

Back Panel

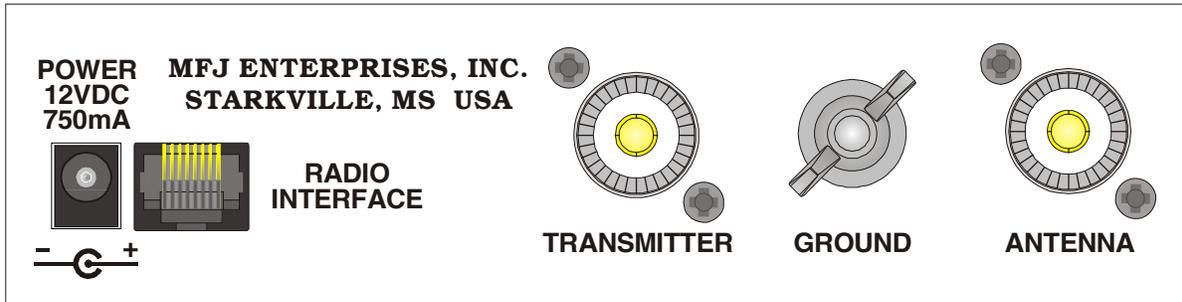


Figure 4. MFJ-925 Back Panel.

- Power:** This jack accepts a standard 2.1 × 5.5 mm coaxial plug with positive center and negative sleeve. The tuner requires 12-15 volts DC at up to 750 mA. The use of a regulated supply is not mandatory but is recommended for best performance. An optional 12 volts DC 1.5 amp power supply, the MFJ-1316, is available from MFJ Enterprises, Inc. The MFJ-925 also accepts 12 volts that is impressed on the incoming coax cable using an MFJ-4116 or MFJ-4117 Bias Tee for remote operation.

WARNING: Do not apply voltages greater than 18 volts to this unit, or permanent damage may result.

Note: When the tuner power is OFF, the tuner is bypassed and RF from the transmitter goes directly to the antenna with no matching. When turned on, the tuner powers up in bypass mode.

- Radio Interface:** An 8-pin modular (RJ-45) connector for connecting to the tuner interface connector of compatible radios. Most radios provide +13.8 VDC power through its tuner interface connector. If separate power supplies are used to power the MFJ-925, the MFJ-925 should be powered on first (both LEDs blink once) and then turn on the radio, so the radio knows an external tuner is attached. The radio will disable its internal tuner, if it has one, and use the external tuner.

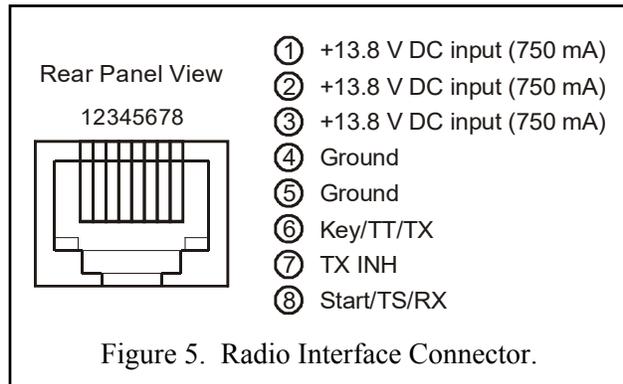


Figure 5. Radio Interface Connector.

The Radio Interface works with radios that are compatible with Alinco EDX-2, Icom AH-3 and AH-4, Kenwood AT-300, and Yaesu FC-30, FH-1 and FH-2. When connected to a compatible radio, simply press the [TUNER] or [AT] button on the radio; for FH-1 or FH-2 compatible Yaesu, press the [TUNE] button *on the tuner* to start the automatic tuning process. The radio will automatically switch to CW mode, transmit a low power (typically 10-30 watts) carrier, and start the tuning process. Once the automatic tuning is completed, the radio will return to its previous mode and power setting.

WARNING: Make sure the +13.8 volts connection on the radio's tuner port is capable of supplying the 750 mA of current required by the MFJ-925.

