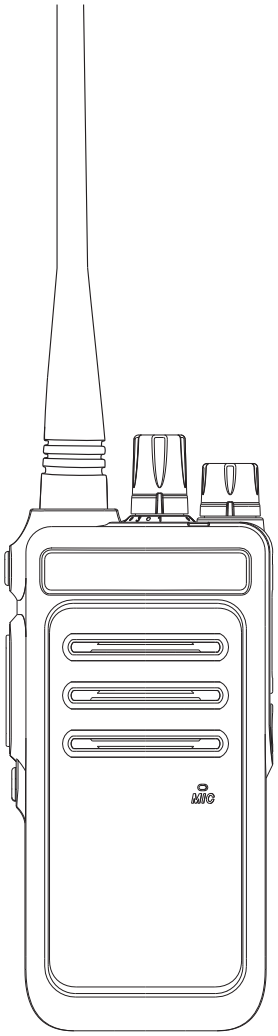
RETEVIS



RT76

Two Way Radio

USER'S MANUAL

User's Manual

Dear user:

Welcome to use our handheld transceiver. We believe you will be pleased to use it in our daily life and work.

This transceiver adopts advanced technology, we hope you will be satisfied with its quality and functions . This transceiver will bring you convenient, fast, reliable two–way communication.

Notice:

- Please read this manual carefully before using this transceiver.
- Please do not communicate or charge this transceiver in flammable,explosive and area where transceiver communication is prohibited(such as oil station,gas station, airport etc.)
- Please do not operate this transceiver without licence in government laws banned areas.
- Please make sure this transceiver avoids the sunshine, and avoids to put it near any heating device.
- Please make sure this transceiver avoids any dusty,humid and water splashed place,and also avoids to put it on unstable surface.
- If transceiver smells or smokes, please remove the battery pack from transceiver at once, and then contact our company or local dealer.
- The repair job of this transceiver is in the charge of professionals & technicals, self–disassembly is prohibited

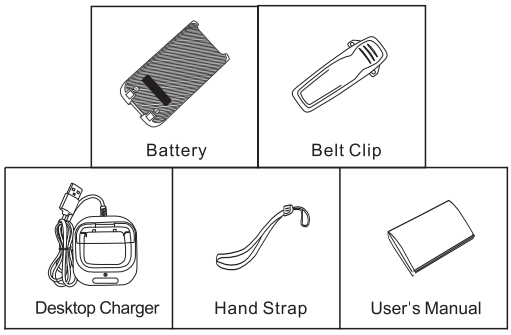
CONTENTS

UNPACKING AND CHECKING EQUIPMENT

We recommend that you open the packing box before use and check carefully the main transceiver in the packing box and the supplied accessories. If any item is missing or damaged during shipment, please contact the shipper or local dealer.

1. Supplied Accessories

Item	Quantity
Battery	1
Belt Clip	1
Desktop Charger	1
Hand Strap	1
User's Manual	1



PREPARATION

Notice:

· Do not charge the battery for a long time!

If battery is not fully charged within schedule time, stop charging. Otherwise the battery may be overheat and smoke and burst into fire.

· Do not throw the battery into micro-wave oven and high-pressure container!

· Prevent the broken as well as liquid spilling battery from fire!

If the battery is spilling(or exuding smelly smell), put it away from inflammable area. The electrolyte spilling from the battery is easy to catch fire, and it will cause battery smokes or bursts into fire suddenly.

· Do not use abnormal battery!

If battery smells smelly, appears to be different colors, out of shape or any abnormal display, please remove the battery from charger or operating device and do not use it .

· Please use standard charger

The charger supplied is specialized designed for this transceiver only, it will charge the battery more scientifically,reasonably and safely.

1.Use Li-ion Battery

· Charge the battery before use.

· To prevent battery pack from discharging, please remove the battery from transceiver or device when it is not in use, and then store it in a cool dry place.

· For battery long time storage

1. Remove the battery from device

2. If possible,discharge battery.
3. Store it in a cool(below 25℃) and dry place.

2.Battery Characteristic

・The capacity of battery will reduce step by step after being charged and discharged again and again.
・Battery will be aged even without any usage.
・It will cost longer time to charge the battery in a cool and dry place.
・Battery working life will be reduced if being charged in hotter places. Battery ages more quickly when stored in hot places. Please do not leave battery in car and put it near any heating device.
・ If battery working life becomes shorter, please replace it even it is fully charged. If go on being charged and discharged, the electrolyte will spill.

3.Charge Li-ion Battery

When charger power on, put battery in and full connected, the light will turn red, the charger starting charging. When battery has been fully charged, the green light is on.

