AXIS FLYING

MANTA 30

Quick Start Guide

www.axisflying.com

In order to protect the user's safety and to prevent damage to the product due to improper use, please read it carefully and keep it in a safe place for reference at any time.

Foreword

Thank you for purchasing Axisflying products!

Product Parameter

Product name: Axisflying Manta 30
Frame: Axisflying Manta 30 frame
Wheelbase size:160mm
Top plate thickness: 2mm
Center plate thickness: 2mm
Bottom plate thickness: 2mm
Arm Thickness: 4mm
AIO: Axisflying Argus F745 AIO
GYRO: ICM-42688-P
VTX: DJI O4 AIR UNIT
Motors: C204-2650KV
Propellers: 3inch
Antenna: DJI O4 5.8G-L
Battery Interface: XT60
Receiver Version: TBS Nano RX, ELRS 2.4G, ELRS 915
Recommended Battery: 6S 650-850mAH

Packing List

1. Quadcopter *1
2. Propeller *2L + 2R
3. Battery Strap *2
4. Battery pad *2
5. GoPro Mount (Practical Version) *1
6. M1.5L Hex Screwdriver *1
7. M2L Hex screwdriver *1
8. M3L Hex Screwdriver *1
9. RTF Manual *1
10. Stickers *2

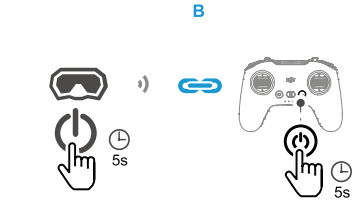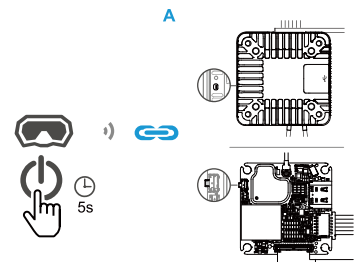The following example shows how to link the DJI Goggles 3 and DJI FPV Remote Controller 3.

Figure A: Linking Goggles and the Air Unit

1.Power on the air unit, the goggles, and the remote controller. Enter the goggles menu, select Status, and click the upper right corner to select the product.
2.Make sure the linking status indicator of the air unit is red. Press the link button once, the linking status indicator blinks red. Press the link button on the goggles. The goggles will start to beep continually.
3.Once linking is successful, the linking status indicator of the air unit turns solid green. The goggles stop beeping and the live view will be displayed.

Figure B: Linking Goggles and Remote Controller

1.Activate the linking status on both the goggles and the remote controller. The goggles starts to beep continually. The remote controller starts to beep continually and the battery level LEDs blinks in sequence.
2.Once linking is successful, the goggles will stop beeping and display the live view, and the remote controller will stop beeping.

Receiver binding

Note: Before connecting the receiver, please refer to the channel preset to reset the remote control switch, push the throttle to the center position to prevent accidental arming.

TBS receiver binding method:

Provide power to the flight controller. The receiver's red light should remain on continuously. Press the frequency button on the receiver, causing the receiver's green light to start flashing, indicating it has entered frequency mode. On the remote control, press the bind button and wait until both the receiver's green light and the HF head's green light remain solid. Once the green lights are solid, the receiver has successfully bound to the remote control.
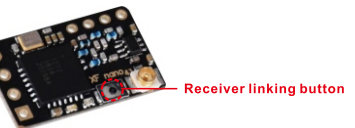
ELRS receiver binding method:

After soldering the receiver, quickly power on and off the aircraft three times in rapid succession. This means power on, immediately unplug, power on, immediately unplug, and then power on again—all within 1.5 seconds. If performed correctly, the receiver light will blink twice, indicating it has entered binding mode. At this point, press the bind button on the remote control. If binding is successful, the receiver light will return to its normal state.


Elrs,TBS 915 and other receivers set up notes

2 point averaging is needed for 500Hz bnid and noisy 250hz links, or for Cinematic / HD flying. Crossfire (Before CRSFShot) needs 3 point averaging in 150hz mode.

Tuning parameter check:

Open Betaflight and connect the aircraft to the computer using a Type-C data cable. Select the correct communication serial port and click "Connect." Most parameters have already been configured for the aircraft. Adjust the basic parameters according to your personal preferences. This will ensure your aircraft is properly tuned for your specific needs.

