

## Contents

Contents.....	01
Introduction.....	02
Included.....	02
Table of Spare Parts.....	03
Main Features.....	04
Technical Specifications.....	05
Know The Radio.....	06
Preparation for Use.....	09
Basic Functions.....	14
Menu Operation Instruction.....	16
Programmable Key Function.....	32
Auxiliary Function.....	41
Troubleshooting.....	46
Appendix:CTCSS/DCS List.....	47

## **Introduction**

Thanks for purchasing 9908 UHF Radio. Please read this manual carefully to learn its functions and operations before using.

With elegant design, stable performance, and easy-to-use feature, transceiver 9908 is developed for widely using. It offers you a normal communication when you are in the rural area, forest zone, pasturing area or sea area. The fine appearance of 9908 meets your needs of personality.

Thank you for your support and interest in our products.

## **Included**

Please take the transceiver from the carton carefully. Please check if the package including the spare parts as below. If there are any items lost or damaged during moving, please submit claim immediately to the delivery.

## Table of Spare Parts

Spare Parts	Unit	quantity
Antenna	pc	1
Belt Clip	pc	1
Li-ion Battery Pack	pc	1
Adapter	pc	1
Charger	pc	1
Qualified Card	pc	1
User manual	pc	1
Handstrap	pc	1

## Features

- 1.Frequency: 430MHz-470MHz
- 2.Easy Operation by OLED display
3. 7.4V 1800mAh Li-ion battery
- 4.DPMR digital and analog communication
- 5.Analog Wide/Narrow: 25K/12.5K
- 6.High/Low Power : 4w/1w
- 7.Analog CTCSS 51, Digital CTCSS 107 for each + -
8. 199 Channels, 1 Emergency Channel and  
can not be deleted.
- 9.Voice Encryption
- 10.TOT OFF-30/60/90/120/150.../600S
- 11.VOX
- 12.Emergency Call
- 13.PRI
- 14.OFF SET
- 15.TX/RX CTCSS/CDCSS adjustable
- 16.STEP5/6.25/10/12.5/20/25/50/100K
- 17.Scanning : VFO/Channel
- 18.SQL (0-9)
- 19.Backlight On/Off
- 20.Power SAVE
- 21.MONITOR
- 22.Lower battery alert
- 23.Key lock and keypad tone
- 24.PC program /Manual input frequency
- 25.Message Send and Receive
- 26.Group/Selective Call

## Specification

### General

Frequency	430-470MHz
Channel	199
Channel Spacing	Digital 6.25KHZ Analog 12.5kHz or 25kHz
Working Temperature	-20℃ ~ +60℃
Voltage	7.4V
Standby Current (power Save)	About 40mA

### Receiver

Sensitivity	$\leq -122\text{dBm}(12\text{dB SINAD})$
Squelch Sensitivity	$\leq 0.16\mu\text{V}$
Intermodulation Rejection	60dB
Audio Power	$\geq 500\text{mW}$
RX current	$\leq 140\text{mA}$
Standby	15mA

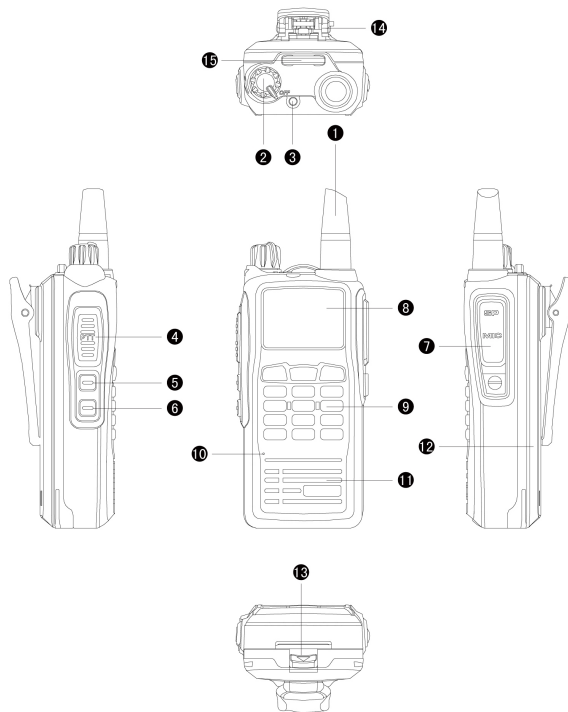
### Transmitter

Output Power	UHF $\leq 4\text{W}$
TX current	HI $\leq 1.6\text{A}$
Modulation	FM
Maximum frequency deviation	$\leq \pm 5\text{kHz}$ or $\leq \pm 2.5\text{kHz}$
Residual Radiation	$< -60\text{dB}$

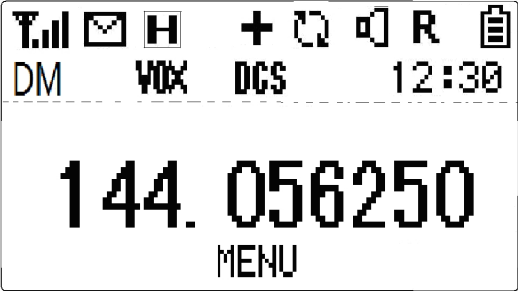
# Know the Radio



## Scheme









- |  |                         |
|--|-------------------------|
| 1. Antenna   | 2. Power/Volume Knob    |
| 3. Indicator light   | 4. PTT                  |
| 5. KEY1  | 6. KEY2                 |
| 7. External SP+MIC/program connector/<br>extended function connector |                         |
| 8. OCLD display  | 9. DTMF keypad(1~9,*,#) |
| 10. MIC  | 11. Speaker             |
| 12. Battery  | 13. Battery Buckle      |
| 14. Belt clip  | 15. Hand strap hole     |



