**RADIOMASTER ER8GV**

# RadioMaster ER8GV 2.4GHz ELRS PWM Receiver User Manual

Model: ER8GV

## 1. Introduction

This manual provides comprehensive instructions for the setup, operation, and maintenance of the RadioMaster ER8GV 2.4GHz ELRS PWM Receiver. The ER8GV is designed for high-performance remote control applications, offering reliable communication and advanced features for fixed-wing aircraft and gliders.

## 2. Key Features

- Based on the revolutionary ExpressLRS System, ensuring high performance, reliability, and fast response.
- Supports 8 PWM Channels for versatile control.
- Optimized ground-up PCB design for efficient operation.
- Automatic voltage telemetry for external battery or built-in receiver voltage.
- Built-in high-precision air pressure sensor (Vario) for altitude monitoring.
- Supports Wi-Fi updates and WEBUI configuration for easy firmware management.
- Reserve 4-pin CRSF input port.
- High quality 2.54 mm connector.
- Standard 20 cm High Sensitivity Antenna for extended range.
- Dual-antenna design with telemetry power up to 100mW.

## 3. Technical Specifications

| Parameter | Value |
|---|---|
| Item | ER8GV 2.4GHz ELRS PWM Receiver |
| Power Supply | DC 3.5 - 8.4V |
| Antenna Type | 20cm high sensitivity antenna |

| | |
|---|---|
| Wireless Protocol | ExpressLRS 3.3.0 pre-installed |
| Output Channel | 8CH PWM |
| Telemetry Power | Maximum 100mw (LUA adjustable) |
| Built-in Sensor | High-precision air pressure sensor (Vario) |
| External Battery Voltage Detection Range | DC 4.0 - 35V |
| Weight | 12.0 grams |
| Dimensions | 60*13.5*13mm |
| Firmware Device Category | Radiomaster 2.4Ghz |
| Firmware Device | ER8G/ER8GV 2400 PWM RX |

## 4. Package Contents

Upon opening the package, verify that all the following items are included:

- 1 x ER8GV 2.4GHz ELRS PWM Receiver
- 2 x Heat-shrink tube
- 1 x Voltage telemetry wire (Type-A)
- 1 x CRSF wire
- 1 x ELRS-RX-SBUS wire
- 1 x User Card




*Image: Contents of the ER8GV package, including the receiver, heat-shrink tubing, and various wiring harnesses for telemetry and signal connections.*

## 5. Setup and Installation

### 5.1. Physical Installation

The ER8GV receiver is designed to be compact and slim, suitable for various aircraft types, especially gliders. Ensure proper ventilation and secure mounting within your model.




*Image: Top view of the ER8GV receiver, highlighting the PWM channel outputs and the external voltage input.*




*Image: Angled view of the ER8GV receiver, showing its compact form factor and branding.*




*Image: Bottom view of the ER8GV receiver, showing regulatory markings.*




*Image: Dimensions of the ER8GV receiver, indicating its length, width, and height.*




*Image: The ER8GV receiver on a scale, showing its weight. Note: The product specification states 12.0 grams, while the image shows 10.50 grams. Please refer to the specifications table for the official weight.*

