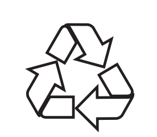

HENAN ESHOW ELECTRONIC COMMERCE CO.,LTD
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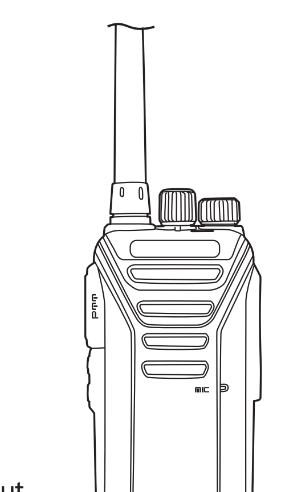
Facebook:facebook.com/retevis
MADE IN CHINA

RETEVIS

USER'S MANUAL

TRANSCEIVER

RT27



- ◆Scan function
- ◆Busy Channel Lock Out

FM Transceiver

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 which 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 prohibted

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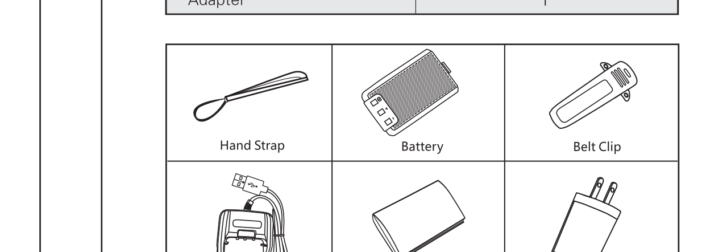
UNPACKING AND CHECKING EQUIPMENT

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 missed or damaged during shipment, please contact the shipper or local dealer.

1. Supplied Accessories

Item	Quantity
Hand Strap	1
Belt Clip	1
Battery	1
USB Charger	1
User's Manual	1
Adapter	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!

The battery may be overheat and smoke and burst into fire.

·Prevent the break 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 burst into fire suddenly.

·Do not use unusual battery!

If battery smells smelly, different colors, out of shape or any unusual 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 scientific reasonable, and safety.

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 cool and dry place.
- Battery working life will be reduced if being charged in hotter place. Battery ages more quickly when stored in hot place. 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 is power on, put battery in and full connected, the light will turn red, start charging. When battery has been fully charged, the green light on.

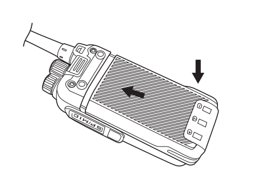
4. Install/Remove Battery Pack

Note:

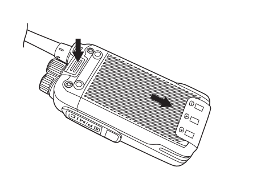
- Do not short circuit battery pack terminals or throw battery pack into fire.
- Do not try to remove the battery pack shell.
- Do not install battery pack under dangerous conditions, otherwise spark will cause explosion.

Insert the top part of the battery pack into the top 2 slots of the transceiver and then press the battery pack down until a "click" sound is heard.(Pic1)

To remove the battery pack, make sure the transceiver has been turned off, and then press the battery released latch in the bottom of transceiver, and pull the bottom part of battery away from the transceiver body, and remove the battery.(Pic2)



(Pic1)



(Pic2)

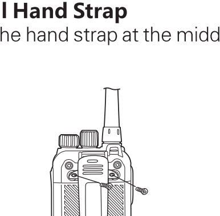
5.Install/Remove Belt Clip

If necessary, install the supplied screws into the belt clip at the back of battery pack for easy carry.(Pic3)

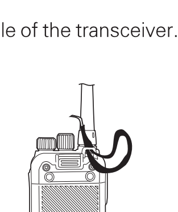
To remove the belt clip, directly remove the two screws only.

6.Install Hand Strap

Install the hand strap at the middle circle of the transceiver.(Pic4)

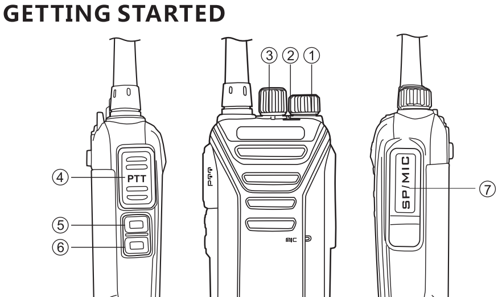


(Pic3)



(Pic4)

GETTING STARTED



① Power/Volume Knob

Rotate the knob clockwise to turn on the transceiver, keep rotating to adjust the volume.To turn it off, rotate the knob to the end anticlockwise.

