RETEVIS

MADE IN CHINA

FC CE RoHS Compliant

RT49B

User's Manual

TO CUSTOMERS

Thank you very much for using our two way radio. This radio of modern design is reasonable structure with stable functions. It is designed to meet different customers' need for high quality with easy operation and perfect capablity. We believe you are pleased with its nice shape and excellent performance. This manual is suitable for using the model of RT49B

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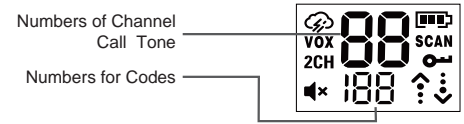# Contents

RETEVIS

KEY FUNCTIONS
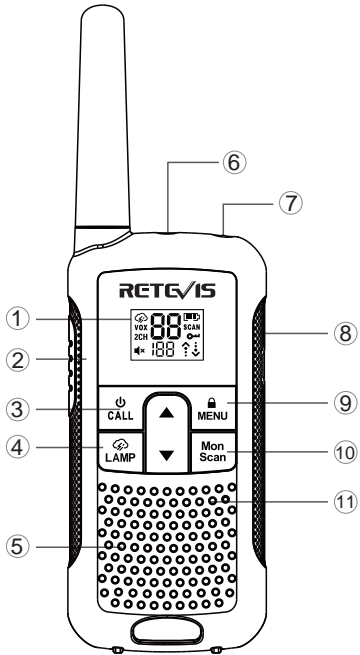
① Screen
② Push-to-Talk
③ Power On / Off Call Tone
④ Lamp On / Off Weather Switch
⑤ Speaker
⑥ Accessary Port
⑦ Lamp
⑧ Micro-USB Charging Port
⑨ Menu / Keypad Lock
⑩ Monitor / Scan
⑪ Microphone

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DISPLAY SCREEN GUIDE

Numbers of Channel
Call Tone

Numbers for Codes

| 2CH	Dual Watch	🔋	Battery Meter	🔑	Lock
SCAN	Scan	↑↓	Status (Transmit/Receive)	☁	Weather
VOX	VOX	🔇	Volume Mute		

GETTING STARTED

Installing the Three AA NiMH Rechargeable Battery

1. Take the belt clip off.
2. With the back of the radio facing you, lift the battery cover latch up and remove the cover.

Lift the battery
cover latch up.

Remove the
battery cover.
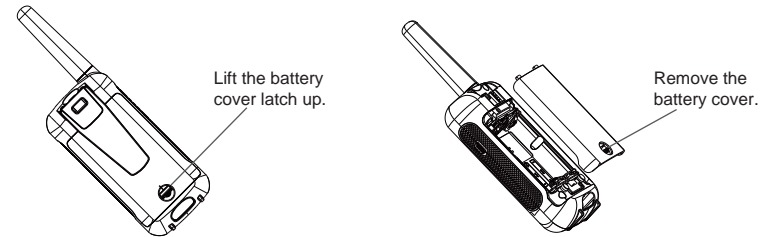
3. Insert the three AA NiMH battery with + and – polarity as shown inside.
4. Close the battery cover firmly.

Insert 3 AA NiMH batteries.

Close the battery cover firmly.
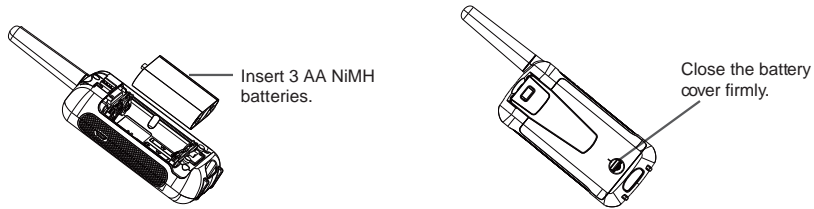
Radio Battery Meter

The number of bars (▭▭▭) on the radio battery icon shown indicates the charge remaining in the battery. When the radio battery meter shows one segments, the radio chirps periodically (Low Battery Alert). In battery low status, the radio will sound the alert every 10 minutes or after releasing the PTT button.
Note:
Remove the battery from radio for storage purposes.

Removing the Three AA NiMH Rechargeable Battery

1. Turn the radio off.
2. With the back of the radio facing you, lift the battery cover latch up and remove the cover.
3. Remove each of the three AA NiMH rechargeable battery by pulling the ribbon attached to the radio.
4. Close the battery cover firmly.
Note:
·Be careful when removing NiMH batteries. Do not use sharp or conductive tools to remove either of these batteries.
·Remove the batteries before storing your radio for extended periods of time. Batteries corrode over time and may cause permanent damage to your radio.
·Do not mix old and new batteries and Do not mix alkaline, standard (carbon-zinc) or rechargeable (ni-cad, ni-mh, etc.) batteries.

