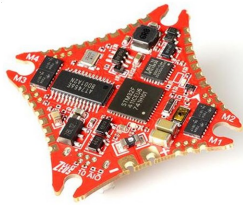


[Skip to content](#)

Manuals+

User Manuals Simplified.

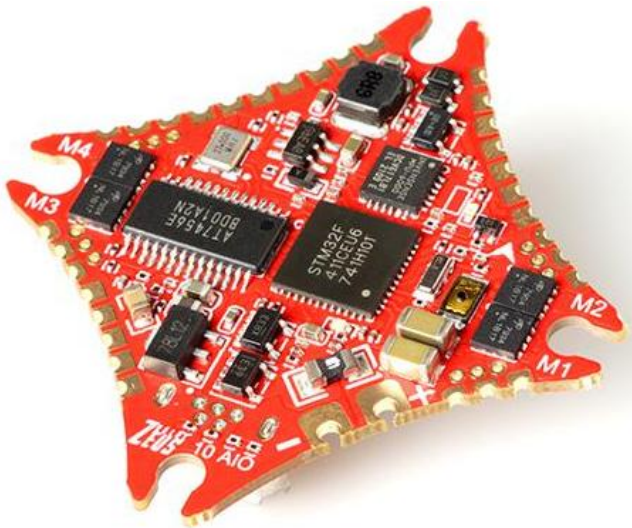


HGLRC Zeus 10 AIO Flight Controller User Manual

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Zeus10 AIO
Flight Controller
Manual



Package Included

Zeus10 AIO Flight Controller*1

Accessory Bag*1

Contents [hide](#)

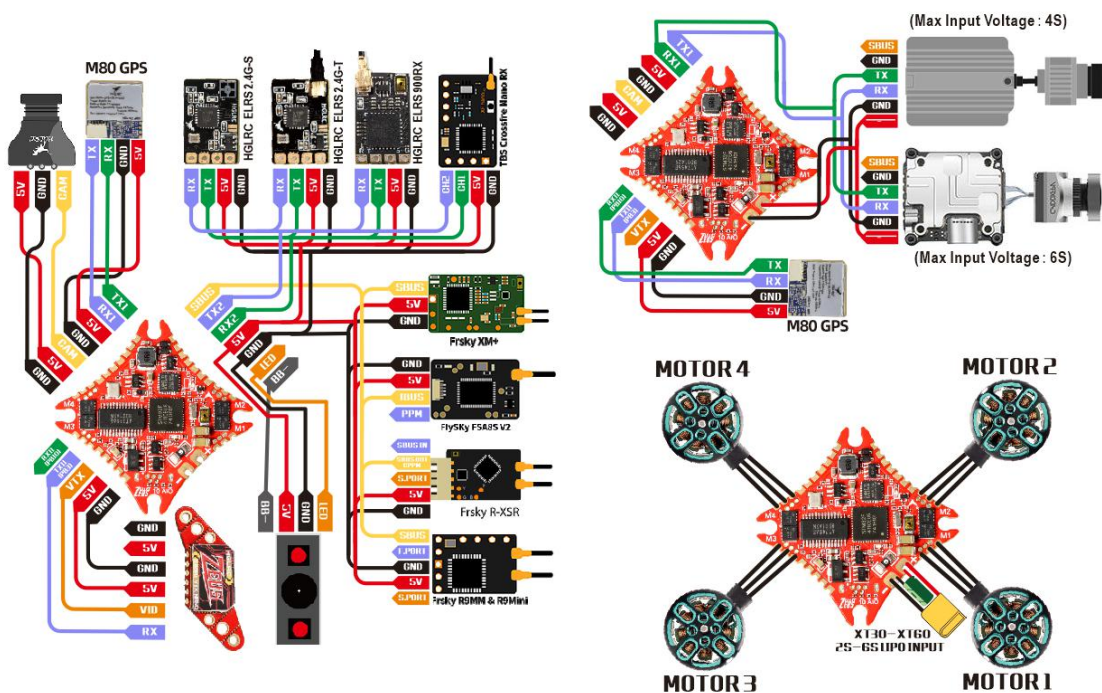
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Product Specifications

Product parameters

| | |
|------------------|------------------------------|
| Model | Zeus10 AIO Flight Controller |
| Weight | 5.1g |
| Input Voltage | 2-6S |
| Usage | for 100mm-250mm Frame Kit |
| Installing Hole | 25.5×25.5mm/M3 |
| Dimensions | 32.5×32.5mm |
| FC Firmware | BF ZEUSF4EVO |
| CPU | STM32F411 |
| MPU | MPU6000 |
| BEC | 5/2A |
| BlackBox | 8M |
| UARTS | 3 |
| ESC Firmware | BL_S/(P_H_10) |
| Current Sensor | not support |
| Constant Current | 10A |
| Peak Current | 15A 5S |

