

# RETEKESS

## TR105 User Manual



# Wide frequency receiver

## FM/MW/SW/AIR/CB/VHF WORLD BAND RECEIVER

Thanks for purchasing the TR105 digital wide frequency radio. Please read this manual before using. Please keep it well for future reference.

### **1.TR105 radio overview information**

The radio is a small pocket size. Convenient to carry outside. and it has high reception sensitivity.

It is the entry toy for the radio yuan fans and the auxiliary use product for the off-road yuan fans (VHF channel reception).

Flight information for frequent flyer users.

the radio can receive FM/AM/SW/CB/AIR/VHF bands.

please take a notice:

the AM band have two modes:AM step value:9k.AM step value :10k.

the radio VHF also band two modes:VHF-N/VHF-W.

users can according to the actual need to adjust by themselves).

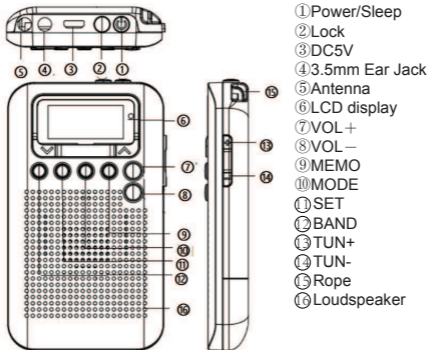
About the VHF band more information:

VHF NFM:Receive coast channel/train channel/racing channel/weather band /VHF intercom reception

VHF-W:Receiving campus channel /TV sound

The frequency and volume of the product to add and reduce control design independent key, can be manually search station signal and automatic search station signal function, AM step value users can adjust themselves according to actual condition, is a very personalized products.Simple and convenient operation.

### **2.Product appearance drawing and component description:**



①POWER/SLEEP:For turning on and off the radio.adjust automatic shutdown.

②LOCK:LOCK:for locking the button to prevent it frequency conversion, shutdown, etc;

③DC5V Micro USB jack:External power:connect DC 5V external power or charging battery, MICRO USB jack.

④3.5mm earplug jack:For personal stereo listening without disturbing others

⑤Seven section Telescopic antenna

⑥LCD display

⑦VOL+:FOR turning up the volume,turning up preset recall functions

⑧VOL -:FOR turning down the volume,turning down preset recall functions

⑨MEMO:FOR present store stations and present recall function

⑩MODE: (Mode conversion of each band)

⑪SET:FOR setting time//set SQ function

⑫BAND:Clock state,Turn on the alarm function.Power on state,

bands switching

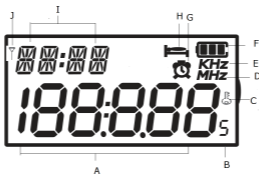
⑬ TUN+: Select station +, adjust time + function

⑭ TUN-: Select station -, adjust time - function

⑮ ROPE. it is convenient for customer carry.

⑯ Loudspeaker

### 3. LCD display symbol description:



A: frequency/time display

B: SW/CB/AIR/VHF the minimum step frequency

C: Lock indication

D: FM/SW/CB/AIR/VHF frequency unit

E: AM frequency unit

F: battery symbol

G: alarm symbol

H: sleep symbol

I: bands\*preset recall/store address /SQ ON\*OF number\*memo/st\*VOL  
0-33

\*sensitivity digital\*minute indication

J: sensitivity symbol


### 4. operation instructions

#### ① POWER/SLEEP/(USING RSSI function)

POWER: Short press ① POWER button ,the radio display clock state, short press ① POWER button again within 10 seconds, turn on the radio. (short press POWER button twice, turn on the radio)

If you do not operate any buttons after 10 seconds, the radio will be in power-saving mode (LCD is not displayed).

Power-on state, long press ① button POWER, the radio turn off.

**SLEEP:**After put into the battery, the radio on the clock state,Long press the ① button,the “” sleep symbol display on the LCD top right corner,the sleep time can be selected

90-80-70-60-50-40-30-20-10.each time press the ① POWER button to choose the sleep time.After choose the sleep time,about 1 second the radio turn on.Use the time to reach the selected sleep time, radio will turn off automatically.

**Start the RSSI Indicator (short for“ Received Signal Strength Indicator”)** : on the power-on state, short press ①POWER button , the LCD display the word “\*DB”.The sensitivity of the receiving station can be determined based on this parameter

**Note:** if sleep function is not required, press the ① POWER button for a long time to turn off the radio and turn it on again.

### **②LOCK(printed a lock)**

**LOCK:**for locking the button to prevent it frequency conversion, shutdown, etc;

On the clock state or power-on state.long press the ②Lock button for lock the radio.this moment,the radio is locked.any buttons do not have function.long press again ②Lock button for canceling the lock function.(notice:when you find the buttons do not have function,please check the radio if be locked).

