

LiteRadio 1 Radio Transmitter

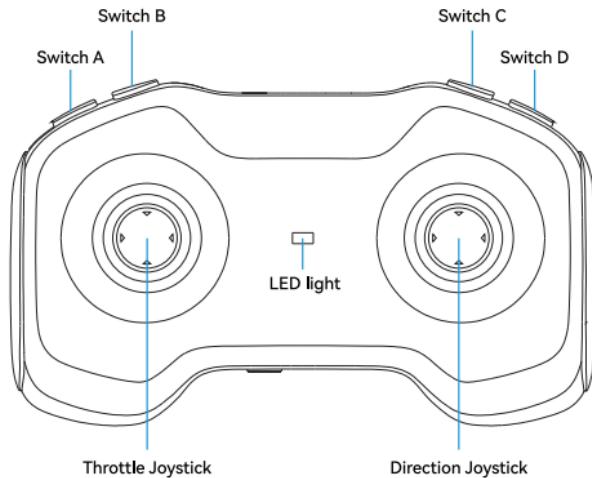
The LiteRadio 1 is a compact radio transmitter for the FPV entry market. This radio transmitter is portable, appealing and practical. It is a remote control suitable for FPV entry-level users.

As a new member of LiteRadio series, LiteRadio 1 has the following characteristics.

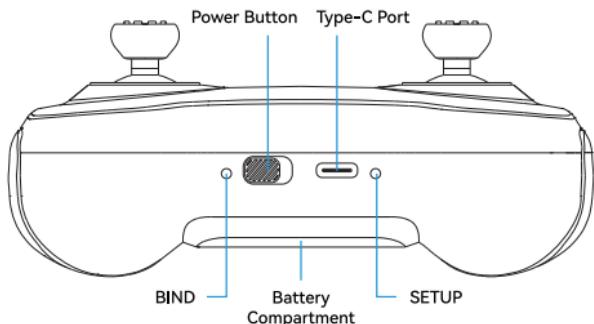
- 8 channels in total.
- Support CC2500 version built-in protocol switching.
- Configure 1000mAh battery and USB charge supported.
- Support BETAFPV Configurator for updating, configuring and tuning.
- USB joystick support for most practice simulators.

1. Overview

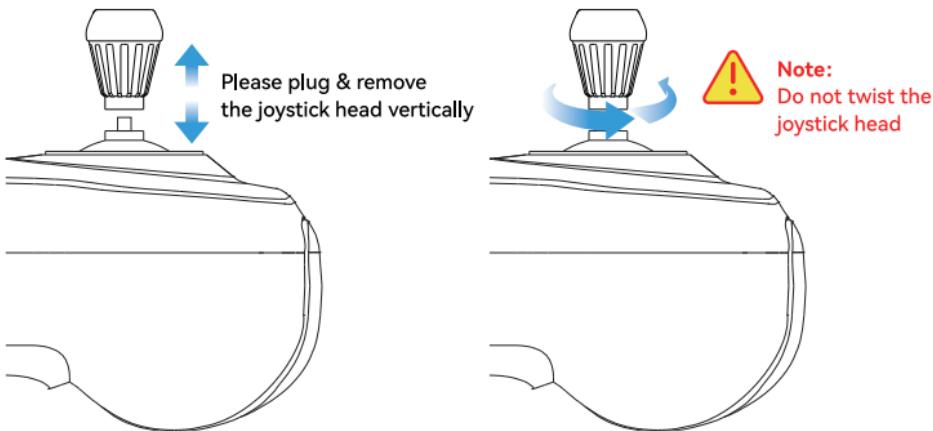
Front view



Bottom view



The LiteRadio 1 is compatible with two types of joystick heads. When replacing the joystick head, please be aware not to twist the joystick head. Instead, pull it out directly, then replace the joystick head. As shown below:



2. Joystick & Button Introduction

The radio transmitter has two joysticks which functions are as following:

- Throttle joystick: Push the stick up and down to control the throttle value of the drone; push the stick left and right to control the steering angle value of the drone;
- Direction joystick: Push the stick up and down to control the forward and

backward movement of the drone; push the stick left and right to control the left and right movement of the drone;

There are 7 buttons or switches on the remote control, and their functions are as following:

- Channel keys: SA\SB\SC\SD keys correspond to four channel switches, and each channel can be set to two levels of gears.
- Power Button: Switch the power button to the right to turn on, and switch the power button to the left to turn off.
- BIND Button: Enter binding mode after radio transmitter is powered on.
- SETUP Button: Enter joystick calibration mode after radio transmitter is powered on.

