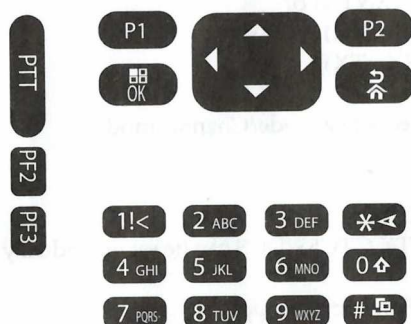## Functions

1. Frequency band: FM 65-108MHz(Receive)
VHF 108-136MHz(AM receive)
VHF 136-174MH(RX&TX) or
UHF 220-260MHz((RX&TX) or
UHF 350-390MHz(RX&TX) or
UHF 400-520MHz(RX&TX)
BLW 2.4GHz ISM
2. Working mode: Frequency mode/Channel mode
3. FM Radio
4. Dual standby
5. 50 CTCSS/105 DCS
6. RX CTCSS/DCS , TX CTCSS/DCS can be set individually
7. TOT
8. Voice encryption(Frequency Hopping)
9. Frequency Step: 2.5K/5K/6.25K/10K/12.5K/20K/25K/50K
10. Battery saving
11. Reverse Frequency / Talk around
12. VOX
13. Busy channel lockout
14. Low battery alert / Voltage display
15. Automatic backlight
16. Channel display: Frequency/Channel/Channel name
17. Scan: Time/Carrier/Search
18. Frequency mode: Frequency difference+/Frequency difference-
19. Frequency mode: Frequency difference range: 0-99.9995MHz
20. Frequency mode: Edit/Save channel specs
21. 256 memory channels
22. Emergency
23. Frequency scan
24. DTMF

25. GPS (optional)
26. Boot interface customization
27. PC Programming
28. Wireless programming via Bluetooth(optional)

Keypad description
1. Keypad function
P1
Short press: Switch A/B band
Long press: In channel mode, switch channel display mode

P2
Short press: Switch frequency mode and channel mode
Long press: Turn on/off ANI name display function

Functional keypad
Select/confirm [🔘]

Enter Menu, then select option in menu list
[▲]Long press to quickly change menu option, in Scan mode, change scan direction
[▼]Long press to quickly change menu option, in Scan mode, change scan direction
[🔘]In the input state, clear the information that has been input

Numeric keypad
Input information while in programming menu or input non-standard CTCSS/DCS if need[⬅]key

Short Press: Switch Reverse Frequency / Talk around /Normal mode
Long press(Over 2 seconds): Active frequency/channel scan[#🔒]
Short press: DTMF edit. Use * key to end if less then 6 digits
In FM mode, scan FM
Long press: Lock/unlock keypad

[SOS] Key
Long press to enter this function, short press to exit this function

Power/Volume on-off
clockwise rotation: Power on/Volume+
Anticlockwise rotation: Power off/Volume-

Status Indicator
TX- Red light
RX- Green light

External Jack
Earpiece or programming cable
Side key 1(PTT): Short press to exit SOS mode while in SOS mode
Side key 2: Set functions via programming software
Side key 3: Long press to active MONI mode. Set function for short press via programming software
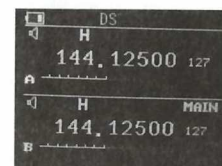## 2. Muti keys function

1750Hz Tone: PTT + MONI
DTMF: PTT+ numeric keys+ 🔘 to transmit DTMF 0-9, ABCD*#

Screen display and Menu list
Screen display

Icon definition

Icon	Description
CT	CTCSS display
DCS	DCS display
+	Frequency difference +
-	Frequency difference -
DS	Dual standby
⚓	VOX
R	Reverse Frequency
T	Talk Around
N	Narrow Band
▭	Battery level display
@	Keypad lock
H	High Power
L	Low Power
♪	Tone while DTMF transmitting
AM	AM Mode
FM	FM Mode
✳	Bluetooth turn on
GPS	GPS turn on
▬▬▬	Transmitting power
▮▮▮	Indicates the amplitude of audio transmission when transmitting, and the signal strength when receiving

Screen display


```
DS
H
144.12500  127
B  ----------
自动背光灯
3Sec
◎4Sec
```

Menu

Menu List

Menu List	No	Chinese	2nd menu characters	Description
0	SQL	静噪等级	0,…,9	The lower the level, the easier it is to be disturbed, the higher the level, the worse the sensitivity. Better set as medium.
1	STEP	步进频率	2.50K / 5.00K / 6.25K / 10.00K / 12.50K / 20.00K / 25.00K / 50.00K	In frequency mode, to change frequency step
2	MEMCH	信道存储	000,…,256	Indicate the channel number to be stored while store channel. if 'CH' in front of number means this channel already has a channel parameter.
3	DELCH	信道删除	000,…,256	Delete the channel parameters of the specified channel. If there is no CH- means that the channel has no parameters and the operation is invalid.

