

## Pearl Advanced

Fall Detection to Suit Individual Needs



Pearl Advanced with fall detection has been designed to help those who may be prone to falling, and to give them confidence in their day to day activities.

## What is it?

Pearl Advanced is a smart, easy to wear pendant with fall detection technology. If a fall is detected, or if the personal help button is pressed, Pearl Advanced communicates bi-directionally with a Chiptech base unit, which sends an alert to the Alarm Receiving Centre (ARC), summoning help for the user.

Pearl Advanced has an elegant, discrete, casing that is water resistant and can be worn in the bath or shower.

Pearl Advanced automatically detects when help is needed and generates a fall alert.



## Who is it for?

Those most likely to benefit from having the fall detector are:

- People over the age of 65 years who have previously experienced a fall.
- Living independently and not in residential care.
- Mobile, by themselves or with an aid, but are not in a wheelchair.
- People without significant cognitive impairment, so they can understand how to summon help and cancel a false alert.

Pearl Advanced has four available settings, and people can choose which one best suits their needs. People who are at high risk because of frailty, epilepsy or have diminishing cognitive abilities, benefit from the automatic fall detection.



## Features

- Pearl Advanced has fall detection technology with advanced algorithms that can be set to four different settings.
- Pre-alarm on Pearl Advanced, with unique **'Shake to Cancel'** feature.
- 'Shake to Cancel' during the fifteen second pre-alarm allows the user to stop a fall alert for help by shaking the Pearl Advanced pendant. Significant movement like shaking, will cancel an alert so false activations can be minimised.
- Bi-directional communication with the base unit. A light ring around the outer edge of Pearl Advanced will flash red to let a user know that their alert has been received by the base unit, and is being sent to the ARC.
- Pearl Advanced has excellent range to a base unit, with 300m+ being typical in open air.
- The use of quality components, and rigorous testing, ensures each Pearl Advanced will work when needed.
- Pearl Advanced self-tests to the base unit to ensure continued connection, and this is logged.
- Inactivity reporting to the ARC occurs after a period of no movement, so the end user can be contacted, this is typically used as an indication that the user may not be wearing their pendant.
- Pearl Advanced reports when the battery capacity is reduced to 20%, providing ample time to organise a replacement battery. The Pearl Advanced battery is replaceable through the Chiptech servicing department.

## How Does it Work?

Pearl Advanced is designed to detect a significant fall from standing, and subsequent impact. Chiptech recognises that people fall in different ways and it is possible some types of falls will not be detected. The help button on Pearl Advanced can always be pressed to summon assistance.

Pearl Advanced has a comprehensive six stage algorithm. When a significant fall and impact is detected by Pearl Advanced, the pendant looks for movement. If none is found, then it sounds warning beeps for fifteen seconds, to signify it is about to send an alert for help to the ARC.

During this pre-alarm sequence, the Pearl Advanced unique 'Shake to Cancel' feature can be utilised to stop an alert from being sent to the base unit. Shaking the pendant quickly from side to side cancels an alert, so false activations are minimised.

If the fall alert has not been cancelled, the warning beeps will stop and voice messages from the base unit will play to keep the user informed while they are being connected to the ARC. When the alert has been received by an operator, they can call back and speak to the user through the automatic speakerphone on the base unit, and organise the assistance that is needed.



User Features	Pearl Adv
<b>Confidence Building</b> – When Pearl Advanced is activated by detecting a fall, and the alert is successfully received by the Chiptech base unit, the outer edge of the Pearl Advanced transceiver flashes red to reassure the user that their alert has been received, and is being sent to the ARC.	✓
<b>Wearable</b> – Pearl Advanced is IP67 and hot waterproof, meaning it should be worn at all times including in the shower or bath.	✓
<b>Easy to Use</b> – The large 15mm surface area of the button makes it easy to press, and the recess reduces false activations.	✓
<b>Safety</b> – Pearl Advanced has excellent range to the base unit, giving added confidence around the house and garden, lessening restrictions on outdoor activities. There are four different fall detection algorithm settings to suit the requirements of the end user.	✓



## Fall Detection and Settings

The Pearl Advanced has four available settings; it is programmed at factory with the standard fall detection setting. This can be changed to suit the end user requirements, including for people with epilepsy, those with cognitive disabilities, and high risk very frail users.

1. **Standard Fall Detection:** Has a 15 second 'Shake to Cancel' period prior to the automatic alert, with audible and visual confirmation.
2. **Epilepsy:** 'Shake to Cancel' has been removed, but still has an audible and visual confirmation.
3. **Cognitive Disability (dementia and intellectual disability):** 'Shake to Cancel' period, and audible and visual confirmation have all been turned off. An alert is sent straight to the base unit.
4. **Super Sensitive:** For those who are very frail and sedentary, the Pearl Advanced can be set to be more sensitive. This still offers the same 15 second 'Shake to Cancel' feature as the standard configuration, but makes a different warning noise during the 'Shake to Cancel' period.

