

mAT-30 Operating Manual

Automatic Antenna Tuner

Thank you for purchasing the **MAT-TUNER** mAT-30 Automatic Antenna Tuner. Please read this manual carefully before using the tuner.

■ IMPORTANT NOTE

The mAT-30 is designed to be compatible with a wide range of YAESU transceivers. Compatibility with future YAESU transceiver models cannot be guaranteed.

■ INTRODUCTION

The mAT-30 is designed to be compatible with the FC-30, FC-40, and FC-50, and operates in the same manner.

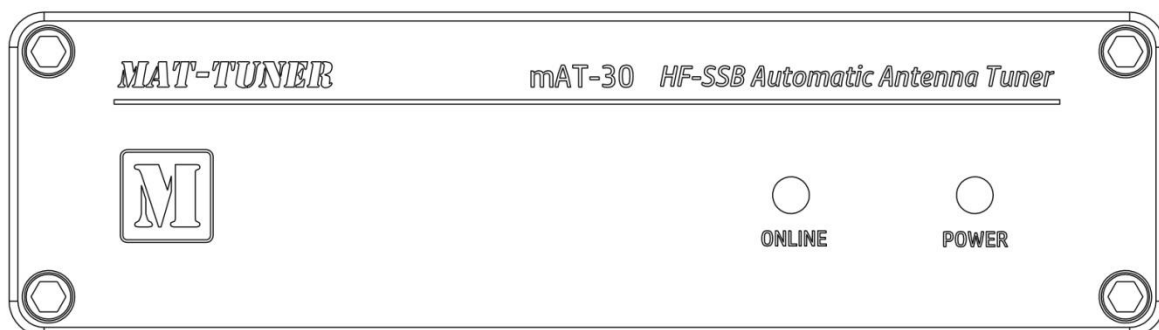
The mAT-30 uses an interface and control protocol compatible with YAESU external antenna tuners such as the FC-40 and FC-50, and operates in the same manner.

The mAT-30 can match a wide range of antenna impedances.

CAUTION: The mAT-30 is intended for compatible YAESU transceiver models. It is not compatible with the FT-80C, FT-757, FT-817, or FT-818. FT-817/818 users should use the dedicated mAT-10 tuner.

The mAT-30 features a rugged metal enclosure and a CNC-machined aluminum front panel, providing a durable and refined appearance.

■ FRONT PANEL



The front panel is equipped with two status indicators.

ONLINE Tuning / bypass status indicator.

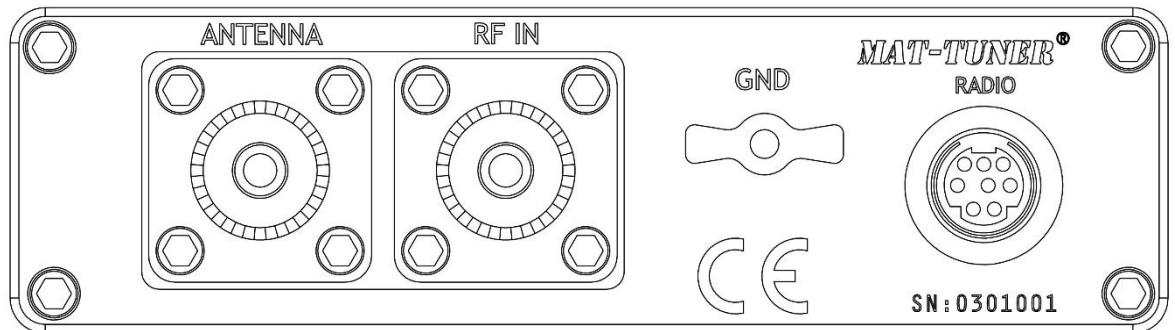
- **ON:** The tuner is enabled and operating.
- **OFF:** The tuner is in bypass mode.

POWER Power indicator.

ON: The tuner is powered.

■ REAR PANEL

The rear panel provides four connectors/terminals.



1. **ANTENNA** SO-239 connector.

Connect the 50-ohm coaxial cable from the antenna to this connector.

2. **RF IN** SO-239 connector.

Connect the transceiver ANT connector to this connector using 50-ohm coaxial cable.

