# Zeus25 AIO
# Flight Controller
# Manual

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# Contents

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# Package Included

| Zeus25 AIO*1 | Accessory Bag*1 |
|---|---|

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# 1.Product Specifications

| Product parameters | |
|---|---|
| Model | Zeus25 AIO |
| Weight | 8.2g |
| Input Voltage | 3-6S |
| Usage | for 65mm-200mm Frame Kit |
| Installing Hole | 25.5x25.5mm/M2 |
| Dimensioms | 32.5x32.5mm |
| FC Firmware | BF ZEUSF722_AIO(HGLR) |
| CPU | STM32F722 |
| MPU | MPU6000 |
| BEC | 10V/1A<br>5/2A |
| BlackBox | NO |
| UARTS | 5 |
| ESC Firmware | BL32 |
| Current Sensor | not support |
| Constant Current | 25A |
| Peak Current | 30A（10s） |

# 2.Interface Description
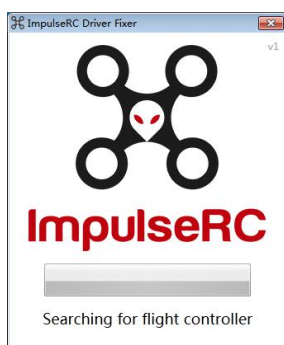
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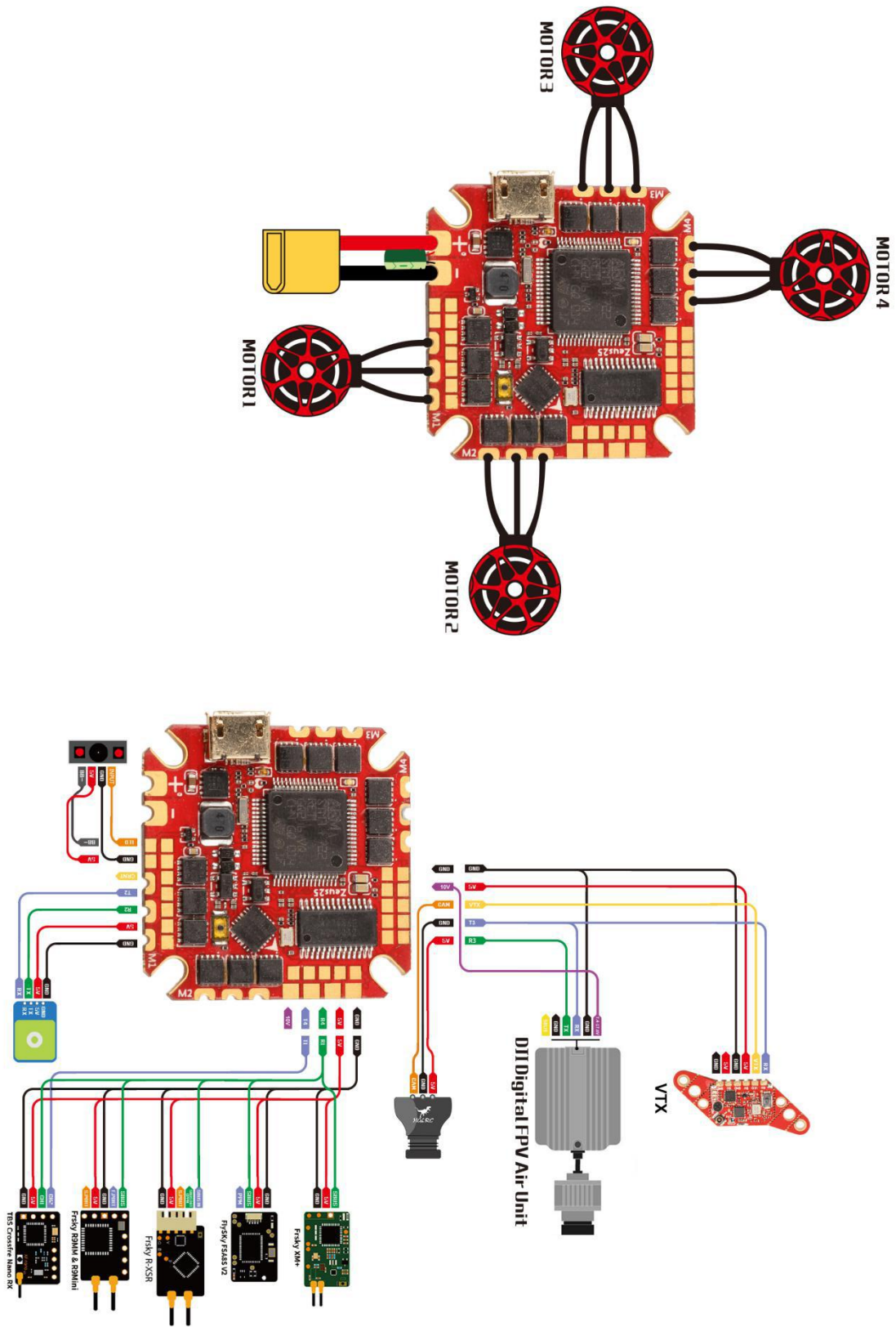
# 3.Check the flight control drive

