



# Safety of Life At Sea: Your Radio - Shot-Gun or Rifle?

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 UNITED STATES COAST GUARD AUXILIAR



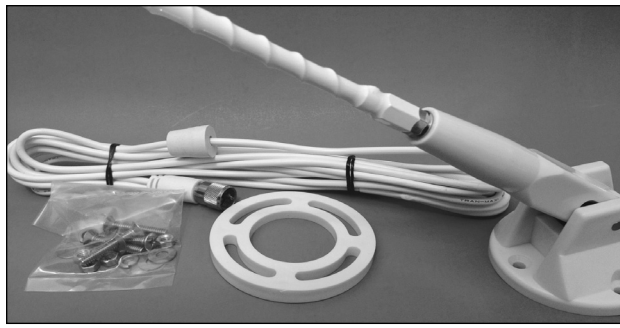
Last week, we talked about power (watts) and distance (height.) You want to have a lot of both, especially if you are the one sending the may-day. But as the song goes, "Is that all there is - Is that all there is...?" As always, no. This article is about that.

### Give Me Gain!

If you've ever bought an antenna, it notes how many "dB's" (decibels) of "gain" it has. This is a very important element in selecting an antenna. Without a good antenna, your radio isn't much better than a paper-weight. Gain, for the private boater, comes usually in 3 "sizes" - 3dBs, 6dBs and 9dBs. But what is it?

Gain is simply the measure of how focused the antenna is in taking the signal from the radio and, at a given wattage, shaping the rifle bullet of energy that it sends to the horizon. The higher the dBs, the more focused the beam of energy - the sharper the "rifle bullet" rather than the "buck-shot" of a shot-gun. And greater focus, going back to the last column on radios, leads to greater distance and greater effective power, meaning more of the wattage gets turned into distance over the water, as you send out your may-day.

Sometimes... Let's go back to the fire-arm analogy. If you've ever gone hunting, you know you hunt for birds with a shot-gun. Why? Because the birds are all over the sky and if you have to hit one bird with one bullet, you had better be a pretty darn good rifleman. But that "spread" of buck-shot comes at a cost - power/distance. It will take down a duck - but not a roe buck. For the power to take down a deer, you need to penetrate a highly muscled animal of several hundred pounds and hit a vital place. For that, you need focused power - a rifle. Oddly, radio gain is just like that.



### All The Power Has To Go Somewhere!

Let's think mathematically for a moment.  $10 \times 10 = 100$ , as does  $50 \times 2$ . If that were real estate, no one would want a living room that was  $50 \times 2$ , even if it was the same size in square feet as someone whose living room was  $10 \times 10$ . But gain is all about that. High gain creates a focused beam - like the  $50 \times 2$  living room. Lower gain creates the wider footprint -  $10 \times 10$  living room. All the power coming out of the radio has to go somewhere (we'll leave "minor lobes" for the radio-philes for another day) and that is why, in this example, both examples result in 100. If 50 is the distance, that is better than 10, for sure. Unless, like a shot-gun, you need spread. Then 10 is better than 2...

Like when the boat is rocking... as the boat rises to the crest of a wave, a high gain ( $50 \times 2$ ) antenna is going to send that radio beam into outer space as if it were shot out of a rifle. And when the boat is on the way down the wave, it is firing the radio beam into the back of the wave ahead of it. In this scenario, high gain works against you since the boat has to be just at the crest of the wave, essentially parallel to sea-level, for that radio beam to shoot out straight ahead and

hopefully hit something - like a USCG radio tower or another boat's antenna.

Now, if the gain were lower, instead of a rifle shot, you are getting a spread. Even when the boat is pointing into outer space, some part of that radio beam is being "shot-gunned" straight across the wave tops. In the simplistic but illustrative example above, it is only going 10 units of distance over the water - instead of 50... But, even when the boat is plowing down the wave into the trough, some of that signal is getting out, rather than being beamed into the back of the wave ahead, since the gain (rifle v shot-gun) is lower...

So, what to choose? Most skippers go with 6dB as that is the mid-point between distance (9dB) and spread (3dB). For those skippers with enough real estate and "moola", two radios and two antennas gives them the optimum result. They use a 3-dB (or 6-dB) for the inside (lower) helm where they drive the boat in heavy weather and 9-dB for the upper or outside helm when the seas are flat.

Lastly, where should you put the radio itself? As far from your compass as possible... Why? The speaker has a big magnet in it. If the compass "sees" that, it will point to it and think it is the North Pole (magnetic.) In any event, once you have installed your radio, develop a "deviation table" for your boat's compass so you know how to adjust for readings under way.

What's a deviation table and how do you create one? That's a lesson for another day...

BTW, if you are interested in being part of USCG Forces, email me at [JoinUSCGAux@aol.com](mailto: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..."