Menu



Icon	Feature	Note
	Receive	00
CTC	CTCSS	02
<b>DCS</b>	DCS	
	Message	03

	Scanning	05
	Off Set	07
	Signal	08
	Battery	09
	VOX	11
	Reverse Frequency ( With this state transmitting and receiving will be reversed, )	13
	High/Low	16
	Channel	17



## **Preparation Before Using**

### **Install the Antenna**

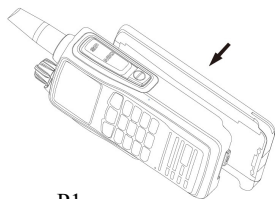
Install the antenna as picture shows and rotate it clockwise till tight.



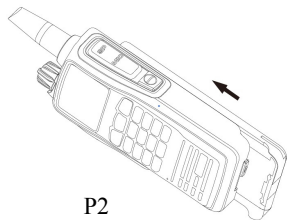
Note: Don't hold the antenna or hang the keys or external mic on the Antenna ,in case of destroying the performance of radio .

## Install the battery

Install the batter along the rear case of radio properly as following pictures show:



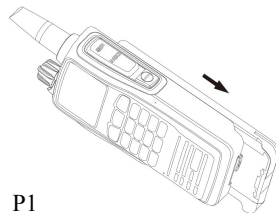
P1



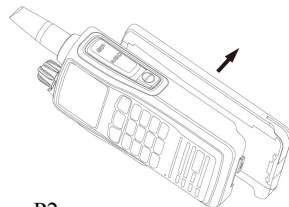
P2

## Disassembling of battery

Press the fixed buckle of the battery(P1),then push down the battery off the transceiver(P2)



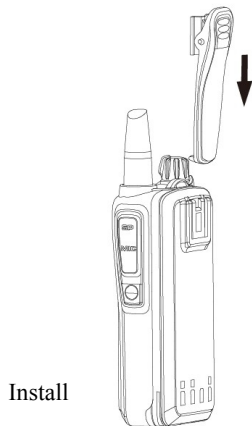
P1



P2

## Install and take off the belt clip

If necessary ,fix the belt clip with two screws (3\*6) as picture shows: :



Install

disassembly

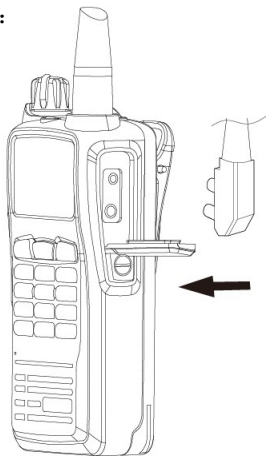


Note: 1. When installing the belt clip , do not use any glue to fix screws, otherwise, it will damage the housing.

2. Take off the belt before disassembling the battery.

## Install external microphone

Install the microphone as picture shows,:



## Charging

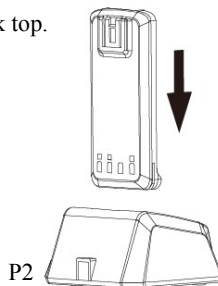
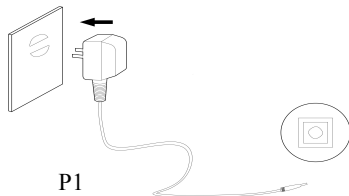
The battery pack is not fully charged when finished, and please charge it before using.

The battery can not reach the normal capacity for the first time charging after purchasing or storing it more than two months. However, it will return the normal capacity after charging and discharging repeatedly 3-5 times.

### Charging steps as below:

1. Insert the AC adaptor line to the charging hole of desk-top .
2. Connect the power with AC adaptor.
3. Put Li-ion battery or Radio with battery on the desk top.

As following pictures show



Note: 1. Please make sure the battery connects with the touching piece of the charging terminal.

2. Green light indicates power on or the battery is full. Red light indicates the charging just beginning. Charge in power-off mode, the indicator red light is on, and it is off when finished charging.

3. Do not short-circuit the battery terminals or dispose of batteries in fire.

4. Do not disassemble the housing of the battery.

5. It will take 6 hours for full charge.

## Basic Functions



### 1) Power on /Off

Turn power on/off by power key .

Please input password if setted,operate like this :

- (1) Input password when LCD display: “—————”
- (2) Inputting 0-9 by DTMF keys and display corresponding interface。
- (3) After input ,transceiver check password automatically . If yes, then power on ,if not ,back to (1)

### 2) Select a Channel

Choose requested Channel by (  /  ) ,199 channels Maximum ,Channel Name can be programmed at most 8 characters。

Long press (  /  ) to quick select.



### 3) Transmission

Press **【PTT】** to transmit, Release **【PTT】** to receiver。Red lights while transmitting ,Green lights while receiving .

