

# AUTOMATIC ANTENNA TUNER

## mAT-1500

**MAT-TUNER**  
COMMUNICATIONS



### KEY FEATURES

- Fast tuning
- High efficiency
- Large-capacity memory
- Accurate bridge VSWR inspection
- 3.5 to 54 MHz
- 1500W RF power handling
- Adapt to various antennas
- High-strength alloy housing
- Milling production process
- Tuning impedance: 6 to 1000  $\Omega$

mAT-1500 is an automatic antenna tuner specially developed for HF power amplifier. It can provide reliable high-performance tuned antenna solutions for land and marine deployments with RF power levels up to 1.5 kW.

### HIGH PERFORMANCE

With 1500W(PEP) RF power handling capability, the mAT-1500 can be used for CW and SSB, over the full 3.5 to 54 MHz HF band.

### SUFFICIENT MEMORY CAPACITY AND QUICK TUNING

With up to 16,000 data channels for storing LC configuration data, the tuner has an almost unlimited memory capacity.

The tuner using a highly optimised tuning algorithm, new frequencies are tuned in typically less than 5 seconds, previously tuned frequencies are tuned within 100 mS.

### HIGH STRENGTH ALLOY HOUSING

The mAT-1500 has a high-strength alloy housing, strong and sturdy. The front and rear panels are machined from a complete piece of alloy aluminum using a milling process.

### SIMPLE OPERATION PANEL

The simple operation is the characteristic of the tuner. There is only one square button on the front panel of the tuner. This button can complete the operation of starting tuning, offline and online functions. It is also an indicator light and can also show the working status of the tuner.

## CONNECTING CABLES AND TUNING OPERATION

### CONNECTING CABLES ON THE REAR PANEL:

1. Connect the coaxial cable connecting the antenna to the "RFOUT" of the tuner.
2. Connect the coaxial cable connected to transmitter RF output to the "RF IN" of the tuner.
3. Connect the tuner's power cord to a 13.8V DC power supply.
4. Connect PPT1 to the PPT signal output of the transmitter, and PPT2 to the PPT signal input of the amplifier.

### TUNING OPERATION:

1. Reduce the power of the transmitter to the range of 5-10 watts.
2. Set the mode of the transmitter to one of FM, CW, FSK, and RTTY.
3. Press and hold the transmitter's PTT, and press the tuner's multifunction key "TUNING" for more than 1 second to start tuning. This key will light up green and flash slowly during tuning. If the multi-function button flashes red, it means that the RF power of the transmitter is too large and the tuning stops. When it is pressed again to reset, the red light goes out.
4. After the tuner completes the tuning cycle, the multi-function key will stop flashing. Steady on means the tuner is online, off means bypass.
5. Quickly press the multifunction key to switch ONLINE / BYPASS state. This key is always lit to indicate ONLINE, and off to indicate BYPASS.

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### SPECIFICATIONS

Frequency range	3.5-54MHz
Power rating	1500W PEP and Average
Mode	LSB,USB,CW,FM,FSK,RTTY
Input impedance	50Ω
Tuning impedance	6 to 1000 Ohms (approximately 10:1 SWR)
Tune time	Memory 100ms, initial tune 5 sec(typical)
Tune power	5-15W, 15W max, Excessive power will damage the tuner
Memory channels	16,000
Tune modes	Fully automatic and memory
RF connector type	M-type socket, UHF, SO-239
Auxiliary receive antenna power	10-15V DC, 1 A max
Operational temperature	-20 to +60°C
Finish	Black
Enclosure	Aluminium Alloy
Dimensions	320 x 240 x 90 mm
Packed dimensions/weight	400 x 320 x 130 mm; 4.5 Kg

### OPERATION AND INDICATION

Quickly press the multi-function	Online/Bypass
Press and hold multifunction	Start Tuning
Multi-function button light goes out	Bypass
Multi-function button is always on in green	Online
Button flashes slowly	In tuning
Button flashes quickly in red	Warning, the input RF power is too large during tuning, and press quickly to reset the warning,and the tuner stops tuning.

**IMPORTANT WARNING:**During the tuning process, the input RF signal power must not exceed 15w, otherwise the tuner will be damaged!

### ACCESSORIES

DC power leads, one-meter wire length, 5.5mm plug.  
PTT Control Cable (RCA Cable)  
English user manual

**IMPORTANT WARNING:** During the tuning process, the input RF signal power must not exceed 15 watts, otherwise the tuner will be damaged.

**IMPORTANT :**

1. It is highly recommended that you connect the PTT control cable of the tuner. When the tuner starts tuning, it will automatically disconnect the amplifier's PTT signal, leaving the amplifier in the Bypass state.
2. If your amplifier switches the ONLINE / BYPASS state by detecting the RF signal instead of the PTT signal. When you start tuning, make sure that the amplifier will not switch to the ONLINE state. Usually you need to manually turn off the power of the amplifier.

*Values noted are typical. Equipment descriptions and specificat.*