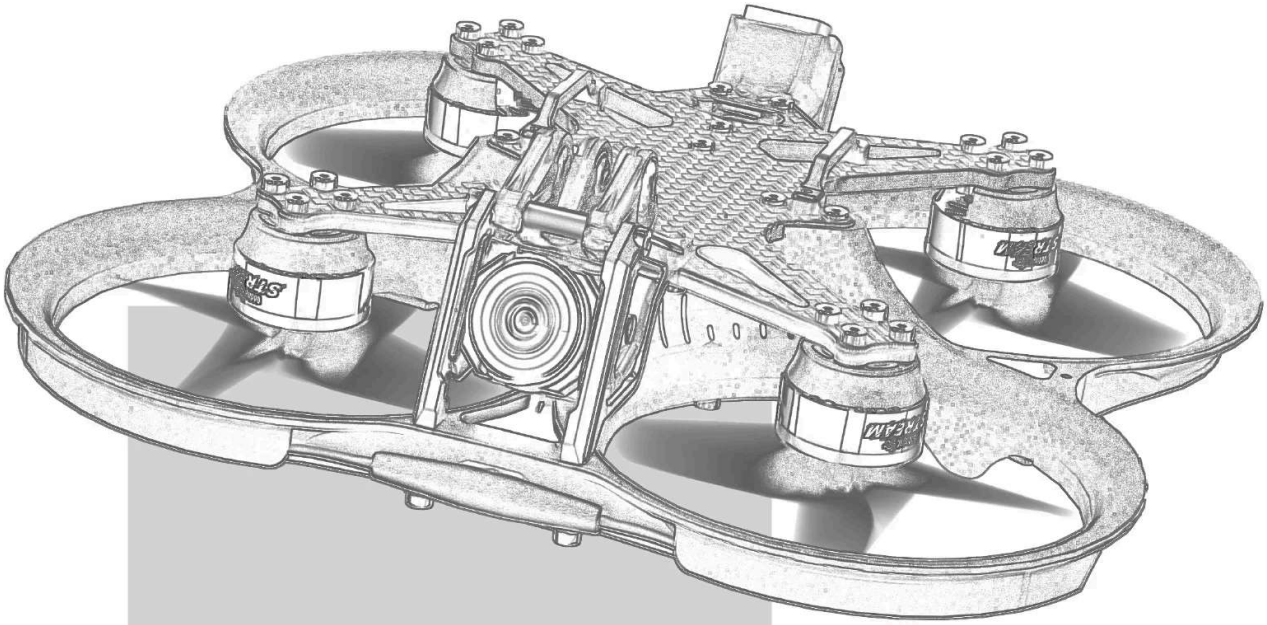
Mage30 Pro BNF User Guide

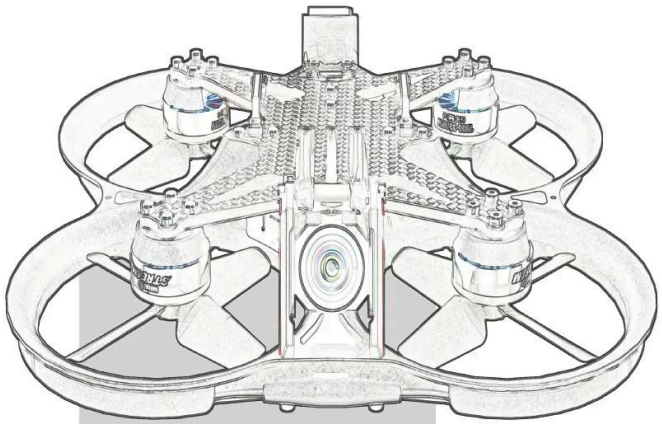
August 08, 2023 Vincent Young



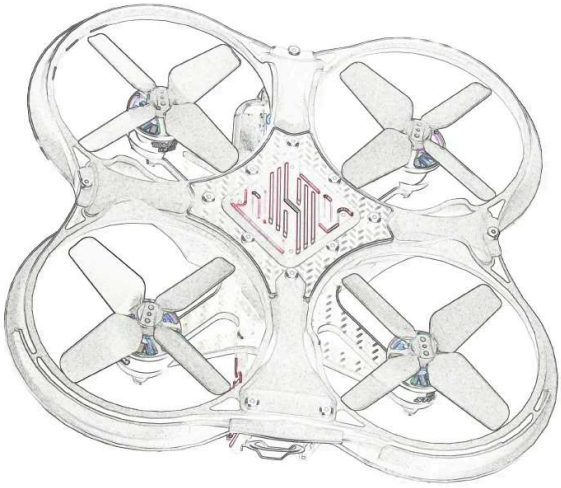
Mage-Pro
Cinematic FPV Drone

User Guide

contents



01/
Product Introduction

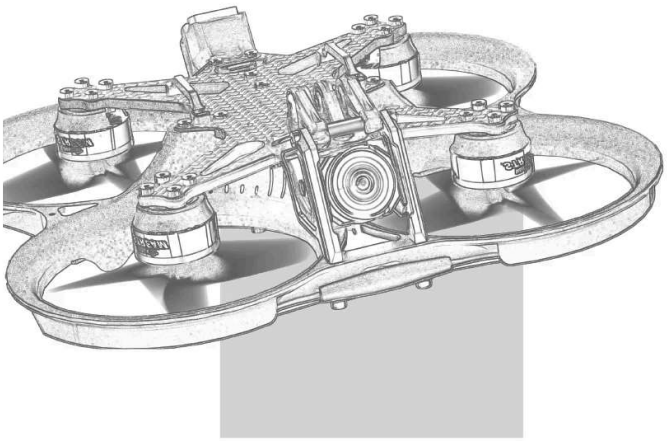


Mage-Pro was designed by the OddityRC team, born for cinematic FPV. The Whole fuselage adopts an integrated design, which provides reliable protection for internal electronic components. It is small and portable, and it can fly flexibly indoors and outdoors. Mage-Pro can shoot 4K 60fps UHD videos stably with the DJI O3 Air Unit. At the same time, DJI Action and Gopro series sports cameras can be mounted, with stable control and strong power.

Mage-Pro is an upgraded version of the previous Mage product, which improves the flight and usage experience in all aspects.

