

Features
Equipment with New DJI O4 air unit
2S battery support Powerful and Smooth freestyle flying
UART ExpressLRS receiver support stable control link
Lighter and small for indoor FPV

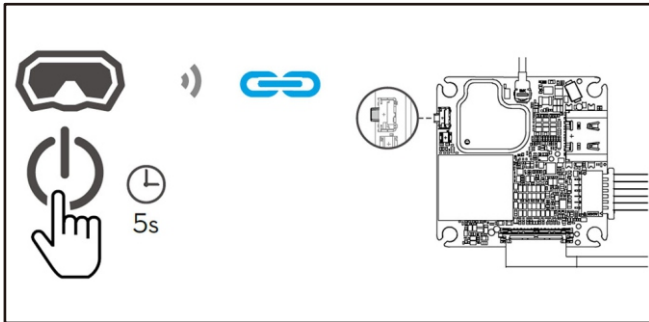
Specifications
Brand Name: Happymodel
Item Name: Mobula7 O4 2S 80mm Digital HD Micro FPV whoop
Wheelbase: 80mm
Size: 107mm*107mm*51mm
Weight: 38gram

Package Includes	Item Name	Qty
	Happymodel M80 Frame	1
	CrazyF4HD ELRS flight controller firmware target:BETAFLIGHTF4	1
	RS1102 KV10000 brushless motor	4
	HQPROP 45MMX2 bi-blade propellers(4cw+4ccw)	1
	DJI O4 Air unit	1
	Canopy	1
	Screw driver	1

**LINKING GOGGLES AND O4 AIR UNIT**

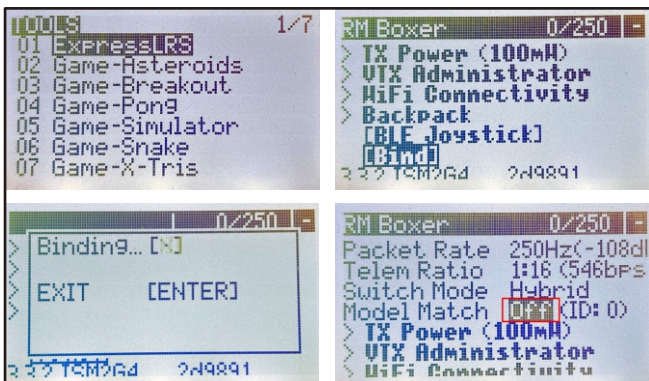
Make sure that all devices have been updated to the latest firmware versions before linking.

1. Power on the Mobula7 O4 by battery, then power on the goggles. 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.



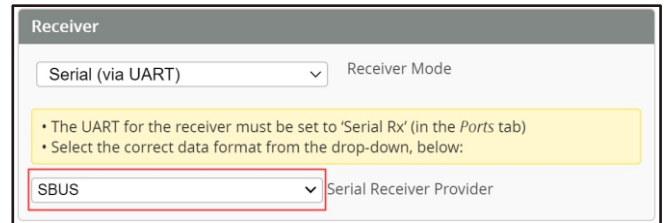
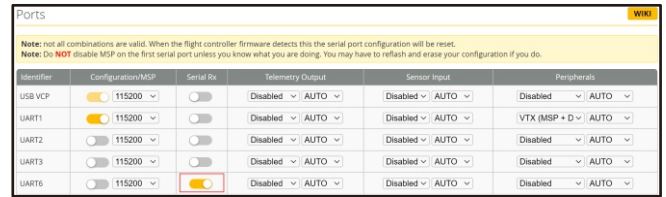
**BINDING PROCEDURE WITH EXPRESSLRS RADIO CONTROLLER:**

- 1) Supply power to the flight controller by plug USB, wait until the Red LED on the Flight controller is off, immediately turn off the power, and then repeat again the above steps. When the Flight controller is powered on for the third time, the Red LED light will start to double-flash, which means that the RX enters the binding mode
- 2) Please make sure your ExpressLRS tx module firmware is v3.x.x. And go to ExpressLRS.lua from "TOOLS" menu of your radio transmitter. Then hit [Bind] to binding with the onboard ExpressLRS receiver. The Red LED should blinking slowly first then turn to solid, that means binding was successfully. If the red LED got triple blinking and no RX input from receiver tab, please change Model Match tab value from "off" to "on" or from "on" to "off", then change back to "off", that would working normal.



