RADIOMASTER R81 V2

Radiomaster R81 V2 8ch Compatible Nano Receiver User Manual

Model: R81 V2

Introduction

This manual provides comprehensive instructions for the setup, operation, and maintenance of your Radiomaster R81 V2 8ch Compatible Nano Receiver. Designed for compact applications, this receiver offers reliable performance with D8, D16, and SFHSS compatibility, providing an SBUS output for seamless integration into your RC systems.

Please read this manual thoroughly before using the receiver to ensure safe and optimal performance. For the most up-to-date information and usage instructions, always refer to the official Radiomaster website.

Safety Information

Your safety and the safety of others are paramount. Always follow these guidelines:

- Always refer to the instruction manual before use.
- Ensure proper power input (4.5-6V) to prevent damage to the receiver.
- Verify correct wiring and connections before powering on your RC system.
- Operate RC models in open areas, away from people, vehicles, and obstacles.
- Regularly inspect the receiver and antenna for any signs of damage.
- Do not attempt to modify the receiver, as this may void the warranty and compromise safety.

What's in the Box

Upon opening your package, you should find the following components:

- 1 * R81 V2 Receiver

Image: The Radiomaster R81 V2 receiver packaged for retail, showing the compact size and included components.

Image: The R81 V2 receiver shown alongside a typical connection cable, illustrating its small form factor and the type of connector used.

Specifications

The Radiomaster R81 V2 receiver boasts the following technical specifications:

Feature	Detail
Type	R81 - D8 Nano Sbus Receiver
Channels	8
Frequency Range	2400-2483.5Mhz
Power Input Range	4.5-6V
Signal Format Compatibility	D8, D16, SFHSS Compatible (Note: Does not support Frsky transmitter, only for MPM radio.)
Output Format	SBUS
RSSI Output	RSSI on Ch9 of Sbus Output
Range	More than 1km
Antenna Length	Approximately 6cm
Size	17x11mm
Weight	2 grams
Product Dimensions	3 x 2 x 1 inches (packaging)
Item Weight	0.64 ounces (packaging)

