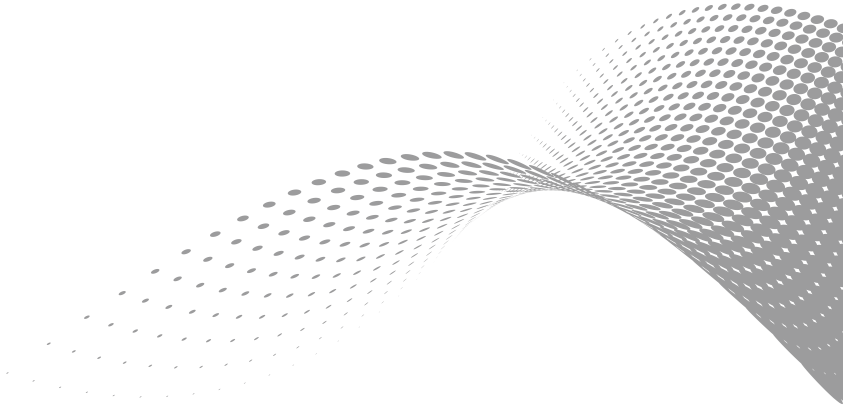
RETEVIS

USER'S MANUAL



Analog Two Way Radio

- DOT-MATRIX LCD DISPLAY
- DTMF encoding and decoding
- Multiple types for keys lock setting
- Multi-Display mode
- Remote stun / kill / activate
- Dual band, dual wait, dual standby
- 200 channels
- Battery saving
- Scrambler
- 1750Hz tone
- 2 Tone/5 Tone
- CTCSS/DCS

Main Functions

Dual band, dual display, dual standby

DOT-MATRIX LCD display

A/B band independent operation

200 channels storage and scanning

FM Radio and 24 stations memory

Wide/Middle/Narrow band selectable

VOX 0-7 grade setting

CTCSS/DCS and scanning

1750Hz tone

Shortcut menu operation mode

Emergency alert

DTMF and remote stun/kill/activate

ANI function

8 group of scrambler

2/5 tone

Multi types for keys lock setting

Multi display mode

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USING TIPS

Please read the following brief instructions, non-compliance with these rules may cause danger or violate the law.

- Obey the local government regulation before using this radio, improper use may violate the law and be punished.
- Turn off the radio before entering flammable or explosive areas.
- Do not charge or change the battery in flammable or explosive areas.
- Turn off the radio before getting close to the blasting zone or detonator areas.
- Do not use radio whose antenna is damaged, touching of damaged antenna will causeheat injury.
- Do not attempt to open the radio; the maintenance work should be done by technicalexpert only.
- To avoid troubles caused by electromagnetic interference or electromagneticcompatibility, please turn off the radio in places where have the banner "Do not usewireless equipment", such as hospital and other healthcare places.
- In the car with an airbag, do not put the radio within the scope of the airbag deployment.
- Do not store the radio under the direct sunshine or in hot areas.
- When you transmit with the radio, do keep away from its antenna for 5cm at least.
- If the radio appears smelly or smoke, please shut off its power immediately and contactwith your local dealer.
- Do not transmit too long, for the radio may heat and hurt the user.

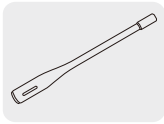
UNPACKING AND CHECKING EQUIPMENT

Please check if any damage to the package when you receive it. Carefully unpack the transceiver. We recommend that you check the items listed in the following table. If any items are missing or damaged during shipment, please contact with your local dealer immediately.

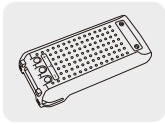
Supplied Items:



Body



Antenna



Li-ion battery(1400mAh)



Charger Kit



Belt Clip

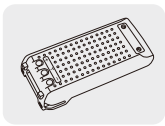
Optional Items:



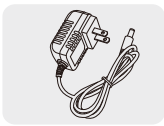
User's Manual



Charger



Li-ion battery(3200mAh)



Adaptor

Note: The antenna frequency range please refers to the annular label at the bottom of antenna.

CHARGING BATTERY PACK

Charging Precaution

The supplied battery pack of this radio is a high –performance Li-ion with 7.4V standard voltage 1400mAh high capacity in a very compact package. Under normal use, the battery pack may be used for approximately 500 charge cycles and more, after which operating time maybe expected to decrease. If you have an old battery pack which is displaying capacity which has become diminished, you should replace the pack with a new one.

Notice:
- Please do not short-circuit the battery terminals or expose of in fire.Do not disassemble the battery unauthorized.
- charge the battery between temperature 0℃ and 45℃. The battery can not be normally charged beyond this temperature range.
- Please turn off the transceiver when you charge it. Transmitting with the transceiver in charge will affect its normal charge.
- Do not unplug the Power Adapter or battery when ti is charged.
- If the battery pack lasts shortly even it is full of power, it shows that the battery is depleted,please change the battery pack.
- Please do not charge when the battery or the radio is wet. Please dry it with a cloth before charging to avoid any danger.

Warning: When the conductive metals such as jewelery key or decorative chains touch the battery terminals,all the batteries are likely to cause damage to the items or personal injury. These conductive metals may form a short circuit and generates much heat.Do deal with any battery carefully,especially when put it into pocket, wallet or other metallic containers.

Charging Operation

After installing the battery pack,if the battery icon shows [ ], it means that the battery pack is out of power ,Please charge it.
Indicator light of charger will show charging conditiaon

Indicator Display	Status
Red	Charging
Green	Completed

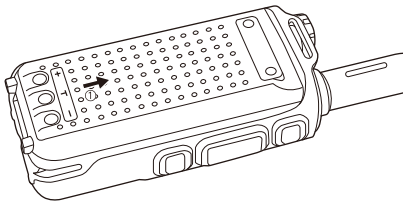
Battery Tips:

- The battery is not fully charged in factory, please charge before using it.
- charge and discharge the battery for two or three times, the battery capacity will reach the best condition. When the battery capacity is low, please charge or change the battery.
- The battery lasts shortly even if it is fully charged, the battery is depleted, please contact your local dealer to buy a new authentic battery.