Note :Press PTT to stop transmitting and prompt if set the BCLO.

Contact List (Digital Mode)

- (1) Press **【Contact List 】** (programmable) or enter menu to check contact list.

(2) Press (  /  ) to choose ID code on the contact list.

(3) Press **【PTT】** to transmit

Note : Press PTT to transmit and get default contact . If not ,transceiver reminds users no contact available . Single call to input contact person . Group call only for program .

### **DTMF (Analog Mode)**

(1) Press **【DTMF】** (Programmable) or enter menu to operate.

(2) Press (  /  ) to choose on the DTMF list;

(3) Press **【PTT】** to transmit, release PTT to quit.

Note ,With being Analog ,press DTMF to transmit DTMF code ,long press to continuously transmitting code .Short press to send single code .

### **4) Receiving a Call**

Adjust volume level by controller while receiving information from caller . Decode information first then receiving if channel sets with code .

#### **A、Receive Main/Sub Code (Analog)**

Can receive information once transceiver gets matched DTMF main/sub code .












#### **B、Receive Group/Single/All Call (Digital)**

Can receive information once transceiver gets match ID from group/single/All call.

Press PTT to communicate within limited time .

## Menu Operation

### 1) Menu Operation

- (1) Press (  );
- (2) Press (  /  ) to choose menu , Long press (  ) to get hot menu if transceiver with DTMF keys, press DTMF No.keys to get corresponding menu;
- (3) Press (  )
- (4) Press (  /  ) to set functions, Press DTMF keys to set functions if transceiver with DTMF keys .Repeat (3) (4) if do have many submenus .
- (5) Normally ,press (  ) to confirm setting and back previous step . Press S 1 to quit and back to menu .
- (6) Particularly for programmable function menu ,press (  ) to confirm and back to previous step; Press (  /  ) to choose requested ; Press【S2】to delete present setting; press 【S1】to quit and back to previous step .



(7) 10s for operating any menu .Once over 10s ,transceiver quit and back tot main interface .

Note :1 No limited time for Message editing .

2 while operating ,press PTT to back main interface and no confirmation .

## 2) Menu Setting List (Digital Mode)

Item	Chinese	English	Chinese Menu	English Menu
1	工作模式	MODE	(1)信道模式 (2)记忆模式 (3)频率模式	(1) CH MODE (2) MR MODE (3) VFO MODE
2	频道类型	CH TYPE	(1)模拟频道 (2)数字频道 (3)混合频道-数字发射 (3)模拟频道-模拟发射	(1)ANALOG (2)DIGITAL (3)MIXER-D (4)MIXER-A
3	发射功率	TX POWER	(1)低功率 (2)高功率	(1)LOW (2)HIGH
4	静噪等级	SQL	(1)0 级 ... (6)5 级 ... (10)9 级	(1)SQL-0 ... (6)SQL-5 ... (10)SQL-9
5*	本机码	LOCAL CODE	七位 ID 号码 (不带*)	

6*	联系人	CONTACTS	64 组，号码中可带(*)	
7*	发件箱	MSG OUTBOX	短信息发送列表（最大 20 条）	
8*	收件箱	MSG INBOX	短信息接收列表（最大 20 条）	
8	带宽设置	W/N BAND	(1)宽带 (2)窄带	(1)WIDTH (2)NARROW
10*	话音加密	ENCRYPT	(1)关 (2)开	(1)OFF (2)ON
11	密钥列表	ERP LIST	32 位密钥	
12	时间显示	TIME	(1)关 (2)开	(1)OFF (2)ON
13*	日期/时间	DATE AND TIME	——	
14	差频方向	SHIFT	(1)无 (2)正差频 (3)负差频	(1)NONE (2)PLUS (3)MINUS
15	频率步进	STEP	(1)5.0KHz (2)6.25KHz (3)10.0KHz (4)12.5KHz (5)25.0KHz (6)50KHz (7)100KHz	
16	差频频率	OFFSET	0~50MHz，默认 0.6MHz（VHF）/7.6MHz（UHF）	

17	省电设置	BATT SAVER	(1) 关 (2) 1: 1 ..... (11) 1:10 (12) 1:11 (13) 1:12	(1)OFF (2)1:1 ..... (11) 1:10 (12) 1:11 (13) 1:12
18	超时设置	TOT	0~600s, 步进 30s	
19	背光灯模式	BACKLIGHT	(1)关 (2)开 (3)自动	(1)OFF (2)ON (3)AUTO
20	提示音设置	BEEP TONE	(1)关 (2)开	(1)OFF (2)ON
21	开机密码	PASSWORD	(1)关 (2)开	(1)OFF (2)ON
22	声控设置	VOX	(1)关 (2)开	(1)OFF (2)ON
23	声控灵敏度	VOX LEVEL	(1)0 级 ... (6)5 级 ... (10)9 级	(1)LEVEL 0 ... (6)LEVEL 5 ... (10)LEVEL 9
24	扫描模式	SCAN MODE	(1)时间 (2)载波 (3)搜索	(1) TO (2) CO (3) SE

25	频率模式扫描	VFO SCAN	(1) ±1MHz (2) ±2MHz (3) ±5MHz (4) PMS (5) BAND	
26	语言设置	LANGUAGE	(1)英文 (2)中文	(1)ENGLISH (2)CHINESE

Note : The menu with \* operation ,please refer to the following details.

