Radio Guardian Monitor Handbook

Guardian Types R1020, R1016
used with the Advanced Pager (sold separately).

www.alert-it.co.uk

Introduction

The Alert-iT Guardian is a highly versatile monitor unit that employs a range of sensors to detect various presentations of seizure activity, before passing an alarm signal to a portable Alert-iT Pager. Your Guardian is preset to detect the key symptoms most commonly associated with tonic/clonic seizures, and has been supplied with sensors appropriate to your needs.

Before installing the Guardian, you will need to have sufficient knowledge of the client to make the necessary risk assessment as to the suitability of the equipment and sensors required to provide a safe environment with comprehensive support.

This handbook includes a quick-start guide to installing, testing, adjusting settings and using your Guardian and its sensors. Although the monitor is an advanced design, operating it correctly is as simple as using a mobile phone.

Once you have installed your Guardian, we will be pleased to offer you a full system check via our telephone help-line on 01530 239 900, and we encourage you to use this service. Our working hours are 9am-5pm Monday to Friday.

Please test the operation of your Guardian and sensors at least once per week. You will find a simple form on page 29 which will help you keep track of this process.

Should you wish to change any of the operating parameters or modify your system, detailed handbooks are available on request (for hard copies), or on-line at: **www.alert-it.co.uk/support**

Finally, please call 01530 239 900 or go online to **www.alert-it.co.uk/registration** and register your new equipment with our Service Team. You will be assigned an SRN (Support Registration Number) which will link your details and equipment to our database, ensuring that you always receive fast and efficient service and support. An additional benefit is that this will extend your warranty to three years at no extra charge.

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Product Information

The Alert-iT Guardian is without doubt the most versatile and sensitive epilepsy support monitoring system ever developed for care home use.

To get the most from your monitor, we recommend that on first installing it, you only use the tonic/clonic seizure functions for the first night. Setting the monitor up for this key role is an ideal introduction to using the controls and understanding the information on the display screen. You will then be able to progress quickly to using the other functions as outlined in this handbook.

In addition, our telephone Customer Support Team are here to assist you and can be contacted on 01530 239900.

The Guardian's wide range of settings, adjustments and nightly movement readings support the following symptoms:

Tonic/clonic seizures from tremors to large movements.

SUDEP through failure of shallow movements associated with breathing

Breathing problems though changes in shallow movement activity

Enuresis, vomiting and salivation via the moisture sensor sheets

Immediate or prolonged bed vacation

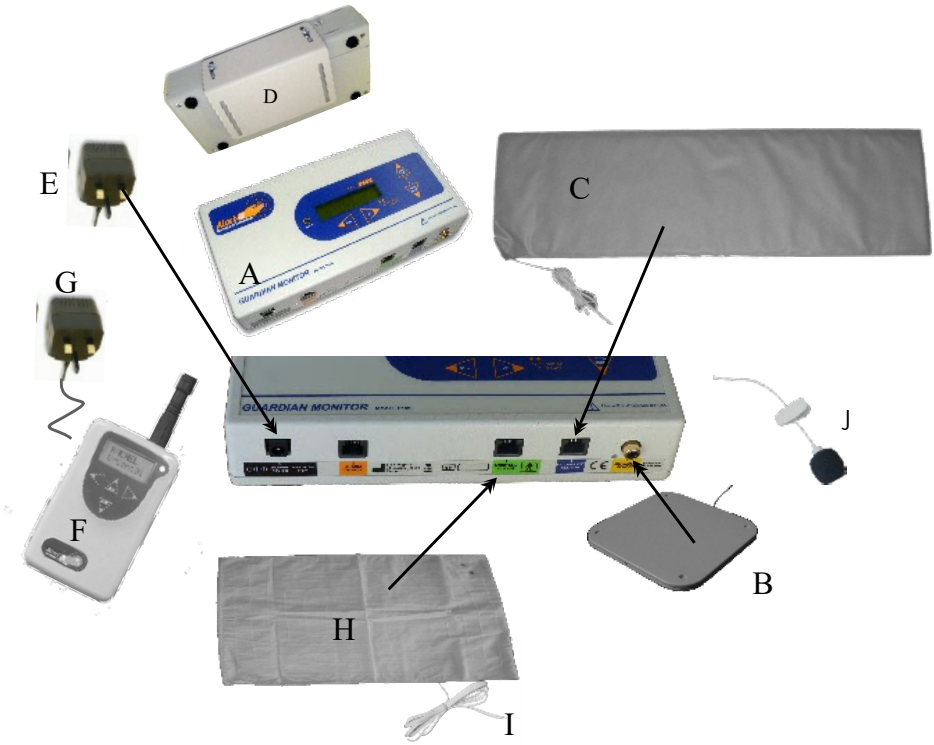
Sharp vocal sounds associated with seizures

Client Assessment

	Symptoms				
Sensor	**Bed**	**Enuresis (moisture, vomit or salivation)**	**Bed Vacation**	**Shallow Movement (associated with breathing)**	**Sound**
P140 Bed Movement Sensor	X				
P143C Bed Occupancy Mat				X	
P142A/F Moisture Sensors		X			
P143C Bed Occupancy Mat			X		
Internal Guardian Microphone or P158B					X

