

mAT-30 INSTRUCTIONS

Automatic antenna tuner

Thank you for choosing this MAT-TUNER product.

Please **READ ALL INSTRUCTIONS** carefully and completely before using this tuner.

■ IMPORTANT

- ◆ **NEVER** touch the antenna or antenna connector with your hand when the transmitter is transmitting, it will cause burns!
- ◆ **NEVER** use the antenna tuner during a lightning storm. It may result in an electric shock, cause a fire or damage the tuner. Always disconnect the antenna before a storm.
- ◆ **NEVER** operate the tuner with its cover removed. Contact with the components inside the tuner while transmitting will result in painful RF burns.
- ◇ Always turn your transmitter off before plugging or unplugging anything, otherwise it would be damaged.
- ◇ The tuner is designed for indoor operation only, it is not water resistant. If you use it outdoors, you must protect it from rain, dew and steam.
- ◇ We cannot guarantee the mAT-30 tuner will work well with those transmitters which are released later than the tuner.

■ INTRODUCTION

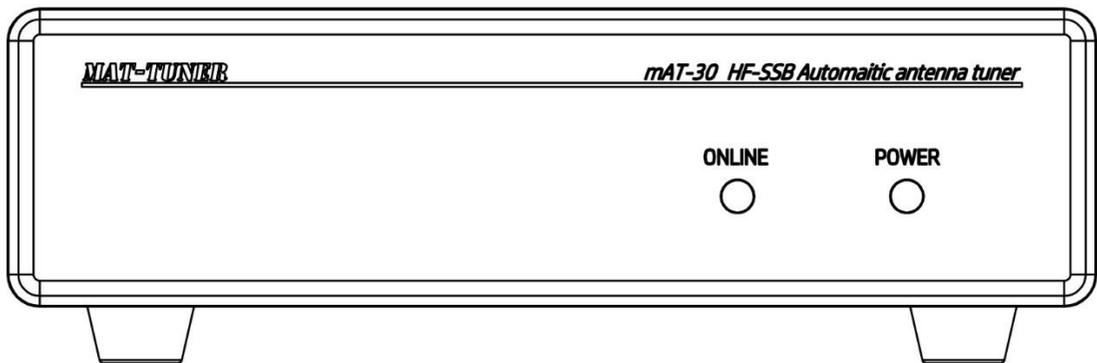
The mAT-30 is an automatic antenna tuner specially designed for modern Yaesu transmitters, the operating is the same as the Yaesu tuner, which is simple and convenient. Yaesu transmitters will work well with mAT-30 tuners, those works well with FC-30, FC-40, FC-50 tuners.

Tuner will match an amazing range of antennas and impedances, far greater than some other tuners you may have considered, including the built-in tuners on many transmitters.

mAT-30 tuner can only be used for Yaesu transmitter. Some early transmitters, such as FT-80C, FT-757, can't use the mAT-30 tuner. The FT-817/818 will also not work with the mAT-30. We have designed a dedicated mAT-10 tuner for FT-817/818 transmitter, visit our website for relevant information. Web is <http://www.mat-tuner.com>.

■ FRONT PANEL

The front panel is very simple, it only has 2 indicator lights.

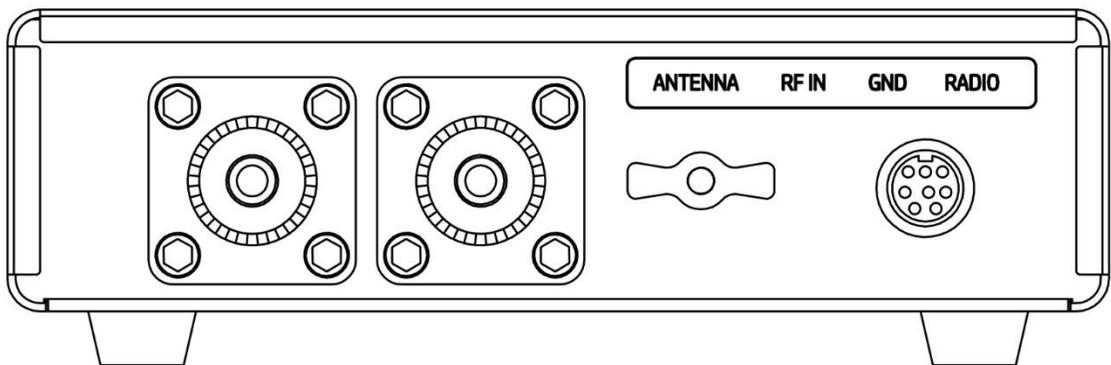


ONLINE: Tuner is Active or Bypass. Lights up to indicate that the tuner is online, off indicates that the tuner is in bypass.

POWER: Power light.

■ REAR PANEL

The rear panel has four connectors.



ANTENNA: SO-239, this socket is connected to the antenna via 50 ohm coaxial cable.

RF IN: SO-239, this socket is connected to the transmitter's "ANT" socket, via 50 ohm coaxial cable.

RADIO: This socket is connected to the transmitter's "tuner" socket via a mini DIN 8-pin cable mAT-CY. This cable comes with the tuner.

GND: Connected to antenna system ground.

