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Radtel RT-470X

Radtel RT-470X Multi-Band Ham Radio Instruction Manual

Model: RT-470X | Brand: Radtel

1. INTRODUCTION

The Radtel RT-470X is a versatile multi-band handheld transceiver designed for amateur radio enthusiasts and general communication needs. It offers extensive frequency coverage, flexible programming options, and a range of innovative features for enhanced convenience and safety. This manual provides detailed instructions for setting up, operating, and maintaining your RT-470X radio.

Package Contents

- 1x Radtel RT-470X Ham Radio
- 1x 2800mAh Type-C Battery
- 1x 7.87-inch Dual Band 145/435 Antenna
- 1x 39-inch USB-C Charger Cable
- 1x Belt Clip with Metal Piece
- 1x English User Manual
- 1x AC Power Adapter with USB Port (FCC ID: 2AZSA-RT470X)

Standard Package



Figure 1: Radtel RT-470X Package Contents. This image displays the main radio unit, the 2800mAh Type-C battery, the dual-band antenna, a USB-C charging cable, a belt clip, and an AC power adapter.

2. SETUP

2.1 Battery and Antenna Installation

1. Ensure the radio is powered off.
2. Align the 2800mAh Type-C Battery with the battery compartment on the back of the radio and slide it into place until it clicks securely.
3. Screw the 7.87-inch Dual Band 145/435 Antenna clockwise onto the antenna connector at the top of the radio until it is finger-tight. Do not overtighten.

2.2 Charging the Battery

The RT-470X supports convenient USB-C charging. Use the provided USB-C Charger Cable and AC Power Adapter.

1. Connect the USB-C cable to the charging port on the radio (located on the side or bottom, depending on the

model variant).

2. Connect the other end of the USB-C cable to the AC Power Adapter.
3. Plug the AC Power Adapter into a standard wall outlet.
4. The charging indicator on the radio will illuminate, typically red, during charging and turn green when fully charged.

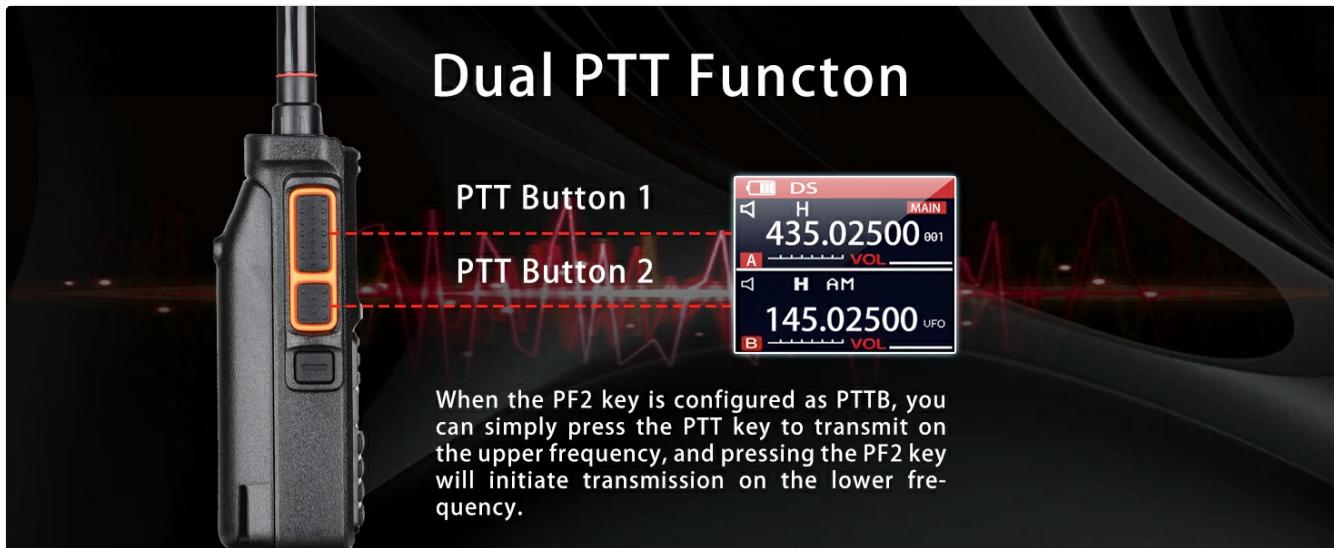


Figure 2: USB-C Charging. The image highlights the USB-C charging port on the radio, indicating its compatibility with various charging methods like car chargers and power banks.

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Video 1: Radtel RT-470X Radio Overview. This video provides a general overview of the Radtel RT-470X radio, showcasing its design and some key features, including the USB-C charging capability.

3. OPERATING INSTRUCTIONS

3.1 Power On/Off and Volume Control

- To power on the radio, rotate the top knob clockwise.
- To power off, rotate the knob counter-clockwise until it clicks.
- Adjust the volume by rotating the same knob.