The Guardian and its Optional Sensors

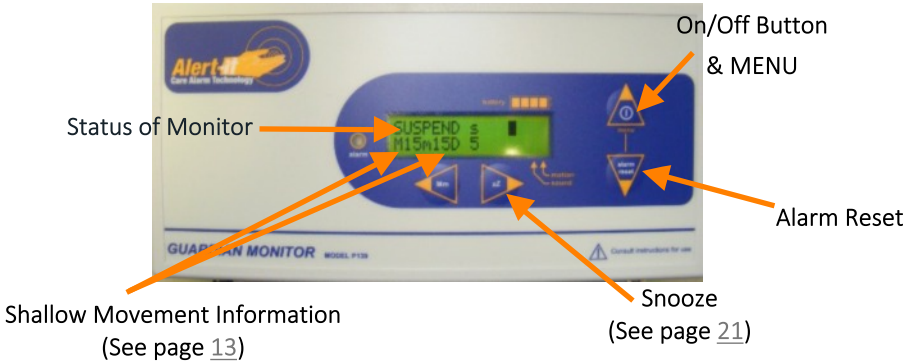
	Part Description	Part No
A	Bedside Monitor (Guardian)	P139B
B	Bed Movement Sensor	P140A
C	Bed Occupancy Mat	P143C
D	Bracket for wall or bed mounting	P159A
E	Power Supply for Guardian (UK)	P171B
F	Pager	P137CAA
G	Power Supply for Pager	P153B
H	Moisture Sheet(s) (optional purchase)	P142A/F
I	Connecting Lead for H	P141E(S1016)
J	External microphone (optional purchase)	P158B



Part 1 - Quick-Start Guide

Using The Guardian

Basic controls: Standby



Basic controls: Adjustment Example

Switching The Unit On

Insert the power supply into the socket on the Guardian marked 'POWER 12V DC'. (Fig.1). Press the arrow button marked 'menu' to switch the Guardian on.

The upper section of the display screen will show a line of rectangles. If these appear as solid shapes and 'ripple' from left to right, they indicate that the unit is charging. The Guardian incorporates an internal battery, ensuring that the monitor has a constant power source in case of power cuts. This battery will charge whenever the power supply is plugged in. If the rectangles appear as outlines only, the unit is operating on its battery power.

If the battery becomes discharged then the monitor will emit an alarm noise (which sounds like a croaking frog) and a fault message will be transmitted to the pager.

Figure 1

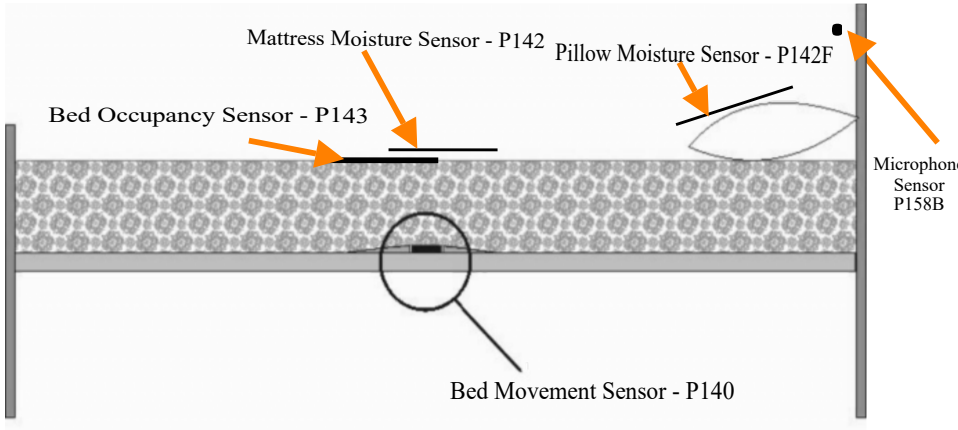
Power Supply Socket

Turning on the Professional Pager

Press and hold the 'menu' button for three seconds. The pager display will show the message 'battery'. Appendix A (page 31) describes how to programme the pager with the monitor's details.

Sensor Installation and Basic Operation.

The following sequence of first use of the sensors is highly recommended. This methodical approach gives you time to familiarise yourself with the way each sensor operates, and ensures that you will go on to use your Guardian confidently, safely and to its full potential.



Positioning sensors on the bed Fig 2

Spasm Movement

Designed to detect tonic/clonic seizures

Figure 3

Install the Sensor

Place the Bed Movement Sensor (P140A) underneath the mattress on a firm bed base, in a position below the torso. Connect the sensor into the Guardian monitor making sure that the sensor's yellow plug connects to the movement sensor plug (also marked with yellow as per figure 3).

Activate the Function

The Guardian is factory-set with this feature activated. It is pre-set for sending an alarm after detecting tonic/clonic movements lasting longer then 15 seconds at a rate of at least one movement every two seconds. To deactivate or alter these settings, please see page 16.

Test the sensor

Tap the mattress and note that the # symbol appears and remains visible for the duration of the delay time (this is 15 seconds at the factory setting).

Normal Operation

An alarm will occur if movements exceed the rate and time settings. Press RESET on the Guardian to reset the alarm at the pager. (If the pager does not alarm, please see Appendix A (page 31) to verify that the pager has its radio signal linked to the Guardian correctly.)

Moisture (if applicable)

Install the Sensor

Connect the Moisture Sensor (P142) to its connecting lead using the press-studs (you must connect the studs to either the right or left- hand pair in the case of the mattress sheet) and then plug into the green port (as shown in figure 4).

