

User Manual



PLB1

**Personal Locator
Beacon**

English



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IN CASE OF EMERGENCY




WARNING: USE ONLY IN SITUATIONS OF GRAVE AND IMMINENT DANGER



- **PULL THE ANTENNA OUT FROM THE BODY TO ITS FULLEST EXTENT USING THE BLACK TAB**



- **LIFT THE FLAP UP**

- **PRESS THE  KEY FOR 1 SECOND TO ACTIVATE THE BEACON. THE GREEN LED WILL FLASH TO INDICATE ACTIVATION**



- **RELEASE THE  KEY**

- **ENSURE THE ANTENNA IS HELD VERTICALLY WHILE OPERATING THE PLB**

- **THE STROBE LIGHT WILL START FLASHING TO INDICATE IT IS ACTIVATED**



NOTE: Refer to section 3.2 for deactivation instructions.

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1 GENERAL

1.1 Exposure to Electromagnetic Energy

This product complies with EN50371 (EU) and RSS-102 (Canada).

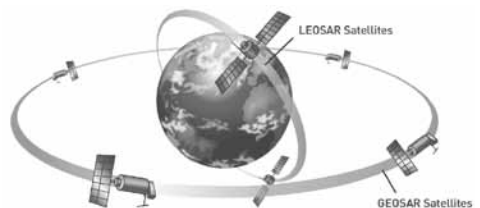
1.2 Warnings

-  It is a legal requirement to register your PLB with your National Authority.
-  Only use your PLB in a situation of grave and imminent danger. Deliberately misusing your PLB or setting it off accidentally may result in prosecution and a fine.
-  Your PLB contains small lithium batteries. Please see section 5 for information on safe transportation.
-  The battery in your PLB should be replaced immediately if it has been activated, or if the test indicator shows the battery as “used”, or if the expiry date marked on the unit has been exceeded.
-  **THIS PLB WILL NOT FLOAT**, unless fitted with a flotation pouch.
-  The PLB1 is not designed to be operated floating in water. Please hold above the water when activated.
-  Please read these instructions carefully. Failure to follow the guidance in this manual may result in loss of warranty.

1.3 COSPAS/SARSAT System



The COSPAS/SARSAT system uses two satellite arrays to provide distress alert and location data to search and rescue authorities. The GEOSAR system can provide near immediate alerting within the coverage of the receiving satellite. The LEOSAR system provides coverage of the polar region beyond the range of the GEOSAR system.

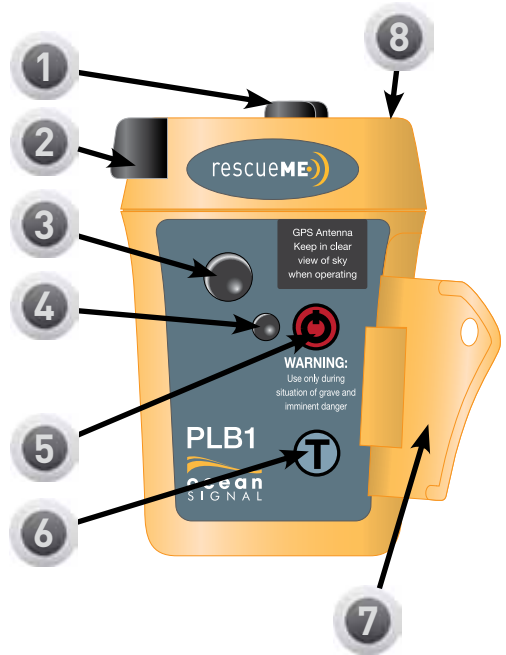
Ground receiving stations, referred to as Local Users Terminals (LUTs) receive and process the satellite downlink signal to generate the distress alerts, which are then received by Mission Control Centres (MCCs) which then forward the alert to Rescue Co-ordination Centres (RCCs), Search and Rescue Points of Contacts (SPOCs) and other MCCs.



