

Questions from Readers and My Answers

REV 1

For "Icom IC M802 Starting from Scratch"

1. What is a "Tuner connector kit"? Is this something that each owner provides?

This comes with the Icom IC M802 and is noted in the Icom Manual list of components in the box. I only listed it as Icom has it in their manual as a component provided. I think mine is in a plastic box someplace on the boat. Look in the back of the Icom Manual it is number 12.



2. What is the OPC1101 cable that you mention? I cannot find any information on it.

This is an error in the book. Thanks for pointing it out. The Tuner to Transceiver control cable and the number is actually OPC-1147 and not OPC 1101. My error, sorry!

3. To provide GPS Lat/Long as you suggest, I will take the NMEA 0183 "talker" output from my AIS transceiver and connect it to a dual buss bar. To this, I'll connect the "listener" circuit from the M802 and my old Icom M402 VHF. Icom recommends this system. The M802 needs a BNC connector and I'm planning to just buy a BNC patch cord and snip one end to allow attachment to the dual buss bar. Is that reasonable?

This should work, but make sure you have the GPS word GGA turned on in your AIS. If it is working on your ICOM VHF it should be OK.

However, I have seen a couple of cases where the VHF worked but not the 802. In one case Icom repaired the failed M802. Icom would not tell us what resistor they replaced, but I suspect the input resistor that is in series with the BNC jack may be the one. Icom claimed plugging and unplugging the BNC connector/connections with the M802 power on, often times pops this resistor. The resistor is the input to an optical isolator so it needs to be there to meet NMEA specs.

So to be safe, make sure the M802 is off before connecting the GPS signal. So there is no mistake in what I am saying, **do all the wiring and connections with the transceiver power off.**

4. I can only hope that the OPC 1147N transceiver-to-AT140 cable will be long enough. I have a question to Icom to ask them if I can use two cable in series. I suppose that I can get some kind of barrel connector to connect two of these connectors. Is this what you would do?

~~Icom makes an extension cable called a separation cable OPC 1147 that they say may be used to extend the cable. http://www.icom-marine.com/icom_marine_accessories.html#OPC-1147 In the picture the cable kind of looks like a basic cable with connector pins on both ends.~~

Icom has indicated that OPC 1147 is no longer available. Splicing additional cable into the OPC 1147N is now the only option. The easiest solution would be to buy two OPC 1147N cables and splice. 8/12/2012

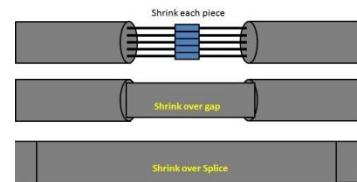
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I would personally splice the cable and not have a connector in the middle of my control cable. That would also allow me to use the minimum amount of cable required instead of doubling the length to 20 meters. If you have a coupling someplace out of site as a result of the cable run that will probably be what fails in a few years.

If you splice the wire: The wire is stranded so twist them together to make a good physical connection first and do a very light solder in the middle of the coupling. (Don't forget to put the tubing on first.)

Use shrink tubing around each connection; then around the coupling just over the open wires; and a third layer of shrink tubing that extends $\frac{1}{2}$ the distance of the splice past the coupling on each side of the coupling.



The shrink tubing will stiffen the cable over the splice so the splice does not move and is also shielded from the environment.

5. Do you have a recommendation for the VSWR/power meter?

Probably the best is a Bird meter. I would love to have one however I cannot afford/justify the cost of a Bird Meter. So I went to a Ham shop and picked up an inexpensive meter manufactured by MFJ. They have a good selection in the range of \$ 40 to \$100. The \$39.95 MFJ-816 unit is adequate to make sure there are no big issues.

This meter reads both the power and SWR at the same time and is more than adequate to check the installation as well as later checks for coax/connector issues down the road.

<http://www.mfjenterprises.com/Categories.php?sec=244>

6. What unit do you use for soldering PL259 connectors? A gun? What wattage? An iron as I sometime read? A butane torch? Jeez, there's a lot of information out there. I do a lot of soldering but I have not soldering too many PL259s and this is not the place to make mistakes.

The best bet is to buy a pre-made cable. There are a lot more extensive tests done on premade cables than we can do, but if you plan to make your own hopefully the following will help.

Because you have to solder the shield to the case through the holes in the PL259, you will need to use a solder gun. This can be tricky. Tin the center conductor before inserting it into the connector (Cover wires with a fine coat of solder).

Make sure your tip is well tinned and the heat is going to the tip. *I usually use a 250 watt gun to make sure it heats up the ground quickly. If you use a smaller gun and hold the soldering iron on the connector to long it can damage the center conductor.* Feed the solder onto the connector at the tip. When it flows stop and quickly change to the next hole.

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Some PL259s have four holes some have two. All the holes should all be soldered. When you are finished soldering the shield, let it cool.

Now solder the center conductor by holding the tip at the end of the connector near the wire coming out and hold the solder on the wire until it flows and seals off the hole.

