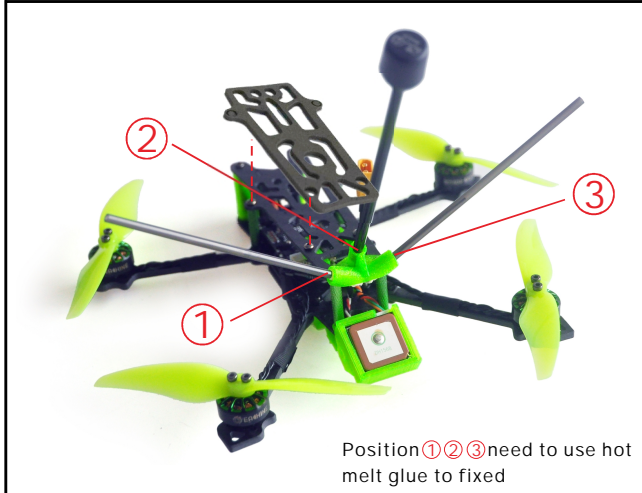


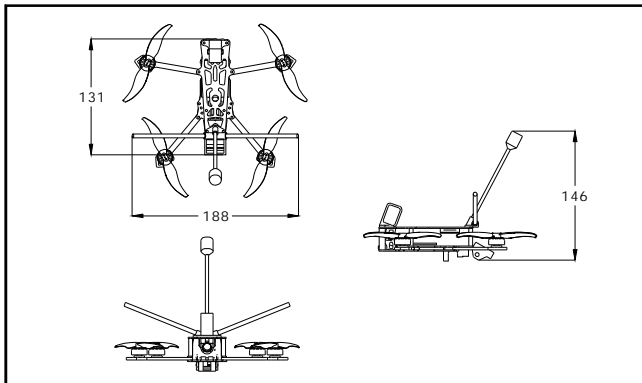
### 1. Install antenna mount and Battery anti-slip mat

Screw the antenna fixing mount and put the antenna sleeve into the fixing mount. Then use some hot melt glue to fix the antenna sleeve.



### 2. Specification

Brand Name: Eachine
Item Name: Novice-IV 3-4S 4inch LR drone and RTF
Wheelbase: 170mm
Size: 180mm*130mm*40mm(without propellers,batteries,antenna)
Weight: 125g (without battery)
<b>3. Features</b>
The lightest 4inch LR FPV drone
New AIO Flight controller with 25A ESC
Efficiency 1404 KV2750 brushless motor
Long flight time around 20minutes with stock battery Sub 250gram
Around 31minutes flight time with 4s 18650 3000mah
Very stable and easy to control
With M8N GPS Rescue system
With Buzzer and LED drone tracker finder
Distance Range more than 1KM in an Open area without interference



### 4. Advanced function description

#### DT-B90 Buzzer&LED Finder how to work?

1. DT-B90 Finder can power itself to beep and LED light to flash even the quad battery has been ejected.
2. Press the button for 2 or 3 seconds to turn it on before flying
3. You can use AUX4(SF Switch) channel to activate the Buzzer
4. You need to Press the button for 2 or 3 seconds to turn off it after disconnect the main battery.

#### Eachine M8N GPS rescue function how to work?

1. Before Armed, GPS must search for more than 6 satellites to lock the home position.
2. After armed, observe the OSD data during the flight, and the rescue function can work normally only if the distance exceeds 100 meters. Otherwise, the quad will crash. If the remote controller suddenly loses signal, the GPS rescue function will work automatically and return to the home position, but the drone won't land automatically. You need to slightly control the stick to gain control of the drone when the remote control signal is restored and then control the drone to land.
3. In order to avoid mistake operation , we didn't enable Aux Channel to activate the GPS rescue function by default. You can set it by yourself from the mode tab of Betaflight configurator.