- The main plate of the body is made of Toray high-strength carbon fiber.
- The camera mount is two-color anodized 7075 aluminum alloy bracket, embedded with soft TPU parts which providing reliable protection for the camera and blocking the transmission of vibrations.
- The tail part adopts soft TPU fixing parts to emcapsulate the battery plug and the Type-C port of the flight controller, which brings convenient parameter adjustment experience and hides all the exposed wiring harnesses.
- Ducted prop guard, using a new modified material, which is both rigid and tough to withstand high-strength impacts during crash. The prop guard follows the innovative design of the OddityRC team, which effectively reduces flight noise and improves motor efficiency.
- Dust cover is added at the bottom of the motor, which can prevent the motor from foreign objects.
- Compatible with normal analog VTX, HD vista/link Air Unit, Walksnail Avatar VTX, DJI O3 Air Unit.
- The DJI O3 Air Unit version is equipped with a custom heat sink and thermal grease. The heat sink is embedded in the bottom plate and allows airflow to dissipate heat generated by O3 Air Unit.
- Optimized for O3 cable insertion/TF card insertion/bind operation, the prop guard has adapted openings at the corresponding position, so you can bind/export video easily.
- Mage-Pro is tested by professional drone pilot with fine-tuning PID parameters and filtering, which provides high wind resistance and silky smooth flight feel.

02/
Product parameters



- **Product Name**: Mage-Pro

Detailed Configuration

- **Frame**: Mage-Pro
- **FC**: OOddityRC F722 40A AIO（MAX 50A)
- **VTX**: DJI O3/Caddx Vista Polar/Runcam Link Wasp/Walksnail Avatar/Rush Tank Mini
- **Receiver**: PNP/ELRS 2.4G/ELRS 915M/TBS Nano RX
- **Motor**: Stre am 1806-2200kv V2
- **Propeller**: HQProp DT76MM四叶桨
- **Recommended Battery**: 6S 850mAh~1150mAh

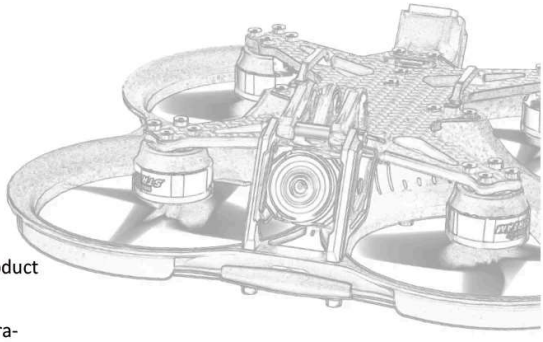
Parameter data

- **External Dimension**: 186 * 186 * 33 mm
- **Wheelbase**: 131mm
- **Propeller Diameter**: 76mm
- **Main Plate Thickness**: 3mm
- **Battery Plug**: XT60H-M

*Statement:

- *The maximum endurance time of the drone is measured in a windless and interference-free environment.*
- *The remote control distance data is the furthest RC distance of the drone in an unobstructed and interference-free environment.*
- *Flying with fpv goggles does not fulfill the requirements for flying within visual range(VLOS), some countries or regions require that observers be invited to assist in observing the flight while flying.Please use this product in compliance with local regulatory requirements.*

03/
Product Instructions



Install BetaFlight

● It is recommended that you pre-install the BetaFlight software for subsequent product use and parameters tuning.

● Installation package download： https://github.com/betaflight/betaflight-configurator/releases

● After entering the above page, you can view the latest version release information and download the corresponding installation file according to the operating system you are using.

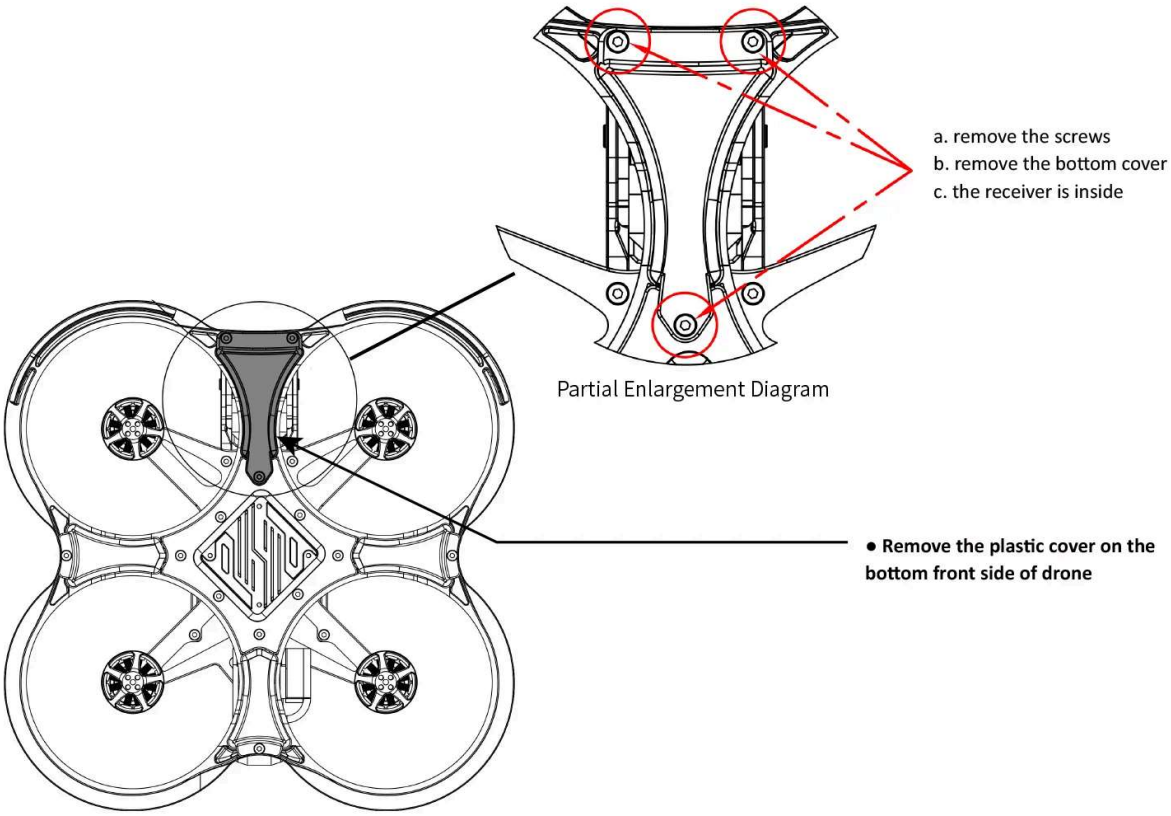
● Some devices will automatically download the corresponding driver when connecting to the flight controller for the first time,if your device lacks the corresponding driver, please go to the following link for downloading and installing.

