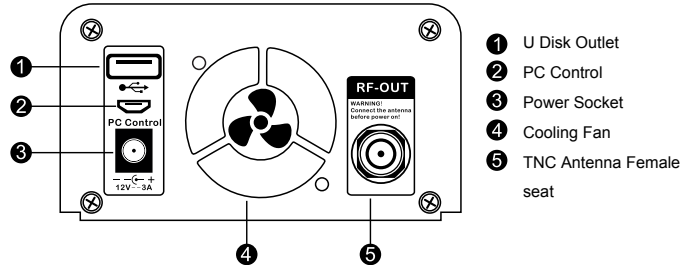
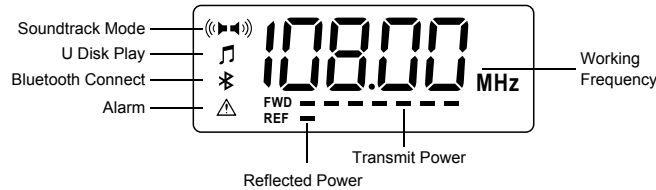
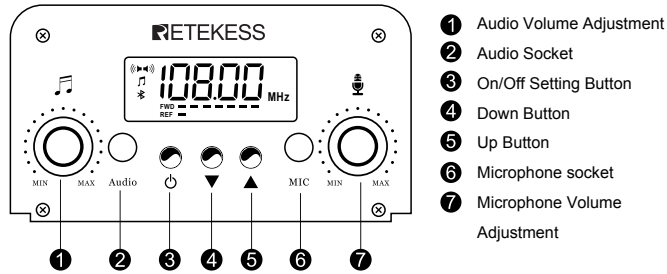


## TR502 FM Transmitter User Manual



### Precautions For Use

- There is high pressure inside the machine, maintenance can only be operated by professional and technical person.
- Please put the machine in a cool dry and ventilated environment for use, the ambient temperature should not be higher than 35 degree centigrades.
- After antenna installed, there should be 5 meters above from the ground and wall spacing as standard installation environment.
- When install the feed tube, be sure to tie the feed tube to the mounting rod with a tie to prevent the feed tube from pulling loose on the connector.
- Please do not turn on the machine without connecting the antenna.
- Please do not touch the antenna after machine is power on.
- Please do not use this machine in explosive atmospheres (eg gas stations, gas, steam, etc.).
- Please comply with local radio regulations.

### Function and Parameter setting

#### 1. Power On/Off

When the machine is connected to power, then it starts.  
In working condition, long press **[⏻]** key, the machine enters standby mode. In standby mode, long press **[⏻]** key, the machine goes into working condition.

#### 2. Frequency Adjustment

In working condition, short press **[⏻]**, when the **[MHz]** icon in the lower right corner flashes, press **[▼]** or **[▲]** to adjust the frequency. Short press **[▼]** or **[▲]**, frequency steps by 100K; Long press **[▼]** or **[▲]** button, frequency continuously steps by 100K.

#### 3. Power Adjustment

Short press **[⏻]** button, when the **[FWD]** icon on the screen is flashing, press **[▼]** or **[▲]** to adjust the power; Short press **[▼]** or **[▲]** button Decrement; **[REF]** icon is displayed as reflected power.

PS:

The 15-watt power shows 1.9 watts per cell, with a minimum of 0 cells and a maximum of 8 cells.

#### 4. Soundtrack Adjustment

In the working state, short press **[⏻]**, when the **[🔊]** icon of screen power icon is flashing, press **[▲]** or **[▼]** to adjust the channel mode; **[🔊]** is mono; **[🔊]** When the stereo channel.

#### 5. Amplifier Temperature

In working condition, short press **[⏻]** button, when the **[##.##°F]** icon is displayed, it is the current temperature of the amplifier module.

#### 6. Audio / Microphone Volume Adjustment

Turn the audio knob / microphone knob clockwise to increase the volume; turn counterclockwise to decrease the volume.

### Bluetooth Connection / U Disk Play

When the host is turned on, the screen displays **[🔗]** icon, device open Bluetooth to search NIORFNIO to connect.  
When the host is turned on, insert U disk, the screen displays **[🎵]** icon; press **[▼]** or **[▲]** button to switch songs;  
Long press the **[▲]** button to switch the sound mode (NO normal, POP pop, JAZ Jazz, CLA classical, BAS bass).  
Long press the **[▼]** button to switch play mode (ALL ALL, FOL in sequence, ONE ONE, RAN)  
Input priority:  
Audio cable > U disk play > Bluetooth play

### Alarm Reminder Function

When the machine is working, it sends alarm and the alarm icon **[⚠]** flashes in the lower left corner of the screen.  
General troubleshooting:

#### Standing Wave Alarm

1. The antenna is not connected
2. Feeders rolled together, did not start;
3. Antenna installation from the ground, wall or metal objects too close, adjust the antenna installation location;
4. Antenna oscillator height and frequency do not match, adjust the height of the antenna to the launch point.

