FALCON
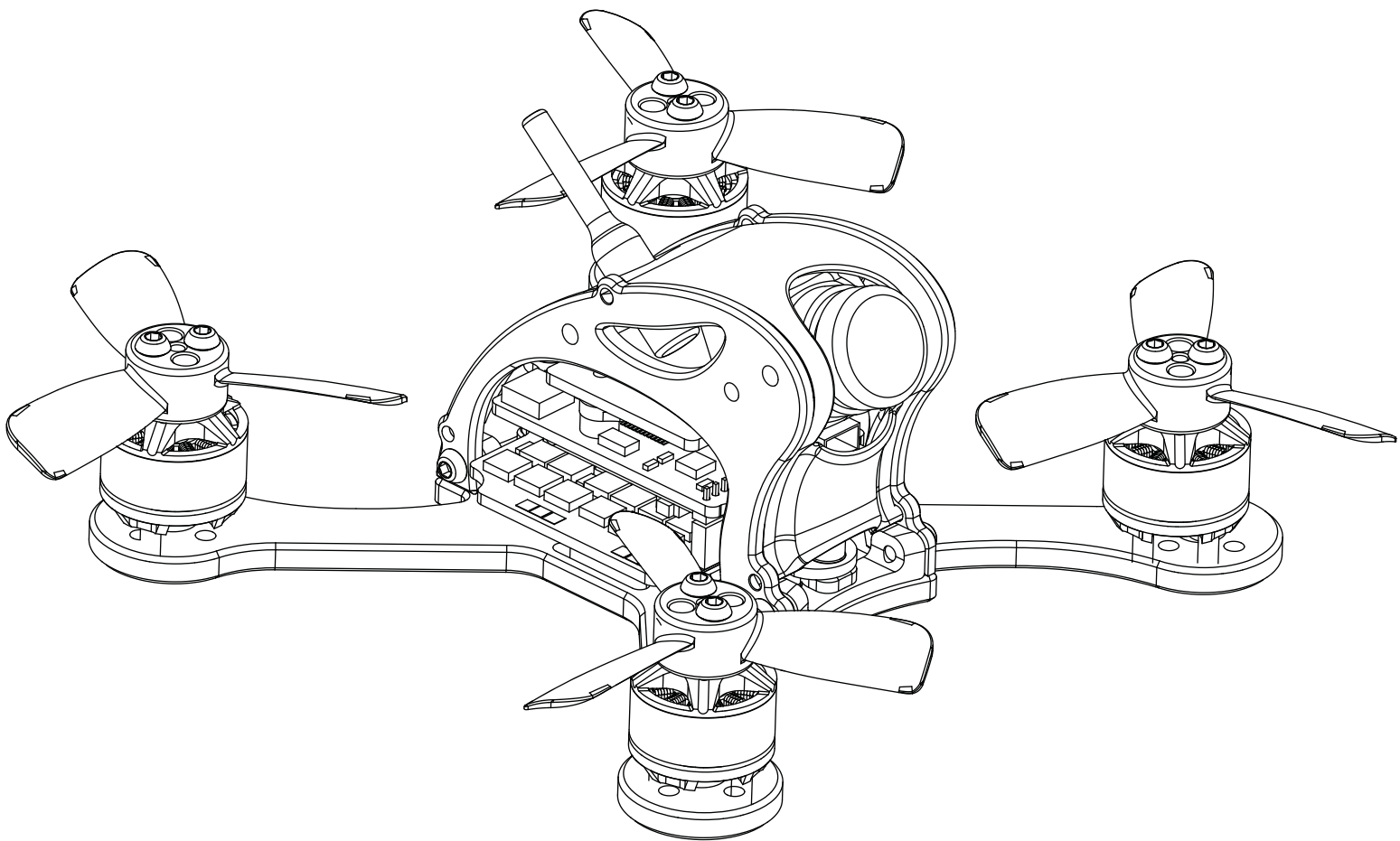
Instruction Manual

Falcon CP90Pro Mini FPV Quadcopter

NOTICE: Consult local laws and ordinances before operating FPV (fi rst person view) equipment. In some areas, FPV operation may be limited or prohibited. You are responsible for operating this product in a legal and responsible manner.

Age Recommendation: Not for children under 14 years. This is not a toy.

Specifications

Manufacturers	Gofly-RC
Product model	Falcon CP90pro
Wheelbase	100mm
Size	125mm*125mm*35mm
Weight	72g(without battery)
Motor	1104 7500KV brushless motor
ESC	4in1 BLheliS 20A(Include 5v BEC)
Power input	2s/3s lipo battery
Max Propeller Diameter	2inch(50.80mm)
Flight time	4-5minutes
Support Receiver	DSMX/DSM2/PPM/SBUS
Camera	700TVL HD CMOS 1/4 inch
Video transmitter	5.8g 25-100MW 48CH
Flight controller	OMINIBUS F3 flight controller
OSD	Betaflight OSD
LED navigation lights	Programmable RGB LED
Alarm Buzzer	75db

Package Content

CP95 Mini FPV Quadcopter	x1 set
Propeller	x2 pair
Motor protective cover	x4 pcs

Optional Equipment

Battery	2S☐ 3S☐
Receiver	Frsky☐ DSMX■☐ Flysky☐ Futaba ☐
RC Radio Transmitter	Frsky☐ DSMX☐ Flysky☐
Micro USB Cable	☐
FPV monitor or goggle	☐
Charger	☐

Flight Preparation

1>Downloader and install Betaflight software in your PC.

 Go to Google Chrome web store and search the key word "Betaflight" to install the software in Chrome. This is the software to configure flight controller and your radio so that it can start and control the quad properly.
The quad itself has been programmed in the factory and is not necessary to make changes of the parameters for beginners.

2>Binding the quad receiver to a radio

Please set your radio to the airplane mode.
The quad comes with a DSM2/DSMX compatible satellite receiver. Please make sure your radio system is DSM2/DSMX compatible. Otherwise you may need to change the receiver of the quad, and follow the installation instructions of your radio system and OMNIBUS flight controller.The satellite has a binding button on the side.
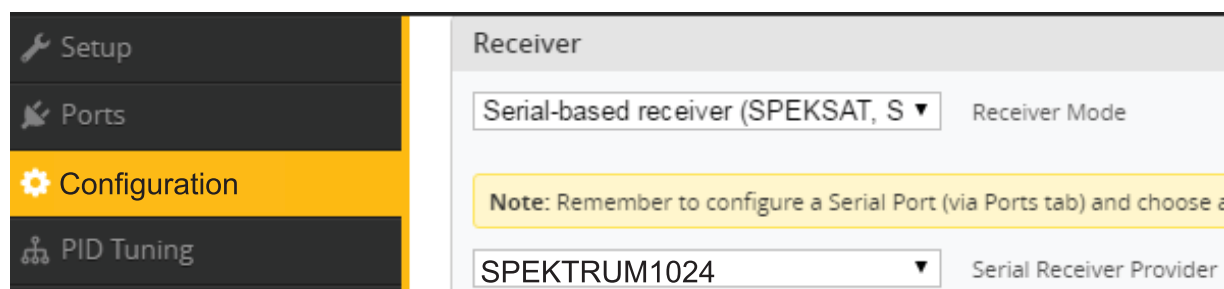Follow the following steps to finish binding.
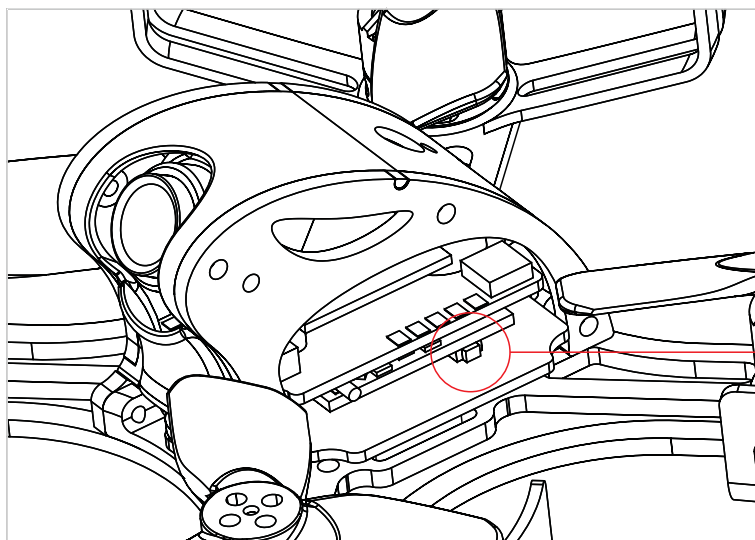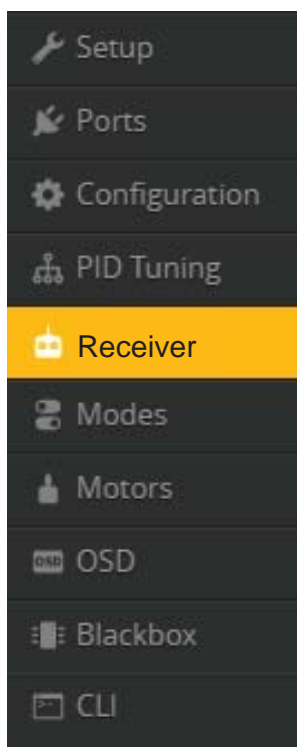

