IN CASE OF EMERGENCY

USE ONLY IN CASE OF GRAVE OR IMMINENT DANGER

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

- **LIFT THE FLAP UP**

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

Hold for 1 sec

- **RELEASE THE ON 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.

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 PLB1 in a situation of grave and imminent danger. Deliberately misusing your PLB1 or accidental activation may result in prosecution and a fine.

Your PLB1 contains lithium batteries.
Please see section 5 for information on safe transportation.

The battery in your PLB1 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.

THE PLB1 WILL NOT FLOAT, unless fitted with a flotation pouch.

The PLB1 is not designed to be operated floating in water.
Hold above the water when activated.

Read these instructions carefully. Failure to follow the guidance in this manual may result in incorrect operation and loss of warranty.

Always refer to the manufacturer for specific instructions before installing this product directly to your life jacket or other personal flotation device.

1.3 COSPAS/SARSAT System

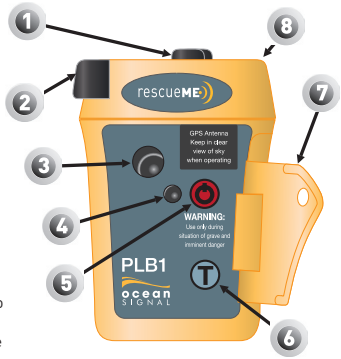
The COSPAS/SARSAT system uses two satellite arrays to provide distress alert and location data to search and rescue authorities. The GEOSAR system can provide near immediate alerting within the coverage of the receiving satellite. The LEOSAR system provides coverage of the polar region beyond the range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

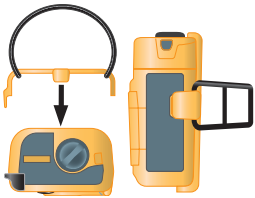
2. PLB1 OVERVIEW

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 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 securely clips to the PLB at the four fixing points.



The PLB can also be carried in the supplied (Australia and New Zealand units only) flotation pouch. Secure the pouch to your clothing using the belt loop on the rear of the pouch.

For non AUS/NZ customers the Flotation pouch is available as an accessory with part number 731S-04078.

When attaching the PLB1 to a life jacket or other personal flotation device ALWAYS refer to the manufacturer's instructions for correct installation.

Secure PLB1 using lanyard attachment

Once affixed using the cradle or pouch, the PLB should be securely tethered to your person or clothing using the supplied lanyard. This will guard against accidental loss if the PLB is unknowingly removed from its housing.

Following registration (see section 5.7) the PLB is supplied with a clear label to protect the UIN information on the rear of the product. Fit this before use.

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 LED flashes green, then release the key. Do not force the flap through more than 180º,otherwise the hinge may break.
- During operation the green LED will flash green once every five seconds while the GPS is obtaining a fix. Once a fix is obtained, the LED will flash green quickly three times
- Each time a 406MHz transmission is made the LED will flash quickly five times; green for transmission with a GPS position and red for a transmission without a position.
- The LED will flash red every 2.5 seconds while the 121.5MHz homing beacon is active.
- When operating the PLB1 over water, tether the beacon to your body or the life raft. Keep the PLB1 clear of water when operating. When operating on land, place the PLB1 flat on the ground if possible.
- Keep your PLB1 laying flat with the antenna standing vertically. Keep the area marked "GPS Antenna" free from obstruction, which can interfere with the GPS reception.

NOTE: **The PLB1 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 PLB1 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 PLB1 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 PLB1 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 PLB1 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 PLB1.

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

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

4. TESTING

NOTE: Allow at least 30 seconds between each test and/or activation. After all indicators have ceased flashing, the unit may still remain active for a short period of time.

Routine testing of your PLB1 is recommended to ensure it is in good working order when needed. Follow the guidance notes below on the frequency that tests should be carried out. Remember that each test will reduce the battery capacity slightly and reduce the operation time of your PLB1 during an emergency.

4.1 Beacon Test

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

NOTE: To test your PLB1 is functioning correctly, press and hold the T key. The LED will illuminate red to indicate the switch is depressed, followed by the LED flashing red rapidly. The key 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			Red Indicator	
No. of Flashes (repeated)		No. of Hours Use		Type of Failure
1	Green	NEW - Full Battery		
1	Amber	1hr to 1hr 59min	Red	121.5MHz homer
2	Amber	2hrs to 3hrs 59min	Red	406MHz generation
3	Amber	4hrs to 5hrs 59min	Red	406MHz power amp
4	Amber	6hrs to 7hrs 59min	Red	Replace battery
5	Amber	8hrs to 9hrs 59min	Red	Other failure
6	Amber	10hrs +		
Hours Remaining		24hrs - No. of Hours Use = hours left in the battery		

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 to test your PLB1 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 PLB1 will still operate normally in distress, but the battery should be replaced to ensure the full operating life when your PLB1 is needed.

4.2 GPS Test

As testing the GPS Receiver expends significant amounts of battery energy do not test the GPS operation more than once 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. The LED will illuminate red to indicate the key has been pressed, then start flashing. Shortly after, the LED will cease flashing and become a steady red light. The key can now be released.

During the GPS test the LED will repeat a long red flash followed by 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 LED flashing green. 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 LED flashing red. The test can be ended by holding the T key for five seconds.

4.3 Special note for Commercial and DoD Users

Should it not be possible to maintain the suggested test schedules, the interval for the two tests detailed above is:

Recommended:

Section 4.1 Beacon Test: 6 monthly

Required:
Section 4.1 Beacon Test: Annually
Section 4.2 GPS Test: Annually

5. APPENDIX

5.1 Maintenance

Your PLB1 requires 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 PLB1 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 PLB1 the following guidance and regulations should be followed, but 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 the PLB1 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 PLB1 may be shipped 'excepted' under special provision 188.

For air transport the PLB1 should be shipped as category UN3091 and packed under IATA packing instruction 970 section II. If you are hand carrying your PLB1 on an aircraft please contact your airline for advice.

5.4 Disposal

Care should be taken when disposing of your PLB1 should it be no longer required. It is recommended to remove the battery from the PLB1 by removing the case lid. The case screws are covered by the top label. Dispose of the battery in accordance with local waste regulations. Please note that the PLB1 is not user serviceable and removing the lid will invalidate the warranty.

5.5 Specifications

406Mhz Transmitter

Frequency	406.040 MHz ±1KHz
Output Power	5W Typical
Modulation	Phase ±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	~97%
Frequency Stability	±50ppm
Duty Cycle	~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 (LiMnO2)
Operating	>24hrs @-20ºC
Replacement Interval	7 years

GPS Receiver

Satellite Channels	66 (Acquisition)
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	115grams

Environmental

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