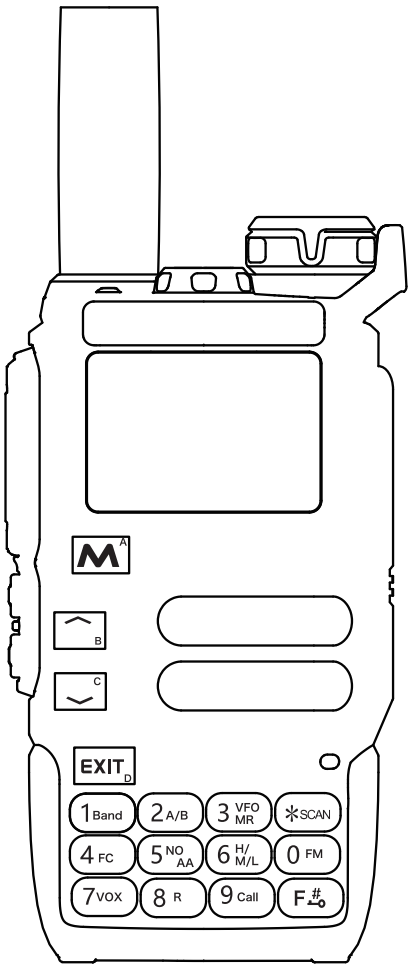
RETEVIS



Retevis RA79
Analog Ham Radio
User's Manual

Contents

Emergency Weather Channel Receiving / Fast Pair One Channel / VOX
Multi-Band Transmitting and 50-600MHz Receiving
Type-C and Charger-base Charging / 200 Channels

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, and is pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and radiates radio frequency energy. If not installed and used in accordance with the instructions, it may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does harmful interference to radio or television reception, which can be determined by turning off the equipment. The user is encouraged to try to correct the interference by one or more of the following measures:
-Reorient or relocate the receiving antenna.
-Increase the separation between the equipment and receiver.
-Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-Consult the dealer or an experienced radio/TV technician for help.
Changes or modifications not expressly approved by the party responsible for compliance could void the use's authority to operate theequipment.
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1)This device may not cause harmful interference.
(2) This device must accept any the received interference, including interference that may cause the undesired operation.
Use Two Way Radio in the environment with the temperature between -10℃ and 40℃ . Otherwise, it may damage your two way radio. It can be operated under 2000m.
For this decision, head SAR and Body SAR were performed with the device configured in the positions according to EN62209-2:2010 and face-up SAR was performed with the device 25mm from the phantom, and Body SAR was performed with the device 0mm from the Phantom. Body SAR was also performed with the headset and belt clip attached and without.
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.

Precaution before using

This radio incorporates excellent design and the latest advanced technology. The following advice will help you fulfill your obligations in the warranty clause. And
it gives you important information about how to operate this portable radio safely.

• Please put the radio and accessories where the children cannot reach.
• Maintenance can only be performed by professional technicians.
• Please use the standard battery pack and charger in order not to destroy the radio.
• Please use the standard antenna, in order not to shorten the communication distance.
• Do not expose the radio to sunlight for a long period of time, nor put it near the heat.
• Do not put it in extreme dust or wet environment.
• Do not clean the radio with fierce chemical products, cleaning agents or strong washing agents.
• Do not transmit when the antenna is not installed.
• If you find bad smell or smog, please turn off the radio immediately. And take the battery off the radio, then contact with the agent.

Charging Notes:

Battery packs are not charged when they are shipped. Charging them before use.

◆ Initially charging the battery pack after purchase or extended storage (Longer than 2 months) will not bring the battery pack to its greatest capacity or its normal charge, which can be done only after repeated charging and discharging two or three times.

◆ Do not use the radio during charging. This will affect the normal charging of the battery pack, causing damage to the radio and accidents.

◆ After the battery pack is fully charged, please take it out of the charger-base. Do not charge it again before the battery is completely running out. Or it will destroy the memory effect of the battery.

◆ Although using the right charging ways, but the battery does not gain capacity or using time, it means the battery life is near the end, please change a new battery pack.

◆ Please adopt original factory battery pack and charger. They are available with your local agent.

◆ If you have question about non original factory battery pack and accessory, please do not use them. Or it will cause dangerous accidents.

Charging-base instructions:

◆ Plug the lithium battery or radio equipped with the lithium battery into the charger base, and ensure that the battery is in normal contact with the charging base.

