F4 WING FC

Manual

www.hglrc.com

Contents

Package IncIuded

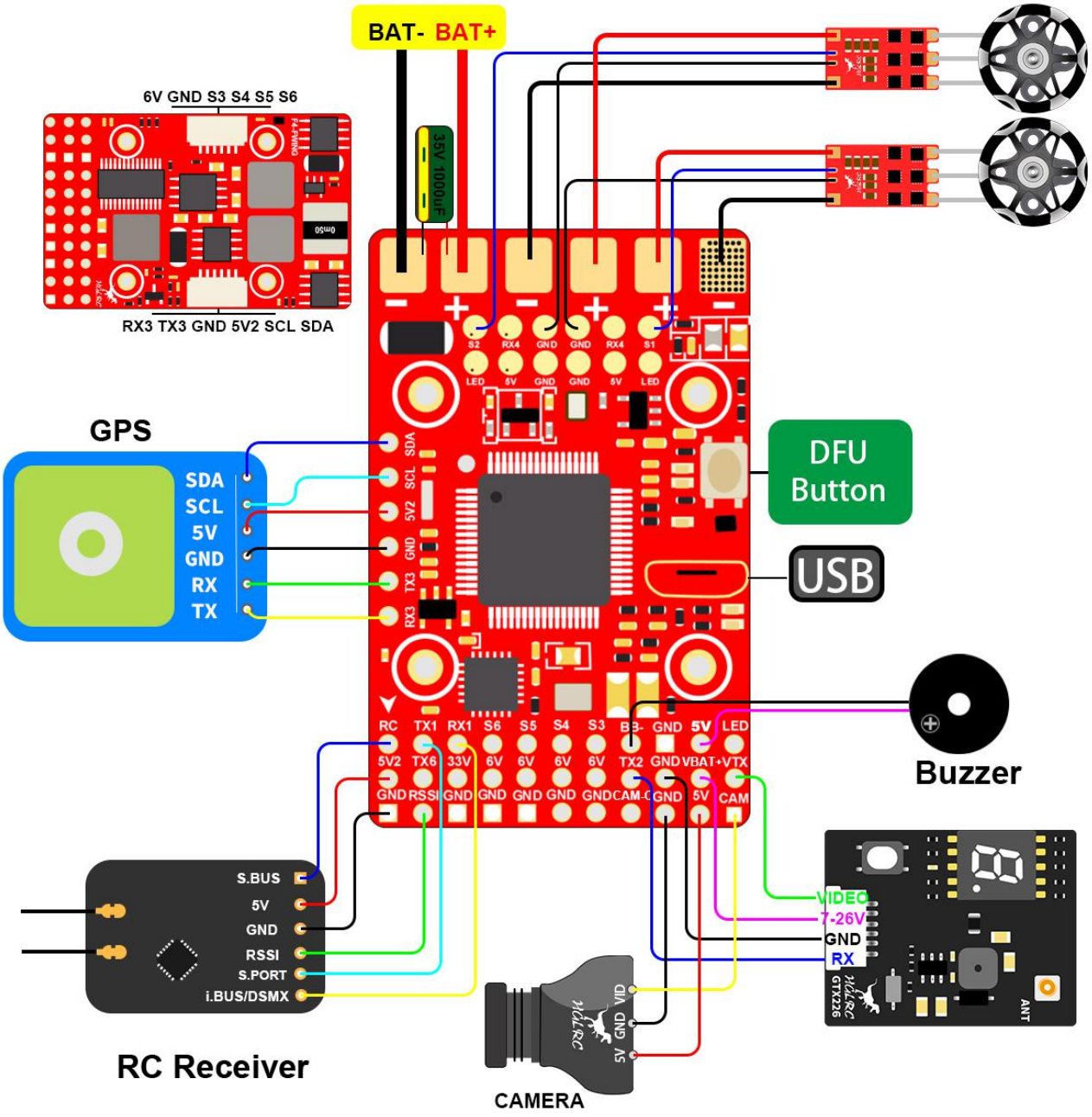
F4 WING FC*1	Accessory Bag*1

1.Product Specifications

Product parameters	
Model	HGLRC F4 WING Flight Control
Weight	19.5g
Wingspan	Sustain 600-1200mm
MPU	MPU6000-SPI
CPU	STM32F405R6T6, 8K
Black Box	Flash memory 16M
Support receiver	SBUS .i.BUS .DSMX
Input Voltage	2-8S Lipo
BEC Output	5V@3A 6V@3A
Size	44*28mm board, 20.5mm mounting holes(M2)

When you use the 6s or more, the FC input must be added the capacitor.

