

RADIOMASTER GX12 ELRS M2 5000

Radiomaster GX12 Radio Controller User Manual

Model: GX12 ELRS M2 5000

INTRODUCTION

The Radiomaster GX12 Radio Controller is an advanced remote control system designed for RC enthusiasts, featuring a groundbreaking fusion of ExpressLRS and EdgeTX technologies. It is the first radio to incorporate ExpressLRS Gemini-XROSSBAND (GEM-X), enabling simultaneous transmission on both 2.4GHz and 915MHz for superior interference rejection and extended range. This manual provides essential information for setting up, operating, maintaining, and troubleshooting your GX12 Radio Controller.

Key features include integrated folding dual-band antennas, support for current 2.4GHz and 900MHz ExpressLRS receivers, and compatibility with new generation Gemini Xrossband (Gem-X) receivers. The GX12 offers remarkable flexibility with removable switch panels, DIY SMA ports, folding gimbal sticks, and 1000Hz digital aluminum gimbals for unparalleled precision.

WHAT'S IN THE BOX

Upon opening your Radiomaster GX12 package, please verify that all the following items are included:

- 1 * GX12 Radio Controller
- 1 * Signature Carry Case
- 1 * 18650 Battery Tray
- 2 * Replacement Switch Panels
- 1 * Type-C Cable
- 1 * 2 Position Switch
- 1 * Momentary Switch
- 1 * Radiomaster Sticker Set
- 1 * Manual (Quick Start Guide)
- 1 * Screen Protector
- 4 * Low Tension Gimbals Springs
- 1 * 1.5mm Hex Wrench

Compatible with all ExpressLRS receivers



Image: All components included in the Radiomaster GX12 package, laid out for clear identification.

SETUP

1. Battery Installation

The GX12 uses an 18650 battery (not included with all models, check your specific package). To install the battery:

1. Locate the battery compartment on the back of the radio controller.
2. Open the battery compartment cover.
3. Insert the 18650 battery into the provided battery tray, ensuring correct polarity.
4. Connect the battery tray to the radio's internal power connector.
5. Close the battery compartment cover securely.



Image: The Radiomaster GX12 controller shown alongside its compatible 18650 battery pack, illustrating the power source.

2. Initial Power On and Basic Configuration

After battery installation, you can power on your GX12 and perform initial setup:

1. Press and hold the power button (located centrally below the screen) until the screen illuminates.
2. The radio will boot into the EdgeTX operating system.
3. Follow the on-screen prompts for initial calibration, including stick calibration and switch assignment.
4. Connect the radio to your computer via the USB-C port for firmware updates and simulator use. The single USB-C port simplifies both charging and data/simulator connectivity.



Image: A detailed front view of the Radiomaster GX12, highlighting the screen and control layout for initial setup.

OPERATING THE GX12 RADIO CONTROLLER

Gimbals and Sticks

The GX12 features all-new 1000Hz digital aluminum gimbals, providing exceptional precision and responsiveness. These gimbals are designed for smooth and accurate control of your RC models. The folding gimbal sticks allow for compact storage and easy transport.



Image: An angled view of the Radiomaster GX12, showcasing the ergonomic design and the placement of the gimbals and various switches.

Switches and Buttons

The GX12 offers extensive customization with individually programmable 6-position buttons and SA/SD switches. Removable switch panels allow for personalized setups using the included modular panel system. Customizable RGB indicators enhance both functionality and style.

- **SA/SD Switches:** These are typically used for flight modes, arming, or other auxiliary functions.
- **6-Position Buttons:** These can be programmed for various functions, offering quick access to different settings or actions.
- **Modular Switch Panels:** Experiment with different switch configurations using the provided replacement panels to suit your flying style.

Antenna System

The GX12 features integrated folding dual-band antennas, supporting both 2.4GHz and 915MHz frequencies. This design

ensures optimal signal strength and range. DIY SMA ports are also available, allowing you to choose and connect external antennas for specific needs.



Image: A top-down perspective of the Radiomaster GX12, clearly showing the integrated folding dual-band antennas in their upright position.

Internal Storage and Connectivity

With 512MB of internal flash storage, the need for external TF cards is eliminated for most users. The single USB-C port serves multiple purposes: charging the internal battery, connecting to a computer for data transfer, and acting as a simulator connection.

MAINTENANCE

Proper maintenance ensures the longevity and optimal performance of your Radiomaster GX12 Radio Controller.

- **Cleaning:** Use a soft, dry cloth to clean the exterior of the radio. Avoid using harsh chemicals or abrasive materials.
- **Storage:** Store the radio in its signature carry case when not in use to protect it from dust, moisture, and physical damage. Avoid extreme temperatures.

- **Gimbal Care:** While the CNC aluminum gimbals are durable, avoid applying excessive force. If needed, use the included low tension gimbal springs for adjustment.
- **Firmware Updates:** Regularly check the official Radiomaster website for firmware updates. Keeping your EdgeTX firmware up-to-date ensures access to the latest features and bug fixes.
- **Battery Care:** If using a removable 18650 battery, follow battery manufacturer guidelines for charging and storage to maximize battery life.

TROUBLESHOOTING

This section addresses common issues you might encounter with your GX12 Radio Controller.

Problem	Possible Cause	Solution
Radio does not power on.	Low or dead battery; incorrect battery installation.	Charge the battery using the USB-C port. Ensure the battery is correctly installed with proper polarity.
No signal to receiver.	Incorrect model setup; receiver not bound; antenna issue.	Verify model settings in EdgeTX. Ensure the receiver is properly bound to the radio. Check antenna connections and ensure they are unfolded.
Gimbals not responding correctly.	Needs calibration; physical obstruction.	Perform gimbal calibration through the EdgeTX system menu. Check for any debris or obstructions around the gimbals.
USB-C connection issues.	Faulty cable; driver issues on PC; incorrect USB mode.	Try a different USB-C cable. Install necessary drivers on your computer. Ensure the radio is in the correct USB mode (e.g., USB Storage, USB Joystick).

SPECIFICATIONS

Detailed technical specifications for the Radiomaster GX12 Radio Controller:

- **Model:** GX12 ELRS M2 5000
- **Dimensions:** 6 x 5 x 2 inches (Product Dimensions)
- **Country of Origin:** China
- **Manufacturer:** Greathobby RC
- **Gimbals:** 1000Hz 3D Digital CNC Hall Gimbals
- **RF System:** ExpressLRS Gemini-XROSSBAND (GEM-X)
- **Frequency:** 2.4GHz and 915MHz simultaneous transmission
- **Antennas:** Integrated folding dual-band antennas, DIY SMA ports
- **Internal Storage:** 512MB Flash
- **Operating System:** EdgeTX
- **Connectivity:** Single USB-C port for charging, data, and simulator
- **Switches:** Individually programmable 6-position buttons, SA/SD switches, modular switch panels
- **Display:** High-contrast OLED screen
- **Recommended Age:** 18 years and up



Image: The Radiomaster GX12 radio controller placed on a digital scale, indicating its approximate weight for reference.

WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the official Radiomaster website or contact your authorized dealer. Keep your purchase receipt as proof of purchase for any warranty claims.

Safety Information: Please refer to the instruction manual before use. Always operate your radio controller responsibly and in accordance with local regulations.

For further assistance, visit the [RADIOMASTER Store on Amazon](#) or their official support channels.

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