

ET85D PNP

Manual

User manual and video please visit : WWW.LDARC.COM

PRODUCT>>Multirotor>>ET Series>>ET85D PNP



ET85D Manual

Configuration

Description

Wheelbase : 87.6mm

Drone weight :

ET85D (Include DJI Digital FPV System) : 122g

ET85D : 68g

Package size : 214*184*90mm

Package weight :

ET85D (Include DJI Digital FPV System) : 518g

ET85D : 464g

Carbon thickness : up plate 1mm , bottom plate 2mm

Camera angle : 15-45°

Mounting size : FC 25.5*25.5mm ,

Motor Φ9mm M2*7 , Camera 19mm/20mm



Configuration

FC+ESC : F411E12A

DJI Digital FPV System

Motor : XT1105-4250KV

Prop : 2045-4blade

Recommend Battery : LDARC 14.8V 430mAh XT30(Need buy another)

Note : Drone weight not include receiver and battery

Package list



ET85D(DJI Digital FPV System)*1

2045-4blade*10pairs

Rack*6

Sticker*2

ST1.2*4*4

ST1.4*10*4



ET85D*1

2045-4blade*10pairs

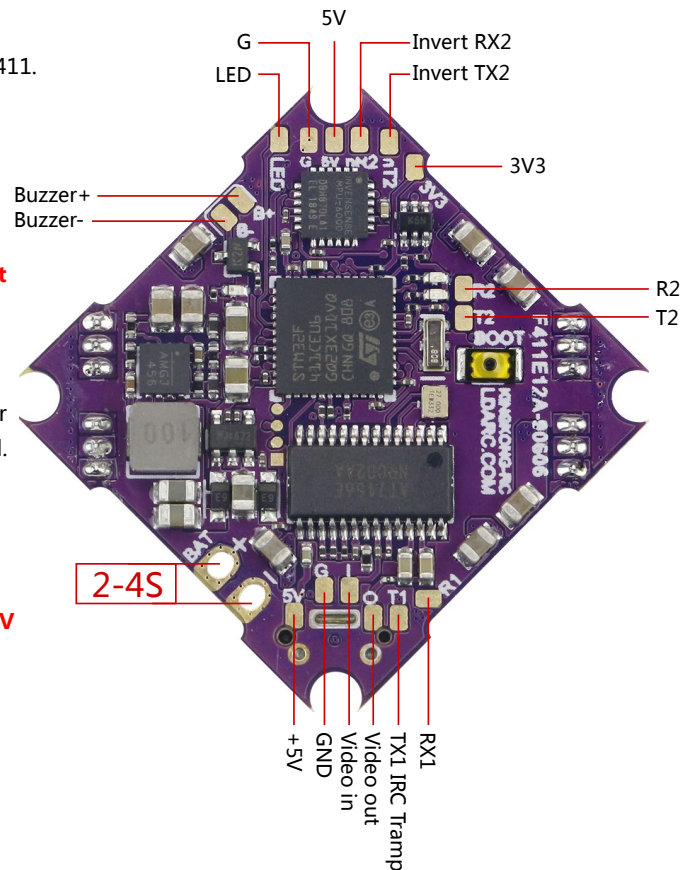
Rack*6

Sticker*2

ST1.2*4*4

ST1.4*10*4

- <1> STM32F411 MCU, Operation at 100Mhz, firmware target MATEKF411.
- <2> MPU-6000 six-axis SPI sensor.
- <3> Low power version AT7456E, support Betaflight OSD.
- <4> BEC use MP9943 High-Efficiency Synchronous mode DC-DC, support 5V@1.5A output.
- <5> TX1 and RX1 pads, can support IRC-Tramp or Camera control.
- <6> **UART2 have 4 pads, TX2, RX2, invert TX2, invert RX2, support all type receiver, like S.BUS, DSM, iBUS, F.Port, crossfire etc.**
- <7> TX2 and RX2 pads, RX2 support NOT invert receiver, for example DSM or iBUS.
- <8> Invert TX2 and invert RX2 pads, invert RX2 support invert receiver like S.BUS, and PPM receiver also need connect to invert RX2 pad.
- <9> Support buzzer and LED strip.
- <10> Onboard current sensor, current scale value 210.
- <11> BLheli_S four in one ESC, target is G-H-30.
- <12> ESC maximum current 12A each way, support 2S~4S lipo battery, **if use 2S battery please make sure voltage not lower than 6.8V when ESC in heavy load.**



