Maximize Range, Minimize Interference

An AIS transponder uses GPS signals to get position data and uses VHF signals to send and receive other data. This means the transceiver must be able to receive GPS signals as well as transmit and receive VHF signals. The two AIS-B transceivers we tested each came with a GPS antenna, but—like fixed VHF radios—they do not come standard with a VHF antenna.

Some makers recommend an antenna specifically designed for AIS use while others make no specific recommendation. According to industry sources, nearly all AIS units will work just fine with a standard VHF radio antenna. But there are exceptions, so follow the AIS maker's recommendation when choosing an antenna.

AIS AND RADIO ANTENNAS

One issue that must be dealt with on a boat equipped with both a Class-B AIS transceiver and a VHF fixed-mount radio is finding the best location for mounting the antennas. Since both devices can transmit simultaneously on similar frequencies, interference could be a problem.

Based on maker input, a suitable installation would be to mount the VHF radio antenna atop the main mast and the AIS antenna on the stern rail or arch. This offers maximum separation, minimizing interference while maintaining maximum range capability for the marine radio and acceptable range for the AIS system.

One way to avoid mounting multiple antennas is to use a splitter to connect the system to an existing VHF radio antenna. We did not test the setup using a splitter, and so cannot report as to whether it would affect signal strength. However, West Marine recently began selling a splitter for AIS connections (WM# 10899136, $200), and the company claims it has no loss.

Mounting the VHF antenna on the mast and the AIS antenna on the stern rail will reduce possible interference.