GME

ACCUSAT
EMERGENCY BEACONS

# MT620GR PLB

PERSONAL LOCATOR BEACON


AUSTRALIAN MADE

## INSTRUCTION MANUAL

## OWNER DETAILS:

Name .....

Address .....

.....

Tel: .....

UIN (Hex ID) # .....

## DISTRIBUTED BY:

# CONTENTS

## INTRODUCTION

Congratulations on purchasing your new Accusat Pocket Series Personal Locator Beacon (PLB). A GNSS equipped GME Accusat MT620GR is one of the most advanced 406 MHz digital satellite beacons available today. Using new digital frequency generation technology, GME have developed a new family of affordable, globally approved high performance 406 MHz Personal Locator Beacons.

## GENERAL INFORMATION

The GME MT620GR beacon is designed for use when life is endangered and you have no other means of communication. The beacon can save your life and the lives of others by leading an air, land or sea rescue to your precise location. Beacons are an excellent choice to provide added safety while participating in any outdoor or remote area activity.

The MT620GR beacons are fully sealed units and will not sink in water, making them equally suitable for use on land, marine and aviation applications.

The PLB is distinctively different to an EPIRB and the requirement for either is determined by personal situation and intended usage. The MT620GR PLB is not designed to operate in water. However, in the event that PLB operation in water is unavoidable, ensure that the antenna is vertically oriented and kept clear of the water's surface. In addition, ensure that the GNSS receiver has unobstructed exposure to the sky.

## KEY FEATURES OF THE MT620GR PLB

- (RLS) Return link Service Compatible
- Accusat Connect App (Android & Apple)
- GNSS Receiver (Global Navigation Satellite System)
- 7-year battery life*
- High visibility strobe light and buzzer
- No warm-up period
- Lightweight, compact and robust construction
- Digital 406 MHz, 5 watt transmission plus 121.5 MHz homing signal
- COSPAS-SARSAT worldwide operation
- National and international approvals
- Buoyant and waterproof design (exceeds IP67)

- Simple two-step activation
- MT620GR PLB comes with a lanyard and Instruction Manual
- NFC enabled for data-sharing with Android or IOS app.
- Return Link indicator to show that distress message has been received
- Suitable for aviation and land applications

For Approval Certificates, please visit

https://www.gme.net.au/beacon-information

## GLOSSARY

This section provides a list of acronyms and their expansions/descriptions that are used in this manual.

| Term | Meaning |
|---|---|
| **COSPAS-SARSAT** | An international satellite-aided search and rescue system to detect and locate radio beacons activated in distress. |
| **DG Declaration** | Dangerous Goods Declaration |
| **EPIRB** | Emergency Position Indicating Radio Beacon |
| **GALILEO** | Global Navigation Satellite System (GNSS); created by the European Union. |
| **GNSS** | Global Navigation Satellite System |
| **IATA** | International Air Transport Association |
| **LUT** | Local User Terminal |
| **MCC** | Mission Control Centre |
| **NFC** | Near-Field Communication |
| **PLB** | Personal Locator Beacon |
| **RCC** | Rescue Coordination Centre |
| **RLS** | Return Link Service |
| **UIN** | Unique Identification Number |
| **APP** | Optional software that can be installed into a smartphone via the apple store or google play store. |

## HOW THE PLB WORKS

Your MT620GR PLB is a self-contained 406 MHz digital radio transmitter that emits an internationally-recognized distress signal on a frequency monitored by the COSPAS-SARSAT satellite system. The MT620GR contains a unique identity code which can be cross-referenced to a database of registered 406 MHz beacons, allowing the beacon's owner to be immediately identified in the event of an emergency. The PLB includes a high-performance, solid-state light, buzzer and 121.5 MHz VHF homing signal to assist in leading rescuers to your precise location.

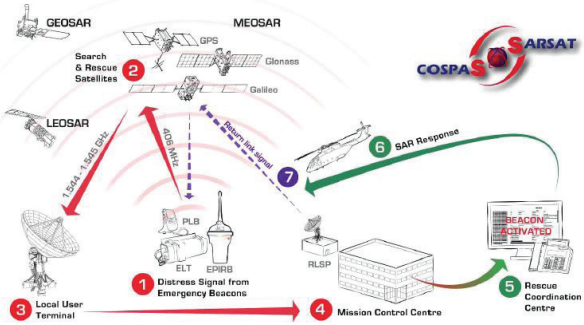
The MT620GR also features an integrated GNSS Receiver which when activated, will automatically acquire a position so the latitude and longitude of the PLB can be relayed along with the personal identifier and emergency signal. The GNSS receiver also detects RLS messages from the Galileo satellite system, allowing indication that the distress message has been received.

The section below explains how your PLB utilizes the COSPAS-SARSAT system to identify your exact location in case of an emergency.

## ABOUT THE COSPAS-SARSAT SYSTEM

The COSPAS-SARSAT is an international, humanitarian search and rescue system that uses satellites to detect and locate emergency beacons carried by ships, aircraft or individuals. The system consists of a network of satellites, ground stations, mission control centres, and rescue coordination centres.

When an emergency beacon is activated, the signal is received by a satellite and relayed to the nearest available ground station. The ground station, called a Local User Terminal, processes the signal and calculates the position from which it originated. This position is transmitted to a mission control centre where it is joined with identification data and other information on that beacon. The mission control centre then transmits an alert message to the appropriate rescue coordination centre based on the geographic location of the beacon. If the location of the beacon is in another country's area of responsibility, then the alert is transmitted to that country's mission control centre. The beacon's GNSS receiver also detects RLS messages from the Galileo satellite system, allowing indication that the distress message has been received. The COSPAS-SARSAT system provides a tremendous resource for protecting the lives of aviators and mariners that was unthinkable prior to the space age. With a 406 MHz beacon, a distress message can be sent to the appropriate authorities from anywhere on earth, 24 hours a day, 365 days a year. [1],[2]




## REGISTRATION AND TRANSFER OF OWNERSHIP

Your MT620GR PLB has been programmed with a unique identifying code which will be transmitted by the PLB in an emergency.

You must register your PLB to provide authorities with immediate access to your details when the PLB is detected. Registering your PLB also allows authorities to identify you and your emergency contacts. In situations where the PLB may be accidentally activated, the authorities can also contact you to potentially eliminate your PLB activation.

