

# Smart-Caller

## **BLUELINE-IP NURSE CALL SYSTEM**

WITH RTLS, PRESENCE & DURESS OPTIONS



# **BLUELINE-IP (TRUE IP) NURSE-CALL SYSTEM**

## **WITH RTLS TRACKING PLUS DURESS, PRESENCE & DEMENTIA MONITORING**

### **TRUE IP DIRECT TO CALL-POINT**

(Unlike many systems BlueLine-IP extends the power of genuine IP to the destination for best and 'future ready' outcomes)

### **MULTI-TASKING CALL-POINTS**

(Each being a communications 'Hub' allowing up to 10 separately identifiable hard-wired and/or wireless trigger inputs)

### **CHOICE OF CALL-POINT PROTOCOL**

(Including 'True-IP', Lin-Bus connected Smart Slaves & ISM Wire-less all with Seamless System Integration)

### **INBUILT PIN-POINT DURESS**

(System calculates location of Carer's Bluetooth Duress Tag)

### **INBUILT RTLS LOCATION TRACKING SYSTEM**

(Allows Real time Person and/or Asset Tracking)

### **INBUILT ROOM DEMENTIA FACILITIES**

(Multi-tasking call-points allow initial or future application of bed exit, door exit, bed-wet & ensuite monitoring)

### **INCLUDES BLUETOOTH TECHNOLOGY**

(The system enjoys the current and future benefits of plug-and-play Bluetooth & IoT Technologies)

### **IP NODE CONNECTION FOR NON-IP DEVICES**

(Door reeds, relay contacts etc are given IP Address functionality via RJ45 IP Node connections)

### **WIRELESS ADD-ON OVERLAY TO SYSTEMS**

(Ideal for seamlessly enhancing existing systems)

### **CALL, CANCEL & ASSIST VIA 2 BUTTONS**

(All Call-Points (including Slave versions) provide 'Staff Assist' by pressing both call and cancel buttons)

### **REAL-TIME MULTIPLE DISPLAY DASHBOARDS**

(Wide range of screen display categories with incident alert capabilities)

### **INFECTION CONTROLLED CALL-BUTTONS**

(Antibacterial/Antifungal call-buttons including call lock-out cleaning facilities)

### **PLUG-&PLAY SYSTEM DESIGN**

(System Head-End and Nodes (if used) are delivered as a fully working and tested system)

### **NO ONGOING LICENCE FEES**

(Unlike other nurse call systems the BlueLine-IP & ISM [wireless] systems have no recurring software licence Fees)





# THE SYSTEM



## SYSTEM HEAD-END DESIGN

The central head-end comprises a high quality solid state Server with no moving parts and an MTBF (Mean Time Between Failure) Certification of 100,000 hours or 12 years.

The central Server controls the overall system head-end including the nurse-call administration and reporting software program. This includes optional RTLS, Presence, Duress and Wanderer requirements. The system also features 'automatic email reporting' and flexible up to date Dashboard Display monitoring capability.

Other head-end devices typically include an uninterruptable (UPS) battery backed power supply plus Annunciator and Paging controllers in addition to Fire and perhaps other high level interfaces.

To exploit the benefits of having a seamless site-wide wireless overlay the central equipment may also include a Blueline-ISM Wireless input controller.



## CALL-POINTS - A CHOICE OF SEAMLESS TECHNOLOGIES

A unique benefit of the BlueLine-IP nurse call system is its wide range of call-points all of which have the same appearance and operational functions but are able to exploit different technologies for different outcomes. Each model has corresponding splash-proof and waterproof versions, the latter using resin encapsulation of its circuit and components.

Irrespective of the call point application (as identified by button colour) the range of models include:

### IP-CALL-PC

Hard wired & totally IP based connecting to system POE switches/routers

### IP-SLAVE

Slave Call-Point (LIN-Bus networking to its master IP call-point or Node)

### CP-ISM

Long Range ISM (Industrial, Scientific & Medical) wireless call-points

### H3-COM

Basic hard-wired suitable for connection to a Node or Area Controller.