3.2 Display and Interface

The RT-470X features a large 1.77-inch LCD screen for clear visibility of frequencies, channels, and settings.



Figure 3: Radtel RT-470X Display. The image shows the radio's 1.77-inch TFT color screen displaying two active frequency bands (UHF and VHF) and various status icons.

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Video 2: Radtel RT-470X Display Features. This video demonstrates the clarity and functionality of the RT-470X's display, showing how information is presented to the user.

3.3 Frequency and Channel Modes

The RT-470X supports both Frequency (VFO) mode for direct frequency input and Channel mode for pre-programmed channels.

- To switch between VFO and Channel mode, long-press the* (star) button. The display will indicate the current mode (UFO for VFO, or channel number).
- In VFO mode, directly input frequencies using the keypad.
- In Channel mode, use the up/down arrow keys to navigate through stored channels.

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Video 3: RT-470X Switch Band and Channel VFO Mode. This video guides users through the process of switching between VFO (Frequency) mode and Channel mode on the RT-470X, and how to input frequencies or select channels.

3.4 Storing a Channel

To store a frequency into a memory channel:

1. Ensure you are in VFO mode.
2. Input the desired frequency using the keypad.
3. Press the **MENU** button.
4. Navigate to the "MEMCH" (Memory Channel) option (usually Menu 2).
5. Press **MENU** again to select.
6. Use the up/down arrow keys to select an empty channel slot (or one you wish to overwrite).
7. Press **MENU** to confirm and save the frequency to the selected channel.

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Video 4: RT-470X How to Store a Channel. This video guides users through the process of saving a frequency to a memory channel on the RT-470X radio.

3.5 Frequency Coverage and Bands

The RT-470X offers broad frequency coverage for both transmitting and receiving:

- **Transmitting Bands:**

- 144-148 MHz (VHF Ham Radio Band)
- 420-450 MHz (UHF Ham Radio Band)

- **Receiving Bands:**

- 18-76 MHz (VHF Receiver, FM)
- 108-136 MHz (AM Receive, Aviation Air Band)
- 136-660 MHz (UHF/VHF Receiver)
- 840-999 MHz (UHF Receiver)
- FM Broadcast (66-108 MHz RX)

MULTI-BAND

Transmitting & Receiving



108-136 Mhz RX



66-108 Mhz RX



18-107 Mhz RX
136-174 Mhz TX/RX
220-260 Mhz TX/RX
174-350 Mhz RX
350-400 Mhz RX



400-520 Mhz TX/ RX
470-629 Mhz RX
840-999 Mhz RX

Figure 4: Multi-Band Capabilities. This image illustrates the extensive frequency ranges supported by the RT-470X for both transmission and reception across various bands.

RT-470X

Receive Air Signal Clearly



Receive 108-136Mhz frequency
But can't transmit it.

Figure 5: Air Band Reception. The radio can clearly receive 108-136MHz frequencies, which is the aviation air band, though it cannot transmit on these frequencies.

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Video 5: Radtel RT-470X Radio Features. This video highlights various features of the RT-470X, including its multi-band capabilities and air band reception.

3.6 Wireless Frequency Copy

This feature allows the RT-470X to quickly copy frequencies and CTCSS/DCS tones from other radios, enabling immediate communication without manual programming. This is especially useful for non-LCD models, provided they are within a 1-meter distance.

wireless copy frequency

Quickly Seek the frequency and Ctcss



Figure 6: Wireless Frequency Copy. The image demonstrates the radio's ability to quickly seek and copy frequencies and CTCSS/DCS tones from another radio.

3.7 Dual PTT Button

The RT-470X can be programmed for dual PTT (Push-To-Talk) transmission. PTT1 transmits on the UHF frequency in Band 1, and PTT2 transmits on the VHF frequency in Band 2. This allows for convenient operation without needing to switch the main band.

3.8 NOAA Weather Alerts

The radio can receive NOAA weather alerts, providing timely forecasts for severe weather conditions, which is particularly useful for outdoor activities.



Figure 7: NOAA Weather Alerts. The radio displays a weather alert, emphasizing its utility for outdoor enthusiasts to stay informed about severe weather.

3.9 Built-in Flashlight

The RT-470X includes a built-in flashlight function, useful for dark conditions such as camping or basements.

