o c e a n
S I G N A L

User Manual

rescueME EPIRB1

**Emergency Position
Indicating Radio Beacon**

English

www.oceansignal.com

For ease of access please record details of your EPIRB here.

Owners Name: ....

Vessel Name: ....

Beacon HEX ID (UIN):   ....
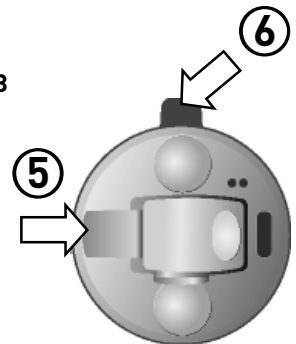
IN CASE OF EMERGENCY

USE ONLY IN SITUATIONS OF GRAVE OR IMMINENT DANGER

- **Remove the EPIRB from the bracket**

- **Pull the antenna out from the body to its full extent* by pulling on the red cap**

- **Remove break off tab**

- **Lift the flap up**

- **Press the ON key for one second to activate the beacon**

- **The green led will flash to indicate activation**

- **Release the ON key**

- **The strobe light will start flashing to indicate it is activated**

- **Remove the lanyard cover**

- **Holding the free end of the lanyard, throw the EPIRB into the water**

* Pull the antenna out until firm resistance is felt. The antenna will extend to 25.5cm.

Note: Refer to section 4.2 for deactivation instructions

rescueME)) EPIRB1 User Manual

1. GENERAL

1.1 Introduction

The rescueME range of products provide the user with the latest technology specifically designed for compact size and ease of operation. The EPIRB1 is an Emergency Position Indicating Radio Beacon (EPIRB) for manual release only. It is intended as a carry off EPIRB, but may also be used as a supplementary alerting device as specified in SOLAS regulations.

1.2 Exposure to RF Electromagnetic Energy

This product complies with EN62479 (EU) and RSS-102 (Canada).

1.3 Warnings

- **It is a legal requirement to register your EPIRB with your National Authority.**
- **Only use your EPIRB in a situation of grave and imminent danger.**
- **Deliberately misusing your EPIRB or setting it off accidentally may result in prosecution and a fine.**
- **Your EPIRB contains small lithium batteries.**
- **Please see section 6.3 for information on safe transportation.**
- **The battery in your EPIRB 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 EPIRB1 is supplied with a manual mounting bracket for internal or protected areas only. See the installation guidelines in section 2 for further information.**
- **Please read these instructions carefully. Failure to follow the guidance in this manual may result in loss of warranty.**

1.4 Operating Mode

Your EPIRB1 may be operated in a variety of modes.

1.4.1 Floating in water (a)

This is the preferred method of operation. Ensure the EPIRB is firmly tied to the life raft or person before deployment. (Auto activation on Class 2 only)

1.4.2 On deck (b)

When deploying the EPIRB on a deck, ensure it is vertical and clear of obstructions that might impede a clear view of the sky.

1.4.3 In a safety raft (c)

The EPIRB may be deployed in a life-raft, where it should be held in a vertical position so that there is a clear view of the sky, preferably outside of the canopy.
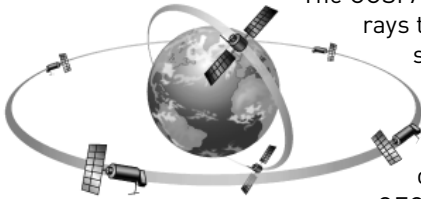
[a] Floating in water | [b] Deployed on deck | [c] Used in a liferaft
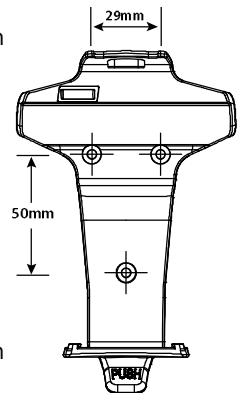

1.5   COSPAS/SARSAT System

The COSPAS/SARSAT system utilises 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. It can calculate the location of distress events using Doppler processing techniques and is less susceptible to obstructions which could block a signal in a given direction. The system is comprised of instruments on board the satellites which detect the signals from the distress beacons. Ground receiving stations, referred to as Local Users Terminals (LUTs) receive and process the satellite downlink signal to generate the distress alerts. The distress alerts, generated by the LUTs, 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.

2.   INSTALLATION

The EPIRB1 should be mounted where it is easily accessible in an emergency. The bracket should be securely fixed to a flat bulkhead using the three screws provided. Mounting dimensions are shown in the drawing. If the unit is to be mounted externally it must be mounted in the optional manual release housing to provide long term protection and to prevent the EPIRB being accidentally knocked off in heavy weather.

Do not mount the EPIRB closer than 1 metre to any steering compass as this may affect the accuracy of the compass. Keep the EPIRB away from any strong magnetic sources such as loudspeakers, compass compensation magnets, etc., which might cause inadvertent activation.

