



ACCUSATO™

POCKET SERIES  
406 MHZ PLB

EMERGENCY  
PERSONAL LOCATOR BEACON

MT410 & MT410G



INSTRUCTION MANUAL

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## WARNING

### EMERGENCY BEACONS SHOULD ONLY BE USED IN SITUATIONS OF GRAVE AND IMMINENT DANGER.

**It is important that you read this manual thoroughly.**

## FEATURES

- Suitable for marine, aviation and land applications.
- GPS model available - Accusat Pocket Pro+ (MT410G).
- 7 year Battery life, 7 year Warranty.
- Typical accuracy - MT410G: <45 m  
MT410: <5 km.
- High visibility flashing light.
- Unique patented technology - no warm up period.
- Featherweight, 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 2-step activation.
- Complete with retention strap and protective carry pouch.

## INTRODUCTION

Congratulations on purchasing your new Accusat Pocket Series Personal Locator Beacon (PLB). The GME Accusat Pocket MT410 and GPS equipped Accusat Pocket Pro+ MT410G are the most advanced 406 MHz digital satellite beacons available today. Using new digital frequency generation technology, GME have developed and approved world wide, a new family of affordable high performance 406 MHz Personal Locator Beacons

### GENERAL

The GME MT410 and MT410G PLBs are designed for use when the safety of life is endangered and you have no other means of communication. The PLB can save your life and the lives of others by leading an air, land or sea rescue to your precise location.

PLBs are an excellent choice to provide added safety while participating in just about any outdoor or remote area activity. The MT410/410G beacons are fully sealed units and will not sink if dropped into water, making them equally suitable for use on land and many marine and aviation applications.

A PLB is distinctively different to an EPIRB and the requirement for either is determined by personal situation and intended usage. Note that unlike an EPIRB, the MT410/G PLB when activated in a maritime environment, requires assistance to keep its antenna clear of the waters surface.

### Compliance Statement and Application

**Certificates:** please visit: [www.gme.net.au/epirb](http://www.gme.net.au/epirb)

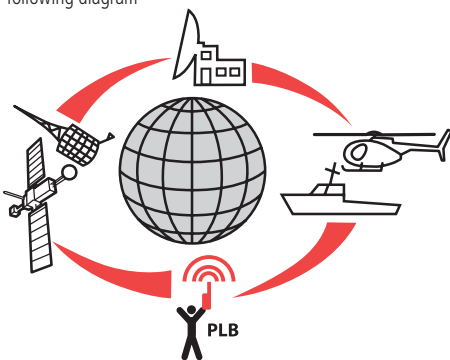
In the past, using the analogue system, (which will become obsolete in February 2009) extensive and lengthy searches have been carried out for missing persons, sometimes to no avail. Your GME PLB is a self contained 406 MHz digital radio transmitter that emits an internationally-recognized distress signal on a frequency monitored by the COSPAS-SARSAT satellite system. The MT410 and MT410G contain 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. Both PLB models include a high performance solid state light and 121.5 MHz VHF homing signal to assist in leading rescuers to your precise location.

The MT410G also features an integrated 16 Channel GPS Receiver which when activated, will automatically acquire a position and relay the latitude and longitude of the beacon along with the personal identifier and emergency signal.

## ABOUT THE COSPAS-SARSAT SYSTEM

The COSPAS-SARSAT system is a complete global search and rescue service using geostationary and polar orbiting satellites. Many countries provide ground facilities known as Local User Terminals (LUTs). Polar orbiting satellites provide complete, although non-continuous, coverage of the earth (due to fact that these satellites can only view a portion of the earth at any given time) and can accurately resolve an active beacons' location. Additionally, geostationary satellites can give an immediate alerting function in many regions of the world.

The basic COSPAS-SARSAT concept is illustrated in the following diagram



## ABOUT 406 MHZ BEACONS

406 MHz beacons provide more accurate and reliable alert data to search and rescue agencies than the older 121.5/243 MHz systems presently being phased out. The older 121.5 MHz analogue system required that the satellite be within view of both the beacon and the LUT before it could transmit the beacons' position. This limited the coverage to an area immediately surrounding the

LUT. However, the digital nature of the 406 MHz system means that the satellites are able to store the beacons' position and digital message, no matter where in the world it is received. These details are then relayed to the next LUT that comes into range, giving the 406 MHz system true global coverage.

