





# MAMBA UNIVERSAL WIRING GUIDE



## MAMBA MK4 F722 APP

### Mobile WIFI Reference use tutorial

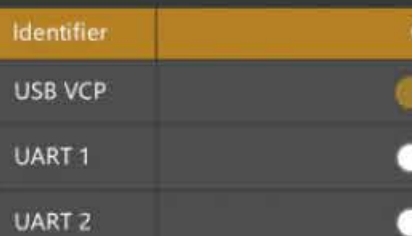
#### 1. 打开SpeedyBee APP, 使用WIFI连接你的飞控, WIFI名称"Mamba Stack"

Open SpeedyBee APP and connect your FC with WIFI. The WIFI name is "Mamba Stack".  
(若列表里没有您当前的型号, 请直接选择diatone中 任意一个即可)  
If your current model is not in the list, simply select any of the diatone models

#### 2. 确保端口 UART4 MSP设置打开 (出厂默认打开)

Ensure that the port UART4 MSP setting is on (factory default on)

下载网址/Download URL: [www.speedybee.com/download/](http://www.speedybee.com/download/)



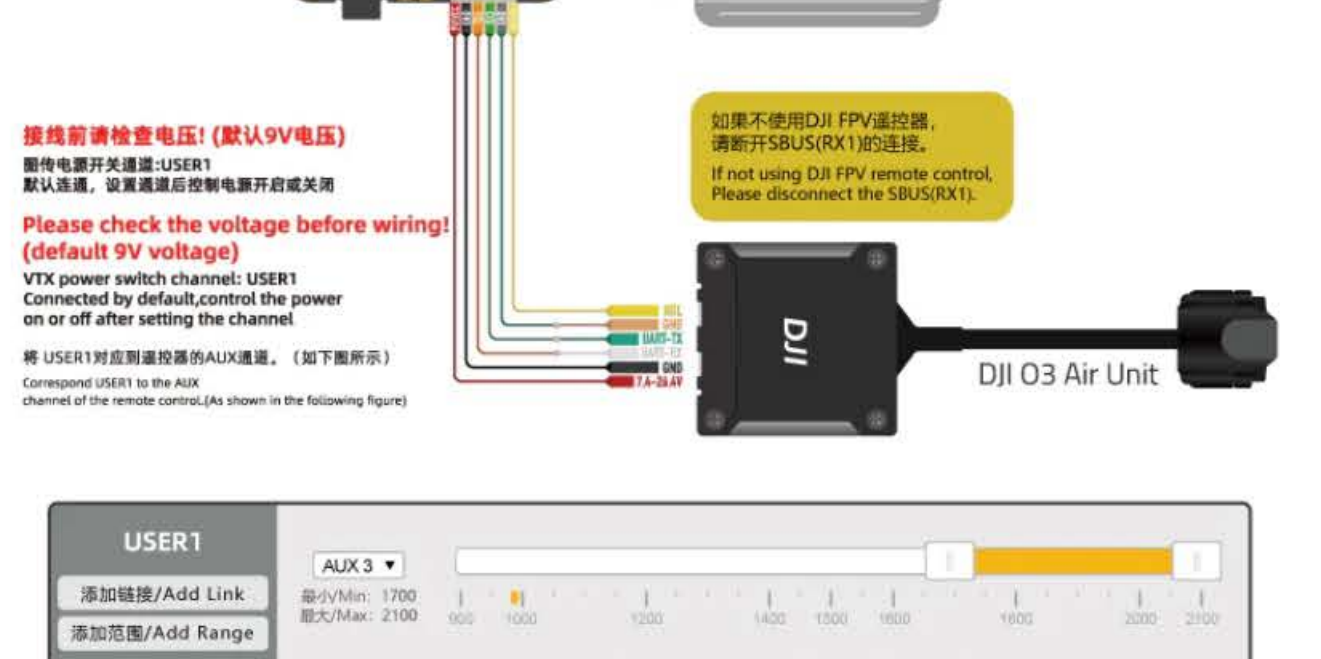
Identifier	Configuration/MSP	Serial RX
USB VCP	<input checked="" type="checkbox"/> 115200	<input type="checkbox"/>
UART 1	<input type="checkbox"/> 115200	<input checked="" type="checkbox"/>
UART 2	<input type="checkbox"/> 115200	<input type="checkbox"/>
UART 3	<input type="checkbox"/> 115200	<input type="checkbox"/>
UART 4	<input checked="" type="checkbox"/> 115200	<input type="checkbox"/>
UART 5	<input type="checkbox"/> 115200	<input type="checkbox"/>

### 注意/Attention:

- 连接列表里如果没有你使用的飞控, 等待Speedybee官方更新。  
If you don't see your FC in the connection list, please wait for the official Speedybee update.
- 连接WIFI后, 若出现提示: "连接中", "MSP无响应"等情况, 请检查"端口UART4"的设置, 保持Speedybee APP在最新版本, 重启设备以及Speedybee APP。  
If you are connected to WIFI and are prompted with "Connecting" or "MSP not responding", please check the settings in "Ports-UART4". Keep the Speedybee APP in the latest version, restart the device and the Speedybee APP.

