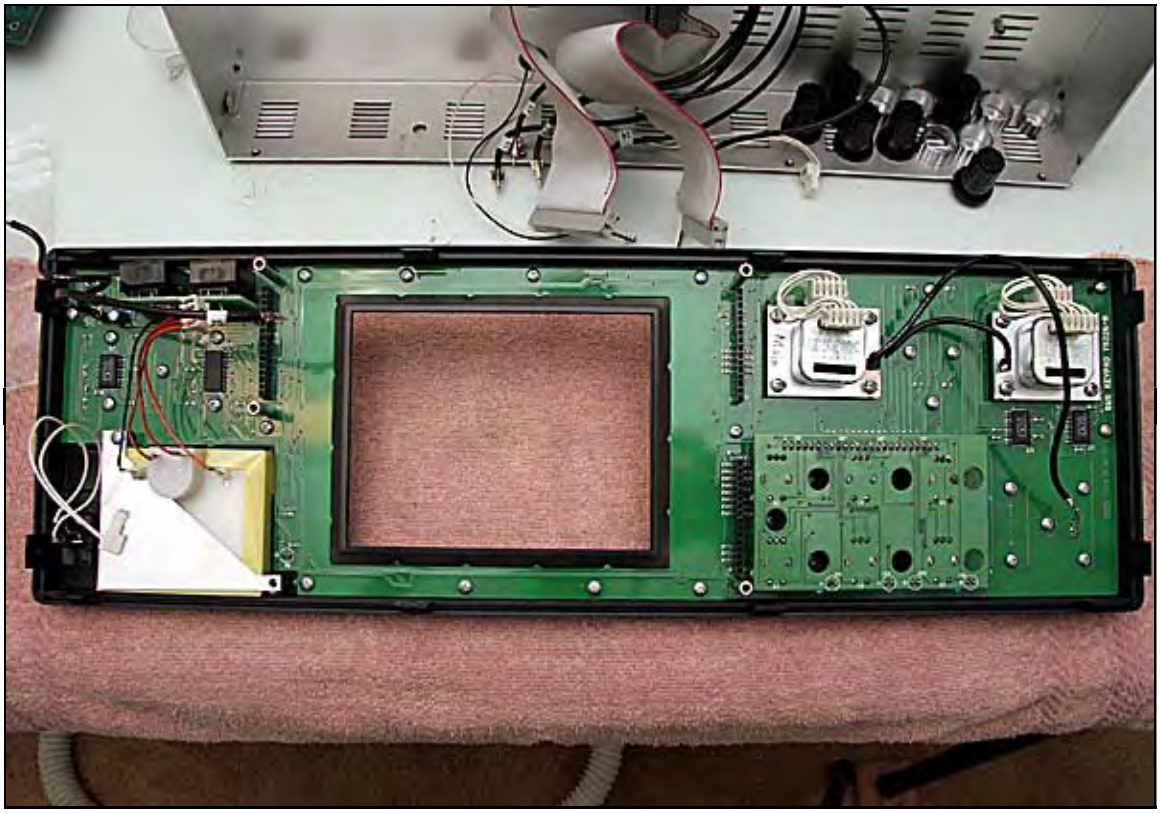
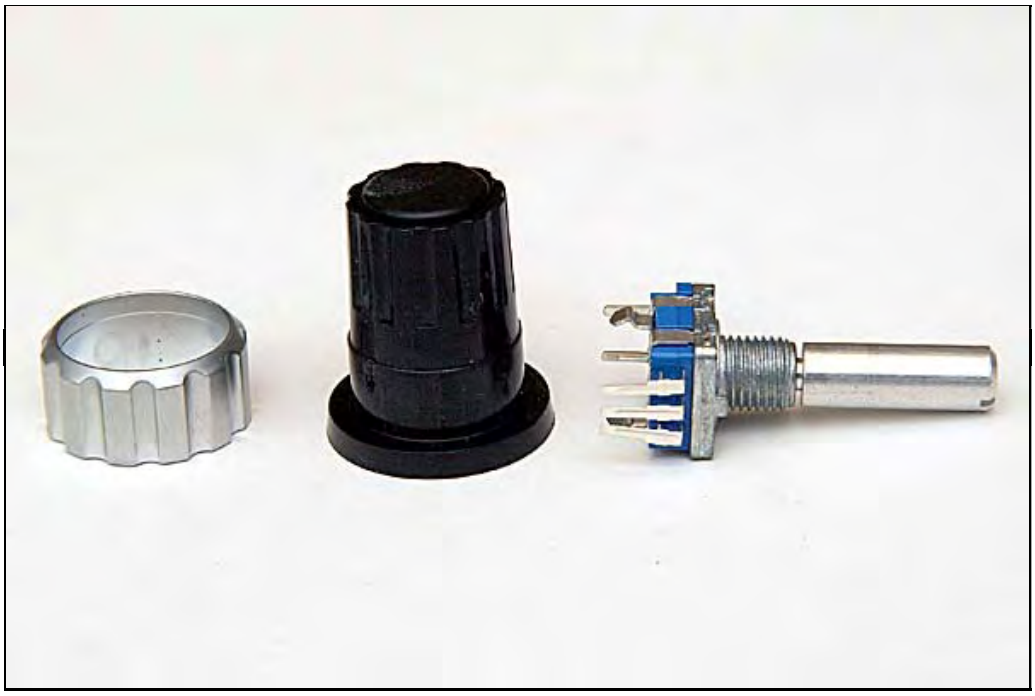
Orion RIT Encoder Replacement

