KEVO'S BOATING TIPS & MORE

BY KEVIN O'LEARY

Forward Looking Sonar (FLS)

There are few things higher on the priority list of my clients at Pacific Powerboating than learning how not to run aground. (Not crashing into their docks and/or neighbors in the marina is usually the number one priority!) I can't blame them. It can be very scary to be out in the middle of the Bay or Delta not knowing how deep the water is under your keel. Many times my new clients proudly point out the cool depth sounder they have showing a large digital readout of the depth of the water (complete with a low water alarm, no less!). They trust and rely on this little wonder to keep them safe.

However, when I point out the reality that their downward-looking sonar system is essentially telling him or her where they've been, not where they're going, they seem kind of sad and disappointed. Let me explain: If you are traveling 25 mph and monitoring the depth sounder, you may be lucky enough to see the depth rising slowly: 15 feet, 14 feet, 13 feet, etcetera, and have the time to stop or take evasive action. It is far more likely however that the depth finder will go from a comfortable 15 feet to 1 foot in a heartbeat. Wham! You have now joined the *"Run Aground Club"* of Northern California. After I explain this, I get very worried looks from my clients. They ask: Well then, how the (heck) am I supposed to navigate safely if I can't depend on my depth sounder?

First of all, one should not rely on any single source of information to safely navigate the waterways of the Bay and Delta (or any other waterway for that matter). This is why when you boot up a marine GPS a contract appears on the screen stating that you agree to not rely on GPS alone to navigate. You must press the enter key to agree to the contract. If you don't press enter, the GPS won't boot up. Some of the relevant aids to navigation include, but are not limited to, the bouyage system, rules of the road, mariners compass, navigation charts, GPS/chart-plotters, sonar, dead reckoning, autopilot and radar. All of these instruments and systems combine to help mariners navigate safely and with confidence.

One of the things you have to take into consideration when navigating the waterways of NorCal is the clarity of the water. On a good day in the Delta or Bay you can see about 6 feet down. The net result is you can't see when you are approaching shallow water most of the time. Now, don't get me wrong. I'm all for downward-looking depth finders. In fact, if my clients are restricted by their insurance company, I won't sign them off until they have all of the Coast Guard-required equipment, a VHF marine radio (and the knowledge to use it effectively in an emergency), and a (working) depth finder.

FLS Systems on the Market

I found only two manufacturers worldwide who make these devices for vessels other than mega-yachts, commercial fishing, shipping, cruise ships or military vessels.

Interphase iScan 180:

This system uses two phased array transducers with no moving parts. One transducer is mounted on either side of the vessel's keel and allows easy installation for trawlers, large cruising sailboats and other vessels with deep or full keels. Working like an acoustic underwater radar, the iScan 180 can function in three useful modes. The Forward Vertical Scanning mode shows a view from the surface directly ahead of the vessel to the bottom below and is very useful for monitoring changing bottom conditions and detecting fish or other obstacles. In the Forward Horizontal Scanning mode, the iScan 180 interface uses two electronically linked transducers to smoothly steer a searchlight-like beam over a full 180°. In either mode, the beam can be steered directly down for either a split or full screen conventional downward-looking depth sounder view. The manufacturer claims a forward-looking range of 1,200 feet. The Interphase iScan 180 has an MSRP of $2,899, including two through hull transducers.

Interphase Technologies' iScan 180 Forward Looking Sonar.

EchoPilot Platinum FLS:

The EchoPilot™ "Black Box" sonar enables the modern yacht with integrated displays to add forward-looking sonar with a minimum of fuss. Any chart plotter, radar, personal computer or screen with a video input can become a fully functional FLS system. EchoPilot's forward-looking sonar uses an electronically controlled array to scan the sea bed from straight ahead through 90 degrees or essentially straight down. The EchoPilot system has what they call "Real-time Forward Sonar." This means that with the whole screen updating continuously, should the boat turn toward an obstruction or bank the visual will appear almost immediately on the screen. This visual will also disappear as quickly when the boat turns toward safer waters. This product uses a single transducer about the size of one-half of a grapefruit. The manufacturer claims a forward-looking range of about 900 feet.

I could find little if any independent research on the quality or dependability of these systems. The few personal stories I heard from people who own these systems vary widely. One thing everyone seems to agree on is that there is a very high "learning curve" to effectively use these systems – meaning it takes some time and experience to interpret what the screen

EchoPilot Platinum Forward Looking Sonar with color display.

is telling you. Some say they would not choose to put this system on their vessel again if given the choice.

One comment I've heard is that they really don't give you the forward range to effectively avoid a collision or grounding at anything but a very slow speed due to air turbulence hitting the transducer. A recognized limitation of these systems is depth. Due to surface and bottom echo interference, FLS can generally see ahead only six times the depth of the water. So if you are in 25 feet of water, you may see up to 150 feet ahead of the vessel (minus the distance from the bow to the transducer). We cruise our vessel, *Her Way,* at 19 mph. I doubt I could come to a dead stop in less than 135 feet at this speed.

One guy in Sweden who navigates through a thicket of 30,000 islands had an interesting comment. He said his EchoPilot system worked well on his deep keel sailboat. However, he now takes the boat places he never would have dared to before. So in a sense, the system may be putting him and his vessel at more risk. Others think these systems are invaluable and wouldn't leave port without one.

System Distributors

The Interphase system is available through West Marine. Ocean Equipment distributes the EchoPilot system in the USA. They are just ramping up on dealers in California so the best way to find one near you is to contact Ocean Equipment.

I'd really like to get some feedback from our readers who may own one of these systems or may know somebody who does. So let's beat the bushes together and see if we can find out if these products are worth the investment. Keep those e-mails coming!

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Be safe & happy boating.