## REGISTERING YOUR PLB

Registration of your 406 MHz satellite PLB with the Registration Section of your National Authority is important, and now mandatory in most countries because of the global-alerting nature of the COSPAS-SARSAT system.

In Australia the preferred method of registration is online at: www.beacons.amsa.gov.au. Alternatively, fill in the owner registration form available online upon completion of the sale and mail, fax or email the registration form to the relevant national authority.

Contact your National Authority to access the correct registration forms. The forms are often available online.

**NOTE:** You must register your PLB. GME cannot do this for you.

## TRANSFERRING OWNERSHIP OF A PLB

If you transfer ownership of your PLB, you must inform your National Authority by email, fax, letter, telephone or online of the following details:

- Name of new owner
- Address of new owner

The new owner is also required to provide their National Authority with the information as required on the registration form. This obligation transfers to all subsequent owners.

## REGISTRATION CONTACTS

| Australian Users | New Zealand Users |
|---|---|
| **Beacon Registration Section**,<br>Australian Maritime Safety Authority<br>GPO Box 2181, Canberra ACT 2601<br>**Online**: www.beacons.amsa.gov.au<br>**Email**: ausbeacon@amsa.gov.au<br>**Fax Local**: 1800 406 329<br>**International**: +61 2 9332 6323<br>**Phone Local**: 1800 406 406<br>**International**: +61 2 6279 5766. | **Rescue Co-ordination Centre (RCCNZ)**,<br>PO Box 30050, Lower Hutt 5040, New Zealand<br>**Online**: www.beacons.org.nz<br>**Email**: 406registry@maritimenz.govt.nz<br>**Fax**: +64 4 577 8041<br>**Phone (Local)**: 0800 406 111<br>**International**: +64 4 577 8042 |

Ensure information is current. Notify the appropriate authority if ownership of the beacon is transferred.

Other areas: Please contact your Country Distributor. If you have a beacon coded with a foreign country code, or if you do not know what country code has been used, then you will need advice. Please contact the relevant authority on one of the numbers shown above, or visit https://www.406registration.com/

## PREVENTING ACCIDENTAL ACTIVATION

The signal from a PLB is regarded by authorities as an indication of distress and is given an appropriate response. It is the responsibility of every owner of a PLB to ensure that it is not activated unintentionally, or in situations that do not justify its use.

NOTE: It is highly important to store and handle PLBs responsibly. Most cases of accidental transmission result from poor/inappropriate storage or failure to totally disable an old model PLB before disposal.

The MT620GR will not commence transmitting until approximately 50 seconds after activation, providing a period of visual and audible warning. If the PLB is flashing or beeping while it is being carried or stowed, you may still be able to deactivate it during this time period without actually transmitting a distress signal. If in doubt, it is best to report the incident to your local authorities.

To minimise the possibility of accidental activation, PLB owners are urged to pay careful attention to the following points:

1. Follow the self-testing procedures.
2. Educate your traveling companions on how and when to correctly operate the PLB.
3. Avoid stowing the PLB where it will be exposed to continuous direct sunlight. This could cause the internal temperature of the PLB to exceed the maximum storage temperature of +70°C. Long-term stowage under these conditions could result in reduced battery-life, poor performance or degradation of the plastics due to excessive UV light exposure.
4. Do not allow children to interfere with the PLB.

## CONTACTS FOR REPORTING ACTIVATIONS

If you suspect that a PLB has been activated inadvertently, you MUST turn it off and report it immediately to your National Authority's Rescue Coordination Centre to prevent an unnecessary search.

When reporting, you should include the following:

- 15 character HEX ID, which is marked on the unit body (e.g. "HEX ID: XXXXXXXXXXXXXXX)
- Date, time and duration of activation
- Cause of activation
- Location at time of activation

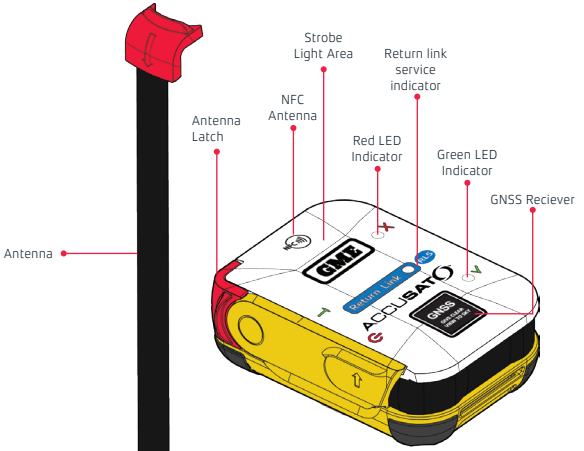
Search and Rescue authorities will not penalize a beacon owner or operator in cases of genuine accidental activation.

### CONTACT NUMBERS:

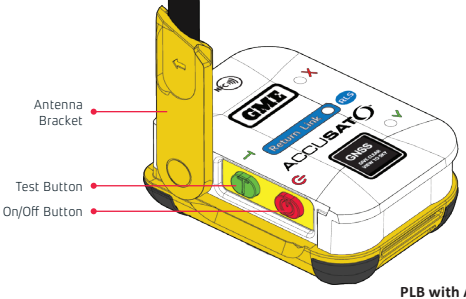
| Country | Contact Number |
|---|---|
| Australia | 1800 641 792 |
| New Zealand | 0508 472 269 |
| United States of America | 1800 851 3051 |
| United Kingdom | 01326 211 569 |

## PARTS OF THE PLB

The graphics below display the main parts of the PLB with the antenna closed (undeployed) and raised (deployed).