- **CP210x USB to UART Bridge VCP Drivers**
  https://www.silabs.com/developers/usb-to-uart-bridge-vcp-drivers
- **STM32 Virtual COM Port Driver**
  https://www.st.com/en/development-tools/stsw-stm32102.html
- **Zadig**
  https://zadig.akeo.ie/

***Attention*:**

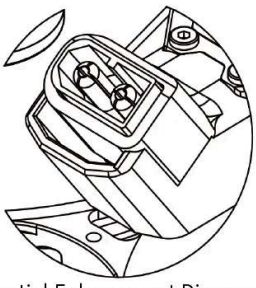
- *The next series of operations may include battery connection. Before power-on operation, please remove all propellers and pay attention to the correct connection of positive and negative poles. Make sure you have installed the antenna, and avoid touching the VTX device at the bottom of the aircraft to avoid burns!*
- *Powering on the aircraft for a long time in a stationary state may cause the VTX to overheat and shut down or be damaged. Please provide good heat dissipation conditions for the drone.*
- *During the flight, the VTX device dissipates heat through the bottom heat sink (only for O3 version) so there will be no overheating during the flight. But after landing, the VTX device may still at a high temperature, please avoid touching to aovid burns!*

04/
Receiver Binding

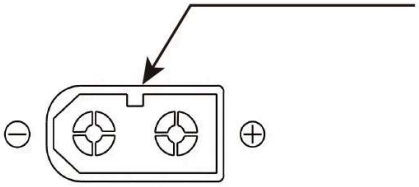


TBS Nano RX version

TBS Nano RX does not require the press of the receiver button for first binding, but OdddityRC products will be factory tested for first time binding as well as flight testing. Therefore, please refer to the following steps after you receive your drone.

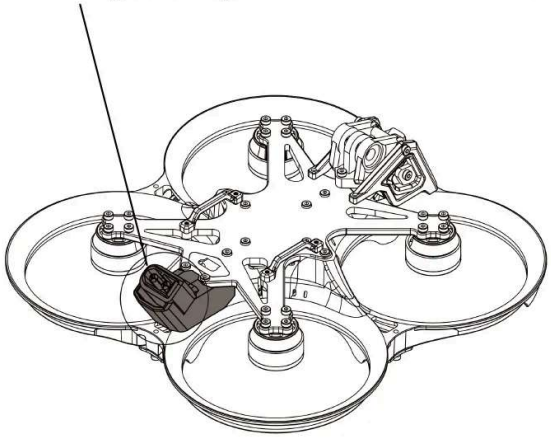


Partial Enlargement Diagram



XT60

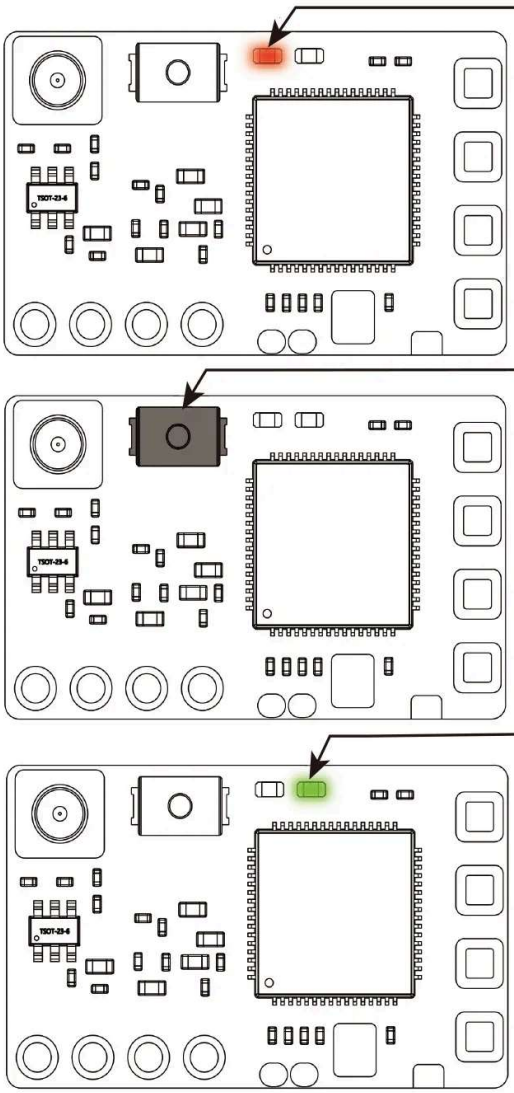
- **Connect battery to the drone**
- **Use suitable 6S LiPo battery to power the drone**
- **Pay attention to the correct connection of positive and negative poles**



Attention:

Before power-on operation, please remove all propellers and pay attention to the correct connection of positive and negative poles. Make sure you have installed the antenna, and avoid touching the VTX device at the bottom of the aircraft to avoid burns!

