



ATR-1000 Product Manual



【important】

- 1、 Connect the antenna to the WIFI port on the rear panel
- 2、 Visit the official website to download the upgrade tool for system upgrade



Official Website
www.antuner.com



Youtube
@antuner



Forum
forum.antuner.com

Operator technical ability and healthy use

Personnel operating this device should be in good health. If you have health concerns or risky diseases such as heart disease, high blood pressure, or amnesia, please use this device with the assistance of someone who meets the technical requirements or refrain from using the device. This can prevent health risks from improper operation or physical abnormalities.

Possible risks of this device

When the radio is transmitting or stops transmitting, high voltage may be present in the equipment. Do not touch it immediately to avoid electric shock.

the power used exceeds 10W , the grounding post on the rear panel of the device must be grounded to ensure high voltage discharge.

the same 13.8V power supply as the radio or an independent power supply, the power line should be as short as possible to reduce interference.

When operating for the first time, moving the device, replacing the device, or changing the frequency, you should start from the lowest power and increase it step by step (less than 25W intervals) and test the transmission for at least 5 minutes or longer. Make sure that each power level is stable before use. Do not directly transmit more than 10W of power.



Product Performance

Frequency range: 1.8MHz-30MHz

Support power: 1. 8-30Mhz S SB/CW 1000W

1. 8-30MHz FM/AM/ FT8 300W

(The above is the maximum power supported. The applicable power may vary in different environments, antennas, and frequency scenarios, and may be lower or higher.)

Tuning power: 1 - 20W (5-10W recommended)

Maximum matching: capacitor 1270PF , inductor 12.7UH

Dimensions: 23 cm x 15 cm x 5 cm

Product weight: 1.3KG

Working voltage: 11-15V , recommended 12V , standby current 0.2A , full power 1A

Main chip: A TR-MCU/240MHz / 8M/128M bit

WIFI : Support hotspot mode and client mode

Remote control: support hotspot, LAN control; support Internet control (optional function)

Speaker: 3W

Morse practice: supports single-paddle and double-paddle keys

A DC accuracy: 16 - bit high precision

Display screen: 1.8 - inch TFT high-definition color display

Supported languages: Chinese, English

After-sales support

Official website : www.antuner.com

Email: bi3qwq@gmail.com

Please visit the official website to download the complete user manual.

<http://www.antuner.com>

Precautions for using the antenna tuner for the first time

- (1) Antenna system: When using this antenna tuner, please test the antenna system to ensure that it is well grounded. According to feedback from our customers, good antenna grounding can greatly improve the tuning ability of this product and provide you with a pleasant communication experience.
- (2) Power supply instructions: This product supports 11-15V wide voltage input. Please use 12V power supply first, and 13.8V secondly . Keep the power cord as short as possible to reduce external noise interference.
- (3) Antenna tuner calibration: The power and standing wave value algorithm curves of the antenna tuner have been calibrated before leaving the factory. The 10W mode is calibrated using the IC - 705, the 100W mode is calibrated using the FT - 891 radio, and the 1000W mode is calibrated using the Nason power meter. The standing wave value will have errors as the frequency increases. You can make fine adjustments in the calibration interface. After changing the operating environment, antenna feed, or radio, there may be a deviation between the actual output power and the power and standing wave value displayed by the antenna tuner. Please refer to the subsequent instructions to calibrate the device. If the power and standing wave values displayed by the radio are inconsistent with the values displayed by this antenna tuner, please refer to the radio for standard.

Tuning Preparation

To protect your radio from being damaged, please make sure to adjust the following two parameters before tuning.

