

16.2x11cm

*Thanks for buying the transceiver.*

*This transceiver offers latest design, multi-functionality, stable performance and easy operation. We believe you will be pleased with the high quality and powerful functions.*

**READ THIS IMPORTANT INFORMATION ON SAFE AND EFFICIENT OPERATION  
BEFORE USING YOUR PORTABLE TWO-WAY RADIO.**

## PRECAUTIONS

This transceiver is with excellent design and advanced technology.

Please follow the below suggestions and warning to assist you to carry out the responsibilities on warranty terms, and learn the safety before using the transceiver.

1. Please keep the transceiver and accessories out of the reach of children.
2. Do not disassemble the transceiver to avoid the possibility of damaging by a non-professional.
3. Please ONLY use supplied battery pack and charger to avoid the possibility of damaging the transceiver.
4. Please ONLY use supplied antenna to avoid the possibility of damaging the transceiver.
5. Neither expose the transceiver directly to the sunlight nor in the overheated places for a long time.
6. Keep the transceiver away from the dusty or humid places.
7. Clean the transceiver with a mild brush/cloth or detergents instead of the aggressive chemical material.
8. Do not transmit before well installing the antenna.
9. If any abnormal odor or smoke is detected from the transceiver, please power it off immediately, then remove the battery pack from the transceiver. And contact your dealer.

## NOTE

- » All the above mentioned suggestions and warnings are compatible for all series transceivers and accessories. Please contact your dealer about any upset operation.
- » Manufacturer is not responsible for any safety or operation problems, which are caused by using the incompatible accessories or parts.

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## Installing before use

### ■ Install/take down USIM card

#### **NOTE**

- » Please turn off the radio before install or take down the USIM Card.
- » Please mind the direction to insert the USIM Card.

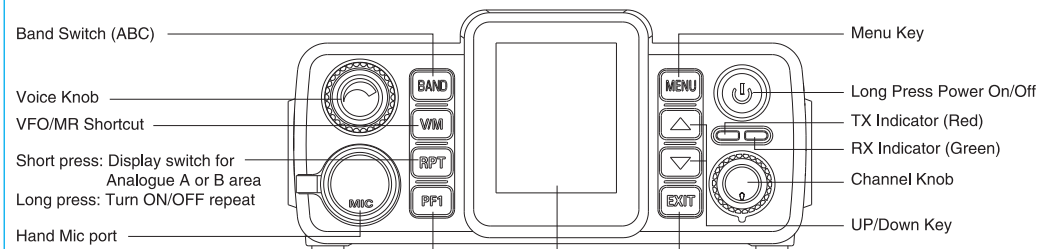
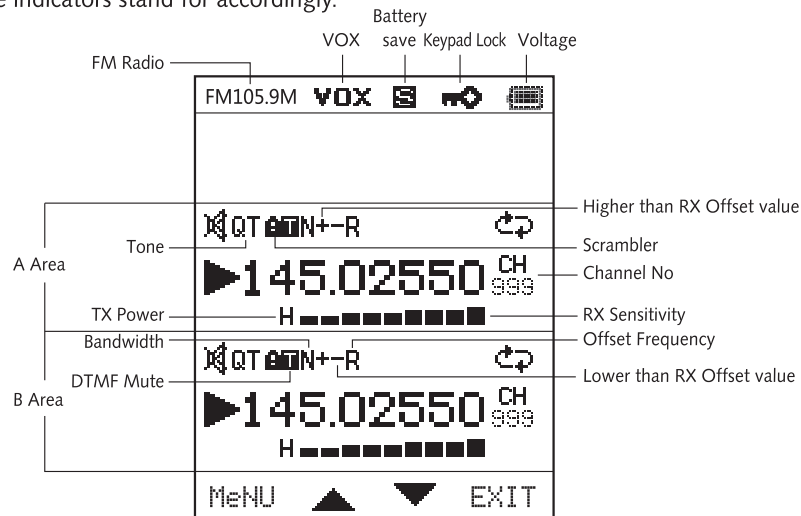
1. Please insert the USIM card to the port according to the instruction from the picture. There is crack if installation is ready.
2. Please press down the USIM card from radio. There is also crack then USIM card is out.

## Getting Started

### Structure description

#### LCD Display

There are various indicators display on the screen when powering on. Please refer the below table to learn what the indicators stand for accordingly.



FM Radio/Scan/Lamp/Emergency/SOS (Short Press)  
Monitor (Long Press)

Short press: Band Switch (ABC)  
Long press: Display switch for  
Analogue A or B area

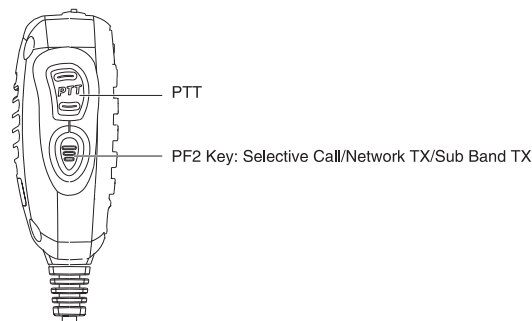
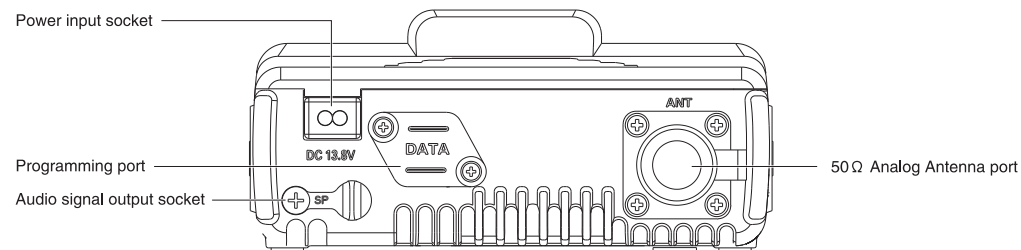
Menu key  
MENU Key +\*: VFO/MR Shortcut  
MENU Key +#: Turn ON/OFF repeat

Up/Down Key

Number Key

Handset Voice Knob  
RX Indicator (Green)  
TX Indicator (Red)  
Handset Lock Key (device key)  
Handset Background Light  
Microphone (Mic)  
Exit/Cancel Key  
Short press: Reverse Frequency  
Long press: Scanning  
Short press: Stopwatch  
Long press: Keyboard Lock

## Getting Started

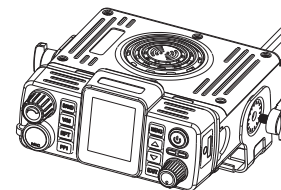
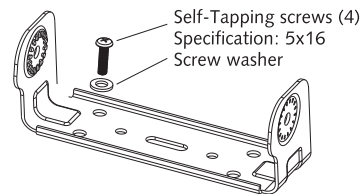


## Pre-use installation

### Transceiver installation

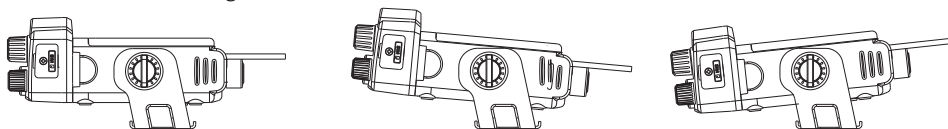
Choose a safe place inside your vehicle, one which would to the greatest extent reduce possible harm to passengers inside the car while the car is moving. It is recommended to install the transceiver on the lower part of the front meter gauge, it will prevent the transceiver from colliding with the driver in the instance of emergency or sudden braking. Install the transceiver in an area with good ventilation and avoid installing in a place with direct contact with the sun.

1. Use the supplied self-tapping screws to install the support bracket to the vehicle
2. Set the transceiver in the bracket, then insert the supplied combined screws and tighten, insure that the screws are fastened tightly. This will insure the support bracket and the transceiver do not get bumped lose when the vehicle hits bumps or shakes.



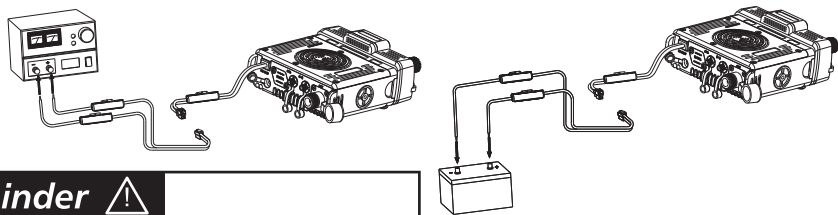
## Pre-use installation

3. Use every screw slot along the side of the support bracket, you can set the transceiver to be installed at a different angle.



The transceiver power source usage ranges from  $13.8V \pm 15\%$ . When your power source (or vehicle power source) reaches levels up to 16V, TX will be forbidden, however RX will operate as normal.