No		Chinese	2nd menu	Description
4	R-CTCSS	接收模拟亚音	OFF	None DCS
			67.0HZ,…,254.1HZ	Standard CTCSS. Input standard or nonstandard CTCSS via keypad
5	R-DCS	接收数字亚音	OFF	None DCS
			D023N,…,D754I	Standard DCS
6	T-CTCSS	发射模拟亚音	OFF	None CTCSS
			67.0HZ,…,254.1HZ	Standard CTCSS. Input standard or nonstandard CTCSS via keypad
7	T-DCS	发射数字亚音	OFF	None DCS
			D023N,…,D754I	Standard DCS
8	VOICEPRI	语音加密	OFF	
			Encryption 1	
			Encryption 2	
			Encryption 3	
			Encryption 4	
9	CH-MAME	信道名称	Common name List	
10	TXP	发射功率	HIGH	High Power Transmitting
			LOW	Lower Power Transmitting
11	SAVE	省电模式	OFF	Off Battery saving
			1	Off Battery saving
			2	Normal saving
			3	Super saving
12	ROGER	通话结束提示音	OFF	Turn off
			ON	Turn on
13	TOT	发射限时	30, 60, … 480S	The number is from 30 to 480s. and the maximum time for PTT transmission is indicated in 30s steps
14	VOX	声控发射	OFF	Turn off VOX function, transmitting without PTT pressing
			1, 2, … 9	Activate the sound pressure intensity of voice control. level 1 is the most sensitive
15	W/N	信道带宽	WIDE	Wide mode
			NARR	Narrow mode

No		Chinese	2nd menu	Description
16	VOICE	语音提示开关	OFF	Turn off voice prompt
			ON	Turn on voice prompt
17	BEEP	哔音开关	OFF	Turn off operation prompt
			ON	Turn on operation prompt
18	LANGUAGE	菜单语言	ENGLISH	English
			Chinese	Chinese
19	BCL	繁忙锁定	OFF	OFF
			ON	ON
20	SC-REV	扫描模式	TO	Time scanning, the walkie-talkie pauses scanning when it detects a signal, and after staying stopped for about 5 seconds. the walkie-talkie will continue scanning even if the signal is still there.
			CO	Carrier scanning, the two-way radio pauses scanning when a channel is detected and keeps it on the same frequency until the signal disappears. There is a 2 second delay between the disappearance of the signal and the resumption of scanning to allow time for the response to begin transmission.
			SE	Search scanning, the walkie-talkie exits scanning when it detects a signal and stays at this frequency.
21	PF2	侧键2短按功能设置		
22	PF2 LONG PRESS	侧键2长按功能设置		
23	PF3	侧键3短按功能设置		
24	ABR	自动背光灯时间设置	ON	Background light is always on
			5S, 10S…3Min、	Time between the background light. ON to automatically OFF.
25	OFFSET	频差频率	00.000,…,99.995	In frequency mode, the difference between the transmitting and receiving frequencies
26	SFT-D	频差方向	OFF	In frequency mode, turn off the difference between the transmitting and receiving frequencies
			+	In frequency mode, the TX frequency=RX frequency plus frequency difference
			−	In frequency mode, the TX frequency=RX frequency minus frequency difference

No		Chinese		
27	SCAN CTCSS	扫描模拟亚音		
28	SCAN DCS	扫描数字亚音		
29	CDCSS SAVE MODE	扫描亚音频存储	ALL	ALL
			RX	Receiving
			TX	Transmitting
30	POWER ON MSG	开机画面选择	LOGO	Photo
			VOL TAGE	Battery voltage
31	ANI NAME	本机名称选择	NUM1…NUM60	No.1—No.50 radio. The radio name of 51-60 can be set
32	S-CODE	DTMF信息码	1, 2, 3…15	
33	DTMF CODE	上下线码	OFF	Turn off
			BOT	Press PTT to transmitting DTMF
			EOT	Release PTT to transmitting DTMF
			BOTH	BOTH
34	DTMFST	侧音开关	OFF	No DTMF prompt when press key to transmitting DTMF
			DT-ST	DTMF prompt when press key to transmitting DTMF
			ANI-ST	DTMF prompt when automatically transmitting DTM
			DT+ANI	DTMF prompt when automatically transmitting DTMF and press key to transmitting DTMF
35	AUTOLK	自动键盘锁	OFF	Turn off auto keypad lock
			5S、10S、15S	Turn on the keypad timing automatic lock function
36	SCAN ADD	信道扫描添加		
37	TONE	TONE音	1000, 1450, 1750, 2100Hz	
38	PTT-LT	发码附加延迟	0, 100, …, 1000	Delay time before automatic DTMF transmitting
39	MENU EXIT TIME	菜单自动退出时间	5, 10, …60S	Control the time of menu automatically exit
40	VOX DELAY	声控延时	0.5SEC…2.0SEC	
41	RP_STE	过中继尾音消除	OFF	Due to the delay of the repeater, noise appears when receive instant signal.

