ISM LONG RANGE
Wireless
Nurse Call Systems

CALL

CANCEL

Smart-Caller

Smart-Caller BlueLine-ISM Nurse-Call System

Long Range & Supervised with Plug-in Dementia, Falls Detection, Duress & RTLS Options

FEATURES & BENEFITS

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

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

LONG LIFE BATTERIES (Typically 8-10 years or use external power, perhaps when replacing old hard-wired call-points

MULTI-TASKING CALL-POINTS (Being a communications 'Hub' allowing up to 10 separately identifiable hard-wired or wireless trigger inputs)

INBUILT PIN-POINT DURESS (System calculates location of Carer's Bluetooth duress trigger)

INBUILT RTLS LOCATION TRACKING SYSTEM (Allows Real time Person and/or Asset tracking)

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

HIGH SENSITIVITY PLUS MULTI-FREQUENCY OPERATION (To avoid interference and optimize site coverage)

SUPERVISED TWO-WAY COMMUNICATION (All call traffic acknowledged by confirmation response)

'HEARTBEAT' INTEGRITY (System infrastructure fully supervised to ensure continuity of performance)

ADD-ON OR OVERLAY EXISTING SYSTEMS (Ideal for enhancing existing systems)
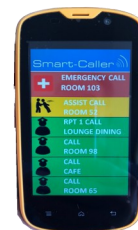
THE ISM SYSTEM DESIGN

Designed and manufactured in Australia the *BlueLine-ISM* wireless communication system utilises the most recent and advanced RF technology resulting in a long range and extremely robust and cost effective nurse call or emergency alerting system.

Using the special attributes of the ISM (Industrial, Scientific & Medical) radio frequency allocations it avoids the traditional limitations of previous wireless based systems relating to range, battery life and potential interference. It's high technology deployment now also allows new features and benefits not previously considered possible within a single wireless infrastructure.

ISM WIRELESS NODE/REPEATER

The system has primarily been designed to suit aged and healthcare nurse-call applications whilst also accommodating backbone infrastructure for Duress, RTLS (Real Time Location Tracking), Falls detection plus building construction, schools and universities and similar OH&S requirements of any size.

The system provides reliable supervised 'both-way' data communication for distances exceeding 2Km therefore being ideally suited to large Greenfield or existing sites where running cables between buildings would prove costly, inappropriate, impractical, subject to near lightning strikes or perhaps subject to 'Heritage' restrictions.

CALL-POINT DESIGN

Call-points are identical in appearance and operation to those used with the *BlueLine-IP* hardwired system. This allows for seamlessly combined technologies within a single system design thereby enhancing system flexibility whilst significantly reducing installation costs.

Like all versions of the 'H4' Series call-points the ISM wireless versions include Call, Cancel and Assist. It also has the same high degree of anti-bacterial/antifungal infection control and temporary call-lockout required during call-point cleaning procedures.

An additional and unique benefit of these wireless call-points results from their ability to be triggered by numerous hard-wired and/or 'short-haul' UHF and/or Bluetooth wireless accessories. This multi-tasking capability means that it is possible to dispatch a wide range of separately identifiable cordless events to the system head-end for logging, processing and reporting .

**H4-ISM
CALL POINT**

SYSTEM HEAD-END DESIGN

The central head-end comprises a high quality solid state Server having no moving parts and a certified 'Mean Time Between Failure' of 100,000 hours (11 years).

Other items include the Wireless Input Node plus battery backed power supply and various other items required to deliver text to DECT or Wi-Fi Smart Phones, Pagers, Screens, Annunciators and other connected sub systems.

MORE FEATURES & BENEFITS

INFECTION CONTROLLED CALL-BUTTONS
(Including call lock-out cleaning facilities)

SEAMLESS MERGING WITH HARD-WIRED
(Add wireless call-points and devices to existing hard-wired or wireless systems)

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

NODES CONNECT VIA LAN OR WIRELESS
(System Nodes can connect to the head-end via Ethernet (LAN), RS232, RS485 Network or via Wireless repeater on same or other channel.

11-YR MTBF RELIABILITY CERTIFICATION
(System Server has 100,000 hour 'Mean Time Between Failure' Certification)

SMARTCOM-05 SERVER

INTELLEGENT CORRIDOR (OVER-DOOR) LED DISPLAYS

Designed to accommodate up to three 5mm 'Superbright' LEDs these low profile call indicator units may be controlled via wireless reception from call-points within the associated room or location or may be hard-wired to those call-points. The LED flash rate is determined by the priority level of each call in progress.

