

MAT-TUNER[®]

mAT-1F Dedicated QRP Antenna Tuner

Owner Manual

Product Overview

The mAT-1F is a QRP automatic antenna tuner designed exclusively for the YAESU FTX-1 Field transceiver.

- Only compatible with the FTX-1 Field. It will not work with other models, especially the FTX-1 Optima.
- For other transmitters, the mAT-30 and mAT-Y200 are recommended.

Compatibility

mAT-1F is compatible with the YAESU FC-90. The operation is exactly the same. For details on using an external tuner, read the transceiver manual carefully.

Technical Specifications

Specification	Details
Frequency Range	1.8 – 54 MHz
RF Power Handling	10 W
Impedance range	5 ~ 1500 Ω
Antenna Type	BNC / banana plug
Tuning Time	< 10 seconds (full tune)
Temperature	-10°C ~ +60°C
Dimensions / Weight	142 × 67 × 28 mm, 200 g

Interface Description

Top Interfaces

COAX: BNC jack. Connect a coaxial cable antenna.

WIRE: Red banana jack. Connect a wire antenna.

GND: Black banana jack. Connect the ground wire.

Important: Do not connect antennas to both WIRE and COAX at the same time.

Bottom Interfaces & Indicators

RF IN: BNC. Connect to the transceiver **ANT HF/50 MHz** jack using the mAT-CBBM coaxial cable.

RADIO: BNC. Connect to the transceiver **TUNER/LINEAR** jack using the mAT-CF control cable.

ON/TUN: LED indicator.

Red during tuning.

Green when online.

Off in bypass mode.

Note: The mAT-CF control cable and mAT-CBB1M coaxial cable is included with the tuner.

Installation Steps

Important 1: Turn off the transceiver before installation to avoid damage.

Important 2: Not waterproof. Protect from rain and moisture outdoors.

Important 3: The tuner uses multiple magnetic latching relays. Keep it away from strong magnets, and especially do not use magnetic mounts.

1. Mount the tuner

Secure it to the antenna mast using a nylon cable tie or an adhesive-backed cable strap.

2. Connect the antenna

- If you use a coaxial cable antenna, connect it to the **COAX** jack.
- If you use a wire antenna, connect the antenna to **WIRE** jack and connect the ground wire to **GND** jack.

3. Connect RF cable

Connect **RF IN** to the transceiver **ANT (HF/50MHz)** jack using a coaxial cable.

4. Connect Control Cable

Use the supplied mAT-CF control cable to connect **RA-DIO** to the transceiver **TUNER/LINEAR** jack.

Important: COAX and **WIRE** cannot be connected at the same time.

Important: No Amplifiers. Using an external power amplifier will damage the tuner.

Transceiver Settings

(Excerpted from transceiver manual)

1. Press and hold **[FUNC]**, select **[OPERATION SETTING]** → **[GENERAL]** → **[TUNER SELECT]**, and set it to **OPTION**.
2. Press **[FUNC]** to save the settings, then press **[BACK]** to exit.

Tip: If the transceiver firmware is outdated, update it to ensure compatibility with the FC-90 and mAT-1F.

Tuner Operation

- Start tuning

Press and hold **[FUNC]** → Touch **[ANT TUNE]**.

- Turn On/Off

Press and hold **[FUNC]** → Touch **[TUNER ON/OFF]**

Tips: If SWR is not optimal, restart tuning.

Accessories

Standard accessories

- mAT-1F User Manual
- mAT-CF Control Cable (1m)
- mAT-CBB1M BNC Coaxial Cable (1 m)

Optional accessories

- mAT-CBB5M BNC Coaxial Cable (5 m)
- mAT-CMB1M UHF-BNC Coaxial Cable (1 m)
- mAT-CMB5M UHF-BNC Coaxial Cable (5 m)

Technical Support

Visit <http://www.mat-tuner.com> for product info, manuals, images, and demonstration videos.

Purchase Notice

- Buy through authorized dealers and retain your proof of purchase for warranty and technical support.
- Products purchased from unauthorized sources may not be eligible for after-sales service.
- Authorized dealer lists are available on our website by country/region.