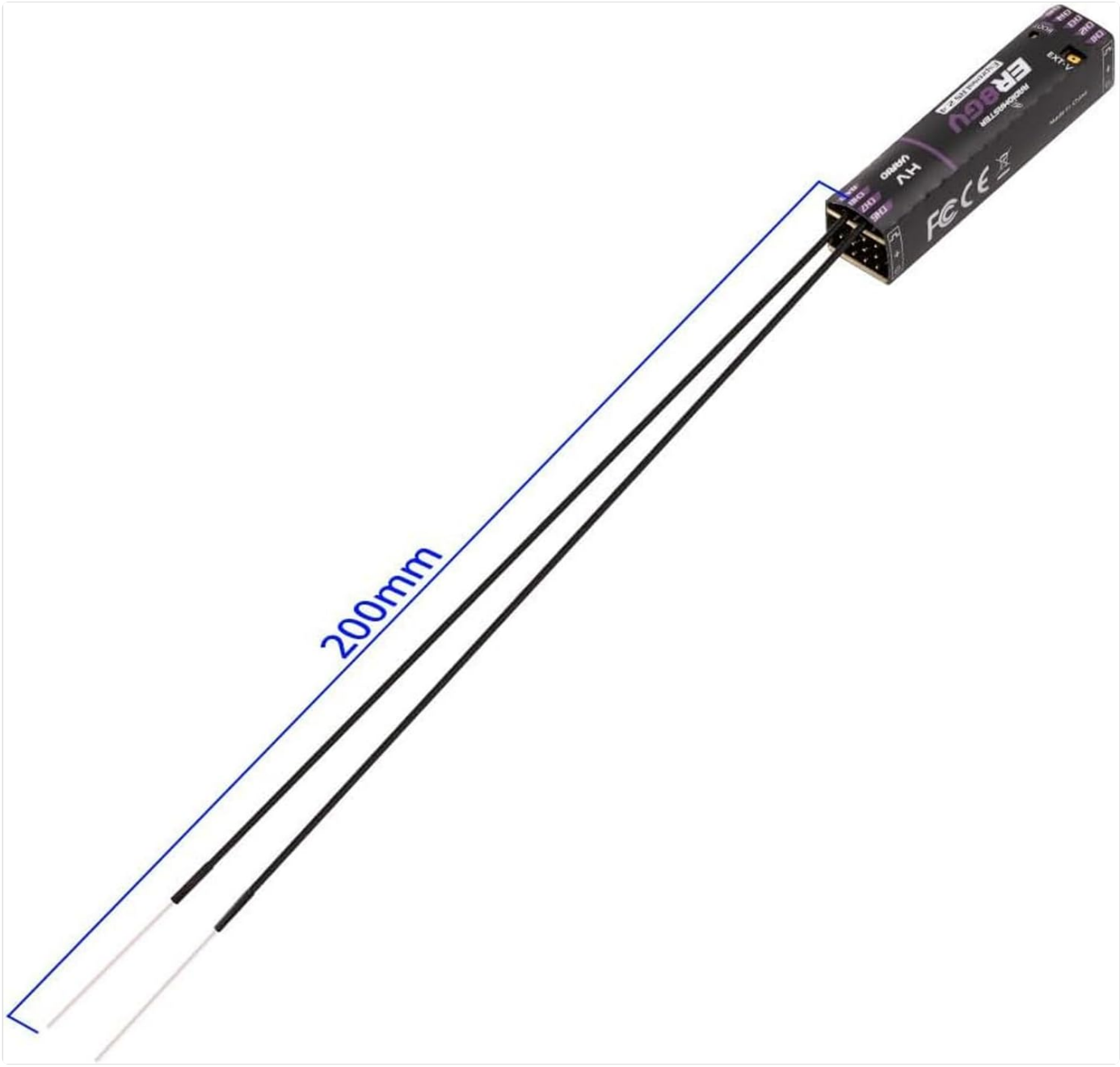



*Image: The ER8GV receiver with its dual 200mm antennas extended, illustrating the full length.*