3. LED Indicator and Buzzer

- The LED light indicates the working status of the radio transmitter.

| State of the LED Light | Reason | Solution |
|-----------------------------|---|--|
| Blue light solid on | Working | |
| Red light solid on | The throttle joystick or switches are not in the lowest | Lower throttle and switches to the lowest position. Turn to blue then. |
| Red light flashing quickly | The radio transmitter is binding | Wait for completing binding |
| Blue light flashing slowly | Battery reaches the low voltage limit | Charge the transmitter |
| Red light breathes slowly | On charging | |
| Green light breathes slowly | Charge complete | |

The radio transmitter has a built-in buzzer. When it alarm twice as "di - di", it means that the battery is too low and the radio transmitter needs to be charged.

4. Switching Protocol

Note: This chapter only applies to the CC2500 version of the radio transmitter.

How to check the current protocol

The CC2500 version radio transmitter could support 4 different protocols, including Frsky D16 FCC, Frsky D16 LBT, Frsky D8 and Futaba S-FHSS. The current protocol is indicated by the flashing times of the red LED when power on, before the buzzer alarm.

| LED Status | Protocol Version |
|-------------------|------------------------------|
| Flash once | Frsky D16 FCC (ACCST 1.X 版本) |
| Flash twice | Frsky D16 LBT (ACCST 1.X 版本) |
| Flash Three Times | Frsky D8 |
| Flash Four Times | Futaba S-FHSS |

How to change the current protocol

Below are the steps to change protocol (Frsky FCC D16, Frsky D16 LBT, Frsky D8, or Futaba S-FHSS),

1. Power off the radio transmitter;
2. Press and hold the BIND button while power on the radio transmitter;
3. Then the flash times of the red LED before buzzer alarms will change, according to the tables above.

Note: LiteRadio 1 only work with D16 ACCST 1.x Frsky protocol. So if you use a Frsky receiver with D16 ACCST 2.X version or ACCESS version, binding will fail.

5. Binding the Receiver

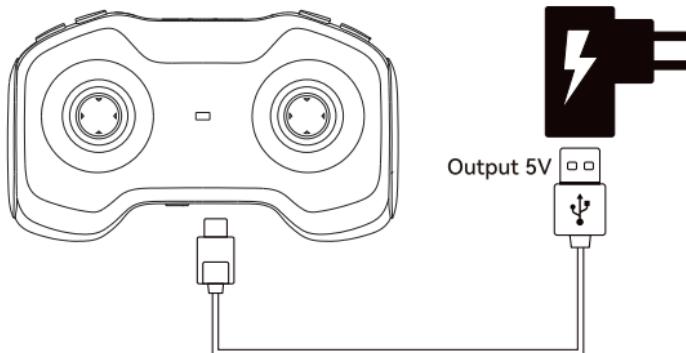
There are the steps to make the LiteRadio 1 enter binding status.

1. Power on the remote control radio transmitter and wait for its system to load completely. LED light is solid blue.
2. Enter receiver's binding mode, and wait for it to bind with the radio;
3. Press the bind button on the bottom of the transmitter to enter binding status. The LED light will be red and flash quickly.
4. The LED light will change to solid blue 5 seconds later when transmitter exits binding status. If not bind successfully, repeat the process above.

