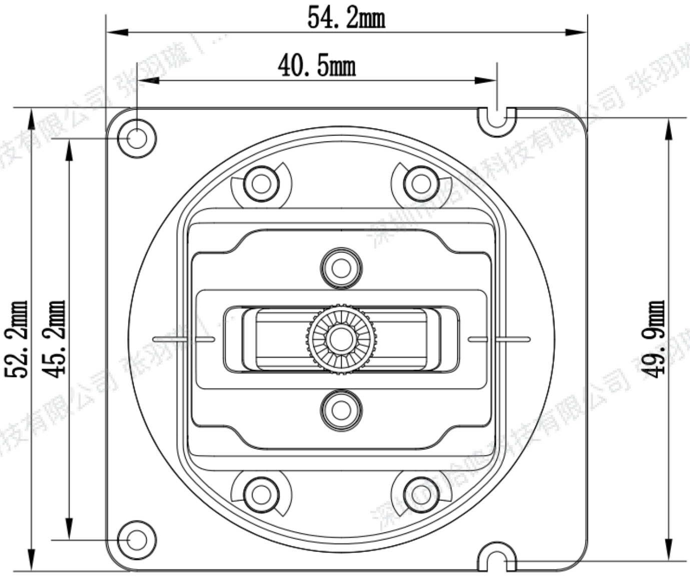
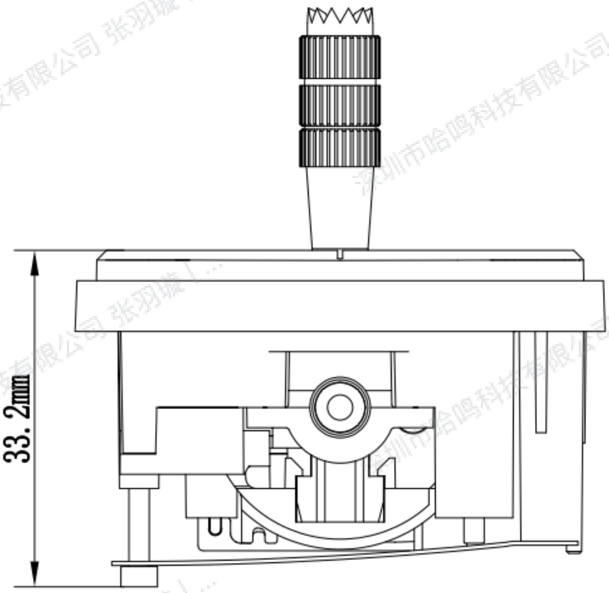
User Manual

Product Overview

BETAFPV will release a full-size and professional gimbal for RC models. Built upon sophisticated structural design and exceptional manufacturing processes, it features high-precision and long-life position sensor, complemented by multi-dimensional adjustment functions. This marks the first premium RC gimbal equipped with digital capacitive position sensor.

