INSTRUCTION MANUAL – MODEL AT566K

Model AT566K is a user-installable kit to add the internal automatic antenna tuner to an existing model 565 Orion or 566 Orion II transceiver. Instructions, complete with color photos of relevant detail, are included in this manual.

You will need the following tools:

#10 Torx wrench (provided with the kit, Ten-Tec part #38313).
Small pair of needle nose pliers.
2 Philips screwdrivers, one small, one large.
Soldering iron
Rosin-core solder

We recommend you read this manual in its entirety before beginning installation of the tuner kit.

Should you have difficulty installing the tuner or need advice, our service department is available to provide technical support from 8 a.m. to 5 p.m. USA Eastern time by calling (865) 428-0364.

Ten-Tec, Inc., 1185 Dolly Parton Parkway, Sevierville, TN 37862 USA
Sales: (800) 833-7373. General Info and Office: (865) 453-7172.
Service: (865) 428-0364. Visit us on the web at www.tentec.com

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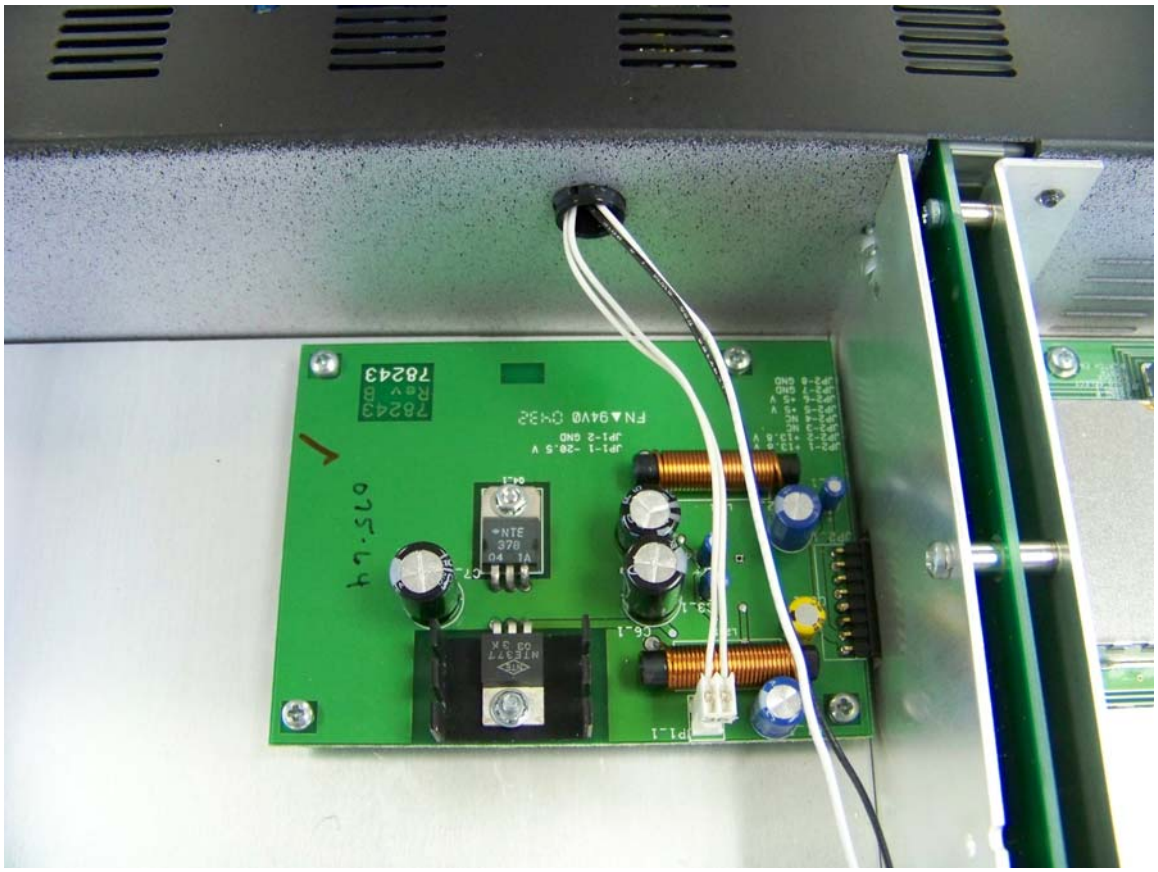

1. Remove rig covers. Turn the transceiver upside down with the rear of the radio facing you. Near the center of the rig is a small circuit board with a white cable fed through a plastic grommet towards the front panel. One of the cables provided with the kit has one white wire and one black wire and two connectors marked “11” and “T”. Take the end of the cable with the connector marked “11” and push the connector through the plastic grommet as shown in this illustration.

