DMR
DIGITAL MOBILE RADIO ASSOCIATION

radtel

RT-4D

User Manual

1.Buttons & Knobs

射频天线
开关及音量旋钮
[PTT]键
指示灯
显示屏
麦克风
[侧键]1
[侧键]2
喇叭
电池
键盘
耳机及写频接口
TYPE-C充电口

02

Antenna, PTT key, Side key 1, Side key 2, Battery

Power on/Volume knob,   LED indicator, LCD, Mic, Speaker, Keypad

Ear/Mic/Programming Port, Type-C port

2.Keypad Function:

ICOM	FUNCTION
PTT	Transmit the RF signal or exit the current operation interface.
Side key 1	Define as PTT function
	Customize long-press and short-press functions
Sike key 2	Customize long-press and short-press functions
⊞	Menu, Confirm or DTMF: A
∟	Analog mode: DTMF input mode or DTMF: B

	Digital Mode: Dial-call mode
⅃	Cancel or exit menu
	Switch A/B channel
	DTMF or Dial-call mode: Deleted characters
▲	Adjust Up frequencies, channels or menus. DTMF: C
▼	Adjust Down frequencies, channels or menus.　DTMF: D
0	long press for defined function or DTMF code: 0
1	short press: number 0 or blank long press: defined function. DTMF code: 1 Text input: number 1/Chinese or English characters
2-9	short press: number 2-9 long press: defined function. DTMF code: 2-9 Text input: number 2-9/Chinese or English characters
*	Short press: switch channel number/channel+frequency/channel name Long press: lock keypad DTMF code:*

	Text input: delete text
#	Long press: switch channel mode/frequency mode/zone mode DTMF code: # Text input: Turn text input on or off, switch text input methods.

3.LCD Display
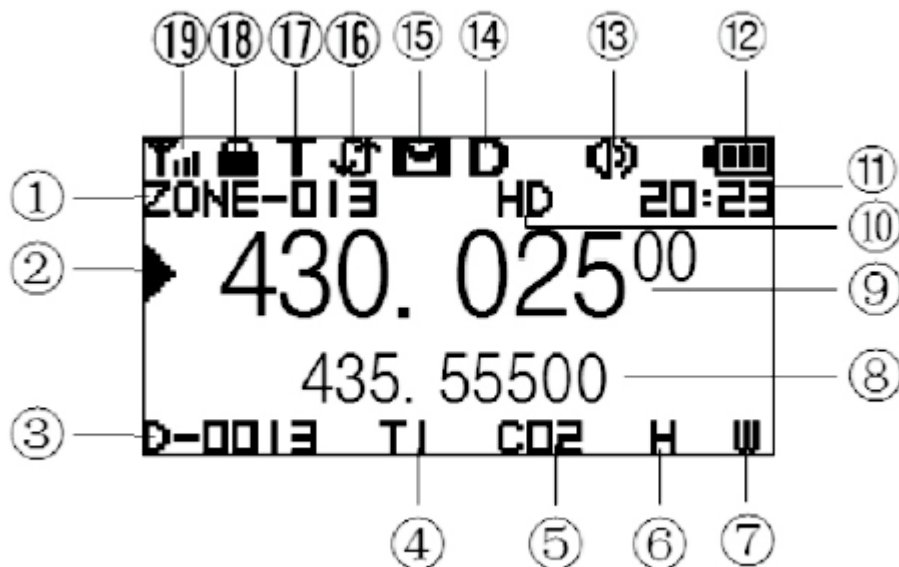
1. VFO MODE/CH MODE/Zone-XXX mode. XXX is current working zone.

2. ▶ meaning the main working band

3. D-XXXX is digital channel, A-XXXX is analog channel, XXXX is channel number

4. T1/T2 is digital channel time slot, AM/FM is modulation in analog channel

5. CXX is digital channel color code; CTC/DCS is analog channel subtone; ENC is

   analog channel Encrypted subtone, MUT is analog channel decoded subtone

6. H is high power; L is low power

7. W is wide band; N is narrow band

8. Sub channel information

9. Main channel information

10. HD is Digital call hold status

11. System Time

12. Battery level

13. Alert voice

14. Dual frequency standby

15. Unread SMS

16. Scanning

17. R is Reverse Frequency; T is Talk Around

18. Keypad locked

19. Signal icon

4. Settings

The settings include Basic Set, Key Define, Analog Set, Digital Set, Channel Set, Zone Set, Message, FM Radio, Time Manage

