Smart-Caller

BLUELINE-ISM WIRELESS NURSE CALL

WITH RTLS, PRESENCE & DURESS OPTIONS

BLUELINE-ISM (Wireless) NURSE-CALL SYSTEM

WITH RTLS TRACKING PLUS DURESS, PRESENCE & DEMENTIA MONITORING

AUSTRALIAN DESIGN AND MANUFACTURE
(Using ISM [Industrial, Scientific & Medical] wireless technology and components)

LONG RANGE COMMUNICATION
(Up to 2Km, ideal for multiple building sites and Retirement Villages)

MULTI-TASKING CALL-POINTS
(Each being a communications 'Hub' allowing multiple and identifiable hard-wired and/or wireless inputs)

INBUILT PIN-POINT DURESS OPTION
(Locates Carer's Bluetooth Duress Tag alert)

INBUILT RTLS TRACKING OPTION
(Allows Real time Person and/or Asset Tracking)

INBUILT ROOM DEMENTIA FACILITES
(Room 'Minder' manages bed-exit, door-exit, bed-wet & Ensuite monitoring)

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

CALL, CANCEL & ASSIST VIA 2 BUTTONS
(All Call-Points (including Slave versions) provide 'Staff Assist' by pressing both call and cancel buttons)

INFECTION CONTROLLED CALL-BUTTONS
(Antibacterial & Antifungal call-buttons)

SUPERVISED TWO-WAY COMMUNICATION
(Call-point or Wireless Pendant reassurance light triggered & controlled by head-end call acceptance)

WIRELESS ADD-ON OVERLAY TO SYSTEMS
(Ideal for seamlessly enhancing existing systems)

REAL-TIME MULTIPLE DISPLAY DASHBOARDS
(Wide range of screen display categories with incident alert capabilities)

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)

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THE SYSTEM

SYSTEM HEAD-END DESIGN

The central head-end equipment includes 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.

The key item within the central head-end equipment is the Wireless Input Controller (WIC) which may be duplicated for large systems such as those that include comprehensive RTLS (Real Time Tracking) requirements.

Other items would typically include an Uninterruptable battery backed power supply (UPS) plus Annunciator and Paging Controllers in addition to Fire and perhaps other high level interfaces.

To exploit the benefits of having a multi-tasking Head-End system the central call input equipment may also include an Ethernet POE Switch to accommodate hard-wired connection of Wireless Nodes, IP Call-points or other devices that may be required to communicate with the head-end via hard-wired connections.

CALL-POINTS - A CHOICE OF SEAMLESS TECHNOLOGIES

A unique benefit of the BlueLine-ISM nurse call system is its wide range of call-points. They all have the same appearance and operational functions but are able to exploit different add-on technologies for different outcomes.

Each ISM call-point may be powered from a battery backed external 12v dc source or fitted with a high capacity (1AH) long life Lithium battery. Both splash-proof and waterproof versions are available including those intended for use within the Shower Recess that have resin encapsulated circuits. Irrespective of the call-point application (as identified by its call button colour) the range of models includes:

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

CP-ISM-LOC
As above but fitted with a Bluetooth RTLS Locator 'Beacon' module.

CP-ISM-PRE
As above but including a second (PIR) technology sensor to provide Staff and Resident 'Location Presence' Monitoring.

PSCP
A Prime Slave call-Point for connection to an ISM Wireless call-point, typically waterproof and located within the shower recess.

All ISM call-points are able to act as a room controller 'Hub' capable of delivering multiple and identifiable hard-wired and/or wireless inputs to the Head-End Server database for call processing, logging, displaying and reporting. Models with 'LOC' suffix include a plug-and-play Bluetooth-BLE transceiver insert to provide RTLS location information. Each Locator captures the identity, signal strength and status of all Bluetooth Tags within range for delivery to the Head-End for further processing.

