SPEDIX™

S250 PRO

S250 Pro FPV Quadcopter Manual

Version: Naze V6 V1.1

www.spedix-rc.com

Features
- Setup and Play.
- Assembled and tested in factory.
- Quick response in flight, durable and light structure.
- Latest Naze32 Rev6 flight controller with 3 Flight modes.
- DSM2/DSMX* compatible satellite receiver with easy binding button.
- 700TVL FPV camera.
- 5.8GHz 200mW 40 channel video transmitter with race band.
- Integrated On Screen Display.
- Powerful and durable 2204 motors.
- BLHeli program speed controllers.
- Green and Red LED lights on arms.
- Programmable RGB LED lights on tail.

*DSM2 and DSMX are trademarks of Horizon Hobby Inc. The receiver installed in this aircraft is not a product of Horizon Hobby Inc.

Online Video Instructions
Scan barcode or search "Spedix S250 Pro Setup" on YouTube to acsess video instructions.

⚠️ **WARNING**

For age 14+ only. Rotating propellers may cause serious injury and damages!
Do not install propellers during setup procedures.
Check www.knowbeforeyoufly.org for drone safety.
Users in USA need register on FAA system: www.federaldroneregistration.com
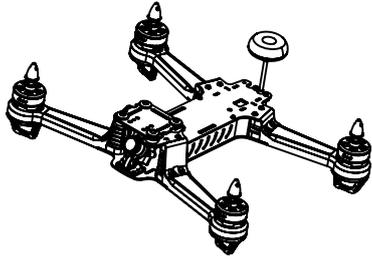
S250 Pro Quad x1

Propellers x4
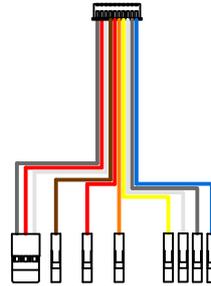
Receiver Cable x1
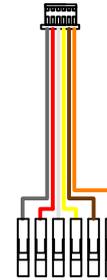
OSD-ISP
Cable x1
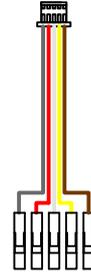
OSD-SET
Cable x1

6+ Channel
Spektrum Radio

3S or 4S
1500-1800mAh LiPo

USB Cable

FPV monitor or goggle

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

1. Radio settings

The radio should set to airplane mode.

Online Video Instructions
Have trouble in binding and settings? We have online video tutorials. Scan barcode on the right or search "Spedix S250 Pro Setup" on YouTube to watch video instructions.

2. Binding the quad to a radio

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 Naze Rev6 flight controller.

The satellite has a binding button on the side. Follow the following steps to finish binding.

Binding button

Sideview of satellite receiver

↓

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.

3. Install Cleanflight configurator in your PC.

Go to Google Chrome web store and search the key word "cleanflight" 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.

4. Cleanflight and receiver settings

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

Setup
Ports
Configuration
Failsafe
PID Tuning
Receiver

5. Fight mode settings

In the mode tab, setup Aux1 switch for flight mode selection. Angle mode is set in the factory as default and is recommended to beginners for its stabilization function. Aux2 switch is set in factory to turn on/off beeper.
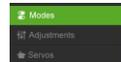
6. Motor calibration

Motors are calibrated in the factory. If they do not spin properly, then motors should be calibrated in Cleanflight to make the quad work properly. Follow the instructions in the software to complete calibration.

7. 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)
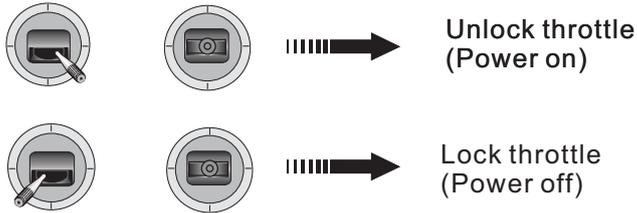
After the motors are powered on, check the rotation of motors to confirm they are in the directions as shown in the right picture.

8. Installation fo propellers

The rotation of propellers should be the same as indicated in the right picture. The directions of factory propellers are shown on the hub.