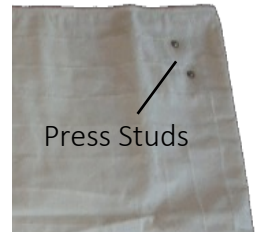


Figure 4

Please note that there are two types of sensor: either fitted over the pillow for vomit detection (P142F), or on top of the mattress (on top of the Bed Occupancy mat if fitted) in the region of the groin for urination monitoring (P142A).

Activate the Function

The Guardian has moisture detection turned off as a factory setting. To turn the function on, press the MENU key on the repeatedly until the "MOISTURE" option appears, and then use the right key (Zz) to adjust the degree of wetness required before the alarm is raised.

Test the sensor

To test the sensor, join the two spare stud connections (either left or right-hand pair) with a metal object to trigger an alarm.

Normal Operation

When the sensor sheet becomes wet, the alarm will sound. Press 'Reset' on the Guardian to silence and suspend (see explanation page 16) the alarm until a dry moisture sensing sheet has been connected.

Bed Occupancy (if applicable)

Install the Sensor

Insert the sensor cable into the Guardian's Occupancy Monitor socket as shown in figure 5. Place the Bed Occupancy Sensor (P143C) on top of the mattress under a suitable cover sheet, in a position that ensures the maximum body weight is lying on the sensor. Typically this is the area beneath the upper torso. Positioning the sensor underneath the shoulder area is advised if an alarm is required before the user's feet touch the floor.

Figure 5

Activate the Function

The Guardian has this function turned off as its factory setting. To turn the function on, use the MENU key to scroll to "Bed Occupancy" and use the right-hand arrow (Zz) to select the time required for the occupant to be missing before the alarm is raised. A typical setting* would be 6-10 minutes to allow for a toilet visit, yet avoiding the danger of leaving the client unattended should a seizure occur in the bathroom (however, please see the safety comment regarding SUDEP on page 14). Please be aware - this sensor has safety implications when used in conjunction with the Shallow Movement or Sound functions (see pages 12 & 13)*

Test the Sensor

With the mat plugged in and the bed unoccupied, the word "vacant"should appear on the display. Lie on the bed and 'in-bed' should replace the 'vacant' message.

Normal Operation

When the occupant leaves the bed, this sensor will automatically inhibit the shallow movement and sound alarms. If the occupant fails to return within the prescribed time the alarm is raised. The alarm resets automatically if the client returns. To cancel an alarm manually, press RESET on the monitor. This also suspends further alarms until after the bed has been re-occupied.

*Please note. Any settings must be supported by the risk assessment carried out for the individual.

Sound

Designed to detect seizures associated with vocal sounds

Install the Sensor

The Guardian features an internal microphone. However, an external microphone is also available and may be required to focus sound detection if the monitor is being used in a noisy environment (part number P158B - sold separately).

External Microphone Input

Activate the Function

This is turned off at factory settings. To activate the sound detection function, use the MENU key to scroll to “SOUND”. There are then three parameters to set:

- **Sound Delay**: How long the sound sequence must go on for to trigger an alarm.

- **Sound Magnify**: This ranges from 1-8. The higher the number selected, the quieter the sound detected.

- **Sound Rate**: How frequent the shouting or clicking has to be per minute.

Test the Sensor

Make a sharp click near the sensor and note that a) symbol appears on the display. The sensitivity (Sounds Magnify 1-8) can be adjusted.

Normal Operation

If the sound pattern matches the rate and carries on longer than the set delay, an alarm is generated. Press RESET to silence and reset this alarm.
*If the client is detected out of bed (with either the Bed Occupancy Mat - see page 11, or the Shallow Movement detector enabled - see page 13), then the microphone will be inhibited to prevent false alarms.

Shallow Movement

Designed to support SUDEP protection

Install the Sensor

Shallow movement is detected using the P140 Bed Movement sensor, which will have already been installed (see page 7).

Activate the Function

By default this is OFF on delivery. Use the MENU key to scroll to "Shallow"and select 'On' by pressing the Zz arrow. There are then four parameters to set:

- **Shallow Magnify**: The higher the number the smaller the movements detected, which reduces false alarms. However, the sensor MUST be tested for immunity to ambient vibrations (see pages 22-24)

- **Shallow Delay**: How long the client stops moving totally to generate an alarm. At the start this is set to 60 seconds and refined later with observation of the clients general breathing pattern (see pages 22-24)

- **Shallow Minimum**: The trigger level for slow breathing. At the start this should be set to 0 and refined later with observation of the clients general breathing pattern (see pages 22-24)

- **Shallow Maximum**: The trigger level for fast breathing. At the start this should be set to off and refined later with observation of the clients general breathing pattern (see pages 22-24)

Setting these parameters to give fast reliable detection with minimum false alarms requires a little time and care. The client's mattress type, physique and nighttime breathing patterns all need to be adjusted for.

We strongly recommend using the procedure on page 19 which uses the built-in movement recorder overnight to help establish the monitor's optimum settings.

Test the Sensor

A useful test facility is the “Tick Volume”. This is the second option from the home screen as you scroll through the main menu. It is set to OFF by default, but after changing to 8 (full volume) a tick will be heard at every detected breath or shallow movement. To test the sensor; lie on the bed and note that a tick is heard or the breathing symbol (*) appears on the display at every breath.