UART setting

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

Receiver setting

Receiver

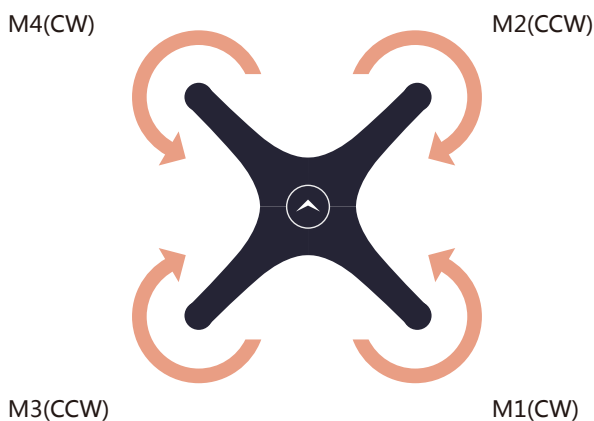
Serial-based receiver(SPEKSAT) Receiver Mode

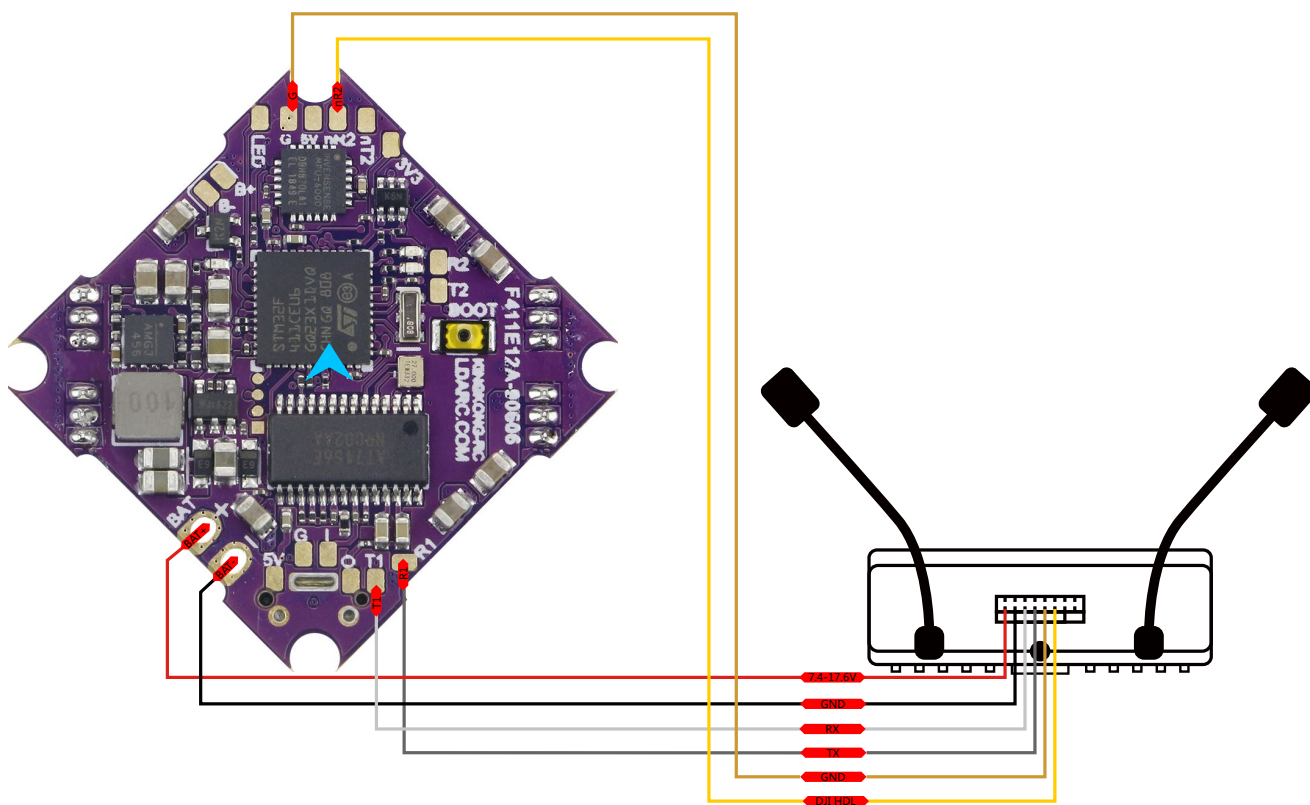
Note : Remember to configure a serial Port(via Ports tab) and choose a Serial Receiver Provider when using RX_SERIAL feature