Various of these models are able to act as a room controller typically providing up to 10 separate and identifiable inputs to the Server database for call processing, logging and reporting.

Similarly latest technology Bluetooth-BLE plug-in Locator modules can be fitted to all IP or ISM based call-points to accommodate RTLS, Duress, Falls detection or other applications such as Staff and Resident Presence including cleaning or maintenance staff activities etc.

The ability to seamlessly accommodate combined technologies within a single system also significantly enhances system flexibility whilst also accommodating add-on requirements and reduced installation costs.

All versions of the system call-points include Call, Cancel and Assist plus 'Heartbeat' monitoring whilst also having the same high degree of anti-bacterial/antifungal infection control.

## IP TO THE DESTINATION & (NODE OPTION)

Some nurse call manufacturers limit the IP technology to its connection to an adjacent CAN-Bus distribution Node. By contrast our preferred 'True-IP' technology brings the processing power and 'future ready' benefits of genuine IP Technology directly to the room or other prime destination complete with its POE (Power over Ethernet) where it is most needed.

The system is also capable of economical deployment of the latest LIN-Bus local network technology whereby a standard IP Master call-point (or Area Node) is capable of accommodating many highly featured IP Slave call-points via a low cost and flexible extended cabling infrastructure.

This LIN-Bus sub-net cabling arrangement is particularly useful when redeploying existing cabling for the upgrading of Legacy system sites. It also serves to accommodate the direct Node connection of less sophisticated devices such as door-reeds or other relay contact devices. This means that such connections are given separate head-end IP database identification to accommodate unique processing, display, logging and reporting requirements.



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## BENEFITS OF DEPLOYING WIRELESS OVERLAY

Although each version of the IP and Smart-Slave call-points have a multiple channel 'short-haul' wireless trigger input capability the BlueLine-IP hard-wired nurse call system also has the ability to include site-wide wireless reception using both fixed and portable elements of the BlueLine-ISM long range wireless system.

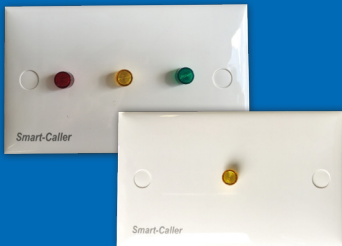
This offers the perfect solution of accommodating temporary or future call-point requirements where additional cabling is either impracticable or excessively expensive. It also accommodates the use of roaming pendants for both Resident and Staff alike.



## CORRIDOR (OVER DOOR) LED DISPLAYS

Designed to accommodate up to three 5mm 'Superbright' LEDs these low profile call indicator units are usually located on the corridor ceiling adjacent to the door of the associated room. Hospital type over door indicators are also available.

The over-door assembly's LED flash rate is determined by the priority level of each call generated within the associated room or location.



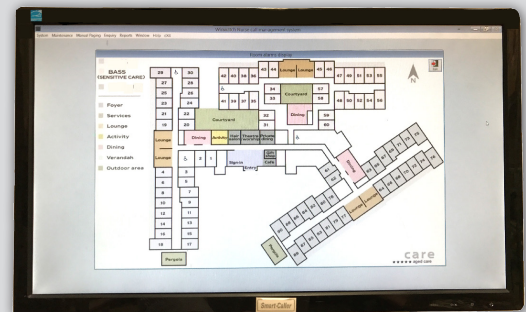
## ANNUNCIATOR DISPLAYS

The wall or ceiling mount LED Annunciator display uses an attractive housing and is available as either a single or double-sided display. They feature a high intensity LED matrix providing 16 segment 50mm high alphanumeric multicolor characters. However, half width versions (i.e. being 8 x 50cm) are also available (as illustrated).

Displays are capable of being independently addressed with specific call traffic applicable to each unit's location within the overall network.

Hard-wired or wireless controlled Annunciators are available, the latter being ideally suited to multiple building sites.

They feature automatic day and night audible tone levels and will display time or 'fall-back' messages when not displaying calls in progress. Wi-Fi network controlled wall mounted Tablets or Smart-TV flat screen displays are also available.