GEOSAR – Geostationary Earth Orbit
LEOSAR – Low-altitude Earth Orbit

2 PLB1 OVERVIEW

1. Antenna rewind knob
2. Antenna pull grip
3. Strobe light
4. Indicator LED
5. On key  (under flap)
6. Test key  (under flap)
7. Lift up flap
8. Lanyard fixing (on rear of case)

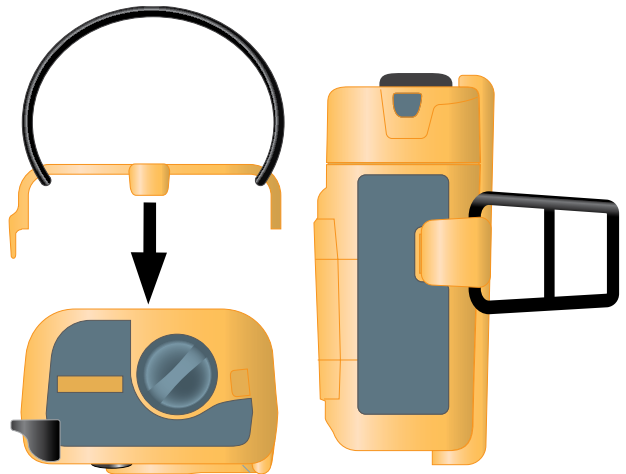


The PLB is supplied with a clear label to protect the UIN information on the rear of the product. Please fit this before use.

The unique cradle mounting system allows the PLB to be easily attached to a belt, clothing or other protective equipment. Simply fit the rubber strap around the mounting point and attach to the cradle as shown.

The cradle then clips to the PLB at the four fixing points.

A lanyard cord is provided to secure your beacon to clothing or other protective gear to avoid accidental loss.




3 OPERATION

WARNING: USE ONLY IN SITUATIONS OF GRAVE AND IMMINENT DANGER MISUSE MAY RESULT IN A SEVERE PENALTY

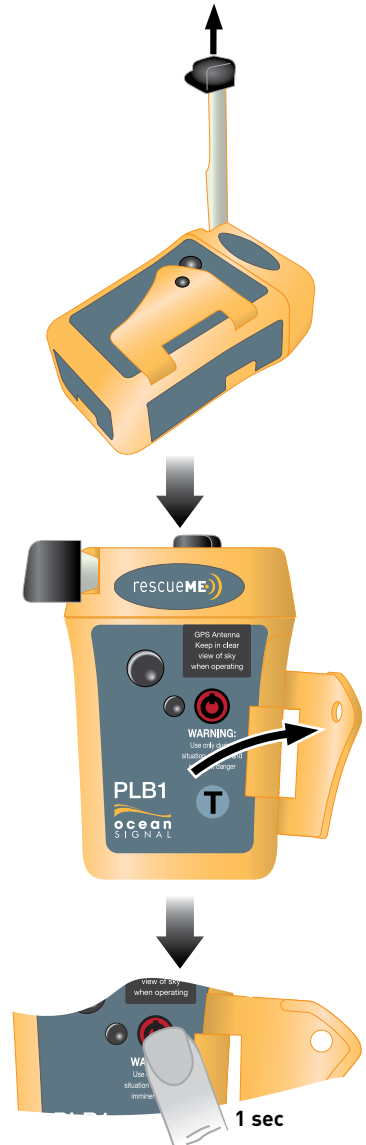
Ensure that your PLB1 is always fitted with an unused battery that is within the marked expiry date. Failure to do so may result in reduced operation time when used in a real emergency. Please observe the recommendations on testing in section 4.

3.1 Activation


Only activate your PLB in situations requiring emergency assistance from the rescue authorities. Deliberate misuse of your PLB may result in a fine.

- To activate your PLB in an emergency, pull the black antenna tab out completely.
- Lift the protective flap and press the  key for one second until the green LED flashes, then release the key (do not force the flap through more than 180°, or the hinge may break).
- When operating the PLB over water, tether the beacon to your body or the liferaft. Keep the PLB clear of water when operating. When operating on land, place the PLB flat on the ground if possible.
- Keep your beacon laying flat with the antenna standing vertically. Keep the area marked "GPS Antenna" free from obstruction, which would interfere with the GPS reception.