SBUS Serial Receiver Provider

Motor

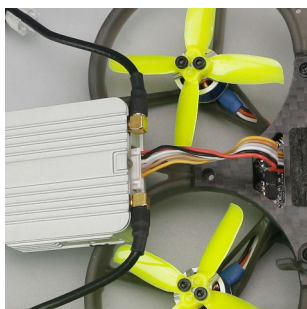
Pay attention to the direction of rotation of the motor when installing the prop





DJI Digital FPV system install

1.Open canopy,connect DJI Digital FPV Sytem



2.Install DJI Digital FPV Sytem

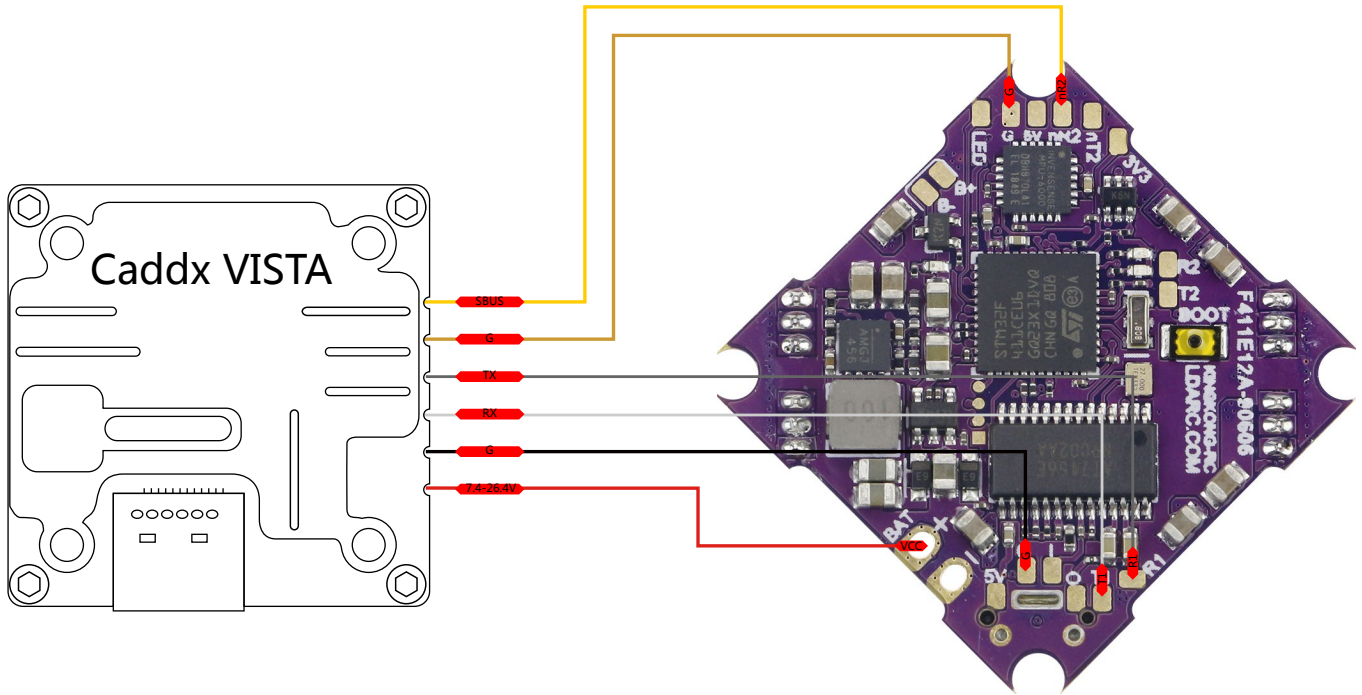


3.Stick EVA



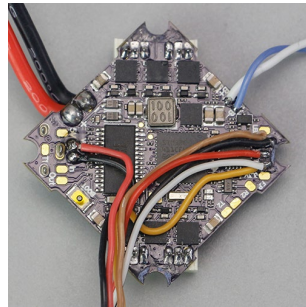
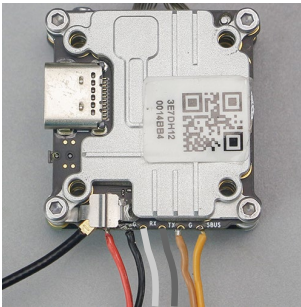
4.Use screw install canopy



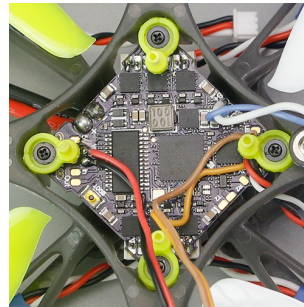


Caddx Vista install

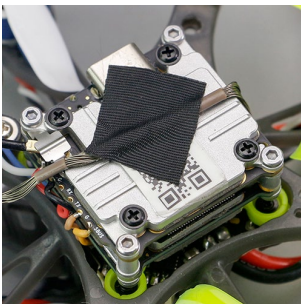
1.Remove the FC ,then weld the Vista and FC together