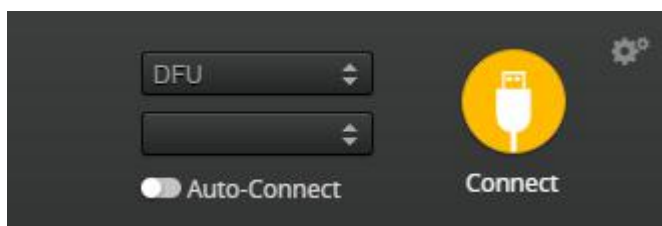1. Long Press BOOT　buttons.connect USB.The system automatically

install the driver



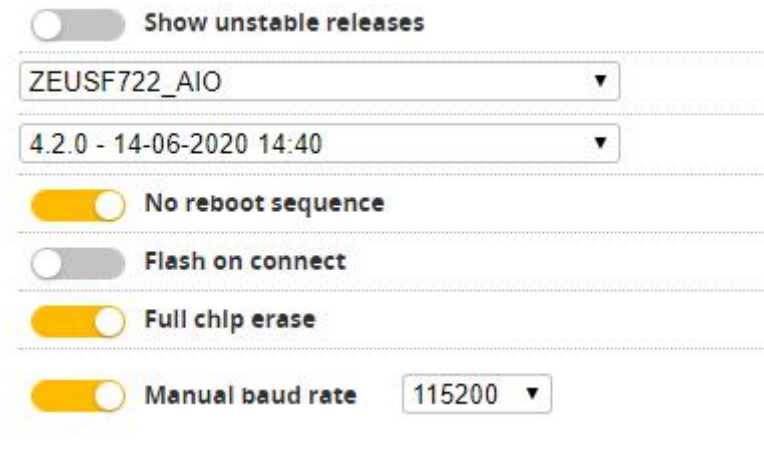2.Driver cannot be installed, please download ImpulseRC_Driver_Fixer



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

install the driver)



4.open betaflight configurator  ，enter DFU mode

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5.Click [Firmware Flasher]  Select firmware version

Show unstable releases

ZEUSF722_AIO ▼

4.2.0 - 14-06-2020 14:40 ▼

No reboot sequence

Flash on connect

Full chip erase

Manual baud rate  115200 ▼
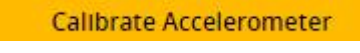
6.Click Load Firmware [Online]  Load firmware．Flash Firmware  Waiting for

completion Erasing ... It will be prompted upon

completion. Programming: SUCCESSFUL

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

COM18

115200

Auto-Connect          Connect

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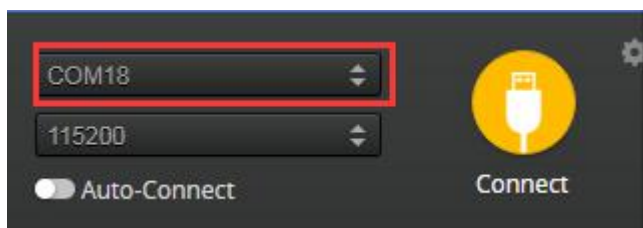
# 4.Calibration accelerometer