When your power source (or vehicle power source) reaches levels as low as 11.5V, the transceiver will automatically shut off. So the transceiver does not exhaust the vehicles battery and affect the vehicles normal operation. (This feature is set by the Menu 38, see instruction on P49-50)



### Special Reminder

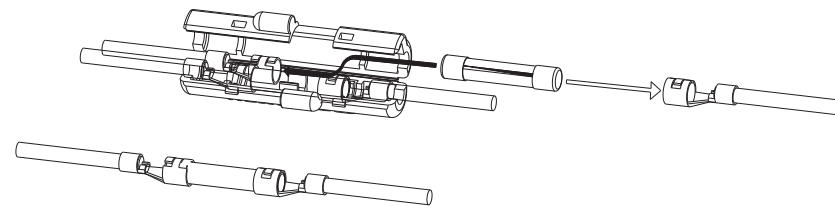
» This transceiver's working voltage is  $13.8V \pm 15\%$  DC.

## ■ Replacing the fuse

In the instance that the transceiver blows a fuse, first find out the reason, then solve the malfunction. If after installing the new fuse it once again blows a fuse, please sever the power source and immediately contact a local authorized dealer or service center for assistance.

The specified fuse current is 15A, The specified power source current is 20A and above.

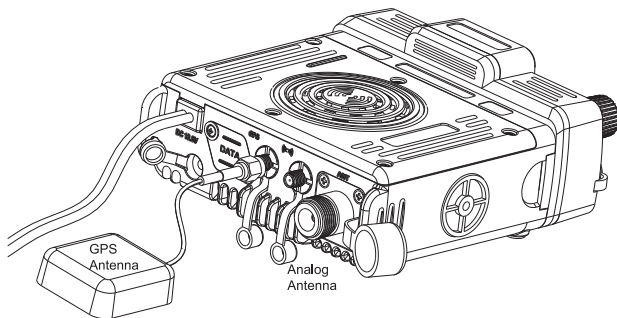
See the Fuse installation diagram on the right, after installation the fuse should be firmly secured to the copper set!



## Pre-use installation

Before operation, you must effectively install and adjust the antenna, installation success depends upon the type of antenna and whether or not the antenna is set up correctly. If you use the most suitable antenna and the antenna is installed correctly, the transceiver will attain the greatest results.

The transceiver antenna's impedance is 50 ohms, if the impedance is not at 50 ohms it will reduce the performance of the transceiver and possibly interfere with nearby broadcasting stations as well as other antenna's receivers, it could even harm the transceiver.



## Description of Functions

### Multi Work Modes

- a. Normal transceiver's communication mode
- b. Directional cross-band repeater mode or two way cross-band repeater mode

**Note:** Work modes can be switched via **RPT** key.

1. There are A, B areas on the LCD screen to display the status for working bands. The master band is with a sign **【▶】** on the top right. This is an important sign, since all the below operation instruction are for the master band. The band without this sign is called "Sub-band".
2. Specifications on A&B bands can be programmed separately. Please set the band that you want to program any specifications into as the master band firstly.
3. Some functions are not allowed to be used under directional cross-band repeater or two way cross-band repeater mode.

### Basic operation

#### ■ Quick Search

Short press **▲** or **▼** key to search the desired function / parameter during your setting, while long press to quick search.

#### ■ DTMF encoding

This transceiver has DTMF encoding. By pressing the right number key on transmitting you can choose

## Description of Functions

the right DTMF tone which you want to TX. Number key and corresponding DTMF encoding are as follows:

MENU	▲	▼	EXIT
1 STEP	2 SEC	3 SAVE	* SCAN
4 TX	5 VOICE	6 TX	□
7 VOX	8 TX	9 VOICE	#

→

A	B	C	D
1	2	3	*
4	5	6	0
7	8	9	#

### Setting Reverse Frequency Function

When the reverse frequency function is activated, the transmitting and receiving frequencies can be exchanged. And the CTCSS/DCS encoding and decoding can also be exchanged.

#### How to operate reverse frequency function:

In standby mode, long press **\* SCAN** to turn on the reverse frequency function; long press **\* SCAN** again to turn off.

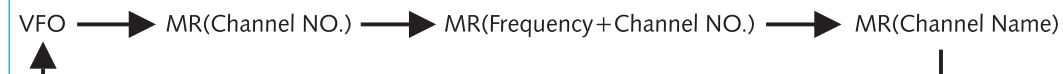
### Working Mode Switch

Two work modes: VFO(Frequency) mode and MR(Channel) mode. Three different display manners for MR mode.

A. Channel NO. B. Frequency+Channel NO. C. Channel Name

It is available to switch between the frequency mode and the channel mode manually or via the programming software. If you want, you can set the password for the mode switch.

VFO/MR(Frequency/Channel switch) switch is indicated as following:



When you set password for switching work mode, press **MENU**, LCD screen display -----, please input the correct password and press **MENU**. If inputting the wrong password, the work mode switch can not be workable. Password only can be programmed via supplied programming software. When the password is made up of full "ZERO", the work mode switch does not require password.

## Shortcut Operation Sheet

Function order	Function name	Enter function set	Screen display	Select parameter	Selectable parameter explanation	Confirm	Return to standby	See page
1 Step Frequency		MENU → 1 STEP	STEP H MAIN 1	Press ▲ or ▼ key Select parameter	8 frequency steps available: 5k/6.25k/10k/12.5k/50k/ 100k	→ MENU	→ EXIT	P19
2 Squelch Level		MENU → 2 SQL	SQL-LE H MAIN 2	Press ▲ or ▼ key Select parameter	Squelch level from 0 to 9	→ MENU	→ EXIT	P19 -20
3 Power Saver Mode		MENU → 3 SAVE	SAVE H MAIN 3	Press ▲ or ▼ key Select parameter	ON: Activate OFF: Deactivate	→ MENU	→ EXIT	P20
4 Transmitting Power Selection		MENU → 4 TWP	TWP H MAIN 4	Press ▲ or ▼ key Select parameter	H: High power (VHF 5W/UHF 4W) L: Low power (1W)	→ MENU	→ EXIT	P20 -21
5 Begin/End Transmitting Prompt		MENU → 5 ROGER	ROGER H MAIN 5	Press ▲ or ▼ key Select parameter	OFF: turn off this function, without any voice prompting. BOT: press PTT, voice prompt when beginning transmitting EOT: release PTT, voice prompt when ending transmitting BOTH: press and release PTT, voice prompt	→ MENU	→ EXIT	P21
6 Time-out Timer		MENU → 6 TOT	TOT H MAIN 6	Press ▲ or ▼ key Select parameter	TOT has 40 levels in steps of 15 seconds. OFF: Turn off TOT	→ MENU	→ EXIT	P21
7 VOX		MENU → 7 VOX	VOX H MAIN 7	Press ▲ or ▼ key Select parameter	VOX has levels from 1 to 9 OFF: Turn off VOX transmission	→ MENU	→ EXIT	P22

8 Bandwidth Selection	MENU → 8 BW	BW H MAIN 8	Press ▲ or ▼ key Select parameter	WIDE: 25KHz NARR: 12.5KHz	→ MENU	→ EXIT	P22
9 Voice Guide	MENU → 9 VOICE	VOICE H MAIN 9	Press ▲ or ▼ key Select parameter	CHINESE: Chinese voice prompt ENGLISH: English voice prompt OFF: Turn off voice prompt	→ MENU	→ EXIT	P22 -23
10 Transmitting Overtime Alarm	MENU → 1 STEP → 0	TOA H MAIN 10	Press ▲ or ▼ key Select parameter	ON: Activate OFF: Deactivate	→ MENU	→ EXIT	P23
11 Beep Prompt	MENU → 1 STEP → 1 STEP	BEEP H MAIN 11	Press ▲ or ▼ key Select parameter	ON: Turn on beep prompt function OFF: Turn off beep prompt function	→ MENU	→ EXIT	P23 -24
12 Display Language	MENU → 1 STEP → 2 SQL	LANGUAGE H MAIN 12	Press ▲ or ▼ key Select parameter	CHINESE ENGLISH	→ MENU	→ EXIT	P24
13 Busy Channel Lockout	MENU → 1 STEP → 3 SAVE	BCL H MAIN 13	Press ▲ or ▼ key Select parameter	ON: Turn on BCL OFF: Turn off BCL	→ MENU	→ EXIT	P24
14 Scan Mode	MENU → 1 STEP → 4 TWP	SC-REV H MAIN 14	Press ▲ or ▼ key Select parameter	3 Kinds of Scan modes TO: Time scanning mode CO: Carrier mode scan SE: Search mode scan	→ MENU	→ EXIT	P24 -25
15 Receiving CTCSS	MENU → 1 STEP → 5 ROGER	R-CTC H MAIN 15	Press ▲ or ▼ key Select parameter	50 groups CTCSS (67.0Hz-254.1Hz) OFF: Turn off CTCSS	→ MENU	→ EXIT	P25
16 Transmitting CTCSS	MENU → 1 STEP → 6 TOT	T-CTC H MAIN 16	Press ▲ or ▼ key Select parameter	50 groups CTCSS (67.0Hz-254.1Hz) OFF: Turn off CTCSS	→ MENU	→ EXIT	P26
17 Receiving DCS	MENU → 1 STEP → 7 VOX	R-DCS H MAIN 17	Press ▲ or ▼ key Select parameter	105 groups DCS (D023N-D754I) OFF: Turn off DCS	→ MENU	→ EXIT	P26

