



Please visit our official website(www.fmshob-by.com) and search for 'SyncPilot'.
Download the HeadTracker software from the link provided in the description below.

请在FMS官方网店（FMS模玩旗舰店、FMS模型世界）搜索SyncPilot
在商品详情处获取下载链接，或直接联系客服获取

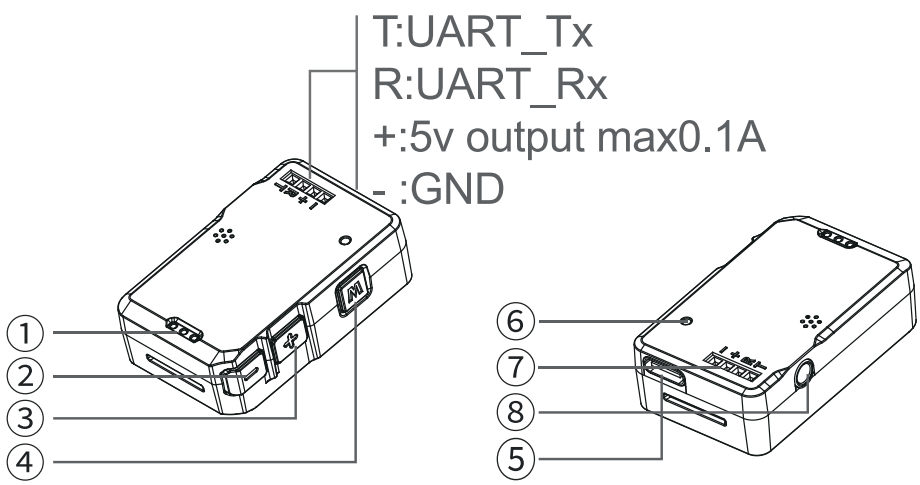
Introduction

Meet SyncPilot – the slick head tracking system built by FMS and XF Robot for mid-to-close-range FPV action. It runs on its own dedicated 2.4G connection (no messy signal forwarding required), so you get plug-and-play simplicity for your FPV gear.

The system delivers universal compatibility with virtually all RC platforms - from multirotors and fixed-wings to surface vehicles. Under optimal conditions, it achieves 1km ground operational range and 4km airborne range, making it the ideal solution for most mid-to-close-range FPV scenarios. Slap this baby on your model and dive into head-tracking magic!

The system consists of three components:

1.Headtracking Module

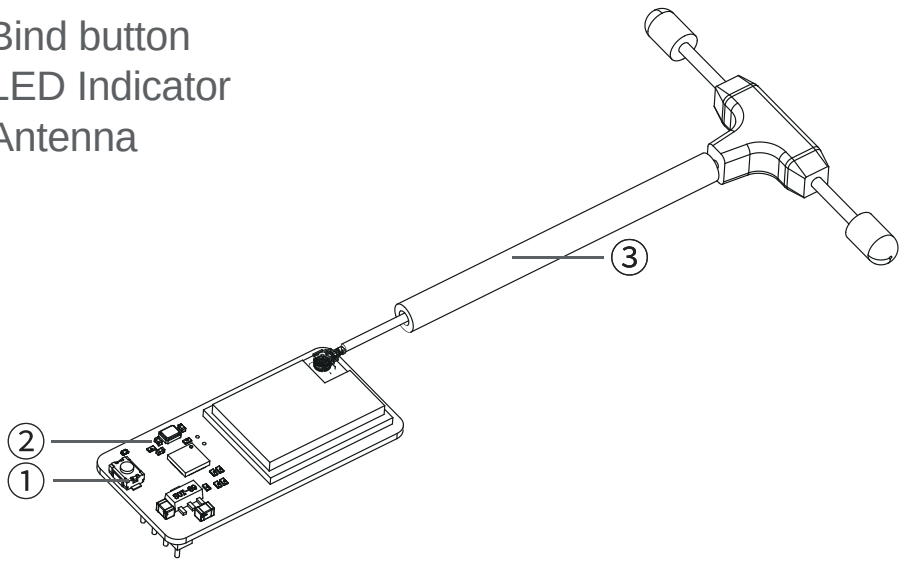


1.Battery Indicator
2.Sensitivity -
3.Sensitivity +
4.Mode Button
5.USB port
6.Charging Indicator
7.UART
8.PPM Output