Within a *BlueLine-ISM* Wireless System these LED display panels are also capable of providing additional benefits such as site-wide Duress and RTLS processing in addition to having the ability to act as wireless signal repeaters if required.
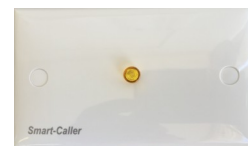
ANNUNCIATOR DISPLAYS

All *BlueLine-ISM* and equivalent *BlueLine-IP* systems offer the choice of interconnected LED Annunciator displays and/or wall or desk mounted LCD smart screens, the latter typically making good use of the site's Wi-Fi infrastructure.

All forms of display are capable of being independently addressed with specific call traffic applicable to each unit's location. It is also possible to use the displays in their 'fall-back' mode (i.e. no active calls on display) to make daily announcements or other text messages or perhaps to display computer generated 'time of day.'

One benefit of the LCD screen version is its ability to display either a 'line by line' display of call traffic in progress also showing the number of repeat calls and elapsed time in appropriate color and priority listing of calls in progress. Alternatively the screen can display a real time graphic display identifying 'Alarmed Locations' this also being particularly useful for Duress and RTLS applications.
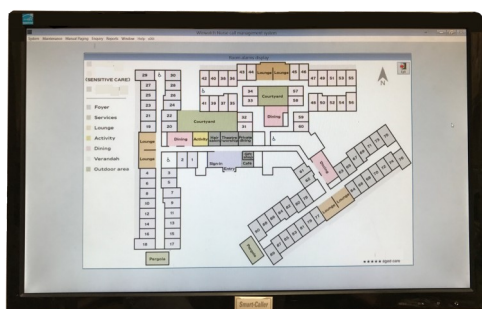
WALL OR DESK MOUNT DISPLAY

It is also possible to use the Displays in their 'fall-back' mode (i.e. no active calls on display) to instead display daily announcements or other text messages or to display computer generated 'time of day' or perhaps to stream video promotional or entertainment material.

ANNUNCIATOR DISPLAY

Irrespective of the type of display device the units have a speaker with local volume control, however the system head-end is also capable of globally controlling the day and night volume levels in order to avoid Resident discomfort.

PORTABLE COMMUNICATION SOLUTIONS

Clients choose the portable display devices that best suit their overall needs and Smart-Caller nurse call systems offer the necessary interfaces to suit most DECT, Wi-Fi, 3G, Vocera and traditional VHF and UHF POCSAG alphanumeric pocket paging systems.

PAGER

The tendency to deploy the site's Wi-Fi infrastructure to provide text and voice communication is rapidly gaining acceptance. Accordingly *BlueLine's* economically priced, robust and waterproof Android Smart-Phones can form an integral part of the overall nurse call system whilst also allowing site-wide and external access as necessary.

ANDROID SMART-PHONE

Using the latest technology Server middleware program communicating with the Wi-Fi network the display traffic can be delivered to both fixed and portable display devices as required.

The special Android icons use the Australian Standard AS3811 colors and associated audio tones thereby identifying the priority level of each incoming call.

The system's head-end server also supports popular message center options such as Mobicall, ConnexAll and Cisco middleware programs including their ability to support sub-system integration via a single platform.

Specifications & illustrations are subject to change without notice

'MINDER' WIRELESS DEMENTIA ROOM MONITORING SYSTEM

The *'BlueLine-ISM'* Wireless Nurse Call System can include an inconspicuous fully integrated and wireless based *'Minder'* Room Monitoring System. In addition to providing a curtain PIR above the door to detect a departing 'Wanderer' the system typically comprises dual (or single) wall-mounting 'floor scan' PIR Bed-Exit sensors. Alternatively it will accommodate traditional floor mat or the latest 'within bed' occupancy sensors located above or even below the mattress.

Other optional functions include Ensuite and Room PIR movement sensors along with automatic light switching arrangements plus some smart programming capabilities to ensure on-going precise requirements to suit the ever changing behavioral profile of each Resident within the dementia wing.

