

K4 INTERFACE

for

VHF-UHF TRANSVERTERS & PAs

K4 VHF–UHF TRANSVERTER INTERFACE



- Transverter bands defined in K4 (or K3)
- The interface reads the radio band to control:
 - Selection of correct transverter band or HF/6m PA
 - Radio keying routed to key transverter and PA or HF PA
 - Selection of correct antenna (HF, 50, 144, 222, or 432)
 - Slightly delayed RF from K4 through TX inhibit control
- Allows one 7/8" coax to 50, 144, 222, 432 yagis
- Simply, select band and operate seamlessly

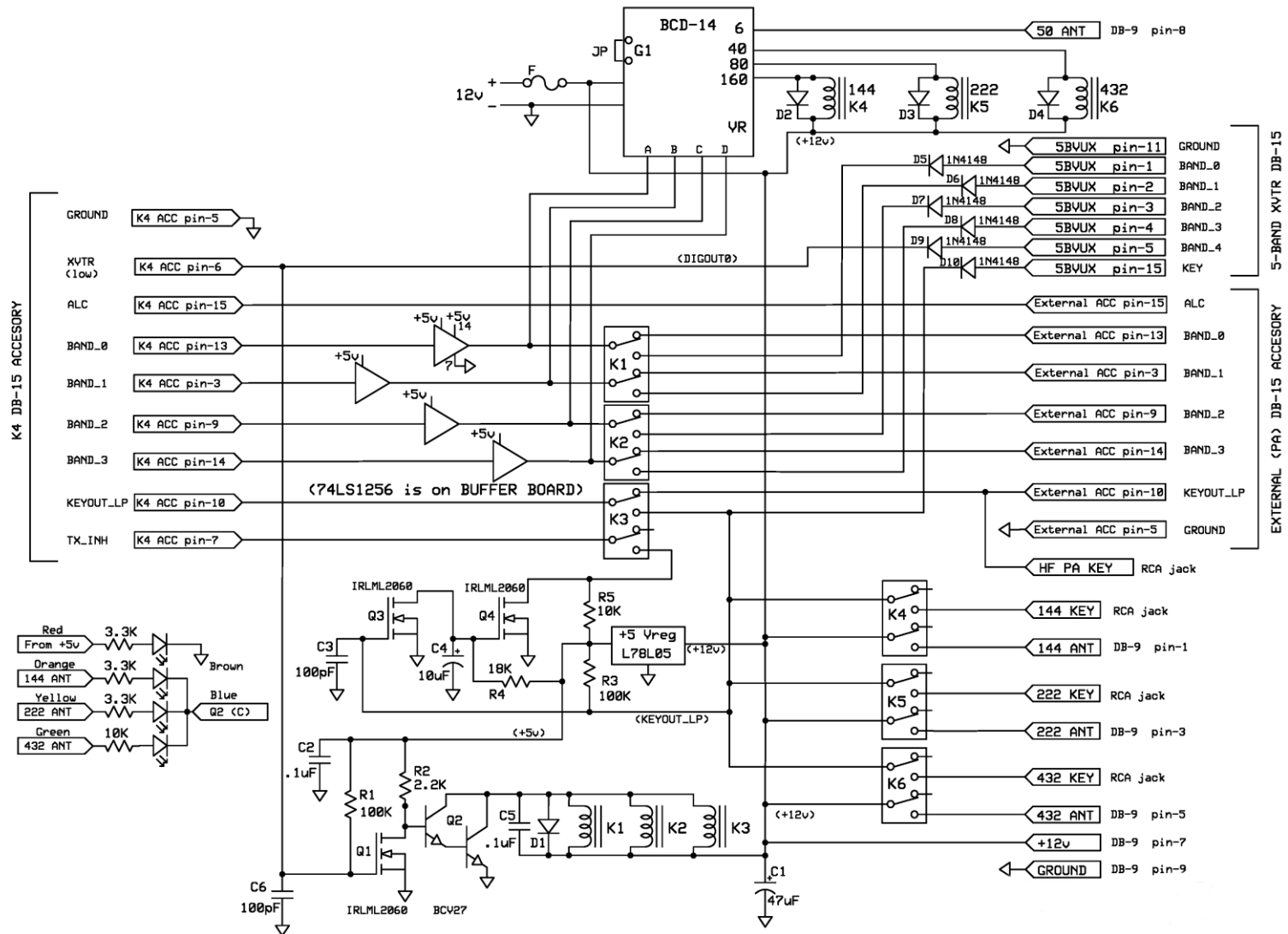
SOME KEY CONSIDERATIONS

- The K4 parallel BCD band select outputs are high impedance CMOS
 - Can be loaded too heavily by directly fan-out connection multiple external equipment inputs (including: interface BCD decoder, Q5-Signal transverters, and HF PA)
 - A buffered BCD interface makes this interface robust
- Equipment BCD input conducted EMI susceptibility is important consideration
 - Ferrite sleeves and low Z output of BCD buffer make this interface robust with KW power levels

