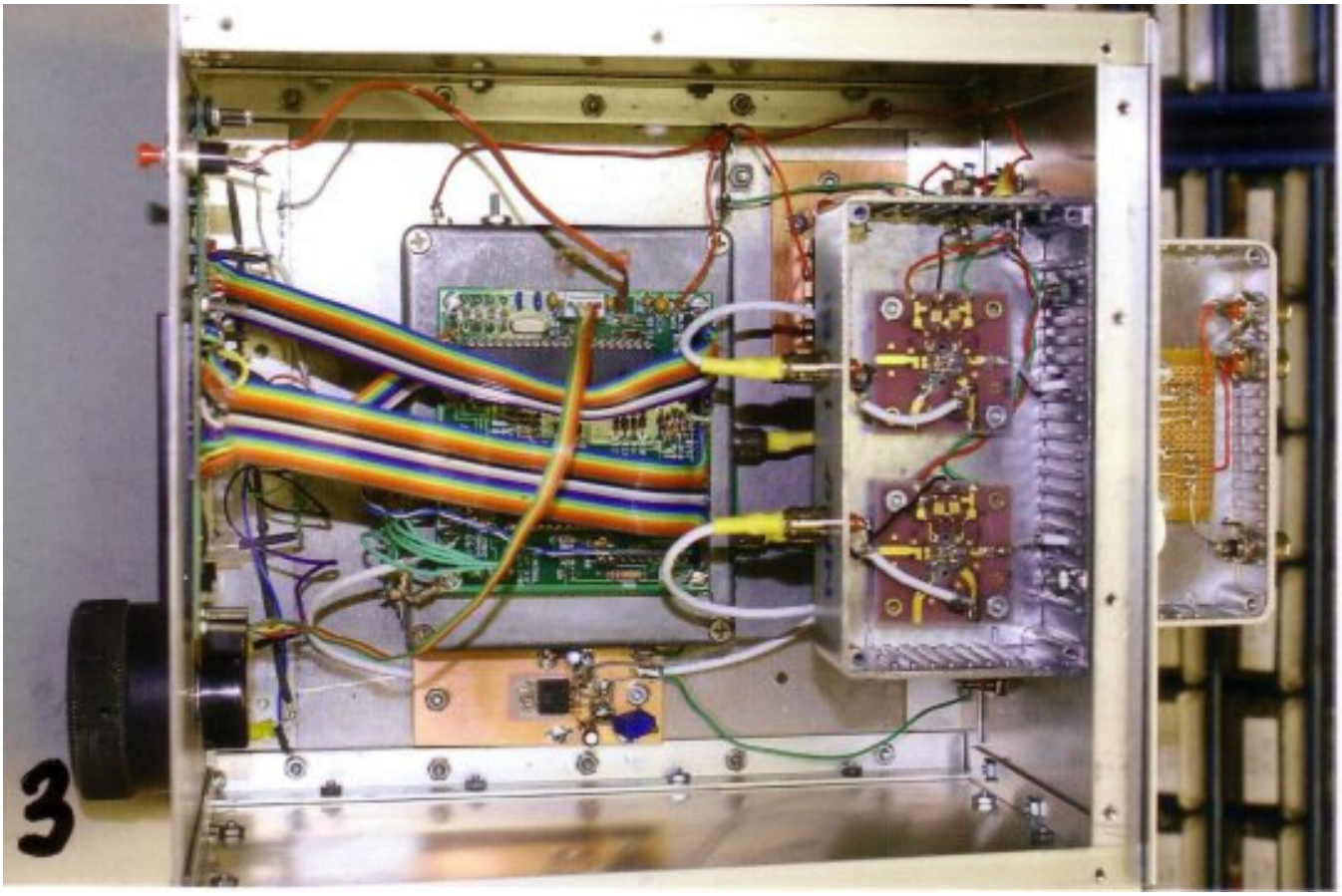
Wayne Thurston, AB7O

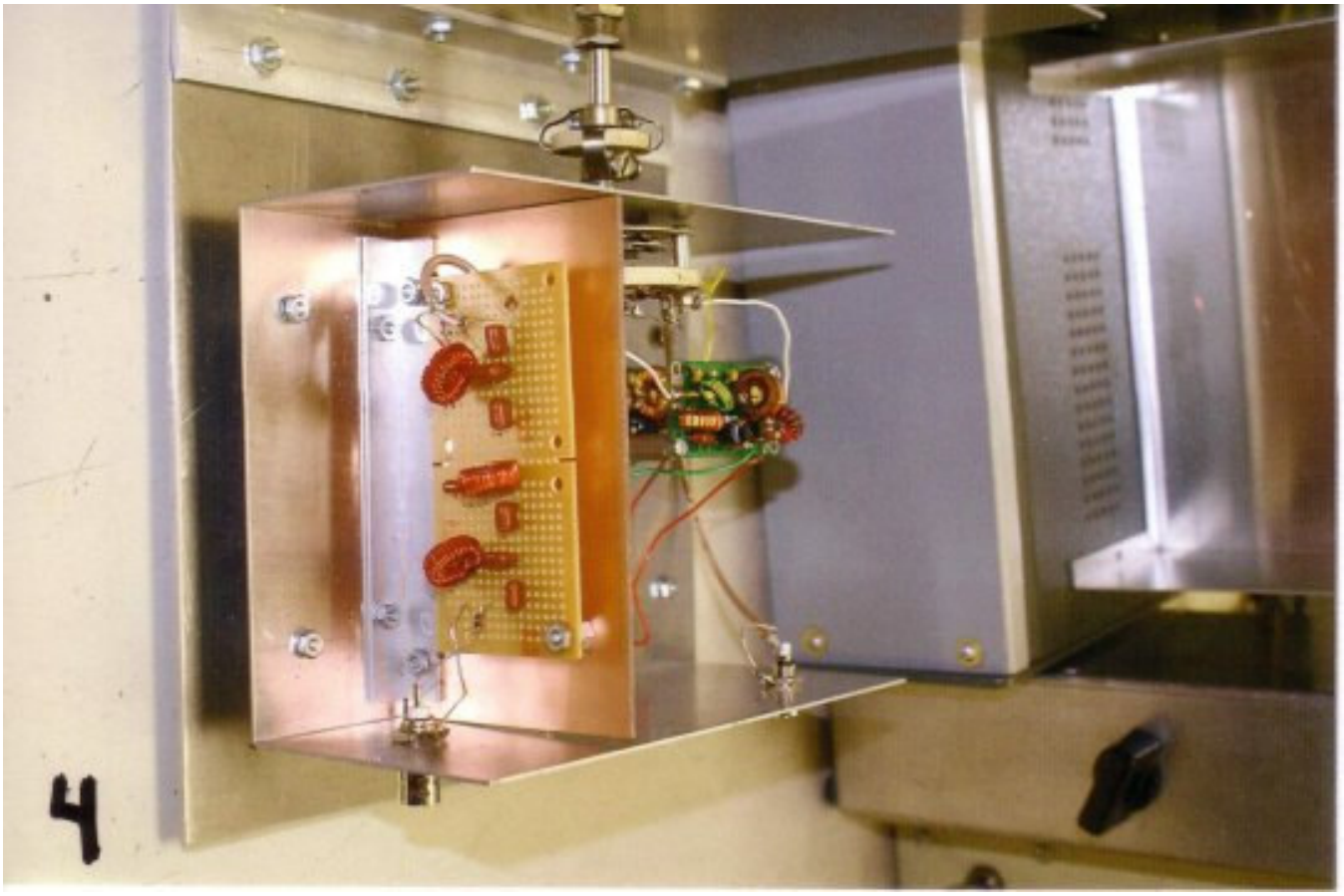
6/10/2007