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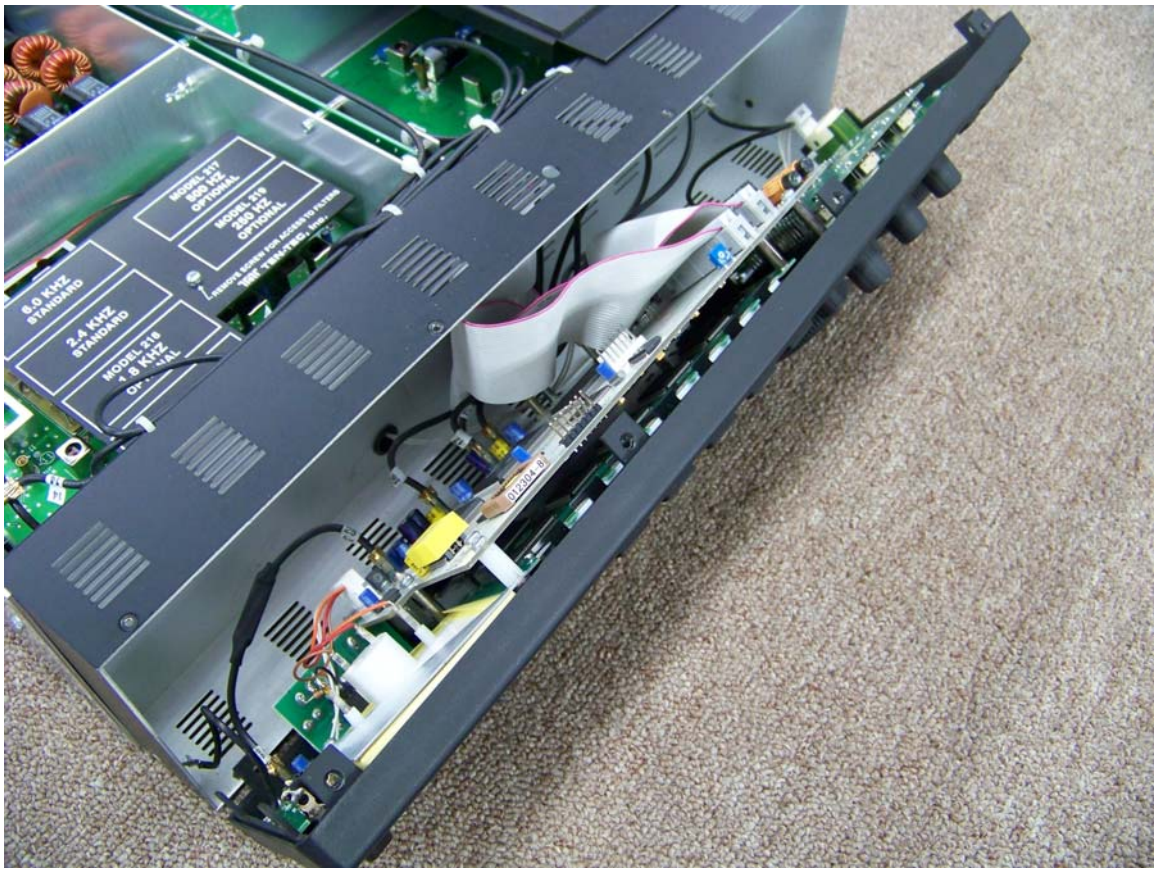

2. Turn the transceiver right side up. Around the perimeter of the front panel of the transceiver will be 12 Philips screws inserted in plastic tabs. Remove all 12 screws. VERY CAREFULLY AND **SLOWLY** pull the front panel forward and tilt as shown.

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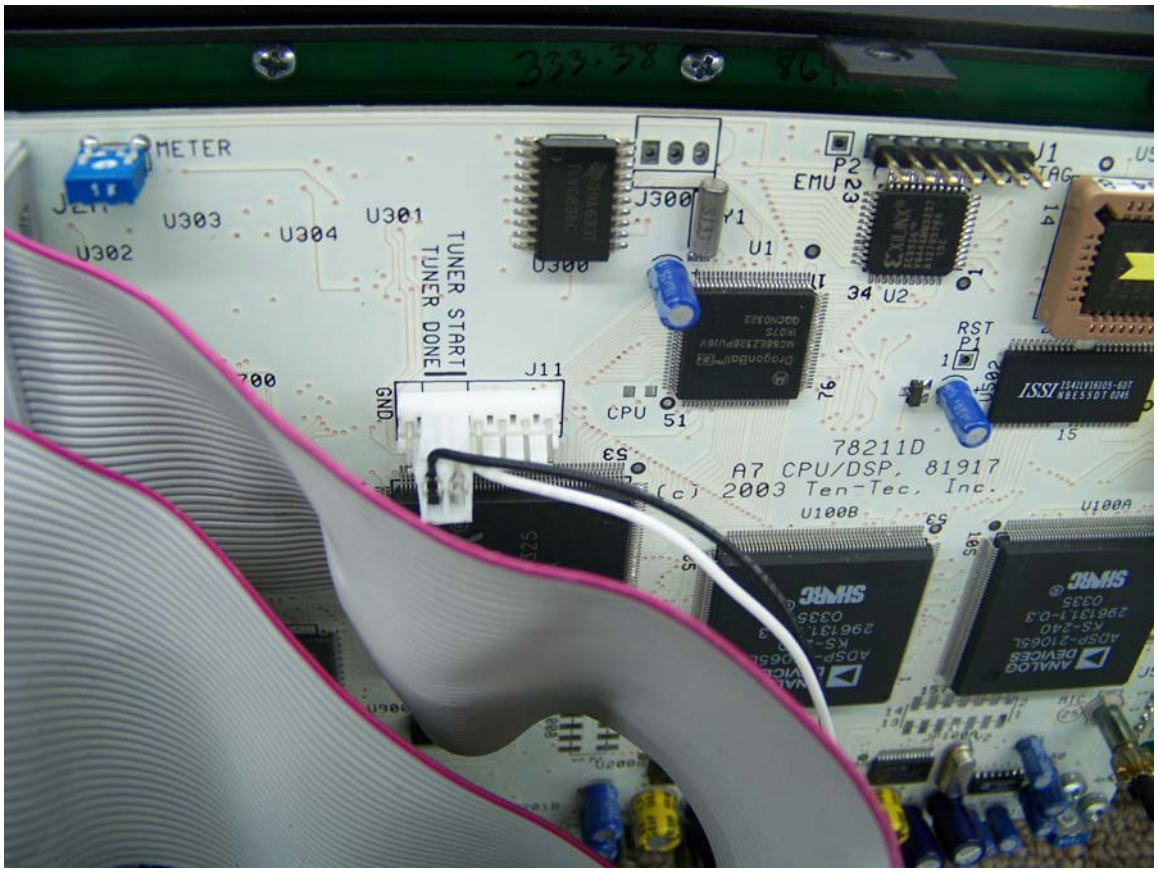