### DJI Wiring

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
UART 1	<input type="checkbox"/> 115200	<input checked="" type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART 2	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART 3	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART 4	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART 5	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART 6	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO



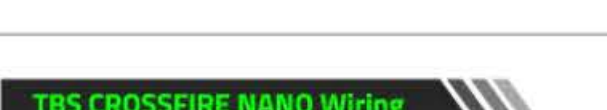
### MAMBA MSR Receiver (F-Prot) Wiring

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
UART 1	<input type="checkbox"/> 115200	<input checked="" type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART 2	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART 3	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART 4	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART 5	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART 6	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO



### MAMBA MSR Receiver (SBUS) Wiring

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
UART 1	<input type="checkbox"/> 115200	<input checked="" type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART 2	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART 3	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART 4	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART 5	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART 6	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO



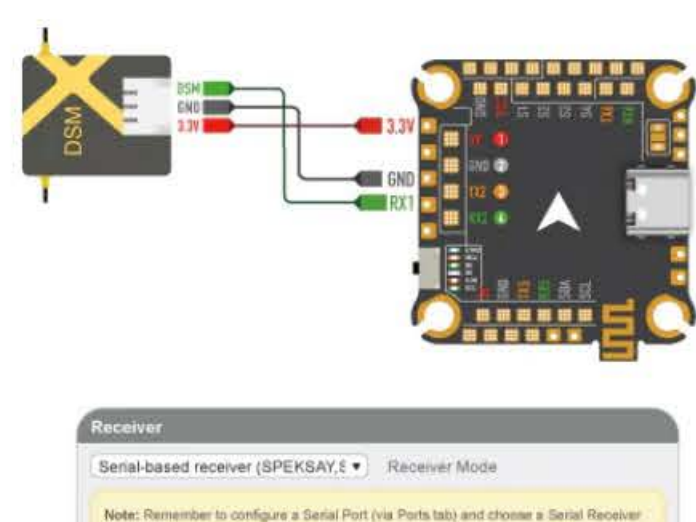
### TBS CROSSFIRE NANO Wiring

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
UART 1	<input type="checkbox"/> 115200	<input checked="" type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART 2	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART 3	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART 4	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART 5	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART 6	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO



### DSM Wiring

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
UART 1	<input type="checkbox"/> 115200	<input checked="" type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART 2	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART 3	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART 4	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART 5	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART 6	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO



### DSM接收机需要按步骤操作

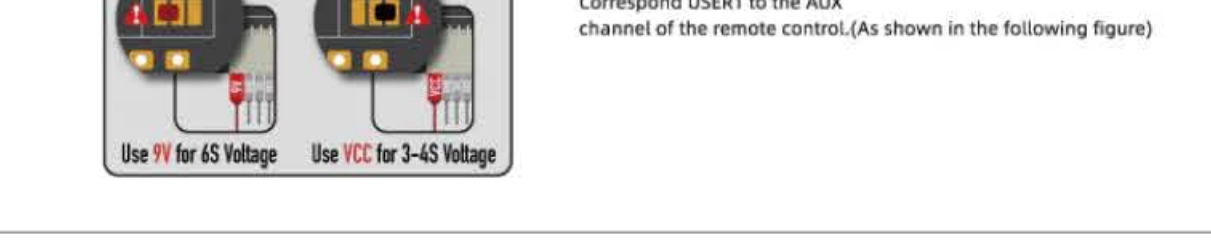
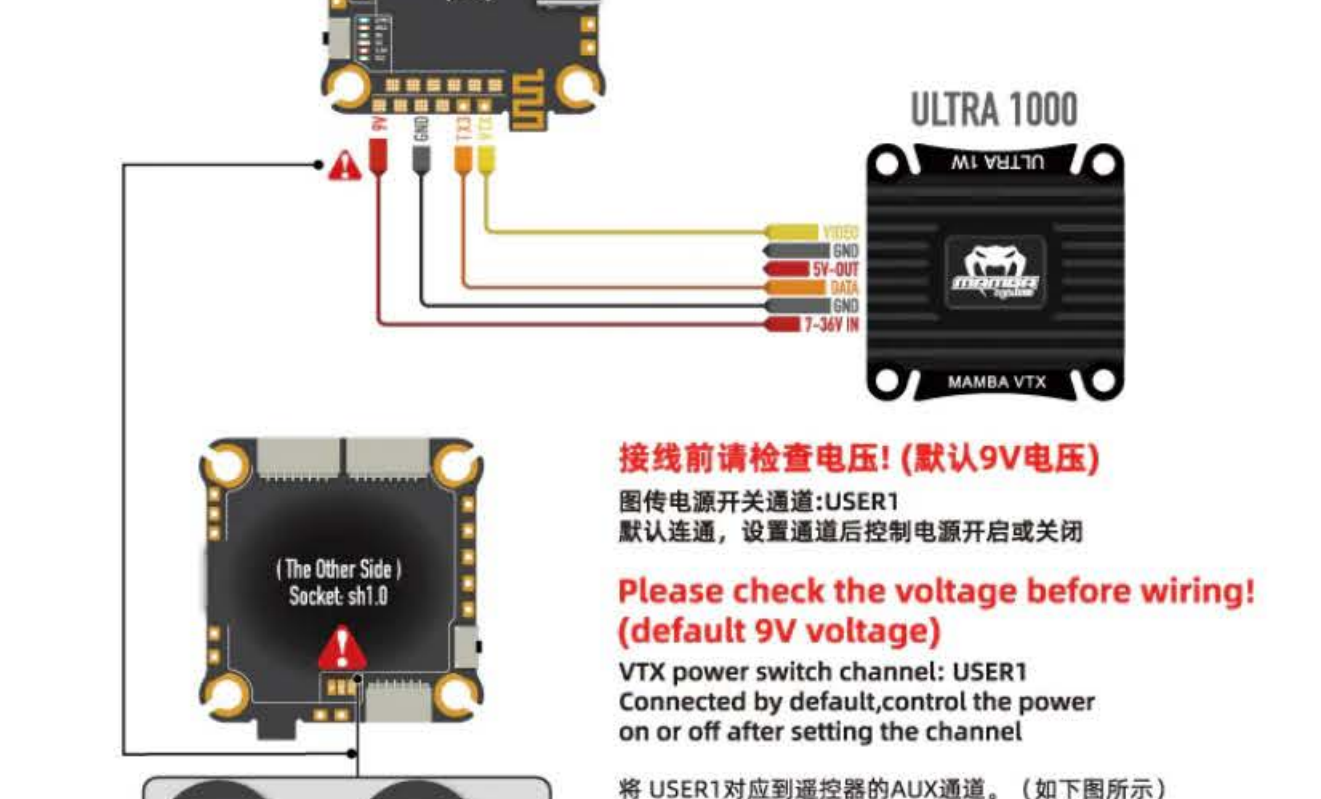
选择DSMX 协议: ([SPEKTRUM1024](#)或[SPEKTRUM2048](#))  
 betafight设置:  
 cli命令行输入:[:set spektrum\\_sat\\_bind = 5 save](#)  
 对频操作:  
 接收机对频完成后, betafight设置:  
 cli命令行输入:[:set spektrum\\_sat\\_bind = 0 save](#)  
 完成;

### DSM receivers need to follow the steps

Select DSMX protocol ([SPEKTRUM1024](#) or [SPEKTRUM2048](#))  
 betafight settings:  
 cli command line input: [:set spektrum\\_sat\\_bind = 5 save](#)  
 Frequency pairing operation.  
 After the receiver completes the frequency pairing, set betafight cli command line input: [:set spektrum\\_sat\\_bind = 0 save](#)  
 Finish

### MAMBA ULTRA 1000 Video Transmitter Wiring

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
UART 1	<input type="checkbox"/> 115200	<input checked="" type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART 2	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART 3	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART 4	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	VTX/IRC Trans   AUTO
UART 5	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART 6	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	GPS   AUTO	Disabled   AUTO



### TBS UNIFY PRO32 NANO 5GB 32 bit Wiring

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
UART 1	<input type="checkbox"/> 115200	<input checked="" type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART 2	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART 3	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	VTX/TBS 5ma   AUTO
UART 4	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART 5	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART 6	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	GPS	Disabled   AUTO