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

Click again    Calibrate Accelerometer
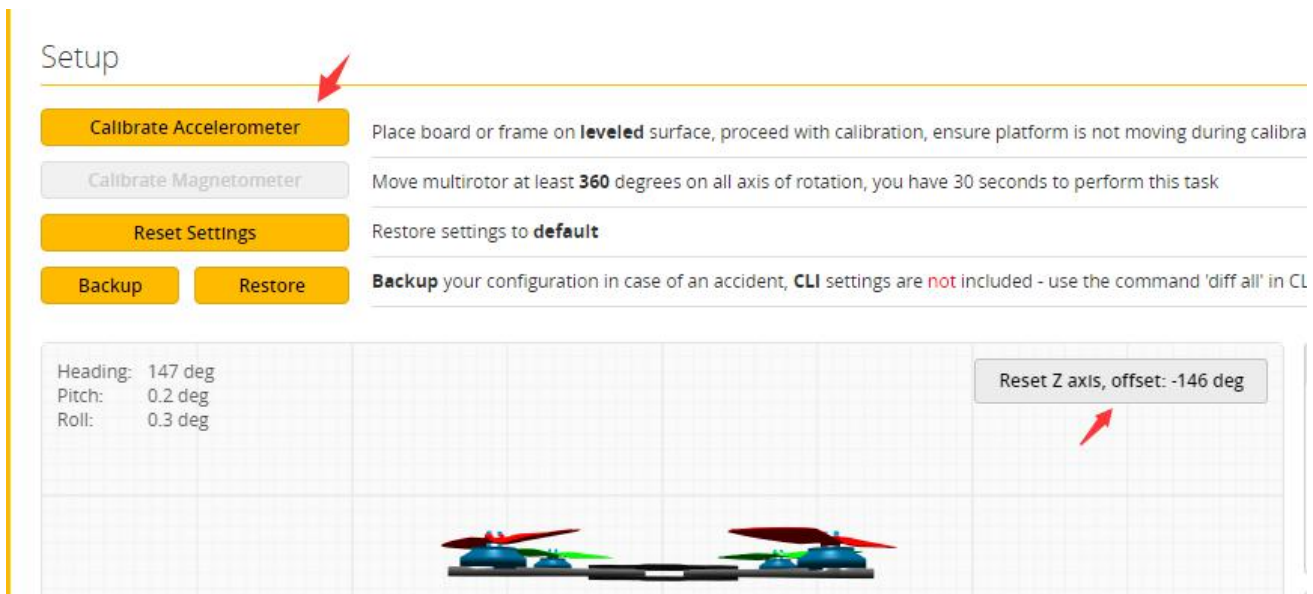
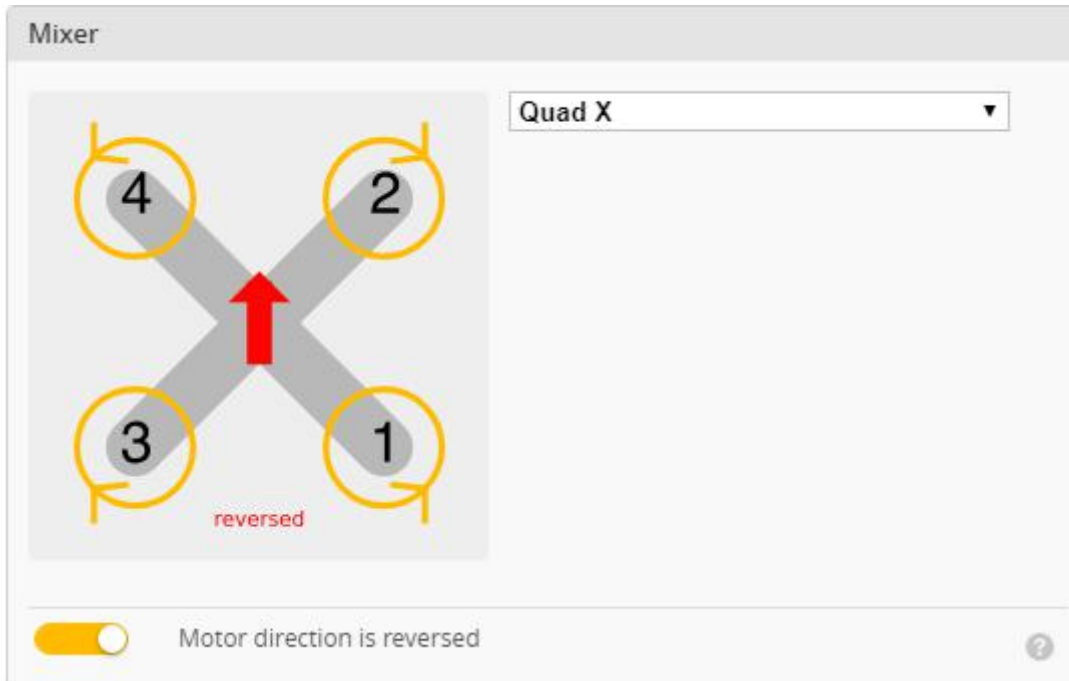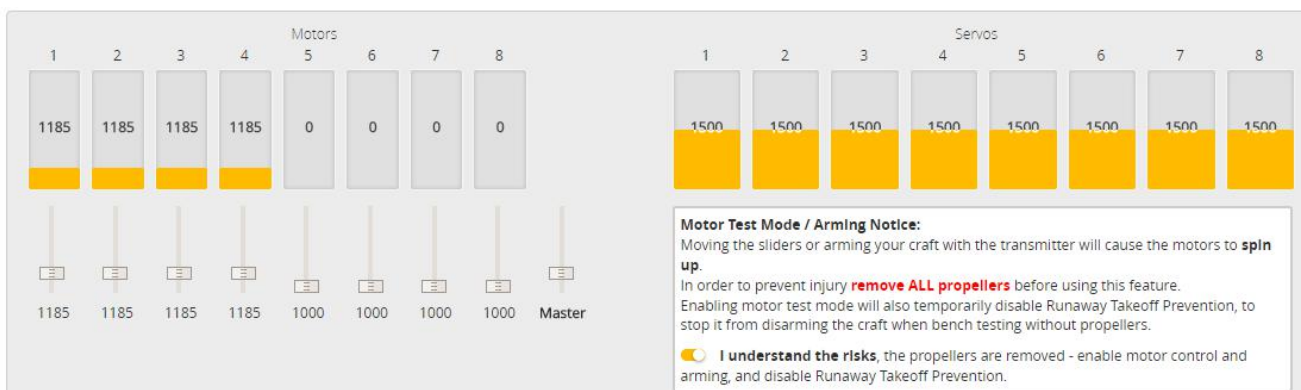

# 5.UART serial port use

1.UART1 uses the receiver

2.UART2 uses GPS

3.UART3 uses VTX /DJI

4.UART4 uses WIFI module

5.UART6 uses ESC

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# 6.Select aircraft model

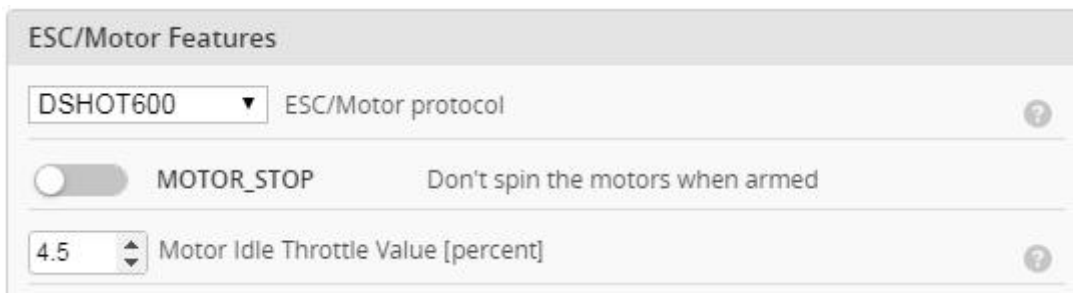1.Click ⚙ Configuration Select model

Mixer

Quad X

reversed

Motor direction is reversed

2.Click 👍 Motors Click "I understand the risks" Push Master to check motor

steering "Master" Steering can be changed at BLHeliSuite32

| | | | | Motors | | | | | | | | Servos | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1185 | 1185 | 1185 | 1185 | 0 | 0 | 0 | 0 | | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 |