Binding button

- Press and hold binding button
- Power up the quad until satellite flashes rapidly
- Release binding button.
- LED stays on in DSMX mode.
- LED flashes slowly in DSM2 mode.

If the radio only support dsm2, please select spektrum 1024 in the betaflight configuration and save.
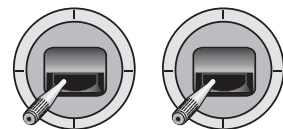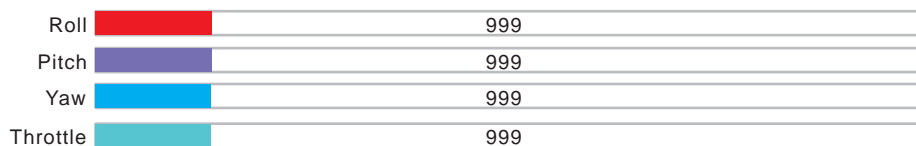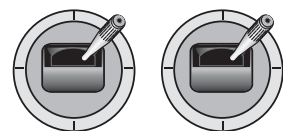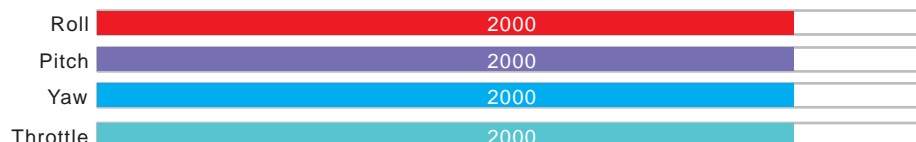
Flight Preparation

3> Betaflight and Radio settings

| Setup |
| Ports |
| Configuration |
| PID Tuning |
| **Receiver** |
| Modes |
| Motors |
| OSD |
| Blackbox |
| CLI |

Set the minimum range smaller than 1100

Roll	999
Pitch	999
Yaw	999
Throttle	999

Set the maximum range bigger than 1900

Roll	2000
Pitch	2000
Yaw	2000
Throttle	2000

Set the middle point to 1500

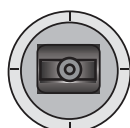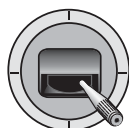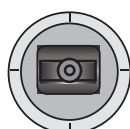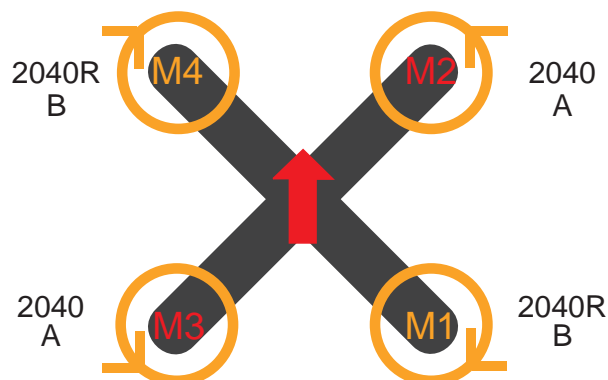|	
Roll	1500
Pitch	1500
Yaw	1500
Throttle	1500
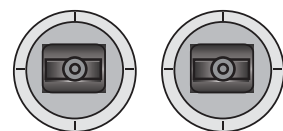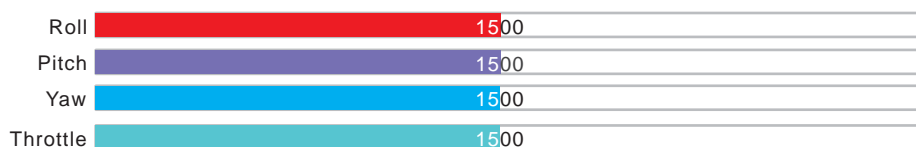
4>Lock and unlock throttle

For safety the throttle is locked in factory settings.
To unlock throttle and power on the quad move
the throttle stick all the way to the right lower corner.

Unlock throttle
(Power on)

Lock throttle
(Power off)

2040R
B   M4   M2   2040
                      A

2040
A   M3   M1   2040R
                      B

5>Installing the Propellers

Refer to the illustration for the proper motor rotation and propeller location.
The 3blade propellers have an "2040R" or "2040" marked on one blade. Match the
 propeller location to the illustration.
The 5blade propellers have an "A" or "B" marked on one blade. Match the
 propeller location to the illustration.
Secure the propellers using 2 socket head screws per propeller. Do not overtighten
the screws as damage to the propellers or motors may result.