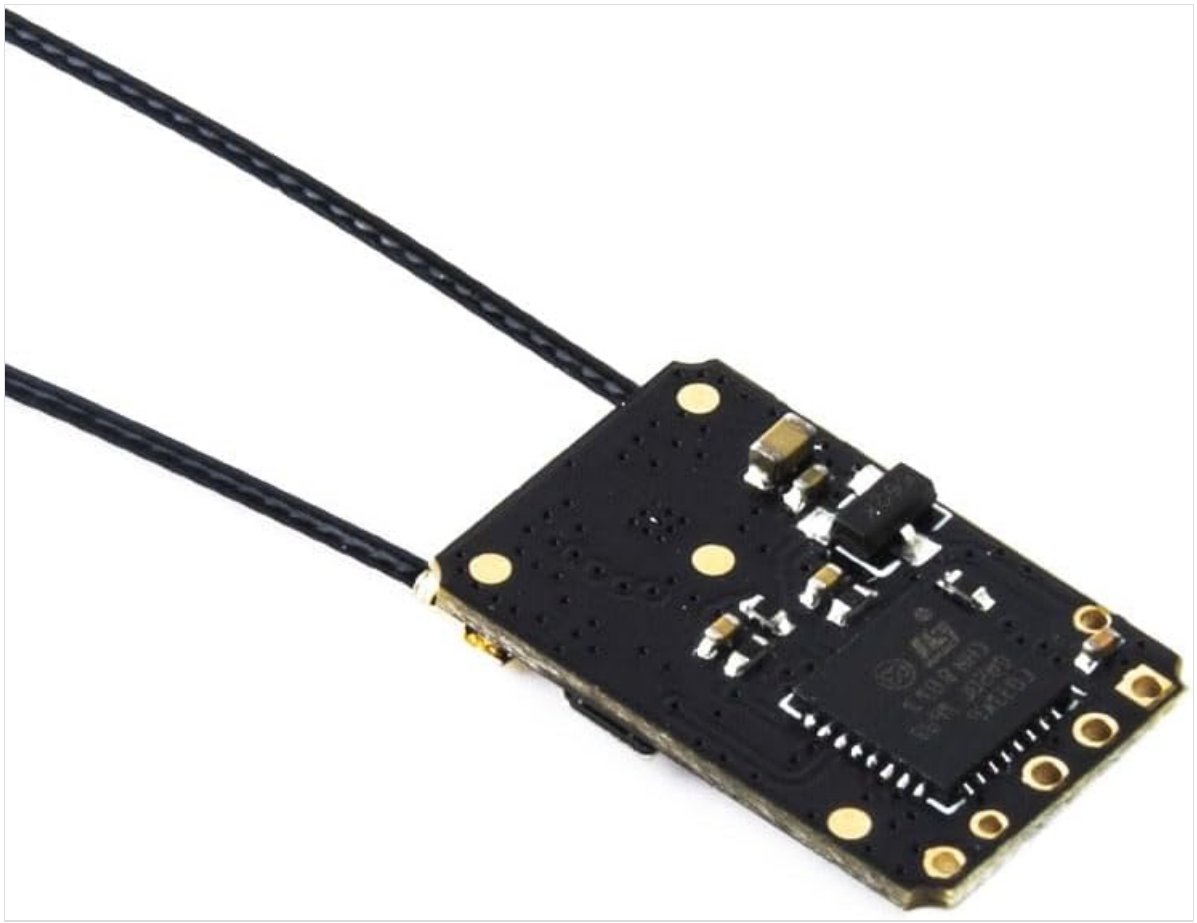

Image: A detailed top-down view of the Radiomaster R81 V2 receiver, highlighting its compact design and antenna connections.

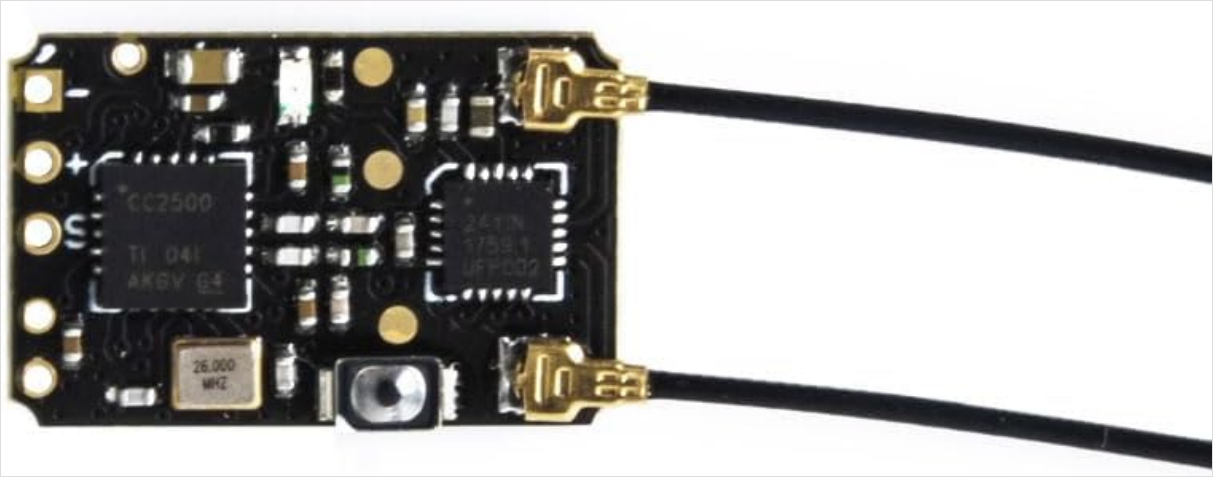

Image: An angled perspective of the R81 V2 receiver's circuit board, showing the integrated components and solder pads.

