

Danger lies in the darkness



Steve Hopkinson and wife Rachel thank their lucky stars for the latest electronic addition to their crew, an Automatic Identification System, when they find themselves on a collision course with a large ship.



My wife Rachel and I bought our first yacht about 13 years ago and quickly got hooked on cruising. We live on board and have so far cruised New Zealand, Tonga and Vanuatu. At that rate it will probably take 20 years to get around the planet but there's no rush.

We sold our last yacht two years ago in Brisbane and bought a slightly larger Robert Perry-designed cutter-rigged sloop, *Freelife*, so we would have room to carry a few more supplies on board. This yacht also has a GRP hull and is long-keeled.

Freelife is an ex-north American yacht that hadn't been offshore for about six years prior to us purchasing her, so we have spent the past 18 months gradually working her up to an offshore standard, while doing a bit of work and enjoying the Queensland coast.

As I type this we are anchored at Bongaree on Bribie Island. There is a cold SW wind outside, and I am appreciating the benefits of our new solid-fuel heater keeping things nice and warm inside. But this article is about another new piece of equipment that I was a bit dubious to install, but after an incident in the early hours of one morning I am a convert.

Risk of collision

I have Scottish heritage and my wife is half Dutch so for us to spend \$1,400 or

so on a piece of equipment is a big ask. One of the issues I wanted to address in setting *Freelife* up for offshore use was to reduce the risk of collision.

I was actually thinking of offshore passages and not really coastal passaging because offshore we often heave-to in heavy weather. Fatigue, reduced visibility and sometimes reduced ability to manoeuvre due to the sea conditions increase our exposure to the risk of collision with some 150m-long steel juggernaut travelling at 15 knots-plus.

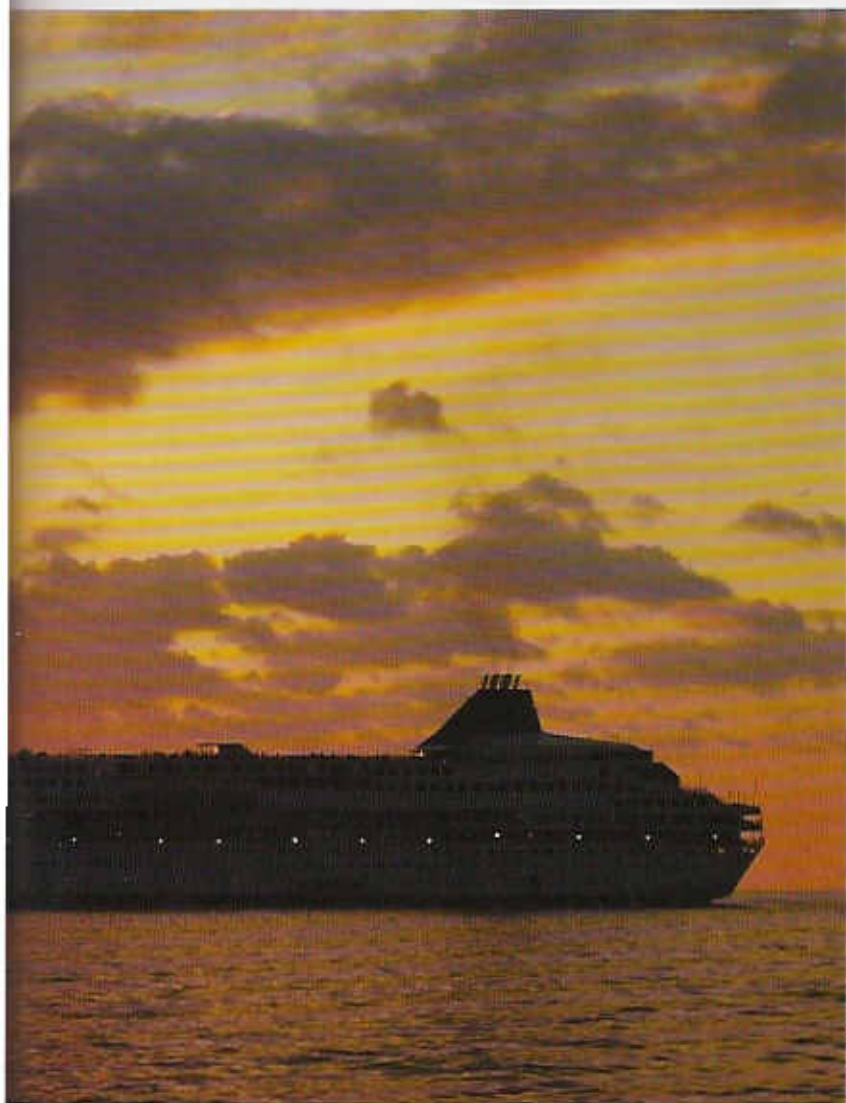
I have never been a great fan of radar for this purpose, for a couple of reasons. As I mentioned before our heritage and lifestyle encourage us to be frugal, and while we are not purists and would not be without our engine, we tend to start it only every couple of weeks to keep it in