### **③DC5V Micro USB jack:**

**External power:**using the USB cable connect DC 5V power.

When the radio is not clearly displayed and the battery symbol is flashing, please plug in the DC5V external power supply to charge the radio. It takes about 3-4 hours to charge the radio. When it is fully charged, the battery symbol will be fully displayed.

### **④3.5mm earplug jack:**

after connecting earplug,For personal stereo listening without disturbing others.

### **⑤Seven section Telescopic antenna:**

When listening to FM,SW,CB, AIR and VHF band, please pull out the radio antenna apart to facilitate radio signal reception. if you turn off the radio.Please close the radio antenna to avoid breaking the antenna.

### **⑥LCD display,it is convenient for using:**

LCD digital display, convenient for users to see frequency points, band conversion, battery usage, band conversion, volume adjustment, etc.

### **⑦VOL $\wedge$ :FOR turning up the volume,turning up preset recall functions/**

### **⑧VOL $\vee$ :FOR turning down the volume,turning down preset recall functions**

### **Adjust the volume +/- have two method:**

The first:The volume is adjusted up from 00 level to 33 level short press ⑦/⑧ VOL  $\wedge$   $\vee$  button, increase or decrease the volume step 1 level.

The second:Long press ⑦/⑧ VOL  $\wedge$   $\vee$  button,Rapidly increase and decrease the volume.Stop adjusting immediately after release your hand.ON the present recall model:press the ⑦/⑧ VOL  $\wedge$   $\vee$  button are assist to take out the stored memory station.after short press the ⑨ MEMO button,you can find the CH1.....CH50 on the LCD,then press the ⑦/⑧ VOL  $\wedge$   $\vee$  button for searching your target preset recall number.

### **⑨MEMO:FOR present store stations and present recall function**

#### **Preset store operation instruction:**

Press ⑬/⑭ TUNING+/- button adjust target frequency,long press ⑨ MEMO button,appear "CH01-CH50" on the LCD,and the stored number address"CH01.....CH50" is flashing,press the ⑦/⑧VOL  $\wedge$   $\vee$  buttons search for the target stored number address.press ⑨MEMO button again.LCD display"MEMO",after 1 second, it is successfully to preset store operation.

For example:FM 87.8MHZ needs to be saved to CH01.The operation is as follows: Press ⑬ / ⑭ TUNING + / - button to 87.8 MHZ, long press ⑨button MEMO, LCD display "CH01.....CH50" ,press VOL  $\wedge$   $\vee$  button to change the station address CH01,then,please short press ⑨button MEMO again,LCD display "MEMO", it is successfully to preset store operation.

(note: only one frequency point can be stored in the a same address of storage station.)

### **Present recall function operation method:**

Short press ⑨ MEMO button,LCD display CH01.....CH50(01.....50 they are memory station address numbers),short press VOL ^ V for selecting the target memory station.

### **⑩ MODE: (Mode conversion of each band)**

FM state:put the 3.5mm earplug into the radio,short press the ⑩ MODE button,LCD appear "MONO" OR "ST",each time press ⑩ MODE button,two model will exchange.("ST" is short for "STEREO")

### **AM state:**

short press ⑩ MODE button,the LCD will display 520KHZ or 522KHZ exchange.520KHZ it is mean the radio AM step value is 10K, press the ⑩ MODE button,the LCD will display 522KHZ, 522KHZ it is mean the radio AM step value is 9K. When the AM step value is 9k,the frequency range is:522-1710KHZ When the AM step value is 10K,the frequency range is :520-1720KHZ

Note:in the United states,Canada,Mexico,Australia and other North American and South American countries must set to 10KHZ,other countries must be adjusted 9KHZ.

### **SW state:**

SW step value is 0.005MHZ, on the SW state ,short press ⑩ MODE button it is METE cycle switching,it is convenient for search for target station:

2.300/3.200/3.900/5.000/6.030/7.150/10.000/11.479/13.600/15.000/17.650/19.00/26.000.

**AIR state:**it is step value 5KHZ/25KHZ exchange.short press ⑩ MODE button,LCD display 05k or 25K.it is convenient.

**VHF state:**Narrow band FM-N and broadband FM-W exchanged.short press ⑩ MODE button and the LCD display the words FM-N or FM-W.

Select FM-N:Mainly used for receiving coast station/train channel/racing channel/weather band WX/VHF intercom reception /VHF(HAM) (for reference only!It varies from country to country, depending on the local radio frequency.)