NOTE: the PLB does not transmit an alert until approximately 50 seconds has elapsed. This allows time to deactivate the unit if accidentally turned on.

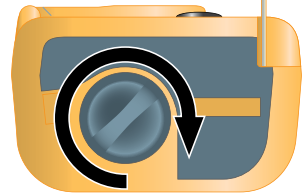
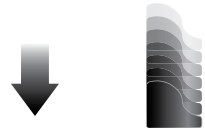
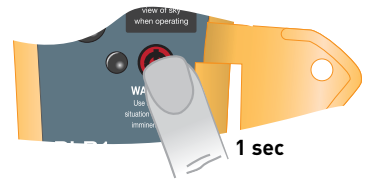


3.2 Deactivation

To deactivate your PLB after use, or if it is accidentally activated, press the  key for one second until the indicator LED flashes red twice, then release. Rewind the antenna by turning the knob on the top of the PLB clockwise.



Do not push the antenna back into the PLB as this may cause it to be damaged.



3.3 False Alerts

False alerts cause the rescue authorities unnecessary time and expense. To avoid false alerts make sure your PLB is safely stowed with the protective cover closed and the antenna fully wound in. Make sure that there is no excessive pressure applied to the protective cover. Ensure that anyone carrying the PLB is fully aware that this device is for emergencies and should only be used in situations of grave and imminent danger.

If you accidentally activate your beacon or otherwise set it off when a rescue is not required, contact your local emergency services as soon as possible and advise them of your beacon's 15 digit HEX code (UIN), your current location and the time the beacon was first activated.

The UIN is printed on the label on the rear of the PLB.

For USA phone: 1-800-851-3051 (USAF Rescue Coordination Center)

For UK phone: +44 (0) 1326 317575 (UKCG)

4 TESTING

Routine testing of your PLB is recommended to ensure it is in good working order if needed, but please follow the guidance notes below on the frequency that tests should be carried out. Please remember that each test will reduce the battery capacity slightly and reduce the operation time of your PLB during an emergency.

4.1 Beacon Test



Pull antenna out fully before commencing the test. Retract the antenna after the test.

To test your PLB1 is functioning correctly, press and hold the **T** key for one second. The red LED will come on to indicate the switch is depressed, followed by the red LED flashing rapidly. The switch may now be released. After a delay, the strobe light will flash once and the indicator LED will flash to show the pass or fail status. Note: This status indication is repeated a second time after a short delay.

The number of green/amber flashes in each group indicates the battery status as shown in the table below.

Green /Amber Indicator <i>Changes to Amber after 1 hour of use</i>		Red Indicator
No of Flashes	No of Hours Use	Type of Failure
1 Flash	0 to 1hr (Green)	121.5MHz homer
	1 to 2hrs (Amber)	
2 Flashes	2 to 4hrs (Amber)	406MHz generation
3 Flashes	4 to 6hrs (Amber)	406MHz power amp
4 Flashes	6 to 8hrs (Amber)	Replace battery
5 Flashes	8 to 10hrs (Amber)	Other failure
6 Flashes	Over 10hrs (Amber)	



Because the test transmits a short burst on the aircraft distress frequency of 121.5MHz, please only carry out this test in the first five minutes of each hour.



It is recommended that you test your PLB once a month.



The amber test result is an electronic witness that indicates the battery has been used for over one hour or the allowed number of tests has been exceeded. The PLB will still operate normally in a distress situation, but the battery should be replaced to ensure the full operating life when your PLB is needed.

4.2 GPS Test

WARNING : AS TESTING THE GPS RECEIVER EXPENDS SIGNIFICANT AMOUNTS OF BATTERY ENERGY DO NOT TEST THE GPS OPERATION MORE THAN ONCE A YEAR. TESTING THE GPS RECEIVER IS LIMITED TO 10 TESTS OVER THE LIFETIME OF THE BATTERY, AFTER THIS THE GPS TEST WILL FAIL TO ACTIVATE.

