Radtel RT850 RigPix Database User Manual

Contents

Ratel RT850 Rigid Database

- **FOR USER**
- Do not charge the radio or battery in an explosive environment, such as gas, dust,smoke area etc. Please tum off the radio when nearby gas station. Do not disassemble or modify the radio.do not leave the realia under dusty or wet environment. It's very important for users to understand all instruction knowledge before using the radio, please obey the local legal rules.
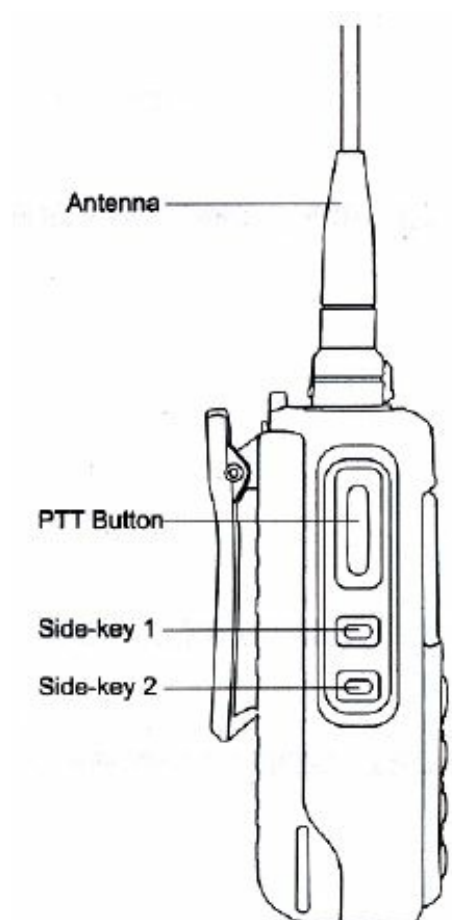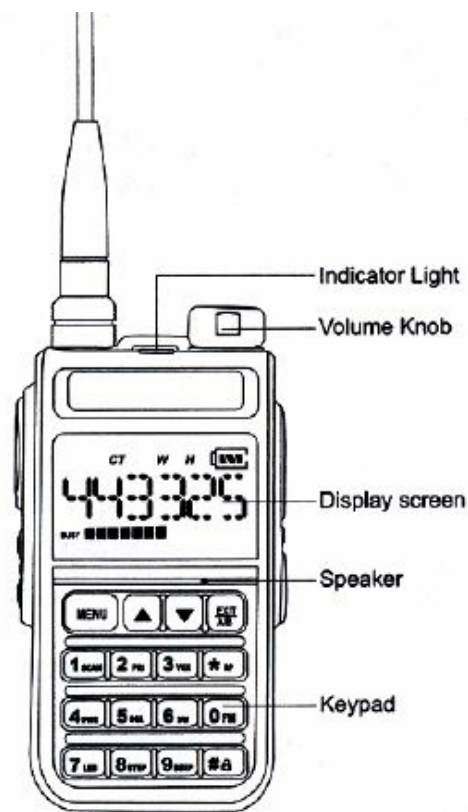- **PRODUCT CHECKING**
- Thanks for choosing our radio. Please unbox and check whether the following accessories are included and well-packed. If there's anything missing or damaging after unboxed, please contact your local distributor.

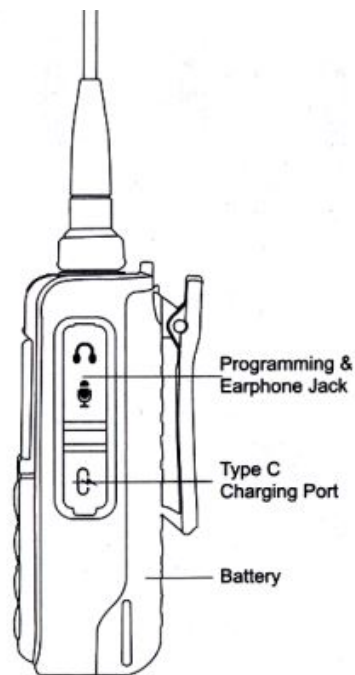| NO.	Item	QTY
1	Device	1
2	Antenna	1
3	Li-ion Battery	1
4	Charger	1
5	Belt Clip	1
6	User Manual	1
7	Guarantee Card	1