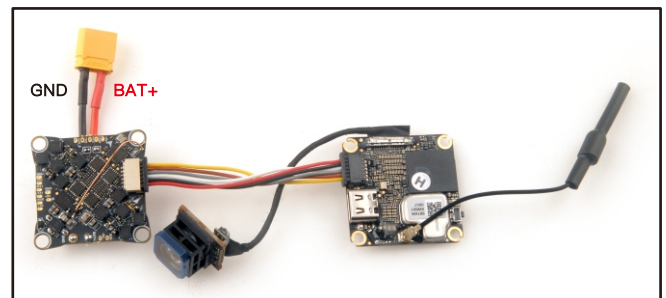
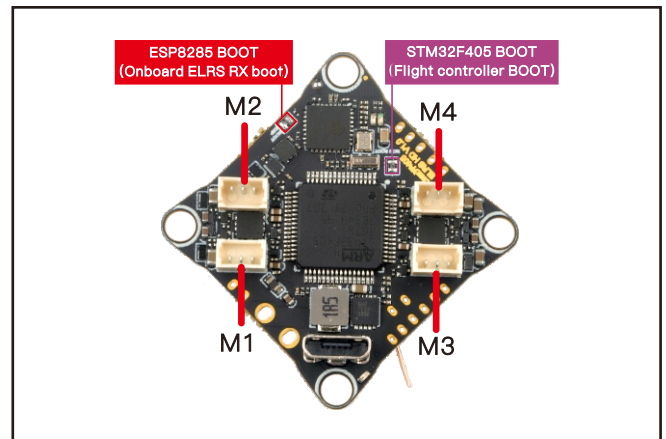
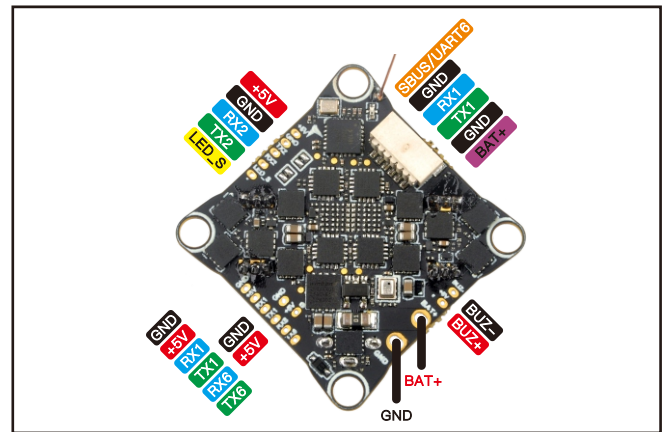
**BINDING PROCEDURE WITH DJI RADIO CONTROLLER:**

1. Before binding with your DJI Radio controller, please first finish port tab and receiver tab settings like the following picture:

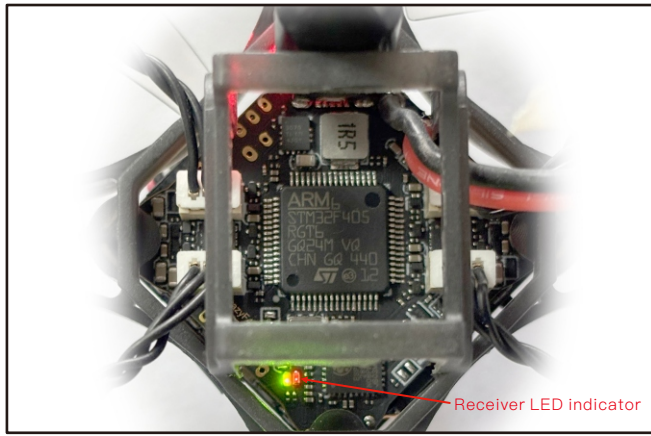


2. Activate the linking status on both the goggles and the remote controller. The goggles starts to beep continually. The remote controller starts to beep continually and the battery level LEDs blinks in sequence.
3. Once linking is successful, the goggles will stop beeping and display the live view, and the remote controller will stop beeping, and you can now check the receiver channel movement from receiver tab of Betaflight Configurator.