## REGISTRATION & TRANSFER OF OWNERSHIP

**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.**

Owner Registration Forms for registering your beacon may be supplied within the packaging, otherwise, your National Authority will be able to provide the correct forms. Up to date forms are often available online.

The information provided in the registration is used only for search and rescue purposes. Promptly fill in the owner registration form upon completion of the sales transaction, then mail, fax or email it to your National Authority. If the PLB is to enter service immediately, complete the registration form and fax or email the information.

Should the PLB be transferred to a new owner, as the previous owner you are obligated to inform your National Authority by email, fax, letter or telephone of the name and address of the new owner. The new owner of the beacon is also required to provide their National Authority with the information as shown on the registration form. This obligation transfers to all subsequent owners.

**Note:** Your MT410/MT410G has been programmed with a unique identifying code which will be transmitted by the beacon in an emergency. Registering your beacon provides the authorities with immediate access to your details when the beacon is detected. This means they will know who you are and who your emergency contacts are. In situations of accidental activation they can also immediately eliminate your beacon as an emergency situation by contacting you when activation is detected.

## REGISTRATION CONTACTS

**Australian users** - Address all correspondence to:

Beacon Registration Section, AusSAR  
Australian Maritime Safety Authority  
GPO Box 2181, Canberra City, ACT 2601.  
Phone: 1800 406 406 or International: +61 2 6279 5041.  
Fax: 1800 622 153 or International: +61 2 6230 6868.  
Email: ausbeacon@amsa.gov.au.

**New Zealand users** - Address all correspondence to:

Rescue Co-ordination Centre New Zealand  
PO Box: 30050, Lower Hutt 5009.

Phone: +64 4 577 8033. Fax: +64 4 577 8041

Email: [406registry@maritimenz.govt.nz](mailto:406registry@maritimenz.govt.nz)

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

**Other areas** - Please contact your Country Distributor as shown on page 8 of this manual. 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:

[www.cospas-sarsat.org/BeaconsCodingGuideGeneral/poc.htm](http://www.cospas-sarsat.org/BeaconsCodingGuideGeneral/poc.htm)

## 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.

Most cases of accidental transmission result from poor or inappropriate storage or failure to totally disable an old model beacon before disposal.

The need to treat emergency beacons responsibly cannot be too highly emphasised.

The MT410/410G will not commence transmitting until approximately 60 seconds after activation, providing a period of audible and visual warning. If you hear the beacon 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, report the incident to your local authorities just in case.

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 travelling companions on how and when to correctly operate your PLB
3. Avoid stowing the PLB where it will be subjected to continuous direct sunlight. This could cause the beacon's internal temperature 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 U.V. light.
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 Co-ordination Centre to prevent an unnecessary search.

**When reporting you should include the following:**

1. Your PLB's 15 character Unique Identifier Number (UIN), which is marked on the unit body.
2. Date, time and duration of activation.
3. Cause of activation.
4. Location at time of activation.

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

Contact numbers:

Australia: 1800 641 792

New Zealand: 0508 472 269

United States of America: (800) 323 7233

United Kingdom: 01326 317 575

## BATTERIES & MAINTENANCE

The MT410 and MT410G PLBs are fitted with the very latest in high capacity battery technology. These batteries are able to operate within a temperature range of -20°C to +55°C.

The full operational capability of your beacon may not be available if the batteries fitted have exceeded their replacement date, as shown on the body of the unit. Prior to reaching this date, make arrangements to have your MT410/MT410G returned for service.

**Note:** PLB maintenance operations, including battery replacement, require that the beacon be returned to a manufacturer approved service facility. A list of authorised Service Centres can be found on: [www.gme.net.au](http://www.gme.net.au). The replacement of batteries due to expiry or usage is not covered by the product's Warranty.

### MT410/MT410G batteries are not user replaceable.

Although the MT410/410G are otherwise maintenance free, routinely following these few simple steps will help ensure that your beacon will be operationally ready if called upon:

1. Test the PLB at the recommended interval.
2. Confirm the SAFETY SEAL has not been broken.
3. Check that the batteries have not passed their replacement date.
4. Inspect the MT410/410G for physical damage or deterioration.
5. Keep the unit clean by wiping over with a damp cloth (warm water and mild detergent are suitable), then dry.

