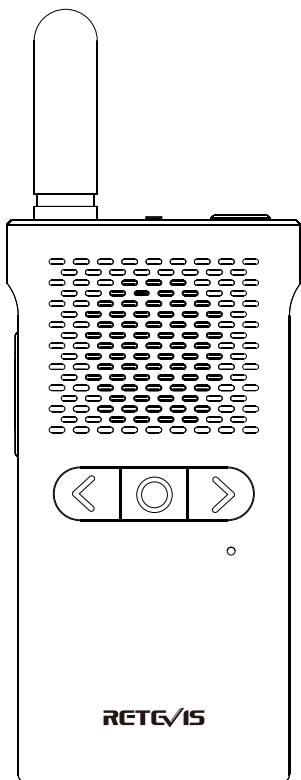


RETQVIS



RB28B

User Manual

For downloading further resources:

Brochures, Software/Firmware, Manual etc, Pls contact your direct reseller first OR go to website retevis.com and check "support" in the each product link to download it.

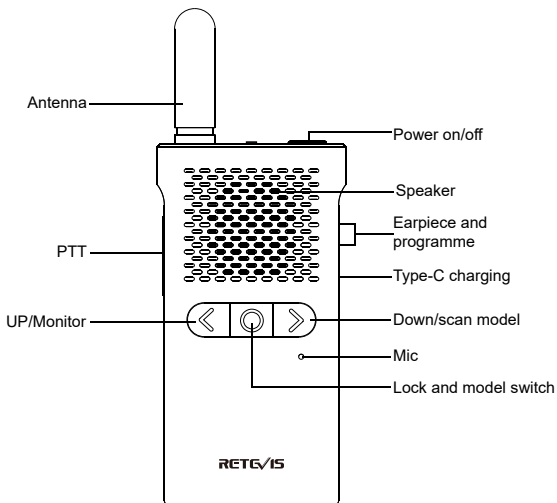
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Features

- 22 channels
- 121 subtone codes (38 analog, 83 digital)
- Busy lock
- Headphone jack
- (VOX) Vox function
- High and low power
- Companding function
- Scanning function
- Keypad lock
- Voice prompt
- Power saving function
- Low battery alarm
- Keypad tones
- TOT function

Buttons and functions



Battery installation

- 1) Battery: Li-ion battery.
- 2) Press the battery upwards to remove the battery.
- 3) Put the battery into the battery slot, pay attention to install the battery strictly according to the positive + negative-instructions in the slot, and press down firmly.
- 4) Reinstall the battery.

Low battery warning

When the battery power is low, indicator flash Red and is accompanied by a low battery reminder (once 30 seconds). When the battery power is low, the intercom will be shut down.

Note: When storing the radio for a long time, please remove the battery first. Long-term corrosion of the battery will cause damage to the radio.

Use the charger to charge

- 1) Make sure the radio is closed.
- 2) Insert the Type-c charging plug into the jack of the radio with the rechargeable battery, and plug the other end of the charger into the power socket on the wall.
- 3) When the battery is fully charged, indicator will be turn to green from blue , Advise to keep the radio closed when it's charging, if you try to perform an intercom operation during charging, some abnormal phenomena may occur when the battery is almost empty.

Turn on/off the radio

Press the button to turn on or off the radio. When turn on the radio, the horn of radio sounds a boot prompt.

After the power-on done, the radio is in the walkie-talkie mode by default.

Volume setting

- 1) In the standby or receiving state, press the < or > key.
- 2) Then press < or > to increase or decrease the volume of the radio. 0,1-9 level the volume can be adjusted.
- 3) Press the key to decrease the volume to level 0, the speaker sound will be turned off.

Note: When the volume is not adjusted to a proper state, Don't put the speaker of the walkie-talkie too close to your ears to avoid damage to your ears due to too much sound.



Transmit and receive

- 1) Press and hold the [PTT] key, keep a distance of 3 to 5 cm from the microphone, and talk at a normal speaking rate. In order to avoid cutting off your call, please press the [PTT] button to pause for a while, and then start speaking.
- 2) When you finish the call, please release the [PTT] key. You can receive the signal.

TOT function

When you press and hold the [PTT] button for more than 15-180 seconds, the intercom will emit a continuous warning tone and the intercom will automatically stop transmitting.

Set the channel

- 1) In the standby state of the radio mode, press the  key once.
- 2) Press the < or > key to select the channel number you want to set.
- 3) Press  key to save the current setting .
- 4) The radio can only be communicated when the radio is set to the same channel, and the radio is clear and no noise.

Tone code selection

The distribution of tone codes can reduce the mutual interference between radios, but the radios with different tone codes cannot make calls. Each channel has 0 to 121 tone codes, so that your communication is more confidential. The analog subtone codes Code 1-38 are available, and the digital subtone codes Code 39-121 are available.

Change this option by the programming software.

Vox function

When the VOX function is set to on, you can use the radio to talk without pressing the [PTT] key, and speaking directly into the microphone will automatically start the transmission.