◆ The green light is steady on when the charging base is empty; When the red light is on, charging begins; When full, the green light is steady on.

• After the lithium battery pack is fully charged, take it out of the charger.

Type-C charging instructions:

◆ Type-C charging is only used for emergency charging. Use charging base for normal charging.
◆ Type-C Charging head logo in the upper right corner of the screen shows " " during startup and charging.
◆ The shutdown does not affect the charging of Type-C.
◆ When charging, the blue light will be on for a long time, and the blue light will blink to indicate that the charging is about to be completed.
◆ After Type-C is charged, the blue light will be turned off.
◆ Do not remove the battery when charging through Type-C.

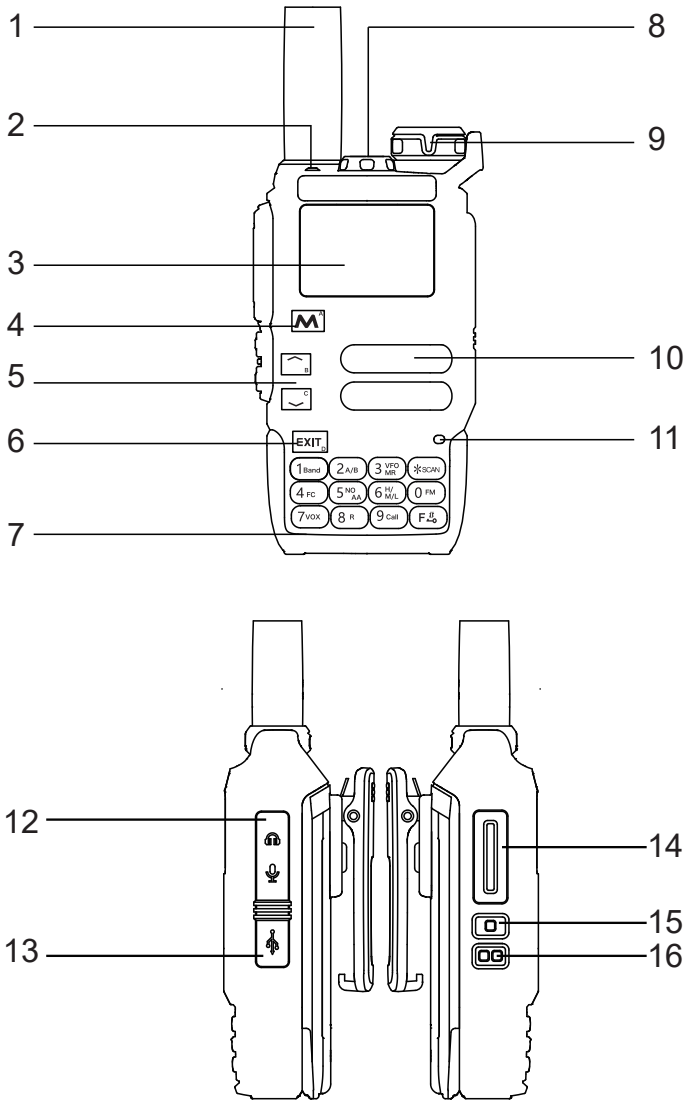
Note:

1. When the radio is charging (charger /Type-C charging), it is forbidden to transmit so as to avoid damage to the radio and accidental danger.
2. When the radio is charged (charger /Type-C charging), the receiving effect will be affected.
3. Do not short circuit the battery terminal or discard the battery in the fire.
4. Do not remove the battery pack cover without permission.

Main Feature

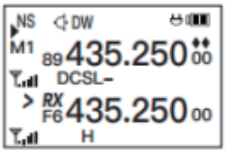
○200 Channels
○Cross-Band RX/TX
○AM Aviation Band Receiving
○Emergency Alert
○10-Group Scrambler
○Split CTCSS/DCS Tone
○Dual-watch/Dual Standby
○Wireless Radio Replication
○Wide/Narrow
○Multi-Scan Modes
○VOX Front panel programming
○PC Programmable
○10 Emergency Weather Channels
○FM Radio
○Remote Kill/Revive
○Keypad Lock
○Flashlight
○Busy Channel Lock
○Time-Out-Timer
○Factory Reset
○LCD Display
○Voice Prompt
○Offset Frequency Setting
○Channel scan and Add
○DTMF Calling
○DTMF ANI
○1750HZ Call Tone
○DTMF Select Call (single call, group call, all call)
○Backlight Time Setting
○Automatic Signaling Search
○Frequency Step
○One Key Call Channel
○Power-on Password Protection
○Frequency Reverse Function
○Type-C and Charger-Base Charging
○Squelch Level Adjustable
○Frequency and Channel Mode Switch
○Multi Display of Channel No./Channel Frequency/Channel Name
○H (High)，M (Medium)，L (Low) Output Power Selective
○Multi-Band 50-600MHz Receiving
○Fast Pair One Channel