#### Temperature alarm

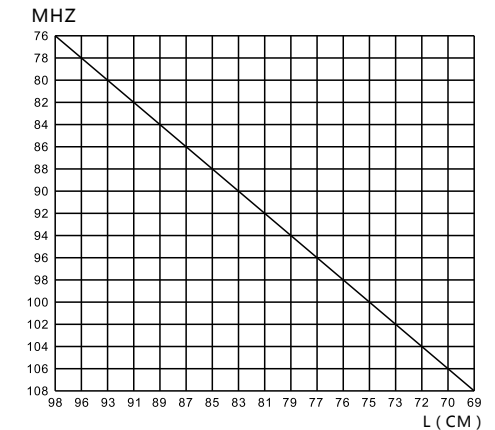
1. Fan does not turn
2. The antenna does not match, which causes standing wave too large and

- temperature rises. Adjust the antenna oscillator height corresponding to the launch frequency or adjust the antenna position;
3. Into the outlet there are obstacles, blocked the flow of air temperature is too high;
4. engine room air convection, or the engine room temperature is too high.

### Technical Parameter

| NO. | Item                                | Technical Parameter |
|-----|-------------------------------------|---------------------|
| 01  | Working voltage                     | DC 12V              |
| 02  | Working current                     | < 3A                |
| 03  | Frequency range                     | 87-108MHz           |
| 04  | Frequency stability                 | ±10PPM              |
| 05  | Frequency step                      | 100KHz              |
| 06  | Environmental Operating temperature | -10℃~45℃            |
| 07  | Output impedance                    | 50Ω                 |
| 08  | RF output power                     | 0W~15W              |
| 09  | Harmonic / clutter radiation        | ≤ -50dB             |
| 10  | Audio distortion                    | 0.3%                |
| 11  | Bluetooth distance                  | ≤ 5m                |
| 12  | Frequency response                  | 50Hz~15000Hz        |
| 13  | Resolution degree                   | ≥ 30 dB             |
| 14  | Input level                         | ≤ -15~15 dBV        |
| 15  | Modulation frequency offset         | ±75KHz              |
| 16  | SNR                                 | ≥ 60dB              |
| 17  | Size                                | 144*100*54          |
| 18  | Weight                              | 550g                |

### Lever antenna frequency length corresponding table



|                        |      |      |      |      |      |      |      |      |      |
|------------------------|------|------|------|------|------|------|------|------|------|
| Transmit Frequency MHz | 76   | 78   | 80   | 82   | 84   | 86   | 88   | 90   | 92   |
| Antenna Length IN      | 38.6 | 37.8 | 36.6 | 35.8 | 35.0 | 34.3 | 33.5 | 32.7 | 31.9 |
| Transmit Frequency MHz | 94   | 96   | 98   | 100  | 102  | 104  | 106  | 108  |      |
| Antenna Length IN      | 31.1 | 30.3 | 29.9 | 29.5 | 28.7 | 28.3 | 27.6 | 27.2 |      |

## Warnings



Before using this radio, read this guide which contains important operating instructions for safe usage and RF energy awareness and control for compliance with applicable standards and regulations.

This radio uses electromagnetic energy in the radio frequency (RF) spectrum to provide communications between two or more users over a distance. RF energy, which when used improperly, can cause biological damage. All Reteless radios are designed, manufactured, and tested to ensure they meet government-established RF exposure levels. In addition, manufacturers also recommend specific operating instructions to users of the radios. These instructions are important because they inform users about RF energy exposure and provide simple procedures on how to control it. Please refer to the following websites for more information on what RF energy exposure is and how to control your exposure to assure compliance with established RF exposure limits: <http://www.who.int/en/>

### Local Government Regulations

When radios are used as a consequence of employment, the Local Government Regulations requires users to be fully aware of and able to control their exposure to meet occupational requirements. Exposure awareness can be facilitated by the use of a product label directing users to specific user awareness information. Your Reteless radio has a RF Exposure Product Label. Also, your Reteless user manual, or separate safety booklet includes information and operating instructions required to control your RF exposure and to satisfy compliance requirements.

### Radio License (if appropriate)

Governments keep the radios in classification, business radios operate on radio frequencies that are regulated by the local radio management departments (FCC, ISED, OFCOM, ANFR, BFTK, Bundesnetzagentur...). To transmit on these frequencies, you are required to have a license issued by them. The detailed classification and the use of your radios, please contact the local government radio management departments. Use of this radio outside the country where it was intended to be distributed is subject to government regulations and may be prohibited.

### Unauthorized modification and adjustment

Changes or modifications not expressly approved by the party responsible for compliance may void the user's authority granted by the local government radio management departments to operate this radio and should not be made. To comply with the corresponding requirements, transmitter adjustments should be made only by or under the supervision of a person certified as technically qualified to perform transmitter maintenance and repairs in the private land mobile and fixed services as certified by an organization representative of the user of those services.