Menu Operating List (MD Mixed Digital Mode )

Note : Only Menu 26 in the mode of digital transmitting and not reset to dual frequency mode .

Item	Chinese	English	Chinese Menu	English Menu
1	工作模式	MODE	(1)信道模式 (2)记忆模式 (3)频率模式	(1) CH MODE (2) MR MODE (3) VFO MODE
2	频道类型	CH TYPE	(1)模拟频道 (2)数字频道 (3)混合频道-数字发射 (3)模拟频道-模拟发射	(1)ANALOG (2)DIGITAL (3)MIXER-D (4)MIXER-A
3	发射功率	TX POWER	(1)低功率 (2)高功率	(1)LOW (2)HIGH
4	静噪等级	SQL	(1)0 级 ... (6)5 级 ...	(1)SQL-0 ... (6)SQL-5 ...

			(10)9 级	(10)SQL-9
5*	本机码	LOCAL CODE	七位 ID 号码（不带*）	
6*	联系人	CONTACTS	64 组，号码中可带(*)	
7*	发件箱	MSG OUTBOX	短信息发送列表（最大 20 条）	
8*	收件箱	MSG INBOX	短信息接收列表（最大 20 条）	
9*	带宽设置	W/N BAND	(1)宽带 (2)窄带	(1)WIDTH (2)NARROW
10*	话音加密	ENCRYPT	(1)关 (2)开	(1)OFF (2)ON
11	密钥列表	ERP LIST	32 位密钥	
12	时间显示	TIME	(1)关 (2)开	(1)OFF (2)ON
13*	日期/时间	DATE AND TIME	——	
14	可选信令	SIGNALLING	(1)无 (2)双音多频	(1)NONE (2)DTMF
15	双音多频速率	DTMF SPEED	(1)50 毫秒 (2)75 毫秒 (3)100 毫秒	(1)50ms (2)75ms (3)100ms
16	双音多频列表	DTMF LIST	DTMF- 01~DTMF-16	
17	差频方向	SHIFT	(1)无 (2)正差频	(1)NONE (2)PLUS

			(3)负差频	(3)MINUS
18	频率步进	STEP	(1)5.0KHz (2)6.25KHz (3)10.0KHz (4)12.5KHz (5)25.0KHz (6)50KHz (7)100KHz	
19	差频频率	OFFSET	0~50MHz, 默认 0.6MHz (VHF) /7.6MHz (UHF)	
20*	哑音解码	R CTC/DCS	无/63.0Hz~254.1Hz/DN023~DI754	
21*	哑音编码	T CTC/DCS		
22	省电设置	BATT SAVER	(1) 关 (2) 1: 1 ..... (11) 1:10 (12) 1:11 (13) 1:12	(1)OFF (2)1:1 ..... (11) 1:10 (12) 1:11 (13) 1:12
23	超时设置	TOT	0~600s, 步进 30s	
24	背光灯模式	BACKLIGHT	(1)关 (2)开 (3)自动	(1)OFF (2)ON (3)AUTO
25	提示音设置	BEEP TONE	(1)关 (2)开	(1)OFF (2)ON
26	开机密码	PASSWORD	(1)关	(1)OFF

			(2)开	(2)ON
27	声控设置	VOX	(1)关 (2)开	(1)OFF (2)ON
28	声控灵敏度	VOX LEVEL	(1)0 级 ... (6)5 级 ... (10)9 级	(1)LEVEL 0 ... (6)LEVEL 5 ... (10)LEVEL 9
29	扫描模式	SCAN MODE	(1)时间 (2)载波 (3)搜索	(1) TO (2) CO (3) SE
30	频率模式扫描	VFO SCAN	(1) $\pm 1\text{MHz}$ (2) $\pm 2\text{MHz}$ (3) $\pm 5\text{MHz}$ (4) PMS (5) BAND	
31	语言设置	LANGUAGE	(1)英文 (2)中文	(1)ENGLISH (2)CHINESE

Note : The menu with \* operation ,please refer to the following details.

Menu Operating List (MA Mixed Digital and Analog Mode )

Note : Only Menu 25 in the mode of digital transmitting and not reset to dual frequency mode .

序号	中文显示	英文显示	中文菜单项	英文菜单项
1	工作模式	MODE	(1)信道模式 (2)记忆模式	(1) CH MODE (2) MR MODE

			(3)频率模式	(3) VFO MODE
2	频道类型	CH TYPE	(1)模拟频道 (2)数字频道 (3)混合频道-数字发射 (3)模拟频道-模拟发射	(1)ANALOG (2)DIGITAL (3)MIXER-D (4)MIXER-A
3	发射功率	TX POWER	(1)低功率 (2)高功率	(1)LOW (2)HIGH
4	静噪等级	SQL	(1)0 级 ... (6)5 级 ... (10)9 级	(1)SQL-0 ... (6)SQL-5 ... (10)SQL-9
5*	本机码	LOCAL CODE	七位 ID 号码（不带*）	
6*	联系人	CONTACTS	64 组，号码中可带(*)	
7*	发件箱	MSG OUTBOX	短信息发送列表（最大 20 条）	
8*	收件箱	MSG INBOX	短信息接收列表（最大 20 条）	
9*	带宽设置	W/N BAND	(1)宽带 (2)窄带	(1)WIDTH (2)NARROW
10*	话音加密	ENCRYPT	(1)关 (2)开	(1)OFF (2)ON
11	密钥列表	ERP LIST	32 位密钥	
12	时间显示	TIME	(1)关	(1)OFF



