

# Breathe easy

Some boat odours are nasty, but beware, what you can't smell could kill you!

The name 'gas detector' is a somewhat generic term commonly given to devices that sound an alarm if they sense the presence of flammable gases such as LPG or petrol fumes, but these aren't the only invisible gases we ought to be concerned about.

Less spectacular than an explosion, but nonetheless dangerous, is poisoning by odourless Carbon Monoxide (CO) and Nitrogen Dioxide (NO2) contained in engine exhaust gases.

Some incidents result from faulty maintenance or cracked exhaust pipes (as was the case a few years back in Pittwater, where several people died), but more commonly crew are affected by fumes blown on board by a following wind, or sucked into the air-wake in the same way that exhaust can be drawn into a car through an open back window.

EVRSafe is a recently released Australian product that combines sensors for hydrocarbons, CO, NO2 and smoke, in a single sensing head.

In the illustrated ISS-1040 model, four of these heads are installed in suitable locations (e.g. helm, engine space, galley and sleeping cabin) and connected to a central display. Audio and visual alerting occurs before dangerous levels are reached, with the type of gas, its location, concentration and whether it's getting worse or decreasing.

This is a very sophisticated system, able to issue spoken word instructions about how to respond (e.g. "open fore-hatch") and it can even be wired to automatically turn on extraction fans if dangerous levels are reached (perhaps while the boat is unattended).

It also logs data for the past year, so a CO level for example gradually increasing over some weeks can be detected early and investigated before it becomes dangerous.

EVRSafe also addresses one of the problems afflicting sensor systems generally — slow changes in sensitivity over time — by offering a sensor swap-over service at recommended two-year intervals.

For more information visit [www.evr-safe.com](http://www.evr-safe.com).

## BLUETOOTH TO BLUE LOO

It's marvelous what synergy can develop when initially unrelated technologies are brought together in one device. Take GPS, Photovoltaics, lithium batteries and wireless communications, put them together and you can end up with the Solar Bluetooth GPS receiver ([www.gtop-tech.com](http://www.gtop-tech.com)) — a portable self recharging umpteen channel GPS receiver that can output NMEA data wirelessly via Bluetooth to a laptop or PDA.

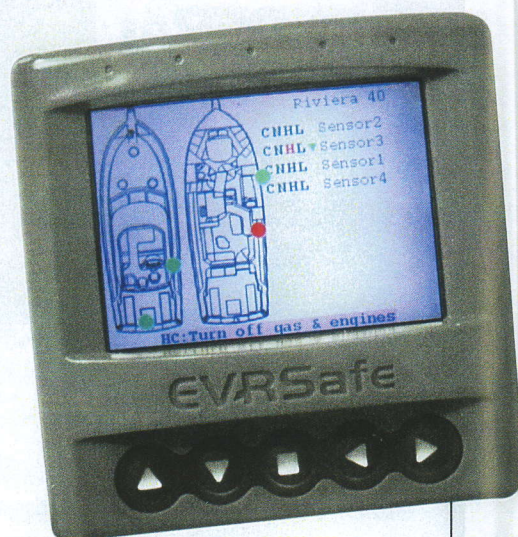
Add lots of data memory and you have a data logger such as the i-Blue 757 ([www.transystem.com.tw/p-gps.htm](http://www.transystem.com.tw/p-gps.htm)) that can also keep track of its own position and later display its past track on Google Earth.

You probably won't come across either device in your local chandlery — they're not designed for marine applications and aren't waterproof, but flexible clear plastic enclosures are cheap enough, and GPS, Bluetooth and to some extent the Solar Cells will work through it. So you can put the GPS where it works best, and the laptop or PDA running chartware where it's safe or convenient, without any interconnecting wires, even for power.

Electronics is also being increasingly combined with small-scale chemical and mechanical systems. At the Sanctuary Cove Boat show for example there were several locally developed on-board sewage treatment systems that meter in small doses of chlorine or ozone to sterilize waste before it's discharged overboard (or stored temporarily in holding tanks).

Although the simplest meter in liquid pool chlorine (e.g. [www.sani-loo.com.au](http://www.sani-loo.com.au)), others generate Chlorine (e.g. Sani-tank [www.nwsa.com.au](http://www.nwsa.com.au)) or Ozone ([www.aquaviro.com.au](http://www.aquaviro.com.au)) using electrolysis and suitable electrodes.

Unfortunately such 'treat and discharge' systems are not approved in NSW where authorities still expect boat owners to put up with the unpleasantness and health risks associated with storing untreated waste before discharging it ashore. ⚓



Spot any mystery gas with EVR Safe.

Out of the blue — wireless GPS.

