



# BOXER

Quick start guide

[WWW.RADIOMASTERRC.COM](http://WWW.RADIOMASTERRC.COM)



## Introduction

Thank you for purchasing the RadioMaster Boxer 2.4g remote control system. The system is versatile and can be used by beginners and professionals. In order to ensure the correct and safe use of this product, please read this manual carefully before use. Due to constant improvements in software and hardware this manual may change over time. The information contained in this manual is subject to change without notice. Visit our website for the most up to date information.

Boxer remote control is suitable for all types of fixed-wing aircraft, gliders, helicopters, cars, boats, robotics, multi-rotor aircraft and anything else you might create, if you can build it RadioMaster can control it. The Boxer uses a powerful operating system called EdgeTX, for more information visit the links below.

-The RadioMaster team.



## Safety Information

Many remote-control models are equipped with powerful motors and sharp propellers. When using or maintaining models, proceed with caution. When performing assembly or maintenance, make sure to disconnect the power to the model and remove the propellers.

Do not operate the Boxer remote control system under the following conditions:

- In severe weather or strong windy conditions, such as rain, hail, snow, storms or electromagnetic environments.
- In any situation where visibility is limited.
- In areas where people, property, high-voltage power lines, public roads, vehicles or animals may be present.
- If you feel tired or unwell, or under the influence of drugs or alcohol.
- If the remote control or model seems to be damaged or not working properly.
- In areas with high 2.4GHz interference or where 2.4GHz radio is prohibited.
- When the radios battery voltage is too low to be used.
- In areas where local regulations prohibit the use of aviation models.



## Manual and firmware download

Boxer is pre-installed with factory approved EdgeTX firmware. To download the latest software manual, please visit the RadioMaster website: <https://www.radiomasterrc.com>

To download the latest firmware for your Boxer remote control, please visit the EdgeTX website: <https://www.Edge-tx.org>



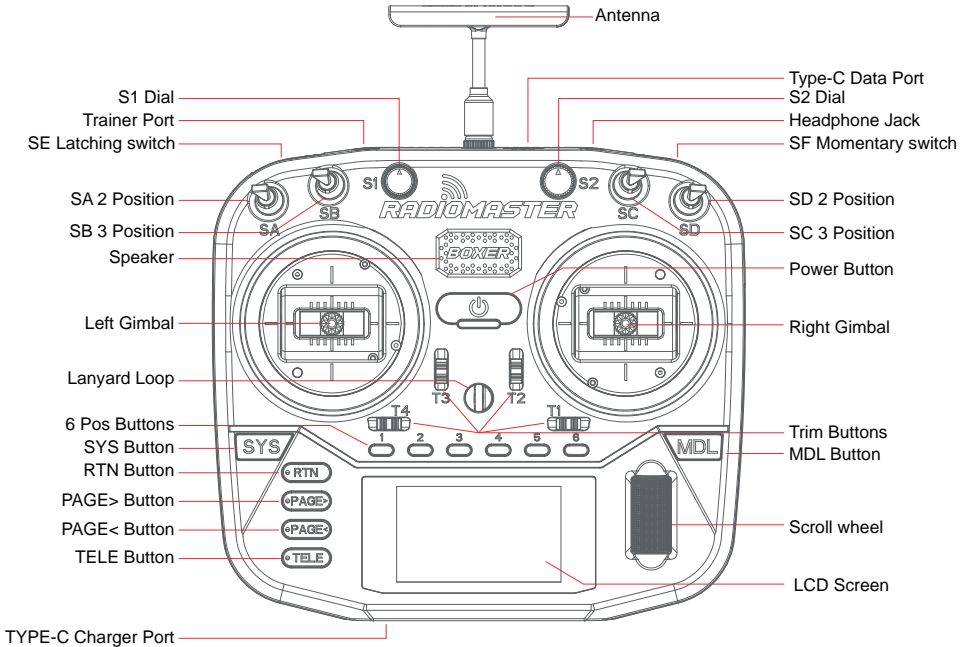
## Important!

