

PROFESSIONAL WIRELESS COMMUNICATION EQUIPMENT MANUFACTORY

USER'S MANUAL



FOR USER

Do not charge the radio or battery in an explosive environment, such as gas, dust, smoke area etc. Please turn off the radio when nearby gas station. Do not disassemble or modify the radio. do not leave the radio under dusty or wet environment. It's very important for users to understand all instruction knowledge before using the radio, please obey the local legal rules.

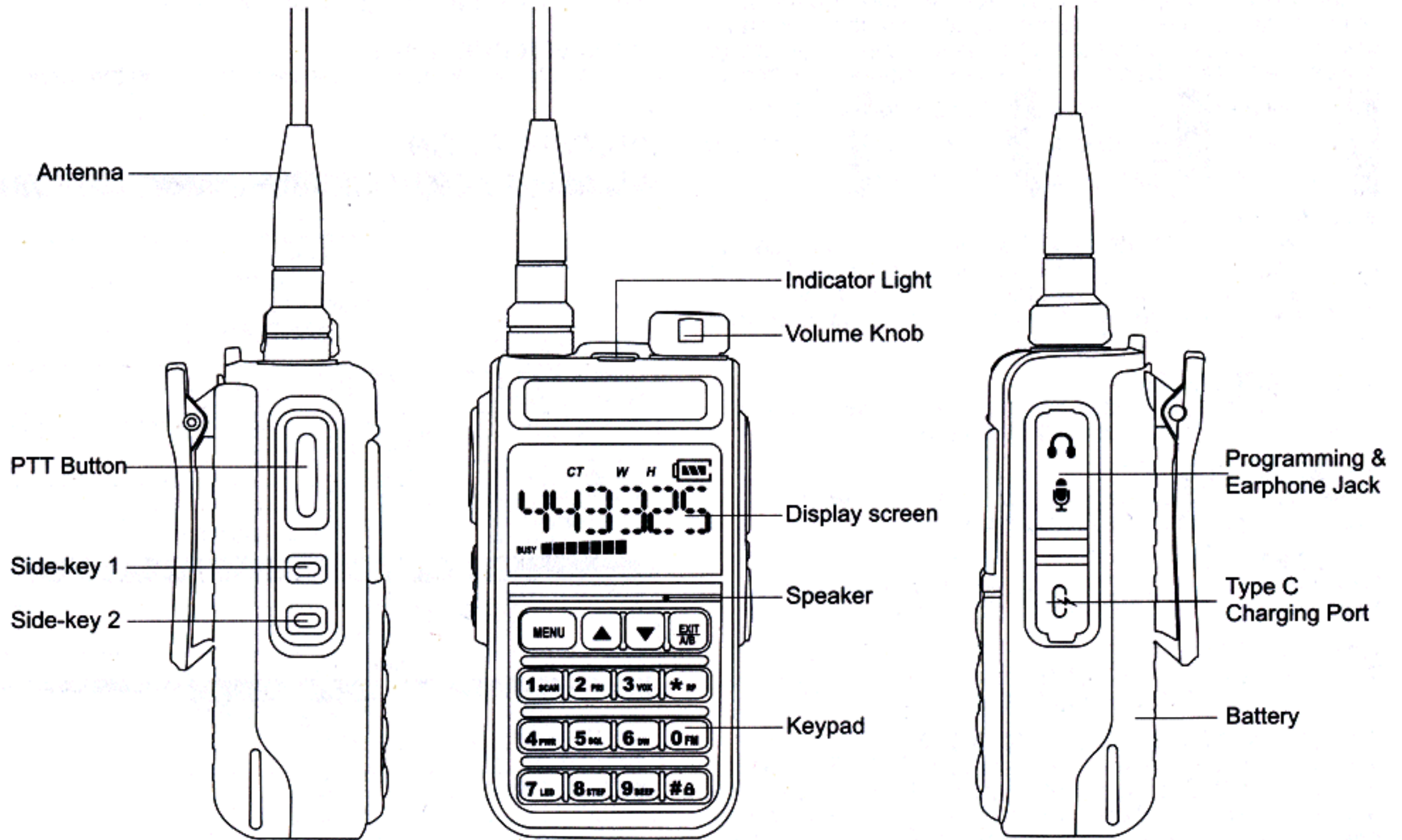
PRODUCT CHECKING

Thanks for choosing our radio. please unbox and check whether the following accessories are included and well-packed. If there's anything missing or damaging after unboxed, please contact your local distributor.

