

Guardian P139 False Alarm Correction Techniques

RF Fail

CAUSE

This is an ESSENTIAL safety feature and central to the Alert-iT radio products. It means there is no radio signal reaching the pager from the monitor and MUST be corrected. It most often is caused by someone turning off the unit, probably in an effort to stop one of the other False Alarms. It can be that the unit is too far away but this should have been resolved at installation.

SOLUTIONS

Check the unit is turned on. If a false alarm then occurs, look below for a real solution.

If the unit is on, then walk towards the room with the pager. If the RF Fail warning disappears, then there is a real radio range issue. To overcome this Alert-iT can provide a booster that should be positioned at the point where the pager recovered.

If the problem only corrects at the room, then there could be interference or a failed transmitter. In this case contact the Alert-iT support desk.

If it proves desirable to turn off a unit in the day, to prevent other false alarms, then the Pager can be set to be silent on the "RF Fail" alarm. This way there is no nuisance alarm, but the condition is clearly visible. All other alarms will over-ride this indication.

Shallow Movement Alarm

CAUSE


The shallow movement alarm is the most sensitive to giving false alarms as it is finely tuned to detect the smallest movement that indicate the client is alive. If the movements become too low, then an alarm is raised. This can give rise to false alarms if the client moves too far from the detector pad under the mattress or has long apnoea events.

For this reason we DO NOT recommend using this method in the first instance while familiarity with the other detection methods is being tested.

SOLUTIONS

If you are still experimenting with this detection principle, set the unit to only detect zero movement after 30 seconds. The slow & fast movement alarms should only be set after the movement rate has been recorded over at least 1 week using the built-in recorder (as the help desk for advice or watch the online video). If the problem persists then check the pad sensitivity (magnification) is sufficient to pick up movement by observing the movement indicator (*) reflects the clients breathing after the alarm has been reset. The "tick" can also be set on to hear the movement during this trial period.

If not, then check the location of the pad first. If the magnification is increased then YOU MUST ensure that an alarm occurs with the client out of bed as over sensitivity can make the unit activate on building or air movement.



The order reflects the frequency we get asked to assist in correcting false alarms. The solutions may require resetting of various parameters. The details of these are in the handbook or training videos, available at www.alert-it.co.uk/handbooks, or our support desk is always willing to advise 0845 217 9952.

If the above tests indicate the monitor is picking up the movements, it is possible for the client to have long apnoea events and we have known the need to set the delay to 40-50 seconds for UT1362 P139 False Alarm 2 of 6 some people. This is best tested by making the alarm self-resetting (in the hidden menu). This means that once the client restarts breathing the alarm will clear. The time of alarm activity will then give clues as to the best detection delay to be set.

Sound Alarm

CAUSE

The alarm is naturally sensitive to noise. While it uses a special technique to look for a series of short sharp sounds in order to ignore background noises, there is potential for false alarms.

SOLUTIONS

Decrease the sensitivity (magnification) of the sensor, judging the minimum by simulating the level of sound expected in a seizure. Increase the time delay for detection will also help, provided the client continues the sound for that extended period.

Bed Vacant Alarm

CAUSE

If the person is lying in bed when the alarm activates, the front panel should clearly show the word VACANT.

This means the sensor mat or strip has failed to detect the persons weight.

If the word VACANT is not present, then the sensor was temporarily relieved of weight and cause the alarm, probably while the client turned in bed.

SOLUTIONS

If the word VACANT is missing and the detection period is for a fast response (a few seconds), then increase the delay slightly. If the delay is already more than 5 seconds, then suspect that the sensor mat or ribbon has an intermittent fault. The wires in the connector can become dislodged and make such intermittent contact for instance.

If the word VACANT is seen, then test the sensor flat on top of the mattress by pressing all over and checking for total or partial failure. When pressed the word VACANT should disappear, and then reappear when the pressure is removed. If the sensor is good, then reposition it and check it is correctly activated by the client.

Moisture Sensor Failure

CAUSE

The Guardian has the option to automatically test the sensor sheet by using a 4 wire lead. If the wires in the sheet become broken or intermittent, then an fault alarm is raised.

SOLUTIONS

First check that all four wires have been correctly and firmly connected to the sheet. There is an optional 2 wire lead (used for an extended double bed sheet), if this is used then the "auto-test" function must be disabled in the hidden menu.

Swap the sheet for a new one. If the problem persists then swap the sensor lead. If this cures the problem then the lead should be discarded. If not then you may have a problem with the monitor and need to contact the help desk.