Jumper JP2

Jumper JP2, located behind the front panel circuit board, selects the radio to be connected to the Radio Interface connector. Set this jumper to the “I” position to interface with radios that are compatible with the Alinco EDX-2 tuner, Icom AH-3 and AH-4 tuners, Yaesu FT-1000MP series, FT-2000 series, FTDX-9000 series, and any radios that are compatible with Yaesu FH-1 or FH-2 remote control. Set the jumper to the “K” position to interface with radios that are compatible with Kenwood AT-300 tuner. Set the jumper to the “Y” position to interface with radios that are compatible with Yaesu FC-30 tuner. If no connection is connected to the Radio Interface connector, set the jumper to the “0” position to disable the interface. Default is “0”.

Jumper JP2	To Interface	Using
0	No Radio Interface	--
I	Alinco Icom Yaesu FT-1000MP/-2000/-9000 Yaesu FT-2000	MFJ-5114A MFJ-5114I MFJ-5114Y3 MFJ-5114Y4
K	Kenwood	MFJ-5114K
Y	Yaesu FT-100/-450/-857/-897/-950	MFJ-5114Y
1	Reserved	--
2	Reserved	--
3	Reserved	--
4	Reserved	--

Table 1. Jumper JP2 Setting.

Jumper JP4

Jumper JP4, located about one inch or 3 cm in front of the Radio Interface connector, inside the MFJ-925 must be configured properly when interfacing to the various radios. Normally this jumper is installed and is the factory default. **Remove this jumper when interfacing to an Icom IC-7000.** Make sure this jumper is installed when interfacing to Kenwood radios and FC-30 compatible Yaesu radios using the MFJ-5114K and MFJ-5114Y interface cables, respectively. For the other radios, the position of jumper JP4 is irrelevant.

The MFJ-5114A interface cable provides control signals between an Alinco radio and the MFJ automatic tuner. Supported Alinco radios are DX-70, DX-77, DX-701, DX-801, and any Alinco radio that supports the Alinco EDX-2 tuner. Press the radio’s [TUNE] button to start the tuning process; for DX-70 press [FUNC] then [TUNE]. Refer to “Alinco Radio Interface” on page 21 for connections and operation.

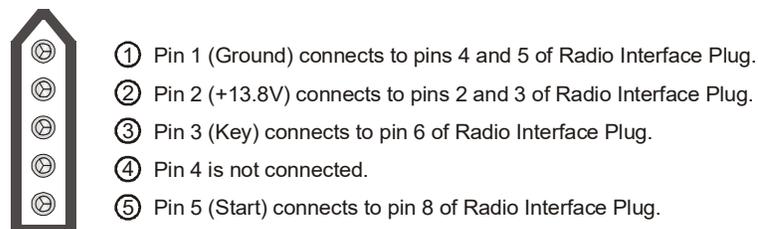


Figure 6. Alinco Interface Cable.

The MFJ-5114I interface cable provides control signals between an Icom radio and the MFJ automatic tuner. Supported Icom radios are IC-706, IC-707, IC-718, IC-725, IC-728, IC-736, IC-738, IC-746, IC-756, IC-7000, and any Icom radio that supports the Icom AH-3 or AH-4 tuner. Push and hold the radio's [TUNER] button for two seconds to start the tuning process. Push [TUNER] quickly to bypass the tuner. **Make sure jumper JP4 is removed for IC-7000.** Refer to "Icom Radio Interface" on page 22 for connections and operation.

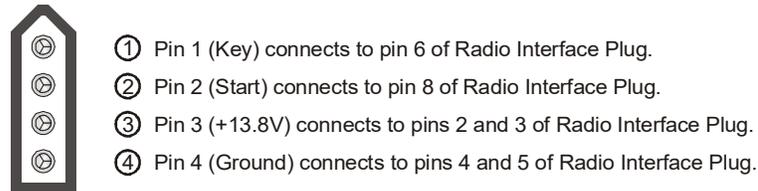


Figure 7. Icom Interface Cable.

