



Prevention of Collision at Sea - Radar for the Private Boater - Eye Ayes!

by VINCENT T. PICA, II
DISTRICT COMMODORE, FIRST DISTRICT, SOUTHERN REGION (D1SR)
UNITED STATES COAST GUARD AUXILIARY



Several times in the articles on the COLREGs, it was noted that no accident at sea will ever have the blame apportioned 100-0 and that you are obligated by Rule 5 (see "Look Out Below - and Above - And About!", SSP, 7/18/07) to use all available means to maintain a proper look-out. This means, if you have radar, you had better have it on. So, who wants that extra responsibility? Well, we've all heard the expression, "Ignorance is bliss" and sometimes it is, not on the water - where "Knowledge is power." This is what this column is about.

Radio Detection and Ranging

If there is a better sounding maritime short-hand than "scuba", it has to be "radar." We've grown up hearing about it and being subject to it - we've all been on the parkway doing +55 mph - that we instinctively "get it." It is the eyes that can penetrate fog, rain, night and snow... but "getting it" and using it effectively is as much art as science.

First, what is happening? Electromagnetic energy is shot out of the radar's "transceiver" (a transmitter and receiver combined in one) at the speed of light and, if it hits something of sufficient density, returns at the speed of light. This enables the radar unit to instantly determine the distance of the object from you. The transceiver rotates 3-4 times per minute so you are constantly scanning for all comers and all objects - that will return a signal! Will a sail boat? Well, her sails certainly won't and, unless she has a kicker engine on her stern, her low-lying hull might not



either, nor her wooden mast. Radar needs some amount of density. Here is one anecdote that illuminates the issue. A couple of summer's ago, while we were conducting a night patrol, we were transiting from buoy 5 to buoy 6 in Narrow Bay east of the Smith Point Bridge. A moonless and cloudy night, we picked up a good-sized object lying 1,000 feet directly in the fairway, dead ahead. I was at the helm and couldn't see a thing - no lights, no glow from a wake, nothing. I call out to my crewmen to move to the bow to extend my sight - now we're 500 feet away and still no one can see a thing. But she's big and underway slowly... So, while throttling back to a "slow bell" (just enough speed to maintain steerage), we turn on the forward-looking infrared system (FLIR, like a kind of radar that detects tiny temperature differences at great distances) since I knew the engine of whatever was ahead of us had to be warmer than the boat and the water. And there, in full majesty, was a flock of swans paddling along in serene closeness - but so many and so close together that they showed

up as a single, solid object to the radar, even though the FLIR could see each swan individually.

And therein lay one of the issues of "getting the concept" of radar and using it effectively. A tug boat and a tow might very well look like a very large vessel. Two boats abeam of each other might also look like a single, larger boat. Another issue is the sea state itself and that is in two dimensions. First, while radar can see through light rain and light snow, as it gets heavier, the signals flood the system and the screen "whites out." Back in the day, the radar observer would "fiddle" with various dials to try to find the right mix of tuning to reduce the return signals from the weather while still being able to see something important - like another boat. Now, you flip a switch or press a button and tell the system that it is snowing or raining and the built-in computer does most of the work for you. But what is the second dimension I mentioned? Well, think of the radar like a gun shooting out electronic bullets in a straight line. As the seas build, and your bow rises and falls as it makes way over those building seas, the "gun" is shooting up into outer space or down into the water - reducing the effectiveness when you may need it the most. If you aren't aware of that, you can't effectively interpret what you are seeing or might not be seeing...

State of the Art

But, with all these caveats, I would recommend saving up and taking the

step. There are several great systems (see below) and prices have come down dramatically while functionality has gone up even more dramatically. The cost, while nothing to sniffle at (+\$2,000), is a fraction of what it was 10 years ago and, relative to your income and certainly inflation, is a far smaller bite. Function has exploded upwards. I mentioned the computer's ability to "teach itself" how to see through snow and rain. How about painting the radar picture directly and simultaneously onto an integrated GPS screen? How about calculating how close a "bogey" will get to you - and when - for 10 objects simultaneously? Set off an alarm that you set that says, "tell me when any object comes within a half a nautical mile of me"? Child's play. All this and more is available in the modern system.

Here is a partial list of full-featured, integrated (with GPS and fathometers) systems, all in the \$2,000 range (+/-):

- Lowrance LRA 2400 (www.lowrance.com)
- Northstar (www.northstarnav.com)
- Raymarine C80 (or E80) (www.raymarine.com)

I use the Raymarine E80 and I don't turn on the engine unless I also turn on my "eye ayes!"

BTW, if you are interested in being part of USCG Forces, email me at JoinUSCGAux@aol.com or go direct to the D1SR Human Resources department, who are in charge of new members matters, at DSO-HR and we will help you "get in this thing..."



County Clerk Update

by SUFFOLK COUNTY CLERK
JUDY PASCALE

COUNTY CLERK PASCALE SWEARS IN NEW CORRECTION OFFICERS



Suffolk County Clerk Judy Pascale swore in thirty-six new Suffolk County Corrections Officers this past week.



Janice Harkins Dog Talk

Dear Dog Talk,

A few days ago, my four month old GSD female was attacked by a Pit-bull Dalmatian mix that belongs to my neighbor while we were playing in my backyard. No blood, but he bite her twice. Now she refuses to go in the back and any dog that barks puts her in flight mode. Just asking if this will pass or is this going to be a lasting thing?

Sincerely, Stressed dog dad

Dear Stressed dog dad,

I am very sorry this happened to your dog. A fight is never a good thing, especially when it leaves a lasting impression on your dog. A little tip that in God forbid this was to ever take place again, always have a hose available. You would turn the hose on and spray it at their faces. (No, not a power washer!) Water will not hurt them but it will stop them because they will not be able to continue while being sprayed in the face. Back to the issue at hand, this is something that can become a learned behavior. To start with suggestions to alleviate that nervousness, do not coddle your dog! You can let your dog know you are there for them without trying to overly protect her. You want to put her in is safe and secure situations such as going to a guide dog foundation. This is a place that trains dogs for the blind. They have to be well-mannered dogs so this will not be a challenge for her. In the early stages of working with your dog, do not push her. Less is more! The first few times you bring her somewhere do not push her to closely interact with other dogs. Let her function around them; give her commands to cause her to think. What you are showing her is she can exist around other dogs and not have to directly interact with them and nothing negative happened. You are building her confidence and yours. The issues about her being scared in your yard, if she has a favorite house toy let her bring it outside (get a new one for inside). Normally, I am against bribing, but in this situation you need to coax her out. You may want to use little bits of chicken hot dogs and make a trail around the yard. If none of this works. you will need to have a behaviorist come in to help. When working with your dog do not push her. Work with her slowly and the sooner the better. This is something that with the proper work and her being so young she can get past. Unfortunately, if it was left as is, she could remain scared or she could develop aggression issues. Get her out there and get her past this hard situation. I wish you luck and if you need anything at all I am here to help!

All my best, Janice Harkins

Send questions to: sspress2000@aol.com, Attention: Dog Talk.