Picture #1: VFO, R2Pro, LP/BC filters, BP filters

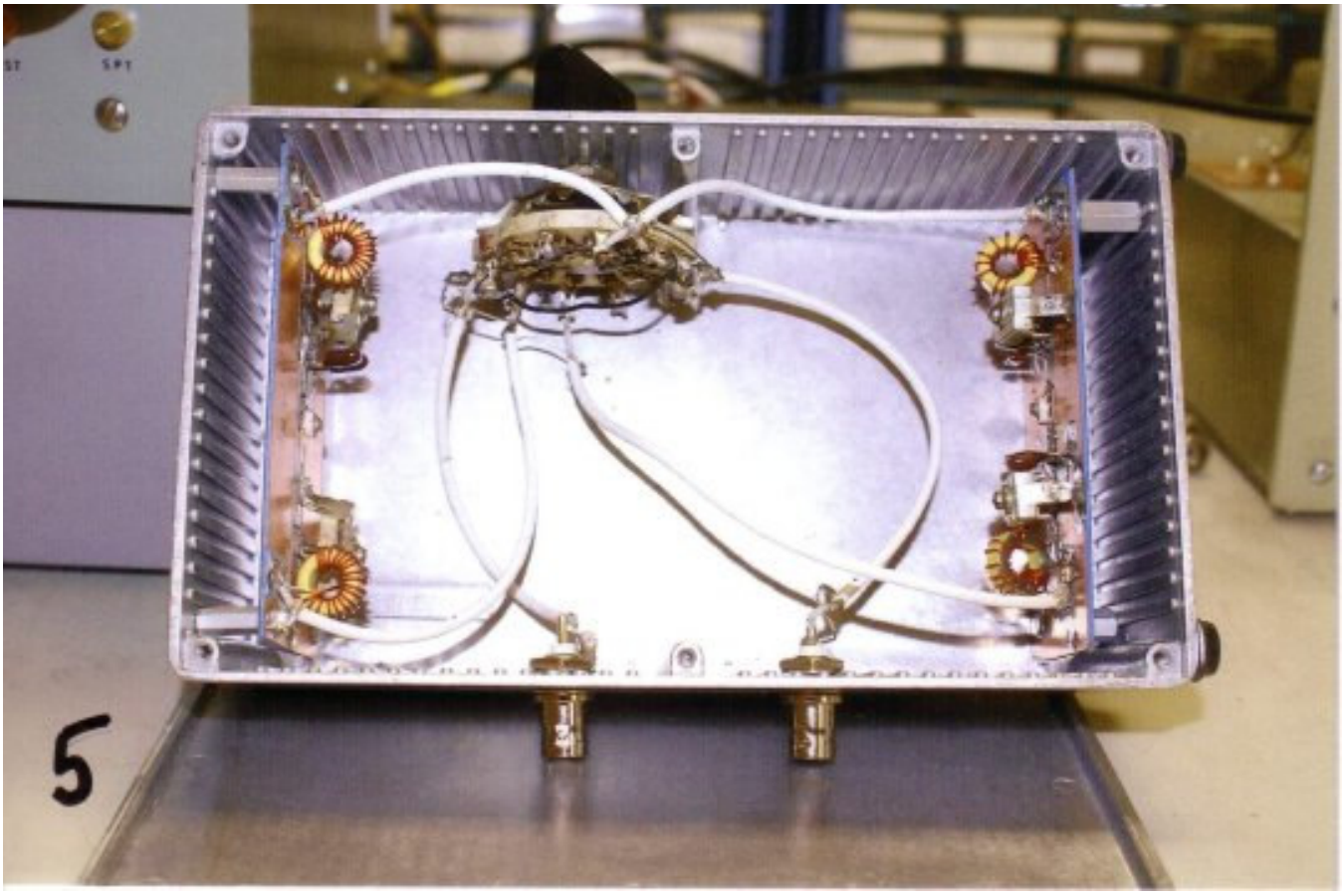
Picture #2: VFO front panel



