



In 2019, a new service will allow an MRCC to indicate – through a suitably equipped EPIRB – that they have received the distress alert. The service is likely to be called the Return Link Service, but at the time of publication it is not part of the GMDSS service or subject to GMDSS oversight.

### False alerts

False alerts remain a problem for search and rescue organisations. EPIRBs need to be easy to use in an emergency, so it's inevitable that occasionally they might be unintentionally activated when there's no distress situation. If this happens, switch off the EPIRB immediately, and contact the Coastguard – **always**.

EPIRB Guard Receivers can help to detect when an EPIRB has been activated. They monitor EPIRB signals in a relatively small area around the vessel. When an EPIRB signal is detected, the Guard Receiver checks the transmission to see whether the EPIRB belongs to its own vessel, or to another vessel. It then gives an alarm. If the indication is "own ship" the Coastguard can be informed immediately of a "false alert".

### Installation

EPIRBs may be bought with a float-free bracket which enables their release automatically from a sinking ship. However, for small vessels such brackets may not be practicable, so the EPIRB should then be installed in an easily accessible position, ready to be manually released.



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### Deploying

EPIRBs should always be deployed in accordance with manufacturer's instructions and with a clear view of the sky. Often this is by securely tethering to a survival craft where they can float upright. Obstructions may block the distress alert transmission and any GNSS reception.

### Test and maintenance

Follow manufacturer's instructions on testing and maintenance to ensure the device remains capable of operation and with sufficient battery life.

### Registration

You must register your 406 MHz EPIRB with the Coastguard and keep your registration up-to-date. If your beacon is activated and a distress alert received, the search and rescue authorities will use the emergency contact information you have put on the register.

Registration and updates are free and available online at [www.gov.uk/406beacon](http://www.gov.uk/406beacon).

Or directly from the UK Beacon Registry.  
**T: 01326 211 569**

Photos are courtesy of the RYA/Paul Wyeth ([www.rya.org.uk](http://www.rya.org.uk)), Orolia Maritime ([www.orolia.com](http://www.orolia.com)), Sartech Engineering ([www.sartech.com](http://www.sartech.com)), ACR Electronics ([www.acrartex.com](http://www.acrartex.com)), Jotron ([www.jotron.com](http://www.jotron.com)) and Richard Thomas.

The photos in this leaflet are for illustrative purposes only. Other devices are available.



# Emergency Alerting

## 406MHz EPIRBs



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An Emergency Position Indicating Radio Beacon (EPIRB) is one of three means of distress alerting for Pleasure Vessels of 13.7m. Commercial charter yachts, powerboats and workboats are also required to carry EPIRBs when more than 60 nautical miles from a safe haven. It is recommended that EPIRBs and/or Personal Locator Beacons (PLB) are carried on vessels operating in high-risk environments. For information on PLBs, see our separate leaflet about personal emergency radio devices, available on gov.uk.



EPIRBs transmit a distress alert on 406 MHz to satellites operated by Cospas-Sarsat, an intergovernmental organisation. Cospas-Sarsat forward an identity and position of distress to a Maritime Rescue Co-ordination Centre (MRCC) to respond. EPIRB requirements were developed by the International Maritime Organization to send a distress alert automatically when a vessel is suddenly overwhelmed, as a back-up means of distress alerting, and to support locating survival craft. For this last reason, the operating life of SOLAS approved devices, once activated, is at least two days.



### Identifying the vessel

Each EPIRB transmits a unique code which needs to be registered to link it with the vessel and shore-side contacts. Some variants also transmit vessel maritime mobile service identity (MMSI). You MUST register your EPIRB with the Coastguard. If your vessel can't be identified because the EPIRB is unregistered, it could delay appropriate resources arriving on scene.

### Position fixing

Cospas-Sarsat can get the EPIRB position in two ways:

- by computing the position from how the satellites receive the signal;
- from the position sent by an EPIRB with a built-in Global Navigation Satellite System (GNSS).

A computed position accurate to within 5km may take as long as two hours. In contrast, an MRCC can expect to receive the position within a few minutes of a built-in GNSS achieving a fix.

### On-scene locating

A visual fix is essential to finally rescue a casualty, but a position fix supplied through the satellite system is 'old' by the time it reaches someone on scene. 'Old' meaning they will usually have to search to make a visual fix, due to a combination of drift, sea state and poor visibility.



To save time, EPIRBs provide signals for on-scene locating.

Present generation EPIRBs give local signals:

- a brilliant flashing light
- 121.5MHz homing signal, which relies on a direction-finding receiver as carried by lifeboats, Coastguard helicopters and other search and rescue assets, some fishing vessels and some other vessels. The radio homing signal generally has a range of a few nautical miles to a surface asset, much further to suitably equipped aircraft.

Devices which have floated free still drift and inform search plans.

### Future capabilities

Manufacturers will have the option to add automatic identification system (AIS) as an on-scene locating signal. The signalling is the same as the existing AIS-SART (search and rescue transponder) but is called EPIRB-AIS. Only the message is changed, replacing 'SART ACTIVE' with 'EPIRB ACTIVE'. The homing signal generally has a range of a few nautical miles to a surface asset, much further to a SAR aircraft.