3. **RADIO**

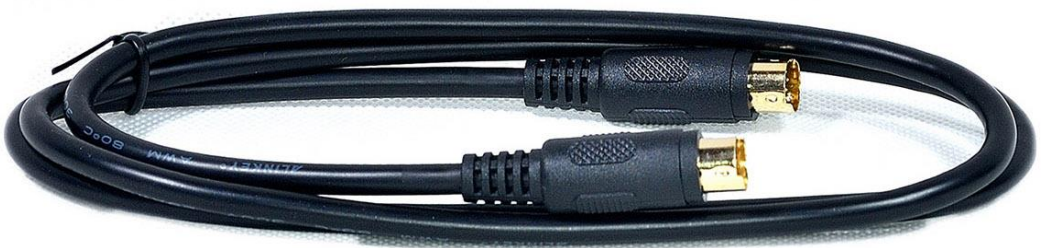
Connect this jack to the transceiver's external antenna tuner connector using the supplied 8-pin mAT-CY control cable.

4. **GND** Ground terminal.

Connect the GND terminal to a proper ground.

■ mAT-CY CONTROL CABLE

The mAT-CY control cable is supplied as a standard accessory. The cable is 1 meter long and provides power to the tuner while also carrying control and data signals between the transceiver and the tuner.



■ INSTALLATION

WARNING: Be sure to turn OFF the transceiver before making any connections.

1. Using 50-ohm coaxial cable, connect the transceiver ANT connector to the **RF IN** connector on the mAT-30.
2. Connect one end of the supplied mAT-CY control cable to the **RADIO** connector on the mAT-30.
3. Connect the other end of the mAT-CY control cable to the external tuner connector on the transceiver.
Depending on the transceiver model, this connector may be labeled **TUNER**, **CAT/LINEAR**, or **TUN/LIN**.
4. Connect the antenna coaxial cable to the **ANTENNA** connector on the mAT-30.
5. Connect the **GND** terminal of the tuner to a proper ground.

■ TRANSCEIVER SETUP

The menu settings for an external antenna tuner vary depending on the transceiver model. Refer to the transceiver Operating Manual for information on setting up an external antenna tuner. The mAT-30 is fully compatible with the FC-30, FC-40, and FC-50, and operates in the same manner.

FT-857D / FT-897D Setup

1. Make sure that all RF and control cables are securely connected between the transceiver and tuner.
2. Turn the transceiver ON. Press and hold the [**FUNC**] key (the [**F**] key on the FT-897D) for approximately one second to enter the Extended Menu.
3. Rotate the [**SELECT**] knob (the [**MEM/VFO CH**] knob on the FT-897D) to select the following menu items. For each item, press [**FUNC**] briefly to select the setting, rotate the knob to change the value, then press [**FUNC**] briefly to confirm.
 - **No-001 [EXT MENU] = ON**
Enables the Extended Menu.
 - **No-020 [CAT/LIN/TUN] = TUNER**
Selects TUNER mode.
 - **No-085 [TUNER/ATAS] = TUNER**
Selects TUNER mode instead of ATAS.
4. Press and hold the [**FUNC**] key to save the settings and exit the menu.

For other YAESU transceiver models, such as the FT-991, FT-450D, and FT-891, the menu items and settings may differ. Refer to the **External Antenna Tuner** section of the Operating Manual for the transceiver being used.

■ OPERATING THE TUNER FROM THE TRANSCEIVER

WARNING: Before starting the tuning operation, make sure that the antenna is properly connected.

FT-857D / FT-897D

1. Press the **[FUNC]** key as necessary to display the Multi Function Row containing **[TUNE]**.
2. Press the **[A]** key to enable the tuner. “TUNE” appears on the display.
3. Press and hold the **[A]** key for approximately two seconds to start automatic tuning.

■ SPECIFICATIONS

- **RF Power:** 120 W max. (SSB, CW); 30 W max. (FM, RTTY, FT8, etc.)
- **Frequency Range:** 1.8 ~ 54 MHz
- **Matching Impedance Range:** 5 ~ 1500 Ω
- **Tuning Time:** ≤ 5 s
- **Memory Capacity:** 16,000 memory locations
- **Antenna Types:** Dipole, vertical, V-type, coaxial-fed, and wire antennas
- **Operating Temperature:** -10°C to $+50^{\circ}\text{C}$
- **Dimensions (L $\times$ W $\times$ H):** 200 mm $\times$ 130 mm $\times$ 35 mm
- **Weight:** Net 0.8 kg; Shipping 1.0 kg

■ SUPPLIED ACCESSORIES

1. mAT-CY Control Cable $\times$ 1
2. Operating Manual $\times$ 1

■ TECHNICAL SUPPORT

For more information, please visit the MAT-TUNER website: **www.mat-tuner.com**. Product specifications and photographs of the complete product range are available on the website.

To ensure reliable after-sales service, we recommend purchasing MAT-TUNER products through an authorized local dealer.

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