2.Interface Description



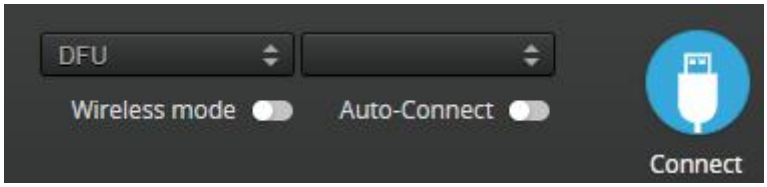
3.Check the flight control drive

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

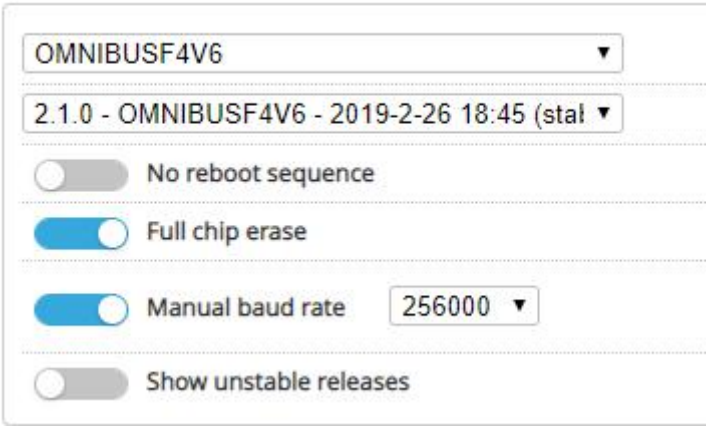
2.Driver cannot be installed, please download ImpulseRC_Driver_Fixer

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

4.open “INAV Configurator”，enter DFU mode



5.Click Firmware Flasher Select firmware version



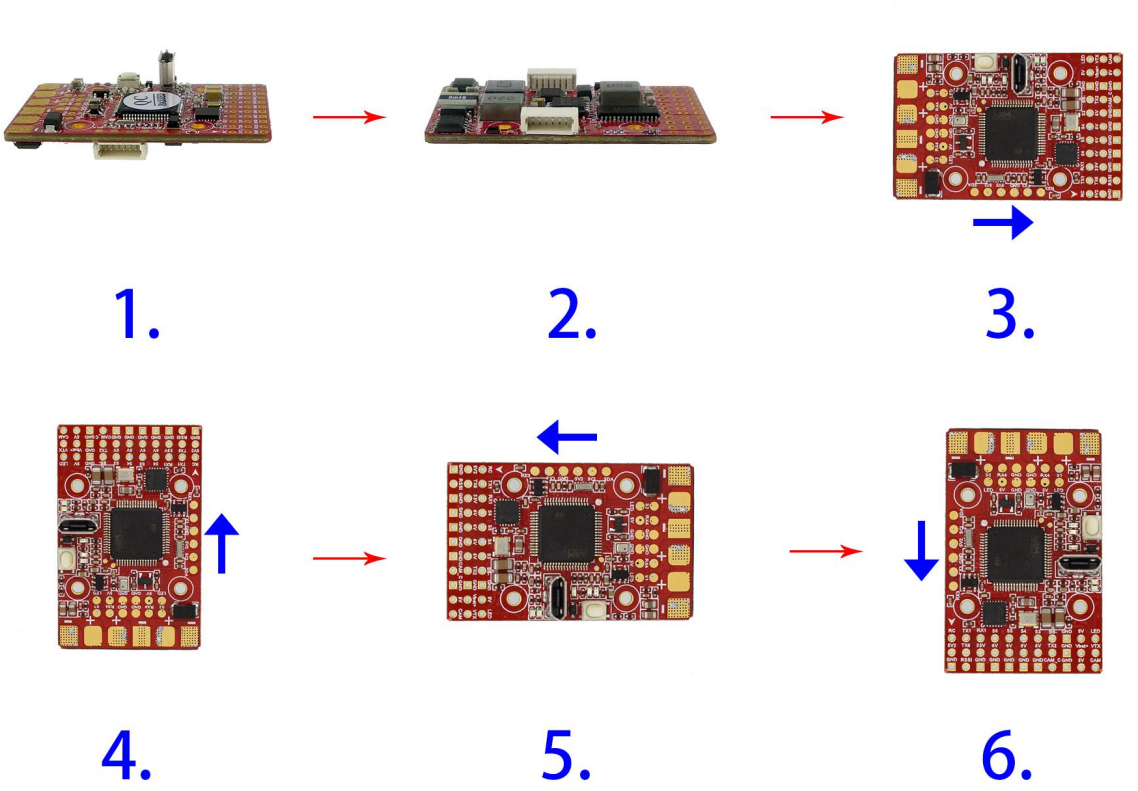
6.Click Load Firmware [Online] Load firmware. Flash Firmware Waiting for completion Erasing ... It will be prompted upon completion. Programming: SUCCESSFUL

7.open“INAV Configurator”。Controller plugged into the computer. INAV Configurator Automatically assigned port，click“Connect”Enter setup interface（Different computer COM）

4.Accelerometer calibration steps

1.The INAV calibration method is different and requires “six-sided calibration”.

