

# Sector25CR Sub250g HD FPV Racing Drone **Manual**



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## Package Included

Sector25CR Sub250g FPV Racing Drone *1	Accessory Bag*1
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# 1. Product Specifications

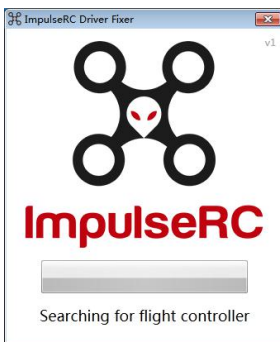
Product parameters	
Model	Sector25CR Sub250g HD FPV Racing Drone
Frame Kit	Sector25CR FPV Freestyle Frame Kit
Flight Controller	Zeus25 AIO Flight Controller
VTX	CADDX Nebula
Motor	1404Motor 4S KV3600
Support receiver	SBUS .DSMX.i.BUS
Input Voltage	3-6S Lipo
Weight	151.37g



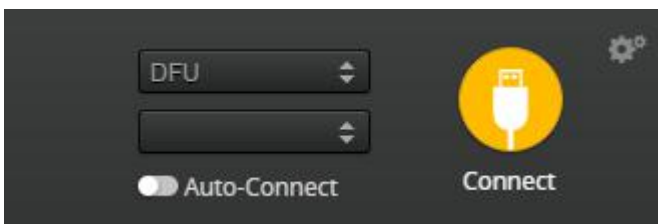
2.Driver cannot be installed, please download ImpulseRC\_Driver\_Fixer



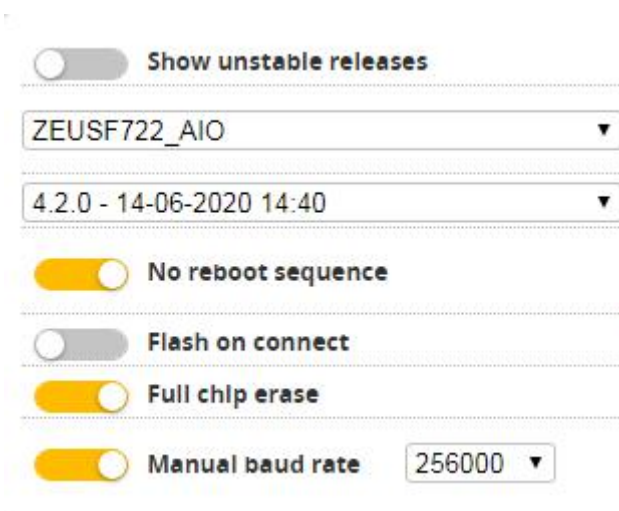
3.Double-click on the run(Plug in the flight controller to automatically install the driver)




4.open betafight configurator , enter DFU mode

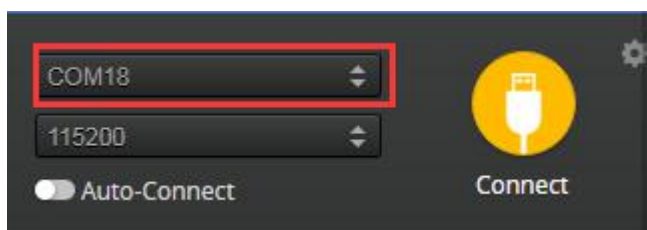


5. Click  Select firmware version



6. Click **Load Firmware [Online]** Load firmware. **Flash Firmware** Waiting for completion **Erasing ...** It will be prompted upon completion. **Programming: SUCCESSFUL**