6. Charging

Remote control radio transmitter has a built-in 1000mAh battery. When the red light flashes twice and the buzzer alarms twice, indicates that radio transmitter is low battery and needs to be re-charged. Below are the charging methods for reference:

- Turn off the radio transmitter.
- Plug in remote control radio transmitter with adapter by USB cable (5V output adapter is allowed).
- The LED light breathes in red means charging, while in green means fully charged.



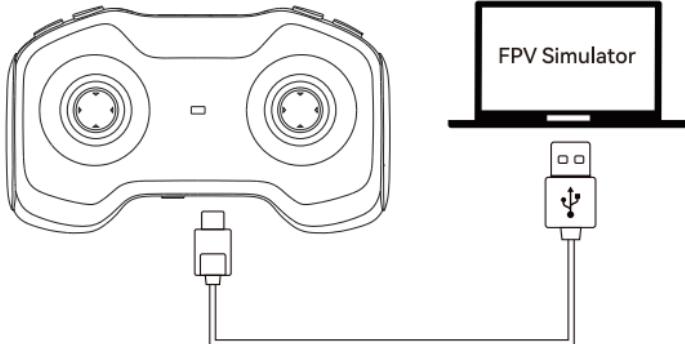
Type-C Data Cable

The continue working time for full charged battery is about 8 hours.

Fast charging protocol is not supported. So radio transmitter can not be quickly charged.

7. HID Joystick

It is the safest and quickest method to get started by using FPV simulator for starters. LiteRadio 1 remote control radio transmitter supports most of FPV simulators on market with comprehensive configuration.



Type-C Data Cable

Operation steps below:

- Turn off radio transmitter.
- Connect the transmitter to computer via USB data cable. Wait for the LED light breathes in red or green.
- Install driver from PC automatically, prompt box pops up after successful installation. Then, remote control radio transmitter works normally.

⚙ Setting up a device

We're setting up 'BETAFPV JoyStick'.



Other devices



BETAFPV JoyStick

User needs to manually install driver if PC doesn't install automatically or installed incorrectly.

DO NOT power on the transmitter first and connect it to the PC. The USB port is invalid in this situation.

8. Joystick Calibration

The joystick data may offset after it has used for a period of time (if joysticks is hit by physical). User need to re-calibrate joysticks based on following steps;

- After powering on, press SETUP button on the back of remote control radio transmitter, it hears two "Bee Bee" sounds, and red LED flash quickly (two flashes each time), which means remote control radio transmitter entered calibration mode.
- Move throttle joystick and direction joystick to middle position, press SETUP button again, wait until the buzzer beep three "Bee Bee Bee" sounds, red LED light flashes quickly (two flashes each time), which indicates joystick data has been acquired and enter into the boundary value calibration mode.
- Toggle the joystick to move to the top, bottom, left, and right joystick boundaries respectively (do not to press too hard, the joystick just needs to touch the boundary) and keep the position for 1-2S, then press the SETUP button one more time, we can hear a long beeping sound (about 3 seconds) from the buzzer again, and the red LED light stops flashing, indicating that the calibration of the joystick is completed.

9. BETAFPV Configurator

BETAFPV Configurator is utility designed to simplify updating, configuring and tuning the radio transmitter.

Download address: https://github.com/BETAFPV/BETAFPV_Configurator/releases

How to enter the radio transmitter configuration page:

- Turn off the radio transmitter.
- Connect the transmitter to computer via USB data cable. Wait for the LED light breathes in red or green.
- Open the BETAFPV Configurator program in your computer and switch to the configurator page for radio transmitter.
- Click the "Connect Radio Controller" button on the top right of the page.

Available configuring services include:

- Change joystick mode (Left / Right stick throttle) .
- Mixing, trimming of each channel and other switching .

DO NOT power on the transmitter first and connect it to the PC. The USB port is invalid in this situation.

10. 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 LiteRadio 1 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 0.450W/Kg.