This room 'safe containment' facility is controlled via the *'Minder Wireless Control Panel'* which is typically located at the entrance to the room. It provides a multi-tasking wireless transceiver device which is also capable of automatic switching of ensuite and/or room lighting if fitted with an optional wireless controlled Light Switch Relay.
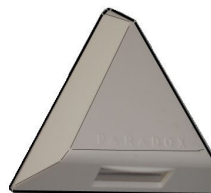

MINDER SYSTEM
SHOWING A SINGLE INVISIBLE FLOORSCAN BEAM

Pair of Floor Scan PIR

Door Curtain PIR

Corridor Arm/Disarm & Control Panel

MINDER OPTIONS

BED EXIT
- Floor-Scan PIRs
- Floor & Chair Mat Sensors
- Crash Mat sensors
- Above Mattress Sensors
- Under Mattress Sensors

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

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 a call-point or over-door Light Assembly. In fact, if preferred wireless Pendants and other wireless enabled devices are capable of communicating direct to the head-end or via a Wireless Repeater or Node without the use of other intervening devices. An ever increasing range of up-to-date accessories with prices, videos and other supporting information can be found at www.safelfe.com.au.

TYPICAL ACCESSORIES
- Pendants & Wrist transmitters
- Door Reed Transmitters
- Ceiling pull cords for showers
- Smoke & Heat sensors
- Flood sensors
- PIR motion sensors
- Bed-Exit Sensors
- Bed-Wet Sensors
- Floor mat Sensors
- Chair mat Sensors
- RTLS & Wanderer Tags
- Duress & OH&S Devices

SITE-WIDE 'SMART-PENDANT'

ISM call points can deploy their fitted UHF short range receivers to provide a cordless bedside environment, in particular to provide the Resident with a personal wireless pendant.

The **BlueLine-ISM** wireless 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 wireless Nodes and or the head-end wireless Node/Repeaters.

This latest addition to the range has special and unique attributes whereby it provides the normal and identifiable Resident/Patient 'Call' plus the ability for the Staff to 'Cancel' the call or to despatch a high priority 'Staff Assist' call. 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.

Like its short haul equivalent version this wireless Pendant features total waterproof certification to level IP67 (immersed) and the ability for the end user to replace the battery once it commences to send its low battery reports.

SITE-WIDE DURESS & RTLS MONITORING

The system features valuable additional benefits whereby it is able to provide the option of a site-wide Staff Duress and RTLS (Real Time Location System) tracking capability.

This is achieved by initially (or at some future date) plugging in a Bluetooth-LE (Low Energy) 'Locator' module into a call-point. This miniature plug-and-play facility will accept and pass on any Bluetooth RTLS or Duress call traffic to the head-end for algorithmic processing, logging, reporting and displaying.

A typical Bluetooth tag worn by a Resident/Patient or Staff member can be programmed to simply send periodic RTLS transmissions (typically every 2–5 seconds). Depending on the choice of device being worn the wearer pressing a button on the tag can change that call to a 'Help' call. i.e. Staff Duress or perhaps a Resident/Patient call for help. Reliable 'Falls Detection' is also accommodated in various of the tag devices now becoming available.

The Bluetooth monitoring infrastructure also accommodates 'Safe Containment' by protecting those that tend 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 Plant and Equipment to assist location and/or to prevent unauthorised removal.

WINWATCH NURSE-CALL SOFTWARE PROGRAM
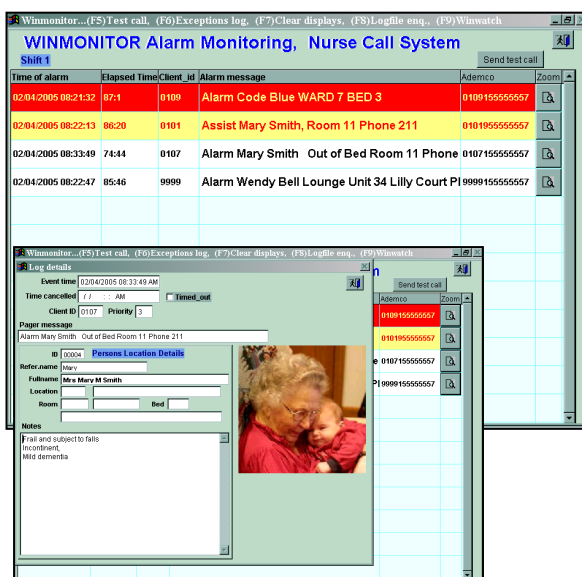
The Winwatch software program provides a 'single operating platform' to accommodate the seamless overall on-site and/or off-site monitoring requirements. Accordingly Winwatch fully complies with, and significantly exceeds Australian Standards AS3811 and AS4607.