Radio Diagram



1.Antenna
2.Indicator
Indicator Detail:
1. Red Light----Transmitting
2. Green Light----Receiving
3. Blue Light---Light blue when charging and fully charged.
3.LCD Screen
4.Menu （Confirm Key）
5.Up/Down Key
6.Exit Key
7.Keypad
8.Flashlight
9.Power / Volume Knob
10.Speaker
11.Microphone
12.Microphone/ Programming Jack
13.Type-C Charging Port
Type-C charging port is for emergency charging only. Do not remove the battery when using Type-C charging.
14.PTT
15.Side Key 1
16.Side Key 2

LCD Display



You could check the different designated symbols in the LCD.
The following chart helps you to understand them.

	Signal Strength. The smaller the number of grids, the weaker the signal.
HML	Transmitting Output Power.
CT DCS	CTCSS/DCS Tones
	Voice prompt is on.
N	Current channel is narrow band.
VOX	VOX Function. When the sound pressure reaches the set value, the transmission is started. This function can be set through the menu.
+ -	+ It means transmitting frequency equals receiving frequency plus a frequency deviation. - It means transmitting frequency equals receiving frequency minus a frequency deviation.
DTMF	DTMF Signal decoding is on.
DW	Dual Watch Mode.
	Keypad Locking.
	Current battery capacity. When the battery is almost run out, it shows .It means the battery needs to charge, at the same time radio will prompt low power voice.
	Main Chanel Indicates. When pressing PTT to initiate a call on the secondary channel, all operation will work on main channel.
SCR	The voice encryption of this channel is on.
R	Frequency Reverse.
◆◆	Scanning. ◆Participating in scan list 1.◆◆Participating in scan list 2.
WX	Cross-band transmitting and receiving.
RX	Receiving.
TX	Transmitting.
	Type-C charging mark.
AM	AM Receiving.

NS	NOAA Channel automatic scan.
>	Temporary transmitting channel, when sub-channel receives a call, it becomes temporary transmitting channel.

Key

PTT Key

Press PTT to transmit a call. Release PTT to receiving.

Programmable Key Function

Side Key1: Short press to turn on Monitor function.
Long press to send 1750Hz tone.
Side Key 2: Short press to turn on Jack light.
Long press to enable emergency alarm.
Other custom side key functions: Emergency on/off. High/Low output power switch. Monitor. FM Radio. Scan ON/ OFF. VOX ON/OFF. Transmitting 1750Hz tone. Jack light.

Keypad Key

◆MENU/ Confirm Key: MENU
1.Short press to enter the menus. Choose menus items and press menu key to confirm.
2.Long press menu key to enter the last setting item.
3.Under the DTMF function, it means A word.
◆Exit/Clear key: EXIT
1.In edit status, short press it to exit and come to upper menu; long press it to exite and come to main page.
2.In edit status, press it to clear the input information.
3.Under the DTMF function, it means D word.
◆Up Key
1.Move upward.
2.Under DTMF function, it means B word.
◆Down key
1.Move downward.
2.Under the DTMF function, it means C word.
◆*Key
1.Short press *key to enter manual dial and call page.
2.Under the DTMF function, it means* word.
3.Long press *key to begin frequency or channel scanning.
◆F key
1.It could work with 0-9 numerical key and quickly implement function switching.
2.Long press this key to lock or unlock the keyboard.
3.Under the DTMF, it represents the # word.

Fast Key	Function	Function description
F+1	BAND	(F1-F7) Frequency Switch
F+2	A/B	Main Channel Switch
F+3	VFO/MR	VFO and MR mode switch
F+4	Frequency Meter	Fast pair one channel
F+5	NOAA Weather Alert	Turn on or off NOAA Channel
F+6	H/M/L	Output Power Swicth
F+7	VOX	Switch to VOX
F+8	R	Frequency Reverse Function
F+9	CALL	One key emergency calling
F+*	SER	CTCSS/DCS Scanning function
F+0	FM	Turn on / off FM Radio

Menu Info

Press Menu key to enter Menu Selection; Press Up/Down Key to select Menu No., and press MENU Key to confirm the selection; Press EXIT Key to return to Upper Menu. Long press EXIT key to return to main page.