Propeller rotation is the same as motors

5x4.5   5x4.5

5x4.5   5x4.5

Motor Sequence and Rotation

M4   M2

Head

M3   M1

Tail
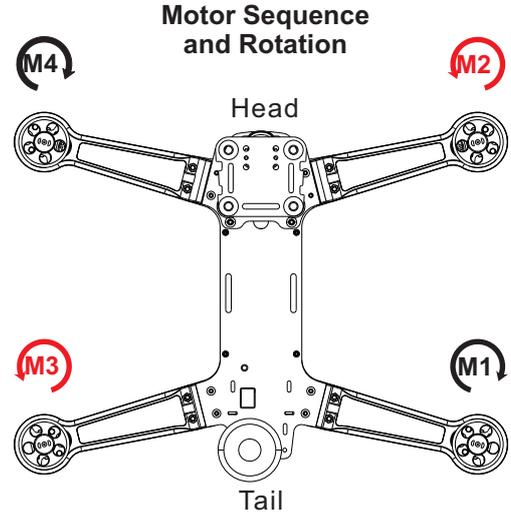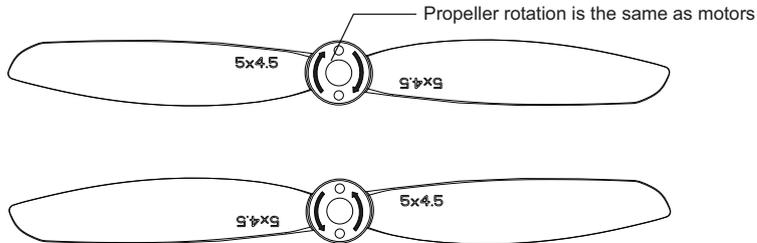
⚠️ **WARNING**   Propellers should be secured before flight.
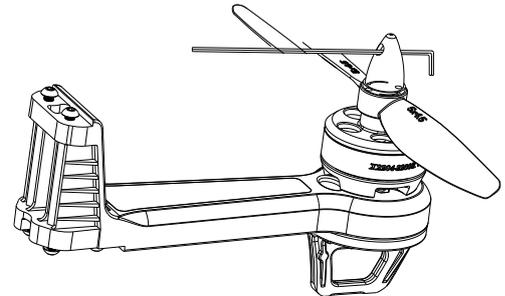
⚠️ Important: Antenna should be installed before power on.

5.8G Hz 200mW 40 Channel Video Transmitter

RP-SMA Connector

Display
Channels   12345678
Bands: ABEFR with raceband
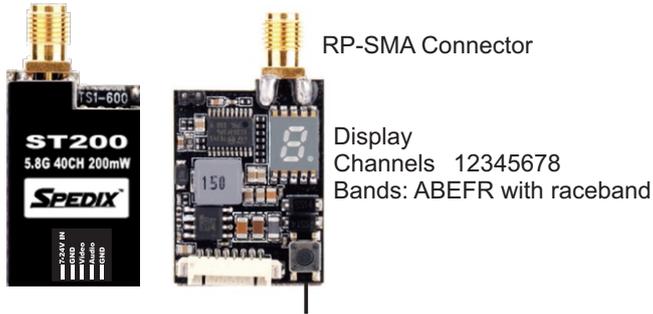
Long press to change to channel or band mode.
In channel mode, short press to change 12345678
In band mode, short press to change ABEFR

Frequency Chart

	Ch1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
A	5705	5685	5665	5665	5885	5905	5905	5905
B	5733	5752	5771	5790	5809	5828	5847	5866
E	5725	5745	5765	5805	5785	5825	5845	5865
F	5740	5760	5780	5800	5820	5840	5860	5880
R	5658	5695	5732	5769	5806	5843	5880	5917

Specifications of VTX
Power: 200mW
Frequency: 5.8 GHz
Channels: 40 Channels, ABEFR Bands
Antenna: SMA 3dBi antenna
Power: 7-24V input
Size: 29x22x7.5mm
Weight: 8.3g
Power Consumption: 300 mA @12V MAX
Video Range: 300 meters in open area
Working Temperature: -10 to 65 Celsius degrees

OSD

The flight controller of S250 Pro is integrated with the popular On-Screen-Display module, MWOSD. Flight information such as voltage, horizon can be added to the video. Those basic functions are set in factory. There is no need to change the settings for beginners. For advanced settings please check MWOSD tutorials available on internet and YouTube.