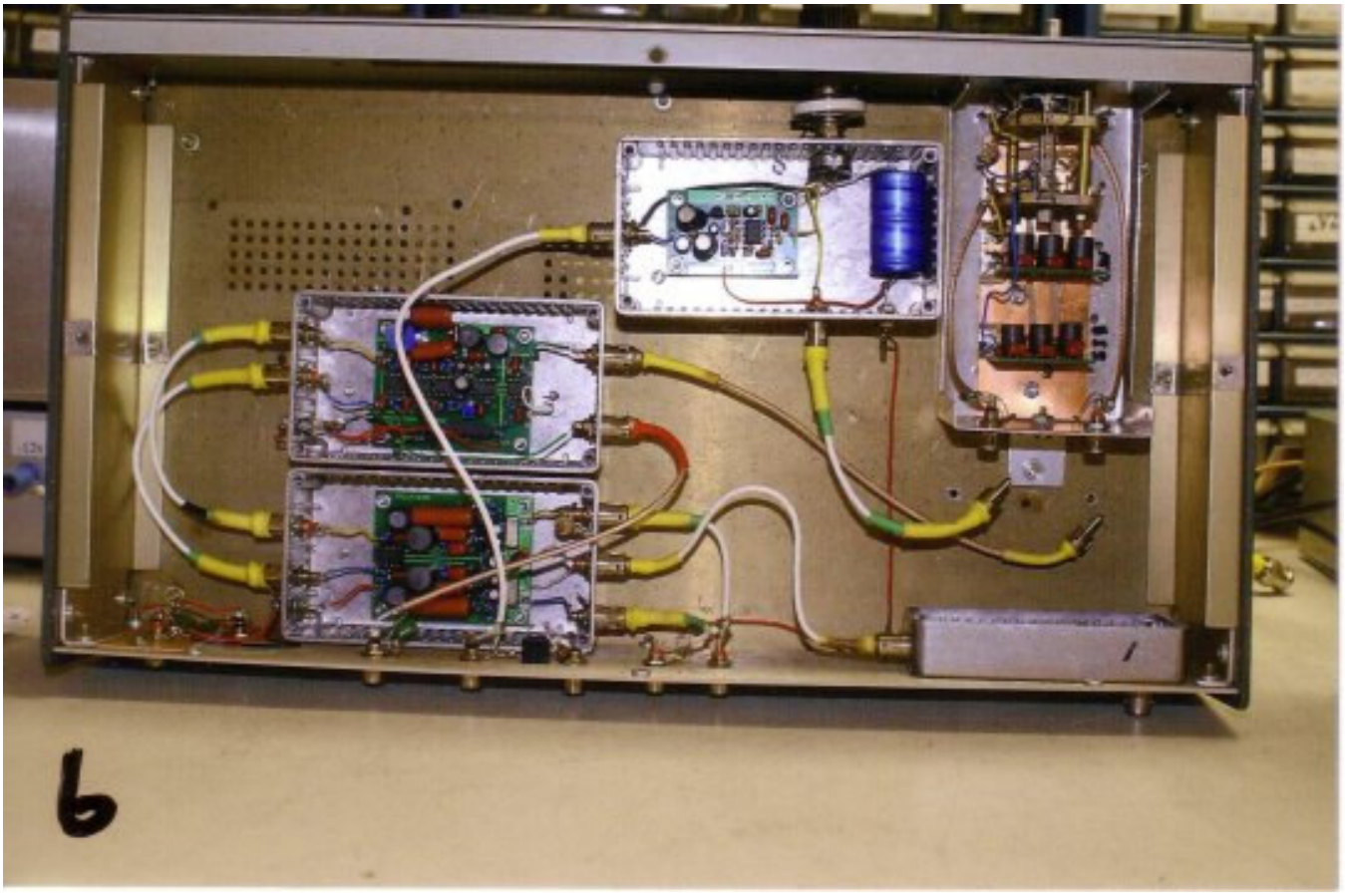
Picture #3: Inside VFO box showing VFO, 6703 amps, TSC-2-1 Splitter/Combiners