01 Basic Set

Menu	Sub Menu	Function
01 Radio Name	Edit name	Set radio name or callsign, Press * to delete input, press # to select input method
02 Voice Prompt	On off	Turn on/off voice prompt
03 Key Beep	On off	Turn on/off keypad beep
04 Lock Timer	Off, 5s-600s	The time to lock keypad
05 Backlight	On off	Turn on/off display backlight
06 Light Timer	Off, 5s-600s	The time to Turn off the backlight
07 Brightness	0-4 level	Choose the brightness level of the background light
08 Menu Exit	Off, 5s-600s	The time to exit menu
09 State Timer	Off, 5s-600s	Show voltage,time,date
10 Dual Standby	On off	Select dual standby or single standby
11 TX priority	Edit	Always transmit at main band
	Busy	Switch to busy channel as the main band
12 Freq Step	0.25,1.25,2.5,5, 6.25,10,12.5,20, 25,50,100,500, 1M,5M,	Set the frequency or scan step

13 Talk Around	Off, Talk Around,Invert Freq	Set repeater mode or normal mode
14 Save Mode	Off,1:1-1:3	Set the power saving ratio, dual frequency standby mode without entering power-saving mode
15 Scan Mode	CO	The walkie talkie stops scanning and remains at the same frequency when it detects a signal; Until the signal disappears. There is a 2-second delay between signal disappearance and scan recovery
	TO	When the walkie talkie detects a signal, it stops scanning and remains at the same frequency. After preset tiem, the walkie talkie will continue scanning even if the signal is still present
	SE	Upon detecting a signal, the walkie talkie exits the scan and remains at this frequency
16 Scan Direction	UP, DOWN	Set the scanning direction
17 Scan Dwell	0-30	Set the scan stop time for TO scan mode
18 Scan Return	Original CH Current CH	Set the current channel after scanning
19 Alarm Type	Local	Radio emit the alarm sound
	Remote	Radio emit the alarm sound and other radio will receive the alarm tone
	Local+Remote	Both radios emit alarm sound
20 Main PTT TX	Area A	Transmit in main area or always transmit

	Main Area	in A area
21 Area A Mode	CH mode Zone mode Freq mode	Set the Channel mode, Frequency mode or zone mode
22 Area A Show	Show CH No。 Show Freq Show Alias	Set the display way in the selected mode
23 Area A Zone	Zone1- Zone256	Set the zone numbers
24 Area B Mode	CH mode Zone mode Freq mode	Set the Channel mode, Frequency mode or zone mode
25 Area B Show	Show CH No。 Show Freq Show Alias	Set the display way in the selected mode
26 Area B Zone	Zone1- Zone256	Set the zone numbers
27 Save CH	CH-0001- CH-1024	Save the frequency and tone into channels
28 Delete CH	CH-0001- CH-1024	Delete the frequency and tone in this channel
29 Instruction	barcode	Scan barcode to get user manual

30 Version	Version info.	Show the version information
31 LCD Contrast	Display contrast	Display contrast, the higher the value, the deeper the contrast. After setting, a restart is required
32 Initialization	Cancel Ensure	Confirm or cancel the initiaization

02 Key Define

Menu	Sub Menu	Function
01 Slaver PTT	On, off	Set the side key 1 as the PTT button
02 Side key 1 S 03 Side key 1 L 04 Side key 2 S 05 Side key 2 L 06 0 Press Long 07 1 Press Long 08 2 Press Long 09 3 Press Long 10 4 Press Long 11 5 Press Long 12 6 Press Long 13 7 Press Long	None, Monitor(Ana) H/L Power Dual standby Tx priority, Scanning, Backlight on/off Roger beep FM radio, Talkaround Alarm, Freq Detect	Set the side key 1, side key 2, Num0-9 short press or long press

14 8 Press Long	CTC/DCS scan	
15 9 Press Long	Single tone	
	Status query	
	Remote Monit	
	Color code scan	
	Remote Stun	
	Remote kill	
	Rmt Wake up	
	Online check	
	LCD brightness	
	Noaa mode	

03 Analog Set

Menu	Sub Menu	Function
01 SQ level	0-10	Setting the squelch to off will open up the squelch entirely, Squelch is silences the receiver when there is no signal. The lower level is easier to interfere, and in the higher level, the sensitivity is not as good as lower level, so It is best to set it to middle
02 TX Start Tone	On, off	The tone before transmitting
03 TX End Tone	Off, roger beep1	The tone end transmitting or send radio

	Roger beep2 Radio name	name
04 Single Tone	1750Hz	Edit the tone frequency in Key Define
05 Mic Gain	0-31	Adjusts the microphone sensitivity, the higher the value, the higher the sensitivity.
06 SPK Gain	0-63	Adjusts the speaker volume, the higher the value, the higher the volume.
07 Detect Range	Frequency range	Set the frequency range to detect frequency from other radios.
08 Repeater Delay	0-2000ms	Set the repeater delay time.
09 DTMF Delay	0-2000ms	Set DTMF delay time
10 DTMF Interval	30-200ms	Set DTMF Interval time
11 DTMF Duration	30-200ms	Set DTMF Duration Time
12 DTMF Mode	Off, Tx start, Tx end, Both	Set transmit the DTMF code
13 DTMF Select	01-16	Select DTMF code 1-16
14 DTMF Display	On,off	Turn on off display DTMF decode
15 DTMF TX Gain	0-127	Set DTMF Transmit Gain
16 DTMF RX TH	0-127	Set DTMF Receive threshold

