AIS EXPLAINED

Defender offers a number of products equipped to utilize the Automated Identification System, or AIS. This technology automatically transmits information between vessels — and base stations such as local vessel tracking services — equipped with AIS. The system provides data about a vessel's location, course and speed, as well as identifying information such as vessel name, size and radio call sign. The information can be displayed on a screen or chart plotter.

Think of AIS as an air traffic control system for boaters, with much more information than radar provides. AIS also plays a vital role in search and rescue operations by providing all recent data, including position, direction and speed. Position is derived from GPS satellites, and communication between vessels is through VHF digital transmissions.

According to the U.S. Coast Guard and U.S. Department of Homeland Security, the Nationwide Automatic Identification System (NAIS) consists of approximately 200 VHF receiver sites located throughout the coastal continental United States, inland rivers, Alaska, Hawaii and Guam to collect transmissions from local vessels. The primary goal of NAIS is to improve maritime security, marine and navigational safety, search and rescue, and environmental protection services.

AIS TYPES

There are two different types of AIS devices — transceivers and receivers.

AIS receivers will generally receive transmissions from all transceivers, but do not transmit any information.

Class A transceivers are required on vessels over 300 tons transiting international waters. These units are more powerful and transmit farther and more frequently than Class B transceivers. Class A transceivers receive priority treatment in the overall AIS infrastructure through SOTDMA (Self-Organized Time Division Multiple Access) datalink technology. Transmissions from Class A transceivers are automatically repeated at frequent intervals.

Class B transceivers are typically designed for pleasure craft and smaller commercial vessels. Class B transceivers provide the same functionality as Class A transceivers, but without the priority treatment for automatic interval of transmission. Class B transceivers use CSTDMA (Carrier-Sense Time-Division Multiple-Access) datalink technology, which can lead to delays in transmission resulting from heavy Class A transmissions. Class B transceivers will, however, receive all AIS messages. Some new models offer 5W transmit power and SOTDMA technology.

AIS transceivers are also affixed to some Aids to Navigation. These AtoN transceivers are mounted on some buoys and hazards to shipping vessels. They transmit details of their location to surrounding AIS-equipped vessels.