

ELECRAFT APPLICATION NOTE

INTERFACING KPA1500 to KENWOOD RADIOS WITH USB PORTS

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PURPOSE

The KPA1500 easily interfaces with radios featuring Kenwood serial protocol, providing “Enhanced Mode” functionality that informs the amplifier and its 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 the radios with USBus. Three steps are involved:

- Connect Cabling
- Configure the Transceiver
- Configure the KPA1500

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 the KEY IN jack on the KPA1500. The data cable, CBL-KENSER1500, is connected between the DE9 SERIAL jack and the “XCVR SERIAL” jack on the rear panel of the KPA1500.

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 LLinear control enable	2	Enable Amplifier key line, 6m
64 TRANSFER split function	ON	
65 COPYSPLit frequency	ON	
67 COM PORT baud rate	9600	(exact value not important, but must match KPA1500’s setting)

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.

Power on the KPA1500 and access its menu by pressing MENU. Using the down-arrow key to the right of the display, scroll to RADIO POLL. Hold the MENU button (EDIT) and use the up arrow to select “ON”. Press MENU again to exit EDIT mode. Now scroll down to RADIO TYPE. Hold the MENU button (EDIT) and use the down arrow to select “SERIAL”. Tap MENU again to exit the edit mode. Tap the down arrow a few times until SERIAL SPEED XCVR appears. Hold MENU (EDIT) and select 9600 bps (or match the serial bits per second rate set in the radio). Tap STATUS to exit the KPA1500 menu.

Operation

Test operation by changing bands on the transceiver. The amplifier should quickly follow and change bands. As you tune your transceiver, the KPA1500 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 at both ends, then confirm that the baud rate is set to the same value on both the transceiver and the KPA1500.