Menu	Sub Menu	Function
17 DTMF Control	On, off	Turn on off DTMF control
18Time Calibrate	On, off	Remote Time Calibrate

04 Digital Set

Menu	Sub Menu	Function
01 Personal ID	00000001	Digital ID from 1-16776415
02 Call Tone	On off	Turn on off call tone
03 Call End Tone	On off	Turn on off call end tone
04 Group Hold	0000	Set group call holding time
05 Single Hold	0000	Set single call holding time
06 SQ level	0-16	Set digital squelch level
07 Mic Gain	0-15	Set Microphone Gain
08 SPK Gain	0-15	Set speaker gain
09 Contacts Set	Contact list, add contract	Used to add/delete/change the contact information of the phone. There is one and only one All Call contact and it cannot be changed or deleted. Contact ID can be set range:1-16776415.
10 Group List Set	Group list set	Used to add/delete/change the receiver group list information of the unit, when editing the members of the group call list, use the ⏎ key to select the

		members of the group call contact, the background of the selected member turns black, the ⌐ key to deselect.
11 Encryption Set	Key 1-256	[Encryption Key Setting] is used to change the DMR voice encryption information of this unit.

05 Channel Set

Menu	Sub Menu	Function
01 CTC/DCS	Set TX/RX CTCSS/DCS	Press * to switch them
02 RX CTC/DCS	RX CTCSS/DCS	Press * to switch them
03 TX CTC/DCS	TX CTCSS/DCS	Press * to switch them
04 DCS Enrcypt	Standard,mute code,erypt1-3	Encrypt1-3 use to encrypt for standard DCS. Mute code to set the current channel as subtone.
05 Mute Code 1		Non-standard sub-tones of other radios as measured by the one-touch frequency measurement function.
06 Mute Code 2		
07 Mute Code 3		
08 Band Width	Wide, narrow	Set the channel bandwidth
09 Tail Tone	On off	Turn on off tail tone

10 Scrambler	Off 1-8	Set 1-8 groups of scrambler
11 Busy Lock	Off, carrier,ctc	Busy channel lockout
12 TX Power	High low	Set high/low output power
13 Scan Add	Add, remove	Add or remove to scan lists
14 TOT	Off, 5s-600s	Set the time out timer
15 CH Alias	Channel name	Edit the channel name
16 Offset Dir	+/-/0	Set offset direction
17Offset Freq	Offset freq	Set offset frequency

06 Zone Set

There are 256 zone for setting, You may edit each zone name and zone channels,

there are 1024 channel in each zone.

07 Message

Menu	Sub Menu	Function
01 New SMS	Edit message	Edit SMS message
02 Inbox	Store SMS	Store SMS
03 Outbox	Send SMS	Send SMS
04 Drafts	Edit SMS draft	Edit SMS draft
05 Default SMS	Preset SMS	Preset SMS
06 Clear All SMS	Delete all SMS	Delete all SMS

08 FM Radio

Menu	Sub Menu	Function

01 Work Mode	CH mode, frequency	Set working mode
02 RX Standby	On off	Turn of off radio when rx mode
03 Scan Mode	One station,all range	Set the search mode
04 Area	FM radio zone	Set 16 channels in each zone
05 Channel	FM radio channels	Set 16 FM radio channels

09 Time Manage

Menu	Sub Menu	Function
01 APO	On , off	Set auto power on/off
02 APO Timer	Power off timer	Set power off timer
03 System Time	System time	Adjust system time
04 Clock 1 Type	Off,once,every day	Set clock 1 type
05 Clock 1 Timer	Clock 1 timer	Set clock 1 timer
06 Clock 2 Type	Off,once,every day	Set clock 2 type
07 Clock 2 Timer	Clock 2 timer	Set clock 2 timer
08 Clock 3 Type	Off,once,every day	Set clock 3 type
09 Clock 3 Timer	Clock 3 timer	Set clock 3 timer
10 Clock 4 Type	Off,once,every day	Set clock 4 type
11 Clock 4 Timer	Clock 4 timer	Set clock 4 timer
12 Schedule	List 1-128	Set the schedule

Function Description

1. Frequency Input

   Press # to frequency(VFO) mode, Enter the frequency value through the numeric keypad and accumulate 8 digits to complete the input operation.

2. Repeater frequency input

   Go to menu Channel Setting to set differ direction and differ frequency

3. DMR voice encryption

   This machine provides three optional encryption methods of ARCIAES128/AES256. Please note that if two devices with voice encryption set need to talk, three conditions must be satisfied at the same time, ① the same encryption type; ② the same serial number of the encryption key; ③ the same key value of the encryption key.

4. Dialing call

   In digital channel, press ⌐ key into dial interface. Via ⌐ switch call type. Input call ID via keypad , and press PTT to send the call.