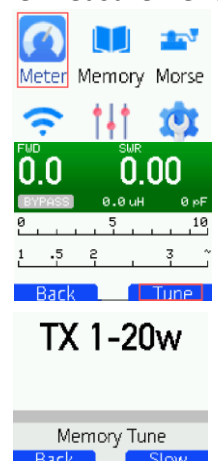
- (1) Set the radio mode: Please change the radio's signal mode to FM mode. This mode ensures that the radio can transmit signals continuously instead of intermittently. The continuous transmission of the signal helps the antenna tuner detect standing waves and automatically control the relay tuning. If there is no FM mode, you can use AM/CW /SSB mode in sequence.
- (2) Set the transmission power: Please adjust the radio power to 5W /10W to obtain a stable signal. If your radio cannot be set to 5W , it is recommended not to exceed 20W to avoid damaging your device.

Start tuning

(1) First, select [Main Dial] in the main interface to enter the measurement interface. In the measurement interface, if the right button title is displayed as "Tune", it means that the current antenna tuner is not tuned and is in signal pass-through mode; if it is displayed as "Reset", it means that the device has been tuned.

(2) Click the [Tuning] button to enter the tuning interface. The current tuning mode is displayed by default. You can switch between different modes by short pressing the [B] button. When a round of tuning is completed, the final standing wave value will be displayed. If the tuned standing wave is lower than the [Tuning-Start Standing Wave] value (default 1.80) , "Tuning Successful" will be displayed. If it exceeds this value, "Tuning Failed" will be displayed.

1.00 " as shown in the figure above , it means that the tuning is successful. You can return to the normal measurement interface and gradually increase the radio power to transmit normally. If the standing wave increases with the increase in power, you can enter the "fine tuning" mode and maintain the appropriate transmission power. The relay will operate at a low speed to find the best combination centered on the current tuning state.



Tuning Mode

(1) Memory Tune: By default, the system prioritizes this mode. During tuning, the system automatically tunes in the order of [Tune Priority] (default automatic storage), automatically trying relay combinations from memory for tuning. If a combination lower than [Tune – Trigger SWR] (default SWR 1.80) is found , the system automatically stops. If no combination is found, the system enters "Complete Tuning" mode.

(2) Full Tune : This mode will test the combination and matching of capacitors and inductors in a step-by-step manner to find the lowest standing wave. This mode takes a long time.

(3) Fine Tune: With the current tuning result as the center point, the inductance and capacitance will be reduced and increased in sequence. If the standing wave increases, it will stop immediately.

It is generally used for tuning tests under high power conditions (the power needs to be increased step by step to avoid damage to the power amplifier equipment due to excessive standing waves at extremely high power).

Solutions to tuning failures

If tuning fails during the tuning process, follow the steps below to troubleshoot.

(1) Try again : You can try tuning again first, or try switching to "Full Tune" for tuning.

(2) Modify parameters : The main parameters that affect the tuning results are [Tune - Relay Speed] and [Tune – Sample Speed]. The recommended range for "Relay Speed" is 10-20 . If tuning fails, try increasing the relay speed to a higher value. The larger the value, the slower the relay response speed and the more stable the standing wave detection. The default value for "Sample Speed" is 128 /s (128 times/second). The faster the speed, the lower the accuracy. You can reduce the speed and test again.

(3) Modulation mode and power : Please make sure the radio mode is FM or other continuous carrier mode. The radio's transmit power is between [Tune – Min PWR Trigger] (default 1 W) and [Tune – Max PWR Trigger] (default 20 W). 5 W/10 W is recommended .

(4) Check for feeder line problems : If the device fails to tune at any frequency and has been checked as described above, there is a 90 % chance that the problem is that the cable is not in contact.

At this time, there may be poor contact between the cable between the [radio-tuner-antenna] you are using. Please replace it and check.

(5) Antenna problem : Please try to replace another antenna or test with a dummy load to check for problems with the antenna itself.

(6) Hardware failure : Please check whether the radio configuration is normal. You can use other power meters or measuring instruments to check whether the radio has signal output and the power is normal.

System upgrade

Supports 3 upgrade methods: upgrade via USB data cable, device-side OTA upgrade , and remote web page control online upgrade.

Refer to the full manual document for details.

Remote Control

Supports hotspot control, LAN control, and Internet remote control (need to be purchased and activated separately).

Refer to the full manual document for details.