THIS TEST MUST ONLY BE PERFORMED WHERE THE PLB HAS A CLEAR AND UNOBSTRUCTED VIEW OF THE SKY. THIS IS REQUIRED TO ALLOW THE GPS RECEIVER TO ACQUIRE A SIGNAL FROM SUFFICIENT SATELLITES TO ALLOW IT TO DETERMINE A POSITION. MAKE SURE THE AREA MARKED "GPS ANTENNA" IS NOT OBSTRUCTED.

Press and hold the **T** key for ten seconds. The LED will illuminate red to indicate the key has been pressed, then start flashing. After ten seconds the LED will change to a long red flash and a short green flash until either a position fix is obtained or the GPS test fails. A successful test will be indicated by the strobe flashing and the green LED flashing. The number of green flashes indicates one more than the number of GPS tests remaining (eg 8 flashes = 7 tests remaining). A failure is indicated by the red LED flashing. The test can be ended by holding the **T** key for five seconds.

5 APPENDIX

5.1 Maintenance

Your PLB will require little maintenance except periodic cleaning, if required. Always use a damp cloth to clean the case and dry thoroughly. Do not use solvents or other cleaning fluids as this may cause the plastics to deteriorate. Ensure the antenna is free to unwind.

5.2 Battery

The PLB1 contains Lithium batteries for long operating life. Your battery must be replaced after the expiry date or after the PLB has been activated, even if only for a short period of time. Battery replacement must be done at an Ocean Signal authorised battery replacement centre.

5.3 Transport

When shipping your PLB the following guidance and regulations should be followed, however you are advised to contact your nearest battery replacement centre or Ocean Signal prior to shipping as regulations may have changed. The PLB1 battery contains <2g of Lithium.



Always pack your PLB securely in a stout cardboard carton. Ocean Signal advises that you keep the original packaging in case of return for service.



For surface transport the PLB may be shipped “excepted” under special provision 188.



For air transport the PLB should be shipped as category UN3091 and packed under IATA packing instruction 970 section II. If you are hand carrying your PLB on an aircraft please contact your airline for advice.

5.4 Disposal

Care should be taken when disposing of your PLB. It is recommended that you remove the battery from the PLB by removing the case lid - the case screws are covered by the top label. Dispose of the battery in accordance with local waste regulations.

5.5 Specifications

406Mhz Transmitter

Frequency	406.037 MHz \pm 1KHz
Output Power	5W Typical
Modulation	Phase \pm 1.1 Radians Pk (16K0G1D)
Encoding	Biphase L
Rate	400 bps

121.5MHz Transmitter

Frequency	121.5 MHz
Output Power	25-100mW PEP
Modulation	Swept Tone AM (3K20A3X)
Modulation Depth	\sim 97%
Frequency Stability	\pm 50ppm
Duty Cycle	\sim 35%

Low Duty Cycle Strobe

Light Type	High Intensity LED
Light Colour	White
Intensity	1 candela (typ)
Flash Rate	20-30 per minute

Battery

Type	Lithium Manganese Dioxide (LiMnO ₂)
Operating	>24hrs @-20°C
Replacement Interval	7 years

GPS Receiver (rescueME PLB1 only)

Satellites Tracked	66 Channel
Sensitivity	-148dBm
Cold Start Re-acquisition	-163dBm
GPS Antenna	Microstrip Patch

General

Height of Body	76mm
Width of Body	52mm
Depth of Body	32mm
Weight	116grams

Environmental

IEC60945 Category	Portable
Operating Temperature	Class 2 -20C to +55C
Storage Temperature	Class 2 -30C to +70C
Waterproof	15m depth