**PLB with Antenna Closed**




**PLB with Antenna Raised**

## PLB PARTS & FUNCTIONS

The table below provides details about the functions of specific PLB parts.

| Part | Function |
|---|---|
| **Antenna Latch** | Holds the antenna in a locked position. When unclipped, the antenna can be raised, revealing the **Test** and **On/Off** buttons. |
| **Antenna** | Wraps around the PLB unit, covering/protecting the **Test** and **On/Off** buttons from damage and accidental use. |
| **Strobe Light** | Activates when the PLB is turned on, and at the beginning of each self-test. |
| **Red LED Indicator** | Visual indicator of PLB activity. |
| **Green LED Indicator** | Visual indicator of PLB activity. |
| **Return Link Indicator (Blue)** | Visual indicator of status of Return Link Service. |
| **NFC Antenna** | Location of the NFC antenna for establishing connection between your MT620GR PLB and your smartphone running AccuSAT Mobile App |
| **GNSS Receiver** | Location of the GNSS receiver antenna. Keep the GNSS receiver unobstructed with a clear exposure to the sky. |
| **On/Off Button** | Activates the PLB when pressed for 2 seconds.<br>Turns the PLB off when pressed for 5 seconds. |
| **Test Button** | Used to initiate test on the PLB. For details, refer the section 'Testing your PLB'. |

## OPERATION AND STORAGE CONDITIONS

### OPERATION

- The MT620GR PLB is designed** to operate for a minimum of 24 hours.
- It is recommended that PLB be operated at a temperature between -20°C to +55°C (-4°F to +131°F).

## STORAGE

- The MT620GR PLB must be stored at a temperature between -30°C to +70°C (-22°F to +158°F).*
- Avoid exposure to chemicals and organic solvents, for example:
  - Fuel
  - Engine oil
  - Exhaust gas
  - Hand cream
  - Sunscreen
  - Paint
  - Insect repellent

## MAINTENANCE

The MT620GR PLB is generally maintenance-free. However, it is recommended that you routinely follow the steps below to ensure that your PLB is operationally ready when required:

- Test the PLB at the recommended interval. For details, refer to the section 'Testing the PLB'.
- Ensure that the PLB and case are washed in fresh water after exposure to saltwater, rain or flood waters. The PLB and case should be allowed to dry fully prior to storage.
- Ensure that the device is not past its expiration date.
- Inspect the MT620GR PLB for physical damage or deterioration.
- To keep the unit clean, wipe the PLB with a damp cloth (warm water is suitable), and allow it to dry.

NOTE: **DO NOT OPEN YOUR PLB.**
Your PLB does not contain user-serviceable parts. Opening the PLB will void the warranty.

## BATTERY REPLACEMENT

The MT620GR is fitted with the very latest in high capacity primary lithium battery technology. These non-rechargeable batteries are designed to operate within a temperature range of -20°C to +55°C.

The batteries have a finite shelf life, and full operational capability of your beacon may not be available if the batteries have exceeded their replacement date of 7 years, which is clearly marked inside the booklet label on the bottom of the unit.


Prior to reaching this date, make arrangements to have your PLB returned for service. Service includes replacement of the battery and o-ring(s), testing the water seal and electrical properties, and inspection of overall unit integrity.

If the red and green LED lights flash simultaneously three times when you run the Self-Test, the PLB has detected that battery capacity may be insufficient for continuous 24 hours operation. It is recommended that you make arrangements to have your PLB returned for service and battery replacement as soon as possible.

| | |
|---|---|
| | **NOTE**:<br>The MT620GR batteries are not user replaceable. Battery replacement requires that the beacon be returned to a manufacturer-approved service facility. The replacement of batteries due to expiry or after usage is not covered by the product's warranty. |

If there is any doubt as to the PLB's serviceability, contact your local dealer, authorised service centre or GME Customer Support (GME Pty Ltd, PO Box 96, Winston Hills NSW 2153, Australia; Tel: (02) 8867 6000, Fax: (02) 8867 6199, Email: *servadmin@gme.net.au*) for advice.

## TESTING YOUR PLB

By testing your PLB, you can ensure that your unit is fully functional, particularly prior to an extended journey. This section details the 2 tests that you can perform on your MT620GR PLB.

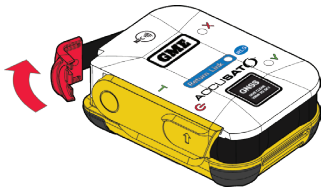
- **General Self-Test**
  Checks the digital message and memory integrity, 121.5 MHz and 406 MHz carrier RF power, communication with GNSS receiver, and the battery health.
- **GNSS Self-Test**
  Switches the GNSS receiver on, performs the real-time position acquisition and transmits the position data (coordinates) in the digital self-test message.

The sections that follow explain the procedures for the tests in detail.

## GENERAL SELF-TEST PROCEDURE

Follow the steps below to perform a self-test on your PLB:

1. Push the antenna latch at the top of the PLB to release the antenna. Refer the image that follows.

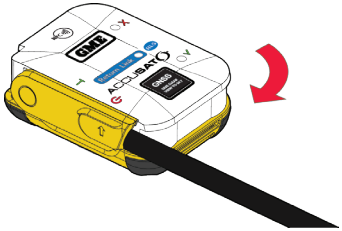



**NOTE**:

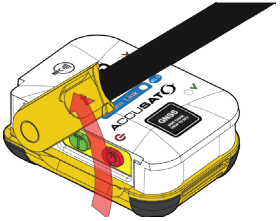
- GME recommends a maximum of 2 self-tests per month.
  Do not over-test as each test consumes battery power.

**WARNING:** Testing should be performed during the first 5 minutes of the hour.

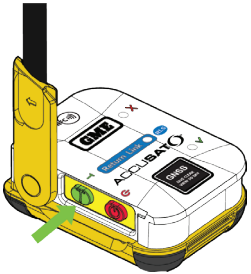
2. Unwrap the antenna until fully extended.




3. Lift the antenna until it clicks into place (at a 90°angle perpendicular to the body of the PLB).




4. Briefly press and release the **Test** button (marked 'T') to begin the test.



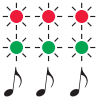
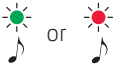
a. The strobe light will light up briefly to indicate that the test has begun.

b. During the test, a green LED will flash twice to indicate that 121.5 MHz and 406 MHz RF power is being emitted.

c. Next, a long green LED flash indicates that the test is successful.

For more details on the test indication scheme, refer the 'General Self-Test Indication Table'.

