

RETCVIS

VHF MARINE TWO WAY RADIO

RT55

INSTRUCTION MANUAL



Foreword

Thank you for purchasing our VHF marine transceiver, you will find the professional and human oriented design of the transceiver during use. Read all instructions carefully and completely before using the transceiver. It is a multifunctional marine radio and well-designed on IMO(International Maritime Organization) resolution.

As adopting advanced waterproof technology, the transceiver is with good waterproof and floating functions.

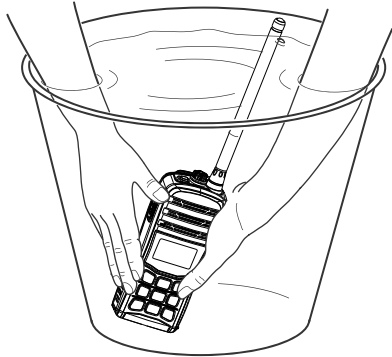
CAUTION

- The power supply of this transceiver is DC 7.4V, please use Li-ion battery as configured.
- This transceiver should be charged by configured adaptor.
- Do not expose it to direct sunlight for a long time, do not place it in environment or near any heating devices with temperatures below -20°C or above +55°C.
- If it emits smoke or strange odours, remove the battery from the product immediately and contact us or the local dealer.
- Cannot be transmitted without antenna installed, or the devices will be damaged.
- Do not operate it and power off in flammable, explosive environment.
- KEEP the transceiver at least 1 meter away from your vessel's magnetic navigation compass.
- BE CAREFUL, the transceiver meets IP-67 requirements for waterproof protection. However, once the transceiver has been dropped, waterproof protection cannot be guaranteed because of possible damage to the transceiver's case or the waterproof seal.
- MAKE SURE transceiver antenna, earphone jack cover and battery cover are dry before attachment. Exposing the inside of the transceiver to water will result in serious damage to the transceiver.
- Do not put the battery separately in the water or contact with wet material. Do not short circuit the battery.

■ Recommendation

Clean the transceiver thoroughly with fresh water after exposure to saltwater, and dry it before operating. Otherwise, the transceiver's keys and control components may become unusable due to salt crystallization.

NOTE: DO NOT submerge the transceiver in water if there is any reason to suspect the waterproof protection may not be effective. For example, in cases where the battery cover or DC Jack cap rubber seal is damaged, the transceiver/battery cover/DC Jack cap is cracked or broken, or the transceiver has been dropped, or when the battery cover, antenna or DC Jack cap are detached from the transceiver.



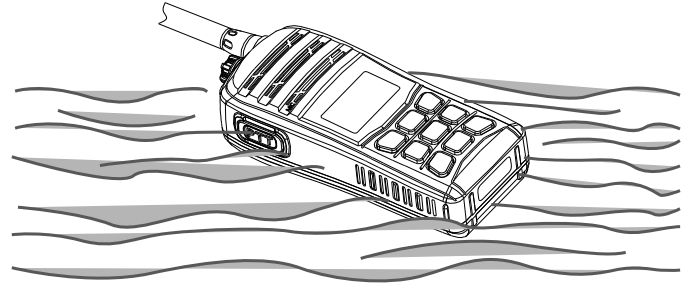
■ FEATURES

◆ Water-resistant protection

The water-resistant protection of transceiver means IP67 requirements, can be 1 meter depth in water for 30 minutes. Make sure supplied battery, microphone jack cover, antenna etc. are used and well installed before put into water.

◆ Floats on water

- The transceiver can be floated when fell into water.
- The transceiver floats in fresh or salt water even when the supplied accessories, including battery, belt clip, antenna, are attached.
- When a third-party battery pack, belt clip, antenna, etc. are used, it may sink.



CONTENTS

PREPARATION

Supplied Accessories	1
Preparation	1
Charge battery	2
Install/remove battery	2
Install/remove antenna	3
Get acquainted.....	3
Appearance	3
Display Screen.....	3

BASE OPERATION

Turn ON/Turn OFF	5
Adjusting the Volume Level.....	5
Adjusting the Squelch Level	5
Transmitting/Receiving	5
Transmitting.....	6
Receiving	6
Select Channel Group.....	6
Select Channel.....	7
CH 16.....	7
CALL CH	7
Weather CH	7
Edit Call Channel	7
Monitor Function	7
Volume Mute Function	7
Automatic Backlighting	7
Keyboard Lock Function	7
Vibration Water Draining Function	7

SCAN OPERATION

Scan Types	8
Set TAG Channels	8
Set/Cannel Single TAG Channel	8
Set/Cancel all TAG channels	8
Scan Operation.....	8

DUALWATCH-TRI-WATCH

Description	9
Operation	10

SET MODE

Set Mode Programming	11
Set Mode Items.....	11

VHF MARINE CHANNEL LIST	12
SPECIFICATION	13
TROUBLESHOOTING	14

PREPARATION

■ Supplied Accessories

Carefully unpack the transceiver. We recommend that you identify items listed in the following table before discarding the packing materials. If any item are missing or have been damaged, please contact dealer immediately.

