



chiptech

GO 4G

Technical Specification

Chiptech GO is a wearable speech pendant with 4G/3G cellular and satellite locating technology, designed for safety, to summon help beyond the boundaries of the home.

Activated by pressing both buttons, Chiptech GO will sound a short alarm and flash red, it will play pre-recorded voice messages to keep the user up to date while it sends an alert and GPS location updates. When Chiptech GO rings, the user will be able to talk over the Chiptech GO speakerphone, and a responder will organise any assistance required.

Chiptech GO features a unique system check where you can press a single button to hear the battery level, cellular signal strength, and 'check in' your current location; traffic light colours indicate the status.

Who is it for?

Elderly and chronically ill

Chiptech GO is a confidence companion for those who want to maintain their independence and participate in activities outside of the home, knowing their safety is covered everywhere there is 4G/3G cellular coverage. Some people may be prone to isolation in their community, and Chiptech GO can help them enjoy the health benefits of regular exercise and promote contact with others.

Lone workers

GO Safe is a special configuration with silent reporting,* ideal for lone workers in the community who may need to discretely summon assistance in a high risk situation. Vibrations provide feedback as the alert status changes, and lights and noise from the speaker are disabled.

Silent reporting and the ability to obtain and send the satellite location coordinates following a simple button press, makes it an ideal solution for discretely summoning emergency assistance to the user's location.

Options

Chiptech GO is available in a monochromatic range of colours. Chiptech GO is supplied with a hypoallergenic chain or neck cord, and split ring, so can be worn around the neck as a pendant, fixed to a belt, or added to a key ring giving the user the freedom to choose the best option to suit their needs.

- Chiptech GO must be kept at least 15cms away from a pacemaker, so it cannot be worn as a pendant, but the key ring or belt clip are alternative options.
- When using the fall detection technology (yet to be enabled), Chiptech GO must be worn as a pendant.



* An asterisk throughout this document denotes a configuration value.

Features

- Simple dual button press to summon help, with single button press to cancel any function.
- Two-way voice communication and comprehensive pre-recorded voice notifications.
- Check the battery status, cellular coverage, and ability to obtain and send location, with a single button press.
- Colour indicators lights around the outer edge with traffic light colour indicators for status, white for user functions and blue for charging and Installer functions.
- GPS report now include, accuracy, cellular signal strength, battery status, altitude and date and time of the location found for the device, along with 'No Fix' report when location coordinates are unable to be obtained.
- Location provided by GNSS (Global Navigation Satellite System) which results in accurate and fast location responses.
- Automatic fall detection*
- Improved charging system, including change to C type connector, new audible notifications* available when placed on the charging cradle. The battery automatically turns off when charged to prevent unnecessary heat and wear. Chiptech GO will turn green and remain green when charged and on the charger and will send a 'battery charged' report when fully charged.
- Compatible with Chiptech Base Units and SmartCare® Software.

Requesting Help

1. To request help at any time, press and hold both buttons on Chiptech GO at the same time. This will start the short loud alarm sequence with a distinct tone and vibration (or press one button 5 times quickly).
2. The light ring around Chiptech GO will flash red to let you know a request for help has been sent. A voice message will play, "Help alert in progress."
3. Once the alert has been received, a voice message will repeat: "The alert has been received; you will be contacted soon."
Voice notifications such as "There is an issue sending your alert, trying again" or "Selecting mobile network, please wait" suggest there is an issue sending your request for help. Chiptech GO will automatically try again until it is successful. Another alert can be sent when the call has been completed.
4. Chiptech GO will flash green while ringing and then automatically connect the call. You should try to speak loudly and clearly.
5. While you are in a voice call, Chiptech GO will work in the background to obtain and send your location periodically.
6. When the phone call is complete, Chiptech GO will continue to flash green to indicate it can still receive another call. The location continues to be updated. Chiptech GO automatically stops reporting your location after a period of time and the green lights will stop flashing.

To cancel a request for help, press and hold one button on Chiptech GO during the loud alarm, it will announce "Cancelled." and quickly flash red. If the alert has already been sent, it is recommended to wait for the voice call and let the responder know you do not require assistance.



User Features



Friendly Automatic Notifications

Chiptech GO has a range of voice notifications to provide users with information on the status of their personal help device.



