

## **MEMO**

---

*Thanks for buying the **Wouxun** transceiver.*

*This transceiver offers latest design, enhanced features, solid performances and easy accessibility. We believe you will be pleased with the high quality and reliable features for all your communication needs.*

READ THIS IMPORTANT INFORMATION ON THE SAFE AND EFFICIENT OPERATION BEFORE USING  
**Wouxun** PORTABLE TRANSCEIVER.

## User Safety, Training, and General Information

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

### Compliance with RF Energy Exposure Standards

Your **Wouxun** two-way radio is designed and tested to comply with a number of national and international standards and guidelines (listed below) regarding human exposure to radio frequency electromagnetic energy. This radio complies with the IEEE (FCC) and ICNIRP exposure limits for occupational/controlled RF exposure environment at duty cycles of up to 50% talk-50% listen and should be used for occupational use only. In terms of measuring RF energy for compliance with the FCC exposure guidelines, your radio radiates measurable RF energy only while it is transmitting (during talking), not when it is receiving (listening) or in standby mode.

#### **NOTE**

» The approved batteries supplied with this radio are rated for a 5-5-90 duty cycle (5% talk-5% listen-90% standby), even though this radio complies with the FCC occupational RF exposure limits at duty cycles of up to 50% talk.

Your **Wouxun** two-way radio Complies with the following of RF energy exposure standards and guidelines:

- United States Federal Communications Commission, Code of Federal Regulations; 47CFR part 2 sub-part J
- American National Standards Institute (ANSI)/Institute of Electrical and Electronic Engineers (IEEE) C95. 1-1992
- Institute of Electrical and Electronic Engineers (IEEE) C95. 1-1999 Edition
- International Commission on Non-Ionizing Radiation Protection (ICNIRP) 1998

### Operational Instructions and Training Guidelines

To ensure optimal performance and compliance with the occupational/controlled environment RF energy exposure limits in the above standards and guidelines, users should transmit no more than 50% of the time and always adhere to the following procedures:

#### Transmit and Receive

To transmit (talk), push the Push-To-Talk (PTT) button; to receive, release the PTT button.

## Hand-held radio operation

Hold the radio in a vertical position with the microphone 5 cm away from the lips and keep the antenna far away from your head.

## Body-worn operation

Always place the radio in an **Wouxun** approved clip, holder, holster, case, or body harness for this product. Use of non- **Wouxun** -approved accessories may exceed FCC RF exposure guidelines.

## Antennas & Batteries

- Use only **Wouxun** approved, supplied antenna or **Wouxun** approved replacement antenna.
- Unauthorized antennas, modifications, or attachments could damage the radio and may violate FCC regulations.
- Use only **Wouxun** approved, supplied batteries or **Wouxun** approved replacement batteries.
- Use of non- **Wouxun** -approved batteries may exceed FCC RF exposure guidelines.

## Approved Accessories

For a list of **Wouxun** approved accessories, see the accessories page of this user manual or visit the following website which lists approved accessories: <http://www.wouxun.com>

## Notices to the User

- Government law prohibits the operation of unlicensed radio transmitters within the territories under government control.
- Illegal operation is punishable by fine or imprisonment or both.
- Refer service to qualified technicians only.

### Warning

- » It is important that the operator is aware of and understand hazards common to the operation of any transceiver. Explosive environment (such as gases, dust, fumes, etc). Turn off your transceiver while talking on fuel, or parking in gasoline service stations.
- » If you require this machine to be developed or get some changes, please contact with **Wouxun** or your **Wouxun** dealer.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

### Precautions

Only qualified technicians are allowed to maintain this product.

Do not use the radio or charge a battery in explosive areas such as coal gas, dust, steam, etc.

### Switch OFF the radio while refueling or parking at a gas station.

Do not modify or adjust this radio without permission.

Do not expose the radio to direct sunlight over a long time, nor place it close to heat source.

Do not place the radio in excessively dusty, humid areas, nor place close to heating appliances.


Safety: It is important that the operator is aware of and understands hazards common to the operation of any radio.

### Warning

» MODIFICATION OF THIS DEVICE TO RECEIVE CELLULAR RADIOTELEPHONE SERVICE SIGNALS IS PROHIBITED UNDER FCC RULES AND FEDERAL LAW.



## CE Caution:

Hereby,  declares that this Two-way radio is in compliance with the essential requirements and other relevant provisions of RED Directive 2014/53/EU.

A copy of the DOC may be obtained through the following address.

Address: Jiangnan High Technology Industry Park, No.928 Nanhuan Road,  
Quanzhou, Fujian, China

## Contents



Professional FM Transceiver

<b>Installing before use</b> .....	<b>01</b>
<b>Getting Started</b> .....	<b>02-07</b>
<i>Description of Features</i> .....	<b>02-03</b>
<i>Specifications</i> .....	<b>04</b>
<i>Description of Transceiver</i> .....	<b>05-07</b>
<b>Basic Operation</b> .....	<b>08-12</b>
<b>Shortcut Operation Sheet</b> .....	<b>13-20</b>
<b>How to Operate</b> .....	<b>21-43</b>
<i>Auto Brightness Time (ABR) ----- MENU1</i> .....	<b>21</b>
<i>Save Power Mode (SAVE) ----- MENU2</i> .....	<b>21</b>
<i>Step Frequency (STEP) ----- MENU3</i> .....	<b>21</b>
<i>Bandwidth Selection (W/N) ----- MENU4</i> .....	<b>22</b>
<i>Transmitting Power Selection (TXP) ----- MENU5</i> .....	<b>22</b>
<i>Frequency Shift Direction (SFT-D) ----- MENU6</i> .....	<b>22</b>
<i>VOX (VOX) ----- MENU7</i> .....	<b>23</b>
<i>Squelch Level (SQL-LE) ----- MENU8</i> .....	<b>23-24</b>
<i>Roger (ROGER) ----- MENU 9</i> .....	<b>24</b>
<i>Transmitting Out Timer (TOT) ----- MENU10</i> .....	<b>24</b>

## Contents

Transmitting Overtime Alarm (TOA) ----- MENU11 .....	25
Voice Switch (VOICE-SW) ----- MENU12 .....	25
Beep Prompt (BEEP) ----- MENU13 .....	25
Menu Language (MENULANGE) ----- MENU14 .....	25-26
Busy Channel Lockout (BCL) ----- MENU15 .....	26
Receiving CTCSS (RX-CTC) ----- MENU16 .....	26
Transmitting CTCSS (TX-CTC) ----- MENU17 .....	26
Receiving DCS (RX-DCS) ----- MENU18 .....	27
Transmitting DCS (TX-DCS) ----- MENU19 .....	27
Scan Mode (SC-REV) ----- MENU20 .....	27
Mute Mode (SP-MUTE) ----- MENU21 .....	28
DTMF Sidetone (DTMF-ST) ----- MENU22 .....	28
PTT ID (PTT-ID) ----- MENU23 .....	28-29
ANI ID Code Edit (ID-EDIT) ----- MENU24 .....	29
Transmitting ANI ID Code Delay (ID-DLY) ----- MENU 25 .....	29
Ring Time (RING) ----- MENU26 .....	30
Back Light Brightness Level (ABR-LV) ----- MENU27 .....	30
Offset Frequency (OFFSET) ----- MENU28 .....	30
Channel Name Edit (CH-NAME) ----- MENU29 .....	30-31



Professional FM Transceiver

Memory Channel (MEM-CH) ----- MENU30 .....	31
Delete Channel (DEL-CH) ----- MENU31 .....	31-32
Priority Channel (PRI-CH) ----- MENU32 .....	32
Priority Scanning (PRI-SCN) ----- MENU33 .....	32
Keypad Auto Lock (AUTOLOCK) ----- MENU34 .....	33
Lock Mode (LOCKMODE) ----- MENU35 .....	33
Single Tone Setting (S-TONE) ----- MENU36 .....	33-34
VOX Delay (VOX-DLY) ----- MENU37 .....	34
Save CTCSS/DCS Mode (SC-QT) ----- MENU38 .....	34
Auto Power-off Timer (APO-TMR) ----- MENU39 .....	34
Power on Message (PONMSG) ----- MENU40 .....	35
Backlight Switch(BLCDSW)-----MENU41 .....	35
Indicator Switch(BLEDSW)-----MENU42 .....	35
Repeat Setting (TYPE-SET)-----MENU43 .....	35-36
Repeat Speaker(RPT-SPK)-----MENU44 .....	36
Repeat PTT(RPT-PTT)-----MENU45 .....	36
Repeat Hold Time (RPT-KPT) ----MENU46 .....	36-38
Repeater Receipt Tone (RPT-RCT) ----- MENU47 .....	38

