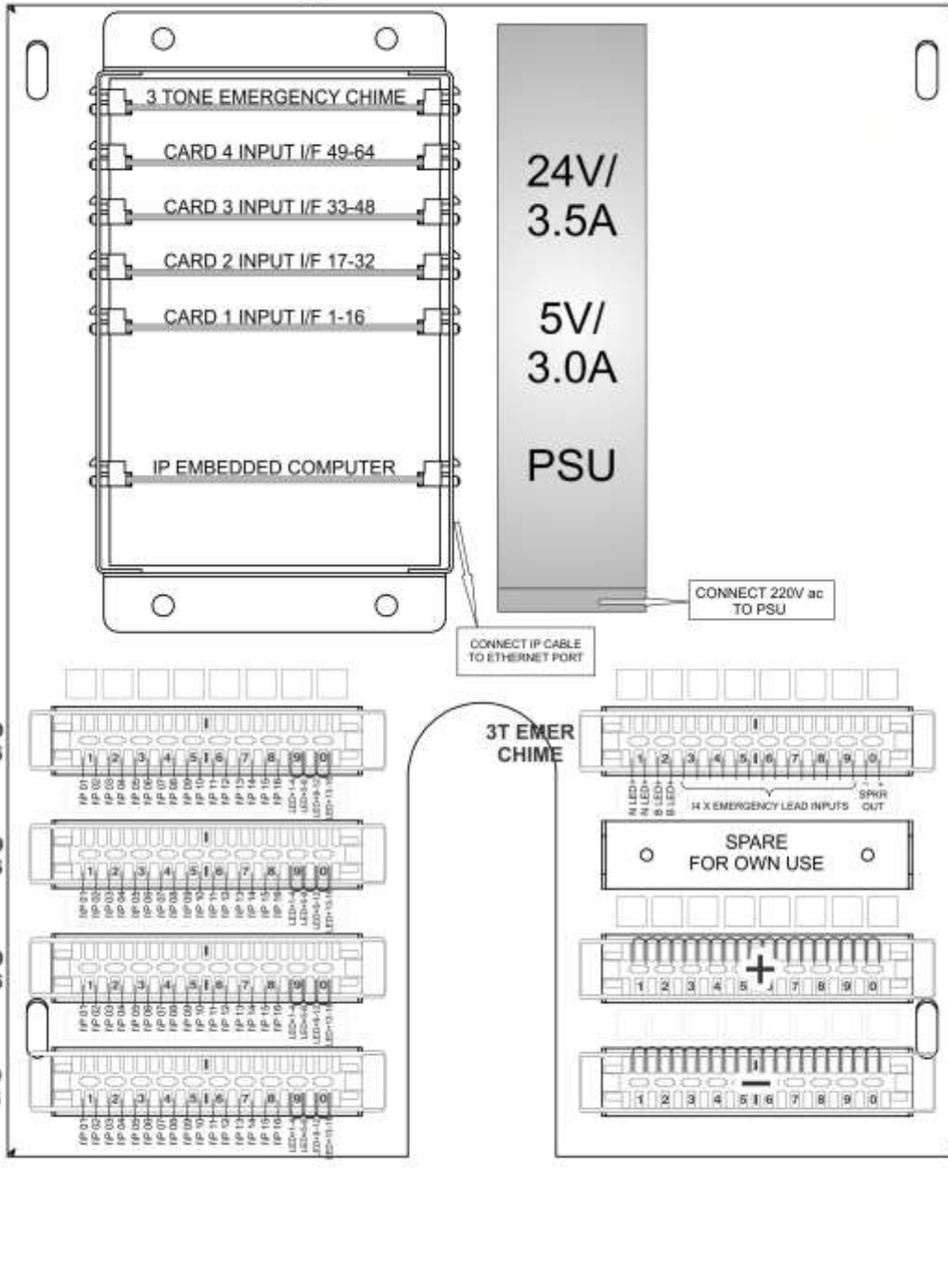
## **12. MChip Cable Termination box (Junction Box)**

**(Model nos: MJ-MCHIP1-4)**

The junction box must be centrally located preferably installed near the duty station and accessible for ease of maintenance. The J/B consist of a powder coated sheet metal enclosure with lid, housing the krone frames, disconnect modules, the 3 tones chimes PCB and the required number of 16way input interface PCB's, and the central 24-volt power supply that with feed power to all the devices connected to this box. The installation cables for all devices to be terminated at the J/B neatly onto the krone disconnect modules.

The junction box is connected to the C-View display PC via a standard ethernet port. This can also be connected to other displays and server via a network switch.

# Mpi WIRING DETAIL



### 13. A: Cables - Nurse call with TV Control

Cable requirements as follows:

- An individual 4pair CAT5 UTP cable from each SINGLE or 2 BEDROOM (MP-TVR) back to the central Junction Box. Loop CAT5 cable to 2<sup>nd</sup> MP-TVR in case of 2 bed ward.
- 2 x 4pair CAT5 cables from each 4 BEDROOM (MP-TVR) back to the central junction box. (1 CAT5 cable per 2bed)
- A 4pair CAT5 cable from each BHU to its corresponding MP-TVR. (Connector Board may be mounted in Bed Head Trunking or in any “dustproof box” in the 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 bed unit.
- A 2pr mylar screened cable or CAT5 from the MP-TVR to the TV installation interface MP-LT77 for IR control & TV audio.
- An Ethernet network cable from each JB at the duty stations C-View display directly or via network switch when connected to a network system.

### 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.
- An Ethernet network cable from each JB at the duty stations C-View display directly or via network switch when connected to a network system.

### OPERATION:

*The following happens when a call is activated from a **PEAR PUSH or HAND HELD UNIT** connected to 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 Bed call tone will sound & continue every 10 seconds until the call is reset at originated unit.
- The corresponding bed icon on the monitoring – Cview display will change from green to red and the information will be logged in the data base.

- All indications & tones 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 Emergency tone will sound & continue at one second intervals until the call is reset.
- The corresponding bed icon on the monitoring – CView display will change from green to flashing red and an emergency call will be logged in the data base.
- All indications & tones 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 Bath call tone will sound & continue until the call is reset.
- The corresponding bathroom icon at the monitoring CView display will change from green to red and the information will be logged in the data base.
- All indications & tones will stop when the reset switch is activated at the 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.