Introduction

2.Headtracking TX

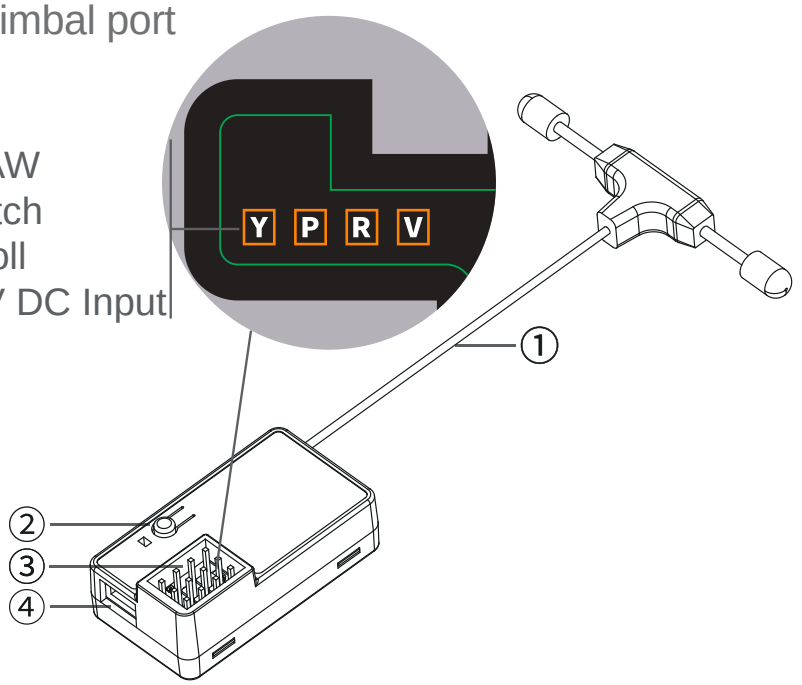
1.Bind button
2.LED Indicator
3.Antenna



3.SyncPilot Headtracking RX

1.Antenna
2.Bind Button
3.Gimbal servo port
4.C-20 Gimbal port

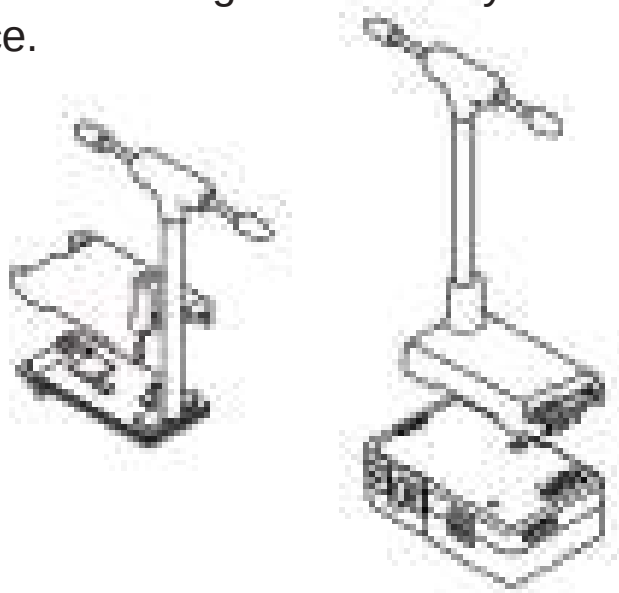
Y —— YAW
P —— Pitch
R —— Roll
V —— 5V DC Input



*Note: The gimbal needs to be purchased separately.

Installation and Usage

1.Insert the headtracking TX into the UART port of the headtracking module and secure it with the included adhesive tape. The installation direction is shown in the diagram.
Installed in the wrong direction may cause damage to the device.