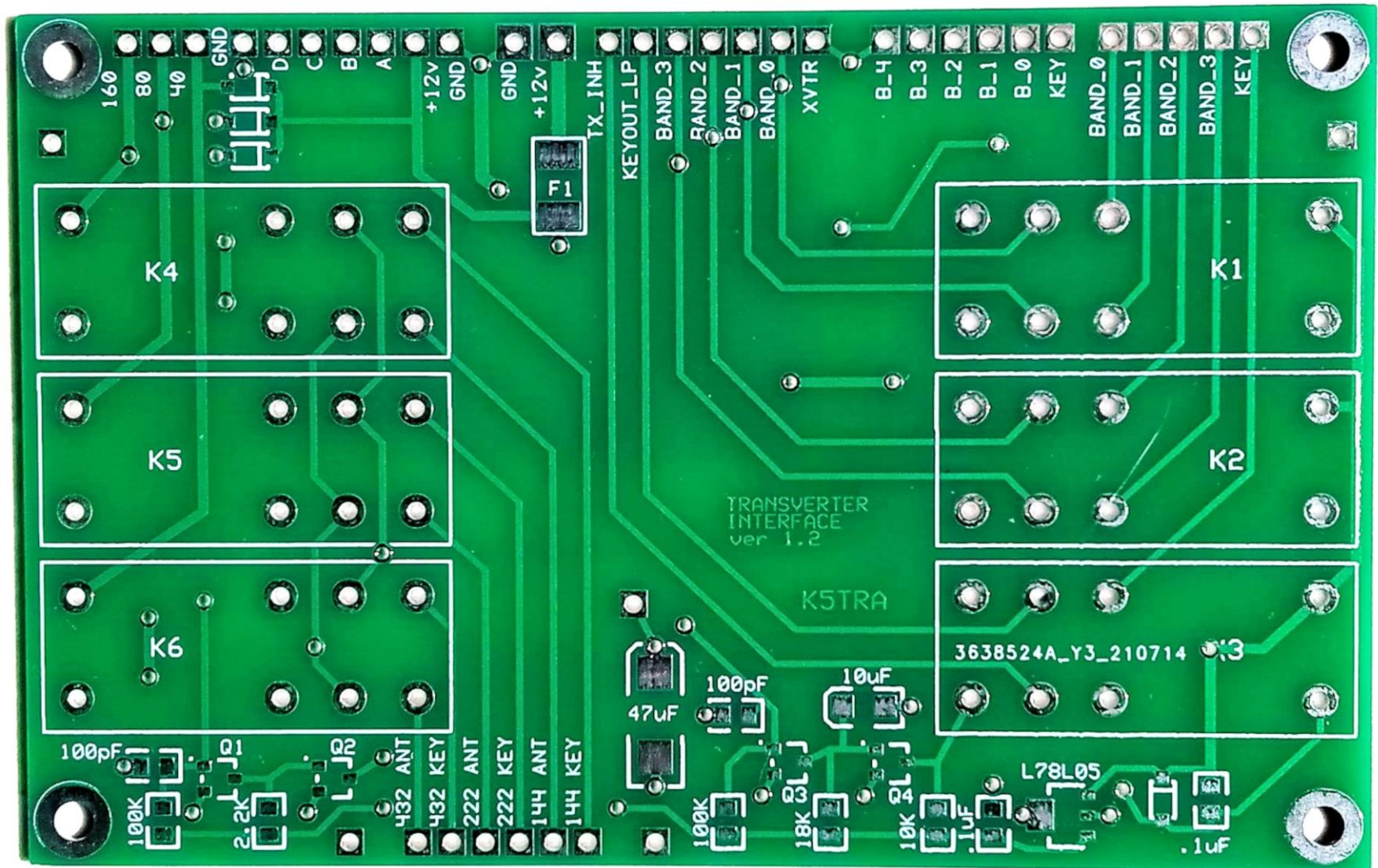
K5AND STATION DETAILS

- K4 transceiver for all bands, HF through 432 MHz
- W6PQL 2 KW SSPA for HF and 50 MHz
- W6PQL 1 KW SSPA for each: 144, 222, 432 MHz
- Q5signal three band transverter (144, 222, 432 MHz).
This is a subset of their five band transverter
- Antenna switching network with Tohtsu coaxial relays
 - In shack switching to tower (50 MHz -432 MHz) 7/8" or HF feed
 - Tower top switching box to select proper yagi:
 - 50 MHz OWA
 - 144 MHz LFA
 - 222 MHz LFA
 - 432 MHz LFA

