Clever cruising

A sail on *Celadon* reminds Rebecca Hayter that a year is a long time in the warp-speed world of marine technology.

Photos: Mike Hunter

Auckland yachtsmen Richard Macalister and Chris Urry had expected to have their new Elliott 1650 Tourer on the water more than a year ago but, as she neared completion, she caught the attention of an Australian yachtsman and he made an offer they couldn't refuse.

So she went to Brisbane, as *Jackpot* (*Boating*, May 2008), but her sister, *Celadon*, is now sailing and sporting several examples of new technology that was barely available way back in 2008.

Macalister is managing director of Kiwi Yachting, a distributor of sailing systems that he founded 20 years ago. The role means he is a regular visitor to the METS trade show in Amsterdam and it was there that he spied some new products for *Celadon*.

Macalister and Urry and their wives, Isabel Macalister and Sally Urry, were partners in an Elliott Tourer 1450 in the late 1990s. They are diehard fans of the performance of Elliott designs and the single-level, indoor-outdoor flow of the Tourer range.

Plans for *Celadon* include some fun racing and cruising, initially around the coast and possibly offshore.

Chic compass

Either way, one of the smartest members of her crew will be the cellphone-sized, Nexus HPC compass in the lazarette. Macalister describes it as "a revolutionary piece of kit".

To explain why, he first points out that the heart of a conventional, fluxgate compass is a magnetised card floating in oil. The oil allows the card to maintain its attraction to magnetic north and a horizontal attitude, even as the yacht changes direction and angle of heel. But the card can sometimes struggle to keep up with sudden changes of direction, such as pre-start manoeuvres, or even stick if the yacht heels more than 30 degrees.

Enter the HPC compass. It uses solid-state technology and has no moving parts. The HPC brochure claims it will work to a heeling angle of 60 degrees but, as Macalister demonstrates, it will actually work upside down. Luckily the compass was not in the boat at the time.

Exactly how it works is well beyond my meagre grasp of physics and, thank goodness, the scope of this article, but I guess it's a matter of trusting that the technology is closely aligned to the Earth's magnetic field. The HPC compass knows the fore and aft trim of the yacht, its angle of heel, its roll and its heading. The compass can also assimilate and use, almost instantly, data from the yacht's wind instruments, which means it can combine all this information, whizz through some frightening trigonometry, and give a constant, accurate bearing of the true wind.

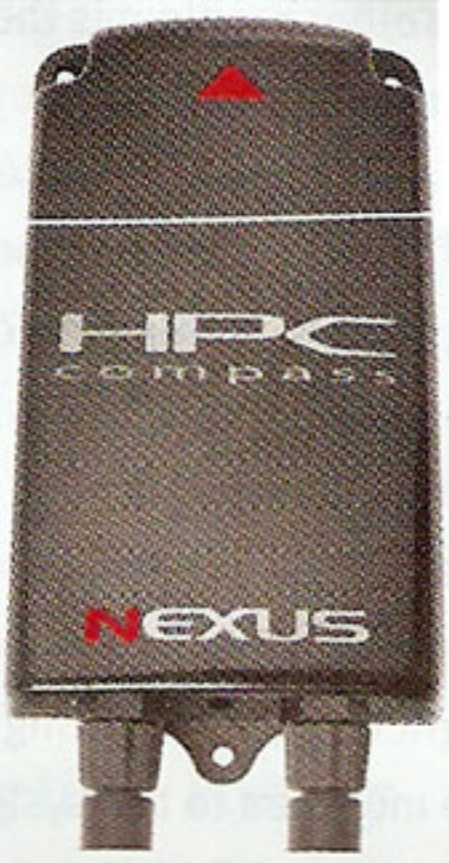
Macalister says this technology has been around for a while but the break-through for Nexus was being able to calibrate the compass when it was installed on the yacht, so that the information was accessible. Thanks to that break-through, calibration is similar to the usual process of swinging an electronic compass: keying in the appropriate set-up menu and taking the yacht slowly through 360 degrees.

As a racing yachtsman – Macalister was onboard Peter Blake's dismasting of *Ceramco* – he says the ability to know the true wind, regardless of how much the masthead is heeled, is hugely beneficial for racing. For *Celadon* however, the big

benefit is for the autopilot when cruising. The HPC compass takes out the confusion of the yacht's pitching, rolling and heel and simply gives it the true wind angle. This can mean less work for the autopilot and therefore a lower power requirement.

