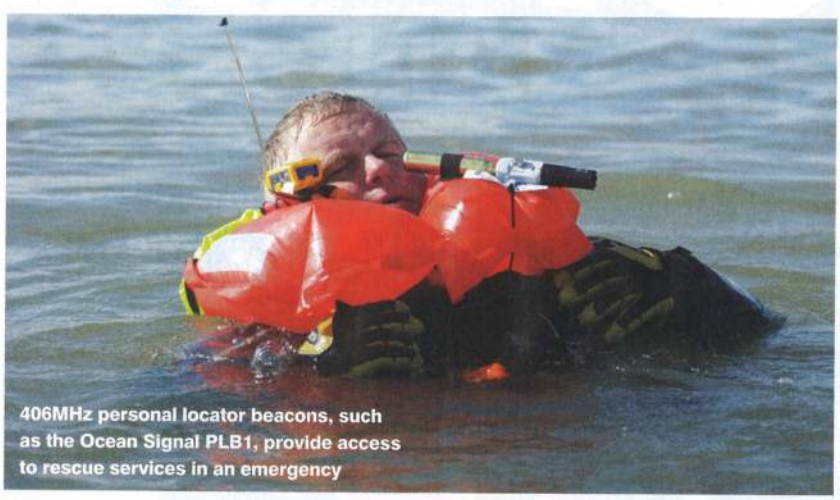
PLBs and personal AIS units

Rupert Holmes looks at the pros and cons of these clip-on lifesaving devices

ACR ResQLink View PLB

Not so long ago locating a crew member who'd fallen overboard in anything other than the most benign of conditions was a massive challenge. But thanks to personal locator beacons (PLBs) and personal AIS units this has fundamentally changed.

PLBs are small devices, typically fitted on a lifejacket, that send a distress message, including GPS position, via satellite to a coastguard operations centre. They work in a similar way to emergency position indicating radio beacons (EPIRBs), but usually require manual activation and have a shorter operational battery life (usually 24 hours).


406MHz personal locator beacons, such as the Ocean Signal PLB1, provide access to rescue services in an emergency

A newer type of gadget – personal AIS – both triggers an alarm on board your boat (usually via DSC) and transmits an AIS position that can be seen on your chartplotter and on those of other vessels.

In many situations, personal AIS will therefore be a better bet than a PLB that only transmits a position to a remote location ashore. Some personal AIS units can also be set to activate automatically when a lifejacket inflates.

But it's important to understand the fundamental differences between the two types of device.

Personal AIS transmits locally and enables the casualty's position to be displayed on the chartplotter of your own boat and others within a 2-4 mile radius if they're equipped with an AIS receiver – including lifeboats once near the scene.

By contrast PLBs transmit their primary 406MHz signal only to a remote rescue coordination centre. This can be helpful in raising the alarm and in deploying search and rescue assets, but doesn't help your own boat and others around you to locate a person in the water.

BUYER'S GUIDE

PERSONAL LOCATOR BEACONS

ACR ResQLink View PLB

■ **£317 (without screen or RLS £276)**

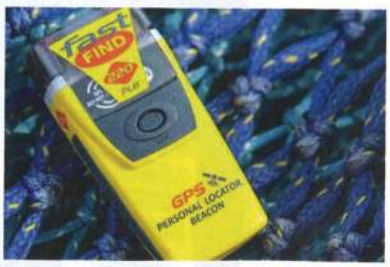
This personal locator beacon has a small LCD screen which fundamentally improves the user experience. The return link service (see panel, top right) pings back a confirmation that your distress altert has been received. The PLB425 is supplied with fittings to attach to a lifejacket or to a belt, or around your arm. The estimated battery life is five years. Alternatively, the lower cost ACR ResQLink PLB400 without the screen or RLS is available from £276.