The MFJ-5114K interface provides control signals between a Kenwood radio and the MFJ automatic tuner. Supported Kenwood radios are TS-50S, TS-450S, TS-480HX, TS-570S, TS-690S, TS-850S, TS-870S, TS-2000, and any Kenwood radio that supports the Kenwood AT-300 tuner. Push and hold the radio's [AT TUNE] button for one second to start the tuning process. Push the [AT TUNE] quickly to bypass the tuner or to cancel tuning in progress. Make sure jumper JP4 is installed. Refer to "Kenwood Radio Interface" on page 23 for connections and operation.

Note: *The TS-480HX will automatically reduce its TX power to 100 watts maximum (25 watts AM) when the radio interface is used.*

Note: *For the TS-2000, use the ANT 1 and AT connectors on the radio to connect an external antenna tuner. If the external tuner is connected to the ANT 2 connector on the radio, the external tuner will not function with the radio interface.*

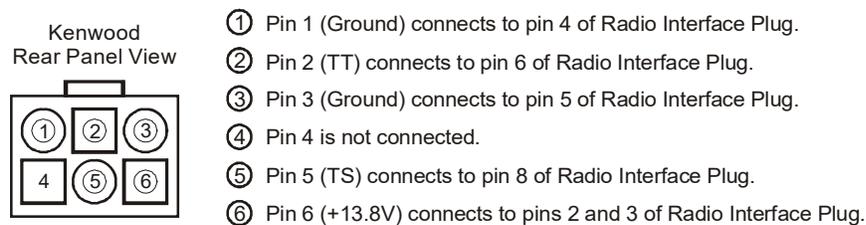


Figure 8. Kenwood Interface Cable.

The MFJ-5114Y interface provides control signals between a Yaesu radio and the MFJ automatic tuner. Supported Yaesu radios are FT-100, FT-450, FT-857, FT-897, FT-950, and any Yaesu radio that supports the Yaesu FC-30 tuner. Push and hold the radio's (TUN) or (TUNE) key to start the tuning process. Make sure jumper JP4 is installed. Refer to "Yaesu Radio Interface/MFJ-5114Y" on pages 24 to 27 for connections and operation.

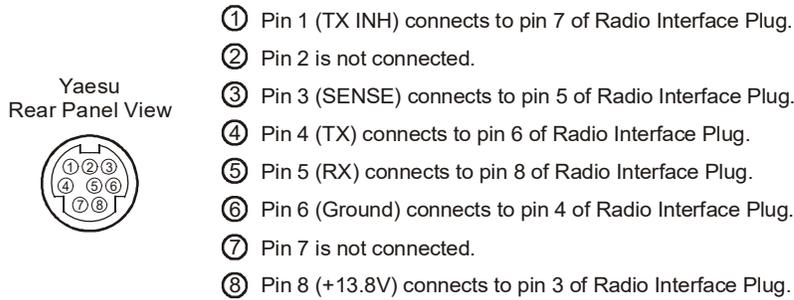


Figure 9. Yaesu Interface Cable (FT-100/-450/-857/-897/-950).

The MFJ-5114Y3 interface provides control signals between a Yaesu radio and the MFJ automatic tuner. Supported Yaesu radios are FT-1000MP, FT-1000MP MKV, FT-1000MP MKV Field, FT-2000, FTDX-9000, and any Yaesu radio compatible with the Yaesu FH-1 or FH-2 Remote Control. This cable plugs into the REMOTE jack on the rear panel of the Yaesu radios, and keys the Yaesu radios in the CW tune mode whenever the MFJ-925's [TUNE] button is pushed. MFJ recommends that the Yaesu CW tune setting be set to 10 watts (Yaesu MP menu selection 4-3) during the tune process when an amplifier is not used. For best accuracy when an amplifier is used, MFJ recommends that the Yaesu CW tune setting be set to 50 watts for 100-watt transceivers and 75 watts for 200-watt MKV transceivers during the tune process. If a FH-1 or FH-2 keypad is also used, both the FH-1/FH-2 and the radio control cable may be plugged in parallel using a 3.5-mm headphone splitter (mono or stereo is fine). Refer to "Yaesu Radio Interface/MFJ-5114Y3" on pages 28 to 30 for connections and operation.