Dimensions

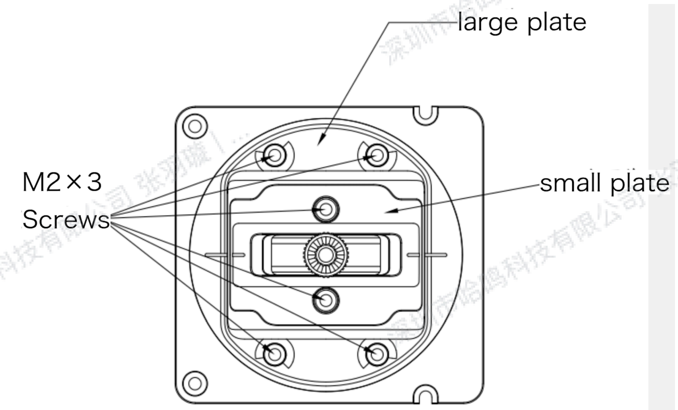


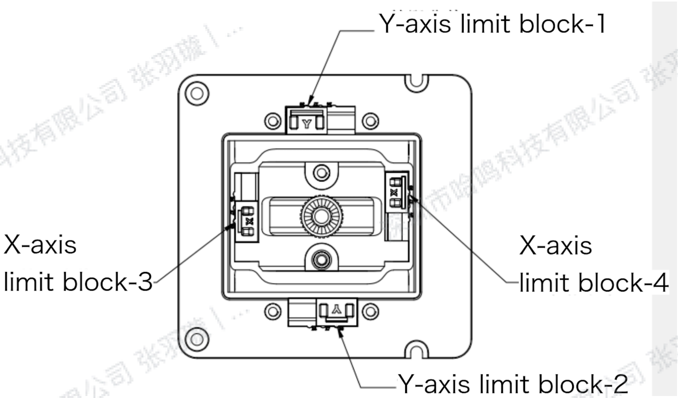


Specifications

Digital Capacitive Gimbal Assembly Parameter Comparison Table		
Gimbal	KCS	RDC
Sensor Type	Digital Capacitive	Analog Resistive
Sensor	KCS	RDC50
Sensor Accuracy	Resolution: 8192	Linearity: ±3%
Sensor Lifespan	Theoretically Infinite	1 Million Cycles
Communication Interface	UART	ADC
Operating Voltage	3.3V	3.3V
Travel Adjustment Range	24°/27°/30°	24°/27°/30°
Gimbal Head Specification	M4	M4
Mounting Hole Dimensions	45.2mm × 40.5mm × 49.9mm	45.2mm × 40.5mm × 49.9mm

Function Overview



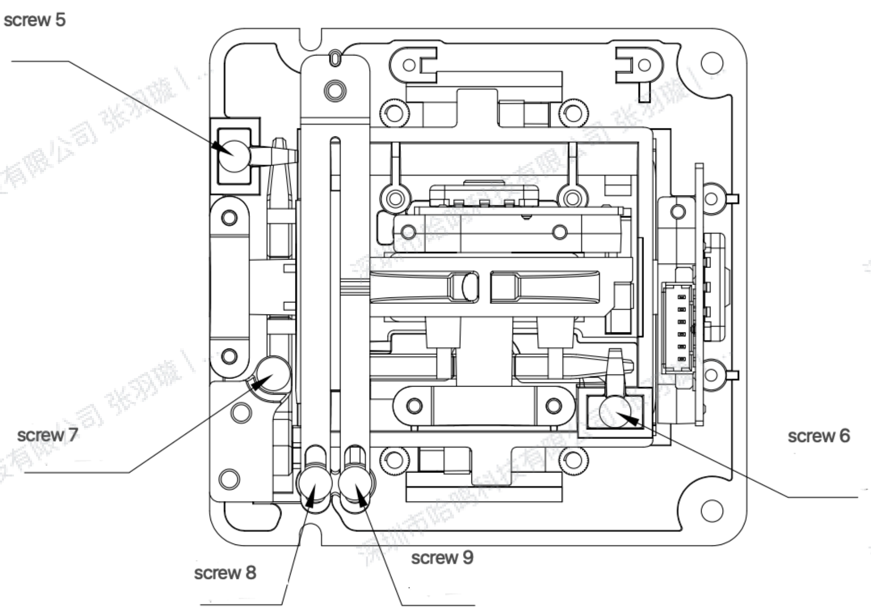


Y-Axis Travel Adjustment

- Remove 4 M2×3 screws and detach the large plate;
- Slide Y-axis limit block-1 to adjust the maximum downward travel angle of the Y-axis. From right to left, the settings correspond to 24°/27°/30° respectively;
- Slide Y-axis limit block-2 to adjust the maximum upward travel angle of the Y-axis. From left to right, the settings correspond to 24°/27°/30° respectively.

X-Axis Travel Adjustment

- Remove 2 M2×3 screws and detach the small plate;
- Slide X-axis limit block-3 to adjust the maximum rightward travel angle of the X-axis. From top to bottom, the settings correspond to 24°/27°/30° respectively;
- Slide X-axis limit block-4 to adjust the maximum leftward travel angle of the X-axis. From bottom to top, the settings correspond to 24°/27°/30° respectively.



Y-Axis Spring Tension Adjustment

Adjust Y-axis spring tension via screw-5. Clockwise increases tension; counterclockwise decreases tension.

X-Axis Spring Tension Adjustment

Adjust X-axis spring tension via screw-6. Clockwise increases tension; counterclockwise decreases tension.

