

Look Out:

Don't Be Mesmerized . . . Let Nothing Hazardous Evade Your Eyes

By Captain Bernie Weiss

If you've attended a big boat show recently, you've no doubt been impressed by the rapidly advancing technology being marketed by marine electronics manufacturers -- Garmin, Raymarine, Magellan, Furuno and others. It seems as if now, more than ever, they're pitching a dazzling array of fancy new electronics and technology as a safer way to go boating.

Consider one small segment of the industry: Integrated navigation equipment. I'm referring to combination GPS receivers, chart-plotters, radars, sonars and the like, including units that interface with a notebook or PC at the yacht's navigation center. This gear is not only eye-catching, but also remarkably functional. These instruments offer a level of precision navigation and boat control that was beyond comprehension even a few years ago. Modern electronics bypass a lot of the drudgery of conventional navigation. They elevate the fun quotient when it comes to getting around on the water. And yes, under conditions of reduced visibility, these electronics significantly enhance the navigation experience, contributing to safety and peace of mind. They *are* impressive.

But consider this: On the water, the situation in your boat's cockpit or nav station is analogous to that of driving your SUV on the interstate. It's awfully tempting to dial in the satellite radio, study the GPS monitor, or place a phone call while in traffic. Studies have shown that such distracting behavior is a major contributor to motor vehicle accidents. Now put yourself at the helm of your boat in fog, rain or darkness. If you're the only look-out, you don't want to be distracted for more than a moment or two by a colorful array of data on a mesmerizing (yes, that's the right word) chart-plotter or radar scope.

Some questions

Are these new electronic yachting devices really necessary, or are they merely fancier toys? Do they truly assist the boater, or do they provide a false sense of security? Could they distract the captain or crew from performing more important duties?

These are valid questions, because the inherent value of the equipment must be evaluated with reference to its potential for overwhelming a boat's skipper, or perhaps distracting the skipper and compromising safety. Some of the new GPS chart-plotter and integrated radar units can be positively hypnotic intoxicating at night or whenever visibility is reduced. As if we don't already have too many distractions on the water.

As Captain of your vessel, it's critically important that you develop confidence in your various electronic devices. You must learn how they function, and what they're capable of doing for you, evaluate their practical value for your boating, and study their downsides and deficiencies. Practice with your GPS chart-plotter and integrated radar in conditions of good visibility so that you won't be intimidated or fear conditions of poor visibility. Consider appointing someone else to be your primary navigator and/or lookout. But for goodness sake, don't neglect the basics.

Safety first

Put safety first, and keep it there. Most collisions at sea are the result of failure to keep a proper lookout, as required not only by common sense, but also by the Rules of the Road (now known as the Navigation Rules and Regulations). Rule 5 clearly states, "Every vessel shall at all times maintain a proper look-out by sight and hearing as well as by all available means appropriate in the prevailing circumstances and conditions so as to make a full appraisal of the situation and of the risk of collision."

The need for a "proper look-out" may not be so acute at 6 knots or so (sailing speed) in perfect conditions, but the dangers and hazards rapidly escalate when boat speed jumps into the 20s and 30s, and in fog, rain, and darkness. A moment's distraction at the chart-plotter or radar may cause you to miss that lobster buoy and poly line (the one that rips out your prop shaft) or the kayaker that doesn't flash an echo target on the radar display.

In addition to the visual distractions that may impair your perception, and therefore safety, nav instruments also have limitations. To cite a few:

* GPS receivers tell you where you are and will suggest a range and bearing (distance and compass course) to the next waypoint. GPS will NOT warn you of an obstruction between your present position and the next waypoint. Beware the shoal, rock, peninsula,

anchored fisherman -- or any navigational hazard -- between here and there. Also, lots of skippers out there may be using "your" waypoints and courses; another yacht may be headed directly at you on a reciprocal course!

Don't let this be you.



* GPS chart-plotters will describe what's beneath the water (depths, shoals, submerged rocks, etc.) and stationary objects that were on the surface (buoys, etc.) when its chips were last updated, and will show your boat's position and relationship to primary navigational aids on the chart. But these devices will NOT show you everything. They won't show moving objects on the surface, or objects that are never charted, such as oyster stakes, lobster buoys, swimmers and water-skiers, hazardous debris and temporary yacht racing marks. A chart-plotter will show you what should be there, but it won't show you what isn't there: A buoy that's been dragged out of position, a charted deep channel that's now shoaled over, a mid-channel obstruction deposited by the last hurricane.

* Radar. Whereas a chart-plotter will tell you what should be there, radar will tell you what IS there - most of the time. In fact, some new radar systems are able to display and track other vessels as they move. The ranges, bearings, courses, and speeds of such targets are displayed on the monitor with technology named ARPA (Auto Plotting Radar Aid) or MARPA (Mini-ARPA). But radar may not display the plastic kayak or fishing dory, and certainly will NOT display the lobster trap floats that are ubiquitous in the Sound. Many nuns and cans, particularly the small plastic ones, are invisible to radar, as are stakes and day marks, because many are NOT topped by metal radar reflectors. Even if an echo is displayed, will you know how to interpret it? Can you distinguish between the echo that targets a buoy and an echo from an anchored boat?

* Integrated navigation systems. Some new radar systems are

integrated with GPS receivers and chart-plotters. The radar overlays its data on the same monitor as the appropriate GPS-based electronic navigation chart for the area. Talk about mesmerizing! But even these devices are not foolproof. There's frequently lots of visual clutter -- so much that the radar echoes and chart images displayed are potentially confusing and frustrating. You do NOT want to lose yourself in this picture. Don't become fixated on the display. Lift your head and focus your eyes out front.

Of course, NONE of this equipment is fail-safe, not even military spec equipment (which is perhaps more suspect if the military has deemed it obsolete, or downgraded it for civilian use). For this and many other reasons, redundancy is important. When for some reason the electronics display dims because the power has shorted out or the technology gremlins have taken command, it's nice to have a back-up system -- an old Loran, say, or a mini-GPS receiver - or a conventional plot on a paper chart.

Finally, remember that the most common cause of collision at sea is failure to maintain a proper lookout, even in good visibility. Be vigilant, get your head up, look around with those two tired old Mark I eyeballs. That's the most reliable equipment you've got, and that's what will get you home most of the time. It's no joke: A collision at sea can ruin your day.

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