2.Use ST1.4*4 screw install FC and Vista rack



3.Use ST1.4*10 screw install Vista



4.Use M2*4 screw install camera, then install canopy

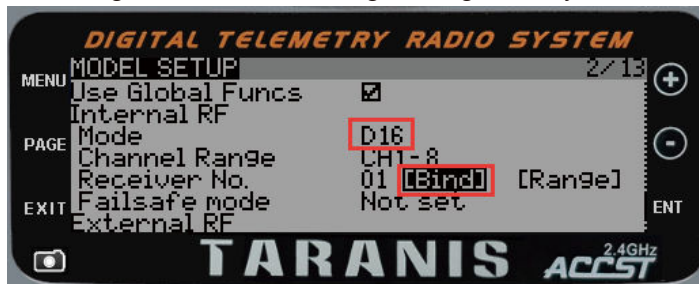


AC900(S-FHSS+D16) bind,transmitter(FRSKY X9D/Futaba T18SZ)

Bind:Check receiver mode before bind,the first blink after power on indicate the setting, ■ is S-FHSS, ■ is D16

FUTABA S-FHSS BIND:Turn on the TX then power on AC900 while pressing the key, green LED fast blink meaning already in bind mode, user can release the key. Bind procedure is completed and the receiver is working normally when green LED is solid

FRSKY D16(NO Telemetry) BIND:Power on AC900 while pressing the key, green LED fast blink meaning already in bind mode, user can release the key, then set your TX into D16 bind mode. red LED solid meaning bind finished, exit TX from bind mode, receiver's green LED solid meaning working normally



Receiver Mode

RX_PPM
PPM RX input

RX_SERIAL
Serial-based receiver(SPEKSAT,SBUS,SUMD)

RX_PARALLEL_PWM
PWM RX input(one wire per channel)

RX_MSP
MSP RX input(control via MSP port)

Serial Receiver Provider

Note:Remember to configure a Serial Port(via Ports tab) and choose a Serial Receiver Provider When using RX_SERIAL feature.

SPEKTRUM1024
SPEKTRUM2048
SBUS
SUMD

FM800 bind (default S.BUS, nonsupport PPM), example (FUTABA T8FG)

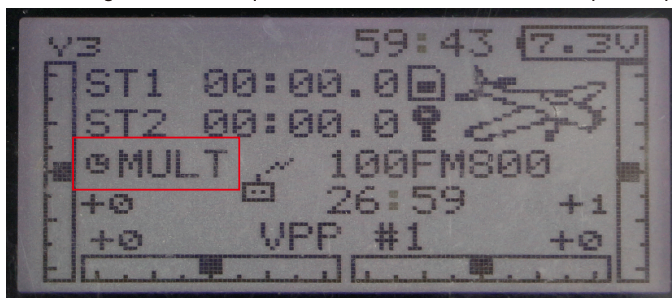
1. Open remote control, hold receiver bind button to power
2. Green light constant lighting means bind success

Note:

S.BUS and CPPM mode switch

Close remote control, press bind button 6S when red light flash, loosen until enter S.BUS and CPPM mode switch

1. Green light quick flashing, press bind button and disconnect power, power-on again, enter S.BUS mode
2. Green light slow flash, press bind button and disconnect power, power-on again, enter PPM mode



Receiver Mode

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PPM RX input

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MSP RX input(control via MSP port)

Serial Receiver Provider

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SPEKTRUM1024
SPEKTRUM2048
SBUS
SUMD

DSM bind, example (T-SIX)

1. Remote control in off state, bind button to power
2. Loosen until indicator light fast blink, enter to bind mode
3. Open remote control bind mode, indicator light constant lighting means bind success

Note 1:

DSM2 uses SPEKTRUM1024 or SPEKTRUM2048 protocol, according to the remote control model to choose corresponding serial port protocol (example T-SIX, set protocol as SPEKTRUM1024)

Note 2:

DSMX remote control bind to DSM2 and DSMX receiver, but DSM2 remote control only bind to DSM2 receiver.

DSM2: Old SPEKTRUM and JR remote control protocol, widely-used with good compatibility.

DSMX: Newest SPEKTRUM remote control protocol, DSMX backwards compatible DSM2.