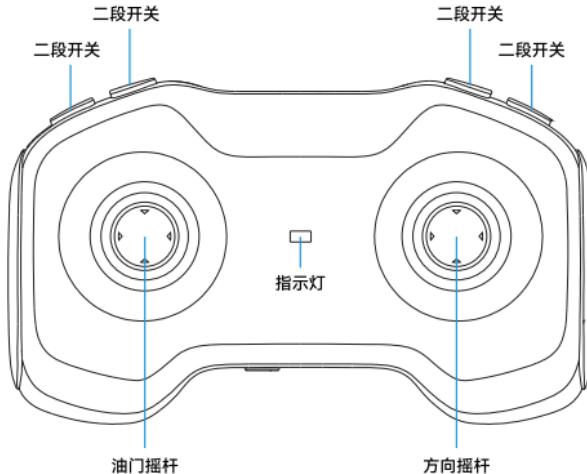
LiteRadio 1 遥控器是针对入门市场的一款小巧型遥控器。这款遥控器集实用、美观、便携于一体，是一款适合入门级用户的遥控器。

LiteRadio 1 作为LiteRadio系列中新的成员，它具备了以下特点。

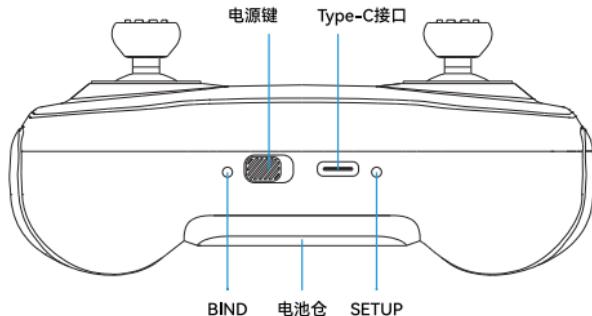
- 支持8通道
- 支持CC2500版本内置协议切换
- 配置1000mAh电池，支持USB充电
- 支持BETAFPV Configurator上位机调参和升级
- USB Joystick模式支持绝大部分模型模拟器

1. 外观形态

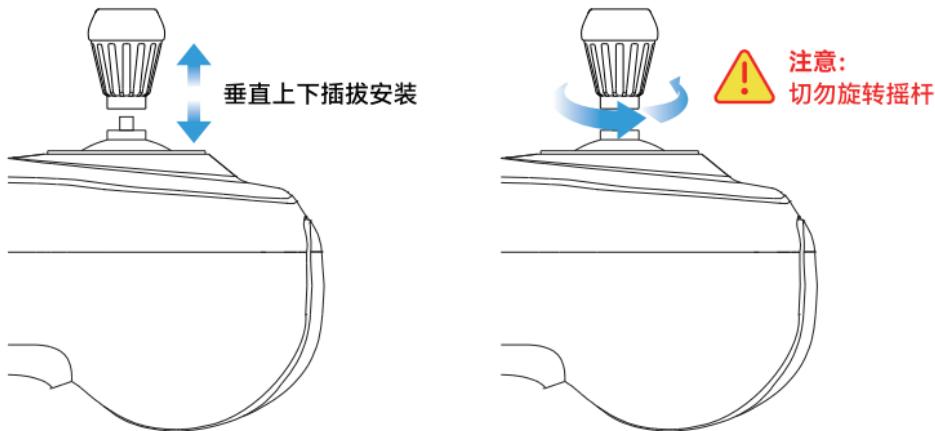
LiteRadio 1 遥控器正面如下图所示。



LiteRadio 1 遥控器底面如下图所示。



LiteRadio 1 遥控器可以适配两款摇杆头，当切换摇杆头时需要注意，不可旋拧摇杆头，而是应该直接拔取下来，再更换摇杆头。如下图所示：



2. 摆杆及按键功能介绍

遥控器有两个摇杆，其功能如下：

- 油门摇杆：向上向下打杆可以控制无人机的油门值；向左向右打杆可以控制无人机的转向角度值；
- 方向摇杆：向上向下打杆可以控制无人机的前后移动；向左向右打杆可以控制无人机的左右移动；