If there is any doubt as to the products' serviceability, immediately contact your authorised Dealer or Service Centre for advice.

## TESTING THE PLB

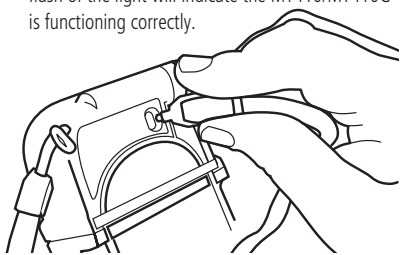
It is recommended that you test the MT410/410G at regular intervals to ensure it is fully functional. You should also test the beacon prior to an extended journey.

**WARNING • DO NOT over test** – testing consumes some battery power, no more than once per month.

- **DO NOT deploy the antenna** as this will break the seal and activate the beacon to transmit a distress signal after 60 seconds.

You may test the PLB using the following procedure:

1. Remove the beacon from the carry pouch.
2. Use the key (attached to the lanyard) to slide the self test switch down and then release, a double beep and flash of the light will indicate the MT410/MT410G is functioning correctly.



## GPS SATELLITE ACQUISITION TEST

The standard self test procedure is more than sufficient to perform a comprehensive check of your beacon without consuming too much battery capacity. On occasions, and no more regularly than on average once a year, you may wish to perform a GPS satellite acquisition check (MT410G only).

Whereas the routine self test verifies the GPS receiver's circuitry, the full test will include the operation of the special GPS antenna as well.

1. This test consumes much more power than a standard self test so choose a test location with good visibility of the open sky above. A quick satellite acquisition means a short test, and less wasted power consumption.
2. Carry out a self test in the usual way but rather than releasing the key, continue to hold it in position. **After the self test pass confirmation**, both the light flash and the internal beeper will start. Count a further four flashes/beeps then immediately release the key.
3. The MT410G will continue to flash and beep whilst it searches for available satellites. This may continue for

a number of minutes depending on the number and location of satellites present. It is not possible to abort the test once started, and note that distress signals are not radiated as part of this test.

4. If no satellites are found after a predetermined time the repetitive flash and beep will stop. This may indicate a fault with the GPS receiver system within the PLB and you should contact your local service centre for advice.

If the test terminates with a rapid sequence of flashes and beeps then GPS satellite acquisition and correct operation has been confirmed.

## SAFETY SEAL

The safety seal which covers the antenna on the rear side of the beacon is designed to tear if the unit is switched on. A safety seal that is not broken serves to indicate that the beacon has never been manually activated.

NEVER remove or break the seal unless deploying the PLB in an emergency. If the beacon has been activated for any length of time, the batteries can no longer be guaranteed to have the capacity to operate for the minimum 24 hour period and therefore must be replaced.

## TRANSPORTATION

GME PLBs use batteries with a low level of lithium content. Consequently GME PLBs are classed as 'non-hazardous products' by IATA and maybe shipped without DG declaration and carried without problem (accompanied or unaccompanied) on passenger aircraft. However, it is advisable that you check with your carrier that they do not have specific restrictions which may apply to you.

## ACTIVATION IN AN EMERGENCY

PLBs should only be activated in situations of grave and imminent danger. Deliberate misuse may well result in the unnecessary deployment of valuable Search and Rescue resources and could incur a severe penalty.

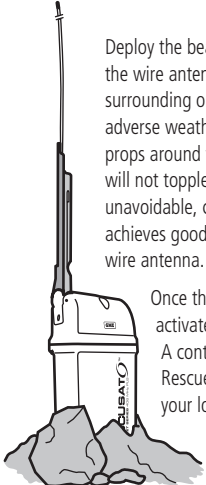
Should there be an inadvertent activation it is the responsibility of the user to immediately switch the beacon off and notify the nearest RCC (Rescue Coordination Centre).

## LOCATION FOR DEPLOYMENT

The MT410/410G will deliver best performance where there is a clear view of the sky. Deploying the beacon 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 beacon signal being detected by placing it on higher ground.