If the fault clears as you touch the sheet, then the wires may have become partially broken and the sheet still needs to be replaced.

Moisture Alarm

CAUSE

If the sheet appears dry, it can still be affected by moisture from heavy sweating.

SOLUTIONS

Try decreasing the sensitivity towards the WET setting. If the setting is already at full WET, then try a towel over the sensor sheet. If this works then Alert-iT have alternative sheets that can be used.

Spams Alarm

CAUSE

This is a very robust detection and should not normally give false alarms. This may be due to personal habits of the client that cease when a carer is present.

The only other reason would be excessive normal movements at night. Sometimes these are known only to occur when the client is settling down to sleep.

SOLUTIONS

If the client is restless at the start of the night or needs some personal time, then the Guardian has SNOOZE feature, set by pressing the RIGHT key until a reasonable time is displayed.

To correct over sensitivity, then increase the time delay as much as is reasonable.

If the problem persists then consider setting a higher "rate" value which means the spasm movement have to be faster. Be careful not to set this higher than the known shaking rate for the client.

Only finally should the sensitivity (magnification) can be altered to try and discern the difference between small acceptable jerks and large tonic/clonic movements.

Alarms activate with no-one in the bed

CAUSE

The Guardian monitor has an advance method of creating a safe standby condition for daytime, while automatically re-arming its protection at night (SUSPEND). However some daytime activity can fool the monitor to reactivate.

Another common cause WHICH MUST BE considered carefully is where monitor have been swapped into different rooms, without re-programming the pager. Hence the alarm may be truly activating in a different room.

SOLUTIONS

The suspend function can apply to Shallow Movement, Sound, Moisture and Bed Vacation. It never applies to Bed Movement as quite simply if no-one is in bed this function should never be activated.

The SUSPEND state is automatically activated after an alarm is cancelled or by deliberately chosen from the second (Power Control) menu screen.

The sensors that have been suspended are shown as three letters on the main screen

- s: shallow movement and sound
- m: moisture
- b: bed vacation.

SHALLOW MOVEMENT AND SOUND

These two functions are linked and re-activated if the shallow movement picks up 10 impulses which could indicate someone is back in the bed and breathing normally. Hence if they re-activate with no-one in the bed, some form of false impulse needs to be detected. THIS IS VERY IMPORTANT as the source may also mask a true alarm is someone was in the bed but comatose.

Turn on the movement tick monitor and after resetting the alarm note any "tick" and try to relate it to some environmental condition. Typical culprits have been:

- Loose floor boards causing slight (imperceptible) movement of the bed when a carer enters the room or even in the corridor outside.
- Bed equipment, especially air mattress inflators. Obviously the pressure relieving "oscillating tube" mattresses will always cause problems, but the static air flow mattresses can work well, provided the pump is quiet and perhaps not mounted on the bed itself.
- Draughts from open windows, ceiling fans or air conditioning.
- Clients temporarily returning to the room and sitting on the bed.

If the failure to suspend cannot be corrected, then the unit may have to be turned off during the day. This is not necessarily a problem provided the RF Fail condition is catered for (see above).

BED VACATION

If the Bed Sensor is activated the unit will immediately exit suspended mode and then alarm if the sensor is deactivated. This most often will occur only if the client enters the room and sits on the bed or the carer temporarily deposits something heavy on the bed, eg a full wash basket. If there is an appreciable delay set then the alarm may be perceived as going off with no-one in the room. If it is a regular problem, then set a short delay and catch the offending situation.

MOISTURE

The SUSPEND action applies equally to Sensor Fault and Moisture Alarm. The latter requires the connection of a dry sheet to clear the alarm and the suspended condition, and hence is unlikely to trigger a false alarm.

The Moisture Sensor Fault can cause intermittent alarms, especially if the sheet is disconnected. Movement of the wires can cause them to connect temporarily, clear the fault but to then re-activate. The faulty sheet can also have an intermittent broken wire and cause the same issue. If the problem persists then removing the cable completely until a new sheet is fitted should cure the problem.

If the problem persists then reverting to a two wire lead without auto-detect of faults will solve any issue.

However a manual check on the sheet will then be needed after every wash.

Battery Fail

CAUSE

The battery is a back-up to protect against mains failure, and hence should not normally be in service. For the battery to discharge low enough to cause this alarm means that the charging has failed if the battery reaches a seriously low level such that radio transmission may not occur, then the monitor will issue an audible warning (that sounds similar to a frog in the room).

