

RADIOMASTER ER5C-i

RadioMaster ER5C-i 5ch ExpressLRS 2.4GHZ PWM Receiver

Instruction Manual

Model: ER5C-i | Brand: RADIOMASTER

1. INTRODUCTION

The RadioMaster ER5C-i receiver is engineered for high-performance remote control applications, leveraging the advanced ExpressLRS system. It offers exceptional reliability, flexible configuration options, rapid response times, and an extended receiving range, enhancing the user experience for various surface models.

Key features include:

- Integrated high-sensitivity ceramic antenna for clean installations.
- Support for 5 PWM channels.
- Automatic detection of external battery voltage or receiver battery/ESC BEC voltage telemetry.
- Optimized PCB design.
- Wi-Fi updates and WEBUI configuration capabilities.
- Built-in TCXO (temperature compensated crystal oscillator) for stable and accurate performance across environments.
- Compatibility with all 2.4GHz ExpressLRS modules and transmitters.

2. SAFETY INFORMATION

Important: Please refer to this instruction manual before using the ER5C-i receiver. Improper use can lead to damage to the device or other components. Always ensure correct polarity when connecting power. This product is recommended for users 18 years and up due to the technical nature of its application in remote-controlled systems.

3. PACKAGE CONTENTS

Verify that all items are present in the package:

- 1 x ER5C-i 2.4GHz ELRS PWM Receiver
- 1 x Voltage telemetry wire

- 1 x User Card



Image: The ER5C-i receiver shown alongside its included voltage telemetry wire.



Image: The ER5C-i receiver and accessories as they appear in their retail packaging.

4. PRODUCT OVERVIEW

The ER5C-i receiver features a compact design with clearly labeled PWM output channels and a dedicated boot button for firmware updates. The integrated ceramic antenna is internal, eliminating external wires for a cleaner installation.



Image: Top view of the ER5C-i receiver, highlighting the five PWM output channels (CH1-CH5), the boot button, and the EXT-V port.



Image: A detailed front view of the ER5C-i receiver, showing the arrangement of the PWM pins and the EXT-V port for external voltage telemetry.

5. SETUP

5.1. Initial Connection and Power

1. Connect the receiver to your model's ESC (Electronic Speed Controller) or a dedicated receiver power supply. The receiver operates on DC 4.5 - 8.4V.
2. Ensure correct polarity (+ and -) when connecting power to avoid damage.

5.2. Binding Process (ExpressLRS)

The ER5C-i comes with ExpressLRS 3.3.0 pre-installed. To bind the receiver to your ExpressLRS compatible transmitter:

1. Power on the receiver. The LED indicator will typically flash slowly, indicating it is not bound.
2. On your ExpressLRS transmitter, navigate to the ELRS LUA script or binding menu.
3. Initiate the binding process on the transmitter. The receiver's LED should change to a solid light, indicating a successful bind.
4. If binding fails, ensure your transmitter's ExpressLRS firmware version matches or is compatible with the receiver's firmware.

5.3. Connecting Servos and PWM Devices

The ER5C-i supports 5 PWM channels. Connect your servos, ESCs, or other PWM-controlled devices to the corresponding CH1-CH5 pins on the receiver. Ensure correct polarity for each connection.

5.4. Connecting Voltage Telemetry Wire

The included voltage telemetry wire allows for external battery voltage monitoring. Connect this wire to the 'EXT-V' port on the receiver and the other end to the positive (+) and negative (-) terminals of the battery you wish to monitor. The receiver automatically detects voltage telemetry from either the external battery or the receiver/ESC BEC voltage.