Item Name	No	Function Description	Value Range
SQL	1	Squelch Level	0-9
STEP	2	Step Frequency（2.5K/5K/6.25K/10K/12.5K/25K）	0-5
TXP	3	Output Power（LOW / HIGH）	0-2
R-DCS	4	Receive DCS (off,1-104: DCS; 105-208: REVERSE DCS). Short press F+* to begin DCS scanning.	0-208
R-CTCS	5	Receive CTCSS. (OFF, 1-50：CTCSS). Short Press F+* to trigger CTCSS scanning.	0-50
T-DCS	6	Transmit DCS(OFF, 1-104: DCS, 105-208：reverse DCS)	0-208
T-CTCS	7	Transmit CTCSS(OFF, 1-50：CTCSS)	0-50
SFT-D	8	Frequency Deviation Setting (OFF: TX frequency =RX frequency; ADD: TX frequency=RX frequency + frequency deviation; SUB: TX frequency=RX frequency-frequency deviation)	0-2

OFFSET	9	Frequency Deviation（0-999.9999M）	
W/N	10	Channel Bandwidth（0:WIDE，1:NARROW）	0-1
SCR	11	Encrypted Communication (OFF, 1-10: 1 to 10 types of scrambling frequency.)	0-10
BCL	12	Busy Channel Lock（OFF,ON）	0-1
MEM-CH	13	Channel Save (Choose the channel by Up/Down Key and Number Key, press MENU key to Save the channel.)	
SAVE	14	Battery Save（OFF/1:1/1:2/1:3/1:4） The rate between active time and sleep time.	0-4
VOX	15	VOX Setting (OFF: turn off VOX, 1-10: 1 to 10 grades .)	0-10
ABR	16	Auto Back light (OFF: turn off Backlight; 1-5: turn off Backlight in 1-5 seconds)	0-5
TDR	17	Dual-watch on/Off (OFF: Close, CHAN_A: Default TX Channel is A channel, CHAN_B： Default TX Channel is B channel.)	0-2
WX	18	Cross-Band Receiving/Transmitting (OFF: Close, CHAN_A: TX Channel is A channel, CHAN_B： TX Channel is B channel.)	0-2
BEEP	19	BEEP Control(OFF, ON)	0-1
TOT	20	Time-Out-Timer(1-10min)	1-10
VOICE	21	Voice Prompt (OFF,ENG: English)	0-2
SC-REV	22	Scan Resume Mode (TO: Resume scan after 5 seconds` pause; CO: Resume scan after signal disappear; SE: After receive the signal, stop scan.)	0-2
MDF	23	Channel Display Mode(FREQ: Display frequency, CH: Display channel No., NAME: Display channel name)	0-2
AUTOLK	24	Auto Keypad Lock（OFF,ON）	0-1
S-ADD1	25	Whether to participate in list 1 scanning (OFF: not participating, ON: participation)	0-1
S-ADD2	26	Whether to participate in list 2 scanning	0-1

		(OFF: not participating, ON: participation)	
STE	27	Tail Tone Elimination（OFF,ON）	0-1
RP-STE	28	Repeater Tail Tone Elimination（OFF,ON）	0-1
MIC	29	MIC Sensitivity (0-4: 0-4 level)	0-4
1-CALL	30	One Key Call Channel (Select the channel through the Up/Down keys and the Number keys)	
S-LIST	31	Channel Scan List Select（LIST1:Scan list 1；LIST2:Scan list 2）	1-2
SLIST1	32	Channel Scan List 1 Configuration	
SLIST2	33	Channel Scan List 22 Configuration	
AL-MOD	34	Alarm Mode(SITE: local alarm; TONE: Distant + local alarm)	0-1
ANI-ID	35	ANI-ID, DTMF communication radio ID	
UPCODE	36	DTMF UP CODE	
DWCODE	37	DTMF DOWN CODE	0-1
D-ST	38	DTMF Side Tone Switch（OFF，ON）	0-3
D-RSP	39	DTMF Decoding Response (NULL: Close, Ring: Local ringing, REPLY: reply response, both: local ringing +reply response)	0-3
D-HOLD	40	DTMF Auto Reset Time（5s-60s）	5-60
D-PRE	41	DTMF pre-load time(30-990ms)	3-99
PTT-ID	42	DTMF PTT-ID TX Mode（OFF: Close, BOT: Press PTT to send UP CODE, EOT: Release PTT to send DOWN CODE, BOTH: Press or release PTT to send.）	0-3
D-DCD	43	DTMF decoding enable signal (OFF,ON)	0-1
D-LIST	44	DTMF Contact List(Choose the contact by Up/Down Key and Number Key, press MENU key to select the contact and call directly.)	1-16
PONMSG	45	Displays of Power On(FULL: full screen display, MSG: Welcome info, VOL: Voltage. It can modify it by program	0-2

