# radtel

## DUAL BAND
PORTABLE TWO-WAY RADIO

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Web: www.radtel.com
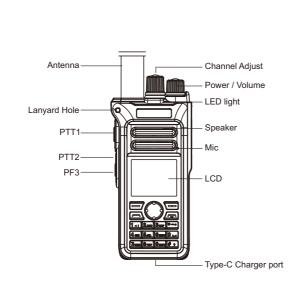Email: support@radtel.com

MADE IN CHINA

## USER'S MANUAL

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## CATALOGUE

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## Radio Buttons & Knobs

- Antenna
- Channel Adjust
- Power / Volume
- LED light
- Lanyard Hole
- Speaker
- PTT1
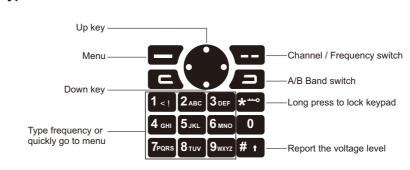- Mic
- PTT2
- PF3
- LCD
- Type-C Charger port

## Side button PF3 key

The PF3 button serves as a record playback function, which can be customized using PC software to include various features such as VOX, power adjustment, scanning, Roger beep, screen display, battery power monitoring, alarm settings, channel number selection, channel grouping, scrambler, record playback, sending 1750Hz tones, and dialing from a list.

- PTT1
- PTT2
- PF3

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## Keypad

- Up key
- Menu — Channel / Frequency switch
- Down key — A/B Band switch
- Long press to lock keypad
- Type frequency or quickly go to menu
- Report the voltage level

Direction Button：
UP/RIGHT: Press briefly to increase the frequency or change the channel; press and hold to quickly increment them.
DOWN/LEFT: Press briefly to decrease the frequency or change the channel; press and hold to quickly decrement them.

Long press this button for 2 seconds to lock the keypad. When setting menu 09/10 CTCSS, press the * button to toggle between CTCSS, DCS Normal, and DCS Invert.

Short press to check the voltage level,

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## The display effect of the LCD main interface is as follows:

| ICON | Description |
|---|---|
| CT | CTCSS sub-tone activated, Menu 9/10 |
| DT | DCS sub-tone activated, Menu 9/10 |
| + | Repeater shift (Positive), Setting in Menu 12/13 |
| – | Repeater shift (Negative), Setting in Menu 12/13 |
| A, B | The A band or B band |
| VFO | Show the current frequency in VFO/frequency mode |

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## The display effect of the LCD main interface is as follows:

| ICON | Description |
|---|---|
| 001-250 | Show the Channel mode |
| R | Reverse Frequency, Menu 14 |
| T | Talk around, transmit and receive frequency become same |
| W / N | When channel work in narrow band or wide band , Menu 04 |
| V | When VOX is activated, Menu 05 |
| S | When scrambler is activated, Menu 06 |
| C | When Compand is activated, Menu 08 |
| DP | Digital Serve is activated, Menu 31 |
| (battery) | Battery level shows |
| (lock) | Keypad locked, press * to unlock it |
| H | High power, Menu 03 |
| L | Low power, Menu 03 |
| FM | FM RADIO activated |
| (signal) | TX power |
| VOL | Sound pressure and RSSI indication, indicating the amplitude of transmitted audio when transmitting, and indicating signal strength when receiving |
| MAIN | Current main frequency band |