			(2)开	(2)ON
13*	日期/时间	DATE AND TIME	——	
14	可选信令	SIGNALLING	(1)无 (2)双音多频	(1)NONE (2)DTMF
15	双音多频速率	DTMF SPEED	(1)50 毫秒 (2)75 毫秒 (3)100 毫秒	(1)50ms (2)75ms (3)100ms
16	双音多频列表	DTMF LIST	DTMF- 01~DTMF-16	
17	差频方向	SHIFT	(1)无 (2)正差频 (3)负差频	(1)NONE (2)PLUS (3)MINUS
18	频率步进	STEP	(1)5.0KHz (2)6.25KHz (3)10.0KHz (4)12.5KHz (5)25.0KHz (6)50KHz (7)100KHz	
19	差频频率	OFFSET	0~50MHz，默认 0.6MHz（VHF）/7.6MHz（UHF）	
20*	哑音解码	R CTC/DCS	无/67.0Hz~254.1Hz/DN023~DI754	
21*	哑音编码	T CTC/DCS		
22	省电设置	BATT SAVER	(1) 关 (2) 1: 1	(1)OFF (2)1:1

			..... (11) 1:10 (12) 1:11 (13) 1:12	..... (11) 1:10 (12) 1:11 (13) 1:12
23	超时设置	TOT	0~600s, 步进 30s	
24	背光灯模式	BACKLIGHT	(1)关 (2)开 (3)自动	(1)OFF (2)ON (3)AUTO
25	提示音设置	BEEP TONE	(1)关 (2)开	(1)OFF (2)ON
26	开机密码	PASSWORD	(1)关 (2)开	(1)OFF (2)ON
27	声控设置	VOX	(1)关 (2)开	(1)OFF (2)ON
28	声控灵敏度	VOX LEVEL	(1)0 级 ... (6)5 级 ... (10)9 级	(1)LEVEL 0 ... (6)LEVEL 5 ... (10)LEVEL 9
29	扫描模式	SCAN MODE	(1)时间 (2)载波 (3)搜索	(1) TO (2) CO (3) SE
30	频率模式扫描	VFO SCAN	(1) $\pm 1\text{MHz}$ (2) $\pm 2\text{MHz}$ (3) $\pm 5\text{MHz}$	

			(4) PMS (5) BAND	
31	语言设置	LANGUAGE	(1)英文 (2)中文	(1)ENGLISH (2)CHINESE

Note : The menu with \* operation ,please refer to the following details.

### Menu Operating List (Analog Mode)

Item	中文显示	English	中文菜单项	English Menu
1	工作模式	MODE	(1)信道模式 (2)记忆模式 (3)频率模式	(1) CH MODE (2) MR MODE (3) VFO MODE
2	频道类型	CH TYPE	(1)模拟频道 (2)数字频道 (3)混合频道-数字发射 (3)模拟频道-模拟发射	(1)ANALOG (2)DIGITAL (3)MIXER-D (4)MIXER-A
3	发射功率	TX POWER	(1)低功率 (2)高功率	(1)LOW (2)HIGH
4	静噪等级	SQL	(1)0 级 ... (6)5 级 ... (10)9 级	(1)SQL-0 ... (6)SQL-5 ... (10)SQL-9
5*	带宽设置	W/N BAND	(1)宽带 (2)窄带	(1)WIDTH (2)NARROW
6	时间显示	TIME	(1)关	(1)OFF

			(2)开	(2)ON
7*	日期/时间	DATE AND TIME	——	
8	可选信令	SIGNALLING	(1)无 (2)双音多频	(1)NONE (2)DTMF
9	双音多频速率	DTMF SPEED	(1)50 毫秒 (2)75 毫秒 (3)100 毫秒	(1)50ms (2)75ms (3)100ms
10	双音多频列表	DTMF LIST	DTMF- 01~DTMF-16	
11	差频方向	SHIFT	(1)无 (2)正差频 (3)负差频	(1)NONE (2)PLUS (3)MINUS
12	频率步进	STEP	(1)5.0KHz (2)6.25KHz (3)10.0KHz (4)12.5KHz (5)25.0KHz (6)50KHz (7)100KHz	
13	差频频率	OFFSET	0~50MHz，默认 0.6MHz（VHF）/7.6MHz（UHF）	
14*	哑音解码	R CTC/DCS	无/67.0Hz~254.1Hz/DN023~DI754	
15*	哑音编码	T CTC/DCS		
16	省电设置	BATT SAVER	(1) 关 (2) 1: 1	(1)OFF (2)1:1