### 5. Start FPV Flight

Install the antenna to the radio and the goggle first. And then powering on your Radio and goggle. NOVICE-IV comes already bound to your radio and on the right video channel matched with your goggles. Power the battery is plugged in, set NOVICE-IV on a stable surface so it can calibrate. Calibration takes a few seconds then NOVICE-IV is ready to fly. Please fly in open areas and away from the crowd and buildings.



1. Install the battery to the radio(shows on picture A), and turn on the "power switch", Press any key to skip if any alarm(show on the Picture B) appear on the screen



2. Connect the battery to the NOVICE-IV Drone, and make sure to fixed the battery properly with the Lipo strap.



3. Turn on the EV800DM Goggles, check the video and the status of the oSD info , Make sure GPS must search for more than 6 satellites to lock the home position .



4. Keep the throttle stick lowest point and then toggle the SE Switch to Arm the NOVICE-IV drone , you will find "ARMED" notice on the screen of the goggles. Happy flight and keep it safe .



5. Toggle the SB switch to change the flight mode (Default is Air mode). We highly recommend to use Angle mode for the beginners. The motors will auto-spin when armed if the flight mode is AIR MODE.

### 6. Charge the Lipo Battery

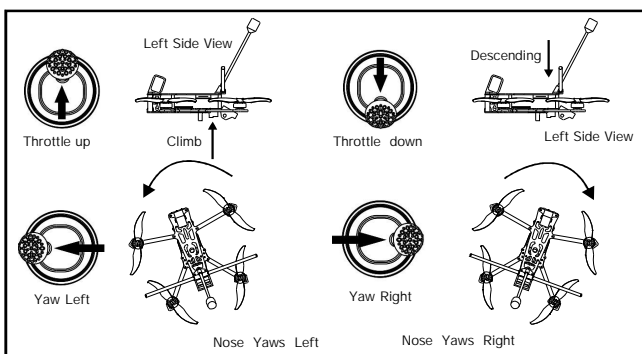


Charging Function After insert adapters, chargers "drop" sound, the display shows ; Insert the battery charger "drip - drip" twice to start charging. Display cycles through each section total battery voltage and the battery voltage; After the battery is fully charged, the charger automatically stops charging, the display shows "FULL" And flashing, buzzer once every five seconds. Voltage Display Function Insert the battery (without connecting adapter),

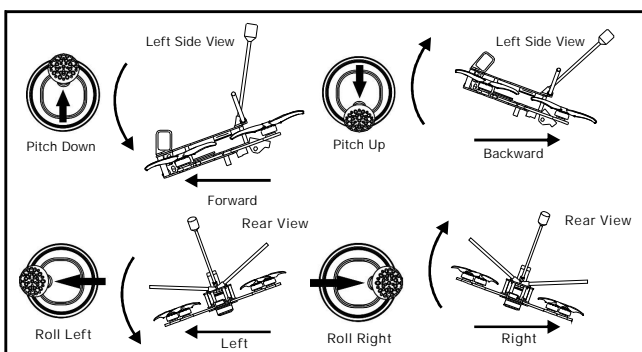
### 6. Flight and Radio Stick Controls

Always use caution when flying and operate in an open and controllable area. Please learn the flight controls first before powering on the aircraft to fly. The left stick controls throttle and yaw direction of NOVICE-IV. The right stick controls pitch and roll of the aircraft.