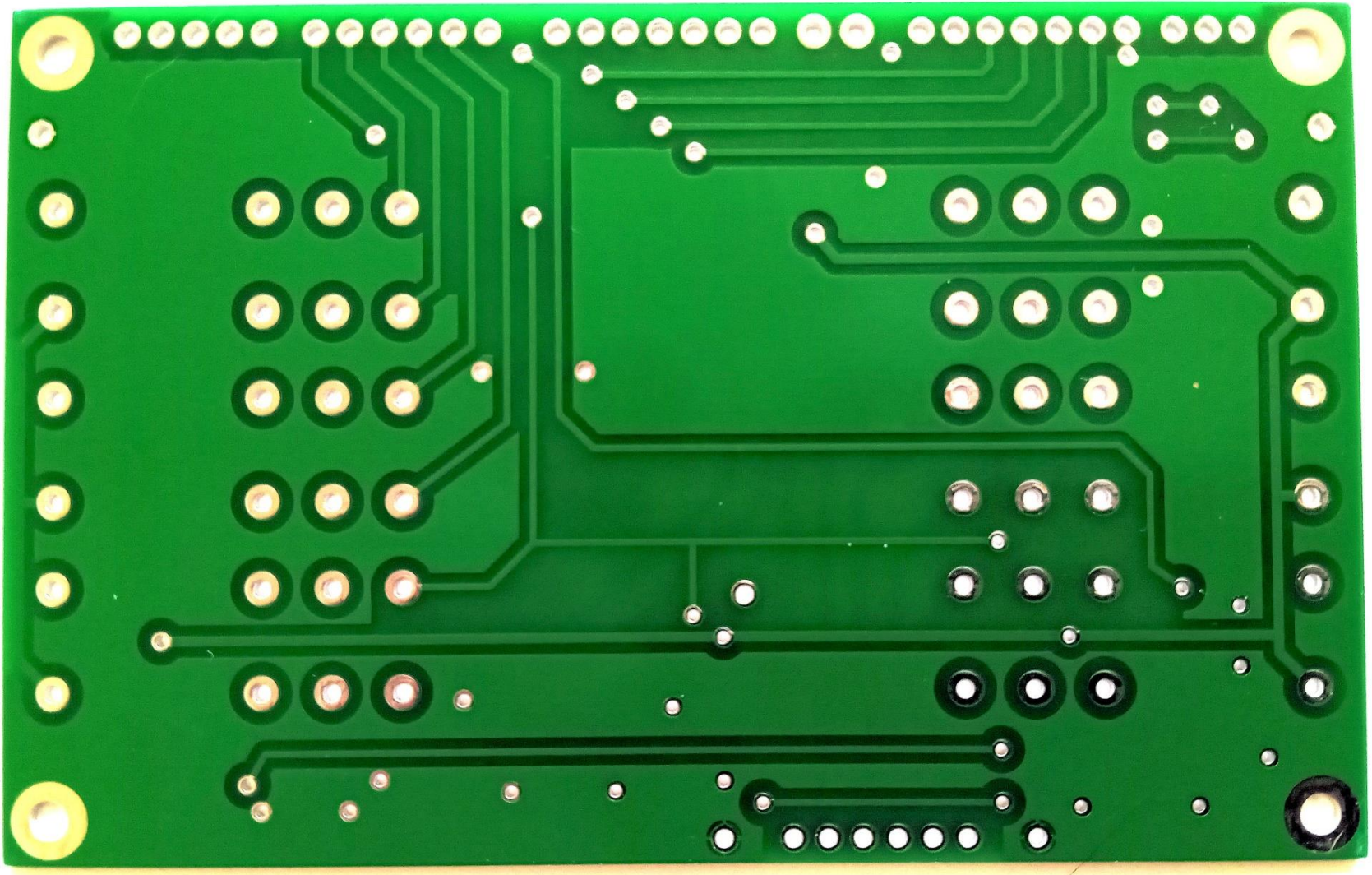
INTERFACE SCHEMATIC



INTERFACE BOARD - FRONT