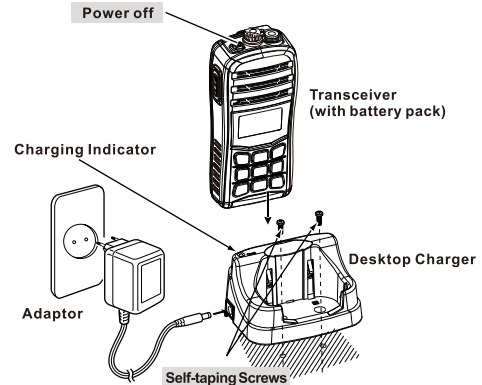
Items	Qty
Antenna	1
Li-ion Battery	1
Adaptor	1
Belt Clip	1
Handstrap	1
User's Manual	1

■ Preparation

◆ Charging the Battery Pack

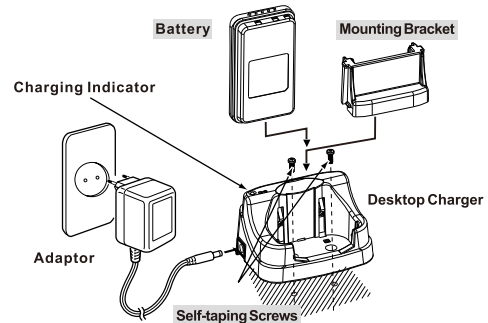
Charging the transceiver with battery pack

1. Connect the adaptor output line with desktop charger, and connect adaptor to the AC Power.
2. Charging by inserting transceiver with battery into desktop charger, confirm well connected.



Charging battery pack separately

1. Connect the adaptor output line with desktop charger, and connect adaptor to the AC Power.
2. Install battery bracket t into charging groove of desktop charger.
3. Insert single battery pack into desktop charger.



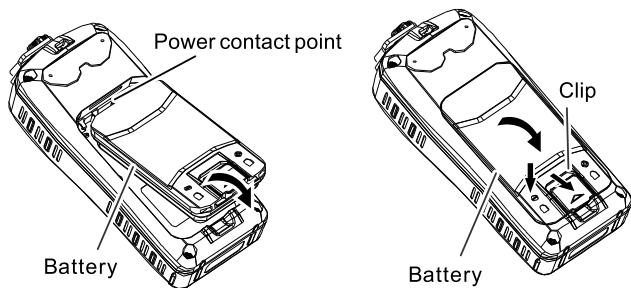
※ **NOTE:**

- You can fix the desktop charger on the table by configured self-tapping screw.
- Power off the transceiver before charging.
- Charging indicator lights red while charging.
- Charging indicator lights green while full charge.

◆ **Install /Remove Battery Pack**

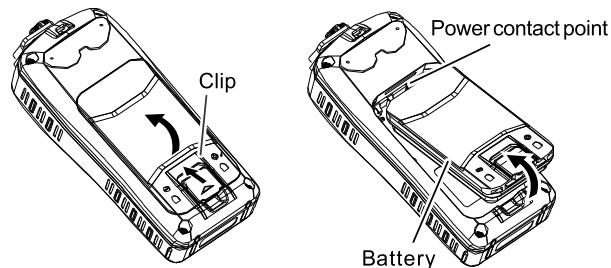
To insert the battery pack:

1. Aim battery terminal on power contact point of transceiver, push battery into groove.
2. Press battery downward and make sure battery clip into groove.
- If the battery cover not fixed well, it may cause water leakage.



To remove the battery pack

1. Push battery clip upward.
2. Lift upward of battery bottom from groove to remove battery pack.

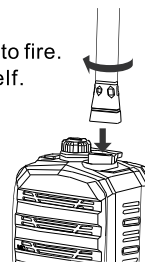


※ **NOTE:**

- Do not short circuit battery terminal or throw it into fire.
- Do not disassemble battery shell by yourself.

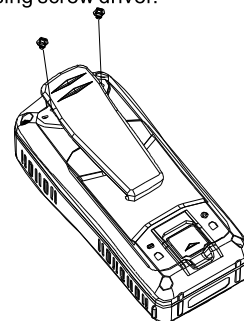
◆ **Install /remove antenna**

1. Connect the supplied fixable antenna to the antenna connector, rotate it clockwise.
2. To remove it, rotate it anti-clockwise.



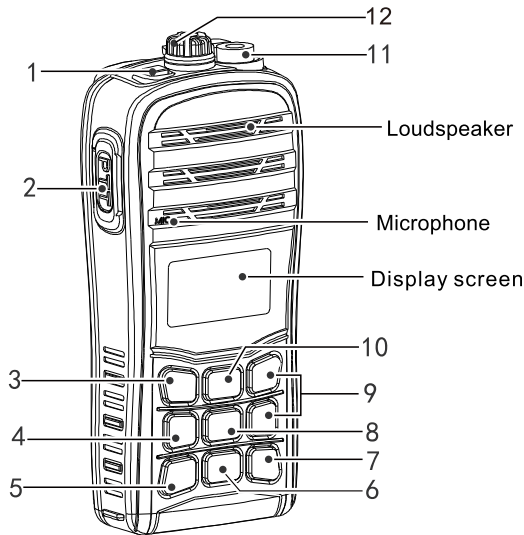
◆ **Install belt clip**

Attach the belt clip to rear cover, and ensure screw holes are align, screw tightly using screw driver.