(Prepared by John Dvorack, KE5C – February 2006)

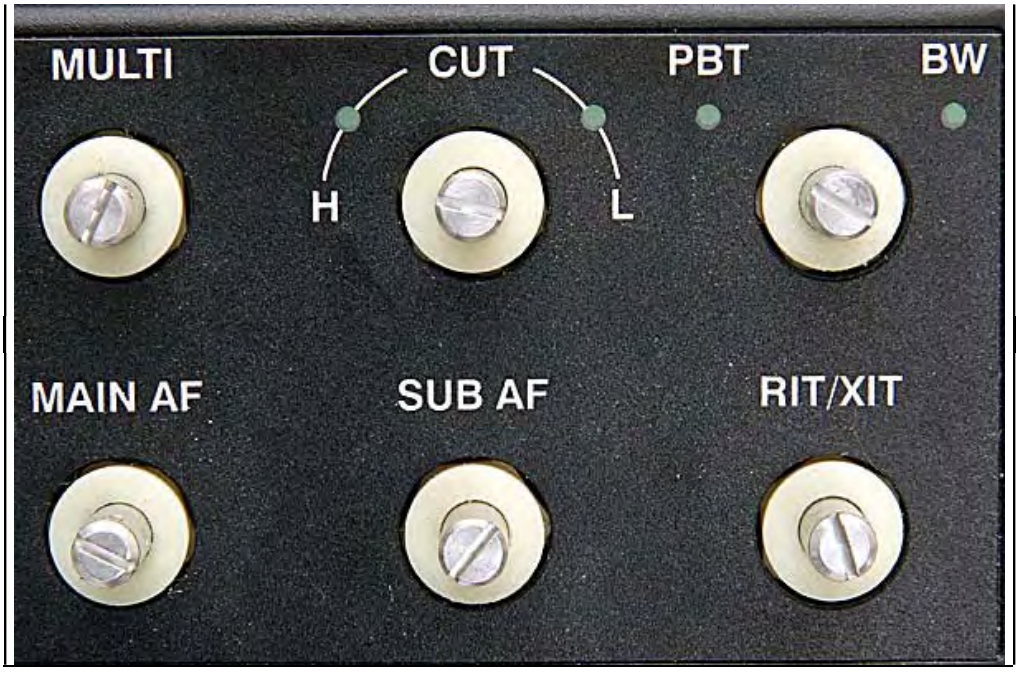
Steps to replace the Orion RIT encoder after disassembly per the control board modification instructions for the version 2 firmware improved sweep function.