good order. Not to say we are cheap, but we have been known to sit becalmed mid-ocean for three and a half days before the subject of perhaps starting the engine to continue progress is even broached.

This means that electrical power is limited to solar and wind generation, so power consumption is an issue. Modern radars are much better in this regard these days but even in sleep mode power usage per 24 hours is an issue. Other problems with radar is the issue of degraded performance in heavy rain and false guard alarms triggered by squalls.

AIS

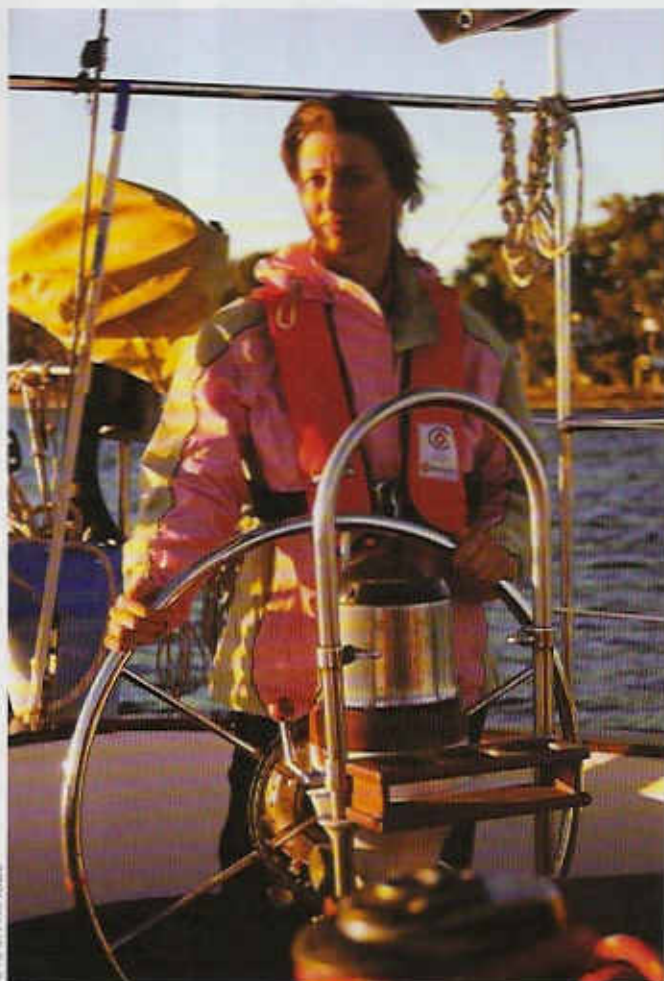
I had been intending to use a marine radar detector like CARD, but when researching what was available I came across an article in *CH* about the



BELOW Rachel on the helm of Freelifie at a less stressful time.

LEFT: Ships can travel at up to 18 knots.

OPPOSITE PAGE INSET Screen grab from the AIS.



STOCK IMAGES

WatchMate made for yachties. I had been put off an Automatic Identification System (AIS) — a coastal tracking system used on ships for identifying and locating vessels by electronically exchanging data with others nearby — previously because many interfaced with power-hungry plotters and laptops, but this system is designed for minimal power consumption (we are talking in milli-amps here). Because everything more than 300 tonnes has to have a transponder these days it seemed like it would fit our requirements. Even if you as a small boat owner buy just a receiver and not a transponder you are still going to be able to see what large vessels near you are doing.

I forced my not-very-long arms into my relatively deep pockets and purchased the WatchMate system.