## Contents

Scan Adding (SCN-ADD) ----- MENU48 .....	38
Scan Channel Group (SCN-GP) ----- MENU49 .....	39
Scan Mode (SCN-MODE) ----- MENU50 .....	39
Scan CTCSS/DCS (SCN-CD) ----- MENU51 .....	40
Caller ID (CALL ID) ----- MENU52 .....	40-41
Auto Distinguish AM Mode (AUTO-AM) ----- MENU53 .....	41
AM Switch (AM-SW) ----- MENU54 .....	41-42
PFI Definition (PFI-DEF) ----- MENU55 .....	42
PF2 Definition (PF2-DEF) ----- MENU56 .....	43
PF3 Definition (PF3-DEF) ----- MENU57 .....	43
Voltage Check (VOLTAGE) ----- MENU58 .....	43
QT Detection (QT-SW) ----- MENU59 .....	43
Sub Band Mute (S-MUTE) ----- MENU60 .....	44
Reset (RESET) ----- MENU61 .....	44
Detailed Instructions of Some Important Functions .....	45-52
Specification (CTCSS/DCS) .....	53-54
Trouble Shooting .....	55-56
Announcement .....	57

## Installing before use

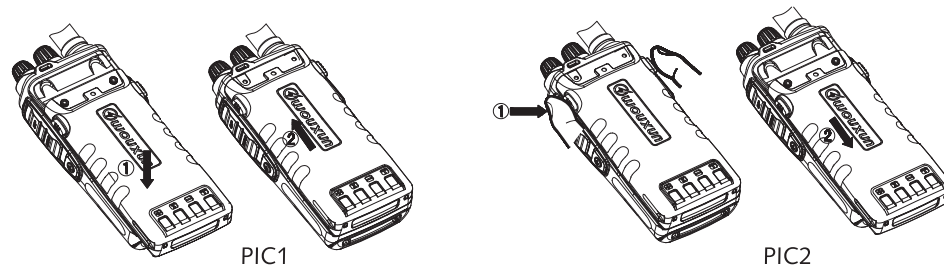
### ■ Install / remove batterypack

The batterypack is not fully charged before leaving factory. Please charge it before use.

#### NOTE

- » Do not shortcircuit the terminals or put the batterypack into fire.
- » Do not try to remove the case from the batterypack.

1. Please aim the batterypack at the back of the transceiver, and then push up and press down the batterypack to lock the release latch. (PIC1)
2. If you want to remove the batterypack, push down the release latch, and the batterypack will be released from the transceiver. (PIC2)



### Description of Features

1. Twin Band Simultaneous Receiving(U-U,U-V,V-U,V-V)
2. Separate Bands Duplex(U-V,V-U)
3. DTMF Encoding/Decoding
4. All Calls, Group Calls and Selective Calls
5. Stun,Kill,Monitor and Inspection
6. CTCSS/DCS Scan
7. Programmable Non-Standard CTCSS/DCS
8. Multi Scan Modes:Programmable Scanned Frequency Range(only available in Frequency Mode);  
Channel Groups Scan(only available in Channel Mode)
9. VOX
10. Multi Functions Programmable for Side Keys, Programmable Transmission Function on Sub-Frequency  
(Side Key Function Programmable)
11. English Voice Guide
12. Priority Scan, Priority Channel Setting
13. Twin Band Simultaneous Scan
14. Multi Power Save Modes

15. Auto Power-Off Timer(APO)
16. Multi Single-Tone Pulse  
(1750Hz,2100Hz,1000Hz,1450Hz)
17. Multi Keypad Lock Modes
18. PTT ID
19. Wide/Narrow Bandwidth Selection
20. Backlight Brightness Selection
21. Cross-Band Repeat function

## Getting Started

### Specifications

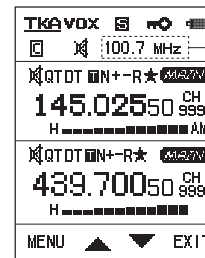
Intergration		Receiving	Wide bandwidth	Narrow bandwidth
Frequency Range	TX:144-148MHz,420-450MHz RX:76-108MHz,108-136MHz, 136-180MHz,230-250MHz, 350-400MHz,400-512MHz, 700-824MHz,849-869MHz, 894-960MHz	Adjacent Channel Selectivity	≤ 70dB	≤ 60dB
		Inter Modulation	≤ 65dB	≤ 60dB
		Spurious Response	≤ 70dB	≤ 70dB
		Audio Response	+1~3dB (0.3~3KHz)	+1~3dB(0.3 ~2.55KHz)
Channel Number	999	Signal to Noise Ratio	≥ 45dB	≥ 40dB
Work Mode	F2D / F3E	Audio Distortion	≤ 5%	
Operating Temperature	-20℃ or 40℃	Audio Power	Transceiver ≤ 500mW	
Antenna Resistance	50Ω	Sensitivity	108-136MHz(AM)-106dBm SINAD 13db 136-180MHz(AM)-119dBm SINAD 13db 230-250MHz(AM)-116dBm SINAD 13db 350-400MHz(AM)-119dBm SINAD 12db 400-512MHz(AM)-119dBm SINAD 13db 700-985MHz(AM)-96dBm SINAD 13db	
Voltage	7.4VDC			
Weight	490g			
Size	124.5x 61.49 x 33.88 (mm)			

Transmitter	Wide bandwidth	Narrow bandwidth	Transmitter	Wide bandwidth	Narrow bandwidth
Type of Modulation	16K F3E	11K F3E	Max Frequency Deviation	± 5KHz	± 2.5KHz
Adjacent Channel Power	≥ 70dB	≥ 60dB	Frequency Stability	± 2.5ppm	
Spurious	≥ 60dB	≥ 60dB	Audio Distortion	≤ 5%	
Audio Response	+1~3dB (0.3~3KHz)	+1~3dB (0.3~2.55KHz)			

