

# FT-817 ADAPTER FOR THE ELECRAFT T1 ATU

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The T1-FT817 adapter allows convenient control of the Elecraft T1 antenna tuner from a Yaesu FT-817 transceiver. Changing bands on the transceiver recalls per-band ATU settings without transmitting.

## *Installing the FT-817 Adapter*

- Connect the adapter cable's 3.5 mm phone plug to J3 on the left side of the T1.
- Plug the cable's 8-pin mini-DIN plug into the FT-817's ACC/CAT jack. The adapter draws very little current (0.06 mA with the rig off, 0.3 mA when the rig is on), so it can be left connected at all times.
- If you want to use the T1-FT817 adapter along with another ACC/CAT device, you'll need a "Y" adapter (8-pin mini-DIN male to two 8-pin mini-DIN females).
- You can daisy-chain the T1-FT817 adapter through the 8-pin female DIN jack on a "one-touch-tune" (OTT) device, if desired. However, the T1 does not require a constant carrier for tuning, so this should not be necessary.



**The adapter cable's mini-DIN connector houses a circuit board with integrated circuits. If you connect the cable to a different transceiver, you may damage the transceiver and/or the control cable.**

## *Using the FT-817 Adapter*



**Some older FT-817s may not be tolerant of autotuning impedance extremes when set for full power (5 watts). If you're not sure about your FT-817, use 2.5 watts or 1 watt when tuning.**

- Change bands at the transceiver; the T1 will recall the last settings used on the present band. You may hear an increase in noise and signal levels when the tuner's relays switch.
- After changing bands, you can optionally re-tune the ATU; simply start transmitting while the green LED is flashing (about 3 seconds). The LEDs will show SWR during tuning.
- Tune the ATU on all bands of interest. This must be done with the adapter connected.
- The FT-817 uses the same band identifier for 60 and 40 m, so the T1 will recall the same settings for both. If you use both bands, you'll need to transmit (to re-tune the T1) when switching between them.
- If you switch to 144 or 430 MHz, the T1-FT817 adapter will put the T1 into bypass mode. *However, you should not transmit through the T1 on these bands, since network losses will be very high.* You can either disconnect the tuner or use the rig's second antenna jack for VHF/UHF antennas.
- If the FT-817's battery voltage drops too low on transmit, the transceiver may send incorrect signals to the adapter. If problems occur, disconnect the adapter, reduce power, and recharge the battery.

## *Theory of Operation*

The T1-FT817 adapter incorporates a small microcontroller (MCU) that monitors the transceiver's band data voltage. On band change, the adapter wakes up the T1 and sends it the band number as a 4-bit word (see the Owner's Manual for details). The adapter's circuitry is housed in the connector at the transceiver end of the cable, providing excellent RF immunity. The adapter runs at a slow clock speed, and will not cause any RFI.