

***MAT-TUNER***

# **mAT-705**

Automatic Antenna Tuner  
For ICOM IC-705 transceiver

HENGSHUI MAT-TUNER LLC

<http://www.mat-tuner.com>

<http://www.mat-tuner.cn>

# Automatic Antenna Tuner

## mAT-705 V2.0

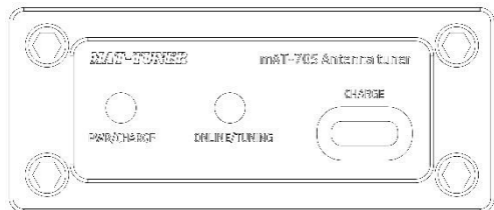
### User Instructions

Thank you for your purchase of the model mAT-705 automatic antenna tuner, designed specifically for ICOM IC-705 HF/VHF/UHF transceiver. The mAT-705 tuner is powered by two built-in lithium batteries, can be charged by a USB power adapter. Magnetic latching relays are used inside the tuner to save energy.

The mAT-705 automatic antenna tuner responds to control commands from the IC-705 transceiver, providing microprocessor-based impedance matching on the 160 through 6 meter amateur bands. On the HF and 50 MHz bands the impedance matching range is from  $5\Omega$  to  $1500\Omega$ .

The tuner comes with control cable. Both ends of the control cable are standard 3.5mm plugs. One plug is connected to the TUNER socket of the transmitter, and the other plug is connected to the CON socket of the tuner. The transceiver controls the tuner through this cable for automatic tuning. An RF cable mAT-RC1 that connects the IC-705 and the tuner is sold as an accessory item. mAT-RC1 is a common coaxial cable with male BNC plugs at both ends.

## Front Panel

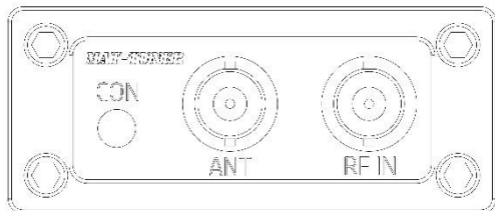


**PWR/CHARGE:** Indicate charging and power indicator.

**ONLINE/TUNING:** Indicate the tuner ON or OFF status and indicate the tuning status.

**CHARGE:** Type-C charging interface

## Rear Panel



**CON:** Connect to the "TUNER" socket of the transmitter through the attached control cable.

**ANT:** Connect the coaxial cable to the antenna.

**RF IN:** Connect to the "ANT" socket of the transmitter through a 50 ohm coaxial cable.

## Charge

- ☆ Two built-in 10440 lithium batteries, 3.7V, 350mAh.
- ☆ TYPE-C USB charging cable.
- ☆ Charging current is 500mA, about 1 hour.
- ☆ Charging voltage is 4.5-5.5V.

☆ The "PWR/CHARGE" red indicator light is on while charging. The red indicator light will go out after the battery is fully charged.

☆ When the tuner is being charged, the "PWR/CHARGE" indicator flashes red to indicate that the lithium battery has failed. Please check the lithium battery and replace it if necessary.

☆ The "PWR/CHARGE" green indicator flashes when the tuner starts, means the tuner's battery needs to be charged.

## Operating

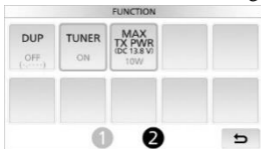
☆ The mAT-705 tuner has no mechanical power switch. Its startup and shutdown are controlled by the IC-705 transmitter, which turns on and off along with the transmitter.

☆ Before use, make sure that the control cable and RF cable are properly connected. Pay attention to whether the control cable has been inserted in enough places.

★ Turn on the power of the IC-705 transmitter, the "PWR/CHARGE" of the mAT-705 tuner will automatically light up in green. If this indicator flashes, it means the tuner needs to be charged.

## Start tuning cycle method A:

1. Enter the function menu of the transmitter, as shown in the figure, the [TUNER] virtual buttons turns white to indicate that it is available.
2. When [TUNER] is displayed as "OFF", press this virtual button, the transmitter will automatically control the tuner to start a new tuning cycle.



☆ When the tuner is tuning, it's "ONLINE-/TUNING" indicator lights up in red, and the red text "TUNE" will flash on the transmitter screen.

☆ After the tuner completes this tuning cycle, it is ON, the [TUNER] virtual button will display "ON". The white text "TUNE" will always be lit on the transmitter screen, except for the "ONLINE/TUNING" indicator on the front panel that lights up green.

3. When the [TUNER] virtual button is "ON", press the virtual button again and it will turn "OFF". At this time, the tuner will be turned off, and the tuner's RF and ANT socket will be directly connected. The tuner will no longer have a tuning function.

## Start tuning cycle method B:

☆ If the "PTT TUNE" function of the transmitter is activated, when transmitter's PTT is pressed for the first time on a new frequency, the tuner will automatically start a new tuning cycle.

★ *The "PTT TUNE" function of the IC-705 transmitter is turned on by default. If you turn off this function, you will not be able to drive the tuning cycle by this method. For more information about this function, please read the user manual of the transmitter.*

## Specifications

Frequency Range: 1.8 ~ 54 MHz

Impedance Range: 5 ~1500 Ω

Tune Time: 5 seconds or less

Memories: 16000 channels

Charging Voltage: 4.5-5.5V, TYPE-C

Charging Current: Maximum 0.7A, usually 0.5A or less

Lithium Battery: 3.7V 350mAh, 2pcs

Operating Temperature: -10°C ~ +50°C

Case Size(WHD): 67 x 29 x 151 mm, 2.64 x 1.45 x 5.95in

Net Weight: 237g, 8.36oz      Gross weight: 330g, 12.35oz

## Accessories

Control Cable	1pc
TYPE-C USB charging cable	1pc

## Shipping instructions

mAT-705 has two built-in lithium batteries, which may be restricted during transportation. Please comply with relevant laws and requirements.

**HENGSHUI MAT-TUNER LLC**

[www.mat-tuner.com](http://www.mat-tuner.com)

No.28 Ronghuabei ST, Hengshui, Hebei, CHINA