INRAD

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INSTALLING AN INRAD CRYSTAL FILTER #92) IN A TS-2000

(Thanks to Charlie, W5VIN for these instructions)

I replaced the Kenwood XF-6 filter with International Radio's #92 filter. This filter is also used in the TS-50. It is 2.1 kHz, 8 poles. (NOTE: These instructions apply to the #90 1000 Hz filter also.)

Begin by removing the bottom cover of the transceiver. Then remove the seventeen screws that hold down the rf circuit board. Next, remove the heat sink clip from IC9 (there is no insulating washer here).

The XF-6 filter is chrome plated, and clearly labeled. Unplug one rf cable near the back of the board and mark where it was, as there is an unused connector nearby.

Flip the board over and using a small, grounded tip soldering iron and solder braid, clean the solder from the four pins and the two mounting lugs of XF-6 – and gently remove it.

Prepare the ends of the coax according to the attached diagram, and solder to the board and to the filter. There is room near the fan area to mount the filter with the double-stick tape.

Listening tests after the installation show a large reduction in off-channel CW signals. The 2.1 kHz bandwidth gives fuller use of the DSP. For those who say this radio suffers from blow by this is a rewarding modification, well worth the effort. This radio has lots of tiny components, so exercising care is important. I accept no responsibility for someone performing this mod with disastrous results!

Attached is the sweep of the original filter with International Radio's #92 filter superimposed over it, and a separate sweep of the #90 filter. Quite a dramatic difference!

#92 filter
24" RG174 miniature coax
3" double-stick foam tape

Prepare the coax as shown below.
Cut the lengths to fit your installation if necessary. Using a very sharp knife, cut through the outer insulation and remove about 1/2," but take care not to cut though the outer shield of very thin wires. Comb out these shield wires and twist them tightly together. Remove 3/8" of inner insulation. Apply a small amount of solder to the end of the shield wires and the inner lead. Use only enough heat for the solder to flow.