Receiver Mode

RX_PPM

PPM RX input

RX_SERIAL

Serial-based receiver(SPEKSAT,SBUS,SUMD)

RX_PARALLEL_PWM

PWM RX input(one wire per channel)

RX_MSP

MSP RX input(control via MSP port)

Serial Receiver Provider

Note:Remember to configure a Serial Port(via Ports tab) and choose a Serial Receiver Provider When using RX_SERIAL feature.

SPEKTRUM1024

SPEKTRUM2048

SBUS

SUMD

RX2A PRO Bind(S.BUS),transmitter(FLYSKY FS-i6)

BIND:Power on the receiver while pressing the key,green LED fast blink meaning already in bind mode, user can release the key,then set your TX into bind mode.Green LED turn off and red LED solid mean bind finished, exit TX from bind mode,receiver'sgreen LED solid mean working normally.



Receiver Mode

RX_PPM

PPM RX input

RX_SERIAL

Serial-based receiver(SPEKSAT,SBUS,SUMD)

RX_PARALLEL_PWM

PWM RX input(one wire per channel)

RX_MSP

MSP RX input(control via MSP port)

Serial Receiver Provider

Note:Remember to configure a Serial Port(via Ports tab) and choose a Serial Receiver Provider When using RX_SERIAL feature.

SPEKTRUM1024

SPEKTRUM2048

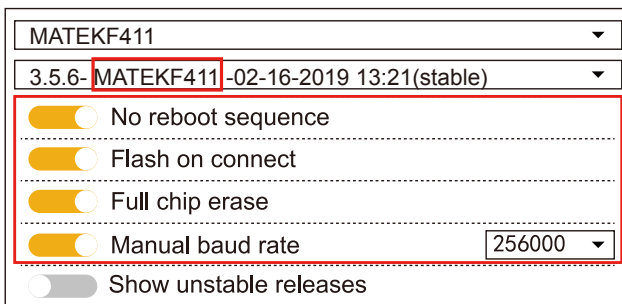
SBUS

SUMD

Firmware Update

BETAFLIGHT firmware already flash before leave the factory, user just need connect PC to adjust the parameter

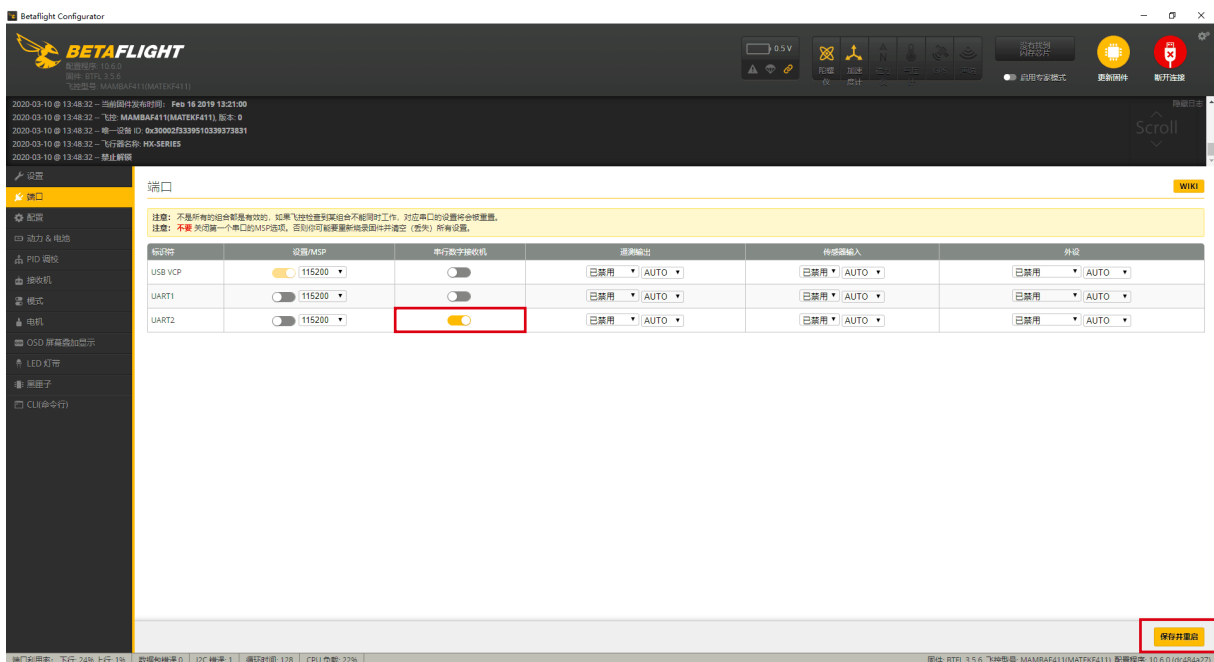
1. Open betafight configuration , then click  Firmware Flasher, select FW version