## Shortcut Operation Sheet

18 Transmitting DCS	MENU → 1 STEP → 8 DCS → T-DCS MAIN 18 H	Press ▲ or ▼ key Select parameter	105 groups DCS (D023N-D754I) OFF: Turn off DCS	MENU → EXIT	P26-28
19 Side Key Setting	MENU → 1 STEP → 9 VOICE → PF2-KEY MAIN 19 H	Press ▲ or ▼ key Select parameter	CALL: Selective Call VFTX: Transmission on Sub-frequency	MENU → EXIT	P28
20 Side Key Setting	MENU → 2 SOL → 0 → PF1-KEY MAIN 20 H	Press ▲ or ▼ key Select parameter	SCAN: Activate scan LAMP: Turn on Lamp Tele Alarm: Remote Alarm SOS-CH: SOS function RADIO: Turn on FM radio Disable: Inactivate	MENU → EXIT	P29-31
21 Working Mode Switch	MENU → 2 SOL → 1 STEP → CH-MDF MAIN 21 H	Press ▲ or ▼ key Select parameter	This transceiver has two working modes available: 1. Frequency mode (FREQ) 2. Channel mode Three kinds of channel modes available: ① Channel (CH) ② Frequency+Channel number (CH FREQ) ③ Channel name (NAME)	MENU → EXIT	P31-32
22 Auto Backlight	MENU → 2 SOL → 2 SOL → ABR MAIN 22 H	Press ▲ or ▼ key Select parameter	Always ON 15-20S: Backlight Timer	MENU → EXIT	P32
23 Offset Frequency	MENU → 2 SOL → 3 SAVE → OFFSET MAIN 23 H	Press ▲ or ▼ key Select parameter	0-599.995MHz	MENU → EXIT	P32
24 Frequency Shift Direction	MENU → 2 SOL → 4 TOP → SFT-D MAIN 24 H	Press ▲ or ▼ key Select parameter	+ Positive direction - Negative direction OFF: Turn off frequency shift direction	MENU → EXIT	P33
25 Stopwatch Timer	MENU → 2 SOL → 5 TIMER → SECOND MAIN 25 H	Press ▲ or ▼ key Select parameter	ON: Activate OFF: Deactivate	MENU → EXIT	P33-34

26 Channel Name Edit	MENU → 2 SOL → 6 TOP → CHNAME MAIN 26 H	Press ▲ or ▼ key Select parameter	Channel name should be composed by 26 letters (A to Z) and 10 numbers (0 to 9), eight maximum	MENU → EXIT	P34
27 Channel Memory	MENU → 2 SOL → 7 VOX → MEM-CH MAIN 27 H	Press ▲ or ▼ key Select parameter	999 channels available	MENU → EXIT	P35-36
28 Channel Delete	MENU → 2 SOL → 8 TOP → DEL-CH MAIN 28 H	Press ▲ or ▼ key Select parameter	999 channels available	MENU → EXIT	P36
29 Scan CTCSS/DCS	MENU → 2 SOL → 9 VOICE → SC-CTC MAIN 29 H	Press ▲ or ▼ key Select parameter	CTCSS DCS	MENU → EXIT	P37
30 Speaker settings	MENU → 3 SAVE → 0 → SPK-CONT MAIN 30 H	Press ▲ or ▼ key Select parameter	SPK1: The transceiver-mounted speaker is activated SPK2: The hand speaker is activated SPK1+2: Both the transceiver-mounted speaker and the hand speaker are activated.	MENU → EXIT	P37-38
31 Mute Settings	MENU → 3 SAVE → 1 STEP → SP-MUTE MAIN 31 H	Press ▲ or ▼ key Select parameter	There are three squelch settings: QT*DTMF, QT+DTMF, QT	MENU → EXIT	P38-39
32 Caller ID Transmission Settings	MENU → 3 SAVE → 2 SOL → ANI-SW MAIN 32 H	Press ▲ or ▼ key Select parameter	ON: Activate OFF: Deactivate	MENU → EXIT	P39
33 Editing Caller ID	MENU → 3 SAVE → 3 SAVE → ANI-EDIT MAIN 33 H	Press ▲ or ▼ key Select parameter	Individual Caller IDs can be chosen within the range 100-999999, and cannot begin with 0	MENU → EXIT	P39-40
34 DTMF Sidetone Settings	MENU → 3 SAVE → 4 TOP → DTMFST MAIN 34 H	Press ▲ or ▼ key Select parameter	DT-ST: Keypad sidetone will be activated when transmitting ANI-ST: Caller ID sidetone will be activated when transmitting DT-ANI: Caller ID sidetone and keypad sidetone will be activated when transmitting OFF: Deactivate all	MENU → EXIT	P40



## Shortcut Operation Sheet

35 Keypad Auto Lock	MENU → 3 SAVE → 5 VOICE →	Press ▲ or ▼ key Select parameter	ON: Activate OFF: Deactivate	MENU → EXIT	P41
36 Priority Channel Switch	MENU → 3 SAVE → 6 TOP →	Press ▲ or ▼ key Select parameter	ON: Activate OFF: Deactivate	MENU → EXIT	P41-42
37 Repeater Settings	MENU → 3 SAVE → 7 VOX →	Press ▲ or ▼ key Select parameter	X-DIRPT: Directional cross band repeat X-TWRPT: Two-way cross band repeat	MENU → EXIT	P42-45
38 Repeater Speaker Switch	MENU → 3 SAVE → 8 VOX →	Press ▲ or ▼ key Select parameter	ON: Speaker is activate when repeating OFF: Speaker is deactivate when repeating	MENU → EXIT	P46
39 Repeater PTT Switch	MENU → 3 SAVE → 9 VOICE →	Press ▲ or ▼ key Select parameter	ON: PTT transmission activated when repeating OFF: PTT transmission blocked when repeating	MENU → EXIT	P46
40 Scan Add	MENU → 4 TOP →	Press ▲ or ▼ key Select parameter	ON: When scanning channels, they will be added to the scanning table OFF: Channels will not be added to the table when scanning	MENU → EXIT	P46
41 Single-Tone Pulse Frequency	MENU → 4 TOP → 1 STOP →	Press ▲ or ▼ key Select parameter	There are 4 single-tone pulse frequency options:1750; 2100; 1000; 1450	MENU → EXIT	P47
42 PTT ID Delay	MENU → 4 TOP → 2 DEL →	Press ▲ or ▼ key Select parameter	Options: 100ms 200ms...30000ms	MENU → EXIT	P47
43 Caller ID Transmission Mode	MENU → 4 TOP → 3 SAVE →	Press ▲ or ▼ key Select parameter	BOT: Press PTT to transmit caller ID. EOT: Release PTT to transmit caller ID. BOTH: Press and release PTT will both transmit caller ID.	MENU → EXIT	P47-48

44 Ring Time	MENU → 4 TOP → 4 TOP →	Press ▲ or ▼ key Select parameter	1-10 Levels:each level 1 second OFF:Deactivate	MENU → EXIT	P48
45 Scan Channel Group NO. of A Area	MENU → 4 TOP → 5 VOICE →	Press ▲ or ▼ key Select parameter	All: scan all Group 1, Group 2, Group 3, Group 4, Group 5, Group 6, Group 7, Group 8, Group 9, Group 10	MENU → EXIT	P48
46 Scan channel Group NO. of B Area	MENU → 4 TOP → 6 TOP →	Press ▲ or ▼ key Select parameter	All: scan all Group 1, Group 2, Group 3, Group 4, Group 5, Group 6, Group 7, Group 8, Group 9, Group 10	MENU → EXIT	P49
47 Repeater Receipt Tone	MENU → 4 TOP → 7 VOX →	Press ▲ or ▼ key Select parameter	ON: Activate OFF: Deactivate	MENU → EXIT	P49
48 Saving Scan Mode	MENU → 4 TOP → 8 VOX →	Press ▲ or ▼ key Select parameter	ALL: Save both RX and TX CTCSS/DCS DEC: Save RX CTCSS/DCS NEC: Save TX CTCSS/DCS	MENU → EXIT	P49-50
49 Setting Sub-Frequency Mute	MENU → 4 TOP → 9 VOICE →	Press ▲ or ▼ key Select parameter	OFF: Deactivate this function TX: Deactive volume on sub-frequency when transmitting on master frequency RX: Deactive volume on sub-frequency when receiving on master frequency TX/RX:Deactive volume on sub-frequency when transmitting and receiving on master frequency	MENU → EXIT	P50
50 Selective Call Code Group Setting	MENU → 5 VOICE →	Press ▲ or ▼ key Select parameter	Selective call group:1-20	MENU → EXIT	P51

