



# 'RADIANT-1000' Wireless Call System



Master control (system polling) unit including Paging & Annunciator encoder and 100 channel wireless receiver

## INTRODUCTION

'Radiant-1000' is an Australian designed and manufactured premium quality nurse-call system offering facilities and benefits that sets it apart from all other systems. Meeting and exceeding all industry Standards it offers a total solution to managing residential care from outreach through to the highest levels of dementia specific monitoring and care-plan management.

A unique feature of the 'Radiant-1000' system is its ability to use a single polled cable connection from the master controller (WIC-1000M) to each of its polled area controllers (WIC-1000S) all possessing a 100-channel wireless receiver 'Hub'. This technique ensures that the incoming wireless calls are gathered at each 'Hub' location to then be safely delivered to the Master Controller via the system's supervised cable connections. On this basis it is possible to carry such low power wireless trigger signals up to 1.5Km cable length without signal degradation or effects of wireless interference.

The system also allows unlimited connection of hard-wired area controllers and call-points where such connections are preferred. Both wireless and hard-wired call-points each have identical appearance and operation making it easy to merge these two technologies for old and new building sections or to simply add new or temporary facilities to existing hard-wired systems.

## THE COMPUTER TERMINAL



SmartCom-3 solid-state computer

The rugged and small dimension SmartCom-03 host computer employs the latest industrial quality solid state design

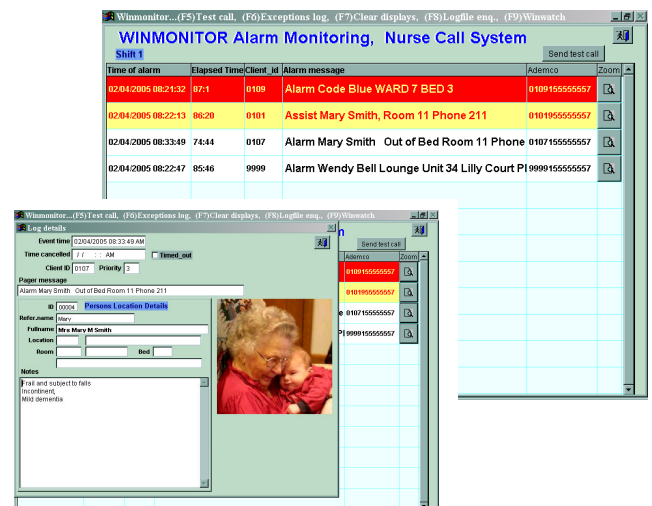
## FEATURES & BENEFITS

- Combine wireless flexibility with hard-wired reliability
- Modular construction from 1 to 10,000 call-points
- Range of wireless devices plus wrist-strap & pendants
- Transportable bed wet, bed exit & high-care sensors
- Solid state computer control with auto bypass redundancy
- Interface to Fire Panel, Access Control system etc
- Interconnect to other and old nurse-call systems
- Accommodates Pagers, Annunciators, DECT, Vocera etc.
- Includes hard-wired (non wireless) call-points & devices
- Monitoring & reporting of wireless device low-battery
- Suits Aged Care, Duress and OH&S applications
- High quality, Australian design and manufacture

Without a fan or other moving parts it includes an embedded Windows\* operating system. Reliability is further enhanced by the use of isolated serial ports and an automatic reboot watchdog. It operates from the nurse-call system's 12v dc battery backed power supply therefore requiring no troublesome internal power supply or UPS computer system support.

## THE WINWATCH SOFTWARE PROGRAM

This popular and highly reliable software program has comprehensive facilities well beyond those normally found within a nurse-call system. With its unique three dimensional database reporting and response time records plus its optional incontinence management module it is possible to record behavioral tendencies in order to create and modify individual care-plans whilst also monitoring staff and system performance.



(Top): 'Calls in progress' screen showing elapsed time and call repeat number against unattended calls in order of call priority.

(Lower insert) shows both the image and personal profile of the Resident' achieved by clicking the zoom button of a call entry

The **'Radiant-1000'** computer and software facilities allow vendor remote access for software upgrades and maintenance purposes. The facility will also accommodate comprehensive input and output options in order to satisfy all possible existing and future expectations of the healthcare professional. Inputs typically include a telephone line input for call traffic from Independent Living Units (ILU) plus high level interface connections to the Fire Panel, an Access Control system or to a pre-existing nurse-call system.

Similarly output connections accommodate display devices such as Paging, Annunciator displays, DECT portable phones, Vocera badge communicators and other WiFi devices. External communication to central monitoring and/or GSM portable phones is also possible.

### SELECTION OF CALL-POINTS & SENSORS

Like the optional hard-wired call-points each of the **'Radiant-1000'** wireless call-points has the ability to deliver 'Resident 'Call', Staff Assist' and 'Cancel' calls to the system head end computer via a local 'Wireless Hub' located in each of the various selected locations. Each incoming wireless call is also interrogated for battery threshold level and the 'Hub' will tag passing call traffic with a 'low-battery' message if applicable.