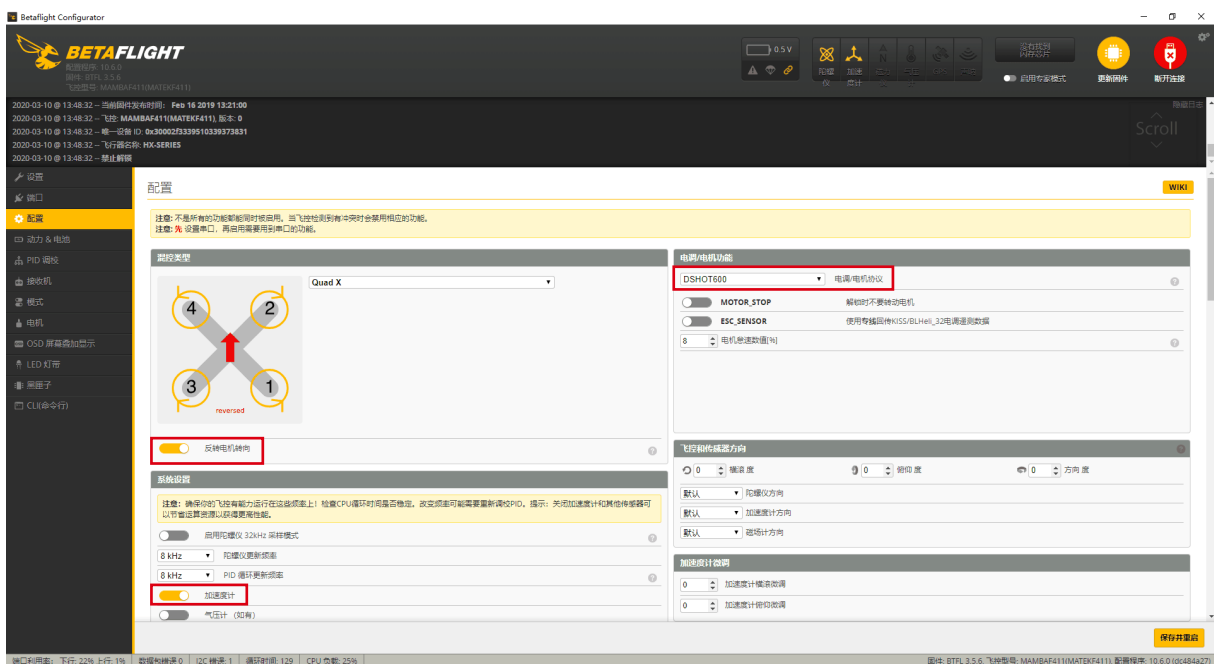
2. Click , then click  to download FW to FC, click  after FW updating finish into setting menu