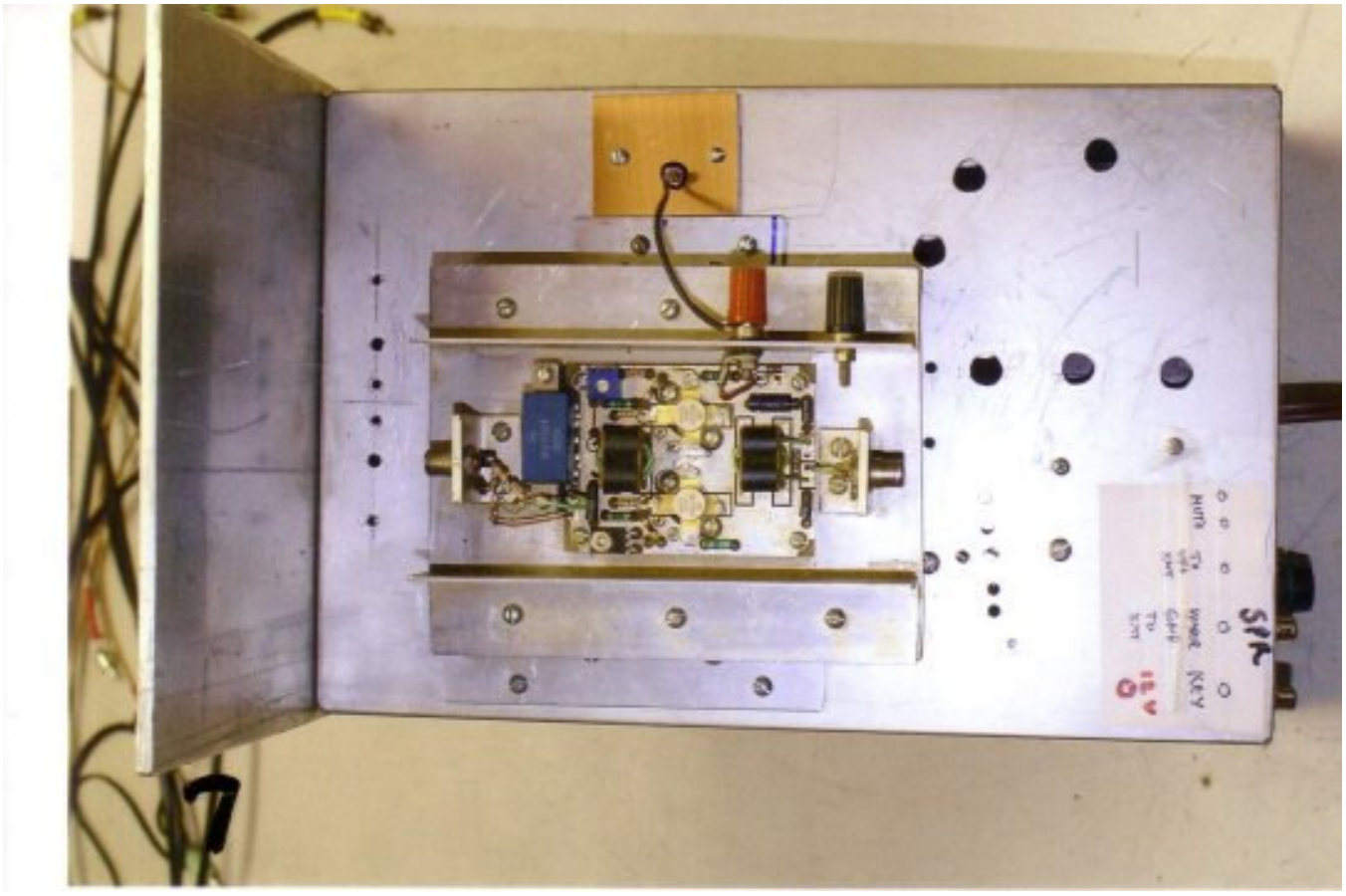
Picture #4: Inside LP/BC filter box. Vertical filter is BC band, stacked small filters are LP 40/20