Above:  
Bedside, communal & wet area wireless call-points

In addition to the fixed location call-points above there is no practical limit to additional types of transmitter (or non-radio hardware) devices that may be applied to the **'Radiant-1000'** system, some of which are shown below.

The selection includes pendants, wrist transmitters, bed exit and bed-wet sensors. Other devices include smoke, utility and chair mat sensors. The matrix of devices also shows a motion (PIR) detector, door reed switch, emergency call button and hard-wired call-point.



Other items (not shown) include door bell, refrigerator and passenger Lift alerts, flood sensors, water flow sensors to name a few.

### CONTACTING CARER & NURSING STAFF

The need to deliver alarm call traffic to appropriate destinations is well catered for by Winwatch and its SmartCom-03 computer terminal offering many options.

### DECT SOLUTIONS

Digital Enhanced Cordless Telecommunications (DECT) is still the preferred mobile communications medium for the majority of aged care professionals.



This is primarily due to advantages gained by not sharing wireless bandwidth with other services thereby ensuring immunity from interference and congestion which also results in excellent range coverage.

DECT wrist/pendant unit with text display, speakerphone, duress & dial-up communication facilities

The preference for DECT is now further enhanced by lower priced handsets along with the introduction of the wrist/pendant transceiver as shown above.



Selection of popular brands of DECT handsets

This preference is further enhanced by the latest integral duress reporting facilities and the possible connection

of DECT Wireless Access Points directly to the site's hard-wired Ethernet LAN.

Text Pager



### PAGING OPTION

Irrespective of the decision to use belt worn alphanumeric portable pagers, the **'Radiant-1000'** system provides a paging output which can connect to a paging transmitter to deliver alphanumeric SMS messages to individual pagers or to selected paging groups as required.

### ANNUNCIATOR DISPLAY OPTION

The use of Annunciator displays, perhaps in the corridor outside of a nurse-station, is recommended as it also provides an independent source of system call traffic display in the event of failure of the computer terminal or the DECT phone or other call display and response systems.

Each Annunciator display has an inbuilt programmable and independent 'System Watchdog' designed to warn staff of a system failure whilst then taking over the role of being the sole call display device until normal service is resumed. A single Annunciator controller unit will control up to 16 Annunciator displays throughout the site.



As with pagers, this allows all or selected calls to be delivered to each selected display unit as required to suit locations and various staff shift requirements.

## TOUCH SCREEN DISPLAY OPTION

It may be preferred to locate the robust solid state SmartCom-03 and the central equipment safely behind lock and key within the communications room and to provide a second (networked) computer at the prime nurse-station, perhaps allowing touch screen operation.

There is a wide range of computer control and display products to suit any preferred method of operational requirement keeping in mind that the DON will require editing access for Care-Plan management.



Smart Display unit

## OTHER OPTIONS

Other possibilities that may be used within a 'bundled' selection of display options include; WiFi, SMS to GSM, or Mobiles, Vocera and other system concepts that will inevitably evolve. These various alternative and generally supplementary communication paths from the host computer may be selectively or collectively used within structured paging groups to suit duty shift requirements.

## WIRELESS & HARD-WIRED INPUTS

One special feature of the 'Radiant-1000' system is its ability to accommodate both wireless and hard-wired call traffic whereby all such calls are reliably delivered to the host computer via a single supervised hard-wired system backbone cable.



100-channel 'Wireless Hub' with a wireless extension receiver

Any number of wireless or hard-wired 'Slave Controllers' may be connected to the interconnecting backbone cable, each being able to accept and process up to 100 wireless and/or 32 hard-wired inputs.



AE32S Hard-wired Area Controller with 32 inputs

An important feature of the WIC-1000S 'Wireless Hub' is its ability to accommodate numerous plug and play low-cost extension receiver units. This effectively multiplies the number of 'wireless hubs' as and when required at extremely low cost.

## UNIQUE CALL-POINT DESIGN



A wide selection of call-points is available including wireless and hard-wired versions.

Irrespective of wireless or hard-wired technology, the call-points have identical appearance and operating facilities thereby allowing convenient system upgrade capabilities without the need for cabling or introducing items of different appearance.

There is no need to clutter the Resident's room with unnecessary call-point assemblies to cause confusion and to incorrectly generate high priority calls because all 'Radiant-1000' wireless or hard-wired two-button call-points or their low cost two-button slave versions will provide 'Alarm', 'Cancel', and 'Staff Assist' facilities.

Staff Assist is achieved by staff pressing both buttons simultaneously for one second at which time the higher priority call is dispatched and the LED indicator assembly also commences to flash at a fast 'Assist' rate.

A wide range of over-bed cord pendants are available including those with a light-switch option plus others that are sealed and have anti-bacterial properties.