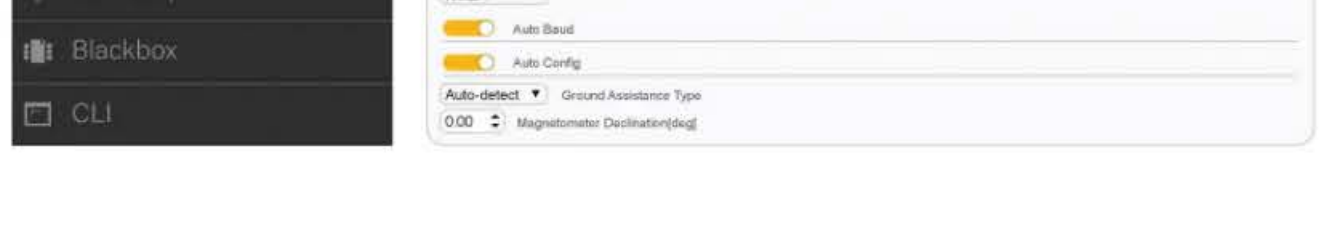


### MAMBA M22/M8 PLUS GPS Wiring

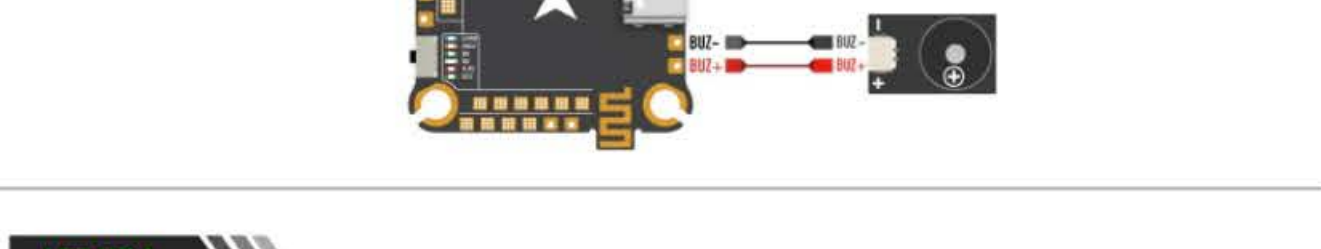
Identifier	Configuration/MSP	Serial RX	Telemetry Output	Sensor Input	Peripherals
USB VCP	<input checked="" type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART 1	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART 2	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART 3	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART 4	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART 5	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART 6	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO



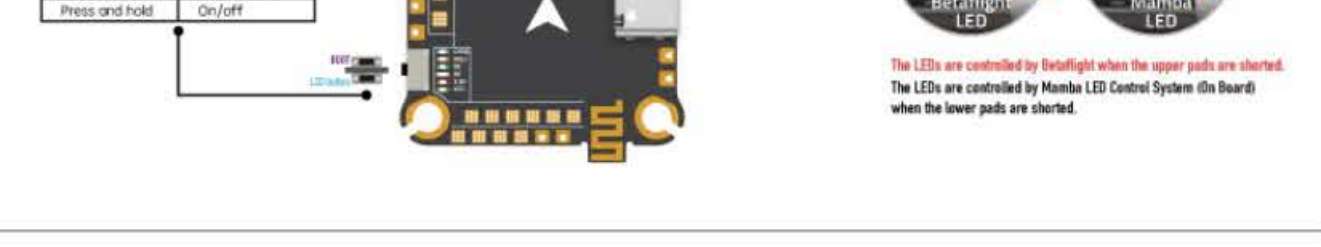
### BUZZER Wiring



### LED Wiring



### Camera Wiring





# MAMBA STACK

## MAMBA MK4 F722 APP



### Stack Specifications:

MCU	STM32F722
Frequency	216MHz
GYRO	DUAL ICM-42688-P
OSD	AT 7456E
Blackbox	16M Memory
Uarts	6 Set
Receiver	TBS/SBUS/IBUS/DSM
I2C	Yes
F.Port	Yes
Buzzer Pad	Yes
CURR Pad	Yes
ESC Signal	8 Set
BEC 3.3V	0.5A
BEC 5V	3A
BEC 9V	3A
MB LED	Yes
BF LED	Yes
AIR UNIT Port	Yes
WiFi	SpeedyBee APP
VTX Switch	Yes
BEC Protection	Yes
Receiver Protection	Yes
TVS Protection	Yes
Input	6S Lipo
Soft Ware	Betaflight
Mounting	30.5x 30.5mm/M3
Size	38.0x40.5x8mm
Weight	10g