### Description of Transceiver

#### LCD Screen

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



Function Display

Personal Message or FM Radio Frequency Display

Channel NO. on A area, or Frequency Display

Channel NO. on B area, or Frequency Display

Operation Indication

**TKA** : Talk Around

**VOX** : VOX

: Power Save Activiated

: Battery pack Voltage Display

: Priority Function Activiated

: Mute Function Activiated

**QT** : CTCSS Activiated

**DT** : DCS Activiated

: DTMF Encoding/Decoding

**N** : Narrow Bandwidth **W** : Wide Bandwidth

**+** : Positive Offset **-** : Negative Frequency

: Output Power or Receiving Signal Meter Indicator

**R** : Reverse Frequency

**★** : Current Channel is Priority

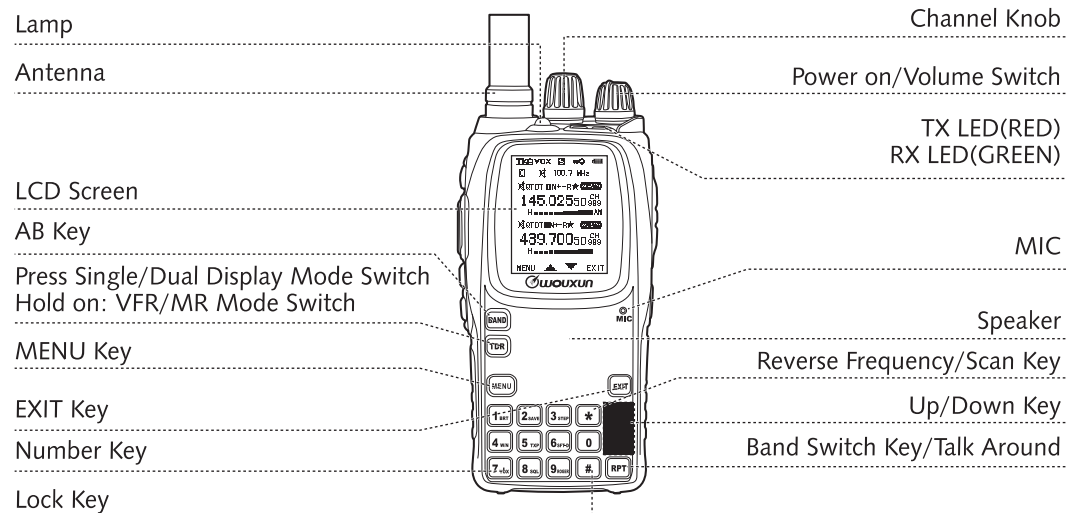
: Main Frequency

**CH 999** : Current Channel NO.

**AM** : AM Modulation

**H L** : Output Power Level

## Getting Started

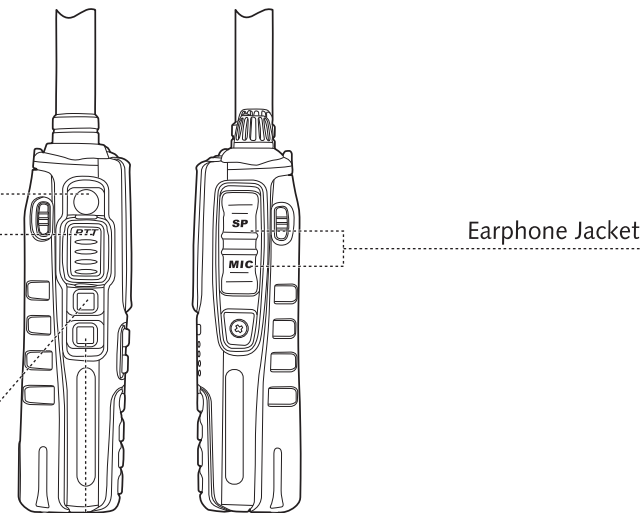


Sidekey PF1: No Function,  
Selective Calls, Distant Alarm  
SOS, TX on Sub-frequency

PTT Key

Sidekey PF2:  
Short Press:  
Enter/Exit FM Radio  
Hold On (for 1s)  
Scan/Stopwatch/Lamp/  
Frequency Shift/Frequency  
Direction/Keypad Light

Sidekey PF3:  
Short Press:  
Squelch (MONI Key)  
Hold On:  
No Function, Selective Calls, Distant  
Alarm SOS, TX on Sub-Frequency



### (1) Main Frequency Switch

Press **BAND** to select the main frequency. The frequency with **MAIN** at the left top corner of the screen is the main frequency ; the frequency without **MAIN** is the sub-frequency.

### (2) Sub-Frequency Transmission Key

PTT key is for transmission on main frequency. If you want to transmit on sub-frequency, please change main frequency or program PF1 or PF3 as sub-frequency transmission.

When programming PF1 or PF3 as sub-transmission function, please press PF1 or PF3 directly to transmit without changing the main frequency.

#### ■ Program PF1 as sub-frequency transmission

Program PF1 via MENU49 as sub-frequency transmission function when holding on.

#### ■ Program PF3 as sub-frequency transmission

Program PF3 via MENU51 as sub-frequency transmission function when holding on.

### (3) Speed Search

Press UP/DOWN key to select your desired function or parameter.

### (4) # key

In FM radio mode, press **#** to program FM radio frequency. Hold on **#** for 1 second to lock or unlock the keypad.

### (5) \* key

Press **\*** to activate or turn off the reverse function. Hold on **\*** for 2 seconds to activate the scan function.

### (6) RPT key

In standby, press RPT key to switch the main frequency. Hold on RPT key to activate talk around function.

### (7) TDR key

Functions for pressing **TDR** key: Single Band/Dual Band Display Switch.

Press **TDR** key each time, the sub frequency will be turned off or on to carry Single Band/Dual Band display switch.

Functions for holding on **TDR** key: Work Mode(VFO/MR) Switch  
Switch Work Modes(VFO/MR) is as followings:

## Basic Operation



If setting work mode switch password, press **TDR**, the LCD screen displays \_\_\_\_\_, please input the 6 characters passwords. Please set work mode switch passwords via **Wouxun** supplied programming software. When the work mode switch pass words are made up of full "0", you do not need to input password when switching work mode.

### (8) DTMF Encoding

In transmission mode, directly press the number keys or function keys to transmit the corresponding DTMF codes. The keys and the DTMF encoding codes are corresponding as following:

				EXIT
1 <b>BST</b>	2 <b>SAVE</b>	3 <b>STEP</b>	*	▲
4 <b>WIN</b>	5 <b>TAP</b>	6 <b>SP-LS</b>	0	▼
7 <b>VOX</b>	8 <b>SOL</b>	9 <b>RUZZE</b>	#	RPT

→

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

### (9) Wireclone Function

Purpose: Cloning all parameters(including channel parameters) of the source transceiver to the target transceiver.

- Steps:
- Taking two transceivers, one is as the source transceiver, the other one is as the target transceiver.
  - Using wireclone cable to connect the source transceiver (Power-Off Mode) and the target transceiver (Power-On Mode).
  - Holding on PF3 to power on the transceiver simultaneously.

Status: Red LED of the source transceiver flashes, the LCD screen displays "M: COPY COMM"; red LED of the target transceiver flashes, the LCD screen displays "S: COPYING". After successfully wire cloning, the LCD screens of the source and target transceivers display "COPY END", and then the transceiver restart automatically. If the clone is failed, the source transceiver display "COPY FAIL". And then the transceivers restart automatically without notice.

### (10) How to use the intelligent charger

When the battery power is low, the transceiver will activate voice guide, and prompt "Di" in every 5 seconds.

- Insert the AC plug into outlet (AC:90-240V), the charger indicator flashes once. That means the



## Basic Operation

charging is in standby.

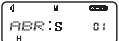
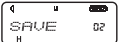
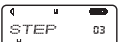
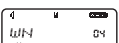
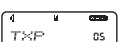
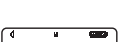

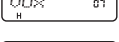
2. Insert the battery into the charger, the RED indicator continuously flashes. That means the charging is on the progress.

While the GREEN indicator continuously flashes. That means the charging is completed.

### NOTE

- » When inserting the exhausted battery into the charger, it will pre-charge the battery in trickling mode, the RED light of charger flashes and lasts 10-20 minutes, then start normal charger with RED light keeping on, it will turn to GREEN when it is fully charged.
- » Trickle charge the exhausted battery is to protect the lithium-ion battery.

## Shortcut Operation Sheet

Function order	Function name	Enter function set	Screen display	Select parameter	Selectable parameter explanation	Confirm	Return to standby
1	Auto Backlight Time (ABR)	MENU → 1 <sub>ABR</sub>		MENU → Press ▲ or ▼ key Select parameter	ALWAYS ON/OFF/1-30S	→ MENU	→ EXIT
2	Power Save Mode (SAVE)	MENU → 2 <sub>SAVE</sub>		MENU → Press ▲ or ▼ key Select parameter	OFF/01-04	→ MENU	→ EXIT
3	Step Frequency (STEP)	MENU → 3 <sub>STEP</sub>		MENU → Press ▲ or ▼ key Select parameter		→ MENU	→ EXIT
4	Bandwidth Selection (W/N)	MENU → 4 <sub>W/N</sub>		MENU → Press ▲ or ▼ key Select parameter	WIDE: 25KHz NARR: 12.5KHz	→ MENU	→ EXIT
5	Transmitting Power Selection (TXP)	MENU → 5 <sub>TXP</sub>		MENU → Press ▲ or ▼ key Select parameter		→ MENU	→ EXIT
6	Frequency Shift Direction (SFT-D)	MENU → 6 <sub>SFT-D</sub>		MENU → Press ▲ or ▼ key Select parameter	+ Positive direction - Negative direction OFF: Turn off frequency shift direction	→ MENU	→ EXIT
7	VOX (VOX)	MENU → 7 <sub>VOX</sub>		MENU → Press ▲ or ▼ key Select parameter	VOX has levels from 1 to 10 OFF: Turn off VOX transmission	→ MENU	→ EXIT
8	Squelch Level (SQL-LE)	MENU → 8 <sub>SQL</sub>		MENU → Press ▲ or ▼ key Select parameter	Squelch level from 0 to 9	→ MENU	→ EXIT