② LED Indicator

When transmitting, LED indicator turns green, and when receiving, LED indicator turns red. LED indicator will flash red when battery in low voltage.

③ Channel Selection Knob

Rotate this knob to select different channels.

④ PTT(Push-To-Talk) Switch

To transmit, press PTT button and face towards microphone to talk.

⑤ Scan Key

Press it to open and again to close this function.

⑥ MONI Key

Press it to monitor the selected channel.

⑦ MIC-SP Jack

It is to connect the optional microphone-speaker.

BASIC OPERATION

1.Turn On/Turn Off

Rotate the Power/Volume knob clockwise to turn on the transceiver

Rotate the Power/Volume knob anticlockwise to turn on the transceiver.

2.Adjust Volume

Rotate the Power/Volume knob to adjust the volume. Clockwise rotation will rise the volume and anticlockwise rotation will reduce the volume.

- More accurate adjustment is needed while communication.

Note: You can press MONI key to monitor the background noise while adjusting volume.

3.Channel Select

Rotate Channel Selection Knob to select needed channel. Clockwise rotation will rise the channel number and anticlockwise rotation will reduce the channel number. Voice Prompt: The radio will be voice prompt recent channel number automic when you rotete channel knob. The voice prompt can be set by English and Chinese, you can select the language by software.

4.Adjust Squelch Level

Squelch function is used to let speaker quiet when no any signal. When squelch is on, you can hear background noise from speaker. When squelch is off, no any noise can be heard.

The selected squelch level will decide where to turn on or off squelch function. If the selected squelch level is too high, then weaker signal can not be heard; But if the selected squelch level is too low , then signal will appear with the background noise. (PC programmable)

5.Transmit(Call)

1. According to different settings of monitor function, press [MONI] key to monitor loudspeaker. Make sure no any transceiver is transmitting on the selected channel.
2. Press [PTT] key, and speak to microphone.

(1) Keep microphone away from your mouth about 3~4 cm, and speak in your usual tone, so that the receiver can get best tone quality.

(2) Press [PTT] key, LED indicator displays red.

3. Release [PTT] key and start to receive.

6.Receive

When the selected channel is being called, LED indicator displays green, you can receive the call.

- If the transmitting signal is weaker, and also higher squelch level is set, then maybe you can not receive the call.
- Maybe your local dealer has set CTCSS/DCS signalling on your transceiver. When this programmable channels has been selected, only transceiver with same signalling can be received. Other transmitting can not be received.

SCAN FUNCTION

Press Scan key to start auto scan. When receiving signal, it will stop at current channel, and it will auto scan again after signal disappears in 5s. Press [PTT] key, if scan is working, then transmitting will according to the frequency from the scan start channel. If scan stops, transmitting will according to current channel.(PC programmable)

CTCSS and DCS

Maybe your local dealer has set CTCSS/DCS signalling on your transceiver. When this programmable channels has been selected, only transceiver with same signalling can be received. Other transmitting can not be received.

This function can help you not to receive unnecessary call. It seems the transceiver maybe have its own channel after CTCSS/DCS has been input, but if other transceivers have been set same CTCSS/DCS codes, your transmitting can be also heard.

AUXILIARY FUNCTION

1. Busy Channel Lockout

Start this function to prevent interfereing other transceiver using same channel frequency.

The default setting of this function is off, if the selected channel is programmed on by software or local dealer, when other transceiver is using this channel, if press [PTT] key, then can not transmit , and transceiver will sound "beep", "beep". To stop beep sound, release PTT key.

When this channel is free, press PTT key again to transmit.

2. Battery Voltage

When transceiver power is on, battery voltage will be auto detected. When voltage is low, LED indicator displays red. The transceiver can be used for a while, but excessive transmitting will run out of battery quickly. When battery voltage is very low, an alarm will be heard, transmitting is prohibited. Please charge the battery pack or replace the battery pack.

3. Monitor

You can press [MONI] key to monitor weaker signal which is difficult to be received under normal operation, and also adjust the selected channel volume if signal disappears.

4. CTCSS Select

Open the software, input the necessary frequency,click "CTCSS""which is under "CTCSS/DCS decode" and "CTCSS/DCS encode", and select the necessary CTCSS, then write it into transceiver by software.

5. DCS Select

Open the software, input the necessary frequency,click "DCS""which is under "CTCSS/DCS decode" and "CTCSS/DCS encode", and select the necessary CTCSS, then write it into transceiver by software.

6.Time-out Timer(TOT)

TOT function is used to prevent a channel have been used for a long time.