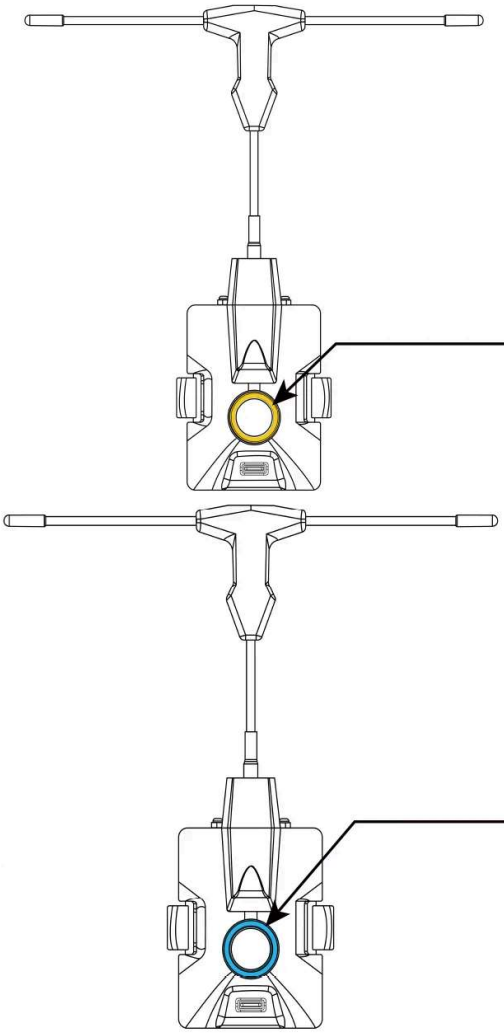
TBS Nano RX version



- **The receiver is in a constant red light state**
- **Press the binding button of the receiver (try not to use sharp tweezers to aovid damaging the receiver chip)**
- **The receiver changes to a green flashing state which means it enters the binding mode**

TBS Nano RX version

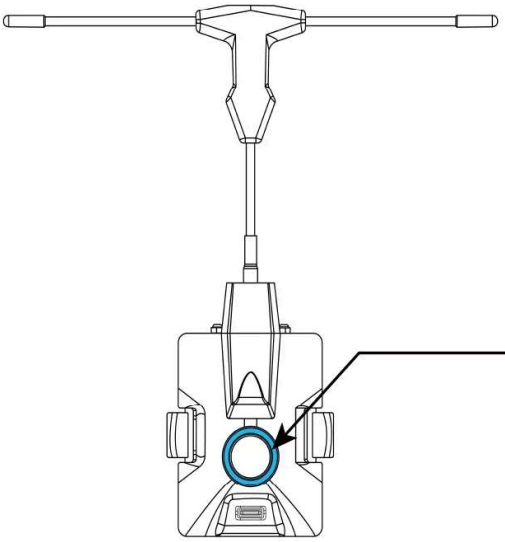
Next, make your remote controller into binding mode for the connection.
Take the TBS Crossfire Micro TX V2 as an example.



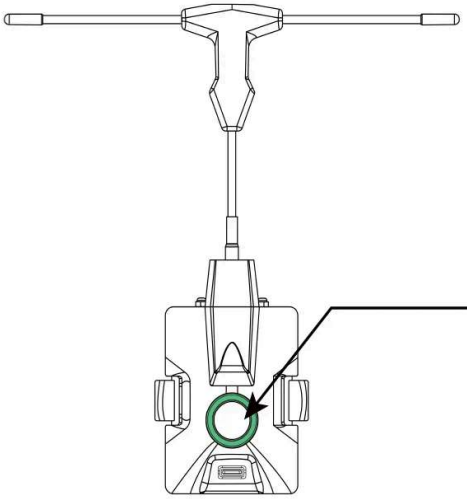
- **After the remote controller is turned on, the TBS Micro TX is in the state of slow flashing yellow light**

- **In the previous operation, the TBS receiver had been in a green light flashing statet,At this time, press the binding button on the back of the TBS Micro TX, the TBS Micro TX turns to the blue light flashing state, and the TBS receiver turns to the red light flashing state**

TBS Nano RX version



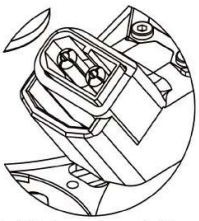
- **Press the binding button again, the TBS Micro TX turns to the blue light constant state, and the TBS receiver turns to the green light flashing state**



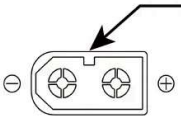
- **Wait for a few moments, the TBS Micro TX and TBS receiver turn to constant green light, which means the binding is completed**

ELRS receiver version

First of all, please check the ELRS firmware version of your remote controller, make sure it is consistent with the ELRS firmware version of the receiver, and enable the corresponding CRSF RF mode. Then perform the following operations.

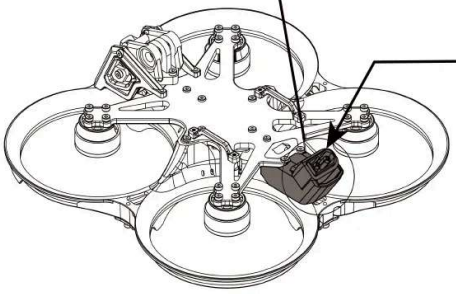


Partial Enlargement Diagram

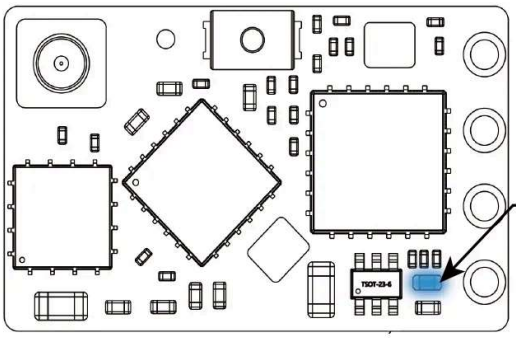


XT60

- **Connect battery to the drone**
- **Use suitable 6S LiPo battery to power the drone**
- **Pay attention to the correct connection of positive and negative poles**



