

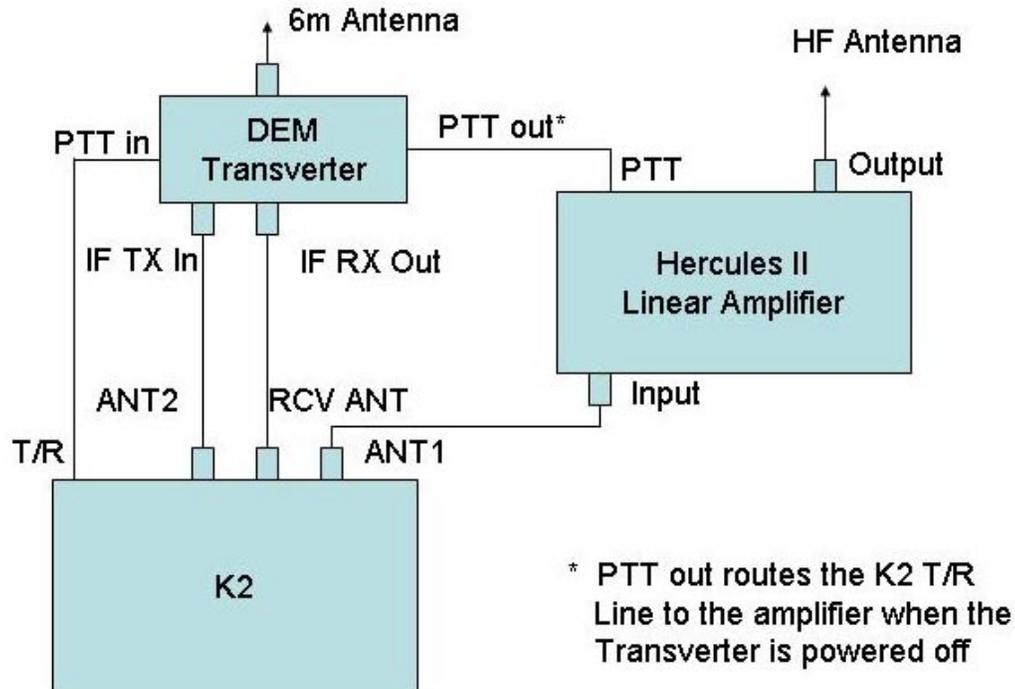
Supplemental Note for Interfacing the Elecraft K2 to a Transverter

This note is intended to supplement the detailed description by K1WHS and K1UC. There are two specific topics: (1) Interfacing with a K2 that includes ATU as well as 160m option; and (2) a simple attenuator design.

My objective was to avoid manually disconnecting/reconnecting cables when operating HF or VHF. I also have a Ten-Tec Hercules II amplifier which is shown to pick up the treatment of the T/R line from the K2.

K2 w/ATU and 160m options

The 50-28 Down East Microwave (DEM) transverter kit, and others, have separate RX and TX connections. If your K2 has an ATU, you have ANT1 and ANT2 selectable connectors. With the 160m option, you can select an external receive antenna on any band. The K2's CPU will remember your selections as a function of band. This makes life much easier assuming you have only one HF antenna, since the other can be dedicated to the transverter as shown below.



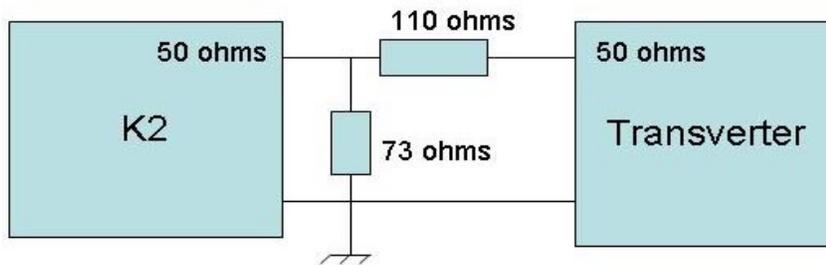
Given that the K2 remembers to select ANT2 and RCV ANT on the transverter band, the only manual operation that would have remained is to disconnect the T/R line from the transverter and switch it to the Hercules II when HF operation with a linear amplifier is desired. This was easily solved by changing the DEM on/off switch to a DPDT, such that whenever the transverter is off, the K2's T/R line is routed out to the linear; when it's on, it controls the transverter.

With the setup shown, I can scroll through the bands and operate HF or VHF without manually swapping any cables – mission accomplished!

A Simple -10dB Attenuator

The DEM transverter requires about 200 milliwatts of input power. Since the K2 transverter submenu allows us to constrain the output power to 2 watts max, a -10dB attenuator pad is desired. The circuit below provides the desired attenuation AND maintains a 50 ohm impedance as seen by the K2. The K2 ATU SWR readout is 2.0w forward and 0.0w reflected indicating a good match, and the input level adjustment pot in the DEM transverter falls about mid-range to reach 20w output saturation at 2w input, so the attenuator appears to be doing its job properly.

This approach avoids having to dissipate 10m output power while tapping the low level signal at the K2's internal transverter connections.



After arriving at the values shown, a trip to Radio Shack found that they were out of many values but had plenty of 220 ohm, 1 watt resistors. I build the attenuator inside the DEM transverter (there is plenty of room) using 3 220 ohm resistors in parallel to ground and 2 220 ohm resistors in parallel between the K2 and the transverter TX/IF input. Close enough!