Get acquainted

■ Appearance



1. Power Key []

- Hold down this key over 1.5 seconds; to power on/off transceiver.

2. [PTT] Key

- Hold down to transmit; speak with normal tone.
- Release to receive.

3. CH [16]/Call CH [16]/[C]

- Push to select channel 16.

- Hold for 1.5 seconds to select the call channel. (factory default: channel 9)
- Transceiver factory default call channel is channel 9.

- When the call channel is selected, hold for 3 seconds to enter the call channel programming mode.
- While in the set mode, push to return to the normal operation mode.

4. Volume Key [VOL]/[MUTE]

- Press this key, then [▲]/[▼] to adjust volume.
- Hold for 1.5 seconds, to open mute function.

5. [SCAN]/[DUAL]

- Push to start or stop scan mode (including normal and priority scan).
- Hold for 1.5 seconds to enter the Dual/Tri-watch mode.
- Push to exit the watch mode
- Hold this key and HI/LO key for 1.5 second, to activate the AquaQuake Function.


6. High/low power/Lock key [H/L]/[Lock]

- Push to select the high or low output power.
- Hold for 1.5 seconds to turn the Lock function ON or OFF.

7. Up/down key [▲][▼]

- Push to select an operation channel in normal mode.
- While in the Set mode, push to select the setting or value of an item.

8. Squelch/Monitor key [SQL]/[MONI]

- Press this key, then press [▲][▼] key to adjust squelch level.
- Hold for 1.5 seconds to manually open squelch and active the Monitor function.
- While hold this key, press [] key to turn ON the power and enter the set mode.

9. Favorite/Tag channel key [FAV]/[TAG]

- Hold this key, then press [▲][▼] key to sequentially select the favorite/tag channels, while ignoring untagged channel.
- Hold for 1.5 seconds to set or clear the TAG for the display channel.
- While holding this key, press [⏻] key to power on to clear or set all TAG channels in the selected channel group.

10. Channel group key [CH]

- Press this key to switch between normal channel group and weather channel group.
- Hold for 1.5 seconds, to select a channel group of USA, International and Canada.
- Push to return to the previous channel before selecting Channel 16 or the Calling channel.

11. ANTENA CONNECTOR

- Connect the 50Ω supplied antenna here.

12. Earphone Jack [SP MIC]

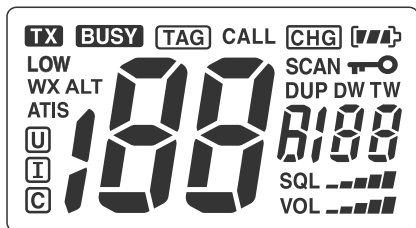
- Use for connecting supplied earphone wire.
- Revolve anti-clockwise access flap to open, revolve clockwise to close.

※ NOTE:

Revolve access flap tightly while no earphone wire connected, to avoid water leakage.

■ Display Screen



Know the meaning of the icons on LCD screen to ensure well operation.



Icon	Description
TX	● Transmit Indicator , Appears while transmitting
LOW	● “LOW” appears when low power is selected ● “LOW” blinks when compulsorily switching to low power mode because of high temperature or low voltage
WX ALT	● “WX” appears when weather channel group selected ● “WX ALT” appears when weather alarm function activated ● “WX ALT” blinks when weather alarm tone received
ATIS	● Appears while working in ATIS Channel
U	● Appears when USA channel group is selected.
I	● Appears when International channel group is selected
C	● Appears when Canadian channel group is selected
BUSY	● Appears when channel busy ● Blinks while monitoring
TAG	● Appears WHEN A TAG channel is selected
CALL	● Appears when the call channel is selected
🔒	● Appears while the lock function is activated
🔋	● Battery Indicator ● Section rolling display while charging ● Blinks while full charge
SCAN	● Blinks while scanning
DUP	● Appears when a duplex channel is selected.
DUAL	● Appears when dual band watch
TRI	● Appears when tri-band watch
188^B	● Indicates the selected operating channel number ● In set mode, indicates the options of setting item.
188	● In dual watch/ tri-watch, appears CH16 during priority scan ● Appears volume level while volume setting ● Appears squelch level while SQL setting ● Appears corresponding items while mode setting
SQL █ █ █ █	● Show the squelch level ● SQL blinks while setting.
VOL █ █ █ █	● Show the volume level ● Bar indicator rolling show when max volume. ● Blinks when the volume mute is activated ● VOL blinks while setting

BASIC OPERATION

■ Turn ON/OFF

1. Hold [] for 1.5 seconds to turn ON.
2. Hold [] again for 1.5 seconds to turn OFF.

■ Adjusting the Volume Level

The volume level can be adjusted using [VOL] and [▼]/[▲]

1. Push [VOL] once to enter the volume adjustment mode. Then press [▼] or [▲] to adjust the volume level.
 - The "VOL" icon starts blinking.
 - The transceiver has 31 volume levels and OF means off.
 - When no key operation is performed for 5 seconds, then transceiver returns to normal mode.
2. Push [VOL] again to exit to normal mode.

