

WHEN DIVERS GO MISSING



TRANSMIT CONFIDENCE

JOHN BANTIN tests a new system for keeping divers safe – but will the dive-boat operators buy it?

“AREN'T YOU GOING TO FASTEN YOUR SEATBELT?”

I asked my Indonesian driver. “Why should I?” he retorted. “I’m not going to have an accident.”

This neatly sums up all safety equipment. If regulations didn’t force us to have them, we’d happily do without.

There was a time when not one Egyptian dive-boat used RIBs to pick up divers. They would instead reverse the liveboard vessel up to divers who surfaced by the reef.

Can you imagine how dangerous this was? No one had any small inflatable boats, and the boat-owners couldn’t see why they were needed. Then the better-class Egyptian boats started to use them, and now it’s normal practice.

I would hope they all have life-rafts and life-jackets now, too!

The German manufacturer of the ENOS would like to see every dive-boat equipped with its electronic diver

locating and recovery system, but it is having an uphill struggle persuading boat-owners to spend the rather large sums of money involved.

In Egypt, with boat-owners smarting over the recent rise in the price of their government-subsidised marine diesel (although it is still one-tenth the cost of marine diesel anywhere else in the world), they are hardly likely to want to splash out. After all, they’re not going to lose anyone, are they?

Would you pay a surcharge to book onto a boat that had such safety equipment? To buy a search unit and sufficient transmitters to equip every diver on board is expensive, but I took a set to Egypt and tried it out during my voyage on a liveboard dive-boat.

I chose Egypt because, along with European countries, the Maldives and the Seychelles, the ENOS System 869 operates with a radio frequency that is permitted in Egypt.

It is licence-free, and its use does not have to be reported to the appropriate authorities of these countries.

The system works in conjunction with GPS, which is operated by the US government. It works independently of any international rescue service, and as such has no operational charges attributed to it.

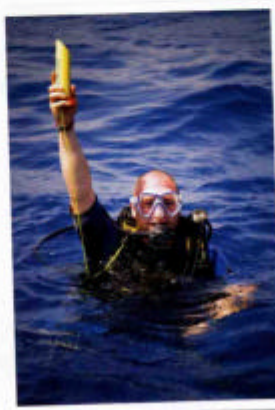
Each diver carries a transmitter that is activated at the surface only in an emergency. The boat carries a receiver unit that must be switched on the whole time the divers are in the water.

In the event of an emergency signal being put out, the receiver emits a loud noise, indicating to the boat crew that a rescue is needed.

At the same time, the transmitter

Below left: The diver holds the ENOS transmitter as high above the waves as possible.

Below right: The receiver must be on all the time while divers are down.



carried by the lost diver determines its position by GPS and transmits this to the on-board receiver. The receiving unit then calculates from its own GPS position the distance and direction of the emergency signal.

Only ENOS receivers can receive signals from ENOS emergency transmitters. However, if boats equipped with such receivers are in the area, they will all receive the signal.

The system is autonomous in that it has its own power supply and does not interact with any other rescue system (as, for example, an EPIRB does). The independent power supply means it can be used in a small boat such as a RIB.

Rather like VHF radio, it works by line of sight, and has a range of around 3km in a small boat. By positioning a separate antenna high up on the main vessel, it is claimed that the range of the ENOS system can be extended to 10km or more.

THE LOST DIVER AT THE SURFACE will have been carrying the transmitter in his BC pocket or clipped to his kit by its lanyard. He switches it on by twisting the base (and possibly breaking a seal), and holds it as high above the waves as he can while it triangulates on three satellites.

Once it has done this, it sends the emergency signal and position to the receiver unit back on the boat. There is an indicator LED on the diver's unit, but it is not necessary to observe this.

Provided the helmsman remembers to steer around obstructions such as reefs, he can head directly to where the lost diver is positioned.

If a group of divers have had an incident which results in them coming up all over the place and sending emergency transmissions, the receiver unit can log them all. These logged transmissions are deleted only once the divers are safely back on the main vessel.

I tried ENOS while aboard my *Miss Nouran* in the Red Sea. The receiver unit

BUOYED UP IN SIPADAN

BOB LATIF's SMB had lain unused in his BC for a decade...