Normal Operation

If any of the selected alarm conditions are exceeded, an alarm will be raised. Press RESET to clear the alarm. This will also suspend (see expanation page 16) further alarms until a client is once again detected in bed. This prevents false alarms while the bed is unoccupied.

In-bed (active) detection occurs if:

- The sensor detects 10 shallow movements within one minute
- The Bed Occupancy mat is activated

Safety Note

The alarm is inhibited if the Bed Occupancy mat indicates the client has left the bed. This could stop the alarm activating if, for instance, the client curls up at the bottom of the bed away from the mat or falls from the bed prior to a SUDEP event or seizure. If this is possible then the Bed Occupancy mat should either not be used or only set to alarm after only a few seconds to reduce any long-term risk.

Alarm Condition

The pager can be set to emit an audible alarm or a silent vibrate (see the Pager Handbook).

The pager will automatically detect any failure in the communication system or catastrophic failure of the monitor.

All alarms can only be cleared at the monitor by pressing the button marked alarm/reset on the Guardian's control panel.

When the Menu/ Reset button is pressed while the sensor is still detecting an alarm condition, then many of the alarms will show "SUSPENDED" (see expanation page 16) and will no longer send alarms to the pager until the safe condition is restored.

It is strongly recommended that you check the Guardian has returned to "ACTIVE" before leaving the user, as this ensures an alarm condition will be detected.

Suspend Mode Explained

The word “active” on the main screen confirms that all the sensors are working and have sensed a safe condition for the bed occupant.
When the Alarm Reset Key is pressed following an alarm, or indeed at any time, sensors that could give false alarms when the occupant is out of the bed are temporarily suspended. They will then remain suspended until the occupant is sensed as being in the bed once again whereupon they will return to active mode automatically. This applies to the Shallow Movement, Sound and Bed Occupancy sensors. In addition the Moisture sensor is suspended until a dry sensor is detected.
If any sensor is suspended the the screen shows “Suspended” followed by the corresponding letter(s) indicating which sensors are suspended. All others sensors will still be active.
The following table defines the conditions that cause the sensor to become active.

	Sensor	**Action to trigger Active mode**	**Effect when Suspended**
s	Shallow	After 10 breaths or if Bed Occupied sensor active	Shallow alarms are not sensed when S is showing
s	Sound	After 10 breaths or if Bed Occupied sensor active (or always if one of these is not active)	Sounds are not sensed while S is showing
m	Moisture	When sensor dry	Moisture is not sensed while m is showing
b	Occupancy	When “in bed” sensed	The Bed Vacation alarm timer is stopped while b is showing.

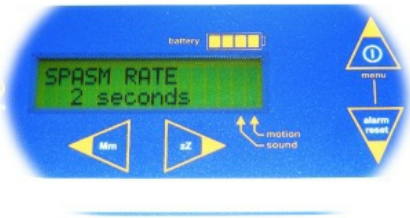
Part II - User Settings & Adjustments

Spasm

Press the menu to scroll to the relevant spasm setting. Using the left and right arrow to alter settings sensitivity.

Spasm Delay is the amount of time the person is moving constantly before the alarm is triggered. The unit is supplied with a default setting of 15 seconds.

Spasm Magnify is the sensitivity adjustment for intensity of movement. 8 is most sensitive. Slight tremors will be setting 8. The unit is supplied with a default setting of 4.



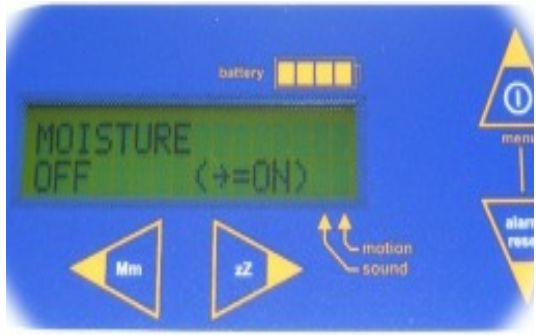
Spasm Rate is set at a default of 2, meaning that the unit will alarm if there is 1 movement every 2 seconds (i.e. within the setting). Lowering spasm rate to 4 detects slower regular movements. E.g. Setting 4 could support, myclonic detection (1 movement every 4 seconds or faster, which triggers an alarm).

Shallow Maximum (default is Off) Starts at 20 MPM (movement/breaths per minute) maximum is 30. This is to detect rapid movements/breaths which may indicate panic attack or hyperventilation.

Moisture

When moisture is enabled, it is used to detect bed wetting, salivation or vomiting. Detection is via optional sensing sheets, which need to ordered separately to suit your individual's requirements. Please enquire about our P142 range.

Moisture settings from 1 (moist) to 5 (wet) can be set to reflect the requirements of the user.

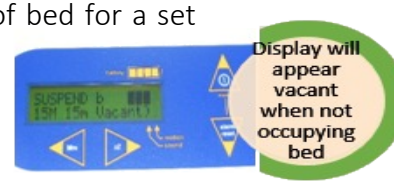


Bed Vacation

To detect bed vacation you will require an optional bed occupancy sensor please enquire about our P143 range.

When Bed vacation is enabled the Guardian monitor is capable of detecting when the bed is vacated for longer than 5 seconds. (min 5 secs is to allow for turning in bed, without causing a false alarm).