■ Adjusting the Squelch Level

The squelch level can be adjusted using [SQL] and [▼] or [▲]. In the order to properly receive signals as well as for effectively scan, the squelch must be adjusted to the proper level.

1. Push [SQL] once to enter the squelch adjustment mode, then push [▼] or [▲] to adjust the squelch level.
 - The "SQL" icon starts blinking.
 - The transceiver has 11 squelch levels: OP is completely open; 10 is tight squelch.
 - When no key operation is performed for 5 seconds, the transceiver returns to the normal mode.
2. 1. Push [SQL] again to exit to normal mode.

■ Transmitting/Receiving

◆ Transmitting

1. Push [H/L] to select output power.
 - "LOW" appears when low power is selected.
 - Choose low power for short range communications; choose high power for long distance communications.
 - Some channels are for low power communication only.
2. Hold down [PTT] to transmit, then speak into the microphone.
 - "TX" appears.
 - Channel 70 cannot be used for transmission.
3. Release [PTT] to receive.

※ NOTICE:

- Transmitting without an antenna can damage the transceiver.
- Activate TOT function by PC programming software, then it will limit long time continuous emission.
- 5-10cm between mouth and microphone and speak at a normal voice level.

◆ Receiving

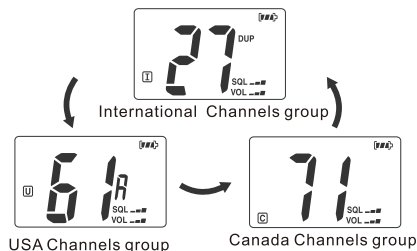
1. Adjust the volume levels by push [▲] or [▲] in Volume adjusted mode.
2. set the squelch levels by push [▲] or [▲] in Squelch adjusted mode.
 - When receiving a signal, "BUSY" appears and audio is heard from the speaker.
 - The transceiver has power save function, automatically activates when no signal is received for 5 seconds.

■ Channel Group Selective

This transceiver is pre-programmed with USA, International, Canadian channels. Choose the appropriate channel groups for your operating area.

1. Push [CH] to select a regular channel.

- If weather channel appears, press [CH] again.
 - 2. Hold down [CH] for 1.5 seconds, to select USA, International, Canadian channel group in sequence.
 - 3. Push [▼] or [▲] to select a channel.
- "DUP" appears when a duplex channel is selected, "A" appears when a simplex channel is selected.

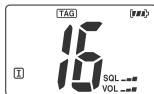


■ Channel Selection

◆ Channel 16

Channel 16 is the distress and safety channel, it is used for establishing initial contact with a station and for emergency communications. Channel 16 is monitored during both dual watch and Tri-watch stand-by.

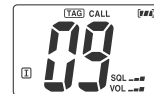
1. Push [16/C] momentarily to select Channel 16.
2. Push [CH] to return to the channel used before Channel 16, push [▲] or [▼] to select a channel.



◆ Call Channel

Each regular channel group has separate leisure-use call channels. The call channel is monitored during Tri-watch. The call channel default as Channel 9 and can be reset.

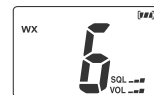
1. Push and hold [16/C] for 1.5 seconds to select the call channel of the selected channel group. "CALL" and call channel number displayed.
2. Push [CH] to return to the channel used before call channel, or push [▲] or [▼] to select other channels.



◆ Weather Channels

THIS RADIO has 10 pre-programmed weather channels. The equipment can detect a weather alarm tone in selected weather channels in receive and scan mode.

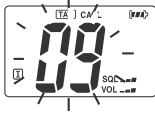
1. Push [CH] to select weather channel and normal channel.
 - Appears "WX" when weather channel selected.
 - Appears "WX ALT" when turn on weather alert function.
2. Push [▼] or [▲] to select channel.



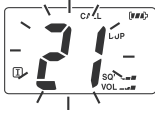
■ Call Channel Programming

Call channel is default as Channel 9), you can program the call channel with you most often-used channel in each channel group for quick recall.

1. Push [CH] to select a desired channel group to be programmed. (USA, International, Canadian)
2. Hold [16/C] for 1.5 seconds to select a call channel. "CALL" and call channel number disappeared.
3. Hold [16/C] again for 3 seconds till it sounds "BEEP" tone and "DUDU" tone to enter call channel programming mode.
 - Channel number blinks.



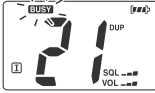
4. Press [▲] or [▲] to select desired call channel.
5. Push [16/C] to confirm and save it, Push [CH] to cancel and exit.



■ Monitor Function

The monitor function opens the squelch, monitor useful signal. Check details description for monitor key setting below.

- Push [MONI] to active monitor function.
- " **BUSY** " will blinks and make a sound while monitor function activated.



■ Volume Mute Function

The volume mute function can be activated temporarily, when volume set as OF invalid.