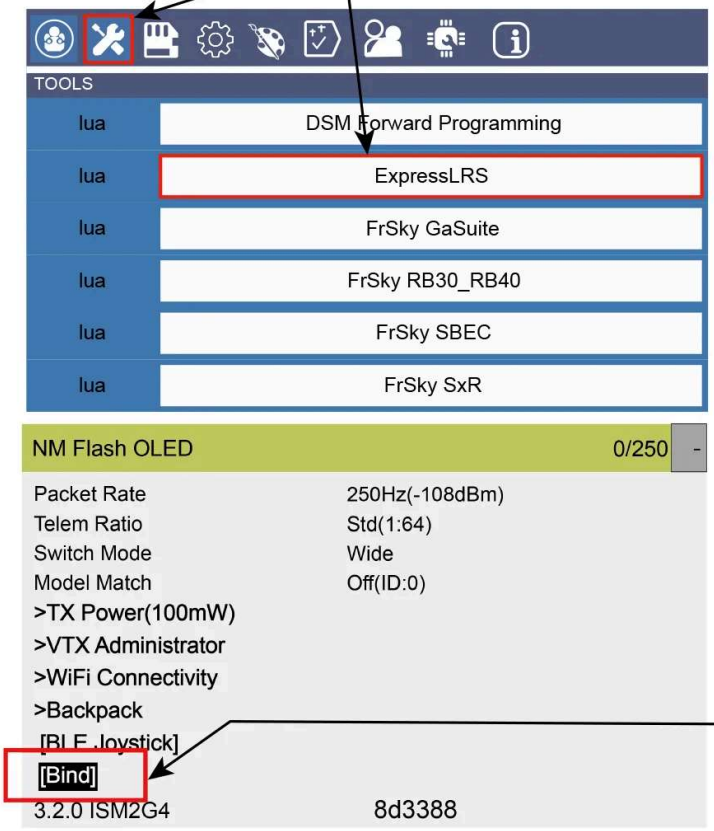
- **Quickly power on the drone three times, i.e., "unplug immediately when power is on – unplug immediately when power is on – power on", the interval should be in 1.5 seconds.**



- **The blue light of the receiver flashes twice, indicating that the receiver has entered the binding mode**

ELRS receiver version

Next, make your remote controller into binding mode for the connection.
Take OpenTX as an example.

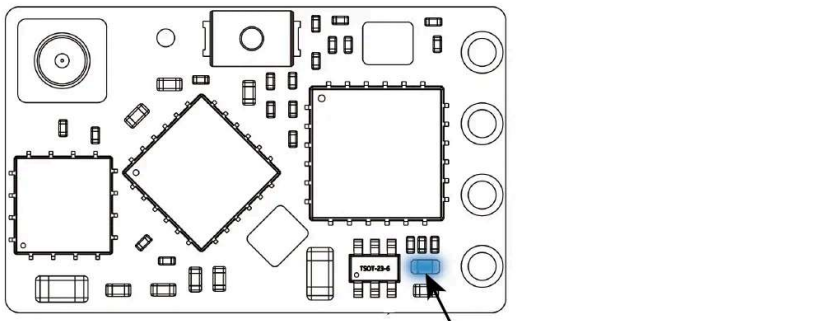


- **Short press the SYS key on the remote controller to enter the extension tool, and select ExpressLRS**

- **Select "Bind", wait for a while**

ELRS receiver version

Next, make your remote controller into binding mode for the connection.
Take OpenTX as an example.



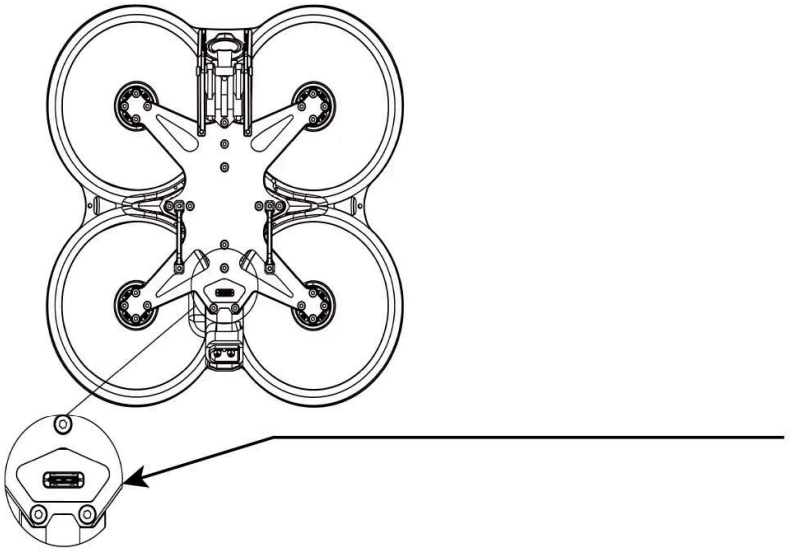
- **The light of the receiver changes from blue double flash to constant blue light, which means the binding is completed**

Attention:

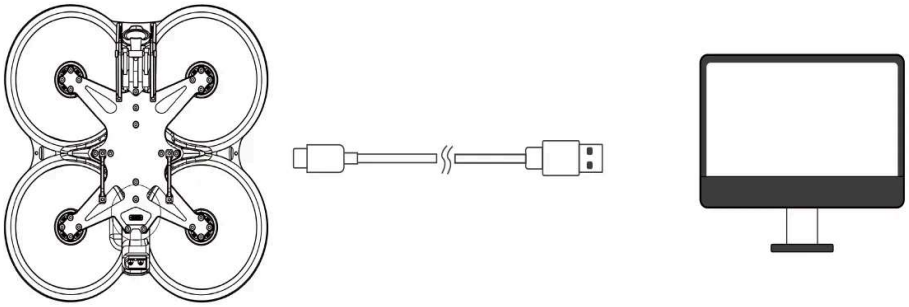
If the ELRS firmware version of your remote controller is inconsistent with the receiver, the binding failure will occur. If the binding fails, please check and update the ELRS firmware version of your remote controller or the ELRS firmware version of your receiver.

