

Are you having radio problems? Do you suddenly find that you can no longer control your boat?

Here are some comments and suggestions that you should try (*Thanks to John Hutchings, Quinte Model Yacht Club, Ontario, Canada, for most of these points.*)

1. Signal Strength. Maximum signal strength occurs when the receiver antenna is in the same plane as the transmitter. If your receiver antenna is coiled up or looped or even horizontal under the deck of your ship, it could cause problems.

Maximum signal would then only occur when your transmitter antenna is horizontal and parallel to the receiver antenna. If your ship makes a turn, you lose signal until it is again parallel with the transmitter.

Get as much of your receiver antenna above the deck and vertical. Hold your transmitter antenna vertical. Doesn't matter which way the boat turns, the antennas are still parallel and you get maximum signal. I tied a knot in the end of my antenna wire around a small elastic band, and connect it to a sewing pin stuck in my mast.

2. Internal Wiring. Try to keep your battery leads as far away from your servo leads as you can. I know they all connect at the receiver, but avoid having the rudder servo leads, the sailwinch servo leads and the battery leads in parallel with each other.

When a servo turns, its motor draws heavy current from the battery and can generate RF interference. Each servo lead can act as a small antenna and if parallel to another set of leads, can pick up crap.

I've even seen a ship pick up interference when very close to another ship as the other ship's servos operate.

3. Onboard battery voltage. The sailwinch servo draws a lot of current from the battery when it turns, especially in heavy winds. This may pull down the battery voltage, cause the receiver to become less sensitive or even shut down momentarily.

Receivers need 4.8V, but can be safely run on 6V (5 AA cells). I use an 8.4V battery pack and a small voltage regulator circuit (\$10) to drop the voltage to 5V to the receiver. The battery has some reserve and the regulator holds the voltage at 5V on the receiver.

Just using 4 Nicds only produces 5 volts when fully charged. There is very little room for voltage drop before problems develop. Use 5, not 4 NiCds. Same applies to the more powerful NiMh batteries.

4. Make sure all your wiring connections are solid. I have had trouble with crimp connectors and now either solder my connections or use screw terminal blocks. If you have a poor connection, it could fail intermittently and drive you just slightly crazy trying to find it.

5. Look for corrosion. Our ships work in a moist and wet environment. Its easy to get corrosion on exposed wires at contact points. Use fine sandpaper and electrical contact cleaner (aerosol spray) to clean everything, especially after winter storage.

6. Dry Out Your Ship. After every sail, make sure to get all the water out with a towel, and blow dry air into the hull to suck out the moisture.

7. Transmitter Antenna. Make sure it is connected to the transmitter! Some are screwed in place and with repeated extension and collapsing of the antenna, I've seen one literally fall out.

8. On /Off switch If it is mounted on the deck, or has got flooded at some time, it can cause intermittent problems. This one is hard to find, the best way to check it is to plug your battery directly into the receiver hence bypassing the switch.

I have had this happen several times on various boats with deck mounted switches. I now mount switches below decks , removing the hatch each time can be a nuisance but better than the alternative.

9. All electrics inside the boat should be as high up above the hull as possible in the event you get "water in the bilge." Also avoid placement where water could run down over the radio etc. if it leaks through the hatch.

10. Do not use the switch that comes with the radios. They're too cheap - just a strip of spring brass. I had an airplane years ago and after a winter rest, found that the switch was intermittent.

I go to Radio Shack and buy one of their \$3 miniature toggle switches and rewire as needed. They are water resistant and I have had no problems with them.

11. If several ships are having problems, your sailing site might be too close to a powerfully, VHF intermittent transmitter such as a police, public service or taxi cab base station. A very strong signal, even if well away in frequency, can overload the front end of your receiver and swamp your transmitter's signal.

12. Radio receivers do fail. If nothing else corrects your problem suspect the receiver. It may have drifted out of adjustment. Borrow someone's receiver, put in your crystal and see if all your problems go away.

Although uncommon, crystals can go off frequency. Try changing the crystals, If you shifted to another channel and all now works you can't be

sure if it was a crystal or just that then new channel is less sensitive to interference.