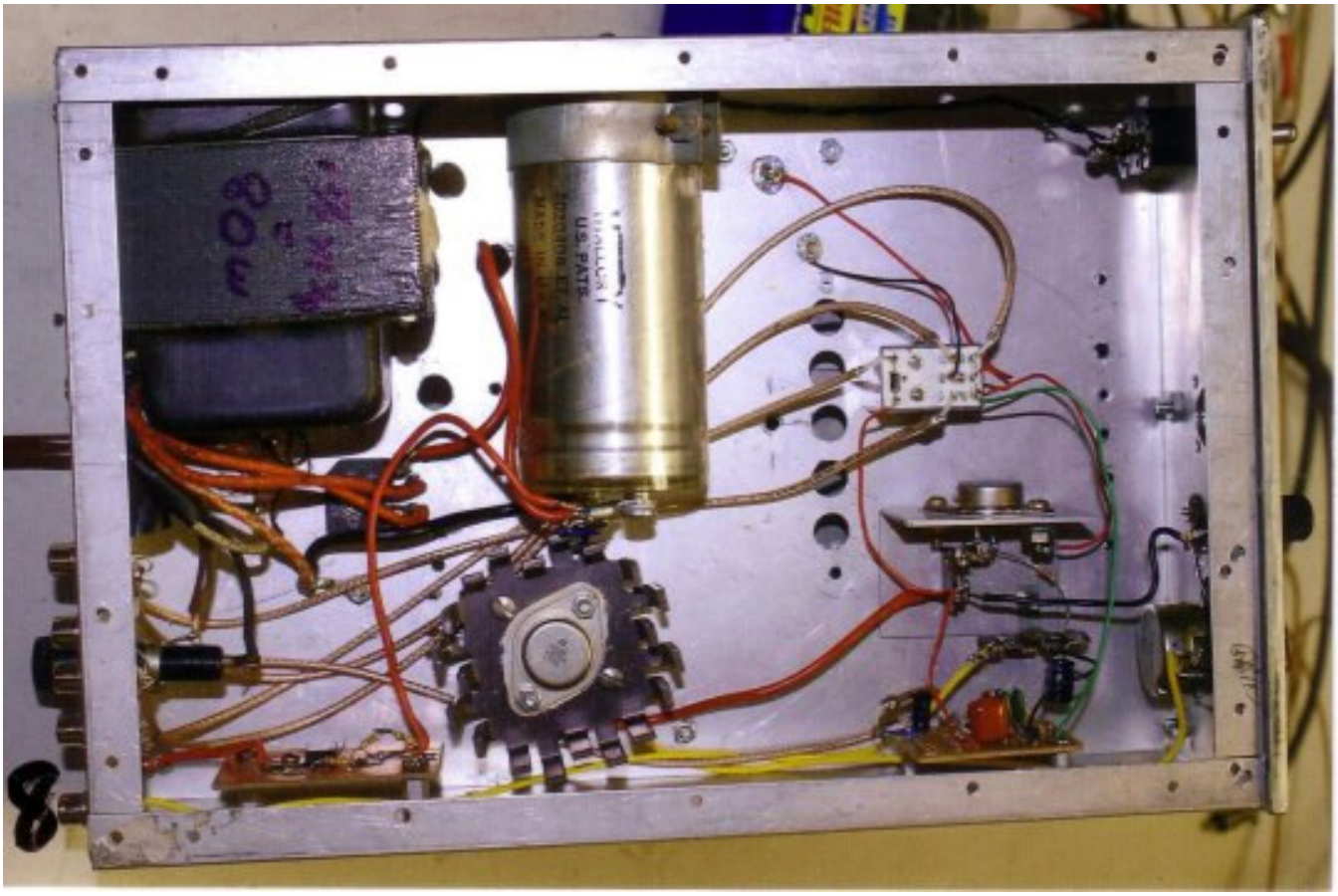
Picture #5: Inside BP filters box



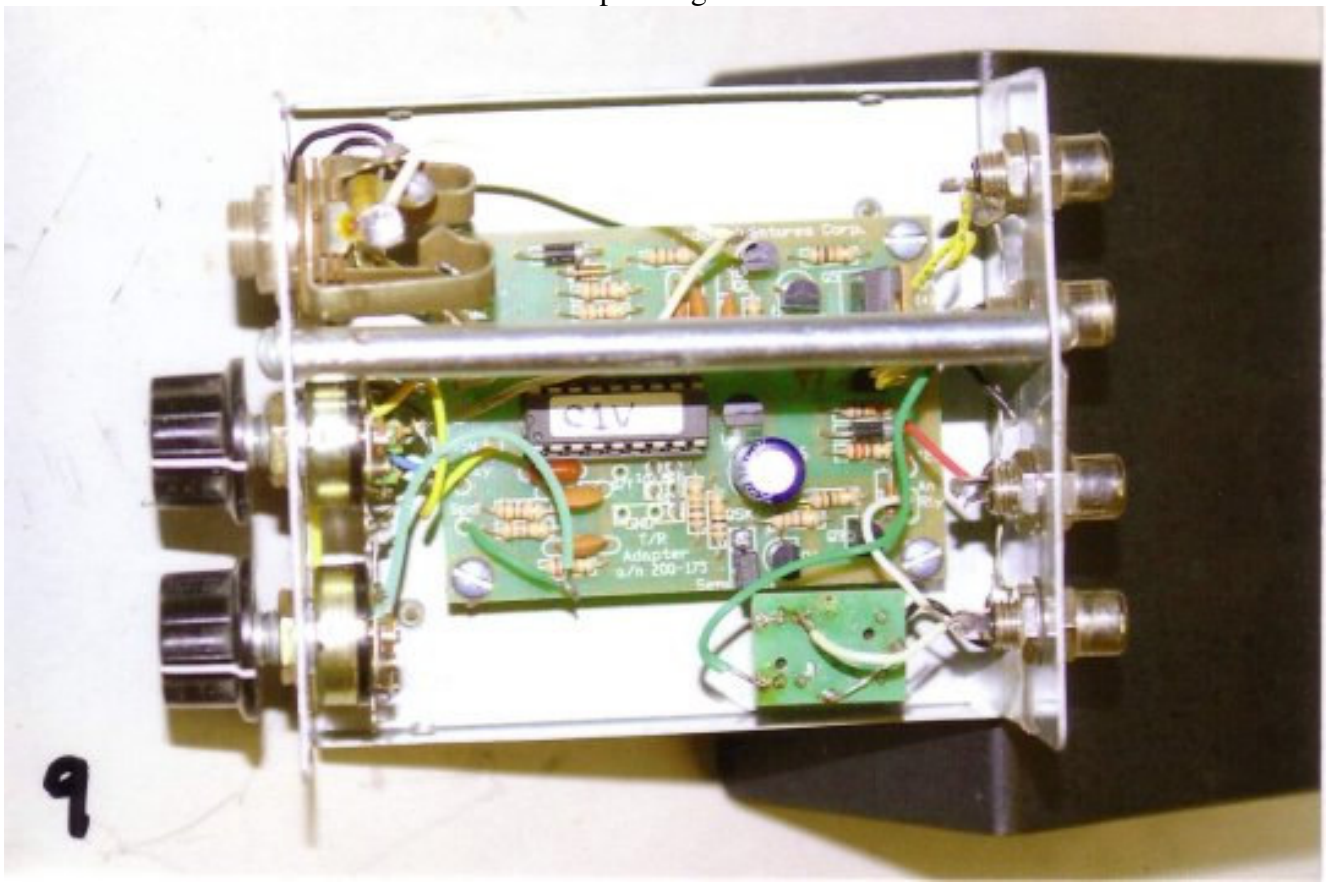
Picture #6: Inside R2Pro box; 15 dB amp, downconverter, AF processor, audio filters, AF amp