3. The above illustration is the back of the CPU/DSP board on the inside of the front panel. Plug the cable you routed through the grommet in step 2 into the jack marked J11. Looking at the board from the rear of the transceiver, there are 7 pins. The connector installs onto the 2nd and 3rd pins from left marked TUNER DONE and TUNER START. **PLEASE NOTE**: Some earlier Orion transceivers did not have TUNER DONE and TUNER START silkscreened on the circuit board. The connector installs onto the same pins as shown in the illustration above, only the pins are not labeled on the board.

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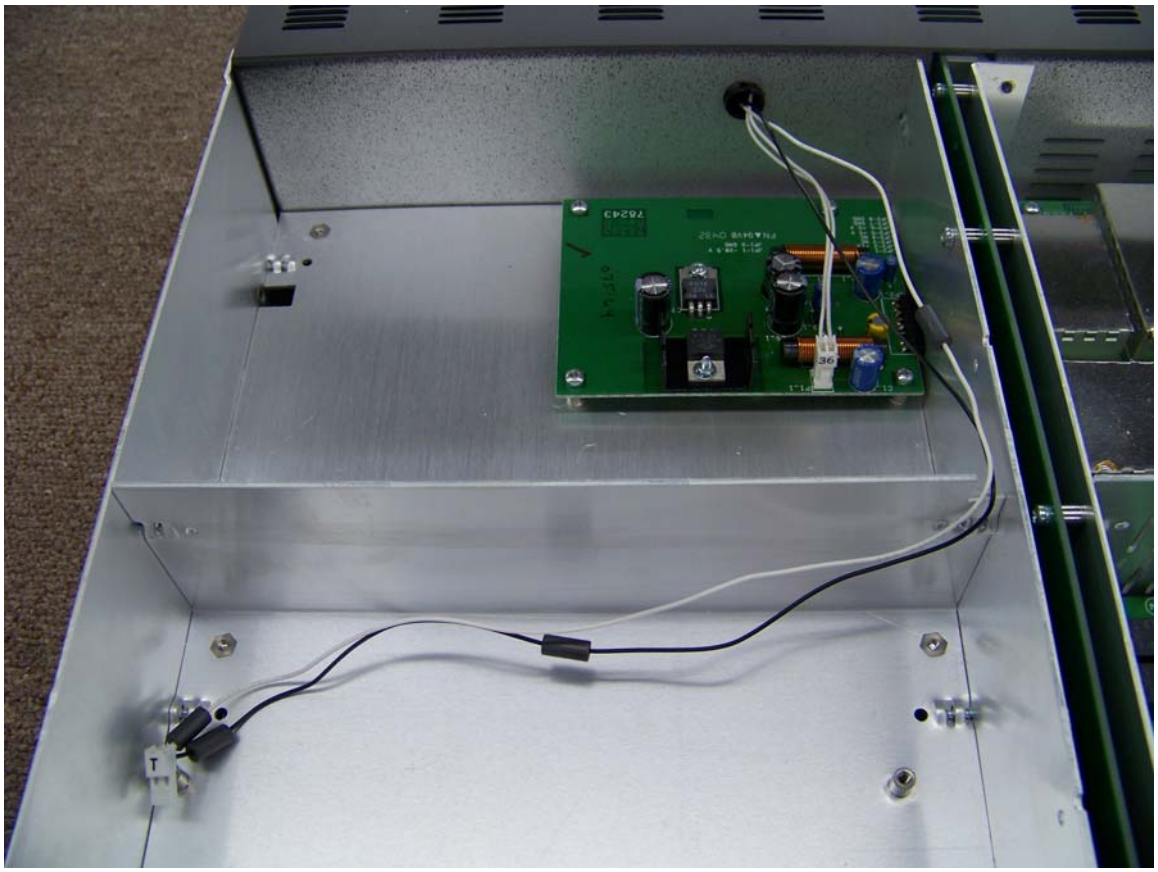

4. Re-attach the front panel to the transceiver chassis with the 12 Philips screws removed in step 2. Turn the transceiver upside down with the rear of the radio facing you. Route the cable attached to the front panel in steps 1-3 through the notch in the chassis shown at the right of this picture. The other end will be attached to the automatic antenna tuner circuit board in a later step.

