Alert-it Care Systems

P163xxA General Alarm Monitor
(radio)

Handbook

Models covered by this handbook	
P163ACA	Radio Touch-iT Monitor
P163BAA	Radio Sense-iT Bed/Chair Vacation Monitor
P163BCA	Radio Sense-iT Switch input

One of a range of Alert-it Care
Alarms available from:

This handbook is intended to assist carers install, configure and use the monitors. The carer therefore needs to understand the needs of the user and asses that the monitor meets those needs and if any supplementary monitoring is needed taking into account any health risks.

The P163 is a general purpose sensor monitor designed to operate with the Alert-it Pagers (P137 or P138). The has two inputs via a RJ12 (Telephone Style) connector. The function of these inputs is highly programmable, but three standard products exist. All units offer a front panel CALL button to allow the user to call for assistance. In health critical applications the monitor can use the failsafe features of Safelink (see Page {Ref})

P163BAA Bed/Chair Vacation Monitor

This unit is designed to work with a range of Bed/Chair Occupancy sensors, which are characterised as being switches normally close while the user is present. One input triggers an instant alarm while the other an alarm after a programmed delay, with a default of 6 minutes. An internal link can join both inputs so the sensor activates both functions (default)

It is intended to support the care of those who are frail, vulnerable to falls or wandering, where the carer needs to know if they leave the bed/chair or fail to return within an acceptable period. Optionally the unit can be programmed to also alarm if the resident remains seated for more than 2 hours and hence needs to be moved.

P163BCA Switch Input Monitor

This unit is designed to work with any switch which closes to trigger an alarm. Again there is the capability to trigger the alarm instantly or after a delay. In the case the delay default is 5 seconds. An internal link can join both inputs so the sensor activates both functions (default)

It is intended to be used by those with restricted mobility who need to use one of a range of commercially available switches to call their carer. The delay can be set so a short press send a low level ASSIST alarm and a long press sends an URGENT alarm. It can also be triggered by Floor Mats to warn when a user is mobile.
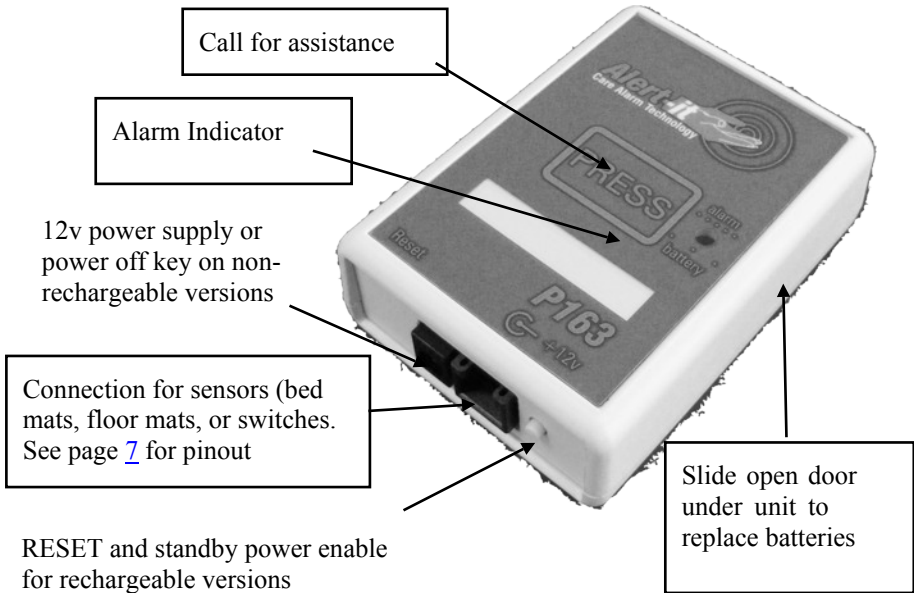
P163ACA Touch-iT

The unit is similar to the P163BCA but the CALL button is a proximity sensor operated by the close presence of a body part, i.e. it needs no force to operate. It is intended to assist those with severe loss of muscle or nerve control.