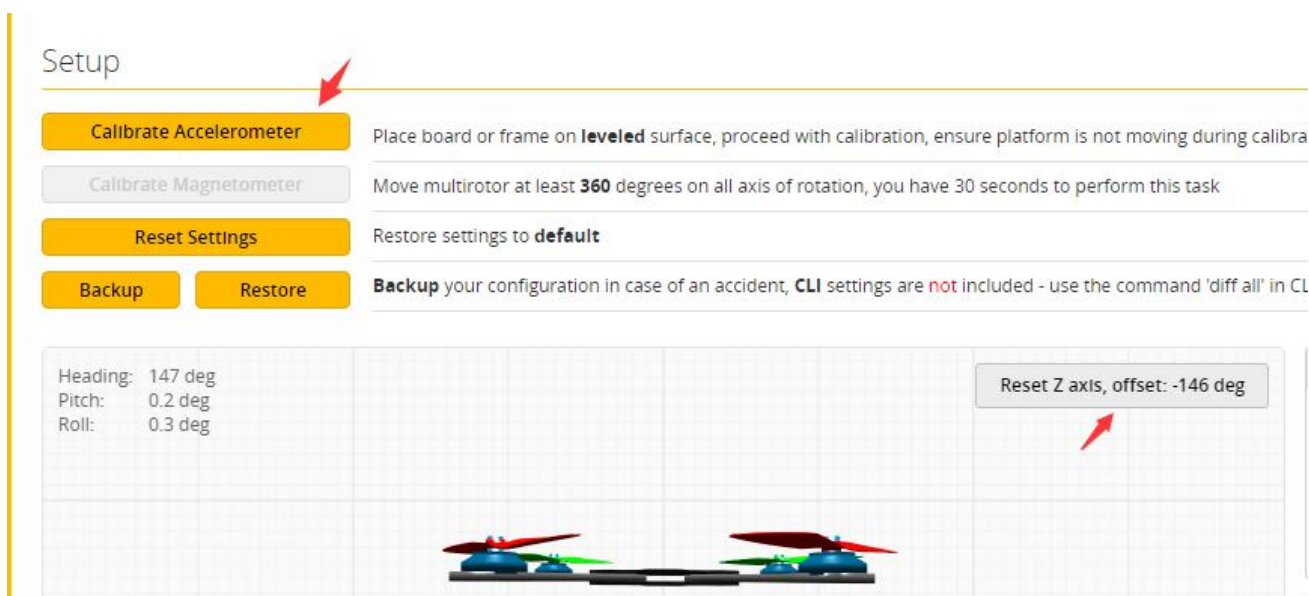
7. open betaflyght configurator  . Controller plugged into the computer. Betaflight Automatically assigned port, click “Connect” Enter setup interface ( Different computer COM )



