GME

ACCUSAT™
EMERGENCY BEACONS

MT410G PLB

406 MHz Emergency Personal Locator Beacon with GPS

AUSTRALIAN MADE

INSTRUCTION MANUAL

CONTENTS

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
- Typical accuracy, < 45 m
- 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.
- 7 year Battery life
- 7 year Warranty

For Approval Certificates please visit: www.gme.net.au/support/brochures

INTRODUCTION

Congratulations on purchasing your new Accusat Pocket Series Personal Locator Beacon (PLB). The GME, GPS equipped Accusat MT410G is the most advanced 406 MHz digital satellite beacon available today. Using new digital frequency generation technology, GME has developed and approved world wide, affordable high performance 406 MHz Personal Locator Beacon.

GENERAL DESCRIPTION

The GME MT410G PLB is designed for use when 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.

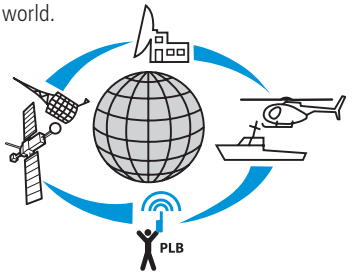
PLBs are an excellent choice to provide added safety while participating in just about any outdoor or remote area activity. The MT410G beacon is a fully sealed unit and will not sink if dropped into water, making it equally suitable for use on land and many marine and aviation applications.

A PLB is distinctively different to an EPIRB and the requirement for either is determined by personal situation and intended usage. Note than unlike an EPIRB, the MT410G PLB when activated in a maritime environment, requires assistance to keep its antenna clear of the water's surface. In the past, using the analogue system, (which became 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 MT410G 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 MT410G PLB includes a high performance solid state light and 121.5 MHz VHF homing signal to assist in leading rescuers to your precise location.

The MT410G features an integrated 50 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 figure above.

ABOUT 406 MHZ BEACONS

406 MHz beacons provide more accurate and reliable alert data to search and rescue agencies than the older, phased out, 121.5/243 MHz systems. 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. **In Australia and New Zealand, online registration is the preferred method.**

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, telephone or online 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 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

Australian 406 Distress Beacon Register,
Australian Maritime Safety Authority
GPO Box 2181, Canberra ACT 2601
Online: www.amsa.gov.au/beacons
Email: ausbeacon@amsa.gov.au
Phone Local: 1800 406 406
International: +61 2 6279 5766.

New Zealand users

Rescue Co-ordination Centre New Zealand
PO Box 30050, Lower Hutt 5040
Online: www.beacons.org.nz
Email: 406registry@maritimenz.govt.nz
Fax: +64 4 577 8041
Phone Local: 0800 406 111
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 as shown on page 11 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

Local or international calls from a mobile attract connection charges.

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 MT410G 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 UV 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: 1800 851 3051
United Kingdom: 01326 317 575

BATTERIES & MAINTENANCE

The MT410G PLB is 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 MT410G returned for service.

NOTE: PLB maintenance operations, including beacon refurbishment, require that the beacon be returned to a manufacturer approved service facility.
A list of authorised Service Centres can be found at: www.gme.net.au.
The beacon refurbishment due to expiry or usage is not covered by the product's Warranty.

NOTE: MT410G batteries are not user replaceable.

Although the MT410G is 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 MT410G 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.

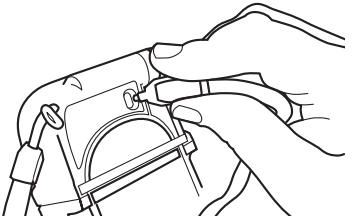
TESTING THE PLB

It is recommended that you test the MT410G 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 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.

WARNING: The MT410G will limit the number of GPS satellite acquisition checks to a total of 8 over the lifetime of the battery pack. After this limit is exceeded you will no longer be able to perform this test until a beacon refurbishment has been undertaken. If you attempt a GPS acquisition check, the MT410G will produce a low frequency audio tone and will not proceed with the test.

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.

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).

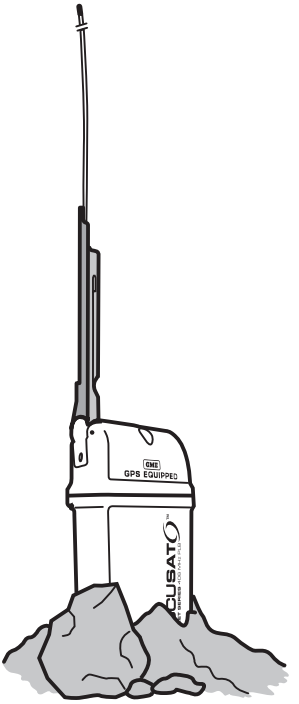
LOCATION FOR DEPLOYMENT

The MT410G 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.

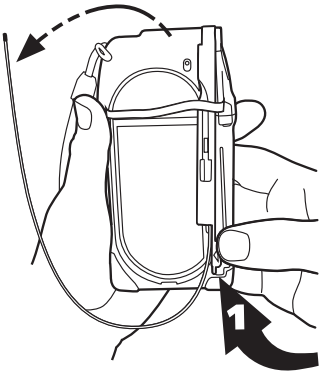
If adverse weather conditions exist, use any available props around the base of the beacon to ensure it will not topple over. Where on-person operation is unavoidable, choose an elevated position that also achieves good local clearance around the vertical wire antenna.