## PORTABLE DISPLAYS + VOICE COMMUNICATION

The tendency to deploy the site's Wi-Fi infrastructure to provide text and voice communication is rapidly gaining acceptance. Accordingly BlueLine-IP nurse call systems include the ability to deploy economically priced robust and waterproof Android Smart-Phones. Alternative or additional DECT, alphanumeric paging, Vocera and other communication techniques are also supported.

This special messaging capability provides an important integral part of the overall nurse call system whilst also allowing site-wide and external both-way telephone access.

The special Smartphone icons use the Australian Standard AS3811 colors and associated audio tones thereby easily identifying the priority level of each incoming call. Suitably configured Smart-Phones can also be configured to automatically switch between local Wi-Fi and external SIM services therefore being ideally suited for large sites including Retirement Villages.





# DUTY OF CARE



## SAFE CONTAINMENT & WELLBEING OF DEMENTIA RESIDENTS

The BlueLine-IP system can include an inconspicuous and fully integrated Wireless or IP based 'MINDER' Room Monitoring System.

In addition to providing a curtain PIR above the door to detect a departing 'Wanderer' the system typically comprises a dual or single wall mounting 'Floor Scan' Bed Exit PIR Sensor. Alternatively it will accommodate traditional floor mats or the latest 'within-bed' occupancy sensors located above or below the mattress.



Other optional room functions include Ensuite and Room PIR movement sensors along with automatic light switching arrangements. The additional plug and play deployment of an optional Bluetooth module within the Minder unit will ensure a 'Future-Ready' solution for both unknown and predictable future requirements.

For example 'Voice Activated' call-point trigger is also possible for disabled NDIS Patients/Residents. Or perhaps to activate "Help" calls for those Residents that, for various possible reasons may not be able to manually trigger a normal or an emergency call.



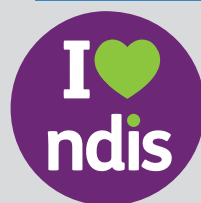
### MINDER OPTIONS

#### BED EXIT

- Floor-Scan PIRs
- Floor & Chair Mat Sensors
- Crash Mat sensors
- Above Mattress Sensors
- Under Mattress Sensors
- Bed occupancy monitor

#### OTHER

- Door Exit (Curtain) PIR
- Ensuite occupancy PIR
- Room Space PIR
- Light Switching
- Bed wet (Enuresis) alarm
- Vital signs monitor



**REGISTERED  
NDIS  
PROVIDER**

## SELECTION OF ACCESSORIES (WIRELESS & HARD-WIRED)

There is no practical limit to the range of Assistive Care Accessories that may be applied to a 'MINDER' room monitoring system or indeed to communicate directly with any of the range of call-points. In fact, if preferred wireless Pendants and other wireless enabled devices are capable of communicating direct to the head-end or via a Node without the use of other intervening devices or equipment.

An ever increasing range of up-to-date accessories with prices, videos and other supporting information can be found at Smart-Caller's accessories website

[www.safelife.com.au](http://www.safelife.com.au)

### TYPICAL ACCESSORIES

- Pendant & Wrist transmitters
- Door Reed Transmitters
- Ceiling pull cords for showers
- Smoke & Heat sensors
- Flood sensors
- PIR motion sensors
- Bed-Exit Sensor Pads
- Bed-Wet Sensors
- Floor mat Sensors
- Chair-Exit Sensor Pads
- RTLS & Wanderer Tags
- Duress & OH&S Devices
- Pendant (Call Bell) cords
- Vital Signs Sensors



## SITE-WIDE 'SMART PENDANT'

Both the IP call points and their associated LIN-Bus Smart-Slave call points can include multiple channel UHF short range wireless receivers in order to provide a cordless bedside environment in addition to providing the Resident with a personal wireless pendant.