## Shortcut Operation Sheet

- 9 Begin/End Transmitting Prompt (ROGER)**
- MENU → 9 ROGER → → MENU → Press ▲ or ▼ key Select parameter → MENU → EXIT
- 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
- 10 Time-out Timer**
- MENU → 1 BRT 0 → → MENU → Press ▲ or ▼ key Select parameter → MENU → EXIT
- TOT has 40 levels is steps of 15 seconds.  
OFF: Turn off TOT
- 11 Transmitting Overtime Alarm**
- MENU → 1 BRT 1 BRT → → MENU → Press ▲ or ▼ key Select parameter → MENU → EXIT
- OFF/01-10S
- 12 Voice Switch (VOICE-SW)**
- MENU → 1 BRT 2 SAVE → → MENU → Press ▲ or ▼ key Select parameter → MENU → EXIT
- ON: Activate  
OFF: Deactivate
- 13 Beep Prompt**
- MENU → 1 BRT 3 STEP → → MENU → Press ▲ or ▼ key Select parameter → MENU → EXIT
- ON: Turn on beep prompt function  
OFF: Turn off beep prompt function
- 14 Menu Language**
- MENU → 1 BRT 4 WH → → MENU → Press ▲ or ▼ key Select parameter → MENU → EXIT
- ENGLISH
- 15 Busy Channel Lockout**
- MENU → 1 BRT 5 TAP → → MENU → Press ▲ or ▼ key Select parameter → MENU → EXIT
- ON: Turn on BCL  
OFF: Turn off BCL

- 16 Receiving CTCSS**
- MENU → 1 BRT 6 SFTD → → MENU → Press ▲ or ▼ key Select parameter → MENU → EXIT
- 50 groups CTCSS (67.0Hz-254.1Hz)  
OFF: Turn off CTCSS  
Non-Standard CTCSS Range: 62-260
- 17 Transmitting CTCSS**
- MENU → 1 BRT 7 VOX → → MENU → Press ▲ or ▼ key Select parameter → MENU → EXIT
- 50 groups CTCSS (67.0Hz-254.1Hz)  
OFF: Turn off CTCSS  
Non-Standard CTCSS Range: 62-260
- 18 Receiving DCS**
- MENU → 1 BRT 8 SQL → → MENU → Press ▲ or ▼ key Select parameter → MENU → EXIT
- 105 groups DCS (D023N-D754I)  
OFF: Turn off DCS  
Non-Standard DCS Range: 0-777
- 19 Transmitting DCS**
- MENU → 1 BRT 9 ROGER → → MENU → Press ▲ or ▼ key Select parameter → MENU → EXIT
- 105 groups DCS (D023N-D754I)  
OFF: Turn off DCS  
Non-Standard DCS Range: 0-777
- 20 Scan Mode**
- MENU → 2 SAVE 0 → → MENU → Press ▲ or ▼ key Select parameter → MENU → EXIT
- 3 Kinds of Scan modes  
TO: Time scanning mode  
CO: Carrier mode scan  
SE: Search mode scan
- 21 Mute Settings**
- MENU → 2 SAVE 1 BRT → → MENU → Press ▲ or ▼ key Select parameter → MENU → EXIT
- There are three squelch settings: QT\*T, QT, QT&T

## Shortcut Operation Sheet

- 22 DTMF Sidetone Settings**
- MENU → 2 SAVE → 2 SAVE → DTMF-ST 22 → MENU → Press ▲ or ▼ key Select parameter → MENU → EXIT
- 23 Caller ID Transmission Mode**
- MENU → 2 SAVE → 3 STEP → PTT-ID 23 → MENU → Press ▲ or ▼ key Select parameter → MENU → EXIT
- 24 Editing Caller ID**
- MENU → 2 SAVE → 4 WIN → ID-EDIT 24 → MENU → Press ▲ or ▼ key Select parameter → MENU → EXIT
- 25 Caller ID Transmission Delay**
- MENU → 2 SAVE → 5 TRP → [Bar Graph] 88 → MENU → Press ▲ or ▼ key Select parameter → MENU → EXIT
- 26 Ring Time**
- MENU → 2 SAVE → 6 SFTD → RING 26 → MENU → Press ▲ or ▼ key Select parameter → MENU → EXIT
- 27 Backlight Selection**
- MENU → 2 SAVE → 7 VOX → ABT-LV 27 → MENU → Press ▲ or ▼ key Select parameter → MENU → EXIT
- 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
- BOT: Press PTT to transmit caller ID.  
EOT: Release PTT to transmit caller ID.  
BOTH: Press and release PTT will both transmit caller ID.
- Individual Caller IDs can be chosen within the range 100-999999, and cannot begin with 0
- Time Option: 100-3000ms
- 1-10 Levels: each level 1 second  
OFF: Deactivate
- Levels: 01-05

- 28 Offset Frequency**
- MENU → 2 SAVE → 8 SOL → OFFSET 28 → MENU → Press ▲ or ▼ key Select parameter → 0-999.99500MHz → MENU → EXIT
- 29 Channel Name Edit**
- MENU → 2 SAVE → 9 NOEN → CHNAME 29 → MENU → 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
- 30 Channel Memory**
- MENU → 3 STEP → 0 → MEM-CH 30 → MENU → Press ▲ or ▼ key Select parameter → 999 channels available → MENU → EXIT
- 31 Channel Delete**
- MENU → 3 STEP → 1 DRT → DEL-CH 31 → MENU → Press ▲ or ▼ key Select parameter → 999 channels available → MENU → EXIT
- 32 Priority Channel**
- MENU → 3 STEP → 2 SAVE → PRI-CH 32 → MENU → Press ▲ or ▼ key Select parameter → 999 channels available → MENU → EXIT
- 33 Priority Channel Scan**
- MENU → 3 STEP → 3 STEP → PRI-SCN 33 → MENU → Press ▲ or ▼ key Select parameter → ON: Activated  
OFF: Deactivated → MENU → EXIT
- 34 Keypad Auto Lock**
- MENU → 3 STEP → 4 WIN → AUTOLK 34 → MENU → Press ▲ or ▼ key Select parameter → ON: Activated  
OFF: Deactivated → MENU → EXIT
- 34 Keypad Auto Lock**
- MENU → 3 STEP → 4 WIN → AUTOLK 34 → MENU → Press ▲ or ▼ key Select parameter → ON: Activated  
OFF: Deactivated → MENU → EXIT
- 35 Keypad Lock Mode**
- MENU → 3 STEP → 5 TRP → LOCKMODE 35 → MENU → Press ▲ or ▼ key Select parameter → KEY+PG, KEY+PTT, ALL → MENU → EXIT

## Shortcut Operation Sheet

- 36 Single Tone (S-TONE) MENU → 3 STEP 6 SFTD → S-TONE 36 → MENU → Press ▲ or ▼ key Select parameter 1750Hz, 2100Hz, 1000Hz, 1450Hz → MENU → EXIT
- 37 VOX DELAY (VOX-DLY) MENU → 3 STEP 7 VOX → VOX-DLY 37 → MENU → Press ▲ or ▼ key Select parameter OFF/01-055 → MENU → EXIT
- 38 Saving Scan Mode MENU → 3 STEP 8 SOL → SC-QT 38 → MENU → 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
- 39 Auto Power Off (APO-TMR) MENU → 3 STEP 9 ROER → APO-TMR 39 → MENU → Press ▲ or ▼ key Select parameter OFF/15-150Min → MENU → EXIT
- 40 Power On Message (PONMSG) MENU → 4 WIN 0 → PONMSG 40 → MENU → Press ▲ or ▼ key Select parameter BITMAP: Picture  
BATTY: battery Power → MENU → EXIT
- 41 Backlight Switch (BLCD SW) MENU → 4 WIN 1 BRT → BLCD SW 41 → MENU → Press ▲ or ▼ key Select parameter ON/OFF → MENU → EXIT
- 42 Indicator Switch (BLEDSW) MENU → 4 WIN 2 SAVE → BLEDSW 42 → MENU → Press ▲ or ▼ key Select parameter ON/OFF → MENU → EXIT
- 43 Repeat Setting (TYPE-SET) MENU → 4 WIN 3 STEP → TYPE-SET 43 → MENU → Press ▲ or ▼ key Select parameter ON/OFF → MENU → EXIT
- 44 Repeat Speaker (RPT-SPK) MENU → 4 WIN 4 WIN → RPT-SPK 44 → MENU → Press ▲ or ▼ key Select parameter ON/OFF → MENU → EXIT