Battery Capacity Maintenance

1. Charge the NiMH batteries once every 3 months when not in use.

2. Before placing the radio in storage, remove the battery.
3. Store the NiMH batteries in temperature between -20 °C to 35 °C and in low humidity. Avoid damp conditions and corrosive materials.

Using the Micro-USB Charger

The micro-USB charger is a handy port that allows you to conveniently charge your NiMH battery. Use certified adaptor(5V, ≥1A). Do not attempt to charge alkaline batteries.
1. Make sure your radio is turned OFF.
2. Plug the micro-USB cable into the micro-USB charging port on your radio. Connect the other end of the micro- USB charger to wall power outlet.
3. The battery meter on LCD will move to indicate the battery is charging.
Note:
·   It is recommended to power OFF your radio while charging.
·   When moving between hot and cold temperatures, do not charge the NiMH batteries until the battery temperature acclimates (usually about 20 minutes).
·   For optimal battery life, remove the radio from the charger within 16 hours. Do not store the radio while connected to the charger.

Turning your Radio On and Off

1. Press and hold on the (CALL) button to turn your radio ON/OFF. In the ON position, the radio chirps and briefly shows all feature icons available on the radio.
2. The display screen then shows the current channel, code and all features that are enabled. The radio is in Two-Way mode.

Setting the Volume

Press and hold (Mon Scan) button for three seconds to listen to volume level.
1. First press either (▲) or (▼) to trigger volume change. You will see current volume level on screen.
2. Press (▲) to increase the volume. Press (▼) to decrease the volume.
3. When the volume reached level 0 the mute 🔇 icon appears permanently on screen.
Do not hold the radio close to your ear. If the volume is set to an uncomfortable level, it could hurt your ear.

RECEIVING AND TRANSMITTING

To communicate, all radios in your group must be set to the same channel and sub code.
1. To talk, press and hold the PTT button. When transmitting, the ⬆ icon is shown. Release the PTT button when you are finished talking. Do not use the radios closer than five feet apart.
2. When receiving, the ⬇ icon is shown.
For maximum clarity, hold the radio 2 to 3 centimeters away from your mouth and speak directly into the microphone. Do not cover the microphone while talking.

Talk Range

Your radio is designed to maximize performance and improve transmission range. Do not use the radios closer than five feet apart.

Monitor Button

Press and hold (Mon Scan) button for 3 seconds to enter monitor mode and listen for weak signals on the current channel. You can also listen to the volume level of the radio when you are not receiving. This allows you to adjust the volume, if necessary. You can also press (Mon Scan) button to check for activity on the current channel before you talk.

Push-to-Talk Timeout Timer

To prevent accidental transmissions and save battery life, radio will stop transmitting if you press PTT button for 60 seconds continuously.

Mode Button

Press and hold (LAMP) button for 3 seconds, the user will be seamlessly switching between two-way and weather mode.

FEATURES

Setting the Channel

The channel is the frequency of the radio uses to transmit.
1. Press the (MENU) button until the channel number starts to flash.
2. Press (▲) or (▼) button to change the channel number.
3. Press the PTT button to exit menu or (MENU) button to continue setup.

Channels and Frequences

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

Selecting the Interference Eliminator Code

Sub-Codes help minimize interference by blocking transmission from unknown sources. Your radio has 121 Sub-Codes. To set the code for a channel:
1. Press the (MENU) button until the code number starts to flash.
2. Press (▲) or (▼) button to select code number.
3. Press the PTT button to exit menu or (MENU) button to continue setup.

Setting and Transmitting Call Tones

Your radio can transmit different call tones to other radios in your group when you pressed (CALL) button. The radio has 10 call tones. To set a call tone:
1. Press button until call tone 'CA' appears. The current call tone setting flash.
2. Press (▲) or (▼) button to change and listen to the call tone.
3. Press the PTT button to exit menu or (MENU) button to continue setup.

Voice Operated Transmission (VOX)

Transmission is initiated by speaking into the microphone of the radio instead of pushing the PTT button.
1. To activate VOX, press (MENU) button until 'VOX' appears on the display. The current setting (0, 1-3) will flash.
2. Press (▲) or (▼) button to select the sensitivity level.
3. Press the PTT button to exit menu.

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L3=High Sensitivity
L2=Medium Sensitivity
L1=Low Sensitivity
L0=Turn Off VOX function

Dual Channel Monitor

EnableTo set another channel and start Dual Watch.you to scan current channel and another channel alternately.
1. Press button until '2CH' appears on the display. The current setting (OF, 1-22) will flash.
2. Press or to select channels.
3. Press the PTT button to exit menu or button to continue setup.
4. Press the PTT button or wait until the time out menu to activate Dual Watch. The screen will alternate between Home Channel and Dual Watch Channel.
To end Dual Watch mode, re-enter Dual Watch menu to select the OFF setting.
Note:
If you set the same channel and code as current channel, Dual Watch does not work.