**ANTENNA:** Install the provided antenna in the top of the radio BEFORE installing batteries and turning on the radio. DO NOT operate the radio without the antenna installed and the internal RF module powered on. Doing so will damage the internal RF module and will not be covered under warranty.

**FIRMWARE:** The Boxer is pre-installed with the most stable firmware at the factory at time of release. please only attempt to update the firmware if you are confident in the process. Incorrect firmware updates may cause the remote control to become inoperable.



# Remote control overview



## Batteries and charging

Boxer has a built-in USB-C charging function for 3.7V lithium batteries. The charging circuit is only designed to charge 2x 3.7V Li-ion 18650 or 2x 3.7V Li-Poly batteries (2s 7.4v Lipo battery pack), the nominal battery voltage is 3.7V, the charged voltage is 4.2V/Cell.

Do not use LiFE battery packs or 18650 lithium-ion batteries with a nominal voltage of 3.6v with a fully charged voltage of 4.10V. Charging the incorrect type of battery may damage the charger or cause a fire.

If using Li-ion, ensure the cells are not protected and are button-top cells.

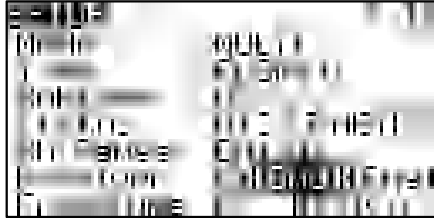
Please check the voltage and condition of the battery regularly and never charge unattended. Always charge in a safe area away from combustible materials. Refrain from charging if the remote control gets wet or damaged in any way. Do not charge with the polarity reversed

RadioMaster does not assume any responsibility for any adverse consequences caused by the use or misuse of this product.



## Model and protocol selection (multi-protocol module)

The Boxer comes with 4in1 or CC2500 multi-protocol internal RF module, which is compatible with several different protocols. To view the latest list of all compatible protocols, please visit <https://www.multi-module.org/> Please note that new protocols will be constantly updated and added to the latest firmware. Some new protocols may require firmware upgrades.



- Long press the MDL button to enter the model settings, select MULTI in the SETUP page, and select the protocol to be used in the sub-options. The system will automatically turn on the corresponding RF module according to the RF protocol you selected.
- Bind [BND] is used to start the binding process.
- Range [RNG] button can reduce the power to 1/30 to facilitate testing of remote-control distance.

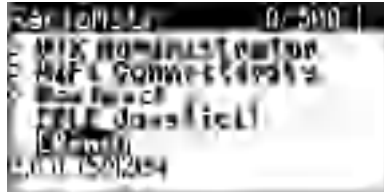
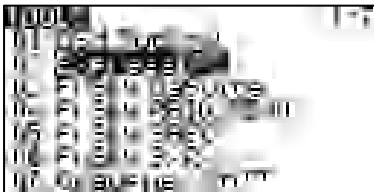


## Model selection and protocol selection (ELRS version)

Boxer ELRS units are equipped with an internal ELRS module, capable of providing 25mW-1000mW RF output. In non-extreme circumstances, 100mW output at 500Hz update rate is recommended, as higher RF output and update rates may significantly reduce battery life and generate excessive heat.

Bind instructions

- 1: Turn off the transmitter
- 2: Cycle power to the receiver 3 times, the receiver LED will flash twice- indicating bind mode.
- 3: Turn on the transmitter, long press the SYS button and choose the ExpressLRS LUA under the TOOLS menu. Scroll down to [Bind] and press enter.
- 4: The LED on the receiver should now be solid, indicating successful bind.



