Features
Ultra-lightweight 3.5-inch BNF FPV Freestyle Drone
HD video transmission and analog video transmission are optional
Integrated ExpressLRS SPI receiver or Frsky SPI D8/D16 receiver
High efficiency EX1404 power system
Can be equipped with Naked Gopro or SMO4K
Support 3-4S battery 4S 750mah battery is recommended, maximum support 4S 1100mah

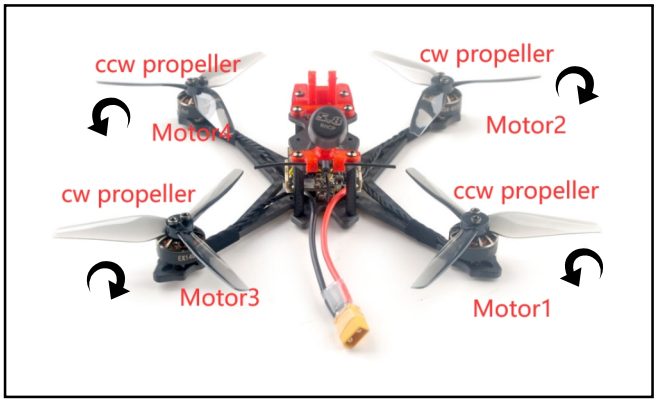
Specifications
Brand: Happymodel
Product name: Crux35/Crux35 HD
Wheelbase: 150mm
Weight: Crux35 87gram/Crux35 HD 108gram
Size: 130mmx130mmx45mm(without propellers)
Receiver option: SPI ExpressLRS 2.4GHz/SPI Frsky D8/D16 (S-FHSS compatible)
Camera option: HD version Nebula+Vista/Analog version Ant+OVX303 VTX
Flying time: 9min~15min 4s 750mah battery

Package includes

Item Name	Crux35	Crux35 HD
Crux35 Frame	1	1
Option1: ELRS X1 flight controller	1	1
Option2: CrazyF411 flight controller		
CaddxFPV Digital HD Camera Nebula Nano Kit	0	1
Analog FPV Camera Caddx Ant	1	0
Happymodel OVX303 5.8G analog VTX	1	0
Happymodel EX1404 KV3500 brushless motor	4	4
HQProp T3.5X2X3Grey (4cw+4ccw)	1	1
Screw Driver	1	1
Buckle Velcro for battery	1	1

1.Install propeller and mount the antenna holder

Default Propeller installation of Crux35 was set to be "Prop Out", please install CCW propeller to Motor1 and Motor4 and install CW propeller to Motor2 and Motor3, make sure you have mounted the screws tightly for the propellers.



2. Bind procedure

Plug the USB and go to the CLI command tab from the Betaflight configurator, then type "Bind_rx", the red LED will getting to be solid , and it means the receiver is in bind mode. Make your radio transmitter get into bind mode, the red led would shining slowly if bound successful.

```
Entering CLI Mode, type 'exit' to return, or 'help'

#
# Building AutoComplete Cache ... Done!
#
# Bind_rx
Binding...

# save
```

Another way to get bind with the radio : Power the flight controller by connecting USB. And open Betaflight Configurator(Latest version) , enter to the "receiver" interface, and then click"Bind Receiver".

It should be noted that when you use some new version of Access remote controller to run ACCSTD16 mode for binding, even if the binding is successful, the red LED will not flash slowly, you need to manually enter "save" from the CLI command of the configurator to finished the binding procedure.

Notice:

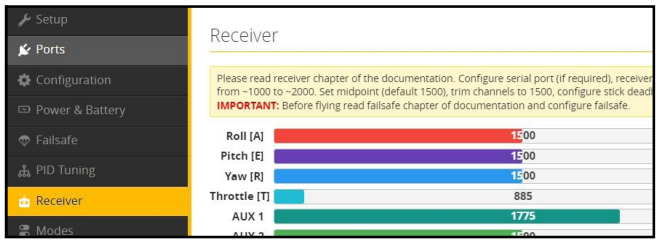
Frsky_D protocol is for D8 mode(Default setting is D8 mode out of factory)

Frsky_X protocol is for Frsky ACCST D16 mode,

Frsky_X_LBT is for EU-LBT Frsky ACCST D16 mode

S-FHSS protocol is for Futaba S-FHSS mode

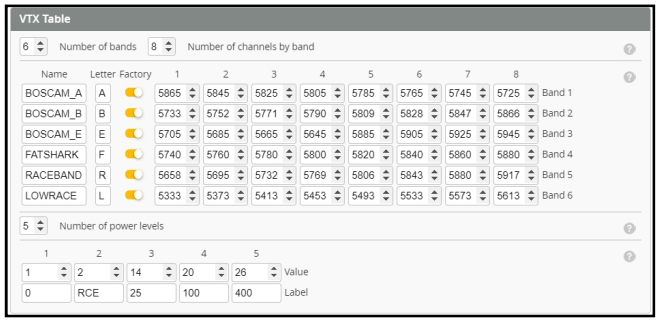
3) Check the receiver channel map and channel value is correct after bind successful.