			..... (11) 1:10 (12) 1:11 (13) 1:12	..... (11) 1:10 (12) 1:11 (13) 1:12
17	超时设置	TOT	0~600s, 步进 30s	
18	背光灯模式	BACKLIGHT	(1)关 (2)开 (3)自动	(1)OFF (2)ON (3)AUTO
19	提示音设置	BEEP TONE	(1)关 (2)开	(1)OFF (2)ON
20	开机密码	PASSWORD	(1)关 (2)开	(1)OFF (2)ON
21	声控设置	VOX	(1)关 (2)开	(1)OFF (2)ON
22	声控灵敏度	VOX LEVEL	(1)0 级 ... (6)5 级 ... (10)9 级	(1)LEVEL 0 ... (6)LEVEL 5 ... (10)LEVEL 9
23	扫描模式	SCAN MODE	(1)时间 (2)载波 (3)搜索	(1) TO (2) CO (3) SE
24	频率模式扫描	VFO SCAN	(1) ±1MHz (2) ±2MHz (3) ±5MHz	

			(4) PMS (5) BAND	
25	语言设置	LANGUAGE	(1)英文 (2)中文	(1)ENGLISH (2)CHINESE

Note : The menu with \* operation ,please refer to the following details.

### 3) Hot Key Instruction (Main interface long press 【Menu】)

Hot Key	Function			Note
	CH	MR	VFO	
FUNC+1: MODE	√	√	√	Enter corresponding menu by Key ×5
FUNC+2: TXP	√	√	√	
FUNC+3: MSG	√	√	√	
FUNC+4: DATA/TIME	√	√	√	
FUNC+5: STEP	√	√	√	
FUNC+6: TOT	√	√	√	
FUNC+7: VOXLEL	√	√	√	
FUNC+8: LANGUAGE	√	√	√	
FUNC+0: SCAN	√	√	√	
FUNC+*: CH STORE	√	√	√	
FUNC+#: REV	√	√	√	

### 4) Power on Operation Instruction( Power on + Key Number)

Combination	Function			Instruction	Display
	CH	MR	VFO		

Power on + 【1】	√	√	√	Enter Power on function menu。 Factory setting ,clone ,aging test ,adjust ,upgrade . Note: press until orange lights	Menu
Power on + 【2】	√	√	√	Enter BER Tes Mode Note: Press until Orange lights	Main Interface
Power on + 【3】	√	√	√	Enter Hardware upgrade menu . Note : Press until orange lights	Main Interface

### 5) Character Typing .

Two typing method:

(1) Press 【UP】/【Down】 to type the cycling character: 0~9, A~Z, a~z, space, \*, #. (only support transceiver without DTMF keys)

(2) Direct to type with DTMF keys (only support transceiver with DTMF keys) ,corresponding type below:

DTMF KEY	Default Character Cycle
1	1
2	A>B>C>2
3	D>E>F>3
4	G>H>I>4

5	J>K>L>5
6	M>N>O>6
7	P>Q>R>S>7
8	T>U>V>8
9	W>X>Y>Z>9
0	SPACE>0

Note : With Channel mode ,edit channel information by selecting the channel ,and double click on the right side editing box in program software .

### **Programmable Key Function**

Programmable Key: Side Key 1 by short press、Side Key 1 by long press、Side key 2 by short press 、Side key 2 by long press etc .

Programmable Functions: Monitor 、Contact list input、scan、message send list 、back light on/off 、VOX、Chanel type、Emergency Call etc . (refer to program software )



## SCAN

Press **【Scan】** (programmable ), then scanning with displayed icon .Press Up/Down to choose scanning setting ,press other keys to quit scanning .

Only allowed scanning channel can be scanned .It is waving scanning and once stop the channel ,that means get signals .After signal goes off ,transceiver will stop this channel for certain time ( time can be set by program ) ,once get signal again within specified time ,then it will keep scanning . If not still stop at this channel .

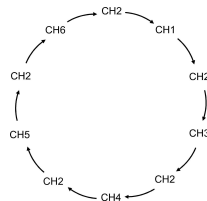
Note : There should be more than 2 channels can active scanning function in the list .

### 1) Temporary Channel Lockout.

Press **【\*】** the temporary deleting Noisy Channel key to keep on scanning next channel when stop scanning ,And it will not scan the deleted channel later . But if transceiver quit to scan and active scanning function again ,the deleted channel still can be scanned .

### 2) Priority Scan

With the cycling scanning ,please allow turn on the priority scan function when set the priority channel .Every channel scanning should scan the priority channel first . See pic showing : CH2 as the priority channel .



### **3) Scan Revert**

Scan Revert Channel fixes the present scanned channel ,press PTT to transmit information during scanning .

### **4) Scan Delete/Add**

Set scan delete/add to the present channel by Menu operation and allowed to be scanned or not .Please refer to SCAN .

### **5) VFO Scanning**

VFO scanning can scan the whole frequency band .including : $\pm 1\text{MHz}$ ,  $\pm 2\text{MHz}$ ,  $\pm 5\text{MHz}$ , PMS- and BAND

$\pm 1\text{MHz}$ : Frequency step for available frequency range to scan .

$\pm 2\text{MHz}$ : Frequency step for available frequency range to scan .

$\pm 5\text{MHz}$ : Frequency step for available frequency range to scan .

PMS: Scan the programmable memory scan frequency (stored in channel storing function setting )

BAND: All frequency band scanning .

## **DTMF**

### **1) Manual Call (only available with transceiver with DTMF keys)**

(1) Press **【PTT】** to transmit.

(2) Input DTMF to dial a call with key tone (program by PC) .

## **2) Dialed Code Store and Transmit (only available with transceiver with DTMF keys)**

(1) Press DTMF Code ,then display inputing DTMF code.