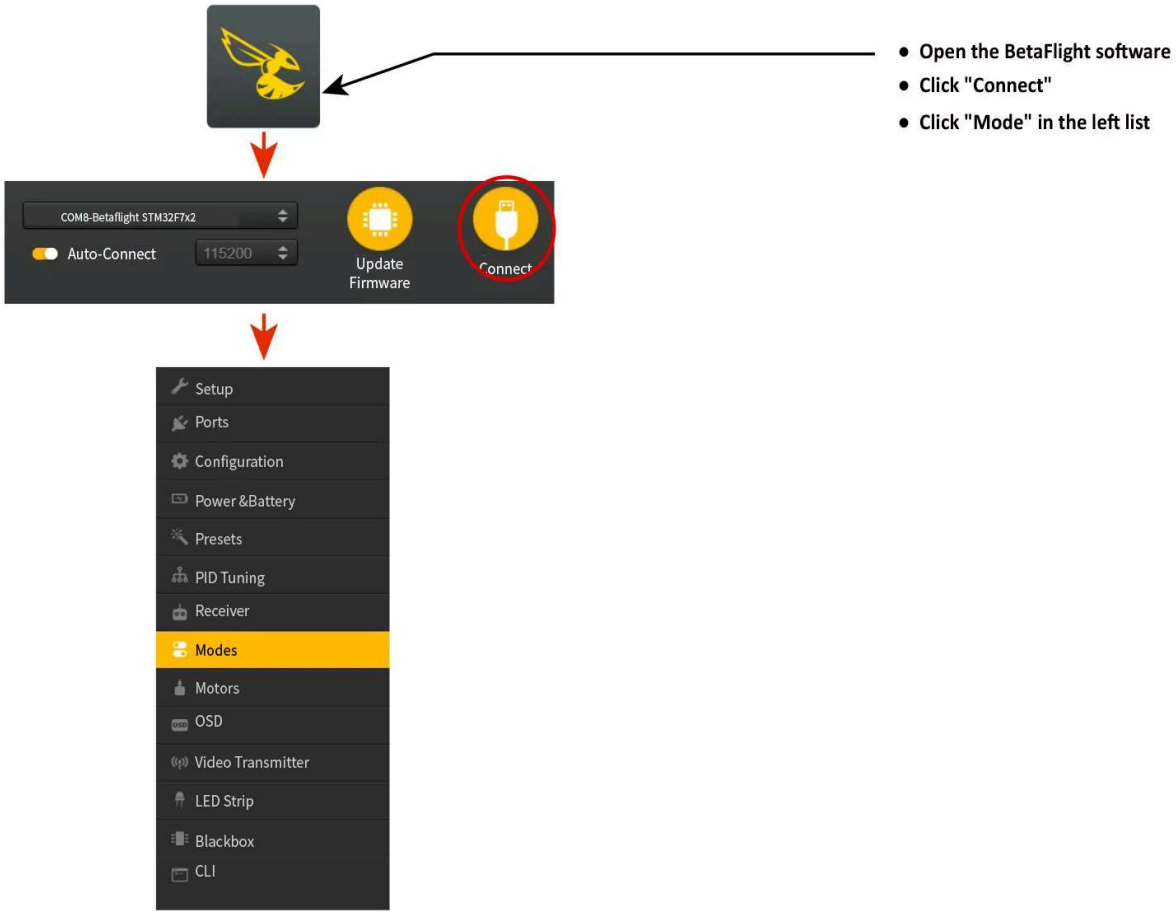
05/
Remote Controller Settings

For this part, please go to the Mode interface of BetaFlight to set.



- **Connect the drone to your device through this Type-C port.**





Attention:

If your computer can not connect to the drone, it may be due to the lack of relevant drivers. You can refer to the section "Install BetaFlight" and try again.

The realization of the content described below needs to be based on the successful binding of the remote controller and the receiver.

- **Refer to the figure below.**

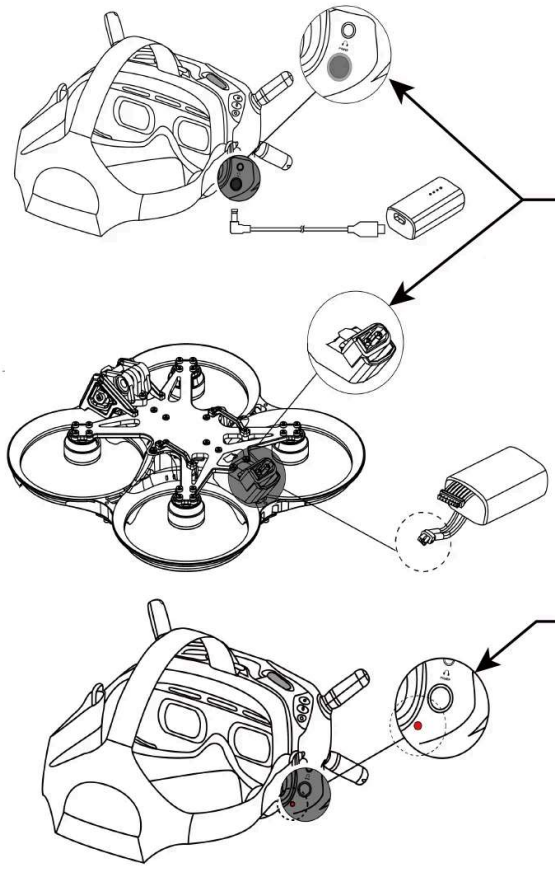
- **The left column is the name of the mode. You can turn on/off different modes according to your needs. ARM is the aircraft unlock switch, ANGLE is the self-stabilizing mode, HORIZON is the semi-self-stabilizing mode, BEEPER is the buzzer mode, and USER1 is the light strip switch control.**
- **The middle column is for the remote control switch/button channel selection. You can select the corresponding AUX channel according to your own usage habits, so as to bind different switches/buttons for different modes. When you add a range for a desired mode, you can move the corresponding switch or press the button, and the software will automatically identify the channel you are currently using.**
- **The right column is the channel.**
  - **The small yellow cursors on the bottom of every channel corresponds to the current position of the switch/button, moving the switch pressing the button will cause the yellow cursor to move.**
  - **The yellow part of the channel represents the trigger range of the current mode, you can move/modify this range.**
  - **When the small yellow cursor moves within the trigger range, it means that the drone will turn on this mode in the state that current switch/button is in.**

Attention:

If you choose the PNP version drone and use it with DJI FPV Remote Controller, you need to do the binding operations between DJI FPV Remote Controller and O3 Air Unit. For detailed operation, please refer to the relevant content of "Digital VTX Binding"

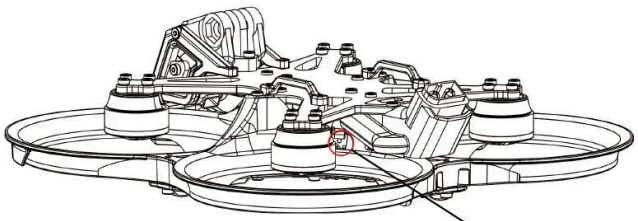
06/
Digital VTX Binding

DJI FPV Goggles and Digital VTX

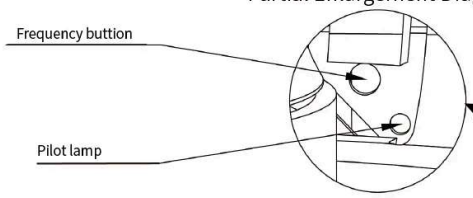


- Connect battery to the FPV goggles and the drone

- Press the binding button of the FPV goggles, it will make a beep sound, indicating that the it is in the binding mode