2.Specific calibration please refer to the following picture (for your reference)

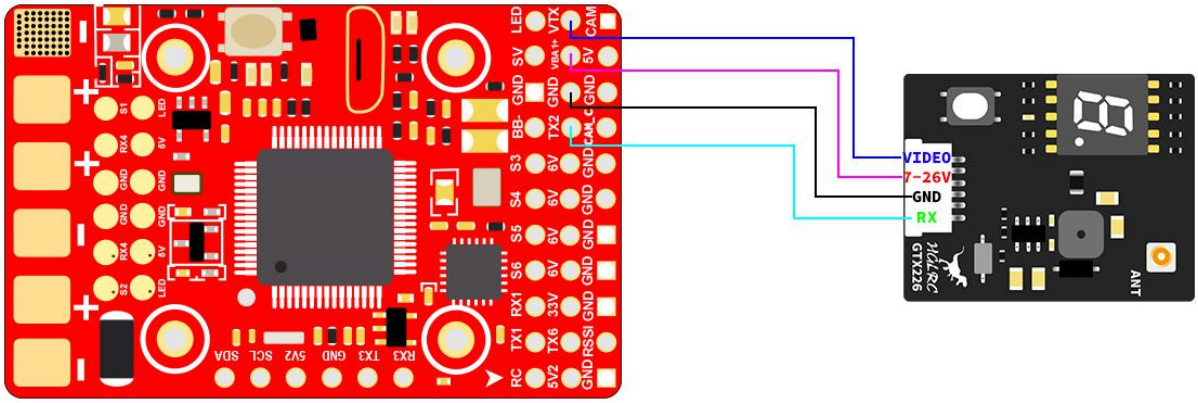


5.Compass Calibration

1. Click on the “Calibrate Magnetometer” button. Then perform compass calibration. Only 30 seconds of calibration time. Pick up the compass and rotate each side (front, rear, left and right).

6.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.

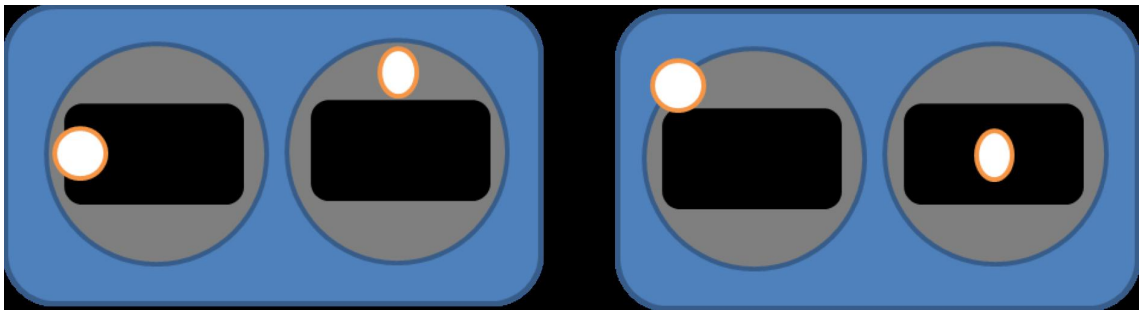
Identifier	Data	Telemetry	RX	Sensors	Peripherals
USB VCP	MSP 115200	Disabled AUTO	Serial RX	Disabled 38400	Disabled 115200
UART1	MSP 115200	Disabled AUTO	Serial RX	GPS 9600	Disabled 115200
UART2	MSP 115200	Disabled AUTO	Serial RX	Disabled 38400	IRC Tramp 115200
UART3	MSP 9600	Disabled AUTO	Serial RX	Disabled 115200	115200
UART4	MSP 115200	Disabled AUTO	Serial RX	Disabled 38400	115200
UART6	MSP 115200	Disabled AUTO	Serial RX	Disabled 38400	Disabled 115200

Disabled
Blackbox
RunCam Device
TBS SmartAudio
IRC Tramp

3.Use OSD to adjust VTX

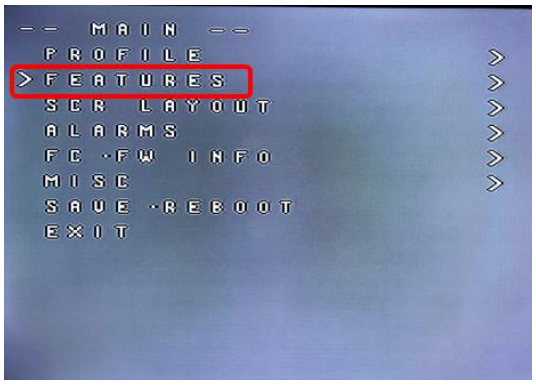
which displays information like battery voltage and mAh consumed while you fly. In addition, the Betaflight OSD can be used to configure the quadcopter, making in-field adjustments and tuning more convenient.