1. Hold [VOL/MUTE] key for 1.5 sec. until heard "Di Di" sound to active volume mute function.
 - The volume adjusted to minimum-off.
 - The volume level indicator starts blinking.
2. Hold [VOL/MUTE] again to turn the volume mute function off.

■ Automatic Backlight

This function is convenient for night time operation. The automatic backlighting can be activated in set mode.

- Push any key except for [PTT] to turn the backlighting ON.
- The backlighting is automatically turned OFF after 5 sec. of inactivity.

■ Lock Function

This function electronically locks all keys (except for [PTT][▼][▼][VOL/MUTE][H/L/LCOK]) to prevent accidental changing of the channel and function access.

- Push and hold [LOCK] for 1.5 seconds to turn the function ON and OFF.



■ Vibration Water Draining Function

This transceiver uses a new technology to clear water away from the speaker grill: Vibration. Vibration helps drain water away from the speaker housing (water that might otherwise muffle the sound coming from the speaker).

This transceiver emits a vibrating beep when this function is activated.

- Push and hold [SCAN] and [HI/LO]
- A low beep tone sounds for 9 seconds to drain water, regardless of volume level setting
- The transceiver does not perform key operations while the Vibration function is activated. The Vibration function can not be activated when an optional speaker-microphone is connected.

SCAN OPERATION

■ Scan Types

Scanning is an efficient way to locate signals quickly over a wide frequency range. The transceiver has priority scan and normal scan.

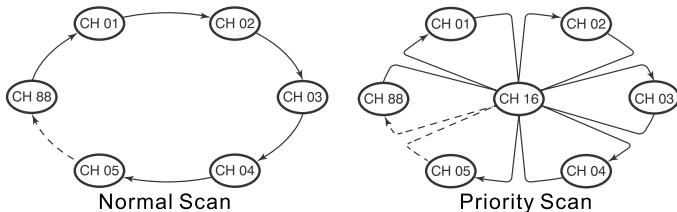
- Weather channels will be scanned also when weather alert function activated.
- Set TAG channels before scan. Cancel tag for channels not need to be scanned.

◆ Normal Scan

It searches through all TAG channels in sequence. However, unlike priority scan, Channel 16 is not checked unless channel 16 is set as a TAG channel.

◆ Priority Scan

A priority scan sequentially searches through all TAG channels while monitoring Channel 16 when a signal is detected on Channel 16, the scan pauses until the signal disappears; when a signal is detected on a channel other than Channel 16, the scan switches to Dual-watch, until the signal disappears.



■ Set TAG Channels

For more efficient scanning, set the desired channels as TAG channels or clear the TAG setting from unwanted channels. Channels that are not tagged will be skipped during scanning.

◆ Set/cancel single TAG channel

1. Push [CH] to select desired channel group.
2. Push [▼] or [▲] to select the desired channel to be set as a TAG Channel.
3. Push and hold [FAV/TAG] for 1.5 seconds, to set the displayed channel as a TAG Channel.
 - "TAG" appears in the function display.
4. To cancel the TAG channel setting, push and hold [FAV/TAG] for 1.5seconds.
 - "TAG" disappears.

◆ Set/cancel all TAG channels

1. While pushing and holding [FAV/TAG], press [⏻] JON to clear all TAG channels in the selected channel group.
2. Repeat above procedure to set all channels as TAG channels.

■ Scan Operation

Set scan resume timer in the set mode.

1. Push [SCAN] to start normal scan or priority scan.
 - "SCAN" Blinks. □
 - "16" appears on the sub channel readout during a priority scan.
 - When a signal is received, the scan pauses until the signal disappears, or resumes after pausing 5 seconds, depending on the set mode setting.
 - 16 Channel is monitored during priority scan.
 - Push [▼] or [▲] to sequentially select TAG channels, change the scanning direction or manually resume the scan.
2. Push [SCAN] to stop the scan, or push [PTT], [16], [CH] or [FAV] also can stop the scan.

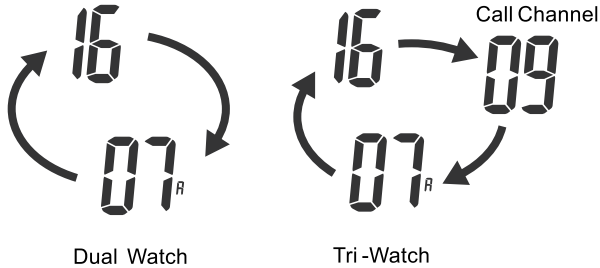
DUALWATCH/TRI-WATCH

■ Description

Dual watch/Tri-watch of this transceiver can be selected in set mode.

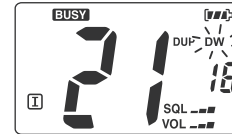
Dual watch: Watch and monitor in turns between current channel and Channel 16.

Tri-watch: Watch and monitor in turns among current channel, Channel 16 and call channel.

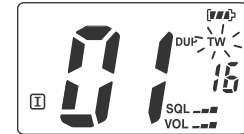


■ Operation

1. Push [SCAN/DUAL] for 1.5 seconds to start dual watch or tri-watch.
 - "DW" blinks when dual watch; "TW" blinks when tri-watch.
 - A beep tone sounds when a signal is received on channel 16.
 - Tri-watch switches to dual watch when signal received on call channel.
2. Push [SCAN/DUAL] to cancel dualwatch/tri-watch.