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## MENU FUNCTION
### List of menus

| NO. | Menu Second | Menu | Setting |
|---|---|---|---|
| 0 | Radio Name | The name of your radio | Radio Name can be programmed using PC software. Navigate to Digit Config-->User Name. After programming the user name, you must click on the "Radio ID" dialog box. |
| 1 | Device Info | Show model, Software Version and Program Times | It can be programmed using PC software. Navigate to Radio Information-->Model Number |
| 2 | Embedded Info | User | It can be programmed using PC software. Navigate to Radio Information-->Embedded Message 1/Embedded Message 2 |
| 3 | Power | High Power, Low Power | Choose between high transmit power and low transmit power. High power allows for a greater transmission distance, while low power conserves battery life. |
| 4 | Band Set | Narrow or Wide | Choose between wide band (25kHz bandwidth) and narrow band (12.5kHz bandwidth). |
| 5 | VOX | Open/Close | Turn on/off VOX handfree transmion function |
| 6 | VOX Level | OFF | None VOX |
| | | 1-10 | Activate the VOX function, level 1 is most sensitivity. When enable, it is not necessary to push the PTT button. |
| 7 | Scrambler | On, Off | Voice scrambler function on/off |
| 8 | Compand | On/off | Turn on/off voice compand |
| 9 | Dec-CTDCS | Decode CTCSS/DCS | 50 CTCSS and 105 DCS are available. Press the * button to switch between them. |
| 10 | Enc-CTDCS | Encode CTCSS/DCS | 50 CTCSS and 105 DCS are available. Press the * button to switch between them. |
| 11 | Step | 0.05/10/12.5/15/20/25/30/50/ 100/500Khz | In frequency mode, pressing the up and down keys allows you to adjust the frequency step size. |

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| NO. | Menu Second | Menu | Setting |
|---|---|---|---|
| 12 | Sft | None | Disable |
| | | + | TX will be shifted higher in frequency than RX. |
| | | - | TX will be shifted lower in frequency than |
| 13 | Offset Freq | On/off | Repeater offset refers to the frequency difference between transmission and reception. |
| 14 | Rev Freq | On/off | Reverse Frequency |
| 15 | Channel Save | | To store a frequency into a channel |
| 16 | Channel Del | Delete a stored channel | Delete a stored channel |
| 17 | Channel Name | OFF | Enable/Disable replacing channel numbers with channel names. |
| | | ON | |
| 18 | Scan | | Scan frequencies or channels. |
| 19 | Scan Add/Del | | Add or delete channels from the scan list. |
| 20/21 | Pf3 Short/Long | Close | No Function |
| | | Squelch off | On/off squelch |
| | | VOX | Turn on/off VOX |
| | | Adjust power | Switch High/Low Power |
| | | Scan | Scanning |
| | | Roger | Transmission End Tone |
| | | Screen Show | Turn on/off backlight |
| | | Bat Power | Report the battery level |

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| NO. | Menu Second | Menu | Setting |
|---|---|---|---|
| 20/21 | Pf3 Short/Long | Alarm | Sound Alarm voice |
| | | Channel No. | Report Channel Number |
| | | CH Group | Switch Main Channel |
| | | Switch | Main Channel |
| | | Scrambler | Turn on/off scrambler |
| | | Record Playback | Store record and playback |
| | | Send 1750Hz | Transmit 1750Hz repeater tone |
| | | Dial List | Dail list |
| 22 | Key Lock Mode | Manual, Auto | Manually or automatically lock the keypad |
| 23 | Quick Team T | | When a user initiates a team transmission on the walkie-talkie, and other users join the quick team receiving end, multiple walkie-talkie devices can be quickly synchronized to the same channel, greatly facilitating communication needs during group outings with multiple people. |
| 24 | Quick Team R | | |
| 25 | Gen.CH[PTT] | | Upon pressing the PTT button to power on, then enter into this menu. Subsequently, utilizing the quick grouping function, users can swiftly dispatch these channels to team members, thus fulfilling the communication needs of multi-person teams during outings and significantly enhancing communication efficiency. |
| 26 | Freq Measure | | This function searches for frequencies or tones from nearby radios, enabling them to communicate immediately. |
| 27 | Spec Measure | | This function searches for frequencies with a special sub tone from nearby radios, enabling them to communicate immediately. |