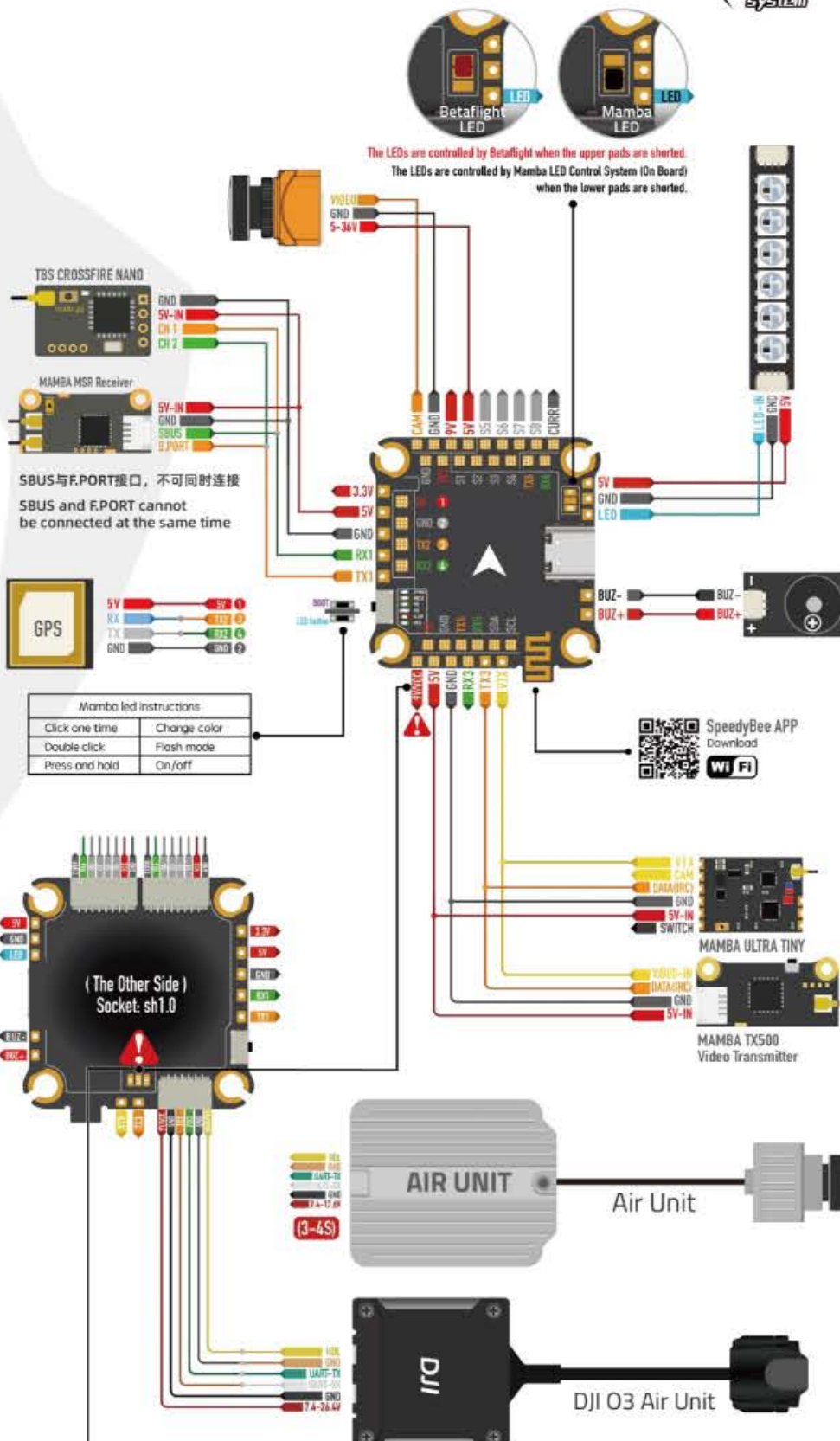
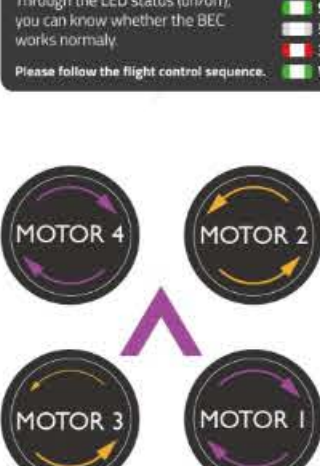
### The Default Port:

UART 1	Receiver
UART 2	Vacancy
UART 3	VTX
UART 4	WiFi
UART 5	Vacancy
UART 6	TELE

### Target: MAMBA F722\_2022B

Main firmware	STM32.F7X2
Config file	MAMBA F722_2022B

<b>Power indicator</b>	
Through the LED status (on/off), you can know whether the BEC works normally.	
Please follow the flight control sequence.	
GYRO	Blue
MCU	Orange
9V	Green
5V	White
3.3V	Red
VCC	Green



### Adapt to ESC and parameters

#### MAMBA F45\_128K ESC

CURR	Yes
Telemetry	Yes
Output Current	45A
Peak Current	55A
Input	3-6S Lipo
BLheli	BLheli-32
PWM	24-128K
Target	MAMBA F45_128K
Protocol	Dshot 300/600/1200
Mounting	30.5x30.5mm, Ø 3
Size	44.5x40.0x7.5mm
Weight	15g