5.6 Approvals

5.6.1 European Declaration of Conformity

- English** Hereby, Ocean Signal Ltd declares that this PLB is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC
- Finnish** Ocean Signal Ltd vakuuttaa täten että PLB tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen
- Dutch** Hierbij verklaart Ocean Signal Ltd dat het PLB in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG
- French** Par la présente Ocean Signal Ltd déclare que l'appareil PLB est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE
- Swedish** Härmed intygar Ocean Signal Ltd att denna PLB står i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG
- Danish** Undertegnede Ocean Signal Ltd erklærer herved, at følgende udstyr PLB overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF
- German** Hiermit erklährt Ocean Signal Ltd, dass sich diese PLB in Übereinstimmung mit den grundlegenden Anforderungen und den anderen relevanten Vorschriften der Richtlinie 1999/5/EG befindet.
- Greek** ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ Ocean Signal Ltd ΔΗΛΩΝΕΙ ΟΤΙ PLB ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/EK
- Italian** Con la presente Ocean Signal Ltd dichiara che questo PLB è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE
- Spanish** Por medio de la presente Ocean Signal Ltd declara que el PLB cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE
- Portuguese** Ocean Signal Ltd declara que este PLB está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE



5.6.2 Country of Intended Use (EU requirement)

Austria	✓	Germany	✓	Netherlands	✓
Belgium	✓	Greece	✓	Poland	✓
Bulgaria	✓	Hungary	✓	Portugal	✓
Cyprus	✓	Ireland	✓	Romania	✓
Czech Republic	✓	Italy	✓	Slovakia	✓
Denmark	✓	Latvia	✓	Slovenia	✓
Estonia	✓	Lithuania	✓	Spain	✓
Finland	✓	Luxembourg	✓	Sweden	✓
France	✓	Malta	✓	United Kingdom	✓

5.6.3 Industry Canada Approval

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

5.7 Registration

To register your beacon, contact your national registration authority via post, email or online. Provide your 15 digit HEX ID (UIN), 5 digit checksum if required, your contact details and emergency contact information. Some countries also require additional information such as boat type and identification or alternative emergency contacts.

For US registrations go to:
www.beaconregistration.noaa.gov/

For UK registrations go to:
www.dft.gov.uk/mca/mcga07-home/emergencyresponse/mcga-searchandrescue/epirb.htm

5.8 Limited Warranty

Your Ocean Signal rescueME PLB1 is warranted against manufacturing defects in materials and workmanship for a period of 7 years from the date of purchase and in accordance with the following conditions.

Ocean Signal will at its discretion, repair or replace faulty product free of charge excluding the cost of shipping. Proof of purchase shall be required in order for a warranty claim to be valid from the original purchaser. All claims shall be made in writing to Ocean Signal or an approved service dealer.

The PLB controls protective tab must be present and attached in order for the warranty to be valid.

Ocean Signal shall not be liable to the buyer under the above warranty:

- For any issues arising from fair wear and tear, intentional damage, misuse, damage from impact, product neglect or use in an environment for which the rescueME PLB1 has not been designed or failure to follow the product guidelines as stated within the rescueME PLB1 user manual,
- For any repairs or modifications carried out on the rescueME PLB1 using parts that are not supplied or approved by the manufacture Ocean Signal including batteries and for work carried out other than by Ocean Signal or approved service dealers,
- For any part, material or accessory that is not manufactured by Ocean Signal the consumer will be covered by the guarantee / warranty offered to Ocean Signal by the manufacturer or supplier,
- For product which has not been fully paid for,
- For any product supplied by Ocean Signal or approved distributor to a customer under an alternative warranty agreement,
- For the cost of shipping product to and from the customer.

The Battery is only warranted until the date of expiry and provided the unit is tested in accordance with the information provided in the user manual. This warranty does not apply to a used battery as indicated by the electronic witness (see page 9).

The following specific items are excluded from this warranty:

- Lift up flap and associated mechanism,
- Retractable antenna.

This warranty does not affect your statutory rights. This warranty is to be interpreted under English law.

For further assistance please contact our Technical Service Department.

Email: service@oceansignal.com

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