Software for the OSD can be downloaded from the following link or by scanning the bar code below:
https://github.com/ShikOfTheRa/scarab-osd

Connection of Electronic Components

700TVL FPV Camera

XT60 Connector

Satellite Receiver

Definition of wires
Red - power (+)
Black - ground (-)
Yellow - signal

Main Control Board (mounted upside down)

Motor

ESC   LED Plate

40 Channel Video Transmitter

Programmable LED

Antenna
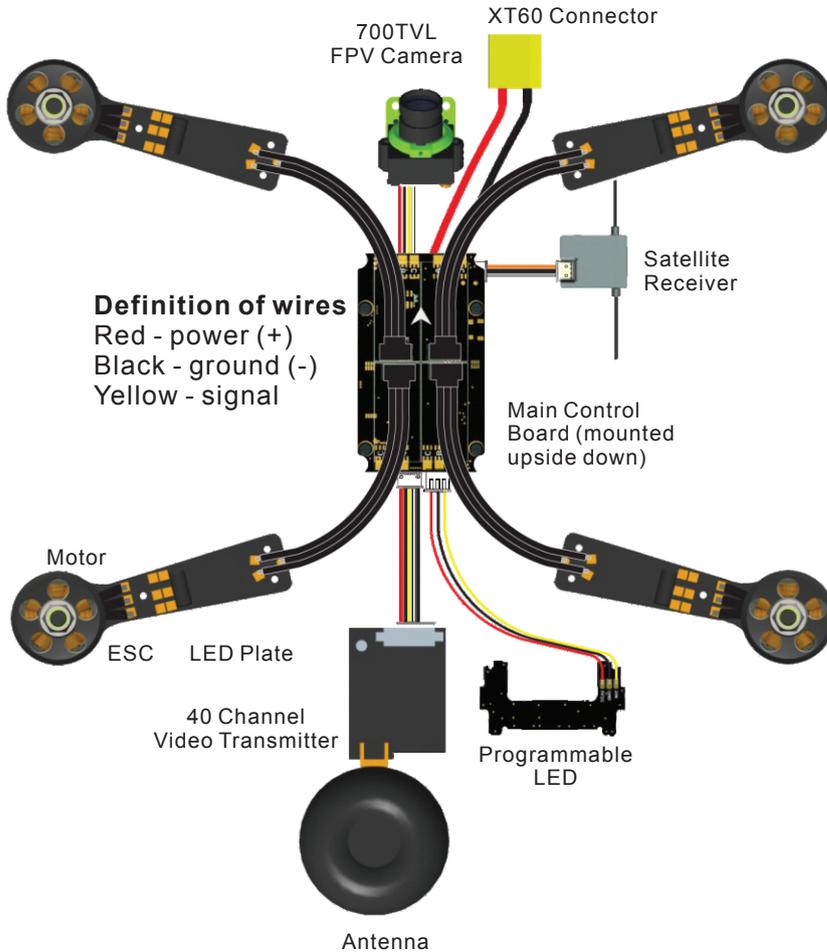
Main Control Board

S250 has a flight controller based on Naze32 Rev6, integrated with power distribution board and MinimOSD. The flight controller is mounted upside down in the quad. Therefore in the Configuration section of Cleanflight, "Board and Sensor Alignment" should be set to 180 roll degrees.