WARNING ⚠

DO NOT have propellers installed during setting procedures.
Unexpected startup may cause serious damages or injury.
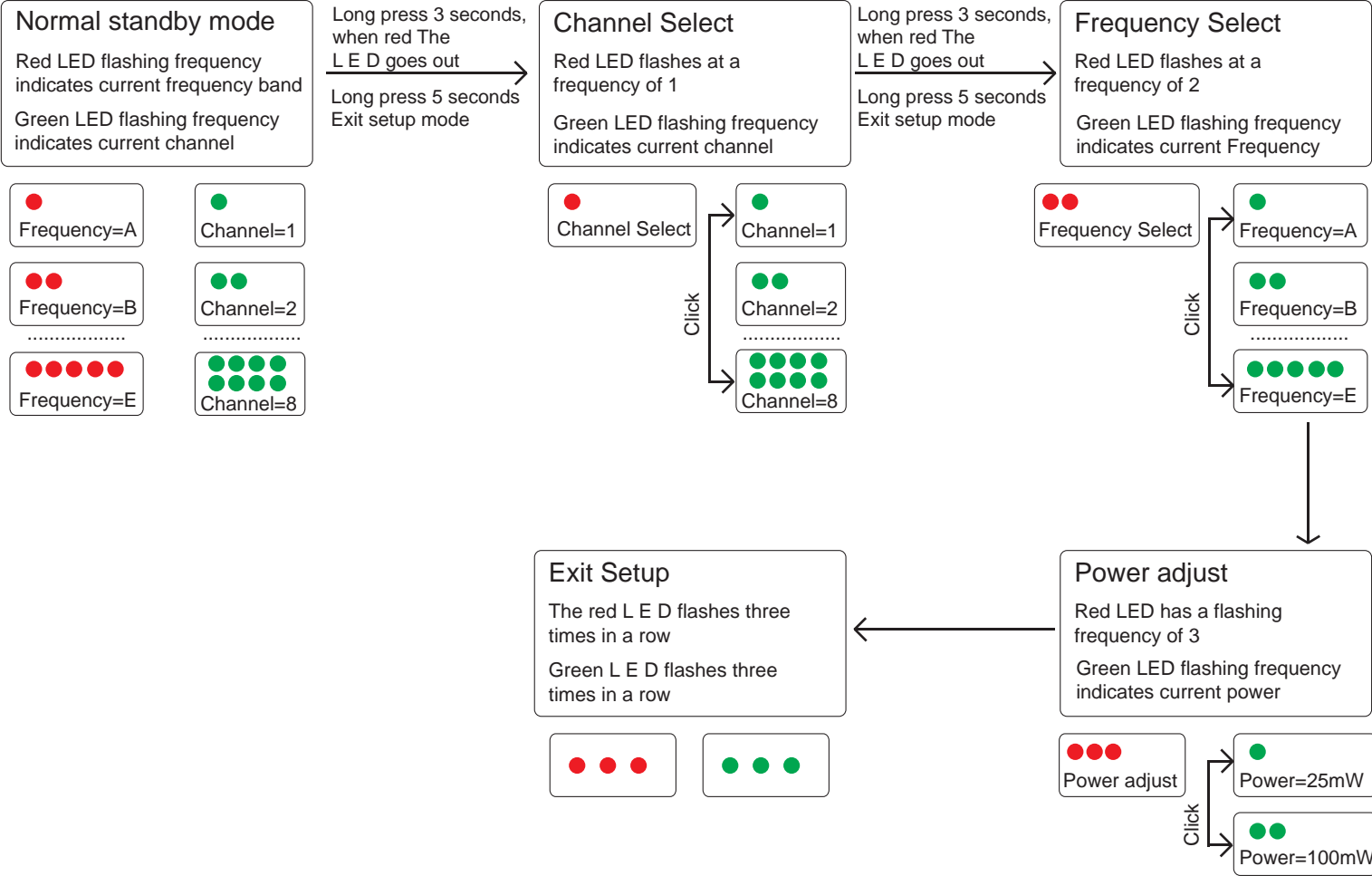
Video System Detail

Video Transmitter:
Frequency band:5645-5945 MHz
Channel customer:40CH
Current: 310mA@5V/25mw/350mA@5V/100mw
Camera:
SENSOR:PAL:720X540/NTSC:640X480 1/4"
Input format:NTSC/PAL
LENS ANGEL:H:120°/V:100°
Base -band interface:P1.27*2
Power consumption:200~215MA@5V DCIN
Supply Voltage:2.9-5.5v
Operating Temperature:-10℃~+60℃

Button
LED"G"
LED"R"

5V / GND / Video in / 5V / GND / 5V in / Video in / GND
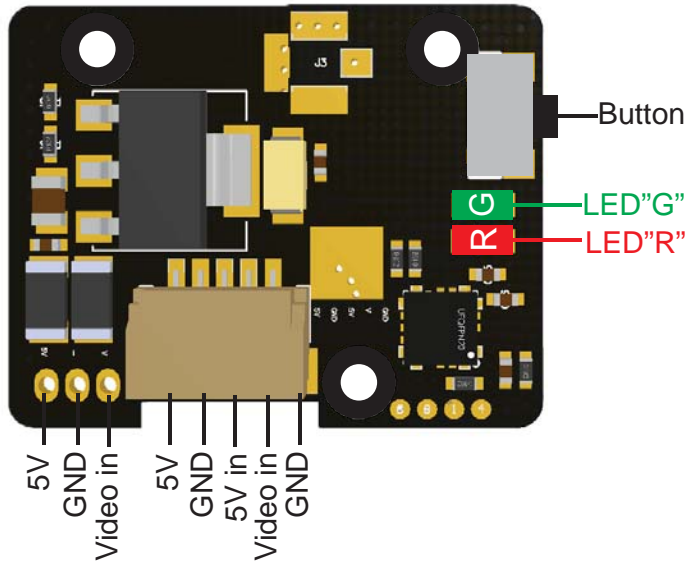
CH \ FR	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
A	5645	5665	5685	5705	5885	5905	5925	5945
B	5740	5760	5780	5800	5820	5840	5860	5880
C	5725	5745	5765	5785	5805	5825	5845	5865
D	5733	5752	5771	5790	5809	5828	5847	5866
E	5658	5695	5732	5769	5806	5843	5880	5917

Instructions:

Normal standby mode
Red LED flashing frequency indicates current frequency band

Green LED flashing frequency indicates current channel

Long press 3 seconds, when red The L E D goes out

Long press 5 seconds Exit setup mode

Channel Select
Red LED flashes at a frequency of 1

Green LED flashing frequency indicates current channel

Long press 3 seconds, when red The L E D goes out

Long press 5 seconds Exit setup mode

Frequency Select
Red LED flashes at a frequency of 2

Green LED flashing frequency indicates current Frequency

Frequency=A   Channel=1
Frequency=B   Channel=2
....
Frequency=E   Channel=8

Channel Select
Click
Channel=1
Channel=2
....
Channel=8

Frequency Select
Click
Frequency=A
Frequency=B
....
Frequency=E

Exit Setup
The red L E D flashes three times in a row

Green L E D flashes three times in a row

Power adjust
Red LED has a flashing frequency of 3

Green LED flashing frequency indicates current power

Power adjust
Click
Power=25mW
Power=100mW

ESC Detail

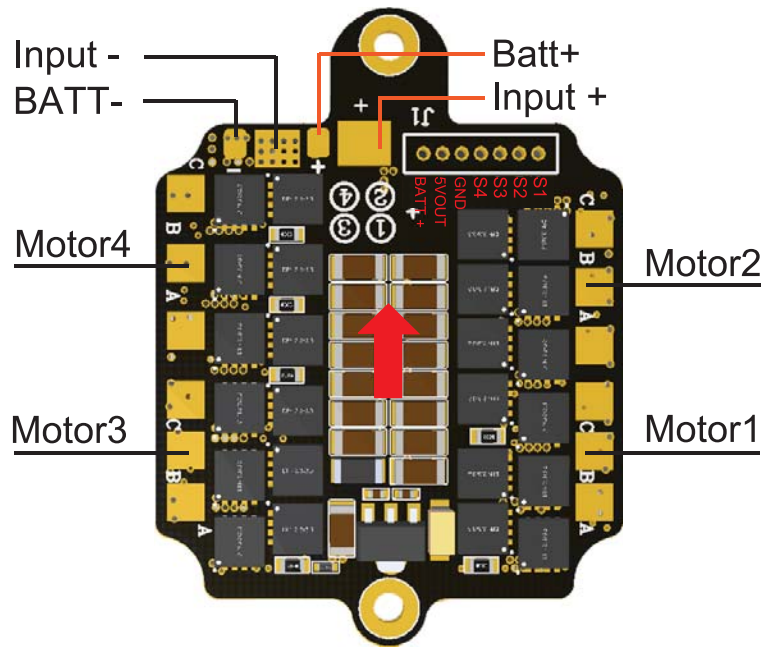## Specifications:
Continuous Current: 20A
Voltage Range: 2-4S LiPo
BEC Output: 5v/1A
Weight: 6.5g
Dimensions: 31X31mm
Firmware: BLHeLi_S Q-H
Dshot Oneshot Multishot: Supported
Processor:EFM8BB21