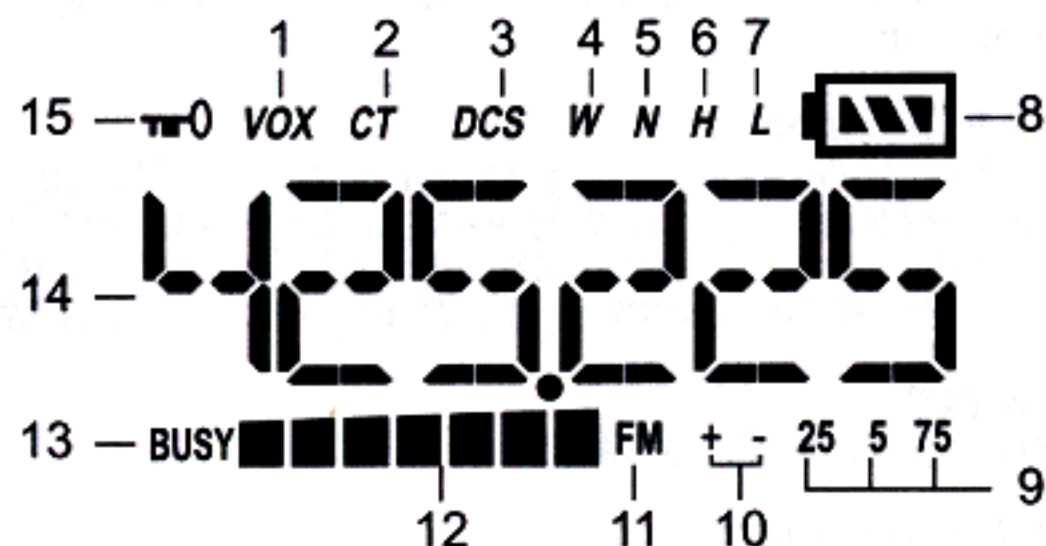
NO.	Item	QTY
1	Device	1
2	Antenna	1
3	Li-ion Battery	1
4	Charger	1
5	Belt Clip	1
6	User Manual	1
7	Guarantee Card	1

FAMILIAR WITH RADIO

3.1 MACHINE SCHEMATIC



3.2 LCD ICON DISPLAY



- 1:VOX 2:CTCSS 3:DCS 4:Wide Band
- 5:Narrow Band 6:High Power 7:Low Power
- 8:Battery Percentage 9:Frequency Mantissa
- 10:Offset Frequency Direction
- 11:FM 12:Signal Strength 13:Busy
- 14:Main LCD:Frequency Channel Menu
- 15:Keypad Lock

FUNCTION AND OPERATION

4.1 TRANSMITTING SIGNAL

Press [PTT] key, the device will transmit signal at main standby channel, and indicator light turns red. If radio is in low power status, the signal strength lights 3 slices; if in high power status, the signal strength will fully lighted.

4.2 RECEIVING SIGNAL

When the device receives same frequency signal with current working channel and the CTCSS matches with each other's, the indicator light turns green, and the BUSY icon turns on at the same time. The signal strength will adjust itself according to the strength of signal.

4.3 REPEATER MODE

Long press [* RP] to activate or disable the repeater mode. When repeater mode is on, the screen displays + or - icon. Press PTT to transmit the repeater frequency and the programmed CTCSS/DCS. When repeater mode is off, press PTT to transmit the signal by normal TX/RX same frequency.

4.4 INPUT FREQUENCY

4.4.1 RX FREQUENCY INPUT

When the radio is in frequency mode, frequency can be input via keypad manually, and press [MENU] to confirm. If the input is less than 6 digits, it will add 0 to full 6 digits automatically and press [EXIT] to cancel the input info. If users need to match with the final two digits of mantissa, please set the channel spacing to 0.25k firstly. After setting done, come back to main interface to adjust to the right frequency via [UP] and [DOWN] key.

