



# Shenzhen Retevis Technology Co., Ltd.

7/F, 13-C, Zhonghaixin Science&Technology Park, No.12 Ganli 6th Road, Jihua Street, Longgang District, Shenzhen, China Web: www.retevis.com E-mail: kam@retevis.com Facebook: com/retevis





# Warning

- Please read this manual carefully before using this transceiver.
- Please do not communicate or charge this transceiver in flammable, explosive and area which transceiver communication is prohibited (such as oil station, gas station, airport etc.)
- Please do not operate this transceiver without license 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 to put it near any heating device.
- If transceiver smells or smokes, please remove the battery pack from transceiver at once, and then please contact your nearest distributor.
- The repair job of this transceiver is in the charge of professionals & technical's, self-disassembly is prohibited.

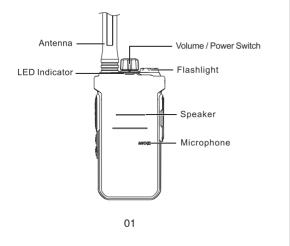
# **Unpacking and Checking the Equipment**

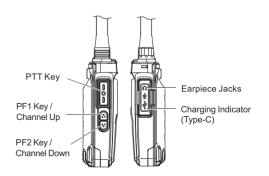
Carefully unpack the transceiver. We recommend that you identify the items in the following table before discarding the packing material. If any item is missing or has been damaged during shipment, please contact your first seller.

# Random accessories list

Enclosed Accessories	Quantity
Transceiver (With type C charging port)	1
Li–lion Battery 3.7V	1
Charger	1
Belt clip	1
User' s Manual	1
Hand Strap	1
Type–C charging line	1

# Getting start





# **Charging Precautions**

Put the transceiver into charger, in this case transceiver indicator light is red means charging. After charger full, the indicator is green. (As shown on the right)



# **Basic Operations and Function Description**

#### Power ON / OFF

Rotate Volume Switch clockwise until a "Click" sound is heard, that means radio power is on.

Rotate Volume Switch anti-clockwise until a "Click" sound is heard, that means radio power is off.

#### Communication

Press PTT key to transmit, the indicator turns red, talk to the microphone at the moment, the other side will hear your speaking message. Release PTT key after finishing transmitting and start to receive the other side speaking message, when receiving the other side message the indicator light is green at the same time.

#### Volume Increase / Decrease

Rotate Volume Switch clockwise to increase the volume, rotate Volume Switch anti-clockwise to decrease the volume.

# **Channel Adjustment**

Press PF1 / Channel Increase key, channel will increase in turns, press PF2 / Channel Decrease key, channel will decrease in turns.

# Low Battery Voltage Warning

When you hear a sound "Please charge battery" while the indicator is flashing red light, it means battery voltage is lower than working voltage, please charging radio.

# Monitor

Press the Identify key which stores Monitor function for 2 seconds, Monitor function start. Release the key to turn off the Monitor function.

# Flashlight Starts

Press the Identify key which stores Flashlight function for 2 seconds, Flashlight function is on, and repeat this operation to turn off flashlight.

# Alarm Function Starts

Press the Identify key which stores Alarm function for 2 seconds, Alarm function is starts, and press the PTT key to turn off.

## VOX ON

Keep pressing PF1/PF2 the side key function definition key which stores VOX function for 2 second to turn on the VOX. Repeat operation to adjust the VOX function level. The higher the level, the smaller the voice of the voice activation, and turn off the VOX with a "Beep".

# **VOX Delay Function**

Keep pressing PF1/PF2 the side key function definition key which stores VOX delay function for 2 second to turn on the VOX delay. Repeat operation to adjust the VOX delay time. The higher the level, the longer the delay time.

# Key Locks

Press the Identify key which stores Channel–Lock function for 2 seconds, the radio will give a "Beep" sound to indicator that Channel–Lock function starts, and channel adjustment is unavailable now. Repeat this operation to turn off channel lock function.

# Scan Starts

Press the Identify key which stores Scan function for 2 second, scan function is on, and repeat this operation to turn off scan.

# Wireless copy

1.Press (no loose) the PF2 key of the receiver radio, and meanwhile turn on the radio which will accept data, it must keep press the PF2 key for 1 second, When see the green light flashing and hear "Beep" 3 times, the radio go into wireless copy receiving mode.

2. Then press (no loose) the PF1 key of and meanwhile turn on the other radio which is going to transmit data, and must press the PF2 key for 1 seconds, When see the red light flashing and hear "Beep" 3 times, the radio go into wireless copy replication mode.

 Press the PPT key of the transmitter, and the red light flashes to transmit data. Restart the walkie talkie and the radio will automatically exit the mode.

The red light and green light of the receiver flashes crosswise to

indicate that the data is being received at this time, and the power will restart after the radio receives the data.