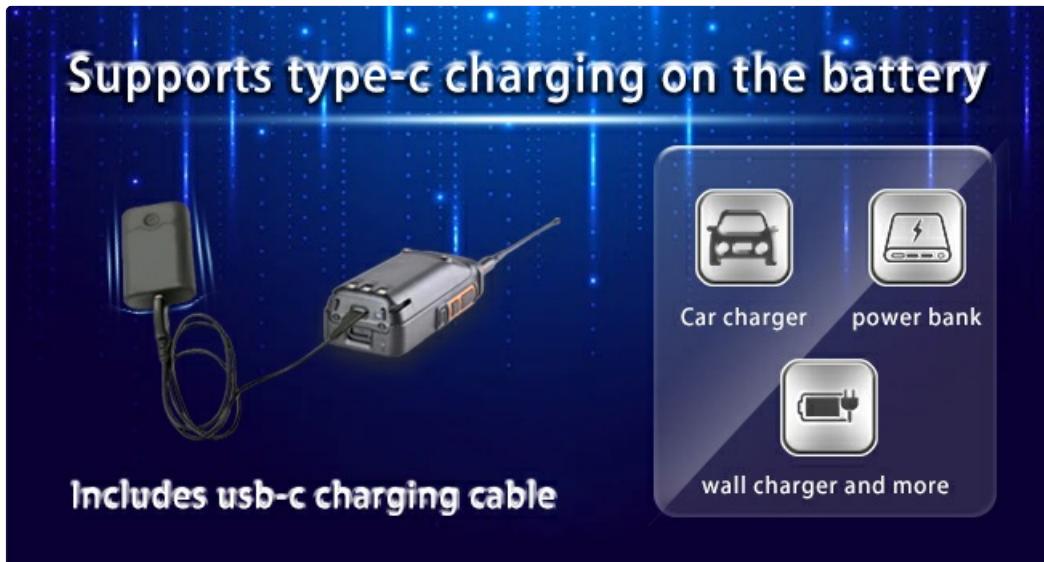


Figure 8: Strong Flashlight. The image shows the radio's flashlight in use during a camping trip, highlighting its effectiveness in dark environments.

4. PROGRAMMING OPTIONS

The RT-470X offers flexible programming methods:

- **Keypad Programming:** Direct input of frequencies and settings via the radio's keypad.
- **CHIRP Software Programming:** Compatible with CHIRP software for computer-based programming.
- **CPS Software Programming:** Supports CPS software for advanced customization.



Figure 9: Three Programming Modes. This image illustrates the three available programming methods: CPS programming, CHIRP programming, and Keypad programming.

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Video 6: Radtel RT-470X Function Overview. This video provides a quick look at various functions of the radio, including its programming capabilities.

5. MAINTENANCE

5.1 Cleaning

Regularly clean the radio's exterior with a soft, damp cloth. Avoid using harsh chemicals or abrasive cleaners. Ensure the charging port and other connectors are free of dust and debris.

5.2 Battery Care

- Charge the battery fully before first use.
- Avoid overcharging or completely draining the battery to prolong its lifespan.
- Store the radio and battery in a cool, dry place when not in use for extended periods.

5.3 Firmware Updates

Firmware updates may be released to add new features or improve performance. Refer to the official Radtel website or support channels for information on available updates and instructions for installation.



Figure 10: Updatable Firmware. The radio's firmware can be updated to enhance features and performance, typically via a computer connection.

6. TROUBLESHOOTING

Problem	Possible Cause	Solution
Radio does not power on.	Battery is low or not installed correctly.	Charge the battery or re-install it securely.
No signal reception.	Antenna not connected, out of range, or incorrect frequency/channel.	Ensure antenna is connected. Check frequency/channel. Move closer to transmitting station.
Poor audio quality.	Low volume, weak signal, or interference.	Adjust volume. Check signal strength. Move away from sources of interference.
Cannot transmit.	Incorrect frequency, low battery, or PTT button issue.	Verify frequency is within transmit range. Charge battery. Check PTT button functionality.

For more detailed troubleshooting, please refer to the comprehensive user manual included in your package or contact Radtel support.

7. SPECIFICATIONS

Feature	Specification
Model Number	RT-470X
Item Weight	15.8 ounces
Product Dimensions	1.57 x 2.28 x 4.6 inches
Batteries	1 Lithium Ion battery required (included)
Number of Channels	256
Frequency Range	TX: 144-148MHz / 420-450MHz; RX: 18-660MHz, 840-999MHz (including FM/AM)
Talking Range Maximum	5 Kilometer
Tuner Technology	FM/AM
Voltage	7.4 Volts
Water Resistance Level	Not Water Resistant
Special Features	Wireless Copy frequency, Chirp Programming, Type-C Charger, Multi-band TX/RX, Air band RX

8. WARRANTY AND SUPPORT

8.1 Warranty Information

The Radtel RT-470X comes with a **1 Year Warranty** from the date of purchase. Please retain your proof of purchase for warranty claims.

8.2 Customer Support

For any questions, technical assistance, or warranty inquiries, please visit the official Radtel Store on Amazon or contact their customer service directly.

Radtel Store: [Visit the Radtel Store](#)

