# User Manual For RF31 Wide frequency receiver

FM/MW/SW/AIR/CB/VHF WORLD VOL∧∆ RECEIVER

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# User Manual For RF31 Wide frequency receiver

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

Thanks for purchasing the RF31 digital wide frequency radio. Please read this manual before using. Please keep it well for future reference.

## 1.RF31 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.

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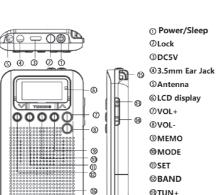the radio VHF also band two modes:VHF-N/VHF-W.

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.

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## 2.Product appearance drawing and component description:

① Power/Sleep
② Lock
③ DC5V
④ 3.5mm Ear Jack
⑤ Antenna
⑥ LCD display
⑦ VOL+
⑧ VOL-
⑨ MEMO
⑩ MODE
⑪ SET
⑫ BAND
⑬ TUN+
⑭ TUN-
⑮ Rope
⑯ Loudspeaker

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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

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

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

⑮ROPE:It is convenient for customer carry.

⑯Loudspeaker

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## 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*VOLD-33° sensitivity

digital*minute indication

J.sensitivity indication

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Power-on state,long press① 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;

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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)

③ DC5V 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

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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+:FOR turning up the volume,turning up preset recall functions/

⑧VOL.V: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∧ V button, increase or decrease the volume step1 level

The second:Long press ⑦ /⑧ VOL∧ V button,Rapidly increase and decrease the volume.Stop adjusting immediately after release your hand.

ON the present recall model:press the ⑦/⑧ VOL∧ V 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∧ V button for searching your target preset recall number.

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⑨ MEMO:FOR present store stations and present recall function

Present 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∧V button 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∧V button to change the station address CH01,then,please short press ⑨button MEMO again.LCD display "MEMO", it is successfully to preset store operation

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

Present recall function operation instruction:

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

⑩MODE: (Mode conversion of each band)

FM state:put the 3.5mm earplug into the radio,short press the ⑩MODE button,LCD appear "MONO" OR "ST",each time press⑩MODE button,two model will exchange.("ST" is short for "STEREO")

AM state:

short press ⑩MODE 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

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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 ⑩MODE 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

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①SET: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 ⑬TUNING+/⑭TUNING– for adjusting the correct hours， After adjusted the correct hour,press the ⑪SET button again,the minute digital flashing,it is the same with adjust hour method,press ⑬TUNING+/⑭TUNING– for adjust correct minutes.

Finished the correct time.short press the ⑪SET 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

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LCD display "SQ OF" indicates that the squelch function setting is closed

①Band:(Setting alarm/bands exchange)

Setting alarm operation instruction:

On clock state,short press ⑫BAND button,LCD display alarm symbol " ￼ ",long press ⑫ SET button for setting alarm clock.the method is same with the setting color.after long press ⑪SET button,the hour digital flashing,press the ⑬TUNING+/⑭TUNING– button for adjust the alarm clock hour, short press ⑪SET button,the minute digital is flashing,press ⑬TUNING+/⑭TUNING– button for adjust the alarm clock minute.wait about 1second,the system default set time.

If press the ⑪SET 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

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" ￼ " this symbol is mean setting alarm AM model:default step:

HZ10KHZ(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 ⑬TUN+/⑭TUN– button,the frequency is add/reduce according the system default step value.long press button,the frequency is searched quickly.

Long press ⑬TUN+/⑭TUN– 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 ⑬TUN+/⑭TUN– button for adjust the correct time.

## 5.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.

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FM model,default step:0.1MHZ

AM model:default step:

HZ10KHZ(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 ⑬TUN+/⑭TUN– button,the frequency is add/reduce according the system default step value.long press button,the frequency is searched quickly.

Long press ⑬TUN+/⑭TUN– 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 ⑬TUN+/⑭TUN– button for adjust the correct time.

## 5.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.

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## 6.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 | COR |
| Channel 1 | 56.25 | — | 62.75 | 55.75 | 63.75 | 58.25 | 46.75 |
| Channel2 | 63.25 | — | 69.75 | 62.75 | 70.75 | 65.25 | 53.75 |
| Channel3 | 69.75 | 59.75 | 91.75 | 87.75 | 91.75 | 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 | 187.75 | 187.75 |
| Channel7 | 182.75 | — | — | — | — | — | — |
| Channel8 | 189.75 | — | — | — | — | — | — |
| Channel9 | 198.75 | — | — | — | — | — | — |
| Channel10 | 206.75 | — | — | — | — | — | — |
| Channel11 | 214.75 | — | — | — | — | — | — |
| Channel12 | 222.75 | — | — | — | — | — | — |

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## 7.Main specification:

| Technical index | |
|---|---|
| Frequency range | Receiving sensitivity |
| FM: 87.5-108Mhz (100KHz STEP) | 2uV |
| AM: 520-1720Khz | 82dB |
| SW: 2.3-30MHz | 40dBuV |
| CB: 25-28Mhz | 1uV    SQ:1UV |
| AIR:118-138MHz | 2uV    SQ:1UV |
| VHF:30-223(FM,NFM-W) | 2uV |
| Product size： 108.5x61x16MM | |
| Speaker： 840MM 8Ω 1W | |
| Battery：700mah 3.7v lithium battery | |
| External power supply:DC5v | |
| Minimum operating voltage: 3.3V | |
| Maximum current：>180mA | |
| Stereo separation：>32DB | |
| The distortion degree of≤ ：<0.5% | |
| output power：＜200MW | |
| External earplug： Φ3.5MM/32OX2 | |

## 8.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

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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.

## 9.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℃ or >50℃.

■ 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 .

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# User Manual For External Antenna

【 Function 】

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

【 Schematic diagram of external antenna 】

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【 specification 】

Clip type, line length: 3 meters

【 Characteristics of the profile 】

1. It can enhance the receiving capacity of FM and SW band, and improve the receiving effect of FM and SW

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

If you have any questions, please feel free to contact us by email via [support@iraddy.com]

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