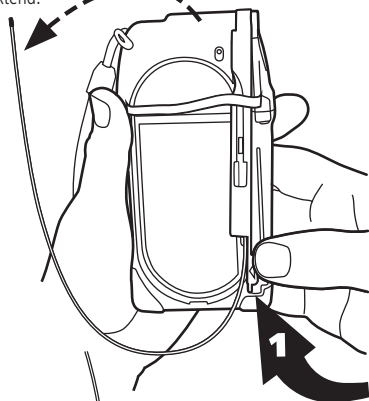
Deploy the beacon in an upright position with the wire antenna vertical and well clear of any surrounding obstructions such as trees or rocks. If adverse weather conditions exist, use any available props around the base of the beacon to ensure it will not topple over. Where on-person operation is unavoidable, choose an elevated position that also achieves good local clearance around the vertical wire antenna.

Once the beacon has been activated, leave it switched on. A continuous signal is needed for Rescue Authorities to determine your location.



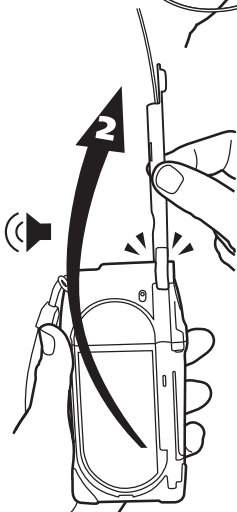
### ACTIVATING THE MT410/410G

1. Hold firmly and release the antenna by pushing the black arm (where marked by a yellow triangle) inwards then upwards. The antenna will quickly uncoil and extend.



2. Swing the antenna fully upwards 180 degrees clockwise, breaking the safety seal. The antenna arm will click into place.

The PLB is now ACTIVE.



The **MT410** will 'beep' and pulse the inbuilt light 20-21 times per minute.

The **MT410G** will emit a rapid series of 'beeps' and light flashes for a period of 6 seconds, indicating to the user that it has acquired a GPS position fix and is relaying this position along with the distress signal and the unique personal identifier to the COSPAS-SARSAT satellite system.

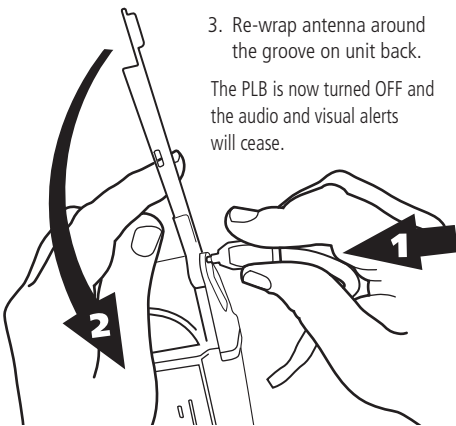
After 6 seconds the MT410G will continue to 'beep' and pulse the light 20-21 times per minute.

### DEACTIVATING THE MT410/410G

1. Using the key (attached to the lanyard) depress the antenna latch.
2. Swing the antenna fully down 180 degrees anti-clockwise and latch.

3. Re-wrap antenna around the groove on unit back.

The PLB is now turned OFF and the audio and visual alerts will cease.



### DISPOSAL

Special precautions must be taken when finally disposing of your beacon at the end of its useful life. Legislation may determine the specific requirements which apply to you. In the first instance, contact your National Authority for advice. The following information may also be helpful:

#### To permanently disable the beacon:

1. At the rear of the beacon remove the two retaining screws located just under the safety seal. Turn the unit over and remove a third screw from the middle of the cap.
  2. Release the antenna just sufficiently to allow the cap to be partially withdrawn, remove the yellow plastic insert from the front centre to allow the unit to slide apart.
  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 MT410 and MT410G contain many recyclable parts.

## SPECIFICATIONS\*

### MODES OF OPERATION

- Activated:** UHF (406) and VHF (homer) complete with high intensity light and audible alert.
- Self Test:** Comprehensive internal diagnostics with visual and audible operator feed-back. UHF test message (inverted synchronisation compatible with portable beacon testers). GPS satellite acquisition test (MT410G only).

### OPERATION

- Activation:** Automatically when antenna deployed.
- Duration:** In excess of 24 hours at -20°C Longer at higher ambient temperatures.
- Transmission:** 121.5 MHz and 406 MHz
- Delay:** 60 seconds to deactivate prior to distress transmission.
- Warm Up:** None required (due to patented digital frequency generation).
- VHF:** 121.5 MHz, 50 mW  $\pm 3$  dB, swept tone AM (analogue).
- UHF:** 406.028 MHz, 5 W  $\pm 2$  dB, PSK (digital).
- Light:** > 20 flashes/minute  
2 x high intensity white LED.