## Note:

The wireless copy frequency and ID code of the transmitter and receiver must be the same to transmit data. The wireless copy frequency and ID code can be changed by programming software.

#### **Read-Write Frequency Encryption**

Use write frequency software Settings

# CTCSS/DCS

User can set CTCSS/DCS signaling on the transceiver channel by software. 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 (232)

D017N	D023N	D025N	D026N	D031N	D032N	D036N	D043N	D047N	D050N
DUT/N	DUZSIN	DUZDIN	D026N	DUSTIN	D032N	D036N	D043N	D047N	DUSUN
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 Specifications**

Frequency Range	GMRS
Memory Channel	30
Audio Distortion	<5%
Frequency Stability	±2. 5ppm
Maximum Frequency Deviation	≪5KHz/≪2. 5KHz
Remanent Radiation	≪7uW
Modulation Mode	16K
Reference Sensitivity	≪0. 25uV/≪0. 3uV
Noise-free Sensitivity	≪0. 2uV/≪0. 25uV
Adjacent Channel Selectivity	≥65dB
Spurious Response Rejection	≥55dB
Inter-Modulation	≥60dB
Electric Current	≤1. 3A
Operating Voltage	3. 7V DC

# Factory default settings

			G	MRS		
channel	RX	тх	power	bandwidth	CTCSS/ DCS	Remarks
1	462.5625	462.5625	2W	12.5KHz	67.0	
2	462.5875	462.5875	2W	12.5KHz	118.8	
3	462.6125	462.6125	2W	12.5KHz	127.3	
4	462.6375	462.6375	2W	12.5KHz	131.8	
5	462.6625	462.6625	2W	12.5KHz	136.5	
6	462.6875	462.6875	2W	12.5KHz	141.3	
7	462.7125	462.7125	2W	12.5KHz	146.2	
8	467.5675	467.5675	0.5W	12.5KHz	D243N	
9	467.5875	467.5875	0.5W	12.5KHz	D032N	
10	467.6125	467.6125	0.5W	12.5KHz	D047N	
11	467.6375	467.6375	0.5W	12.5KHz	D051N	
12	467.6625	467.6625	0.5W	12.5KHz	D053N	
13	467.6875	467.6875	0.5W	12.5KHz	D065N	
14	467.7125	467.7125	0.5W	12.5KHz	D116N	
15	462.5500	462.5500	2W	12.5KHz	123	
16	462.5750	462.5750	2W	12.5KHz	D743I	
17	462.6000	462.6000	2W	12.5KHz	D332I	
18	462.6250	462.6250	2W	12.5KHz	127.3	
19	462.6500	462.6500	2W	12.5KHz	D243I	
20	462.6750	462.6750	2W	12.5KHz	D606N	
21	462.7000	462.7000	2W	12.5KHz	D731I	
22	462.7250	462.7250	2W	12.5KHz	136.5	
23	462.5500	467.5500	2W	12.5KHz	136.5	
24	462.5750	467.5750	2W	12.5KHz	136.5	

			G	MRS		
channel	RX	тх	power	bandwidth	CTCSS/ DCS	Remarks
25	462.6000	467.6000	2W	12.5KHz	136.5	
26	462.6250	467.6250	2W	12.5KHz	136.5	
27	462.6500	467.6500	2W	12.5KHz	136.5	-
28	462.6750	467.6750	2W	12.5KHz	136.5	
29	462.7000	467.7000	2W	12.5KHz	136.5	
30	462.7250	467.7250	2W	12.5KHz	136.5	

# Warnings

# 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 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 Regulation

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:

•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 tenyear 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.

#### 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), Rom-ania (RO), Slovenia (SI), Slovakia (SK), Finland (FI), Sweden (SE) and United Kingdom (UK). For the warning information of the frequencv 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 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

- properly installed externally-mounted antenna to satisfy the RF exposure requirements.
- 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/ICN-IRP 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 batte-



- ry 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 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 batteriy) 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

# Guarantee

Model Number:
Serial Number:
Purchasing Date:
Dealer: Telephone:
User's Nam <u>e:</u> Telephone:
Country: Address:
Post Code: Email:
<ul> <li>Remarks:</li> <li>1. This guarantee card should be kept by the user, no replacement if lost.</li> <li>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/</li> <li>3. The user can get warranty and after-sales service as below: <ul> <li>Contact the seller where you buy.</li> <li>Products Repaired by Our Local Repair Center.</li> </ul> </li> <li>4. For warranty service, you will need to provide a receipt proof of purchase from the actual seller for verification.</li> </ul>
<ul> <li>Exclusions from Warranty Coverage:</li> <li>1. To any product damaged by accident.</li> <li>2. In the event of misuse or abuse of the product or as a result of unauthorized alterations or repairs.</li> </ul>

Please cut along with this line

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