## GENERAL SELF-TEST INDICATION SCHEME

| Visual Indicator | Description | Indication |
|---|---|---|
|  | Short strobe light at the beginning of the test. | PLB is undergoing a General Self-Test. |
| OR | | |
|   | Long strobe together with red LED at the beginning of the test. | PLB is undergoing a General Self-Test. However, this PLB was previously activated. Contact GME for advice. |
|  | Red and green LEDs flash 3 times simultaneously, each flash accompanied with a high beep. | PLB is undergoing a General Self-Test; however, the PLB has detected that Battery Capacity is insufficient for continuous 24 hours operation.<br>You should limit further Self-Tests to the recommended intervals to conserve battery capacity. |
|  | 1 Blue LED flashes | The RLS functionality is enabled |
|   | 2 Green or Red LED flashes and 2 high or low beeps during the test indicate the status of 121.5 MHz and 406 MHz signals. | • 1st LED green, high beep: 121.5 MHz is emitted.<br>• 1st LED red, low beep: 121.5 MHz is not emitted.<br>• 2nd LED green, high beep: 406 MHz is emitted.<br>• 2nd LED red, low beep: 406 MHz is not emitted. |
|  | Long Green LED flashes and a beep at the end | Long Green LED flashes and a high beep indicates the PLB has passed all the tests and is OK to use. |
|  | Long Red LED flashes and a beep at the end | Long Red LED flashes and a low beep indicates the PLB has failed one or more tests and may require servicing. Contact GME for advice. |

## GNSS SELF-TEST PROCEDURE

A GNSS self-test allows you to perform a complete GNSS satellite acquisition check of your PLB. It is recommended that you perform a GNSS self-test up to 2 times per year. Testing more than 2 times a year is not recommended as each test consumes battery power.

While the general self-test verifies the GNSS receiver's circuitry, the full test will include the operation of the special GNSS antenna as well.

As the GNSS Self-Test consumes significantly more power than a general self-test, choose a test location with good visibility of the open sky above. A quick satellite acquisition means a short test, and less power consumed from the PLB battery.

1. Perform steps 1-3 of the 'General self-test'.
2. Press and hold the Test (marked '**T**') button for 4 seconds. When the green LED light appears, release the Test button.
3. Your PLB will continue to flash the red LED and beep while it searches for satellites. This may continue for up to 5 minutes depending on the number and location of the satellites in view. Note that distress signals are NOT emitted as part of this test.
4. Once the GNSS position is acquired, the green LED will flash 8 times accompanied by a musical chime to indicate successful completion of the test and a digital self-test message with actual location will be transmitted.

For details on the GNSS test indication scheme, refer the 'GNSS Self-Test Indication Scheme' that follows.

## GNSS SELF-TEST INDICATION SCHEME

| Visual Indicator | Description | Indication |
|---|---|---|
|  | Short green flash after pressing and holding the Test button for 4 seconds. | Release the Test button immediately and PLB is undergoing a GNSS Self-Test. |
|  | Red LED flashes and the internal buzzer beeps at regular time intervals of 1.5 seconds. | During the GNSS acquisition mode (searching for position fix), PLB will keep flashing the red LED indicator and beeping. |
| | **OR** | |
|  | Long red LED flash accompaniedby a low beep. | Indicates the GNSS Self-Test limit has been reached. No further GNSS tests can be performed . Contact GME for advice. |
|  | 8 short green LED flashes with a musical chime at the end. | Test summary:<br>The GNSS self-test was successful.<br><br>The PLB has obtained the GNSS position. |
|  | 8 short red LED flashes with beeps at the end. | Test Summary:<br>GNSS Self-Test has failed.<br><br>The PLB has not obtained its position after 5 minutes<br><br>Ensure that you follow the GNSS self-test instructions, and repeat the test. If the test continues to fail, contact GME for advice. |

# ACTIVATING THE PLB

This section details the ideal conditions and procedure to activate your PLB.

## IDEAL CONDITIONS FOR ACTIVATION

- For best performance, activate the PLB in an area with a clear view of the sky. Deploying the PLB within an enclosure, particularly one which is electrically conductive such as under a car roof, will reduce the signal strength and may mean that it cannot be detected by rescue satellites or overflying aircraft. If you find yourself in a narrow valley or ravine, you can greatly increase the chances of your PLB signal being detected by placing it on higher ground.
- Activate the PLB in an upright position with the antenna vertical and clear of any surrounding obstructions such as trees or rocks.
- Do not cover the GNSS receiver, and ensure that the PLB has an unobstructed view to the sky to ensure best conditions for obtaining the GNSS position.
- Where on-person operation is unavoidable, choose an elevated position that also achieves good local clearance around the antenna.
- Your PLB is not designed to operate in water. While it is waterproof and buoyant, the PLB must be above the water surface to operate properly.
- If the PLB has been activated in an emergency/distress situation, leave it switched on. A continuous signal is needed for rescue authorities to determine your location.

# ACCUSAT CONNECT APP

This section provides details about the **Accusat Connect** app.

**To download the app for iOS or Android:**

1. Visit App Store or Google Play.

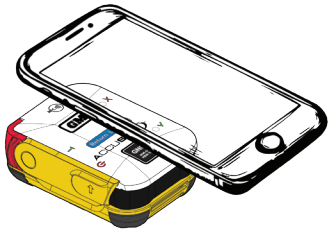
2. Search for Accusat Connect.

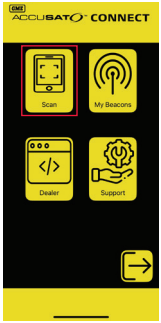
## ACCUSAT CONNECT

The Accusat Connect app is the easy way to read your MT620GR using NFC.

## READING YOUR MT620GR

To Read you beacon place the Android or Apple device with the Accusat Connect app open on top of your MT620GR and press the “Scan” icon. Reading from MT620GR is only possible when the beacon is in OFF mode.