#### MAMBA F55\_128K ESC

CURR	Yes
Telemetry	Yes
Output Current	55A
Peak Current	65A
Input	3-6S Lipo
BLheli	BLheli-32
PWM	24-128K
Target	MAMBA F55_128K
Protocol	Dshot 300/600/1200
Mounting	30.5x30.5mm, Ø 3
Size	44.5x40.0x7.5mm
Weight	15g

#### MAMBA F65\_128K ESC

CURR	Yes
Telemetry	Yes
Output Current	75A
Peak Current	75A
Input	3-6S Lipo
BLheli	BLheli-32
PWM	24-128K
Target	MAMBA F65_128K
Protocol	Dshot 300/600/1200
Mounting	30.5x30.5mm, Ø 3
Size	44.5x40.0x7.5mm
Weight	15g

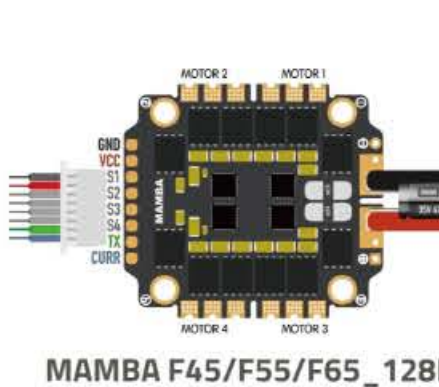
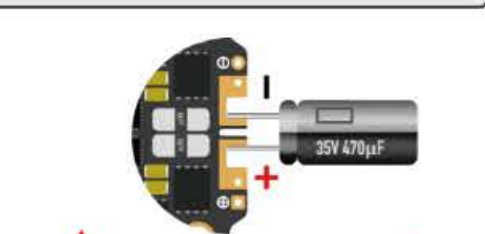
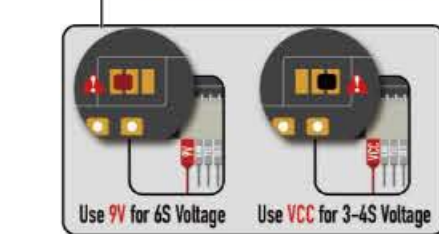
如果不使用DJI FPV遥控器，请断开SBUS(RX1)的连接。  
If not using DJI FPV remote control, Please disconnect the SBUS(RX1).

接线前请检查电压! (默认9V电压)  
默认电源开关通道:USER1  
默认连接，设置通过后控制电源开启或关闭

**Please check the voltage before wiring! (default 9V voltage)**  
VTX power switch channel: USER1  
Connected by default, control the power on or off after setting the channel

**When using vtx power control Following Command:**  
1. 通过下面Betaflight命令，配置 USER 1 功能:  
resource PINIO 2 C00//将C00引脚配置为2号PINIO功能  
set pinio\_config = 129,129,1,1//设置固件电压默认导通  
set pinio\_box = 0,40,255,255//设置PINIO 2功能范围  
save//保存配置并重启飞行

2. 将 USER1 对应到遥控器的AUX通道。(如下面所示)  
2. Correspond USER1 to the AUX channel of the remote control.(As shown)



<b>MAMBA F45_128K ESC</b>	
Battery	0.00A
Scale	1/10th mV/A
Offset	[mV]

<b>MAMBA F55_128K ESC</b>	
Battery	0.00A
Scale	1/10th mV/A
Offset	[mV]

<b>MAMBA F65_128K ESC</b>	
Battery	0.00A
Scale	1/10th mV/A
Offset	[mV]

Betaflight是开源软件，自行刷写固件将可能导致产品工作不稳定。  
为了你的安全，地面站设置必须拆除螺旋桨。  
Since Betaflight is open source software, and self-flashing the firmware will likely result in an unstable working product.  
For your safety, the propeller must be removed for betaflight setup.