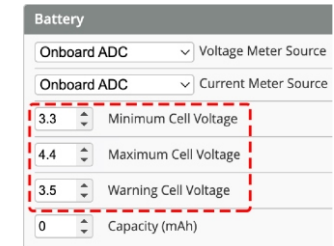## Plug in the aircraft's Type-C data port and connect to Betaflight.
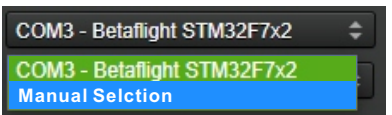
1.Calibrate the accelerometer after adjusting the airplane to a horizontal position.

Setup

Calibrate Accelerometer

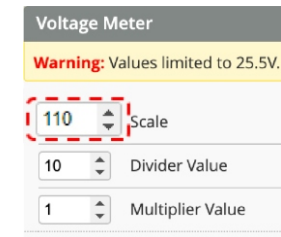Calibrate Magnetometer

Reset Settings

Activate Boot Loader / DFU
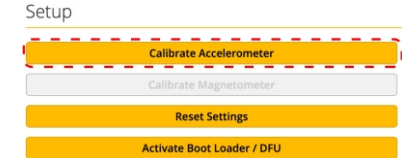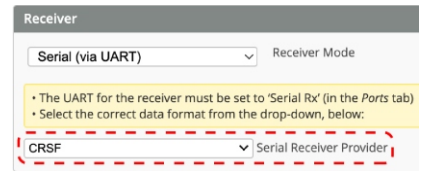
2.Battery Settings:

Maximum Cell Voltage: Set to 4.4V when using high-voltage batteries (to ensure proper detection of HV cells).
Warning Cell Voltage: Set to 3.5V.
Adjust according to cell type if using other battery types.

Battery

| Onboard ADC | Voltage Meter Source |
| Onboard ADC | Current Meter Source |

3.3	Minimum Cell Voltage
4.4	Maximum Cell Voltage
3.5	Warning Cell Voltage
0	Capacity (mAh)

Default Flight Controller Settings:
Default is set to 110.
For Argus Mini FC, set to 112.

Voltage Meter

Warning: Values limited to 25.5V.

110	Scale
10	Divider Value
1	Multiplier Value

3.Receiver Settings:Set the protocol to CRSF for ELRS and TBS receivers. For DJI AIR UNIT, switch the protocol to SBUS.

Receiver

| Serial (via UART) | Receiver Mode |

• The UART for the receiver must be set to 'Serial Rx' (in the Ports tab)
• Select the correct data format from the drop-down, below:

| CRSF | Serial Receiver Provider |

3-1For the DJI remote controller, the toggle channels cannot be customized and the default positions are as follows

Flight mode switch — AUX1
Customized switch C2 — AUX2
Emergency stop/return button — AUX3
Start/Stop button — AUX4
Customizable button C1 — AUX5

3-2 You can customize the channel to which the switch corresponds. For the remote control equipped with OPEN TX or EDGE TX open source system. Note: The gimbal occupies the first four channels, so the fifth channel is AUX1, and so on. The setting method is as follows

1.Short press the MDL or MENU button to enter the model menu. Navigate to the MIXES tab.
2.Scroll down to select CH5. Long press OK to open the channel tab, then select EDIT to enter the modification page. If the channel has not been set, it will jump directly to the modification page.
3.Scroll down to select the Source option. Click to confirm, then toggle the switch that you want to assign to the channel. Click back to save the channel.

3-3 ELRS receiverbinding

OPEN TX system is similar to the EDEG TX system, in this demonstration we will be using an EDGE TX system open source Remote control as an example.

1.Power on and off the receiver three times continuously, with a 1-second interval each time. The receiver's blue indicator light will flash continuously, indicating it has entered binding mode.
2.Power on the remote control and press and hold the MENU/SYS key to enter the TOOLS menu. Select the ExpressLRS LUA script, then scroll down and select Bind to enter binding mode.
3.Wait for the receiver's indicator light to change from continuous flashing to a normal light. This indicates that binding is successful. Turn off the receiver's power, then turn it back on. If the blue light remains solid, the receiver and remote control are connected normally.