Bed vacation delay setting allows the monitor to prevent Shallow Movement & Sound alarms while a person is out of bed for a set period of time (up to 24 hr).



Warning: it is important to ensure that the use of this setting is based upon an individual assessment to ensure that the user does not move off the sensing area whilst still in bed as this could prevent the shallow movement detection from operating. For further advice on this please contact Alert-iT customer support. (See page 27)

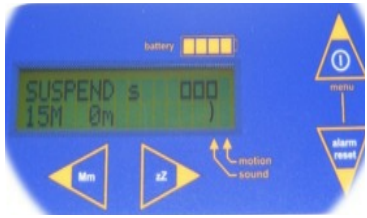
Sound Settings

Sound Delay

Where seizures can be detected by sound i.e. a clicking of palate, teeth chattering, lip smacking or similar, the Guardian has an internal microphone which can be enabled. N.B. an external microphone can be added as an option (P158B). Settings from 5 seconds up to 60 seconds can be selected, indicating the amount of continuous sound needed to trigger an alarm.

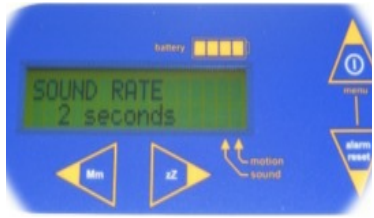
Sound Magnify

To enable this setting Sound Delay must be ON. To pick up lower volume sounds, increase Sound Magnify up to a maximum of 8. The display will show) symbol when sound is detected.



Sound Rate

To enable this setting Sound Delay must be ON. Sound rate picks up the rhythm of sound. E.g. For default setting 2; one sound in two seconds or faster which will trigger an alarm within the Sound Delay settings timeframe. When sounds are made less frequently increase the number up to 4.



Tick Volume (Audible breathing sound)

The tick volume can be adjusted from OFF to the maximum of 8. (Default=OFF). A soft yet distinct sound Tick volume enables carers to maintain a discreet audible vigilance of the user's breathing pattern.

Enabling Shallow Minimum

Shallow Minimum monitors the average number of breaths taken per minute. When the function is turned ON and the person is in bed the Guardian should go into Active Mode within approximately 10 movements/breaths. It is important to ENSURE Active is displayed (and not suspend: see page16) or the person will not be monitored for shallow movement and sound.

Enabling Shallow Delay

Shallow Delay is activated when Shallow Minimum is ON. Shallow Delay will alarm at when breathing ceases after a set time. Adjustable but factory set at 30 seconds, it will therefore alarm after no movements/breaths are detected within any given 30 second period (note - this is independent of the the Shallow Minimum setting, and essentially functions acts as a failsafe feature to detect an absence of breathing movement.)

Shallow Magnify

Shallow magnify is to allow for variants in the size and weight of a person, compared to mattress type & density. The highest setting will reduce false alarms, provided there are no extraneous vibrations being picked up when no-one is in bed (such as from an airflow mattress).

Please see chart on page 22 for Shallow Movement adjustment procedure.

Other Settings

Snooze Function Zz

Whilst in snooze mode ALL alarms will be deactivated for the set period of time. This is useful for personal care or if the user is not settled and false alarms are being activated prior to sleep. To activate the Snooze feature, press the Zz arrow and select the desired time duration. Snooze can be cancelled at any time by pressing the Mm arrow once again - the Guardian monitor is now actively working. Please be aware that whilst in snooze mode the monitor will not pick up any alarms until the set time has elapsed, therefore we recommend extra vigilance during this time.

Reload Default Settings

Settings can be saved for the individual user. Please refer to Supervisor Handbook for instructions. Available on our website UH1075. Warning: If "Reload Default Settings" is pressed, this will reload the Factory Default Settings OR the settings saved as per the Supervisor Handbook. Therefore the individual settings, if not saved, will be lost.