Left Stick Diagram



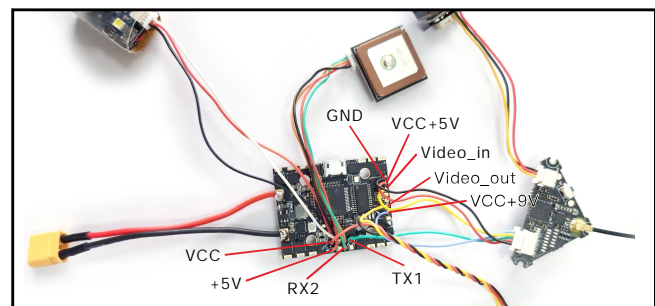
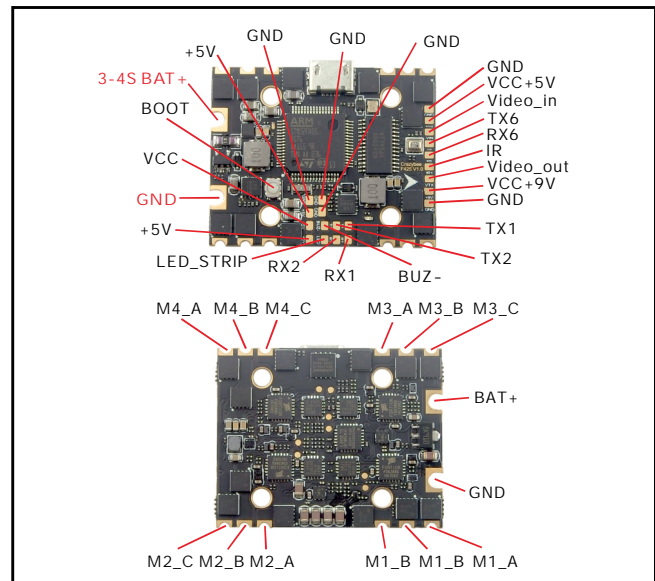
Right Stick Diagram



### Important notice:

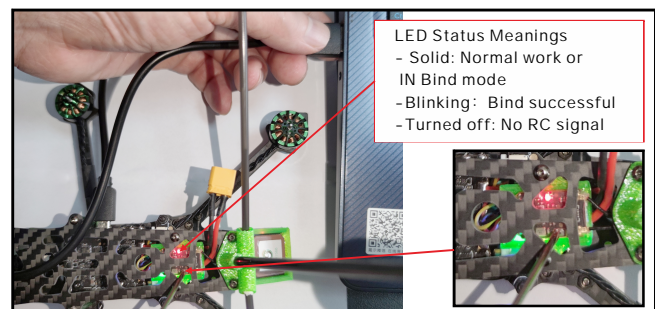
The following content are regard to advanced tutorial. The Novice-IV drone comes out already finished all the settings and bound with the radio. Need these content after you re-flashed the firmware or doing some troubleshooting.

### 7. Flight controller connection diagram



### 8. Binding procedure

1. Press and hold the BIND button on the receiver then plug the USB to connect the power. After approximately 3 seconds, the Red LED on the receiver would be solid, this indicate the receiver is in bind mode.
2. Select Frsky D8 protocol from the Multi mode and then press [BIND] option, the red LED on the receiver should be blinking fast, this indicate bind is successful. Unplug the USB and then plug again, the red LED is solid means the connection with the radio is established.



### 9. Receiver configuration

Please enable Serial RX for UART6 from port tab, then set Receiver mode to be Serial-based receiver from the Configuration tab of the Betaflight Configurator, then select SBUS protocol for the Serial Receiver Provider.

Note: not all combinations are valid. When the flight controller firmware detects this the serial port configuration will be reset.  
 Note: Do NOT disable MSP on the first serial port unless you know what you are doing. You may have to refresh and erase your configuration if you do.

Identifier	Configuration/MSP	Serial Rx	Telemetry Output	Sensor Input	Peripherals
USB VCP	115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART1	115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	VTX (TBS Sm)   AUTO
UART2	115200	<input type="checkbox"/>	Disabled   AUTO	GPS   57600	Disabled   AUTO
UART3	115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART6	115200	<input checked="" type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO

**Receiver**

Serial-based receiver (SPEKSAT, S) 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

### 10. VTX Bands and Channels setup

Labels: Switch Button, U.FL, Band LED (1,2,3,4,5), Channel LED (8,7,6,5,4,3,2,1), 200MW, 25MW, 100MW, Blue Video\_out, Yellow Video\_IN, Cam\_IN, +5V out put, GND, Black GND, Red +5V Input, Green smare Audio.