### COSPAS-SARSAT

Certified to C/S T.001 (Class 2) requirements.

- UHF-Protocol/Data:** Supports all short (MT410) and long (MT410G) operation protocols (re-programmable by Distributor).
- Repetition Period:** 50 s mean, digitally generated randomization.
- VHF:** Satellite compatible phase coherent

### BATTERY

- Replacement Period:** Prior to expiry date marked on case - (7 yrs), or after use.
- Replacement Method:** Service centre or factory only (non-user replaceable).

- Battery Chemistry:** LiMnO<sub>2</sub> (0.49 g Lithium per cell)
- Battery Configuration:** 2 electronically isolated batteries, consisting of 2 cells type CR17345.

### PHYSICAL

- Operating:** -20 to +55°C
- Storage:** -30 to +70°C
- Weight:** MT410 - 235 g, MT410G - 250 g
- Compass Safe Distance:** 0.1 m (for minimal deflection)
- Dimensions (mm):** 135 (h) x 71 (w) x 38 (d)
- Buoyant:** Will float in fresh/salt water (RTCM Cat 1).
- Waterproof:** Submersion to 1 m, exceeds IP67.
- Materials:** High visibility yellow chassis with translucent cap. UV stabilised high impact plastic chassis with energy absorption over-moulded bumpers.

### GPS RECEIVER (FITTED TO MT410G ONLY)

- Type:** Ultra-high sensitivity L1 frequency C/A.
- Channels:** 16 Channel, 8192 time/frequency search windows.
- Antenna:** Dielectrically loaded quadrifilar helix
- Acquisition:** Cold start 34 seconds typical  
Hot start <3.5 seconds typical.
- Position:** Located to within 45 m typical

### OTHER FEATURES

- Standards and Approvals:** AS/NZS 4280.2, ETSI EN 302 152-1 (CE0168!), RTCM 76-2002/SC110, FCC ID: TXJMT410-G
- Transport:** Meets UN requirements for transport as non-hazardous cargo on board passenger aircraft.
- Antenna:** Flexible, self straightening and robust wire rope design. Marine grade 316 Stainless Steel.
- Included Accessories:** Wrist/Neck strap. Protective carry pouch with multidirectional belt loops.

\*All specifications are typical and subject to change without notice or obligation.

## WARRANTY

GME limit this warranty to the original purchaser of the equipment. GME warrant this product to be free from defects in material and workmanship for a period of 7 years from the date of purchase from the authorised retailer.

Replacement of batteries due to expiry or usage is excluded from this Warranty. Should the product require servicing during this period, all labour and parts used to effect repairs will be supplied free of charge. GME reserve the right to determine whether damage has been occasioned by accident, misuse or improper installation, whereby the Warranty could be void. In the event of a

defect occurring during the Warranty period, the original purchaser may return the defective unit along with suitable proof of purchase (i.e. receipt, credit card slip etc.) and a full description of the defect to the retailer from whom the unit was purchased.

The retailer will forward the unit to an authorised GME Service Depot in your State.

All freight charges incurred for transportation by the retailer or GME are the purchasers' responsibility.

International customers should contact their in-country retailer contact GME directly at: info@gme.net.au

## CE 0168 Ⓢ Notifications to permit sale and use of this equipment have been lodged with the relevant National Authorities of the following countries :

Denmark, England, France, Germany, Greece, Holland, Iceland, Italy, Malta, Norway, Portugal, Spain, Sweden, Switzerland and Turkey.

## NATIONAL AUTHORITY INFORMATION

**Australia:** 24 Hour Emergency Contact  
Phone: 1800 641 792 or  
International: +61 2 6230 6811

**New Zealand:** 24 Hour Emergency Contact  
Phone: 0508 472 269 or  
International: +64 4 577 8030

**Owner Details :** Name: .....  
Address: .....  
.....  
Tel: .....  
UIN (Hex ID) #: .....

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For customers outside Australia and New Zealand, please contact your local GME retailer or email to: export@gme.net.au