**FLIGHT CONTROLLER CONNECTION DIAGRAM**



**RECEIVER LED INDICATOR INSTRUCTIONS**



- Red LED Slow blink 500ms on/off: Waiting for connection from transmitter
- Red LED double blink then pause: Binding mode enabled
- Red LED solid on: Connected to a transmitter, or bootloader mode enabled
- Red LED Triple blink then pause: Connected to transmitter but mismatched model-match configuration
- Red LED Fast blinking 25ms on/off: WiFi mode enabled

**BOARD AND SENSOR ALIGNMENT**

**Board and Sensor Alignment**

0 Roll Degrees    0 Pitch Degr...    0 Yaw Degrees

First GYRO/ACCEL    CW 0° First GYRO

Default MAG Alignment

**MOTORS AND ESC SETTINGS**

**Mixer**

QUAD X

Motor direction is reversed

Prop out  
Mount 1810 propeller  
on #1 and #4 motors,  
Mount 1810R propeller  
on #2 and #3 motors

Reorder motors    Motor direction

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**ESC/Motor Features**

DSHOT300 ESC/Motor protocol

MOTOR\_STOP Don't spin the motors when armed

ESC\_SENSOR Use KISS/BLHeli\_32 ESC telemetry **over a separate wire**

Bidirectional DShot (requires supported ESC firmware)

5.5 Motor Idle (% , static)

**VOLTAGE AND CURRENTS METER SETTINGS**

**Voltage Meter**

Battery 0.6 V

110 Scale

10 Divider Value

1 Multiplier Value

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**Amperage Meter**

Battery 0.00 A

470 Scale [1/10th mA/A]

0 Offset [mA]

**DEFAULT PID AND FILTER SETTINGS**

	Proportional	Integral	D Max	Derivative	Feedforward
Basic/Acro					
ROLL	87	179	62	62	180
PITCH	82	169	71	71	168
YAW	87	179	0	0	180

Mode:	RPY	Low	Default	High
Damping: D Gains	1.4	[Slider]		
Tracking: P & I Gains	1.3	[Slider]		
Stick Response: FF Gains	1	[Slider]		
Dynamic Damping: D Max	0	[Slider]		
Drift - Wobble: I Gains	1.15	[Slider]		
Pitch Damping: Pitch:Roll D	1	[Slider]		
Pitch Tracking: Pitch:Roll P, I & FF	0.9	[Slider]		
Master Multiplier:	1.5	[Slider]		

	Strength	Transition
Angle	50	
Horizon	75	75
	Angle Limit	
	60	

**Miscellaneous Settings**

2S Cell Count - for auto Profile switching

20 Acro Trainer Angle Limit

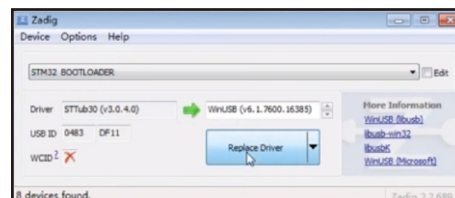
Integrated Yaw

0 Absolute Control

**ESC SETTINGS**

**FLIGHT CONTROLLER FIRMWARE UPDATE**

1. Install latest STM32 Virtual COM Port Driver  
<http://www.st.com/web/en/catalog/tools/PF257938>
2. Install STM BOOTLOAD Driver (STM Device in DFU MODE)
3. Open Betaflight configurator and choose firmware target "BetaflightF4", then select the firmware version.
4. There are 2 ways to get in DFU Mode: 1). solder the boot pad and then plug USB to computer 2). loading betaflight firmware and hit "flash", then it will getting into DFU Mode automatically.
5. Open Zadig tools to replace the drivers from STM32 Bootloader to WINUSB Driver.
6. Reconnect the flight controller to the computer after replace driver done , and open Betaflight Configurator, loading firmware and flash.



Manual download