Dual Watch



Tri- Watch

SET MODE

■ Set Mode Programming

The set mode is used to change the settings of transceiver's functions: Beep Tone function, weather alarm , priority scan function, scan resume timer, auto scan function, dual/tri-watch function, monitor key function, automatic backlighting, LCD contrast setting, power save function and squelch sensitivity .

Set Mode Operation

1. Turn off the power
2. While holding down[MONI/SQL] key ,turn ON to enter the set mode
3. Release[MONI/SQL] key , appears "bP"
4. Push[VOL/SQL] key to select a desired setting item.
5. Push[▲][▼]to select a desired setting parameter.
6. To exit the set mode, push 【16/C】

No.	Display	Set Items	Set parameter options	The default value
1	bP	Prompt Tone	of /on	on
2	AL	Weather Alert	of /on	of
3	Pr	Priority Scan	of /on	of
4	St	Scan Resume Timer	of /on	of
5	AS	Automatic Scanning	of /on	of
6	dt	Dual-band / Tri-band Duty	d-/t-	d-
7	Sq	Monitor key Functions	Pu / Ho	Pu
8	bL	Automatic Backlight	of /on	on
9	LC	LCD Contrast	Hi / Lo	Hi
10	PS	Automatic Power Save	of / on	on
11	SS	Squelch Sensitivity	of / on	of

■ Set Mode Items

◆ Beep Tone Function

Turn the key touch beep sound ON or OFF.

◆ Weather Alert

When there are significant weather information, the U.S. NOAA broadcast stations will transmit alarm weather. When the weather alert function is turned on, walkie-talkies will sound the alarm at the same time "WXALT" symbol flashes. During the scan, the current weather channel in use will be scanned.

- With this function enabled, when weather channel selected, "WX ALT" icon displayed in the screen.

◆ Scan Mode

The transceiver has 2 scan types—Normal and priority scan. Normal scan searches all TAG channels in the selected channel group, priority scan sequentially searches all TAG channels also channel 16.

◆ Scan Resume Timer

The scan resume timer can be set as a pause (OFF) or timer scan (ON).

- OFF: when a signal is detected, the scan pauses on the channel until the signal disappears, and then resumes.
- ON: When a signal is detected, the scan pauses on the channel for 5sec. and then resumes.

◆ Auto Scan Function

The auto scan function automatically starts a normal or priority scan when no signal is received and no operation is performed for 30 seconds.

◆ Dual/Tri-watch Function

Set the watch type to Dual-watch or Tri-watch.

◆ Monitor Key Function

The monitor key temporarily opens the squelch. This item sets the key action.

- Pu(PUSH): The monitor function is activated by holding down [MONI]. The squelch open while holding down the key.
- Ho(Hold): The monitor function is activated by holding down [MONI] for 1.5seconds, the squelch stays open until any key is pushed.

◆ Automatic Backlighting

This function is convenient for night-time operation. The backlight can be selected from ON and OFF. When on, press any key except for [PTT] to turn on backlighting.

- The backlighting is automatically turned OFF after 5sec. of inactivity.

◆ LCD Contrast Setting

Set the LCD contrast level to high contrast or Low contrast.

- The LCD contrast level has little effect during indoor use.

◆ Power Save Function

The power save function reduces current drain by turning OFF the receiver circuit for preset intervals.

- OFF: Function is turned OFF
- ON: Function is turned ON and will be activated when no signal is received, and no operation is performed for 5seconds.

◆ Squelch Sensitivity

Squelch sensitivity function is activated to enhance noise reduction, avoid noise from affecting squelch.