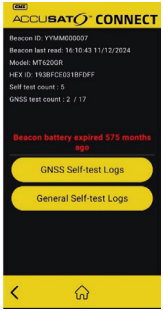


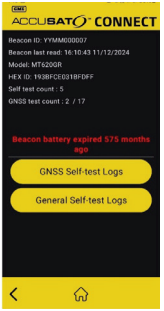




By Reading the beacon, you can access the following information of your PLB:

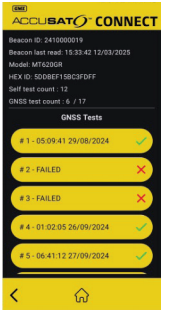
- Beacon Serial number
- Model
- HEX/UIN number
- Self-test count
- GNSS test count
- Beacon expiry date

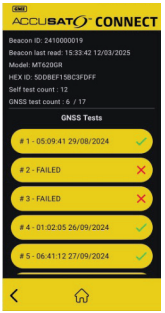






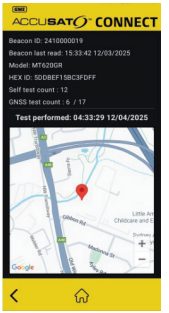
By selecting either “GNSS Self-test Logs” or “General Self-test Logs” you can access a history of all the tests performed on the unit in its lifetime and if it passed or failed.

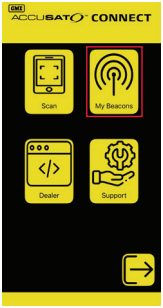




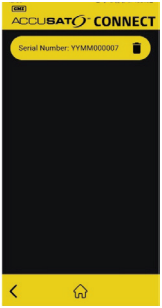
By selecting a log entry in the GNSS Self-Test history, you will be able to see the location the test was performed along with the relevant beacon information, provided the test was marked as Passed with a green tick.

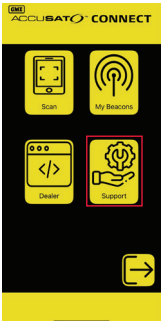






By selecting “My Beacons” you will access a history of all read beacons and their respective information.

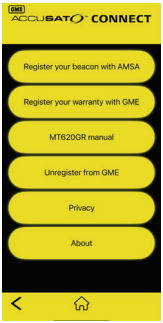




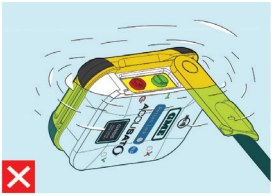
By Selecting “Support” you will access the following support links:

- Register Beacon With AMSA
- Register Your Warranty With GME
- MT620GR Manual
- Unregister From GME
- Privacy
- About



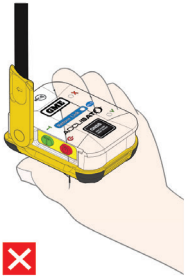
## BEST PRACTICES WHEN USING YOUR PLB

The images below describe best practices to follow when using the PLB.

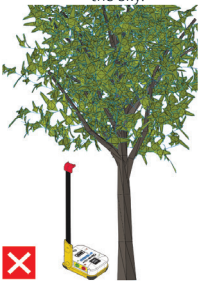


Avoid deploying the PLB in water.

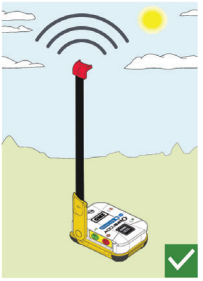
The antenna must point towards the sky.



Do not cover the GNSS receiver area of the PLB.



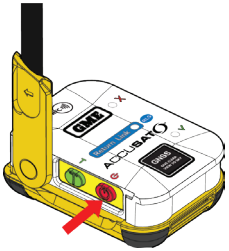
Avoid placing the PLB without clear exposure to the sky.



Ensure clear exposure to the sky without obstruction, whether on land or water

## PLB ACTIVATION PROCEDURE

1. Push the antenna latch at the top of the PLB to release the antenna.
2. Unwrap the antenna until fully extended.
3. Lift the antenna until it clicks into place (at a 90° angle perpendicular to the body of the PLB).
4. Press and hold the **On/Off** button for at least 2 seconds.
   You have successfully activated your PLB if the strobe light and the red LED flashes with an initial beep.



## PLB ACTIVATION INDICATORS

| Indicator | Detail |
|---|---|
| **Strobe light and red LED flash every 3 seconds. The PLB beeps every 15 seconds.** | Indicates that the PLB is active. |
| **Red LED is replaced by the green LED. A musical chime sounds.** | Indicates that the PLB has successfully acquired a GNSS position (coordinates), and is now transmitting your position within the 406 MHz distress message. |
| **Double Blue LED flash and buzzer beep every 15 seconds.** | Periodic double flash and buzzer beep: Indicates 406 MHz distress signal with Return Link Service request has been transmitted and the beacon is waiting for Return Link confirmation. |
| **Single Blue LED flash and buzzer beep every 15 seconds.** | Periodic single flash and buzzer beep: Indicates that 406 MHz distress signal has been received and acknowledged. |

**NOTE**: PLBs should only be activated in situations of grave and imminent danger. Deliberate misuse of the PLB can result in unnecessary deployment of valuable Search & Rescue resources, and could incur a severe penalty.

## DEACTIVATING THE MT620GR

The steps below explain how to deactivate or turn off your PLB.

1. Press and hold the **On/Off** button for more than 5 seconds.
2. The red and green LEDs will flash together to indicate that your PLB has been deactivated.

The PLB will now be turned off, and all visual and audible alerts will cease.

**NOTE**: In case of accidental activation, follow the steps below:
- Deactivate your PLB, as described in the section above.
- Notify your nearest RCC (Rescue Coordination Centre) of accidental activation.

### IN CASE OF UNSUCCESSFUL DEACTIVATION:

If your PLB does not deactivate the first time, repeat the deactivation process.

In the event that deactivation fails the second time round, proceed with the following steps to permanently disable the PLB:

1. Open the PLB by removing the 4 retaining screws at the rear of the device. Note: The screws are under the 'anti-tamper' plastic plugs.
2. Separate the two parts (top and bottom) of the PLB plastic case to access the battery area.
3. Unplug the battery leads at the base of circuit board, then remove the battery.

Contact the GME service team for technical support.

## TRANSPORTING / TRAVELLING WITH PLBs

The MT620GR PLB contains 2 lithium metal battery packs with less than 2 gms of lithium content. They are not classified as hazardous products for transportation. However, you are advised to contact the nearest dealer or the GME service team prior to shipping, as regulations may change.

Some transportation or courier companies may have special requirements for transporting devices containing lithium batteries. We recommend you retain the original packaging in which you received your PLB for transportation. Prior to shipping your PLB, inform your carrier about the lithium batteries contained in the PLB to ensure they label your package properly.