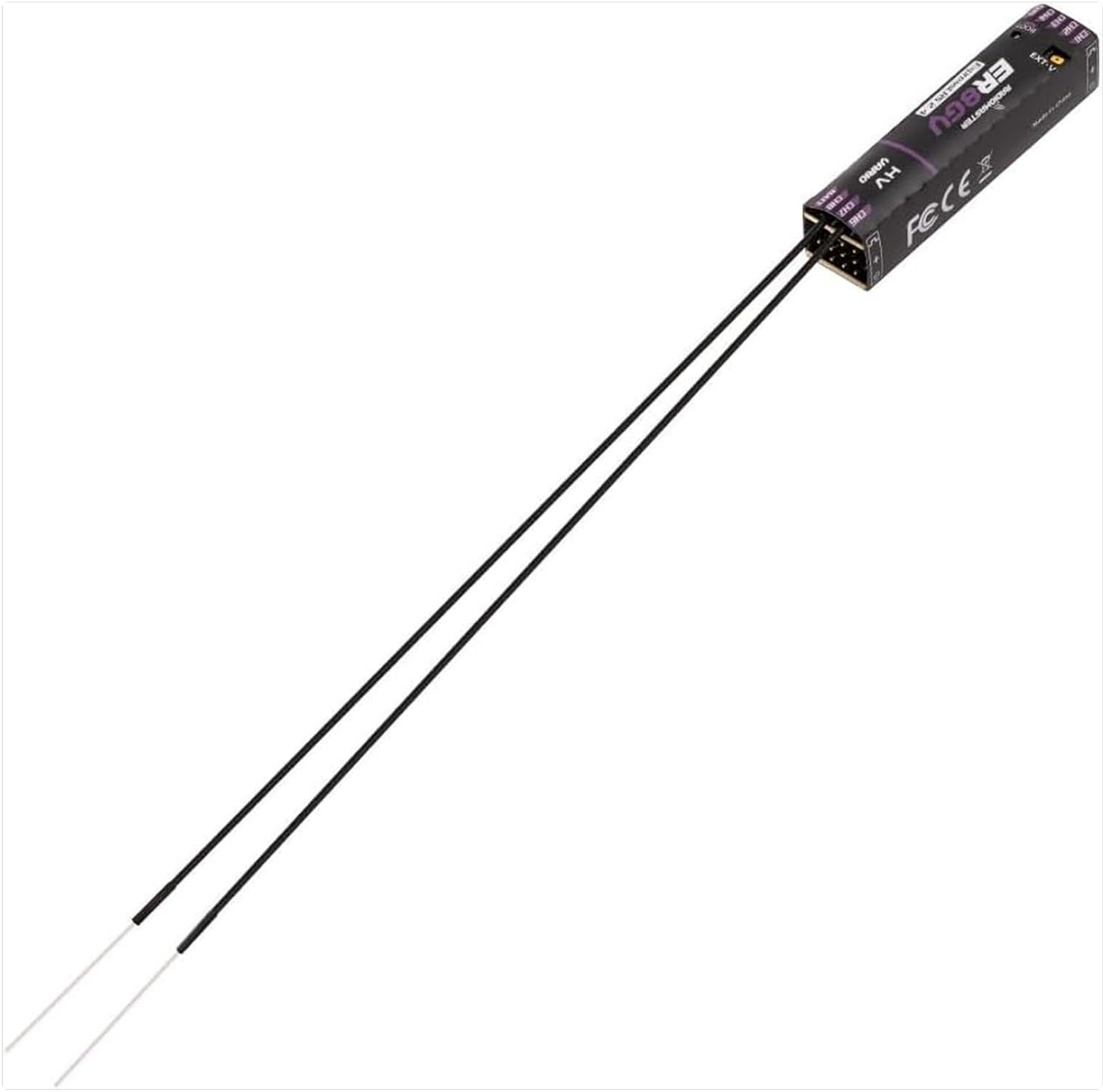



*Image: The ER8GV receiver with its dual 200mm antennas.*

## 5.2. Wiring Connections

Connect your servos to the appropriate PWM channels (CH1-CH8). The receiver supports automatic voltage telemetry, detecting either external battery voltage (via the provided wire) or its own internal voltage. Ensure only one voltage input is used at any given time.

- **PWM Channels:** Connect servos to CH1-CH8.
- **External Voltage Telemetry:** Use the provided Type-A voltage telemetry wire to connect an external battery (DC 4.0 - 35V) to the EXT-V port if desired.
- **CRSF Input:** The 4-pin CRSF input port is reserved for specific configurations.
- **ELRS-RX-SBUS:** Connect the SBUS wire for SBUS output if required by your flight controller.

## 5.3. Binding Procedure

The ER8GV receiver comes with ExpressLRS 3.3.0 pre-installed. To bind the receiver to your ExpressLRS compatible transmitter:

1. Ensure your transmitter is running ExpressLRS firmware and is in binding mode.
2. Power on the ER8GV receiver. The LED indicator will flash slowly.
3. Rapidly power cycle the receiver three times (power on, power off, power on, power off, power on).
4. After the third power cycle, the LED should flash rapidly, indicating it is in binding mode.
5. Initiate the binding process from your transmitter.
6. Once successfully bound, the receiver's LED will turn solid.

For detailed binding instructions and advanced ExpressLRS settings, refer to the official ExpressLRS documentation or your transmitter's manual.

### 5.4. Firmware Updates (Wi-Fi)

The ER8GV supports Wi-Fi updates and WEBUI configuration. This allows for convenient firmware upgrades without needing a physical connection to a computer.

1. Power on the receiver.
2. Access the ExpressLRS LUA script on your transmitter and enable Wi-Fi mode for the receiver.
3. Connect to the receiver's Wi-Fi hotspot from your computer or mobile device. The network name will typically be "ExpressLRS RX" followed by a unique identifier.
4. Open a web browser and navigate to http://10.0.0.1 (or the IP address displayed in the LUA script).
5. Use the WEBUI to flash new firmware or configure settings.