Those call-points with the 'PRE' suffix are further equipped with a second technology in order to provide room level 'Presence' information applicable to both Residents and Staff wearing any in the wide range of RTLS 'Tags'.

All versions in the range of ISM call-points include Call, Cancel and Staff Assist plus diagnostic monitoring whilst also having the same high degree of anti-bacterial and anti-fungal infection control.

ISM WIRELESS DIRECT & VIA NODE OR REPEATER

In addition to providing a comparatively high level of immunity to lightning damage or interference, another benefit of using wireless technology is its ability to enjoy multiple path communication to the system head-end. Where the primary path normally carries out its prime call processing function other available and suitably delayed paths can provide a valuable system back-up capability if so configured.

ISM wireless transmitting devices include call-points, portable pendants and a wide range of wireless equipped accessory devices such as PIRs, smoke detectors, Door Reeds, bed and chair exit sensors etc. The use of wireless technology can therefore also result in a cordless bedside environment, particularly important within dementia specific locations.

Small systems can be programmed for all wireless devices to communicate directly with the Head-End Wireless Input Controller (WIC) (as illustrated). However, with larger sites it is usual for separate Wings or floors to include a wireless Repeater or Node. The latter delivering the call traffic via hard-wired RS485 or TCP/IP connection to the head-end equipment for processing.

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ISM WIRELESS OVERLAY FOR 'LEGACY' SITES

Irrespective of the type, age or brand of an existing nurse call system there is a significant cost saving benefit in providing a site-wide and highly flexible ISM wireless overlay or umbrella.

It provides the perfect solution for accommodating temporary or future call-points or accessory items. It usually requires no additional cabling, particularly where additional cabling is either impracticable or excessively expensive or is perhaps required for a building that has heritage restrictions. In addition to being able to now introduce cordless sub-systems and accessories it also accommodates the use of long range portable ISM pendants for the benefit of both Residents 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 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. Suitability 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-ISM 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 via their call-point.

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

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RESGISTERED 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 Resident's room. Perhaps either directly or indirectly connected to the bedside call-point. If preferred wireless Pendants and other wireless enabled devices are also capable of communicating via a call-point or direct to the head-end or perhaps via a Node or Repeater without the use of other intervening devices or equipment.

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

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'

In addition to the 'short-haul' UHF Pendants typically used within a Resident's room, the system also supports the alternative use of long range ISM wireless pendants. These 'Smart' Pendants can provide multi-tasking site-wide coverage for Residents and Staff alike.

The ISM Smart Pendant can communicate directly to the head-end system or via wireless Nodes or repeaters and in larger sites deploying multiple Nodes or Repeaters can also identify a wearer's approximate 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 having the ability to be a portable device and (optionally) to detect a 'Fall' incident.

SITE-WIDE DURESS & RTLS MONITORING

The BlueLine-ISM system features valuable additional benefits whereby it is able to provide many valuable options, including:

- 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 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 within the call-point for room level 'Presence' detection.

Depending on the choice of device being worn the wearer pressing a button on the Tag is also 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 perhaps 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-strap 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, scheduled hygiene, toileting and 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 a PIR lens in order to provide the second technology necessary to pin-point the presence of a tagged Staff member or Service Provider.

This dual technology technique not only provides room level tracking but will also allow detailed 'Presence Reporting' complete with arrival and departure times. This allows detailed 'Presence' logging and reporting of one or more tagged Staff members or Service Providers. It similarly records the Presence of Tag wearing Residents.

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REPORTING MADE EASY

NURSE-CALL SOFTWARE PROGRAM

The BlueLine-ISM 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.