2. Press the M button on the headtracking module to check the battery level. Charge the module though the Type-C USB port (make sure the charging power source is 5VDC, otherwise it may cause damage to the device.)
3. Press the M button once, release, then press and hold it for 2 seconds to turn on or turn off the headtracking module.
4. Connect the “ V ” port of the SyncPilot RX to a 5VDC port using the extension cable (any channel of your receiver or other devices that provide 5VDC).
5. Hold down the Bind button on the SyncPilot RX until the blue indicator light flashes quickly, then hold down the Bind button on the TX. When the blue light stays on, the binding is complete. (Ensure that only one set of TX and RX is operating during the binding process.)

Installation and Usage

6. Adjust the neutral points of your servo gimbal's yaw, pitch, and roll servos. Then, connect the servo wires to the Yaw,Pitch, and Roll ports on the SyncPilot receiver, respectively. The gimbal should now function properly.
(Note: If you do not need to use ROLL, the port can be used as a power supply port for a 5V cooling fan.)
7. Hold down the M button on the headtracking module to reset orientation.

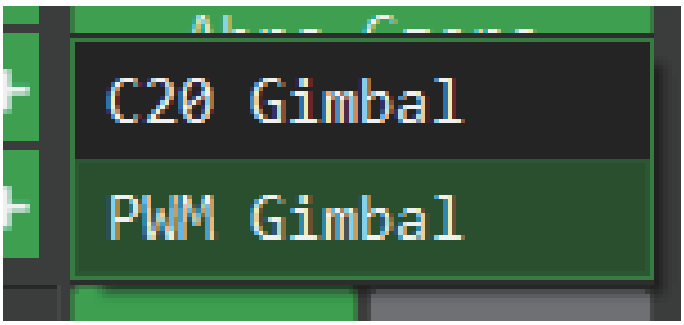
Methods for Adjusting Direction and Gain

1. Download the CwHeadTracker software to your PC computer.
2. Turn on the head tracking module, and connect it to the computer's USB port using a TYPE-C data cable. Select the corresponding COM port and click "Start Debug" to connect the device.



Methods for Adjusting Direction and Gain

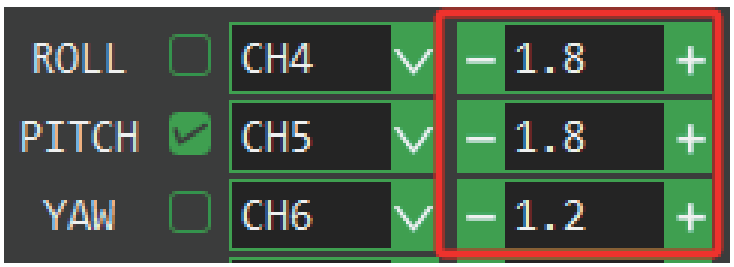
3. Select the Gimbal type（If you use servo gimbal, select PWM; If you use XF C-20 series gimbal，select C20）



4. Check the box to reverse the certain channel if needed.



5.Adjust the number to set a comfortable steering gain (e.g., if set to 2.0, a 30° head movement will result in a 60° output movement).



6.Press “Stop Debug” to finish

Firmware Upgrade

1. After the headtracking module is successfully connected to the CwHeadTracker software, click on “Open” at the bottom right corner and select the firmware file (e.g., CwHeadTracker_V2.1.ughf).
2. Click “Upgrade”, and then hold down the M button on the headtracking module until the firmware upgrade is completed.