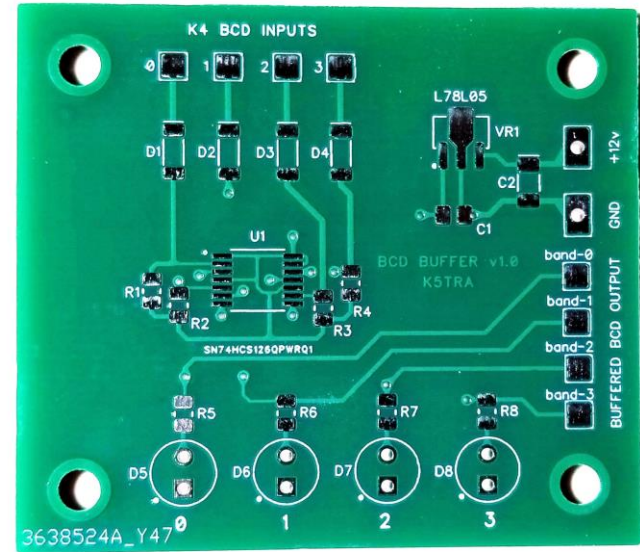
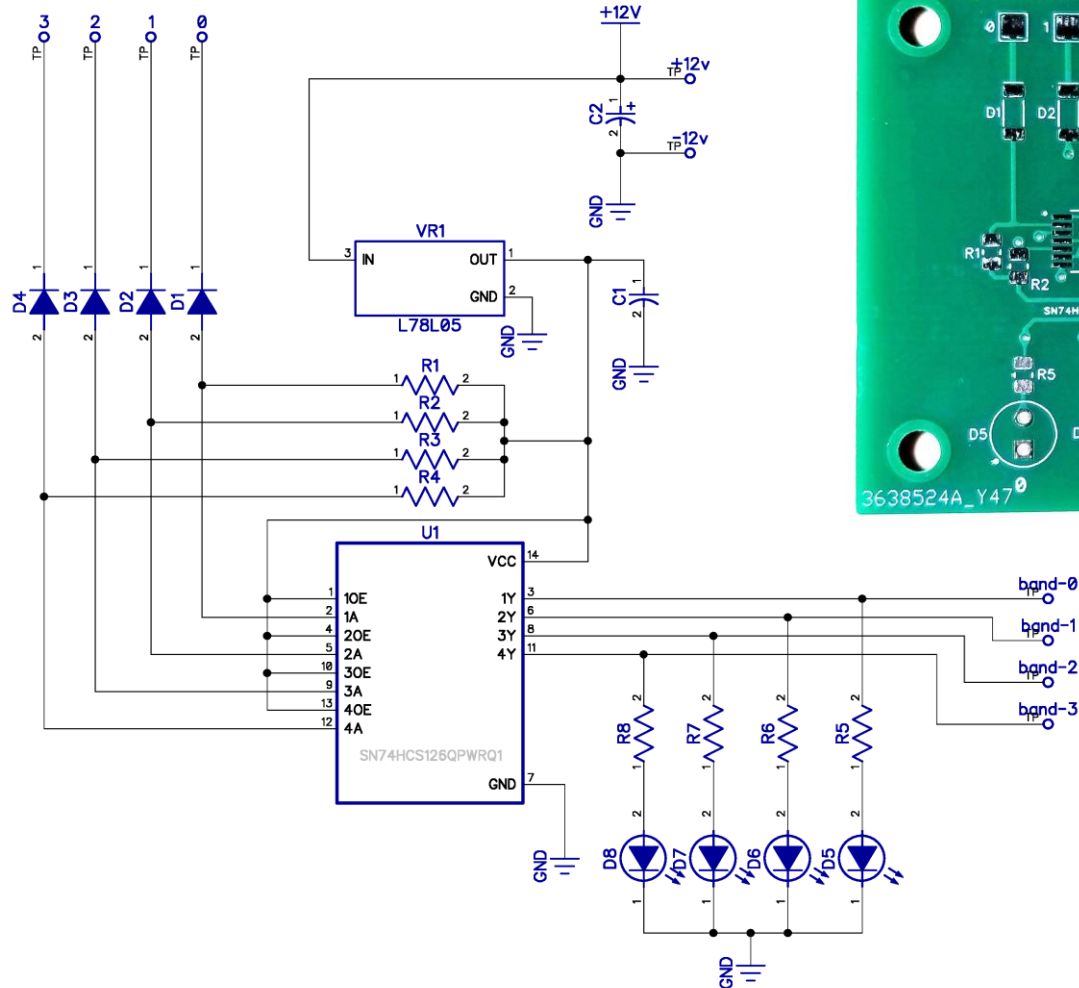
INTERFACE BOARD - BACK