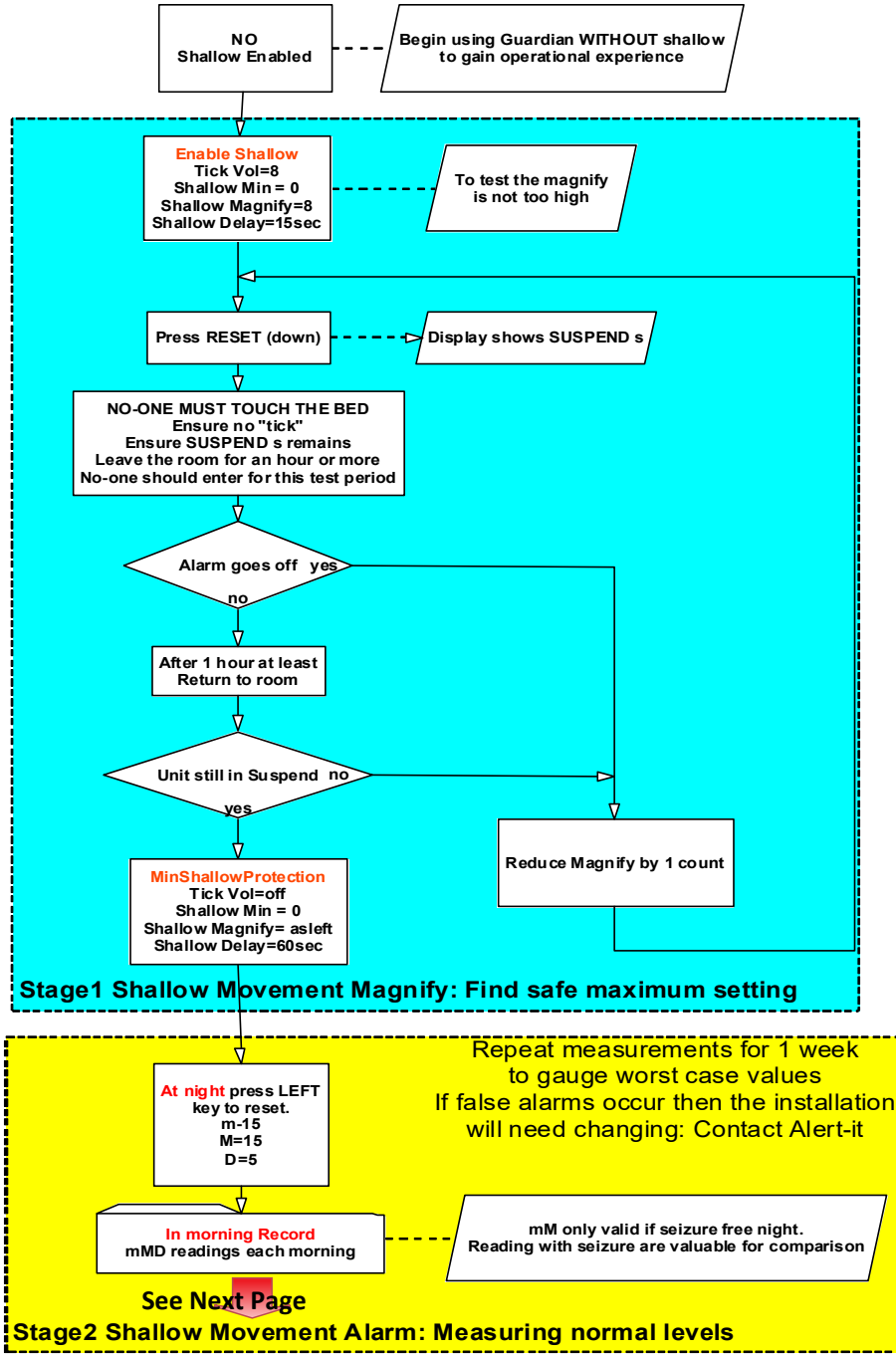
Auto-test of sensors

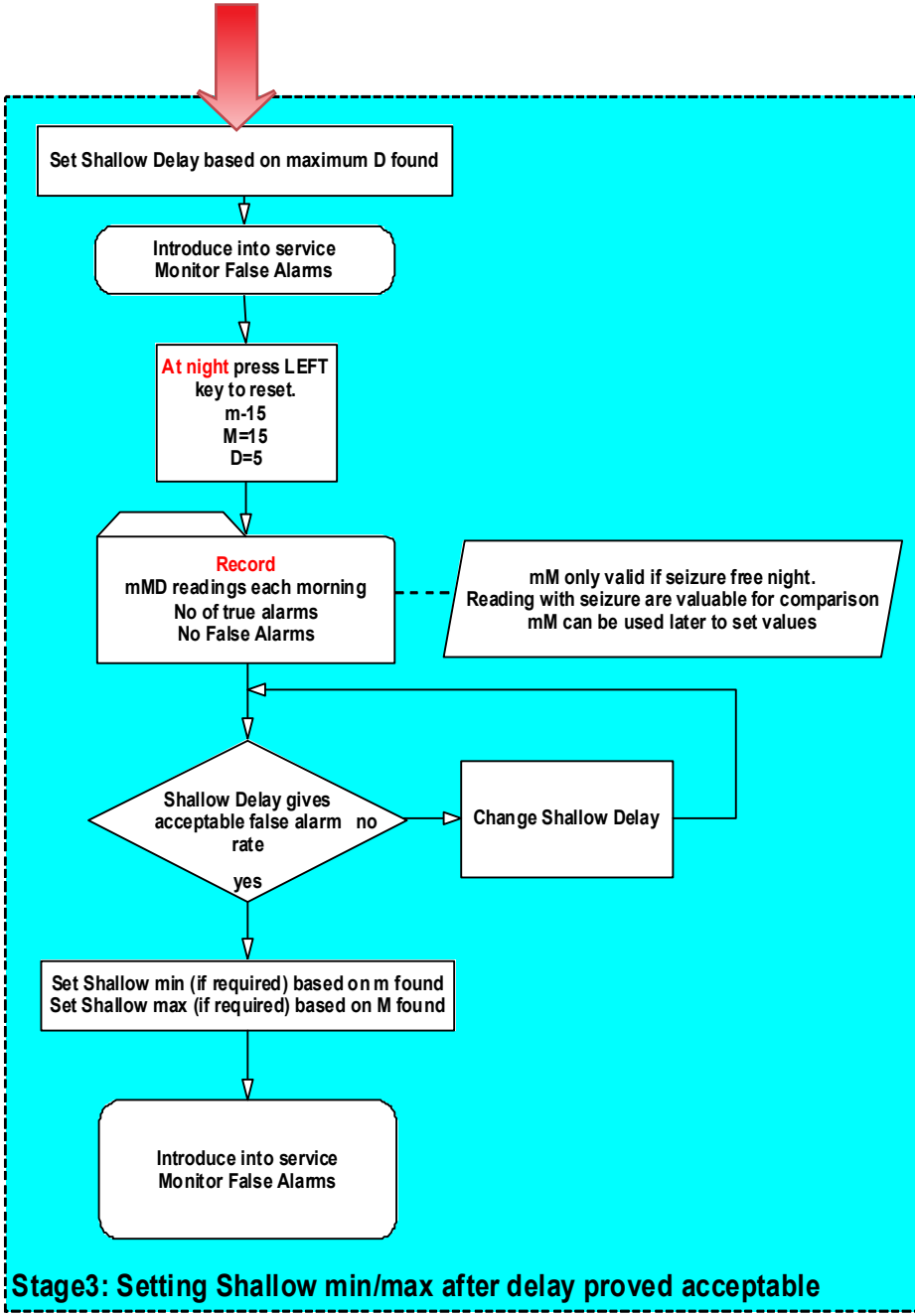
If a sensor shows no sign of having produced a "normal" activity signal for 24 hours then a fault alarm is raised to prompt a full test by the carer to ensure the sensor has not failed. Please see page 26 for pager fault alarm messages and codes.