MODE2 MODE1

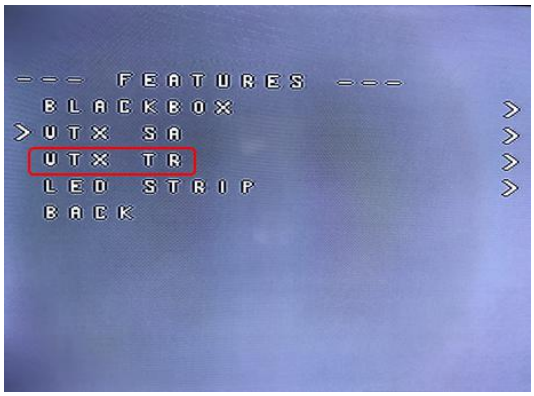


The graphics above show the stick command to bring up the OSD menu. The stick command is: throttle centered, yaw left, pitch forward. The exact stick command therefore depends on which mode your transmitter sticks are in.

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.



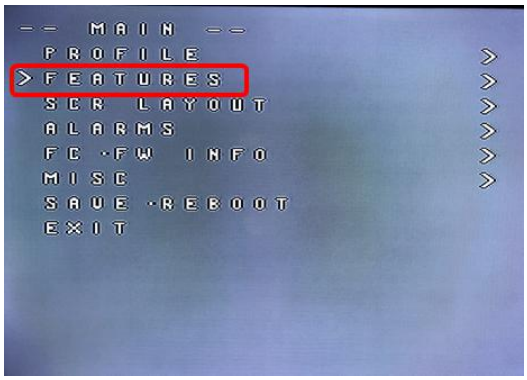
To adjust PIDs, rates, and other tuning-related parameters, enter the “Profile” sub-menu.

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.

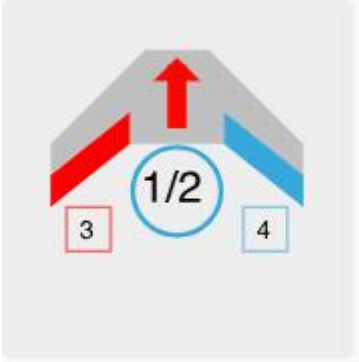
When a parameter can be modified, the parameter's current value will be shown on the right-hand side of the screen. In this case, roll left/right will adjust the parameter up and down.

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.



7.Mixer

Example 1: I need to use a flying wing model. Click on the platform configuration to select the Airplane type. Select the flying wing model hybrid. Finally click on Load and Apply.



8.Presets

Select a preset from the iNav presets tab that fits your aircraft the best, then press "Apply"

9.URAT serial port use

URAT1 uses the DSM2/i.BUS/SmartPort
URAT2 uses the VTX
URAT3 uses the GPS/Compass
URAT4 uses the ESC telemetry
URAT6 uses the SBUS

10.Configuration tab

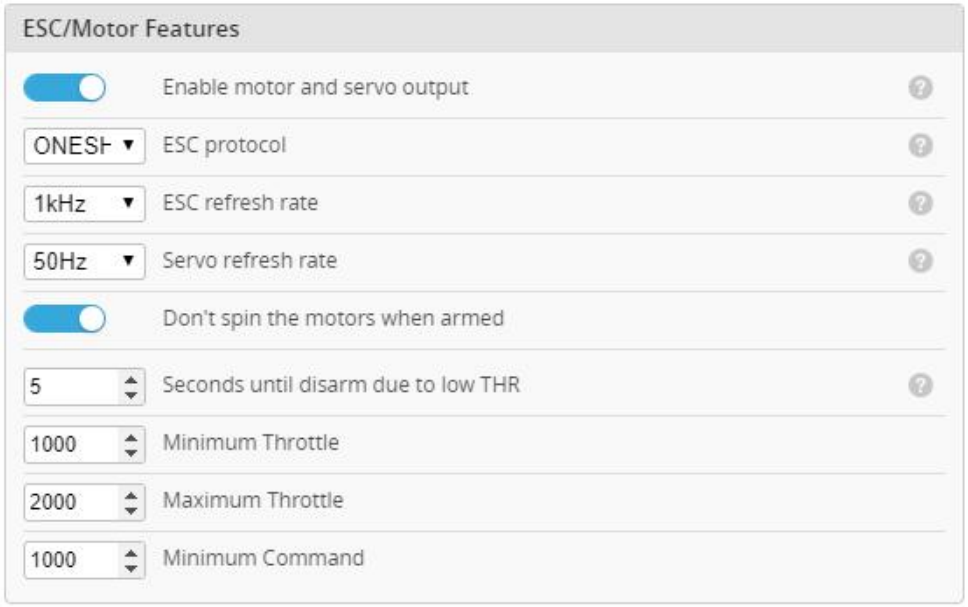
1.Sensors

By default ("Accelerometer". "Barometer" Sensors) Example 1 I connected the Magnetometer (HMC5883) The following picture shows the settings。