Interface Description



Check the flight control drive

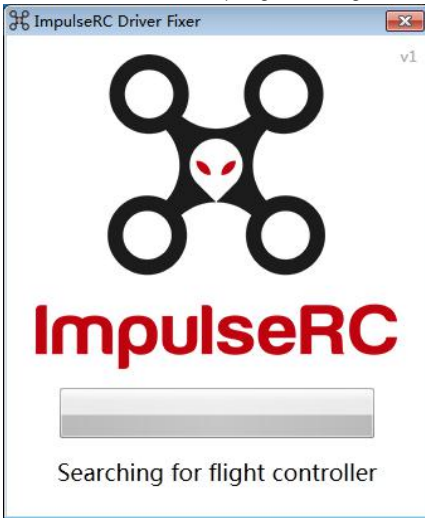
1. Long Press BOOT buttons.connect USB.The system automatically install the driver



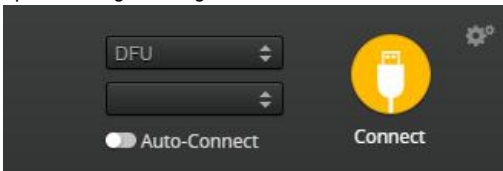
2. Driver cannot be installed, please download ImpulseRC_Driver_Fixer



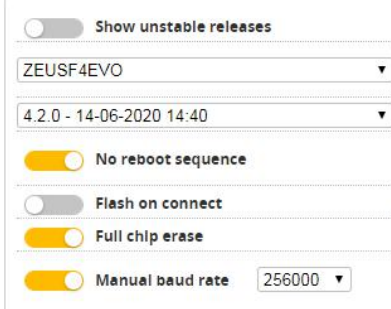
3. Double-click on the run(Plug in the flight controller to automatically install the driver)



4. open betafight configurator enter DFU mode

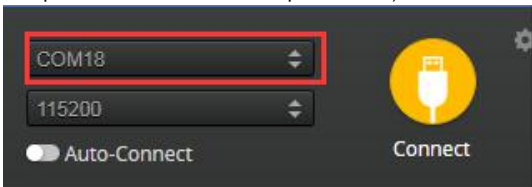


5. Click Firmware Flasher Select firmware version



6. Click Load firmware. Flash Firmware Waiting for completion It will be prompted upon completion.

7. open betafight configurator. Controller plugged into the computer. Betaflight Automatically assigned port click "Connect" Enter setup interface Different computer COM)



Calibration accelerometer

1. Put the aircraft horizontal and click"Reset Z-axis" Click again

Setup

Calibrate Accelerometer

Calibrate Magnetometer

Reset Settings

Backup

Restore

Place board or frame on **leveled** surface, proceed with calibration, ensure platform is not moving during calibra

Move multirotor at least **360** degrees on all axis of rotation, you have 30 seconds to perform this task

Restore settings to **default**

Backup your configuration in case of an accident, **CLI** settings are **not** included - use the command 'diff all' in CL

Heading: 147 deg
 Pitch: 0.2 deg
 Roll: 0.3 deg

Reset Z axis, offset: -146 deg

UART serial port use

1. UART1 uses DJI/GPS
2. UART2 uses Receiver
3. SOFTSERIAL1 uses VTX/GPS

Select aircraft model

1. Click **Configuration** Select model

Mixer

Quad X

☐ Motor direction is reversed

2. Click **Motors** Click "I understand the risks" Push Master to check motor steering" Master" Steering can be changed at BLHeliSuite

1 2 3 4 5 6 7 8
 Motors
 1185 1185 1185 1185 0 0 0 0
 1185 1185 1185 1185 1000 1000 1000 1000 Master

1 2 3 4 5 6 7 8
 Servos
 1500 1500 1500 1500 1500 1500 1500 1500

Motor Test Mode / Arming Notice:
 Moving the sliders or arming your craft with the transmitter will cause the motors to **spin up**.
 In order to prevent injury **remove ALL propellers** before using this feature.
 Enabling motor test mode will also temporarily disable Runaway Takeoff Prevention, to stop it from disarming the craft when bench testing without propellers.

☒ **I understand the risks**, the propellers are removed - enable motor control and arming, and disable Runaway Takeoff Prevention.

