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BAOFENG UV-21R

BAOFENG UV-21R Ham Radio Instruction Manual

Model: UV-21R

1. Introduction

The BAOFENG UV-21R is a versatile handheld two-way radio designed for long-range communication. It features a robust design, multiple frequency bands, and advanced functions such as NOAA weather reception, wireless frequency copy, and VOX. This manual provides detailed instructions for setting up, operating, and maintaining your UV-21R radio to ensure optimal performance and longevity.



Image: The BAOFENG UV-21R radio displayed with its full set of accessories, including two antennas, battery, charger, Type-C charging cable, belt clip, lanyard, and screwdriver.

2. What's in the Box

- 1 x Radio Body
- 1 x Battery
- 1 x 21CM Antenna
- 1 x 39CM Antenna
- 1 x Belt Clip
- 1 x Type-C Charging Cable
- 1 x US Plug
- 1 x Lanyard
- 1 x Manual
- 1 x Screwdriver

3. Setup

3.1. Battery Installation and Charging

Before first use, fully charge the radio's battery. The UV-21R supports two charging methods: Type-C direct charging and base charger charging.



Image: Illustration of the two available charging methods: direct Type-C USB charging and charging via the included desktop base charger. The Type-C port is located on the back of the battery.

1. **Install the Battery:** Align the battery with the back of the radio and slide it into place until it clicks securely.
2. **Type-C Charging:** Connect the provided Type-C USB cable to the port on the back of the battery and plug the other end into a compatible USB power source (e.g., car charger, power bank, laptop). The charging indicator will illuminate.
3. **Base Charger Charging:** Assemble the base charger by inserting the US plug. Place the radio into the charging cradle. Ensure the radio is properly seated for charging to begin. The charging indicator on the base will show charging status.

Video: This video illustrates the process of charging the BAOFENG UV-21R radio using both the Type-C USB port and the desktop charging cradle, showing the battery indicator filling up.

3.2. Antenna Installation

Screw the desired antenna (21CM or 39CM high-gain) clockwise onto the antenna connector at the top of the radio until it is finger-tight. Do not overtighten.



Image: A visual comparison between the standard antenna and the longer 39CM high-gain antenna, emphasizing how the latter improves communication range and signal strength.

3.3. Programming Cable Connection

To program the radio using CHIRP software, connect the programming cable to the 2-pin K MIC/Earpiece port on the side of the radio and the USB end to your computer.



Image: A detailed diagram labeling the various external components and ports of the BAOFENG UV-21R, such as the PTT key, menu key, speaker, flashlight key, emergency alert key, headset jack, and Type-C charging port.

Video: This video provides a step-by-step guide on how to program the BAOFENG UV-21R radio using CHIRP software, including connecting the programming cable and navigating the software interface.

4. Operating Instructions

4.1. Power On/Off and Volume

To power on the radio, rotate the Power/Volume switch clockwise. Continue rotating to adjust the volume. To power off, rotate counter-clockwise until it clicks.

4.2. Wireless Frequency Copy

The UV-21R allows for easy wireless frequency copying from another radio without computer programming.



Image: A visual guide demonstrating the "2 Seconds Copy Frequency" feature, showing how to quickly transfer frequency settings from one radio to another wirelessly.

1. Power on your UV-21R radio.
2. Press the '2' key on the keypad to enter the frequency search mode. The display will show 'SEEK'.
3. Place the transmitting radio near your UV-21R and transmit a signal. The UV-21R will automatically detect and display the frequency.
4. Press 'MENU' to confirm and save the frequency.
5. Switch to channel mode to begin communicating on the copied frequency.

Video: This video highlights the multi-band capabilities of the BAOFENG UV-21R, its ham radio functionality, NOAA weather receiver, and demonstrates the wireless frequency copy feature.

4.3. Channel Management (999 Channels, CTCSS/DCS)

The UV-21R supports up to 999 channels and includes 50 CTCSS tones and 210 DCS codes for private calls and interference reduction. Refer to the detailed manual for programming specific channels and tones.



Image: A close-up of the BAOFENG UV-21R's display, showing indicators for CTCSS/DCS and the capacity for 999 channels, emphasizing privacy and reduced interference.

4.4. VOX Function (Voice Operated Transmit)

Activate the VOX function to enable voice-activated transmission, allowing for hands-free operation. This is particularly useful when your hands are occupied.

4.5. FM Radio Function

The radio includes an FM radio function, allowing you to listen to local radio broadcasts for entertainment or information during downtime.

4.6. NOAA Weather Receive

Stay informed about severe weather conditions with the built-in NOAA Weather Receiver. This feature provides timely weather alerts and forecasts.



Image: The BAOFENG UV-21R displaying weather information, with a graphic indicating 10 NOAA Weather Stations and a warning about an approaching hurricane, highlighting its weather alert capabilities.



Image: The BAOFENG UV-21R radio with lightning effects, symbolizing its NOAA weather function, which helps users get weather information ahead of time to avoid hazards.

4.7. Flashlight Function

The radio is equipped with an LED flashlight for convenience in low-light environments.

5. Maintenance

- **Cleaning:** Use a soft, damp cloth to clean the radio's exterior. Do not use harsh chemicals or abrasive cleaners.
- **Battery Care:** To prolong battery life, avoid fully discharging the battery frequently. Store the radio and battery in a cool, dry place when not in use for extended periods.
- **Antenna Care:** Handle the antenna carefully to prevent bending or damage. Ensure it is securely attached during use.
- **Water Resistance:** The radio has an IP54 water-resistant rating, meaning it is protected against dust and splashing water. It is not designed for submersion.

6. Troubleshooting

Problem	Possible Cause	Solution
Radio does not power on.	Low or dead battery.	Charge the battery fully.
Cannot transmit or receive.	Incorrect frequency/channel, antenna not connected, out of range.	Verify frequency/channel settings. Ensure antenna is securely attached. Move closer to the other radio or repeater.
Poor audio quality.	Low signal strength, interference, damaged speaker/microphone.	Check signal strength. Move away from sources of interference. Contact support if hardware is damaged.
Wireless frequency copy fails.	Transmitting radio too far, weak signal, incorrect mode.	Ensure radios are close. Verify the transmitting radio is active.

7. Specifications

Feature	Specification
Model	UV-21R
Brand	BAOFENG
Color	Gray
Number of Channels	999
Frequency Range	VHF UHF
Talking Range Maximum	5 Miles
Battery	1 Lithium Ion (included)
Voltage	3.7 Volts
Water Resistance Level	Water Resistant (IP54)
Item Weight	1.39 pounds
Package Dimensions	8.07 x 4.96 x 4.41 inches

Feature	Specification
FCC Certification	FCC ID: 2AJGM-UV21
Chirp Software Support	Compatible (UV-17Pro settings)

8. Warranty and Support

Warranty: The product specifications indicate "NO" for warranty information. Please refer to your purchase documentation or contact the seller directly for any applicable warranty details.
Support: For further assistance, technical support, or inquiries not covered in this manual, please contact the manufacturer BAOFENG or your authorized reseller. Ensure you have your product model (UV-21R) and purchase details available when seeking support.

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