- 1) Turn on or off the function by the programming software.
- 2) Select sensitivity level 1-9 on software
9 = High sensitivity level
5 = Medium sensitivity level
1 = Low sensitivity level
- 3) The transmitter can be launched into the microphone. There is a short delay between the start of speaking and the launch of the radio.
- 4) Stop speaking, you can enter the receiving state.

Set high/low power

Change this option by the programming software.

Scan function

- 1) In the radio standby mode, press the '>' key to enter the scan mode.
- 2) When an active channel is detected, the intercom will automatically suspend receiving signals on this channel until the signal disappears. Lost. After the signal disappears and wait for 5 seconds, the intercom will continue to scan.
- 3) Press the [PTT] key during scanning, and the intercom will stop transmitting on the channel that started scanning. in the case of
When a valid signal is detected and the reception is stopped, press the [PTT] key, and the intercom will transmit on the current channel. release
Wait 5 seconds after **【PTT】** key, the intercom will continue to scan
- 4) Press the [Power Switch/Scan] key again to exit the scan and return to the radio standby mode.

Button control

- 1) [Power switch] key: long press this key to turn on or off the radio.
- 2) [<] key: long press this key to switch between radios and MON modes; short press this key to increase the volume.
- 3) [>] key: long press this key to SCAN modes; short press this key to decrease the volume.
- 4) [⓪] key: long press this key to operate the lock or unlock function.
- 5) [PTT] key transmit.

Lock key

The keyboard lock function is to prevent users from misoperation when they don't want to change the settings of the radio.

- 1) Press and hold the [⓪] key until hear "Di" tone to enter the keyboard lock state.
- 2) Long press and hold the [⓪] key until hear "Di" "Di" tone to exit the keyboard lock state.

Note: When the keyboard is locked, except for pressing the [PTT] and [Power Switch] keys, any key press will sound a key failure tone.

Power saving function

The radio has a unique function to extend the service life of the battery. If there is no call or voice reception within 10 seconds, the walkie-talkie will automatically enter the power saving mode. In this mode, the radio can still receive information.

Headphone function

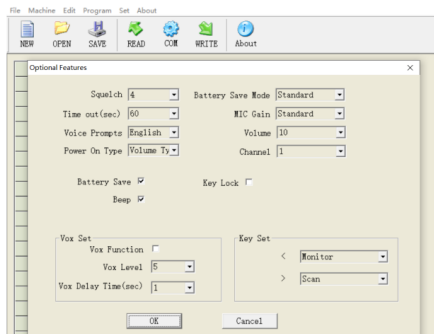
- 1) Connect the earphone to the walkie-talkie (radio A&B).
- 2) Press the PTT button of the headset of the radio A to send a voice to the MIC of the headset, and the radio B should be able to receive normally. Repeat the same operation on radio B.

Frequency table(FRS)

Channel	Frequency	Max Power Output	Channel	Frequency	Max Power Output
1	462.5625MHz	2 W	12	467.6625MHz	0.5 W
2	462.5875MHz	2 W	13	467.6875MHz	0.5 W
3	462.6125MHz	2 W	14	467.7125MHz	0.5 W
4	462.6375MHz	2 W	15	462.5500 MHz	2 W
5	462.6625MHz	2 W	16	462.5750 MHz	2 W
6	462.6875MHz	2 W	17	462.6000 MHz	2 W
7	462.7125MHz	2 W	18	462.6250 MHz	2 W
8	467.5625MHz	0.5 W	19	462.6500 MHz	2 W
9	467.5875MHz	0.5 W	20	462.6750 MHz	2 W
10	467.6125MHz	0.5 W	21	462.7000 MHz	2 W
11	467.6375MHz	0.5 W	22	462.7250 MHz	2 W

Programme

The programming software can quickly change and expand the function.



Specification Table

GENERAL	
Frequency Rang	462.5500~467.7125MHz
Channel capacity	22 CH
Working Voltage	3.7 V
Antenna impedance	50Ω
Step frequency	12.5KHz
TRANSMITTER	
Output power	2 W / 0.5 W
Adjacent channel power	≥60dB
TX current	≤1.35A
Spurious radiation	≤7.5μW
Modulation limited	≤2.5kHz
RECEIVER	
RF sensitivity	≤0.25uV
Opening sensitivity	≤0.20uV
Audio output	≥300mW
Receive current	≤410 mA
Waiting current	≤20mA

RF ENERGY EXPOSURE AND PRODUCT SAFETY GUIDE FOR PORTABLE TWO-WAY RADIOS



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.

This two-way 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 Retevis two-way 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 two-way 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 two-way 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 Retevis two-way radio has a RF Exposure Product Label. Also, your Retevis user manual, or separate safety booklet includes information and operating instructions required to control your RF exposure and to satisfy compliance requirements.

