

# RETEVIS USER'S MANUAL

## TRANSCIVER RT27



**Dear user:**  
Welcome to use our handheld transceiver. We believe you will be pleased to use it in your 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 professional technicians, self-disassembly is prohibited.

- Scan function
- Busy Channel Lock Out

### FM Transceiver

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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**

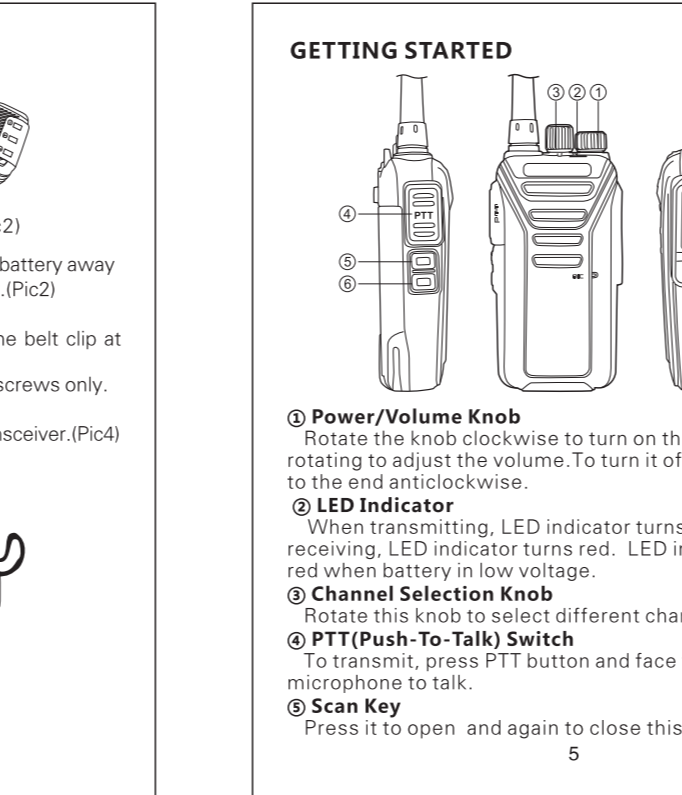
Item	Quantity
Hand Strap	1
Belt Clip	1
Battery	1
USB Charger	1
User's Manual	1
Adapter	1

### PREPARATION

**Notice:**  
Do not charge the battery for a long time. If the 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!  
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:  
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

2. If possible, discharge battery.  
3. Store it in a cool (below 25°C) and dry place.  
**2. Battery Characteristics:**  
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 light will turn red, start charging. When battery has been fully charged, the green light on.  
**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)  
**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)



### 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. Rotating 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 automatic when you rotate 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, 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.  
**5. 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.  
**6. 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.  
**7. 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.  
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.

### 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.  
**1. 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.

### 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. CAUTION**  
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/Genric Search.cfm search for FCC ID: 2AARRETEVISRT27 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.

**6. 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 (2.5cm) from your body when transmitting.  
**Antenna**  
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.

Do not discard your battery in a fire.  
Do not replace the battery in any area labeled "Hazardous Atmosphere". Any sparks created by a potentially explosive atmosphere can cause explosion or fire.  
Do not disassemble, crush, puncture, shred or otherwise alter or change the construction 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 is submerged in water, dry and clean the battery contacts before attaching the battery to the radio.  
**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.  
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, procedures, and 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 voice-operated systems, 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 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.  
**Warning:** 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 sugar, 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.  
**Atención: PELIGRO DE ASFIXIA –** Contiene piezas pequeñas. No conveniente para niños menores de 3 años.  
**Achtung: ERSTICKUNGSGEFÄHR –** 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.

**Specifications**  
◆ Operating frequency: 462.5500MHz-467.7125MHz  
◆ Output Power: 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	DOXN
2	462.5875	0.5W	13	114.8	13	467.6875	0.5W	DOXN
3	462.6125	0.5W	14	114.8	14	467.7125	0.5W	DOXN
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	DOXN	19	462.6500	0.5W	114.8
9	467.5875	0.5W	20	DOXN	20	462.6750	0.5W	114.8
10	467.6125	0.5W	21	DOXN	21	462.7000	0.5W	114.8
11	467.6375	0.5W	22	DOXN	22	462.7250	0.5W	114.8

### 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	241.3
5	77.0	16	110.9	27	159.6	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	216.1		

### DCS FREQUENCY (105 groups)

1	003	119	116	307	226	056	305	73	452	91	627
2	005	120	122	301	208	06	311	74	454	92	631
3	006	121	125	303	243	57	332	75	455	93	632
4	007	122	127	304	244	58	333	76	456	94	634
5	008	123	132	41	245	59	346	77	464	96	654
6	008	124	134	42	246	60	351	78	465	96	662
7	003	125	143	43	251	61	356	79	465	97	664
8	047	208	145	44	252	62	364	80	503	98	703
9	001	07	152	45	255	63	365	81	508	98	715
10	053	208	156	46	261	64	371	82	516	100	723
11	054	209	156	47	263	65	411	83	523	101	731
12	005	130	162	48	265	66	412	84	526	102	732
13	071	31	166	49	266	67	413	85	532	103	734
14	072	32	172	50	271	68	423	86	540	104	743
15	073	33	174	51	274	69	431	87	545	105	754
16	074	34	205	52	286	70	432	88	545	105	763
17	114	38	212	53	311	71	445	89	612		
18	115	38	223	54	315	72	448	90	624		

**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 replacement 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, antenna, antenna and 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