Input -
BATT-
Batt+
Input +

Motor4
Motor2

Motor3
Motor1

Flight controller Detail

Specifications:
Item name: F3 OMINBUS
Firmware: Betaflight_3.1.6_OMNIBUS
Ominibus F3 flight controller integrated with OSD module.
Powered by MPU6000 sensor for quick response to acceleration, integrated OSD module
(This is 6DOF version, no barometer and compass).
Designed for quadcopter with LC filter. It supports CF and BF firmware (Omnibus F3)
STM32F3CCT6 microprocessor, 256K memory, MPU6000 sensor, SPI port,
faster processing speed.
Power input :5V
Supports popular receivers such as SBus, PPM, DSMX.
SBUS or DSM receiver input, please configurate RX3 as input interface.
DSM receiver powered from 3.3V
SBUS and PPM from 5V
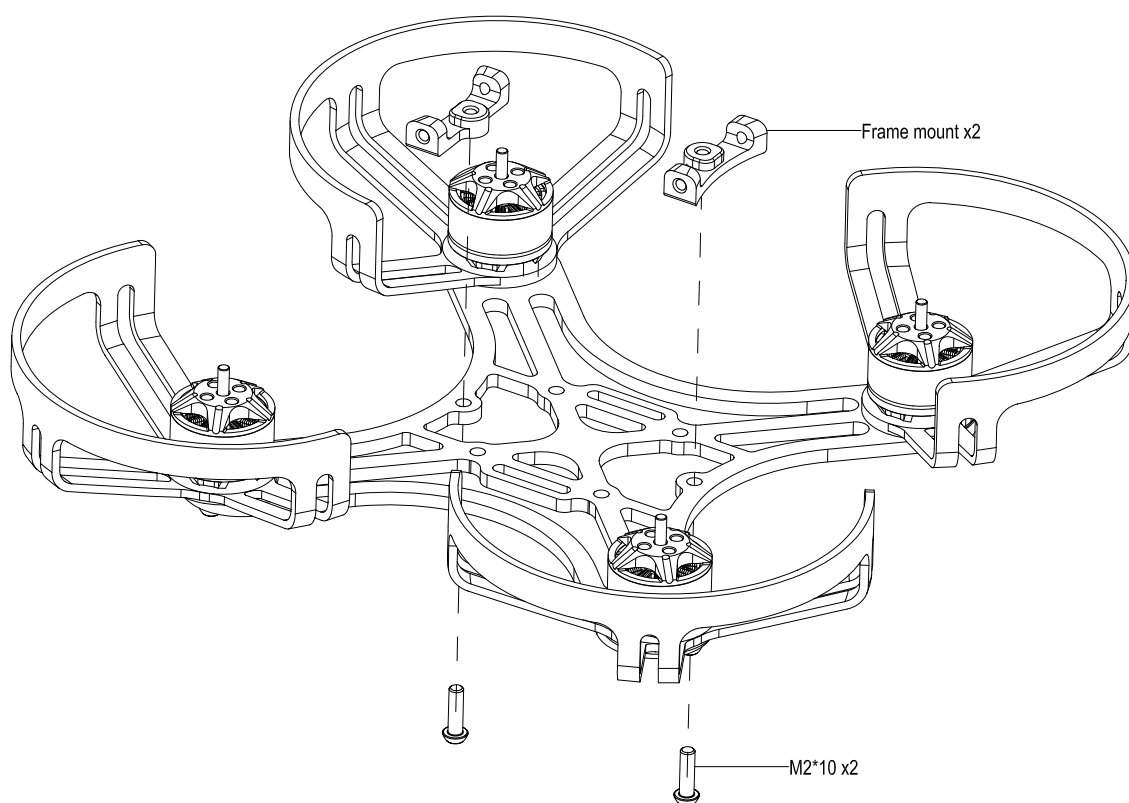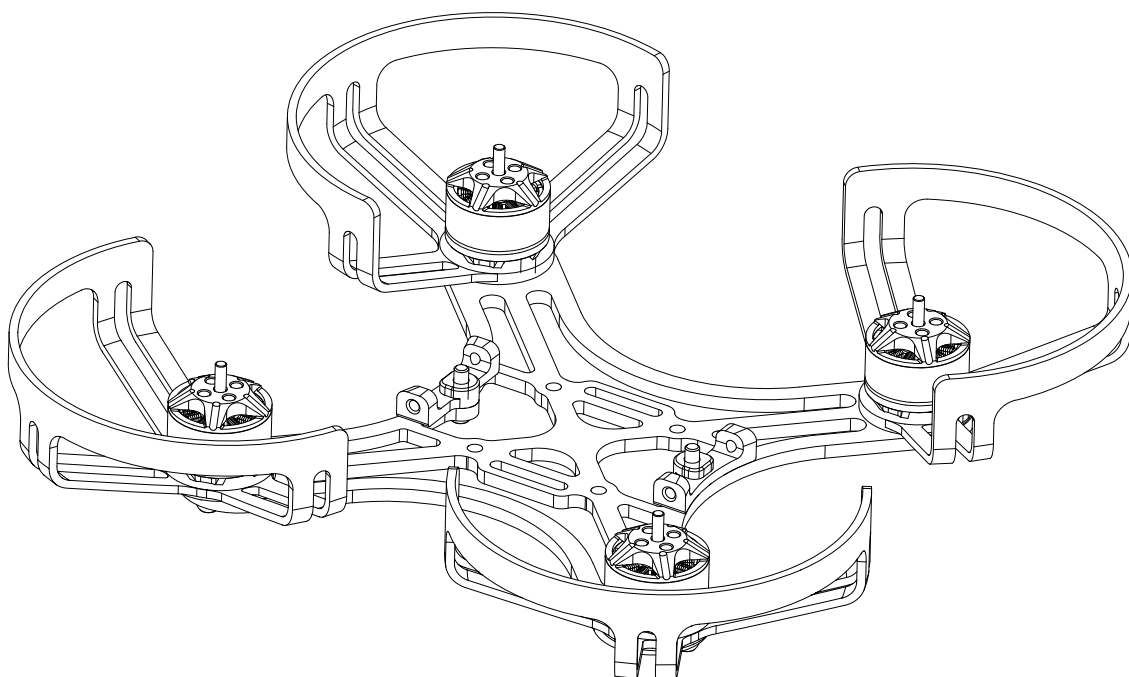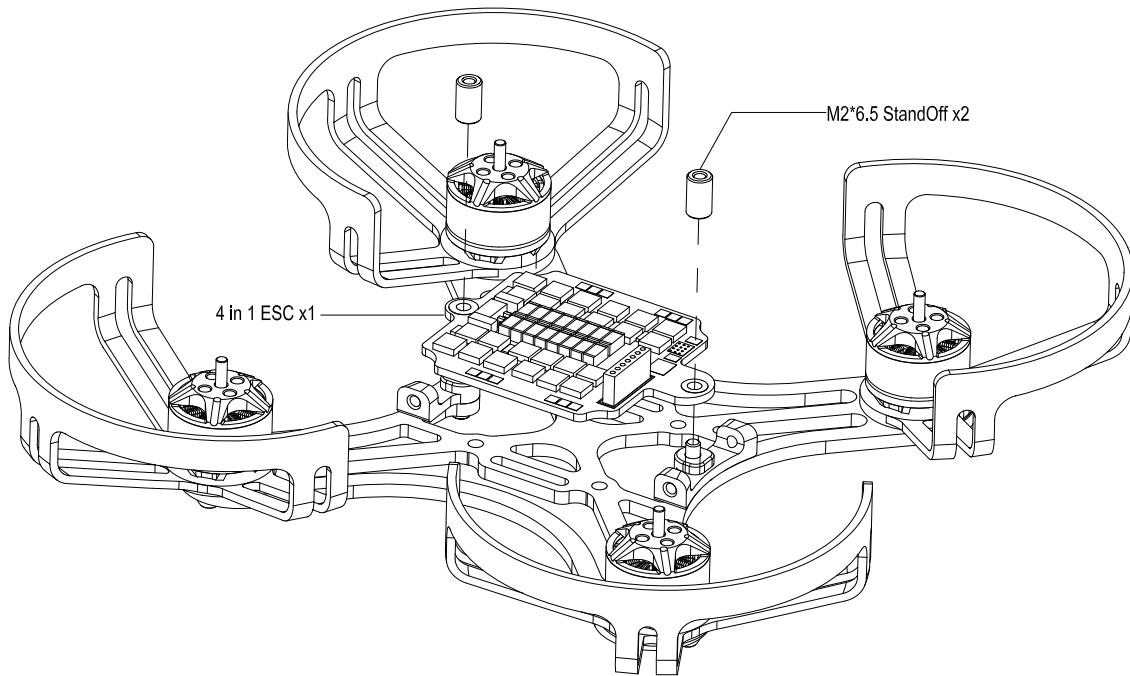Supports alarm Buzzer, programmable LED, voltage monitoring.