UART2 RX(SBUS IN)
RX
TX
RX
TX

Receiver In

UART2 TX
CH2
CPPM In
+5V
GND

Spektrum Sattelite

Bootloader Pads

5V
12V

87654321
Channel

5V
GND
Video
Audio

Camera

USB

GND
5V
OSD-RST
OSD-SCK
OSD-MISO
OSD-MOSI

OSD-SET OSD-ISP

GND
5V
OSD-RX
OSD-TX
OSD-DTR

Progrmamable LED

VTX

5V
GND
S

5V
GND
Video
Audio
GND

Arm assembly

5'or 6'Propeller

2204 Motor

ARM

M3x8

ESC

ARM Led Plate

Landing Gear

M2x8

M2x12
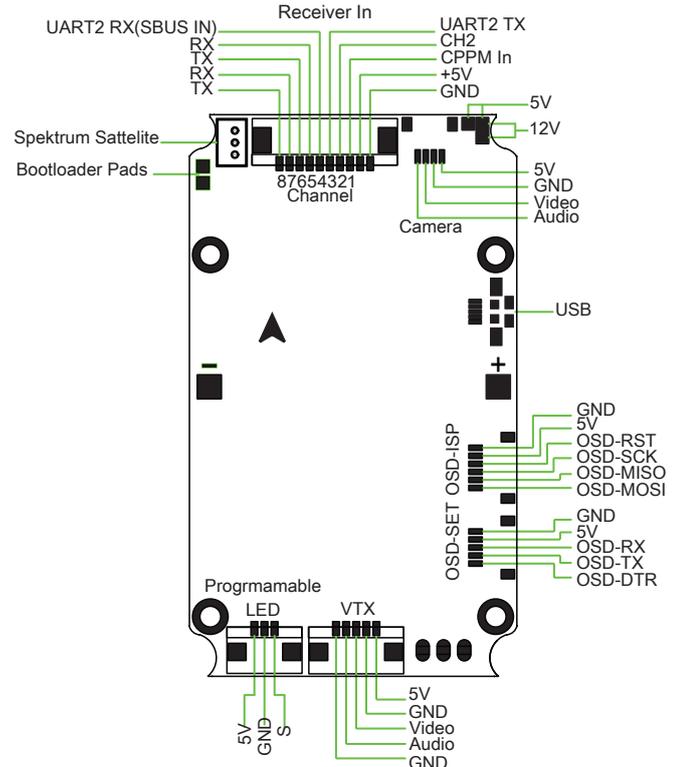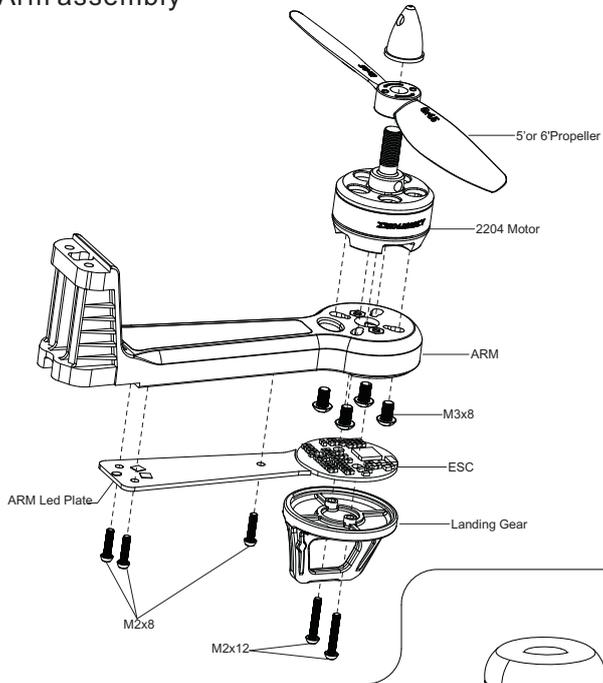
Flight controller installation

M2x5(8x)

M2.5x8(4x)

Camera instrallation

Camera

M2x10

Camera Mount

M2 NUT

PB1.7X5
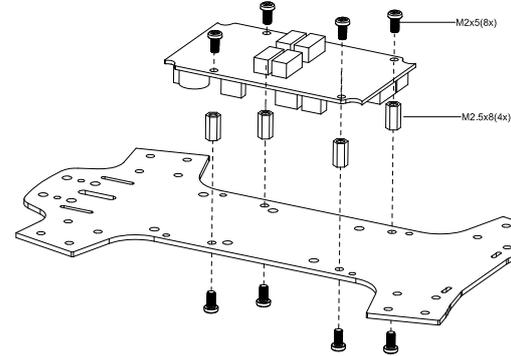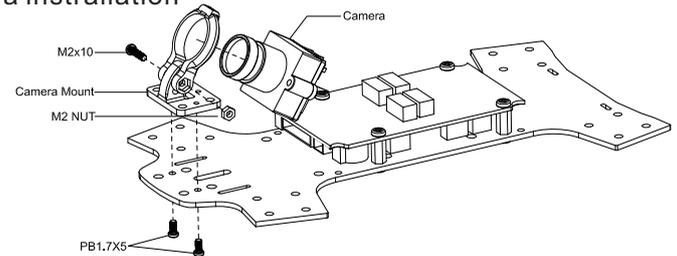
Video Transmitter installation

Tx Antenna

M2x5(2x)