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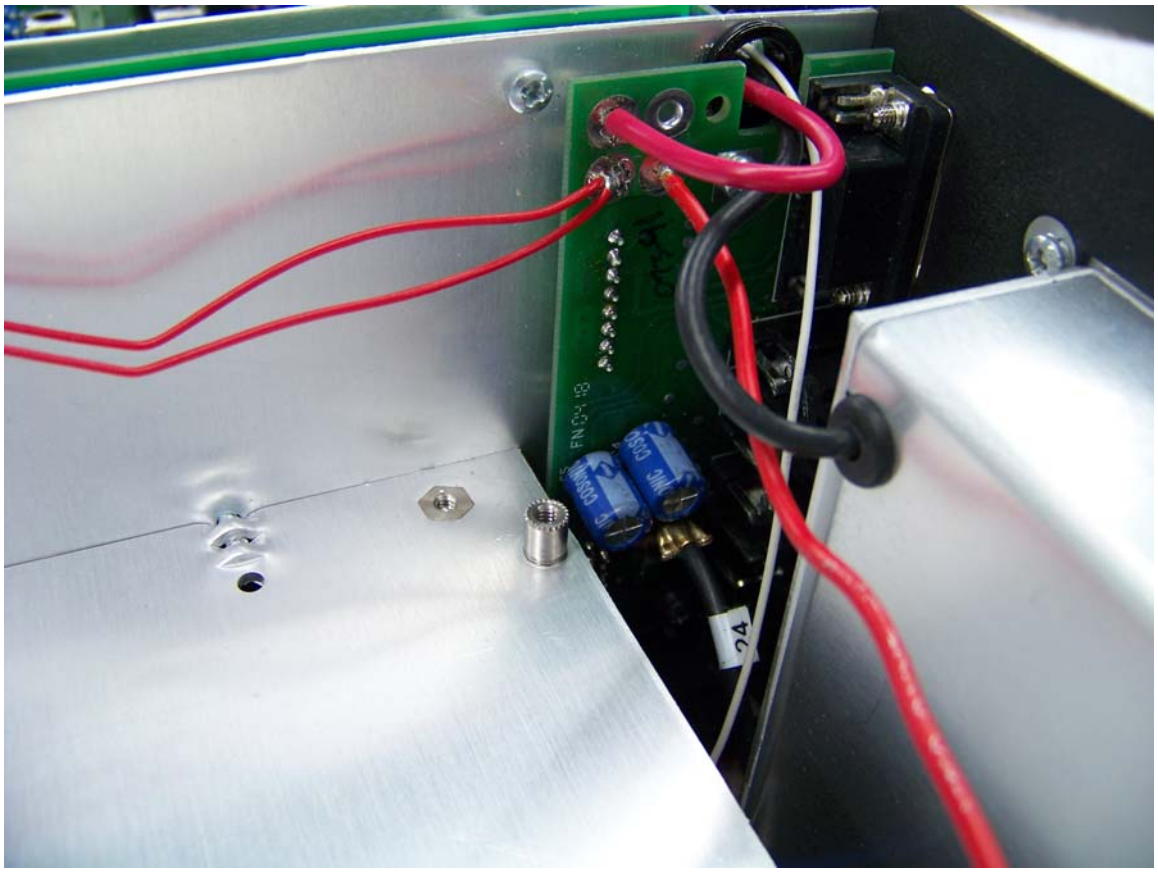

5. Supplied with the tuner kit is a cable with two red wires, with bare wire on one end and a connector marked “T” on the other end. This cable will be soldered onto the A12 rear connector board. The A12 board is located at the rear center of the transceiver, next to the final amplifier/heat sink assembly. There are four large holes at the top of the board. Two of the four holes are already used by large red wires as shown in the illustration. Solder both wires of the red cable into the lower left hand hole.