(2) With finish dialing ,press PTT to transmit .

Note : Only 16 DTMF code available once when dialing

## **3) Auto Dialing**

(1) Press【DTMF List】(program by PC) or choose DTMF list which can be pre-programmed on the software in the menu.

(2) Press 【UP/DOWN】 to select DTMF code .

(3) Press 【PTT】 to send DTMF and transmit.

## **4) Stun/Kill**














When transceiver receive the demand code of stun/kill ,it automatically prohibit to transmit ,prohibit to transmit/receive ,stun. More details can be set by PC program .

Stunned transceiver can back to normal work after receiving recovering code .Only can be programmed and recover for killed transceiver.you

## DPRM

### 1) Contact List Operation










Press **【S2】** to add or delete contact person ,press “\*” to exit.Present contact person displays on the contact list .Users can choose anyone to edit some information .

1. Press (  );
2. Press (  /  ) to choose : CONTACTS;
3. Press (  ), then by (  /  ) to choose effective contact list NO .(maximum 64 groups)。
4. Press (  ) to set , Press (  /  ) to get contact member type( code/name)。
5. Choose code then press(  )to set ,the setting code will shinning while arrow pointing ., simultaneously input DTMF (0~9, \*);
6. Press (  ) to confirm and quit; Press (  /  ) to choose code and set.;
7. Repeat the above (5)(6) Step to input every numbers. After finished and confirmed ,the code will not shinning .
8. Same operation ,repeat step 4 to choose name setting and code choosing and display setting .















Note : 1) If set the present contact to be default or group call type or one-key to call in the contact list ,then the present contact person only can be checked ,but not edit or delete .

2) Press PTT to quit operation when setting . With being in contact list menu, ,press PTT to transmit and ID code will be the present chosed ID .


## 2) Message Sending

1. Press (  );
2. Press (  /  ) to choose: sending box;
3. Press (  ) to get sending box menu and display effective message number. “message -xx”;
4. Press (  /  ) keys to select MSG (01~16);
5. Press (  ), to get MSG, and press (  /  ) to check MSG
6. Press **【PTT】**to get **【Contact List Menu】**, and choose one contact to press PTT and send, After finished sending and back to main interface ,to choose another contact ., Or press **【S2】** to back to previous menu
7. With sending box (step 3), press **【S2】**to add/delete message .Add message will enter editing interface ,same as other editing operation .Delete message ,just delete present one .
8. With sending box (Step 5), Press **【menu】** to edit the present message ,operation is same as other editing

### 3) Message Received Checking .

1. Press (  );
2. Press (  /  ) to choose : MSG INBOX;
3. Press (  ) to choose MSG INBOX , then will display the state of message (  : Unread;  Read) and sender name or ID ;
4. Press (  /  ) to choose message;
5. Press (  ), to edit message, press (  /  ) to check message。 Will display the last character.,then press (  ) to display to sender name, press again (  ) to display sender number , Same operation with following sending date and time ;
6. Press (  ) to back previous state;
7. Press **【PTT】** to quit operation

### 4) Message Received Delete

1. Short press **【S2】** to delete/All delete message in received list .
2. Press (  ) to delete ;
3. Press **【PTT】** to quit 。

## **Emergency Calls**

Hold down for specified time period to transmit an emergency call which can be programmed .

Off : Make this function unable ,but still can receive emergency call from other working transceivers .

Transceiver alarm : Alarm only itself ( Receive+No code sending+beeper )

Normal : Transceiver can receive call and send alarm code ,and making emergency call.

Secret Emergency Calling 1 : No alarm but sending emergency recognizing code ,itself do not receive any alarm.

Secret Emergency Calling 2 : No emergency call but with emergency recognizing code . Itself does receive alarm information .

Receiving Alarm: Receiving recognizing alarm code and itself makes emergency call.

## **VOX**

With VOX function ,transceiver can transmit without any manual operation ,but should be preset vox sensitivity and active by PC program .

## **Encryption**

Operate menu to turn the voice encryption on or off ,and also can set 32-bit voice encryption when operating in

digital mode only . Once voice encryption is on ,other working transceiver can not monitor any information from this encrypted transceiver.

## Monitor





Press Monitor key to monitor any transceiver with unmatched code in digital mode.

Monitor other working transceiver with squelch function in analog mode.




## CTCSS/DCS

Turn off the squelch and receive once transceiver present channel receive matched CTCSS/DCS code . If not ,squelch is still working . Like that to avoid same channel communication and selective communication . But that does not mean can encrypt the communication for same channel with same CTCSS and DCS ,or without any CTCSS/DCS to receive any information .

### CTCSS/DCS Setting

1. Press (  );
2. Press (  /  ) to choose: R CTC/DCS、T CTC/DCS、C CTC/DCS;
3. Press (  ) to set ,



4. Press (  /  ) to choose CTCSS frequency or DCS code;
5. Press **【S2】** to exchange among CTCSS、+DCS、+DCS。
6. Press (  ) to confirm setting and back to previous menu .Press **【\*】** key quit to confirm and back to previous ; Press **【S2】** to quick exchange CTC/DCS List; Press **【PTT】** to quit .

Note: Press PTT to exit the menu state, Press "\*" to exit current menu state.