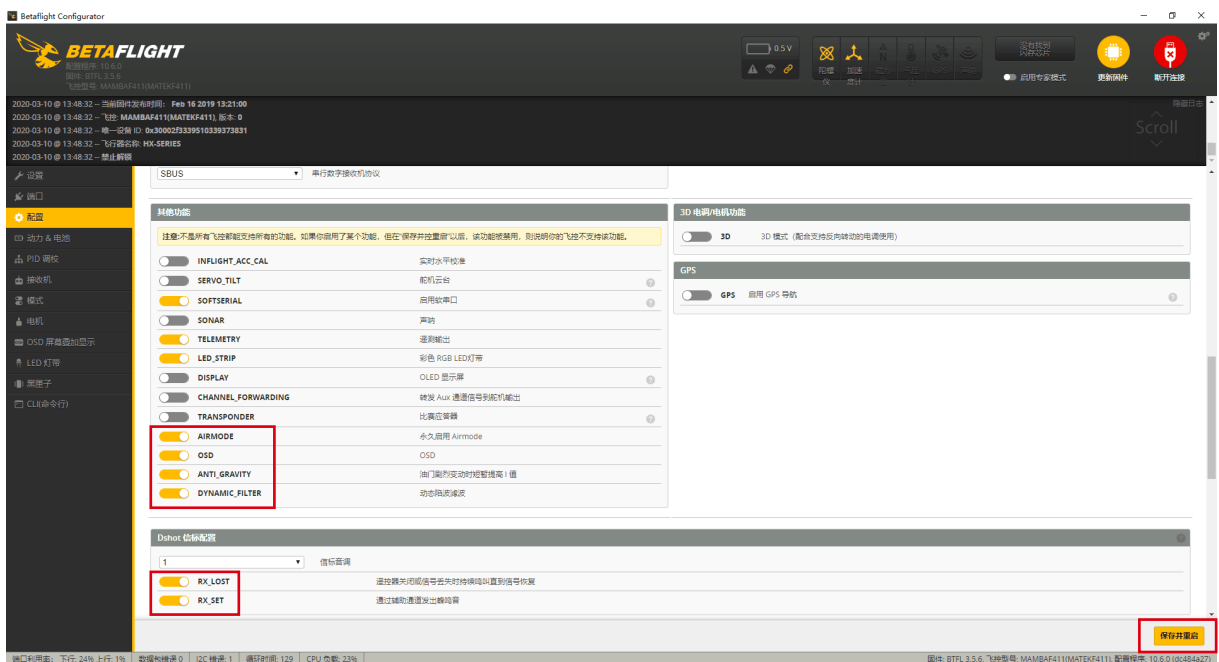
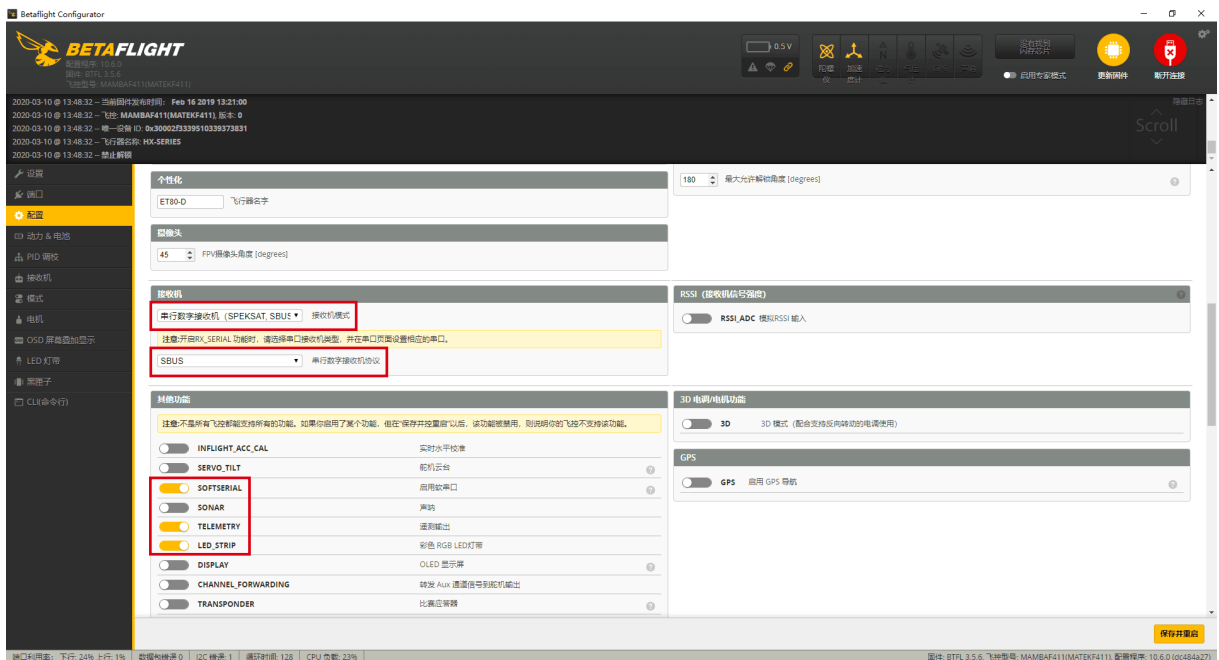
3. Calibration "Calibrate Accelerometer"