- 45 Repeat PTT (RPT-PTT) MENU → 4 WIN 5 TXP → RPT-PTT 45 → MENU → Press ▲ or ▼ key Select parameter ON/OFF → MENU → EXIT
- 46 Repeat Hold Time (RPT-KPT) MENU → 4 WIN 6 SFTD → RPT-KPT 46 → MENU → Press ▲ or ▼ key Select parameter ON/OFF → MENU → EXIT
- 47 Repeater Receipt Tone (RPT-RCT) MENU → 4 WIN 7 VOX → RPT-TONE 47 → MENU → Press ▲ or ▼ key Select parameter ON: Activate  
OFF: Deactivate → MENU → EXIT
- 48 Scan Add (SCN-ADD) MENU → 4 WIN 8 SOL → SCN-ADD 48 → MENU → 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
- 49 Scan Channel Group NO. (SCN-GP) MENU → 4 WIN 9 ROER → SCN-GP 49 → MENU → 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
- 50 Scan Mode (SCN-MODE) MENU → 5 TXP 0 → SCN-MODE 50 → MENU → Press ▲ or ▼ key Select parameter Current Band Scan/Full Bands Scan/Limited FREQ BANGE SCAN → MENU → EXIT
- 51 CTCSS/DCS Scanning (SCN-CD) MENU → 5 TXP 1 BRT → SCN-CD 51 → MENU → Press ▲ or ▼ key Select parameter CTCSS/DCS → MENU → EXIT
- 52 Call Group ID (CALL-ID) MENU → 5 TXP 2 SAVE → CALL-ID 52 → MENU → Press ▲ or ▼ key Select parameter Groups:1-20 → MENU → EXIT

## Shortcut Operation Sheet

53 Auto AM (AUTO-AM)	MENU → 5 TSP → 3 STEP →		MENU → Press ▲ or ▼ key Select parameter	ON: Activated OFF: Deactivated	MENU → EXIT
54 AM Switch (AM-SW)	MENU → 5 TSP → 4 WH →		MENU → Press ▲ or ▼ key Select parameter	ON: Activated OFF: Deactivated	MENU → EXIT
55 PF1 Function Program	MENU → 5 TSP → 5 TSP →		MENU → Press ▲ or ▼ key Select parameter	SOS/SF-TX/OFF/CALL ID/ R-ALRM	MENU → EXIT
56 PF2 Function Program	MENU → 5 TSP → 6 UP/D →		MENU → Press ▲ or ▼ key Select parameter	K-LAMP/OFF/SCN/SECOND /LAMP/SDF-DIR	MENU → EXIT
57 PF3 Function Program	MENU → 5 TSP → 7 VOX →		MENU → Press ▲ or ▼ key Select parameter	R-ALARM/SOS/SF-TX OFF/CALL ID	MENU → EXIT
58 Voltage Check	MENU → 5 TSP → 8 SOL →		MENU → Press ▲ or ▼ key Select parameter	Display Current Voltage	MENU → EXIT
59 CTCSS/DCS Scan Deter- mine Switch	MENU → 5 TSP → 9 ROSE →		MENU → Press ▲ or ▼ key Select parameter	ON: Activated OFF: Deactivated	MENU → EXIT
60 Sub-Frequency Mute	MENU → 6 SFT+Q → 0 →		MENU → Press ▲ or ▼ key Select parameter	OFF/RX-MUTE/TX-MUTE/ R/T-Mute	MENU → EXIT
61 Reset Setting	MENU → 6 SFT+Q → 1 BRT →		MENU → Press ▲ or ▼ key Select parameter	VFO/ALL	MENU → EXIT

## How to Operate

### Auto Backlight Time (ABR) ----- MENU 1

Feature Description: This function is to set the time of activating LCD screen light.

Options: ALWAYS/OFF/1-30S, each level 1 second

Default: 8S

### Power Save Mode (SAVE) ----- MENU 2

Feature Description: This function is to activate or deactivate the power save mode.

There are 4 modes.

Options: OFF/01/02/03/04(It is allowed to change the sleeping time)

Default: 01

### Step (STEP) ----- MENU 3

Feature Description: This function is to select the desired step value.

Options by different versions: 2.5K/5K/6.25K/12.5K/25K/50K/100K/8.33K

## How to Operate

### **Bandwidth ----- Menu 4**

Feature Description: This transceiver can work in wide bandwidth FM( $\pm 25K$ ) or narrow bandwidth FM ( $\pm 12.5K$ )

Selection : Wide / Narrow

Default : Wide

### **Transmit Power Selection ----- Menu 5**

Feature Description: This function is to select the output power level

Default : High

### **Frequency Shift Direction ----- Menu 6**

Feature Description: This function is to set the transmission frequency is higher (+) or lower (-) than the reception frequency

Selection : Off / + / -

Default : Off

### **VOX ----- Menu 7**

Feature Description: It is not necessary to press the PTT key manually every time after activating this function. Once the VOX circuit detect the microphone when you speak to, it may automatically enter the transmitting state.

Please select the VOX gain before using, the higher the gain, the greater the voice you may so that can be detected by VOX circuit and then enter the transmitting state. In order to ensure the continuity of VOX detection, you can also set up menu 37 "VOX delay". Details see the VOX delay on P33

Option: off /1-5 seconds

Default : Off

#### **NOTE**

- » VOX function is usable for the main frequency
- » On FM or receiving state, VOX detect is off.

### **Squelch Level ----- Menu 8**

Feature Description: This function to make the speaker mute when there is no signal. If the squelch level setting is correct, it is only heard the sound truly receives the signal. The higher level the squelch requires the stronger signal.

Selection : 0-9 level

## How to Operate

Default : 5

### **ROGER ----- Menu 9**

Feature Description: The beep prompt after transmitting and end of transmitting.

Selection: Off / BOT / EOT /BOTH

Default: Off

BOT (beep after pressing PTT) EOT(beep after loosening PTT) BOTH(beep after pressing and loosening PTT)

### **Time out timer ----- Menu 10**

Feature Description: Time out timer refers to set the limited time each transmitting, it may automatically stop transmitting if reach the limited time, regardless you press the PTT, the transceiver may issued the "time out timer" at the same time.

Selection : 15-600 seconds, step 15 seconds

Default : 60 seconds

#### **NOTE**

» There is a 10-second TOT punishment when the transmitting time beyond the limited time , it is invalid to press the PTT. The TOT punishment is effective for the keypad transmission and VOX transmission.

### **Time of Alarm ----- Menus 11**

Feature Description: Time of alarm is to alarm that the transceiver is reaching the limited transmission time, and the indication light may flashing.

Selection : Off / 1-10 seconds, step 1 second.

Default : 5 seconds

### **Voice Switch ----- Menu 12**

Feature Description: To open or close the menu operating prompt.

Selection : On / Off

Default : On

### **Beep ----- Menu 13**

Feature Description: Beep is an indication for checking the transceiver operation prompt, operation error or fault.

Selection : On / Off

Default : On

### **Menu Language (MENULANGE) ----- MENU 14**

Feature Description: This function is to activate English on menu display and voice guide.

## How to Operate

Option: English

Default: English

### **Busy Channel Lockout (BCL) ----- MENU15**

Feature Description: If the selected channel or frequency is occupied by the other transceivers, when you press PTT key to transmit after activating this function, the transceiver will not transmit, in order to avoid the conflict with the other communicating transceivers.