Choose ESC protocol

1. Choose the right ESC protocol, the optional universal protocol DSHOT600.

ESC/Motor Features

DSHOT600

ESC/Motor protocol

☐ MOTOR_STOP Don't spin the motors when armed

4.5

Motor Idle Throttle Value [percent]

Voltage and current parameters setting

- Click **Power & Battery** Setting parameters

Power & Battery

Battery

Onboard ADC

Voltage Meter Source

Onboard ADC

Current Meter Source

3.3

Minimum Cell Voltage

4.3

Maximum Cell Voltage

3.5

Warning Cell Voltage

0

Capacity (mAh)

Voltage Meter

110

Scale

10

Divider Value

1

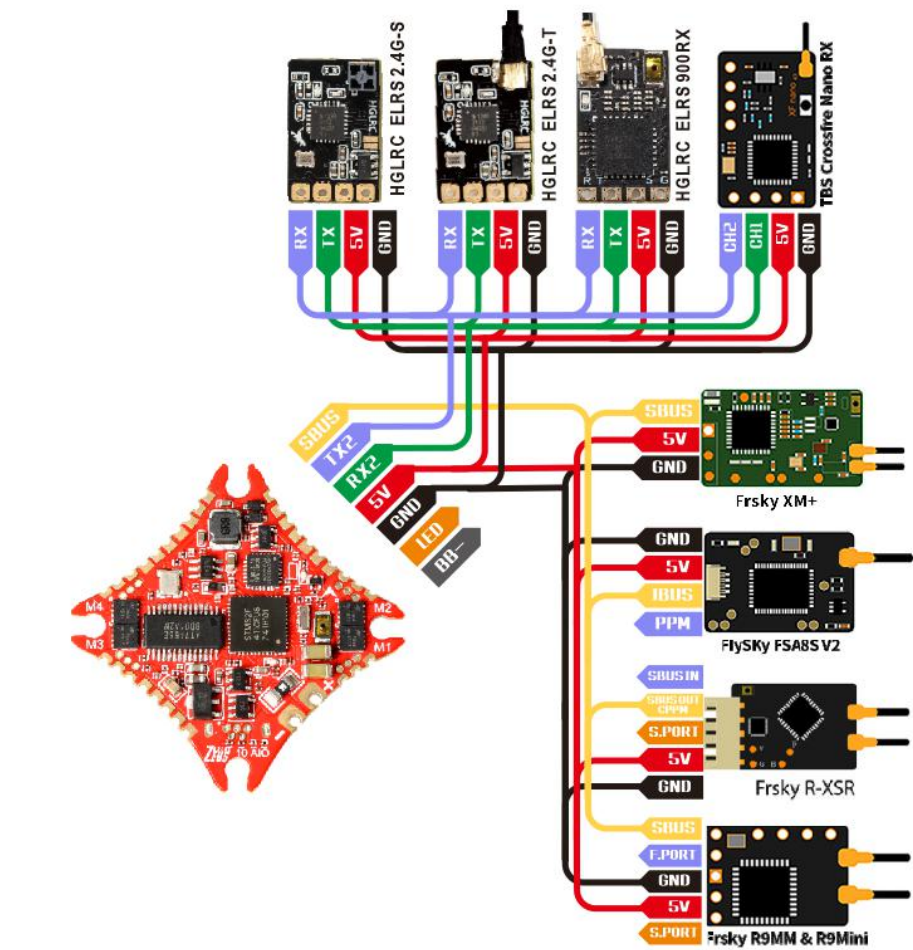
Multiplier Value

Battery

0 V

Setting up the receiver

- Receiver connection diagram

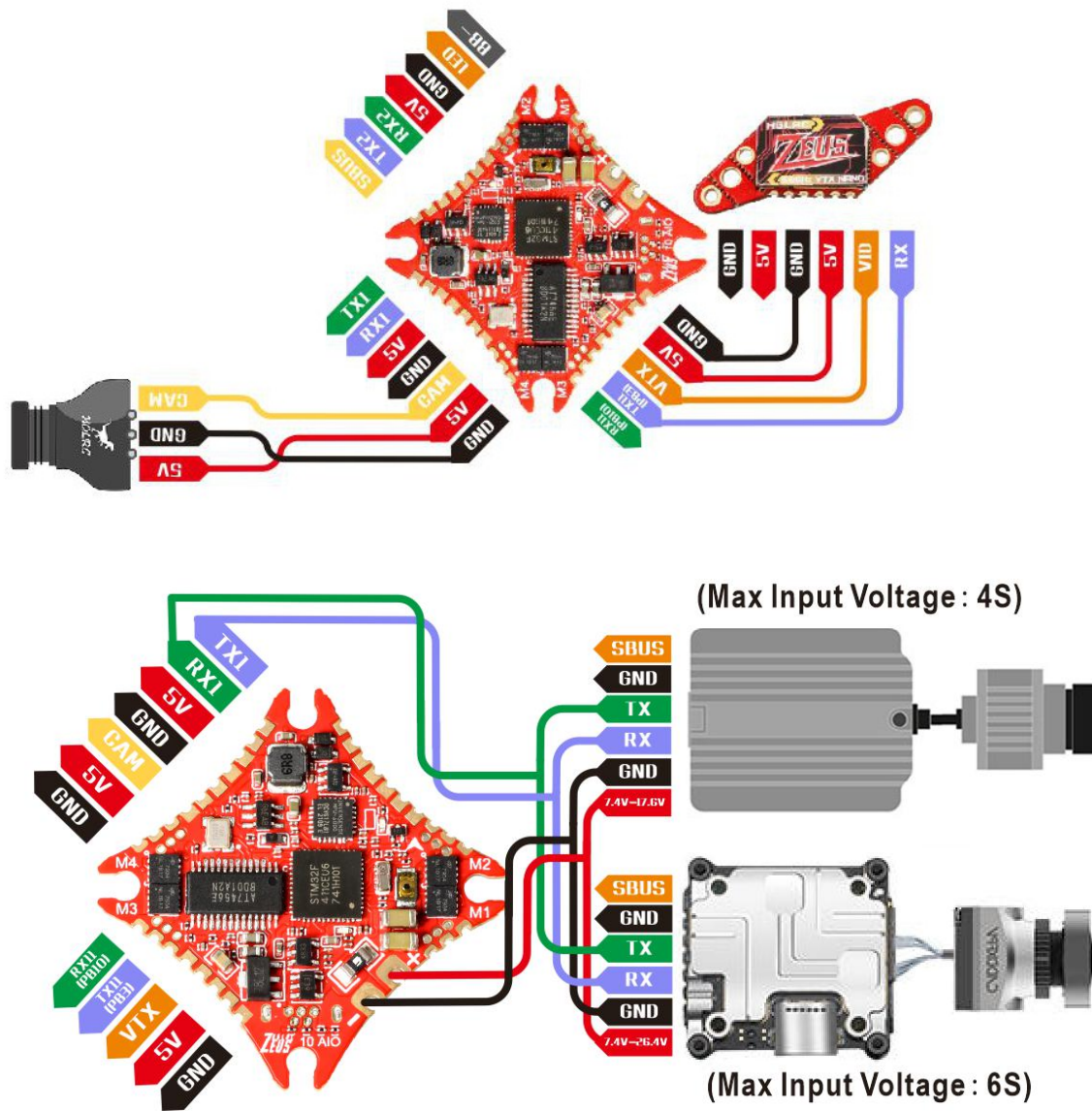


- Click **Ports** have found“ UART2” Open the receiver serial port

| Identifier | Configuration/MSP | Serial Rx | Telemetry Output | Sensor Input | Peripherals |
|-------------|--|-------------------------------------|------------------|---------------|--------------------|
| USB VCP | <input checked="" type="checkbox"/> 115200 | <input type="checkbox"/> | Disabled AUTO | Disabled AUTO | Disabled AUTO |
| UART1 | <input checked="" type="checkbox"/> 115200 | <input type="checkbox"/> | Disabled AUTO | Disabled AUTO | Disabled AUTO |