29mm

50mm

3.   EPIRB1 OVERVIEW

1)   Break Off Tab

2)   **ON** Key (Under flap)

3)   Strobe light

4)   Indicator LED

5)   Antenna pull grip

6)   Antenna rewind knob

7)   **TEST** Key

8)   Lanyard under rubber band

🛈   **The lanyard is provided to attach the EPIRB to the life raft or your person, once it is activated. Do not use it to attach it to the ship, as this may result in the loss of the EPIRB if the vessel sinks. Once the rubber band is removed pass the large loop over your hand to hold the EPIRB and then attach the small loop to the life raft.**

🛈   **It is important that the vessel details are marked on the EPIRB. Please use a fine tip UV resistant indelible pen to clearly mark the MMSI, Vessel Name and Call Sign in the spaces provided. Cover this label with the clear protective label provided to protect the text from wear.**

3.1   EPIRB Class
- Class 2 EPIRBs can be manually activated using the ON key. They will also automatically activate when immersed in water.
- Class 3 EPIRBs can only be manually activated using the ON key. They DO NOT automatically activate when immersed in water. Class 3 EPIRB1 beacons are only approved for sale in Australia and New Zealand.
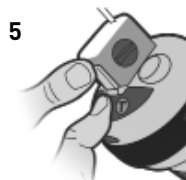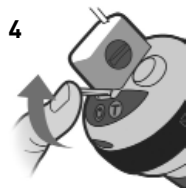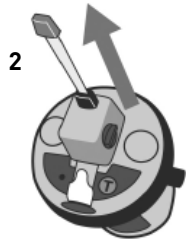
4. OPERATION

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

Ensure that your EPIRB1 is always fitted with an unused battery that is within the marked expiry date. Failure to do so may result in reduced operating time when used in a real emergency. Please observe the recommendations on testing in section 5.

4.1 Activation

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

- Remove the EPIRB from its bracket by pushing the tab on the bottom of the cradle down

- To activate your EPIRB in an emergency, pull the red antenna tab out completely until firm resistance is felt (25.5cm).

- Remove break off tab

- Lift the protective flap and press the ON key for one second until the green starts LED flashing and then release the key.

- During operation the green LED will flash once every five seconds while the GPS is turned on and obtaining a fix. Once a fix is obtained, the green LED will flash 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 Red LED will flash every 2.5 seconds while the 121.5MHz homing beacon is active.

- Hold your beacon with the antenna standing vertically. Keep the area marked 'GPS Antenna' free from obstruction, which would interfere with the GPS reception.

1

2

3

4

5

AUTOMATIC ACTIVATION (class 2): When placed in water the EPIRB1 will automatically activate in the same manner as above after a short delay.

When operating the EPIRB in water, tether the beacon to your body or the liferaft.

Note: The first alert is transmitted after 50 seconds to allow time to deactivate the unit if accidentally turned on. The homing beacon is not activated until after the first alert is sent.

4.2 Deactivation

To deactivate your EPIRB after use or if it is accidentally activated, press the ON key for one second until the indicator LED flashes red twice, then release. Rewind the antenna using the knob on the top of the EPIRB. Do not push the antenna back into the EPIRB as this may cause it to be damaged.

If the EPIRB was automatically activated due to immersion in water, remove from the water and dry thoroughly. The EPIRB will automatically switch off after approximately 30 seconds.

Should your EPIRB fail to deactivate, wind in the antenna and completely wrap the EPIRB in several layers of aluminium foil, or place in a metal container.

4.3 False Alerts

False alerts cause the rescue authorities unnecessary time and expense.

To avoid false alerts make sure your EPIRB is safely stowed with the protective flap closed and the antenna fully wound in. Make sure that there is no excessive pressure applied to the protective cover. Ensure that anybody carrying the EPIRB 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.

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

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

5. TESTING

Routine testing of your EPIRB is recommended to ensure it is in good working order if needed in an emergency. Monthly testing is recommended, but remember that each test will reduce the battery capacity slightly and reduce the operating time of your EPIRB during an emergency.

5.1 Beacon Test

🛈 **Pull the antenna out completely until firm resistance is felt (25.5cm) before commencing the test. Retract the antenna after the test.**

To test your EPIRB1 is functioning correctly, press and hold the TEST key for at least one second. The red LED will come on to indicate the switch is depressed, followed by the red LED flashing rapidly, indicating test mode is activated. The switch may now be released. The strobe light will flash once (indicating that the 406 and 121.5MHz signal has been transmitted).

After a short pause, the indicator LED will produce a flash sequence of either:

- 1 green flash; OR

- 1 to 6 amber flashes; OR

- 2 to 5 red flashes.