4.4.2 TX FREQUENCY INPUT

When the radio is in frequency mode, short press [#] key, the screen displays + or - icon, and the RX frequency. Now the radio is in the TX frequency input mode, input the 6 digits of TX frequency to complete the setting. Press up and down key to switch the last 2 digits of frequency. Short press [#] key to switch back to RX frequency input mode. Please set up the different frequency repeater mode based on the instruction of list 4.3.

4.5 INPUT CHANNEL NUMBER

When the radio is in channel mode, channel NO. can be

input manually and then switch to appointed channel, and press [MENU] to confirm. If the input is less than 3 digits, it will add 0 to full 3 digits and press [EXIT] to cancel the input info.

4.6 CTCSS/DCS AND MUT SETTING

In standby mode, press [MENU] key to enter menu list, press [▲] or [▼] to choose CTCDCS"/ "RX CTC"/ TX CTC options. Press [MENU] key to enter the sub-option CTCSS/DCS.

CTCDCS" means same RX&TX CTCSS/DCS; "RX CTC" means the privacy setting of RX. "TX CTC" means the privacy setting of TX. Press [* RP] key switch the privacy code type. When it is CTCSS setting, the screen displays "CT" icon; when it is DCS setting, the screen displays "DCS". In Standby mode, press [MENU] key to enter menu list, and press [▲] or [▼] to choose.

"MUT", it will switch to MUTE option. Choose the mute code as :23B" or "24B, the CTCSS/DCS of RX&TX will be disaffected, it will auto switch to the programmed CTCSS/DCS set up by programming software. The screen displays "CT" and "DCS" icon at the same time.

Note: Use the "MUT" function with "Frequency Decoding" function to match the non-standard DCS of other radios produced by other suppliers. Please do turn off the "MUT" setting when user don't need the privacy code setting or need to set up the standard CTCSS/DCS .

4.7 AIR BAND RECEIVE

When the RX frequency is below 136MHz, the radio will auto switch the RX mode to AM RX. Input the local air band frequency, and switch off the "CTCDCS" or "MUT" function.

Note: please use the pull-up antenna to match the best performance of air band RX. The original antenna should be used when close to the airport.

4.8 FM RADIO

Long press [0 FM] key to turn on/off FM radio function. When FM function is activated, the screen displays "FM" icon. Use the keyboard to setup the FM frequency (64-108MHz) when FM function is on. Long press [▲] or [▼] to search the activated FM station, and press the key again to

stop scanning. If user need to dual watch the radio frequency when activated the FM function, turn on "Radio" setting.

4.9 SIDE-KEY FUNCTION

4.9.1 MONITOR

Set up the Side-key to Monitor function, then do relative operations, the speaker works and the device monitors same frequency signal with current channel.

4.9.2 LOCAL EMERGENCY

ALARM

Set up the Side-key to Local Emergency Alarm, then press relative button, the alarm goes off.

4.9.3 LONG-DISTANCE EMERGENCY

ALARM

Setup the Side-key Long-distance Alarm, then press relative button. The radio is in transmitting status and transmit alarm signal via current standby channel. The speaker works and the alarm goes off, red indicator light flashes.

4.9.4 LCD ON/OFF BUTTON

Set up the Side-key to LCD ON/OFF function to turn on or turn off the LCD display, then press relative button.

4.9.5 FREQUENCY LOCK

Set up the side-key to Frequency Lock function to active or forbid the manual input, then do relative operation.

4.9.6 FREQUENCY DECODING

Pre-programmed the side key as Frequency decoding" function. When activated this function, the device will auto decode the frequency and privacy code nearby the using environment. When the decoded privacy code is CTCSS, then screen will display "CT" icon after finished the decoding; When the decoded privacy code is DCS, then screen will display "DCS" after finished the decoding. When the decoded privacy code is non-standard DCS,

then "CT"& DCS" icon will be displayed on the screen. When decoding, press [PTT] to exit the decoding process. After decoded, press [MENU] key to save the current channel and cover the previous channel, press [EXIT] key to cancel save and exit. The decoded CTCSS/DCS can be checked in "CTCSS/DCS" of menu list; the decoded non-standard DCS can be checked in "MUT" of menu list, the exact code need to be checked when using the programming software.

