



# ELECTRONICS MEETS

The driving force in boating is now electronics, with new products being released every month. To see where boating electronics is heading, Kevin Poulter visited the recent Sanctuary Cove International Boat Show and the Gold Coast Marine Expo.

**A**ll boats, from tinnies to super yachts, can benefit from electronic innovations, enhancing safety, ease of use, comfort and convenience.

For example, anyone with an active EPIRB (Emergency Position Indicating Radio Beacon) who gets into difficulties on the water can be seen by a central rescue service thousands of kilometres away. Or they could call anywhere globally on a satellite mobile.

Skippers can also view the way nautical miles ahead, even in the dark and see the bottom, with the fish displayed. Here's a round-up of some of the most interesting products.

There were drones, of course! At a boat show? Yes, there are many marine and marina applications, from filming super yachts for web display to commercial video production to security surveillance.

In fact Peter Blake, the owner/Director of UAS Services Australia won a Churchill scholarship to study drones and techniques in major countries and now shares his knowledge and services with law enforcement agencies and boating clients, including operators of multi-million-dollar super yachts.

UAS Services Australia can supply drones for almost

any budget but more importantly, the expertise to use them properly. See [www.uasservicesaustralia.com](http://www.uasservicesaustralia.com)



Eye in the sky: what used to take thousands of dollars a day with a real helicopter can now be achieved for a fraction of that, using a drone such as shown here . . .



Great drone footage of super yachts can be seen at [http://asservicesaustralia.com/super\\_yachts/](http://asservicesaustralia.com/super_yachts/)

S-E Queensland photographer, John Hildebrand of Aerial otShots, was also at the same stand. John flies drones for aerial photography.

For lower levels, he raises a camera attached to a long pole to achieve a bird's eye view.

His pilot's license is very helpful for flying drones and applications include photographing floor by floor views



... and here's a drone's-eye-view (OK, the GoPro helped!) of a marina. Whether it's for security, for advertising . . . the uses are endless!

[iconchip.com.au](http://iconchip.com.au)

from high-rise towers under construction or even at planning stage. See [www.aerialhotshots.com.au](http://www.aerialhotshots.com.au)

### New radar technology

Radar manufacturers have long been researching ways to reduce warm-up time, increase range, near and far, as well as increasing clarity and reducing emissions, which can affect people or equipment too close to the unit.

Combining the best characteristics of traditional pulse



Simrad showed their Halo Radar, combining the best of traditional pulse radar and 4G FMCW broadband systems.



and 4G FMCW broadband radar systems, Simrad Halo Radar uses pulse compression technology to deliver an unprecedented mix of close and long-range detection. It has a “warm-up” time of just 16-25 seconds, precise target definition and low clutter.

The culmination of ten years’ work by Simrad Yachting’s Australasian research and development hub, Halo Radar provides target detection as close as six metres – well within pulse radar’s short-range “blind spot” – while offering an exceptional long-range performance up to 72 nautical miles.

It even has the ability to easily pin-point birds from miles away using Halo’s dedicated bird-finder mode.

As any keen fisherman is well aware, birds diving into the ocean are a good indication that the fish are running.

In Dual Range mode, Halo Radar functions as two radar systems in one – monitoring two distance ranges simultaneously with independent displays, controls, 10-target MARPA target tracking and no compromises in detection at either range.

Custom, Harbour, Offshore, Weather, and Bird-finder modes tune Halo Radar’s advanced signal processing to ensure targets are depicted clearly – even in the toughest environmental conditions.