SOLUTIONS

When the unit is NOT charging, the display will show the battery status as hollow bars, rather than solid black. Check that the power unit is plugged into the rear of the Guardian and that it is installed in a mains socket that is switched on. All obvious but we very often find a cleaned has unplugged the unit and forgotten to reconnect.

If these are not the cause, please check the socket is live by plugging in a lamp or similar test.

If all these indicate the monitor is the fault, then a new power supply should be ordered from Alert-iT, as the most likely cause is a damaged lead or power unit.

Bed Movement

CAUSE

It is very unusual for the Bed Movement alarm to cause concern. The main reason for “false alarms” is the bed being used of personal care during the day.

SOLUTIONS

In this case the care staff should be encouraged to enable the snooze feature for an appropriate time. After this period the unit will automatically return to the suspended mode.

Fails to Trigger Nurse Call/Telecare

CAUSE

Only relevant to P135A (wired version) connected to third party equipment. The complaint could be that alert conditions are not being sent to the pager/panel/call centre. This is a different scenario to the above false alarms, and a most serious condition to remedy. Unlike the Alert-iT radio systems these third party provisions will not be “failsafe” and regular testing MUST be carried out to ensure they work. If after stimulating an alarm on the Guardian the alarm is not forwarded the problem can lie either with the Guardian or the third party equipment. This test will help decide where the fault lies.

Easy start-up configuration

The following tables show a good place to start if you are new to the equipment or the client is unknown.

We recommend a profile of setting that will give protection against the highest risk conditions while minimising false alarms from over sensitive adjustments. Once the alarm activity is considered to be acceptable, then the other protective features can be enabled. The settings that may then be of value are:

SHALLOW:

These can give false alarms as the client may have unusually slow breathing or muscle activity at night. Enabling the Max/min function will allow you to gauge their normal activity, before setting the alarm limits.

BED VACATION:

Once the Shallow movement is enabled there is the risk of annoying false alarms during the day with the bed unoccupied. Plugging in a Bed Occupancy sensor will stop these.

SOUND:

The sound monitor is again a potential source of false alarms, especially in the day, except it is disabled by the Bed Vacation detector.

MOISTURE SENSING:

This is a possible source of false alarms due to sweating, or dribbling if used for vomit sensing. There is an automatic fault detector (using a 4 wire connection to the sensor sheet), which can discover broken wires. This can cause false alarms, especially if the sheet is disconnected after an incident. Hence we suggest disabling the function at the start. If this is to be permanently disabled than a 2 wire cable is supplied and a manual test is then possible.

ALL ALARMS LATCHING:

By using the hidden setting to latch all alarms it is easy for staff to record alarm activity as they are forced to go to the bedroom, rest the alarm and note the cause. For systems connected to Nurse Call it is best, in the end, to have the alarms and output non-latching, which means staff only have to reset the Nurse Call wall unit. This can also benefit a radio unit if the client if difficult about staff attending false alarms in order to reset them.



Safe Trial Settings

Function/Menu	Left	Range		Default
ID Number/Site No				
On/reset/menu key	off		menu	
SUSPEND/POWER	OFF			
Tick Volume	off	1	8	8
Shallow Delay	off	10	60	30
Shallow Magnify		1	8	4
Shallow Minimum	off	5	10	OFF
Shallow Maximum	off	20	30	OFF
Spasm Delay	off	5	60	15
Spasm Magnify		1	8	4
Spasm Rate		12	120	24
Sound Delay	off	5	30	OFF
Sound Magnify		1	8	4
Sounds Rate		1	20	24
Moisture	off	1	5	OFF
Bed Occupancy	Stop Alarms	5s	24h	15h but no mat connected
Reload Default				

Hidden Menu	Setting	Explanation
Power Off	Visible	Allows staff to turn off
Shallow Movement	Hidden	Stops staff changing
Spasm Movement	Hidden	Stops staff changing
Transient Sound	Hidden	Stops staff changing
Moisture	Hidden	Stops staff changing
Bed Vacation	Hidden	Stops staff changing
Snooze	Visible	Allows use
Max/min	Hidden	Not needed at start
Audible	Off	Not usually needed
Red Light	On	Shows alarm active easily
Moisture AutoTest	Off	Can give false alarms
Monitor ID	(Leave)	MUST AGREE WITH PAGER
Site ID	(Leave)	
Spasm Movement	Latching	See note
Transient Sound	Latching	See note
Shallow Movement	Latching	See note
Moisture	Latching	See note
External	Non-Latching	Nothing connected usually
Alarm Out	Latching	See note
Save Default	YES	