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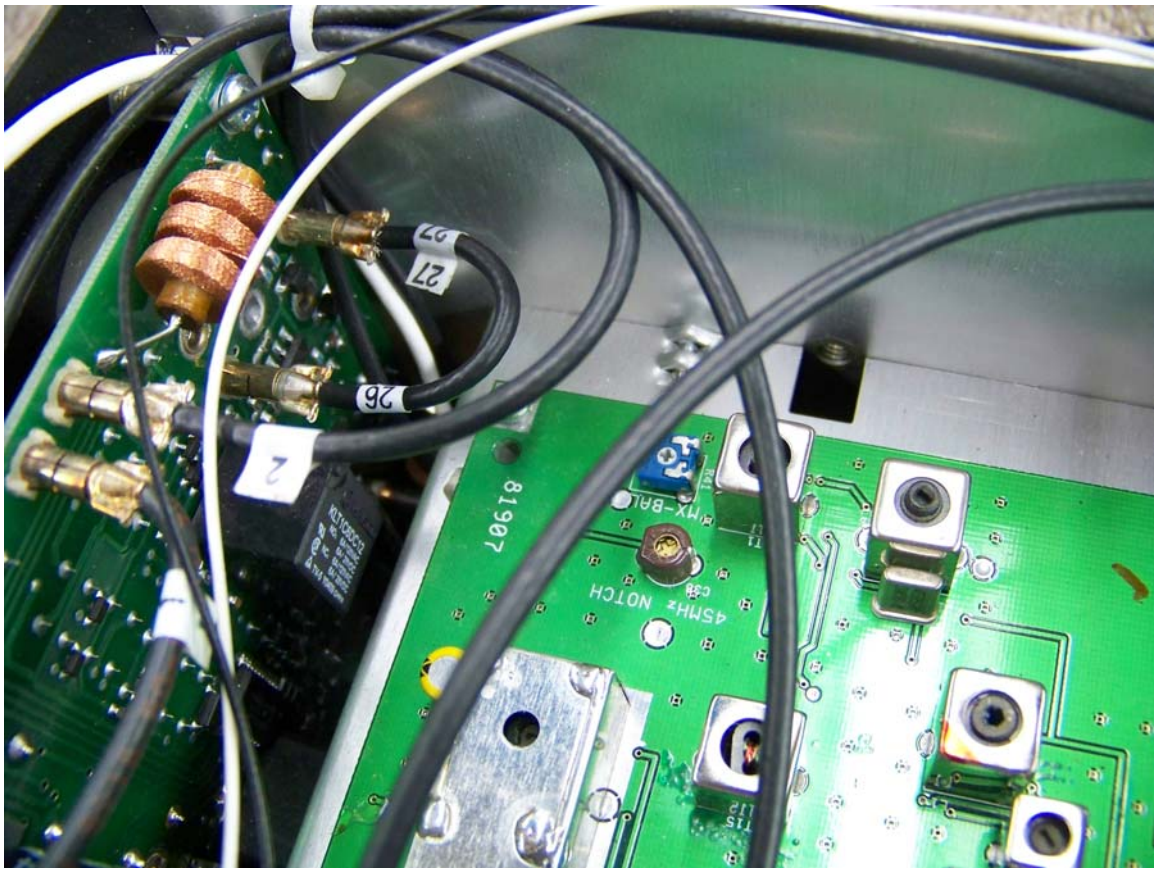

6. Turn the transceiver right side up with the back facing you. At the back left of the rig, in front of the ANT 1 SO-239 connector is the circuit board shown. There is a jumper with ends marked “26” and “27” installed on this board. Remove this jumper.

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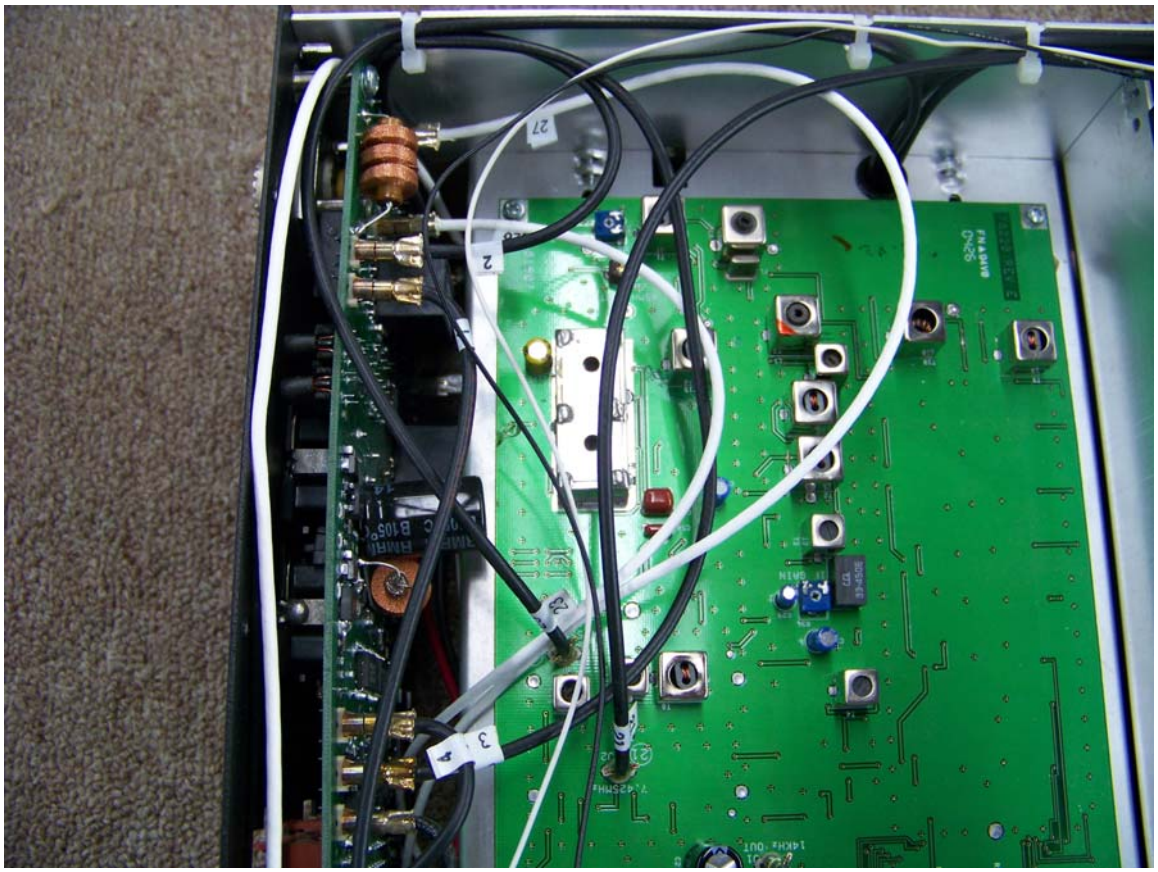