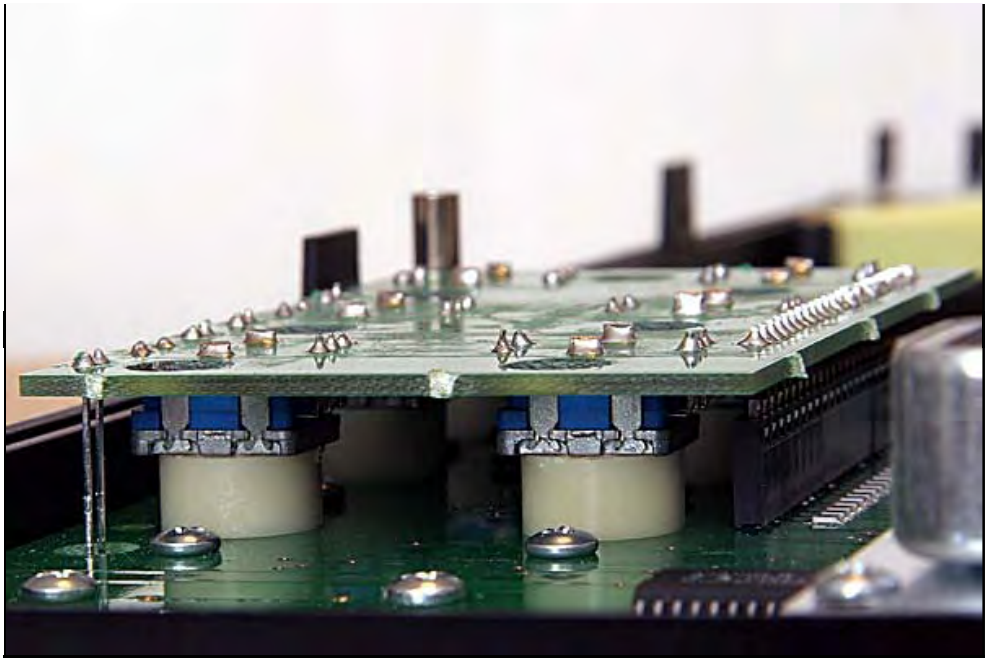
Follow the disassembly instructions for the control board modification to run the V2 firmware sweep function - download details from RF Squared website. Then unscrew or unsolder any ground wires connecting the front panel to the case (two on my Orion). Now you completely remove the front panel. The RIT and five other encoders are mounted to the encoder board in the lower right hand corner of this (upside down) picture.



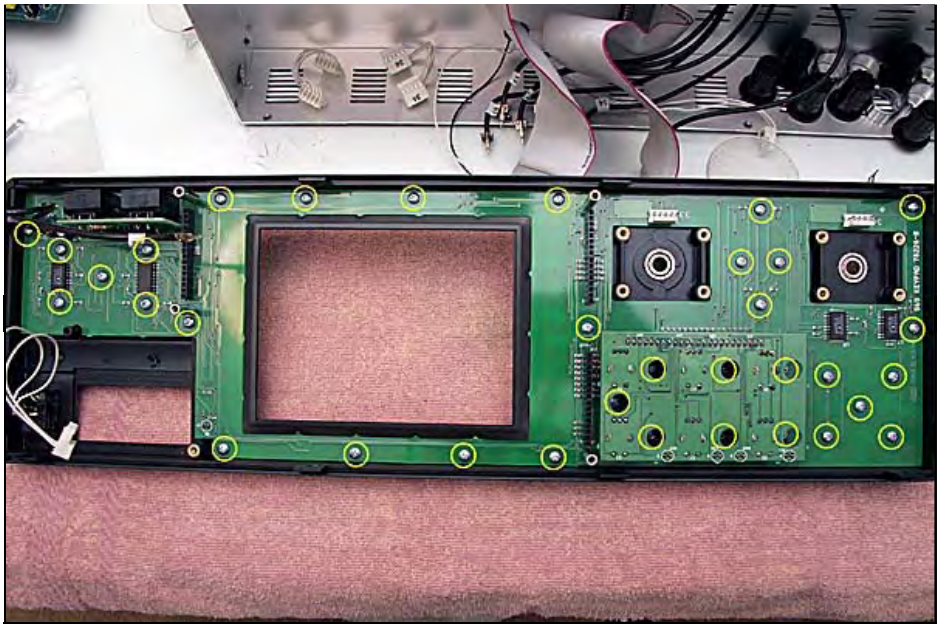
To remove the encoder knobs, slide the skirt off, then use an allen wrench to loosen the set screw in the main knob. Replacement encoder shown.



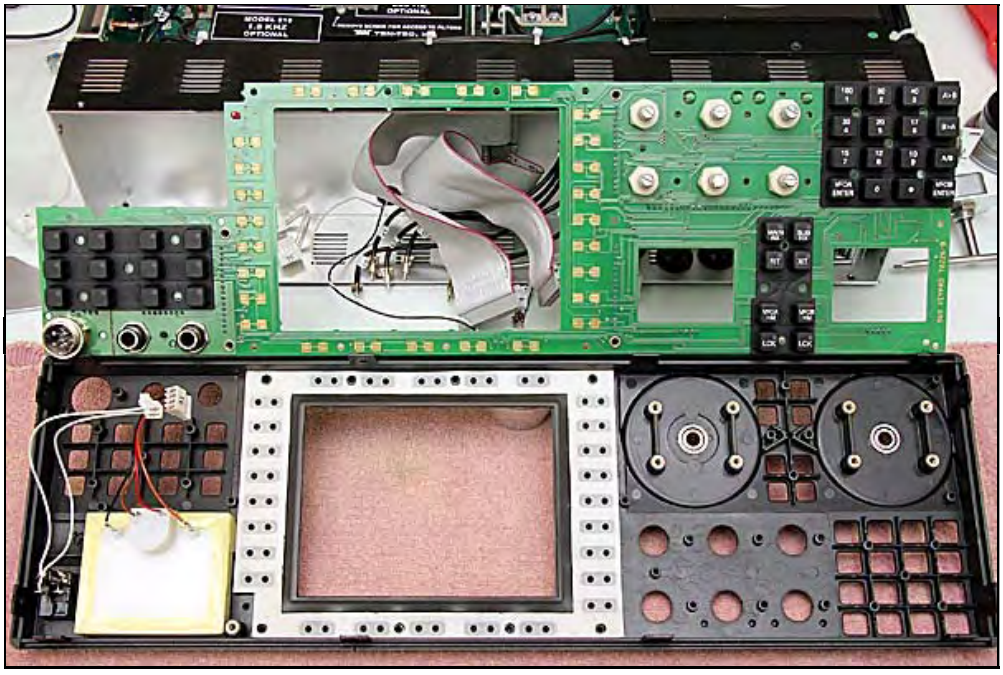
White bushings are visible once the knobs are removed. These bushings hold the encoder board to the front printed circuit board by screwing onto the encoder threaded collars. You need to remove the front printed circuit board to gain access to these bushings.