Download://www.speedybee.com/download/

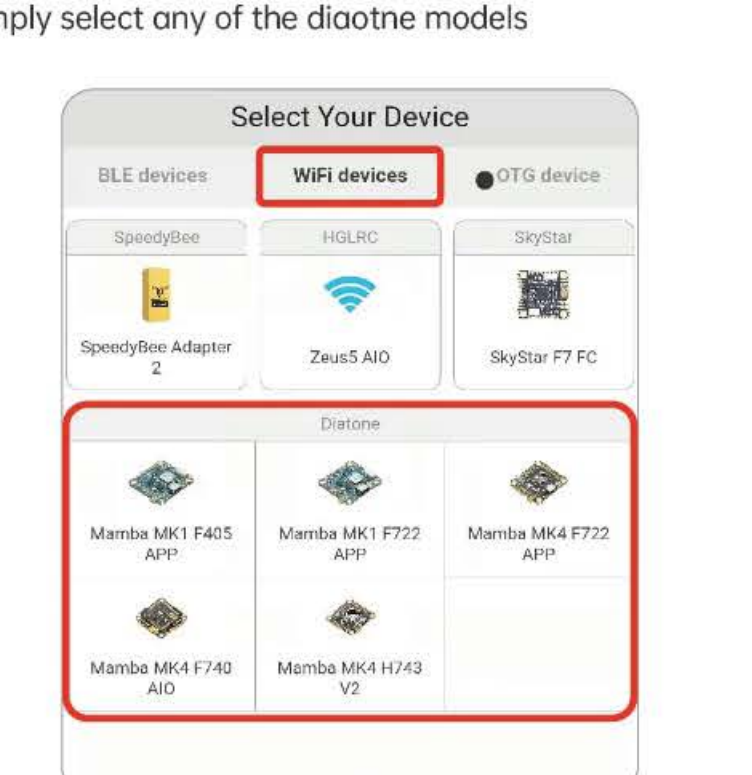
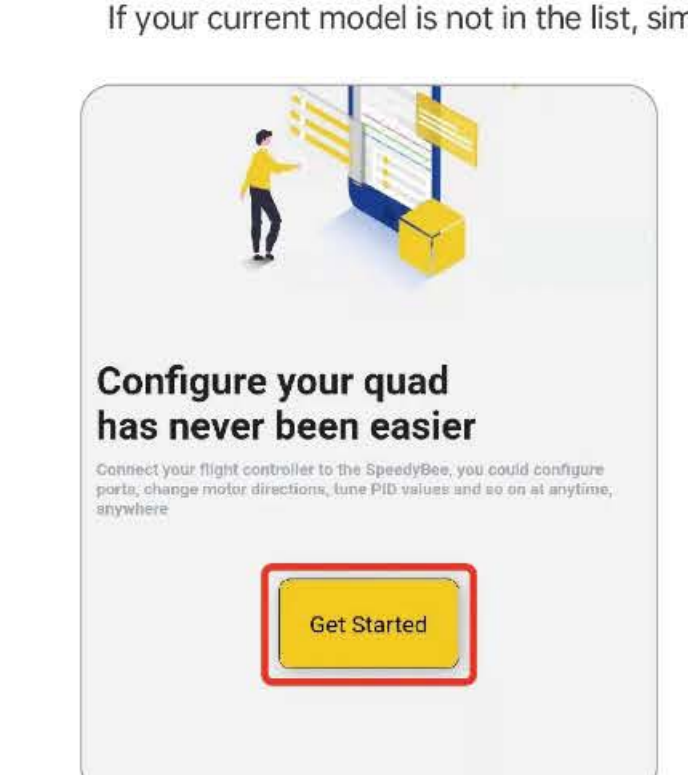