7. Two white cables with TMP connectors on each end and labeled “26” and “27” on one end and “3” and “4” on the other end are provided with the tuner kit. These cables will be plugged into the connectors left open by the removal of the jumper in step 6. Plug the cable marked “27” into the open connector closest to the side of the radio. Plug the cable marked “26” into the other open connector. Route the unconnected ends of the cables into the open slot you see here in the chassis between the circuit boards. You will plug the other ends of these cables into the automatic antenna tuner circuit board in a later step.

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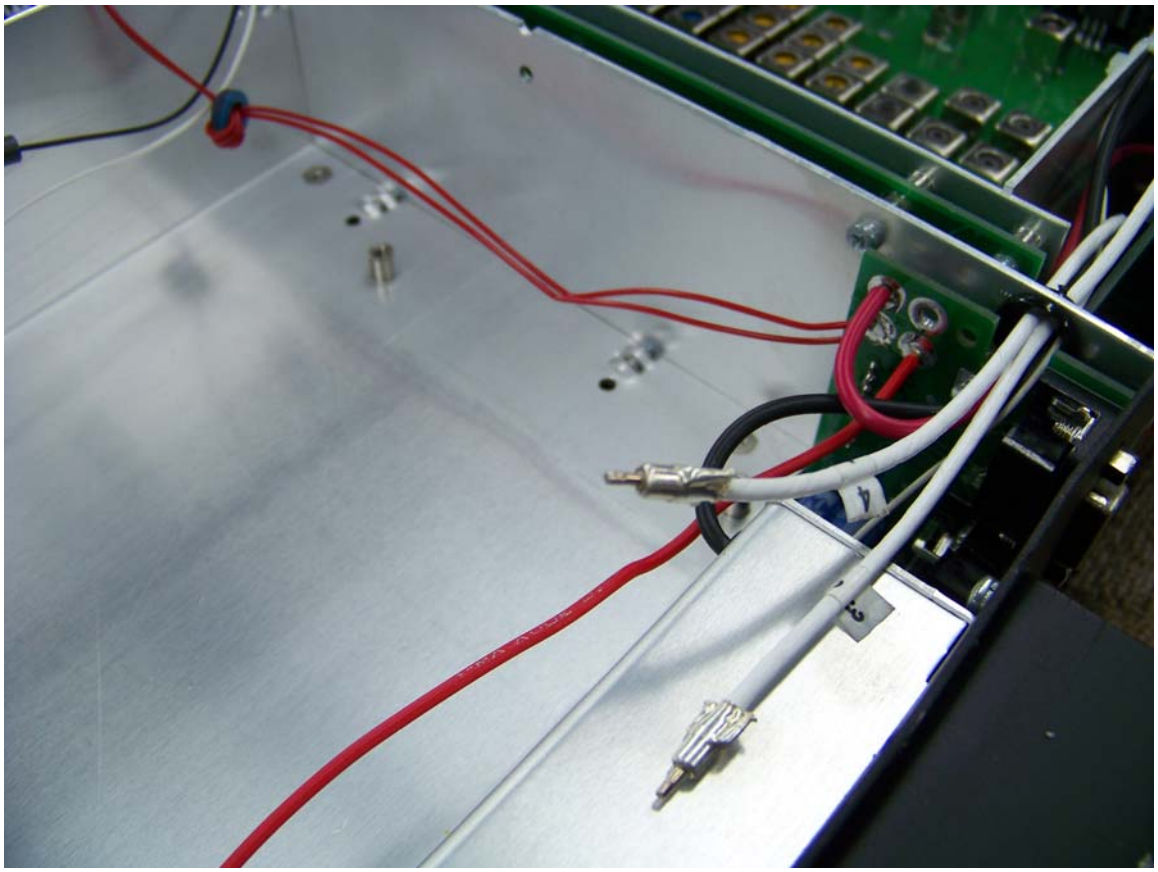

8. Turn the transceiver upside down with the rear panel facing you. Take the open ends of the two cables you installed in step 7 and route them through the plastic grommet that is next to the A12 rear connector board as shown. This will be a tight fit due to the TMP connectors on the ends of the new cables and because other cables are already installed through the same grommet. A small pair of needlenose pliers may be helpful.