		software.)	
ROGER	46	Reminding of End Talk(OFF: no reminding, ROGER: with reminding, MDC: Frog Sound Tail Tone)	0-2
VOL	47	Battery Voltage	0-1
AM	48	AM Channel Mode On/Off (Used only for 108-136MHz)	0-1
NOAA_S	49	NOAA Channel Auto Scan On/Off	
DEL_CH	50	Channel Delete (Choose the channel by Up/Down Key and Number Key, press MENU key to delete the channel.)	
RESET	51	Reset (VFO: Reset parameter beside channel parameter; ALL: Reset all parameter.)	0-1

Common Operation Introduction

Power On Password Protection

Turn the “Power/Volume Switch” in clockwise direction to power on this radio. If the program set Power On Password Protection, then the screen will show “LOCK”. The user has to input the password first. Then the radio could be normally used.

Switch Main Channel

Press F+2 Key to switch main channel.

The solid arrow pointed to the main channel.

● Press PTT to start TX on the main channel.

● If the sub channel receives a call, it displays > and temporarily becomes the TX channel. After symbol > disappears, primary channel becomes TX channel again.

Dual Band Single - Watch/Dual - Watch Switch

Dual-watch operation mode could be set by menu. The method is: MENU →17→ CHAN_A: Default TX Channel is A channel, or CHAN_B： Default TX Channel is B channel. The screen will show “DW”.

Frequency/Channel Mode Switch

On the main page, press F+3 key to switch between Frequency Mode and Channel Mode.

Frequency Mode: In this mode, the users could manually input the RX frequency. Or you could press the Up/Down key to adjust the frequency by step frequency. The parameter could be modified by menu. In this mode, the users could not input TX frequency. You could set Frequency or Direction of Offset Frequency to change the TX frequency.

Channel Mode： Display the actual channel No. In this mode, the users could

manually input the channel No. Or you could press the Up/Down key to switch channel. The parameter could be modified by menu.

Cross-Band Receiving/Transmitting

The method is: MENU→18→WX， Press MENU to enter setting

OFF: Main Channel TX When CHAN_A or B receives a valid call, the channel automatically becomes the transmitting channel until the call ends.

CHAN_A: No matter which channels receive valid calls, Default TX. Channel is A channel, displaying the "DW" character.

CHAN_B: No matter which channels receive valid calls, Default TX. Channel is B channel, displaying the "DW" character.

Channel Save

In MR Mode, Channel Save is workable. You could copy the current channel to the new channel.

● IN VFO Mode, And you should set the parameter of RX Frequency, Frequency Deviation Direction, Wide/Narrow Bandwidth, RX/TX CTCSS/DCS, TX Output Power, Whether to Participate in Scanning, DTMF code, Scrambler, etc. First Press MENU→13→CH-001, then press the MENU again to enter the Channel Save. Choose the channel by Up/Down Key. Or you could use Number Key to input channel No.. After that, you press the MENU key again and the LCD will show “SURE?”. And you could press the MENU key to save the channel.

● When you select the Saved channel, if it shows CH-XXX, then the channel is saved. If it shows XXX, then the channel is empty.

Channel Delete

Press MENU→50→CH-XXX, ,then press MENU again to enter the Channel Delete. Choose the channel that you want to delete by Up/Down Key. Or you could use the Keypad to input the channel No.. After that, you press the MENU key again and the LCD will show “SURE?”. And you could press the MENU key to delete the channel.