■ CONTROL CABLE mAT-CY

Besides supplying power to the tuner, the control cable can also transmit control commands sended by the transmitter to the tuner. As the figure shows, the cable has two mini-DIN 8-pin plugs. It comes with the tuner, and users don't need to buy it. The length of this cable is usually one meter.



■ INSTALLATION

The mAT-30 is designed for Yaesu 100W transmitters which matches Yaesu FC-30, FC-40 and FC-50 antenna tuners. Their operation is the same. The installation steps are as follows. Before operation, please make sure that the transmitter is turned off.

1. Connect the "ANT" jack on the transmitter to the "RF IN" jack on the tuner, using a 50 ohm coax cable rated 120 watts or greater.
2. Connect the control cable mAT-CY to the mini-DIN 8-pin jack on the tuner, marked "Radio".
3. Connect the other end of this mAT-CY cable to the "TUNER" or "CAT/LINEAR" or "TUN/LIN" jack on the transmitter.
4. Connect the coaxial cable of the antenna to the "ANTENNA" socket of the tuner.
5. Grounding the mAT-30 tuner will enhance its performance and safety. We recommend that you connect your tuner to a suitable ground; a common ground rod connected to buried radials is preferred, but a single ground rod, or a cold water pipe can suffice. We strongly recommends the use of a properly installed, high quality lightning arrestor on all antenna cables.

■ TRANSMITTERS SETTING

Each transmitter has a unique setting menu for external tuners. It is necessary to set these menus correctly before you can use external tuner. To set these menus, please read the operation manual of these transmitters and refer to the setting of FC-30, FC-40 or FC-50 tuner. The mAT-30 tuner is compatible with FC-30, FC-40 or FC-50 tuner, they are used in the same way.

The menu settings of FT-857D/897D is as follows.

1. Press and hold in the [F]([FUNC]) key for one second to activate the Menu mode.
2. Rotate the [MEM/VFO CH] (FT-857D: [SELECT]) knob to recall Menu ModeNo-001 [EXT MENU], then rotate the DIAL to change the setting to "ON" to enable the extended Menu Mode.
3. Rotate the [MEM/VFO CH] knob to recall Menu Mode No-020 [CAT/LIN/TUN]. Rotate the DIAL to change the setting to "TUNER".
4. Press and hold in the [F]([FUNC]) key for one second to save the new setting and exit, then turn the transmitter off.
5. The turn on the transmitter's power again. Press and hold in the [F]([FUNC]) key for one second to activate the Menu mode.
6. Rotate the [MEM/VFO CH] (FT-857D: [SELECT]) knob to recall Menu Mode No-085 [TUNER/ATAS]. The default setting for this Menu is "OFF". Rotate the DIAL to change the setting to "TUNER".
7. Press and hold in the [F]([FUNC]) key for one second to save the new setting and exit.
8. Press the [F]([FUNC]) key, as needed, to recall Multi-Function Row "k"[TUNE, DOWN, UP].

For other Yaesu transmitter's external tuner menu settings, please read the transmitter's operation manual.

■ OPERATION FROM THE TRANSMITTER

1. Press the [F]([FUNC]) key, as needed, to recall Multi-Function Row "k" [TUNE, DOWN, UP].
2. Press the [A]([TUNE]) key to turn the mAT-30 on. The "TUNE" will appear on the LCD.

3. Press and hold in the [A]([TUNE]) key to initiate automatic tuning. The FT-857D transmitter will be activated a carrier signal will be sent out, and the coils and capacitors in the mAT-30 will be selected/adjusted for optimum SWR. When tuning is complete, the transmission will cease, and you will be ready for operation on this frequency. Tuning data will be stored in the mAT-30's memory, this data will be called when the transmitter returns to this frequency again.

■ SPECIFICATIONS

- RF power: 120 watts SSB and CW peak power, 60 watts on PSK and digital modes, and 100 watts on 6 meters.
- Frequency Range: 1.8 ~ 54 MHz
- Impedance Range: 5 ~ 1500 Ω
- Tune Time: 5 seconds or less
- Memories channel: 16000 channels
- Antenna type: Dipoles, verticals, Vees, beams, wire or any coax-fed antenna.
- Power Supply: The power supply is provided by the transmitter via the control cable mAT-CY, and the maximum current is 0.5A
- Operating Temperature: -10°C ~ +50°C
- Case Size: 200mm x 130mm x 35mm (L x W x H).
- Net Weight: 0.8Kg,
- Gross weight: 1.0Kg

■ ATTACHMENTS PROVIDED

- | | |
|--------------------------|-----|
| 1. Control cable(mAT-CY) | 1pc |
| 2. Operation manual | 1pc |

■ TECHNICAL SUPPORT

Visit the web: <http://www.mat-tuner.com/> for more information and operation manual. When you are thinking about the purchase of other **MAT-TUNER** products, our website also has complete product specifications and photographs which you can use to help make your purchase decision.

In order for you to get better service, we recommend you to buy my products from your local distributor.

DECLARATION OF CONFORMITY(DOC)

This device is declared CE ENC and Rohs compliant by the manufacturer MAT-TUNER.



This material must be recycled and not thrown in the trash.



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