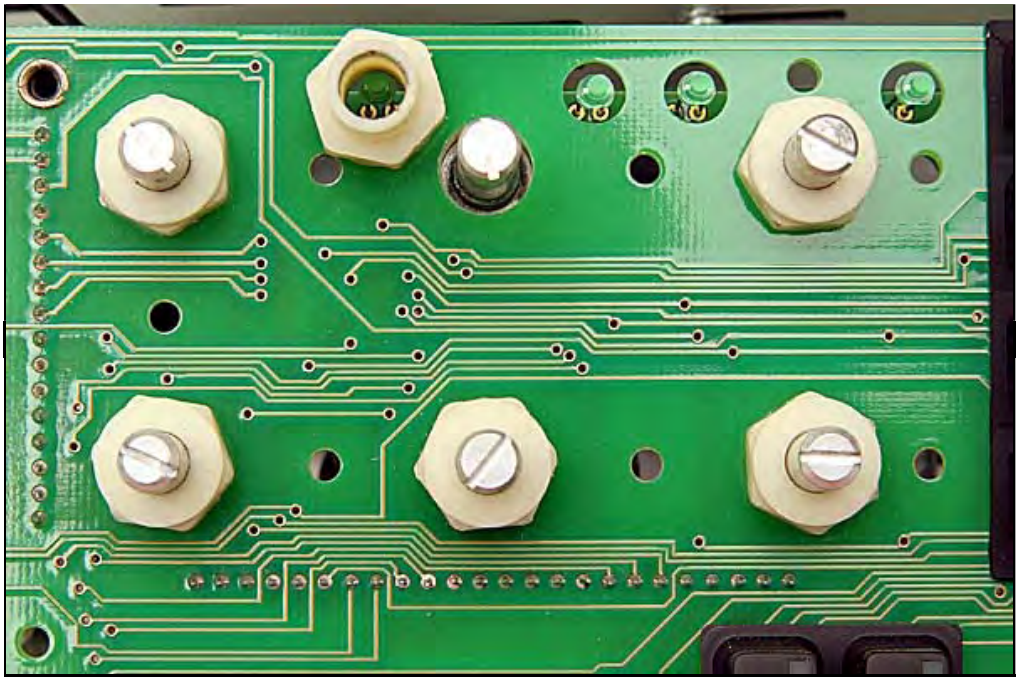
Here you can see the encoders and spacers. The bushings screw onto the encoder collars inside of these spacers. To gain access to the encoders, this encoder board must first be separated from the front board.



