



Nurse Call System

Elite+



Nurse Station

There is an increased demand for better quality of service from the patients apart from the basic requirement of ensuring a positive response from the Nurse station (NS) when called by a patient. Hence **Process Care** has designed “**Elite+**” model of Nurse Call System to provide for Advanced features to meet the growing demands in Health Care. This system is designed to serve varied requirements of Private rooms, Semi-private rooms, Deluxe rooms and General wards. This model also provides for interconnection of Nurse Stations on LAN.

Basic Features:

- System on chip based design to make system versatile.
- Low working voltage to ensure patient's safety.
- Any patient call is remembered until the patient is attended to.
- Aesthetically designed multicolor Door and Bed Indicators help viewing variety of call status.

Advanced Features:

- Larger Multi color LCD to show call status on floor map.
- High quality Voice announcement for narrating type of call.
- Color coded room number display with call description.
- Display of room numbers even for **forwarded calls** and **Code blue** alerts from other Nurse stations.
- Menu driven user interface to configure the system and customize it.
- Pendrive interface for uploading room names.
- Provides for diagnostics mode for easy installation of the system.
- Provision for displaying calls on multiple Large size LED TV's.
- Allows for networking of Nurse Stations on LAN.
- Provision to view **Call status** of all the Nurse stations from any work station on network.
- Comprehensive **Call forwarding** and **Call escalation** features.
- Display of calls in the order of originating time.
- Versatile **Multi Mode Display Panel** designed to serve as supervisory Display or Nurse Station Monitor or as Service Call Display.

Varieties of applications supported:

Modules for Private rooms:

In private rooms all the modules deployed are dedicated exclusively for only one patient. Hence, modules other than Bed Calling Unit need not be comprehensive. Hence our modules **Composite Call Room Unit (CCRU+)**, **Door Indicator (DI_3C)**, **Toilet Calling Unit (TLCU+)**, and **Equipment Alarm Interface (EAI)** are used.

Modules for Deluxe rooms:

Deluxe rooms generally are to be treated like a private room except an additional requirement to get help from a place other than Nurse Station like pantry. Hence the modules could either be same as that of Private rooms or **Dual Call Room Unit (DCRU+)**, **Toilet Calling Unit (TLCU+)**, **Door Indicator (DI_3C)** and **Equipment Alarm Interface (EAI)**.

Modules for Twin Shared rooms:

Shared Door Indicator (SDI) deployed at the main door for this room is designed to indicate the higher priority call and will show Idling only if there is no pending call from any of the beds. The modules to be deployed are **Calling unit (CCRU+)** & **Bed Indicator (DI_3C)** for the beds and **Toilet Calling unit (CTCU+)** & **Door Indicator (DI_3C)** for the toilets.

Modules for Multi Bed rooms:

Usage of **Shared Room Hub (SRHB-16+ or SRHB-8+)** in such rooms enable standard modules **CCRU+ & DI_3C** for beds, **CTCU+ & DI_3C** for toilets and **DI_3C** itself for Main Door Indicator also. SRHB+ needs to be powered from 230VAC UPS Point.

Various modules associated are explained as follows:

Composite Call Room Unit (CCRU+) :

CCRU+ is designed around a RISC based micro-controller to read the keys on it, to interface with all room modules viz: TLCU+, DI_3C, optional EAI etc. and to report their status to the Nurse Call Processor.

Features:

- Houses 5 feather touch keys viz: CALL, CARE, CLEAR for closing the call, CODE BLUE and XTRAHELP for Emergency.
- Gets integrated with the Palm switch for initiating a call from the bed itself.
- Makes use of one multicolor LED for indicating Call Status.

Specifications:

Gets powered by NS Extender, consumes less than 5 watts. Uses 4 pairs of wires to get inter-connected with Nurse Call Processor.

Technical specifications:

- Dimension** : 118L X 90W X 53H mm
- Weight** : 200 grams
- Material** : Plastic Enclosure



Toilet Calling Unit (TLCU+) :

- Houses a pull cord switch to trigger a Call.
- Integrated multi color LED indicator to show Call status.

Technical specifications:

- Dimension** : 118L X 90W X 53H mm
- Weight** : 90 grams
- Material** : Plastic Enclosure



Dual Call Room Unit (DCRU+) :

DCRU+ is primarily designed to be used in deluxe rooms and provides dual call facility - Nurse Call and Other Service Call. Both the calls are segregated and routed to separate central display units at the concerned departments i.e. Nurse Station or Service Station. It monitors all the room modules viz: TLCU+, DI_3C, optional EAI etc. and report their status to the Nurse Call Processor.



Features:

- The keys are classified and grouped into three distinct panels: Patient, Nurse and Service panel.
- Houses 8 feather touch keys viz: CALL, CARE, CLEAR, SRV CALL, SRV CARE, SRV ACK, CODE BLUE & XTRA HELP for Emergency.
- Gets integrated with the Palm switch for initiating a call from the bed itself.
- Makes use of two multicolor LEDs for indicating Nurse Call Status and Service Call status.