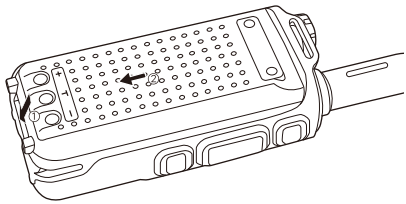
INSTALLATION OF ACCESSORIES

Installation of Battery Pack

1)Align the two grooves of battery and the guide rail on the back of aluminum shell, ensure full contact and in parallel, then push the battery up to the radio base along the rail on the back of aluminum shell, until the battery latch locks up. (picture 1)
2)To remove the battery, please make sure the radio is closed ,push the battery latch down, and make sure the radio and battery is on the releasing state, and then push the battery out from the radio.(picture 2)



Picture 1



Picture 2

Installing and removing the antenna

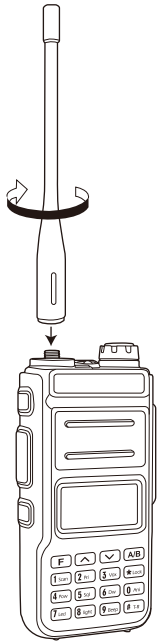
1)Align the threaded end of antenna and the threaded hole at the top of radio, rotate the antenna clockwise until it is tight.(picture 3)
2)To remove the antenna, rotate it counter-clockwise until the antenna spirals out.(picture 4)

Installing Belt Clip

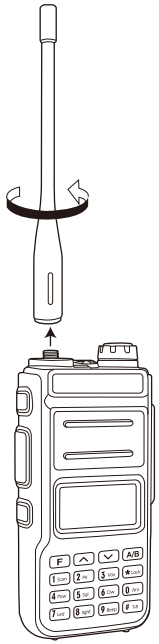
Align the two holds of belt clip and the two holes of the radios, fix them with the supplied M2.5x5 screws. loosen the screw set to remove belt clip.(Picture 5)

Installing External Micro/Speaker

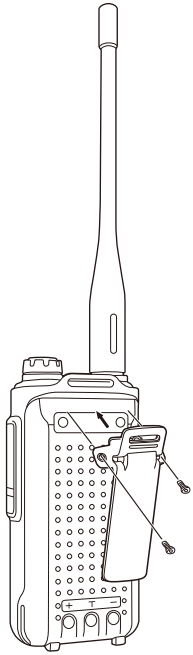
Open the cover of the Mic/speaker jack and insert the microphone/speaker plugs into the jack.(Picture7)



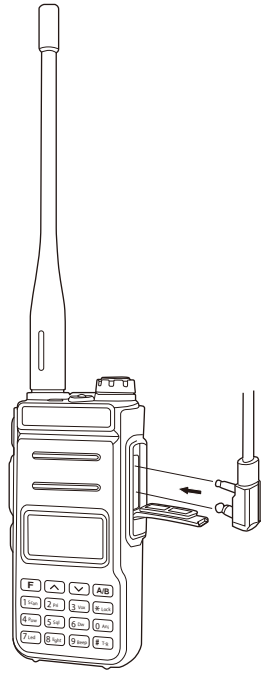
Picture 3



Picture 4



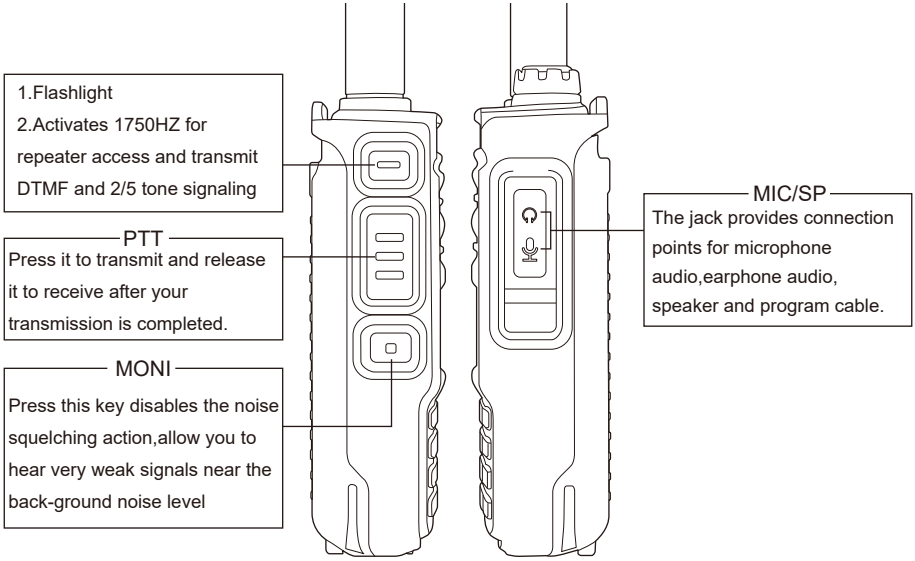
Picture 5



Picture 7

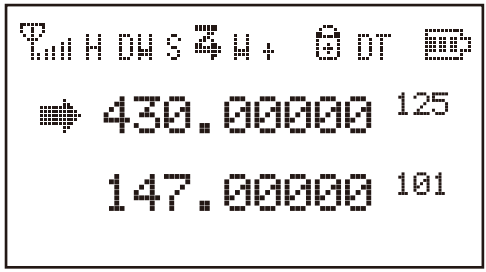
RADIO ILLUSTRATION





LCD DISPLAY

You will see various icons shown on the screen when power on. The following table can help you identify icons' meaning which display on LCD.