FAMILIAR WITH RADIO

1. MACHINE SCHEMATIC

LCD ICON DISPLAY

1. VOX

2. CTCSS

3. DCS

4. Wide Band

5. Narrow Band

6. High Power

7. Low Power

8. Battery Percentage

9. Frequency Mantissa

10. Offset Frequency Direction

11. FM

12. Signal Strength

13. Busy

14. Main LCD:Frequency Channel Menu

15. Keypad Lock

FUNCTION AND OPERATION

1. **TRANSMITTING SIGNAL**

   Press (PTT] key, the device will transmit signal at main standby channel. And indicator light turns Rudolf radio is in low power status, the signal strengtt_l lights 3 slices; if in high power status. The signal strength will fully lighted.

2. **RECEIVING SIGNAL**

   When the device receives same cress fret unci signal with current working. chin and the matches with each other turns s, on the at the g,na,cator same Hight time. turns The signal greensand strength the will BUSY adjust icon

3. **REPEATER MODE**

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

INPUT FREQUENCY

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

2. **TX FREQUENCY INPUT** When the radio is in frequency mode, short press # key, the screen displays +"-" icons, and the RX frequency. Now the radio is in the 1X frequency input mode, input the 6 digits of TX frequency to complete the setting. Press up and down key to switch the last 2 digits of frequency. Short press # key to switch back to RX frequency input mode. Please set up the different frequency repeater mode based on the instruction of list

3. **INPUT CHANNEL NUMBER** When the radio is in channel mode, channel NO.can be input manually and then switch to appointed channel,and press [MENU] to confim. If the input is less than 3 digits.t will add 0 to ful 3

digits and press (EXIT|to cancel the inputinfo.

4. **CTCSS/DCS AND MUT SETTING** In standby mode, press MENU key to enter menu list, $[\blacktriangle]$OR$[\blacktriangledown]$to choose CTCDCS"/ "RX CTC"/ TX CTC options. Press MENU] key to enter the sub-option CTCSS/DCS. CTCDCS" means same RX&TX CTCSS/DCS; "RX CTC" display CT con, When i is DCS setting, the screen icon; when it is DCS setting. the screen displays "DCS". In Standby mode, press MENU] key to enter menu list, and press $[\blacktriangle]$OR $[\blacktriangledown]$ choose. Cases w auto switrammi the program The set up by screen displays "CT' and "DCS" icon at the same time.

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

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

6. **FM RADIO** Long press 10 FM] key to turn on/off FM radio function. When FM function is activated, the screen displays "FM" icon. Use the keyboard to setup the FM frequency (64-108MHZ) when FM function is on. Long press LAT' or [VI to search the activated FM station, and press the key again to

7. **WIRELESS CLONING** Press side-key 1 to tumn on the radio then into transmit- ting-mode,and the display shows"SEND",red indicator light flashes. Press side-key2 to tum on the radio then into receiving-mode,and the display shows"-RECV", green light turns on.when it receives the signal from transmit- ting radio, the green light flashes. The radio in transmitting mode can clone all data of 128 channels to several receiving-mode radios, Once the receiving ends finish the clone, it will tum off and restart automatically, while the transmitting end should be tumed off manually.

SIDE-KEY FUNCTION

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

2. **LOCAL EMERGENCY ALARM** Set up the Side-key to Local Emergency Alarm, then press relative button, the alarm goes off.

3. **LONG-DISTANCE EMERG ENCY ALARM** Setup the Side-key Long-distance Alarm, then press relative button. The radio is in transmitting, status and transmit alarm signal via current standby channel. The speaker works and the alarm goes offered indicator light flashes.

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

5. **FREQUENCY DECODING** Pre-programmed the side key as Frequency decoding" function. When activated this function, the device will auto decode the frequency and privacy code nearby the using environment. When the decoded privacy code is CTCSS, then screen will display CT" icon after finished the decoding; When the decoded privacy code is DCS, then screen will display DCS" after finished the decoding. When the decoded privacy code is non-standard DCS, then "CT"& DCS" icon will be displayed on the screen. When decoding, press| PTT] to exit the decoding process. After decoded, press MENU] key to save the current cannel and cover the previous channel, press EXIT] key to cancel save and exit. The decoded CTCSS/DCS can be checked in CTCDCS" of menu list; the decoded non-standard DCS can be checked in MUT" of menu list, the exact code need to be checked when using the programming software.