4. Open UART2 and saved

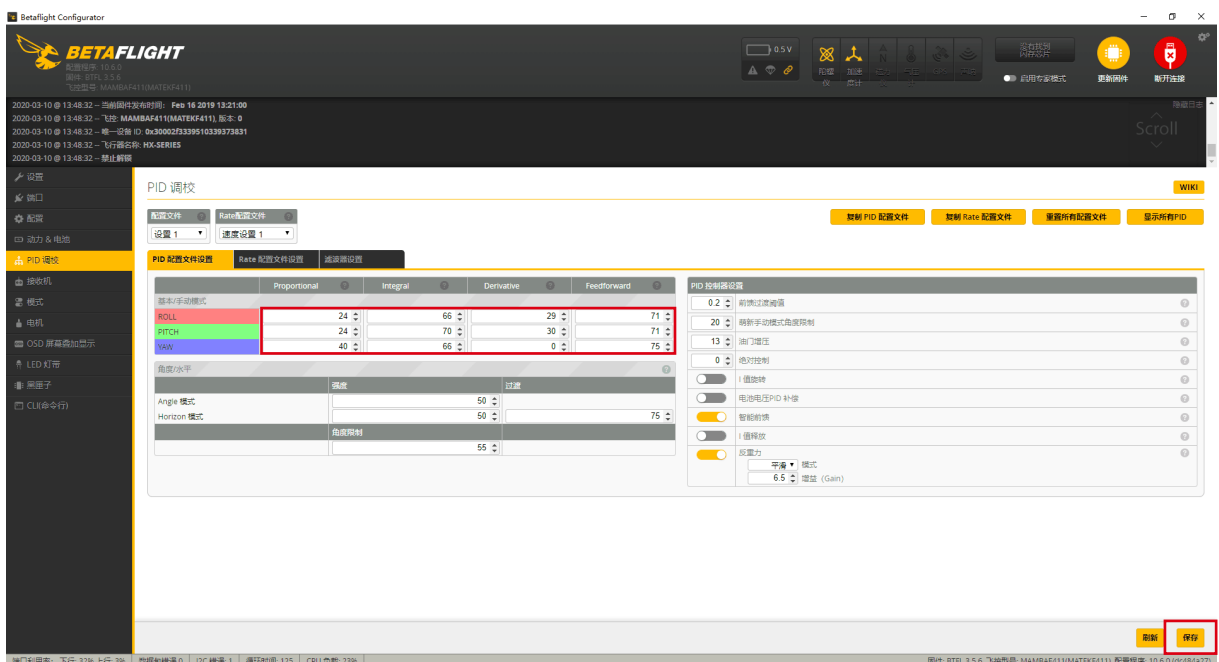


5. 设置参数, 选电调协议为DSHOT600, 按顺序进行设置





6. PID Setting



7.Mode setting

The image displays two screenshots of the Betaflight Configurator software, specifically the 'MODE' settings page. The top screenshot shows the 'MODE' tab with a list of modes and their corresponding sliders. The bottom screenshot shows the 'MODE' tab with a list of modes and their corresponding sliders.

Top Screenshot: Mode Settings

The 'MODE' tab is selected. The left sidebar shows the 'MODE' section. The main area displays a list of modes and their corresponding sliders. The modes are:

- ARM: AUX 1, range 900 to 2100. Slider is set to approximately 1700.
- ANGLE: AUX 2, range 900 to 2100. Slider is set to approximately 1300.
- HORIZON: AUX 2, range 900 to 2100. Slider is set to approximately 1300.
- HEADFREE: No slider.
- FAILSAFE: No slider.
- HEADAD: No slider.

Bottom Screenshot: Mode Settings

The 'MODE' tab is selected. The left sidebar shows the 'MODE' section. The main area displays a list of modes and their corresponding sliders. The modes are:

- FPV ANGLE MIX: No slider.
- CAMERA CONTROL 1: No slider.
- CAMERA CONTROL 2: No slider.
- CAMERA CONTROL 3: No slider.
- FLIP OVER AFTER CRASH: AUX 3, range 900 to 2100. Slider is set to approximately 1700.
- PREARM: No slider.
- VTX PIT MODE: No slider.

Product and Factory Code

Name	Factory code
ET85D(Include DJI Digital FPV System)	PNP.ET85D
ET85D	PNP.ET85D
ET85D KIT	KIT.E85D
14.8V 430mAh 80C	BAT.14.8V 430MAH 80C
ET85 Carbon plate	PART.ET85 CARBON PLATE
2045-4blade	PROP.2045.4.WHITE
XT1105-4250KV	MOTOR.XT1105-4250KV
F411E12A	FC.F411E12A
ET85D main frame	PART.ET85D MAIN FRAME(2PCS)

After Sale Service

- 1.Provide free reparation service when find the product defect after purchase.
- 2.Provide pay-needed reparation service when product damage because improper operation.
- 3.China customers please contact with the after-sales service,overseas client please contact the dealer.

PNP/RTF Test report ID :**Flight test**

- ☐ Transmitter functions properly
- ☐ Flying in good condition
- ☐ Camera OK
- ☐ VTX OK

QC: _____

Package check

- ☐ PNP
- ☐ RTF
- ☐ Frame
- ☐ Transmitter
- ☐ ID is the same
- ☐ All parts of the installation
- ☐ Insulating sleeves have been installed manual
- ☐ Complete accessories,total ____packages

QC: _____