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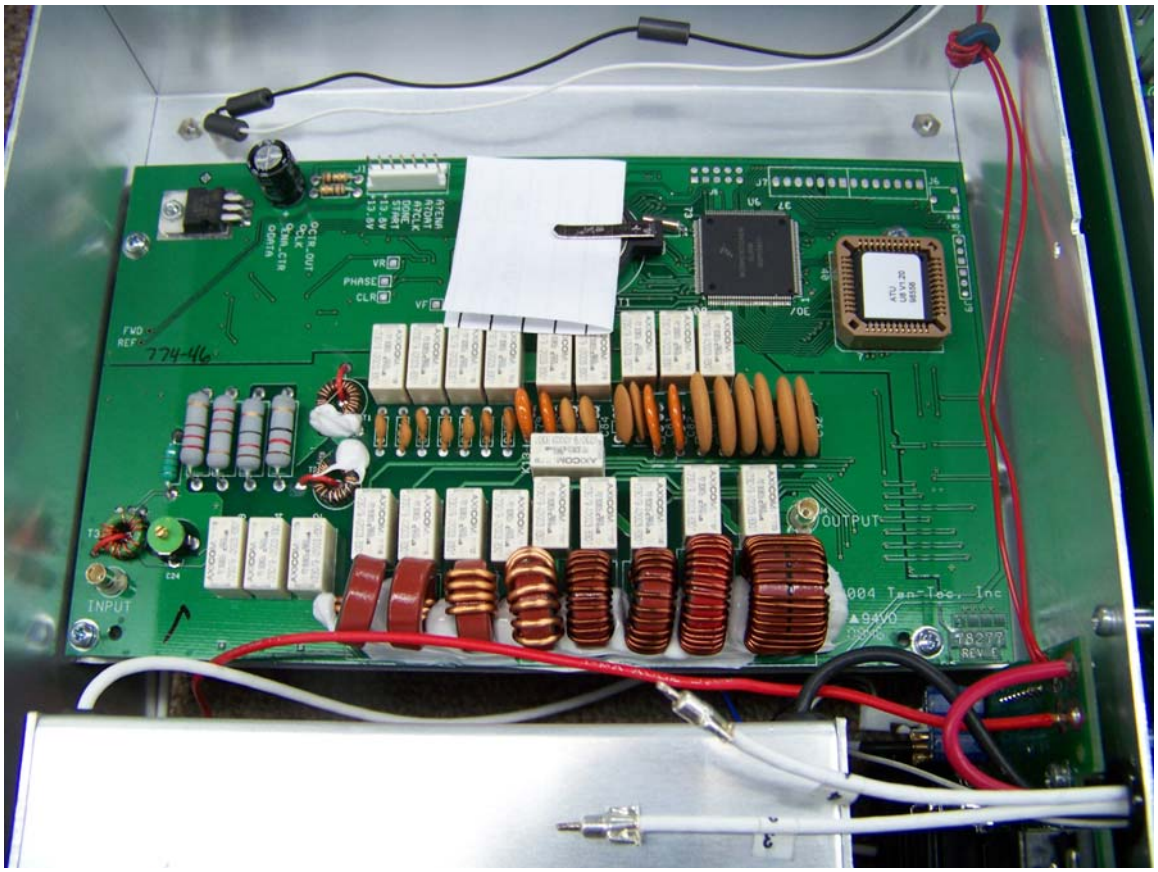

9. Screw the tuner board down to the four standoffs as shown with the supplied screws and washers.

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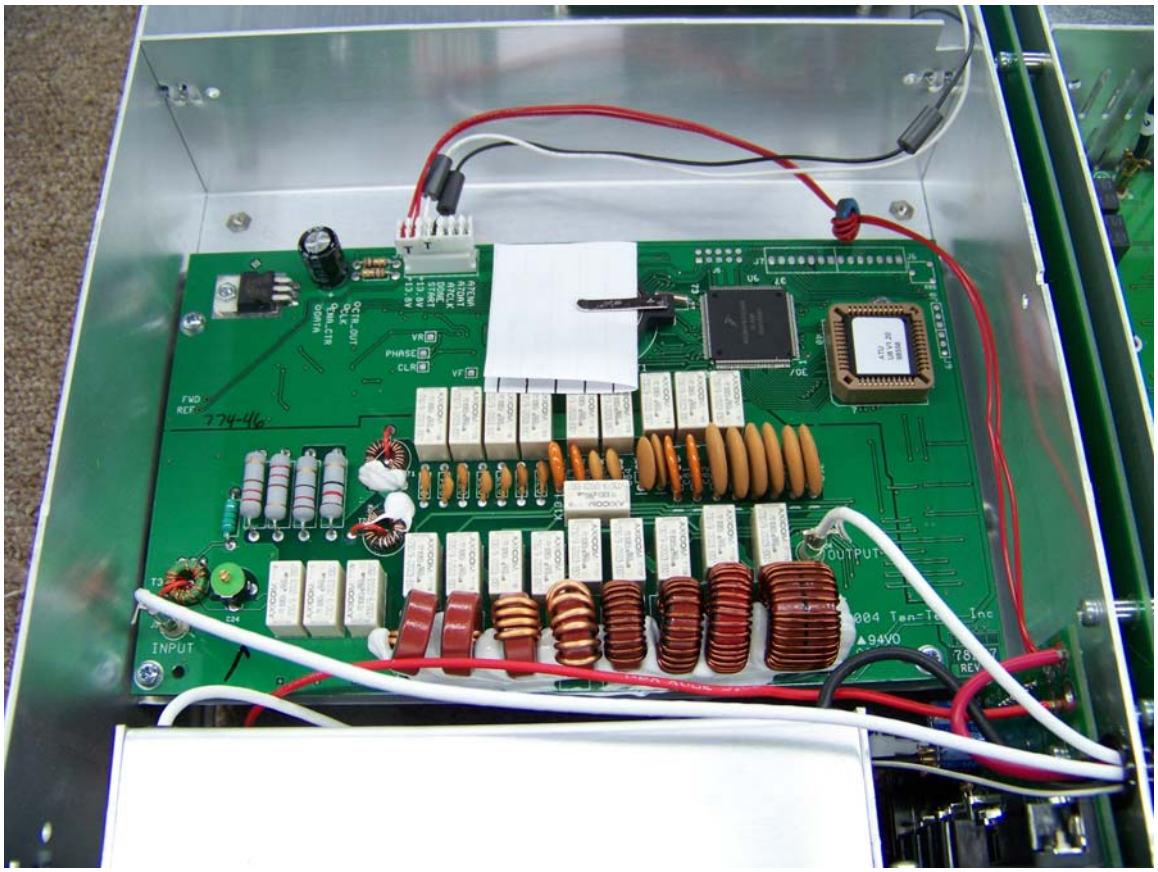

