Alert-it Care Systems

P135 Personal Alarm
Alarm Badge

User Handbook

Models covered by this handbook	
P135AB	Long range personal monitor badge
P135AA	Short range personal monitor badge

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 carere 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 P135A is a miniature badge style monitor that is capable of sending alarms to the P137/P138 Safelink Pagers or P117C Telephone Autodialler, and is especially suited to those living alone or in a supported environment. It can also be coupled to established Nurse Call systems via our P155 Radio Alarm Receiver.

Typical range outdoors is 100m for P135A or 450m for the P135B

The alarm can be programmed to detect
1. User pressing the front call button
2. User falling to an angle of 60º or less (even if they continue to have seizre activity)
3. User risking hypothermia (special programmed option)
4. User wandering too far from pager (see pager programming manual)

Power for P135

The badge is powered by a replaceable lithium button cell battery which should last more than a year in fall mode (&2) or 4 weeks modes 3 or 4. A spare battery is included with the unit. A card of 5 batteries is available from iTs Designs Ltd (order code P160)

To prevent the fall alarm activating in the post, the P135 is shipped in a de-activated state. The HELP button must be pressed until a beep is heard to activate the unit for the first time. (The same procedure is needed after battery replacement)

Typical System Configurations

The P135 Badge uses radio to transmit an alarm when a fall is detected or the panic button is pressed

Optionally the P135 can make a regular transmission which is used by the P137/8 pagers to prove the integrity f the radio network and can be used to detect wandering outside a safe area. The regular transmissions will reduce battery life

The P137/8 pagers will give full details of battery and alarm status. It can also use the regular Safelink transmission to warn of wandering or radio failure

The P155B Radio Receiver can connect to a Nurse Call system or an autodialler (as shown).
The receiver shows successful radio reception by the flash of a green light.
It will warn of radio failure when the Securelink protocol is enabled by a red light and audible alert

Fall Detection:

The unit should be clipped to clothing using the rear clothing clip or pin, in a position that best fits the anticipated fall condition.

Clipping to the waist band is an excellent place that is unobtrusive and capable of detecting a full fall with few false alarms.

For those prone to slumping while seated then clipping to the upper torso is recommended. This also gives easier access to the panic button.

In situations where a drop will not occur (eg watching Tv in an armchair) the user is advised to hold the badge and throw it or drop it when a seizure starts

It is also possible to stand the unit up on a nearby coffee table and kick/knock it over when a seizure starts

False alarms will be caused if the user lies down to rest while wearing the badge

Panic Only

The badge can be supplied to special order without the fall detection., to act as a simple panic badge (with the potential of hypothermia or wandering detection). This version can be fitted with a lanyard.

Wandering Detection

For this to work the unit must be set into Securelink mode (see page 8). This makes the badge transmit are radio signal every 10 seconds which can be used to check approximately how close the badge is to the pager. The battery life will be reduced in this mode.

The pager is first put into "learn" mode where by the weakest radio signal strength is recorded while the badge is carried around the care home. The transmissions can be forced to occur faster by pressing the HELP badge quickly (less than 1 second to save setting the alarm). This should be done at all the recognised extremities.

The recorded values are then saved as the wander detection value and the pager re-turned to normal use. If the radio strength falls below this saved value then a WANDER alarm is indicated. This automatically cancels once the badge is back within the limits.

> The method of detection is not a precise concept (as GPS) and some level of false alarms may occur. However it is cost effec-tive, convenient system and unlike GPS based systems it will work quickly when the user exits a building.

If the user escapes out of range completely, then the RF Fail warning will appear after 2 minutes as a further level of protection.

The detection value can be adjusted manually on the pager if false alarms occur.

For information about pager programming see the P137 Programming Handbook.

Hypothermia Detection

This version uses an internal temperature sensor to guage the ambient temperature around the client. An alarm will be raise if this temperature falls below 12°C for more than 1 hour. These parameters can be adjusted to order.

Range test.

If the unit has the failsafe feature enabled, then the pager will automatically warn if the regular radio transmission is lost. If this is not the case then the badge should be tested in all the usual locations to prove signal reception. A short press on the HELP button (less than 1sec) will cause the P135 to transmit, without setting an alarm

In large installations a more convenient method is to have one P135 with the fail-safe capability enabled (see below). This is then positioned where the pager would normally be situated and the pager taken around the whole area to be monitored. Any loss of signal is then apparent when the pager fails to show reception of the test badge signal (when the "name" stops flashing onto the display every 10 seconds)

Regular Battery Test

In the non-failsafe mode the battery will last up to a year, but should be checked regularly by making a short press of the Panic Button (less than 1 second so that no beep sounds). If the battery is serviceable than the light will flash. The P135 will also transmit at this time. In Securelink mode the battery status is being monitored continually.

If FAULT 30 or 31 shows on the P137/8 pager, or the P117 autodialler gives an intermittent audible alarm and activates the fault alarm message, then the battery will need replacing. The P135 will continue to function for some hours (but with a slow flash of the light every 8 seconds), allowing time for this replacement. If the battery is exhausted then the P135 will chirp continuously without the light flashing or transmitting.

In a fall

When the P135 is made horizontal then after 15 seconds an audible pre-warning will start and the red light will flash. The initial, silent delay prevents false alarms during normal movements.

The pre-warning tone decreases in pitch over 30 seconds (to assist those with impaired hearing). If the user does not return to the upright position during this period, then the tone stops and the full alarm is transmitted. The red light continues to flash to indicate the latched alarm

Use of HELP button

Pressing the **panic button** for 1 second will produce a short beep and an ASSIST alarm will be sent immediately. The red light will then flash to indicate the latched alarm status.