Y-Axis Centering Mode Switch

Switch Y-axis Centering Mode via screw-7;

- No Centering: Turn screw-7 clockwise to the end for no-centering mode, suitable for Throttle channel;

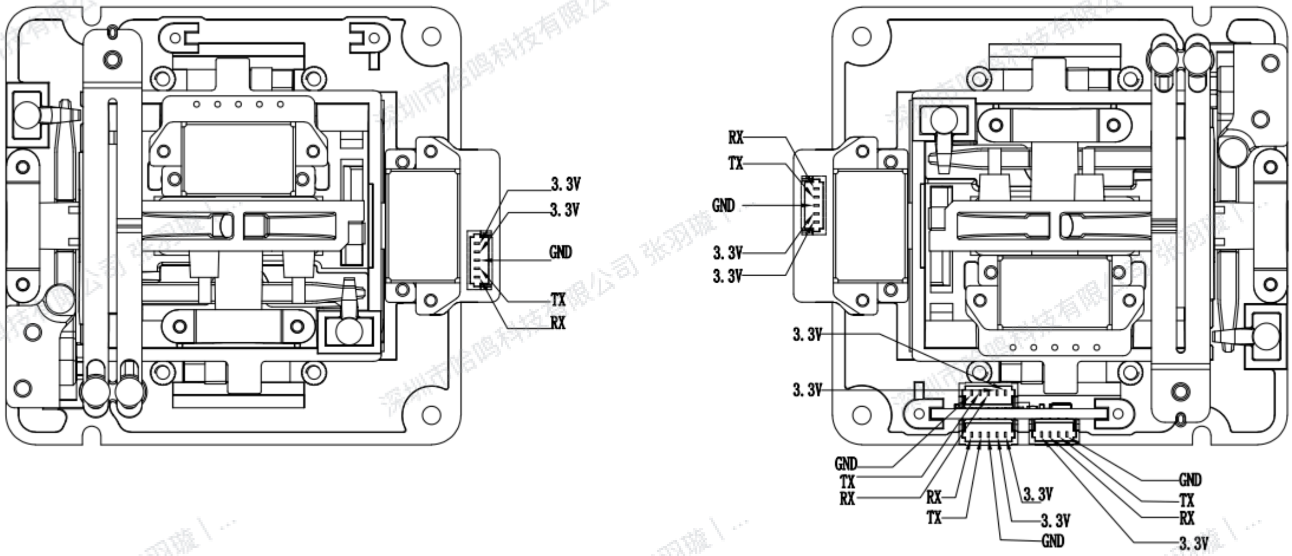
- Centering: Turn screw-7 counterclockwise until the Y-axis fully returns to the centering mode, suitable for Pitch channel.

Throttle Sensitivity Adjustment

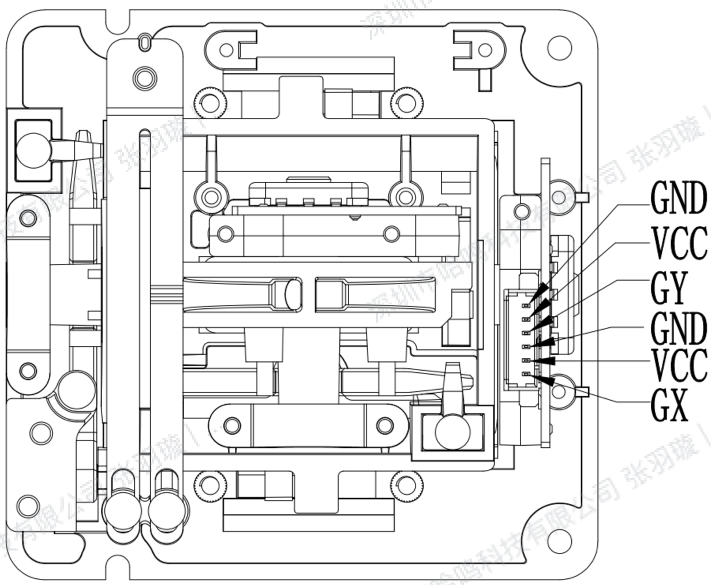
- Damping Adjustment: Adjust throttle damping via screw-8. Clockwise to increase damping; counterclockwise to decrease damping;
- Detent Adjustment: Adjust throttle detent via screw-9. Clockwise to make detent heavier; counterclockwise to make detent lighter.