## Shortcut Operation Sheet

51 Reset Setting	MENU → 5 <small>ROGER</small> → 1 <small>STEP</small> → RESET <small>MAIN 51</small> → MENU → Press ▲ or ▼ key Select parameter	VFO: Reset menu functional parameters ALL: Reset all (menu & channel) functional parameters	MENU → EXIT	P51
52 Setting for Backlight	MENU → 5 <small>ROGER</small> → 2 <small>SQL</small> → BACKLIGHT <small>MAIN 52</small> → MENU → Press ▲ or ▼ key Select parameter	Backlight: 01 to 10 groups	MENU → EXIT	P52
53 Radio-WR	MENU → 5 <small>ROGER</small> → 3 <small>SAVE</small> → RADIO-WR <small>MAIN 53</small> → MENU → Press ▲ or ▼ key Select parameter	Read Radio Station: 01-20 Groups Write Radio Station: 01-20 Groups	MENU → EXIT	P52
54 Componder	MENU → 5 <small>ROGER</small> → 4 <small>TOT</small> → COMPANDE <small>MAIN 54</small> → MENU → Press ▲ or ▼ key Select parameter	ON: Turn on OFF: Turn off	MENU → EXIT	P52 -53
55 Repeat Area Setting(RPT-AREA)	MENU → 5 <small>ROGER</small> → 5 <small>ROGER</small> → RPT-AREA <small>MAIN 55</small> → MENU → Press ▲ or ▼ key Select parameter	AB Repeat: Analogue A area and B area Cross Repeat	MENU → EXIT	P53
56 Zone A Mute (ZA MUTE)	MENU → 5 <small>ROGER</small> → 6 <small>TOT</small> → ZA MUTE <small>MAIN 56</small> → MENU → Press ▲ or ▼ key Select parameter	NO YES	MENU → EXIT	P53
57 Mute(ZB Zone B MUTE)	MENU → 5 <small>ROGER</small> → 7 <small>VOL</small> → ZB MUTE <small>MAIN 57</small> → MENU → Press ▲ or ▼ key Select parameter	NO YES	MENU → EXIT	P53 -54

## How to Operate

### Step Frequency (STEP) ----- MENU 1

In standby, press MENU + 1 STEP, the screen displays STEP MAIN 1

Press MENU to enter, press ▲ / ▼ to select the desired step, then press MENU to confirm, finally press EXIT to return to standby.

The frequency steps selectable for this transceiver are as follows:

5.00KHz, 6.25KHz, 10.00KHz, 12.50KHz, 25.00KHz, 50.00KHz and 100KHz.

### Squelch Level (SQL-LE) ----- MENU 2

Squelch level is about when the signal is strong enough to turn on the squelch function, and when it is weak enough to turn off. You may hear the voice from the loudspeaker when turning ON the squelch and, receiving the same signal from other transceivers. Higher level makes it harder to receive the weak signals, while lower level will be interfered by noises and/or unwanted signals.

In standby, press MENU + 2 SQL, the screen displays SQL-LE MAIN 2

Press MENU to enter, press ▲ / ▼ to select the desired squelch level, then press MENU to confirm, finally press EXIT to return to standby.

## How to Operate

### NOTE

» The squelch level for this transceiver has 0-9 levels selectable, and level 0 means turn off the squelch function. The higher level of the squelch is set, the stronger receiving signal is needed.

### Power Saver Mode (SAVE) --- MENU 3

When the power saver function is ON, the receiver circuit will be cut off for a moment, and then re-activate to detect the signals for a while, in order to reduce the battery capacity consumption.

In standby, press **MENU** + **3**, the screen displays 

Press **MENU** to enter, it shows 'ON', press **▲** / **▼** to select turn ON/OFF the power saver function.

Press **MENU** to confirm, and then press **EXIT** to return to standby.

### Transmitting Power Selection (TXP) --- MENU 4

In frequency mode, press **MENU** + **4**, the screen displays 

Press **MENU** to enter, it shows 'HIGH', press **▲** / **▼** to select HIGH/LOW power, then press **MENU** to confirm, finally press **EXIT** to return to standby.

### NOTE

» This transceiver has HIGH and LOW transmitting power selectable:

### Transmission Prompt settings (ROGER) --- Menu 5

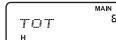
When the transceiver is standby, press the **MENU** + **5** keys and the screen will display: 

Press the key to access the menu, and after pressing the **▲** / **▼** keys to choose the required prompt mode, press the **MENU** key to confirm, or the **EXIT** key to return to standby.

The transceiver features 4 kinds of prompt: BOT (beginning of transmission), EOT (end of transmission), BOTH (beginning and end of transmission), and OFF (prompts deactivated).

### Time-out Timer (TOT) --- MENU 6

This transceiver can be set in 60 levels with 15 seconds each, between 15 and 900 seconds.

In standby, press **MENU** + **6**, the screen displays 

Press **MENU** to enter, press **▲** / **▼** to select the desired timer level, then press **MENU** to confirm, finally press **EXIT** to return to standby.

## How to Operate

### VOX (VOX) --- MENU 7


In standby , press **MENU** + **7** , the screen displays 

Press **MENU** to enter , press **▲** / **▼** to select VOX level(1-9), then press **MENU** to confirm, finally press **EXIT** to return to standby.

#### NOTE

- » The higher level of VOX is set, the higher volume is needed.
- » In SCAN and FM radio modes, the VOX function is not available.


### Bandwidth Selection (W/N) --- MENU 8

In standby , press **MENU** + **8** , the screen displays 

Press **MENU** to enter, it shows 'WIDE', press **▲** / **▼** to select WIDE/NARROW bandwidth, then press **MENU** to confirm , finally press **EXIT** to return to standby.

There are two bandwidths for option:WIDE:25KHz and NARR:12.5KHz

### Voice Guide (VOICE) --- MENU 9

In standby , press **MENU** + **9** , the screen displays 

Press **MENU** to enter, press **▲** / **▼** to select ON or OFF , and then press **MENU** key to confirm, finally press **EXIT** to return to standby.

#### NOTE

- » Turn off MENU 9 and MENU 11 at the same time to turn off all the voice prompt if required.

### Transmitting Overtime Alarm (TOA) --- MENU 10

In standby , press **MENU** + **1**  , the screen displays 

Press the **MENU** key to access the menu, and after pressing the **▲** / **▼** keys to select the required time, press the **MENU** key to confirm, and the **EXIT** key to return to standby.

TOA has a maximum length of 10seconds, each level corresponding to 1second. OFF: Deactivate TOA.

#### Special Reminder

- » When the transmission exceeds the "Time-out timer" set time, a error tone will prompt, and transmission is stopped automatically.

### Beep Prompt Function (BEEP) --- MENU 11

In standby , press **MENU** + **1**  **1**  , the screen displays 

## How to operate

Press **MENU** to enter, press **▲** / **▼** to turn ON/OFF the beep prompt function, then press **MENU** to confirm, finally press **EXIT** to return to standby.

### Display Language (LANGUAGE) --- MENU 12

In standby, press **MENU** + **1 STEP** **2 SEL**, the screen display 

Press **MENU** to access the function, press **▲** / **▼** to select the desired language, and then press **MENU** to confirm, press **EXIT** to return to standby mode.

Two Options: CHINESE and ENGLISH

### Busy Channel Lockout (BCL) --- MENU 13

In frequency mode, press **MENU** + **1 STEP** **3 SAVE**, the screen displays 

Press **MENU** to enter, press **▲** / **▼** to select ON/OFF this function, then press **MENU** to confirm, finally press **EXIT** to return to standby.

Note: This function is invalid in cross band repeater or repeater/transmitter modes.

### Scan Mode Settings (SC-REV) --- Menu 14

When the transceiver is standby, press the **MENU** + **1 STEP** **4 TOP**, keys and the screen will display 

Press the **MENU** key to access the menu, and after pressing the **▲** / **▼** keys to select the required set-

ting, press the **MENU** key to confirm, and the **EXIT** key to return to standby

The transceiver has 3 scan modes: TO, CO, and SE:

TO: after finding a carrier wave signal, scanning will continue if no operations are carrier out within 5 seconds.

CO: scanning will stop when a carrier wave signal has been found, and scanning will continue if the carrier wave signal is lost for 3 seconds.

SE: scanning will stop when a carrier wave signal is found.

## NOTE

» Hold on **\* SCAN** for 2 seconds to access the scan mode.

### Receiving CTCSS settings (RX-CTC) --- Menu 15

When the transceiver in standby. press the **MENU** + **1 STEP** **5 GROUP** keys and the screen will display 

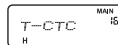
Press the **MENU** key to access the menu, and after pressing the **▲** / **▼** key to select the CTCSS you desire, press the **EXIT** key to return to standby.

The CTCSS has a total of 50 groups, ranging from 67.0 to 254.1HZ. OFF: Deactivate.

## How to Operate

### Transmitting CTCSS settings (TX-CTC) --- Menu 16

When the transceiver is standby, press the **MENU** + **1 STEP** **6 TOT** keys and the screen will display

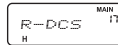


Press the **MENU** key to access the menu, and after pressing the **▲** / **▼** key to select the CTCSS you desire, press the **MENU** key to confirm, and press the **EXIT** key to return to standby.