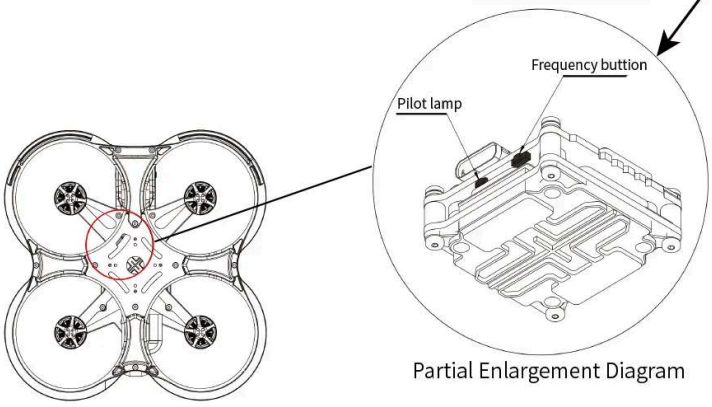


Partial Enlargement Diagram



DJI O3 Air Unit

- **Press the binding button of the VTX device, the indicator light flashes red, indicating that it is in the binding mode**
- **Wait for a few moments, the beeping sound of the FPV goggles stops, and the light of the VTX device turns green. The binding operations are completed**
- **You can observe the flight picture from the FPV goggles then**



Partial Enlargement Diagram

Vista/Link Air Unit

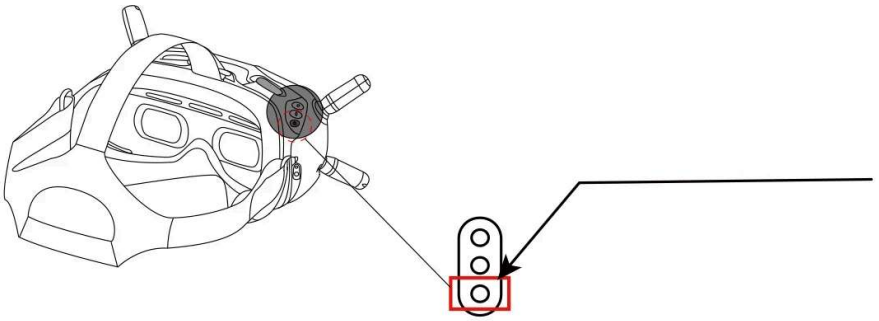
Attention:

If the connection is unsuccessful for a long time, please check whether the firmware of the FPV goggles and the firmware of the VTX device are compatible. You can download the assistant software at the address below, and use the software to check and flash the corresponding firmware version.

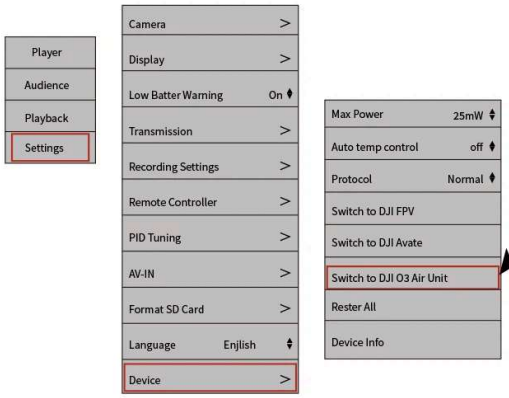
https://www.dji.com/cn/downloads/softwares/dji-assistant-2-consumer-drones-series

If your FPV goggles firmware and the VTX device firmware support a connection with each other,but still can not bind successfully, please refer to the following operations to check.

DJI FPV Goggles v2 connected to DJI O3 Air Unit



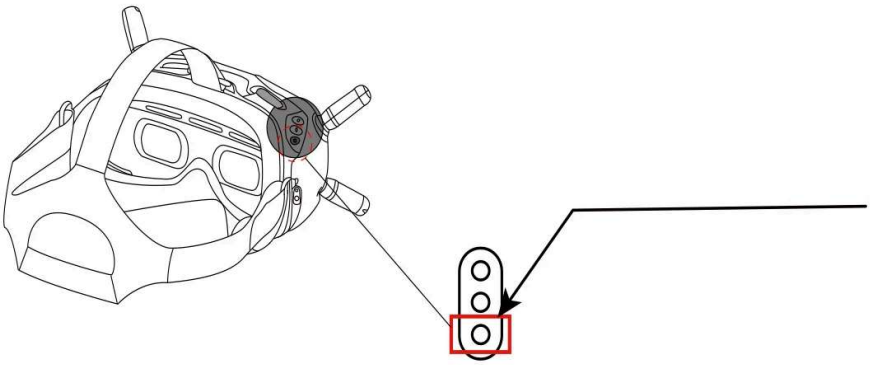
- **Press the button of the FPV goggles**



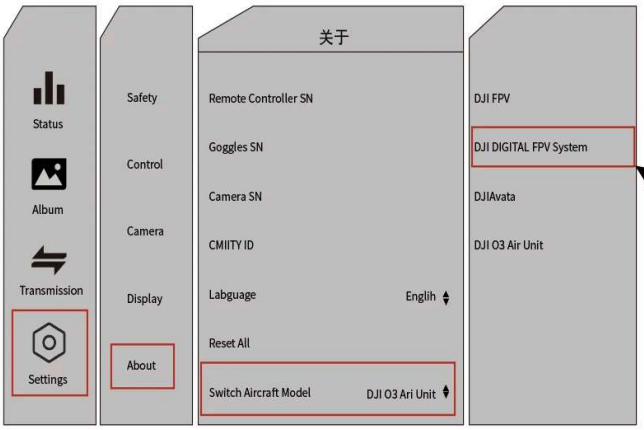
- **In the menu items, select: Settings – Device – Switch to DJI O3 Air Unit**
- **Click to confirm and restart the goggles**
- **Re-trying the operations in the chapter "DJI FPV Goggles and Digital VTX"**

If your FPV goggles firmware and the VTX device firmware support a connection with each other, but still can not bind successfully, please refer to the following operations to check.