GND
5v +
Camer V in

VTX Video in
VTX +
GND

BOOT
VTX 5V Input
VTX Batt Input

DSMX
SBUS
PPM

BooT

Motors Install

1104 Motoer x4

Propeller Protective Guard x4

Bottom Board x1

M2*6 x16
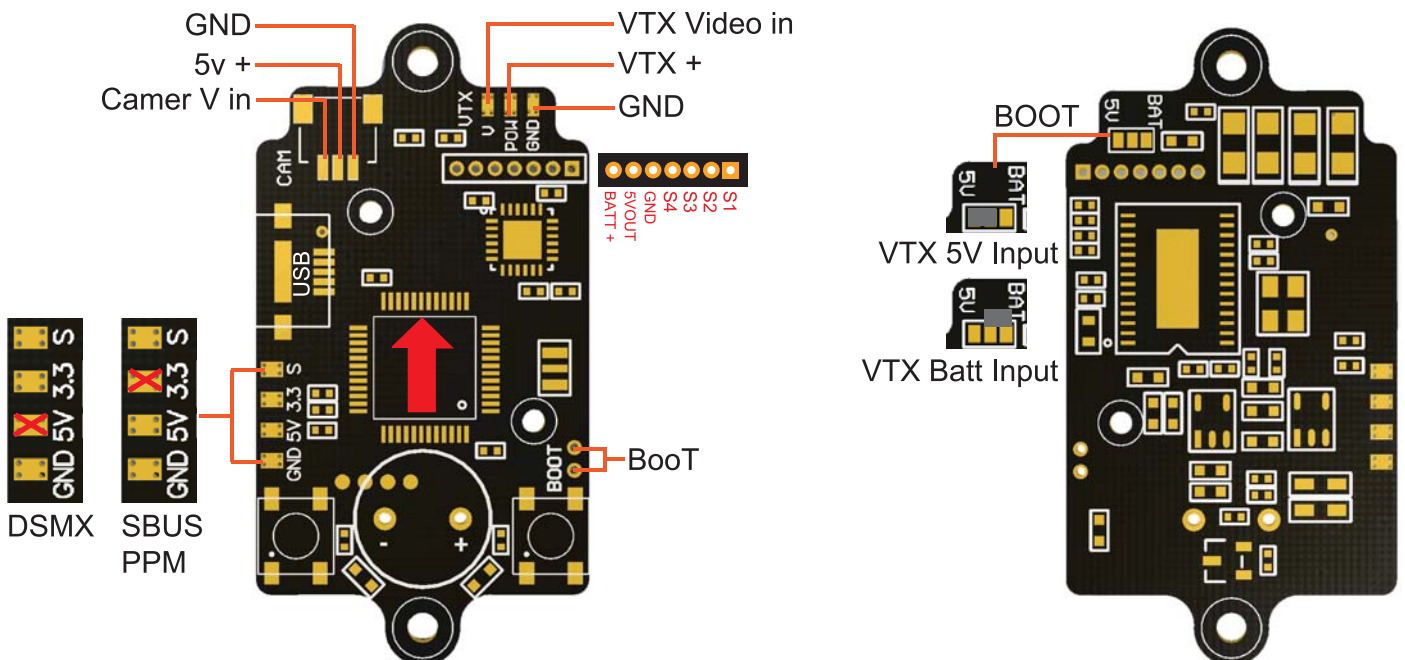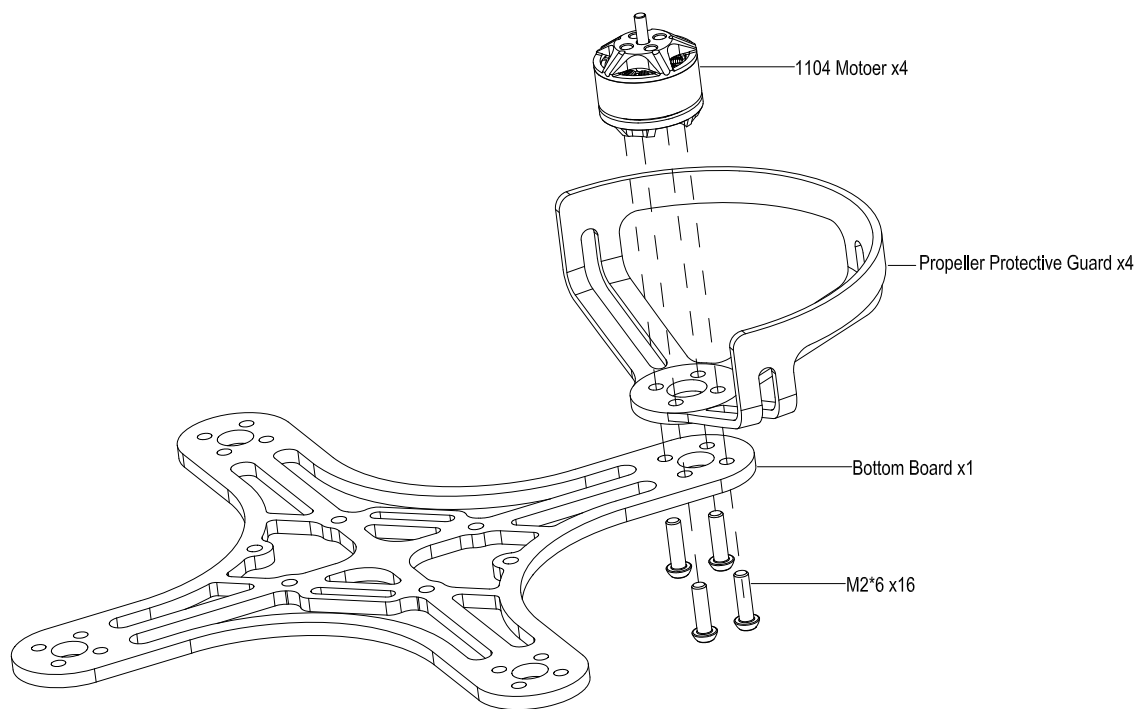
Complete