Frequency and channel frequency table:

FR	CH	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
BandA(1)		5865M	5845M	5825M	5805M	5785M	5765M	5745M	5725M
BandB(2)		5733M	5752M	5771M	5790M	5809M	5828M	5847M	5866M
BandE(3)		5705M	5685M	5665M	5665M	5885M	5905M	5905M	5905M
BandF(4)		5740M	5760M	5780M	5800M	5820M	5840M	5860M	5880M
BandR(5)		5658M	5695M	5732M	5769M	5806M	5843M	5880M	5917M

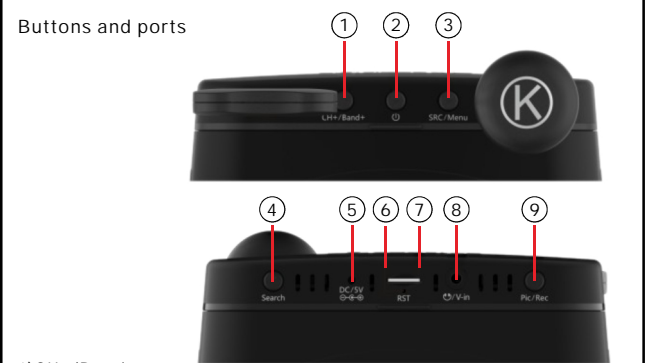
There are 3 ways to switch the vtx channels:

- Short press the switch button to choose the VTX channel, press and holding the button to Choose the VTX Band (Can't save , it will lost the channel while power off)
- Go to Betaflight CLI ,type the command:  
 Set vtx\_band=3  
 Set vtx\_channel=1  
 save  
 Notes: The vtx\_freq should match the vtx\_band and vtx\_channle as the VTX Channel list shows.  
 For example, if you set vtx\_freq=5732, you should set vtx\_band=5 and VTX\_channel=3
- Enable Smartaudio for UART1, 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

VTX (TBS Sm) | AUTO

SMARTAUDIO  
 FE1 5705 25  
 > BAND RACEBAND  
 CHAN 1  
 (FREQ) 5732  
 POWER 25  
 SET >>  
 CONFIG >>  
 BACK >>

### 11. Goggles and VTX Receiver channel setting



- CH+/Band+  
Short press this button select CH 1-8 cycles
  - POWER and RETURN  
Long press to boot/shut down.  
short press during working as return
  - SRC/MENU  
Short press to select from video sources V-in/RF A/RF B/Diversity  
Long press to call out MENU
  - SEARCH  
Press to automatically search for the signals;
  - CHARGING PORT  
DC 5-18V wide range recharging port/power backup port, typically@5V/2A;
  - RESET  
Reset hole. Shut down device when necessary;
  - TF CARD SLOT  
Support up to 32G, typical@C10;
  - VIDEO IN/AUDIO OUT PORT  
Video input@AV in mode; Audio output@RF mode;
  - Pic/Rec  
Short press to take a screen shoot and save picture  
Long Press to start recording a video, then a short press to save video.
- In MENU operatins, press ③ to shift down to select settings; press ④ as+settings; press ① as-settings.

Charging indicator LED: charging-red; full charged-green.

Band	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
A	5865	5845	5825	5805	5785	5765	5745	5725
B	5733	5752	5771	5790	5809	5828	5847	5866
E	5705	5685	5665	5645	5885	5905	5925	5945
F	5740	5760	5780	5800	5820	5840	5860	5880
R	5658	5695	5732	5769	5806	5843	5880	5917

### 12. Mixer type, ESC/MOTOR protocol and Sensor alignment

Quad X

Prop Out

Fix the CCW propeller onto the M1 and M4 motor (CCW motors)  
 Fix the CW propellers onto the M2 and M3 motor (CW motors)

Motor direction is reversed

ESC/Motor Features

DSHOT600 ESC/Motor protocol

MOTOR\_STOP Don't spin the motors when armed

ESC\_SENSOR Use KISS/BLHeli\_32 ESC telemetry over a separate wire

Bidirectional DShot (requires supported ESC firmware)