1185 1185 1185 1185 1000 1000 1000 1000 Master

**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.

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# 7.Choose ESC protocol

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

DSHOT600.
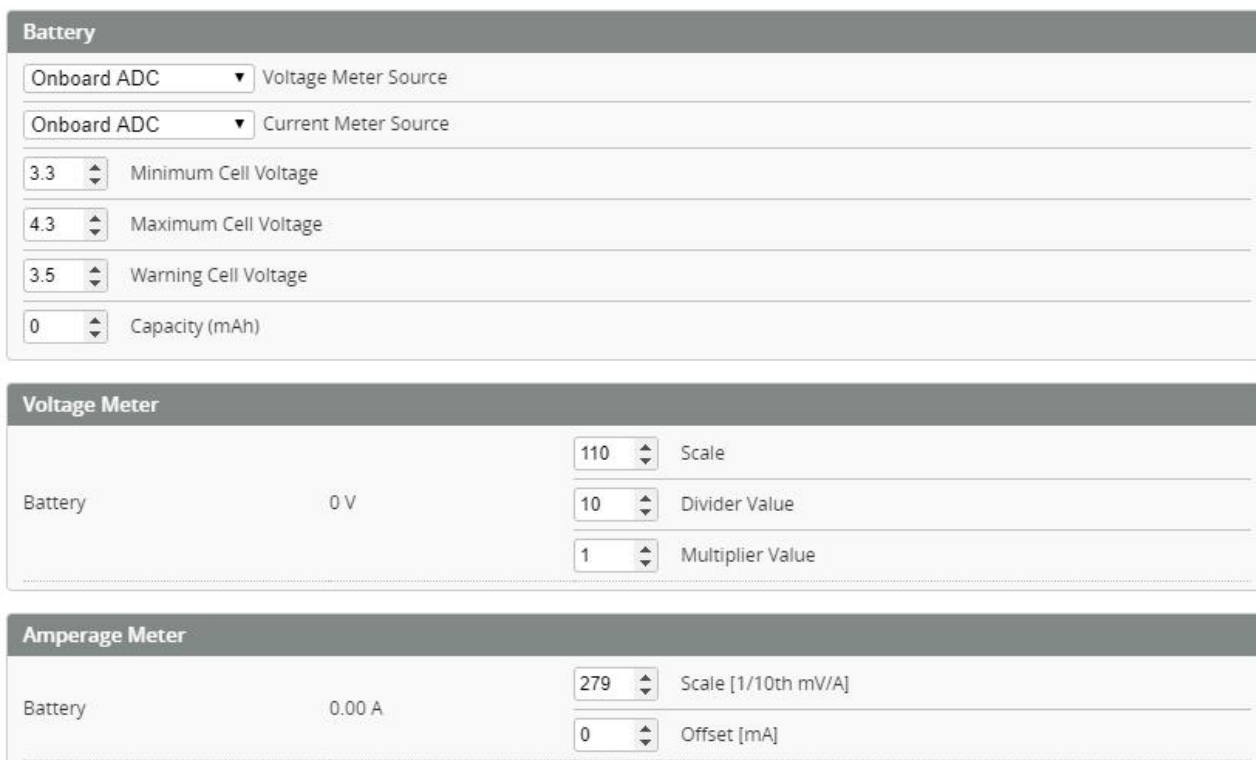


# 8.Voltage and current

# parameters setting

1.Click Power & Battery Setting parameters

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# 9.Setting up the receiver

## 1.Receiver connection diagram
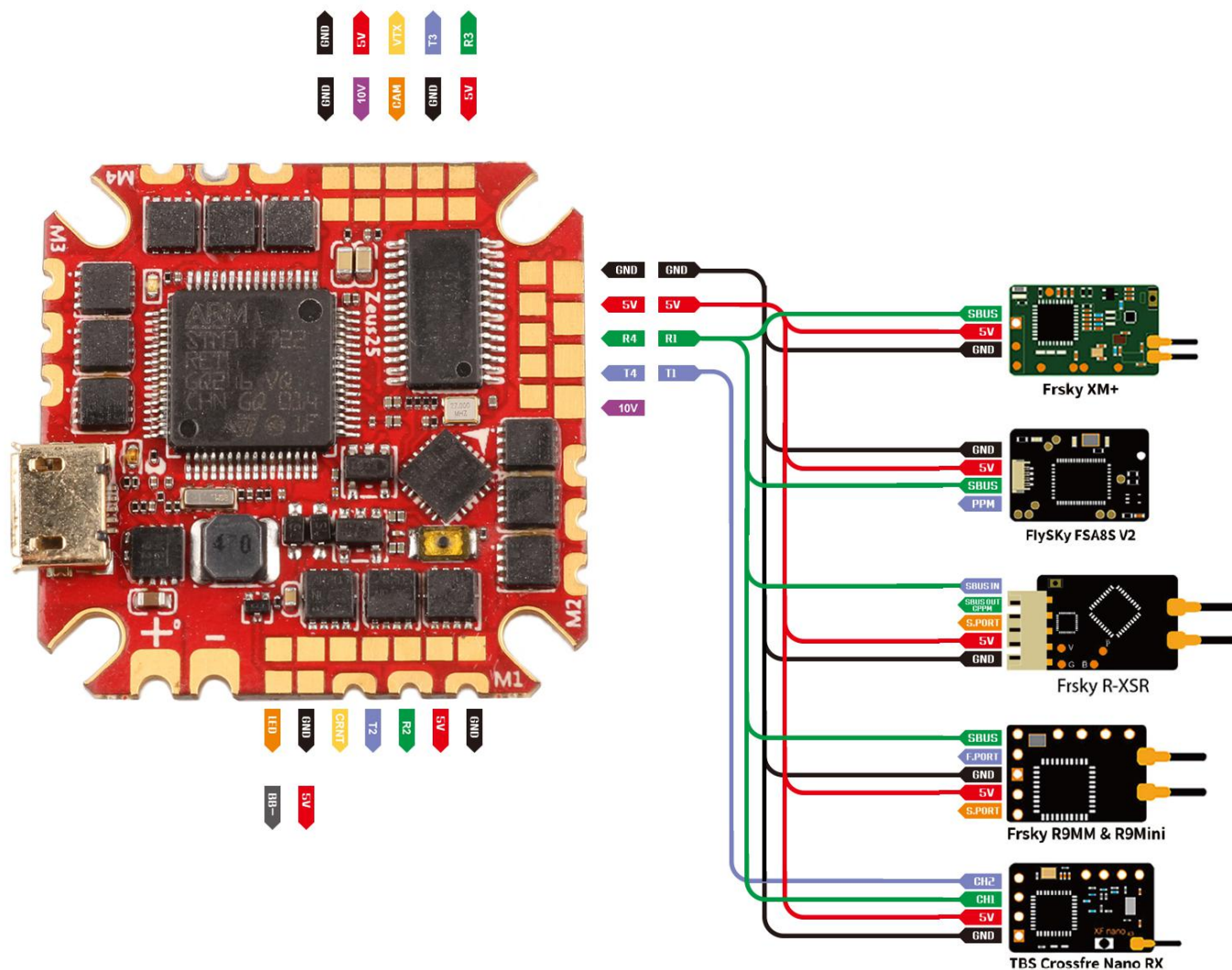


2.Click **Ports** .have found "UART2" Open the receiver serial port