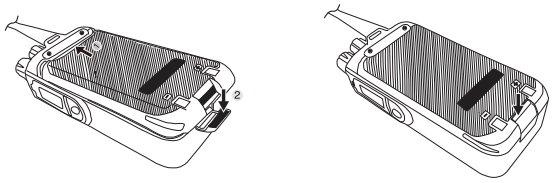
4. Install/Remove Battery Pack

Note:
・ Do not short circuit battery pack terminals or throw battery pack into fire.
・ Do not try to remove the battery pack shell.
・ Do not install battery pack under dangerous conditions, otherwise spark will cause explosion.

Insert the top part of the battery pack into the top 2 slots of the transceiver and then button the bottom's buckle.(1)

To remove the battery pack, make sure the transceiver has been turned off, and then open the bottom's buckle,remove

the battery when the batter pops up.(2)



(1) (2)

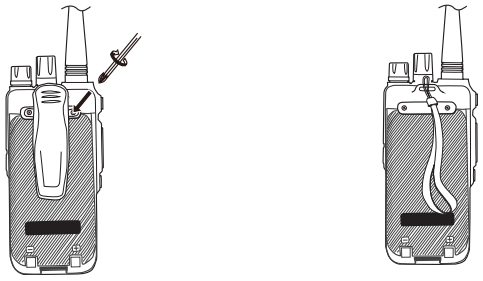
5.Install/Remove Belt Clip

If necessary, install the supplied screws into the belt clip at the back of battery pack for easy carry.

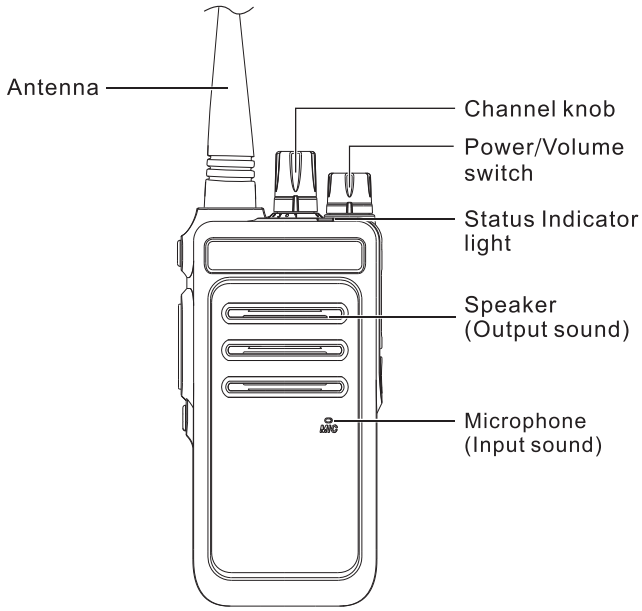
To remove the belt clip, directly remove the two screws only.

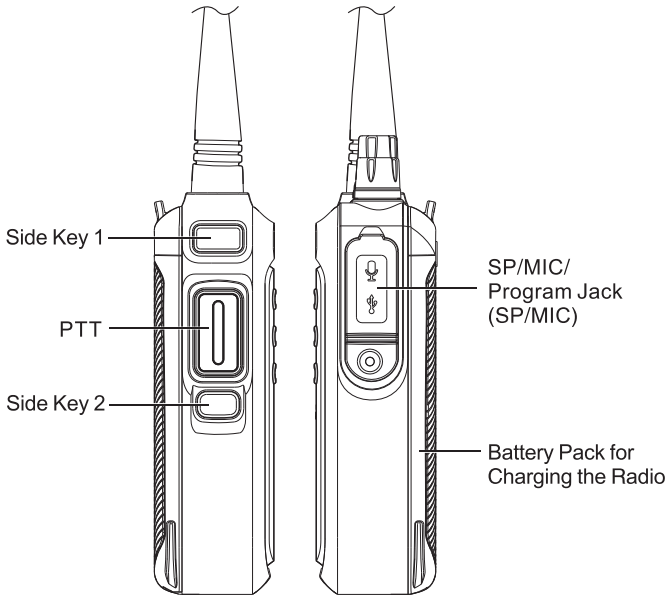
6.Install Hand Strap

Install the hand strap at the middle circle of the transceiver.



GETTING STARTED




Side Key 1
PTT
Side Key 2
SP/MIC/
Program Jack
(SP/MIC)
Battery Pack for
Charging the Radio

Basic Operations

1.State of Indicator light

When transmitting, red light is on .When receiving ,green light is on.