Power for P163

While usually powered from batteries, a mains adapter can be used and a rechargeable version can also be supplied. The rechargeable option has no power key and the RESET button must be pressed for 5 seconds on first installation to switch on the stand-by battery, after which the battery is always active if the mains power fails

Quick Reference Sheet: Installation

Call for assistance

Alarm Indicator

12v power supply or power off key on non-rechargeable versions

Connection for sensors (bed mats, floor mats, or switches. See page 7 for pinout

RESET and standby power enable for rechargeable versions

Slide open door under unit to replace batteries

The standard range of sensors are fitted with a connector to mate with the front connector. See the individual sensor handbooks for operating instructions. There are no electrical safety implications for using alternative sensors with battery operated versions.The installer must, however, ensure the sensor meets the needs of the user and poses no mechanical or biological hazard to him. For connections details see page 7.

Range test.

The unit and pager should be tested in all the usual locations to prove signal reception. A short press (less than 1sec) of the RESET button will cause the P163 to transmit a signal. The pager should respond by showing NODE 00 (or the name allocated to the unit) on the display for 1 second. See page {Ref} for details of enabling failsafe operation

Accessories available		
Part Description	**Part No**	**Cleaning See p 6**
Bed Occupancy Mat	P143C	A
Bed Occupancy Ribbon	P143G	A
Bed Leg Sensor	P144A	B
Chair Occupancy Ribbon	P149B	A
Power Supply	P171	C
Floor Mat	P150	A
Mounting bracket	P159A	B
Pager	P138B	B
Power Supply for Pager	P153*	C

Sensor Testing
Occupancy Sensors

Ensure the bed/chair is unoccupied and after pressing RESET there will be a four tone beep and the unit should be in STANDBY. Five tones will indicate the sensor is being falsely triggered by the weight of the bedding/cushion or otherwise installed incorrectly.

Activate the sensor and a single beep should be heard indicate successful detection of the occupant. After that operation is silent.

Deactivating the sensor will then raise the alarm, either instantly or after the delay period (it is not essential to wait for this as the above proves the senor operation). Reset the unit to stop further nuisance alarms

Switch Sensors

After RESET there should be no alarm. Activate the sensor and check an alarm is raised. There is an optional beep when the sensor is activated (i.e. usually for switch inputs but not for floor mats).

These tests should be performed regularly to confirm correct system operation
All parts of the system, apart from the pager charger, are suitable for use within the patient vicinity

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Operation

The monitor is **turned o**n by
- Removing the power key for battery power
- Connecting a mains adapter if required
- Or its is always available if the rechargeable battery has been fitted and enabled

Operating the P163:
Call for Assistance (all versions)

Activating the call button for longer than 1 second will result in
an ASSIST alarm with audible warning on the pager, and a beep from the P163 monitor. Activating for longer than 5 seconds will result in a second beep and the alarm will be elevated to URGENT. The alarm has to be RESET by the carer as below

P163BAA Bed/Chair Vacation

After power-up (or RESET) the monitor will be in STANDBY. When the Occupancy sensor is activated there will be a beep (default) and the monitor will

become active. When the user leaves the bed/chair, the monitor will send an URGENT alarm (either immediately or after a time delay dependent on the "1-Input Link" (see page). The alarm will automatically reset if the user returns to bed/chair.

To special order the monitor can be programmed to play a warning tune for 30 seconds prior to sending the alarm

P163BCA Switch Input

Activating an external switch will result the same function as for the Call for Assistance above. The alarm has to be RESET by the carer as below

Reset the Alarm

To reset the alarm it is necessary to press the RESET button for greater than 1 second (until a beep is heard).

Version P163BAA will enter the standby state until the user reappears in the bed or chair later.

Turn off P163

The unit is supplied with a small RED tagged key. Insert this into the front power socket to turn the unit off and prevent alarms being detected. If a mains power adapter is used, then this can be disconnected to isolate the monitor.

The rechargeable version can only be turned off be removing the standby battery, which can then be replaced. The unit will then stay dormant until the RESET button is pressed (to cause a beep).