Check with your transport carrier for any specific restrictions that may apply to you.

## DISPOSAL

Special precautions must be taken when disposing your PLB at the end of its life. Legislation may determine the specific requirements which apply to you for disposal. In the first instance, contact your National Authority for advice. The section that follows details how you can permanently disable your PLB before disposal.

**To permanently disable the PLB:**

1. Open the PLB by removing the 4 retaining screws at the rear of the device. Note: The screws are under the 'anti-tamper' plastic plugs.
2. Separate the two parts (top and bottom) of the PLB plastic case to access the battery area.
3. Unplug the battery leads at the base of the circuit board.

Lithium batteries are generally not considered as hazardous waste when fully discharged. Qualified personnel may be able to slowly and safely discharge the cells for you. The MT620GR contains many recyclable parts.

Contact the GME service team for technical support.

# SPECIFICATIONS***

## MODES OF OPERATION

| Type | Description |
|---|---|
| **Activated** | UHF (406) and VHF (homer) complete with high intensity light, buzzer, and Return Link indication. |
| **Self-Test** | Comprehensive internal diagnostics with visual and audible operator feed-back. UHF test message (inverted synchronisation compatible with portable beacon testers). |
| **GNSS Self-Test** | Comprehensive diagnostics of GNSS circuitry and real-time position acquisition test with visual operator feedback.<br><br>UHF test message (inverted synchronisation compatible with portable beacon testers). |
| **NFC** | Data transfer to app via NFC while beacon is powered off. |

## OPERATION

| Type | Description |
|---|---|
| **Activation** | 2-step activation process. Refer the section 'Activating your PLB'. |
| **Duration** | In excess of 24 hours at -20°C. Longer at higher ambient temperatures. |
| **Transmission** | 121.5 MHz and 406 MHz |
| **Delay** | 50 seconds (± 2.5 sec) to deactivate prior to distress transmission. |
| **Warm Up** | None required |
| **VHF** | 121.5 MHz, 50 mW ±3 dB, swept tone AM (analogue) |
| **UHF** | 406.031 MHz, 5 W ± 2 dB, PSK (digital) |
| **Light** | 20 flashes/minute High intensity white LED |
| **Return Link** | Blue led and buzzer provide visual and audible indications of return link service status. |

## COSPAS-SARSAT

| Type | Description |
|---|---|
| **Certification** | Certified to C/S T.001 (Class 2) requirements. |
| **Operation Protocol** | Supports Return Link Service Location Protocol. |
| **Repetition Period** | 50 seconds mean, digitally generated randomization. |

## BATTERY

| Type | Description |
|---|---|
| **Useful Battery Life** | 7 years* |
| **Replacement Method** | By service centre or factory only. Not user-replaceable. |
| **Battery P/N** | 080028 |
| **Battery Chemistry** | $LiMnO_2$ (0.6 g Lithium per cell) |
| **Battery Configuration** | 2 electronically isolated batteries, each consisting of 2 Panasonic cells type CR123A |
| **Battery Pack Manufacturer** | Orient Technology (S) Pte Ltd |

## PHYSICAL

| Type | Description |
|---|---|
| **Operating** | -20 to +55°C (-4 deg F to +131 deg F) |
| **Optimal Storage** | Store in a cool, dry place at room temperature |
| **Storage** | -30 to +70°C* (-22 deg F to +158 deg F) |
| **Weight** | 160g ± 2g |
| **Compass Safe Distance** | 1 m (3.3 ft) |
| **Dimensions (mm)** | 88 (h) x 66 (w) x 37 (d) |
| **Buoyant** | Will float in fresh/salt water. |
| **Waterproof** | IP68 (10m of salt-water for 1h) |
| **Materials** | High visibility yellow chassis with translucent cap. UV stabilised high-impact plastic chassis with energy absorption over-moulded bumpers. |

## GNSS/GALILEO RECEIVER

| Type | Description |
|---|---|
| **Type** | Ultra-high sensitivity GPS L1 C/A, Galileo E1 B/C |
| **Antenna** | Ceramic Patch Antenna. |
| **Acquisition** | Cold start 30 seconds typical. |

## OTHER FEATURES

| Type | Description |
|---|---|
| **Standards & Approvals** | COSPAS-SARSAT T.001, issue 4, revision 11 (Oct. 2023), COSPAS-SAR-SAT T.007, issue 5, revision 10 (Oct. 2023), ETSI EN 302 152-1 V1.1.1 (2003), IEC 61108-1: 2003, ETSI EN 301 489-1 V2.2.3 (2019-11), ETSI EN 301 489-19 V2.2.1 (2022-09), ETSI EN 301 843-1 V2.2.1 (2017-11), ETSI EN 301 489-3 V2.3.2 (2023-01), IEC 62368-1 Ed. 2: 2014, ETSI EN 303 413 V1.2.1 (2021-04), EN 300 330 V2.1.1(2017-02), IEC 60086-4: 2019, EN 50665: 2017, EN62479:2010 |
| **Transport** | Meets UN requirements for transport as non-hazardous cargo onboard passenger aircrafts. |
| **Antenna** | SUS631 Hardened Stainless Steel. |
| **Accessories** | Protective carry pouch with aluminum carabiner. |

*Prolonged storage at temperatures higher than 20°C will result in reduced useful life of the battery.

**If used in accordance with the general/GNSS self-tests, storage and maintenance instructions provided in this manual.

***Standard factory setting, subject to national requirements. Distributor re-programmable via optical data interface. Specifications are subject to change without notice or obligation.

# COMPLIANCE WITH 2014/53/EU RADIO EQUIPMENT DIRECTIVE (RED)

## EUROPEAN DECLARATION OF CONFORMITY

GME Pty Ltd hereby declares that radio equipment type MT620GR is in compliance with the Directive 2014/53/EU (RED).

A copy of the full EU Declaration of Conformity is supplied with every unit and can also be accessed online at:
https://www.gme.net.au/app/uploads/53522-1_EU-Declaration-MT620GR.pdf

## COMPLIANCE WITH ARTICLE 10(2) AND ARTICLE 10(10)

GME MT620GR PLB products with the CE marking comply with the requirement of Article 10(2) as they can be operated in at least one Member State as examined.

