

## Eachine Beecore V2.0 Brushed Flight Control Board Flysky version Manual

Eachine Beecore V2.0 brushed Flight control board is a new upgraded version which integrated Betaflight OSD and MPU6000 at SPI bus. The new version also integrated 2.4G receiver with 3 versions to choose(Frsky/Flysky/DSMX). It's the best flight controller for Indoor Brushed Quadcopter.

### 1.Specification:

CPU: STM32F303CCT6

Six-Axis: MPU6000

ESC: All FETs are rated at 10A maximum

Size: 26mm x 26mm,fully compatible with the Inductrix and Eachine E010/E010S frame and mounting pattern

Firmware version: BETAFLIGHTF 3.2.0

Firmware Target: Omnibus

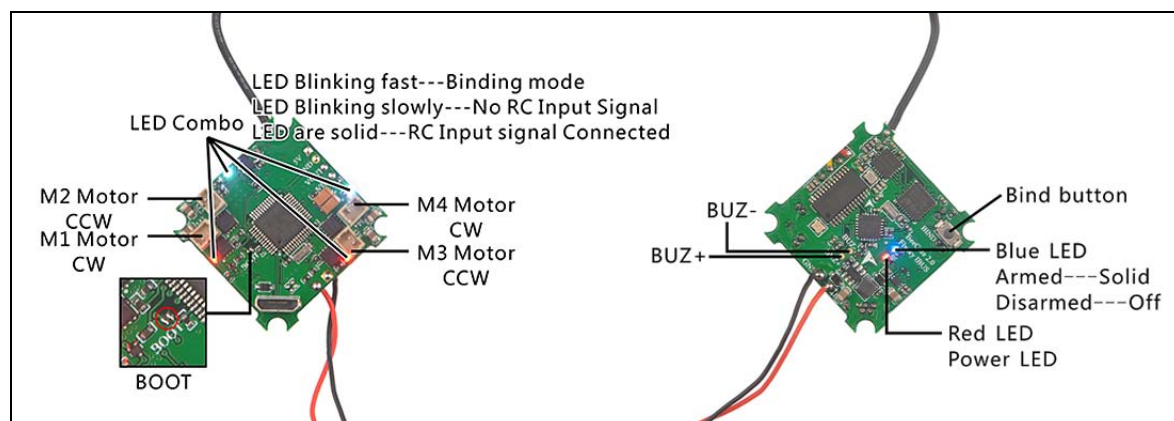
OSD: Built-in BetaFlight OSD (STM32 controls OSD chip over SPI in DMA mode)

Receiver Option: Frsky D8 potocol (SBUS), Flysky AFHDS-2A protocol(IBUS), Spektrum DSM2/DSMX protocol