🛈 **This flash sequence is repeated a second time after a short delay and then the EPIRB1 will automatically turn off.**

Green/Amber Indicator *Changes to Amber after 1 hour of use		Red Indicator Status
No. of Flashes	No. of Hours Used	Failure Type
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
4 Flashes	6 to 8hrs (Amber)	Faulty battery
5 Flashes	8 to 10hrs (Amber)	Other failure
6 Flashes	Over 10hrs (Amber)	
Table 1: Pass/Fail indication		

The number of green/amber flashes in each group indicates the number of hours the battery has been used for as shown in the table

- 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 EPIRB once a month.

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

5.2   GPS Test

- **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 12 tests over the lifetime of the battery, after this the GPS test will fail to activate.**

- **This test must only be performed where the EPIRB 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 **TEST** key. The LED will illuminate red to indicate the key has been pressed, then start flashing. After approximately ten seconds the LED will cease flashing and become a steady red light. The **TEST** key can now be released.

Note: If the **TEST** key is released before ten seconds, the EPIRB will enter the self test mode.

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 green LED flashing. The number of green flashes indicates one more than the number of GPS tests remaining (eg 8 flashes = 7 tests remaining). The unit automatically turns off after the test indication.

If after five minutes the GPS receiver has not received a position, a failure will be indicated by the red LED flashing after which the unit will turn off.

The test can be ended at any time by holding the ON key for one second or by holding the **TEST** key for five seconds.

6. APPENDIX

6.1 Maintenance and Troubleshooting

Your EPIRB 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.

6.2 Batteries

The EPIRB1 contains Lithium batteries for long operating life. Your battery must be replaced either after the expiry date or after the EPIRB 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.

All Lithium batteries self discharge slowly over time at a rate that is related to temperature. Maximum performance of the battery is achieved with long term storage at an average temperature of no greater than 20°C.

6.3 Transport

When shipping your EPIRB 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.

- Always pack your EPIRB 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 EPIRB may be shipped under special provision 188.

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

6.4 Disposal

Care should be taken when disposing of your EPIRB when it is no longer required. It is recommended to remove the battery from the EPIRB 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 EPIRB1 is not user serviceable and removing the lid will invalidate the warranty.

6.5   Specifications

406MHz Transmitter
Frequency   406.040 MHz ±1KHz
Output Power   5 W (nominal)
Modulation   Phase ±1.1 Radians Pk (16K0G1D)
Encoding   Biphase L
Rate   400 bps

121.5MHz Transmitter
Frequency   121.5 MHz
Output Power   40mW±2dB
Modulation   Swept Tone AM (3K20A3X)
Modulation Depth   ~97%
Frequency Stability   ±50ppm
Duty Cycle   ~35%

Low Duty Cycle Strobe
Light Type   Dual High Intensity LED
Flash Rate   20-30 per minute

Battery
Type   Lithium Manganese Dioxide (LiMnO2)
Operating   >48Hours @ -20°C
Battery Replacement Period   10 years

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

General
Dimensions of Body   178mm x 89mm x 100mm
Weight   422grams

Environmental
IEC60945 Category   Portable
Operating Temperature   Class 2 -20C to +55C
Storage Temperature   Class 2 -30C to +70C
Waterproof   10m depth

Approvals
Cospas Sarsat standards   T.001, T.007
Test standards   IEC61097-2, RTCM SC11000-2

Class
Australia/New Zealand   Class 3 (Manual activation only)
RoW (except Aus/NZ)   Class 2 (Manual and Automatic activation)

6.6   Approvals

6.6.1   Marine Equipment Directive
The EPIRB1 is approved under the EU Marine Equipment Directive under Annex A,1/5.6 of the current implementing regulation for carry off purposes only. The Declaration of Conformity can be downloaded from: www.oceansignal.com/products/epirb1.

6.6.2   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.

6.7   Registration
It is a legal requirement to register your EPIRB with your national authority. Failure to do so may result in prosecution. Accurate registration will help the authorities if your EPIRB is activated and may speed up your rescue.

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 UK registrations go to: www.gov.uk/406beacon

For USA registrations go to: www.beaconregistration.noaa.gov

For Australia go to: www.amsa.gov.au/beacons

For New Zealand go to: www.beacons.org.nz

Details of other authorities may be found at:
www.406registration.com/countriessupported.aspx

It is important to make sure that registration details are kept up to date and that the authority is advised of change of ownership or disposal of your EPIRB.

6.8   Optional Accessories
Replacement Mounting Bracket (Class 3)... 703S-01597

Replacement Mounting Bracket (class 2)... 703S-01600

6.9   Limited Warranty

Your Ocean Signal EPIRB1 is warranted against manufacturing defects in materials and workmanship for a period of five 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.

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

- for any repairs or modifications carried out on the EPIRB using parts that are not supplied or approved by the manufacturer 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 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 in the user manual. This warranty does not apply to a used battery as indicated by the electronic witness (see page 8).

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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