遥控器上有7个按键或开关，其功能如下：

- 通道按键：SA\SB\SC\SD按键分别对应四个通道开关，每个通道可以设置两段档位。
- 电源键：向右拨动电源键开机，向左拨动电源键关机。
- BIND键：遥控器开机状态，短按后遥控器进入对频模式。
- SETUP键：遥控器开机状态，短按后遥控器进入摇杆校准模式。

3. LED提示灯和提示音

遥控器的RGB LED提示灯，用于提示遥控器的常见状态。

| 指示灯状态 | 状态说明 | 解决办法 |
|--------|-------------|-----------|
| 蓝色常亮 | 正常工作状态 | |
| 红色常亮 | 开机时油门杆不在最低位 | 将油门杆拨到最低位 |
| 红灯快闪 | 处于对频过程中 | 等待对频完成 |
| 蓝色慢闪 | 电池电压过低 | 给遥控器充电 |
| 红灯渐变闪烁 | 充电中 | |
| 绿灯渐变闪烁 | 充电完成 | |

遥控器内置了一个蜂鸣器，当它“滴滴”两声时，说明电量过低，需要给遥控器充电。

4. 遥控器协议查看与切换

注意：本章节只适用于CC2500版本遥控器。

- 如何查看遥控器协议

关机状态下，拨动电源键开机，在BB响发出声音之前，可以看到红灯闪烁，闪烁次数代表当前协议类型；

- 如何切换遥控器协议

在关机状态下，先按住遥控器底部的BIND按键，同时拨动电源键开机，此时红色LED灯闪烁次数将发生变化，红灯闪烁完毕协议即切换成功，其闪烁次数表示下次开机的协议版本。

红灯闪烁次数与对应协议版本关系具体如下：

| 红灯闪烁次数 | 协议版本 |
|--------|------------------------------|
| 闪烁一次 | Frsky D16 FCC (ACCST 1.X 版本) |
| 闪烁两次 | Frsky D16 LBT (ACCST 1.X 版本) |
| 闪烁三次 | Frsky D8 |
| 闪烁四次 | Futaba S-FHSS |

注意：LiteRadio 1只能够支持D16 ACCST 1.X版本的协议。如果使用Frsky官方接收机，且该接收机为D16 ACCST 2.X或者ACCESS协议，则无法对频连接使用。

5.遥控器绑定接收机

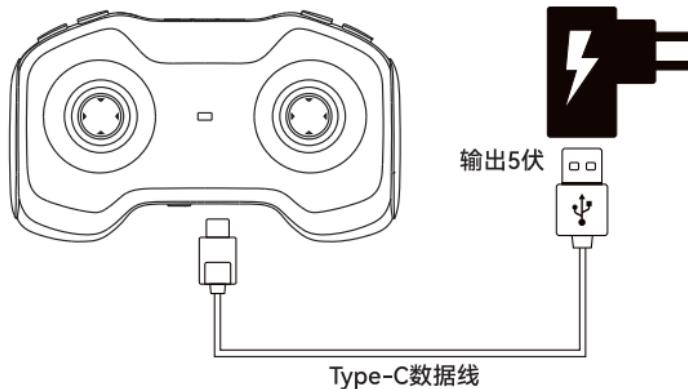
在开机状态下，按下遥控器底部的BIND按键，遥控器将进入绑定状态，该过程为持续5秒的红灯闪烁，待停止闪烁后，绑定过程结束。

1. 遥控器开机，确保LED灯环处于蓝色常亮；
2. 使接收机进入对频状态，等待与遥控器对频；
3. 按一下遥控器底部的BIND按键，遥控器正面的LED灯会呈现红色闪烁，此时遥控器进入时间为5秒的对频状态；
4. 5秒之后遥控器自动退出对频状态，LED灯变为蓝色常亮，检查遥控器是否对上接收机；如果没有，请重复上面第3步操作。