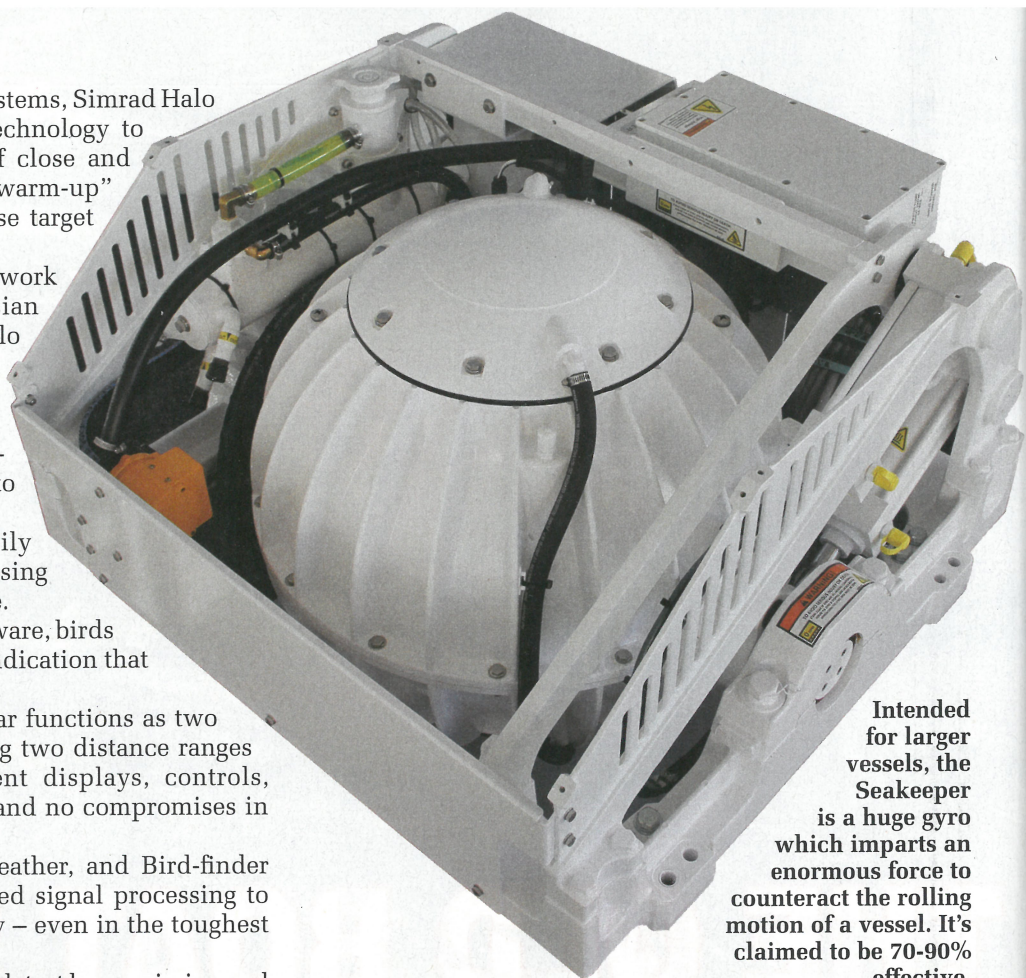
In addition, compliance with the latest low-emission and radiation standards means that Halo Radar is radiation-safe to people within the swing circle of the array on all models and is safe to run in anchorages and marinas.

Power requirements are low, just 40W average in no wind, 150W at maximum wind velocity, while in standby mode power consumption is only 6.5W. With such low power consumption, 12V or 24V operation and availability in 3, 4 and 6-foot open arrays, Halo Radar is ideal for vessels of all sizes, including smaller powerboats where open array radar may not have been practical previously.

Halo Radar connects via Ethernet, with a bulkhead-mounted interface box below deck. For more information about Halo Radar or the entire line of Simrad Yachting marine electronics, see [www.simrad-yachting.com](http://www.simrad-yachting.com)



Simrad in “birdfinder” mode: where dere’s boids, dere’s (usually) fish!



**Intended for larger vessels, the Seakeeper is a huge gyro which imparts an enormous force to counteract the rolling motion of a vessel. It’s claimed to be 70-90% effective.**

## Smooth sailing with Seakeeper

Anyone who has been seasick or tossed around in a boat rolling in heavy seas will lust after the Seakeeper. Available for boats over 10m, it is basically a huge gyro, sized according to the boat’s weight. The Seakeeper 35 suits vessels up to 140 tonnes (two units can be installed in larger vessels).

The unit has a heavy flywheel that spins at high speed in a near vacuum, with its angular momentum producing a gyroscopic righting torque to counteract any boat roll. The result is an angular momentum of 35,000 Newton-metre seconds (NMs) and an anti-rolling torque of 73,000 Newton-metres.

Built for large boats, it weighs 1720kg. Installation has to take into account the stresses from the huge torque of the Seakeeper, as it works to hold the boat vertical against the action of swell.

Unlike fin-type stabilisers which rely on forward motion through the water to work, Seakeeper works equally well when a boat is motionless or is being subjected to roll from swell or other boat wakes.