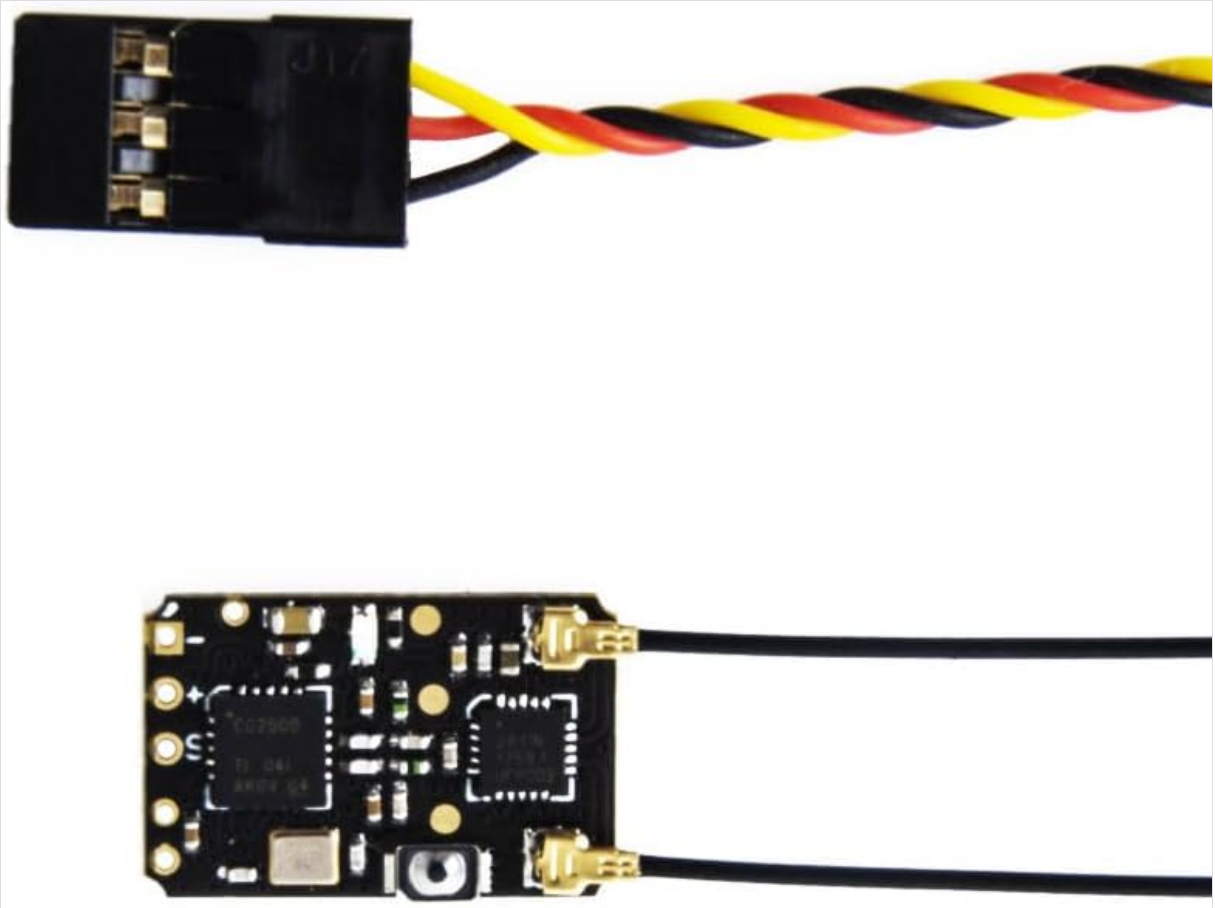

Image: The underside of the Radiomaster R81 V2 receiver, revealing additional circuitry and connection points.

Setup

Follow these steps to set up your Radiomaster R81 V2 receiver:

1. **Mounting:** Choose a suitable location in your RC model for the receiver. Ensure it is away from high-current wires, motors, and other sources of electrical interference. Use double-sided foam tape or a similar method to secure the receiver firmly.
2. **Antenna Placement:** The R81 V2 features two antennas. For optimal range and signal reception, position the antennas at a 90-degree angle to each other, ensuring they are not shielded by carbon fiber or metal parts of your model. Keep the antenna tips clear of obstructions.
3. **Wiring:** Connect the receiver to your flight controller or servo distribution board using the appropriate

SBUS connection. Ensure the polarity is correct (typically signal, positive, negative). The receiver operates on a 4.5-6V power input.