3. Arm/Disarm the Motor

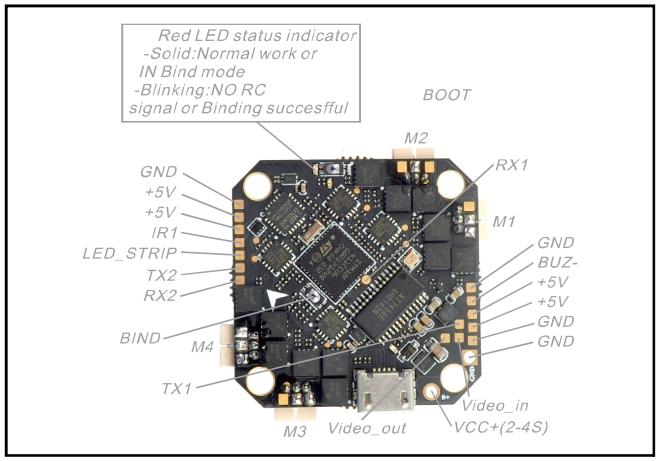
1)Turn on your radio transmitter and connect the battery to the Crux35. Then place Crux35 horizontally on the ground. We recommend 4S 750mah or 4S 850mah Li-po battery for Crux35 and Crux35 HD

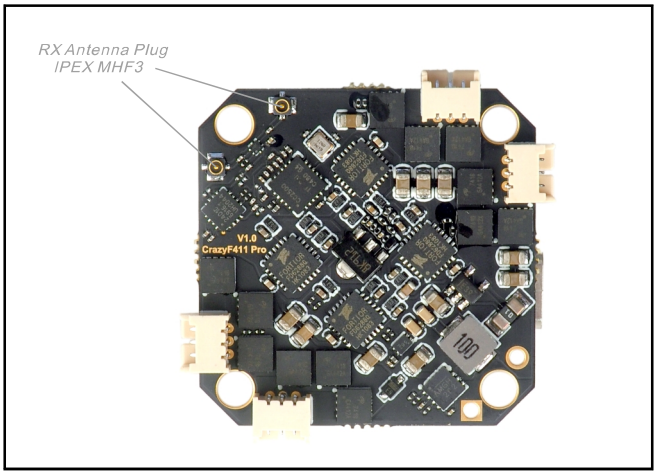
2)Prepare your goggles, and match the channel with the VTX_table



3)Toggle Aux1 switch to arm the motors, the Green LED at the bottom of the flight controller would get be solid once armed, happy flying.