DJI FPV Goggles v2 connected to Vista/Link Air Unit

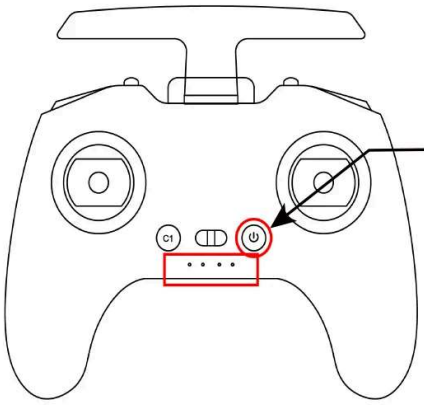


- **Press the button of the FPV goggles**

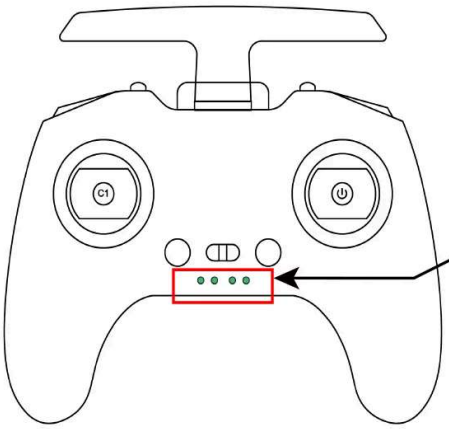


- **In the menu items, select: Settings – About – Switch Aircraft Model – DJI O3 Air Unit**
- **Click to confirm and restart the goggles**
- **Re-trying the operations in the chapter "DJI FPV Goggles and Digital VTX"**

DJI FPV Remote Controller and Digital VTX (If you do not choose DJI FPV Remote Controller to connect to PNP version of drone,please skip the content)



- **Power on the remote controller , Press and hold the power button of the remote controller, the remote controller makes a beep sound and the status indicator light flashes rapidly**



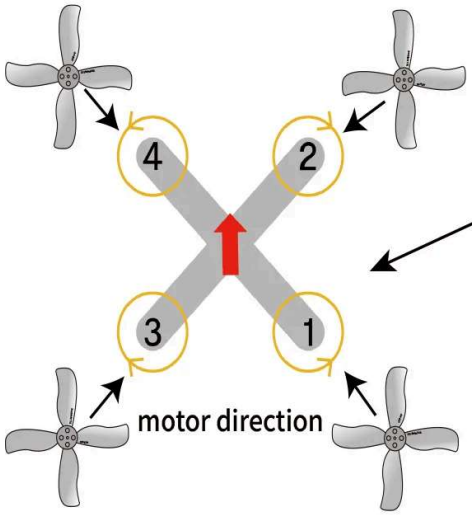
- **Refer to the previous method of binding the FPV goggles and Digital VTX, connect battery to the drone and press the binding button of the VTX device**
- **Wait for a few moments, the beeping sound of the remote controller stops, the light stops flashing and turns green. The binding operations are completed**

- After the binding operations of DJI FPV Remote Controller, please refer to the relevant content in the previous chapter “Remote Controller Settings”.

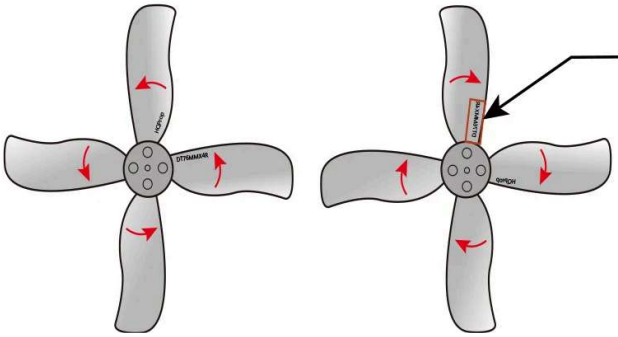
Attention:

You need to complete the binding operations between the FPV goggles and Digital VTX first, and then bind the remote controller.

07/
Propeller Installation And Pre-Flight Inspections



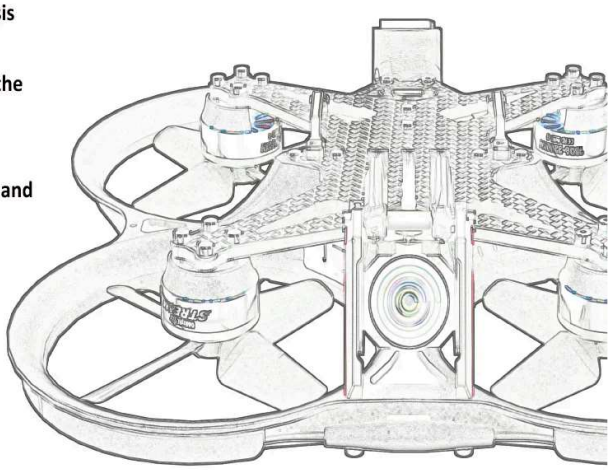
- There is a motor direction card inside the product box, please refer to the card to install the propeller.



- Be careful not to install the top and bottom of the propeller upside down. The side of the propeller with words on it should be facing the direction of the sky when the installation is complete.

Pre-Flight Inspections

- Propellers and antenna should be correctly and stably installed
- The power of the FPV goggles, remote controller and drone battery should be sufficient
- The drone battery should be fastened firmly with straps
- After the drone is connected to the battery, there should be a self-diagnosis sound
- There should not be any obstruction/signal interference in the vicinity of the drone take-off point and along the flight route
- Please fly in unmanned, safe and legal areas
- Please abide by the relevant laws and regulations of your current country and region. Use this product in compliance with relevant laws and regulations



Statement:

Mage-Pro needs to use OddityRC original accessories or officially recommended third-party accessories (such as propellers). Using other accessories may affect the drone's flight performance and safe use. OddityRC does not support related after-sales/repair work of non-original accessories.

Leave a Comment

Name

Email