Clearing the alarm
If the panic button is pressed for 1 second, while any alarm is active (the red light flashing), then, after a short beep, the alarm will be cleared. This is noted by the light extinguishing

Turning off the Badge

The badge contains a small magnetically operated switch which can be used to turn off the badge, for instance at night. The magnet is passed over the front of the unit, and the alarm light is noted to blink.

The unit is turned back on by pressing the HELP button until there is a beep heard.

Alarm indication at the pager/receiver

Alarm	Detect Delay	Pre-warn	P135	Pager	P155 /P117C
Panic	1 second	No	Flash	Assist 01	Intermittent tune + alarm
Fall	30 sec	15 sec	Flash	Urgent 01	Continuous tune + alarm
Hypother-mia	1hour	No	Flash	Urgent 02	Continuous tune + alarm
Wander	10 sec	No	No	Wander	Intermittent tune + alarm
Escape	2 min	No	No	RF Fail	Intermittent tune + alarm
TEST	Less than 1 sec	No	Flash	Node Name	Green light flash
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 P135 chirps every 0.5 sec with no LED and no transmission				

Cleaning

The badge is IP61 rated and capable of being cleaned to Alert-iT Method Technique B

Technique B

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

Battery Replacement (see diag page 10)

The anticipated battery life is shown below

Operating Mode	Battery capacity
No failsafe heartbeat, no alarms	1 year
Using failsafe heartbeat, no alarms	1 month
Maximum alarm number [1]	2000 alarms

[1] Based on fall alarms with 2 minute response time from carer
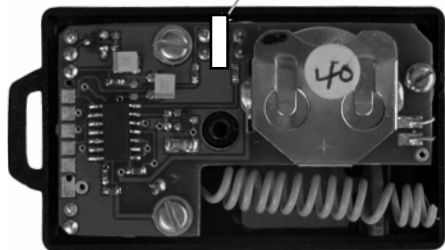
Failsafe Operation

An internal link selects failsafe Securelink mode
Remove the link for maximum battery life, but note the warnings that alarms may be missed if the radio path is interrupted or the badge fails. Add the link to create the highest integrity systems.
To change the link, open the case and remove the battery as described on page 10 and fit the link as shown below to enable Securelink. To remove Securelink simply

Link enables *"Securelink"* operation. If not required then remove for maximum battery life

Programming and enabling failsafe operation

remove the link and store by fitting to one pin only. Refit the battery. This is an essential step as the link is activated when the battery is enabled.
Close the case and enable the battery by pressing nthe HELP button until a beep is heard

Configuration Changes

The P135 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
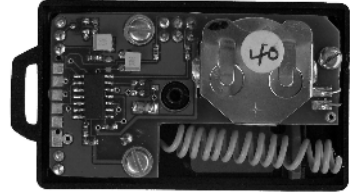
Maintenance (cont)

Open the case carefully buy pulling apart without twisting, after unscrewing the one rear fixing screw
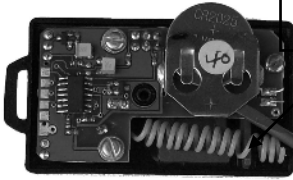
Aerial coil

In all the following procedure be careful not to damage the aerial coil

Use a small screwdriver , match, cocktail stick or similar implement to start the ejection of the battery from its holder. Then pull clear of the housing

Remove and then replace the battery (note the + side is upwards).
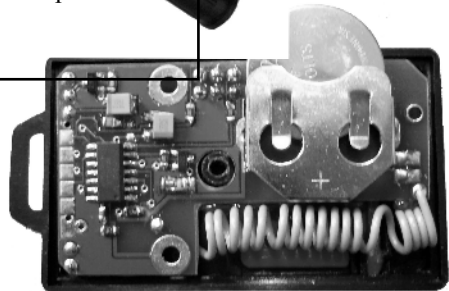
Battery Type: 3v Lithium Coin Cell CR2025 or equivalent
(order code P160 for 5 batteries)

Reassemble the case.

The P135 must now be activated by pressing the red button for 1 second until a beep is heard

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. Clean and disinfect each item regularly in accordance with information herein
2. Regularly test as described herein
3. Ensure, by testing, that the alarm is annunciated at the carer's location(s)
4. Charge pager away from direct heat and uncovered.
5. 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.
6. If the equipment is modified in any way, appropriate inspection and testing must be conducted to ensure continued safe use of the equipment.
7. 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.
8. Ensure the badge and any associated parts do not come into the possession of vulnerable patients who might choke on them
9. The monitor and all accessories are designed to operate indoors in a residential environment of 10ºC to 30ºC and 90%RH max.
10. The fall detection requires the user to lie in a semi prone position. Some falls may not achieve this and hence if the user is at high risk in a fall, there should be frequent observations made on their well being

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

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.

This system is certified to the following European Standards	
93/42/EEC: 2007/47/EC[1] **EN 300 220-1 V2.1.1 (2006-04)** EN 14971:2007 EN 61010-1:2005 EN12182:1999 EN 61010-1-2:2004 *Also complies with* 2002/95/ECRoHS	Class 1 Medical Device Permitted radio transmission Risk Assessment Safety Assistive Technology EMC 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 P135 with Pager	UQ1131
Quick Start P135 with Autodialler	UQ1130
P137 Configuration Handbook	UH1068C
You tube Instruction Videos Index	UV1198

Support

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...using technology to care for carers