



DEM EKT1 Elecraft K2 Transverter Interface

CIRCUIT DESCRIPTION

This DEM EKT1 transverter interface is specifically designed to interface the J-13 connector in Elecraft's K2 transceiver to a common IF port transverter such as the 144-28EC. The EKT1 will provide the TX drive level available from the K2 (+0 to +3dBm)at 28 MHz and deliver it to the transverter through a miniature coax. This interface utilizes the "8R Hold" keying signal which is a positive voltage on receive and couples it to the transverter via the IF coaxial line. The interface also includes a buffer stage on the "8R" signal to key other devices you may have in your transverter system. When the EKT1 is enabled, it will provide a disable signal to the K2's final output transistors to prevent the transceiver from transmitting on 10 Meters when the transverter is being used. This interface is required with the DEM 144-28EC transverter but may also be used with other transverters that have similar requirements.

PARTS LIST

C1- C3	0.1 ?f, 1206 size chip
CR1	1N914 diode
CR2	1N4000 type diode
K1	DPDT 12 volt relay, dip mount
L1	1.0 ?h choke
R1, R2	5.1K 1/4 watt
Q1	PN2222
1 foot	RG188 Coax
Misc.	8 pin header pin and circuit board
8"	#24 Red wire

ASSEMBLY

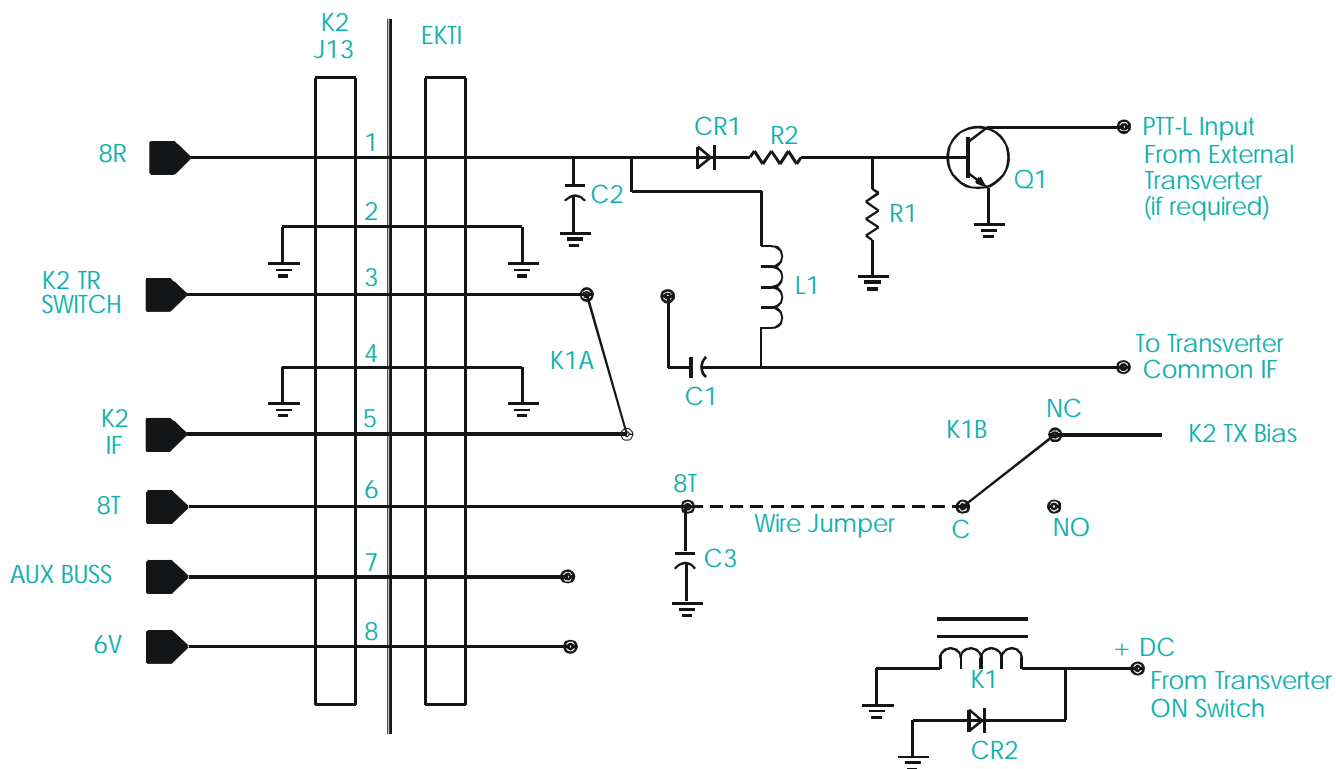
The top side of the PCB has DEMI EKT1 in one of the corners. Assemble K1, CR1, CR2, R1, R2 and Q1 on the top side. Be careful to note the polarity of CR1 and CR2 diodes. Solder all connections and cut leads flush with the board. Then install C1 and C2 on the bottom side of the PCB. Now Install the header pins (the short pin side) in to the E1-E8 position on the bottom side. Be sure the pins are square to the PCB. Now install C3 on the top side of the PCB. Then install L1 last on the bottom side. Keep the body of L1 away from the header pin connections. L1 conducts the "8R" signal to the 144-28 EC on the coax. Attach the coax as shown on bottom side placement. Resume assembly Of the EKT1 using the 144-28EC document. If using this interface with a different transverter, refer to notes on the EKT1 schematic for operation options to suit your requirements.