Option: ON/OFF

Default: OFF

### **Receiving CTCSS (Rx-CTC) ----- MENU 16**

Feature Description: This function is to select receive CTCSS value.

Option: OFF/50 Groups Standard CTCSS/Non-Standard CTCSS(62.0-260Hz)

Default: OFF

### **Transmitting CTCSS (Tx-CTC) ----- MENU 17**

Feature Description: This function is to select transmitting CTCSS value.

Option: OFF/50 Groups Standard CTCSS/Non-Standard CTCSS(62.0-260Hz)

Default: OFF

### **Receiving DCS (Rx-DCS) ----- MENU 18**

Feature Description: This function is to select receiving DCS.

Option: OFF/105 Groups Standard DCS/ Non-Standard DCS(000-777)

Default: OFF

### **Transmitting DCS (Tx-DCS) ----- MENU 19**

Feature Description: This function is to select transmitting DCS.

Option: OFF/105 Groups Standard DCS/ Non-Standard DCS(000-777)

Default: OFF

### **Scan Mode (SC-REV) ----- MENU 20**

Feature Description: This function is to select the scan modes.

Option: TO/CO/SE

Default: 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.



## How to Operate

### **Mute Mode (SP-MUTE) ----- MENU 21**

Feature Description: This function is to set the mute mode to activate the speaker in receiving mode.

Option: QT/QT\*T/QT&T

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

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

### **DTMF Sidetone (DTMF-ST) ----- MENU 22**

Feature Description: In transmission mode, the transceiver transmits ANI ID code or DTMF code, if the speaker can receive the DTMF tone.

Option: DT-ST/ANI-ST/DT+ANI/OFF

Default: DT-ST

### **Caller ID Transmission Mode (PTT-ID) ----- MENU 23**

Feature Description: This function is to select the caller ID transmission mode.

Option: OFF/BOT/EOT/BOTH

Default: OFF

BOT: Transmitting caller ID when pressing PTT key.

EOT: Transmitting caller ID when releasing PTT key.

BOTH: Transmitting caller ID when pressing or releasing PTT key.

### **Caller ID Edit (ID-EDIT) ----- MENU 24**

Feature Description: This function is to edit caller ID of the transceiver.

Option: Numerals(0-9)

Default: 101

Editing Methods: a. Via supplied  programming software b. Via Keypad


### **Caller ID Transmission Delay (ID-DLY) ----- MENU 25**

Feature Description: The time distance between pressing PTT key and starting to transmit caller ID.

Option: 100-3000ms, each 100ms per level.

Default: 300ms

### **Attention**

» The lasting time of transmitting DTMF and the transmitting delay time between two DTMF codes can be programmed via  Supplied programming software.

## How to Operate

### ***Ringling Time (RING) ----- MENU 26***

Feature Description: The lasting time for ringing before speaking when receiving the signals.

Option: OFF/1-10s, each 1s per level.

Default: 3s

### ***Backlight Brightness (BAR-LV) ----- MENU 27***

Feature Description: This function is to select the brightness of backlight.

Option: 1-5(Level)

Default: 3(Level)

### ***Offset Setting (OFFSET) ----- MENU28***

Feature Description: Setting on the Frequency Offset.

Option: 000.00000-999.9975MHz

Default: 000.00000MHz

### ***Channel Name (CH-NAME) ----- MENU29***

Feature Description: Name Editing for memory channels.

Input the numbers, then the cursor automatically moves to the next position. Press ▲ / ▼ to switch the characters, while press # to confirm. Press EXIT to delete the editing content while long press EXIT to

exit from the operation.

Option: 26 Capital and Lower-case Letters, 0-9 Arabic Numbers and Special Characters.

Default: None

Editing: Editable via programming software or through the keypad manually.

Editing through the keypad

In standby (Channel Mode), press **MENU** **2** **SAVE** **9** **ENTER** **MENU** to start the channel name editing. Input the desired Arabic numbers through the keypad or press ▲ / ▼ to display and get the characters and numbers.

Press # to confirm.

E.g: Press ▲ twice to get "!" and then press # to confirm and move forward to the next position editing. (Not needed to press # to confirm the numbers input.

### ***Memory Channels (MEM-CH) ----- MENU30***

Feature Description: Save the desired frequencies and parameter into the specified channels.

Option: 999 memory channels

Default: CH-001

### ***Deleting Channels (DEL-CH) ----- MENU31***

Feature Description: Delete the saved channels which you do not want to use.

## How to Operate

Option: 999 memory channels

Default: CH-001

### **Priority Channels (PRI-CH) ----- MENU32**

Feature Description: Choose and set the programming channels priority which you use often

Option: 999 memory channels

Default: CH-001

### **Priority Scan (PRI-SCN) ----- MENU33**

Feature Description: Switch for turning ON or OFF to scan the priority channels. When ON, it will monitor the priority channels every three seconds in the main area. If received the carrier on the priority channel, it will be automatically switched to be the receiving channel.

Option: ON / OFF

Default: OFF

#### **NOTE**

» When powering on, there will be a three-second interrupt for receiving on the main area because of the monitoring on the priority channels.

### **Auto Lock (AUTOLOCK) ----- MENU34**

Feature Description: When powering on, the keypad will be automatically locked if there are no more operations for 15 seconds on the keyboard.

Option: ON / OFF

Default: OFF

### **Lock Mode (LOCKMODE) ----- MENU35**

Feature Description: Settings about locking the radios in different modes.

Option: Lock the keyboard, lock the keyboard and the encoders, lock the keyboard and PTT, lock the all.

Default: Lock the keyboard

Tips

Lock the keyboard, it locks the keypad including the side keys PF1, PF2 and PF3

Lock the keyboard, it locks the keypad and encoders including the side keys PF1, PF2 and PF3.

Lock the keyboard, it locks the keypad and PTT including the side keys PF1, PF2 and PF3.

Lock the all, it locks the above all options.

### **Single Tone Setting (S-Tone) ----- MENU36**

Feature Description: It transmit the required single plus frequencies mainly used for activating the repeater.

## How to Operate

Option: 1000Hz/ 1450Hz/ 1750Hz/ 2100Hz

Default: 1750Hz

### **VOX Delay (VOX-DLY) ----- MENU37**

Feature Description: It is the delay time setting for turning off PTT after the VOX transmitting.

Option: OFF, 1 to 5 seconds

Default: 1 second

### **QT Save (SC-QT) ----- MENU38**

Feature Description: It is the save modes for the detected CTCSS/DCS tones in the frequency mode.

Option: RX QT, TX QT, RX/TX QT

Default: RX QT

### **Auto Power-Off Timer (APO-TMR) ----- MENU39**

Feature Description: The transceiver will automatically power off if there are not any receiving or other operations within the preset time, in order to save the battery voltage..

Option: ON/OFF

Default: OFF

### **Power-ON Message (PONMSG) ----- MENE40**

Feature Description: It is programmable to set the message display when power on.

Option: Battery Voltage, Brand Logo

Default: Brand Logo

### **Backlight Switch(BLCDSW) ----- MENE41**

Function: Switch for backlight in standby

Option: ON/FF

Default: ON

### **Indicator Switch(BLEDSW) ----- MENE42**

Function: Receiving Indicator flashes green every five seconds in standby

Option: ON/FF

Default: ON

### **Repeat Setting (TYPE-SET) ----- MENE43**

Function: Work mode for Repeat Setting

Option: Walkie Talkie(TALKIE), Directional Cross-Band Repeat(DIR-RPT),

## How to Operate

Two-way Cross-Band Repeat(TW-RPT)

Default: Transceiver

### **Repeat Speaker(RPT-SPK) ----- MENE44**

Function: Whether turning on the speaker for Repeat Setting

Option: ON/FF

Default: ON

### **Repeat PTT(RPT-PTT) ----- MENE45**

Function: Whether PTT being activated for Repeat Setting

### **Repeat Hold Time(RPT-KPT) ----- MENE46**

Function: Setting the hold time for Repeating operations

Option: OFF/ 100-500ms selectableDefault: 300ms

### **Repeat Setting**

It is required the two working channels are two different frequencies of bands, i.e., it is UHF frequency in A area while it should be VHF frequency in B area.