2.ESC/Motor Features

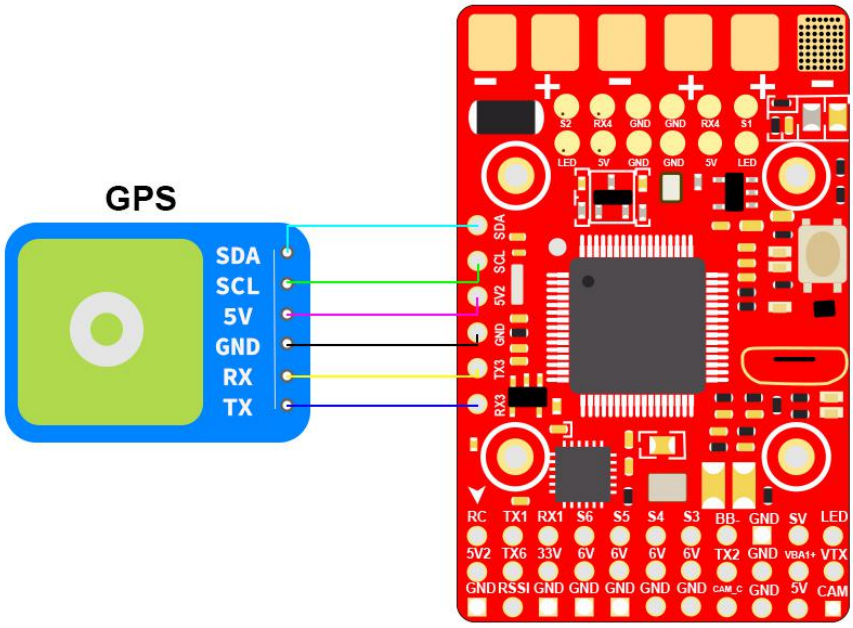
Open output Enable motor and servo output。

Choose stable（Oneshot125）ESC protocol. Minimum Throttle（1000）Maximum Throttle（2000）Minimum Command （1000）



3.GPS parameters setting

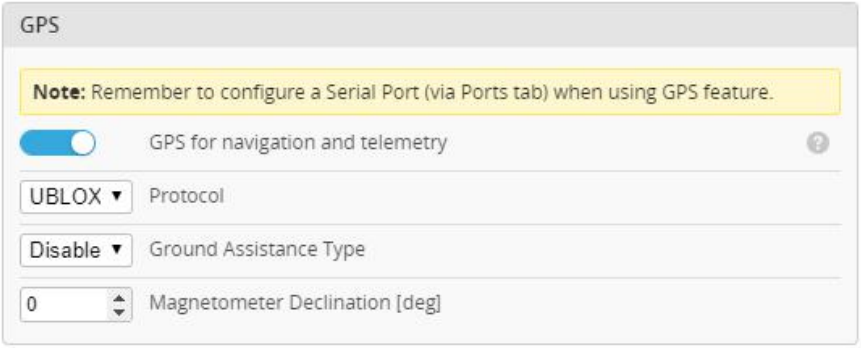
1. GPS connection diagram



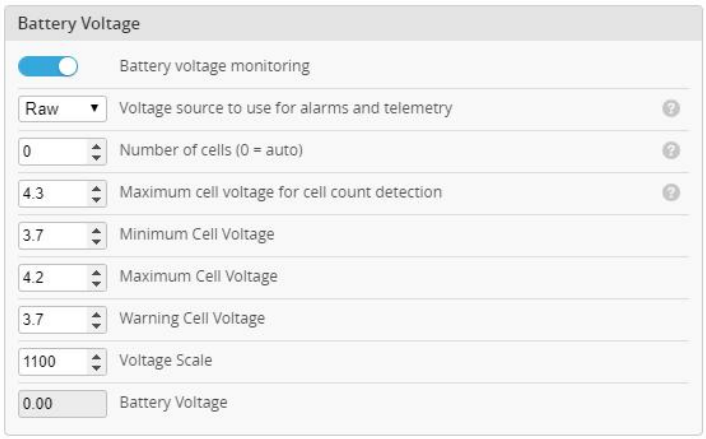
2. Open the GPS serial port

Identifier	Data	Telemetry	RX	Sensors	Peripherals
USB VCP	MSP 115200	Disabled AUTO	Serial RX	Disabled 38400	Disabled 115200
UART1	MSP 115200	Disabled AUTO	Serial RX	Disabled 38400	Disabled 115200
UART2	MSP 115200	Disabled AUTO	Serial RX	Disabled 38400	IRC Tramp 115200
UART3	MSP 9600	Disabled AUTO	Serial RX	GPS 9600	Disabled 115200
UART4	MSP 115200	Disabled AUTO	Serial RX	Disabled 38400	Disabled 115200
UART6	MSP 115200	Disabled AUTO	Serial RX	Disabled 38400	Disabled 115200