2.Channel Switch

Rotate the switch to select channel 1-30, Counterclockwise means to reduce the channel, while clockwise means to Increase channel, If the current channel is empty,the radio will have Alarm voice.

3.Power switch /Volume control

Turn clockwise to turn on the radio power, when turn off the radio ,anticlockwise rotate to “click” sound, adjust the call volume when turning.

4.PTT Switch

Press PTT and speak into the microphone to call the other party ,the red light is on .If this channel is not set to transmit frequency ,then it will be “click” sound and red light is on, Receive when released, if it has the signal, the green light is on, open the loudspeaker.

5.Side Key Definition

Follow function for programming software definition Side Key1 Short press: Channel Voice Prompt Long Press: Alarm
Side Key2 Short press: Monitor

Alarm :

Start alarm function, the transceiver will keep giving alarm sound. It can be selected Local alarm and remote alarm. Local alarm means current transceiver will give alarm sound, and remote alarm means other transceiver using same frequency will receive the alarm sound.

Side Key1 Short press: Channel Voice Prompt
Long Press: Alarm

Side Key2 Short press: Monitor

Alarm :

Start alarm function, the transceiver will keep giving alarm sound. It can be selected Local alarm and remote alarm. Local alarm means current transceiver will give alarm sound, and remote alarm means other transceiver using same frequency will receive the alarm sound.

Monitor:

Monitor whether there are someone talking on the channel you have selected ,if not ,you will hear rustling sound.

6.Squelch level

By adjusting squelch level setting up to turn on or turn off when the transceiver receives a strong signal , the lower of the squelch level setting ,the larger of opening background noise, and the calling range is farther, but the weaker of the acceptance Anti-interference ability,The function for the factory setting is level 3.You can set up “EDIT”-“Option Features”-“Squelch level” via programming software . Level in 0-9,when on 0 it means means the squelch is opening, the higher the squelch level, the harder the squelch to be opened.

7.Time-out Timer(TOT)

The purpose of TOT is preventing transceiver using the channel too long time, meanwhile avoiding transceiver long time transmit to cause broken. If continuous transmitting exceeds limited time(by software setting up),the transceiver stop transmitting and make warning sound. To stop the warning sound , release PTT switch, transceiver is in receiving state.

8. Non-standard CTCSS self programming

Non-standard CTCSS can be self programmed by software.

a.First, setting up non-standard CTCSS QT signaling on the channel of the transceiver , it can be from 67.0 CTCSS to 254.1 CTCSS between any set of the QT signaling.

9. Voice Prompt Selection

When “Voice Prompt Selection” is off, the transceiver will not give voice prompt. When “Voice Prompt Selection” is Chinese, Chinese voice prompt is activated. When “Voice Prompt Selection” is English, English voice prompt is activated.

10. Battery Save Mode

To set “Battery Save Mode”,please use programmable software to set the selection.

Note: a.Blank means the transceiver is not in battery save mode.

b.Making Tick means the transceiver is not in battery save mode.

11. Battery Voltage Prompt

Note: Battery voltage too low: when battery voltage is low to a certain level, if “Voice Prompt Selection” is off, then the transceiver will prompt “Beep Beep” sound every 15S. If “voice Prompt Selection” is on , then the transceiver will prompt “Please change battery”. If “Voice Prompt Selection” is selected on English / Chinese, pressing PTT button or using VOX function both do not work and the transceiver is prompting “Please change battery”, and also “Beep” sound until release PTT button or finished VOX function.

12. High/Low Output Power Selection

This function is set to high power by default at the factory on this machine. Users can choose high power ,low power at present working channel by programmable software.

13. Wide/Narrow Bandwidth Selection(20.0KHz/12.5KHz)

The default bandwidth is “Narrow” .Users can choose Wide

band(20KHz) or Narrow band(12.5KHz) at current working channel.

14. VOX

1.VOX function frees your hand without pushing PTT button for transmission. It uses voice to transmit , when voice stops then transmitting stops automatically. Users can use programmable software to turn on/off this function .

a. When VOX function is on at your transceiver channel.
Speak to microphone, transceiver will transmit your voice automatically.
When stop talking, transceiver will stop transmit and wait for receiving.

b. When you are also wearing headset
To use VOX function, the VOX gain must be adjusted. Setting VOX gain to let transceiver to recognize the level of voice volume.
If microphone sensitivity is too high, then any noise around will let the transceiver starts transmitting automatically .
If microphone activities is too low, then the transceiver can not pick up your voice. So to make sure the communicable works , the VOX gain must be adjusted at a correct level.