12 Motor poles (number of magnets on the motor bell)

5.5 Motor Idle Throttle Value [percent]

Board and Sensor Alignment

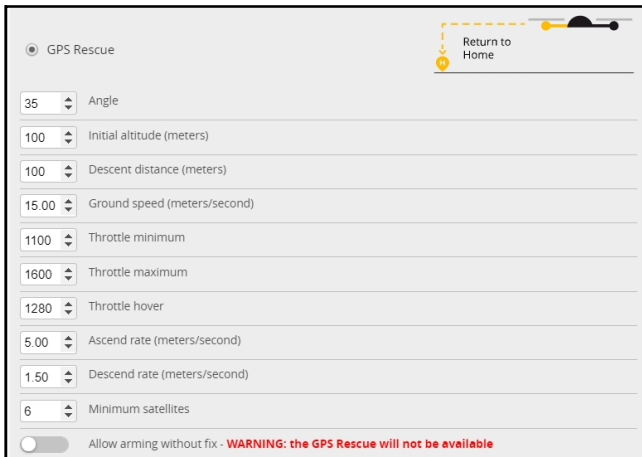
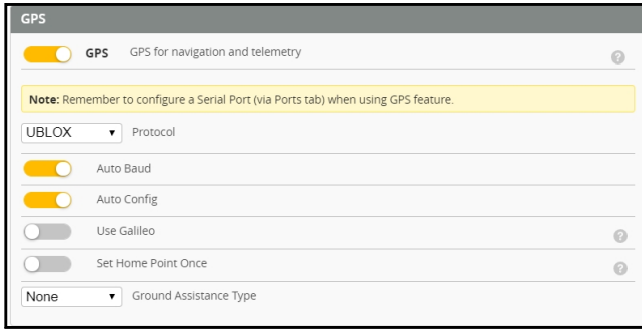
0 Roll Degrees 0 Pitch Degrees 90 Yaw Degrees

First GYRO/ACCEL CW 180 First GYRO

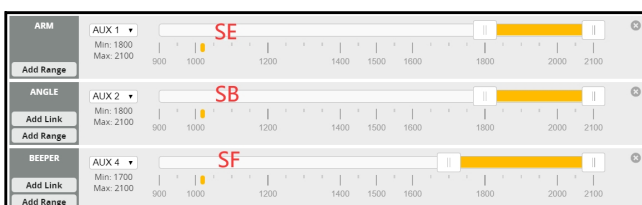
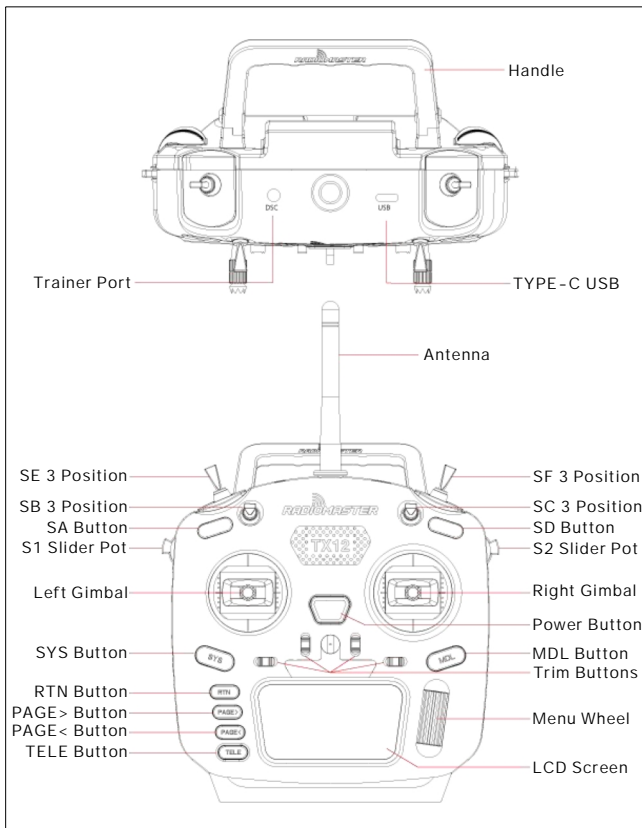
Default MAG Alignment