Technical specifications:

Dimension : 143L X 87W X 49H mm

Weight : 300 grams

Common Toilet Calling Unit (CTCU+) :

- CTCU+ houses a pull cord switch to trigger a Call.
- The unit comes with 2 feather touch keys viz: CARE and CLEAR and has connectivity to a separate Door Indicator.
- It has an integrated multi color LED indicator to show Call status.

Technical specifications:

Dimension : 118L X 90W X 53H mm

Weight : 115 grams

Material : Plastic Enclosure



Door/Bed Indicator (DI_3C) :

- Houses multicolor super bright LEDs.
- Uses a semi circular Polycarbonate housing to enable viewing from either side of the corridor.
- Needs less than 600mwatts.
- Indicates various Call types & Status.
- Used as a Bed indicator in shared rooms.

Technical specifications:

Dimension : 100mm DIA X 60 mm(D)

Weight : 73grams

Material : Polycarbonate



Shared Door Indicator (SDI) :

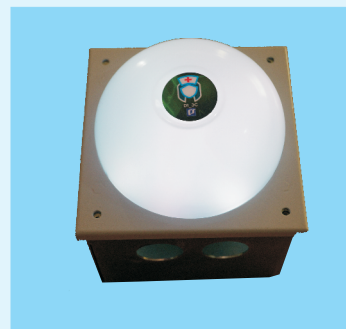
This module is designed to serve dual purpose of being used as Main Door Indicator to show the higher priority call among two bed calls and Toilet call and of being used as a hub to interconnect two bed calling units, Toilet Calling Unit and the Nurse Station. The indicator uses multi colour LEDs to show colour coded call status with 5 different colours. This module does not need any AC power.

Technical specifications:

Dimension : 116L X 116W X 90H mm

Weight : 73grams

Material : Polycarbonate



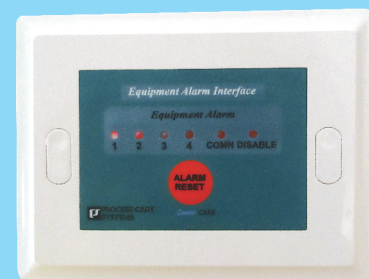
Equipment Alarm Interface (EAI) :

- Can Interface with up to 4 medical equipments.
- Can read potential free contact or open collector or any active alarm output of a medical equipment.
- Integrated Alarm Reset key allows for resetting an Alarm condition or permanently disabling all Alarm inputs.
- Integrated Power Supply module to energize interface Electronics. Draws less than 1 watt power from 230VAC.

Technical specifications:

Dimension : 118L X 90W X 53H mm

Weight : 350 grams



Shared Room Hub (SRHB-16+ & SRHB-8+) :

This module is designed to enable cluster of beds in a room to the Nurse Station with only one cable. This module provides for 16 calling points(8 Calling Points) with any mix of Bed Call or Toilet call units to be connected to the Nurse Station. It also provides for a common Door Indicator to be connected which will show the highest priority call among all 16 calling points with 5 different colours to show call status.

Technical specifications(SRHB-16+ & SRHB-8+):

Dimension :345mm(W) X 80mm(H) x 150mm(D)

Weight : 2 Kg

Material : MS

Dimension : 285mm(W) X 65mm(H) x 150mm(D)

Weight :1.7 Kg

Material : MS



NS Extender-16 (XTND-16):

This module is designed to to connect 16 private rooms with the Nurse Station. It can be deployed at a geographical centre location to optimise cabling requirement.

Technical specifications:

Dimension : 415mm(W)X 61mm(H)X 151mm(D)

Weight : 2 Kg

Material : MS



Nurse Call Processor (NCP) :

Designed around a System on Chip processor to collect information from all the connected rooms, to send indicator information to all the rooms, to show various room call status on LCD TV and to announce call status with high quality voice. Provides for user interface through keypad to configure the system.

Specifications:

Dimension : 272W X 82H X 200D mm
Power : 230 V AC +/-10%, 50 Hz, 50 watts
Weight : 1.8 Kg
Mounting : Table Top



Multi Mode Display Panel (MMDP) :

This unit, designed around a System on Chip processor together with a suitable LCD TV, can work in 3 different modes to avail enhanced features of NCS-*Elite+*.

Mode 1. Supervisory Alerts: In this mode, calls of higher priority, escalated calls and Code Blue alerts from the chosen Nurse Stations will get displayed.

Mode 2. Nurse Station Display: This mode can be made use of to replicate the Nurse Station Displays of the chosen Nurse Stations.

Mode 3. Service Display: This mode will be helpful if dual call room units are made use of in a system in which case, all the service calls associated with the chosen Nurse Stations can be segregated and shown on the LCD attached.

Specifications:

Dimension : 272W X 82H X 200D mm, **Weight** : 1.8 Kg
Power : 230 V AC +/-10%, 50 Hz, 50 watts
Material : ABS Plastic Enclosure, **Mounting** : Table Top



LCD TV :

This LCD TV is sourced from a third party and is used for both audio announcement and visual display in multicolor. If higher decibel voice is required external speaker can be added.