Recommended Procedure For Setting Shallow Movement Alarms

1. Using the TICK function is very useful to hear the movement sensor working; turn it on to setting 8
2. Set the Shallow Min to 0, Shallow Magnification at 8, Shallow Delay=15 and with no user in the bed and no one touching the bed, check the small x symbol does NOT appear on the screen. Then leave the unit in SUSPEND s (press RESET key) for an hour with no-one in the room and check it remains in SUSPEND. Decrease the magnification if necessary to stop any sensor activity. This will set the optimum highest sensitivity to pick up movement safely. If the setting falls below 6 then contact the supplier as the installation may be an issue. This would apply if airflow or oscillating air mattresses are being used, where additional measures may be needed.
3. On the first few nights do not use the Shallow Alarm Max but set Shallow Min to 0, Shallow Delay=60 and use the Mmd readings to decide on the most suitable settings.
4. Once the user is stable/sleeping press the DECREASE button (<) to reset & start the recorder. This will set m=15, M=15, d=5.
5. In the morning and before the user is awake, note the Max/Min/d readings. Repeat for a number of nights to get a spread of readings and use these to set the alarm values with a margin to prevent false alarms. It is best to begin with Shallow Min=0 with Delay set by the d value as required and prove reliable operation before increasing the Min towards the m value (which can increase false alarms).
6. If the unit does not have the d reading (v6.3), then a reliable value can be found by decreasing the Delay from 60 step by step until an acceptable value is reached without excessive false alarms. Experience suggests most people experience very low breathing levels with gaps in the early morning, which can trigger alarms without any apparent cause.
7. Validate operation during observed seizures and adjust the magnification and detection limits as required. The manufacturer can be contacted for advice as required

Shallow Movement Adjustment Procedure




Set Shallow Delay based on maximum D found
Introduce into service
Monitor False Alarms
At night press LEFT key to reset.
m-15
M=15
D=5
Record
mMD readings each morning
No of true alarms
No False Alarms
mM only valid if seizure free night.
Reading with seizure are valuable for comparison
mM can be used later to set values
Shallow Delay gives acceptable false alarm rate
no
yes
Change Shallow Delay
Set Shallow min (if required) based on m found
Set Shallow max (if required) based on M found
Introduce into service
Monitor False Alarms
Stage3: Setting Shallow min/max after delay proved acceptable

Alarm Setting & Pager Messages								
Function/Menu	Left	Range		Comment	Default	Monitor Screen	Pager	Client
ID Number/Site No				Appears on screen at power up with software version				
On/menu key			menu	Press to scroll menu. Press any key also resets alarms		Active or Suspend		
POWER	off			press to turn off (if enabled)		Blank	Fault 29 or Alar-mOff	
Tick Volume	off	1	8	Volume of click on each shallow movement	OFF			
Shallow Minimum	off	0	10	MPM below which is alarm	OFF	SHALLOW MIN	Urgent 12	
Shallow Delay[1]		10	60	Minimum time for Shallow movement alarm to be detected	30	SHALLOW MOVEMENT	Urgent 11	
Shallow Maxi-mum	off	20	30	MPM above which is alarm	OFF	SHALLOW MAX	Urgent 13	
Shallow Magnify[1]		1	8	Set for optimum movement detection using tick or * symbol	6			
Spasm Delay	off	5	60	Time for spasm to set alarm	15	SPASM MOVEMENT	Urgent 01	
Spasm Magnify[1]		1	8	Set for optimum detection of spasm using # symbol	4			
Spasm Rate[1]		1	4	Seconds between movements: a spasm is assumed if faster	2			
Sound Delay	off	5	60	Time for sound level to set alarm	OFF	TRANSIENT SOUND	Urgent 05	
Sound Magnify[1]		1	8	Sensitivity of microphone	4			
Sounds Rate[1]		1	4	Seconds between sound bursts: a spasm is assumed if faster	2			
Moisture	off	1	5	Fault alarm if sensor open circuit. Covers moist to wet	OFF	MOISTURE	Help 21	
Bed Occupancy	off	5 s	24h	Time allowed for vacancy before alarm. Shallow alarm in-hibited.	OFF	BED VACATION	Help 23	
Reload Default				Snapshot saved in “hidden menu”				