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| NO. | Menu Second | Menu | Setting |
|---|---|---|---|
| 28 | Signal Type | None,DTMF,2Tone/5Tone- | Select the signal type for single call,group call, all call |
| 29 | PTT ID Set | Close,BOT,EOT,BOTH | Show the PTT ID type at end of transmitting. |
| 30 | ANI | On/off | Show the ANI code. |
| 31 | Digit Serve | Close,Open | Utilizing digital service capabilities, it is possible to implement an alias display function for walkie-talkies, enabling the target walkie-talkie to display the name of the caller. |
| 32 | Call Sort | Single Call | Depending on the situation, one can select an appropriate calling mode. |
| | | Group Call | |
| | | All Call | |
| 33 | Member Sel | User1-User16 | Select the user to make a call |
| 34 | Group Sel | 0-9 | Select the groups to make a call |
| 35 | Radio | On, off | Turn on/off FM RADIO function |
| 36 | Vibration | On,off | Turn on/off Vibration |
| 37 | Beep | On/off | Turn on/off the keypad beep |
| 38 | Backlight | Open, Close, Auto | Set the backlight to always on, always off, or auto switch off. |
| 39 | Boot Screen | Picture, voltage,Information | Set the power on show picture, voltage or other information |
| 40 | Wait Light | On, off | Turn on/off the LED light during standby mode |
| 41 | Save Mode | Close/1:5 | Set the battery save ratio |
| 42 | CH Group | Group A/B | Set the main band when power on radio |

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| NO. | Menu Second | Menu | Setting |
|---|---|---|---|
| 43 | Work Mode A | VFO,CH+VFO,CH | Set the A band display mode when power on VFO=Frequency CH+VFO=Channel+Frequency CH=Channel mode |
| 44 | Work Mode B | VFO,CH+VFO,CH | Set the B band display mode when power on VFO=Frequency CH+VFO=Channel+Frequency CH=Channel mode |
| 45 | Pri Tx Ch | Auto,Close,A,B | Set the priority transmitting channel |
| 46 | TOT | Off/15-270s | Set the Time out timer |
| 47 | SQL | 0-9 | Set the squelch level |
| 48 | Power On Tone | Off, Tone1-Tone7 | Set the ring tone when power on radio |
| 49 | Roger | OFF/ON | Set a roger tone at end of transmitting |
| 50 | Voice Sort | Close,English,Chinese | Set the voice annunciation language |
| 51 | Double Work | Dual standby on/off | Turn on/off dual standby mode |
| 52 | Call Line | Close/1-10 | Set the call tone |
| 53 | Display Type | Night Mode, Daytime Mode | Set the LCD Night Mode or Daytime Mode |
| 54 | Reset | Config Reset,Clear Channel, Factory Preset | Set the Reset type |

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## Menu function operation instructions:

1) Press the [menu] key and use the UP/DOWN key or channel selector to select the menu you want to enter;
2) Press the [menu] key again to enter the menu;
3) Use the UP/DOWN key or channel selector to select menu options;
4) Press the [menu] key to confirm and return to the main menu;
5) Press to exit the menu and return to normal operation mode.

## Other function descriptions and settings
**Channel mode and frequency mode switch**
Press button to switch between Channel Mode, Channel+Frequency Mode or Frequency mode

**Main Band switch**
Short Press to switch Main Band (A band or B band)

**AM Air band mode**
Press button to switch to VFO mode, direcly input the air band frequency between 108Mhz and 136Mhz, the radio automatically enters the AM reception mode. This mode is mainly used to receive AM modulated signals.

**Scan mode (Menu 18)**
Press Menu button and enter 18 on the keypad it go to scan function fastly and press button again to confirm the scanning.

