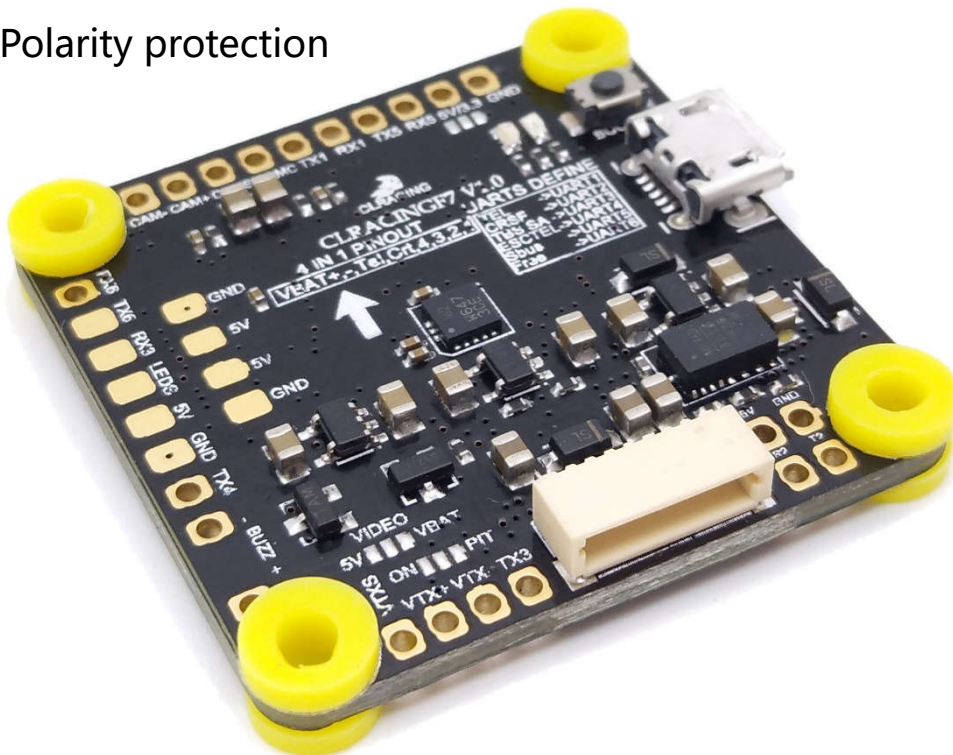


# CL\_RACINGF7 V1.0

## The Flight Controller for RACERS

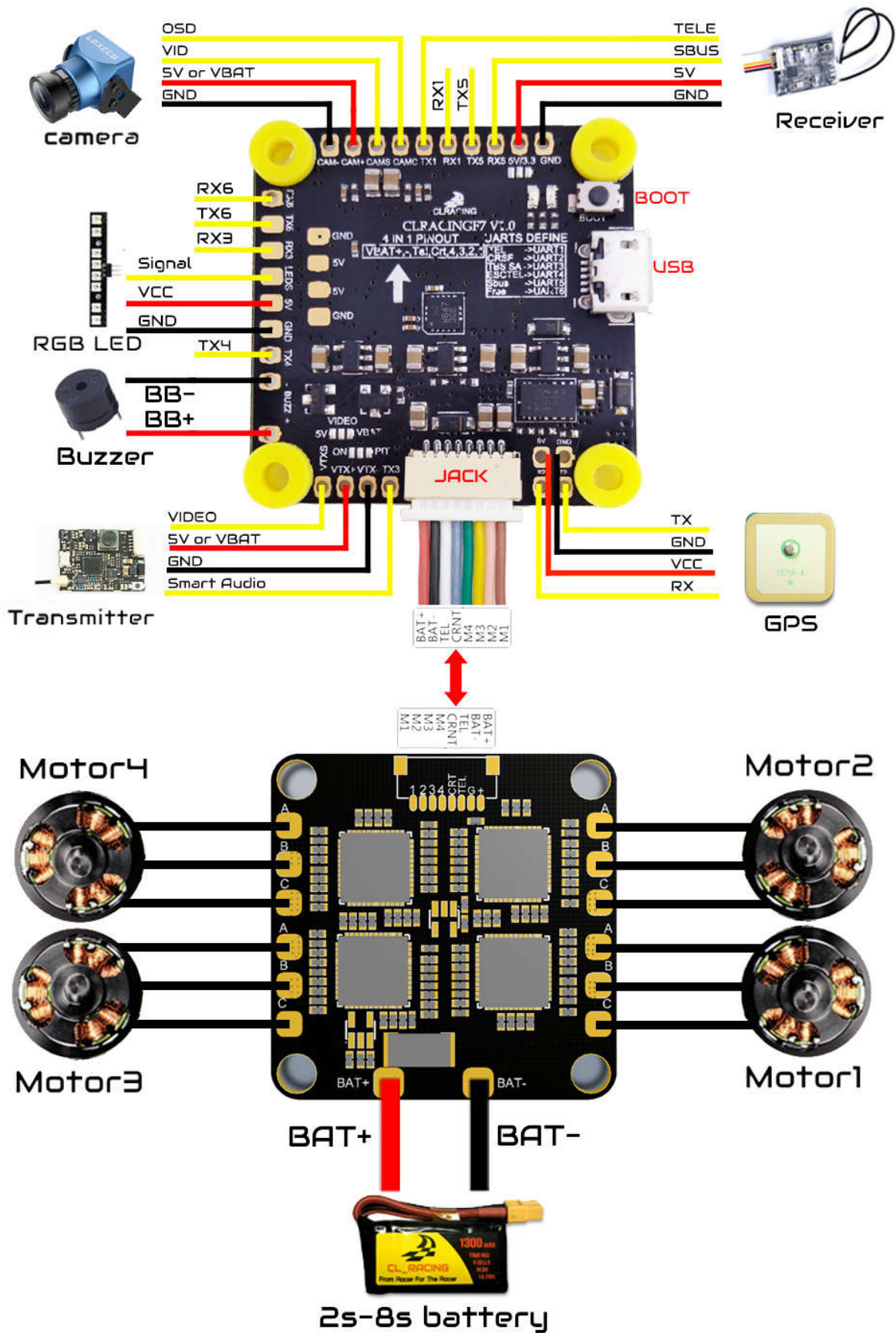
### Main Features

1. MCU: STM32F722RET6 216MHz
2. 6-Axis ICM20602 32K
3. Build in Beta flight OSD
4. Up to 8S(36V) direct battery power
5. Build in Voltage monitoring resistor