Receiving/Transmitting CTCSS/DCS Setting

Process Flow:

MENU→4→R-DCS Press MENU to enter and choose the RX DCS Code that you want to set from DCS List by Up/Down Key.

MENU→5→R-CTCS Press MENU to enter and choose the RX CTCSS Code that you want to set from CTCSS List by Up/Down Key.

MENU→6→T-DCS Press MENU to enter and choose the TX DCS Code that you want to set from DCS List by Up/Down Key.

MENU→7→T- CTCS Press MENU to enter and choose the TX CTCSS Code that you want to set from CTCSS List by Up/Down Key.

● CTCSS/DCS is used to remove the unwanted noise signals when receiving.

Fast Pair One channel (ACT AS FREQUENCY)

METER (FOR TWO-WAY RADIO & SOME OTHER DEVICES)

● Fast Pair requires strong signal. Both the Transmitter and Receiver should install antenna. And their distance should not be too far away.

● Press F+4, the Receiver will enter into Frequency meter interface. When it receives strong signal, the LCD screen will display signal carrier frequency and transmitting channel (CTCSS or DCS).

Press * key to re-measure the frequency.

● After the effective frequency is measured, press the MENU key to Save the currently measured frequency and the transmitting CTCSS/DCS to specified channel.

● During frequency measuring, press EXIT or PTT to exit Frequency meter.

Auto CTCSS/DCS Scan

● First set correct receiving frequency, then press F+*to start channel searching. When the radio receives valid CTCSS/DCS signal, it will display the scanned TX CTCSS/DCS signal. Press MENU to saved searched CTCSS/DCS signal to current channel.

● If the screen displays SCAN CMP, it means that the radio has scanned valid CTCSS/DCS signal and stop auto searching;

● If the screen displays SCAN FAIL, it means that the radio did not scanned valid CTCSS/DCS signal and stopped auto searching.

DTMF

DTMF Calling

Initiative:

● Manual dialing: Press PTT and the Number key of the keypad to make call.

● Automatic calling: Press *, enter 3 digits, short press PTT to start the DTMF call. It automatically sends its own ID number when transmitting

● Single call: send the ID of the other party plus our own ID code, for example, 123 * 100. ID 100 call ID 123.

● Group call: Use a group calling code instead of one or more code words in the ID number, you can call a communication group. The group calling code is set by the program software. For example,

the group call code is set as #, send 12# you can call 10 radios with ID number 120 ~ 129, and send 1##, you can call 100 radios with ID number 100~199.

● All call: send ### group call TD, can all the users.

DTMF Receiving:

Process Flow: Press MENU→43→DCD ON, when the code word receives is DTMF personal ID code, the decoding is successful, and you communicate with the other party within the resetting time. When the reset time arrives, you need to re-decoding.

● MENU→40→D-HOLD 5S Sets the automatic reset time. The initial value is 5 seconds.

● MENU→39→D-RSP Sets the automatic response after receiving a DTMF call. NULL: off, RING: local ring. REPLY: Automatic callback; BOTH: local ring + automatic callback.

PTT ID
Initiative: You can configure the DTMF online code and offline code through the program software. When online code and offline code is enabled, this radio will send the online code when pressing PTT, and send the offline code when the PTT releases.

Scanning
Start Scanning:
● Method 1: Long press*Key to Start Scanning or Exit Scanning
● Method 2: Set Side Key as Scanning Start/Close Switch
● Frequency Scanning: During the scanning process, you can change the scan direction by the Up/Down key. Press PTT Key or Exit key to exit Scanning or long press*Key to exit the Scanning.
● Channel Scanning: When scanning starts, it will detect the channels in the scan list in turn. And during the scanning process, you could answer the incoming call by PTT Key.
Process: Press MENU → 31 → S-List LIST1 or LIST2, scanning the specified channel list;
● Process: Press MENU → 32 →SLIST1 to View the channel listed in the LIST1;
● Process: Press MENU → 33 →SLIST2 to View the channel listed in the LIST2;
● Process: Press Menu → 25 → S-ADD1 to add the current channel into the scan LIST1;
● Process: Press MENU → 26 → S-ADD2 to add the current channel to the scan LIST2;
Process: Press Menu → 22 → SC- REV to Select Scanning Mode
● Priority Scanning: You can specify the priority scanning channel. During the scanning process, 50% of the scanning is located at priority 1 members. If there is a priority 2 members, the scanning rate of priority 1 member will be reduced from 50% to 25%. Even if the scanning is located at non-priority channel or priority 2 members, the radio will continue to scanning the activity of the priority 1 member. If the radio finds activity of the priority 1 members, it will stop the current transmitting and call the priority 1 members.