## 4. Calibration accelerometer

1. Put the aircraft horizontal and click “**Reset Z axis**”

Click again **Calibrate Accelerometer**

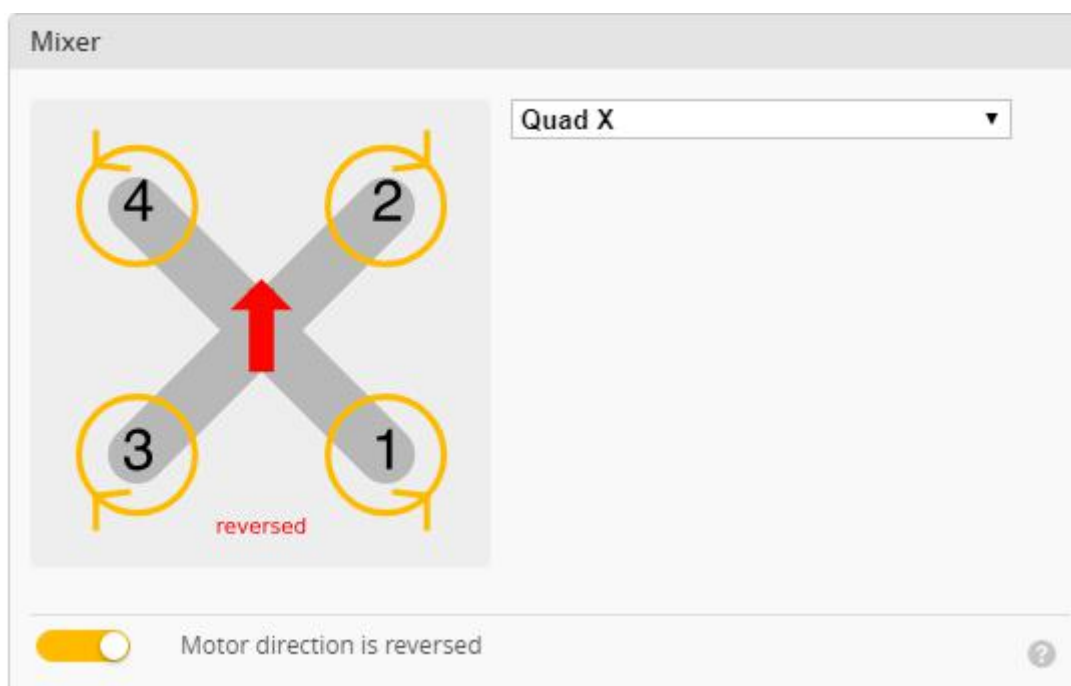



## 5.UART serial port use

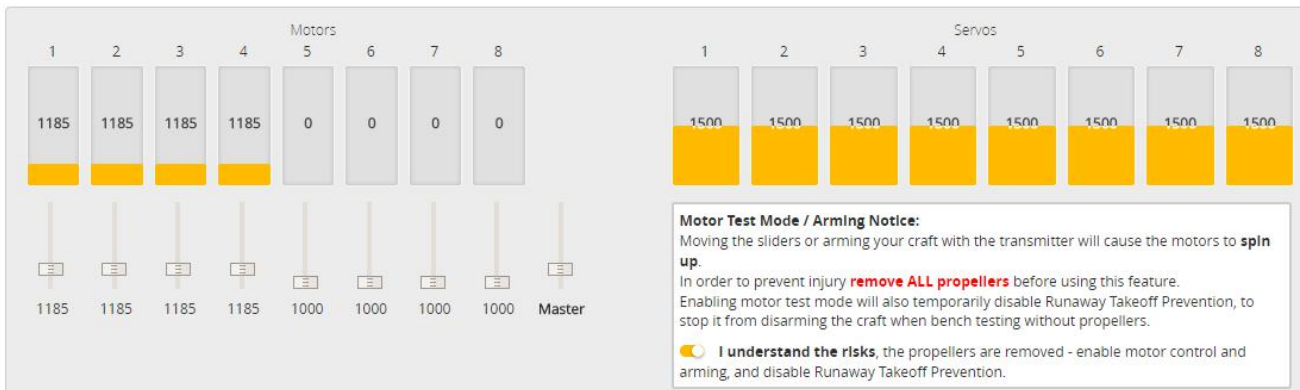
- 1.UART1 uses the receiver
- 2.UART2 uses GPS
- 3.UART3 uses VTX/DJI
- 4.UART4 uses WiFi module
- 5.UART6 uses ESC telemetry

## 6.Select aircraft model

- 1.Click  Configuration Select model



- 2.Click  Motors Click “**I understand the risks**” Push Master to check motor steering “**Master**” Steering can be changed at [BLHeliSuite](https://www.blheli.com/)

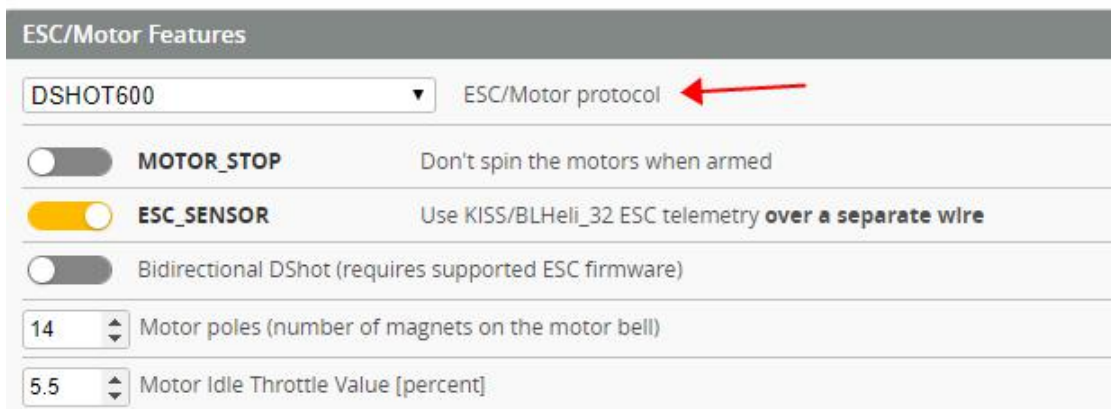


**Motor Test Mode / Arming Notice:**  
Moving the sliders or arming your craft with the transmitter will cause the motors to **spin up**.  
In order to prevent injury **remove ALL propellers** before using this feature.  
Enabling motor test mode will also temporarily disable Runaway Takeoff Prevention, 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.