| Identifier | Configuration/MSP | Serial Rx | Telemetry Output | Sensor Input | Peripherals |
|---|---|---|---|---|---|
| USB VCP | 115200 ▾ | | Disabled ▾ AUTO ▾ | Disabled ▾ AUTO ▾ | Disabled ▾ AUTO ▾ |
| UART1 | 115200 ▾ | | Disabled ▾ AUTO ▾ | Disabled ▾ AUTO ▾ | VTX (IRC Tran ▾ AUTO ▾ |
| UART2 | 115200 ▾ | | Disabled ▾ AUTO ▾ | Disabled ▾ AUTO ▾ | Disabled ▾ AUTO ▾ |

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# 10.VTX serial port use. VTX uses OSD smart audio

1.VTX connection diagram

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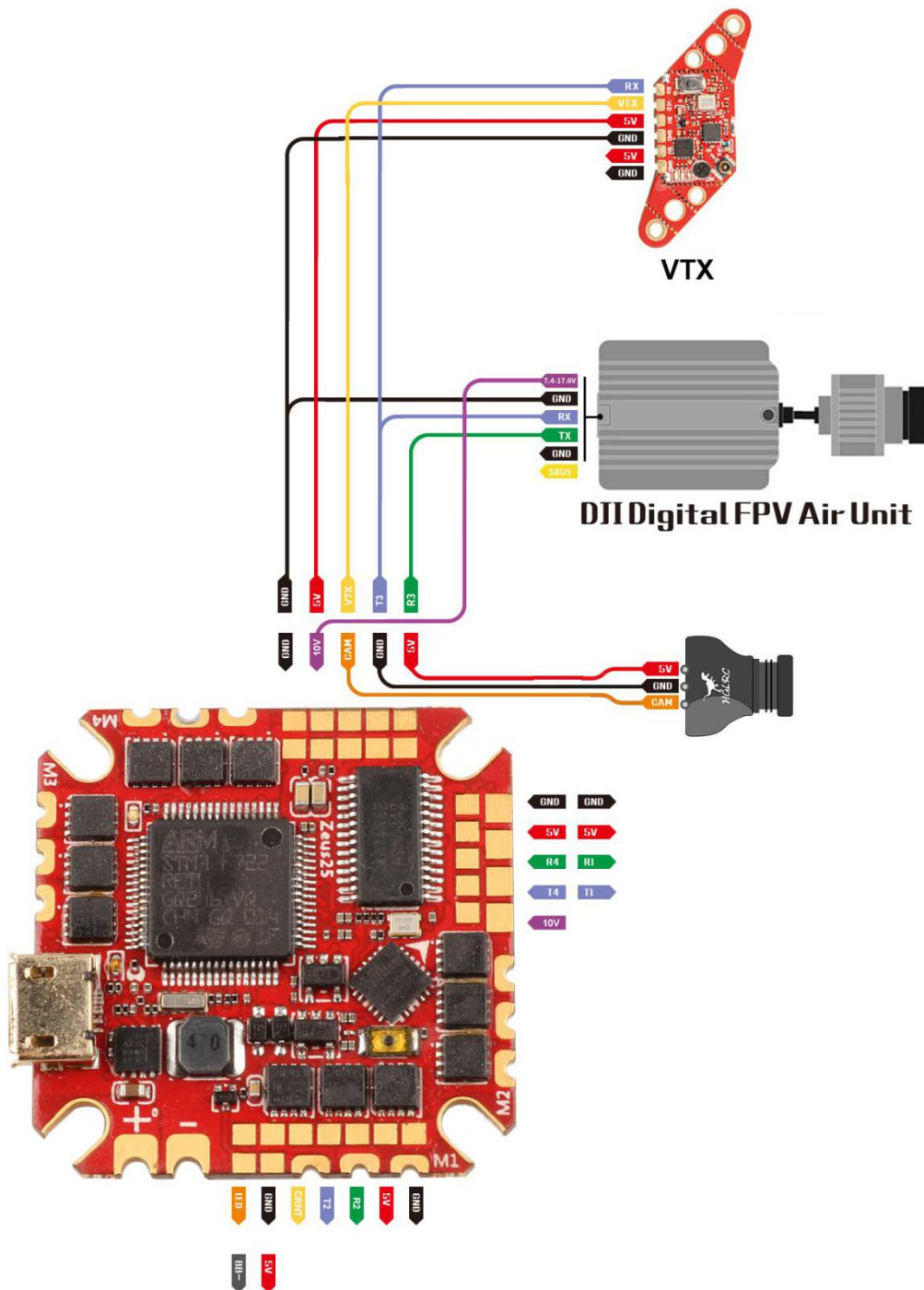
## 2.VTX serial port opens. The protocol is selected according to its own VTX protocol.