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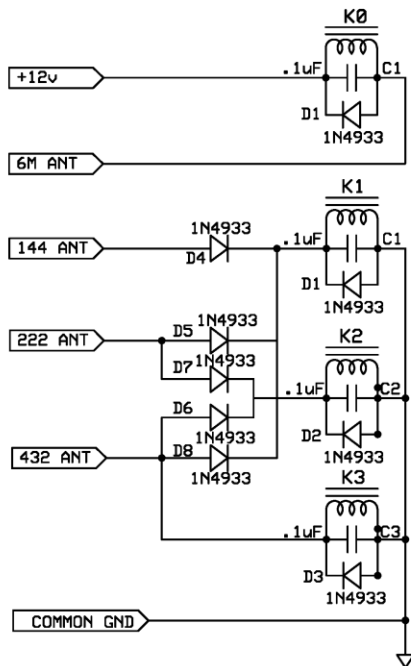
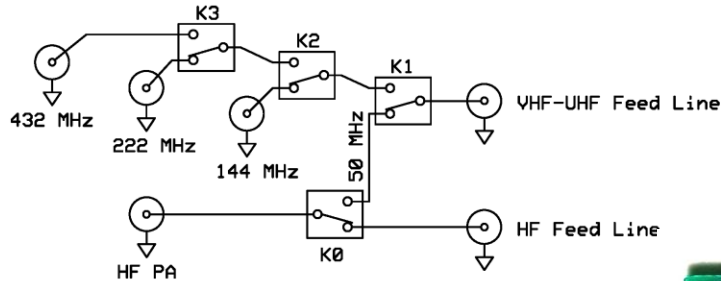
K5TRA

BCD BUFFER

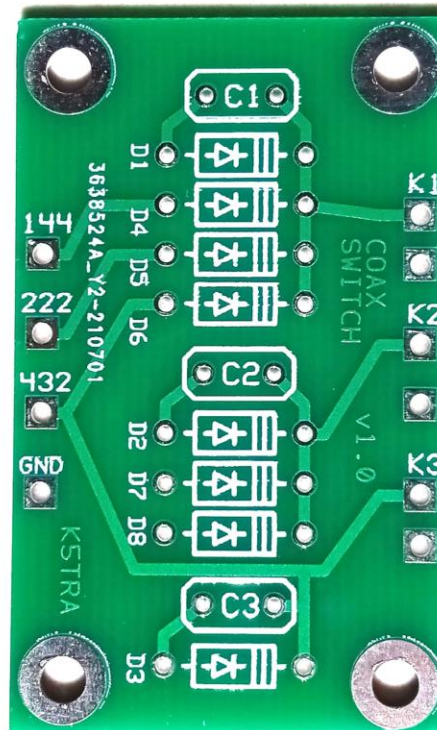
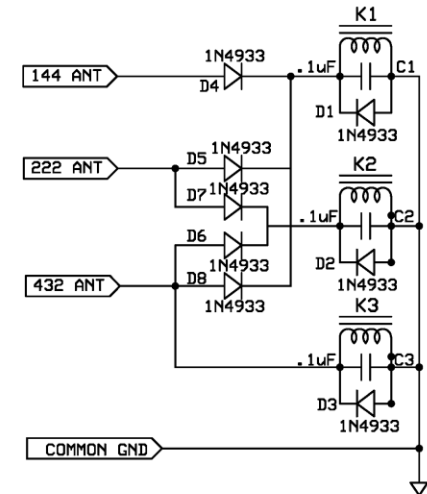
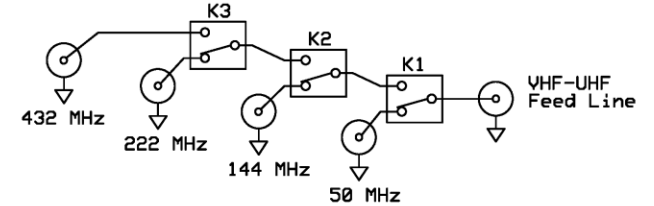