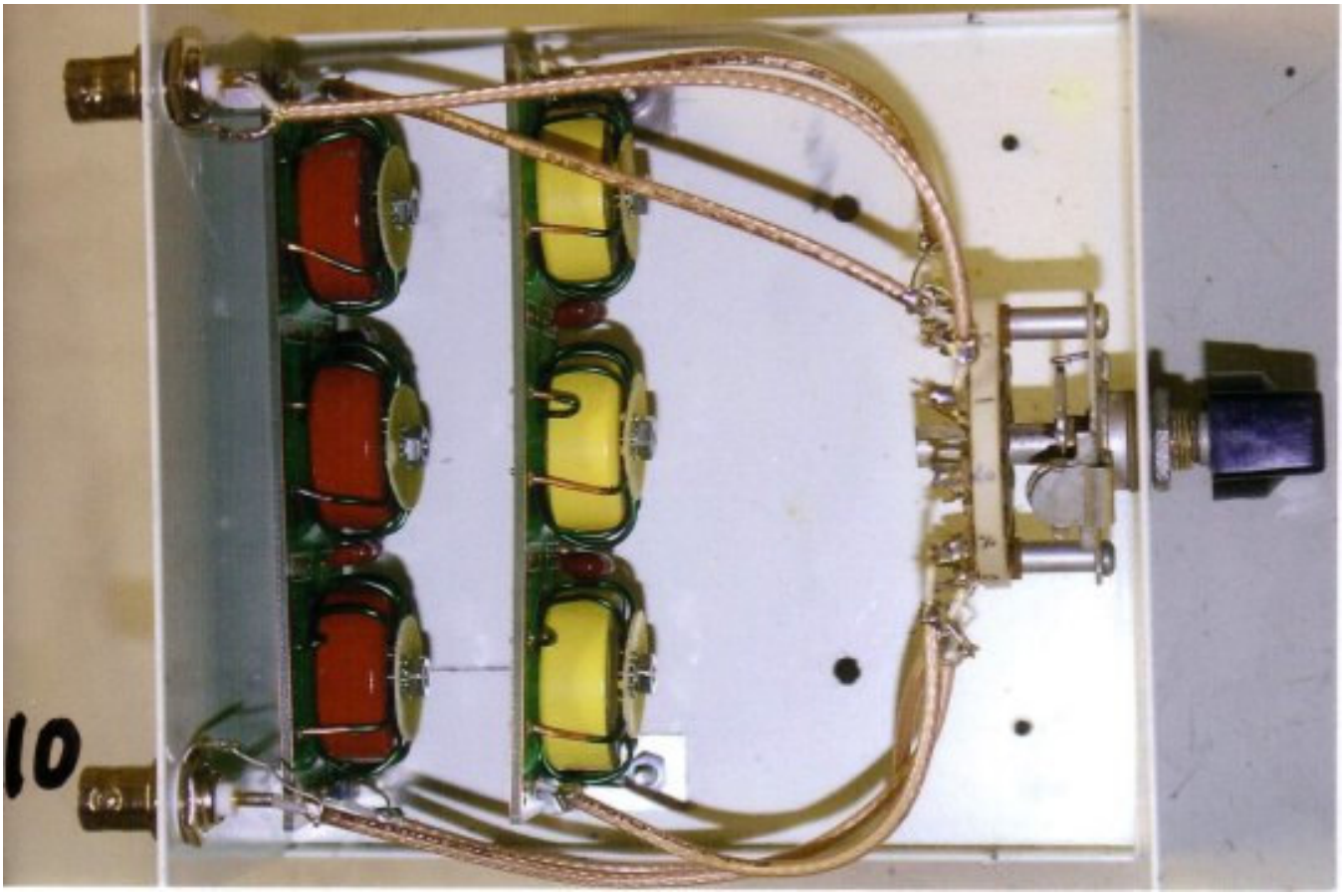
Picture #7: CCI 20 w Amp



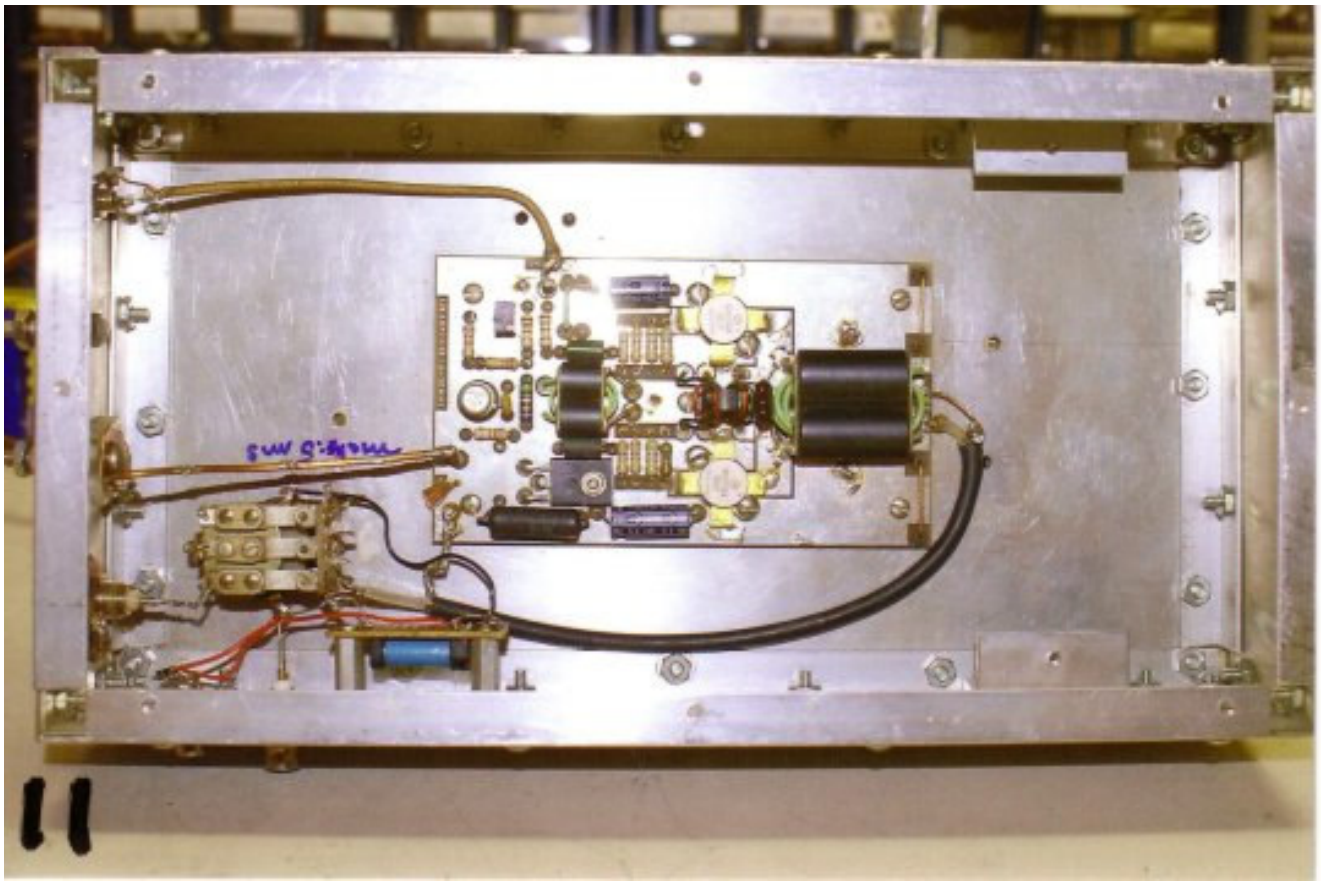
Picture #8: Underneath CCI 20 w Amp. 12v regulated supply, key shaping using PNP transistor, relay to kill amp during transmit