If the transmitting time exceeds the programmable time, transceiver will stop transmitting, and send alarm sound. Release [PTT] key, transceiver will back to receiving mode automatically .

1.Product safety and RF Exposure for transceiver:

⚠	Before using this transceiver, please read the manual which contains important operating instructions for safe usage, RF Energy Awareness, control information and operational instructions for compliance with RF Energy Exposure limits in applicable national and international standards, and also read the operational instructions for safe use.

2.

WARNING

Your Retevis radio is designed to comply with the following national and international standards and guidelines regarding exposure of human beings to radio frequency electromagnetic energy:

- United States Federal Communications Commission, Code of Federal Regulations: 47 CFR part 2.1093
- IEEE Std. 1528:2013 and KDB447498, Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields.
- American National Standards Institute (ANSI)/Institute of Electrical & Electronic Engineers (IEEE) C95. 1-2005
- Institute of Electrical and Electronic Engineers (IEEE) C95.3-2002
- International Electrotechnical Commission IEC62209-2:2010

3.Test position and configuration Head SAR was performed with the device configured in the positions according to IEEE1528, and face up SAR was performed with the device 25mm from the phantom, Body SAR was performed with the belt clip on the device 0 mm from the phantom. Body SAR was also performed with the headset attached and without.

4.

CAUTION

This product is compliance to FCC RF Exposure requirements and refers to FCC website https: //apps. fcc.gov/oetcf/eas/ reports/Generic Search.cfm search for FCC ID: 2AAR8RETEVISRT27 to gain further information include SAR Values.

5.

WARNING

SAFETY INFORMATION

Your wireless hand-held portable transceiver contains a low power transmitter. This product sends out radio frequency (RF) signals when the Push-to-Talk (PTT) button is pressed. The device is authorized to operate at a duty factor not to exceed 50%. In August 1996, the Federal Communications Commissions (FCC) adopted RF exposure guidelines with safety levels for hand-held wireless devices.

To control your exposure and ensure compliance with the general population or uncontrolled environment exposure limits, transmit no more than 50% of the time. The radio generates measurable RF energy exposure only when transmitting.

WARNING

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment and should not be made. To comply with FCC 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 FCC equipment authorization for this radio could violate FCC rules.

Note: Use of this radio outside the country where it was intended to be distributed is subject to government regulations and may be prohibited.

WARNING

Body-Worn Operation

To maintain compliance with FCC's RF exposure guidelines, for body-worn operation, this radio has been tested and meets the FCC RF exposure guidelines when used with Retevis Radio Corp. accessories supplied or designated for this product. Use of other accessories may not ensure compliance with FCC RF exposure guidelines.

If you wear the radio on your body when transmitting always use Retevis supplied or approved belt clip, holster, case, or body harness for this product.

If you do not use any accessories supplied or approved by Retevis, ensure the radio and its antenna are at least 1 inch (2.9cm) from your body when transmitting.

WARNING

Antennas

1) The antenna in the packing is unique, please do not optional change.
2) For safe operation, the antenna for the product shall be least 45 mm away from your face, when speaking.
3) Switching to other antennas is prohibited and will affect the radio performance.
4) DO NOT use any portable radio that has a damaged antenna. If a damaged antenna comes into contact with your skin, a minor burn can result.

WARNING

Batteries

All batteries can cause property damage and/or bodily injury such as burns if a conductive material touches exposed terminals. The conductive material may complete an electrical circuit (short circuit) and become hot.

- Exercise care when removing NiMH or AA batteries. Do not use sharp or conductive tools to remove these batteries.
- Exercise care in handling any charged battery, particularly when placing it inside a pocket, purse or other container with metal objects.

- Do not discard your battery in a fire.
- Do not replace the battery in any area labeled "Hazardous Atmosphere". Any sparks created in a potentially explosive atmosphere can cause explosion or fire.
- Do not disassemble, crush, puncture, shred or otherwise attempt to change the form of your battery.
- Do not dry a wet battery or damp battery with an appliance or heat source, such as a hair dryer or microwave oven.
- If the radio battery contact area has been submerged in water, dry and clean the battery contacts before attaching the battery to the radio.

CAUTION

Battery Charger Safety Instructions:

1. Turn the radio off when charging the battery.
2. Do not expose the charger to outside environment. Chargers should only be used indoors.
3. Do not operate or disassemble the charger. Do not use a charger that has been dropped or damaged in any way.
4. Never alter the AC cord or plug provided with the unit. If the plug will not fit the outlet, have the proper outlet installed by a qualified electrician. An improper condition can result in a risk of electric shock.
5. To reduce the risk of damage to the cord or plug, pull the plug rather than the cord when disconnecting the charger from the AC receptacle.
6. To reduce the risk of electric shock, unplug the charger from the outlet before attempting any maintenance or cleaning.