| No.	Menu	中文	Option	Description
			1, 2, 3, 4, 5, ··· 10S	OFF: Adjust to eliminate the tail. If want to ensure if the repeater is work or not, set OFF.
42	RPT-RL	过中继尾音延时	OFF	OFF: Adjust the length of time the tail sound appears, if not needed, set it to off.
			1, 2, 3, 4, 5, ··· 10S	
43	ANI FUNCTION	身份码功能	OFF	Turn off
			ON	Turn on
44	MDF-A	A 段显示模式	FREQ	A band displays as, frequency in channel mode
			CH	A band displays as channel in channel mode
			NAME	A band displays as channel name in channel mode
45	MDF-B	B 段显示模式	FREQ	B band displays as frequency in channel mode
			CH	B band displays as channel in channel mode
			NAME	band displays as channel name in channel mode

-10-

No.	Menu	中文	Option	Description
46	TDR	双频守候	OFF	Turn off
			ON	Turn on
47	TX-A/B	双守发射选择	OFF	In dual standby mode, transmitting current frequency band
			A	In dual standby mode press PTT to transmitting B band for cross-band TX/RX
			B	After releasing the PTT, the radio will send a turn-off code to suppress the instant noise of the receiver.
48	STE	尾音消除	OFF	After releasing the PTT, the radio will send a turn-off code to suppress the instant noise of the receiver.
			ON	After releasing the PTT, the radio will send a turn-off code to suppress the instant noise of the receiver.
49	AL-MOD	报警模式	SITE	On-site Emergency
			SOUND	Send emergency voice
			CODE	Send emergency code
50	GPS	GPS 定位	OFF	Turn off
			ON	Turn on
51	BLUETOOTH	蓝牙写频	OFF	Turn off
			ON	Turn on
52	DISPLAY	接收时间显示	OFF	Turn off
			ON	Turn on
53	RESET	恢复出厂设置	VFO	Menu back to factory setting
			ALL	Menu and channel back to factory setting

Note: When entering the menu, take note of whether to set A band or B band.

-11-

Menu operation

1) Press ▦, then enter menu via up/down key.
2) Press ▦ again to enter the menu function
3) Select option via up/down key.
4) Press ▦ to confirm and back to main menu
5) Press ⊗ to exit menu and back to normal working mode.

Note: Step, TX power, W/N band, CTCSS/DCS, frequency different etc. only set valid in frequency mode.

Other function description

1. Dual PTT

Set side key2 as PTT-B, press PTT to transmit A band, press PTT-B to transmit B band.

2. AM Mode

108-136Mhz, AM mode receiving

3. Scan mode

TO/CO/SE Mode

TO : Time scanning, the walkie-talkie pauses scanning when it detects a signal, and after staying stopped for about 5 seconds, the walkie-talkie will continue scanning even if the signal is still there.

CO: Carrier scanning, the two-way radio pauses scanning when a channel is detected and keeps it on the same frequency until the signal disappears. There is a 2 second delay between the disappearance of the signal and the resumption of scanning to allow time for the response to

-12-

begin transmission.

SE: Search scanning, the walkie-talkie exits scanning when it detects a signal and stays at this frequency.

FM function

1)Turn on FM function, the screen will display current FM frequency

2)Press [▲]/[▼] to change FM frequency, or input via keypad(65-108MHz); Press # key to scan FM frequency automatically in FM mode

3)Adjust volume via Power/volume knob

4)Press FM key again to exit FM mode

Note: FM function need to be set in side key customized setting.

-13-

Frequency scan

Scan other radios' CTCSS/DCS and frequency to make a contact.

After defining the side key function as a frequency scan function, turn it on through the side key. This function can scan the frequency of U/V/200M/350M, and switch the frequency band to be scanned by the [P1] key. After scanning the frequency, it will continue to scan CTCSS/DCS. If there is no CTCSS/DCS, the screen will display 'NONE' and end the scan. At this time, the scanned data can be saved to the designated channel through the [🔘]key and the frequency scan function can be launched. Or through[🔼]or[🔽]to start the next frequency scan.DTMF

A. DTMF encode

Quick transmitting Encode: In transmitting status, press digit keys, [🔘] *, # to transmit DTMF encode 0-9, ABCD*#. Press key to continuously encode transmitting and release to end encode transmitting.

Transmitting encode after editing: In standby mode, press [#] key to enter DTMF edit menu, input 0-9,ABCD*#, if less 6 digits then press [#] as ending. Done editing, press PTT to transmitting DTMF. In edit mode press [🔘]to delete encode, then press [🔘] to exit DTMF edit mode.

-14-

B. DTMF Decode

ANI Name Display

To indicator which radio is transmitting. 60 group names can be selected.

50 groups name are radio 1 to radio 50. The rest of 10 group names can be edited via programming software.

GPS function

Press [◀]or [▶]to enter the GPS positioning interface. At the same time, you can switch the coordinate display mode and the image mode. It also has the backtracking function. You can store the starting point position in advance, and you can view the direction and distance to the current position in real time to ensure that you won't get lost in the wild.

Wireless programming via Bluetooth

-15-