■ VHF Marine Channel List

Channel number					Frequency(MHz)					Channel number					Frequency(MHz)				
USA	INT	CAN	Transmit	Receive	USA	INT	CAN	Transmit	Receive	USA	INT	CAN	Transmit	Receive	USA	INT	CAN	Transmit	Receive
	01	01	156.050	160.650		21	21	157.050	161.650	68	68	68	156.425	156.425	86A			157.325	157.325
01A			156.050	156.050	21A		21A	157.050	157.050	69	69	69	156.475	156.475	87	87	87	157.375	161.975
	02	02	156.100	160.700			21b	RX only	161.650	70	70	70	RX only	156.525	87A	87A	87A	157.375	157.375
	03	03	156.150	160.750		22		157.100	161.700	71	71	71	156.575	156.575	88	88	88	157.425	162.025
03A			156.150	156.150	22A		22A	157.100	157.100	72	72	72	156.625	156.625	88A	88A	88A	157.425	157.425
	04		156.200	160.800		23	23	157.150	161.750	73	73	73	156.675	156.675					
		04A	156.200	156.200	23A			157.150	157.150	74	74	74	156.725	156.725					
	05		156.250	160.850	24	24	24	157.200	161.800	75*1	75*1	75*1	156.775	156.775					
05A		05A	156.250	156.250	25	25	25	157.250	161.850	76*1	76*1	76*1	156.825	156.825					
06	06	06	156.300	156.300			25b	RX only	161.850	77*1	77	77*1	156.875	156.875					
	07		156.350	160.950	26	26	26	157.300	161.900		78		156.925	161.525					
07A		07A	156.350	156.350	27	27	27	157.350	161.950	78A		78A	156.925	156.925					
08	08	08	156.400	156.400	28	28	28	157.400	162.000		79		156.975	161.575					
09	09	09	156.450	156.450			28b	RX only	162.000	79A		79A	156.975	156.975					
10	10	10	156.500	156.500		60	60	156.025	160.625		80		157.025	161.625					
11	11	11	156.550	156.550		61		156.075	160.675	80A		80A	157.025	157.025					
12	12	12	156.600	156.600	61A		61A	156.075	156.075		81		157.075	161.675					
13 [*]	13	13 [*]	156.650	156.650		62		156.125	160.725	81A		81A	157.075	157.075	Weather Channel	Frequency(MHz)			
14	14	14	156.700	156.700			62A	156.125	156.125		82		157.125	161.725			1		RX only
15 [*]	15 [*]	15 [*]	156.750	156.750		63		156.175	160.775	82A		82A	157.125	157.125		2		RX only	162.400
16	16	16	156.800	156.800	63A			156.175	156.175		83	83	157.175	161.775		3		RX only	162.475
17 [*]	17	17 [*]	156.850	156.850		64	64	156.225	160.825	83A		83A	157.175	157.175		4		RX only	162.425
	18		156.900	161.500	64A		64A	156.225	156.225			83b	RX only	161.775		5		RX only	162.450
18A		18A	156.900	156.900		65		156.275	160.875	84	84	84	157.225	161.825		6		RX only	162.500
	19		156.950	161.550	65A	65A	65A	156.275	156.275	84A			157.225	157.225		7		RX only	162.525
19A		19A	156.950	156.950		66		156.325	160.925	85	85	85	157.275	161.875		8		RX only	161.650
20	20	20 [*]	157.000	161.600	66A	66A	66A [*]	156.325	156.325	85A			157.275	157.275		9		RX only	161.775
20A			157.000	157.000	67 [*]	67	67	156.375	156.375	86	86	86	157.325	161.925		10		RX only	163.275

*Only a low power.

SPECIFICATION

General Specification	
Frequency Range	TX: 156.000–161.450MHz
	RX: 156.050–163.425MHz
Type of Emission	FM (16K0G3E)
Frequency Stability	± 10 PPM
Battery Pack	1200mAh Li-ion(DC7.4V)
Operating Temperature Range	-20°C ~ +55°C
Antenna Impedance	50
Dimensions (H × W × D)	140mm × 65mm × 41mm
Weight	288g (With battery, antenna, belt clip)

Transmitter Specification	
Output Power	5W/1W
Maximum Frequency Deviation	± 5kHz
Spurious Emissions	0.25uW
Adjacent Channel Power	≥ 70dB
Audio Harmonic Distortion	≤ 10%
Current Drain	≤ 1.5A(High power) ≤ 0.9A (Low power) ≤ 0.35A (Max audio output)

Receiver	
Receive Sensitivity	≤ 0.22 μ V
Squelch Sensitivity	≤ 0.22 μ V
HUM and Noise	≥ 40dB
Adjacent Channel Selectivity	≥ 70dB
Spurious Response	≥ 70dB
Intermodulation Rejection	≥ 68dB
Audio Output Power	≥ 0.5W (10%)

Issues described in the following table are some common operational failure .

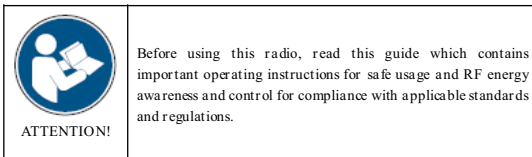
TROUBLESHOOTING

These types of errors are generally due to improperly connected , the operation caused by incorrect settings , or operator error caused due to incomplete programming . These problems are usually not caused by circuit failure . Before suspect intercom failure, please refer to the relevant section of this manual .