CTCSS has a total of 5 groups, ranging from 67.0-254.1Hz. OFF: Deactivate

### Receiving DCS settings (RX-DCS) --- Menu 17

When the transceiver is standby, press the **MENU** + **1 STEP** **7 VOX** keys and the screen will display



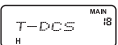
Press the **MENU** key to access the menu, and after pressing the **▲** / **▼** key to select the DCS you desire, press the **MENU** key to confirm, and press the **EXIT** key to return to standby.

DCS: 105 groups of positive code, 105 groups of negative code, ranging from D023N to D754I.

OFF: Deactivate.

### Transmission DCS settings (TX-DCS) --- Menu 18

When the transceiver is standby, press the **MENU** + **1 STEP** **8 VOX** keys and the screen will display



Press the **MENU** key to access the menu, and after pressing the **▲** / **▼** key to select the DCS you desire, press the **MENU** key to confirm, and press the **EXIT** key to return to standby.

DCS: 105 groups of positive code, 105 groups of negative codes, ranging from D023N to D754I.

OFF: Deactive.

CTCSS

1	67.0	11	94.8	21	131.8	31	171.3	41	203.5
2	69.3	12	97.4	22	136.5	32	173.8	42	206.5
3	71.9	13	100.0	23	141.3	33	177.3	43	210.7
4	74.4	14	103.5	24	146.2	34	179.9	44	218.1
5	77.0	15	107.2	25	151.4	35	183.5	45	225.7
6	79.7	16	110.9	26	156.7	36	186.2	46	229.1
7	82.5	17	114.8	27	159.8	37	189.9	47	233.6
8	85.4	18	118.8	28	162.2	38	192.8	48	241.8
9	88.5	19	123.0	29	165.5	39	196.6	49	250.3
10	91.5	20	127.3	30	167.9	40	199.5	50	254.1

## How to Operate

### DCS (positive code)

1	D023N	16	D074N	31	D165N	46	D261N	61	D356N	76	D462N	91	D627N
2	D025N	17	D114N	32	D172N	47	D263N	62	D364N	77	D464N	92	D631N
3	D026N	18	D115N	33	D174N	48	D265N	63	D365N	78	D465N	93	D632N
4	D031N	19	D116N	34	D205N	49	D266N	64	D371N	79	D466N	94	D645N
5	D032N	20	D122N	35	D212N	50	D271N	65	D411N	80	D503N	95	D654N
6	D036N	21	D125N	36	D223N	51	D274N	66	D412N	81	D506N	96	D662N
7	D043N	22	D131N	37	D225N	52	D306N	67	D413N	82	D516N	97	D664N
8	D047N	23	D132N	38	D226N	53	D311N	68	D423N	83	D523N	98	D703N
9	D051N	24	D134N	39	D243N	54	D315N	69	D431N	84	D526N	99	D712N
10	D053N	25	D143N	40	D244N	55	D325N	70	D432N	85	D532N	100	D723N
11	D054N	26	D145N	41	D245N	56	D331N	71	D445N	86	D546N	101	D731N
12	D065N	27	D152N	42	D246N	57	D332N	72	D446N	87	D565N	102	D732N
13	D071N	28	D155N	43	D251N	58	D343N	73	D452N	88	D606N	103	D734N
14	D072N	29	D156N	44	D252N	59	D346N	74	D454N	89	D612N	104	D743N
15	D073N	30	D162N	45	D255N	60	D351N	75	D455N	90	D624N	105	D754N

### CALL/VFTX on Side Key 2 (PF2-KEY) --- MENU 19

In standby, press **MENU** + **1 STEP** **9 VOICE** the screen displays 

Press **MENU** to access the menu, press **▲** / **▼** to select the mode you desire. And then press **MENU** to confirm, and press **EXIT** to return to standby.

Two options: CALL(Selective Calls), VFTX (Transmission on Sub-frequency), PTX (Public transmission).

Selective call codes are programmed via supplied software.

### SCAN/LAMP/SOS/TeleAlarm/RADIO/DISABLE on Side Key 1 (PF3-KEY) --- MENU 20

In standby, press **MENU** + **2 STEP** **□** the screen displays 

Press **MENU** to access the menu, press **▲** / **▼** to select the function you desire. And then press **MENU** to confirm, press **EXIT** to return to standby.

Six options: SCAN, LAMP, SOS, TeleAlarm, RADIO and Disable.

Different operations according to different functions:

SCAN: Activate the scan function:

In standby, press PF1 to access scanning mode.(scan mode can be set via MENU 14-Scan Mode Setting), while press any key to stop scanning.

LAMP: Activate lamp function:

In standby, press PF1 to activate lamp function, while press PF3 again to deactivate.

SOS-CH function

In standby, press PF1, the speaker will prompt alarm after 2 seconds, and the radio will transmit alarm tone.

## How to operate

### NOTE

» Each alarm lasts 10seconds, and after 5 minutes, the alarm will re-activate. Press any key to exit the function.

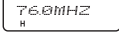

TeleAlarm: Activate remote alarm function

In standby, press PF1, the speaker will prompt alarm and transmit ANI ID code + numbers "110".

Press PTT key to exit.

RADIO: Activate the FM radio function

A. Activate FM radio:

In standby, press PF1 to activate FM radio. The screen displays  , press  to access FM radio function to automatically search FM radio. The search will automatically stop when receiving FM radio.

FM radio will be received on the searched frequency.

B. Inputting FM radio Frequency

In FM radio mode, press PF1, the screen display  , hold on  for 2 seconds, the screen displays  .It is OK to input the FM radio frequency.

C. Exit FM radio






Press PF1 again to exit FM radio function.

### NOTE

» When FM radio is active, current frequency or channel is still in standby. After receiving the signals, the transceiver returns to transceiver communication mode. After the signal disappears for 5seconds, the transceiver returns to FM radio. After 5seconds when pressing PTT key to transmit, the transceiver returns to FM radio automatically.

## Working Mode Switch (CH-MDF) --- MENU 21

In standby, press  +   , the screen display 

Press  to enter, press  /  , to select mode then press  confirm , press  it return to standby.

This transceiver has two options for the working mode:

1. Frequency mode(FREQ)
2. Channel mode

There are three channel display selections in channel mode as follows;

- ① Channel (CH) ② Frequency+ Channel number (CH FREQ) ③ Channel name (NAME)



## How to Operate

### NOTE

- » The password for the work mode switch is programmed only via the programming software.
- » The password consists of 6 characters, while "000000" means no password needed for the mode switch.

### Auto Backlight (ABR) --- MENU 22

In standby, press **MENU** + **2** **2**, the screen display 

Press **MENU** to enter, press **▲** / **▼** to select backlight function, then press **MENU** confirm, press **EXIT** it return to standby.

Always Activate

1S-20S: Set the lasting time of backlight

### Offset Frequency (OFF-SET) --- MENU 23

In standby, press **MENU** + **2** **3** and the screen display 

Press **MENU** to access the menu, press **▲** / **▼** to select the parameter you desire, and then press **MENU** to confirm, press **EXIT** to return to standby.

Offset frequency range: 0-599.995MHz, The 7th and 8th frequency point depends on the programmed step frequency

### Frequency Shift Direction (SFT-D) --- MENU 24

In standby, press **MENU** + **2** **4**, The screen display 

Press **MENU** to enter, press **▲** / **▼** to select the desired frequency shift direction, then press **MENU** confirm, press **EXIT** it return to standby.

There are three selections for the frequency shift direction setting:

1. Plus shift (+), which means that the transmitting frequency is higher than the receiving frequency.
2. Minus shift (-), which means that the transmitting frequency is lower than the receiving frequency.
3. Turn off this function

### NOTE

- » When offset frequency is out of the allowed offset frequency range, the transceiver can not transmit. In this case, please make sure the offset frequency and receiving frequency is within the allowed range.

### Stopwatch Timer (SECOND) --- MENU 25

In standby, press **MENU** + **2** **5**, The screen display 

Press **MENU** to enter, **▲** / **▼** to select ON/OFF, then press **MENU** confirm, press **EXIT** to standby.

Using the stopwatch timer:

## How to operate

When this function is ON, press **#** to start counting, while press any key to stop working . Press **#** again to re-start counting.

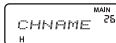
### NOTE

» Press any key (except **#** ) when the stopwatch stops working to exit the stopwatch function.

## Editing a Channel Name (CH-NAME) --- MENU 26

Channel names can only be edited in channel mode, and only the name of the present channel can be edited this operation is ineffective in frequency mode.

In standby, press **MENU** + **2** **6** keys and the screen will display



Press **MENU** to access the menu, and the first digit will flash (which indicates that this digit is being edited).

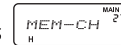
Press **▲** to choose the required character, press **▼** to edit the next character, press **MENU** to confirm, and then press **EXIT** to return to standby.

### NOTE

- » 1.Channel names can be maximum of 8 characters long.
- » 2.When all 8 characters are empty, the channel will be displayed on the screen as "NO-NAME!"

## Memorize Channel (MEM-CH) --- MENU 27

In channel mode or standby, press **MENU** + **2** **7** , the screen displays



Press **MENU** to access the menu, press **▲** / **▼** to select the desired channel order, and then press **MENU** to memorize with a voice prompt. Press **EXIT** to return to standby.