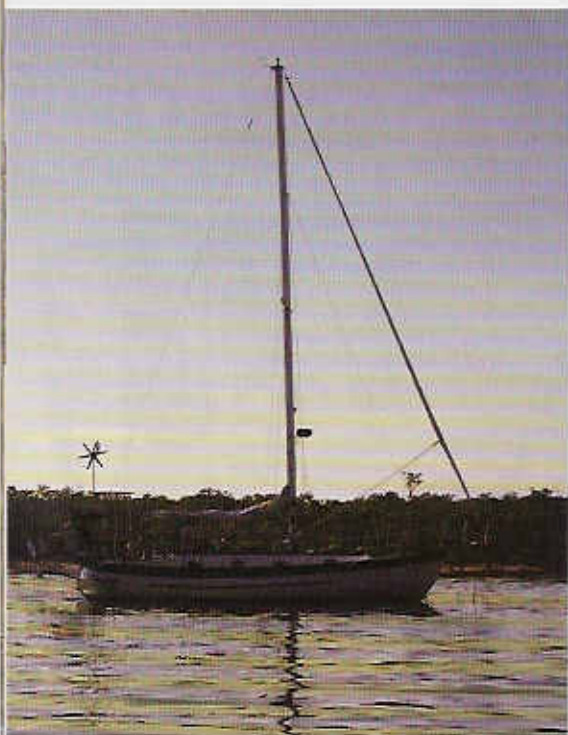
The day it happened

Now fast forward. We are heading south and had crossed the Wide Bay Bar about 1300. There was a very light five-knot NE sea breeze, and I had to use the motor. Fortunately after rounding Double Island Point a westerly wind came up and we had a great sail through the night. After a couple of hours I started to see the odd ship, and I excitedly popped downstairs to try the new WatchMate.

I turned it on and its guard alarm screamed at me I amused myself by reading the ships' names, dimensions, cargo, destination, speed, course etc. I didn't bother to hook the GPS up to it at this stage: I was just playing to see if it worked and because it didn't use much power I left it on.

Around midnight our nice 20-knot westerly wind moved SSW in an eye blink and what had been a lovely reach became a beat to windward, and we were unable to lay our course. The overnight temperature was around nine degrees and our apparent wind had gone from 15 knots over the boat to 25 with the associated wind chill.

Around 0200, as we got closer to Caloundra Head, shipping got heavier. I had been expecting this, and I had plotted a course to avoid the main shipping channel coming into Moreton Bay because there is plenty of water for a yacht on the land side of the channel near the entrance. By the time we were east of Caloundra Head, the entrance to the main NW channel into Moreton Bay was starting to resemble traffic on the Sydney Harbour Bridge at peak hour.



Trying to visually identify who was doing what was becoming difficult so I plugged the GPS into the WatchMate and its little screen, like a radar display, showed everyone at a glance in relation to me. It revealed that some of the big ships were at anchor, two pilots boats were working, two 20m trawlers seemed to be floating around not really going anywhere and numerous large vessels were coming in or out of Brisbane, some at a sedate seven knots and others at 18 knots.

If one of the vessels altered course to bring their closest point of approach within one mile of me, I had set it to sound an alarm so I would know they would pass close even if they were still a dozen miles away. It's amazing how quickly a dozen nautical miles disappears when I am travelling towards a ship at five knots and he is heading for me at 18 knots.

Handy

About this point I was feeling better at having spent the money on the system because I had not really thought how handy it would be at times like this. To compound the problems Moreton Bay and Caloundra at this point is a sea of lights, anchored ships, moving ships, urban lights along the coast, numerous navigation beacons etc, often making it



LEFT Freelifie recovering at anchor after arrival in Brisbane.

ABOVE Steve using WatchMate.

ABOVE RIGHT The WatchMate display unit.



difficult to discern a ship's lights from other lights behind them (or as I was about to discover, my tricolour light from lights behind it).

I was now approaching the beacon where shipping enters or leaves the main NW channel into Brisbane. It was clearly visible off my port bow. We were sailing between Bray Rock off Caloundra Head and this beacon. Because shipping passes this beacon south and east of it, I felt reasonably safe being closer to the land and avoiding the shipping channel.

The Da He

When we had closed to within about half a mile of the beacon I could see that of the 10 vessels in the vicinity only one, the 275m-long cargo vessel Da He, would be passing close to me. He was currently rounding this beacon just SE of it, leaving Brisbane. I assumed his course would be north because his destination was Shang Hai. He would have to turn due west to be a threat to me and since this would be towards Bray Rock and Caloundra Head only a mile or so off, I was feeling safe.