| UART2 | <input type="checkbox"/> 115200 | <input checked="" type="checkbox"/> | Disabled AUTO | Disabled AUTO | Disabled AUTO |
| SOFTSERIAL1 | <input type="checkbox"/> 115200 | <input type="checkbox"/> | Disabled AUTO | Disabled AUTO | VTX (IRC Tran AUTO |

VTX serial port use. VTX uses OSD smart audio

1. VTX connection diagram



2. VTX serial port opens. The protocol is selected according to its own VTX protocol.

| Identifier | Configuration/MSP | Serial Rx | Telemetry Output | Sensor Input | Peripherals |
|-------------|--|-------------------------------------|------------------|-----------------|-----------------------|
| USB VCP | <input checked="" type="checkbox"/> 115200 | <input type="checkbox"/> | Disabled AUTO | Disabled AUTO | Disabled AUTO |
| UART1 | <input checked="" type="checkbox"/> 115200 | <input type="checkbox"/> | Disabled AUTO | Disabled AUTO | Disabled AUTO |
| UART2 | <input type="checkbox"/> 115200 | <input checked="" type="checkbox"/> | Disabled AUTO | Disabled AUTO | Disabled AUTO |
| SOFTSERIAL1 | <input type="checkbox"/> 115200 | <input type="checkbox"/> | Disabled AUTO | Disabled AUTO | VTX (IRC Tran) AUTO |

