

# ELECRAFT APPLICATION NOTE

## INTERFACING KPA1500 to YAESU RADIOS

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### PURPOSE

The KPA1500 interfaces with radios featuring BCD (binary coded decimal) band data protocol. Three steps are involved:

- Connect Cabling
- Configure the Transceiver
- Configure the KPA1500

### Cabling

Two different interface systems are possible. The simplest provides the transceiver's keying signal to the amplifier and places it into transmit mode. A slightly more complicated cable also sends band data to the amplifier so its relays may switch and settle before the first burst of RF is applied.

#### Keying-Only

For larger Yaesu radios, the phono-to-phono KEY IN cable supplied with the amplifier connects between the transceiver's TX GND jack and the KEY IN jack on the KPA1500.

Smaller Yaesu (generally mobile) radios may use the CBL-YAESUKEY cable between the radio's 8-Pin MiniDIN and the KPA1500 KEY IN jack. Yaesu presently uses several different pinouts and names for this 8-Pin MiniDIN, so care is required to select the current one. This jack is labeled "TUN/LIN" on the FT-991, FT-857, and FT-897. It is named "TUNER" on the FT-450, FT-950, and FT-1200. The FT-817 and FT-818 will key the KPA1500 through the "ACC" jack.

No KPA1500 configuration is needed for keying-only cables. Test functionality by placing the KPA1500 in OPER mode and transmitting with the transceiver.

#### Band Data and Keying Cable

Large Yaesu radios have an 8-Pin DIN jack labeled "BAND DATA". As the name implies, operating band information is available here, and amplifier keying is also provided. For these radios, CBL-YAE-BANDKEY provides a single-cable solution—the phono cable is no longer required for keying.

Smaller Yaesu radios with their variety of connectors require a variety of cables. The following provide both band data and key-line drive.

Transceiver	Connector Name/Type	Elecraft Cable
FT-450, FT-950, FT-1200	LINEAR, 10-Pin MiniDIN	CBL-YAE-BKDIN10
FT-857, FT-891, FT-897, FT-991	TUN/LIN, 8-Pin MiniDIN	CBL-YAE-BKMINI
FTDX-3000	LINEAR, DA-15	CBL-YAE-BKDA15

The FT-817 and FT-818 do not supply BCD band data.

## **Menu Settings**

No menu configuration is necessary for the larger Yaesu radios. On some of the smaller transceivers, specifically the FT-857 and FT-897, the MiniDIN jack may be programmed for multiple functions. Referring to your transceiver's manual, set the jack to "LINEAR" mode. If the KPA1500 keys but it does not respond to band changes, this is the likely solution.

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 TYPE. Hold the MENU button (EDIT) and use the down arrow to select "BCD". Tap MENU again to exit the edit mode. Tap STATUS to exit the KPA1500 menu.

## **Operation**

Test operation by changing bands on the transceiver. The amplifier should instantaneously follow and change bands, and the ATU will retune to the antenna jack and last frequency segment used in that band, even before transmitting.

If the amplifier does not follow the radio, double check that the data cable is fully plugged in at both ends.

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