- Visual feedback is provided by the multi-coloured LED lights that illuminate around the outer edge of the device.
- Voice messages clearly describe current status; automated voice notifications only play during daytime hours and do not repeat unnecessarily.



- Notifications are accompanied by vibration for haptic feedback.

Large Tactile Buttons

The buttons on Chiptech GO are multifunctional.



- One button press begins the System Check process.
- Pressing and holding two buttons together begins the help alert, which helps to minimise false activations.
- Quickly pressing a button at least 5 times can also start the alert process.
- Holding one button for ten seconds enables Flight Mode, or while on the charger holding it for five seconds enters the Installer Mode.



System Check

A button press will start the System Check. This informs the user of the battery status, the cellular coverage and performs a GPS check*, which logs the current location to mapping software.



Cancel Any Function

The user can cancel a System Check or a false activation by pressing one button on GO. When the operation is halted Chiptech GO will announce, “Cancelled.”

Pairing with a Chiptech Base Unit

Chiptech GO will always attempt to send an alert using its own cellular reporting system. In the unlikely event that Chiptech GO cannot send an alert (typically because of a lack of cellular coverage) then Chiptech GO will hand over the control to the base unit it is paired with. The Chiptech base unit will pre-alert and follow its standard reporting process. Chiptech GO will play a voice file to inform the user that “There is an issue sending the alert, the base unit will now attempt to send the alert.” When the report is sent Chiptech GO will also play “The base unit has sent the alert.” The speakerphone system on Chiptech GO will stay active in case it can be connected by monitoring.



Location Technology

Location coordinates are provided by GNSS (Global Navigation Satellite System) which results in accurate and fast responses. Chiptech GO retrieves an Almanac binary file, which is approximately 35kbs, and includes all global positioning information from a Server, (with back-up servers available for use, should the primary be unavailable). Once the Almanac binary file has been received it will not require updating for another 1 to 2 months. Ephemeris data will also be updated once every 4hrs, although around 400bytes most telcos round this up to 1kB per event.

Safety Features and Reports

Chiptech GO has automated testing and comprehensive reporting regarding changes so that the responders are aware of it's current status. Events can be sent to responders, the alarm receiving centre, and /or mapping software*



Automated Test

Chiptech GO will send a test report to check its ability to communication through the cellular network and deliver a report successfully. The time between each test signal is a configurable setting with a default time of twenty four hours.*



Flight Mode

Is used to suspend cellular communication to meet aviation regulations, for transportation and for storage. Flight mode enabled and disabled reports are sent, the GPS location report can also be sent to mapping software.*



Inactive Report

Sends the GPS location to mapping software after a period of no movement. This is a configurable setting, with a default of seventy-two hours* of no movement and then every twenty-four hours* thereafter until movement is detected.



Battery

Chiptech GO will automatically announce low and critically low battery notifications to the user during day time hours. Chiptech GO requests that they charge their device within a defined period of time.

'Low Battery' and 'Battery Charged' reports are automatically sent.



RF Report from a Base Unit

Chiptech GO will send an RF signal to the base unit to check if it is within range of 'Home' and to hand over a high priority report to the base unit if it is unable to send the alert itself.



GP04 Report

Location coordinates can be sent to SmartCare Locate, to mapping software at the Alarm Receiving Centre or to the SmartCare Response App. Multiple data destinations are available to aid in redundancy for GNSS reports.

No Fix report – Chiptech GO 4G sends a report to the mapping software if it cannot get satellite information from its current location, this lets the responder know the Chiptech GO is able to communicate but not in a position to obtain satellite data and provides other status information like the battery level and cellular coverage. During a alert Chiptech GO will continue to try obtain satellite data and send its location.

Flight Mode

- Press and hold one button for 10 seconds to enable flight mode, a voice message plays: "Flight Mode enabled. All functions suspended until button press or placed on a charger."
- To disable Flight Mode, press a button on Chiptech GO (this will start System Check), or place Chiptech GO on a charger.
- If the user requires help, press, and hold two buttons to send an alert, this will override Flight Mode.
- A report can be sent when Flight Mode is enabled and disabled.