Monitoring functions include monitoring of Resident/Patient events plus Staff Duress, Building Management Services and RTLS (Real Time Location Tracking). It also provides comprehensive logging and reporting facilities. We illustrate over-page the power of Winwatch Mk5 Software by showing one of the many Report templates being readied for automatic periodic delivery by email to interested parties.

In other words its the perfect software solution for Ageing-in-Place and Smart-House objectives whilst also caring for Staff and having the ability to safeguard 'tagged' persons or assets.

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SAMPLE 'WARD/WING ACTIVITY REPORT' PREPARATION & RESULT

In this example we have created a 'Wing Activity Report' for all Resident/Patient calls from those rooms within that selected location (Wing). Having recorded the 'True Elapsed Time" Performance you can then change the "Set Response Time" (perhaps to 10 minutes) to then identify response problems both individually and as an average for all call responses that exceeded 10 minutes.

Select one room, all rooms or all locations

(or) Select Wing

Set Response Time

Set Time Range

Set Date Range

Ward/Wing Activity Report

ℹ️ Instructions: Set filter options then click on Preview or Print button

🖨️ Preview   🖨️ Print   ➡️ Exit

Select Location ☐ All Locations

Id	Name
0009	Area Controllers
0006	Aster Wing
0007	Common Points
0004	Daisy Wing
0008	Doors
0005	Lilac Wing
0001	Lily Wing
0002	Rose Wing

Select Room ☑ All Rooms

Id	Room_code	Description	Patient_care	Beds	Beds taken
0001	001	Room 1	☑	0	
0002	002	Room 2	☑	0	
0003	003	Room 3	☑	0	
0004	004	Room 4	☑	0	
0005	005	Room 5	☑	0	
0006	006	Room 6	☑	0	
0007	007	Room 7	☑	0	
0008	008	Room 8	☑	0	
0009	009	Room 9	☑	0	
0010	010	Room 10	☑	0	
0011	011	Room 11	☑	0	
0012	012	Room 12	☑	0	
0013	013	Room 13	☑	0	

Select records that exceed: **0** Minutes

Leave as [0] for 'True Report' of Elapsed Time Performance.

Enter time range (hh:mm)
From **00:00** (Leave both as 00:00
To **00:00** to include all times)

Enter date range
From **23/03/2016**
To **26/03/2016**

Having selected 'All Rooms in 'Lily Wing' Now press 'Preview' button to create Report below.

Final Page of the 24 page PDF formatted & Emailed Report

⊕ Smart-Caller
Integrated Nurse Call Systems

03/04/2016   Page 24

Ward/Wing Activity Report

Activity for Location Lily Wing, From 23/03/2016 To 26/03/2016

Date Time	Time Cancelled	Response time HH:MM:SS	Client Id	Person Id	Bed Id
Location:	**Lily Wing**		**Room 4**		
22:55:09	26/03/2016 23:00:59	0:05:50	0409		
	Alarm Room 4				
Location:	**Lily Wing**		**Room 12**		
23:23:55	26/03/2016 23:24:02	0:00:07	0416		
	Alarm Room 12				
Location:	**Lily Wing**		**Room 10**		
23:24:25	26/03/2016 23:24:43	0:00:18	0417		
	Alarm Room 10				

4 Calls Timed Out
0 Non-ResponseCalls
0 Calls In Progress
274 Calls Answered   Average response time h/m/s 0:03:48

A Single Page 'Summary Report' is also available

SUMMARY OF EMAILED REPORT

All calls where attended except for 4 calls that timed out . (Time/Out for this sample site is set for 30 minutes (adjustable). A total of 274 calls were received and responded to within an average elapsed time of under 4 minutes.

If this same Activity Report set-up was then repeated with the Response Time setting changed to 10 minutes it would show that 26 such calls occurred within that same time and date space with an average response time of those 26 calls being 16 minutes where 10 minutes is the maximum allowable time objective.