Emergency Alarm
Emergency Alarm is used to represent emergency situations. You can initiate emergency calls at any time or on any screen, or even there is activity on the current channel. The users have to configuration the emergency alarm button to this radio by programming software.
Press the emergency alarm key to start the local audible alarm and send a remote alarm. The alarm type can be set as local alarm/remote alarm.
● Exit the alarm mode with any key.
● Process: Press MENU → 34 →AL-MOD TONE, this radio will make alarm sound and send remote alarm signal.
● Process: Press MENU → 34 → Al-MOD SITE, this radio will make an alarm sound.

FM Radio

● Press F+0 to enter the FM radio mode, press the Up/Down key to change the frequency or the pre-stored FM channels. And you can use the keyboard to enter the FM frequency or pre-stored FM channels.

● Press F+1 to switch between VFO and MR mode.

● Press F+2 to start the automatic FM radio channel searching process. This process will automatically store the searched FM channels, up to 20 FM channels could be stored.

● Press F+3 to start the manual FM channel searching process. In this process, users need to manually store the searched FM channels.

● Menu key is used to store FM channels;

● Exit key is used to exit the FM channel searching process;

● Up/Down key is used to switch the scanning direction.

● In the FM Mode, if the radio receives effective calls or you press PTT to initiate calls, it will temporarily exit the FM Mode to enter into communication status. After the intercom is finished, the radio will return to FM radio status.

● Press the EXIT Key or F+O Key to exit the FM Mode.

(6.15) **Emergency Weather Channel Receiving**

● Press F+5 to enter or exit NOAA Weather Alert.

● This radio could receive 10 NOAA channels.

● This mode could be set through Menu 49 NOAA_S.

(6.16) **Keypad Locking**

● Long press the # key to lock or unlock all the keys of the keyboard. The side keys could be normally used while keypad locking.

Reset

● Process: Press MENU→51→RESET

● VFO: Reserve all storage channels.

● ALL: Reset all parameter, which includes storage channels.

● LCD will display "Sure?", Press the MENU key and wait for the radio to restart, and all the menu of radio will return to the factory setting.

One Key Call Channel

F+9 immediately jumps to one key call channel, and you can set the important channel to one call channel by MENU→30→1-call.

Aviation Band Receiving

● Enter the receiving frequency. If the local aviation frequency is not clear, the scanning function can scan the 108-136 full frequency band.

● Menu→48→AM ON set the channel modulation method to AM, listen to aviation intercom.

● Menu→48→AM OFF set the channel modulation method to FM.

● Menu 48 settings are only valid for 108-136 frequency band.

Wireless Radio Replication

● Hold the PTT + side key 2 to enter the Wireless Radio Replication interface.

The LCD will display Air Pair. Both the transmitting radio and receiving radio can use the digital keyboard to set the frequency of wireless replication. The frequency of transmitting radio and receiving radio must be consistent. The default receiving/transmitting frequency is 410.0125MHz.

● Press EXIT key of the receiving radio to enter the receiving mode, and its LCD will display Air Pair. Presses MENU key of the transmitting radio to start the frequency data transmitting. And its LCD will display Air Pair.

● During the pairing process, the LCD will display pair progress RCV: XX E: XX. E: XX indicates the number of error of the pairing data. When pairing is finished, the transmitter will display SND: 120.

Specifications

General Specifications	
Channel	200
FM Radio Channel	20
NOAA Channel	10
Frequency Stability	±1ppm
Modulation Mode	FM：11KφF3E （12.5Khz） 16φF3E (25Khz)
Dimension	115m*60mm*37.5mm
Weight	234g
Operation Temperature	-20℃+60℃
Antenna Impedance	50Ω

Receiving			
Sensitivity	FM (12dB SINAD)	F1 (50-76Mhz)	-121dBm
		F2 (108-135.9975Mhz)	-121dBm
		F3(136-173.9975Mhz)	-123dBm
		F4(174-349.9975Mhz)	-123dBm
		F5(350-399.9975Mhz)	-123dBm
		F6(400-469.9975Mhz)	-123dBm
		F7 (470-599.9975Mhz)	-121dBm
	WFM(20dB SINAD)	WFM (76-108Mhz)	-110dBm
	AM (10dB S/N)	F2 (108-135.9975Mhz)	-113dBm
Audio Frequency	≥0.5W		
Audio Distortion	≤10%		