Wiring Guide

- KCS Gimbal Wiring Diagram



- RDC Gimbal Wiring Diagram

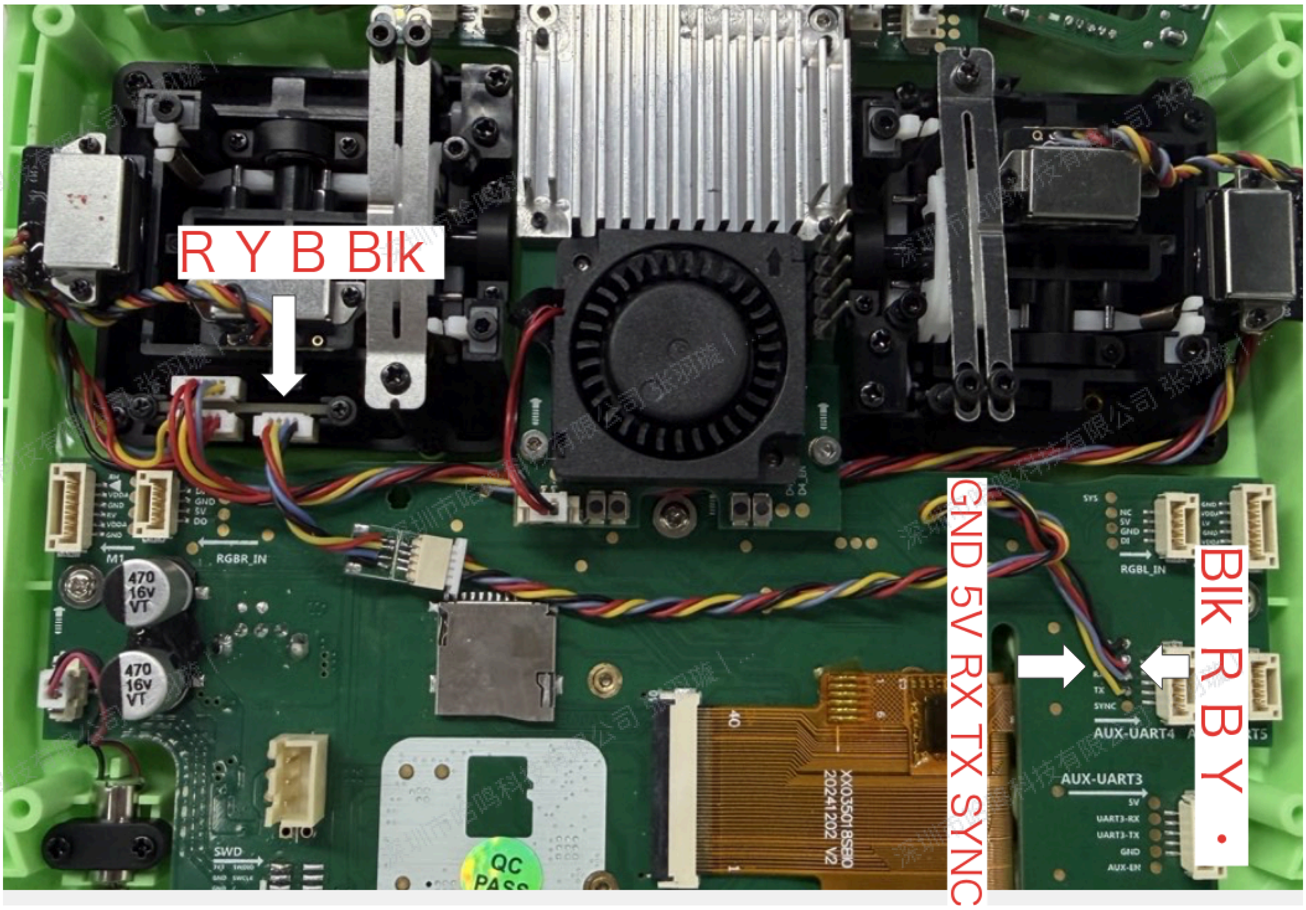


Firmware

RadioMaster TX15

