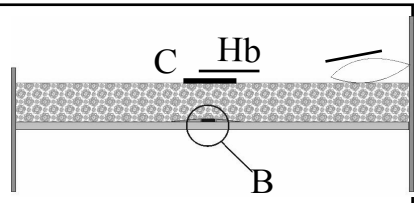
Quick-start guide for P139A Radio linked Bedside Monitor systems (S1020, S1016)

The P139B is a flexible monitor capable of using a range of sensing elements and passing an alarm to a portable Alert-iT Plesio Pager. We have provided your system with a selection of our sensors to best suit your needs and set any operating parameters as best we can within our experience and information you provided. This leaflet is a quick-start guide to installing, testing and using your system. After installation we are pleased to offer you a full system check via our telephone helpline, and would urge you to use this service. Should you wish to change any of the operating parameters or modify your system in any way, then detailed handbooks are available on request or on-line at **www.alert-it.co.uk/handooks/**

Install the sensing components

Install the **Bed Movement** Sensor (B) underneath the mattress on a firm bed base, in a position below the rib cage. Its task is to monitor the smallest bed movements transmitted through the mattress.



For S1016 install the **Bed Occupancy** Mat (C) on top of the mattress under a suitable cover sheet, in a position that ensures the maximum body weight is lying on the mat, typically below the upper torso. Under the shoulder area is a good place if an alarm is required before the users feet touch the floor.

The optional **Moisture Sensing** mat is connected to it's connecting lead using press-studs and then placed either over the pillow for vomit detection (Ha) or on top of the mattress (over the Bed Occupancy mat if fitted) in the region of the groin for urination monitoring (Hb).

The sound sensor is built into the case, which should therefore be as close as possible to the client if sound sensing is required

Please refer to the Handbook for details on how to tune each sensor for a specific client

Connect to P139 and test

The system components and connection details are shown overleaf. The actual range of sensors provided will depend on your order requirements

Turn on the P39 by pressing the MENU key for 3 seconds.. The P139 has a internal battery which will charge whenever the power supply is plugged in. If the battery becomes discharged then a fault message will be transmitted to the pager.

Turn on the **Pager** by pressing the ON/OFF button for 3 seconds (in the event of no response then charge the battery for at least 5 minutes)

These tests must be repeated regularly to check the sensors

Follow the test sequence as appropriate: for sensor provided
Shallow Movement Lie on the bed and note that the breathing symbol (*) appears on the display as you exhale (the tick can also be heard if enabled). The sensitivity can be adjusted.
Bed Movement.: Tap the mattress and note at each tap that the **(#)** symbol appears. The amount of force needed to make the light flicker can be adjusted.
Sound: Make a sharp click near the sensor and note that an "(" symbol appears on the display. The sensitivity can be adjusted
Bed Occupancy: With the mat plugged in and no-one in the bed the word VACANT should appear. Lie on the bed and this should disappear
Moisture.: If enabled the sensor MUST be connected or a fault alarm will occur.

Normal Operation

Once the test period has ended (indicated by the green power light being mainly on with just a flicker every 8 seconds), the P139 will now detect alarms. Remember that most sensors operate with a time delay to reduce false alarms. When a sensor is stimulated the corresponding light will illuminate and the time delay starts. If the sensor activity stops then the light goes out and the time delay is reset without sending an alarm. If the sensor remains activated, the light will stay on and the alarm will be transmitted after the delay, and the ALARM light will illuminate.
The pager will now show the alarm light and will also sound an appropriate audible alarm and vibrate (which can be silenced for 5 minutes while attending the client by pressing MUTE).

Any alarm that is latched can only be cleared at the monitor by pressing the button marked **MENU/RESET** on the front panel followed by pressing the MUTE button on the pager if required. If this action is taken while the sensor is still detecting an alarm condition (eg while the occupant is out of bed), then the alarm will show "**SUSPENDED**" and will no longer send alarms until the safe condition is restored (eg occupant back in bed).
It is important to note that the unit returns to ACTIVE mode once the occupant is settled in bed and in need to protection .