# 7. 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

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

Bidirectional DShot (requires supported ESC firmware)

14 Motor poles (number of magnets on the motor bell)

5.5 Motor Idle Throttle Value [percent]



# 8. Voltage and current parameters setting

1. 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)	

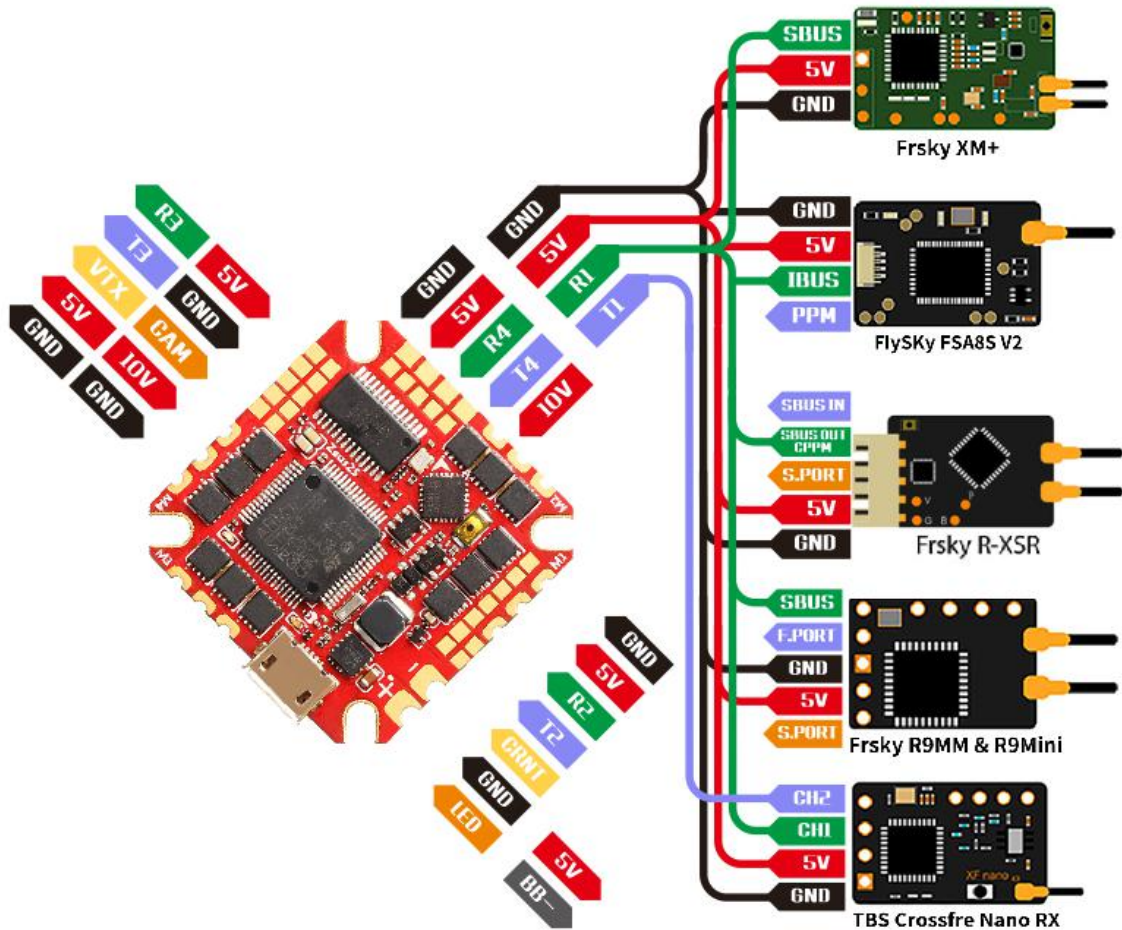
Voltage Meter			
Battery	0 V	110	↕ Scale
		10	↕ Divider Value
		1	↕ Multiplier Value