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

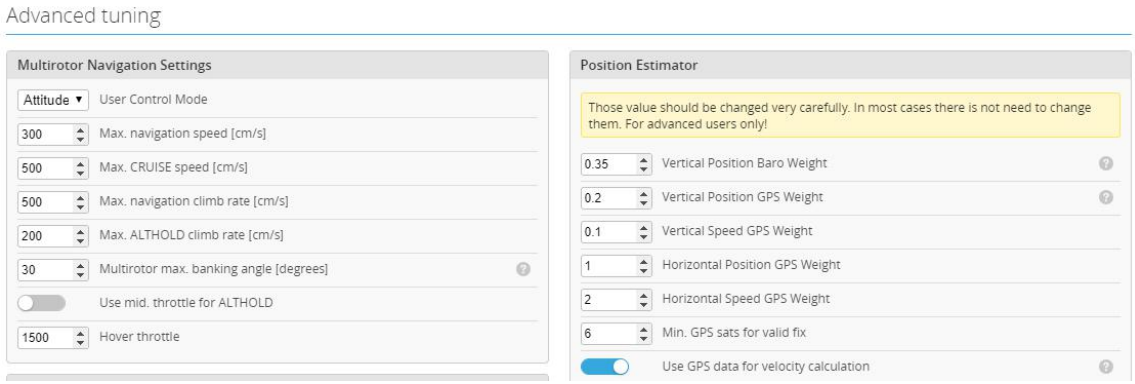


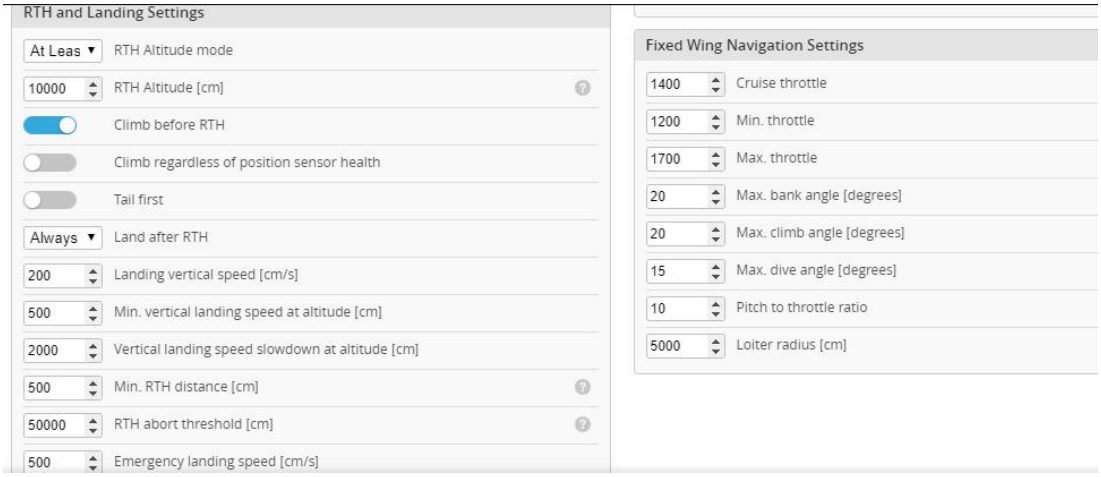
4.Check the battery voltage monitoring, the parameters can be ok by default.



11.Advanced tuning

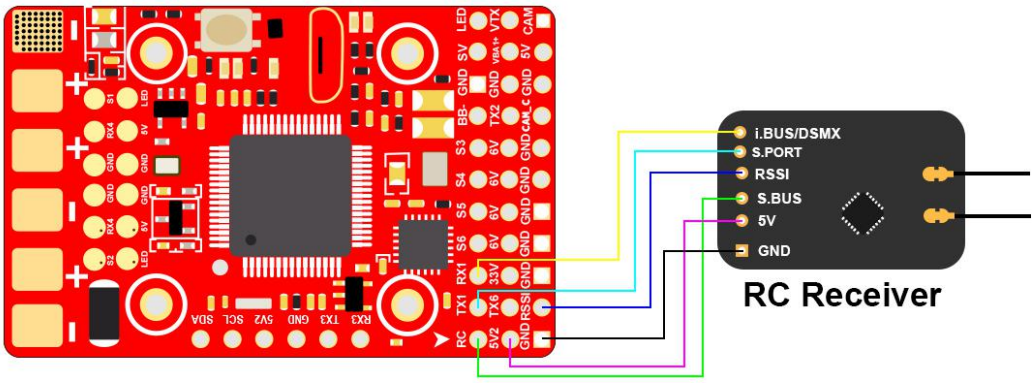
1. Note that the height and distance of the INIV are in centimeters. It is recommended to set the return height to at least 150 meters