ANTENNA SWITCHING SCHEMATIC

IN SHACK SWITCHING



TOWER TOP SWITCHING



TOWER TOP ANTENNA SWITCHING



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TOWER TOP ANTENNA SWITCHING



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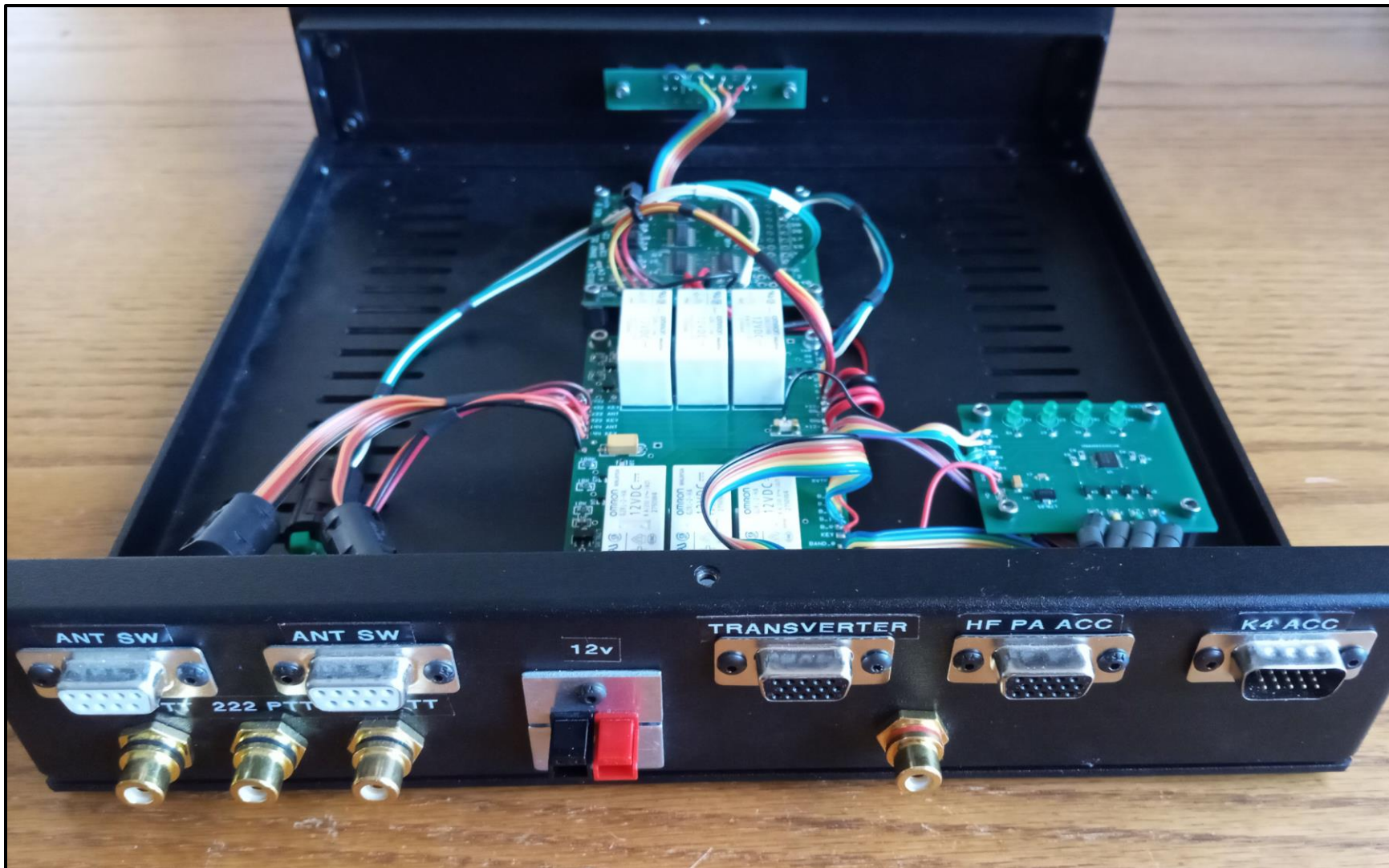
K4 INTERFACE and Q5-SIGNAL TRANSVERTER