3. DJI serial port opens

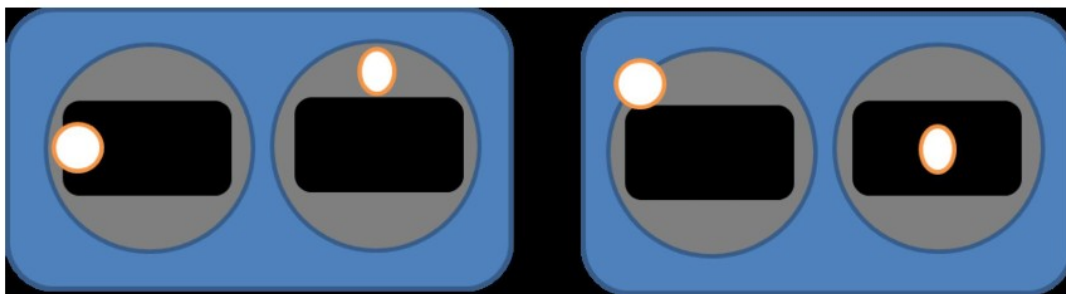
| Identifier | Configuration/MSP | Serial Rx | Telemetry Output | Sensor Input | Peripherals |
|-------------|--|-------------------------------------|------------------|-----------------|-----------------|
| USB VCP | <input checked="" type="checkbox"/> 115200 | <input type="checkbox"/> | Disabled AUTO | Disabled AUTO | Disabled AUTO |
| UART1 | <input checked="" type="checkbox"/> 115200 | <input type="checkbox"/> | Disabled AUTO | Disabled AUTO | Disabled AUTO |
| UART2 | <input type="checkbox"/> 115200 | <input checked="" type="checkbox"/> | Disabled AUTO | Disabled AUTO | Disabled AUTO |
| SOFTSERIAL1 | <input type="checkbox"/> 115200 | <input type="checkbox"/> | Disabled AUTO | GPS 115200 | Disabled AUTO |

4. Use OSD to adjust VTX

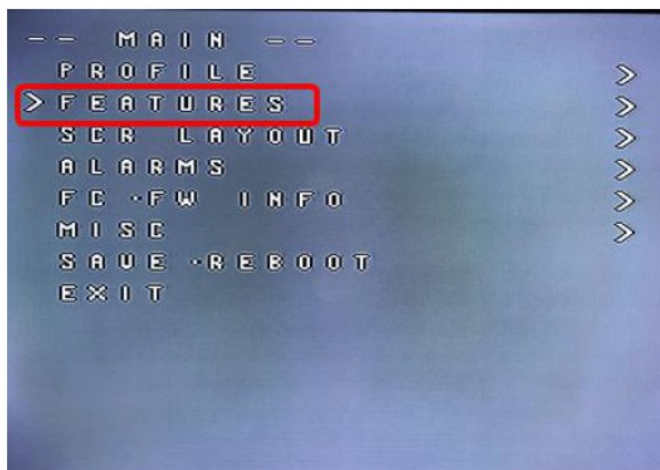
which displays information like battery voltage and mAh consumed while you fly. In addition, the Betaflight OSD can be used to configure the quadcopter, making in-field adjustments and tuning more convenient.

MODE2

MODE1

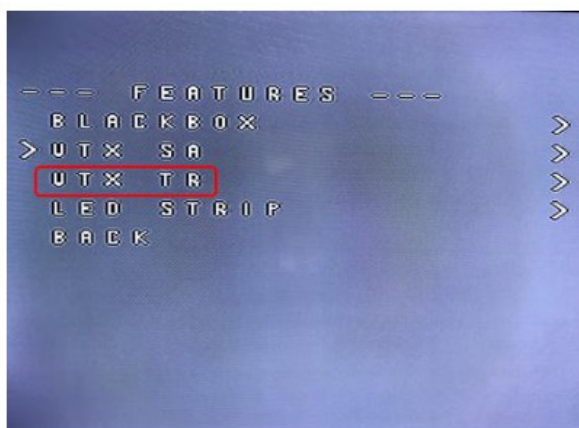


The graphics above show the stick command to bring up the OSD menu. The stick command is throttle centered, yaw left, pitch forward. The exact stick command, therefore,



depends on which mode your transmitter sticks are in.

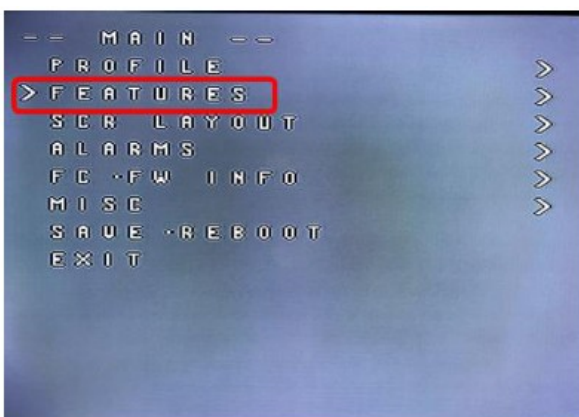
In the OSD menu, use pitch up/down to move the cursor between menu items. When a menu option has a > symbol to the right of it, this indicates that it contains a sub-menu. Roll-right will enter the sub-menu. For example, in the screen to the right, moving the cursor to "Features" and then moving the roll stick to the right will enter the "Features" sub-menu. If you are using a video transmitter that supports remote configuration, enter the "Features" menu to configure the vTX. From there, enter either "VTX SA" if you are using SmartAudio (TBS Unify) or "VTX TR" if you are using IRC Tramp Telemetry.