Select FM-W:Mainly used for receiving campus radio /TV TV sound

### **⑪ SET:FOR setting time/setting SQ function:**

Setting time operation instruction:

On the clock state or connect external DC5v power.the radio on clock state,long press ⑪ SET button , hour digital flashing,press ⑬ TUNING+/ ⑭ TUNING- for adjusting the correct hours.After adjusted the correct hour,press the ⑪ SET button again,the minute digital flashing,it is the same with adjust hour method,press ⑬ TUNING+/ ⑭ TUNING- for adjust correct minutes.

Finished the correct time.short press the ⑪ SET button again or wait about two second.the radio will default the adjusted time (setting time is in the case of backlight in the LCD.)

### **Setting SQ(SQUELCH) function:**

POWER-ON state,on CB,AIR bands,long press ⑪ SET button for operation SQ function,Long press ⑪ SET button exchange SQ-ON/SQ-OFF. About Wait 3 seconds, radio system default mode. LCD display "SQ ON" indicates that the squelch function setting is enabled LCD display "SQ OF"indicates that the squelch function setting is closed.

### **⑫ Band:(Setting alarm/bands exchange)**

#### **5.Setting alarm operation instruction:**

On clock state,short press ⑫ BAND button,LCD display alarm symbol "🕒",long press ⑪ SET button for setting alarm clock.the method is same with the setting color.after long press ⑪ SET button,the hour digital flashing,press the ⑬ TUNING+/ ⑭ TUNING- button for adjust the alarm clock hour, short press ⑪ SET button,the minute digital is flashing,press ⑬ TUNING+/ ⑭ TUNING- button for adjust the alarm clock minute.wait about 1second,the system default set time. If press the ⑪ SET button the third time,LCD will display "🕒" or "🕒", there are two models of the radio setting turned on automatically and setting alarm model.

Please pressing the radio on the right side of ⑬ TUNING + / ⑭ TUNING - to swap. "🕒"this symbol is mean setting the radio turned on automatically "🕒"this symbol is mean setting alarm model.be setting alarm model,it is time to alarm time. The radio will ring and



press any button to stop ring. the alarm will continue 5 second if do not press any buttons

### **Power-on state,bands exchange:**

Turn on the radio.short press ⑫ BAND button.FM/AM/CB/AIR/VHF ( VHF-W and VHF-N) exchange.each time short press for searching your target band.

### **Auto scanning:**

Turn on the radio,long press ⑫ BAND button, radio can automatically search and store radio stations.the stations are searched and stored from low frequencies to high frequencies in order,meanwhile,the LCD display "CH01-CH50",and the stored address number is changing.after over scanning,please press the ⑨ MEMO button and for ⑥ VOL  $\wedge$  ⑦ VOL-  $\vee$  for taking out the stored station.

⑬ TUNING+/@⑭ TUNING-(Select station +/-, adjust time +/- function) Power-on state, ⑬ TUN+/@ ⑭ TUN- button,you can select your target frequency.

FM model,default step:0.1MHZ

AM model,default step: HZ/10KHZ(can be selecting by customer)

SW model,default step: 0.005MHZ

CB mode,default step:0.005MHZ

Air mode,default step:0.005MHZ/0.025MHZ(can be selecting by customer) VHF mode,default step:0.005MHZ

Short press ⑬ TUN+/@⑭ TUN- button,the frequency is add/reduce according the system default step value.long press button,the frequency is searched quickly.

Long press ⑬ TUN+/@⑭ TUN- Let go of your hand,the radio will searching the station ,search will stop automatically when a radio station with a signal is found Clock state,when setting time is operation,press the ⑬ TUN+/@⑭ TUN- button for adjust the correct time.

### **6.Orange backlight:**

For the convenient of night using,this radio design orange backlight,power-on state,press any buttons,backlight will be on for 10 seconds.

## 7.receiving TV sound:

The fundamental difference between TV and FM radio is that the sound is an odd multiple of 50KHZ. Below are the audio points of several countries.

Special note: television sound for FM frequencies, radio interference of the environment influence is bigger, and have a strong regional, transmission distance limitations compared with other frequency bands, adjacent region or city coverage often large difference.