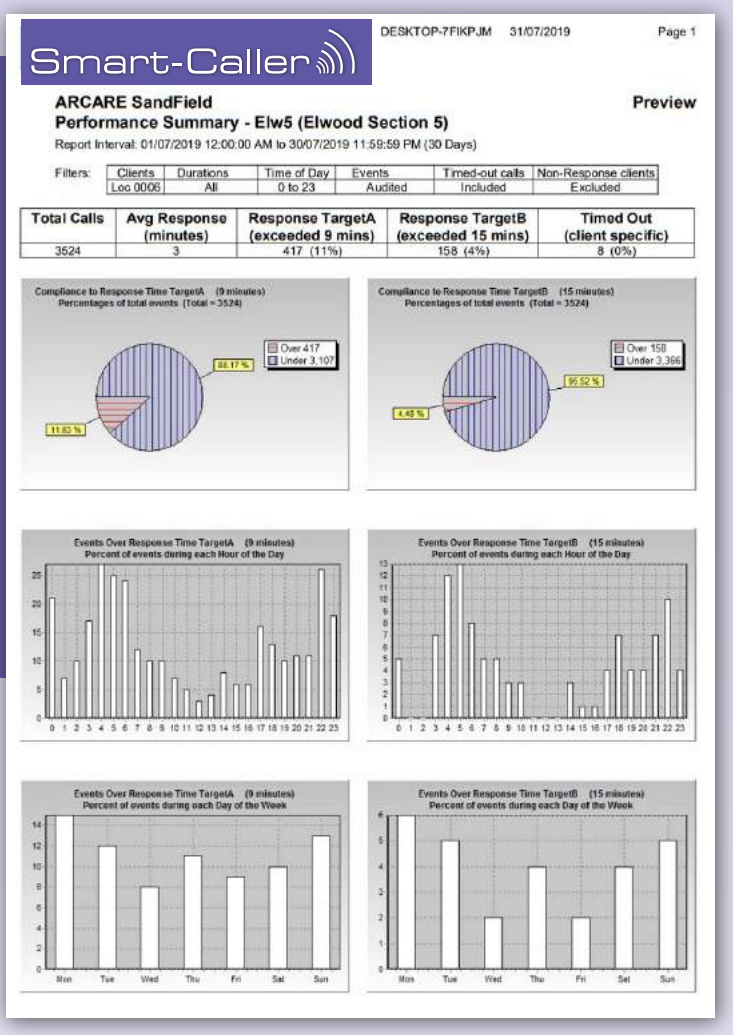
REPORTING 'MADE EASY'

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).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ARCARE SandField

Preview

Performance Summary - Elw5 (Elwood Section 5)

Report Interval: 01/07/2019 12:00:00 AM to 30/07/2019 11:59:59 PM (30 Days)

Filters:

Clients	Durations	Time of Day	Events	Timed-out calls	Non-Response clients
Loc 0006	All	0 to 23	Audited	Included	Excluded

Total Calls	Avg Response (minutes)	Response TargetA (exceeded 9 mins)	Response TargetB (exceeded 15 mins)	Timed Out (client specific)
3524	3	417 (11%)	158 (4%)	8 (0%)

Compliance to Response Time TargetA (9 minutes)
Percentages of total events (Total = 3524)
Over 417
Under 3,107
88.17 %
11.83 %

Compliance to Response Time TargetB (15 minutes)
Percentages of total events (Total = 3524)
Over 158
Under 3,366
95.52 %
4.48 %

Events Over Response Time TargetA (9 minutes)
Percent of events during each Hour of the Day

Events Over Response Time TargetB (15 minutes)
Percent of events during each Hour of the Day

Events Over Response Time TargetA (9 minutes)
Percent of events during each Day of the Week
Mon Tue Wed Thu Fri Sat Sun

Events Over Response Time TargetB (15 minutes)
Percent of events during each Day of the Week
Mon Tue Wed Thu Fri Sat Sun

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

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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 chose 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 Dector
7. Heat Dector
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-ISM (wireless) and BlueLine-IP system components along with their optional Bluetooth and IoT (Internet of Things) plug and play add-on facilities there is no practical limit to the available levels of Monitoring 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.

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Specifications and illustrations are subject to change without notice