Icons	Description of functions
	Operating band signal & power meter
H	High TX power active
DW	Dual watch/standby active
S	RX power save active
	Scanning active
W	Narrow/wide band mode active
+	Repeater shift direction
	Keypad lock
DT	DTMF signal active
2T	2 Tone signaling active
5T	5 Tone signaling active
	Battery power indicator
125	Channel number/Menu items number indicator

KEYPAD FUNCTIONS

	[F]	[A/B]	[^]	[v]
Press key	Enter menu mode/confirm the setting	(1)Switch the A or B frequency to be the "Operating" Band (2)EXIT function	Upper menu item, channel or frequency	Lower menu item, channel or frequency

	[1 Scan]	[2 Pri]	[3 Vox]	[4 Pow]	[5 Sql]
Press key	Frequency/ Channel No. entry “1”	Frequency/ Channel No. entry “2”	Frequency/ Channel No. entry “3”	Frequency/ Channel No. entry “4”	Frequency/ Channel No. entry “5”
Press [F] +	Enter scan item	Enter priority TX mode item	Enter VOX level item	Enter high/low power item	Enter squelch level item

	[6 Dw]	[7 Led]	[8 light]	[9 Beep]	[0 Ani]
Press key	Frequency/ Channel No. entry “6”	Frequency/ Channel No. entry “7”	Frequency/ Channel No. entry “8”	Frequency/ Channel No. entry “9”	Frequency/ Channel No. entry “10”
Press [F] +	Enter dual wait/standby item	Enter LED item	Enter color item	Enter beep item	Enter DTMF 2T & 5T

	[* Lock]	[# T-R]	
Press key	Press and hold key to start keypad lock	Switch CH mode and VFO mode Long press [#] to enter FM radio	
	Enter TX/RX Tone coder	Press [F] +[#] to start emergency alert	

MODEL VERSION

This transceiver has 3 version in total:
1）Simple version 2)DTMF version 3)5T & 2T version
Set Menu 20thOPNSET—OFF, you will find your model version information when you switch the transceiver power on.
DTMF and 5 TONE version will be with remote kill/stun/activate/revive function.
Only 2T version will be with 8 groups of scrambler function.
Please choose the right model type when you use software to program it. If not, it will affect some function operation.

WORKING MODE

1) Frequency Mode (VFO)
Under this mode, you can use [^] / [v] key to change the frequency or input the frequency by keypad directly and store channels.
2)Frequency –Channel Mode(MR)
When you have stored a memory channel at least and under VFO mode, press [# T-R] key to enter MR mode.
The frequency will be indicated on the display and the channel No. will be indicated at the right side. If the transceiver display name option is ON and channel name edited, it will show the name of the channel.Please see Shortcut Menu Operation item 22nd&33rd.in page 37.
3）Channel Mode(CH)
When you have stored a memory channel at least, power on the radio, press [F]+33RD to enter DIS MD and choosing CH mode.
Channel No. will be indicated on the display and if the transceiver display mode option is on, it will show the name and the channel.
Please see Shortcut Menu Operation item 22nd&33rd in page 37.
4)FM Radio Mode
The transceiver provides frequency 64.00-108.00MHz FM radio.Under this mode, you can choose FM frequency you need directly. Scan frequency range and store your favorite channels. Long press [# T-R] to enter and exit FM radio mode.
5) MENU Mode
Press [F] KEY to enter MENU mode, there are 36 items in total. Please see SET MENU MODE. in page 22.
6)RESET Mode
Press [F] +[3] [5] key to enter Reset mode, then press [F] key to enter.[^] or [v] key to select ALL/VFO/FULL
1.ALL:initialize all setting.
2.VFO:initialize all setting under frequency mode.
3.FULL:initialize all setting under frequency and channel mode.

SET MENU MODE

No.	LCD Display	Available Values	Description of Function
1	SCAN	/	Frequency/ Channel Scan
2	TX-SEL	EDIT/BUSY	Priority Transmit
3	VOX LEV	1-8	VOX Level Setting
4	POWER	LOW/HIGH	High/Low TX Power
5	SQL	0-9	SQL level setting
6	D.WAIT	ON/OFF	Dual Wait/Standby
7	LED	ON/AUTO/OFF	LED Display mode
8	LIGHT	1-7	Backgroud Light Color
9	BEEP	ON/OFF	Keypad Beeper Setting
10	DT/2T/5T CH	1-16	Preset Channel Selection
11	TOT	OFF/30/60/…/270	Transmitter Timer-out Timer
12	BCLO	OFF/WAVE/CALL	Busy Channel Lock-Out
13	VOX.SW	ON/OFF	VOX Switch ON/OFF
14	ROGER	ON/OFF	Transmit Over Beeper
16	RX.SAV	1:1/1:2/1:4/OFF	Receive Saver
17	SCAN.S	TO/CO/SE	Scan Mode
18	AUTOLK	ON/OFF	Auto Keypad Lock
19	VOICE	ON/OFF	Voice Prompt
20	OPENSET	OFF/DC/MSG	Power-on Display
21	DC VOLT	/	Battery Power Voltage
22A	OFFSET	0.000-99.995MHz	Repeater Shift(Under VFO mode)
22B	DIS.NM	ON/OFF	Display Channel Name(Under CH
23	C-CDC	OFF/67.0/D023N	mode)
24	R-CDC	OFF/67.0/D023N	TX/RX Tone coder
25	T-CDC	OFF/67.0/D023N	RX Tone coder
26	S-D	+/-/OFF	TX tone coder
27	STEP	5K/6.25K/…/25K	Shift Direction
28	N/W	WIDE/NARROW	VFO Step
29	SEEK 67.0	/	Wide/Narrow Band
30	SEEK D023N	/	CTCSS Scanning
31	SCR.N0	1-8/OFF	DCS Scanning
32	LOCK MD	ALL/PTT/KEY/KEY+S	Voice Scrambler
33	DIS MD	FRE/CH/MR	Working mode setting
34	DW	ON/OFF	Dual Watch/monitor
35	Reset	ALL/VFO/FULL	Reset function
36	Radio Ver	MCU B1.07	Radio Version