Above:- Standard over-bed cord pendant

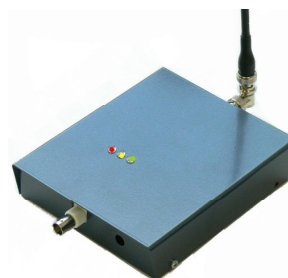


Left:- Anti-bacterial version showing light switch option

## CONVERTING ROOMS TO HIGH CARE

With Resident 'ageing-in-place' being a realistic expectation it follows that a low cost and portable room upgrade from 'low-care' to 'dementia specific high care' is a desirable outcome.

Smart-Caller's 'Demrad' transportable wireless dementia room system is designed with this in mind. It is also designed to allow retrofit to prior Smart-Caller and other brands of nurse-call systems.



A 'Demrad' dementia room controller

The new and fully portable 'Demrad' facility will provide the means to protect the Resident and to archive log detected changes occurring in the Resident's behavior.

A 'Demrad' unit is capable of providing the following range of facilities depending on the selection of sensors deployed for each room

- Out of Bed, with light switch trigger on
- Back to bed, with light switch trigger off
- Out of room or other perimeter, wandering
- 'Thrashing about' in bed, including epileptic fits
- Pacing
- Entered ensuite
- Overdue from ensuite
- Bed-wet (24 hour function)

## MANAGING RESIDENT CARE PLANS

From the host computer's archive log it is possible to extract, view, filter and configure each of the various types of call for each room and/or resident and/or/location and to place those calls into required reporting categories.

This then establishes, for each resident, the basis of evaluation for both current and past behavior pattern from which to judge and predict future behavior.

It also monitors carer response times for each category of call throughout the various staff duty cycles. It will even allow pro-active pager calls to be automatically dispatched, for example to 'toilet' a resident at a certain prescribed time.

To assist in substantiating accurate real time statistical reports to ACFI (Aged Care Funding Instrument) Winwatch is able to export suitable reports in standard Excel\* format. These may be used in isolation or applied to other software programs designed to accept such input and include:-

- Incident reports
- Bladder charts for urinary management
- Resident behavior charts

### INDEPENDENT LIVING UNITS

With many thousands of Smart-Caller Emergency-Call telephone and under-phone dialers already protecting residents within village self-care units or in their own homes, it is true to say that Smart-Caller pioneered this technique and remains the market leader.

One important aspect that exists for self-care residents is the need for automatic 2-way loud-speaking contact in the event of an alarm, whilst another is to provide the resident with home and away security.



HP3 Emergency-Call Phone  
(Below) A wireless pendant



The Smart-Caller HP3 (Blue-Phone) telephone, and to a lesser extent the alternative HD4 Smart dialer each provide these facilities.

In the security mode the phone's keypad therefore also functions as a security keypad for entering PIN access codes for arming and disarming the security home and away modes.

With both products having the ability to accommodate up to 48 wireless and 9 hard-wired inputs plus a wireless output the configuration possibilities are almost endless.

The range of accessories may include wireless or hard-wired smoke detectors, passive infrared detectors, (PIRs) door reed switches, gas detectors, inactivity monitors, diaper and bed-wet sensors, room dementia controllers, wandering resident devices, wireless security and so on.



Emergency-Call  
HD4 Smart-Dialler

These telephone based technologies offer excellent solutions within a low or high care room providing that a PABX or PAX phone extension is available.

## DIRECTORY OF DATA SHEETS & BROCHURES

### SYSTEMS

- RADIANT-100/200 Computerless wireless system
- RADIANT-1000 Computer based wireless system
- SMARTCARE-100 Computerless hard-wired system
- RADIANT-1000 Computer based hard-wired system
- SMARTCALL Village phone based system
- UNIVERGE-AS4607 Upgrades for VHF wireless systems
- IP-CAREPHONE IP based Village call system
- IP-SMARTCARE IP based nurse-call system
- DEMRAD Portable room dementia system
- DURALINK Wireless Duress System
- SMART-TRACK Zigg-Bee Duress & RFID system
- KIRK-DECT Multitone/Kirk DECT system
- NEC IP-DECT NEC/Philips IP DECT system
- WANDERALERT Wanderer door security system
- DOOR-ALERT Wanderer door security system
- ACUTE-CARE Hospital nurse-call system

### PRODUCTS

- HP3-BLUE-PHONE Emergency-Call telephone
- HD3 DIALLER Emergency-Call Dialler
- HP3--SITE-WIDE Wireless to HP3 convertor
- ELD-01 Electronic Disconnect Unit
- MULTICOD-09 Hard-wired to wireless convertor
- IP-CAREPHONE SIP (VoIP) Dialler
- SMART-COM Solid State Computers
- CALL-POINTS Hard-wired & Wireless Callpoints
- SENSORS Wireless & hard-wired accessories
- CHAIR-SAFE Chair Exit monitoring facility
- MAXI-MAT Bed exit monitoring facility
- SAFE-BED Emfit bed exit monitoring facility
- WINWATCH Nurse-call computer software
- BMS-01 High Level Interfaces – various
- WIC-06 Annunciator controller & options
- DDU/DCU Door mimic display & control units

*Specifications subject to change without notice*

Authorized Supplier



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