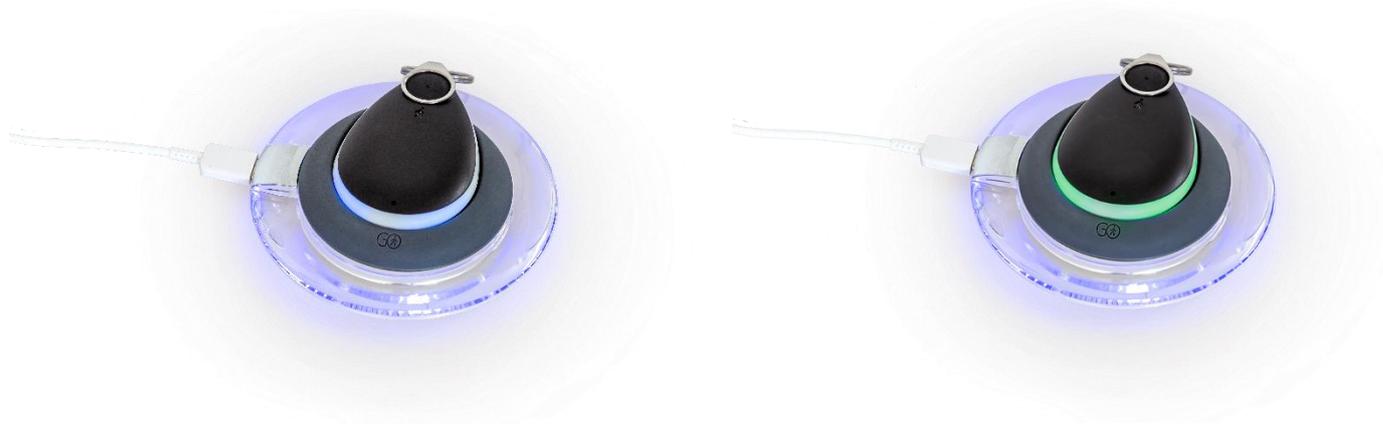
Use flight mode to increase the shelf life between charges to approximately 9months.

Charging

Chiptech GO is supplied with a USB plug pack, C-type cable, wireless charger and cradle, specifically designed for the user to place Chiptech GO in the correct position for charging. The 'walking person' must be facing upwards for the device to charge.

Charging duration is approximately 2-3 hours from low battery but can be removed at any time if an alert for help needs to be sent.

Chiptech GO and the outer edge of the charger will turn blue to indicate charging has started. Chiptech GO can also beep or say "charging"* when placed on the charger. When the battery is charged Chiptech GO lights will change to green, and it will send a 'Battery Charged' report.



Battery

Chiptech GO has a rechargeable battery and will run for approximately 1 month with standard use before it requires charging. The lithium-ion battery in Chiptech GO will need to be charged after any alert as this uses more battery power.

Users are automatically prompted both visually (with lights) and verbally, when Chiptech GO has a low or critically low battery and advised when to place it on the charger. It is not recommended to charge Chiptech GO daily, only when the battery is getting low. The current battery level can be checked at any time by pressing one button to start the System Check.

An automatic voice message and lights will indicate low battery at 20% capacity, and this is reported through to monitoring.

Optional Fall Detection

Chiptech GO is equipped with sophisticated fall detection technology and will automatically sound a fall alert when it detects a fall if significant impact has occurred. Chiptech GO must be worn as a pendant around the neck for the fall detection algorithm to work as intended. **Using or attaching Chiptech GO in any other manner will not provide accurate fall recognition and may result in a fall being missed.**

When enabled with fall detection, Chiptech GO is constantly looking for a free fall followed by a significant impact, then a short period of no movement. When Chiptech GO detects a fall has occurred, it will play the pre-alarm sequence and then announce, “Fall detected” During the pre-alarm sequence, red lights will flash around Chiptech GO to let the user know that an alert for help is being sent to monitoring.

Please note: Although advanced technology is used to detect a fall, there are certain types of falls that are less likely to trigger the automatic fall detection system. Falls that may not be detected include slumping, falling into an object that breaks the fall, or falling from an object that is not average standing height. While every effort is made to detect a significant fall from standing, there are circumstances where Chiptech GO will not automatically activate. If the user is able, they can request help by pressing both buttons on GO.

Having fall detection enabled will consume more battery, and the device will need to be charged more frequently.