HeadTracking Module Calibration

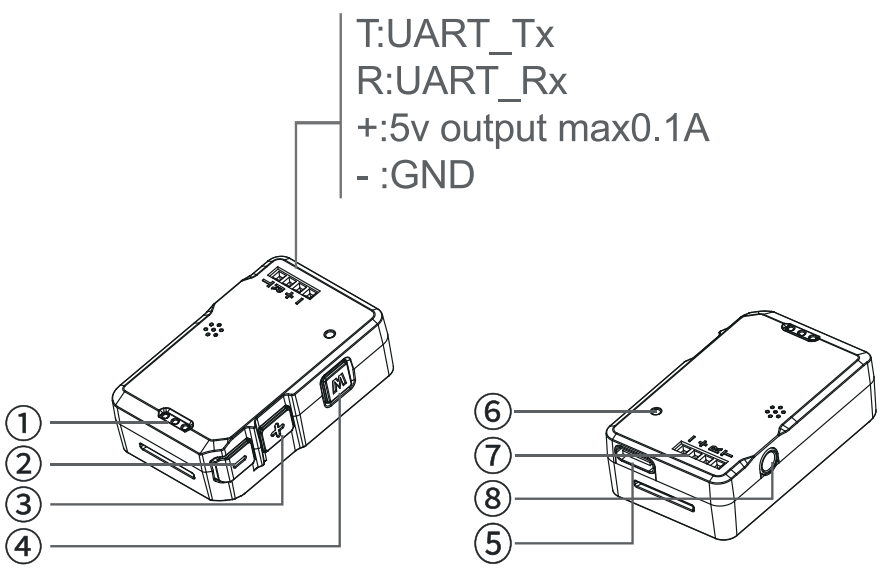
Note: The headtracking module has undergone rigorous calibration before leaving the factory. If not necessary, please do not perform accelerometer calibration, gyroscope calibration, or magnetometer calibration. If calibration is required, please visit the product page on our official website to download the PDF instructions.

SyncPilot 头追系统介绍

SyncPilot是FMS与先飞共同开发的一款专注于中近距离沉浸式FPV使用的头追系统，它采用完全独立的2.4G通讯，不再需要通过其他设备进行转发头追信号，极大的方便了FPV玩家的改装和安装步骤；本系统可以兼容几乎所有RC设备，包括飞机、车、船等等；在空旷无干扰的条件下，可达到1km的地面操控距离，4km的空中操控距离，完全满足中短距离FPV体验的需求；赶快把这套系统安装到您的模型上，开启FPV头追体验吧！