When the transceiver is in channel(MR) mode, the parameters(except channel name and scan adding) will be memorized into the channel.

When the transceiver is in frequency(VFO) mode, you can program all the parameters(frequency, offset, offset directions etc.) into the channel to memorize.

Example:

Memorize the parameters: "Receiving frequency 450.025MHz, receiving CTCSS is 67.0Hz, transmission frequency is 460.025MHz" into the Channel NO.10.

- 1.Inputting 450.025MHz to the transceiver in frequency(VFO)mode, press **MENU** + **1** **5** to access receiving CTCSS/DCS setting, press **▲** / **▼** to select 67.0Hz, press **MENU** to confirm.
- 2.Press **MENU** + **2** **3** to select the offset frequency is 10.000MHz, press **MENU** + **2** **4** to set the frequency direction as "+".
- 3.Press **MENU** + **2** **7** to access channel memory, select CH-010 and press **MENU** to memorize the channel

## How to Operate


and return to standby.

In standby, press **MENU** + **2** **7** to access channel memory, the screen displays , input the desired channel number orderly, and then press **MENU** to confirm.

### NOTE

- » When the selected channel is empty (without any parameter), the characters of the channel number is blue, while the selected channel is with the memorized parameters, the characters of the channel number is dark red.

### Deleting a channel (DEL-CH) --- MENU 28

In standby, press **MENU** + **2** **8**, the screen will display 

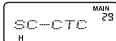
Press **MENU** to access the menu, press **▲** / **▼** to select the channel you wish to delete or manually inputting the channel number, press **MENU** to confirm and the **EXIT** key to return to standby.

### Special Reminder

- » 1<sup>st</sup> channel can not be deleted.
- » When the selected channel is empty (without any parameter), the characters of the channel number is blue, while the selected channel is with the memorized parameters, the characters of the channel number is dark red.

### CTCSS scanning (SCN-CTC) --- MENU 29

This function is scanning the programmed frequencies or channels with CTCSS/DCS or not. When the CTCSS/DCS are not compatible with the one you are going to communicate with, it stops the regular communication.

In standby, press **MENU** + **2** **9**, screen displays , Select CTCSS or DCS, then Press **MENU** to confirm and start the scan.

### Special Reminder

- » if there is no carrier received on the scanned frequencies or channels, the function is not activated.
- » pls use the **▲** / **▼** to change the direction for scanning.
- » it stopes on the frequency or channel which is programmed with CTCSS/DCS, pls press **MENU** to save by yourself if needed. Pls press **\* SCAN** to continue to scan the next frequencies or channels if not needed.

### Speaker settings (SPK-CONT) --- Menu 30

When the transceiver is standby, press the **MENU** + **3** **0** keys and the screen will display: 

Press the **MENU** key to access the menu, and after pressing the **▲** / **▼** keys to select the desired

## How to Operate

setting, press the **MENU** key to confirm, and press the **EXIT** key to return to standby.

There are 3 speakers on the transceiver, 2 are for the transceiver that is separated by Area A/B and 1 is for hand microphone. You can activate the hand microphone as the only one speaker. You can also both activate the transceiver and hand microphone.

SPK1: only the transceiver unit speaker is activate.

SPK2: only the hand microphone is activate.

SPK1+2: the transceiver-mounted speaker and the hand microphone are both activate.

### Mute settings (SP-MUTE) --- MENU 31

In standby, press **MENU** + **3** **1**, the screen displays 

Press **MENU** to access the menu, and after pressing **▲** / **▼** to choose the required mute mode, press **MENU** to confirm, and press **EXIT** to return to standby.

Squelch settings: set the conditions which determine when the speaker shall be turned on, these settings are used during selective calls, group calls and all calls.

The transceiver's mute mode include:

QT: When the transceiver is set to this mode, all signals on the same QT frequency will activate the speaker.

QT+DTMF: only those signals which both satisfy the requirements of QT and whose DTMF carrier wave

signal also match the transceiver will activate the speaker in this mode.

QT\*DTMF: When this mode is active, only those signals which either meet QT requirements or DTMF requirements will activate the speaker.

### Caller ID Code Switch (ANI-SW) --- MENU 32

In frequency mode, press **MENU** + **3** **2**, The screen display 

Press **MENU** to enter, press **▲** / **▼** to select turn ON/OFF, and press **MENU** to confirm, press **EXIT** it return to standby.

### Editing Caller ID Code (ANI-EDIT) --- MENU 33

The transceiver's Caller ID code is composed of the arabic numerals 0-9: the first digit cannot be 0, and ID numbers can be as short as 3 digits and as long as 6.

In standby, press **MENU** + **3** **3**, the screen displays 

Press **MENU** to access the menu, and after inputting the required numbers, press **MENU** to confirm, and **EXIT** key to return to standby.

Example 1: editing a 6-digit ANI ID code(123456).

In standby, press **MENU** + **3** **3**, the screen displays 

After pressing **MENU** key, the first digit will flash, then input the required value 123456.

## How to Operate

Press **MENU** to confirm, and press **EXIT** to return to standby.

Example 2: editing a 3-digit Caller ID code(123)

In standby, press **MENU** + **3** **3** **3**, the screen displays 

After pressing **MENU**, if a Caller ID code has been already input, it will be displayed, and the first digit will flash. If no Caller ID code has been input, 101 will be displayed, and the first digit will flash. Input 123 at the same time, press **MENU** to confirm, press **EXIT** to return to standby.

### Special Reminder

» Each transceiver can have only one ANI ID code, which is shared by Area A and B.

### DTMF Sidetone (DTMF-ST) --- MENU 34

In frequency mode, press **MENU** + **3** **4**, The screen display 

Press **MENU** to enter, press **▲** / **▼** to select the required sidetone mode, and press **MENU** to confirm, press **EXIT** it return to standby.

The transceiver has the following DTMF modes: 1. DT-ST: Keypad sidetone will be activated when transmitting; 2. ANI-ST: ANI ID code sidetone will be activated when transmitting; 3. DT+ANI: keypad and caller ID sidetone are both activated when transmitting. OFF: Deactivate sidetone function.

### Keypad Autolock (AUTOLOCK) --- MENU 35

In standby, press **MENU** + **3** **5**, the screen displays 

Press **MENU** to access the menu, press **▲** / **▼** to select ON(Activate)/OFF(Deactivate), and then press **MENU** to confirm, press **EXIT** to return to standby.

After activating keypad autolock function, the keypad will be locked automatically without any operation in 15seconds. Hold on **#** for 2seconds to unlock the keypad.

### NOTE

» Manually lock:In standby, hold on **#** for 2seconds to lock the keypad, hold on **#** for 2 seconds again to unlock the keypad.

### Priority Channel Switch (PRI CH-SW) --- MENU 36

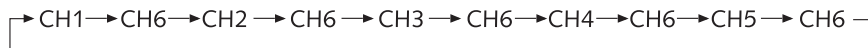
In standby, press **MENU** + **3** **6**, the screen display 

Press **MENU** to access, press **▲** / **▼** to select ON/OFF. And then press **MENU** to confirm, and press **EXIT** to return to standby

If you want to monitor the other frequency and check the certain preferred frequency at the same time, you can set priority scan function.

## How to Operate

E.g.: Scan six channels. Set CH1, CH2, CH3, and CH4 and CH5 as the common scanned channels and CH6 as the priority scanned channels. Then the scanning order is as followings:



When this transceiver detects signal on the priority channel during scanning, it will on its frequency. Please program the priority channel via KG-UV8E programming software.

### Repeater Setting (RPT-SET) --- MENU 37

This transceiver has 2 repeater setting available:

1. X-DIRPT: Directional cross-band repeater mode
2. X-TWRPT: Two way cross-band repeater mode

### Special Reminder

» In cross-band repeater mode, if the channel or frequency set the reverse frequency, offset frequency, or offset direction, its transmitting frequency would out of the transceiver's frequency, then it will not transmit.

Master frequency and sub frequency for repeater should be on different bands. (For example, master frequency is programmed on VHF band, and the sub frequency should be programmed on UHF band, and vice versa.)

### X-DIRPT(Directional cross-band repeater:

The master VFO's receiving frequency is the cross-band receiver's receiving frequency, and the sub VFO's transmitting frequency is the cross-band transmitter's transmitting frequency.

### X-TWRPT(Two way cross-band repeater:

In standby, both the master and secondary VFO's are receivers, whichever VFO receives an effective carrier-wave signal, the other VFO will be the transmitter and start transmitting. The transmitter and receiver is unfixed under two way cross-band repeater mode. The first received VFO is receiver and relatively the other one is transmitter. After accessing cross-band repeater mode, the operation of receiving /transmission frequencies, CTCSS/DCS encoding & decoding are the same as the transceiver is in transceiver communication mode.

## How to Operate

### Example:

A. Before accessing cross-band repeater mode, A area is in channel mode. The receiving frequency and CTCSS/DCS in cross-band repeater mode are the same with the channel in standby.

After B area receives the effective signal, A area starts transmission. The transmitting frequency and CTCSS/DCS in cross-band repeater mode are the same with the channel in A area.