Menu Operation

1) Under standby mode, press [F] to enter menu setting, LCD displays " **MENU** ".
2) Press [^] or [v] to select the desired menu item, LCD display current setting of selected item.
3) Press [F] to enter and then press [^] or [v] to select the desired setting.
4) Press [F] to confirm.
5) Press [A/B] twice to exit and then return the standby mode.



SHORTCUT MENU OPERATION

Item No.	Item Name	Enter item	Screen Display	Select parameter	Parameter Explanation	Confirm	Return Standby
1)	Frequency /Channel scan	F + 1 SCAN	SCAN	Press [^] or [v] to change scan direction	Press [F] key to start scanning	F	A/B
2)	Priority Transmit	F + 2 PRI	TX SEL EDIT	Press [^] or [v] to select available values	EDIT / BUSY	F	A/B
3)	VOX level setting	F + 3 VOX	VOX 4	Press [^] or [v] to select available values	VOX level: 1~8	F	A/B
4)	TX power setting	F + 4 PWR	POW LOW	Press [^] or [v] to select available values	High / Low	F	A/B
5)	SQL level setting	F + 5 SQL	SQL 5	Press [^] or [v] to select available values	SQL level: 0~9	F	A/B
6)	Dual wait/ standby	F + 6 DW	D.WAIT ON	Press [^] or [v] to select available values	ON / OFF	F	A/B
7)	LED display mode	F + 7 LED	LED AUTO	Press [^] or [v] to select available values	ON / AUTO / OFF	F	A/B
8)	Background light color	F + 8 COLOR	LIGHT COLOR1	Press [^] or [v] to select available values	COLOR1 / COLOR2 / COLOR3	F	A/B
9)	Keypad beeper	F + 9 BEEP	BEEP ON	Press [^] or [v] to select available values	ON / OFF	F	A/B
10)	Automatic Number Identity	F + 0 ANI	DT CH 1	Press [^] or [v] select available value	1-16	F	A/B
11)	Transmitter time-out timer	F + 1 SCAN 1 SCAN	TOT OFF	Press [^] or [v] to select available values	OFF / 30... / 270s	F	A/B
12)	Busy channel lock-out	F + 1 SCAN 2 PRI	BCLO OFF	Press [^] or [v] to select available values	OFF / WAVE / CALL	F	A/B
13)	VOX switch	F + 1 SCAN 3 VOX	VOX SW OFF	Press [^] or [v] to select available values	ON / OFF	F	A/B
14)	Transmit over beeper	F + 1 SCAN 4 PWR	ROGER OFF	Press [^] or [v] to select available values	ON / OFF	F	A/B
16)	Receive saver	F + 1 SCAN 6 DW	RX SAV ON	Press [^] or [v] to select available values	ON / OFF	F	A/B
17)	Scan mode	F + 1 SCAN 7 LED	SCANS CO	Press [^] or [v] to select available values	TO / CO / SE	F	A/B
18)	Auto keypad lock	F + 1 SCAN 8 COLOR	AUTOLK OFF	Press [^] or [v] to select available values	ON / OFF	F	A/B

Item No.	Item Name	Enter item	Screen Display	Select parameter	Parameter Explanation	Confirm	Return Standby
19)	Voice prompt	F + 1 SCAN / 9 BEEP	VOICE ON	Press [ ] or [ ] to select available values	ON / OFF	F	A/B
20)	Power-on display	F + 2 PRI / 0 AM	*OPN SET OFF	Press [ ] or [ ] to select available values	OFF / DC / MSG	F	A/B
21)	Battery power voltage	F + 2 PRI / 1 SCAN	VLT 7.6V	Press [ ] or [ ] to select available values	Show current voltage	F	A/B
22)	A. Repeater shift	F + 2 PRI / 2 PRI	*OFFSET 2.000	Press [ ] or [ ] to select available values	0.000-99.995MHz	F	A/B
	B. Display channel name	F + 2 PRI / 2 PRI	*DIS.NM ON	Press [ ] or [ ] to select available values	ON / OFF	F	A/B
23)	TX/RX tone coder	F + 2 PRI / 3 VOX	C-CDC 254.1	Press [ ] or [ ] to select available values	OFF / QT / DCS	F	A/B
24)	RX tone coder	F + 2 PRI / 4 PWR	R-CDC 254.1	Press [ ] or [ ] to select available values	OFF / QT / DCS	F	A/B
25)	TX tone coder	F + 2 PRI / 5 SQL	T-CDC 254.1	Press [ ] or [ ] to select available values	OFF / QT / DCS	F	A/B
26)	Shift direction	F + 2 PRI / 6 DW	S-D	Press [ ] or [ ] to select available values	+ / -	F	A/B
27)	VFO step	F + 2 PRI / 7 LED	STEP 25K	Press [ ] or [ ] to select available values	5K / 6.25K / 10K...100K	F	A/B
28)	Wide/ Narrow band	F + 2 PRI / 8 CLOCK	N/W WIDE	Press [ ] or [ ] to select available values	Wide/Narrow	F	A/B
29)	CTCSS scan	F + 2 PRI / 9 BEEP	*SEEK 67.0	Press [ ] or [ ] to change scan direction	Press [F] key to start scan	F	A/B
30)	DCS scan	F + 3 VOX / 0 AM	*SEEK D023N	Press [ ] or [ ] to change scan direction	Press [F] key to start scan	F	A/B
31)	Voice scrambler	F + 3 VOX / 1 SCAN	*SCR. No 7	Press [ ] or [ ] to select available values	1~8	F	A/B
32)	Lock MD	F + 3 VOX / 2 PRI	*Lock MD KEY	Press [ ] or [ ] to select available values	ALL/PTT/KEY/KEY+S	F	A/B
33)	DIS Mode	F + 3 VOX / 3 VOX	*DIS Mode CH	Press [ ] or [ ] to select available values	CH/FRE/MR	F	A/B
34)	Dual watch/ monitor	F + 3 VOX / 4 PWR	CW OFF	Press [ ] or [ ] to select available values	ON/OFF	F	A/B
35)	Reset	F + 3 VOX / 5 VOX	Reset All	Press [ ] or [ ] to select available values	ALL/VFO/FULL	F	A/B
36)	Radio Version	F + 3 VOX / 6 PWR	*RADIO VER MCU B1.07	Press [ ] or [ ] to select available values	MCU B1.07/Time	F	A/B