### **Directional Cross-Band Repeat(X-DIRPT)**

It is repeating receiver which is only for receiving in main area while it is repeating transmitter which is only for transmitting in sub area.

### **Two-way Cross-Band Repeat(X-TWRPT)**

In Standby, it is repeating receiver in both main and sub areas. After it receives carrier in main area, it switches to repeating transmitter in sub area. While it receives carries in sub area, then it switches to repeating transmitter in main area.

### **Repeat PTT**

It is set to select whether using PTT to transmit out when repeating. The repeating signal is interrupted for a while PTT transmits.

### **Repeat Hold Time**

When the signal disappears from the receiver, the user continues transmitting for a while when waiting for response within the valid hold time. If there is no more signal detected, it stops transmitting within the valid hold time.

For example

## How to Operate

### X-DIRPT

It is 150MHz in main A area, it is 430MHz in sub B area. When it receives singal(it is impossible to receive singal in sub B area during X-DIRPT mode), it transmit out 430MHz on sub B area.

### X-TWRPT

It is 150MHz in main A area, it is 430MHz in sub B area. When it receives priority singal in A area, it transmit out 430MHz on sub B area. While it receives priority singal in B area, it transmit out 430MHz on sub A area. This is cross-band two-way repeat.

### **Repeating Reception (RPT-RCT) ----- MENU47**

Feature Description: It is the reception confirmation when the receiving repeater is off during the transceiver is receiving the repeating signals.

Option: ON / OFF

Default: OFF

### **Scanning Channel Adding (SCN-ADD) ----- MENU48**

Feature Description: Setting the programming channels to be on the list of the scanning channels.

Option: ON / OFF

Default: OFF

### **Scanning Groups (SCN-GP) ----- MENU49**

Feature Description: It is available to get 10 groups memory for channels, and specified the desired one to the scanning channels.

Option: All, 1 to 10 groups

Default: All

### **Scanning Mode (SCN-MODE) ----- MENU50**

Feature Description: The scanning range in VHF mode.

Scanning on the working band, it scans in the whole working range throughout the current frequency range.

Scanning on the limit range, it scans in a limited range which is programmable via the software ahead.

Default: Scanning on the working band.

## How to Operate

### Scanning CTCSS/DCS (SCN-CD) ----- MENU51

Feature Description: Selection for CTCSS or DCS scanning.

Option: CTCSS Scanning, DCS Scanning

Default: CTCSS Scanning

#### NOTE

» The CTCSS/DCS is only workable in the receiving mode.

Please press  /  or rotate the encoder to change the scanning direction.

When detecting the CTCSS or DCS tone, the scanning stops on the tone. Press  to confirm and save it if needed.

Programmable this function via the programming software.

### ID Groups (CALL-ID) ----- MENU52

Feature Description: Setting the groups for calling.

Option: 1 to 20 groups

Default: Group 1

#### NOTE

» Available to edit 3 to 6 digits from the Arabic numbers and "#".

» Only programmable via the software.

### AM Detect (AUTO-AM) ----- MENU53

Feature Description: Automatically detect the AM frequencies. When powering on, the working mode of the frequencies within 108-136MHz will be automatically switched to AM.

Option: ON / OFF

#### NOTE

» This function is prior to MENU48(AM-SW) . When the AUTO-AM is ON, the frequencies within 108-136MHz will be switched to AM mode.

» Only workable on A area.

### AM Switch (AM-SW) ----- MENU54

Feature Description: Set the receiving on AM mode. When powering on , the current frequencies will be AM receiving mode.

## How to Operate

Option: ON / OFF

Default: OFF

Tips

(1) This function is only workable on A area.

(2) AM-SW will be automatically changed to OFF instead and the working mode will be switched to FM mode when the current frequencies or channels are changed.

### Side key PF1 setting (PF1-DEF) ----- MENU55

Feature Description: Set the functions on side key PF1.

Option: None/ Selective Call/ Alarm/ SOS/ TX on the sub band(B-PTT)

Default: TX on the sub band(B-PTT)

#### NOTE

- » When the selective call is programmed onto this key, the transceiver transmits on the main band while transmits the DTMF set on the MENU46--Call Groups(CALL ID) if press this side key.
- » When SOS is programmed onto this key, the transceiver transmits on the main band and there is alarm prompt if press this side key.
- » When the B-PTT is programmed onto this key, the transceiver transmits on the sub band instead if press this side key.

### Side key PF2 setting (PF2-DEF) ----- MENU56

There are long press and short press difference.

Short press, turn ON or OFF the FM radio function.

Long press(for 1 second), there are 5 options selectable, scanning, second, lamp, shift direction and keyboard light. Keyboard light is the default setting.

### Side key PF3 setting (PF3-DEF) ----- MENU57

There are long press and short press difference.

Short press, Monitor key(MONI)

Long press(for 1 second), there are 4 options selectable, selective call, alarm, SOS and TX on the sub band(B-PTT). Alarm is the default setting.

### Voltage Detect (VOLTAGE) ----- MENU58

It detects the voltage status.

### Tone Scanning Detect (QT-SW) ----- MENU59

Check the detected tones are compatible when scanning.

Option: ON/ OFF

Default: OFF



## How to Operate

### Mute on the sub area (S-MUTE) ----- MENU60

Setting the volume status on the sub band when the transceiver is working on the main band.

Option: OFF/ RX mute/ TX mute/ RX and TX mute

Default: OFF

### Reset setting (RESET) ----- MENU61

Feature Description: There are two options, functions reset and reset all. Function reset means all the menus setting will be reset to factory default. Reset all the channels, parameter and menus setting will be reset to factory default.

Default: Function reset

## Detailed Instructions of Some Important Functions

### 1. Memory Channel

1) When the transceiver works in the channel mode, it is able to copy all the parameters except the channel names into the specified channels.

2) When the transceiver works in the frequency mode, set the offset frequencies, shift direction and other parameter ahead, and then save into the specified channels.

3) Same frequency saved in one channel

For example, specified channel CH-10, same frequency 450.025MHz, RX CTCSS 67Hz, TX DCS DN023.

Step 1, input **4** **WIN** **5** **TXP** **0** **5** **TXP** **2** **SAVE** **5** **TXP** in the frequency mode

Step 2, press **MENU** + **1** **BRT** + **6** **OFF** + **MENU** to start setting RX CTCSS, use **▲** / **▼** to select 67.0, and then press **MENU** to confirm.

Step 3, press **MENU** + **1** **BRT** + **9** **REG** + **MENU** to start setting TX DCS, use **▲** / **▼** to select 67.0, and then press **MENU** to confirm.

Step 4, press **MENU** + **3** **STEP** + **0** + **MENU** to start selecting the desired channel CH-10 to memory.

Finally, press **0** + **1** **BRT** + **0** , and then **MENU** to confirm and finish.

If tone is not needed, then the step 2 and 3 are not necessary.

4) memory channel in different TX and RX frequencies. This is working for repeating communication.

For example, specified channel CH-10, RX frequency 450.025MHz with RX CTCSS 67.0Hz, TX frequency

## Detailed Instructions of Some Important Functions

460.025MHz.

Step 1, input **4** **WIN** **5** **TXP** **0** **5** **TXP** **2** **SAVE** **5** **TXP** in the frequency mode.

Step 2, press **MENU** + **2** **SAVE** **8** **SOL** to set the offset frequency 10.000MHz.

Step 3, press **MENU** + **4** **WIN** **8** **SOL** to set the side key be shift direction, and program the direction to "+".

Step 4, press **MENU** + **3** **STEP** + **0** + **MENU** to start selecting the desired channel CH-10 to memory.

### NOTE

» Viewing the memory channel list, it means the channel is saved if the channel number displays blue while the channel is blank if the channel number displays red.

## 2. DTMF

### (1) Manual Operation

This transceiver is independently supportable for the Call ID, Selective Calls and DTMF Decode. Setting the signaling type to DTMF is programmable via software ahead.

#### A. All Calls

Press PTT to transmit out the PTT ID of this transceiver, and then input "\*" "+" "#" through the keypad to activate this function.

### B. Group Calls

Press PTT to transmit out the PTT ID of this transceiver, and then input the group ID (the first ID digit) you want to call, "\*" "+" "#" through the keypad to activate this function.