## Notes

EdgeTX software is very powerful, and has a large number of programming and mixing functions. Please download the comprehensive software installation guide from the link below for more detailed instructions: <https://www.Edge-tx.org> or <https://www.radiomasterrc.com>



## Specifications

Size: 235\*178\*77mm

Weight: 532.5g

Frequency: 2.400GHz-2.480GHz

Internal RF Options: CC2500 multi-protocol / 4-in-1 multi-protocol / ELRS 2.4GHz

Supported protocols: Module dependent

Transmitting Power CC2500 and 4IN1: Max 20dBm

Transmitting Power ExpressLRS: Max 30dBm (international) / Max 20dBm (EU LBT)

Cooling fan: Built in (ELRS version)

Voltage Range: 6.6-8.4V DC

Radio Firmware: EdgeTX (Transmitter) / Multi-Module (RF module) / ELRS

Channels: Max 16 channels (Receiver dependent)

Battery: 7.4V 2-cell Lithium-Polymer / Two 3.7V 18650 Lithium-Ion cells (batteries not included)

Display: 128\*64 Monochrome LCD display

Gimbal: High precision 4.0 Hall gimbals as standard (AG01 Optional)

External module: JR/FrSKY/Crossfire compatible

Upgrade Method: USB/SD card & EdgeTX Companion PC software

\* For the most up to date list on supported protocols please visit <https://www.multi-module.org/>



## Warranty and repair

If there is any problem with your remote control hardware, please keep the proof of purchase and contact the retailer where you purchased the Boxer. You may also visit our warranty support page <https://www.radio-masterrc.com/contact>

## Firmware update and EdgeTX

For the latest information and firmware updates from the EdgeTX open source firmware development team, please visit the EdgeTX website at <https://https://www.Edge-tx.org>.



### EU Simple Declaration of Conformity

RadioMaster declares the radio equipment Boxer is in compliance with EU directives Directive 2014/53/EU. Full text of the declaration of conformity is available at the following website [www.radiomasterrc.com](http://www.radiomasterrc.com)

#### Manufacturer by

ShenZhen RadioMaster Co., Ltd

4th Floor, Yangtian Building, No. 18 Yangtian Road, Xin'an Street, Baoan District, Shenzhen, Guangdong.



**FCC ID:** 2A337-BOXER-ELRS

#### FCC Information

This equipment has been tested and found to comply with the limits for Part 15 of the FCC rules. This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Full text of the declaration of conformity is available at the following website [www.radiomasterrc.com](http://www.radiomasterrc.com)



#### CAUTION:

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. This product contains a radio transmitter with wireless technology which has been tested and found to be compliant with the applicable regulations governing a radio transmitter in the 2.400GHz to 2.4835GHz frequency range.

#### Antenna Separation Distance

When operating your RadioMaster transmitter, please be sure to maintain a separation distance of at least 20 cm between your body (excluding fingers, hands, wrists, ankles and feet) and the antenna to meet RF exposure safety requirements as determined by FCC regulations.

## FCC Warning

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.

Specific Absorption Rate (SAR) information:

This BOXER ELRS meets the government's requirements for exposure to radio waves. The guidelines are based on standards that were developed by independent scientific organizations through periodic and thorough evaluation of scientific studies. The standards include a substantial safety margin designed to assure the safety of all persons regardless of age or health.

FCC RF Exposure Information and Statement

- This radio is designed for and classified as "General population/uncontrolled Use", the guidelines are based on standards that were developed by independent scientific organizations through periodic and thorough evaluation of scientific studies. The standards include a substantial safety margin designed to assure the safety of all persons regardless of age or health. The exposure standard for wireless radio employs a unit of measurement known as the Specific Absorption Rate, or SAR, the SAR limit set 1.6W/kg.
- Body-worn operation; this device was tested for typical body-worn operations with the back of the handset kept 0mm for body worn. To maintain compliance with RF exposure requirements, use accessories that maintain a 0mm for body worn. The use of belt clips, holsters and similar accessories should not contain metallic components in its assembly. The use of accessories that do not satisfy these requirements may not comply with RF exposure requirements, and should be avoided.
- The highest reported SAR value for worn on the body is 1.368 W/kg.

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