DETAILED FUNCTION DESCRIPTIONS

1) Scan & Scan Mode setting (SCAN&SCANS---MENU 1&17)

Functions:under VFO/MR/CH mode, the transceiver allows you to scan the entire current operating band and memory channels.

Enter Menu 1st and press [F] key to start scanning.

When you have started scanning, press **[^] / [v]** key to change direction.And it will halt on a signal it encounters, press **[F]** key to stop scaning Scanning operation is basically the same in each of the above modes. Before you begin,take a moment to select the way in which you would like the scanner to halt on a signal.

Enter Menu 17th to set scan mode. Default: TO.

Three options for the scan mode are available under VFO mode:

TO: In this mode, the scanner will halt on a signal it encounters, and will hold there for some time. If you do not take action to disable the scanner within the time period,the scanner will resume even if the stations are still active.

CO: In this mode, the scanner will halt on a signal it encounters, and will hold there if the stations are still active. And after the carrier has dropped, the scanner willresume.

SE: In this mode, the scanner will halt on a signal it encounter, it will not restart automatically; you must manually re-initiate scanning if you wish to resume.

2) Priority Transmit (TX.SEL---MENU 2)

Functions: This transceiver allows you to transmit on the sub band even if you are working on the operating band.

Enter Menu 2nd to select priority transmit band. Default: EDIT.

EDIT: It will transmit on the operating band.

BUSY: It will transmit on the band last talking used

3) VOX Level & VOX Switch (VOX&VOX.SW---MENU 3&13)

Functions: the VOX function provides automatic transmit/receive switching based on voice input to the microphone. With the VOX switch ON, you do not need to press PTT switch in order to transmit, and it is not necessary to use a VOX headset in order to utilize VOX operation.

Enter Menu 13th to set VOX switch. Default: OFF.

Enter Menu 3 to set VOX level, it has 7 grades.

The higher level is, the more sensitive will be.This transceiver provides for adjustment of " Hang- Time" of the VOX (the transmit-receive delay after the cessation of speech) via program software.

Default: 2s.

4) TX Power setting (POW---MENU 4)

Functions: you can select high/low TX power according to your talking environment and need. When you store memories, you can store High and Low power settings separately in each memory.

Enter Menu 4th to set TX power.

High: 4W

Low: 0.5W, when you select Low power, the "L' icon will appear on the display.

5) Squelch Adjustment (SQL---MENU 5)

Functions: Squelch system allows you to mute the background noise when no signal is being received. Not only does the Squelch system "standby" operation more pleasant, it also significantly reduce battery current consumption.

Enter Menu 5th to set SQL level. Default: 5.

6) Dual Wait/Standby (D.WAIT---MENU 6)

Functions: This transceiver allows you to receive the sub band signal even if you are working on the operating band.

It could monitor the signal under both master and sub band at the same time.

Enter Menu 6th to set Dual Wait. Default: ON.

7) LED Display Mode (LED---MENU 7)

Function: select the LED/Keypad Lamp mode.

Enter Menu 7th to select LED display mode. Default: AUTO.

ON: LED display lights all the time.

AUTO: Illuminates the LED when any key is pressed and after 3s the light is off.

OFF: Disable the LED lamp.

8) Background Light Color (LIGHT---MENU 8)

Functions: choose LED background light color.

Enter Menu 8th to select background light color. Default: 7.

9) Keypad Beeper setting (BEEP---MENU 9)

Functions: enable/disable the keypad beeper.

Enter Menu 9th to set keypad beeper. Default: ON.

10) Preset Channel Selection(DT/2T/5T CH-MENU 10)

Functions: Preset the signal type(OFF/DTMF/2T/5T) at software,by choosing 1-16 channel to achieve remote kill/stun/activate/revive function.

Enter Menu 10th to choose 1-16 channel.

11) Transmitter Time-Out Timer (TOT---MENU 11)

Functions: the TOT feature provides a safety switch which limits transmission to a pre-programmed value. This will promote battery conservation by not allowing you to make excessively-long transmissions, and in the event of a stuck PTT switch it can prevent interference to other users as well as battery depletion.

Enter Menu 11th to set TOT. Default: OFF.

12) Busy Channel Lock-Out (BCLO---MENU 12)

Functions: the BCLO feature prevents the radio's transmitter from being activated if a signal strong enough to break through the "noise" squelch is present. On a frequency where stations using different CTCSS or DCS codes may be active, BCLO prevents you from disrupting their communications accidentally (because your radio may be muted by its own tone decoder).