Amperage Meter			
Battery	0.00 A	279	↕ Scale [1/10th mV/A]
		0	↕ Offset [mA]

# 9. Setting up the receiver

## 1. Receiver connection diagram



2. Click Ports have found “UART1” 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 type="checkbox"/> 115200 ▾	<input checked="" type="checkbox"/>	Disabled ▾ AUTO ▾	Disabled ▾ AUTO ▾	Disabled ▾ AUTO ▾
UART2	<input type="checkbox"/> 115200 ▾	<input type="checkbox"/>	Disabled ▾ AUTO ▾	Disabled ▾ AUTO ▾	Disabled ▾ AUTO ▾
UART3	<input type="checkbox"/> 115200 ▾	<input type="checkbox"/>	Disabled ▾ AUTO ▾	Disabled ▾ AUTO ▾	VTX (IRC Tran ▾ AUTO ▾
UART4	<input type="checkbox"/> 115200 ▾	<input type="checkbox"/>	Disabled ▾ AUTO ▾	Disabled ▾ AUTO ▾	Disabled ▾ AUTO ▾
UART6	<input type="checkbox"/> 115200 ▾	<input type="checkbox"/>	Disabled ▾ AUTO ▾	ESC ▾ AUTO ▾	Disabled ▾ AUTO ▾

### 3. Set the **SBUS** receiver

Receiver

Serial-based receiver (SPEKSAT, S ▼) Receiver Mode

**Note:** Remember to configure a Serial Port (via Ports tab) and choose a Serial Receiver Provider when using RX\_SERIAL feature.

SBUS ▼ Serial Receiver Provider

### 4. Set the **i.BUS** receiver

Receiver

Serial-based receiver (SPEKSAT, S ▼) Receiver Mode

**Note:** Remember to configure a Serial Port (via Ports tab) and choose a Serial Receiver Provider when using RX\_SERIAL feature.

IBUS ▼ Serial Receiver Provider

### 5. Set the **DSMX** receiver

Receiver

Serial-based receiver (SPEKSAT, S ▼) Receiver Mode

**Note:** Remember to configure a Serial Port (via Ports tab) and choose a Serial Receiver Provider when using RX\_SERIAL feature.

SPEKTRUM2048 ▼ Serial Receiver Provider

### .Set the **CRSF** receiver

Receiver

Serial-based receiver (SPEKSAT, S ▼) Receiver Mode

**Note:** Remember to configure a Serial Port (via Ports tab) and choose a Serial Receiver Provider when using RX\_SERIAL feature.

CRSF ▼ Serial Receiver Provider



3.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 type="checkbox"/> 115200 ▾	<input checked="" type="checkbox"/>	Disabled ▾   AUTO ▾	Disabled ▾   AUTO ▾	Disabled ▾   AUTO ▾
UART2	<input type="checkbox"/> 115200 ▾	<input type="checkbox"/>	Disabled ▾   AUTO ▾	Disabled ▾   AUTO ▾	Disabled ▾   AUTO ▾
UART3	<input type="checkbox"/> 115200 ▾	<input type="checkbox"/>	Disabled ▾   AUTO ▾	Disabled ▾   AUTO ▾	VTX (IRC Tran ▾   AUTO ▾
UART4	<input type="checkbox"/> 115200 ▾	<input type="checkbox"/>	Disabled ▾   AUTO ▾	Disabled ▾   AUTO ▾	Disabled ▾   AUTO ▾
UART6	<input type="checkbox"/> 115200 ▾	<input type="checkbox"/>	Disabled ▾   AUTO ▾	ESC ▾   AUTO ▾	Disabled ▾   AUTO ▾

#### 4. DJI serial port opens

Ports

WIKI

**Note:** not all combinations are valid. When the flight controller firmware detects this the serial port configuration will be reset.  
**Note:** Do **NOT** disable MSP on the first serial port unless you know what you are doing. You may have to reflash and erase your configuration if you do.