To adjust PIDs, rates, and other tuning-related parameters, enter the "Profile" sub-menu.

In the "Scr Layout" sub-menu, you can move the OSD elements (like battery voltage, mAh, and so forth) around on the screen.

The "Alarms" sub-menu lets you control when the OSD will try to alert you that battery voltage is too low or mAh consumed is too high.



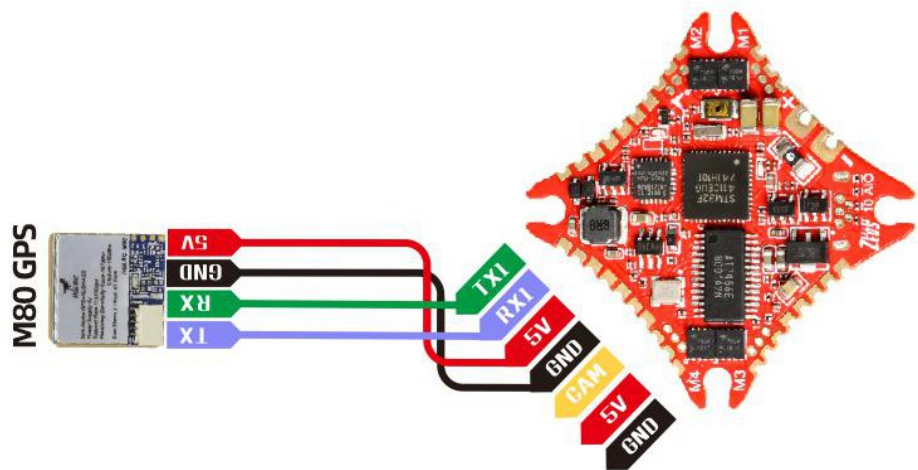
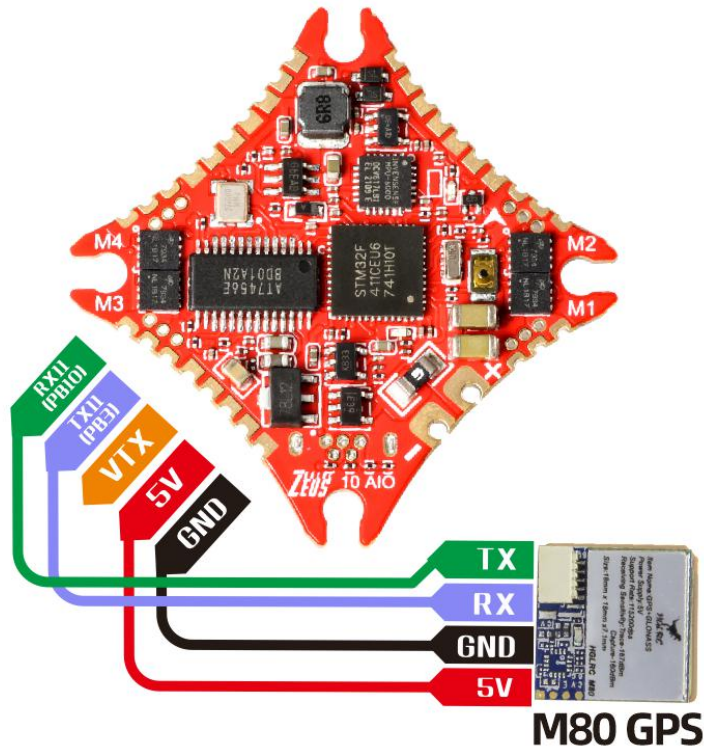
When a parameter can be modified, the parameter's current value will be shown on the right-hand side of the screen. In this case, roll left/right will adjust the parameter up and down.

The screen to the right shows the current vTX settings. From here, you can change the frequency band, channel, and power level of the video

transmitter. After making the changes, move the cursor to “Set” and press roll-right to confirm the settings.

GPS parameters setting

1. GPS connection diagram



GPS only can use for soft serial port if

using hd(dji,vista) vtx.

GPS only can use for RX1 TX1 if using analog vtx.