Enter Menu 12th to set BCLO. Default: OFF.

OFF: Disable BCLO feature.

WAVE: the radio's PTT will be prevented only if the frequency is busy used.

CALL: the radio's PTT will be prevented only the frequency and tone coder is the same.

13) Transmit Over Beeper (ROGER---MENU 14)
Functions: sending a beeper to inform the receiver TX is over.
Enter Menu 14th to set ROGER. Default: OFF.

14) Receive Saver (RX.SAV---MENU 16)
Functions: this feature significantly reduces quiescent battery drain, and you may not receive the full data burst.
Enter Menu 16t h t o set RX.SAV. Default: OFF.

15) Auto Keypad Lock(AUTOLK & LOCK MD—MENU 18 &MENU 32)
Functions:in order to prevent accidental frequency change or inadvertent transmission.Various aspects of the radio's keys and switches may be locked out.
Enter Menu 32th to set LOCK MD, you can choose to lock All/K+S/KEY/PTT.
When you switch AUTOLK ON, the keypad will be locked automatically if there is no key operation for 5 second.
If the radio is locked, press [LOCK] key to unlock it. Also you can lock it using [LOCK] key by manual.

16) Voice Prompt (VOICE---MENU 19)
Functions: enable/disable voice prompt.
Enter Menu 19th to set VOICE. Default: ON.

17) Power-on Display setting (OPN.SET&VLT---MENU 20&21)
Functions: choose power-on display mode and edit power-on message
Enter Menu 20th to set OPN.SET. Default: OFF.
OFF: display model version
DC: battery power voltage
MSG: power-on message
Enter Menu 21st to check battery voltage.

18) Repeater Shift setting (OFFSET&S-D---MENU 22&26)
Functions: repeater stations, usually located on mountaintops or other high locations,provide a dramatic extension of the communication range for low-powered hand-held or mobile transceivers.
Under VFO mode, you can set the magnitude and direction of the repeater shift.
Enter Menu 22rd to set magnitude of the repeater shift.
Available values: 0.00 ~ 99.95 MHz
Enter Menu 26th to set the repeater shift direction. Default: OFF.

19) Display Channel Name (DIS.NAME---MENU 22)
Functions:switch channel name display ON/ OFF under MR/CH mode.
Enter Menu 22nd to switch display channel name ON/OFF.
You can edit the channel name directly by programming software.

20) Tone coder & Tone Search Scanning & Tone calling (C-CDC & R-CDC&T-CDC&SEEK 67.0 & D023N—MENU 23&24&25&29&30).
Function 1: CTCSS/DCS Operation
Many repeater systems require that a very-low-frequency audio tone be superimposed on your FM carrier in order to activate the repeater. This helps prevent false activation of the repeater by radar or spurious signals from other transmitters.
Enter Menu 23th/24th/25th to set TX&RX Tone coder/ RX Tone coder/ TX Tone coder.
1) Press [LOCK] key to select CTCSS/ DCS/ OFF. After you choose CTCSS/ DCS,press [^] / [v] key to choose the right group you need.
2) Press [LOCK] key to select DCS direction.This transceiver has 50 groups CTCSS,104 groups normal/inverted DCS.

CTCSS TONE FREQUENCY (Hz)					
67.0	69.3	71.9	74.4	77.0	79.7
8.25	85.4	88.5	91.5	94.8	97.4
100.0	103.5	107.2	110.9	114.8	118.8
123.0	127.3	131.8	136.5	141.3	146.2
151.4	156.7	159.8	162.2	165.5	167.9
171.3	173.8	177.3	179.9	183.5	186.2
189.9	192.8	196.6	199.5	203.5	206.5
210.7	218.1	225.7	229.1	233.6	241.8
250.3	254.1	-	-	-	-

DCS CODE						
023	074	172	265	371	503	662
025	114	174	266	411	506	664
026	115	205	271	412	516	703
031	116	212	274	413	523	712
032	122	223	306	423	526	723
036	125	225	311	431	532	731
043	131	226	315	432	546	732
047	132	243	325	445	565	734
050	134	244	331	446	606	743
051	143	245	332	452	612	754
053	145	246	343	454	624	-
054	152	251	346	455	627	-
065	155	252	351	462	631	-
071	156	255	356	464	632	-
072	162	261	364	465	645	-
073	165	263	365	466	654	-

Function 2: TONE Search Scanning
In operating situations where you don't know the CTCSS/DCS tone being used by another station or stations, you can command the radio to listen to the incoming signal and scan in search of the tone being used.
Enter Menu 29st/30nd to start CTCSS/DCS searching.
If the Tone scan feature does not detect a tone or code, it will continue to scan
indefinitely. When this happens, it may be that the other station is not sending any tone.
You can press **PTT** key to halt the scan at any time.
You also can press **MONI** key during Tone scanning to listen to the (muted) signal from
the other station. When you release the **MONI** key, Tone scanning will resume.
Tone Scanning works either in the VFO or MR modes.
Function 3: TONE Calling (1750Hz)
If the repeaters in your country require a 1750Hz burst tone for access (typically in Europe), you can press and hold Side Key 1 for 2S and transmitter will automatically be activated, and a 1750Hz audio tone will be superimposed on the carrier. Once access
to the repeater has been gained, you may release Side Key 1 and use PTT key for activating. The transmitter

21) VFO Step setting (STEP---MENU 27)
Functions: setting of the synthesizer steps
Enter Menu 27th to set VFO step.
Available Values: 2.5/6.25/10/12.5/25/50/100kHz.
If you would like to set a frequency like 449.4250 as transmit frequency, there are two method to achieve.
Method 1:Under VFO Mode, press MONI key and hold on, input the desire frequency 449.4250,then release the MONI key, the frequency would be stored to current transmission frequency.
Method 2:Under VFO mode, enter menu 22 to set magnitude of the repeater shift,synthesizer steps can be changed through menu item 27 .
Note: You do not need to hold down the monitor button when changing the receiving frequency.