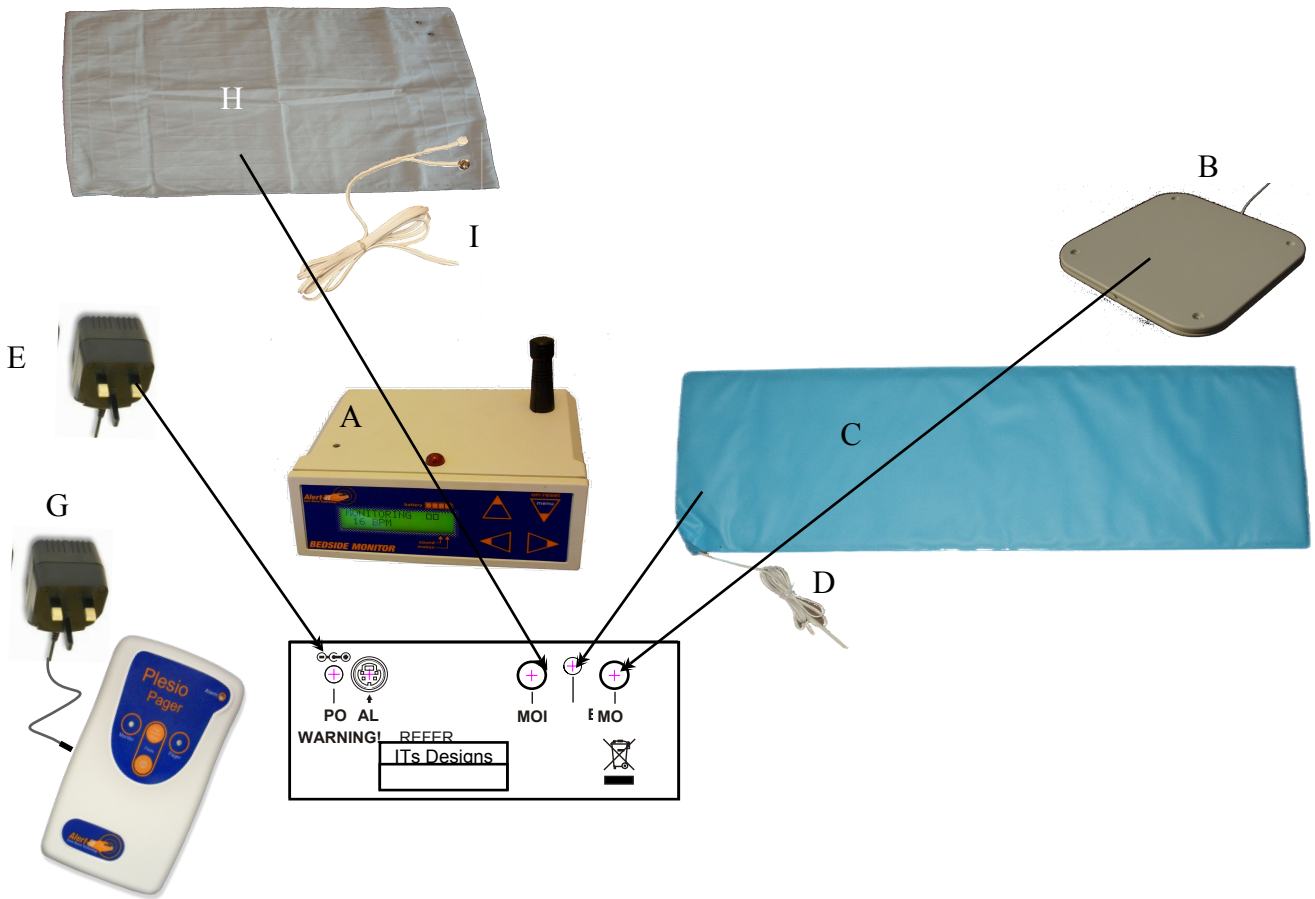
A **Shallow Movement Alarm** will always occur when there is no-one in bed, UNLESS the Bed Occupancy sensor is used. For this reason it is recommended to disable these Alarms while experimenting with the setting of the other features.

In order to reset a **moisture alarm**, then the cotton sheet must be removed and replaced. The cotton sheet can then be laundered. The monitoring will be suspended until this happens

System components and connection

(actual components supplied may vary to order)

	Part Description	Part No
A	Bedside Monitor	P139B
B	Bed Movement Sensor	P140A
C	Bed Occupancy Mat (S1016 only)	P143C
D	Extension lead for C (S1016 only)	P157D
E	Power Supply for A (UK)	P113B
F	Pager	P168A
G	Power Supply for F (Universal)	P153A
H	Moisture Sheet (optional purchase)	P142A
I	Connecting Lead for H/optional)	P141A



Full adjustment details are found in handbooks available on:
www.alert-it.co.uk/handbooks/
Or by phoning Alert-iT

Client set-up: Venue/Client Date:

Alarm Setting & Pager Messages							
Function/Menu	**Left**	**Range**		**Comment**	**Defaut**	**Monitor /Pager**	**Client Set**
ID Number/Site No				Appears on screen at power up			
On/reset/menu key	off		menu	Press to scroll menu. Press also resets alarms			
SUSPEND/POWER	OFF			1 press to suspend alarms, 2 press to turn off (if enabled)			
Tick Volume	off	1	8	Volume of click on each shallow movement	8		
Shallow Magnify		1	8	Set for optimum movement detection using tick or * symbol	4		
Shallow Minimum	off	0	10	MPM below which is alarm	OFF	Alarm On, Red Flash	
Shallow Maximum	off	20	30	MPM above which is alarm	OFF	Alarm On. Red Flash	
Shallow Delay		10	60	Minimum time for Shallow movement alarm to be detected	30	Alarm On, Red Flash	
Spasm Delay	off	5	60	Time for spasm to set alarm	15	Alarm On, Red Flash	
Spasm Magnify		1	8	Set for optimum detection of spasm using # symbol	4		
Spasm Rate		1	4	Seconds between movements: a spasm is assumed if faster	3		
Sound Delay	off	5	60	Time for sound level to set alarm	OFF	Alarm On, Red Flash	
Sound Magnify		1	8	Sensitivity of microphone	4		
Sounds Rate		1	4	Seconds between sound bursts: a spasm is assumed if faster	3		
Moisture	off	1	5	Fault alarm if sensor open circuit. Covers moist to wet	OFF	Alarm. On, Red Flash	
Bed Occupancy		5 s	24h	Time allowed for vacancy before alarm. Shallow alarm inhibited.	15 h	Alarm On, Red Flash	
Reload Default				Snapshot saved in “hidden menu”			