TV SOUND (MHZ)	Some national TV audio channels						
	China	United States	Australia	New Zealand	Indonesia	Italy	CCIR
Channel 1	56.25	---	62.75	50.75	53.75	59.25	46.75
Channel2	64.25	59.75	69.75	60.75	60.75	67.75	53.75
Channel3	72.25	65.75	91.75	67.75	67.75	87.75	60.75
Channel4	83.75	71.75	100.75	180.75	180.75	180.75	67.75
Channel5	91.75	81.75	107.75	187.75	187.75	188.75	180.75
Channel6	174.75	87.75	180.75	194.75	194.75	197.75	187.75
Channel7	182.75	---	---	---	---	---	---
Channel8	190.75	---	---	---	---	---	---
Channel9	198.75	---	---	---	---	---	---
Channel10	206.75	---	---	---	---	---	---
Channel11	214.75	---	---	---	---	---	---
Channel12	222.75	---	---	---	---	---	---

## 8.Main specification:

Technical index	
Frequency range	Receiving sensitivity
FM: 87.5-108MHz (100KHz STEP)	2uV
AM: 520-1720KHz	3uV/M
SW: 2.3-30MHz	40dBuV
CB: 25-28MHz	1uV SQ:1UV
AIR:118-138MHz	2uV SQ:1UV
VHF:30-223(FM-N/FM-W)	2uV
Product size: 103x60x15mm	

Speaker: $\Phi$ 40MM 8 $\Omega$ 1W
Battery: 700mah 3.7v lithium battery
External power supply:DC5v
Minimum operating voltage: 3.2V
Maximum current :>180mA
Stereo separation: $\geq$ 32DB
The distortion degree of: $\leq$ 0.5%
output power: $\leq$ 200MW
External earplug: $\Phi$ 3.5MM/32 $\Omega$ X2

## 9.Using antenna :

Listening to FM broadcast:

Pull out the antenna , changing antenna length and direction to search for best receiving effect position

Note : please shorten the antenna length when disturb by other strong broadcast

Listening to AM broadcast

The radio using built-in magnet antenna for receiving AM broadcast , please change the radio direction properly to achieve best receiving effect for AM broadcast .

Listening to SW broadcast

Pull out the antenna , changing antenna length and direction to search for best receiving effect position.

## 10.Notice

- Please take out battery when radio not in use to avoid battery leakage.
- During listening to broadcast , if volume non-stable or LCD display become darken or flashing , may be caused by low battery. Please recharge
- Please avoid high press , strong collision , drop or water.
- Don't place radio under sunshine , high temperature , high humidity area or store radio at environment of temperature  $< -5^{\circ}\text{C}$  or  $> 50^{\circ}\text{C}$  .
- Don't clean case with chemical solvent to avoid damage of radio casing.
- Don't disassemble the radio or change specification of inner part radio .

# User Manual For External Antenna

## Function :

Improve SW/FM receive sensitivity(suitable for external connection when the indoor signal is poor)



## specification

Clip type,line length: 3 meters

## Characteristics of the profile

- 1.it can enhance the receiving capacity of FM and SM band , and improve the receiving effect FM and SM
2. Flexible placement and simple operation
- 3.Suitable for use in signal shielding

## method of application

- 1.First ,take out the antenna spring and fix it outside the room ,which you can be hung by the window .(in case of thunderstorm, do not use)
- 2.Then stretch the cord
- 3.The antenna clamp to the antenna rod antenna head can be used



**ATTENTION!**

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.

### **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.

### **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:

- (1) This device may not cause harmful interference, and
- (2) 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.retekess.com](http://www.retekess.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 Warning Statements**

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.

### **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.
- To avoid interference, turn off the radio in areas where signs are posted to do so.
- DO NOT operate the transmitter in areas that are sensitive to electromagnetic radiation such as hospitals, aircraft, and blasting sites.

### **Avoid Choking Hazard**



Small Parts. Not for children under 3 years.

## Protect your hearing:



**WARNING**

- 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.

## Approved Accessories



**WARNING**

- 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>



## Guarantee

Model Number: \_\_\_\_\_

Serial Number: \_\_\_\_\_

Purchasing Date: \_\_\_\_\_

Dealer: \_\_\_\_\_ Telephone: \_\_\_\_\_

User's Name: \_\_\_\_\_ Telephone: \_\_\_\_\_

Country: \_\_\_\_\_ Address: \_\_\_\_\_

Post Code: \_\_\_\_\_ Email: \_\_\_\_\_

### Remarks:

1. This guarantee card should be kept by the user, no replacement if lost.

2. Most new products carry a two-year manufacturer's warranty from the date of purchase.

3. The user can get warranty and after-sales service as below:

- Contact the seller where you buy.

- Products Repaired by Our Local Repair Center

4. For warranty service, you will need to provide a receipt proof of purchase from the actual seller for verification

### Exclusions from Warranty Coverage:

1. To any product damaged by accident.

2. In the event of misuse or abuse of the product or as a result of unauthorized alterations or repairs.

3. If the serial number has been altered, defaced, or removed.



**CE FC RoHS** 

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MADE IN CHINA