本系统包含3个部件：

1.头追模块

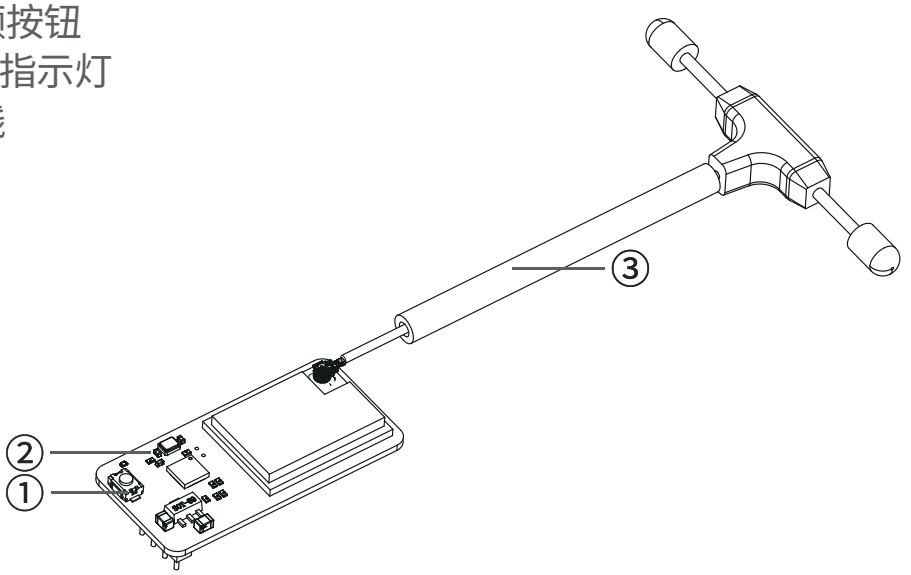


1.电量指示灯
2.云台灵敏度 - 按钮
3.云台灵敏度 + 按钮
4.模式切换按钮
5.充电 / 升级接口
6.充电指示灯
7.扩展接口
8.PPM 输出接口

SyncPilot 头追系统介绍

2.头追发射器

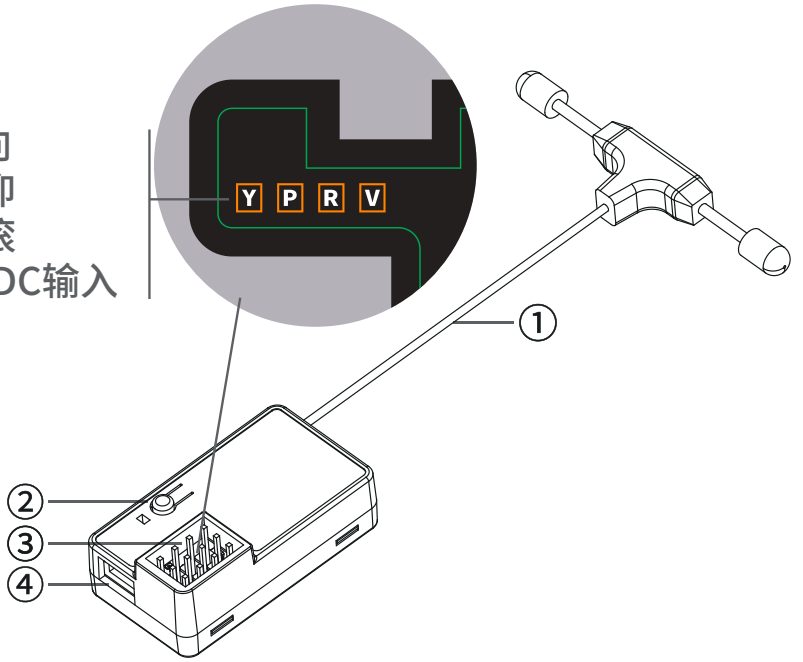
1.对频按钮
2.LED指示灯
3.天线



3.SyncPilot头追接收机

1.天线
2.对频按钮
3.云台舵机插口
4.C-20云台插口

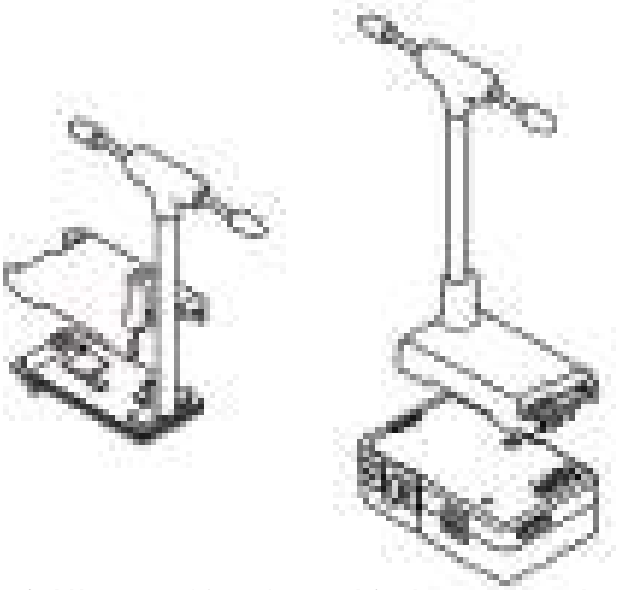
Y —— 方向
P —— 俯仰
R —— 横滚
V —— 5V DC输入



注意:云台需要另外购买

安装与使用

1.把头追发射器的排针插进头追模块的插孔，并用附带的胶贴贴紧。安装方向如图所示，插反可能会造成设备损坏



2.短按头追模块上的M键以检查电量，请保证模块电量充足（确保充电电源在规格范围内（5VDC），否则可能导致设备工作异常或损坏。）
3.短按一次M键，再长按2秒以上，将开启头追模块
4.把SyncPilot接收机的“V”插口用延长线连接至5VDC接口（您的接收机任意通道或者其他提供5VDC的接口）
5.长按SyncPilot接收机上的Bind按钮，待蓝色指示灯快闪后，长按发射器上的Bind按钮，待蓝灯常亮后，对频完成；（请确保对频时只有一套收发设备在工作
6.把您的舵机云台指向（Yaw）、俯仰（Pitch）、滚转（Roll）舵机调好中立点，然后把舵机线分别插SyncPilot接收机的Y、P和R口，此时云台可以正常工作；