In accordance with Article 10(10), where certain restrictions or requirements for authorisation of use for putting the product in service exist (in the countries shown), GME MT620GR products bear the following pictogram on the packaging:

| | | |
|---|---|---|
| (BG)[1)] | (CZ)[2)] | (DK)[3)] |
| (DE)[4)] | (EE)[5)] | (IE)[6)] |
| (EL)[7)] | (ES)[8)] | (FR)[9)] |
| (HR)[10)] | (IT)[11)] | (CY)[12)] |
| (LT)[13)] | (NL)[14)] | (AT)[15)] |
| (PT)[16)] | (RO)[17)] | (SK)[18)] |
| (FI)[19)] | (NO)[20)] | (IS)[21)] |

Further details on restrictions in individual Member States are provided hereafter:

1) Information for Bulgaria is not available to Manufacturer. Please check with the relevant national authority. Website: www.marad.bg ; Email: mrcc@marad.bg ; mrcc_vn@marad.bg . [4]

2) Possession of the PLB is allowed in the Czech Republic, but please be aware that transmission is prohibited on territory of the country and no services for PLB are provided. [3]

3) The possession of PLB's is allowed in Denmark. The use of PLB's is not allowed in Denmark. It is not possible to obtain a licence for PLB-use. According to information from the Danish Maritime Authority PLB equipment may be used on board Danish vessels as EPIRB's with MMSI as identification (and included in the Ship Station Licence). [3]

4) In Germany the usage of equipment placed on the market as PLB is only allowed after conversion to an EPIRB-like device by entering an MMSI. In official language use, it is not denominated as "PLB". [3]

5) In Estonia PLB must be programmed and registered. For more information, please use following contact details;
Phone: +372 667 2000; E-mail: info@tja.ee [3]

6) In Ireland, 406 MHz PLBs are licence exempt under the exemption order Statutory Instrument S.I. No. 290 of 2010. The use of 406 MHz PLBs is permitted on condition that they are fully registered at ComReg's PLB registration website. For more information please see: http://www.comreg.ie/licensing_and_services/personal_locator_beacons.715.html. [3]

7) In Greece, users have to register their PLB before the use. The use of PLB is allowed only in an emergency, to indicate a distress situation. Online beacon registration form is available on: https://www.gov.gr/en/upourgeia/upourgeio-nautilias-kai-nesiotikes-politikes/nautilias-kai-nesiotikes-politikes/epharmoge-radiopharon-plb [4]

8) Personal Locator Beacons (PLBs) with country code Spain, are only allowed by the Spanish Administration in maritime environment, provided they are associated to a vessel where it is not mandatory to install EPIRB and should be programmed with its MMSI and installed only for use in that vessel. PLBs are not permitted to substitute when regulations require use of ELT or EPIRB. [4]

9) In France, registration of PLBs to the national database is mandatory. Website: https://registre406.cnes.fr . For more information on PLB coding rules please see: https://www.cospas-sarsat.int/images/stories/SystemDocs/Current/S.007-France.pdf [4]

10) In Croatia, seller or buyer of the PLB will register his PLB trough the official web interface of the Ministry of Sea, Transport and Infrastructure. Website: https://mmpi.gov.hr/more-86/sluzbeni-obrasci-111/111 ; According to CEPT, an individual licence is not required, but general licence is issued instead. [3]

11) In Italy, the use of PLB is allowed, but the registration of the 406 MHz transmitters is mandatory with the Beacon Register managed by the Italian Satellite Station Cospas-Sarsat in Bari, Italy. Website: https://www.cospas-sarsat-italy.it/en/transmitter-registration [4]

12) The 406 MHz PLBs are allowed for use in the Republic of Cyprus provided the user has registered his/her PLB beacon to JRCC Larnaca and the PLB conforms to the COSPAS-SARSAT standards. Website: https://jrcc-cyprus.mod.gov.cy/mod/cjrcc.nsf/PLB_programming_en/PLB_programming_en?openform [4]

13) According to CEPT PLBs are allowed and no licencing is required. Please check with the relevant national authorities. Civil Aviation Administration of Transport Competence Agency www.tka.lt or Maritime Department of Lithuanian Transport Safety Administration https://ltsa.lrv.lt [3]

14) The use of PLBs in The Netherlands is granted on the strict condition that they are coded according to the “Serial User Protocol” and all relevant data shall be registered with the Radio Communications Agency.
Website: https://www.rdi.nl/radiocommunications-agency [3]

15) According to CEPT, in Austria, the lawful use of PLB’s is not covered by any ship- or aircraft station license; To obtain up to date information please visit the following website: www.bmvit.gv.at; or request information via email: ernst.cerny@bmvit.gv.at ,or pt3@bmvit.gv.at . [3], [4]

16) In Portugal PLBs are allowed for maritime use on recreational crafts and small fishing vessels (<14m); in these cases, the beacon is registered as equipment of the vessel concerned. The use of PLB on board of Portuguese flag vessels requires an application for national license. The PLB must be

registered and programmed with MMSI assigned to that particular vessel. Website: https://www.dgrm.pt/ [3]

17) In Romania, according to CEPT, it is not allowed to use a PLB instead of an EPIRB on board ships or instead an ELT on board aircrafts. Usage of a PLB has to be announced to ANCOM (website: http://www.ancom.org.ro) to be entered in a national data base. No fee is required for registration. [3]

18) According to COSPAS-SARSAT, coding PLBs with the Slovakian country code is not allowed. Please contact Trasport Authority – Civil Aviation Division for more information; Email: navigacia@nsat.sk ; Website: www.nsat.sk . For spectrum matters please visit: http://www.teleoff.gov.sk [4]

19) According to CEPT, the use of 406 MHz PLBs is allowed in Finland. The use and possession of a PLB requires a national radio license. There may be a fee associated with licencing. For further information please visit TRAFICOM website: https://www.traficom.fi/en [3]

20) According to COSPAS-SARSAT, 406MHz PLBs are authorized for personal use on land, at sea and in aircraft. The Norwegian Communication Authority issues the radio licenses for PLBs and maintains a database that is accessible to the Norwegian Mission Control Centre and Rescue Coordination Centres 24hours a day, seven days a week. For information refer to nmcc.com/en/ [4]