I have dived around the world on holidays since 1996. I consider myself a very competent diver, relaxed in the water, cautious about risk assessments, careful in maintaining equipment and so on.

My wife doesn't dive, so I am normally Buddy No-mates, waiting each morning to see whose company I will enjoy that day. It's normally the guy trying to put the reg on backwards!

On my last visit to Sipadan in Malaysia I was separated from my group in high currents in the blue. Surface conditions were choppy and visibility low. It was overcast and rainy.

After a two-minute search for my buddy, I ascended. In my BC pocket was a 10-year-old plastic SMB that I had never used before. I took it out of the pouch, avoiding the rusted eyelet, and anxiously started to unfurl it.

I don't own a reel, but had rolled a 10m safety line around the

buoy, which looked undamaged. The line appeared intact. I sent the SMB up from 7m – the first time in my life I had needed to do this.

Although no one spotted me until I surfaced and used my extended arms to wave the SMB around, in that light and in those conditions I would have been very hard to spot without it.

I wanted to conserve as much air as possible, in case of an extended stay, so I avoided using the regulator, but foolishly I didn't have my snorkel with me, which added to my discomfort in the choppy water.

I escaped a potentially dangerous situation in relatively good humour, but had the 40 minutes I was out there alone become three or four hours, I would have been far less philosophical.

Think about worst-case scenarios and have a selection of life-saving equipment on hand. Even if you rent your gear, have a simple SMB, put it with a CD reflector in your pocket and have a snorkel available. It may be cumbersome, but one day you'll thank your lucky stars you bothered. Most importantly, if you don't often, try to practise using the SMB from time to time.

was connected to a VHF aerial rigged high up on the boat's cross-trees to give it as much range as possible.

You can use a small aerial attached directly to the unit in its watertight case, and this might suit small boats, although a dive club's RIB could have the larger aerial rigged to its A-frame. The GPS aerial needs only to see the sky.

My first problem was that *Miss Nouran's* RIB coxswains were too efficient at picking up surfacing divers. The safety beacons were held up above the water and the receiver unit squawked that there was a diver who needed rescuing, but the diver was always out of the water before a unit could have time to triangulate on the required three GPS satellites, so no position was transmitted before the unit was switched off.

I decided to send someone out in a RIB. If you were really lost, you would give the ENOS transmitter plenty of time to lock on. In the event, it took about four minutes for the diver's transmitter in the boat to lock onto the required number of satellites. Then it worked as "sweet as a nut".

The transmitter's position relative to

the receiver on the main vessel was given as a bearing and as a distance. It was simple. Because the information is transmitted by radio, the range of the unit is limited by the curvature of the Earth. The higher the receiving aerial is positioned, the further it can "see".

The diver's unit is slightly buoyant, so in a worst-case scenario it could still bob in the water and do its job.

Like any emergency equipment, you install it hoping you never have to use it. It's not for routine diver pick-up. It's an expensive system but I, for one, would feel more confident booking onto a dive-boat that used it.

GROUPS OF DIVERS travelling to Egypt have the option to rent the equipment from the local delivery agent and take it on board with them, but they must be sure that someone who knows how to use it is always with the receiver unit while they are in the water.

A receiver unit and six emergency transmitters costs 500 euros to rent for a week's trip – 200 for the transmitter and 50 each for the receivers, plus deposit – that's about £66 a head.

A boat operator buying the ENOS system would pay 2980 euros for a receiver and 7400 for 10 transmitters.

That's well over £8000 plus sales tax, custom tax and delivery, so you can imagine why they might hesitate.

My thanks to Rahim Hamada and Captain Tarek from *Miss Nouran*, plus divers Andrew Ware, Tim Bagnall, Andy Earnshaw, Stuart Yates and Simon Rispin from Cold Bath Divers in Yorkshire for helping me with the research for this feature. ✉

• ENOS is made by Seareq, www.seareq.de. The rental service, also in Germany, is Dive It, www.dive-it.de

Below, from left to right: A diver with the ENOS transmitter unit; the receiver antenna mounted on the boat; the receiver unit controls and display.