MORE ON THE WATCHMATE

The price of the WatchMate when purchased was:

- WatchMate display \$890
- AIS receiver \$380
- VHF splitter (to use your existing VHF antenna) \$180

Total was \$1,480, but at the time they had a package deal and all up it cost \$1,225 including \$30 freight.

Aquatronics Marine in Brookvale NSW, www.aquatronics.com.au, was the supplier.

As I had split the distance between Bray Rock and the beacon, I was at this point only half a mile NW of the beacon. Rachel and I watched as the Da He executed a tight turn to port around the beacon at a snappy 17.8 knots (according to the AIS), and we were just starting to relax with no other shipping close when to our horror the Da He kept turning to port!

I have no idea why he did this because at his speed he could only hold that course for a few minutes before he would have piled onto Bray Rock. There was no pilot boat in that area to take off the pilot — perhaps he was bored and felt like throwing in a tight turn or maybe he just forgot to straighten the wheel after rounding the beacon? After this incident he continued on his course north along the coast, but whatever the reason we suddenly found him coming straight at us: a 275m-long, 32m-wide and seemingly impossibly tall battering ram, travelling at 17.8 knots towards little us, only five cables away.

I told Rach to immediately turn to starboard and start the motor; it was clear that with our combined speeds he was going to be on top of us in about a minute. I cleared the companionway steps in one bound and dove across the nav station for the VHF. As I did this I saw on the AIS screen that his speed was still 17.8 knots and our closest point of approach (as if I needed any reminding) was 0.0nm.

On the VHF

I ripped the VHF mic from its clip and for the first time ever I found the emergency button to switch to channel 16 did indeed have a reason to justify its existence. I punched this and transmitted the following, having no problem creating an edge of urgency to my voice that would hopefully make it stand out from the general chatter. "Da He, Da He this is the 35-foot-yacht Freelifie, Freelifie. You have turned directly towards me,

I am turning to starboard." Fortunately the edge in my voice and being able to use the ship's name brought the instant response. "Freelife, Freelife, This is Da He. Continue your turn to starboard, I am turning to port."

As I scrambled back up into the cockpit Rach had the motor going and had sensibly already continued her turn to starboard, trying to place us away from his line of advance. To their credit, the crew of the Da He, probably as the ship had already been turning to port, pulled her into a very tight and rapid turn to port that I didn't think a ship that size could do.

Our combined efforts averted disaster for us anyway. At the closest, we came to within 100m of each other. At 17.8 knots the Da He would cover 100m in about 10 to 15 seconds. Full credit to the ship's crew because I don't think we could have moved fast or far enough to avoid being hit, had the Da He continued towards us. Their rapid action saved our bacon.

When I spoke to the ship later the officer I had initially spoken to stated

"Whatever the reason we suddenly found him coming straight at us: a 275m-long, 32m-wide and seemingly impossibly tall battering ram, travelling at 17.8 knots towards little us, only five cables away"

that our masthead light had been initially hard to pick out. I hadn't realised that initially he would have had the two big ships at anchor both lit up like Christmas trees behind us, and later as he rounded the beacon and turned towards us the numerous lights of the city of Caloundra would have been right behind us.

I think the real hero in this piece though is the WatchMate. The vital key to averting the collision was the ship's name. Given that there were so many ships in the immediate vicinity I think the outcome would have been different if my radio transmission had started along the lines of, "Large vessel heading north off Caloundra Head . . ." The delay in figuring out who I was talking to would only have to have been about 15 seconds for things to have gone very differently.

Hindsight is a wonderful thing, but the next time I am approaching a choke point with lots of shipping, even if I am not in the ship channel it might be good if I were running my lower lights rather than the tricolour. My tricolour is rated for minimum of two nautical miles of visibility, but the two lower sidelights might be more visible. Next time I am going to pass relatively close to a fast moving ship I will get the name of the ship from the AIS, call them up, and just let them know I am in the vicinity.

cruisinghelmsman Steve Hopkinson



Steve and Rachel are permanent cruisers who pick up a variety of work as they move.

It's Not SEXY looking but the AISWatchMate

is the only effective AIS (Automatic Identification System) computational display on the market.

- Simple to operate
 - Clearly displays vessel details
 - Prioritised AIS target list or radar view
 - Unique CPA feature - graphically displays position for each vessel at CPA (no calculations required).
 - Unique Alarm profiling system minimises false alarms
 - Add on to your existing receiver or transponder system
 - Clears the AIS clutter from your chart plotter while keeping you informed.
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