The BlueLine-IP nurse call system, in addition to accommodating the above short range wireless devices also accommodates the new long range ISM Smart-Pendant. These communicate directly to the head-end system or via wireless Nodes or repeaters and can in larger sites also identify a Resident's location within the overall site. This Personal pendant has special and unique attributes whereby it provides an identifiable wearer 'Call' plus the ability for the Staff to 'Cancel' the call or to dispatch a high priority 'Staff Assist' call.

Each ISM wireless pendant is supplied with a wrist strap plus necklace and pocket clip in order to satisfy those various personal requirements.

It also includes the latest technology 'Accelerometer' Falls Detection Sensor as an optional inclusion. In other words it has much the same total capabilities as an ISM wall mounted wireless call-point plus the ability to detect a 'Fall' incident.



## SITE-WIDE DURESS & RTLS MONITORING

The BlueLine-IP system features valuable additional benefits whereby it is able to provide important options:

- Site-wide Staff Presence
- Staff Duress Button
- Resident Help Button
- Falls alerts
- RTLS (Real Time Tracking)

These valuable facilities are achieved by initially (or at some future date) simply plugging a Bluetooth-BLE (Low Energy) 'LOCATOR' module into selected IP (or ISM wireless) call-points. A typical Bluetooth tag worn by a Resident/Patient or Staff member can be programmed to simply send periodic RTLS transmissions whilst in motion and to enter a battery saving mode if stationary. Unlike other RTLS systems all Bluetooth-BLE Locators and Tags have fully adjustable 'send' and 'receive' modes and a second Technology sensor is included in the Locator for precise room level detection requirements.

Depending on the choice of device being worn the wearer pressing a button on the Tag is able to deliver a 'Help' call. This would typically be a Staff Duress or perhaps a Resident/Patient call for help. 'Falls Detection' is also possible.

The Bluetooth monitoring infrastructure also includes 'GateKeeper' perimeter protection facilities. This provides 'Safe Containment' by protecting those that are inclined to 'Wander' beyond the perimeter unaccompanied or by prohibiting persons from entering 'no-go' locations.

A wide range of portable devices is possible including those intended for key rings, name badges, wrist tagging in addition to those devices intended to affix to clothes or plant and equipment to assist in location and/or to prevent unauthorized removal.



## PRESENCE REPORTING

The ability to prove the attendance of one or more Staff members within a room or location in response to one of the many 'duty of care' obligations is likely to become a mandatory requirement.

This typically includes attendance to alarm calls and scheduled hygiene, toileting, feeding and room cleaning requirements in addition to perhaps proving prompt and accurate performance of night duty 'rounds'.

Any Bluetooth Locator equipped call-point is able to be fitted with an optional PIR lens in order to provide the second technology necessary to pin-point the presence of a tagged Staff member, Service Provider or Resident. This dual technology technique not only provides room level tracking but will also allow detailed 'Presence Reporting' complete with arrival and departure times.



Typical Residential Cottage Floor Plan



**REPORTING MADE EASY**

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# NURSE-CALL SOFTWARE PROGRAM

The BlueLine-IP system software program provides a 'single operating platform' to accommodate all on-site and/or off-site monitoring and reporting requirements.

Monitoring functions include Resident/Patient events plus Staff Duress, Building Management Services and Fire Panel monitoring. It also accommodates RTLS (Real Time Location System) tracking and location requirements.

Where RTLS Bluetooth Locator facilities are included within call-points or other locations it will also provide comprehensive real time logging and reporting facilities for all tagged persons or assets.

The use of Bluetooth enhanced personal tags and name card will ensure a high level of Staff OH&S along with both the location and protection of Assets.

Below we illustrate the power of the BlueLine system Mk5 Software program by showing one of the many report templates configured for automatic periodic delivery by email to interested parties.

## REPORTING 'MADE EASY'

Gone are the days of Aged Care Facility staff spending hours evaluating log sheets and manually creating reports. The BlueLine-IP nurse call system now automatically delivers those important reports to the selected recipients on time by email.

The adjacent sample identifies a single page emailed report covering a range of client selected Key Performance (KPI) issues. It depicts them in both graphic and numeric displays showing both actual and percentage performance ratios.

