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› [EBTOOLS ATU-100 Mini Automatic Antenna Tuner User Manual](#)

EBTOOLS ATU-100

EBTOOLS ATU-100 Mini Automatic Antenna Tuner User Manual

Model: ATU-100

INTRODUCTION

The EBTOOLS ATU-100 is a mini automatic antenna tuner designed for radio equipment operating within the 1.8-55 MHz frequency range. It features a 0.96-inch OLED display, a Type-C charging port, and utilizes high-quality 1000V high-voltage SMD capacitors and advanced chips for stable and practical performance. This tuner is housed in a durable aluminum alloy casing and includes a UHF connector. It automatically tunes without the need for external control wires, making it suitable for various radio stations.

Mini shortwave

Type C charging port, 0.96in OLED display

C channel capacitors, 1000V high voltage SMD capacitors

Advanced PIC chips, UHF Connector



Front view of the ATU-100 Mini Automatic Antenna Tuner, displaying its OLED screen, TUNE button, and POWER button. The screen shows power (PWR), Standing Wave Ratio (SWR), inductance (L), and capacitance (C) values.

SAFETY INFORMATION

- Always ensure proper grounding for your radio equipment to prevent electrical hazards.
- Do not operate the antenna tuner in wet conditions or expose it to extreme temperatures.
- When tuning, avoid touching antenna connections or the tuner itself to prevent RF burns.
- Ensure the radio's output power is set correctly before tuning to prevent damage to the tuner or other equipment.
- Keep the device away from strong magnetic fields.

SETUP INSTRUCTIONS

Follow these steps to set up your ATU-100 antenna tuner:

1. **Connect Equipment:** Connect your radio, the ATU-100 Antenna Tuner, and your antenna in series. The radio's

output should connect to the tuner's input (RFIN), and the tuner's output (ANT) should connect to your antenna.



Rear view of the ATU-100 tuner, highlighting the ANT (Antenna) and RFIN (Radio Frequency Input) UHF connectors for proper connection.

- Initial Power Setting:** For the first use, set the output power of your radio or power amplifier between 20-30W.
Warning: High power tuning may damage the antenna tuner.

3. **Radio Mode:** Set your radio to FM mode for tuning.
4. **Frequency Selection:** Select the desired antenna frequency band.
5. **Power On:** Press the POWER button on the ATU-100 to turn it on.



Top view of the ATU-100 tuner, illustrating the Type-C charging port, charge indicator, TUNE button, and POWER button.

OPERATING INSTRUCTIONS

Once set up, operate the ATU-100 as follows:

1. **Observe Initial SWR:** With your radio set to FM mode and 20-30W power, press the radio's PTT (Push-To-Talk) button. Observe the PWR (Power) and SWR (Standing Wave Ratio) values displayed on the ATU-100's OLED screen.
2. **Tuning Process:**
 - **Reset:** A short press (less than 1 second) of the ATU TUNE button will reset the tuner.
 - **Adjust:** A long press (more than 1 second) of the ATU TUNE button initiates the automatic tuning process.
3. **Evaluate SWR:**
 - If the SWR displayed is greater than 2.0, it indicates that the antenna is detuned and requires tuning. Press

and hold the ATU TUNE button to begin tuning and observe the SWR value as it adjusts.

- If, after tuning, the SWR remains greater than 3.0, the antenna is severely detuned. In such cases, it is not recommended to use power above 30W. The transmit power should be controlled below 30W to prevent damage.
- If tuning successfully reduces the SWR to less than 2.0, you can then safely use the maximum power of 100W.

MAINTENANCE

The ATU-100 Mini Automatic Antenna Tuner is designed for durability and requires minimal maintenance.

- **Cleaning:** Use a soft, dry cloth to clean the exterior of the device. Avoid using abrasive cleaners or solvents.
- **Storage:** Store the tuner in a cool, dry place away from direct sunlight and extreme temperatures when not in use.
- **Battery Charging:** The device includes a 3.6V 1350MAH lithium battery. Charge it using the Type-C USB port with a 1A charging current. Ensure the battery is charged periodically if stored for long durations to maintain its health.
- **Connector Inspection:** Periodically check the UHF connectors for any signs of corrosion or damage. Ensure they are securely fastened.





The included USB Type-C cable used for charging the ATU-100's internal battery.

TROUBLESHOOTING

This section addresses common issues you might encounter with your ATU-100.

- **High SWR (Standing Wave Ratio) after Tuning:**

If the SWR remains above 2.0 after a long press of the TUNE button, it indicates a significant mismatch with your antenna. If it's above 3.0, the antenna is severely detuned. Consider the following:

- **Antenna Condition:** Inspect your antenna for physical damage, loose connections, or corrosion.
- **Antenna Type:** Ensure your antenna is suitable for the frequency band you are operating on.
- **Cable Issues:** Check your coaxial cables for damage or improper connections.
- **Power Reduction:** If SWR is persistently high (above 3.0), reduce your radio's transmit power to below 30W to prevent damage to the tuner and radio.
- **Retune:** Try resetting the tuner with a short press of the TUNE button, then initiate a long press to retune.

- **Tuner Not Powering On:**

- **Battery Charge:** Ensure the internal lithium battery is sufficiently charged. Connect the Type-C USB cable to a power source.
- **Power Button:** Confirm the POWER button is fully pressed.

- **Inaccurate Readings:**

- **Minimum Power:** Ensure the minimum power to start tuning is at least 1 Watt. The minimum measurable power is 0.1 Watt.
- **Measurement Steps:** For power up to 10W, measurement steps are 0.1W. For robust measurements, ensure power is at least 1 Watt.
- **Power Accuracy:** The power measurement accuracy is 10%.

SPECIFICATIONS

Feature	Specification
Item Type	Antenna Tuner
Material	Aluminum alloy
Model	ATU-100
Display	0.96in OLED
Operating Frequency	1.8-55 MHz
Battery Model	3.6V lithium battery 1350MAH
USB Charging Current	1A
Maximum Operating Power	100W
Maximum Possible Measured Power	150W
Minimum Power to Start Tuning	1W
Minimum Possible Measured Power	0.1W
Measurement Steps (Power up to 10W)	0.1W
Power Measurement Accuracy	10%
Maximum Inductance	8.53uH
Minimum Inductor Installation Step Size	0.05uH
Maximum Mounting Capacity	1869 pF
Capacitor Minimum Installation Step	10 pF
Connectors	UHF
Package Dimensions	8.27 x 5.12 x 2.36 inches
Item Weight	1.15 pounds

WARRANTY INFORMATION

Specific warranty details for the EBTOOLS ATU-100 Mini Automatic Antenna Tuner are not provided in the product information. Please refer to the retailer or manufacturer's official website for the most current warranty policy.

CUSTOMER SUPPORT

For technical assistance, troubleshooting beyond this manual, or inquiries regarding your EBTOOLS ATU-100, please contact your point of purchase or visit the official EBTOOLS website for support resources.

You can visit the EBTOOLS Store on Amazon: [EBTOOLS Store](#)



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