4.9.7 WIRELESS CLONING

Press side-key 1 to turn on the radio then into transmitting-mode, and the display shows "SEND", red indicator light flashes. Press side-key 2 to turn on the radio then into receiving-mode, and the display shows "-RECV", green light turns on. When it receives the signal from transmitting radio, the green light flashes. The radio in transmitting mode can clone all data of 128 channels to several receiving-mode radios. Once the receiving ends finish the clone, it will turn off and restart automatically, while the transmitting end should be turned off manually.

4.10 SHORTCUTS FUNCTION

4.10.1 SHORT-PRESS KEYS

[MENU]: Short-press to menu and confirmation.
[EXIT A/B]: to switch frequency band in the standby status; to exit menu and cancel operation.
[4][▼]: Short-press to switch frequencies, channels and menu.
[* RP]: Short-press to switch working mode from channel mode to frequency mode.
[#] key: Enter or exit the TX frequency input.
[0-9]: under frequency mode, to change frequencies via inputting the number; under channel mode, to switch to appointed channel via inputting the number.

4.10.2 LONG PRESS KEY

[EXIT A/B] key: In frequency mode, long press this key to

display the FREQ; In channel mode, long press this key to display the frequency settings and channel number.

[▲][▼]: to fast switch frequencies, channels and menu. Under FM status, long-press this button to enter searching status.

[* RP]: long-press this button to turn on or off Frequency offset Mode.

[#]: Long-press this button to lock down or unlock the keypads.

[0 FM]: Long-press into FM receiving mode.

[1 Scan]: Long-press to start or stop scanning.

[2 PRI]: Long-press into [TX PRI] menu.

[3 VOX]: Long-press this button to start or close VOX.

[4 PWR]: Long-press this button to switch power from high to low.

[5 SQL]: Long-press this button to [SQ] menu.

[6 DW]: Long-press this button to open or close dual-band standby function.

[7 LED]: Long-press this button to turn on/off display backlight.

[8 STEP]: Long-press to [STEP]

[9 BEEP]: Long-press to turn on/off Beep.

4.11 FUNCTION OF MENU KEY

4.11.1 MODE

To show the mode from Frequency Mode to Channel Mode.

4.11.2 VOICE

To close the reporting language or choose the language from Chinese to English.

4.11.3 BEEP

To turn on/off Beep.

4.11.4 POWER SAVING

To set up battery saving percentage via MENU. The higher the percentage is, the better the saving performance. Once in the saving power mode, receiving delay will be longer. On the contrary, the power saving performance will be worse and the delay will be shorter.

4.11.5 SQ LEVEL

To set up squelch level via MENU. The lower the squelch level, the easier to turn on receiving, but easier to be interfered by outside surroundings. Otherwise, the more difficult to turn on receiving, the better the anti-interference performance is.

4.11.6 DUAL-BAND STANDBY

To open or close dual-band standby function via MENU.

4.11.7 STEP FREQUENCY

To set up step frequency via MENU

4.11.8 SCREEN TIME

To set up the screen time via MENU. If don't do any operation to the radio within the screen time, the screen will close to save power automatically.

4.11.9 LIGHTNESS OF SCREEN

To set up the lightness of screen from HIGH, MID and LOW.

4.11.10 BACKLIGHT

To set up the time of backlight. If don't do any operation to the radio, the backlight will turn off automatically.

4.11.11 KEYPAD LOCK

To set up the time of keypad lock. If don't do any operation to the radio within the time, side-keys and keypad will be locked automatically.

4.11.12 FM STANDBY MODE

To turn on/off FM standby function. When turn on the FM standby, radio can receive standby signal, then receive-transmitting under FM mode.

4.11.13 TX PRIORITY

To set up TX Priority to Edit or Busy. When the setting is Edit, radio will transmit signals under main standby frequency; when the setting is Busy, radio receives signal, and channel will become the main standby frequency, and the following transmitting is under this frequency.