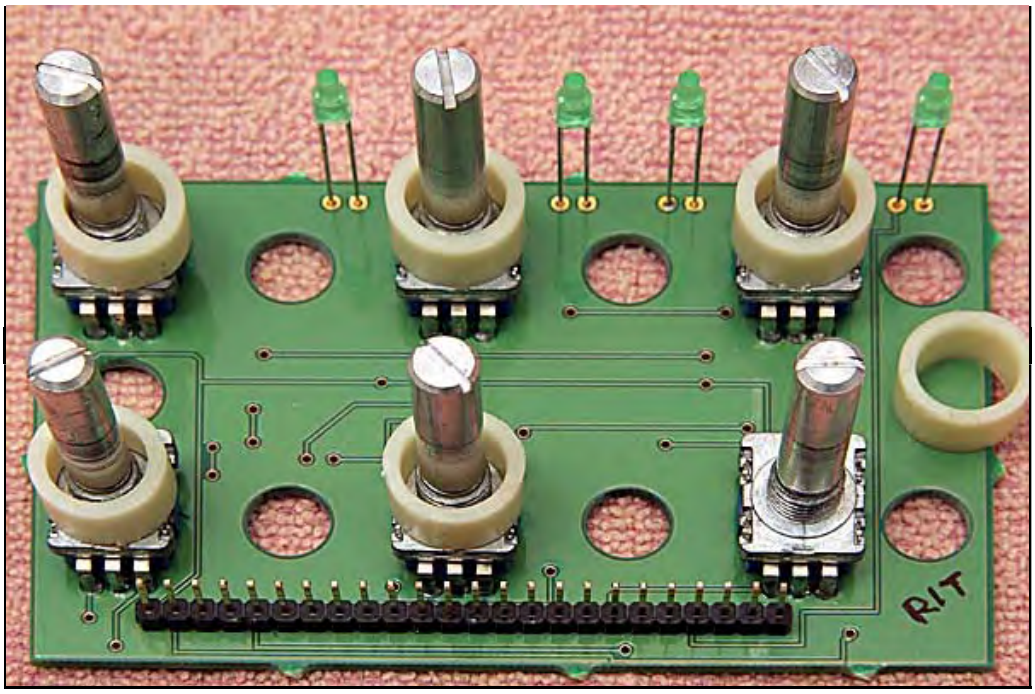
Begin by removing the remaining meter hold down bracket screw, then remove the meter. Next remove the main A and B encoders. Finally remove the 36 screws (circled, yellow) holding the front board to the front case. You can't see a couple of them in this picture, but they are there, trust me. (The front panel is perfectly rectangular. You are experiencing "fish eye" distortion from my zoom lens set at full wide angle.)



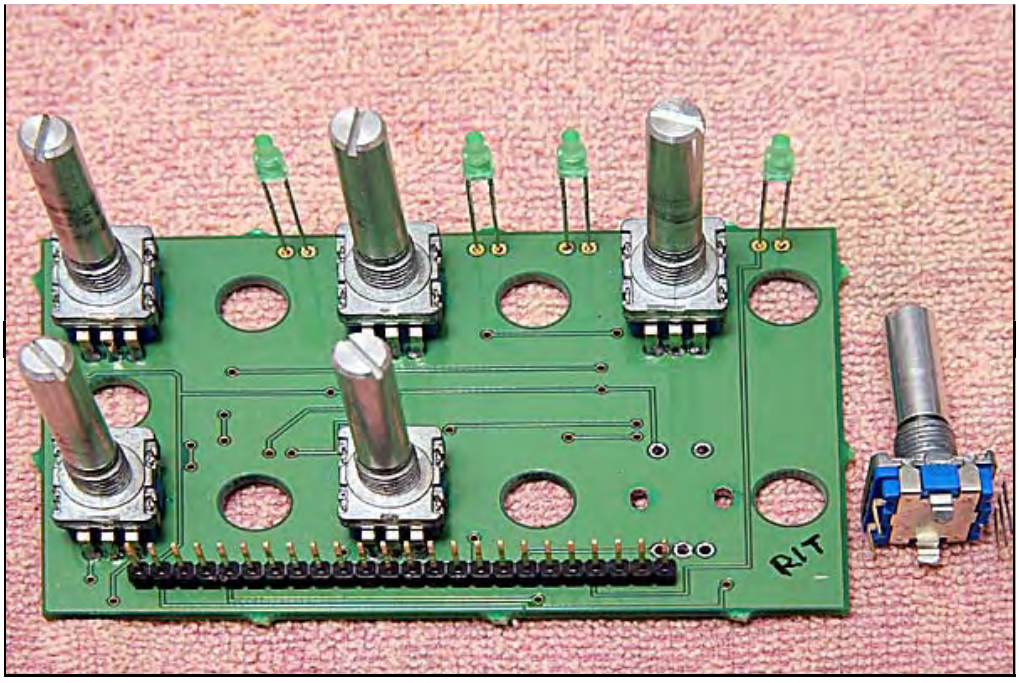
Now you can separate the front printed circuit board from the front panel. Note those white bushings that hold the encoders (and encoder printed circuit board) in place.



Unscrew these six bushings and separate the encoder board from the front printed circuit board.



After unscrewing the bushings in the previous picture you will be able to unplug and separate the encoder printed circuit board. I labelled the RIT encoder so I wouldn't accidentally remove the wrong one - hi. Here you also see the spacers.



Remove the old encoder by whatever technique you have developed. The new encoder is ready for mounting. Then carefully reverse your disassembly steps. Have fun!