Radio License

Governments keep the radios in classification, business two-way radios operate on radio frequencies that are regulated by the local radio management departments (FCC, ISSED, 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 two 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 condition that this device does not cause harmful interference. (Licensed radios are applicable);

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (Other devices are applicable)

(1) This device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE:

•This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

•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) Shenzhen Retevis Technology 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.retevis.com.

•Restriction Information

This product can be used in EU countries and regions, including: Belgium (BE), Bulgaria (BG), Czech Republic (CZ), Denmark (DK), Germany (DE), Estonia

(EE), Ireland (IE), Greece (EL), Spain (ES), France (FR), Croatia (HR), Italy (IT), Cyprus (CY), Latvia (LV), Lithuania (LT), Luxembourg (LU), Hungary (HU), Malta (MT), Netherlands (NL), Austria (AT), Poland (PL), Portugal (PT), Romania (RO), Slovenia (SI), Slovakia (SK), Finland (FI), Sweden (SE) and United Kingdom (UK). For the warning information of the frequency restriction, please refer to the package or manual section.

•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.

•DO NOT operate the transmitter in areas that are sensitive to electromagnetic radiation such as hospitals, aircraft, and blasting sites.

•Portable Device, this transmitter may operate with the antenna(s) documented in this filing in Push-to-Talk and body-worn configurations. RF exposure compliance is limited to the specific belt-clip and accessory configurations as documented in this filing and the separation distance between user and the device or its antenna shall be at least 2.5 cm.

- Mobile Device, during operation, the separation distance between user and the antenna subjects to actual regulations, this separation distance will ensure that there is sufficient distance from a properly installed externally-mounted antenna to satisfy the RF exposure requirements.

- Occupational/Controlled Radio, this radio is designed for and classified as "Occupational/Controlled Use Only", meaning it must be used only during the course of employment by individuals aware of the hazards, and the ways to minimize such hazards; NOT intended for use in a General population/uncontrolled environment.

- General population/uncontrolled Radio, this radio is designed for and classified as "General population/uncontrolled Use".

RF Exposure Compliance and Control Guidelines and Operating Instructions

To control your exposure and ensure compliance with the occupational/controlled environment exposure limits, always adhere to the following procedures.

Guidelines:

- User awareness instructions should accompany the device when transferred to other users.

- Do not use this device if the operational requirements described herein are not met.

Operating Instructions:

- Transmit no more than the rated duty factor of 50% of the time. To Transmit (Talk), push the Push to Talk (PTT) button. To receive calls (listen), release the PTT button. Transmitting 50% of the time, or less, is important because the radio generates measurable RF energy exposure only when transmitting in terms of measuring for standards compliance.

- Transmit only when people outside the vehicle are at least the recommended minimum lateral distance away from a properly installed according to installation instructions, externally mounted antenna.

- When operating in front of the face, worn on the body, always place the radio in a Retevis approved clip, holder, holster, case, or body harness for this product. Using approved body-worn accessories is important because the use of Non-Retevis approved accessories may result in exposure levels, which exceed the IEEE/ICNIRP RF exposure limits.

Hand-held Mode

- Hold the radio in a vertical position with the microphone (and other parts of the radio including the antenna) at least 2.5 cm (one inch) away from the nose or lips. The antenna should be kept away from the eyes. Keeping the radio at a proper distance is important as RF exposure decreases with increasing distance from the antenna.



Phone Mode

- When placing or receiving a phone call, hold your radio product as you would a wireless telephone. Speak directly into the microphone.

Electromagnetic Interference/Compatibility

NOTE: Nearly every electronic device is susceptible to electromagnetic interference (EMI) if inadequately shielded, designed, or otherwise configured for electromagnetic compatibility

Avoid Choking Hazard



Small Parts. Not for children under 3 years.

Turn off your radio power in the following conditions:



WARNING

- Turn off your radio before removing (installing) a battery or accessory or when charging battery.
- Turn off your radio when you are in a potentially hazardous environments: Near electrical blasting caps, in a blasting area, in explosive atmospheres (flammable gas, dust particles, metallic powders, grain powders, etc.).
- Turn off your radio while taking on fuel or while parked at gasoline service stations.
- To avoid electromagnetic interference and/or compatibility conflicts
- Turn off your radio in any facility where posted notices instruct you to do so, hospitals or health care facilities (Pacemakers, Hearing Aids and Other Medical Devices) may be using equipment that is sensitive to external RF energy.
- Turn off your radio when on board an aircraft. Any use of a radio must be in accordance with applicable regulations per airline crew instructions.

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.



Avoid Burns



WARNING

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.

WARNING •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 Retevis for assistance regarding repairs and service.

•The adapter shall be installed near the equipment and shall be easily accessible

Approved Accessories



•Contact Retevis for assistance regarding repairs and service.

•The adapter shall be installed near the equipment and shall be easily accessible

WARNING

•This radio meets the RF exposure guidelines when used with the Retevis 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 Retevis-approved accessories for your radio model, visit the following website: <http://www.Retevis.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. Further details, pls read <http://www.retevis.com/after-sale/>
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 FCC RoHS



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MADE IN CHINA