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SHORTCUTS FUNCTION

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

2. **LONG PRESS KEY** [EXIT A/B]key: In frequency mode, long press this key to display the FREQ; In channel mode, long press this key to display the frequency settings and channel number. 【▲】【▼】:to fast switch frequencies, channels and menu. Under FM status, long-press this button to enter searching status. [* RP | long-press this button to turn on or off Frequency offset Mode. [#]:Long-press this button to lock down or unlock the keypads. [0 FM]:Long-press into FM receiving mode. [1 Scan]:Long-press to start or stop scanning. [2 PRI]:Long-press into [TX PRI] menu. [3 VOX]:Long-press this button to start or close VOX. [4 PWR]:Long-press this button to switch power from high to low. [5 SQL]:Long-press this button to [SQ]menu. [6 DW]:Long-press this button to open or close dual-band standby unction. LED]:Long-press this button to turn on/off display backlight. [8 STEP]:Long-press to [STEP] 9 BEEP]:Long-press to turn on/off Beep.

FUNCTION OF MENU KEY

1. **MODE** To show the mode from Frequency Mode to Channel Mode.
2. **VOICE** Jo close the reporting language or choose the language from Chinese to English.
3. **BEEP**. To turn on/off Beep.
4. **POWER SAVING** To set up battery saving percentage via MENU. The higher the percentage is, the better the saving performance .Once in the saving power mode,receiving delay will be longer.On the contrary, the power saving performance will be worse and the delav will be shorter.
5. **SQ LEVEL** To set up squelch level via MENU.The lower the squelch level, the easier to turn on receiving, but easier to be interfered by outside surroundings. Otherwise the more difficult to turn on receiving, the better the anti-interference performance is.
6. **DUAL-BAND STANDBY** To open or close dual-band standby function via MENU.
7. **STEP FREQUENCY** To set up step frequency via MENU
8. **SCREEN TIME** To set up the screen time via MENU. If don't do any operation to the radio within the screen time, the screen will close to save power automatically.
9. **LIGHTNESS OF SCREEN** To set up the lightness of screen from HIGH,MID and LOW
10. **BACKL IGHT** To set up the time of backlight. If don't do any operation to the radio, the backlight will turn off automatically.
11. **KEYPAD LOCK** To set up the time of keypad lock. If don't do any operation to the radio within the time, side-keys and keypad will be locked automatically.
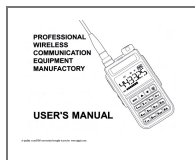
12. **FM STANDBY MODE** To tum on/off FM standby function. When turn on the FM standby, radio can receive standby signal, then receive- transmitting under FM mode

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

14. **TOT TOT** via MENU. When transmitting time exceeds Tot, ine radio win end the transmitting status automatically.

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

16. **VOX** To open or close VOX via MENU.

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

18. **VOX DEL AY** To set up the time of VOX delav via MENU

19. **BAND** To switchweed band or narrow band of main standby frequency.

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

21. **COMPANDING** To open or close the commanding via MENU

22. **SCR NO To** set up the SCR NO. via MENU.

23. **NOAA WEATHER CHANNEL** Ferate ine radio under this mode wins, if he don't will auto scan the 11 weather channels. Press (, 1][v] key to switch the NOAA channels. The NOAA channels as below

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

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

25. **MUTE MODE** To set up CDCs, if choose "23B"or "24B", it will be mute code and the original code will be failure.

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

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

28. **TX CTC** To set up transmitting CTCSS of main standby frequency band. Press * RP1 to change CTCSS type.

29. **PRIVACY CODE ENCODINGSS**S lone the Day to do the minion of sane regency with same DCS. When choose ENC2 or ENC3, it can prevent the setting decoding by other radios, but it will also delay the communication timing.

30. **BATTERY VOLTAGE** User can check out the battery voltage through the menu.

31. **INIT SETTING** User can initial the setting through the menu.

32. **VER CHECKING** User can check out the firmware version through the menu.

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

Documents / Resources

Radtel RT850 RigPix Database [pdf] User Manual
RT850 RigPix Database, RT850, RigPix Database, Database

References

- **User Manual**