Frame Mount Install

Frame mount x2

M2*10 x2

Complete

ESC Install

M2*6.5 StandOff x2

4 in 1 ESC x1
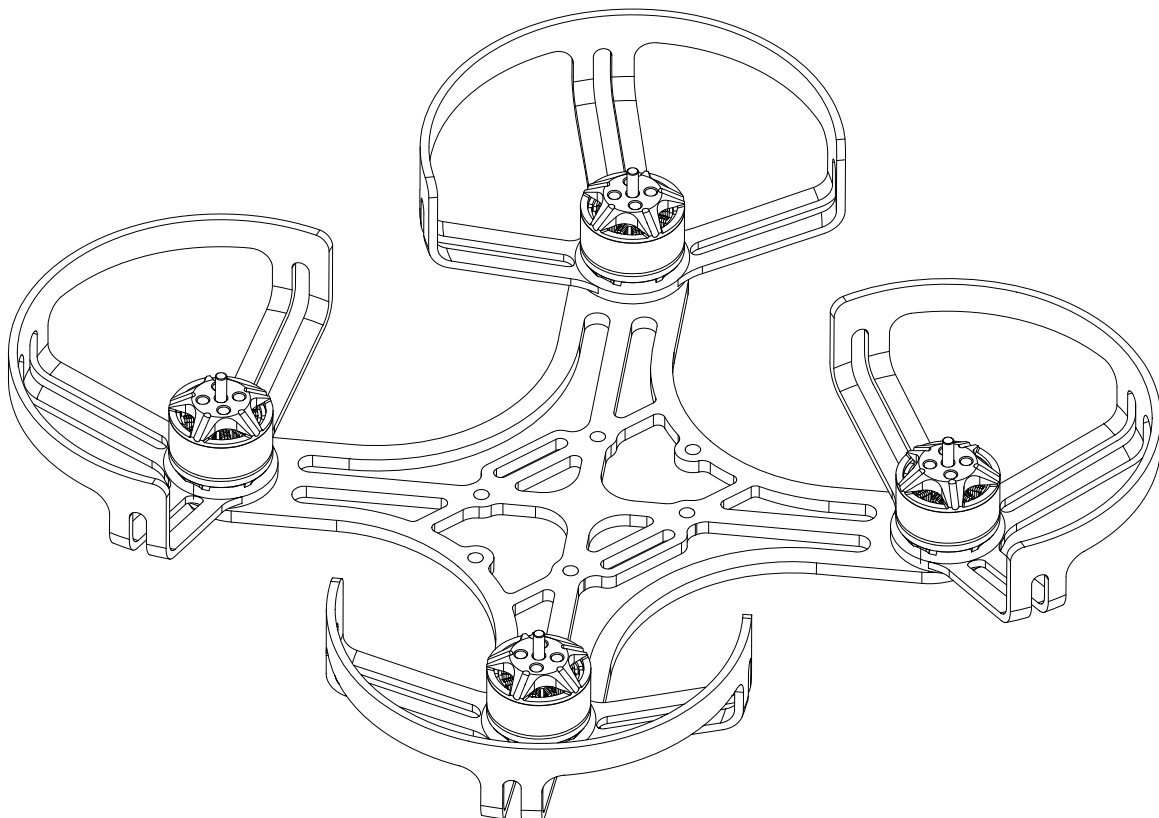
Complete

Flight Controller Install

M2*5 x2

VTX Mount x1

Flight Controller

PB2*3 x2
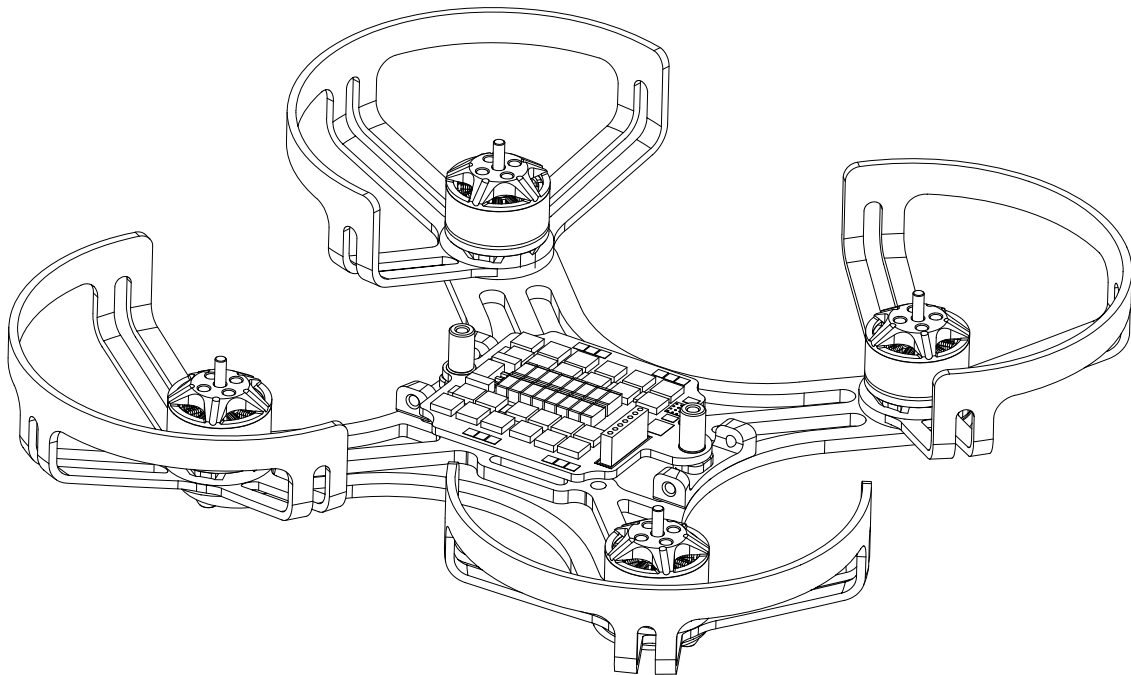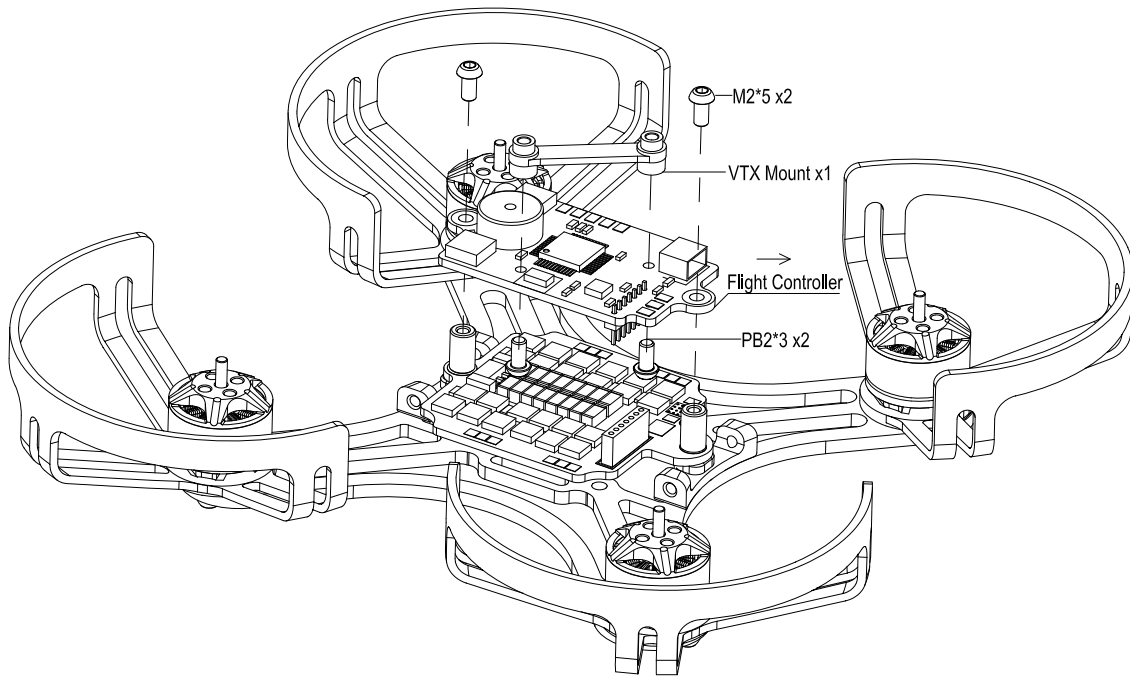
Complete