If setting reverse frequency function, the transmission&receiving frequencies and CTCSS/DCS will be reverted.

B. Before accessing cross-band repeater mode, A area is in frequency mode. The receiving frequency and CTCSS/DCS in cross-band repeater mode are the same with the setting in standby.

After B area receives the effective signal, A area starts transmission. The receiving frequency and CTCSS/DCS in cross-band repeater mode are the same with the channel in A area.


If setting reverse frequency function, the transmission&receiving frequencies and CTCSS/DCS will be reverted.

To select if you will open speaker for the receiver in cross-band repeater via MENU38 (RPT-SPK), and if you would like to hold on PTT key to transmit in repeater mode via MENU39 (RPT-PTT). But if you press PTT key to transmit, the transceiver exits the repeater mode temporarily.

In standby, press **MENU** + **3** **SAVE** **7** **VOX** the screen displays 

Press **MENU**, press **▲** / **▼** to select the mode you desire, and then press **MENU** again.

### Special Reminder

- » In cross-band repeater mode, the screen will display .
- » Switching transceiver communication and repeater modes via **RPT**. In standby, hold on **RPT** for 2 seconds to switch the modes.
- » In order to use the repeating well, there is the Repeating Receipt Tone which is set by MENU 47. The repeating receipt tone timely and effectively reports the working status and increases the efficiency of repeating.
- » The Repeating Hold Timer is used for avoiding to press or release PTT too frequently in order to read out the message. When the receiver was released PTT, the hold time is able for the equipment keeping transmitting for a while during waiting for response. If there is no efficient QT/QDT detected within the hold time, then the transmitter will release PTT. The repeating hold timer is setting the hold time for the transmitter to keep transmitting after the QT/QDT receiving signal disappears. The function is programmable by supplied software.

## How to Operate

### Repeater Speaker (RPT-SPK) --- MENU 38

In standby, press **MENU** + **3** **SAVE** **8** **WV**, the screen display 

Press **MENU** to access, press **▲** / **▼** to select ON/OFF. And then press **MENU** to confirm, and press **EXIT** to return to standby.

### Repeater PTT (RPT-PTT) --- MENU 39

In standby, press **MENU** + **3** **SAVE** **9** **VOICE**, the screen display 

Press **MENU** to access, press **▲** / **▼** to select ON/OFF. And then press **MENU** to confirm, and press **EXIT** to return to standby.

### Scan Add (SCAN-ADD) --- MENU 40

This function means whether a channel in scanning when in the startup channel scanning, so the function can be set only in the channel mode under the current channel, is invalid in frequency mode.

In standby, press **MENU** + **4** **TOP** **□**, the screen display 

Press **MENU** to access, press **▲** / **▼** to select ON/OFF. And then press **MENU** to confirm, and press **EXIT** to return to standby.

Note: The function is invalid in cross-band repeater or repeater/transmitter mode.

### Single-Tone Pulse Frequency (ALERT) --- MENU 41

Some of the relay systems used for single-tone pulse transmission need a single-tone pulse signal to activate, if a repeater is already active, however, this signal is not needed. The following pulse signal frequencies can be selected: 1750Hz, 2100Hz, 1000Hz and 1450Hz.

In standby, press **MENU** + **4** **TOP** **1** **STEP**, the screen displays 

Press **MENU** to access, press **▲** / **▼** to select the parameter you desire and then press **MENU** to confirm, press **EXIT** to return to standby.

In transmission mode, press PF2 to transmit the selected single-tone pulse frequency.

### Caller ID Code Transmitting Delay (PTT-DLY) --- MENU 42

In standby, press **MENU** + **4** **TOP** **2** **SEL**, the screen display 

Press **MENU** to access, press **▲** / **▼** to select the time you want. And then press **MENU** to confirm, and press **EXIT** to return to standby.

This delay time can be set 100~3000ms, total 30 levels with 100ms each.

### Caller ID Transmission Mode (PTT-ID) --- MENU 43

In standby, press **MENU** + **4** **TOP** **3** **SAVE**, the screen display 



## How to Operate

Press **MENU** to access, press **▲** / **▼** to select the mode you want. And then press **MENU** to confirm, and press **EXIT** to return to standby.

This can be set three methods, BOT (begin), EOT (end), BOTH (begin /end).

### Ring Time --- MENU 44

In standby, press **MENU** + **4** **4**, the screen display 

Press **MENU** to access, press **▲** / **▼** to select the parameter you want. And then press **MENU** to confirm, and press **EXIT** to return to standby.

This ring time can be set 10 seconds, total 10 levels with 1 second. OFF: Deactivate the function.

### Scan group A setting (SCG-A) --- MENU 45

The scan group settings are the way that a transceiver can divide the programming channels into different scan groups. It will scan all channels in Group A.

Scan group settings are: ALL channel, as well as 1-10 individual scanning groups.

In standby, press **MENU** + **4** **5**, the screen displays 

Press **▲** / **▼** to press **MENU** to confirm, press **EXIT** to return.

Note: Scanning group A setting is active in A area.

### Scan Group B Setting (SCG-B) --- MENU 46

The scan group settings are the way that a transceiver can divide the programming channels into different scan groups. It will scan all channels in Group B.

Scan group settings are: ALL channel, as well as 1-10 individual scanning groups.

In standby, press **MENU** + **4** **6**, the screen displays 

Press **▲** / **▼** to press **MENU** to confirm, press **EXIT** to return.

Note: Scanning group B setting is active in B area.

### Repeater Tone Setting (RPT-TONE) --- MENU 47

In standby, press **MENU** + **4** **7**, the screen display 

Press **MENU** to access, press **▲** / **▼** to select the parameter,. And then press **MENU** to confirm, and press **EXIT** to return to standby.

ON: Activate the function

OFF: Deactivate the function

### Saving Scanned CTCSS/DCS (SC-QT) --- MENU 48

When the transceiver is in CTCSS/DCS scanning, there are 3 saving types to save the detected CTCSS/

## How to Operate

DCS from the others to your transceiver:

1. Save as your transceivers decoder and encoder(ALL).
2. Save as your transceiver encoder(ENCODER)
3. Save as your transceiver decoder(DECODER)

When the transceiver is in standby, press **MENU** + **4** **TOP** **50** keys and the screen will display 

Press **▲** / **▼** press **MENU** , and then press **EXIT** .

### Mute Setting on Sub-frequency --- MENU 49

Mute function is very practical, especially when the transceiver is in dual receiving mode.

In standby, press **MENU** + **4** **TOP** **9** **VOICE** , the screen displays 

Press **MENU** to access and then press **▲** / **▼** to select the parameter you desire, and then press **MENU** to confirm.

OFF: Deactivate the function

TX: Transmission on master frequency, the receiving volume of sub-frequency is off.

RX: Receiving on master frequency, the receiving volume of sub-frequency is off.


TX/RX: Both receiving and transmission on master frequency, the receiving volume of sub-frequency is off.

This function only for analog band, the network band please choose menu 57.

### Selective Call Code Group Setting (CALLCODE) --- MENU 50

In standby, press **MENU** + **5** **ROGER** **0** , the screen displays 

Press **MENU** to access the menu, press **▲** / **▼** to select the desired selective call group number. Press **MENU** to confirm, and the transceiver returns to standby.

Selective call code are with 1-20 groups for option. Selective call codes are programmed via  supplied software.

### Reset setting (Reset) --- MENU 51

Functional Parameter Reset(VFO): resets all functional settings to factory default values, but channel parameters are not reset.

Total Parameter Reset(ALL): resets all of the transceiver's functional settings and channel parameters to factory values.

In standby, press **MENU** + **5** **ROGER** **1** **STEP** , the screen displays 

Press **MENU** to access, press **▲** / **▼** to select the parameter you desire and then press **MENU** to confirm.

The screen will display 

After the transceiver resets(VFO/ALL), it will restart and return to standby mode.

## How to Operate

### Setting Backlight (BK-LIGHT) --- MENU 52

In standby, press **MENU** + **5** **2**, screen display 

Press **MENU** to enter the function, then press **▲** / **▼** to select the parameter and then **MENU** to confirm, while press **MENU** to return back to the standby.

Level selectable for baklight setting: 01 to 10

### Radio Storage (RADIO-WR) --- MENU 53

Read Radio Station: In FM Radio mode, enter the menu to select the function, there is 20 groups for selection.

Write Radio Station: In FM Radio mode, enter the menu to select the function, there is 20 groups for selection.

In standby, press **MENU** + **5** **3**, screen display 

Press **MENU** to enter the function, then press **▲** / **▼** to select the parameter and then **MENU** to confirm, while press **MENU** to return back to the standby.

### Compander (COMPANDER) --- MENU 54

This is for decreasing the voice squelch, and it is highly efficient for long-term communication.

In standby, press **MENU** + **5** **4**, screen display 

Press **MENU** to enter the function, then press **▲** / **▼** to select the parameter and then **MENU** to confirm, while press **MENU** to return back to the standby.

There is ON and OFF selectable.