| Identifier | Configuration/MSP | Serial Rx | Telemetry Output | Sensor Input | Peripherals |
|---|---|---|---|---|---|
| USB VCP | 115200 ▼ | | Disabled ▼ AUTO ▼ | Disabled ▼ AUTO ▼ | Disabled ▼ AUTO ▼ |
| UART1 | 115200 ▼ | | Disabled ▼ AUTO ▼ | Disabled ▼ AUTO ▼ | Disabled ▼ AUTO ▼ |
| UART2 | 115200 ▼ | | Disabled ▼ AUTO ▼ | Disabled ▼ AUTO ▼ | Disabled ▼ AUTO ▼ |
| UART3 | 115200 ▼ | | Disabled ▼ AUTO ▼ | Disabled ▼ AUTO ▼ | VTX (IRC Tran ▼ AUTO ▼ |
| UART4 | 115200 ▼ | | Disabled ▼ AUTO ▼ | Disabled ▼ AUTO ▼ | Disabled ▼ AUTO ▼ |
| UART6 | 115200 ▼ | | Disabled ▼ AUTO ▼ | ESC ▼ AUTO ▼ | Disabled ▼ AUTO ▼ |

Disabled
Blackbox logging
VTX (TBS SmartAudio)
VTX (IRC Tramp)
Camera (RunCam Protocol)
Benewake LIDAR
OSD (FrSky Protocol)

## 3. DJI serial port opens



| Identifier | Configuration/MSP | Serial Rx | Telemetry Output | Sensor Input | Peripherals |
|---|---|---|---|---|---|
| USB VCP | 115200 ▼ | | Disabled ▼ AUTO ▼ | Disabled ▼ AUTO ▼ | Disabled ▼ AUTO ▼ |
| UART1 | 115200 ▼ | | Disabled ▼ AUTO ▼ | Disabled ▼ AUTO ▼ | Disabled ▼ AUTO ▼ |
| UART2 | 115200 ▼ | | Disabled ▼ AUTO ▼ | Disabled ▼ AUTO ▼ | Disabled ▼ AUTO ▼ |
| UART3 | 115200 ▼ | | Disabled ▼ AUTO ▼ | Disabled ▼ AUTO ▼ | Disabled ▼ AUTO ▼ |
| UART4 | 115200 ▼ | | Disabled ▼ AUTO ▼ | Disabled ▼ AUTO ▼ | Disabled ▼ AUTO ▼ |
| UART6 | 115200 ▼ | | Disabled ▼ AUTO ▼ | Disabled ▼ AUTO ▼ | 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

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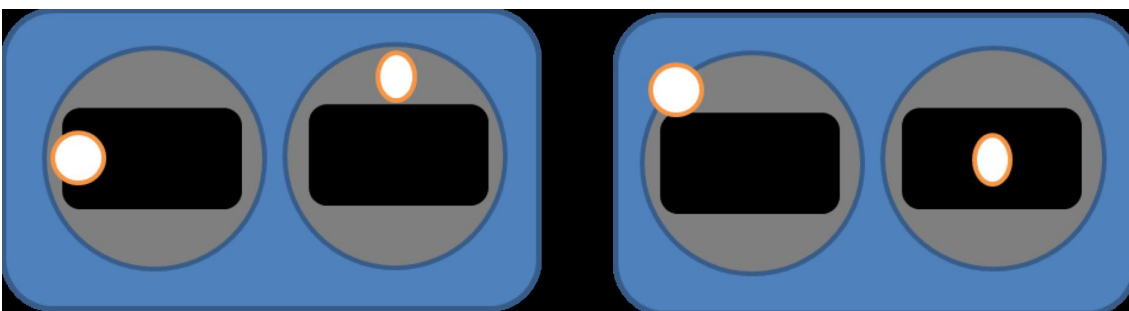
The graphics above show the stick command to bring up the OSD menu. The stick command is: throttle centered, yaw left, pitch forward. The exact stick command therefore depends on which mode your transmitter sticks are in.