VTX Install

PB2*3 x2

VTX x2
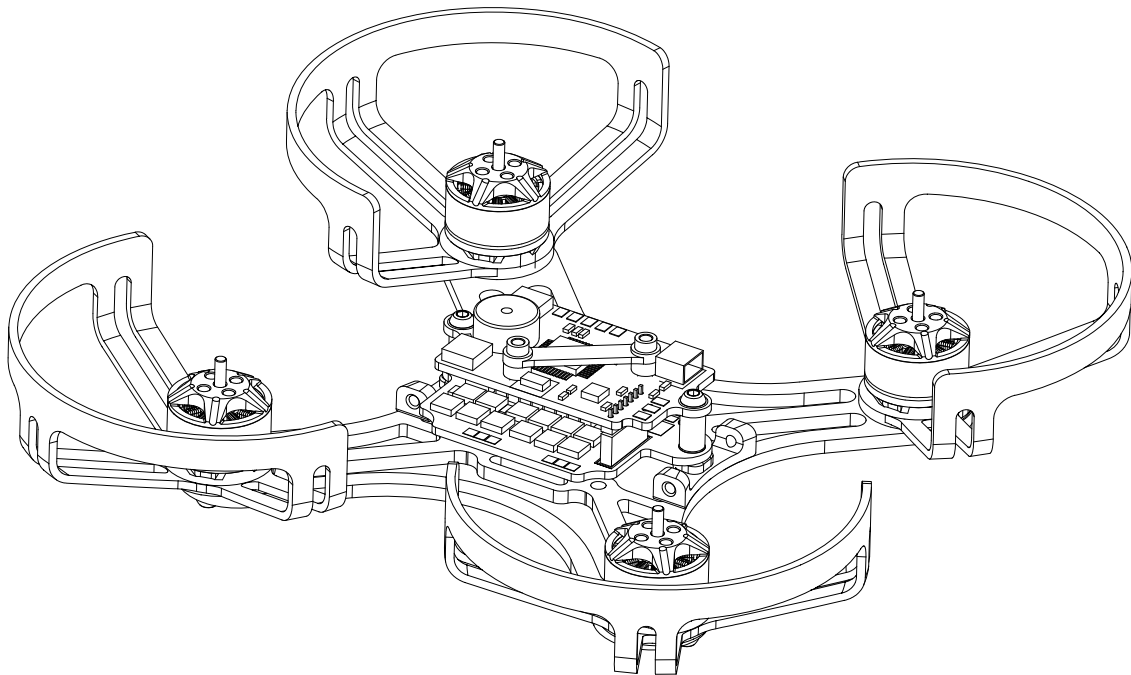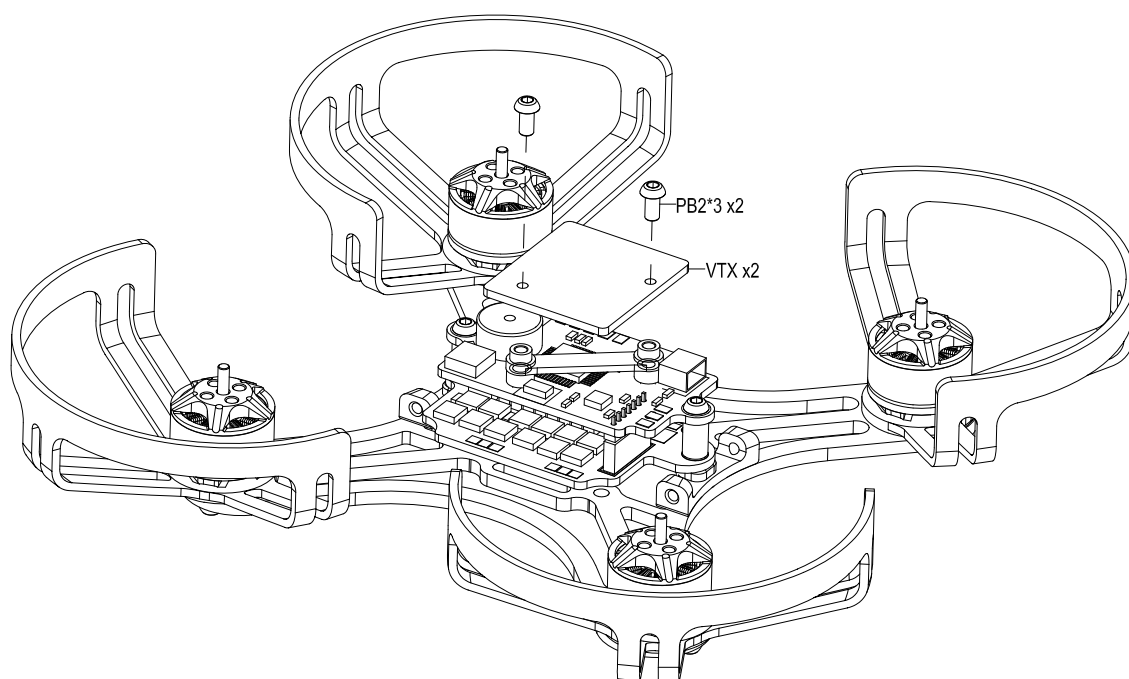
Complete