3-4 TBS receiver pair frequency:

1.Turn on the remote control and long press the MENU/SYS key to enter the TOOLS menu. Select TBS Agent Lite - XF Micro TX, then choose Bind.
2.Press and hold the Bind button on the Black Sheep receiver and power it on simultaneously. Continue holding the Bind button until the receiver's green light starts flashing rapidly. Release the Bind button, then press and hold it again for 8 seconds before releasing it. Wait for the receiver's green light to turn off and the red light to start blinking slowly. The remote control screen will then prompt with "Update micro RX?" Select "ENTER" to proceed.
3.Once the update is complete, the binding will be automatically finalized. The remote control will display "Binding OK.", and the green light on the Black Sheep receiver will remain solid.

3-5 Remote Control Setting

Turn on the remote control and connect it to the aircraft. Check the gimbal channel on the Betaflight receiver page to ensure it is correctly mapped. If the channel is not correct, adjust the options in the channel mapping tab until the channel operates as expected. Save your changes once the channel is correctly configured.
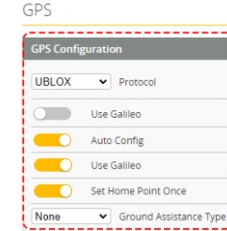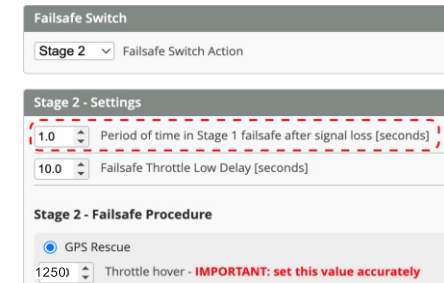

3-6 Switch Channel Settings

Change the position of your mode toggle in the Mode page. Commonly used channel modes are as follows

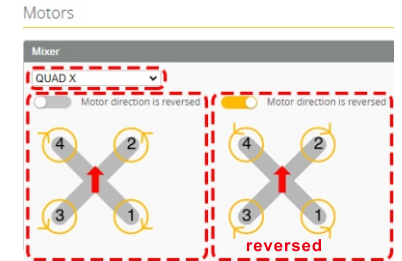| ARM | Unlock |
ANGLE	Auto-stabilization mode
GPS RESCUE	GPS rescue mode
BEEPER	Buzzer switch
FLIP OVER AFTER CRASH	Anti-turtle mode
LEDLOW	LED off
PREARM	Pre-unlock switch

GPS

4.GPS Settings:The GPS baud rate is preset at the port, so auto baud rate does not need to be ena-bled. Refer to the attached image for standard options. If no GPS is used, disregard this section.
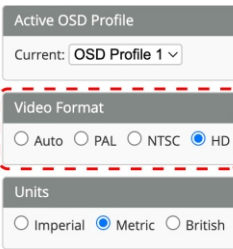
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7. OSD Settings:Default is set to HD mode or auto mode. Adjust video format based on the goggles you are using.

5.Failsafe:Betaflight firmware has default rescue settings for unloaded drones. If carrying a Go-Pro or other cameras, adjust the rescue settings accordingly.
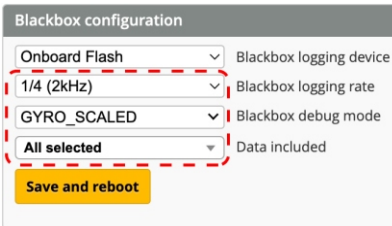

8. General Setup Recommendations for Black Box Sampling

6.Motor Setup:Motors are marked with rotation direction for both standard and reverse propeller setups. If the direction is forgotten, check via Betaflight after connecting the drone.

reversed

9.LED Settings

Position 0 corresponds to 1 LED on the center bottom plate

Pre-Takeoff Inspection

Ensure the propeller is installed correctly and that the propeller nut is securely locked. Flying with an unlocked propeller can result in it coming off during flight.
Check the battery voltage:
For a 3S battery: 12.6V (fully charged)
For a 4S battery: 16.8V (fully charged)
For a 6S battery: 25.2V (fully charged)
Verify that the battery straps are securely fastening the batteries to the aircraft, and ensure that the battery balance leads are organized and secured to prevent them from being damaged by the propellers.
Inspect the flight area for any safety risks, such as people entering the flight zone, and check the weather conditions to ensure they are suitable for flying.
Turn on your goggles or FPV screen and check for any frequency conflicts. If you detect signal interference, avoid powering up the aircraft to prevent interfering with others.
After connecting the battery, place the aircraft on the ground, maintain a safety distance of at least 3 meters for pre-unlocking, and check that the propellers do not hit the balance leads or power cables.

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