### 13. GPS and GPS Rescue settings

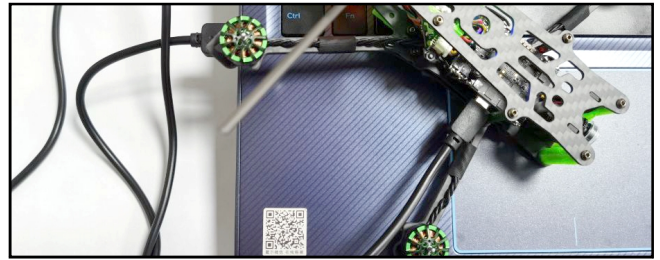


### 14. Radio channels/Switch and Betaflight mode setting

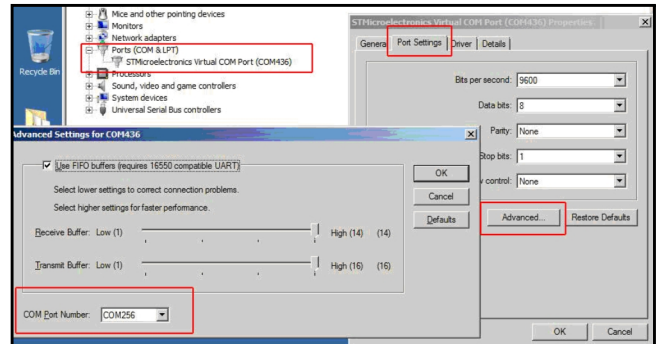


### 15. ESC Check and Flash firmware

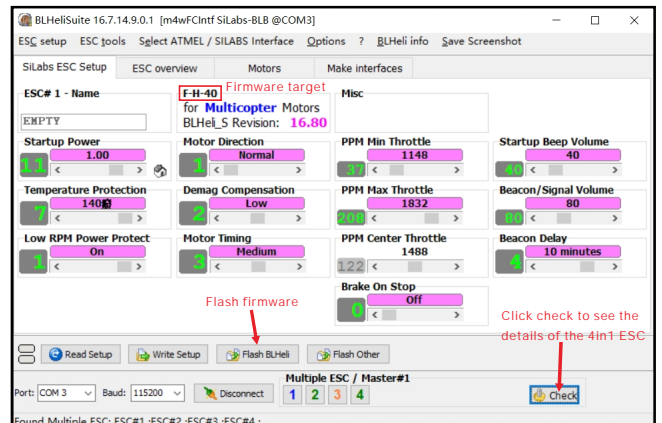
1. Download New release BLHeliSuite from: <https://www.mediafire.com/folder/dx6kfaasyo24l/BLHeliSuite>
2. Connect the NOVICE-IV flight controller to computer



3. Open the Device Manager of your computer, find the Ports, please make sure the Com port Serial Number is under 255, otherwise it will can't connect to the BLHELISUITE. You can change the port serial number like the following step :



4. Open the BLHELISUITE, Select SILABS BLHeli Bootloader (Cleanflight) from the third tab on the top side. Then Select the right serial com port and Click connect. You can also Flash the new release BLHeli\_s firmware via the BLHELISUITE, the firmware Target is "F-H-40"



### 16. Flight controller firmware update

1. Install latest STM32 Virtual COM Port Driver <http://www.st.com/web/en/catalog/tools/PF257938>
2. Install STM BOOTLOAD Driver (STM Device in DFU MODE)
3. Open Betaflight configurator and choose firmware target "BETAFLIGHTF4", then select the firmware version.
4. There are 2 ways to get in DFU Mode: 1). Press\_and\_hold\_the\_boot\_button, then plug USB to computer 2). loading betaflight firmware and hit "flash", then it will getting into DFU Mode automatically.
5. Open Zadig tools to replace the drivers from STM32 Bootloader to WINUSB Driver.
6. Reconnect the flight controller to the computer after replace driver done , and open Betaflight Configurator, loading firmware and flash.