Camera Install

PB2*5 x6

Main Frame board x2

Camera x1

Front Canopy x1

Rear Canopy x1
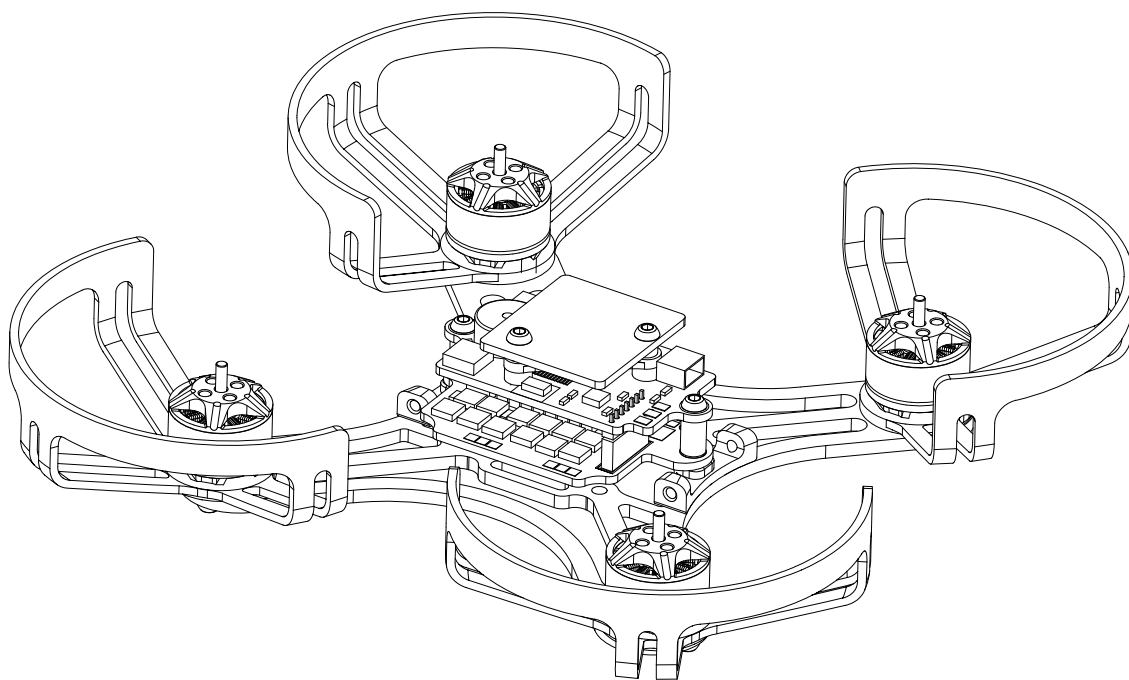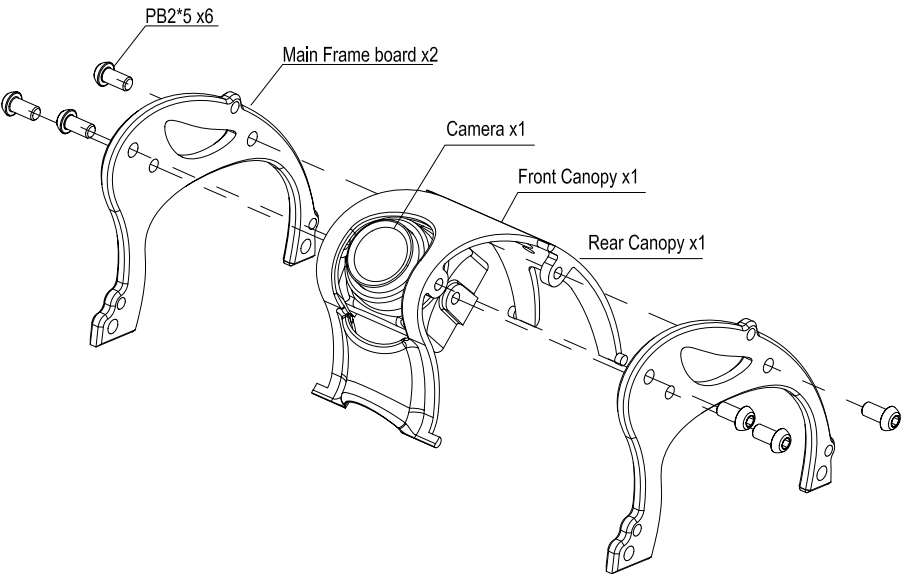
Complete

Main Frame Install

Main Frame Assy x1

Insert the camera
plug before installing

M2*5 x4
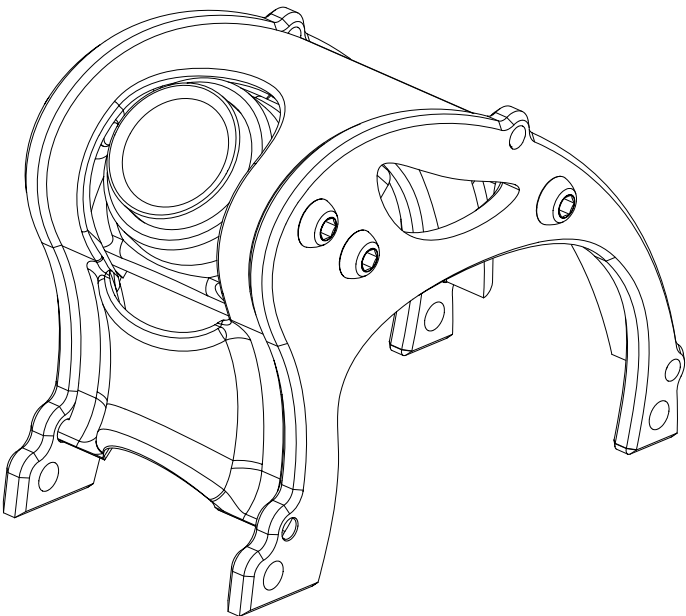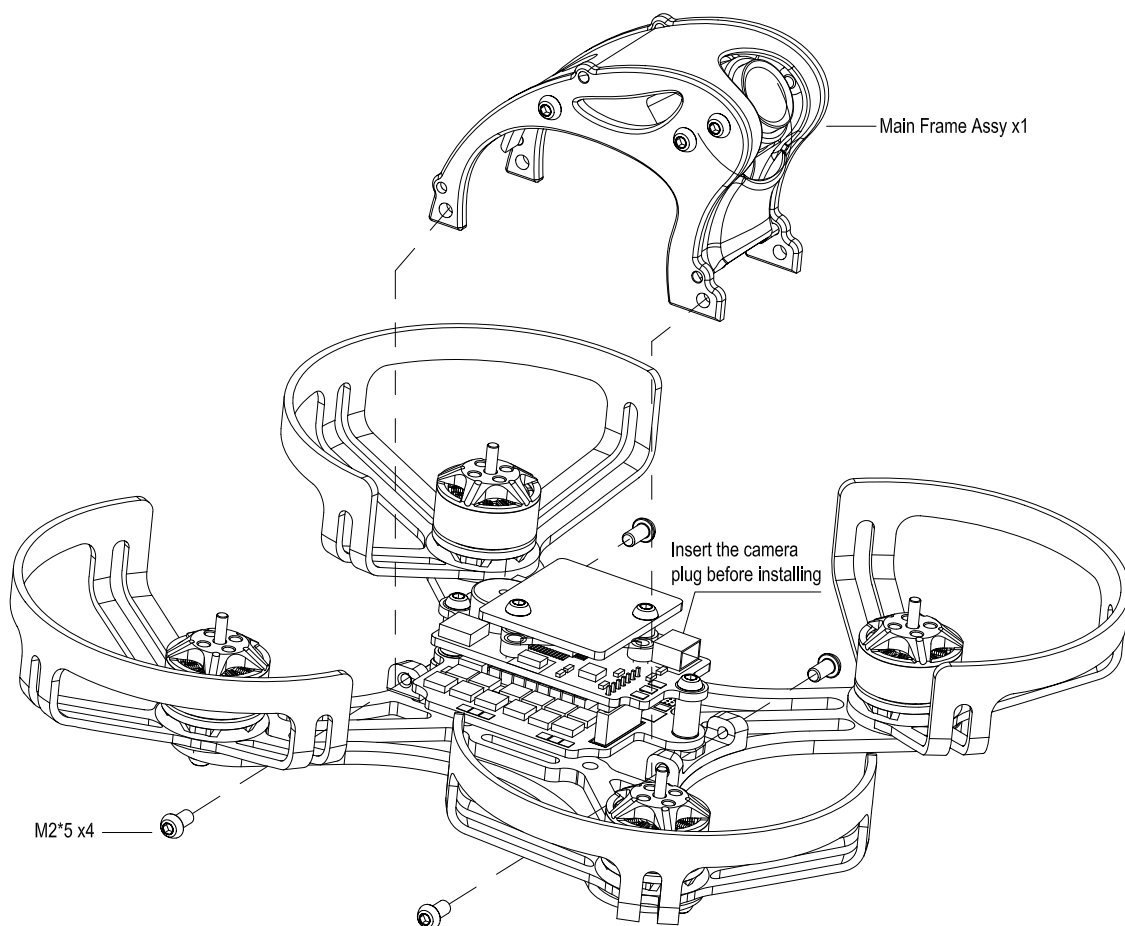
Complete

Propellers Install

2 inch propeller CCW X2

M2*6.5 x8

2 inch propeller CW X2

A

B

B

A

Complete