Alarm Setting & Pager Messages

Other alarms without set-up parameters		
Function	Pager (Advanced)	Comment
Turned Off	Fault 29 or AlarmOff	Unit has been turned off (warning)
Battery Low	Fault 31 or BatLow	Connect charger to Guardian
Out of range	RF Fail	Check within radio range
External Alarm	Help 20	Only on P139AAB with internal radio receiver

All sensors are monitored for signs of correct operation. If no sign of operation occurs for 24 hours a fault warning is given to force a test of the sensor as shown in the following table:

Fault	Source	Action to clear /confirm fault
16	Movement Sensor	Tap bed
17	Spasm Sensor	Tap bed
18	Sound Sensor	Clap hands
19	Occupancy Sensor	Sit on bed
21	Moisture sensor	Fit new dry sensor

Unless otherwise agreed, the Guardian will be shipped only to create alarms in response to Bed Movement, to prevent the confusion of many alarms activating as soon as the unit is turned on. The other alarm functions can then be enabled one at a time as confidence is gained at each level. The table on page 15 shows the recommended default start setting for alarms and the pager indication that will occur. It can be used to record the actual settings used.

Maintenance

Cleaning

It is recommended to regularly clean both units by wiping with cotton wool pads moistened (compressed until dripping stops) with a mild detergent (0.5% washing-up liquid) solution or by using an alcohol or baby wipe. Avoid getting any liquid into containers.

Pager Pairing Instructions - see appendix A

Compliance

- The system complies with 93/42/EEC as a Class 1 Medical Device for use in a Home Heathcare environment
- The system complies with EN60601 for Class 2 Electrical Safety and does not need a protective earth and Group 1 Class B for EMC in a Home Healthcare environment

On radio versions only:

- The system has a radio transmitter compliant to EN300-220 operating at 434.075MHz wideband 10mW power (class 8) less than 1% duty cycle (class 2)

Bibliography

Full handbook: www.alert-it.co.uk/support

Important Safety Information

1. Ensure that the sensor cable is routed and secured to avoid the risk of entanglement or strangulation.
2. Ensure the power cable is routed.
3. Regularly check the power supplies for damage and potential shock risks
4. Ensure, by testing, that the alarm is annunciated at the carer's location(s)
5. Regularly test sensors as defined herein
6. Use only the power supply and batteries recommended
7. Operate power supply and charge pager away from direct heat and uncovered.
8. 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.
9. Only use the monitor with accessories approved for use with this product and only in accordance with instructions.
10. If the equipment is modified in any way, appropriate inspection and testing must be conducted to ensure continued safe use of the equipment.
11. 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 manufacturer for assistance with Risk Evaluation Tools.
12. Additional levels of mechanical protection may be needed for some patient disorders. Contact the manufacturers for advice
13. The advanced pagers “Extended User” option should be disabled if there are concerns that the carer may turn-off the pager inappropriately and ignore alarms
14. 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
15. Any sensor over the mattress (Bed Vacation or Incontinence) has the potential to cause pressure sores . The carer must assess this risk and monitor the use of these products if used

16. Any sensor over the mattress could pose a fire hazard if in contact with an ignition source.

Routine Testing Sheet

Serial Number: .....

Test	Signature	Date
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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.

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

Appendix A

How to Pair an Alert-iT Pager to a Monitor Unit}

Your Alert-iT pager has been designed to display all the information you need, all of which can be accessed using the four arrow keys on the front of the unit. These arrow keys are used to turn the pager and its alarm on or off, navigate through the on-screen commands (these are known as menus) and enter information such as the passcode number. First, the pager and monitor unit need to be 'paired'. This enables the monitor to signal the pager. This is how it's done:

- Turn the pager on by pressing and holding the MENU button for three seconds
- Press the MENU button again and hold it down for three seconds. The words 'set up and edit' will appear briefly before the option 'List' is displayed
- Once 'List' has appeared, press the right arrow on the control pad and scroll to the 'PASS 0000' option
- Using the left, right, up and down arrows on the control pad to move the cursor across the screen and change the numbers, enter the passcode '1900' (Please note, some of our older pagers use the passcode 0805)
- Press the left arrow on the control pad to select 'OK'
- 'Yes' will then appear beneath the passcode. Again, select this by pressing the left arrow on the control pad
- Using the right arrow on the control pad, scroll to the 'Add Node' option
- Select this option by pressing the top arrow which is marked SEL
- The display will say 'Addr' followed by an automatically assigned number (either 001, 002, 003 etc. depending on how many devices the pager is paired to already)
- Select OK by pressing the the left arrow
- Select YES by pressing the the left arrow
- The screen will now display 'Type'. Look at the label on the back of the unit you wish to link the pager with, where there will be a Type number printed. Change the number on the Pager using the arrows to this number.
- Select OK by pressing the the left arrow
- Select YES by pressing the the left arrow
- The option 'Failsafe' now appears. Select 'Yes' or 'No' using the arrows*
- The screen will say NODE: 00, which is the name the pager has automatically generated for the monitor. You can alter this name to your own choice using the arrow keys.
- Select OK by pressing the the left arrow
- Select YES by pressing the the left arrow

Your monitor and pager are now paired and ready ready to use!

Notes

Notes

Notes

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