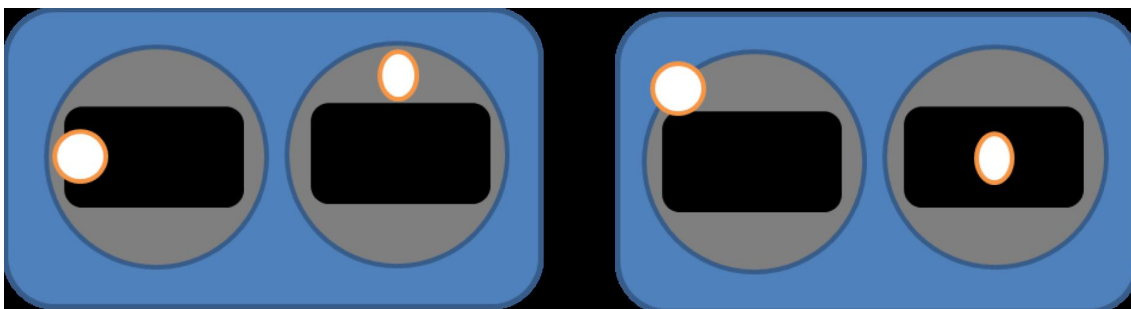
Identifier	Configuration/MSP	Serial Rx	Telemetry Output	Sensor Input	Peripherals
USB VCP	<input checked="" type="checkbox"/> 115200 ▾	<input type="checkbox"/>	Disabled ▾   AUTO ▾	Disabled ▾   AUTO ▾	Disabled ▾   AUTO ▾
UART1	<input type="checkbox"/> 115200 ▾	<input checked="" type="checkbox"/>	Disabled ▾   AUTO ▾	Disabled ▾   AUTO ▾	Disabled ▾   AUTO ▾
UART2	<input type="checkbox"/> 115200 ▾	<input type="checkbox"/>	Disabled ▾   AUTO ▾	Disabled ▾   AUTO ▾	Disabled ▾   AUTO ▾
UART3	<input checked="" type="checkbox"/> 115200 ▾	<input type="checkbox"/>	Disabled ▾   AUTO ▾	Disabled ▾   AUTO ▾	Disabled ▾   AUTO ▾
UART4	<input type="checkbox"/> 115200 ▾	<input type="checkbox"/>	Disabled ▾   AUTO ▾	Disabled ▾   AUTO ▾	Disabled ▾   AUTO ▾
UART6	<input type="checkbox"/> 115200 ▾	<input type="checkbox"/>	Disabled ▾   AUTO ▾	Disabled ▾   AUTO ▾	Disabled ▾   AUTO ▾

#### 5.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

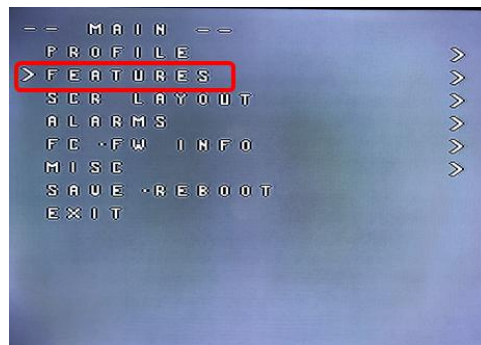
MODE1





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.

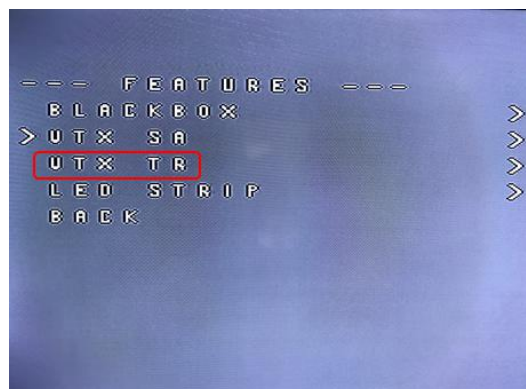
In the OSD menu, use pitch up/down to move the cursor between menu items. When a menu option has a > symbol to the right of it, this indicates that it contains a sub-menu. Roll-right will enter the sub-menu. For example, in the screen to the right, moving the cursor to “Features” and then moving the 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.