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.
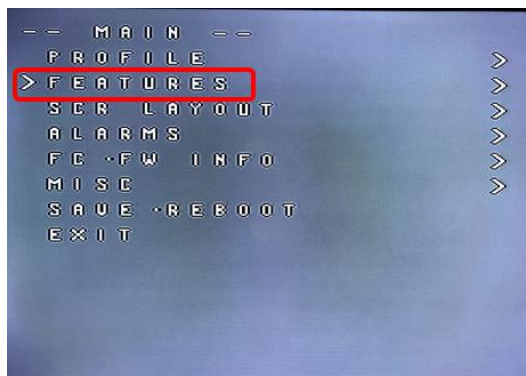
If you are using a video transmitter that supports remote configuration, enter the "Features" menu to configure the vTX. From there, enter either "VTX SA" if you are using SmartAudio (TBS Unify) or "VTX TR" if you are using IRC Tramp Telemetry.

To adjust PIDs, rates, and other tuning-related parameters, enter the "Profile" sub-menu.
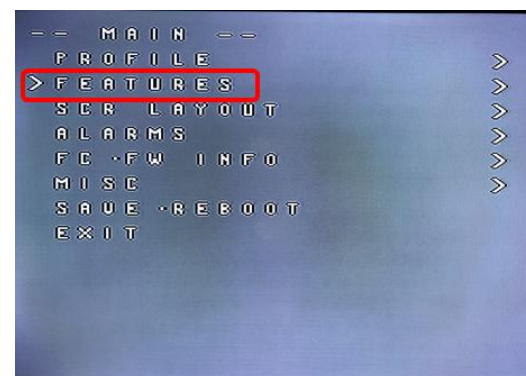
In the "Scr Layout" sub-menu, you can move the OSD elements (like battery voltage, mAh, and so forth) around on the screen.
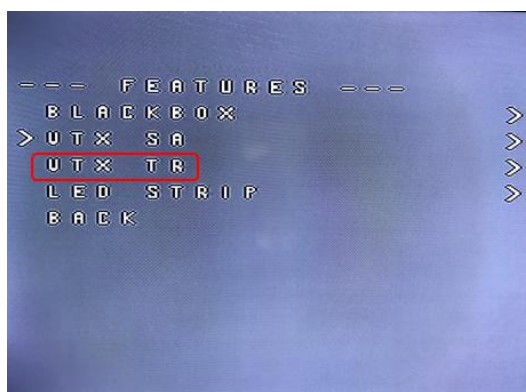
The "Alarms" sub-menu lets you control when the OSD will try to alert you that battery voltage is too low or mAh consumed is too high.
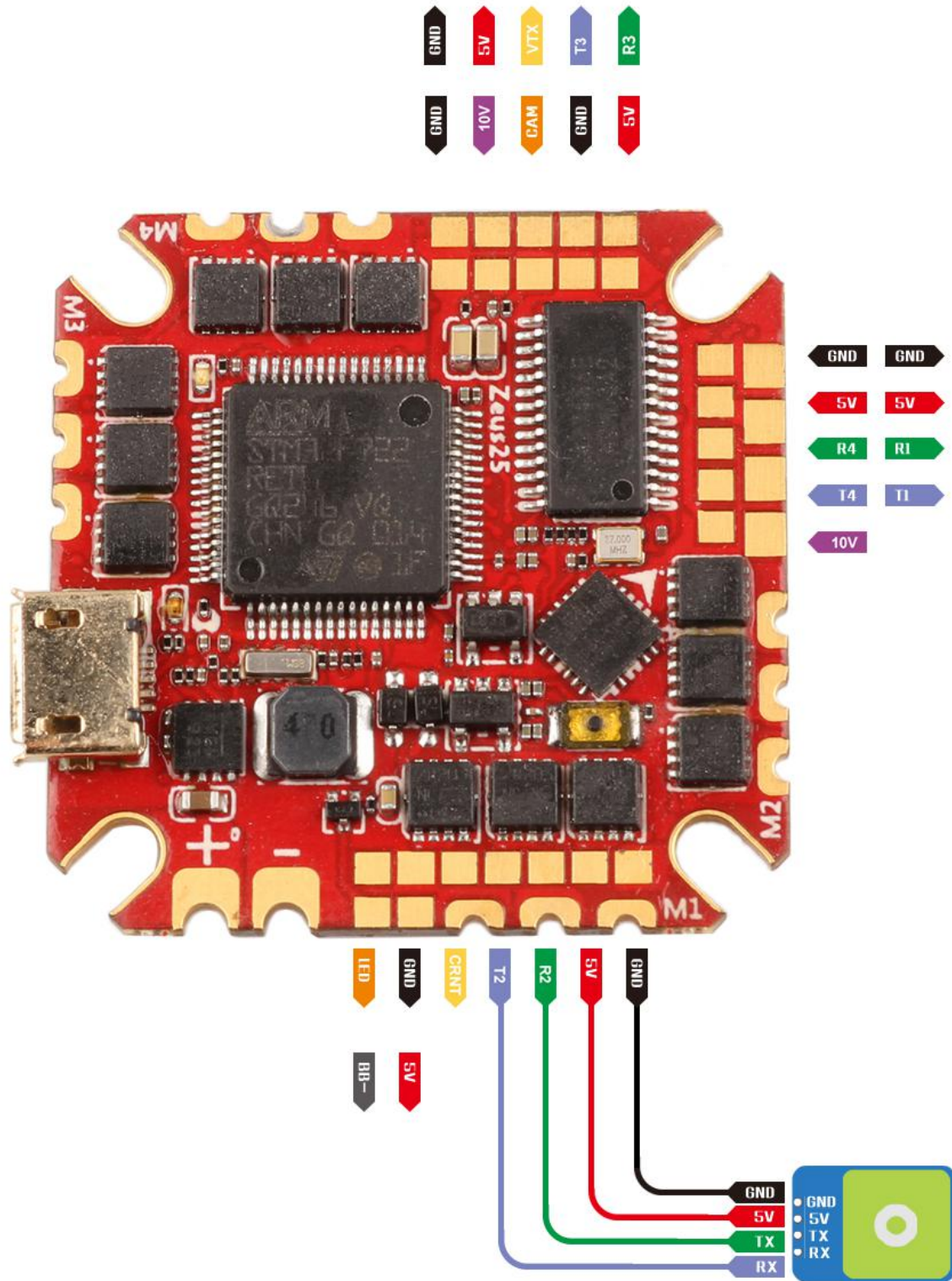
When a parameter can be modified, the parameter's current value will be shown on the right-hand side of the screen. In this case, roll left/right will adjust the parameter up and down.