Fastfind ReturnLink PLB with RLS

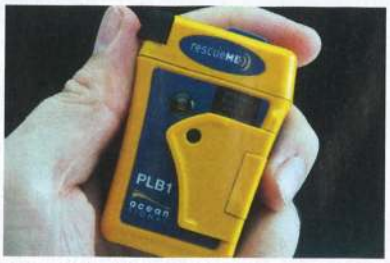
■ **£353**

The FastFind is a reassuringly sturdy

ACR AISLink



Fastfind Return Link PLB



Ocean Signal RescueMe PLB


Ocean Signal RescueMe MOB1 AIS

'If forced to choose, I'd likely plump for the personal AIS'

PLBs transmit a secondary signal on 121.5MHz, which is helpful for lifeboats homing in on a casualty, but other vessels are rarely equipped to receive this signal. Although the units are generally buoyant, all PLBs need the antenna to be held in the air manually and the body of the unit must be supported out of the water for the GPS antenna to work.

For some time there has been talk of combining both types of PLB and AIS into a single product. We know that development of this has been in progress for some time, but getting a new product through the rigorous testing and licensing takes an inordinate amount of time and expense for the manufacturer. ACR are currently developing something but we have yet to see it.

What's the best option? Ideally both a PLB and personal AIS for each crew member – that's what I have when racing offshore or undertaking long passages when cruising. Don't underestimate the massive step forward this represents – having both devices all but eliminates the search element of a search and rescue mission. Their adoption therefore ought to become widespread.

If forced to choose only one type, providing my boat was equipped with an AIS receiver, I'd likely plump for the personal AIS, particularly if sailing with other people on board and in an area in which there are generally other boats around to offer help if neccessary.

Latest Galileo launch on 11 December 2021

European Space Agency

What is RLS? Fox Morgan explains

How Return Link Service works

Galileo, the European Union's Global Navigation Satellite System (GNSS) constellation, became operational in 2017. This allows technology with a Galileo-enabled receiver to use global satellite signals for positioning, navigation and timing.

For the last decade or so, when we found ourselves in grave and imminent danger, we'd reach for our personal locator beacon (or any other emergency position indicating radio beacon we might have to hand) and then go through the activation procedure: find some open sky, deploy the antenna, point it skywards, make sure the unit is attached to us by lanyard, press that activation button and then, if we had done it correctly, we'd hear it beep and flash as confirmation that it was actively sending our radio signal into the great beyond.

Then we would wait and hope. We would have to keep our cool, manage our rations, tell a few jokes, reassure those we are with that help is probably on the way, and just hope that it really is.

At the turn of the decade, in 2020 the Galileo satellite system Return Link Service finally became accessible, allowing beacon manufacturers to get their latest devices through the rigorous testing and out to market.

The Return Link Service is essentially a confirmation message or visible and audible signal to acknowledge receipt of your distress signal. The guesswork is taken out of it and we now know that rescuers are indeed working out a way to rescue us. Where there's hope, there's increased survival odds. So RLS just upped the chances of survival if the worst should ever happen to us.

unit. The rubberised sections make it easy to grip, and it comes with a wide array of alternative fitment options to fasten this to your lifejacket or onto a belt or harness, plus it comes with a neoprene belt pouch.

Ocean Signal RescueMe PLB

■ **£261**

This compact product is designed for easy single-handed operation. It's supplied with fittings for attachment of the personal locator beacon to a belt or to a lifejacket. The estimated battery life is seven years.

AIS BEACONS

Ocean Signal RescueMe MOB1 AIS

Although this compact personal AIS beacon was introduced in 2015, it remains one of my favourites. It's a slim device that fits next to the oral inflation tube of a lifejacket. It can be set to activate automatically when the lifejacket inflates, although this is fiddly to set up and needs to be re-done every time the lifejacket is serviced. An integrated strobe light helps with precision location.

ACR AISLink MOB Personal Beacon

■ **£260**

This is another model that has a choice of manual or automatic activation and includes an ultra-bright LED strobe light. The battery has a seven-year lifespan and an operational life of 24 hours. The unit weighs only 92g.

McMurdo S20 Lifejacket AIS Beacon

■ **£175**

As standard this unit has to be activated manually, although if fitted professionally it can be set for automatic activation. Battery life is seven years, and it will power the unit continuously for 24 hours.

Simy My-AIS

■ **£250**

This compact model has to be activated manually, rather than being automatically triggered when a lifejacket is inflated. However, its size and shape mean it can be easily carried by crewmembers even if they are not wearing a lifejacket.

RIGHT McMurdo S20 AIS
FAR RIGHT Simy My-AIS