Firmware: No firmware flashing required

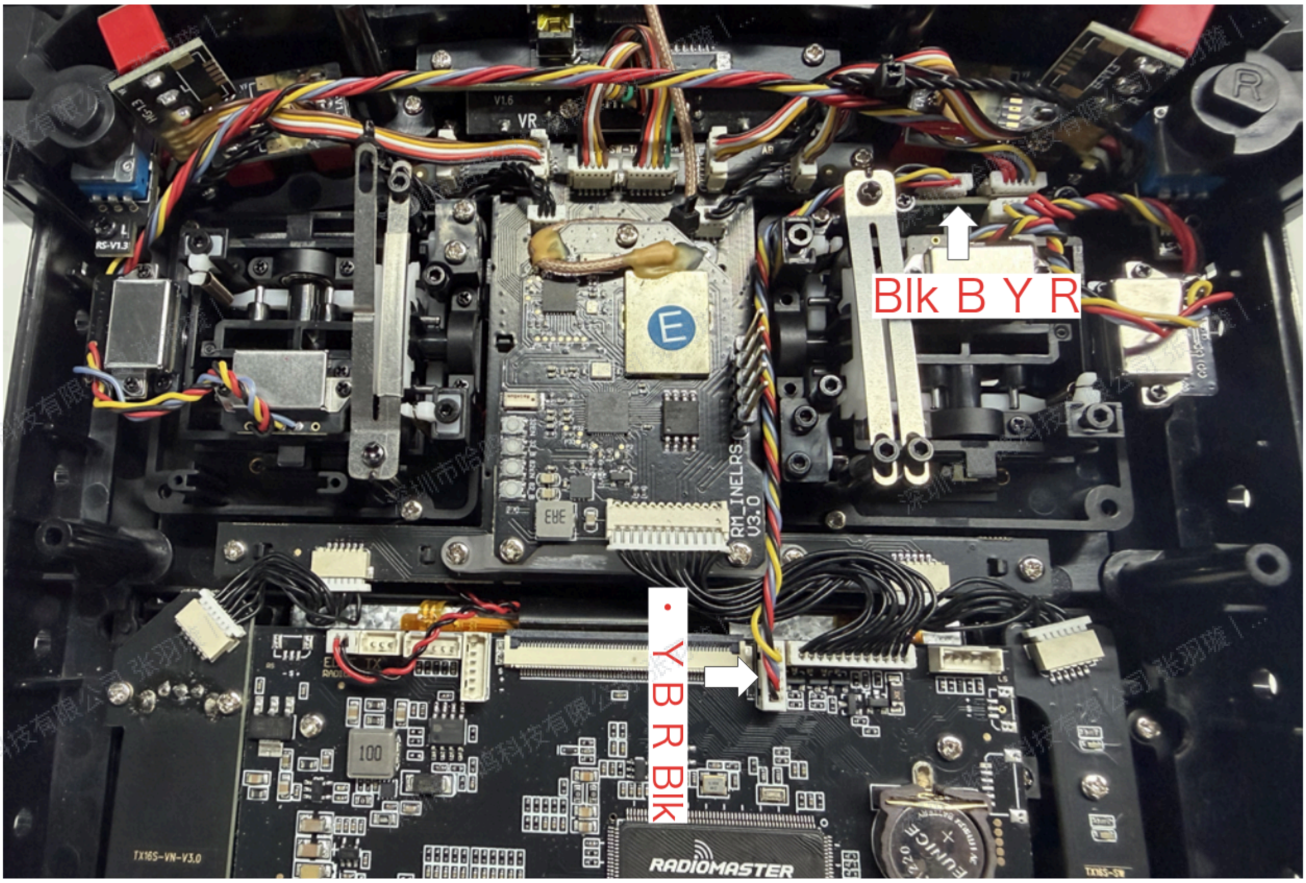
Wiring Guide:



RadioMaster TX16S

Firmware: No firmware flashing required

Wiring Guide:



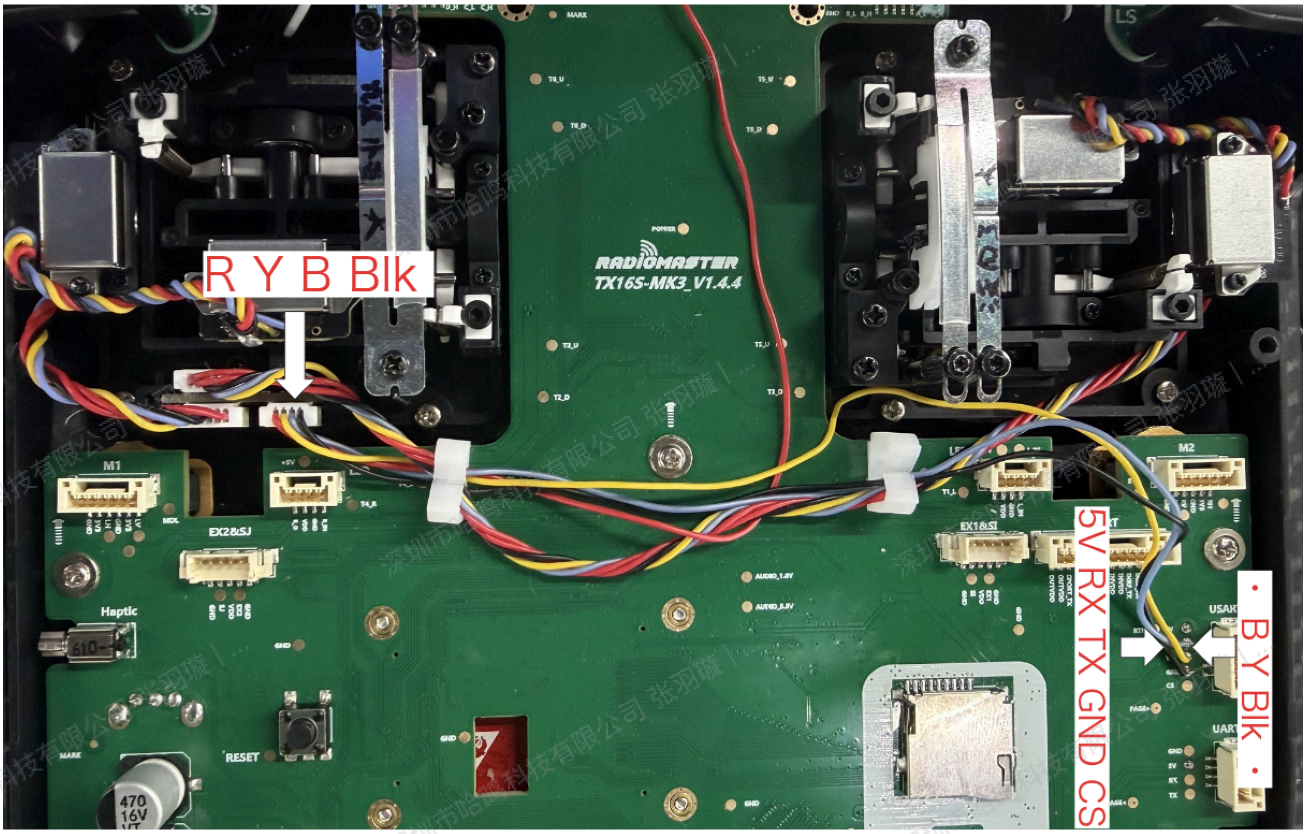
RadioMaster TX16S MK3

Firmware:

tx16smk3_CN_FLYSKY_GIMBAL_2.12.uf2
4.3MB

- Serial Port: UART3

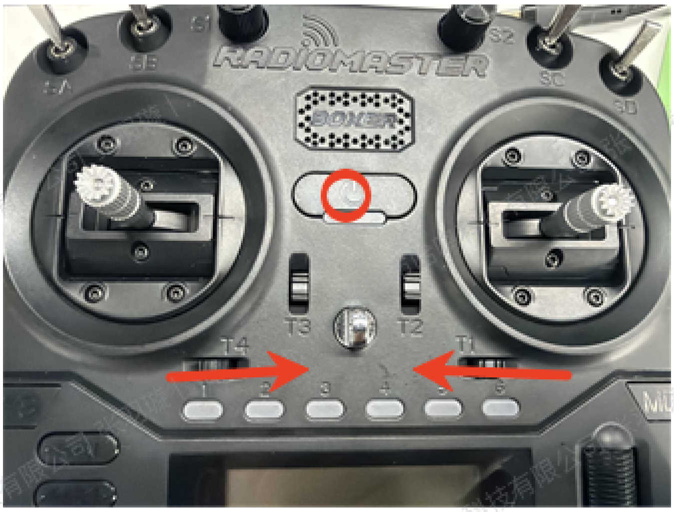
Wiring Guide:

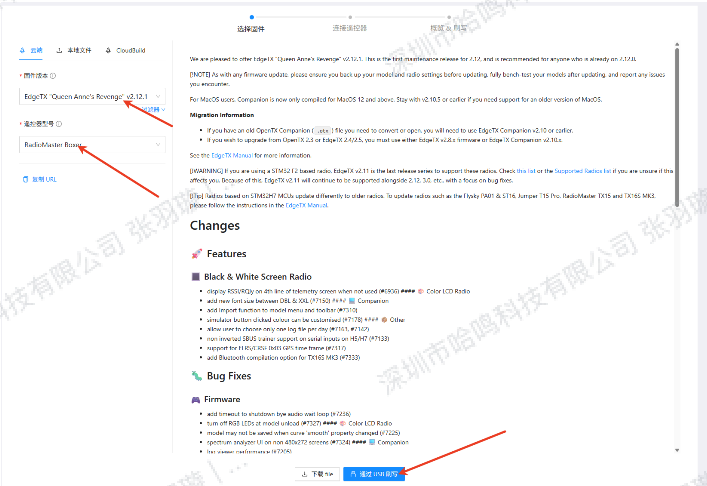


RadioMaster BOXER

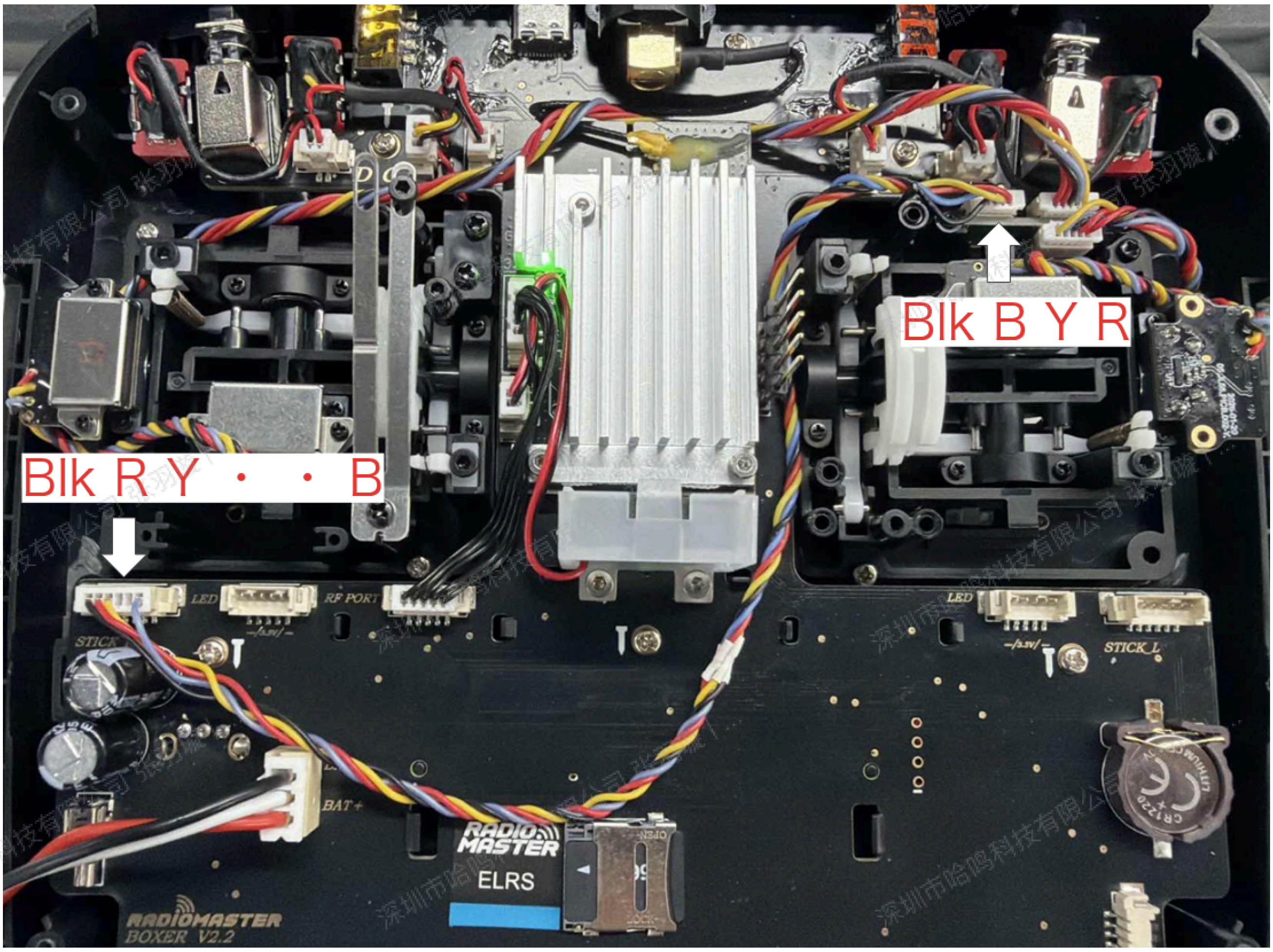
Firmware: You can only flash firmware versions higher than 2.9.0 on the official EdgeTX website: https://buddy.edgetx.org/#/flash?version=v2.12.1&source=releases&target=boxer&deviceId=376133823535

- Serial Port: UART4
- How to flash firmware: Switch the T1 and T2 Trim Buttons inward simultaneously. Then press the Power Button to enter BootLoader Mode. You can directly flash the firmware after connecting the UART4.





Wiring Guide:

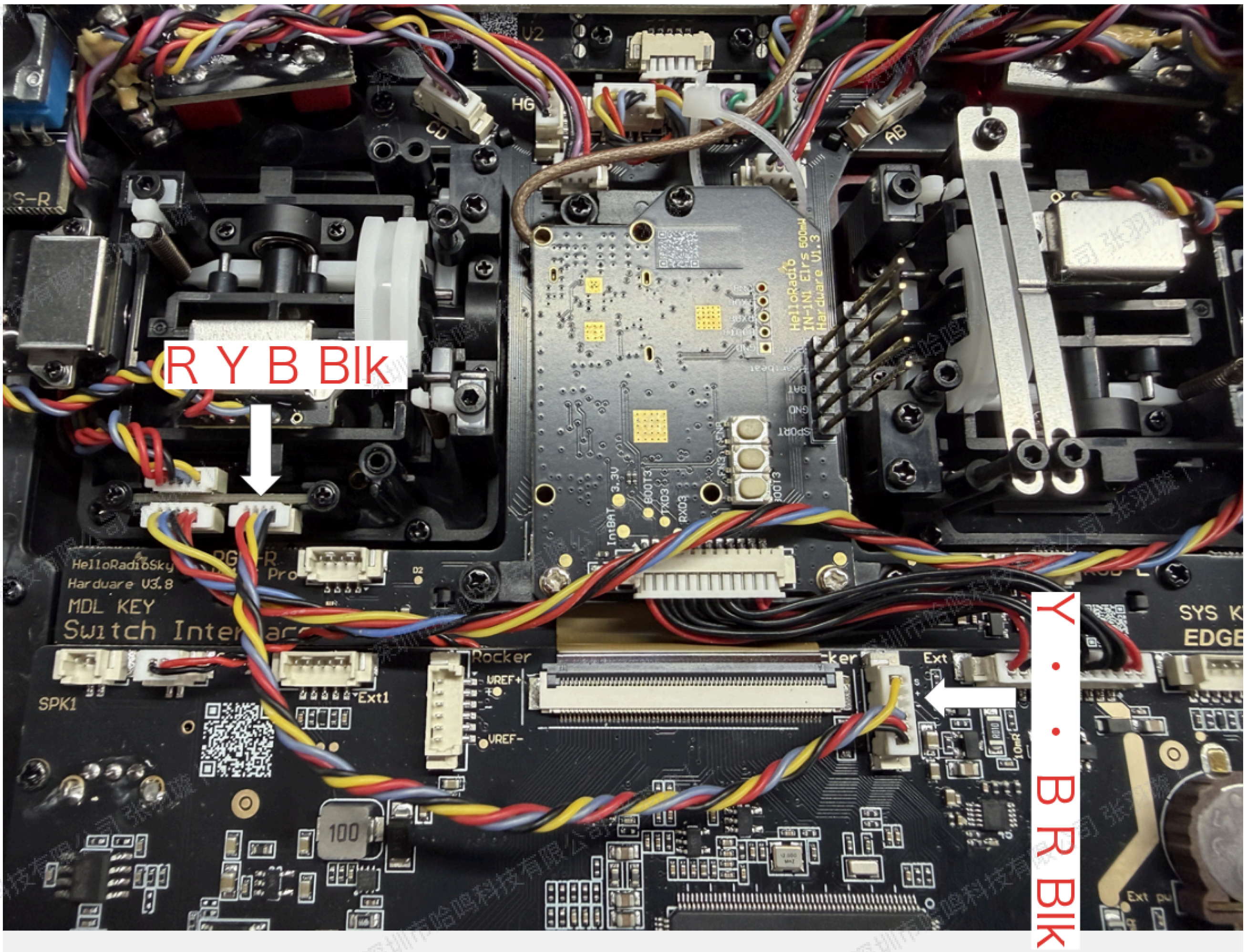


HelloRadio V16

Firmware:

V16-firmware-2.10.1-092301-CN.bin
2.0MB

Wiring Guide: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