## 6. Operation

### 6.1. Normal Operation

Once bound and powered, the ER8GV receiver will establish a link with your transmitter. The LED on the receiver will be solid, indicating a stable connection. Control surfaces connected to the PWM outputs will respond to transmitter inputs.

### 6.2. Telemetry

The ER8GV provides telemetry data back to your transmitter. This includes:

- **Receiver Voltage:** Automatically reports the voltage supplied to the receiver.
- **External Battery Voltage:** If connected, reports the voltage of the external battery (e.g., flight battery).
- **Vario (Air Pressure Sensor):** Provides altitude and vertical speed information, useful for gliders.
- **Link Quality:** ExpressLRS provides detailed link quality metrics.

Telemetry data can typically be viewed on your transmitter's screen or through LUA scripts.

### 6.3. Failsafe Configuration

It is critical to configure failsafe settings on your transmitter for the ER8GV receiver. Failsafe ensures that your model behaves predictably in the event of signal loss. Common failsafe options include:

- **Hold Last Position:** Maintains the last received control input. (*Not recommended for most applications*)
- **No Pulses:** Stops sending PWM pulses to servos. (*Can be dangerous if not properly configured with flight controller*)
- **Custom Positions:** Sets servos to predefined positions (e.g., throttle to idle, control surfaces neutral or slightly up for glide). (*Recommended*)

Refer to your transmitter's manual and ExpressLRS documentation for detailed failsafe setup procedures.

## 7. Maintenance

The ER8GV receiver is designed for durability, but proper maintenance ensures its longevity and reliable performance.

- **Keep Clean:** Regularly inspect the receiver for dust, dirt, or debris. Use a soft, dry brush or compressed air to clean. Avoid liquids.
- **Antenna Care:** Ensure antennas are not kinked, cut, or damaged. Proper antenna orientation is crucial for signal reception.
- **Connection Integrity:** Periodically check all wire connections (PWM, telemetry, CRSF) for secure fit and signs of wear.
- **Storage:** Store the receiver in a dry, cool environment, away from direct sunlight and extreme temperatures.
- **Firmware Updates:** Keep the receiver firmware updated to the latest stable version to benefit from performance improvements and bug fixes. Use the Wi-Fi update feature for convenience.

## 8. Troubleshooting

| Problem | Possible Cause | Solution |
|---|---|---|
| Receiver LED not solid after binding attempt. | Not successfully bound; incorrect binding procedure; firmware mismatch. | Re-attempt binding procedure carefully. Ensure transmitter and receiver firmware versions are compatible. Update firmware if necessary. |
| No servo response. | Receiver not powered; receiver not bound; incorrect servo connection; faulty servo. | Verify power supply to receiver. Confirm receiver is bound (solid LED). Check servo connections to correct PWM channels. Test with a known working servo. |
| Poor range or signal loss. | Improper antenna placement/damage; interference; low telemetry power setting. | Ensure antennas are oriented correctly (90 degrees apart) and not obstructed by carbon fiber or metal. Check for physical damage to antennas. Increase telemetry power via LUA script if permissible and necessary. Avoid flying near strong interference sources. |
| Telemetry data not displayed. | Telemetry not enabled on transmitter; incorrect wiring for external voltage; sensor issue. | Enable telemetry on your transmitter. Verify external voltage telemetry wire is correctly connected. Check ExpressLRS LUA script settings. |

## 9. Warranty Information

RADIOMASTER products are typically covered by a limited warranty against defects in materials and workmanship. The warranty period and terms may vary by region and retailer. Please retain your proof of purchase for warranty claims. For specific warranty details, please refer to the warranty card included with your product or visit the official RADIOMASTER website. This warranty does not cover damage caused by misuse, accident, modification, improper installation, or unauthorized repairs.

## 10. Customer Support

For technical assistance, troubleshooting, or product inquiries, please contact RADIOMASTER customer support or your

authorized dealer.

- **Official Website:** Visit the RADIOMASTER Official Website for product information, firmware downloads, and support resources.
- **Community Forums:** Engage with the ExpressLRS community and other users for tips and assistance.
- **Authorized Dealers:** Your point of purchase can often provide direct support and facilitate warranty claims.

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Product Model: ER8GV

## 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.

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Anonymous

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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