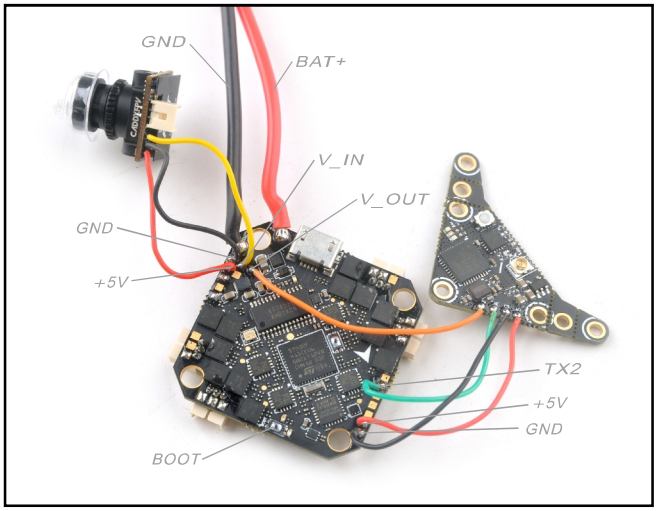
4. Flight controller connection diagram



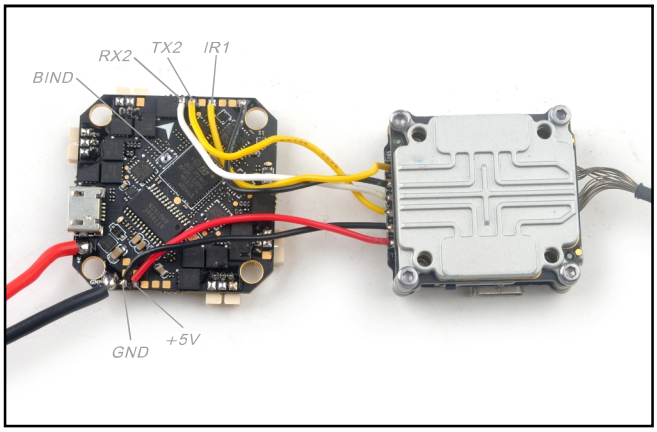


5. Electronic hardware connection diagram

Analog version

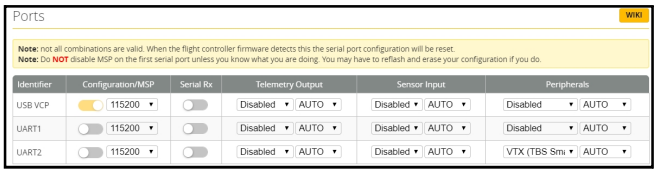


HD version

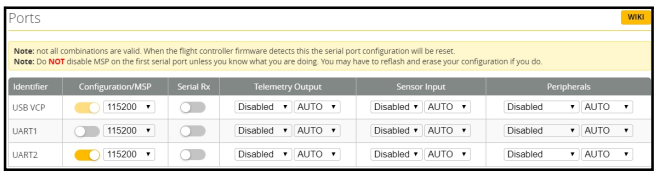


6. Some settings of Betaflight configurator

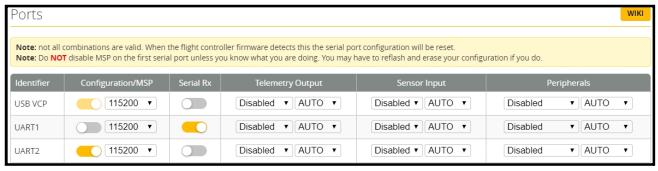
Analog version

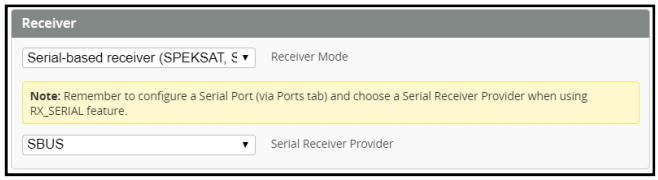


HD version

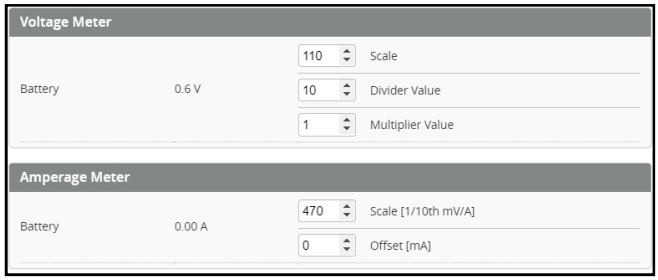


If you want to work with DJI Radio, please setting like the following steps

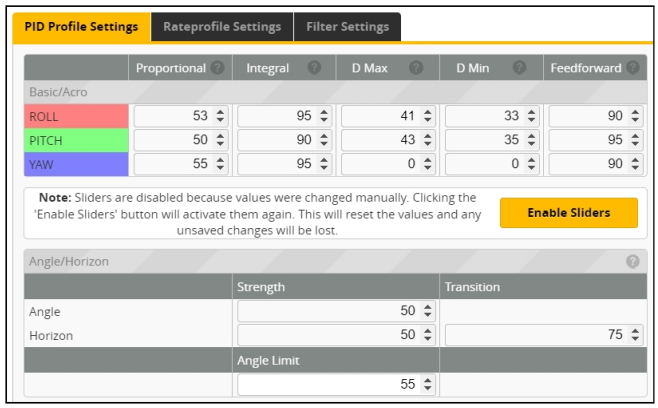




Voltage and Currents meter settings



PID settings



7.Analog version VTX Bands and Channels setup

Frequency and channel frequency table:

FR \ CH	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
BOSCAM_A	5865M	5845M	5825M	5805M	5785M	5765M	5745M	5725M
BOSCAM_B	5733M	5752M	5771M	5790M	5809M	5828M	5847M	5866M
BOSCAM_E	5705M	5685M	5665M	5645M	5885M	5905M	5925M	5945M
FATSHARK	5740M	5760M	5780M	5800M	5820M	5840M	5860M	5880M
RACEBAND	5658M	5695M	5732M	5769M	5806M	5843M	5880M	5917M
LOWRACE	5333M	5373M	5413M	5453M	5493M	5533M	5573M	5613M

There are 2 ways to switch the vtx channels:

1.If we need to use Channel 5705 then we should Go to Betaflight CLI,type the command:

Set VTX_band=3

Set VTX_channel=1

save

2.Disarm the Crux35 and then move the stick of the transmitter (THR MID+YAW LEFT+PITCH UP)to enter OSD Menu,Enter to Features,then enter to VTX SA to set VTX Band and channel