4. **Initial Power-Up:** Before binding, ensure your transmitter is off or in binding mode as per its manual. Power on your RC model to supply power to the receiver.

Operating Instructions

Binding the Receiver

The R81 V2 receiver is compatible with D8, D16, and SFHSS protocols. It is designed for use with MPM (Multi-Protocol Module) radios and does not support direct binding with Frsky transmitters. Follow your MPM radio's instructions for binding.

1. **Enter Binding Mode on Receiver:** With the receiver powered off, press and hold the bind button (usually a small tactile switch on the board). While holding the button, apply power to the receiver. The LED on the receiver should start flashing rapidly, indicating it is in binding mode.
2. **Enter Binding Mode on Transmitter:** On your MPM-equipped radio, select the desired protocol (D8, D16, or SFHSS) and initiate the binding process as per your radio's manual. Ensure the radio is set to the correct mode (e.g., D8 mode for D8 receivers).
3. **Confirm Binding:** Once the binding process is successful, the LED on the receiver should turn solid, indicating a successful connection. If the LED continues to flash, repeat the binding process.
4. **Test Controls:** After successful binding, power cycle both the transmitter and receiver. Test all control surfaces and functions to ensure proper operation before flight.

RSSI Output

The R81 V2 provides RSSI (Received Signal Strength Indication) on Channel 9 of its SBUS output. This allows you to monitor signal quality through your flight controller or OSD (On-Screen Display) if configured to read RSSI from SBUS channel 9.

Maintenance

Proper maintenance ensures the longevity and reliability of your R81 V2 receiver:

- **Keep Clean:** Regularly inspect the receiver for dust, dirt, or debris. Use a soft brush or compressed air to gently clean the board. Avoid using liquids.
- **Protect from Elements:** While compact, the receiver is not waterproof. Protect it from moisture, extreme temperatures, and direct sunlight. Consider using heat shrink or a protective case in damp or dusty environments.
- **Inspect Wiring:** Periodically check all wiring connections for fraying, loose pins, or corrosion. Secure any loose wires.
- **Antenna Care:** Ensure antennas are not kinked, cut, or damaged. Damaged antennas can significantly reduce range and signal quality.

Troubleshooting

If you encounter issues with your R81 V2 receiver, consider the following common problems and solutions:

- **Receiver Not Binding:**
    - Ensure your transmitter is an MPM radio and not a direct Frsky transmitter.

- Verify the correct protocol (D8, D16, or SFHSS) is selected on your transmitter.
- Confirm the receiver is correctly in binding mode (rapidly flashing LED).
- Move the transmitter closer to the receiver during the binding process.
- Check power supply to the receiver (4.5-6V).

- **Loss of Signal/Range Issues:**
  - Check antenna placement; ensure they are at 90 degrees and not obstructed.
  - Inspect antennas for damage (cuts, kinks).
  - Ensure no significant electrical interference near the receiver (e.g., ESCs, motors).
  - Verify the transmitter's RF power setting is appropriate.

- **No Output from SBUS:**
  - Confirm the receiver is successfully bound (solid LED).
  - Check SBUS wiring polarity and connection to the flight controller.
  - Ensure the flight controller is configured to receive SBUS input.

If problems persist, consult the official Radiomaster website for updated firmware or support resources.

Warranty and Support

Radiomaster products are manufactured to high standards. For specific warranty terms and conditions, please refer to the official Radiomaster website or contact your point of purchase. Keep your proof of purchase for warranty claims.

For technical support, troubleshooting guides, and the latest firmware updates, please visit the official Radiomaster support page. Online resources often provide the most current information and community forums for assistance.

Official Website: www.radiomasterrc.com