## **Auxiliary Function**

### **1) TOT(Time-Out Timer)**

TOT can be programmed from 15s to 600s, step is 30s.

TOT : Set the longest allowed continuous transmitting time .Once out of pre-set time ,users can not transmit and transceiver alarms .

Pre-alarm time : Set pre-alarm time before reach the setted TOT . There will a limited time to get the TOT after users hear pre-alarm .

TOT Again Set :Users can set time from prohibited transmitting( after get the TOT) to allowed transmit again . If time is still available ,press PTT will hear the prohibited alarm .

TOT Reset : If TOT is still available ,and within TOT Reset time , the time calculator keep counting when

transmitting . If not ,TOT count from previous time ..

## 2) Power Save

1Transceiver will enter power save state ,if there is no signal or no operation (key input, rotating etc) .The power save ratio:1:4.

## 3) Key Lock

Long Press **【FUNC】** to lock keypad or unlock.. With key lock ,the following keys are still available :

**【Emergency】**

**【Backlight】**

**【Monitor】**

**【PTT】**

**【Unlock】**

## 4) Battery Indication

Lower battery alert with beeper alarm and red light shines

.besides the following indication shows the state of battery :



High



Sufficient



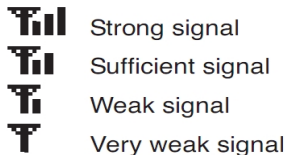
Low



Very low

## 5) Signal Indication

OLED displays present receiving signal level ,please refer to following icon for details.





## 6) BCLO

Once transceiver active BCLO function ,the present channel is prohibit to transmit ,need to waiting for free time to transmit.

## BCLO Ignored

With setting prohibited transmitting on busy channel ,press PTT to prohibit transmit when busy communication ,and hear voice prompts . Release PTT fand press again more than 0.5S ,transceiver will ignore busy state ,and force to unreasonable transmit.

## 1) Frequency Mode

Press (  ,  ) to increase/decrease present frequency value by frequency step .If decrease frequency

## 2) Frequency Direct Typing

For example 1: typing frequency 410.75000 MHz

$[7], [5], [0]$	4 1 0.7 5 0 0 0
-----------------	-----------------

$[4], [0], [0]$  4 0 0. - - - -

Note :If input frequency value is not the times of present frequency step ,transceiver itself automatically convert to corresponding time of frequency steps( should be less than frequency value) please refer to example 2.

## Channel/Memorial Mode

### 1) Exchange Channels

44

**2) Direct to input Channel No.**

Key in channel No.with DTMF code ,if transceiver has DTMF keys.

For example 1: Input Channel No .001

$$[0], \quad 0 - -$$

[0], 00 -

$$\begin{array}{r} [1] \end{array} \quad \begin{array}{r} 001 \end{array}$$

Note: Transceiver will back to present channle when input invalid channel number .

### ID Code/DTMF code Input

(1) Press **【#】** to dial menu . With analog mode, dial by DTMF menu ,With Digital mode ,dial by ID code.

(2) Press PTT to transmit ,by keying in code with DTMF numbers.

Note: No use to press PTT if some code is not available in digital mode.

## Trouble Shooting

Trouble	Solution
No reaction when power-on	<ul style="list-style-type: none"> <li>● The battery pack has been exhausted. Please change a new battery or recharge the battery.</li> <li>● The battery pack may be not installed correctly. Please install it again.</li> </ul>
Unable to talk with other members in the same group	<ul style="list-style-type: none"> <li>● Please check the frequency and CTCSS/DCS you use are the same as other members use in the same group.</li> <li>● The distance between you and other group members may be too far. Please check if you are in the cover range of other group transceivers.</li> </ul>
Talking distance is short	<ul style="list-style-type: none"> <li>● Make sure the antenna screws tight and contact well</li> <li>● Make sure if using the original antenna from the manufacturer.</li> <li>● The dealer or user set the higher squelch lever, please reduce the lever.</li> </ul>
Other (not from group members) sound heard in channels.	<ul style="list-style-type: none"> <li>● Change the frequency</li> <li>● Please change your CTCSS/DCS NO. And it has to change all signal sound of the group transceivers.</li> </ul>
The battery used out soon after recharged.	<ul style="list-style-type: none"> <li>● The use-life of the battery is over, please change new battery.</li> <li>● If the battery has been completely charged</li> </ul>
People receive your Voice is low or broken	<ul style="list-style-type: none"> <li>● Check if the MIC hole is jammed</li> </ul>
Water inlet	<ul style="list-style-type: none"> <li>● Take out the battery at once when water inlet and dump the water, put it in a draft to dry it. Make sure to send it to maintenance station in a short time.</li> </ul>

## Appendix CTCSS and DCS

### CTCSS 50

67.0	85.4	107.2	136.5	165.5	186.2	210.7	254.1
69.3	88.5	110.9	141.3	167.9	189.9	218.1	
71.9	91.5	114.8	146.2	171.3	192.8	225.7	
74.4	94.8	118.8	151.4	173.8	196.6	229.1	
77.0	97.4	123.0	156.7	177.3	199.5	233.6	
79.7	100.0	127.3	159.8	179.9	203.5	241.8	
82.5	103.5	131.8	162.2	183.5	206.5	250.3	

### DCS 104

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