It then becomes an easy matter to also drill down onto issues that may need further investigation and/or reporting.

In this example we have created a 'Wing Activity Report' to identify wide ranging KPI parameters for all Resident call and staff response performance from those rooms within that selected location (Wing).

## SUMMARY OF EMAILED REPORT

In the particular Report shown here the client has selected the following KPI issues:

- Total quantity of incoming calls for the selected period & location
- The average attendance response time for that total
- Calls that exceeded the selected 9 minute carer response time in both quantity and percentage of the total
- Calls that exceeded the selected 15 minute response time in both quantity and percentage of the total calls received
- The quantity and percentage of (Timed out) calls that appeared not to have been attended at all
- Spread of delinquent attendance by time of day and day of week to assist in setting staffing levels

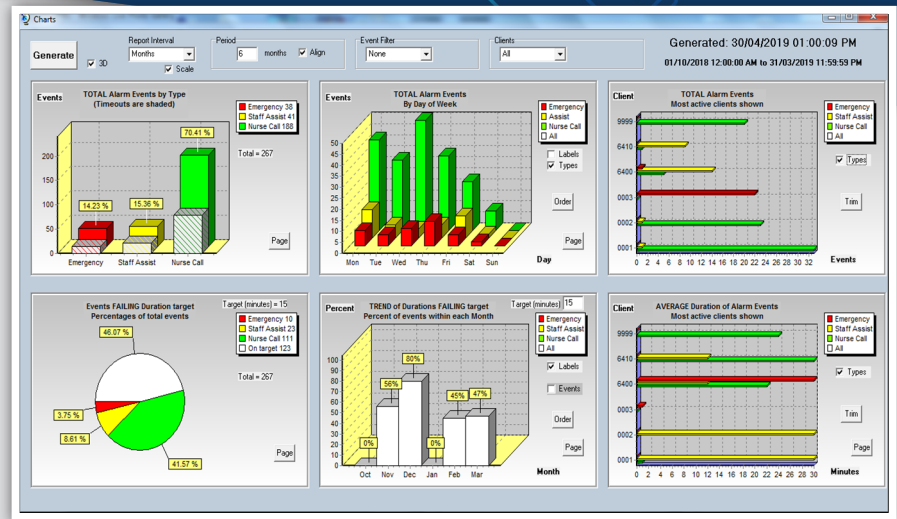




## DASHBOARD MONITORING

The Real Time Dashboard Display allows management to keep an eye on KPI performance for a wide selection of subjects. There are approximately 20 display categories from which to choose and customized versions are also possible.

It is also possible to generate a specific alert across the display screen should a serious event be detected thereby allowing immediate remedial action to occur whilst also caring for Staff and safe-guarding 'tagged' persons and assets.



- 1 Fixed Call-Points
- 2 Duress Transmitters
- 3 Door Bell
- 4 Intrusion Sensors
- 5 Smoke Detectors
- 6 Gas Detector
- 7 Heat Detector
- 8 Flood Sensor
- 9 Wanderer Sensor
- 10 Bed Exit Floor Mat
- 11 Bed Exit Pad
- 12 Chair Exit Pad
- 13 Enuresis (Bed Wet Sensor)
- 14 Inactivity PIR/s
- 15 Ensuite overstay sensor
- 16 Mini Node (Battery Backed)



## SMART-HOUSE DUTY OF CARE OUTCOMES

With the selective combination of BlueLine-IP and BlueLine-ISM (wireless) system components along with their optional Bluetooth and IoT (Internet of Things) plug and play add-on facilities there is no limit to the available levels of Monitoring, Critical-Alerting and Reporting.

The use of dashboard displays and automatically emailed reports significantly enhances the scope to achieve the highest level 'duty of care' performance along with the ability to cope with future-ready outcomes.

The background is a dark blue gradient with a network of glowing light blue lines and dots. Several circular icons are connected to the network: a syringe, a heart with a wireframe pattern, a caduceus, a pill, a plus sign, and a flame. At the top, there are some binary code elements like '1001' and '0110001'.

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