To achieve maximum stability, the Seakeeper 35 gyro has a 65-minute spool-up time to its rated 5,150 RPM and is normally spun up using 5kW from shore power before setting sail. Seakeeper claims to achieve 70 to 90 percent roll reduction, with some reports indicating total removal of rolling for boats in moderate waters.

Naturally, an on-board diesel generator needs to be kept running while ever Seakeeper is in use.

Australian Seakeeper owner Bruce Scott reported: “The Seakeeper has done everything the supplier said it would do, including improving the stability at speed.” More at [www.twindisc.com](http://www.twindisc.com)



FUSION's new MS-UD750 marine stereo which internally docks, charges and controls iPhones and other devices. The photo below shows the lip-up screen . . . flipped up!



## Marine entertainment

New Zealand-based FUSION entertainment systems are sold worldwide and specified as original equipment on many boats, caravans and RVs. FUSION released 17 new marine products, including the feature-packed MS-UD750 marine stereo, which internally docks, charges and controls Apple products including the iPhone 6, other smart phones and media devices. Boaters who still prefer CDs can choose a CD/DVD unit with options including smart phone and other device capability.

FUSION-Link enables connection of FUSION entertainment systems to multi-function displays from Simrad, Garmin, B&G, Hummingbird, Lowrance, Raymarine and Furuno.

Other new features include Pandora radio control, Bluetooth and App control via Bluetooth or Wi-Fi.

FUSION's multi-zone control has independent level and balance control plus subwoofer line outputs to four zones. This enables custom systems to suit all vessels from trailer boats to motor yachts.

Their Signature audiophile speakers compare favourably to home hi-fi speakers, with the advantage of water and harsh environment resistance. FUSION speakers can operate with simple panel mounting in many boats, however they perform best in an enclosure, which can be as simple as a sealed box.

For more information on FUSION-Link and compatible Furuno displays, FUSION or its entire line of marine entertainment products, see your FUSION dealer or telephone FUSION Australia on 1300 736 012, New Zealand/Pacific: 9 369 2900. [www.fusionentertainment.com](http://www.fusionentertainment.com).

## Icom's IC-M423G marine transceiver has integrated GPS

This new offering from Icom has a wealth of features. A rotary selector and directional keypad provide quick and easy access to all the functions, with a high contrast white back-lit LCD for clear indication.

Built-in noise-canceling reduces background noise up to 90% in RX and 30% in TX.

The IC-M423G has a built-in 10W amplifier for voice or foghorn to an external PA speaker. DSC watch function monitors Ch. 70 (DSC channel) activity, even while receiving another channel. DSC functions include distress, individual, group, all ships, urgency, safety, position request/report, polling request and DSC test calls.

The built-in GPS receiver shows your current position, date/time and can be used for DSC calls. The GPS data source is selectable from internal and external GPS.

The optional white back-lit COMMANDMIC makes it convenient for using the IC-M423G from a separate cabin or tower. All functions of the IC-M423G can be controlled from the COMMANDMIC and it can be used as an intercom with the IC-M423G.

When connected to the optional MA-500TR Class B AIS transponder, the AIS target call function allows you to make an individual DSC call without having to manually input an MMSI number.

Naturally, it has a NMEA 0183 interface for external GPS/NAV connection. And how about IPX7 waterproof protection (1m depth for 30 minutes)? For more information go to [www.icom.net.au](http://www.icom.net.au)



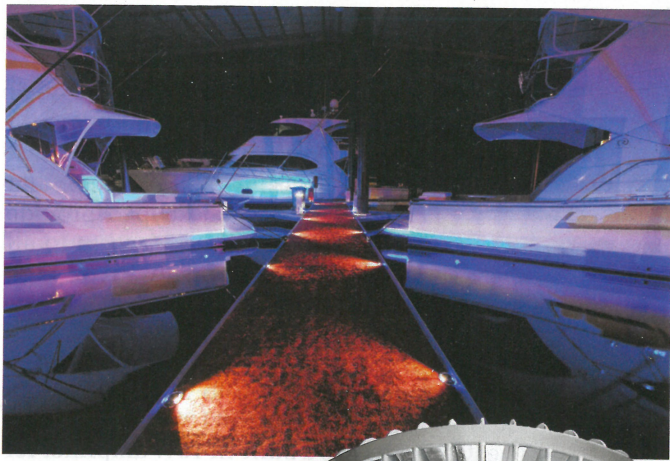
No need for separate marine radio and GPS units: the ICOM IC-M423G has both. Great to return to that favourite fishing spot!