7. Use of an attachment not recommended or sold by Retevis Solutions may result in a risk of fire, electric shock or personal injury.
8. Make sure the cord is located so it will not be stepped on, tripped over or subjected to damage or stress.
9. An extension cord should not be used unless absolutely necessary. Use of an improper extension cord could result in a risk of a fire and/or electric shock. If an extension cord must be used, make sure that:

The pins on the plug of the extension cord are the same number, size and shape as those on the plug of the charger.

The extension cord is properly wired and in good condition.

10. The supply cord of the AC adaptor cannot be replaced. If the cord is damaged, call customer service.

WARNING

The information listed below provides the user with the information needed to make him or her aware of RF exposure, and what to do to as-sure that this radio operates with the FCC RF exposure limits of this radio.

Electromagnetic Interference/Compatibility

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

During transmissions, RETEVIS, INC. radio generates RF energy that can possibly cause interference with other devices or systems.

Facilities

radio in any facility where posted notices instruct you to do so. Hospitals or health care facilities may be using equipment that is sensitive to external RF energy.To avoid electromagnetic interference and/or compatibility conflicts, turn off your

Aircraft

When instructed to do so, turn off your radio when onboard an aircraft. Any use of a radio must be in accordance with applicable regulations per airline crew instructions.

Medical Devices – Pacemakers, Defibrillators or other Implanted Medical Devices

Persons with pacemakers, Implantable cardioverter defibrillators (ICDs) or other active implantable medical devices (AIMD) should:

- Consult with their physicians regarding the potential risk of interference from radio frequency transmitters, such as portable radios (poorly shielded medical devices may be more susceptible to interference).
- Turn the radio OFF immediately if there is any reason to suspect that interference is taking place.
- Do not carry the radio in a chest pocket or near the implantation site, and carry or use the radio on the opposite side of their body from the implantable device to minimize the potential for interference.

Hearing Aids

Some digital wireless radios may interfere with some hearing aids. In the event of such interference, you may want to consult your hearing aid manufacturer to discuss alternatives.

Other Medical Devices

If you use any other personal medical device, consult the manufacturer of your device to determine if it is adequately shielded from RF energy. Your physician may be able to assist you in obtaining this information.

Use of Communication Devices While Driving

Always check the laws and regulations on the use of radios in the areas where you drive.

- Give full attention to driving and to the road.
- Use hands-free operation, if available.
- Pull off the road and park before making or answering a call, if driving conditions or regulations so require.

For Vehicle with Air Bags

Refer to the vehicle manufacturer's manual prior to installation of electronic equipment to avoid interference with air bag wiring. Do not place a portable radio in the area over an air bag or in the air bag deployment area. Air bags inflate with great force. If a portable radio is placed in the air bag deployment area and the air bag inflates, the radio may be propelled with great force and cause serious injury to occupants of the vehicle.

Potentially Explosive Atmosphere

Turn off your radio prior to entering any area with a potentially explosive atmosphere. Only radio types that are especially qualified should be used in such areas as "Intrinsically Safe". Do not remove, install or charge batteries in such areas. Sparks in a potentially explosive atmosphere can cause an explosion or fire resulting in bodily injury or even death.

Note: The areas with potentially explosive atmosphere referred to above include fueling areas such as below decks on boats, fuel or chemical transfer or storage facilities, areas where the air contains chemicals or particles (such as grain, dust or metal powders) and any other area where you would normally be advised to turn off your vehicle engine. Areas with potentially explosive atmospheres are often – but not always posted.

Blasting Caps and Areas

To avoid possible interference with blasting operations, turn off your radio when you are near electrical blasting caps, in a blasting area, or in areas posted "Turn off two-way radios". Obey all signs and instructions.

⚠ Warning: CHOKING HAZARD–Small Parts. Not for children under 3 years.

⚠ Attention! RISQUE D'ÉTOUFFEMENT – Contient de petits éléments. Ne convient pas aux enfants de moins de 3 ans.

⚠ Advertencia: PELIGRO DE ASFIXIA – Contiene piezas pequeñas. No conveniente para niños menores de 3 años.

⚠ Achtung: ERSTICKUNGSGEFAHR – Kleinteile. Nicht für Kinder unter 3 Jahren geeignet.