There are other aspects that make life easy on *Celadon*. Like *Jackpot*, *Celadon* has a Swingthruster. This bow thruster resides inside the hull beneath the for'ard berth. When required, it pivots down on its piece of hull section to immerse the propeller. When raised, its section sits flush with the hull, creating no drag. Its installation suits the shallow forefoot which would be unable to take a conventional bow thruster in a tunnel.

It is equally easy to control the sails, thanks to the neat row of eight, stainless steel buttons on both helmstations, which will obediently hoist or furl the Leisurefurl mainsail, unfurl or furl the



HPC COMPASS FROM NEXUS

The HPC compass uses solid-state technology and has no moving parts, so is virtually unaffected by a yacht's pitching, roll and angle of heel. The HPC compass can assimilate and use, almost instantly, data from the yacht's wind instruments so it can give a constant, accurate bearing of the true wind.

genoa, ease and sheet-on the vang, and ease and tension the Navtec backstay. The main boom is controlled by twin blocks on the coachroof and, with no traveller, needs virtually no attention other than trimming the single-line mainsheet from the console in front of the helmstations.

Most control lines run under the decks to emerge at Lewmar jammers and winches, including one electric, in front of the helmstations. The sail wardrobe also includes a furling staysail, a furling storm jib and another new development, a furling gennaker, more accurately known as the Facnor Asym-FX furling gennaker.

Gennaker genius

The furling gennaker is one of those treats that has trickled down from Open 60 racing technology to the average yachtie. Just like a code sail, the furling gennaker has its own furler drum, which secures to the foredeck prior to hoisting, and a special swivel at the head. There is no sock.

At the hoist, the sail – still furled up tight – slithers skyward and snake-like on the halyard. The crew unfurls it by pulling an endless line on the furling drum – it takes about 10 seconds to full set. The sail gybes in the normal way.

The gennaker furls in a similar way to a code sail, but with one major difference. A code sail has a strong, in-built vectran luff which acts like a forestay; when the furling drum turns, the sail furls evenly along the length of this luff.

FACNOR ASYM-FX FURLING GENNAKER

The Facnor Asym-FX furling gennaker is Open 60 racing technology. Like a code sail, it has its own furler drum and a special swivel at the head. There is no sock. The gennaker furls around an anti-twist luff rope, enabling quick, tidy hoists and drops for racing, and easy gennaker handling when cruising.

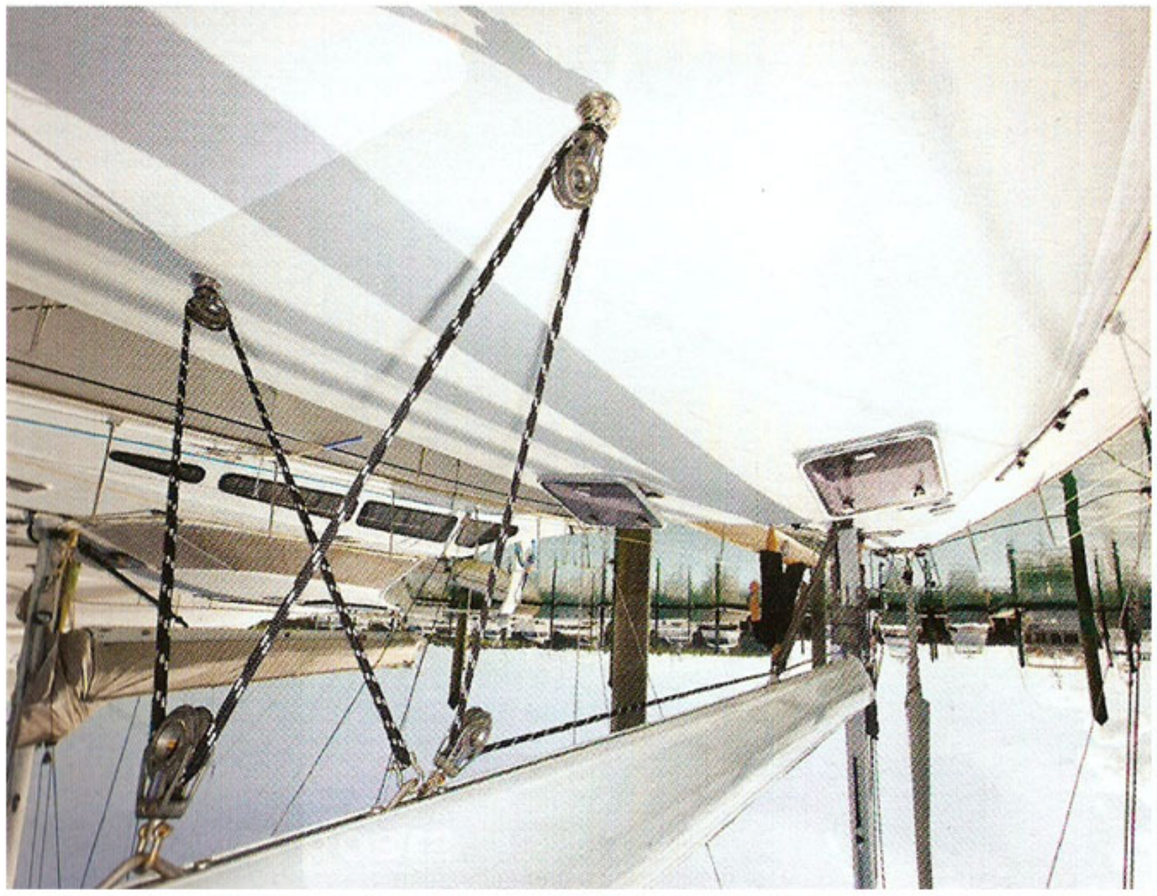
The gennaker still has its normal, soft, luff tape but there is an additional vectran line, which Facnor calls the anti-twist luff rope, that runs in line with the gennaker luff from the centre of the furling drum to the swivel at the top of the hoist.