The Nurse Call Processor makes use of this TV to show call status in two different formats viz, one format is to show room names in a window along with a foot note describing type of call. Another format is to have floor map of the rooms associated with the Nursing Station to be put on the screen and to show the door indicator status at every room on the map as shown in the picture.

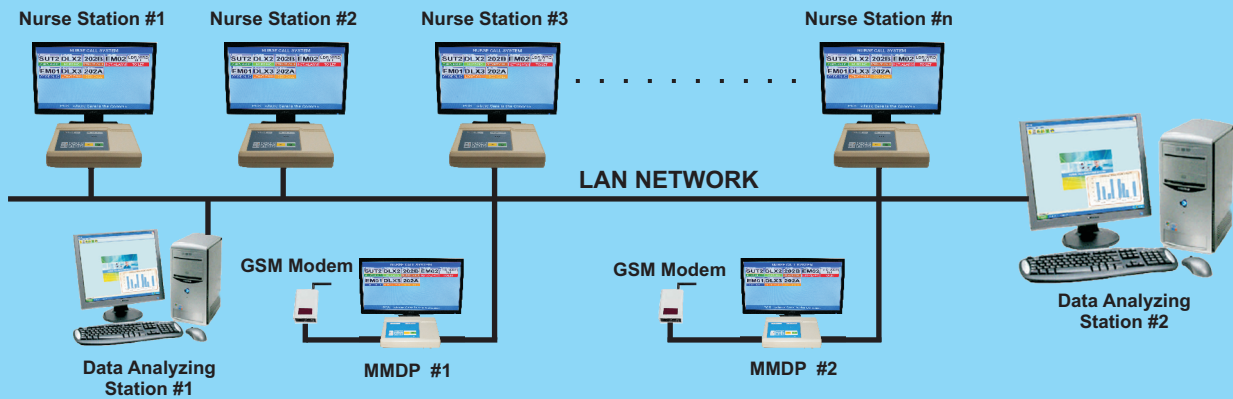


Specifications:

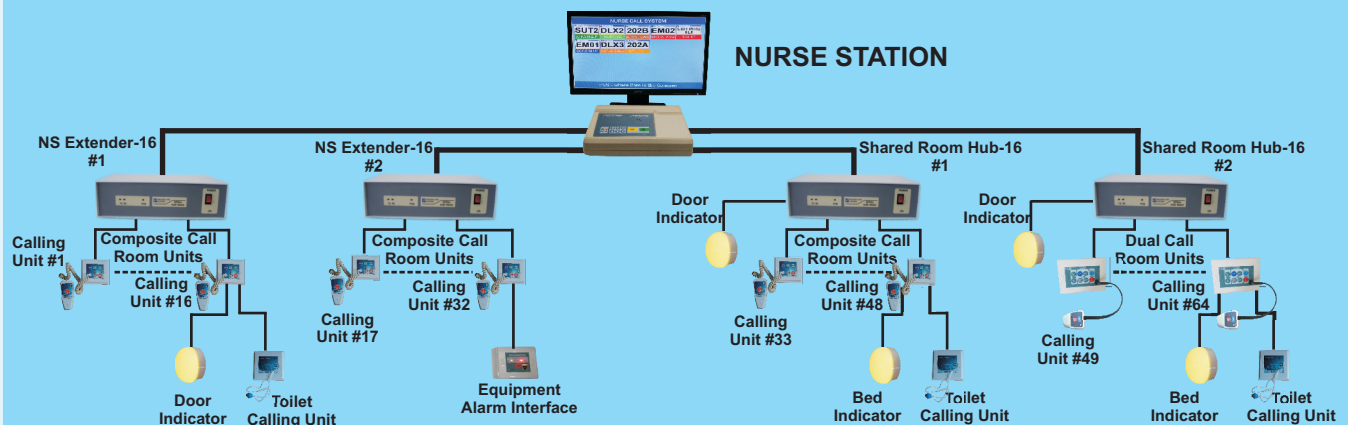
LCD display : 19" Display
Resolution : 1024x768 pixels (min)
Input interface : HDMI
Power : 36 watts
Mounting : Table Top



NCS-Elite+ System architecture - Nurse Station Connectivity



NCS-Elite+ System architecture - Rooms Connectivity



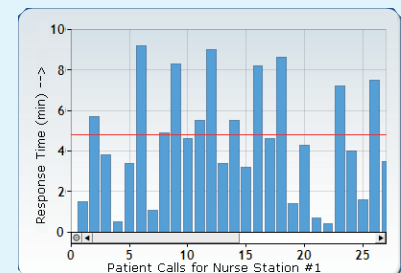
Nurse Call Analysing System (NCAS) :

A Computer with associated software loaded allows for viewing various MIS reports like call density, Average response time, record of escalated calls, calls profile etc. Additional feature of sending SMS for Escalated calls is an option.



PC Specification:

- . Pentium IV or later with minimum of 2GB RAM.
- . LAN Port for communication with NCS_NW devices and one COM port for GSM Modem.
- . DVD ROM Drive.
- . PC with Windows 7 or later as operating system with MS Office 2007 installed.



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