⚠ Waarschuwing: VERSTIKKINGSGEVAAR – Bevat kleine onderdelen. Niet geschikt voor kinderen jonger dan 3 jaar.

⚠ Attenzione: RISCHIO DI SOFFOCAMENTO – Contiene pezzi di piccole dimensioni. Non adatto a bambini di età inferiore a 3 anni.

⚠ Aviso: RISCO DE ASFIXIA – Peças pequenas. Produto não recomendado para crianças com menos de 3 anos.

1.Specifications

- ◆ Operating frequency: 462.5500MHz~467.7125MHz
- ◆ OutputPower: 0.5W
- ◆ Channels: 22 FRS
- ◆ Modulation type: F3E
- ◆ Bandwidth: 12.5KHz
- ◆ Power sour ce: LI-ion Battery 3.7V DC/1100mAh

CH.No	CH.Freq.	ERP	CH.No	CTCSS/DCS	CH.No	CH.Freq.	ERP	CTCSS/DCS
1	462.5625	0.5W	12	114.8	12	467.6625	0.5W	D026N
2	462.5875	0.5W	13	114.8	13	467.6875	0.5W	D026N
3	462.6125	0.5W	14	114.8	14	467.7125	0.5W	D026N
4	462.6375	0.5W	15	114.8	15	462.5500	0.5W	114.8
5	462.6625	0.5W	16	114.8	16	462.5750	0.5W	114.8
6	462.6875	0.5W	17	114.8	17	462.6000	0.5W	114.8
7	462.7125	0.5W	18	114.8	18	462.6250	0.5W	114.8
8	467.5625	0.5W	19	D026N	19	462.6500	0.5W	114.8
9	467.5875	0.5W	20	D026N	20	462.6750	0.5W	114.8
10	467.6125	0.5W	21	D026N	21	462.7000	0.5W	114.8
11	467.6375	0.5W	22	D026N	22	462.7250	0.5W	114.8

Note: Above channels are FRS license free channels

CTCSS FREQUENCY(50 groups)

1	67.0	12	94.7	23	141.3	34	179.9	45	225.7
2	69.3	13	100.0	24	146.2	35	183.5	46	229.1
3	71.9	14	103.5	25	151.4	36	186.2	47	233.6
4	74.4	15	107.2	26	156.7	37	189.9	48	241.8
5	77.0	16	110.9	27	159.8	38	192.8	49	250.3
6	79.7	17	114.8	28	162.2	39	196.6	50	254.1
7	82.5	18	118.8	29	165.5	40	199.5		
8	85.4	19	123.0	30	167.9	41	203.5		
9	88.5	20	127.3	31	171.3	42	206.5		
10	91.5	21	131.8	32	173.8	43	210.7		
11	94.8	22	136.5	33	177.3	44	218.1		

DCS FREQUENCY (105 groups)

1	023	19	116	37	225	55	325	73	452	91	627
2	025	20	122	38	226	56	331	74	454	92	631
3	026	21	125	39	243	57	332	75	455	93	632
4	031	22	131	40	244	58	343	76	462	94	645
5	032	23	132	41	245	59	346	77	464	95	654
6	036	24	134	42	246	60	351	78	465	96	662
7	043	25	143	43	251	61	356	79	466	97	664
8	047	26	145	44	252	62	364	80	503	98	703
9	051	27	152	45	255	63	365	81	506	99	712
10	053	28	155	46	261	64	371	82	516	100	723
11	054	29	156	47	263	65	411	83	523	101	731
12	065	30	162	48	265	66	412	84	526	102	732
13	071	31	165	49	266	67	413	85	532	103	734
14	072	32	172	50	271	68	423	86	546	104	743
15	073	33	174	51	274	69	431	87	565	105	754
16	074	34	205	52	306	70	432	88	606		
17	114	35	212	53	311	71	445	89	612		
18	115	36	223	54	315	72	446	90	624		

Please cut along with this line

GUARANTEE CARD

Model Number:
Serial Number:
Purchasing Date:
Dealer: Telephone:
User's Name: Telephone:
Address: Post Code:

REMARKS:

1. This guarantee card to be kept by the user,no replenishment if lost.
2. This guarantee card to be filled & chopped by the dealer,or it is invalid.
3. Don't alter the guarantee card,please confirm the serial number on the guarantee card is same as that on the machine.
4. One-year guarantee,charger,battery,earphone,antenna and can cable are not under guarantee.
5. The user can get repairing service from the following ways:
   - a.Go to the shop where you buy the machine
   - b.Our local repairing agent