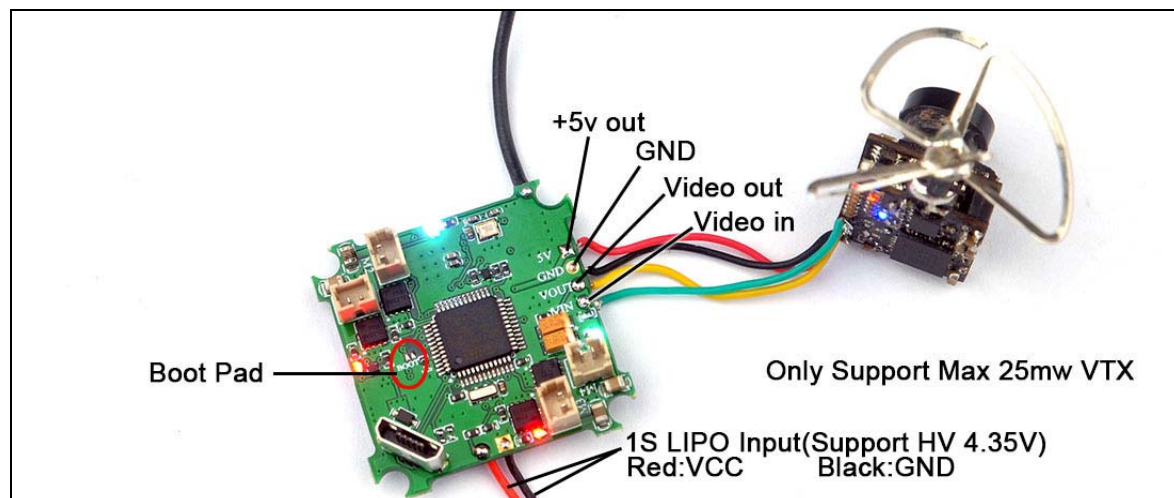
Weight: 3.2g

Work voltage:1S Lipo 3.5v~4.35v

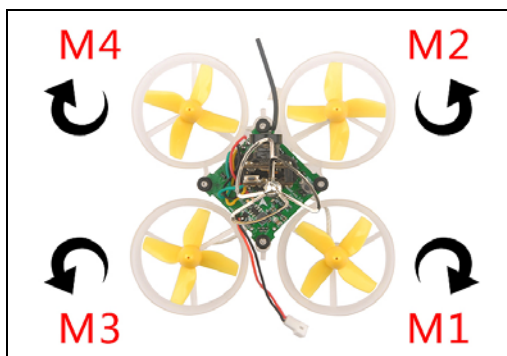
### 2.Connection and LED Indicator



### 3.Camera connection



#### 4.Mixer type and ESC/Motor protocol



ESC/Motor Features	
BRUSHED	ESC/Motor protocol
<input type="checkbox"/>	Motor PWM speed Separated from PID speed
<input checked="" type="checkbox"/>	MOTOR_STOP Don't spin the motors when armed
<input checked="" type="checkbox"/>	Disarm motors regardless of throttle value (When ARM is configured in Modes tab)
5	Disarm motors after set delay [seconds] (Requires MOTOR_STOP feature)
1070	Minimum Throttle (Lowest ESC value when armed)
2000	Maximum Throttle (Highest ESC value when armed)



Please pay attention to the motor sequence of Inductrix main board , it's different from BEECORE, Install the motor according to the diagram above.

#### 5.Receiver configuration

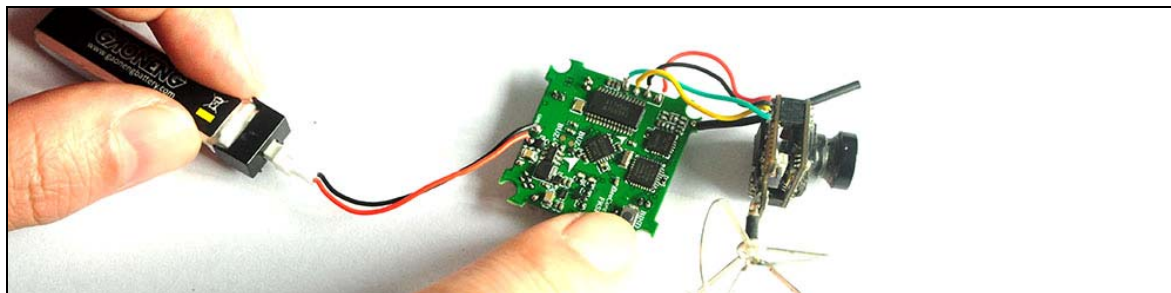
Ports and receiver mode sets like the bellowing diagram: First Enable Serial\_RX for uart3 and Set Receiver mode to "RX\_SERIAL" , Select IBUS signal in Betaflight configurator . And the default channel map is "AETR1234", please check your RC transmitter channel map, make sure they are matched, otherwise it will not armed.

Identifier	Configuration/MSP	Serial Rx	Telemetry Output	Sensor Input	Peripherals
USB VCP	<input checked="" type="checkbox"/> 115200	<input type="checkbox"/>	Disabled AUTO	Disabled AUTO	Disabled AUTO
UART1	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled AUTO	Disabled AUTO	Disabled AUTO
UART2	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled AUTO	Disabled AUTO	Disabled AUTO
UART3	<input type="checkbox"/> 115200	<input checked="" type="checkbox"/>	Disabled AUTO	Disabled AUTO	Disabled AUTO

Receiver	Channel Map	RSSI Channel
Serial-based receiver (SPEKSAT, S) Receiver Mode	AETR1234	Disabled
<b>Note:</b> Remember to configure a Serial Port (via Ports tab) and choose a Serial Receiver Provider when using RX_SERIAL feature.		
IBUS Serial Receiver Provider	'Stick Low' Threshold: 1050	'Stick High' Threshold: 1900
	Stick Center: 1500	

#### 6.Binding procedure

a)Press and holding the bind button, then power on for the BEECORE V2.0, the LED Combo (2 Red and 2 White) will Blinking fast, this means the BEECORE V2.0 is in binding mode, and then release the bind button



b) Enter to the RX setup and select AFHDS 2A Mode for your Flysky transmitter , turn off the transmitter and then turn on the transmitter while holding the bind button, the LED Combo (2 Red and 2 White) will first turning off and then starting to blinking slowly, this indicates binding successfully. Re-power for the BEECORE V2.0 and turn on your transmitter again, the LED Combo (2 Red and 2 White) will getting to be solid ,this indicates the connection was established between BEECORE V2.0 and your transmitter.



## 6. 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 "OMNIBUS", then select the firmware version.
4. There are 2 ways to get in DFU Mode: 1). solder the boot pad and then plug USB to comuper 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.