CONCLUSION:-Investigate the two 'Timed Out' and the 26 excessive response time for improved Duty of Care Staff performance.

Legend:
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 Monitoring, Logging and Reporting System using Smart-Caller ISM long range wireless system

Smart-House possibilities using BlueLine-IP, Blueline ISM Wireless and/or BluePhone PERS
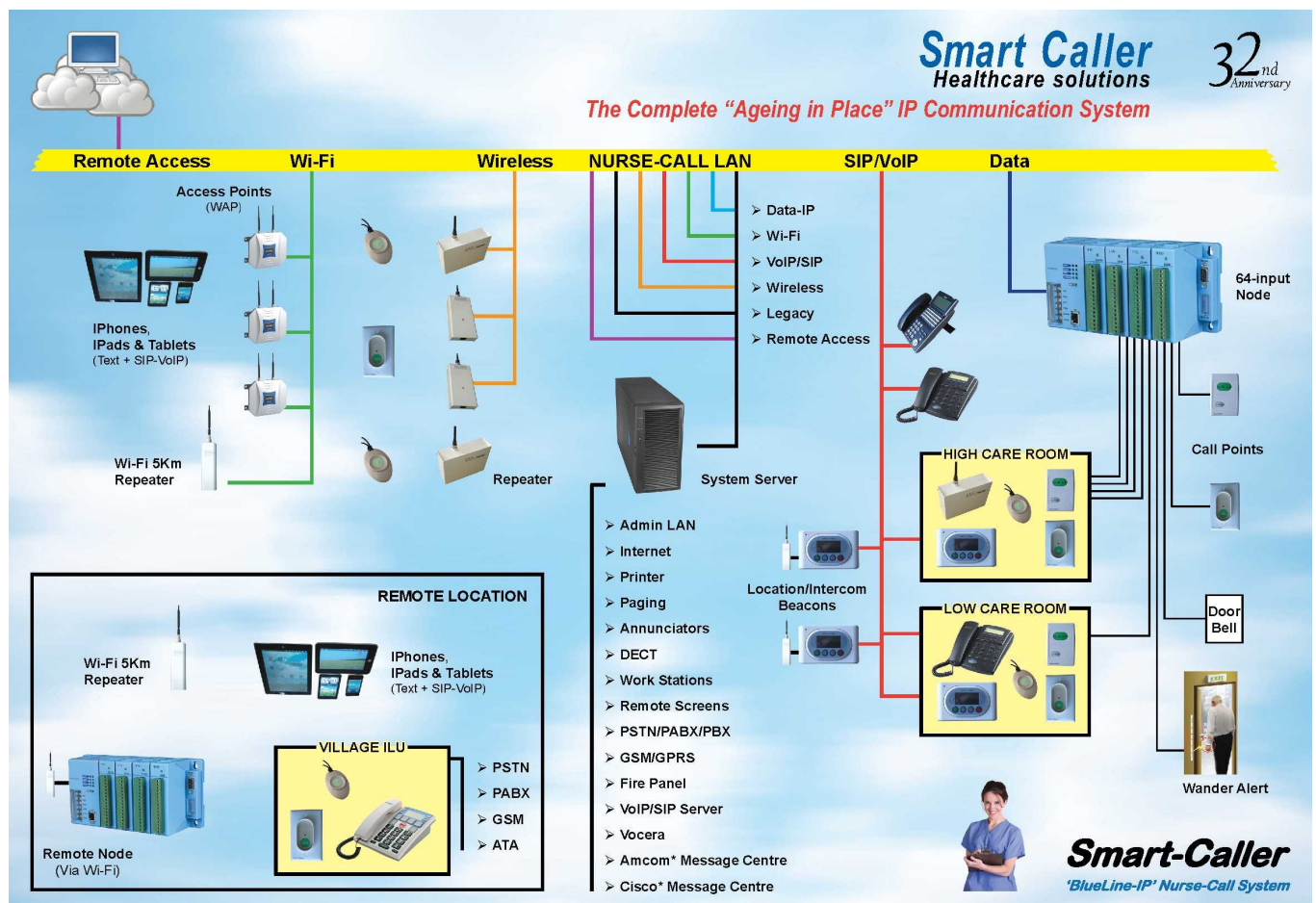
Ageing-In-Place System deploying BlueLine IP, ISM Wireless and PERS Technologies

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