### Repeater Area Setting (RPT-AREA) --- MENU 55

Repeater setting can add 2 areas for repeater, A area& B area repeater (analogue A area and B area for repeater); A area& C area repeater (Analogue A area and Network B area for repeater) and B area& C area repeater(Analogue B area and Network B area for repeater).

Repeater Area Options: AB Repeater;

### A Area Mute (ZA MUTE) --- MENU 56

A area mute is for selecting if A area is mute when receiving.

A area mute: OFF (Turn off Mute)

ON(Turn on Mute)

Remind: Under repeater, mute function is controlled by Menu 38 repeater speaker.

### B Area Mute (ZA MUTE) --- MENU 57

B area mute is for selecting if A area is mute when receiving.

## How to Operate

B area mute: OFF (Turn off Mute)

ON(Turn on Mute)

Remind: Under repeater, mute function is controlled by Menu 38 repeater speaker.

## Detailed Instruction for Some Important Functions

### All calls, Group calls and Selective calls

There are Caller ID code transmission, Caller ID code edit and DTMF decoding functions. Without the assistance of the other communication equipments, the all calls, group calls and selective calls are available between the groups.

Before using all calls, group calls and selective calls function, you need to set as followings:

#### 1. Caller ID CODE edit

Each transceiver in the same group should be edited a unique ANI ID code.

Caller ID CODE: ID -- XXX(3 digits) ID -- XXXX(4 digits) ID--XXXXX(5 digits) ID-- XXXXXX(6digits)

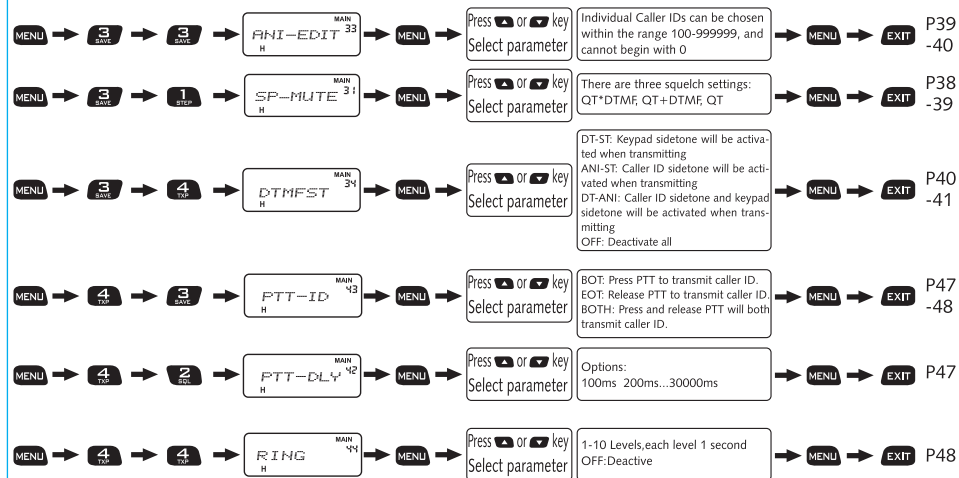
<u>ID</u>	<u>X</u>	<u>XXXXX</u>
Caller ID CODE mark	Group NO. mark	Unique Caller ID CODE
	From 1 to 9 group, Maximum: 9 groups	From 00000~99999, Maximum:1000000 digits

This is how to set Caller ID CODE.

NOTE: Caller ID Codes should be different for the transceivers in the same group.

## Detailed Instruction for Some Important Functions

Steps are as followings:



### NOTE

» Any transceiver in the same group should be with the same frequency point and parameter.

a. How to use all calls function:

Hold on PTT key to transmit. After transmitting Caller ID Code, input \* + # keys directly.

b. How to use group calls function:

Hold on PTT key to transmit. After transmitting Caller ID Code, input "Group NO." \* + #

c. How to use selective calls function:

Hold on PTT key to transmit. After transmitting Caller ID Code, input the Caller ID Code of the selective transceiver that you want to speak to.

Note: Selective call is available via selective call key. Selective call code is programmed via supplied software. Programming the same selective call code of the selective transceiver and Caller ID code of the selected transceiver.

For example, Caller ID Code for the selected transceiver is 123456, selective call code for the selective transceiver should be 123456 too.

## Repeater Usage

1. Repeater PTT Switch (RPT-PTT)

When the transceiver is in standby, press MENU + 3 → 9 keys and the screen displays

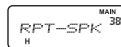
Press MENU to access the settings, and after pressing the ▲ / ▼ keys to activate (ON) the PTT trans-

## Detailed Instruction for Some Important Functions

ission, Press **MENU** to confirm, and press the **EXIT** key to return to standby.

### 2.Repeater speaker switch (RPT-SPK)

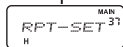
When the transceiver is in standby, press **MENU** + **3** **8** keys and the screen will display



Press **MENU** to access the settings, and after pressing **▲** / **▼** to activate (ON) the speaker, press **MENU** to confirm, and press **EXIT** key to return to standby.

### 3.Repeater Setting (RPT-SET)

Accessing cross-band repeater mode: when the transceiver is in standby, press **MENU** + **3** **7** and the screen will display



Press **MENU** to access, press **▲** / **▼** to select two-way cross-band repeater mode (X-TWRPT) or directional cross-band repeater mode (X-DIRPT). Press **MENU** to confirm. And then press **EXIT** to return to standby mode, hold on **RPT** key for 2seconds, the transceiver is to access cross-band repeater.

Exit Cross-Band Repeater: In standby, hold **RPT** for 2seconds, the transceiver exit the cross-band repeater mode and access transceiver communication mode.

### 4. Repeat Area Setting(RPT-AREA)

In standby, press **MENU** + **5** **6** ,



Press **MENU** to confirm, and to select the repeat area.

### AB Repeat: Analogue A area and B area Cross Repeat

In Standby, please long press key for 2 seconds, transceiver start the cross-band repeat mode.

- (1) When "RPT-PTT" is ON, pressing PTT to stop receiving or transmission in cross-band repeater mode.  
The transmission frequency is the frequency of the master band, release PTT key to access Two-way cross-band repeater mode.
- (2) When "RPT-SPK" is ON, any transceiver in cross-band repeater mode can receive the effective signals, and then the repeater receipt tone will be heard.
- (3) The difference between directional cross-band repeater and two-way cross-band repeater modes is the transmitter and receiver is unfixed under two way cross-band repeater mode.

Directional cross-band repeater: The master frequency area A is the receiving frequency of the receiver in cross-band repeater mode, the sub-frequency area B is the transmitting frequency.

Two-way cross-band repeater mode:In standby, both master and sub areas are receivers, whichever area receives an effective carrier wave signal, the other area will be the transmitter and start transmitting.

## Troubleshooting

Before assuming your transceiver is broken, please check your transceiver according to the following table; if the problem persists, you can reset the transceiver, which sometimes.

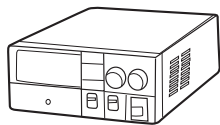
<b>Fault</b>	<b>Solution</b>
Reception prompt remains but speaker is silent	<ul style="list-style-type: none"> <li>» Check that the volume knob has been set to maximum.</li> <li>» Please reset CTCSS/DCS to check whether different channels from other group members have been set.</li> <li>» Check whether mute settings are correct.</li> </ul>
Keypad is unresponsive	<ul style="list-style-type: none"> <li>» Check whether keypad has been locked.</li> <li>» Check whether other keys have been pressed.</li> </ul>
Other voices (not from group members) appear in the channel.	<ul style="list-style-type: none"> <li>» Please change the CTCSS / DCS code.</li> </ul>
In standby, automatic transmission without pressing PTT key	<ul style="list-style-type: none"> <li>» Please check if VOX function is active or VOX level is too low.</li> </ul>
Can not enter scanning mode	<ul style="list-style-type: none"> <li>» Please see if the scan group channel, Scan Add function is turned on.</li> </ul>

## Fault

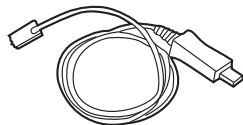
## Solution

Cannot set up the crossband repeater	» Please make sure A/B area is on the cross-band repeaters operating frequency.
Cannot transmit in repeat mode	» Please check to see if the receivers squelch and CTCSS / DCS settings are correct.
Signal is weak in Public Network mode.	» location like basement or high building is too weak signal to transmit radio waves or in the network traffic. Should move to the wide places with nice network signal, or avoid to use it in the network peak.
RX echo or noise in the network mode	» The relay link from some mobile network operators is bad. Should resume the radio and might switch to the nice relay link.
Network connection is failed.	» USIM card is disable, bad signal or not in the service area. Should use the valid USIM card. Should use the radio in the wide or strong signal areas for communication.

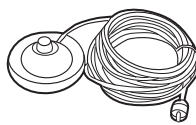
## ***Optional Accessories***



Switching Power Supply (30A)



Mobile Radio USB  
Programming cable



Strong Magnetic Mount

## ***Announcement***

Eendeavors to achieve the accuracy and completeness of this manual, but it is still not perfect for any possible omissions or printing errors. All the above is subject to be updated without prior notice.