## LED lighting for boats

With their greater efficiency and much longer life, LEDs have almost completely supplanted incandescent lighting in boats and the good thing is that there's a comprehensive range of lighting made by Aqualuma on Queensland's Gold Coast.

Their through-hull lighting range, with one-piece polymer housings and no lenses or seals, is patented in 127 countries. These hull lights attract fish and other marine life, effectively turning the water beneath the vessel into an underwater aquarium. Plus they really make the boat stand out. Aqualuma also makes boat deck and flood lighting, plus LED pathway lighting for docks.

Also seen at the SCIBS boat show was Aqualuma's 125W LED Lightsource-R Highbay lamp. This LED fitting replaces



LED lighting makes a lot of sense for boats, with lower current drain for much more output. Aqualuma is a local (Gold Coast) manufacturer who also had LED lighting to keep marina dock and pathways safer at night.



a 400W metal halide light, delivering an output flux of 24,000 lumens and is rated for a minimum of 100,000 hours at 25°C.

It is water resistant to IP66, has instant on/off and comes with 5-year warranty. More info at [www.aqualuma.com](http://www.aqualuma.com).

### Garmin's widescreen Chartplotter/Sonar Combo

Garmin's latest offering is a mouthful, the GPSMAP 7412xsv, 12-inch Multi-touch Widescreen Chartplotter/Sonar Combo. It is designed for sports fishermen, cruisers and sailors. The unit has a worldwide base map, built-in 1kEdual CHIRP sonar plus CHIRP DownVü and CHIRP SideVü scanning sonar. This enables the display of low/high, med/high or low/med resolution modes on the screen at the same time and it provides nearly photographic sonar images of fish, enhancing the ability to distinguish between game fish and shoals of bait-fish.

The GPSMAP 7412xsv supports radar, autopilot, instruments, multiple screens, FUSION-Link, sensors, remote sonar modules, digital switching, thermal cameras, with GRID rotary knob, joystick and keypad control, and more.

Dropping up to 5,000 way-points — and finding your way back to them is quick and easy. Garmin Helm allows viewing and control of all functions from a compatible smartphone or tablet. When using an iPhone or iPad, you can even record a movie of your chart plotter screen to share with friends and family.

With BlueChart Mobile, a free app downloaded from the App Store, you can plan marine routes on your iPad or iPhone then wirelessly transfer them to your Garmin chart plotter.

Garmin's Auto Guidance allows you to enter the location you want to go to and it searches through relevant charts to create a safe virtual pathway on the display that helps you avoid low bridges, shallow water and other charted obstructions en route.

If you get into difficult sea conditions, simply tapping



Garmin's Chartplotter/Sonar combo unit offers a 12-inch multi-touch display with a wide range of inputs.

the SOS button on the chart-plotter's touchscreen display will cause your networked Garmin VHF radio to automatically tune to the Channel 16 emergency frequency and a list of possible situations (fire, man overboard, etc.) will be displayed. Once the applicable choice has been selected, the screen will provide a Coast Guard approved VHF radio distress call script, along with the ship's current GPS coordinates — thus saving time and assuring the best possible outcome.

More information can be found at <https://goo.gl/oMa5B6>.

### TrackSAT marine satellite TV reception

As boats roll and rock constantly, a marine satellite TV receiver needs to have outstanding lock and reaction to the desired signal. At the Sanctuary Cove Boat Show this was clearly demonstrated, as the unit was energetically rocked in demonstrations.

TrackSAT's UltraTrack UT100 satellite TV receiver has automatic satellite search and skew control, a programmed satellite database and the ability to edit satellite data. And as you would expect, it has a 3-axis servo stabilisation and built-in GPS for fast lock on.

Boaters can catch the latest news, weather or sports games. There are two feeds of Satellite TV available in Australia, Foxtel Pay TV and the VAST FTA Network.

TrackSAT can also provide a Free to Air Satellite Digital Satellite TV Receiver as an option. This allows reception of all

free-to-air channels through the Australian Government controlled VAST network. More info

at [www.tracksat.com.au](http://www.tracksat.com.au)

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3-axis stabilisation helps keep the TrackSAT locked on to satellite TV signals despite the swell!