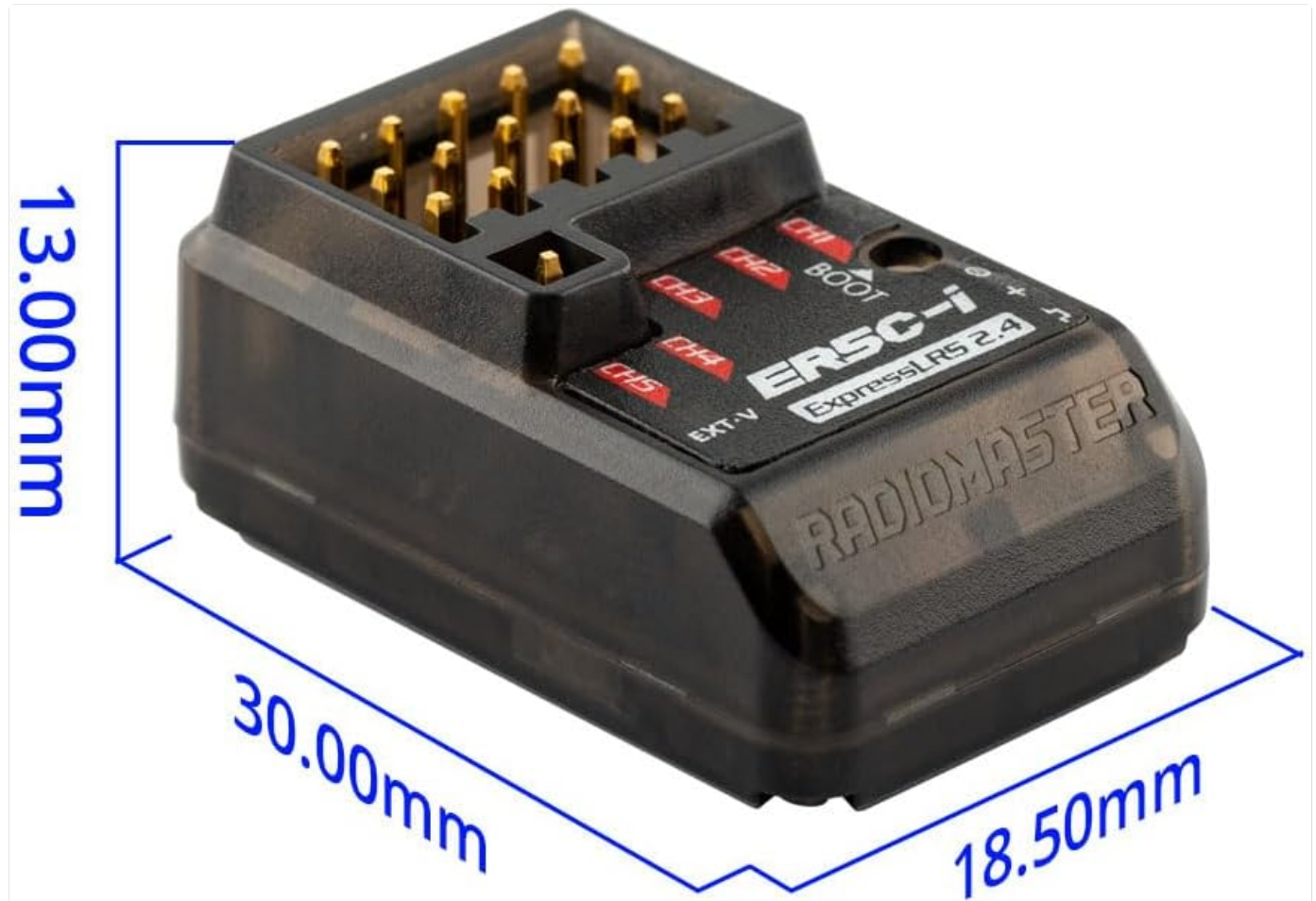


Image: The ER5C-i receiver demonstrating the connection of the voltage telemetry wire to the EXT-V port.

5.5. Firmware Updates and Configuration (Wi-Fi/WEBUI)

The ER5C-i supports Wi-Fi updates and WEBUI configuration. To update firmware or configure settings:

1. Power on the receiver.
2. Press and hold the 'BOOT' button for a few seconds until the receiver enters Wi-Fi mode (LED indication may change).
3. Connect your computer or mobile device to the Wi-Fi network broadcast by the receiver (SSID typically starts with 'ExpressLRS').
4. Open a web browser and navigate to <http://10.0.0.1> to access the ExpressLRS WEBUI.
5. From the WEBUI, you can flash new firmware or adjust receiver settings.

6. OPERATING THE RECEIVER

Once bound to your transmitter and connected to your model's components, the ER5C-i receiver will translate the control signals from your transmitter into PWM outputs for your servos and ESCs. The integrated telemetry function will transmit receiver voltage and external battery voltage (if connected) back to your compatible ExpressLRS transmitter, allowing for real-time monitoring.

- **PWM Output:** Channels CH1-CH5 provide standard PWM signals for controlling individual servos or ESCs.
- **Telemetry:** The receiver automatically sends voltage data. Monitor this data on your transmitter's display or through its

7. MAINTENANCE

To ensure the longevity and optimal performance of your ER5C-i receiver:

- Keep the receiver clean and free from dust, dirt, and moisture.
- Avoid exposing the receiver to extreme temperatures or direct sunlight for prolonged periods.
- Regularly inspect all wiring for signs of wear or damage.
- Ensure secure connections for all pins and wires to prevent intermittent signal loss.
- Store the receiver in a dry, cool place when not in use.

8. TROUBLESHOOTING

If you encounter issues with your ER5C-i receiver, consider the following:

- **No Signal/No Bind:**
 - Ensure both receiver and transmitter are powered on.
 - Verify that the ExpressLRS firmware versions on the receiver and transmitter are compatible.
 - Check that the binding procedure was followed correctly.
 - Confirm the transmitter's RF module is active and transmitting.
- **Intermittent Signal Loss:**
 - Check for physical obstructions or excessive distance between the transmitter and receiver.
 - Inspect all wiring connections for looseness or damage.
 - Ensure there are no strong sources of 2.4GHz interference nearby.
- **No Telemetry Data:**
 - Verify the telemetry wire is correctly connected to the EXT-V port and the battery.
 - Ensure your transmitter is configured to display ExpressLRS telemetry.
- **Receiver Not Entering Wi-Fi Mode:**
 - Ensure the 'BOOT' button is pressed and held for the correct duration after powering on.
 - Try a different power source.

9. SPECIFICATIONS

Feature	Specification
Item	ER5C-i 2.4GHz ELRS PWM Receiver
Power Supply	DC 4.5 - 8.4V
Antenna Type	Built-in high-sensitivity ceramic antenna
Wireless Protocol	ExpressLRS 3.3.0 pre-installed
Output Channel	5CH PWM

Telemetry Power	10mW
Battery Voltage Detection Range	DC 4.0 - 35V
Weight	5.0 grams (0.18 ounces)
Dimensions (L*W*H)	30.0 * 18.5 * 13.0 mm (1.18 x 0.73 x 0.51 inches)
Firmware Device Category	Radiomaster 2.4Ghz
Firmware Device	RadioMaster ER5C-i



Image: The ER5C-i receiver with its length (30.00mm), width (18.50mm), and height (13.00mm) clearly indicated.



Image: The ER5C-i receiver placed on a digital scale, displaying a weight of 4.80 grams.

10. SUPPORT

For further assistance, technical support, or to explore other products, please visit the official RADIOMASTER store or website.

RADIOMASTER Store: <https://www.amazon.com/stores/RADIOMASTER/page/679221A9-C18D-4AE7-BFD0-DBDC17E0CD97>

Refer to the user card included in the package for direct links to firmware updates and user manuals on the RadioMaster website.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question