PROBLEM	POSSIBLE CAUSE	SOLUTION	REF.
The transceiver cannot be turned on	<ul style="list-style-type: none"> ● The battery is exhausted. ● Battery pack is not correctly inserted. 	<ul style="list-style-type: none"> ● Recharge the battery pack. ● Correctly insert the battery pack. 	<ul style="list-style-type: none"> ● 1 ● 2
Transmitting is incapable, or high power transmitting is incapable	<ul style="list-style-type: none"> ● Some channels are limited to low power transmitting. ● The battery is exhausted. ● The output power is set to low. ● Working in weather channel or CH 70. 	<ul style="list-style-type: none"> ● Switch to channels without output power limited. ● Recharge the battery pack. ● Push [H/L] to select high output power. ● Quit weather channel or CH 70. 	<ul style="list-style-type: none"> ● 5、6 ● 1 ● 5 ● 6
The displayed channel cannot be changed.	<ul style="list-style-type: none"> ● Keyboard lock function is activated. 	<ul style="list-style-type: none"> ● Hold [LOCK] key for 1.5 seconds to turn off the function. 	<ul style="list-style-type: none"> ● 7
Scan does not start	<ul style="list-style-type: none"> ● No tag channels are set. 	<ul style="list-style-type: none"> ● Set desired channels as tag channels. 	<ul style="list-style-type: none"> ● 8
Cannot communicate in same channel	<ul style="list-style-type: none"> ● It is duplex channel. ● Work in self-set channel group. 	<ul style="list-style-type: none"> ● Choose channel. ● Set channel frequency as same. 	<ul style="list-style-type: none"> ● 6 ● 6
No prompt tone	<ul style="list-style-type: none"> ● Prompt tone function is turned off. 	<ul style="list-style-type: none"> ● Turn on the prompt tone function in set mode. 	<ul style="list-style-type: none"> ● 10
No sound from loudspeaker	<ul style="list-style-type: none"> ● The squelch level is too high. ● Volume level is too low. ● Speaker has been exposed to water. 	<ul style="list-style-type: none"> ● Set suitable squelch level. ● Push [VOL] key, then [▲] [▼] to adjust volume. ● Discharge water from speaker grill. 	<ul style="list-style-type: none"> ● 5 ● 5 ● 7

■ WARNINGS

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



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 Regulations

When two-way radios are used as a consequence of employment, the Local Government Regulations requires users to be fully aware of and able to control their exposure to meet occupational requirements. Exposure awareness can be facilitated by the use of a product label directing users to specific user awareness information. Your Retevis two-way radio has a RF Exposure Product Label. Also, your Retevis user manual, or separate safety booklet includes information and operating instructions required to control your RF exposure and to satisfy compliance requirements.

Radio License

Governments keep the radios in classification, business two-way radios operate on radio frequencies that are regulated by the local radio management departments (FCC, ISED, OFCOM, ANFR, BFTK, Bundesnetzagentur...). To transmit on these frequencies, you are required to have a license issued by them. The detailed classification and the use of your two radios, please contact the local government radio management departments.

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

Unauthorized modification and adjustment

Changes or modifications not expressly approved by the party responsible for compliance may void the user's authority granted by the local government radio management departments to operate this radio and should not be made. To comply with the corresponding requirements, transmitter adjustments should be made only by or under the supervision of a person certified as technically qualified to perform transmitter maintenance and repairs in the private land mobile and fixed services as certified by an organization representative of the user of those services.

Replacement of any transmitter component (crystal, semiconductor, etc.) not authorized by the local government radio management departments equipment authorization for this radio could violate the rules.

FCC Requirements:

This device complies with part 15 of the FCC Rules. Operation is subject to the condition that this device does not cause harmful interference. (Licensed radios are applicable);

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: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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), Romania (RO), Slovenia (SI), Slovakia (SK), Finland (FI), Sweden (SE) and United Kingdom (UK).

For the warning information Disposal of the frequency 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.



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 exposure requirements.
- Occupational/Controlled Radio, this radio is designed for and classified as “Occupational/Controlled Use Only”, meaning it must be used only during the course of employment by individuals aware of the hazards, and the ways to minimize such hazards; NOT intended for use in a General population/uncontrolled environment.
- General population/uncontrolled Radio, this radio is designed for and classified as “General population/uncontrolled Use”.

RF Exposure Compliance and Control Guidelines and Operating Instructions

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

Guidelines:

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

Operating Instructions:

- Transmit no more than the rated duty factor of 50% of the time. To Transmit (Talk), push the Push to Talk (PTT) button. To receive calls (listen), release the PTT button. Transmitting 50% of the time, or less, is important because the radio generates measurable RF energy exposure only when transmitting in terms of measuring for standards compliance.

- Transmit only when people outside the vehicle are at least the recommended minimum lateral distance away from a properly installed according to installation instructions, externally mounted antenna.
- When operating in front of the face, worn on the body, always place the radio in a Retevis approved clip, holder, holster, case, or body harness for this product. Using approved body-worn accessories is important because the use of Non-Retevis approved accessories may result in exposure levels, which exceed the IEEE/ICNIRP RF exposure limits.

Hand-held Mode

- Hold the radio in a vertical position with the microphone (and other parts of the radio including the antenna) at least 2.5 cm (one inch) away from the nose or lips. The antenna should be kept away from the eyes. Keeping the radio at a proper distance is important as RF exposure decreases with increasing distance from the antenna.



Phone Mode

- When placing or receiving a phone call, hold your radio product as you would a wireless telephone. Speak directly into the microphone.

Electromagnetic Interference/Compatibility

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

Avoid 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.



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.

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.

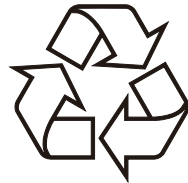
Approved Accessories



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>

EU Importer:
Importer:Germany Retevis Technology GmbH
Address:Uetzenacker 29,38176 wendeburg



Shenzhen Retevis Technology Co.,Ltd

Address: 7/F , Zhonghaixin Science&Technology Park , No.12 Ganli 6th
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Web:www.retevis.com E-mail:kam@retevis.com
Facebook : facebook.com/retevis



MADE IN CHINA