### C. Selective Calls

Press PTT to transmit out the PTT ID of this transceiver, and then input the PTT-ID of the transceiver you want to call through the keypad to activate this function.

#### (2) Shortcut

It is programmable to set the PF1 or PF2 to be selective call, to automatically transmit out the message saved on the calling groups ahead.

A. Program the parameters for the groups via software. E.g., program 123456 as the PTT ID for group 1.

B. Program the calling group by number 01 on the MENU46.

C. Program the PF1 or PF3 to Selective Call Key on the MENU49 or MENU51.

D. Press the function key which has been programmed to Selective Call, then the transceiver will selectively call the transceiver with the PTT-ID 123456.

Please repeat the above steps, program the related settings for the group calls or the all calls on the different calling groups to get the shortcut.

Group calls

## Detailed Instructions of Some Important Functions

Group number \* + \*

All calls \* #

### 3. FM Radio

#### 1) Activating FM Radio

In standby, press PF2 to activate the FM Radio function, while it shows the FM frequencies on the display.

#### 2) Searching FM stations

Press # to enter into the FM menu, then press \* to get it searching. When searching the correct station, it stops. Press ▲ / ▼ to change the searching direction.

#### 3) FM Frequencies Editing

Press # to enter into the FM menu, and program the FM frequencies through the numeric keys within the FM range 76.02-108MHz.

#### 4) FM Frequencies Memory

Press # to enter into the FM menu, switch to the sub menu "Save", press ▲ / ▼ to get the required group for memory, and then press MENU to confirm and save the FM frequency.

#### 5) Invoking the saved FM frequencies

Press # to enter into the FM menu, switch to the sub menu "Call", press ▲ / ▼ to call out the saved

group, and then press MENU to confirm and save the FM frequency.

#### 6) Exit from the FM Radio

Please press PF2 to exit out from the FM Radio mode. It is also OK to press PF2 from the menu list to exit.

### NOTE

» When working on the FM frequencies, the current frequency and channel will be standby and it will be temporarily switched to two-way communication once getting the receiving signals, and then automatically get back to FM Radio after the signal disappears. Press PTT to transmit, and still gets back to FM Radio after 5 seconds.

### 4. Remote Control

#### 1) Stun

Controlled code+ confirmed code CB+ controlled ID

Step 1, program the controlled code, controlled ID

E.g., controlled code is set to 126018 while the ID for the controlled transceiver is set to 898188.

Step 2, press PTT to transmit, then input 1 RTT 2 SAVE 6 SET ID 0 1 RTT 8 SOL , ▼ (C) ▲ (B), 8 SOL 9 800B 8 SOL 1 RTT 8 SOL 8 SOL , the controlled transceiver will be stunned.

## Detailed Instructions of Some Important Functions

A. The stunned transceiver is only available for receiving, not transmitting.

B. If the controlled code and ID are not 6 digit enough in step 2, add **#** .(e.g., the PTT-ID is 123, then add **#** after 123 input.)

C. Repeat Step 2 to re-activate the stunned transceiver.

### 2) Kill

Controlled code+ confirmed code AB+ controlled ID

Step 1, program the controlled code, controlled ID

E.g., controlled code is set to 126018 while the ID for the controlled transceiver is set to 898188.

Step 2, press PTT to transmit, then input **1** **BRT** **2** **SAVE** **6** **PTT-ID** **0** **1** **BRT** **8** **SOL** , **EXIT** (A) **▲** (B), **8** **SOL** **9** **DOGS** **8** **SOL** **1** **BRT** **8** **SOL** **8** **SOL** , the controlled transceiver will be killed.

A. The killed transceiver is not available for receiving neither transmitting.

B. If the controlled code and ID are not 6 digit enough in step 2, add **#** .(e.g., the PTT-ID is 123, then add **#** after 123 input.)

C. Repeat Step 2 to re-activate the killed transceiver.

### 3) Monitor

Controlled code+ confirmed code DA+ controlled ID

Step 1, program the controlled code, controlled ID

E.g., controlled code is set to 126018 while the ID for the controlled transceiver is set to 898188.

Step 2, press PTT to transmit, then input **1** **BRT** **2** **SAVE** **6** **PTT-ID** **0** **1** **BRT** **8** **SOL** , **RPT** (D) (A), **EXIT** , the controlled transceiver will be monitored.

A. If the controlled code and ID are not 6 digit enough in step 2, add **#** .(e.g., the PTT-ID is 123, then add **#** after 123 input.)

B. There are only 15 seconds for monitor, and it ends if there are any operations on the monitored transceiver.

### 4) Inspection

Controlled code+ confirmed code DB+ controlled ID

The inspected transceivers will automatically transmit out their PTT-IDs like calling the roll. This feature is used to check whether the transceivers in groups are power on and within the available communication.

Step 1, program the controlled code, controlled ID

E.g., controlled code is set to 126018 while the ID for the controlled transceiver is set to 898188.

Step 2, press PTT to transmit, then input **1** **BRT** **2** **SAVE** **6** **PTT-ID** **0** **1** **BRT** **8** **SOL** , **RPT** (D) (B), **▲** , the controlled transceiver will automatically transmit out its PTT-ID after that.

A. If the controlled code and ID are not 6 digit enough in step 2, add **#** .(e.g., the PTT-ID is 123, then add **#** after 123 input.)

## Detailed Instructions of Some Important Functions

### 5. Non-standard CTCSS/DCS Setting

It is available to set the TX and RX non-standard tone separately, including the non-standard TX CTCSS, RX CTCSS, TX DCS and RX DCS.

The range for the non-standard CTCSS is 62-260MHz, while for the non-standard DCS is 000-777 (every digit of the tone should be lower than 7.)

Operations for non-standard RX/TX CTCSS

Step 1, press **MENU** to get to MENU16 "RX CTCSS" or MENU17 "TX CTCSS".

Step 2, input the non-standard CTCSS tone through the keypad, and press **MENU** to confirm while press **EXIT** to exit from the setting.

E.g., set the non-standard RX CTCSS to 67.4Hz.

Press **MENU** **1** **6** **MENU** and **6** **7** **4** **MENU**, then press **MENU** to confirm while press **EXIT** to exit from the setting.

Operations for non-standard RX/TX DCS

Step 1, press **MENU** to get to MENU18 "RX DCS" or MENU19 "TX DCS".

Step 2, input the non-standard DCS tone through the keypad, and press **MENU** to confirm while press **EXIT** to exit from the setting.

E.g., set the non-standard RX DCS to D021N.

Press **MENU** **1** **8** **MENU** and **0** **2** **1** (press **#** to set the negative code while it is not necessary.), then press **MENU** to confirm while press **EXIT** to exit from the setting.

## Specification (CTCSS/DCS)

### Appendix 1

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

## Appendix 2

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


Please double check the transceiver according to the trouble shooting in the following table before recognizing the transceiver as the fault. And please rest the whole transceiver if the following problems happen often in order to correct the improper operations.

PROBLEM	SOLUTION
Cannot be powered on.	» Please change a new battery or re-change as the battery may be out of charge. » Please take out the battery and re-install as the battery may be installed incorrectly.
The time for battery working is not so long as usual.	» Please change a new battery as the battery life is over. » Make sure the battery is fully charged before taking it out of the charger.
The indicator on the transceiver keeps flashing green, but there is no audio heard.	» Make sure the volume is clear enough for communication. » Check whether the programmed CTCSS or DCS is compatible during the communication. » Make sure the mute mode is correct setting.

## Trouble Shooting

PROBLEM	SOLUTION
The keypad is useless.	» Check whether the keypad is programmed to keylock. » Check whether there are any keys stuck.
The transceiver automatically transmit even there is no press on PTT.	» Check whether VOX is on, and the level is too low.
Some functions are not able to be programmed.	» Check whether the transceiver works in the channel mode as some functions should be programmable via software.
There is other audio interrupted when communication.	» Change the CTCSS or DCS.

## Announcement

We are working hardest to make the manual perfect, but there is still emission and printing errors. All the above specification is subject to updated by  **Wouxun** without prior notice.