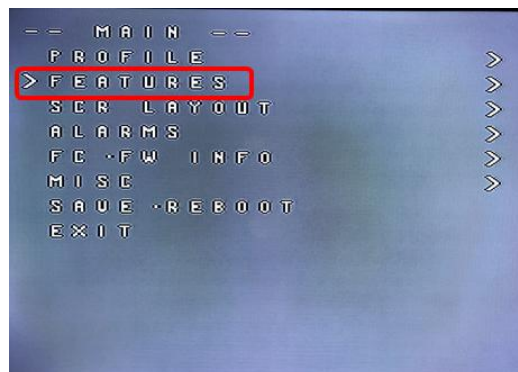
In the “Scr Layout” sub-menu, you can move the OSD elements (like battery voltage, mAh, and so forth) around on the screen.



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.

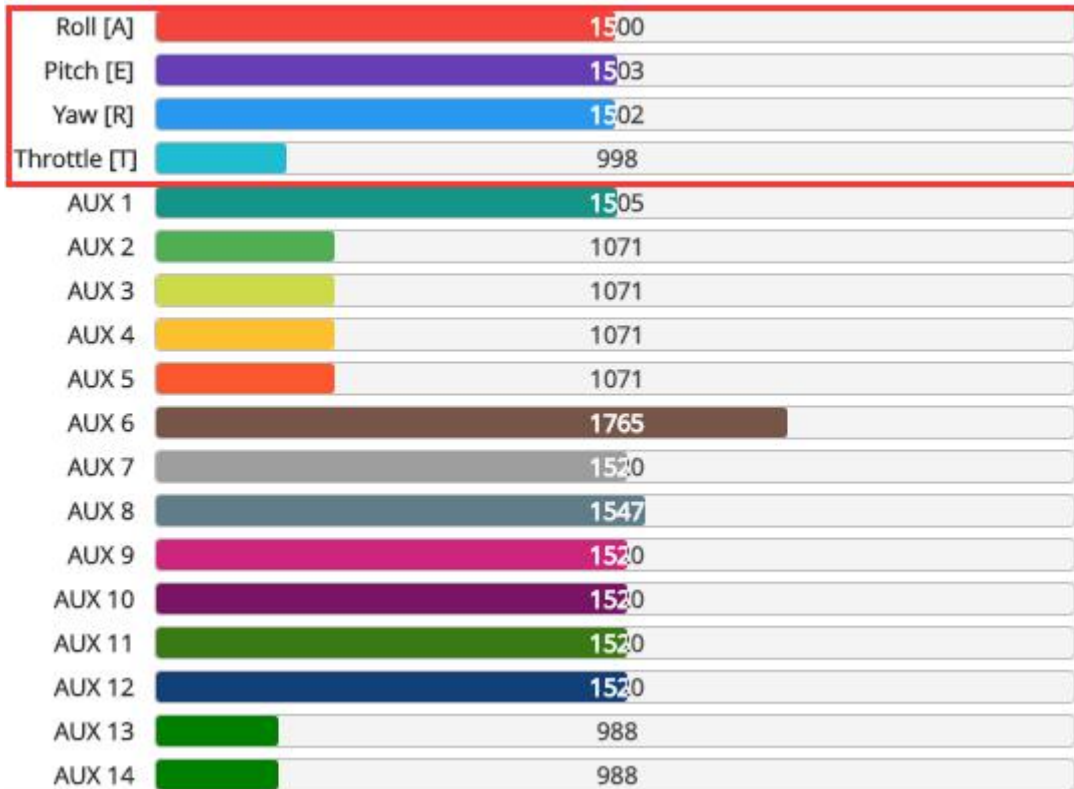
When a parameter can be modified, the parameter’s current value will be shown on the right-hand side of the screen. In this case, roll left/right will adjust the parameter up and down.

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.