K4 INTERFACE – BEFORE WIRING



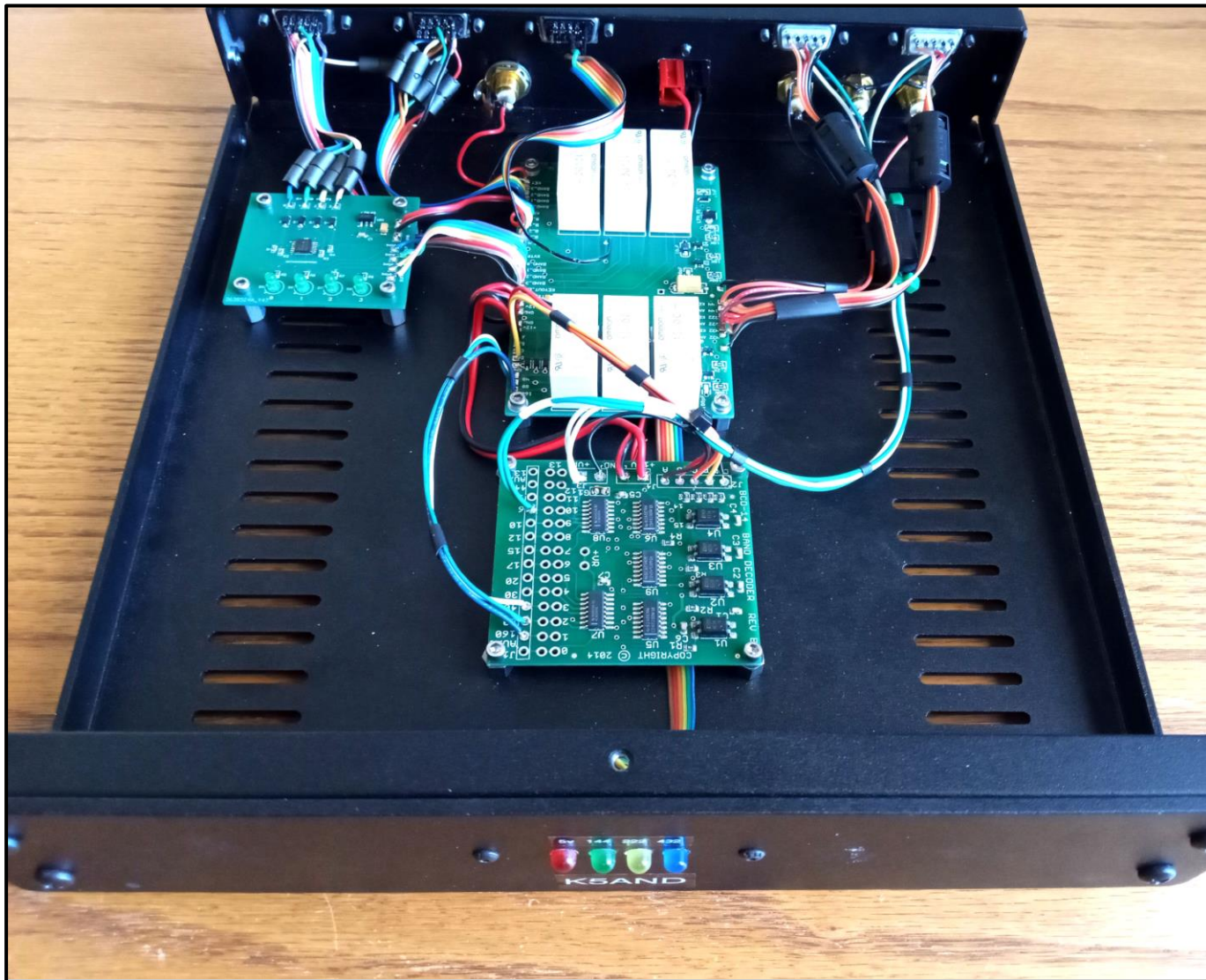
K4 INTERFACE - REAR PANEL



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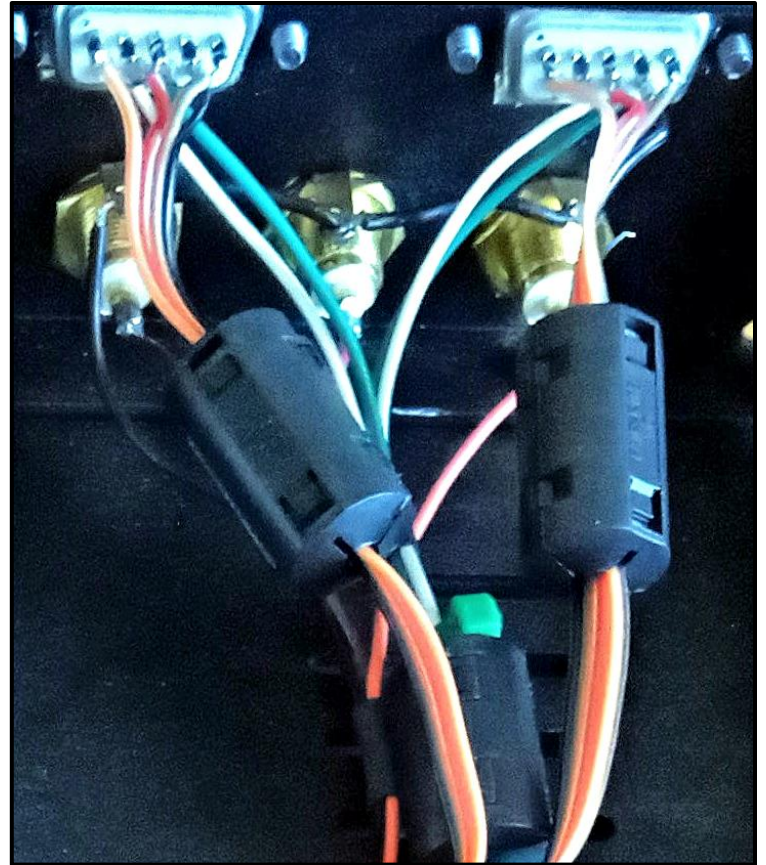
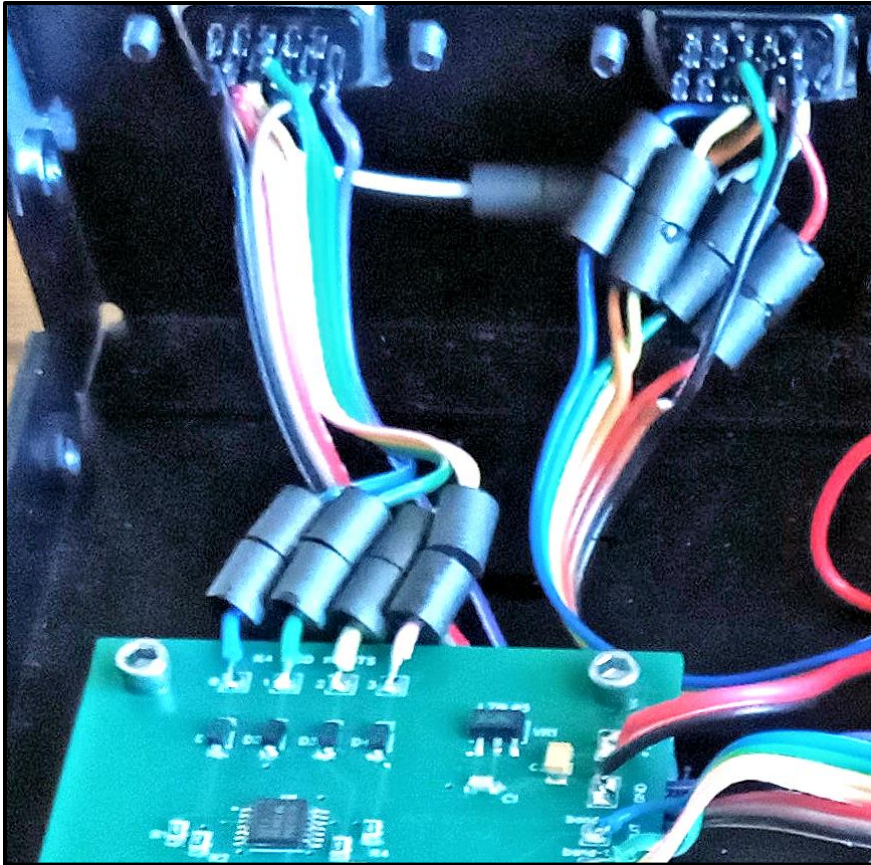
K4 INTERFACE – INTERIOR



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FERRITE RF CHOKES



MATERIAL-31 SLEEVES and CLAMP-ON CHOKES

K5AND STATION



K5AND

K5TRA

FINAL COMMENTS

- The K4 provides the ability to set drive levels on a per-band basis: 0 to 5 mW for transverters
- The Q5 Signal multiband transverter setup for nominal 3 mW input.
- The interface works seamlessly with all the station equipment
- Thanks to Corey at Q5 Signal BCD and Wayne (N6KR) at Elecraft for Tech-support information.