Setting High Low Power

1. Press MENU button until 'Pr' appears on the display.
2. Press ▲ or ▼ button to select HI or LO. (HI- High Power, LO- Low Power)
3. Press the PTT button to exit menu.

Keypad Tones

Your radio emits a beep each time one of the buttons is pressed (except the PTT and CALL button).
Press and hold the ▼ button while turning the radio ON to switch the keypad tone ON/OFF

Roger Tone

You can set your radio to transmit a unique tone when you finish transmitting.
Press and hold the ▲ button while turning the radio ON to turn the Roger Beep ON. Repeat the step to turn Roger Beep OFF .

Keypad Lock

To avoid accidentally changing your radio settings:

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1. To lock the radio, press and hold MENU button until the key lock indicator ⚷ icon on display appear.
2. To unlock the radio, press and hold MENU button until key lock indicator ⚷ icon on display disappear.

Scanning Channels

Use scan to search all channels for transmissions from unknown parties, to find someone in your group who has accidentally changed channels or to quickly find unused channels for your own use.To Start Scanning:
1. Briefly press the Mon/Scan button, the SCAN icon will appear in the display and the radio will begin to scroll through the channel and code combinations.
2. When the radio detects channel activity matching the channel and code combination, it stops scrolling and you can hear the transmission.
3. To respond and talk to the person transmitting, press the PTT button within 5 seconds after the end of the transmission.
4. The radio will resume scrolling through the channels five seconds after the end of any received activity.
5. To stop scanning, briefly press the Mon/Scan button.

Scanning Notes

1. If you press the PTT button while the radio is scrolling through inactive channels, the transmission will be on the" home channel". Scanning will resume 5 seconds after the end of your transmis-sion. You may press the Mon/Scan button to stop scanning at any time.
2. If the radio stops on an undesired transmission, you may immediately resume the scan by briefly pressing ▲ or ▼ button.
3. If the radio repeatedly stops on an undesired transmission, you may temporarily remove that channel from the scan list by pressing and holding ▲ or ▼ for 3 seconds. You may remove more than one channel in this way.
4. To restore the removed channel(s) to the scan list, turn the radio off and then turn back on, or exit and re-enter the scanning mode by pressing Mon/Scan button.
5. You cannot remove the home channel from the scan list.

LED Lamp

Your radio has a built-in-LED Lamp.
Briefly press the LAMP button once to ON the lamp, press again to OFF the lamp.

Automatic Power Save

For better battery life, your radio is designed to switch to Power Save mode when it has been no transmissions after 5 seconds. The radio can receive transmissions in this mode.

WEATHER RECEIVE

Weather feature is available designed for use in USA and Canada. Your radio can tune in to broadcasts by the United States National Oceanic and Atmospheric Administration (NOAA) Weather Radio and Environment Canada Weather Radio.You can listen to a weather channel (see "Weather Channels and Frequencies" table for details). When you listen to a weather channel, you cannot use your radio in scan mode or for two-way communications. Both NOAA and Environment Canada have transmitters located throughout the United States and Canada, respectively. These transmitters broadcast watches, forecasts and other information 24 hours a day.

Entering Weather Mode

Press and hold [🔦 L.AMP] button for 3 seconds to enter weather mode.

Setting the Weather Channel

Your radio receives weather frequencies:
1. In weather mode, press the [MENU] button until weather channel number flashes.
2. Press [▲] or [▼] button to select the appropriate channel.
3. Press the PTT button to set and exit menu.

	Frequency (MHz)		Frequency (MHz)		Frequency (MHz)
WX1	162.550	WX5	162.450	WX9	161.775
WX2	162.400	WX6	162.500	WX10	161.750
WX3	162.475	WX7	162.525	WX11	162.000
WX4	162.425	WX8	161.650		

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, 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 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:
• 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 (inflammable 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

WARNING

• 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

WARNING

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 Retevis for assistance regarding repairs and service.
• The adapter shall be installed near the equipment and shall be easily accessible

Approved Accessories

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

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RETEVIS   Warranty card

Remarks
1. This guarantee card should be kept by the user, no replacement if lost.
2. Most new products carry a two-year manufacture's warranty from the date of purchase.
   Further details, pls read
   http://www.retevis.com/after-sale/
3. The user 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 hte serial number has been altered, defaced, or removed.

Model Number:

Serial Number:

Purchasing Date:

Dealer:

Telephone:

User's Name:

Telephone:

Country:

Address:

Post Code: Email: