

RATE W20

快速入门使用指南



淘宝店铺



官方网址



售后服务



RATE W20

Quick Start Guide



store



Official website



**After-sales
service**



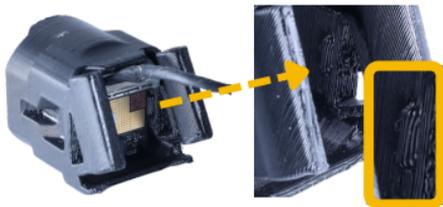
PNP套装O4安装

购买O4套装的玩家可跳过此步骤

- 动力套装需要自行准备O4LITE进行安装，教程如下：
- 按照图示状态在飞控上层叠加图传，拧回M2*16螺丝（注意螺丝不要拧出超过底碳板）



- 取下小O4的增广镜头保护框，按照图示方向推入小O4镜头直到突起卡位漏出卡好摄像头 PCB板不晃动。



- 按照图示方向把同轴线在摄像头后内部空间盘好（可旋转镜头一圈使同轴线盘绕），固定摄像头铝柱螺丝即可。



- 注意：请勿将O4同轴线置于图传与固定螺丝上方，以免上板安装挤压受损。

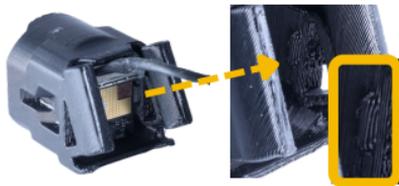
PNP Kit O4 Installation

Players who purchased the O4 Kit can skip this step.

- For the Power Kit, you will need to prepare an O4 Lite for installation. The tutorial is as follows:
- Stack the VTX on top of the Flight Controller (FC) as shown in the diagram. Reinstall the M2*16 screws (ensure the screws do not protrude past the bottom carbon fiber plate).



- Next, remove the O4 Lite wide-angle lens protective frame. Push the O4 lens in the direction shown until the locking tabs snap into place, securing the camera PCB so it no longer wobbles.



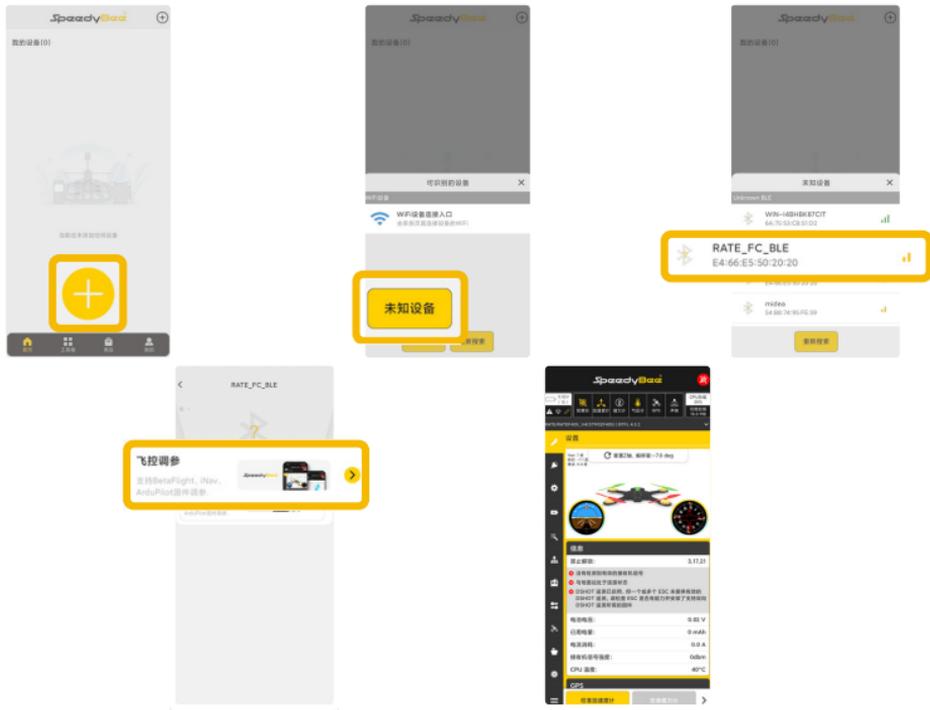
- Coil the coaxial cable within the space behind the camera as shown (you can rotate the lens one full turn to help wind the cable), then tighten the screws for the camera's aluminum standoffs.



- **CAUTION:** Do not place the O4 coaxial cable on top of the VTX or the mounting screws; this prevents the cable from being crushed or damaged when installing the top plate.

地面站连接

- **电脑端：**打开浏览器地址栏输入WWW.BETAFLIGHT.COM进入网页端调参。
- **手机端：**连接手机APP调参下载手机版地面站，点击添加新设备（如未搜到信号请尝试选择未知设备选项栏），找到RATE_FC_BLE选择连接即可进入手机调参界面）



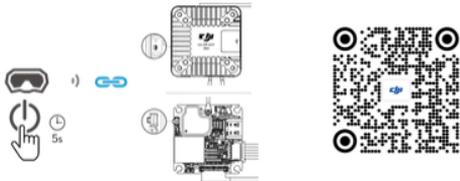
Ground Station Connection

- **PC:** Open your browser and enter www.betaflight.com in the address bar to access the web-based configurator.
- **Mobile:** For app-based configuration, download the mobile ground station app. Click "Add New Device" (if no signal is found, try selecting the "Unknown Device" category), locate "RATE_FC_BLE," and select connect to enter the mobile configuration interface.



图传对频

DJI数字图传



图传激活（大疆）：

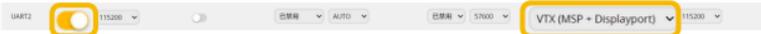
- 新入手的需要激活才能够正常使用。
- 进入[HTTPS://WWW.DJI.COM/CN/DOWNLOADS/SOFTWARES/DJI-ASSISTANT-2-CONSUMER-DRONES-SERIES](https://www.dji.com/cn/downloads/softwares/dji-assistant-2-consumer-drones-series)该网址(可扫描右上角二维码进入)下载DJI ASSISTANT 2调参软件(注意电脑系统需下载对应版本)。
- 给图传模块供电，连接 USB-C 接口至电脑(如果图传模块不供电，无法弹出激活入口)。
- 运行调参软件，登录账号进入主界面。
- 连接成功后，点击设备图标，根据系统提示进行激活。

图传对频：

- 给飞机图传供电，开启飞行眼镜。
- 打开飞行眼镜菜单，选择状态，点击右上角切换至需对频的天空端。
- 确保天空端对频状态指示灯为红灯常亮，按下对频按键，红灯闪烁进入对频状态。启动飞行眼镜对频状态，飞行眼镜响起“嘀-嘀…”的提示音。
- 对频成功后，天空端对频状态指示灯绿灯常亮，飞行眼镜提示音停止并显示图传。

OSD设置 **套机已预设OSD无特殊需求可跳过此步骤**

- 数字图传默认开启天空端直插线对应UART2号串口的MSP和VTX以显示OSD（请勿关闭）。



- 跳转到OSD菜单添加所需信息即可。
- 数字图传，请在OSD菜单里把视频制式调成HD。



注意事项：飞机应避免长时间通电以免图传过热，或者使用散热风扇对天空端进行主动散热。

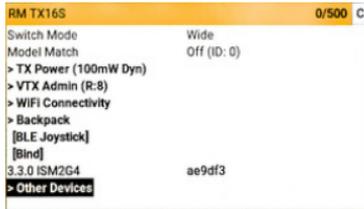
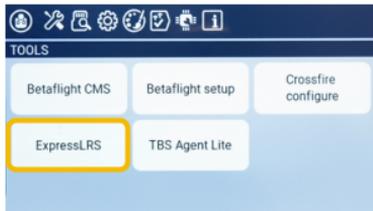
接收机与遥控配对

Elrs接收机

- **接收机对频方法：**
- 快速插拔电源三次让接收机进入对频状态，接收机会两次快闪循环，进入对频模式
- 或打开[HTTPS://APP.BETAFLIGHT.COM/](https://app.betaflight.com/)网页端地面站连接上飞控选择接收机图标。然后右下角选择接收机对频，进入对频模式，（此功能需要飞控版本4.3及以上支持）。
- (RATE AIO飞控接收机深蓝灯快闪两次)。



- 遥控需短按SYS按键选择ELRS脚本并进入，下滑波轮选择BIND键，当接收机指示灯长亮即对频完成（以EDGETX为例）



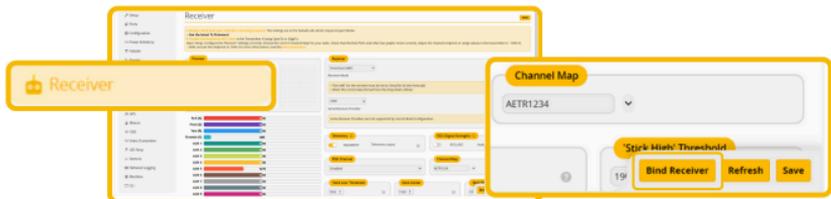
- 注意！瑞速科技ELRS接收机为3.0固件，只能和3.0固件以上的ELRS高频头对频。

Pairing the receiver with the remote control

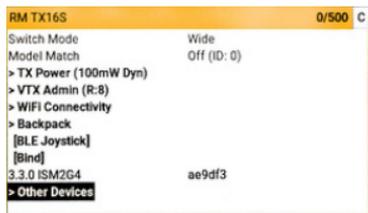
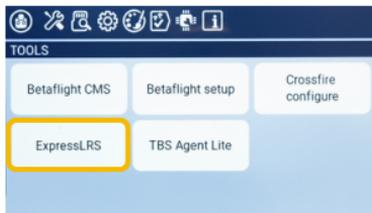
ELRS receiver

Receiver frequency pairing method:

- Quickly plug and unplug the power supply three times to put the receiver into pairing mode. The receiver will flash twice in a cycle, entering the pairing mode.
- open the web-based configurator at <https://app.betaflight.com/>, connect to the flight controller, and select the "Receiver" tab. Then, click "Bind Receiver" in the bottom right corner to enter binding mode (this feature requires Betaflight firmware version 4.3 or higher).
- (Ruisu Technology AIO flight controller receiver: dark blue light flashes twice quickly).



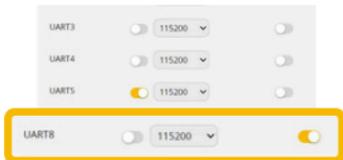
- To use the remote control, briefly press the SYS button to select the ELRS script and enter it. Scroll down the wheel to select the BIND key. When the receiver's indicator light stays on, the frequency pairing is completed (taking EDGETX as an example).



- Attention!** The 3.0 firmware of RATE Technology's ELRS receiver can only pair with ELRS transmitters with firmware version 3.0 or higher.

SBUS协议遥控(大疆遥控)

- 遥控器对频前，请先确保天空端和眼镜已经对频成功。
- 在地面站端口菜单里首先要关闭默认设置的UART1号端口(瑞速H415 AIO)的串行数字接收机开关，同时打开UART8号（飞控直插天空端）端口的串行接收机。
- 更改接收机菜单里串行接收机协议为SBUS模式。



- 开启飞行眼镜和遥控器的对频状态，直至响起“嘀-嘀-...”的提示音。
- 遥控器同样需在开机状态下长按电源按钮直至响起“嘀-嘀-...”的提示音，且电量指示灯循环闪烁。
- 对频成功后，飞行眼镜提示音停止并显示图传，遥控器提示音停止。



遥控设置

大疆遥控

- 对于大疆的遥控器，建议设置如图拨杆通道。



SBUS protocol remote control (DJI remote control)

- Before pairing the remote control, please first ensure that the air unit and the goggles have been successfully paired.
- In the ground station port menu, first turn off the serial digital receiver switch of the UART1 port (RATE H415 AIO) with default settings, and at the same time turn on the serial receiver of the UART8 port (flight controller directly connected to the air unit).
- Change the serial receiver protocol in the receiver menu to SBUS mode.



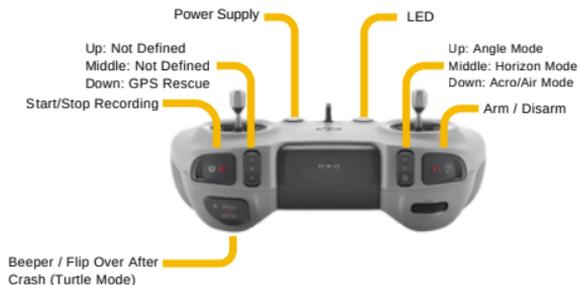
- Turn on the pairing mode of the flying glasses and the remote control until a "beep-beep..." prompt tone is heard.
- The remote control also needs to be in the power-on state, press and hold the power button until a "beep-beep..." prompt tone is heard, and the battery indicator light flashes cyclically.
- After successful pairing, the prompt tone of the flying glasses stops and the image transmission is displayed, and the prompt tone of the remote control stops.



Remote Control Settings

DJI remote control

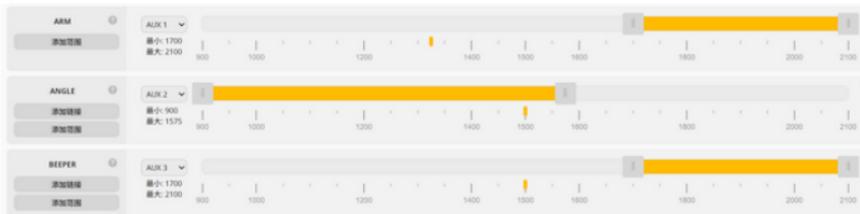
- For DJI remote controller, it is recommended to set the joystick channels as shown in the figure.



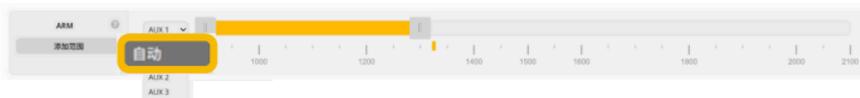
其他遥控

- 默认设置：对于遥控模式的设置，瑞速科技产品出厂默认设置通道如下：

ARM	解锁	默认出厂的edgetx系统遥控的CH5对应拨杆为SA
ANGLE	自稳模式	对应CH6通道（遥控对应拨杆为SB）
BEEPER	蜂鸣器开关	对应CH7通道（遥控对应拨杆为SC）



- 如您想添加新功能模式，请点击该功能的添加范围，选择通道为自动。



- 然后拨动您想赋予该功能的遥控拨杆，观察地面上黄色指示条跳动位置。
- 当遥控拨杆处于打开时，请注意黄色指示标应在黄色滑块区域内，并确保 遥控拨杆处于关闭时，指示条跳出黄色滑块区域。（若黄色指示标未落到黄色滑块区域内，或未脱离滑块区域，请拖动滑块调整即可）



Other Radio Controllers

- **Default settings:** For the settings in remote control mode, the default channels of RATE Technology's products at the factory are as follows:

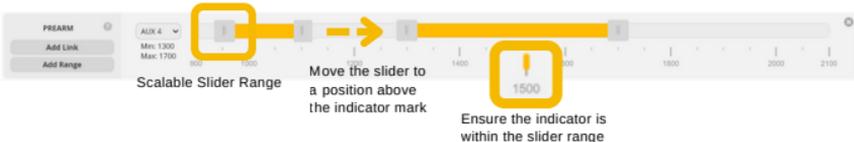
ARM	unlock	In the default factory-set EdgeTX system, the CH5 of the remote control corresponds to the SA switch.
ANGLE	Self-stabilizing mode	Corresponding to CH6 channel (the corresponding remote control lever is SB)
BEEPER	Buzzer switch	Corresponding to CH7 channel (the corresponding remote control lever is SC)



- If you want to add a new function mode, please click the add range of this function and select the channel as automatic.



- Then toggle the remote control lever that you want to assign this function to, and observe the position where the yellow indicator bar on the ground station jumps.
- When the remote control lever is in the open position, please note that the yellow indicator should be within the yellow slider area, and ensure that when the remote control lever is in the closed position, the indicator bar jumps out of the slider area. (If the yellow indicator does not fall within the yellow slider area or does not move out of the slider area, simply drag the slider to adjust it.)



进阶设置（需自定义）：

PREARM	预解锁开关
GPS RESCUE	GPS救援模式
FLIP OVER AFTER CRASH	反乌龟模式

LED灯带设置

- 通过地面站的LED灯带设置菜单对LED进行简单设置

灯珠选择

功能设置

颜色选择

起飞前的检查

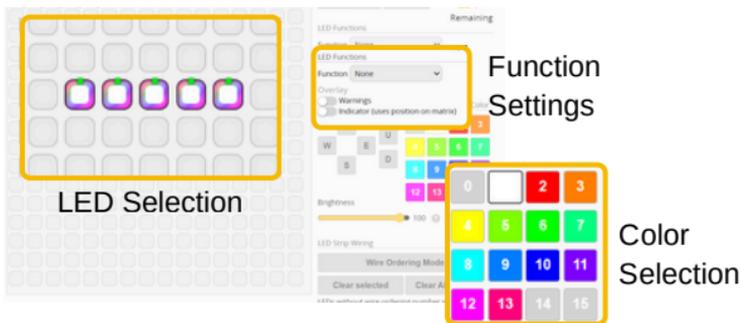
- 请确认螺旋桨的转向是否正确。请确认桨叶螺母是否拧紧,未锁紧状态下飞行,会有射桨的风险;
- 检查电池电压,在满电状态下,普通软包单芯电压应在4.2V左右,多芯请乘对应芯数,电池最低放到单芯3.6V,过低会有过放风险,此过程不可逆,需注意;
- 检查绑带是否将电池牢牢绑紧在飞机上,是否整理好电源线和固定好电池平衡头以避免被螺旋桨打到;
- 观察飞行区域,是否存在安全风险,比如有人进入了飞行的区域等,同时观察气象,判断是否具备飞行的条件;
- 接好电池后,将飞机放在水平地面上,保持3米的安全距离进行解锁;
- RATE科技祝您飞行顺利!

• Advanced Settings (Customization Required):

PREARM	Pre-unlock switch
GPS RESCUE	GPS rescue mode
FLIP OVER AFTER CRASH	Anti-turtle Mode

LED light strip settings

- Perform simple settings for the LED through the LED strip setting menu of the ground station



LED Selection

Function Settings

Color Selection

Pre-flight Checklist

- Please confirm whether the propeller rotation direction is correct. Please check if the propeller blade nuts are tightened. Flying with them unlocked may result in the risk of propeller ejection;
- Check the battery voltage. When fully charged, the voltage of an ordinary soft-pack single cell should be around 4.2V. For multiple cells, multiply by the corresponding number of cells. The minimum voltage for the battery should be 3.6V per cell. A voltage lower than this will pose a risk of over-discharge, and this process is irreversible, so please be cautious;
- Check if the straps firmly secure the battery to the aircraft, and if the power cord is neatly arranged and the battery balance plug is fixed to prevent it from being hit by the propeller;
- Observe the flight area to see if there are safety risks, such as someone entering the flight area. At the same time, observe the weather to determine if the conditions for flight are met;
- After connecting the battery, place the aircraft on a level ground and keep a safe distance of 3 meters to unlock it;
- RATE Technology wishes you a smooth flight!