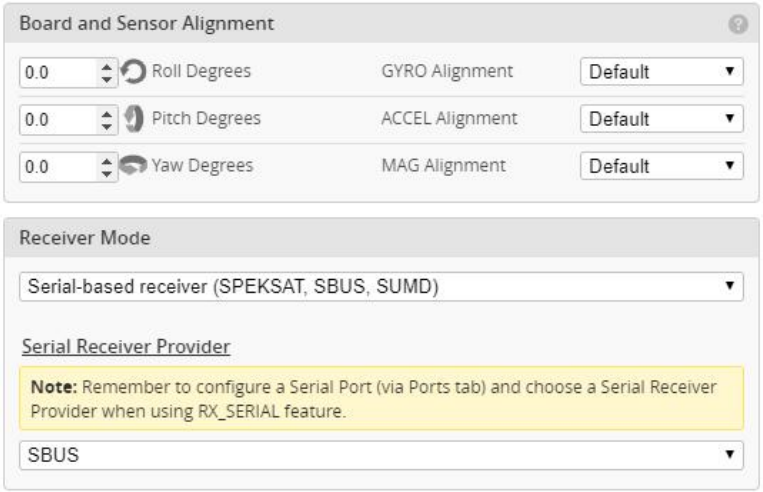


12.Check receiver signal

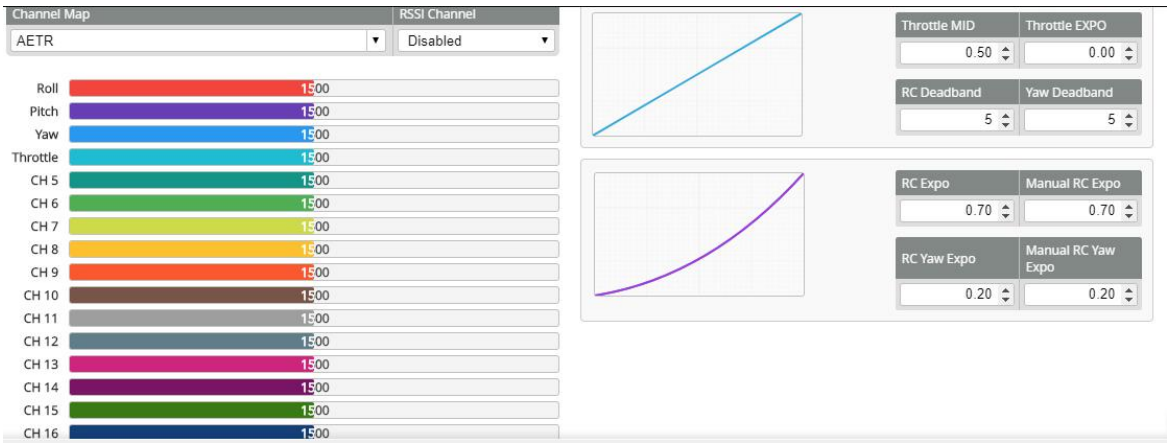
1. Receiver Connection Diagram



2.Receiver mode select "Serial Receiver SBUS" Serial Receiver Label Select "SBUS"

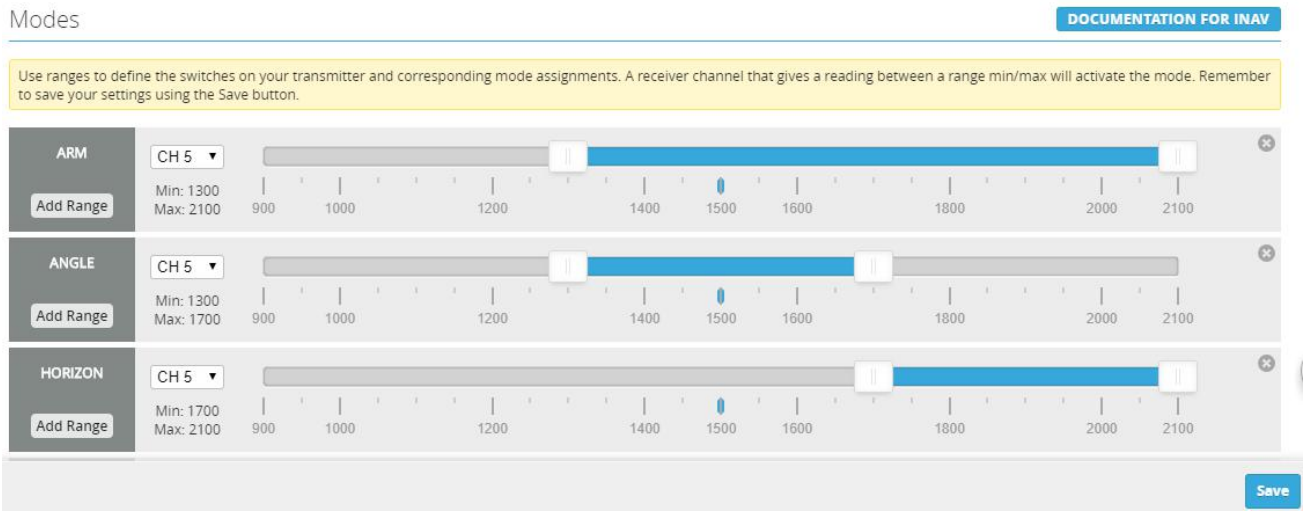


3.Check if the remote control output signal is work. The signal minimum output value is set to 1000,the maximum is 2000 (the throttle value can be set minimum 998,the maximum can be set to 2000)