2. Open the GPS serial port: GPS only can use for RX1 TX1 if using analog vtx

| Identifier | Configuration/MSP | Serial Rx | Telemetry Output | Sensor Input | Peripherals |
|-------------|--|-------------------------------------|-------------------|-------------------|------------------------|
| USB VCP | <input checked="" type="checkbox"/> 115200 ▾ | <input type="checkbox"/> | Disabled ▾ AUTO ▾ | Disabled ▾ AUTO ▾ | Disabled ▾ AUTO ▾ |
| UART1 | <input type="checkbox"/> 115200 ▾ | <input type="checkbox"/> | Disabled ▾ AUTO ▾ | GPS ▾ 115200 ▾ | Disabled ▾ AUTO ▾ |
| UART2 | <input type="checkbox"/> 115200 ▾ | <input checked="" type="checkbox"/> | Disabled ▾ AUTO ▾ | Disabled ▾ AUTO ▾ | Disabled ▾ AUTO ▾ |
| SOFTSERIAL1 | <input type="checkbox"/> 115200 ▾ | <input type="checkbox"/> | Disabled ▾ AUTO ▾ | Disabled ▾ AUTO ▾ | VTX (IRC Tran ▾ AUTO ▾ |

3. GPS only can use for soft serial port if using hd(dji,vista) vtx

| Identifier | Configuration/MSP | Serial Rx | Telemetry Output | Sensor Input | Peripherals |
|-------------|--|-------------------------------------|-------------------|-------------------|-------------------|
| USB VCP | <input checked="" type="checkbox"/> 115200 ▾ | <input type="checkbox"/> | Disabled ▾ AUTO ▾ | Disabled ▾ AUTO ▾ | Disabled ▾ AUTO ▾ |
| UART1 | <input checked="" type="checkbox"/> 115200 ▾ | <input type="checkbox"/> | Disabled ▾ AUTO ▾ | Disabled ▾ AUTO ▾ | Disabled ▾ AUTO ▾ |
| UART2 | <input type="checkbox"/> 115200 ▾ | <input checked="" type="checkbox"/> | Disabled ▾ AUTO ▾ | Disabled ▾ AUTO ▾ | Disabled ▾ AUTO ▾ |
| SOFTSERIAL1 | <input type="checkbox"/> 115200 ▾ | <input type="checkbox"/> | Disabled ▾ AUTO ▾ | GPS ▾ 115200 ▾ | Disabled ▾ AUTO ▾ |

4. When using the GPS function, remember to configure the serial port (via the Ports tab).

GPS

☒ GPS GPS for navigation and telemetry ?

Note: Remember to configure a Serial Port (via Ports tab) when using GPS feature.

UBLOX ▼ Protocol


☐ Auto Baud

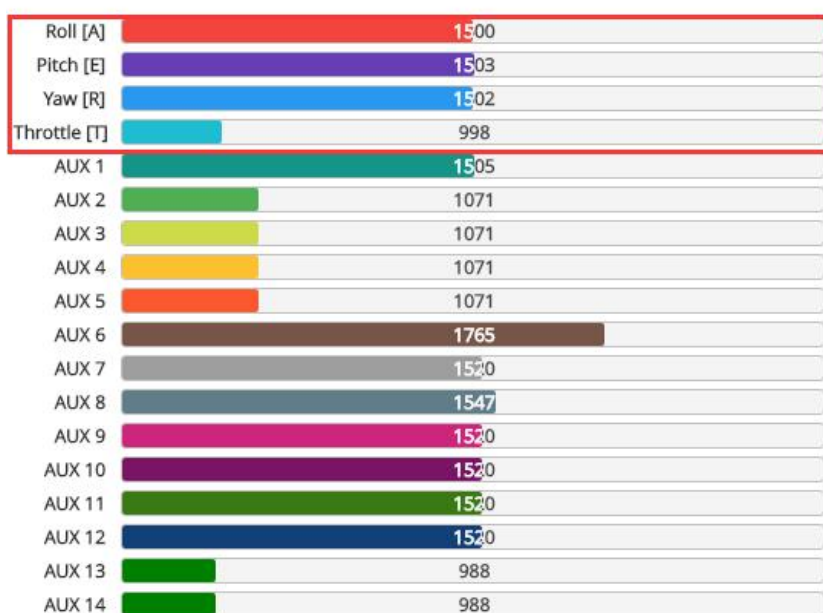
☒ Auto Config

Auto-detect ▼ Ground Assistance Type


0.00 ▲▼ Magnetometer Declination [deg]