# 11. Check receiver signal

1. Click  Receiver Check the remote control output signal



# 12. 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 ✕

Min: 1300 Max: 2100

900 1000 1200 1400 1500 1600 1800 2000 2100


**ANGLE** ✕

AUX 1 ✕

Min: 1300 Max: 2100

900 1000 1200 1400 1500 1600 1800 2000 2100

# 13.OSD settings

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



The screenshot displays the OSD settings interface. On the left, under 'Elements', there is a 'Switch all:' button and a list of items: Rssi Value, Main Batt Voltage (checked), Crosshairs, Artificial Horizon, Horizon Sidebars, Timer 1, Timer 2, Flymode, Craft Name, Throttle Position, Vtx Channel, Current Draw, Mah Drawn, and Gps Speed. The central 'Preview (drag to change position)' window shows a drone in flight with 'BETAFLIGHT' and 'LOW VOLTAGE' text overlaid, and a battery icon showing '16.8V'. On the right, the 'Video Format' section has 'AUTO' selected. The 'Units' section has 'METRIC' selected. The 'Timers' section has two entries: 1. Source: ON TIME, Precision: SECOND, Alarm: 10; 2. Source: TOTAL ARMED TIME, Precision: SECOND, Alarm: 10.

# 14.LED settings

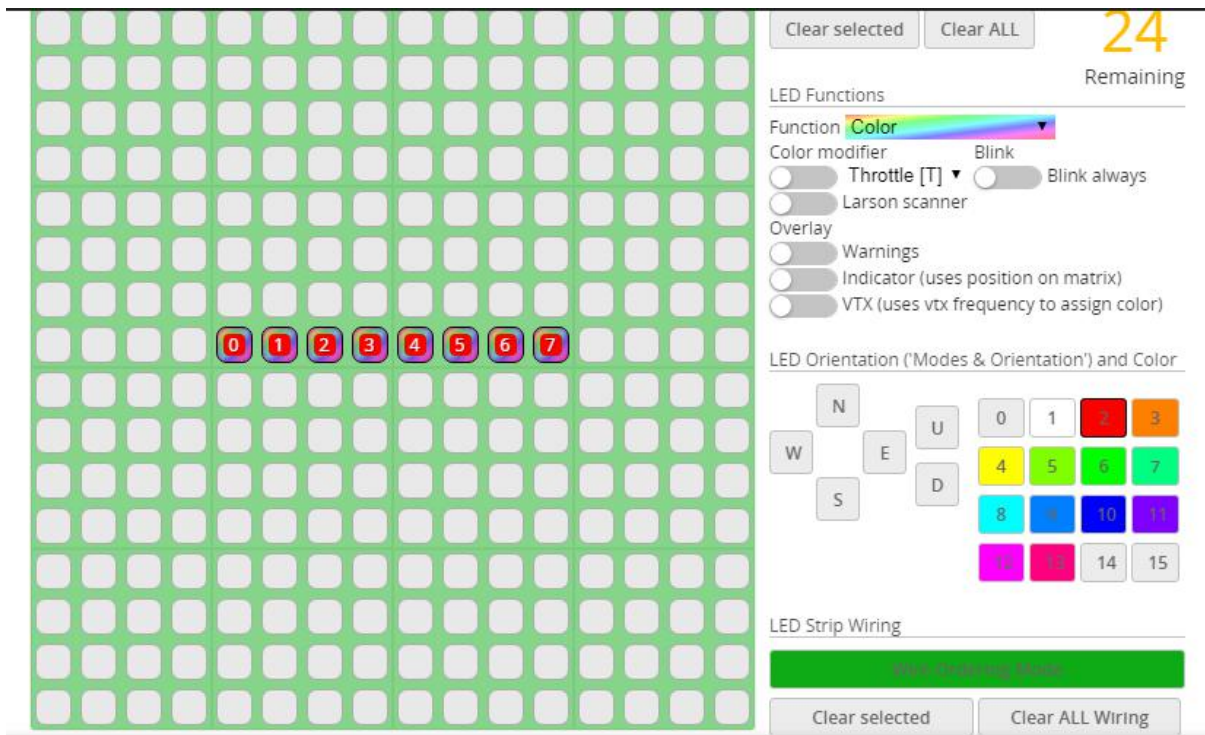
1. Click  Configuration Turn on LED support



The screenshot shows a toggle switch for 'LED\_STRIP' which is turned on. The text 'Multi-color RGB LED strip support' is displayed to the right of the toggle.



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



# 15. 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