

RadioMaster TX16S Mark II User Manual

Model: RMS-0019

1. INTRODUCTION

Welcome to the user manual for your RadioMaster TX16S Mark II 2.4GHz 16 Channel EdgeTX Radio Transmitter. This manual provides essential information for the safe and effective operation, setup, and maintenance of your new radio transmitter. Please read this manual thoroughly before using the device.

2. SAFETY INFORMATION

Always operate your radio transmitter responsibly and in accordance with local laws and regulations. Failure to do so may result in damage to property, serious injury, or death.

- **Battery Safety:** Use only recommended battery types. Do not overcharge or over-discharge batteries. Store batteries in a safe, fireproof location.
- **Environmental Conditions:** Avoid operating the transmitter in extreme temperatures, high humidity, or dusty environments.
- **Interference:** Be aware of potential radio interference from other devices. Always perform a range check before flight.
- **Propeller Safety:** Always remove propellers from your aircraft when performing setup or maintenance to prevent accidental injury.
- **Supervision:** Children should only operate the transmitter under direct adult supervision.

3. PRODUCT OVERVIEW

The RadioMaster TX16S Mark II is a versatile 16-channel radio transmitter designed for various RC applications. It features a full-color touchscreen display and supports multiple protocols.

3.1 Front View



Figure 3.1: Front view of the TX16S Mark II, showing the gimbals, switches, and touchscreen display.

3.2 Rear View



Figure 3.2: Rear view of the TX16S Mark II, highlighting the battery compartment and ergonomic grips.

3.3 Key Features

- Improved internal circuitry and optimized power supply.
- Newly designed removable battery cover.
- Raised and flat grips for enhanced ergonomics.
- Improved S1/S2 knobs with center detents.
- 4.3-inch IPS Color Display with adjustable brightness.
- New 3.5mm audio headphone jack and built-in dual speakers.
- External Module Bay supporting Team Black Sheep MicroTX modules in CRSF mode with LUA scripts.
- Internal 4-in-1 Multi-protocol module for switching between internal RF and Crossfire via software.

- Supports EdgeTX and OpenTX firmware (EdgeTX installed by default).

3.4 Detailed Views



Figure 3.3: The TX16S Mark II fits securely within its protective case.



Figure 3.4: The transmitter supports both EdgeTX and OpenTX firmware, offering flexibility in configuration.



Figure 3.5: Detail of the new V4.0 Hall Gimbals, which are adjustable without disassembly, ranging from 38° to 54°.



Figure 3.6: The improved S1/S2 knobs feature center detents for precise control, complemented by the vibrant 4.3-inch IPS color display for easy programming.



Figure 3.7: An updated design includes an improved LS/RS slider with tactile center detents for better feedback.



Figure 3.8: New features include a 3.5mm audio jack for headphones, an easily removable battery cover, and a DIY accessory socket for customization.



Figure 3.9: Connectivity options include a UART Port, Charging Port (USB-C), and an SD Card Slot for updates and storage.

4. SETUP

4.1 Battery Installation

The TX16S Mark II requires 18650 cells (not included) for operation. Insert the batteries into the battery tray, ensuring correct polarity. Then, slide the battery tray into the compartment at the rear of the transmitter and secure the newly designed removable battery cover.

4.2 Firmware Update

The radio firmware (EdgeTX) and module firmware (Multiprotocol or ExpressLRS) can be updated. Updates are supported via USB-C online or offline using an SD card. Refer to the official RadioMaster website or EdgeTX documentation for the latest firmware and detailed update procedures.

4.3 Binding to Aircraft

To bind your TX16S Mark II to an aircraft, navigate to the 'Model Setup' menu on the touchscreen display. Select the appropriate RF Protocol for your receiver (e.g., Multi-Protocol or ELRS). Ensure the aircraft's receiver is in binding mode, then select the 'Bind' option on the transmitter. The transmitter will attempt to connect to the receiver. Successful binding is typically indicated by a solid light on the receiver.