Note: If VOX function is on and the gain is at a high level, and the activities is also high, then if connect speaker/microphone to the transceiver, the enlarged receding signal through speaker/microphone may cause the transceiver start transmitting automatically.

15. Frequency Hopping Function

Frequency hopping function is DCS encryption on the transceiver. User can select Frequency Hopping1,Frequency Hopping2 or Frequency Hopping3, and communication is unavailable using different frequency hopping, only workable if under the same frequency hopping.

16. CTCSS/DCS

Users can set CTCSS/DCS signaling on transceiver channel. Only when receiving same CTCSS/DCS signaling from other transceiver, the squelch will open. If same channels but with

different CTCSS/DCS signaling for calling, then squelch will not open, only green light is on. CTCSS/DCS codes are listed below:

CTCSS(50 Numbers)

67.0	69.3	71.9	74.4	77.0	79.7	82.5	85.4	88.5	91.5
94.8	97.4	100.0	103.5	107.2	110.9	114.8	118.8	123.0	127.3
131.8	136.5	141.3	146.2	151.4	156.7	159.8	162.2	165.5	167.9
171.3	173.8	177.3	179.9	183.5	186.2	189.9	192.8	196.6	199.5
203.5	206.5	210.7	218.1	225.7	229.1	233.6	241.8	250.3	254.1

DCS (116*2 Numbers)

D017N	D023N	D025N	D026N	D031N	D032N	D036N	D043N	D047N	D050N
D051N	D053N	D054N	D055N	D065N	D071N	D072N	D073N	D074N	D114N
D115N	D116N	D122N	D125N	D131N	D132N	D134N	D135N	D143N	D145N
D152N	D155N	D156N	D162N	D165N	D172N	D174N	D205N	D212N	D217N
D223N	D225N	D226N	D243N	D244N	D245N	D246N	D251N	D252N	D254N
D255N	D261N	D263N	D265N	D266N	D271N	D274N	D305N	D306N	D311N
D315N	D325N	D331N	D332N	D343N	D345N	D346N	D351N	D356N	D364N
D365N	D371N	D411N	D412N	D413N	D423N	D425N	D431N	D432N	D445N
D446N	D452N	D454N	D455N	D462N	D464N	D465N	D466N	D503N	D506N
D516N	D523N	D526N	D532N	D534N	D546N	D565N	D606N	D612N	D624N
D627N	D631N	D632N	D645N	D654N	D662N	D664N	D703N	D712N	D723N
D731N	D732N	D734N	D743N	D754N	D765N				

D017I	D023I	D025I	D026I	D031I	D032I	D036I	D043I	D047I	D050I
D051I	D053I	D054I	D055I	D065I	D071I	D072I	D073I	D074I	D114I
D115I	D116I	D122I	D125I	D131I	D132I	D134I	D135I	D143I	D145I
D152I	D155I	D156I	D162I	D165I	D172I	D174I	D205I	D212I	D217I
D223I	D225I	D226I	D243I	D244I	D245I	D246I	D251I	D252I	D254I
D255I	D261I	D263I	D265I	D266I	D271I	D274I	D305I	D306I	D311I
D315I	D325I	D331I	D332I	D343I	D345I	D346I	D351I	D356I	D364I
D365I	D371I	D411I	D412I	D413I	D423I	D425I	D431I	D432I	D445I
D446I	D452I	D454I	D455I	D462I	D464I	D465I	D466I	D503I	D506I
D516I	D523I	D526I	D532I	D534I	D546I	D565I	D606I	D612I	D624I
D627I	D631I	D632I	D645I	D654I	D662I	D664I	D703I	D712I	D723I
D731I	D732I	D734I	D743I	D754I	D765I				

TECHNICAL SPECIFICATION

Frequency Range	GMRS
Channel Number	30
Operating Temperature	−20℃~ +60℃
Audio Distortion	<5%
Frequency Stability	± 2.5ppm
MAX Frequency Deviation	≤5KHz/≤2.5KHz
Spurious Emission	≤7uW
Modulation Mode	16KØF3E / 11KØF3E
Reference Sensibility	≤0.25uV / ≤0.3uV
Squelch On Sensibility	≤0.2uV / ≤0.25uV
Adjacent Channel Selectivity	≥65dB
Spurious Response	≥55dB
Intermodulation	≥60dB
Current	≤1.6A
Working Voltage	7.4 V DC