10. Connect cables as shown. The white cable end marked “3” is plugged into the INPUT jack on the tuner board at the left edge of the radio. The white cable marked “4” is plugged into the OUTPUT jack near the center of the radio. The other two cables are both plugged into jack J1 at the top of the tuner board. The red cable marked “T” is connected to the two pins at the left end of the jack. These pins are labeled +13.8V on the tuner board. The black/white cable marked “T” is connected to the next two pins, marked START and DONE on the tuner board. A dummy 3 pin connector with no connection has been installed on the other 3 open pins. **IT IS VERY IMPORTANT THAT THESE CABLES BE INSTALLED ON THE CORRECT PINS!** Incorrect installation will damage the tuner board when DC power is applied.

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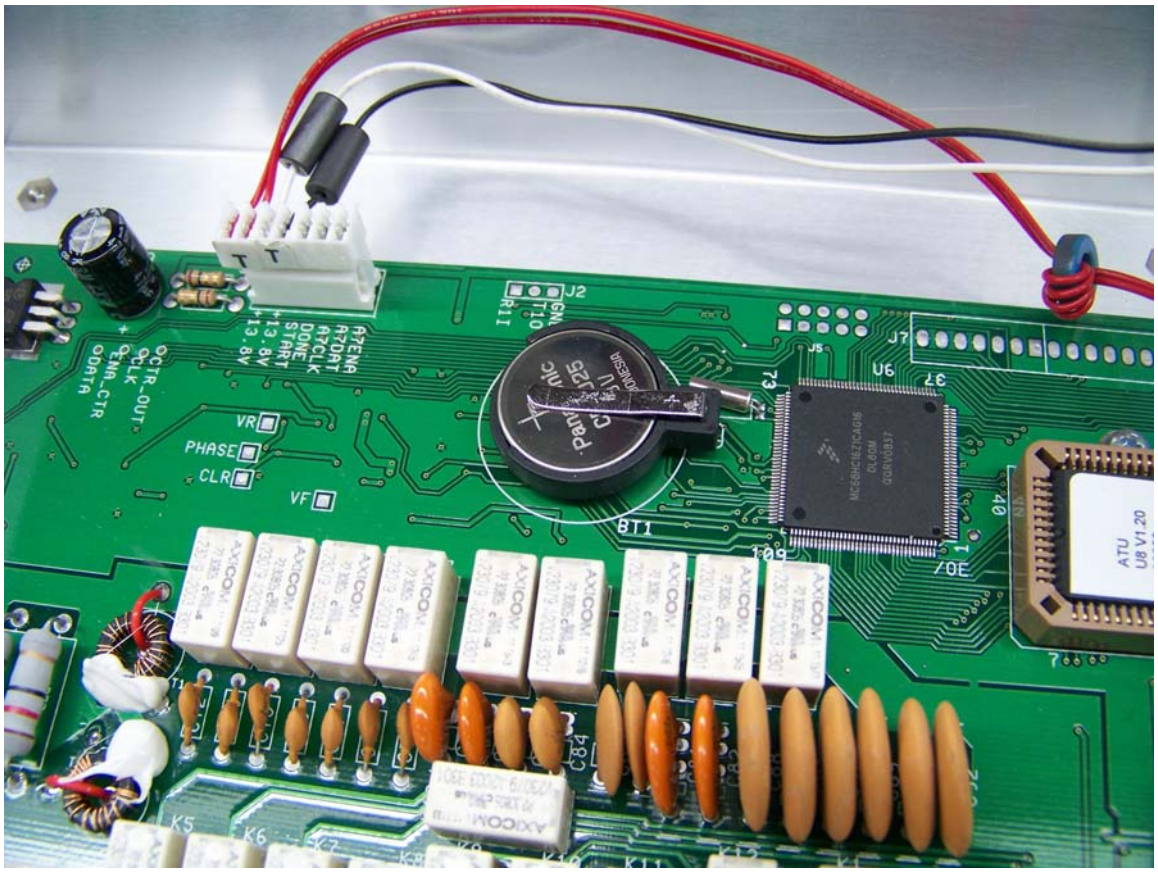

11. The memory battery has a slip of paper installed between the battery and the tab. Remove this paper. See illustration in step 10.

Replace covers on transceiver. After reconnecting to DC power, perform a master reset as described in the operator's manual. The autotuner will have to be enabled in the transceiver menu before it can be used. Enabling the autotuner in the menu and its use is described in the Orion and Orion II operator's manuals.

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