5. OPERATING

5.1 Navigating the Display

The 4.3-inch TFT full-color touch display allows for intuitive navigation. Use the touchscreen to access menus, adjust settings, and monitor telemetry data. The S1/S2 knobs and LS/RS sliders provide additional tactile control for various functions.

5.2 Model Setup and Configuration

The EdgeTX firmware offers extensive customization options for your models. Within the 'Model Setup' menu, you can configure:

- **Inputs:** Define and assign control inputs from gimbals and switches.
- **Mixes:** Create complex mixes for advanced control surfaces or functions.
- **Outputs:** Adjust channel limits, sub-trims, and servo directions.
- **Flight Modes:** Set up different flight modes with unique settings for various flight conditions.
- **Telemetry:** Monitor real-time data from your aircraft, such as battery voltage, RSSI, and GPS coordinates (if supported by receiver).

6. MAINTENANCE

Proper maintenance ensures the longevity and reliable performance of your TX16S Mark II.

- **Cleaning:** Use a soft, dry cloth to clean the transmitter. Avoid abrasive cleaners or solvents.
- **Storage:** Store the transmitter in a cool, dry place, away from direct sunlight and extreme temperatures. Remove batteries if storing for extended periods.
- **Gimbal Care:** Keep gimbals free from dust and debris. The Hall gimbals are designed for durability but should be handled with care.
- **Software Updates:** Regularly check for and install firmware updates to ensure optimal performance and access to new features.

7. TROUBLESHOOTING

This section addresses common issues you might encounter with your TX16S Mark II.

Problem	Possible Cause	Solution
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Problem	Possible Cause	Solution
Transmitter does not power on.	Low or no battery charge; incorrect battery installation.	Charge batteries; ensure batteries are installed with correct polarity.
Cannot bind to receiver.	Incorrect protocol selected; receiver not in binding mode; too far/close during binding.	Verify RF protocol in Model Setup; ensure receiver is in binding mode; try binding at a closer distance (1-2 meters).
Controls are unresponsive or erratic.	Binding issue; incorrect model setup; external interference.	Re-bind the receiver; check model settings (inputs, mixes, outputs); perform a range check in a clear area.
Touchscreen is unresponsive.	Software glitch; physical damage.	Restart the transmitter; ensure screen is clean and dry. If issue persists, contact support.

8. TECHNICAL SPECIFICATIONS

Feature	Specification
Transmission Frequency	2.400GHz-2.480GHz
Transmitter Module	Internal 4-in-1 multi-protocol module (CC2500 CYRF6936 A7105 NRF2401) OR Internal ELRS (SX1280)
Transmitting Power	Internal 4-in-1: Max 100mw (protocol dependent); Internal ELRS: Max 250mw (adjustable)
Antenna Gain	2db (transmit power adjustable)
Working Current	400mA
Working Voltage	6.6-8.4v DC
Remote Control Distance	> 2km @ 22dbm
Radio Firmware	EdgeTX
Module Firmware	Multiprotocol-Module (4IN1) -OR- ExpressLRS (ELRS)
Channels	Up to 16 channels (depending on the receiver)
Display	4.3-inch TFT full-colour touch display with 480 * 272 resolution
Module Bay	JR compatible module bay
Upgrade Method	Supports USB-C online / SD card offline upgrade
Product Dimensions	11.3 x 7.24 x 5.08 inches
Item Weight	2.64 pounds

9. WARRANTY AND SUPPORT

9.1 Warranty Information

Please refer to the warranty card included with your product or visit the official RadioMaster website for detailed warranty terms and conditions. Keep your proof of purchase for warranty claims.

9.2 Customer Support

For technical assistance, troubleshooting, or general inquiries, please contact RotorLogic customer support. You can find contact information on the RotorLogic brand store on Amazon or their official website.