4.11.14 TOT

To set up TOT via MENU. When transmitting time exceeds ToT, the radio will end the transmitting status automatically.

4.11.15 ROgger

To close or choose the Rogger. Choose START, radio will release the Rogger at the beginning. END means the Rogger released at the end of transmitting. BOTH means release Rogger both at the beginning or at the end of transmitting.

4.11.16 VOX

To open or close VOX via MENU.

4.11.17 VOX LEVEL

To set up VOX level via MENU, the lower the level, the easier to release VOX.

4.11.18 VOX DELAY

To set up the time of VOX delay via MENU.

4.11.19 POWER SELECTION

To select the power of main standby frequency band from high to low. Select the right power according to the use sites to last the use time of battery.

4.11.20 BAND

To switch wide band or narrow band of main standby frequency.

4.11.21 BUSY CHANNEL LOCK

To set the busy channel lock via MENU. When carrier matches the BUSY, radio received signal from same channels, without knowing CTCSS matches or not, the transmitting will be forbidden before the signal disappears. When the CTCSS matches the BUSY, the transmitting will be forbidden once radio is receiving signals from same channel and CTCSS matches.

4.11.22 COMPANDING

To open or close the companding via MENU.

4.11.23 SCR NO

To set up the SCR NO via MENU.

4.11.24 NOAA WEATHER CHANNEL

Enter menu and turn on the NOAA function, if user don't operate the radio under this mode within 5s, then the radio will auto scan the 11 weather channels. Press (1)[v] key to switch the NOAA channels. The NOAA channels as below:

1	162.55000M	4	162.42500M	7	162.52500M	10	161.75000M
2	162.40000M	5	162.45000M	8	161.65000M	11	162.00000M
3	162.47500M	6	162.50000M	9	161.77500M		

4.11.25 FQSCAN

Enter the Menu, radio will detect frequencies from surrounding radios and decode CTCSS. While detecting, press [PTT] to exit detecting mode. Once the detection done, press [MENU] to save frequency and CTCSS detected to current channel, or press [EXIT] to cancel them.

4.11.26 MUTE MODE

To set up CTCSS, if choose "23B" or "24B", it will be mute code and the original code will be failure.

4.11.27 CTCDCS

To set up CTCSS of main standby frequency band. Press [* RP] to change CTCSS type.

4.11.28 RX CTC

To set up receiving CTCSS of main standby frequency band. Press [* RP] to change CTCSS type.

4.11.29 TX CTC

To set up transmitting CTCSS of main standby frequency band. Press [* RP] to change CTCSS type.

4.11.30 PRIVACY CODE ENCODINGSSS

When the privacy code of the main band is DCS, user can decode the DCS to avoid interruption of same frequency with same DCS. When choose ENC2 or ENC3, it can prevent the setting decoding by other radios, but it will also delay the communication timing.

4.11.31 BATTERY VOLTAGE

User can check out the battery voltage through the menu.

4.11.32 INIT SETTING

User can initial the setting through the menu.

4.11.33 VER CHECKING

User can check out the firmware version through the menu.

SPECIFICATION

General	
Frequency Range	RX : 64-108MHz (FM frequency, need to turn on FM mode) 20-118MHz (Optional) 118-136MHz (AM airband frequency) 136-660MHz TX : UHF: 400-470MHz VHF: 136-174MHz
Channel Capacity	128
Channel Space (W/N)	25kHz/12.5kHz
Working Voltage	7.4V DC
Working Mode	Same frequency simple/different frequency simplex
Antenna	Removable Antenna
Frequency Stability	±2.5ppm
Working Temperature	-20 ~ +60°C
Dimension (without antenna & belt clip)	108 * 59 * 38mm about 189g
Transmitting Part	
Modulation Mode	F3E
Max frequency deviation (W/N)	≤5KHz/≤2.5KHz
SNR (W/N)	-45dB/-40dB
Receiving Part	
Sensitivity (W/N)	0.22μV/0.25μV 12dB SINAD
Inter-Modulation (W/N)	65dB/60dB
Audio distortion	<5%
Audio output power	≤1W (16Ω)
RX current	≤350mA
Standby current	≤70mA

Note: The above parameters are subject to change without prior notice!