注意：若您不需要用到R口，可以当做5V散热风扇的供电口；

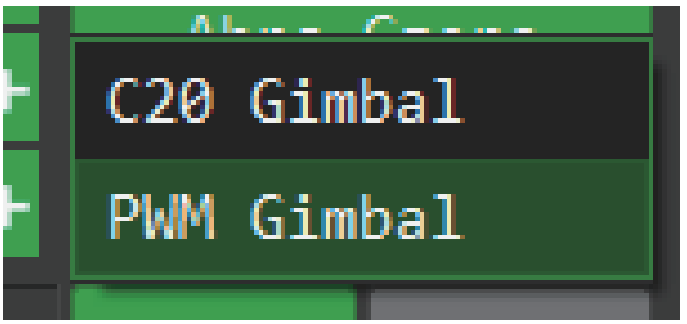
7.长按头追模块的M键可以复位）

正反向及倍率调整方法

1.下载CwHeadTracker调参软件至PC电脑
2.开启头追模块，并使用有数据传输功能的TYPE-C数据线连接至电脑USB，选择对应的COM口，按“开始调试”连接设备。



3.选择云台种类（若您使用舵机云台，选择PWM；若您使用先飞C-20系列云台，选择C-20）

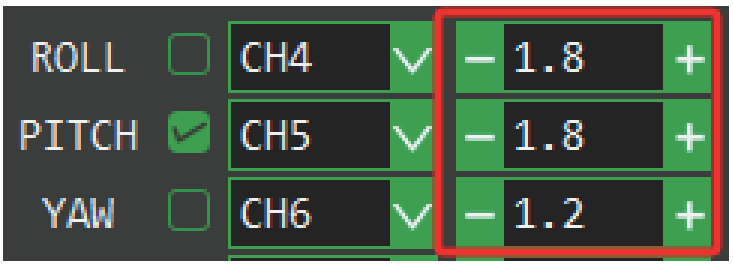


正反向及倍率调整方法

4.勾选选框为设置通道反向



5.可调整数字设置你舒适的转向倍率（如设置为2.0，头追转向30°，输出转向60°）



6.按停止调试结束

固件升级方法

1.头追模块成功连接 CwHeadTracker 软件后，点击右下角的“打开”，选择固件文件（如CwHeadTracker_V2.1.ughf）
2.点击“升级”，然后一直按住头追模块的M键，直至固件升级完成。

头追模块校准

注意：头追模块出厂前已进行严格的校准，如无必要，请勿进行加速度校准、陀螺
仪校准及磁罗盘校准。
若需要校准，请联系淘宝客服获取校准方法；

FFCID

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

This device 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 device 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
device does cause harmful interference to radio or television reception, which can be determined
by turning the device 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 device and receiver.

FFCID

--Connect the device 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

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

FCC ID:

在遵从法律法规的情况下，我司享有对本说明手册的最终解释权。我司有权在不事先通知的情况下，对本说明手册进行更新改版或终止。自说明手册更新改版之日起，说明手册按更新改版后的内容执行。玩家可访问FMS官方网址或 FMS 锐飞 APP内，查阅最新版本说明手册，了解新功能及新操作指南。

In compliance with laws and regulations, our company has the final right to interpret this instruction manual. Our company reserves the right to update, revise or terminate this manual without prior notice. From the date of the update and revision of the instruction manual, the instruction manual shall be implemented according to the updated and revised content. Players can visit the FMS official website or FMS Reflex APP to check the latest version manual to learn about new functions and new operation guides.

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意帆模型 Well Model

航模
苏州雷飞航模车模
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