Transmitting	
Frequency range	US version: UHF 420-450Mhz; VHF 144-148Mhz; EU Version: UHF 430-440Mhz; VHF 144-146Mhz;
Output Power	＜5W
Emission Current	≤1.5A
Max Frequency Deviation	≤5Khz (25Khz)
	≤2.5Khz (12.5Khz)
Modulation Distortion	≤5%
Adjacent Channel Power	70dB(25Khz) 60dB (12.5Khz)
Residual Modulation	40dB

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

ATTENTION!

Before using this radio, read this guide which contains important operating instructions for safe usage and rf energy awareness and control for compliance with applicable standards and regulations.

•User instructions should accompany the device when transferred to other users.
•Do not use this device if the operational requirements described herein are not met.
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 of 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/

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, 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

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.

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 Compliance and Control Guidelines and Operating Instructions

•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.

To control your exposure and ensure compliance with the occupational/-controlled environment exposure limits, always adhere to the following procedures.

To When operating in front of the face, worn on the body, always place the radio in a Retevis approved clip, holder, holster, case, or body harness for this product. Using approved body-worn accessories is important because the use of Non-Retevis approved accessories may result in exposure levels, which exceed the IEEE/ICNIRP RF exposure limits.
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 necessary information or less, is important because the radio generates measurable RF energy exposure only when transmitting in terms of measuring for standards compliance.
•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.
•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 head and the device or its antenna shall be at least 2.5 cm.

Hand-held Mode(if applicable)

• 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 ncreasing distance from the antenna.

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:

WARNING

•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:

WARNING

• Use the lowest volume necessary to do your job.
• Turn up the volume only if you are in noisy surroundings.
• Turn down the volume before adding headset or earpiece.
• Limit the amount of time you use headsets or earpieces at high volume.
• When using the radio without a headset or earpiece, do not place the radio's speaker directly against your ear
• Use careful with the earphone maybe possible excessive sound pressure from earphones and headphones can cause hearing loss
Note: Exposure to loud noises from any source for extended periods of time may temporarily or permanently affect your hearing.

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

Avoid Burns

WARNING

Antennas

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

Batteries (If appropriate)

•When the conductive material such as jewelry, keys or chains touch exposed terminals of the batteries, may complete an electrical circuit (short circuit the battery) and become hot to cause bodily injury such as burns. Exercise care in handling any battery, particularly when placing it inside a pocket, purse or other container with metal objects
•BATTERY WARNING: KEEP OUT OF REACH OF CHILDREN
•Store spare batteries securely
•If the battery compartment (if applicable) does not close securely, stop using the product and keep it away from children
•If you think batteries might have been swallowed or placed inside any part of the body, seek immediate medical attention
•Dispose of used batteries immediately and safely

Long transmission

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

Safety Operation

WARNING

Forbid

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

To reduce risk

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

Approved Accessories

WARNING

•This radio meets the RF exposure guidelines when used with the Retevis accessories supplied or designated for the product. Use of other accessories may not ensure compliance with the RF exposure guidelines and may violate regulations.
•For a list of Retevis-approved accessories for your radio model, visit the following website: http://www.Retevis.com

Guarantee

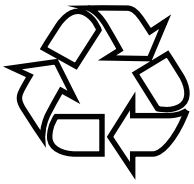
Model Number:_____
Serial Number:_____
Purchasing Date:_____
Dealer:_____ Telephone:_____
User's Name:_____ Telephone:_____
Country:_____ Address:_____
Post Code:_____ Email:_____

Remarks:

1.This guarantee card should be kept by the user, no replacement if lost.
2.Most new products carry a two-year manufacturer's warranty from the date of purchase. Further details, pls read http://www.rete-vis.com/after-sale/
3.The user can get warranty and after-sales service as below:
• Contact the seller where you buy.
• Products Repaired by Our Local Repair Center
4.For warranty service, you will need to provide a receipt proof of purchase from the actual seller for verification

Exclusions from Warranty Coverage:

1.To any product damaged by accident.
2.In the event of misuse or abuse of the product or as a result of unauthorized alterations or repairs.
3.If the serial number has been altered, defaced, or removed.



CE FC RoHS

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