Check receiver signal

1. Click  Receiver Check the remote control output signal



Select flight mode startup mode

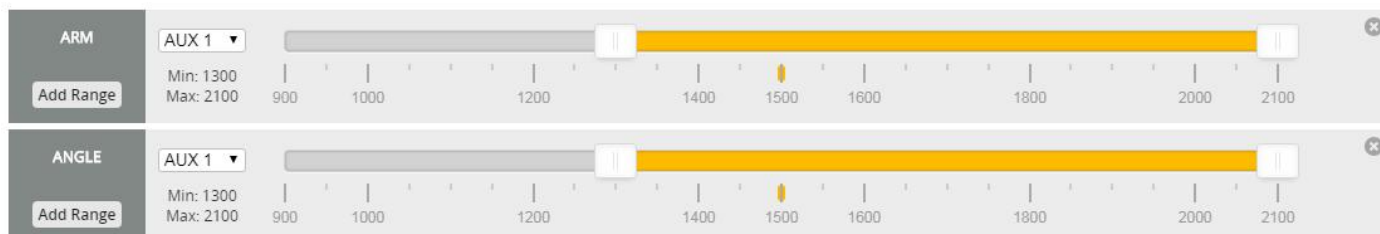
1. Click  Modes set up the function of remote control switch across the channel (below are for reference only)

Modes

WIKI

Use ranges to define the switches on your transmitter and corresponding mode assignments. A receiver channel that gives a reading between a range min/max will activate the mode. Remember to save your settings using the Save button.

☐ Show/hide unused modes



OSD settings

1. Click the  OSD Settings, according to the need to choose, drag the OSD schematic diagram of the parameters can be adjusted.

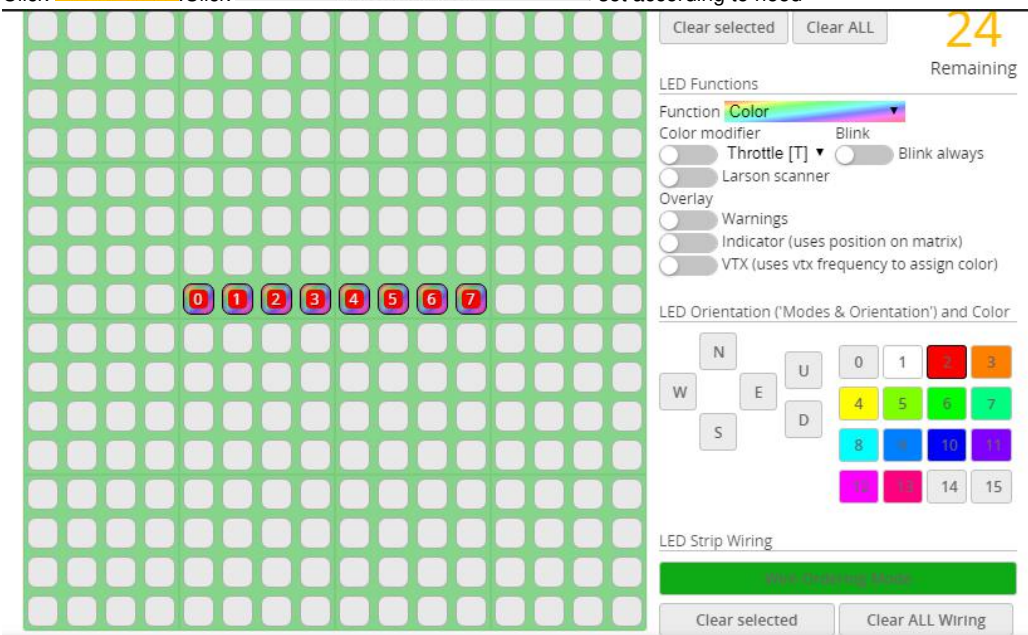


LED settings

1. Click **Configuration** Turn on LED support



2. Click **LED Strip** .Click **Wire Ordering Mode** set according to need



Troubleshooting

Warning:

Please read the cautions as follows, otherwise stability of your flight controller cannot be ensured, your flight controller will even get damaged.

- Keep focus on the polarity. Check carefully before power supply.
- Cut off the power when you connect, plug and pull anything.
- The refresh rate of PID and Gyroscope is up to 8K/8K.

after sales question:

1. After receiving the goods, it is found that the product can not be used normally. If the return to the factory is a quality problem, the repair service will be provided free of charge.
2. If the product is damaged due to improper operation, the repair service may be provided under the condition that the inspection can be repaired.
3. For domestic customers, please contact the after-sales service personnel. For overseas customers, please contact the official website for after-sales service.

Product daily problems

1. OSD garbled:

If you find garbled characters, please open Betaflight, click "OSD" .and click "Font Manager" clicks on "Upload Font" to update

1. When plugged in the battery, the aircraft does not pass the self-test without "BBB" sound. There is only one sound. Please check if the ESC agreement is correct
3. The spin of the aircraft keeps spinning
 1. Please check if the propeller is correct
 2. Please check if the motor direction is correct

Documents / Resources



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