22) Wide/Narrow band selecting (N/W---MENU 28)
Functions: setting of wide/narrow bandwidth
Enter Menu 28th to set bandwidth.
Available Values: Wide---25kHz/Narrow---12.5kHz

23) Scrambler(SCR—MENU 31)
Functions: only 2/5 tone version has this function.This transceiver has 8 groups of scrambler. It is accomplished by the addition of components to the original signal in order to make a extraction of the original signal difficult. And its voice compand technology will make the voice more clearly in the noise environment.
Enter Menu 31td to set scrambler group.

24)Dual Watch/Monitor(DW-MENU 34)
Function: Dual Watch feature makes transceiver can monitor the calling signal when FM radio is on and you won't miss any calling.
Enter Menu 34th to set DW. Defult:OFF.

ADVANCED FUNCTIONS

1)EMERGENCY ALERT [F] + [# T-R]
Under standby mode, press [F] to enter menu setting. LCD display “MENU”, then press [# T-R] to turn on emergency alert function, radio will transmit emergency ring for 20S and then receive for 10s, until you press PTT, it will exit.



2)KEYPAD LOCK SETTING
Under standby mode, press [* Lock] for 2 S to lock to unlock the keypad. “ ”will be displayed at the top of LCD when keypad is locked.
And you can Enter Menu 32th [LOCK MD] to set Keypad lock method:
ALL/PTT/KEY/KEY+S lock.

3)TONE CALLING (1750 TONE)
To access a repeater, press and hold in [Side key 1] for the amount of time specified by the repeater. The transmitter will automatically be activated, and a 1750Hz audio tone will be superimposed on the carrier. Once access to the repeater has been gained, you may release [Side key 1] and use PTT for activating the transmission.

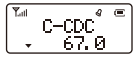
4)CHANNEL STORAGE AND DELETE
Channel Storage
Under VFO mode, input desired frequency by keypad directly or select one by pressing [^] or [v] and then long press [F] , the digits blinks at the right top of LCD, press number to input desired channel directly, or press [^] or [v] to choose desired one, then press [# T-R] for storage.
Note: after you input desired channel number, if it blinks, it means that this channel is already occupied,you can choose another one.
e.g.: to store the frequency: 450.325MHz with CTCSS: 151.4 to the channel 05, the step are as follows:



1) Under VFO mode, input 4-5-0-3-2-5



2) Press [F]+[2 Pri][3 Vox] or press [F] +[* Lock],then press [F] to enter.



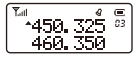
3) Press [* Lock] to choose CTCSS mode, LCD displays C-CDC 67.0



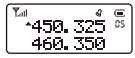
4) Press [^] or [v] to choose 151.4, then press [F] to confirm



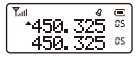
5)Press [A/B] to exit



6)Long press [F], the digit blinks at the right top of LCD



7)Press [^] or [v] to choose 05 directly



8)Press[# T-R] for storage. LCD displays MR mode and currently stored channel

Channel delete

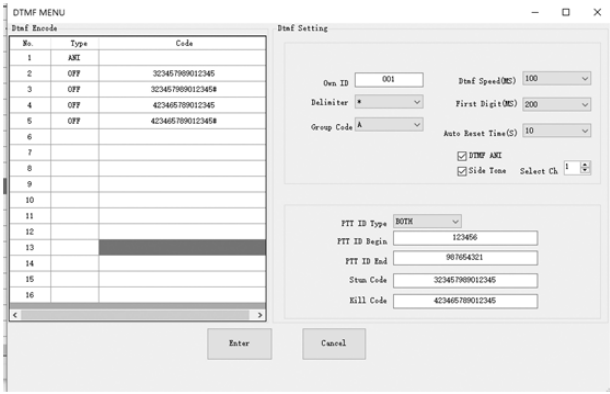
1) Under VFO mode, long press [F], the digit blinks at the right top of LCD.
2) Press [^] or [v] or input channel number you want to delete, then press [* Lock] to confirm.
3) After delete, it will skip into next channel, if you want to delete it,repeat above operation.

5)FM RADIO FUNCTION
1) On/off radio receiver
Under standby mode, press [# T-R] to open FM radio function, LCDdisplay “70.00M”, then press [# T-R] again, radios receiver is off.
Note: under FM radio mode, if receiving the signal, the radio will be out of FM mode, after 5S, it will be back to FM mode when the signals disappear.

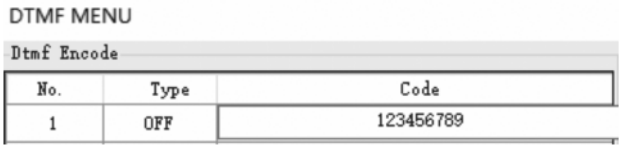


2) Mode selection:
Under FM radio mode, press [# T-R] to switch between FM memory mode and FM frequency mode (this function is unavailable when there is not FM memory channel)
3) Frequency selecting
Under FM frequency mode, input the digits directly by keypad or press [^] or [v] to choose the desired frequency. Under FM memory mode, press [^] or [v] to choose the desired channel.
4) FM radio storage
Under FM frequency mode, long press [F], the channel number for storage blinks at the right of the screen.Press [^] or [v] to select the desired channel number, press [# T-R] to confirm and then back to the receiving mode.
5) FM radio channel delete:
Under FM frequency mode, long press [F], the channel number blinks, press [^] or [v] to choose the channel number you want to delete, Press [* Lock] to confirm. Repeat this operation, you can delete all memory channel 24 in maximum.