Alarm indication on monitor and at the pager/receiver				
Alarm	**Detect Delay**	**P163**	**Pager**	
Call	Instant	Flash	Assist 01	Intermittent tune + alarm
Call	5 seconds	Flash	Urgent 01	Continuous tune + alarm
External (Instant)	Instant	Flash	Urgent 01	Continuous tune + alarm
External (Delayed)	6 minutes	Flash	Urgent 02	Continuous tune + alarm
TEST	Press HELP	Flash	Shows node name	
Battery Low	-	Flash every 8 sec	Fault 30	Intermittent tune,+ alarm
Battery Fail	-	Flash every 8 sec	Fault 31	Intermittent tune,+ alarm
Battery Dead	The P163 beeps every 0.5 sec with no LED and no transmission			

Battery Replacement

Expected Battery Life: Operating Mode	Battery capacity
No failsafe heartbeat, no alarms	1 year
Fail safe heartbeat, and alarms	6 months
Maximum alarm number (based on 2 min response)	2000 alarms

The battery needs replacing when FAULT 30 or 31 shows on the P137/8 pager (and the alarm led flashes intermittently every 8 seconds). The P163 will continue to function for some hours, allowing time for this replacement. If the battery is exhausted then the P163 will click continuously without the light flashing or transmitting.

The battery check is automatic in Securelink mode, or stimulated by making a short press of the RESET button. This should be done daily to test the battery. The batteries are found inside the compartment via the sliding door on the base (see page)

<u>Battery Type: 2 of AA Alkaline Batteries or equivalent</u>

Cleaning:

The following is a general guide line based on the components listed on page . Where a different sensor has been supplied, then please refer to the cleaning instructions supplied with that sensor.

Technique A

Wetting with strong disinfectant. This can include immersion provided plugs and any obvious breathing holes are avoided.

Technique B

Wiping with cotton wool pads moistened (compressed until dripping stops) with a mild detergent (0.5% washing up liquid) solution.

Technique C

Wiping with disposable 70% isopropyl alcohol wipes. Ensure that any plugs are completely dry before reinserting into the sensor input socket on the monitor.

Technique D

Full immersion in detergent , water and optional disinfectant. See component washing instructions for details

Securelink Mode

In Safelink the monitor will send a radio "heartbeat" signal every 10 seconds. If this signal disappears for more than 2 minutes, the pager will issue an "RF Fail" alarm. This mode will decrease battery life but is essential in any health critical application

The default setting is without Securelink (as shown). To enable the failsafe mode refit the link to the centre pins AND CYCLE POWER (which will require removing/replacing any rechargeable batteries)
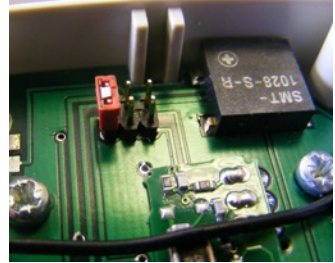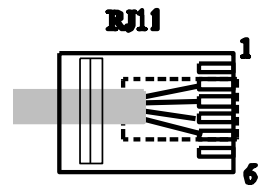
Input Connections

The connection details for the unit are shown above and, in general, the alarms will be activated when a connection is made from pin 2 or pin 3 to 0v (pin 4 or 5).

Pin 3 causes instant transmission of the alarm, while pin 2 will

pin	Function	FCC64 cable
1	+12v (option)	Brown
2	Delay in	Yellow
3	Instant in	Green
4	0v	Red
5	0v	Black
5	No connection	Blue

Input connection details

delay transmission for a time that will have been programmed into the unit. The internal 1-Input link joins pin 2 & 3 so that any input causes an instant alarm followed by a delayed alarm.

Configuration Changes

The monitor uses the standard Alert-iT Programming Data Protocol and all the main features can be changed using the P152 USB Interface and Data Editor Programme.

Communication Address Changes

Each badge in a care home MUST have a different communication address. To facilitate easy installation the Communication Address can also be changed directly from the pager using the P173A programming cable
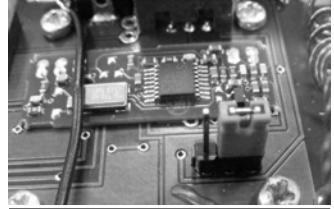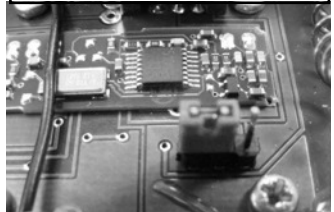
1-Input Link

The two input s can be joined by this link so that one level of alarm is INSTANT and a second level DELAYED. To access this link , remove the 4 case screws and separate the two halves.

