

ELECRAFT APPLICATION NOTE

INTERFACING PowerCombo to KENWOOD RADIOS WITH USB PORTS

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PURPOSE

The Elecraft PowerCombo of the KPA500 and KAT500 easily interfaces with radios offering Kenwood serial protocol, providing “Enhanced Mode” functionality that informs the amplifier and tuner of frequency changes as soon as they are made by the transceiver. Recent Kenwood HF radios have both a USBus and DE9 serial ports, while older radios do not have the USBus port. This Application Note discusses those with USBus. Three steps are involved:

- Connect Cabling
- Configure the Transceiver
- Configure the KPA500 and KAT500

Cabling

Two cables are required. For transmit keying, CBL-KENKEY, the 7-Pin DIN-to-phonon cable, connects between the transceiver’s REMOTE jack and either of the PTT RLY phono jacks on the KAT500. A phono cable (supplied with both of the Elecraft devices) connects between the other PTT RLY phono jack on the KAT500 and the KPA500’s KEY IN jack. The data cable, CBL-KENSER500, is connected between the radio’s DE9 SERIAL jack, the DE9 XCVR SERIAL on the KPA500, and the 3.5mm “PC DATA” jack on the rear panel of the KAT500.

Transceiver Menu Settings

Referring to the transceiver’s operating manual, open the transceiver’s menu. Access the serial port setup menu items and confirm the following:

TS-590 Menu Item	Setting	Description
59 HF LINEAr control enable	2	Enable Amplifier key line, HF
60 50MHZ LInear control enable	2	Enable Amplifier key line, 6m
64 TRANSFER split function	ON	
65 COPYSPLit frequency	ON	
67 COM PORT baud rate	38400	

Exit the menu **and power cycle the radio to lock in the changes**. Menu item numbers are given for the TS-590. Other radios have similar items but with different menu item numbers.

KPA500 Configuration

Power on the KPA500 and access its menu by holding MENU. Using the down-arrow key to the right of the display, scroll to RADIO. Hold the EDIT button and use the down arrow to select “SERIAL”. Tap CURRENT to exit the edit mode. Tap the down arrow a few times until RS232 XCVR appears. Hold EDIT and select 38400

bps. Press MENU again to exit EDIT. Now scroll down to SER POLL. Hold the EDIT button and use the up arrow to select “ON”. mode. Tap HV then hold MENU to exit the KPA500 menu.

Operation

Test operation by changing bands on the transceiver. The KPA500 should quickly follow and change bands. As you tune your transceiver, the KAT500 will follow and automatically select the correct ATU tuning solution, even before transmitting.

If the amplifier does not follow the radio, double check that the cables are fully plugged in on all three units, then confirm that the baud rate is set to the same value on both the transceiver and the KPA500.