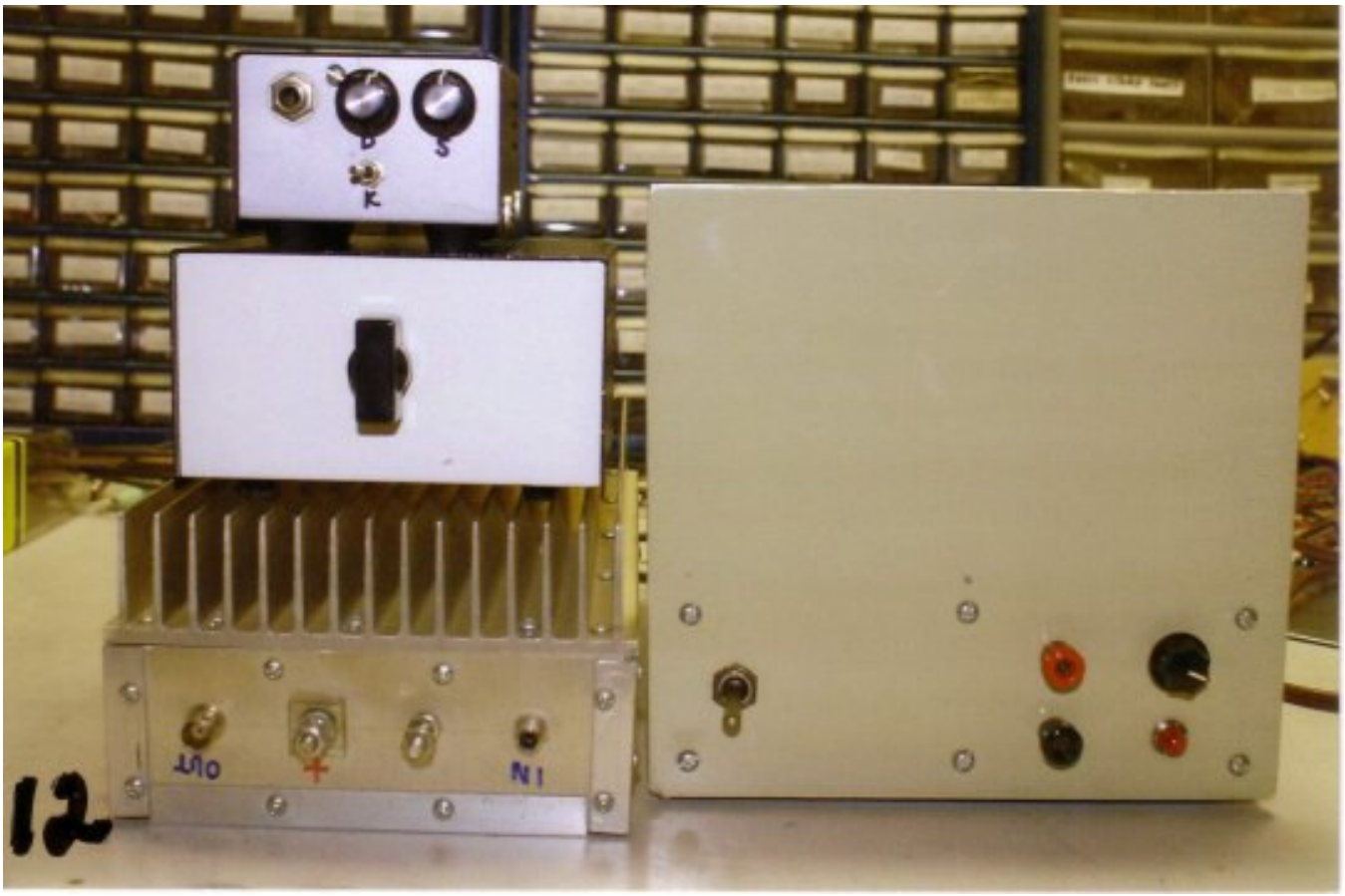
Picture #9: Radio Adventurers Keyer



Picture #10: CCI LP output filters



Picture #11: CCI 140 w AMP (underneath heat sink)



Picture #12: 140 w Amp heatsink, output filters, keyer, 20 w amp

NOTES:
These pictures show a 40/20 meter CW transceiver in final stages of construction. Some lettering is not yet applied.

Features:

- VFO controls both RX and TX using splitters
- Manual bandswitching. Room left for additional bands
- Sidetone oscillator for keying
- Break-in keying
- 140 watt maximum output with less than -45 dbc sprs

Problems encountered:

- RX needed added 15 dB gain, plus added broadcast band and 40/20 band pass filters.

- I found it necessary to shaped key both stages of the 20w amp and interrupt plus 12v line on receive to eliminate noise in RX.

- Reset switch on front panel of VFO restores normal boot on occasional hangup.

- I reversed an external 5v regulator and cooked the VFO. Dumb error! Took some doing to get it working again - new optical encoder and both big chips. Bill at Kanga was very helpful. Internal 5v regulator saved the other board circuitry, fortunately.

COMMENTS:
Project has taken about three months and not quite finished yet. I had previously built RX/TX rigs using separate VFOs but a transceiver using one VFO took much more doing to get everything to work together. Result is very satisfying, however.

Rig is a pleasure to use and VFO is a real honey. I recommend the IQPro very highly, and the R2Pro direct conversion RX is a dandy. I had the CCI amps previously and they were a big help – especially the 55 dB gain 20w unit which brings the output of the splitters up to drive the 140w amp.

The table saw with a carbide tip blade really helps on the sheet aluminum work. The cabinet for the RX is a junked-out HAL RTTY unit.

On the air tests elicit nice complements. Not many of us OT's still building.

Thanks, Craig, for the best VFO that I have ever built.

Wayne, AB7O