

Ahoy there

In the first of a new series of tech features Marine Electronics experts, Digital Yacht unravel the myths behind AIS and let you know what to look for when buying or upgrading a system.

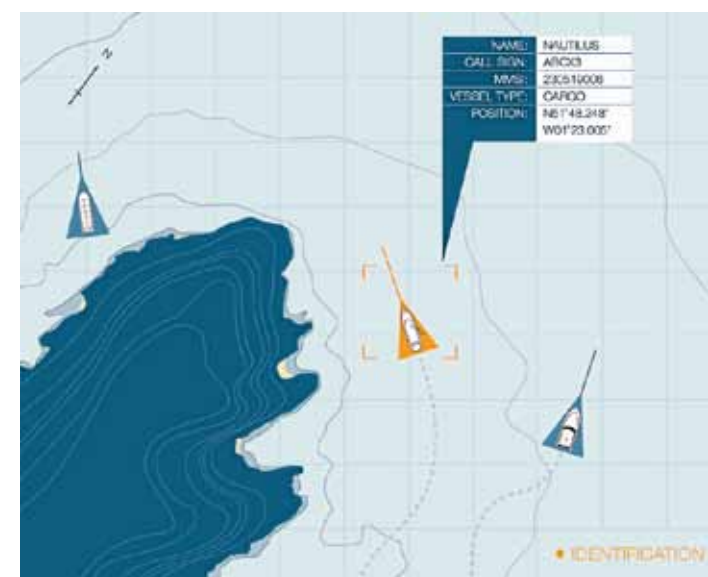
The Automatic Identification System (AIS) has made one of the biggest changes in marine navigation safety since GPS became commonplace and affordable. AIS is instrumental in collision avoidance, as it can see around corners and beyond a radar's line of sight.

It's the small boat owners that are most at risk from the larger, faster moving vessels, so just knowing where the big ships are heading and how quickly is incredibly helpful and letting them know where you are is also a very good idea. AIS can really make your day trip out much less stressful, especially if you are in busy waters.

There are three types of AIS available – Class A transponders, Class B transponders and receive only. Many leisure users have started to embrace AIS technology thanks to low cost Class B transponders, which will transmit and receive vital data. They can also opt for 'receive only' systems, which allow an overview of AIS targets within range on a chart plotter or radar based system. Class A AIS transponders are now a mandatory on all commercial vessels over 300 tonnes and on most passenger carrying vessels.

Whilst AIS is not a substitute for radar, the benefits of AIS using VHF communication frequencies allow it to see around headlands and to also positively identify an AIS equipped vessel. It also establishes the vessel's name, call sign, current course and speed, making inter ship communication even easier. The system then assists in making anti-collision calculations based on accurate closest point of approach (CPA) and time to CPA (TCPA) data.

Like any new technology, a few myths have crept into circulation, which needs some



explanation. The most common is that Class A systems can't see Class B targets. That's not true, but some early Class A transponder systems did not have the correct software to decode the Class B format in its entirety. Class B transponders use a specific message format, which incorporates the static data about the vessel, such as name and MMSI number. Whilst the Class A transponders could see the Class B target, no static data was available, as they did not decode this message properly. Most products have now had software upgrades and, of course, all the modern Class A products support interoperability between the two data standards. Even some leisure chart plotter products did not correctly decode this information, so it is worth checking yours to see if there is a more recent update.

AIS is also becoming more ubiquitous in other systems such as Man Overboard devices (MOB) and security systems. McMurdo & Kannad have now introduced two new portable AIS transponders, which effectively allow the use of AIS as a MOB device. This is a topic in its own right, which we will go into in detail soon.

Use of land based AIS base stations is also becoming popular with many services, such as www.shipfinder.com, which provides internet-based vessel tracking thanks to a range of AIS enthusiasts and other base stations providing a data feed from coast stations around the world. A great application here is vessel security, where an AIS transponder could be left activated on board the boat even whilst moored. Owners can then keep a regular check on their boat and its whereabouts and charter companies can keep track of their fleet.

But not everyone wants to transmit all the time. You may not want other users keeping track of your position - maybe when fishing or yacht racing or even when in pirate infested areas. Make sure that your transponder has an easy to use silence facility, so that the transmission can be silenced and yet you can continue to take advantage of AIS reception.

For the future we will be seeing more and more satellite based AIS tracking systems to effectively give global tracking coverage on vessels equipped with AIS. There's talk of AIS and satellite based MOB systems being available in the short term, so AIS is definitely a technology that is here to stay and for tomorrow, no doubt more and more uses will come to light over time.

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