Updating Chiptech GO

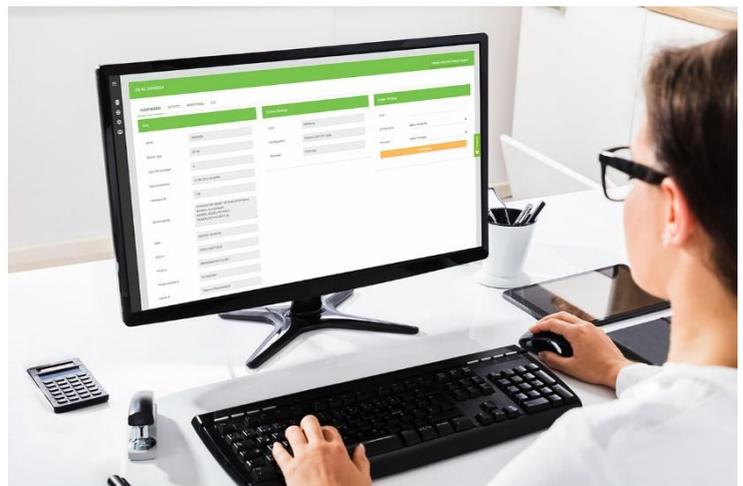
Chiptech GO connects to SmartCare® Cloud via 4G cellular data to perform various tasks. Tasks include reading the log and configuration, updating the device by writing new configuration, updating firmware and voice files, and changing the assigned account number (CSID). Any update or log download utilises cellular data on the SIM card. This amount of data can range from 1kB for a configuration update and take approximately 15 seconds to 890kB and 10 minutes for a firmware update. Downloading a log file typically utilises 385kB of data and takes up to 10 minutes.

Chiptech GO can be remotely updated by placing it on the charger, and an automatic connection to the cloud begins after approximately 30 minutes if there is adequate battery. Once connected, Chiptech GO will check if it has a log retrieval or update task scheduled and start the process. Chiptech GO can be configured to briefly flash white and announce “Update complete” when it is removed from the charger following an update being applied.

A manual cloud connection can be initiated from Installer Mode and is intended to be used only by installers and servicing staff to perform a Cloud connection immediately. Chiptech GO will announce “Cloud connection started” and play updated messages as it progress through the manual update process. Following Chiptech GO being “Cloud Connected” it will announce one of the following:

- “No updates scheduled”
- “Cloud connection failed.”
- “Update complete”
- “Log read complete”
- “Log read failed”

Please note: It is important to perform a System Check where the charger is located to ensure adequate cellular coverage for cloud connections.



Installer Mode

The Installer Mode is a voiced guided menu that is accessed through a long button press while Chiptech GO is on the charger. This reduces the likelihood of the user accidentally entering the mode and making a change to the settings.

To enter Installer Mode, place Chiptech GO on the charger with the walking man facing upwards, wait for the lights on Chiptech GO to turn on, then press and hold the top button. When Installer Mode has been initiated, a chime will play, the light ring will flash blue, and Chiptech GO will play the following voice messages:



- “Installer Mode, to connect to the cloud press both buttons.” When both buttons are pressed GO will announce, “Cloud connection started” followed by status messages as the Cloud connection progresses. The menu will be exited when a Cloud connection is performed. Alternatively, pressing a single button will move the installer onto the next item in the menu.
- “To hear **device details**, press both buttons.” When both buttons are pressed GO will announce the Account number, Serial number, Firmware version and Audio version.
- The next item announces the current **volume level** of GO, followed by “...to change, press both buttons” This volume level applies to all announcements and chimes, including the pre-alarm tone, System Check, and battery notifications.

Please note, this does not affect the incoming ring tone or volume of the speech during a two-way call.

- The current **Fall Detection** setting, “enabled” or “disabled”, followed by “...to change press both buttons.”
- The current **GPS during System Check**, “enabled” or “disabled”, followed by “...to change press both buttons.”
- **Detailed logging** will be disabled by default, as this will use up more space in the log file. When required this can be “Enabled” to aid in the ongoing investigation of a device’s behaviour. To enable, press both buttons.
- “To **test range to the base unit**, press both buttons.” This starts the RF Test to check the range to the base unit it is paired with. When each activation is confirmed by the base unit GO will beep and flash red. The base unit does not need to be in test mode. This function will time out after two minutes* of no activity or can be cancelled by pressing one button.
- “To **continuously check cellular signal**, press both buttons” While connecting to the cellular network GO will flash blue and announce once “Checking cellular signal”, it may take a few second to connect, then GO will announce “the connection is...” with the result. GO will continue to flash at every connection. The colour of the lights indicates the level of coverage. This is useful for testing around the user’s home and garden at the time of installation. Pressing both buttons will announce the current level of coverage. This will time out after two minutes* of no activity or exited by pressing one button.