Other Operation Options

If using this interface with a transverter other than the 144-28EC, a few items need to be noted.

1. The PTT-L input is Low on receive, High on transmit. It may need to be inverted to operate with most transverters by connecting CR1 to the 8T signal but the "hold" of the "8R" function will be lost.
2. The +DC can come from the transverter so that when the transverter is powered, so is the interface.
3. If separate transmit and receive lines are required, a second relay should be used because of the location schematically of the J13 connector in the K2.
4. The interface may be used as a connection for a secondary receive antenna but may not be desired because it bypasses some of the band pass filters. See schematic of K2.

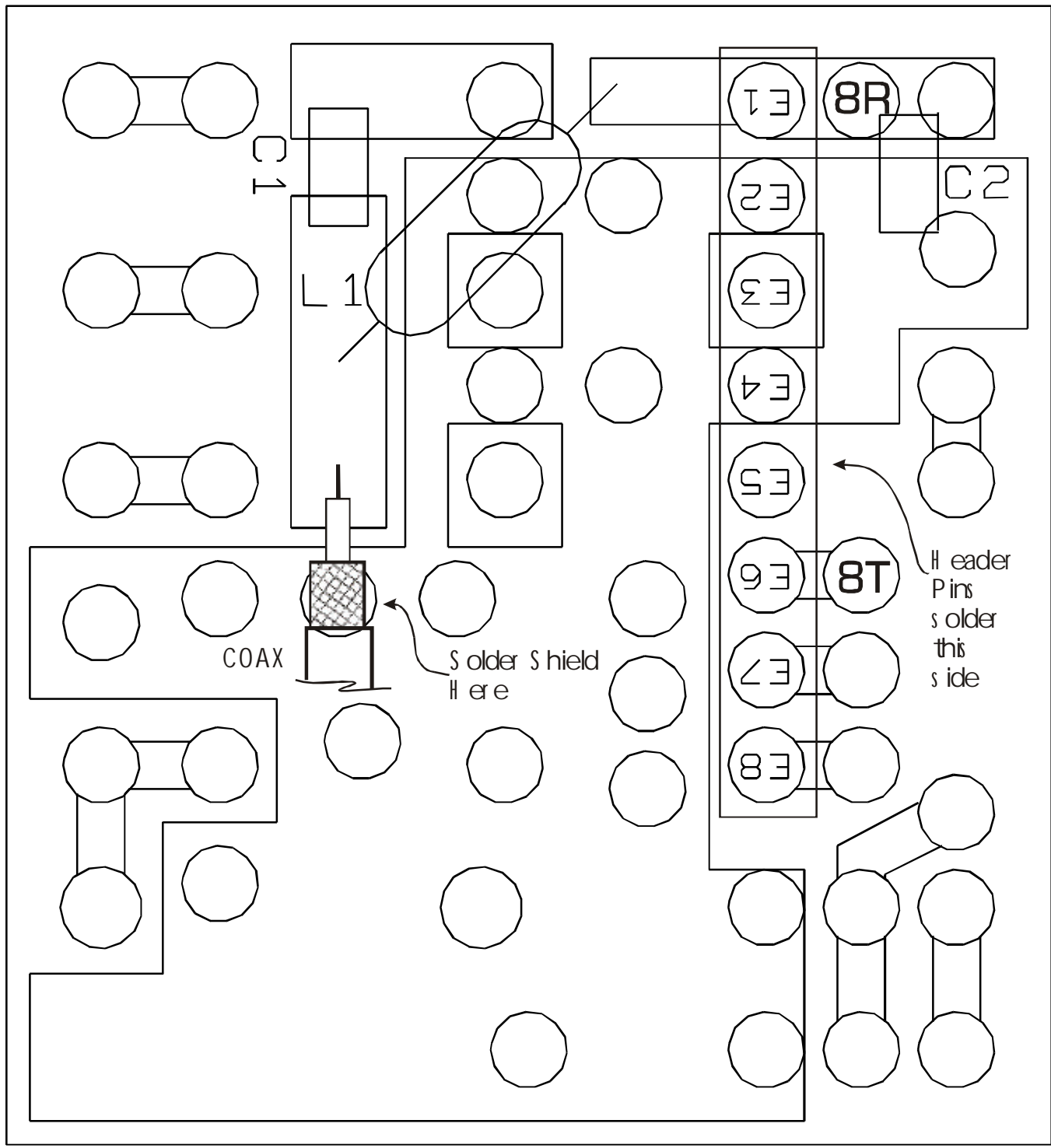
EKTI Schematic Diagram



Circuit Shown in "Transverter OFF"
or Normal K2 operation

E K T I

Bottom Side Assembly



Top Side Assembly