Other alarms without set-up parameters		
Function	**Pager**	**Comment**
Moisture Sensor fault	Red Flash, Alarm OFF	Open circuit wires
Battery Low	Red Flash, Alarm OFF	Connect charger
External Alarm	Red Flash, Alarm On	Only on P139xxB with internal radio receiver
Radio signal fail	Red On	Intermittent tune. MUST BE CORRECTED

Unless otherwise agreed, the P139 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. Any unused sensors will have their menu hidden (see handbook to change this) . The other alarm functions can then be enabled one at a time as confidence is gained at each level. The table below 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

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 equip-

This symbol indicates where a Patient Applied part is connected, for which it is important to follow these instructions carefully

1. Ensure that the senor cable is routed and secured to avoid the risk of entanglement or strangulation.
2. The Enuresis sensor cable MUST be connected to the monitor prior to using the press-studs to connect the sheet sensor
3. Only the recommended power supply shall be used as it is certified to provide two means of patient protection to EN60601-1
4. Ensure the power cable is routed to avoid a trip hazard
5. Regularly check the power supplies for damage and potential shock risk
6. Only use the monitor with accessories approved for use with this product and only in accordance with instructions.
7. 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
8. Any sensor over the mattress could pose a fire hazard if in contact with a smouldering cigarette.
9. Regularly test all sensors as described hereon
10. Clean and disinfect each item regularly in accordance with information herein
11. 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
12. Ensure, by testing, that the alarm is annunciated on the pager at the carer's location(s).
13. Operate power supply and charge pager away from direct heat and uncovered.
14. 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.
15. If the equipment is modified in any way, appropriate inspection and testing must be conducted to ensure continued safe use of the equipment.
16. 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.
17. Additional levels of mechanical protection may be needed for some patient disorders. Contact the manufacturers for advice

Support
For technical support
please fax or EMail:
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FAX : 0845 217 9953
Support@alert-it.co.uk

Designed by:
Alert-it Care Alarms
Leicester,
LE9 9FE, UK

...using technology to care for carers

The system complies with 93/42/EEC as a Class 1 Medical Device
The system complies with EN60601 for Class 2 Electrical Safety and does not need a protective earth.

Recommended procedure for the introduction of the Guardian Monitor

The Guardian monitor has a vast range of capabilities to deal with the most complex monitoring needs. This does, however, mean a carefully considered plan is needed to introduce and validate the monitoring at a pace that the carers can accept. The following is our recommended procedure .

At the first stage ONLY use the Spasm and Zero shallow movement detection as required. These are the easiest methods to understand and validate.

- Set the Shallow Movement time to 30 seconds and Shallow Minimum to 0 (zero)
- The Shallow Movement Magnify should be set at 4 with the Tick Volume set at 8. Lie on the bed and ensure each breath is being detected. If not increase the magnify. Failure to meet this requirement is not safety critical as it will result in false alarms rather than failure to monitor total stillness.
- Get off the bed and ensure a Shallow Movement alarm is raised. It is anticipated the alarm should happen within 30 seconds, however some mattresses relax after the weight is removed and could delay this test. However if the magnify is high (7 or 8) then beware in case draughts or vibrations are causing the bed to move.
- If a Bed Vacation sensor is to be used then this can now be fitted. Ensure the word VACANT appears when the bed is empty but that this disappears when occupied. Leave the time delay set for the default 15 hours at this stage.
- The seizure setting will normally be 15 second delay, 24 movements per minute detection threshold. This has proved an excellent starting point with low false alarms. Check the magnification by tapping the mattress at a range of places where the client might sleep and with a force equivalent to the expected seizures. Note the occurrence of the # symbol in the bottom left corner of the display. Adjust the magnification if this does not occur as expected.

Once the units has been used successfully for a few days and false alarms are minimal then the next set of sensors can be enabled if required.

- Change the Bed Vacation time if shorter than 15h hours is needed.
- Add moisture monitoring if required. Remember an alarm is raised if the monitor is enabled without the mat being connected. However the alarm is then suspended if the RESET button is pressed

Now again allow the system a few days of use before the last step.

- Finally add the SOUND sensing if required. This is the sensor most prone to false alarms, but by adjusting the time delay and repeat time a good immunity to background noise should be possible. The sensing is automatically disabled when the bed is empty or the Guardian is in suspend mode. Hence false alarms during the noisy daytime can be avoided easily.

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.