The magic ingredient is a thin line, called the central furling rope. This is attached to the gennaker luff about halfway up, and connects to a similar point on the anti-twist luff line. As the furler drum turns, it rotates the anti-twist luff line which gradually winds in the central furling rope, which in turn winds in the luff of the gennaker. The key is that the furl begins at the centre of the luff, then gradually brings in the sail above and below that point.

To start with, it looks all wrong – like a really bad wrap around the forestay – but it works. The other problem is that the system is still new, so the various components are lumbering along under boring terms like 'anti-twist luff line' and 'central furling rope'. Give it a season or two and some suitable sailor's jargon will evolve.

When the gennaker is furled it is lowered to the deck for stowage, without the bulk and weight of a sock. Existing gennakers can be modified to the system.

The boat's impressive windward



performance comes from her generous draft of 3.5 metres, which can lift to 2.0 metres, in a quick, one-person operation, thanks to the hydraulics. The keel has a slinky-smooth, constant tolerance of 1mm all-round within its centrecase. The slight wedge shape of the fin keeps it snug; there is no knocking as the boat tacks.

The Yanmar 110hp engine will motor the yacht at 10-11 knots, although 8 knots is the sweet spot for economy. The propeller shaft has an Aquadrive bearing to minimise noise and vibration.

Stylish living

The Elliott Tourer range is built in medium-tech construction for strength, stiffness and light weight. The interior is to the usual immaculate standard, attractive and easy to clean. Isabel Macalister and Sally Urry were in charge of the interior, with advice from interior decorator friend Caroline Nicholson. Sally says she and Isabel both have quite clear ideas of what they like but also know when to compromise, and both wanted something "edgy".

Sally's heart was set on a fabric that echoed the yacht's namesake, celadon, a centuries-old ceramic glaze, usually in a sea-green, from China. Isabel was set on stainless steel in the galley which works well with the green tones and the American oak flooring. Another treat was the trash compactor to minimise the volume of rubbish when cruising.

Celadon continues the success of the Tourer range, which comprises the 1250, 1350, 1450, 1550 and 1650 models. She is a delightful, easily-handled performance cruiser, built to a high standard that makes her easy to operate inside and out.

And thanks to some new developments in technology, she also knows exactly which way the wind blows.

Elliott 1650 Tourer

designer	Greg Elliott
builder	Harbour Yachts
loa	16.5m
lwl	14.84m
beam	4.8m
draft up	2m
draft down	3.5m
displacement	light 13 tonnes
ballast ratio	40 percent
SAIL AREA	
main	80m²
fore	58m²