To apply any changes, leave Chiptech GO to automatically time out, a chime will play upon exit.

To enter Installer Mode again, perform a single button press while Chiptech GO is placed on the charger, and follow the above sequence.

Technical Details

- Components:** Chiptech GO mPERS device, stainless steel chain, split ring, wireless charger, plug pack, USB-C cable, user guide, fitted nano 4G/3G SIM card. Internal RFID tag stores device details.
- Environment:** Operating temperature of 0°C to + 50°C, IP67 hot water resistant up to 60°C and dust proof.
- Dimensions:** 67mm x 47mm x 13.5mm (L x W x H) weighs 34 grams.
- Packaged:** 125 x 158 x 64mm (L x W x H) and weighs 290 grams with all components included.
- Voice:** Two way using half duplex speakerphone system, with adjustable notification settings.
- Speaker:** 1W peak
- Frequency:** 869MHz European Social Alarm Standard for communicating to Chiptech base units.
- Range:** 100 metres+ typical in open air when paired with a Chiptech base unit, when at home. Emergency hand over range to the base unit is 300 metres+ in open air.
- Recharge time:** Approximately 2 to 3 hours from low battery. The battery capacity will reduce to approximately 80% after 350 -500 charges (when charged in temperature of 25°C and fully discharged between cycles), and when the battery is less than 3-5 years old.
- Capacity:** 300mA. Maximum continuous discharge current 600mA. Maximum charge current 210mA (0.7C)
- Cellular:** Chiptech GO uses 4G/3G cellular technology where coverage exists. 4G Cat1 VoLTE cellular bands B20 (800MHz), B3 (1800MHz), B7 (2600MHz), 3G B8 (900MHz) and B1 (2100MHz)
- GNSS antenna:** 1559 - 1606MHz
- GPS Location:** Periodic updates of location are sent until the alert event is completed. Location coordinates are transmitted via cellular data to SmartCare Locate or specified mapping platform.
- Reporting:** Multiple data destinations are available, which can be a combination of DNS and static IP addresses, and GO uses either:
- Contact ID protocol for reporting via CSV
 - SCAIP TS 50134-9
 - SCAIP SS 91100
 - GPS data is sent using a proprietary Chiptech GP04* format but can be sent in GP01.

Standards

GO-4:

EN 301 489 -1,-3,-19,-52 (EMC)
EN 50130-4: 2014 (EMC)
EN 55032: 2020 (EMC)
IEC 62311 (EMR)
EN 62311 (EMR)
ARPANSA RPS3 (EMR)
EN 301 908-1 (Spurious Emissions)
EN 300 220 (Spurious Emissions)
EN 303 413 (Spurious Emissions)
AS/NZS 4268 (Radiated Emissions)
IEC 62368-1 (Electrical Safety)
AS/NZS 62368.1: 2018 (Electrical Safety)
IEC 62209-2 (SAR)
IEC 62311 (SAR)
IEC 60529 (IP67)
AS/CA S042 (TLN)
IEC62133-2017 (Battery Safety)

Wireless Charger:

Qi: Compliant
EN 50130-4: 2014 (EMC)
EN 55032: 2020 (EMC)
IEC 62311 (EMR)
EN 62311 (EMR)
ARPANSA RPS3 (EMR)
IEC 62368-1 (Electrical Safety)
AS/NZS 62368.1: 2018 (Electrical Safety)

Plug pack:

IEC 62368: UL/cUL, SAA, PSE, UKCA
GB4943.1-2011: CCC
FCC Part 15 Class B, ICES-003 Issue 6,
EN55032, RCM, GB9254, GB17625.1,
J55032 (EMI/EMC)

Manufacturing Quality Assurance:

ISO 9001:2015

Chiptech GO Mobile Personal Emergency Response System



RoHS



Packaging



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