## Tides for Moriches Inlet starting with September 26, 2012

Day	High/Low	Tide Time	Height Feet	Sunrise/Sunset	Moon Time	% Moon Visible
Wed. 26	High	4:27 AM	3.0	6:43 AM	Set 3:05 AM	81
26	Low	10:35 AM	0.2	6:41 PM	Rise 4:40 PM	
26	High	4:49 PM	3.3			
26	Low	11:04 PM	0.0			
Thur. 27	High	5:22 AM	3.2	6:44 AM	Set 4:09 AM	88
27	Low	11:26 AM	0.1	6:39 PM	Rise 5:10 PM	
27	High	5:41 PM	3.4			
27	Low	11:49 PM	-0.1			
Fri. 28	High	6:10 AM	3.4	6:45 AM	Set 5:12 AM	94
28	Low	12:14 PM	0.1	6:37 PM	Rise 5:38 PM	
28	High	6:27 PM	3.4			
Sat. 29	Low	12:31 AM	-0.1	6:46 AM	Set 6:14 AM	98
29	High	6:52 AM	3.5	6:36 PM	Rise 6:06 PM	
29	Low	1:00 PM	0.0			
29	High	7:09 PM	3.3			
Sun. 30	Low	1:12 AM	-0.1	6:47 AM	Set 7:15 AM	99
30	High	7:32 AM	3.5	6:34 PM	Rise 6:36 PM	
30	Low	1:43 PM	0.0			
30	High	7:50 PM	3.3			
Mon. 1	Low	1:50 AM	0.0	6:48 AM	Set 8:16 AM	99
1	High	8:09 AM	3.5	6:32 PM	Rise 7:07 PM	
1	Low	2:24 PM	0.1			
1	High	8:30 PM	3.2			
Tues. 2	Low	2:27 AM	0.1	6:49 AM	Set 9:15 AM	97
2	High	8:46 AM	3.4	6:31 PM	Rise 7:41 PM	
2	Low	3:04 PM	0.2			
2	High	9:11 PM	3.0			
Wed. 3	Low	3:02 AM	0.2	6:50 AM	Set 10:12 AM	93
3	High	9:23 AM	3.3	6:29 PM	Rise 8:18 PM	
3	Low	3:42 PM	0.3			
3	High	9:54 PM	2.9			
Thur. 4	Low	3:36 AM	0.4	6:51 AM	Set 11:07 AM	87
4	High	10:02 AM	3.1	6:28 PM	Rise 8:59 PM	
4	Low	4:20 PM	0.4			
4	High	10:40 PM	2.7			
Fri. 5	Low	4:11 AM	0.5	6:52 AM	Set 11:59 AM	80
5	High	10:43 AM	3.0	6:26 PM	Rise 9:45 PM	
5	Low	5:01 PM	0.6			
5	High	11:28 PM	2.5			
Sat. 6	Low	4:48 AM	0.7	6:53 AM	Set 12:47 PM	72
6	High	11:29 AM	2.9	6:24 PM	Rise 10:36 PM	
6	Low	5:49 PM	0.7			
Sun. 7	High	12:18 AM	2.5	6:54 AM	Set 1:31 PM	63
7	Low	5:34 AM	0.8	6:23 PM	Rise 11:30 PM	
7	High	12:18 PM	2.9			
7	Low	6:50 PM	0.8			



## FISHING WITH TONY

### PRESIDENTIAL HOPEFULS SHARE THEIR VIEWS ON FISHING

by TONY SALERNO

In response to Keep America Fishing, candidates Barack Obama and Mitt Romney outline their approach to fisheries, conservation and angler access to public waters. On the campaign trail, presidential hopefuls rarely talk about recreational fishing or the use of public lands for recreational activities. Now anglers across the nation can read a side-by-side comparison of how the presidential candidates plan to address fisheries conservation and angler access to public waters at [www.KeepAmericaFishing.org/youdecide](http://www.KeepAmericaFishing.org/youdecide).

Keep America Fishing, the American Sport Fishing Association's (ASA) angler advocacy campaign, posed questions to presidential candidates Barack Obama and Mitt Romney regarding management of our nation's fisheries and access to recreational fishing. Each candidate received the same questions, except for one that is specific to his tenure as either President or Governor. The questions address issues that impact our nation's 60 million anglers, ranging from stopping the spread of harmful invasive species to over-reaching closures of waters to recreational fishing as a management tool.

"We asked these questions to inform and empower anglers to be active advocates for the sport fishing community" said ASA Vice President Gordon Robertson. "Anglers represent a huge voting block that can significantly impact the 2012 presidential election. It is vital to the future of sport fishing that anglers are informed and use their vote as a voice."

Keep America Fishing encourages anglers to review the responses, and on Election Day vote for the candidate they believe will best advance the nation and the model of conservation that perpetuates healthy fishery resources and access to those public resources. Read the questions and candidates' answers at [www.KeepAmericaFishing.org/youdecide](http://www.KeepAmericaFishing.org/youdecide).

In fishing news, striped bass action is shaping up in fashion form as last week's storm began pushing the mullet out of the bays and harbor around the island creating a feeding frenzy among stripers as well as bluefish and a surprise showing of weakfish. Surfcasters are really reaping the benefits on plugs, while boatmen are seeing their best results on live spot or croakers during the day, and live eels work their magic during the night tides.

Anglers looking for bottom action in the bays will find the bottom practically covered with small blowfish around the island. Some bays, such as Little and Great Peconic, are producing keeper size blowfish, as is the area of the Sore Thumb inside Fire Island Inlet. Inside Moriches and Shinnecock Bays, there is as much action with the northern puffers as you want. Only problem is most are too small to keep. Nonetheless, it bodes well for the future.