Factory Default Settings

GMRS					
Channel	RX	TX	Power	Bandwidth	CTCSS/DCS
1	462.5625	462.5625	5	20	67
2	462.5875	462.5875	5	20	118.8
3	462.6125	462.6125	5	20	127.3
4	462.6375	462.6375	5	20	131.8
5	462.6625	462.6625	5	20	136.5
6	462.6875	462.6875	5	20	141.3
7	462.7125	462.7125	5	20	146.2
8	467.5675	467.5675	0.5	12.5	D243N
9	467.5875	467.5875	0.5	12.5	D032N
10	467.6125	467.6125	0.5	12.5	D047N
11	467.6375	467.6375	0.5	12.5	D051N
12	467.6625	467.6625	0.5	12.5	D053N
13	467.6875	467.6875	0.5	12.5	D065N
14	467.7125	467.7125	0.5	12.5	D116N
15	462.5500	462.5500	5	20	123
16	462.5750	462.5750	5	20	D743I
17	462.6000	462.6000	5	20	D332I
18	462.6250	462.6250	5	20	127.3
19	462.6500	462.6500	5	20	D243I
20	462.6750	462.6750	5	20	D606N
21	462.7000	462.7000	5	20	D731I
22	462.7250	462.7250	5	20	136.5
23	462.5500	467.5500	5	20	136.5
24	462.5750	467.5750	5	20	136.5
25	462.6000	467.6000	5	20	136.5
26	462.6250	467.6250	5	20	136.5
27	462.6500	467.6500	5	20	136.5
28	462.6750	467.6750	5	20	136.5
29	462.7000	467.7000	5	20	136.5
30	462.7250	467.7250	5	20	136.5

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

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 instr uctions 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);

The radio operates on GMRS frequencies which require an FCC (Federal Communications Commission) license. You must be licensed before operating your radios. Licenses are issued for a ten-year term and can be renewed between 90 days prior to the expiration date and up to the actual expiration date of the license. If you receive a license, any family member, regardless of age, can operate GMRS stations and units within the licensed system.

To obtain a license, you need FCC Form 605 & 159， we suggest visiting the FCC website at https://www.fcc.gov/wireless/support/fcc-form-605, which includes necessary instructions. More questions about the license application, please contact the FCC at 1-888-225-5322 or go to the FCC's website: http://www.fcc.gov.

• 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.

RF Exposure Information

- DO NOT operate the radio without a proper antenna atta ched, 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 75% of total radio use time, more than 75% 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 theuse 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 Burns

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

• 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:

• Use the lowest volume necessary to do your job.
• Turn up the volume only if you are in noisy surroundings.
• Turn down the volume before adding headset or earpiece.
• Limit the amount of time you use headsets or earpieces at high volume.
• When using the radio without a headset or earpiece, do not place the radio's speaker directly against your ear

• Use careful with the earphone maybe possible excessive sound pressure from earphones and headphones can cause hearing loss

Note: Exposure to loud noises from any source for extended periods of time may

temporarily or permanently affect your hearing. The louder the radio's volume, the less time is required before your hearing could be affected. Hearing damage from loud noise is sometimes undetectable at first and can have a cumulative effect.

Avoid Burns

Antennas

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

Batteries (If appropriate)

- When the conductive material such as jewelry, keys or chains touch

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

Long transmission

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

Safety Operation

Forbid

- Do not use charger outdoors or in moist environments, use only in dry locations/conditions.
- Do not disassemble the charger, that may result in risk of electrical shock or fire.
- Do not operate the charger if it has been broken or damaged in any way.
- Do not place a portable radio in the area over an air bag or in the air bag deployment area. The radio may be propelled with great force and cause serious injury to occupants of the vehicle when the air bag inflates.

To reduce risk

- Pull by the plug rather than the cord when disconnecting the charger.
- Unplug the charger from the AC outlet before attempting any maintenance or cleaning.
- Contact Retevis for assistance regarding repairs and service.
- The adapter shall be installed near the equipment and shall be easily accessible

Approved Accessories

- 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

Cut along this line

RETEVIS

Warranty Card

Product model: _____ Date of purchase: _____

Serial Number: _____

Seller: _____ contact number: _____

Username: _____ contact number: _____

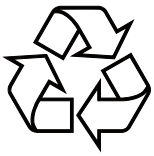
Address: _____ Zip code: _____

Warranty description:

1. The warranty card is saved by the customer as the warranty certificate, and the loss is not compensated.
2. This card must be stamped and dated for sale to take effect.
3. This card must not be altered. Please confirm that the warranty card serial number matches the purchase machine number, otherwise it will be invalid.
4. The warranty period is one year. Chargers, batteries, headphones, antennas and feeders are consumables, not covered by warranty.
5. Users can choose the following ways to get repair service:

a. At the original purchase office.

b. Our company is in the local special maintenance point.



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