Replacement of any transmitter component (crystal, semiconductor, etc.) not authorized by the local government radio management departments equipment authorization for this radio could violate the rules.

### FCC Requirements:

- This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:
  - This device may not cause harmful interference, and
  - This device must accept any interference received, including interference that may cause undesired operation.
- This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the

interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

### CE Requirements:

- (Simple EU declaration of conformity) Henan Eshow Electronic Commerce Co., Ltd declares that the radio equipment type is in compliance with the essential requirements and other relevant provisions of RED Directive 2014/53/EU and the ROHS Directive 2011/65/EU and the WEEE Directive 2012/19/EU; the full text of the EU declaration of conformity is available at the following internet address: [www.reteless.com](http://www.reteless.com).
- Disposal  
The crossed-out wheeled-bin symbol on your product, literature, or packaging reminds you that in the European Union, all electrical and electronic products, batteries, and accumulators (rechargeable batteries) must be taken to designated collection locations at the end of their working life. Do not dispose of these products as unsorted municipal waste. Dispose of them according to the laws in your area.

### IC Requirements:

Licence-exempt radio apparatus

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

- (1) This device may not cause interference.
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

- (1) l'appareil ne doit pas produire de brouillage;
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

### RF Exposure Information

- DO NOT operate the radio without a proper antenna attached, as this may damage the radio and may also cause you to exceed RF exposure limits. A proper antenna is the antenna supplied with this radio by the manufacturer or an antenna specifically authorized by the manufacturer for use with this radio, and the antenna gain shall not exceed the specified gain by the manufacturer declared.
- DO NOT transmit for more than 50% of total radio use time, more than 50% of the time can cause RF exposure compliance requirements to be exceeded.
- During transmissions, your radio generates RF energy that can possibly cause interference with other devices or systems. To avoid such interference, turn off the radio in areas where signs are posted to do so.
- The device complies with RF specifications when the device used at 5mm from your body. Third-party belt-clips, holsters, and similar accessories used by this device should not contain any metallic components. Body-worn accessories that do not meet these requirements may not comply with RF exposure requirements and should be avoided.
- DO NOT operate the transmitter in areas that are sensitive to electromagnetic radiation such as hospitals, aircraft, and blasting sites.

### Small Parts Choking Hazard



Small Parts. Not for children under 3 years.

### Protect your hearing:



- Use the lowest volume necessary to do your job.
- Turn up the volume only if you are in noisy surroundings.
- Turn down the volume before adding headset or earpiece.
- Limit the amount of time you use headsets or earpieces at high volume.

- When using the radio without a headset or earpiece, do not place the radio's speaker directly against your ear
- Use careful with the earphone maybe possible excessive sound pressure from earphones and headphones can cause hearing loss



Note: Exposure to loud noises from any source for extended periods of time may temporarily or permanently affect your hearing. The louder the radio's volume, the less time is required before your hearing could be affected. Hearing damage from loud noise is sometimes undetectable at first and can have a cumulative effect.

### Avoid Burns



#### Antennas

- Do not use any portable radio that has a damaged antenna. If a damaged antenna comes into contact with the skin when the radio is in use, a minor burn can result.

#### Batteries (if appropriate)

- When the conductive material such as jewelry, keys or chains touch exposed terminals of the batteries, may complete an electrical circuit (short circuit the battery) and become hot to cause bodily injury such as burns. Exercise care in handling any battery, particularly when placing it inside a pocket, purse or other container with metal objects

#### Long transmission

- When the transceiver is used for long transmissions, the radiator and chassis will become hot.

### Safety Operation



#### Forbid

- Do not use charger outdoors or in moist environments, use only in dry locations/conditions.
  - Do not disassemble the charger, that may result in risk of electrical shock or fire.
  - Do not operate the charger if it has been broken or damaged in any way.
  - Do not place a portable radio in the area over an air bag or in the air bag deployment area. The radio may be propelled with great force and cause serious injury to occupants of the vehicle when the air bag inflates.
- #### To reduce risk
- Pull by the plug rather than the cord when disconnecting the charger.
  - Unplug the charger from the AC outlet before attempting any maintenance or cleaning.
  - Contact Reteless for assistance regarding repairs and service.
  - The adapter shall be installed near the equipment and shall be easily accessible
  - Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.
  - Adapter shall be installed near the equipment and shall be easily accessible.
  - The plug considered as disconnect device of adapter.
  - The operating temperature of the EUT can't exceed the specified range.

### Approved Accessories



- This radio meets the RF exposure guidelines when used with the Reteless accessories supplied or designated for the product. Use of other accessories may not ensure compliance with the RF exposure guidelines and may violate regulations.
- For a list of Reteless-approved accessories for your radio model, visit the following website: <http://www.Reteless.com>

EU Importer:  
Name: Germany Retevis Technology GmbH  
Address: Uetzenacker 29,38176 wendeburg