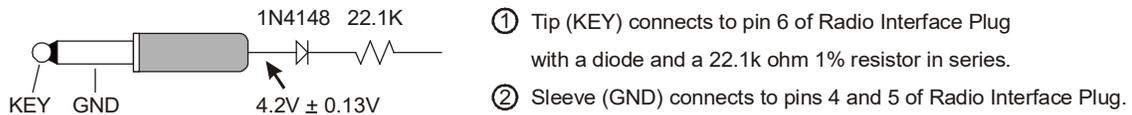


Figure 10. Yaesu Interface Cable (MP/2000/9000 series).

While the MFJ-5114Y3 works with the FT-2000, the FT-2000 also has a TX REQ input that can be used. If you prefer to use the TX REQ input, the MFJ-5114Y4 interface provides control signals between the Yaesu FT-2000 and FT-2000D radios and the MFJ automatic tuner. This cable plugs into the TX REQ RCA jack on the rear panel of these Yaesu radios, and keys the Yaesu radios in the CW tune mode whenever the MFJ-925's [TUNE] button is pushed. MFJ recommends that the Yaesu tune power setting be set to 20 watts (Yaesu menu 145 tGEN TUN PWR) during the tune process. Refer to "Yaesu Radio Interface/MFJ-5114Y4" on page 30 for connections and operation.

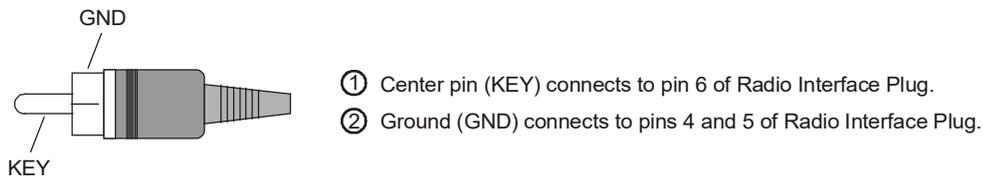


Figure 11. Yaesu Interface Cable (FT-2000 series).

- **Transmitter:** SO-239 connector for coax cable from transmitter or transceiver. There is a bias tee connected to this connector so 12 volts DC can be sent down the coax to power the tuner for remote operation. An optional bias tee DC power injector, the MFJ-4116 or MFJ-4117, is available from MFJ Enterprises, Inc.
- **Ground:** Wing-nut terminal for RF ground wire connection.
- **Antenna:** SO-239 connector for coax cable from antenna.

Note: To use a WIRE on the Antenna connector, be sure to use the enclosed adaptor.

Installation

WARNING

- **Never operate the tuner with its cover removed. Contact with the components inside the tuner while transmitting will result in painful RF burns.**
- **Locate the tuner so that the rear terminals are *not accessible* during operation. A single wire connection may have high voltage while transmitting.**
- **Disconnect the antenna from the tuner during lightning storms.**
- **Always tune with low power (2-20 watts). Apply maximum power only after tuning up.**
- **Never exceed tuner specifications.**

1. Place the tuner in a convenient location at the operating position. When using a random wire antenna the feed through insulators may have high RF voltages. These voltages can cause serious RF burns if the terminals are touched when transmitting. **Be sure to locate the tuner so these terminals cannot accidentally be contacted during operation.**
2. Install the tuner between the transmitter and the antenna. Use a 50-ohm coaxial cable (such as RG-58) to connect the transmitter to the connector marked TRANSMITTER on the rear of the tuner. See Figure 1 on page 3.
3. Connect the antenna(s) to the tuner as follows:
 - Coaxial feedlines to the SO-239 connectors labeled ANTENNA.
 - Random wire to the ANTENNA connector on the back of the unit using the enclosed adaptor.

Note: Route all random wire antennas safely to prevent RF burn hazard.

4. A GROUND post is provided for an RF ground connection. See “Grounding Hints” on page 13.
5. Connect a 12 to 15 VDC power source to the input jack labeled POWER.