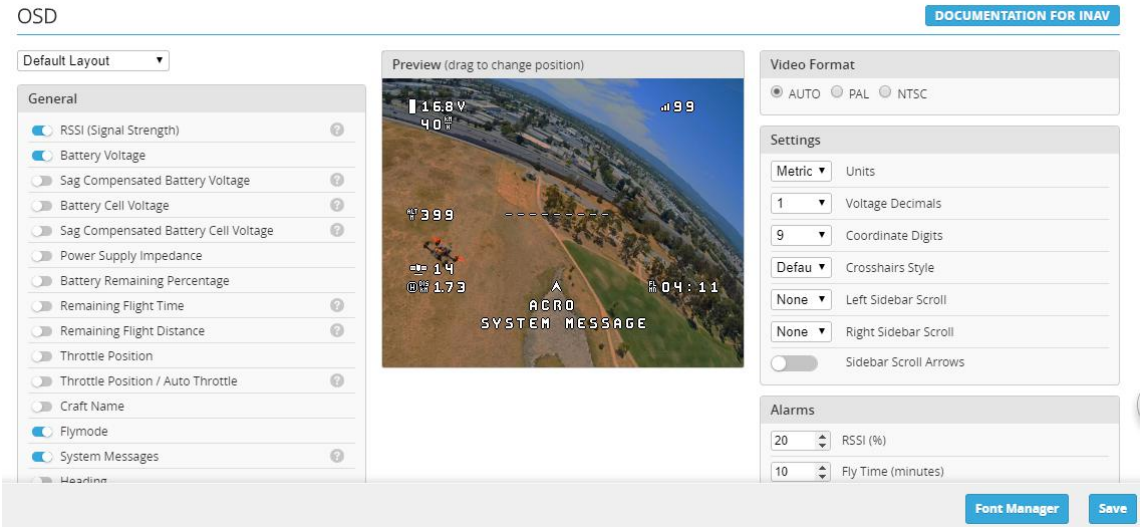
13.Modes

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



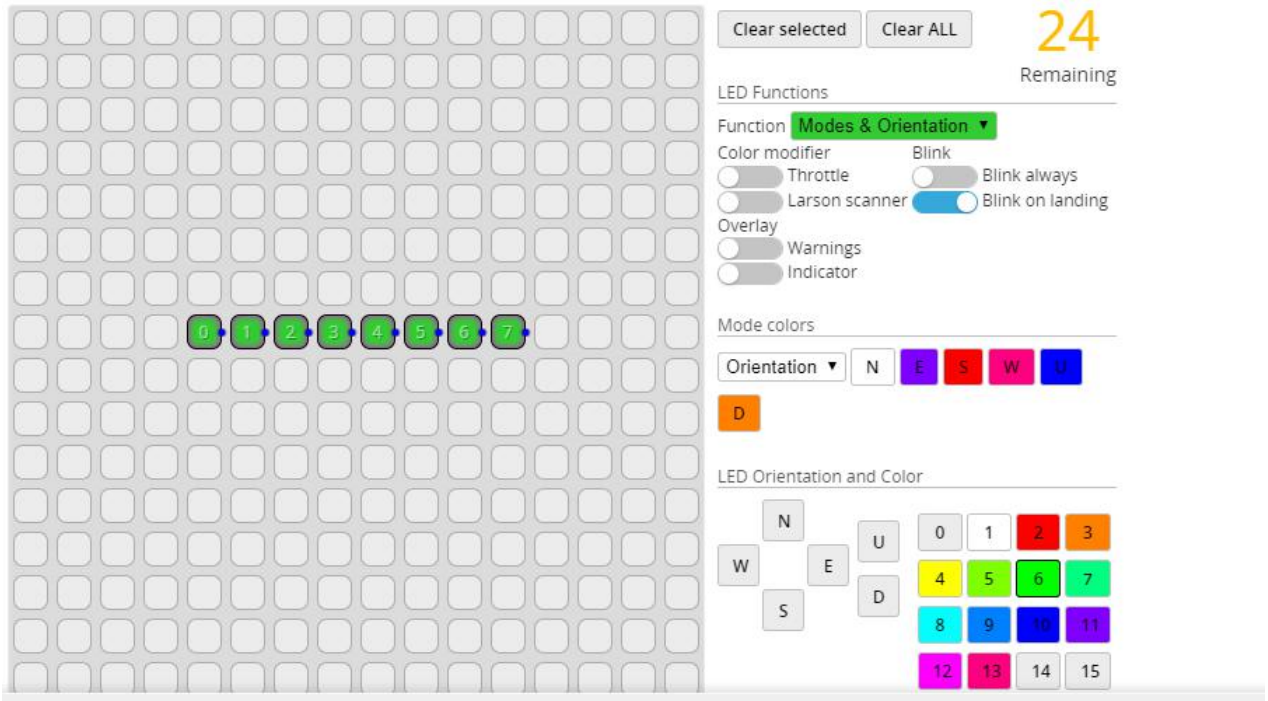
14.OSD settings

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



15.LED settings

1.Click LED Strip .Click Wire Ordering Mode set according to need.



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.

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.