The picture shows the two possible positions for the Bed/Chair Vacation Alarm.

For the other versions the Delay Only Option is set by removing the link

INSTANT + DELAY

P163BAADELAY only

Safety Instructions and Warnings

⚠️ This symbol indicates there are warnings and precautions associated with the use of this equipment that should be carefully read and understood before using the equipment.

1. Ensure that the senor cable is routed and secured to avoid the risk of entanglement or strangulation.
2. Only the recommended power supply shall be used as it is certified to provide two means of patient protection to EN60601-1in non-hospital environments
3. Consult the manufacturer for power supplies suitable for hospital use
4. Ensure any power cable is routed to avoid a trip hazard
5. Regularly check the power supplies for damage and potential shock risks
6. Clean and disinfect each item regularly in accordance with information herein
7. Regularly test all sensors as described herein
8. Ensure, by testing, that the alarm is annunciated at the carer's location(s)
9. Operate any power supply and charge pager away from direct heat and uncovered.
10. As with all medical electronic equipment there is potential for the equipment to interfere with or be effected by interference from other electrical or electronic devices. For this reason avoid placing the monitor, sensor or connecting cable in close proximity to sensitive electronic devices or devices which produce strong electromagnetic fields such as radio transmitters, mobile phones or power cables.
11. Only use the monitor with accessories approved for use with this product and only in accordance with instructions.
12. If the equipment is modified in any way, appropriate inspection and testing must be conducted to ensure continued safe use of the equipment.
13. The carer must conduct a risk assessment to determine if the level of reliability offered by the monitor is sufficient or if additional monitoring is needed. Contact the manufacture for assistance with Risk Evaluation Tools.
14. Additional levels of mechanical protection may be needed for some patient disorders. Contact the manufacturers for advice
15. Some accessories are fitted with small screws and have plastic bags. Ensure these do not come into the possession of vulnerable patients who might choke on them
16. Any sensor over the mattress (Bed Vacation) has the potential to cause pressure sores . The carer must assess this risk and monitor the use of these products
17. Any sensor over the mattress could pose a fire hazard if in contact with a smouldering cigarette.
18. The monitor and all accessories are designed to operate indoors in a residential environment of 10ºC to 30ºC and 90%RH max.

Certified as Class 1 Medical, Class II Electrical Safety

None of the components, including batteries should be disposed of as Domestic Waste. For information on disposal contact iTs Designs Ltd.

Certified as compliant to the following standards	
93/42/EEC as revise 2007/47/EC	Medical Devices Directive
EN 14971:2007	Risk Assessment
EN 61010-1:2005	Medical Device Safety Requirements
EN12182:1999	Technical Aids for Disabled Persons
EN 61010-1-2:2004	EMC
EN 300 220-1 V2.1.1 (2006-04)	Radio Transmissions: Short Range Devices
2002/95/ECRoHS	Permitted Materials

[1]Alert-it Care Alarms are social aids designed and manufactured in accordance with 93/42/EEC as Class 1 Medical Devices. They are intended to improve the vigilance of carers to distressing side-effects of various diseases, such as Epilepsy and Dementia. They do not monitor vital physiological processes and should not be expected to diagnose any disease or predict the onset of any symptoms.

Additional Documents	
Quick Start Radio Switch System	UQ1155
Quick Start Radio Mobility Systems	UQ1044
Review of different Occupancy Sensors	UL1200
Check sheet on choice of occupancy sensors	UT1246
You tube Instruction Videos Index	UV1198

Support

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...using technology to care for carers

The Alert-it system has been designed with due regard to reliability and integrity. While it offers a highly vigilant monitoring method,it is always possible that a distress condition can go undetected for a variety of reasons (including malfunction) and in life threatening situations it is advisable to use the Alert-it system in conjunction with additional monitoring techniques (e.g. video). Neither the manufacturer nor its agent can accept legal responsibility to provide a system that is infallible. The carer is responsible for assessing the risks of using this equipment and any settings pertaining to it.