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## Commercial FM Radio Broadcast Reception functions (Menu 35)
Press Menu button and input 35 by keypad fastly go to FM RADIO function and set it Open until LCD display FM Icon, You may press UP/Down button to search channels and press button to exit FM RADIO function

## Frequency Measure function/Copy frequency (Menu 26 or 27)
This function allows you to search for the frequency and sub-tones of nearby radios, enabling immediate communication.
To use it, press the Menu button and enter 26 on the keypad, then confirm. The LCD will display "Measuring…" and the LED will flash green. Now, press the PTT button on another nearby radio (ideally within 30cm). The radio will capture the frequency, store it in the current channel, and you can start communicating immediately.
You can press the UP/DOWN button to proceed to the next channel for frequency measurement.

## Record and playback
PF3 button programmed as Record Playback by pc software. Short press this button to playback the voice from transmitting.

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## TECHNICAL SPECIFICAITON

### Genaral

| Frequency Range | European: 144-146Mhz / 430-440Mhz (TX/RX) USA: 144-148Mhz / 420-450Mhz (TX/RX) Canada: 144-148Mhz / 430-450Mhz (TX/RX) Other Country: 136-999Mhz |
|---|---|
| Store channels | 250 |
| Antenna | Dual Band U/V Antenna |
| Frequency Stability | ±1ppm |
| Dimension | 33*6*4.5cm (included antenna) |
| Weight: | 320g |
| Operating Temperature | -20 ℃-+60℃ |
| Antenna Impedance | 50Ω |

### Receiving

| | |
|---|---|
| Sensitivity: FM(12dB SINAD) | -121 dBm |
| WFM(20dB SINAD) | -110 dBm |
| AM (10dB S/N) | -113 dBm |
| Audio Frequency: | ≥0.5w |
| Audio Distortion: | ≤ 10% |

### Transmitting

| | |
|---|---|
| Output Power | ≤ 5w |
| Emission Current | ≤ 1.5A |
| Max Freq Deviation | ≤5Khz@25Khz/≤2.5Khz@12.5Khz |
| Modulation Distortion | ≤ 5% |
| Stray Power: | ≤ 7.5uW |
| Adjacent Ch Power | 70dB@25Khz/50dB at 12.5Khz |
| Residual Modulation | 40dB |

● All stated specifications are subject to change without notice or obligation.

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## SAFETY & GENERAL INFORMATION

### FCC WARNING

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.

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### Safety Information for Radios

Your wireless handheld portable transceiver contains a low power transmitter. When the talk button is pushed, it sends out radio frequency (RF) signals. The device is authorized to operate at a duty factor not to exceed 50%. In August 1996, the Federal Communications Commissions (FCC) adopted RF exposure guidelines with safety levels for handheld wireless devices.

### Important
FCC RF Exposure Requirements: For body-worn operation, this radio has been tested and meets the FCC RF exposure guidelines when used with accessories supplied or designated for this product. Use of other accessories may not ensure compliance with FCC RF exposure guidelines. Use only the supplied antenna. Unauthorized antennas, modifications or attachments could damage the transmitter and may violate FCC regulations.

### Normal Position
Hold the transmitter approximately 25 mm from your face and speak in a normal voice, with the antenna pointed up and away.

### ISEDC WARNING
This product meets the applicable Industry Canada technical specifications./Le present materiel est conforme aux spefifications techniques applicable d'Industrie Canada. This device complies with ISEDC license-exept RSS standard(s). Operation is subject to the following tow conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

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### ISEDC Radiation Exposure Statement
For body worn operation, this model device has been tested and meets the FCC/ISED RF exposure guidelines when used with an accessory designated for this product or when sued with an accessory that contains no metal and that positions of the face up minimum distance is 25mm.
Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
Pour le corps, ce modele d'appareil a ete teste et adapte a la RF renforcee Lignes directrices relatives a l'exposition lorsqu'elles sont utilisees avec un accessoire pour ce produit ou lorsqu'elles sont utilisees avec celui-ci Un acces-soire ne contenant pas de metal et don't la distance minimale de la face est de 25mm.
Tout changement oumodiycation non expressement approuve par la partie responsible de la conformite l'equipement.

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