6.低电量警报及充电

遥控器配置了1000mAh锂电池，无须再外接其他电池。当红灯闪烁两次，同时蜂鸣器“滴滴”两声，表示遥控器电池电量较低，需要重新充电。充电方式如下：

- 关闭遥控器；
- 使用USB线连接遥控器和适配器（5V输出的适配器即可，例如手机充电器）；
- 红灯渐变闪烁，表示正在充电中；绿灯渐变闪烁，表示充电结束。



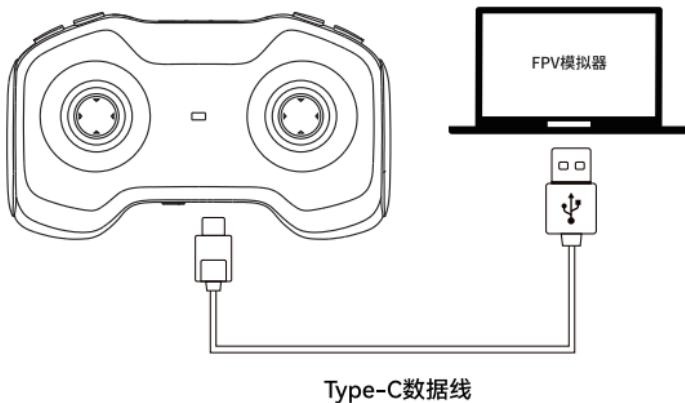
电池充满，可以连续使用 8小时左右；

电池充满，关机放置，可以保证 30天电池电量仍保持在80%左右。

遥控器不支持快充协议，无法快速充电。

7.HID Joystick模式使用

在连接个人电脑后，LiteRadio 1 遥控器可作为USB游戏手柄使用，可以用来练习FPV模拟器。具体步骤如下：



Type-C数据线

- 遥控器关机；
- 使用一根USB数据线连接遥控器和PC电脑，遥控器LED灯变为红色或绿色渐变闪烁；
- PC会自动安装驱动，驱动安装成功后弹出提示框，说明电脑已经成功识别到此遥控器并可以正常使用。

正在设置设备

正在设置“BETAFPV JoyStick”。

其他设备



BETAFPV LiteRadio 1 Joystick

若无法正常识别出遥控器，则可能是电脑没有自动安装驱动，或者识别了错误的驱动程序，需要重新安装驱动。

注意：遥控器开机状态下连接到电脑，USB口无信号输出，无法使用Joystick功能。

8.摇杆校准

遥控器在使用一段时间之后，可能会出现摇杆值发生偏移的情况。这个时候可以通过校准摇杆值，确保其摇杆值处于中位。

- 在开机状态下，按一下遥控器底部的SETUP按键，待听到蜂鸣器持续的发出滴滴声（2声），同时红色LED快速闪烁（每次闪烁两下），表示进入校准模式。
- 将两边的摇杆都移动至中间位置，再次按一下SETUP按键，待蜂鸣器持续发出滴滴声（3声），同时红色LED灯快速闪烁（每次闪烁两下），表示摇杆中值已经校准完毕，并进入边界值校准。
- 拨动摇杆，将摇杆分别移至正上、正下、正左、正右并停顿1-2S，接着再次按一下SETUP按键，再听到蜂鸣器发出一声长时间滴声（大概3秒），且红色LED灯停止闪烁，表示摇杆校准完毕。

9.BETAFPV Configurator基本使用

BETAFPV Configurator可以用来对飞控或者遥控器进行参数配置，固件升级。

下载地址：https://github.com/BETAFPV/BETAFPV_Configurator/releases

如何进入遥控器参数配置页面：

- 遥控器关机；
- 用USB数据线将遥控器连接到电脑，LED灯变为红色或绿色渐变闪烁，遥控器被识别为HID设备；
- 打开BETAFPV Configurator，切换到遥控器配置程序页面；
- 点击右上角“连接遥控器”按钮，进入遥控器参数设置页面。

可以进行的配置内容包括：

- 切换摇杆模式（即日本手、美国手）；
- 各通道的混控，微调等切换。

注意：遥控器开机状态下连接到电脑，USB口无信号输出，无法使用BETAFPV Configurator。



Instagram



Facebook



Youtube



BETA FPV