It is easy to change a setting on Pearl Advanced.

- Press and hold the button on Pearl Advanced for ten seconds until a series of ascending tones play. This lets you know that you are in the Settings Menu.
- The number of beeps and flashes after the initial tones, tells you what setting Pearl Advanced is in. (For example: 2 beeps, 2 flashes = Setting 2).
- Press the button to step through the settings (this happens quite quickly), and stop when you are in the desired setting.
- Once you have programmed the Pearl Advanced to the required setting, put it down so it is still and wait for it to time out of the settings menu – it will continue to repeat what setting it is in four times, and then play a series of descending tones before it times out.

## Ways to Wear and Use



Pearl Advanced is worn as **Pendant** with the hypoallergenic chain.



The **Clip Attachment** allows Pearl Advanced to be clipped to pocket or clothing, while still wearing it as a pendant to reduce false activations.



The **Easy Press Sleeve** is fitted to Pearl Advanced to make it easier for users with limited dexterity to activate the button

Safety Features	Pearl Adv
<b>Automated Testing</b> – RF tests are logged every 7 hours from Pearl Advanced to a Chiptech base unit. Multiple missing RF tests are reported to monitoring and can be notified locally. This ensures that Pearl Advanced is still in range and able to communicate to a Chiptech base unit. If Pearl Advanced reports again, a restore report is sent. RF battery status is also reported to monitoring.	✓
<b>Bi-directional</b> – Transceivers confirm that the base unit has received the alert from the pendant, the outer edge of Pearl Advanced flashes red upon confirmation.	✓
<b>Replaceable Battery</b> - Pearl Advanced has a 2 year battery life with typical use. Typical use is defined as one activation per month, and an RF test transmission every 7 hours. Low battery reporting to monitoring when it reaches 20% capacity. Batteries are replaceable through Chiptech servicing department.	✓
<b>Hot Waterproof</b> - Pearl Advanced is IP67 rated, waterproof in hot and cold water. Users are encouraged to wear Pearl Advanced in the shower and bath, ensuring they can summon help if required.	✓
<b>Chain</b> – The Pearl Advanced Pendant has a surgical grade stainless steel chain with clasp, which will break if significant pressure is applied.	✓

Installer Features	Pearl Adv
<b>Learn Mode</b> – Up to 16 Pearl or other Telecare devices can be paired with a Chiptech base unit. The unique learn mode optimises safety by adding devices to an ‘active’ list when paired within a learn session. Previous devices learned will be ‘inactive’, but if they are found and used at a later date, they can still activate the base unit, and will resume testing (active). Telecare devices are not deleted through Learn Mode, but ‘inactive’ devices can be over written when the list is full.	✓
<b>Test Mode</b> – Pearl Advanced flashes when within range of the system, which also announces the number of activations received.	✓
<b>Ability to change settings on site</b> – Ability to choose fall detection setting on site with ease. Four different settings to suit each individual in their environment.	✓

## Compatible With



EVA



EVE 3G



ERICA





## Technical Details

<b>System:</b>	Pendant with surgical stainless-steel chain and clip attachment.
<b>Dimension:</b>	40 H x 32 W x 14 D mm (excluding attachment method).
<b>Weight:</b>	19.4 grams, excluding attachment method.
<b>Environment:</b>	Operating temperature of 0 - 40°C, 90% humidity (non-condensating).
<b>Sealed:</b>	IP67 – hot waterproof.

## Standards

(EMC) Directive 2004/108/EC  
IEC 60950-1:2001  
BS EN 60950-1:2002  
ETSI EN 300 220:2010 Class  
BS EN50134-2:200

**RoHS:** Compliant.

**RED:** Complaint

**CE:** Compliant

**Manufacturer Quality Assurance:**  
ISO 9001:2015

## Radio

869MHz European Social Alarm Frequency. 300 metres+ typical in open air to Chiptech base units.

## Battery

Two-year battery life with typical use, battery replaceable through Chiptech servicing department. Low battery reporting to monitoring when it reaches 20% capacity.

## Expected Life

The product and its component parts are expected to operate for approximately two years, with typical use† when the maintenance recommendations provided by Chiptech in product documentation and update notifications are followed.

The expected life excludes incorrect usage or usage that is inconsistent with the Chiptech product user guide and product manual, including a failure to follow the various warnings set out in these documents.

† Typical use is defined as one activation per month, two falls detected per week, 7 hourly RF test transmissions and operating on the 'Standard' fall detection setting.

## Product codes

Code:	Description:
EUPearlADV869	Pearl Advanced Pendant, Chain and Clip Attachment
EPRESSPearlADV869	Pearl Advanced Pendant with Easy Press Sleeve and Clip Attachment

## Chiptech

Chiptech International Limited is an electronics company specialising in the design and manufacture of innovative digital solutions aimed at supporting people in their environment, so they can enjoy their independence and feel safe.

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