21) According to CEPT, PLB's have not yet been authorized for personal use in Iceland. People can hire PLB's from ICE-SAR (Slysavarnarfélagið Landsbjörg, ICE-SAR The Icelandic Association for Search And Rescue). Temporary licences are also granted to visitors (PLB's registered in other countries). The Post- and Telecom Administration authorizes 406 MHz PLB's, issues all radio licenses and maintains a database. PLB online registration at: https://www.pfs.is/um-pfs/eydublod/umsokn-um-leyfi-til-starfraekslu-plbneydarsendis/ [4]

## REFERENCES


1) https://www.sarsat.noaa.gov/cospas_sarsat.html

2) https://cospas-sarsat.int/en/

3) European Conference of Postal and Telecommunications Administrations (CEPT) https://cept.org/ecc/topics/maritime/personal-locator-beacons-plbs-usage-in-cept

4) COSPAS-SARSAT https://406registration.com/countriessupported.aspx?CultureCode=en-US

5) Galileo SAR https://www.gsc-europa.eu/galileo/services/search-and-rescue-sar-galileo-service

# NOTICES & WARNINGS

## COPYRIGHT NOTICE



## WARNING

Emergency beacons should only be used in situations of grave and imminent danger. It is important that you read this manual thoroughly.

**NOTE**: RF EXPOSURE WARNING - Statement of Human Safety Compliance

In accordance with EN 50665 (Maximum Permissible Exposure) - Generic standard for assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields 0-300GHz - a minimum safe operating distance to maintain safe power density levels is 62cm . This is minimum distance between the user and the radiating surface of the device.

Users are cautioned to maintain this minimum distance in order to comply with said exposure restrictions. For prolonged periods of close proximity, e.g. maintenance, the equipment shall be isolated at the main power section. For further clarifications please contact us using the address provided.

## GME WARRANTY AGAINST DEFECTS FOR AUSTRALIAN CUSTOMERS

This warranty against defects is given by GME Pty Ltd, A.C.N. 000 346 814 (We, Us, Our or GME). Our contact details are set out in clause 3.b. This warranty statement only applies to products purchased in Australia. For products sold outside of Australia, please contact your local GME distributor the details of which can be found at www.gme.net.au/export.

## 1. Consumer guarantees

a. Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

b. To the extent we are able, we exclude all other conditions, warranties and obligations which would otherwise be implied.

## 2. Warranty against defects

c. We warrant our goods to be free from defects in materials and workmanship for the Warranty Period (see Warranty Table) from the date of original sale (or another period we agree to in writing).

d. Nothing in this warranty excludes, restricts or modifies any condition, warranty, guarantee, implied term, right or remedy pursuant to the Australian Consumer Law and which may not be so excluded, restricted or modified. For such conditions, terms, guarantees and warranties that cannot be excluded, restricted or modified, We limit the remedies available to the extent permitted in the relevant legislation.

e. You are entitled to a replacement product or repair of the product at our discretion according to the terms and conditions of this document and provided your product is found to be faulty within the Warranty Period.

f. Our products are manufactured using new or equivalent to new materials. Replacement parts may be new or equivalent to new. We warrant any replacement parts to be free from defects in material or workmanship for the remainder of the period of warranty for the products in which they are installed. During the Warranty Period, We will, where possible, repair and if not, replace the faulty product or part thereof.

g. All component parts removed under this Warranty become the property of GME.

h. To the extent permitted by law, Our sole liability for breach of a condition, warranty or other obligation implied by law is limited:
   (a) in the case of goods we supply, to any one of the following at our discretion:
   the replacement of the goods or the supply of equivalent goods;
   the repair of the goods;
   the cost of repairing the goods or of acquiring equivalent goods;
   (b) in the case of services we supply, to any one of the following at our discretion:
   the supplying of the services again;
   the cost of having the services supplied again.

i. For repairs outside the warranty period, we warrant our repairs to be free from defects in materials and workmanship for three (3) months from the date of the original repair. We agree to re-repair or replace, at our discretion, any materials or workmanship which we are satisfied are defective.

j. We warrant that we will perform services with reasonable care and skill and agree to investigate any complaint regarding our services made in good faith. If we are satisfied that the complaint is justified, and as our sole liability to you under this warranty (to the extent permitted at law), we agree to supply those services again at no extra charge to you.

## 3. Warrranty

a. If you believe the product to be defective, to make a claim under this Warranty, you must, before the end of the applicable Warranty Period (see Warranty Table), at your own cost (including postage, delivery, freight, transportation or insurance of the product) send to us:
   - a copy of your proof of purchase or any such document evidencing this (please keep your original copy);
   - the faulty product, including all accessories;
   - written details of why you believe the product to be defective; and details of how We can contact you.

b. You should send your claim to:
   **GME Pty Ltd**
   PO Box 96, Winston Hills NSW 2153, Australia
   Tel: (02) 8867 6000, Fax: (02) 8867 6199
   Email: servadmin@gme.net.au

c. If we determine that your product is defective, we will pay the costs of returning the repaired or replaced product to you, and reimburse you for your reasonable expenses of sending your warranty claim to us.

d. If we determine that your product does not qualify for return, this warranty does not apply to your product.

## 4. What this warranty does not cover

We will not be liable under this Warranty, and to the extent permitted by law, will not be liable for any defect, loss, damage or injury arising out of in connection with

(i) failure by you to adhere to the warnings and follow the instructions set out in this user guide for the proper installation and use of the product;

(ii) willful misconduct or deliberate misuse by you of the product;

(iii) the modification or alteration of the product in any way;

(iv) defects and damage caused by use of the products with non-GME products;

(v) modification to the product or services carried out on the product by anyone other than GME or GME's authorised service provider;

(vi) any external cause beyond Our control, including but not limited to power failure, lightning or over voltage; or

(vii) goods where the serial number has been removed or made illegible.

## WARRANTY PERIOD

We provide the following warranty on GME and Kingray products. No repair or replacement during the warranty period will renew or extend the warranty period past the period from original date of purchase.

| Product Type | Warranty Period |
|---|---|
| **PLBs** | 6 years |

gme.net.au
GME Pty Ltd

17 Gibbon Road, Winston Hills NSW 2153, Australia
Part Number: 311187 Drawing Number: 53512-2