

EPIRBs and PLBs

April 2017

The most critical piece of safety equipment on any boat are personal flotation devices (PFDs). Another critical piece of safety equipment is a GPS-enabled satellite locator beacon(s). An EPIRB or PLB (with GPS) can, with one push of a button, nearly instantaneously send your identity and location to governmental rescue forces along with a distress call, from almost anywhere in the world. If you ever need help from the USCG, the EPIRB/PLB is your best friend.

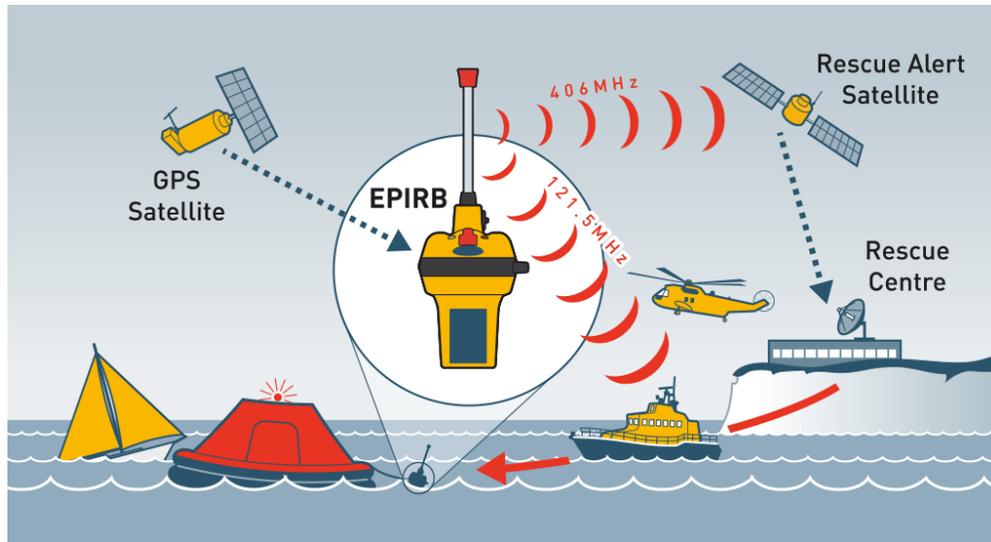
EPIRBs (*Emergency Position Indicating Radio Beacon*) and **PLBs** (*Personal Locator Beacon*) are locator beacon devices that, when activated in an emergency situation, will notify local governmental rescue authorities of your emergency and report your position to help increase the chances of a successful rescue.

EPIRB	PLB	Other
		
<ul style="list-style-type: none"> • Uses Official 406 MHZ global satellite system • Designed to be attached to the boat. • Detaches and floats if needed • Optional built-in GPS • Typical 2-3 days battery life (5yrs shelf life) • Requires NOAA registration • Approx \$400-700, No ongoing fee(s) 	<ul style="list-style-type: none"> • Uses Official 406 MHZ global satellite system • Smaller than an EPIRB, Designed for individual / personal use (boating, skiing, hiking, etc) • Optional floating • Optional built-in GPS • Approx 24hrs battery life • Requires NOAA registration • Approx \$200-400, No ongoing fee(s) 	<ul style="list-style-type: none"> • Various suppliers/systems. • Use private / commercial networks • Not directly connected to NOAA/USCG/Gov services. • Have various other features (send "ok" message, tracking, Sat Phone, etc) • Costs vary, \$75 and up • Nominal annual or msg fees.

Note: not all PLBs float! So when purchasing / renting one, make sure yours does.

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EPIRBS and PLBs use the Official Global Cospas-Sarsat 406MHz rescue satellite system and connect directly with governmental rescue services (i.e. USCG as depicted below), typically within 3 minutes. The devices require advanced registration, so the rescue center (USA=NOAA) knows the nature of the emergency (land/sea/etc), who the beacon is registered to, and helps avoid false-alarms.



A “plain” 406MHz beacon will self-locate to within ~ 3 miles. Whereas a GPS enabled unit will continuously update to within ~ 50 feet. Some 406MHz units also include older 121.5MHz local emergency homing signals, but these are generally less accurate and becoming outdated.

Note: As of 2006, Federal Regulations prohibit operation of older 121.5MHz and 243.0MHz only units.

A good rundown of emergency beacons is available at

<http://www.sarsat.noaa.gov/emercbns.html>
<https://www.navcen.uscg.gov/?pageName=mtEpirb>

Take the time to learn and to understand how these devices can be used to signal for help in a Mayday situation. **Every crew member of the boat should be familiar with the location and operation of the EPIRB/PLB, as there is no way to tell who will be required to operate it in an emergency.**

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REGISTRATION:

No matter which device you choose, it is imperative that you register it with NOAA (National Oceanic and Atmospheric Administration). Without registration, the beacon is essentially useless. Registration allows the Search and Rescue (SAR) authorities to identify whose beacon is going off, helping them deploy appropriate resources and avoid false alarms by contacting emergency contacts.

<http://beaconregistration.noaa.gov/>

To complete the registration, you will need the 15 digit hexadecimal beacon UIN number, manufacturer, and model. Additionally, if the beacon was previously registered (prior boat owner, etc), it is helpful to have the prior registration or have the prior owner release it.

Beacon registration is valid for two years, however; it is important that you update it whenever there is a change in your information. If you are using a PLB, we strongly recommend that you list your boat's information (boat name, color, sail #, etc) when prompted to complete the "Additional Data" section during the registration process.

The Rambler 100 incident in the 2011 Fastnet race shows how important proper registration is. Despite PLBs being activated, SAR forces were delayed in their response because the beacons were not properly registered. Read the report at <http://about.ussailing.org/AssetFactory.aspx?vid=16967>

BAYVIEW PORT HURON MACKINAC REQUIREMENTS

For the 2017 BYC Port Huron Mackinac race, 406MHZ EPIRBs/PLBs are STRONGLY RECOMMENDED.

While our race is not governed by US Sailing/World Sailing, their requirements are still instructive from an overall safety viewpoint. For example; US Sailing Coastal category race SER's require either a 406MHz EPIRB or floating PLB with integral GPS.

On the Great Lakes, a functioning and properly-registered EPIRB/PBL, paired with a radio with DSC distress signaling, will greatly enhance the likelihood of search and rescue forces finding you. This enables them to focus on the rescue and not

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on the search.

If you have any questions, please contact us at safety@byc.com, macchair@byc.com, office@byc.com or through the BYC office @ 313-822-1853

Note: The purpose of this article is to highlight concepts for how you and your crew can race as safely as possible. As always, ultimate responsibility for the safety of the crew and the decision whether to race or to stop racing is that of the skipper (RRS4, MSR2). This email is meant as a courtesy only and you should always refer to the Notice of Race, Sailing Instructions and Safety Regulations, which govern the race.

Credits to Matt Gallagher and the Chicago Yacht Club for the original content of this Sailing Safety Series Article