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

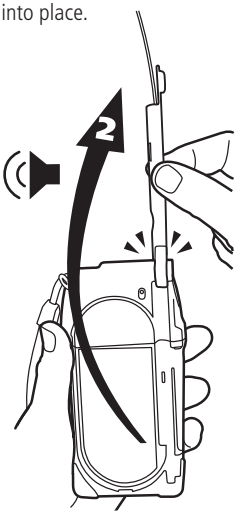


ACTIVATING THE MT410G

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.

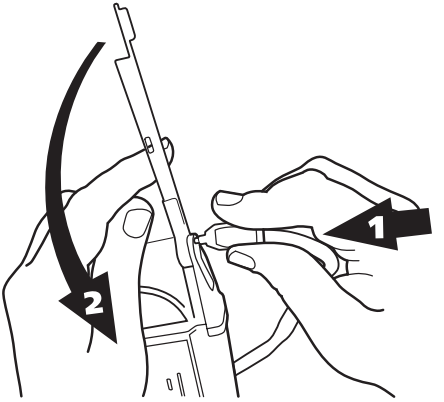


The PLB is now active and will 'beep' and pulse the inbuilt light 20–21 times per minute. The PLB will emit a rapid series of 'beeps' and light flashes for a period of 6 seconds, indicating to the user that it has acquired a GPS position fix and is relaying this position along with the distress signal 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 MT410G

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 it's 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 MT410G contains 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.

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, swept tone AM (analogue), 50 mW max. at room temperature
UHF:	406.028 MHz, 5 W ± 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 long operation protocols (re-programmable by Distributor)
Repetition Period:	50 seconds mean, digitally generated randomisation

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:	$LiMnO_2$ (0.52 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:	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:	Exceeds IP67
Materials:	High visibility yellow chassis with translucent cap. UV stabilised high impact plastic chassis with energy absorption over-moulded bumpers.

GPS RECEIVER

Type:	Ultra-high sensitivity L1 frequency C/A
Channels:	50 Channel, GPS Search Engine
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, robust wire rope design. Marine grade 316 Stainless Steel
Included:	Wrist/Neck strap
Accessories:	Protective carry pouch with belt loops

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

STANDARD COMMUNICATIONS WARRANTY AGAINST DEFECTS

This warranty against defects is given by Standard Communications Pty Ltd ACN 000 346 814 (We, us, our or GME). Our contact details are set out in clause 2.7. This warranty statement only applies to products purchased in Australia. Please contact your local GME distributor for products sold outside of Australia. Local distributor details at www.gme.net.au/export.

1. Consumer guarantees

1.1 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 for 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.

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

2. Warranty against defects

2.1 This warranty is in addition to and does not limit, exclude or restrict your rights under the Competition and Consumer Act 2010 (Australia) or any other mandatory protection laws that may apply.

2.2 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). Subject to our obligations under clause 1.2, we will at our option, either repair or replace goods which we are satisfied are defective. We warrant any replacement parts for the remainder of the period of warranty for the goods into which they are incorporated.

2.3 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 as we decide -

(i) the replacement of the goods or the supply of equivalent goods;

(ii) the repair of the goods;

(iii) 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 as we decide –

(i) the supplying of the services again;

(ii) the cost of having the services supplied again.

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

2.5 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.

2.6 To make a warranty claim you must before the end of the applicable warranty period (see warranty table), at your own cost, return the goods you allege are defective, provide written details of the defect, and give us an original or copy of the sales invoice or some other evidence showing details of the transaction.

2.7 Send your claim to:
Standard Communications Pty Ltd.
PO Box 96, Winston Hills, NSW 2153, Australia.
Tel: 1300 463 463
Email: servadmin@gme.net.au

2.8 If we determine that your goods are defective, we will pay for the cost of returning the repaired or replaced goods to you, and reimburse you for your reasonable expenses of sending your warranty claim to us.

3. What this warranty does not cover

3.1 This warranty will not apply in relation to:

(a) goods modified or altered in any way;

(b) defects and damage caused by use with non Standard Communications products;

(c) repairs performed other than by our authorised representative;

(d) defects or damage resulting from misuse, accident, impact or neglect;

(e) goods improperly installed or used in a manner contrary to the relevant instruction manual; or

(f) goods where the serial number has been removed or made illegal.

4. Warranty period

4.1 We provide the following warranty on GME 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
PLB	7 years

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 DETAILS

Australia 24 hour Emergency Contact
Phone Local:1800 641 792
International: +61 2 6230 6811

New Zealand 24 hour Emergency Contact
Phone Local: 0508 472 269
International: +64 4 577 8030

Local or international calls from a mobile attract connection charges.

OWNER DETAILS

Name:. . . . . .

Address: . . . . . .

. . . . . .

Phone: . . . . . .

Beacon UIN/15-HEX ID: |_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|

Distributed by:

ISO 9001: 2008
AU97\0906
List of certified characteristics available at www.sgs.com

1300 463 463 **gme.net.au**

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