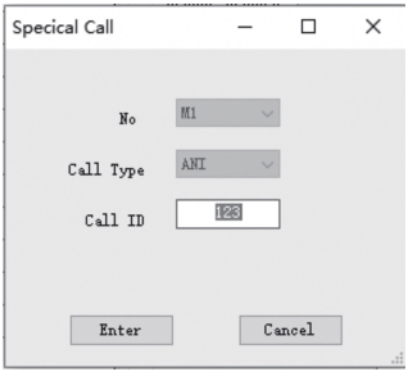
OPTIONAL SIGNAL:
Selected channel call:
Press PTT and at the same time press side key 1 to achieve remote kill/stun/activate.
DTMF operation
DTMF decoding(In programming software)
Select the DTMF encode type



1）"OFF", users can input the desired DTMF code directly.



2)"ANI", users only should input the call ID, which is called radio ID.



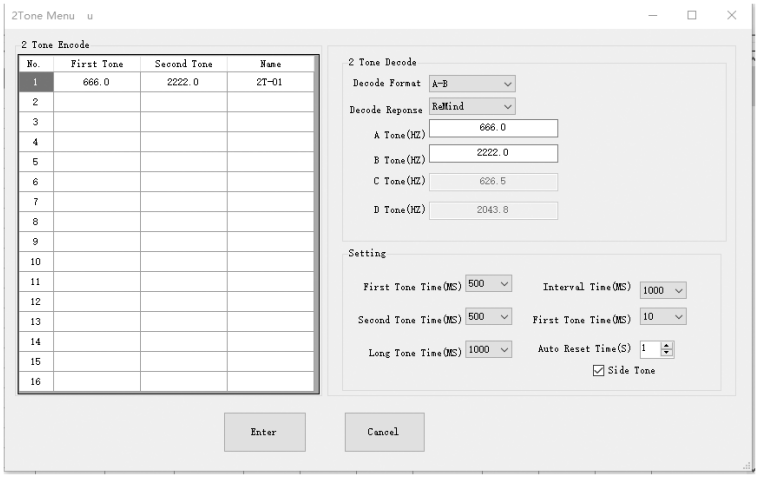
DTMF setting

Stun code: when the radio receives the corresponding DTMF code, the radio will be remote stunned and disabled transit.
Kill code: when the radio receives the corresponding DTMF code, the radio will be remote killed And disabled receive and transmit.
Select Ch: the default channel when the DTMF is calling

DTMF operating:

When the signaling of the channel selects the DTMF, press PTT and at the same time press side key 1, the current channel will automatically check if the DTMF signaling is received and decoding it. And achieve a corresponding function according to the received code. The function including: turn on the squelch, ANI display, remote stun, remote kill.
Note: when the radio is remote stunned or killed, it can be released by programming.

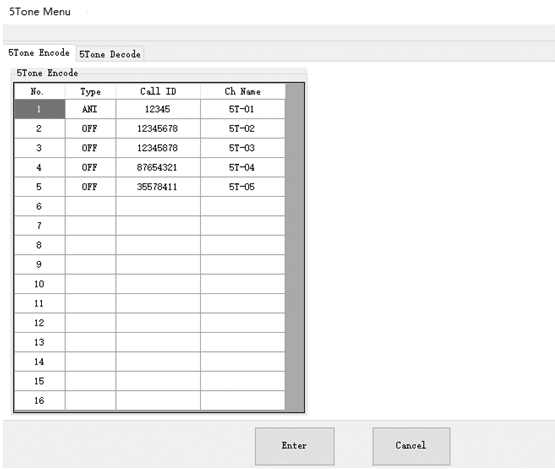
2 TONE Operation



2 Tone encode
Input: the frequency of first tone and second tone
Note: the frequency between of the first tone and second tone should not too similar to avoid the decoding is wrong.

2 Tone decode
Decode Format: the combination of decode, for example: A-B, you should make sure the frequency of first tone is A, and second tone is B. Other combination is similar.

5 Tone Operation



5 Tone encode
The write way is same with the DTMF.

5 Tone decode
Function: The function will be achieved when the radio receives the corresponding code.
Select: Turn on squelch
Stun/kill: same with DTMF
Wake: release the state of stun/kill

TECHNICAL PARAMETERS

General

Channel	200
Operating Voltage	7.4VDC
Operating Temperature	-10°C～+50°C
weight	225g（battery and antenna included）
Dimension	121x59x34mm

Transmitter

Frequency	136.000-174.000MHz 400.000-480.000MHz
power	5W
Modulation Type	FM
Spurious Power	≤-15db
Modulation Noise	<-40dB
Modulation Distortion	<5%
Frequency Stability	5ppm
Max Fr. Deviation	≤±5KHz
Current	≤1600mA
Audio response（300-3400Hz）	+6.5~-14dB
Adjacent Ch Power	≥65dB

Receiver

Frequency	136.000-174.000MHz 400.000-480.000MHz
Sensitivity	≤0.2μV
Occupied Bandwidth	≤16KHz
Selectivity	≥65dB
Intermediation	≥55dB
Audio powe	＞500m W
Audio distortion	≤10%
Frequency Stability	5ppm
Current	standby: 60mA working:250Ma
Audio response300-(3400Hz)	+7~-12.5dB

Please cut along with this line

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.retevis.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

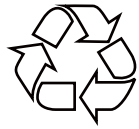
4.For warranty service, you will need to provide a receipt proof of purchase from the actual seller for verification

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.





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