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.

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# 11. GPS parameters setting

1.GPS connection diagram

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## 2.Open the GPS serial port



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

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# 12.Check receiver signal

1.Click **Receiver** Check the remote control output signal

| | |
|---|---|
| Roll [A] | 1500 |
| Pitch [E] | 1503 |
| Yaw [R] | 1502 |
| Throttle [T] | 998 |
| AUX 1 | 1505 |
| AUX 2 | 1071 |
| AUX 3 | 1071 |
| AUX 4 | 1071 |
| AUX 5 | 1071 |
| AUX 6 | 1765 |
| AUX 7 | 1520 |
| AUX 8 | 1547 |
| AUX 9 | 1520 |
| AUX 10 | 1520 |
| AUX 11 | 1520 |
| AUX 12 | 1520 |
| AUX 13 | 988 |
| AUX 14 | 988 |
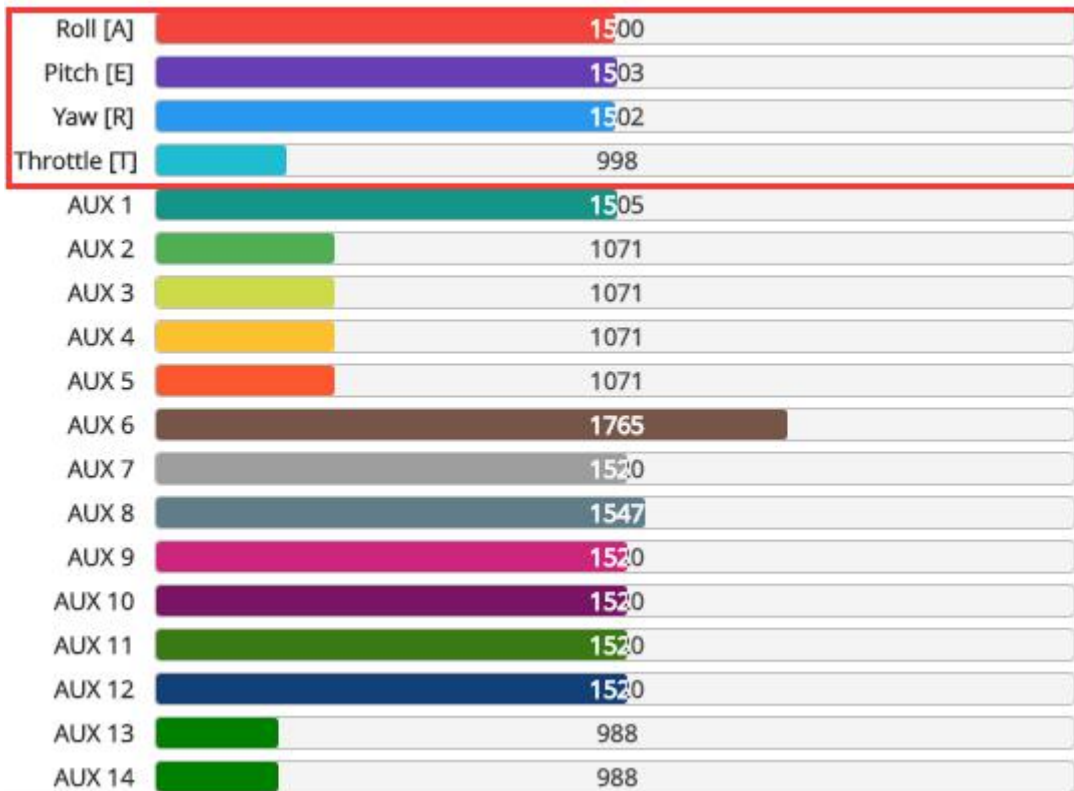
# 13.Select flight mode startup mode

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

| ARM | AUX 1 ▼ | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Add Range | Min: 1300 Max: 2100 | 900 | 1000 | 1200 | 1400 | 1500 | 1600 | 1800 | 2000 2100 |

| ANGLE | AUX 1 ▼ | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Add Range | Min: 1300 Max: 2100 | 900 | 1000 | 1200 | 1400 | 1500 | 1600 | 1800 | 2000 2100 |

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# 14.OSD settings

1. Click ▭ OSD  the OSD Settings, according to the need to choose, drag

the OSD schematic diagram of the parameters can be adjusted.

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# 15.LED settings

1. Click ⚙ Configuration Turn on LED support



2.Click 🔦 LED Strip .Click [ Wire Ordering Mode ] set according to need

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# 16.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

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