# Mobile WIFI Reference use tutorial

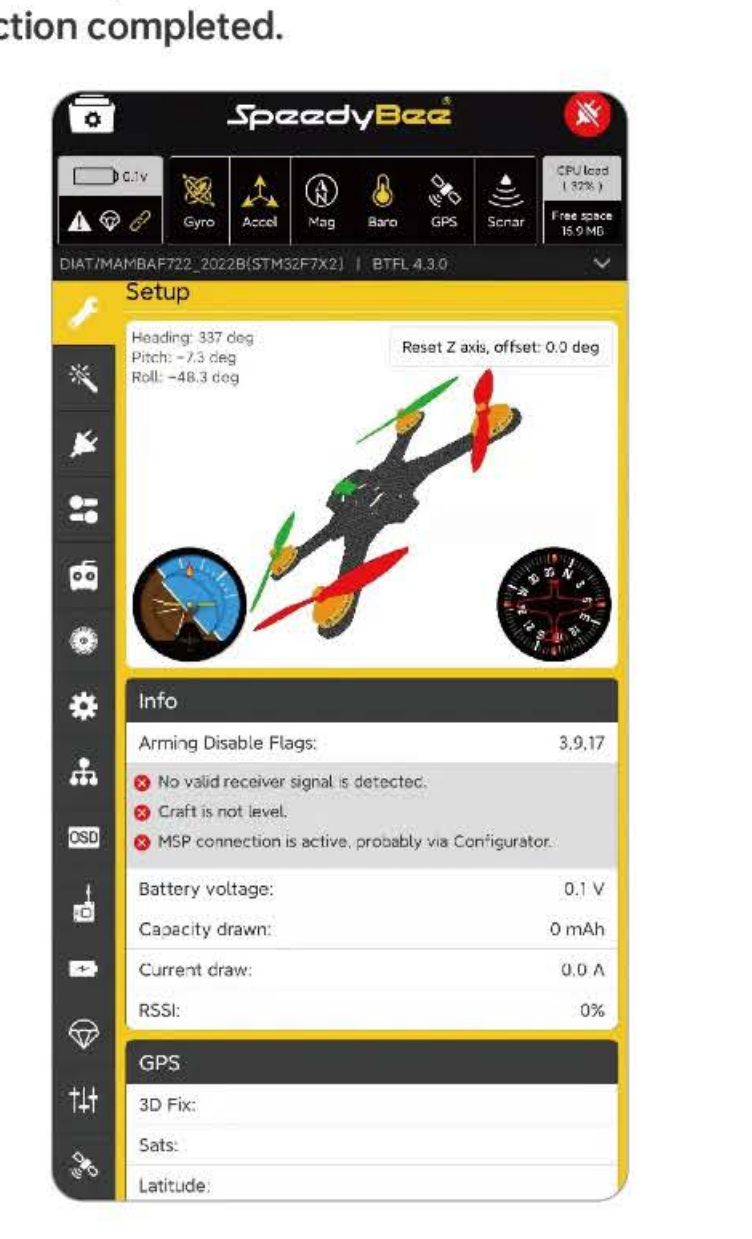
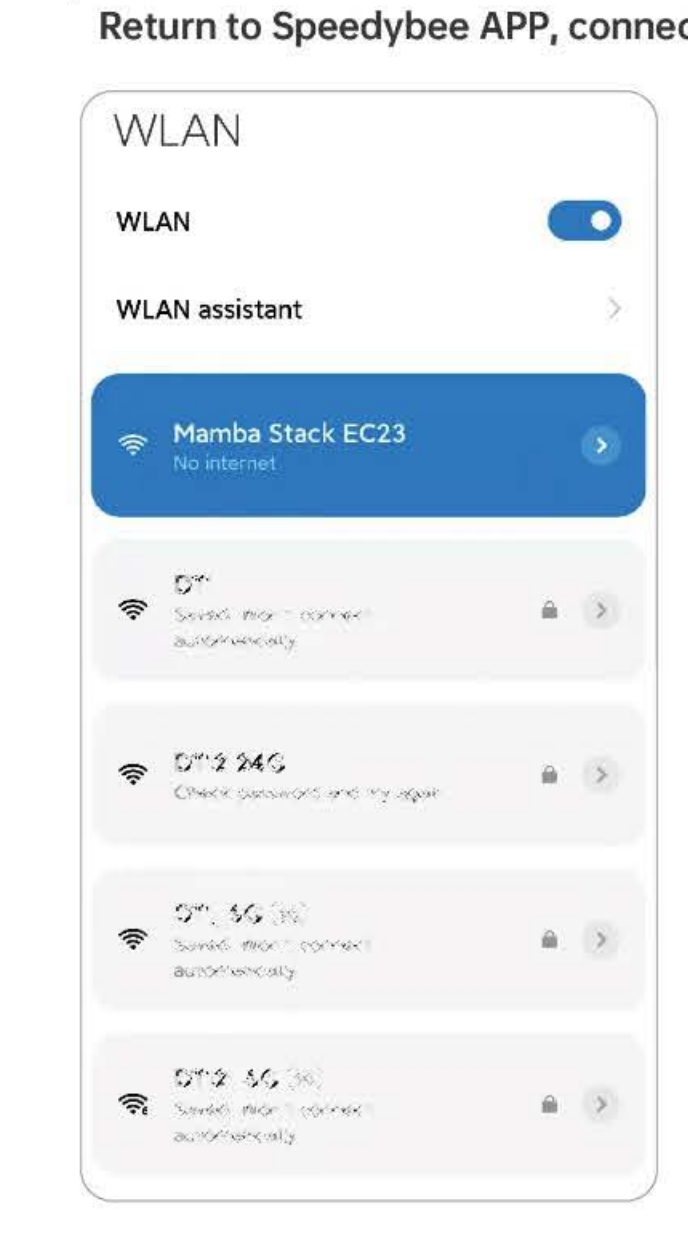
1、Ensure that the port UART4 MSP setting is on (factory default on)

Identifier	Configuration/MSP	Serial RX
USB VCP	115200	Off
UART 1	115200	On
UART 2	115200	Off
UART 3	115200	Off
UART 4	115200	Off
UART 5	115200	Off

2、Open the Speedybee mobile app and select your model from "WIFI devices".  
If your current model is not in the list, simply select any of the diatone models



3、Connect the WIFI name "Mamba Stack", Return to Speedybee APP, connection completed.



## Attention:

- If you don't see your FC in the connection list, please wait for the official Speedybee update.
- If you are connected to WIFI and are prompted with "Connecting" or "MSP not responding", please check the settings in "Ports-UART4".Keep the Speedybee APP in the latest version, restart the device and the Speedybee APP.