3M

Video Transmitter

Antenna Mount

LED installation

LED

Main Frame Assembly

M2.5x10
M3x6
M2.5x10
Damper Board
M2.5x10
M3x5X15(2x)
PB1.7x5(8x)
Upper Board
M3x5X18.5(2x)
Deco Plates
Bottom Board
M3x6
M2.5x10
M2.5x10
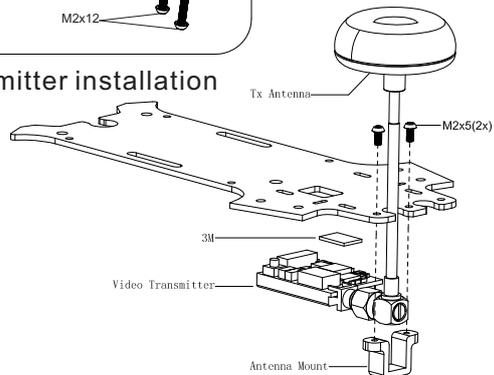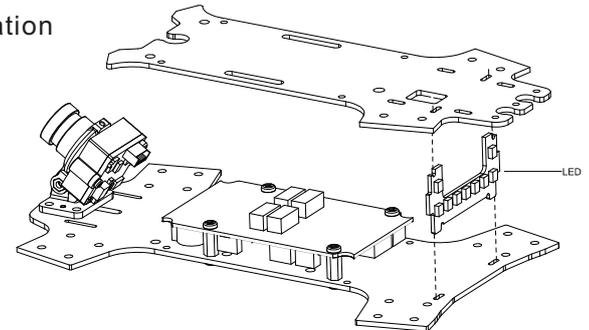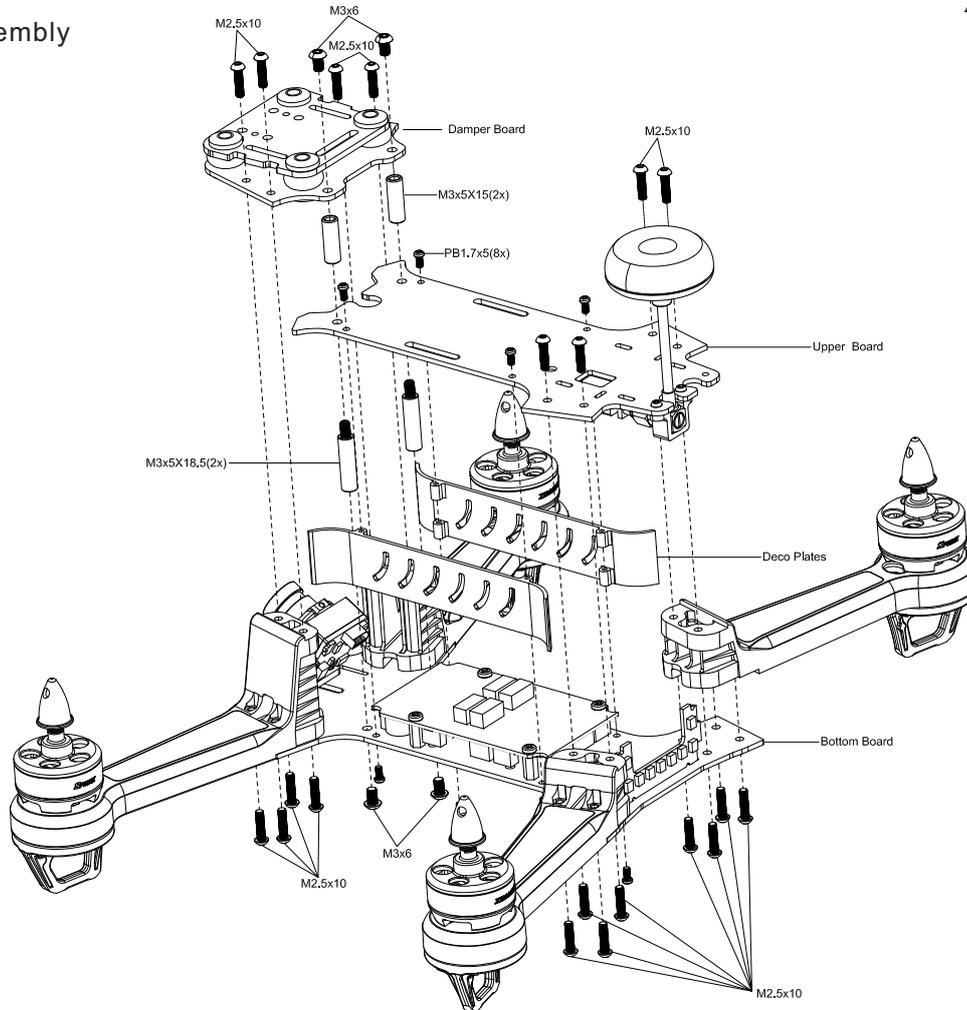
Discussion on
RC Groups

YouTube Videos