6. Build in 5V/1.5A BEC and 3.3V/250mA for system
7. Led strip share 5V with 5V/1.5A BEC
8. 6 UARTS: UART1, UART2, UART3, UART4, UART5, UART6
9. Build in Camera Control pin with necessary resistor and capacitor near camera connection
10. Buzzer pads for external buzzer
11. VBAT Polarity protection

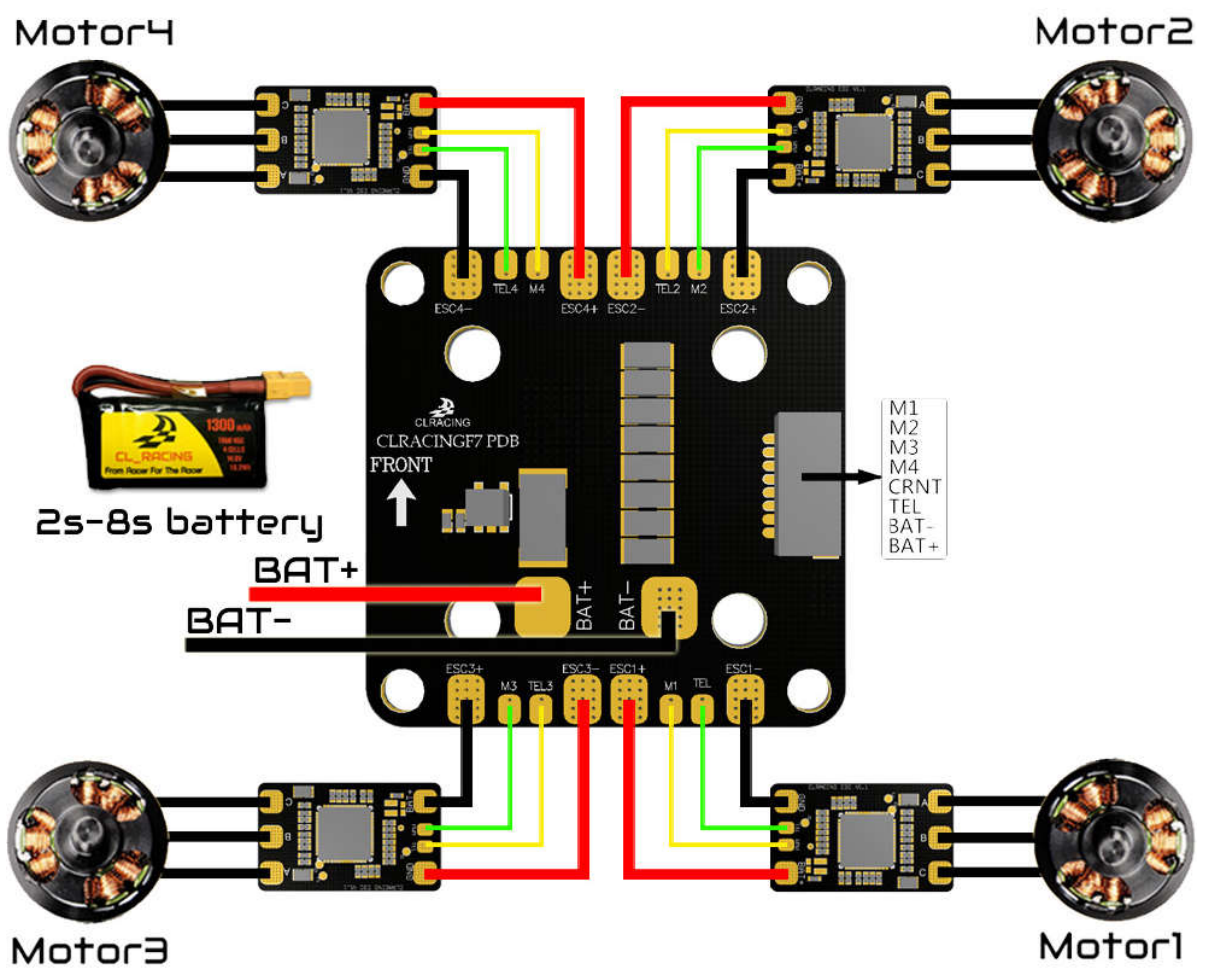
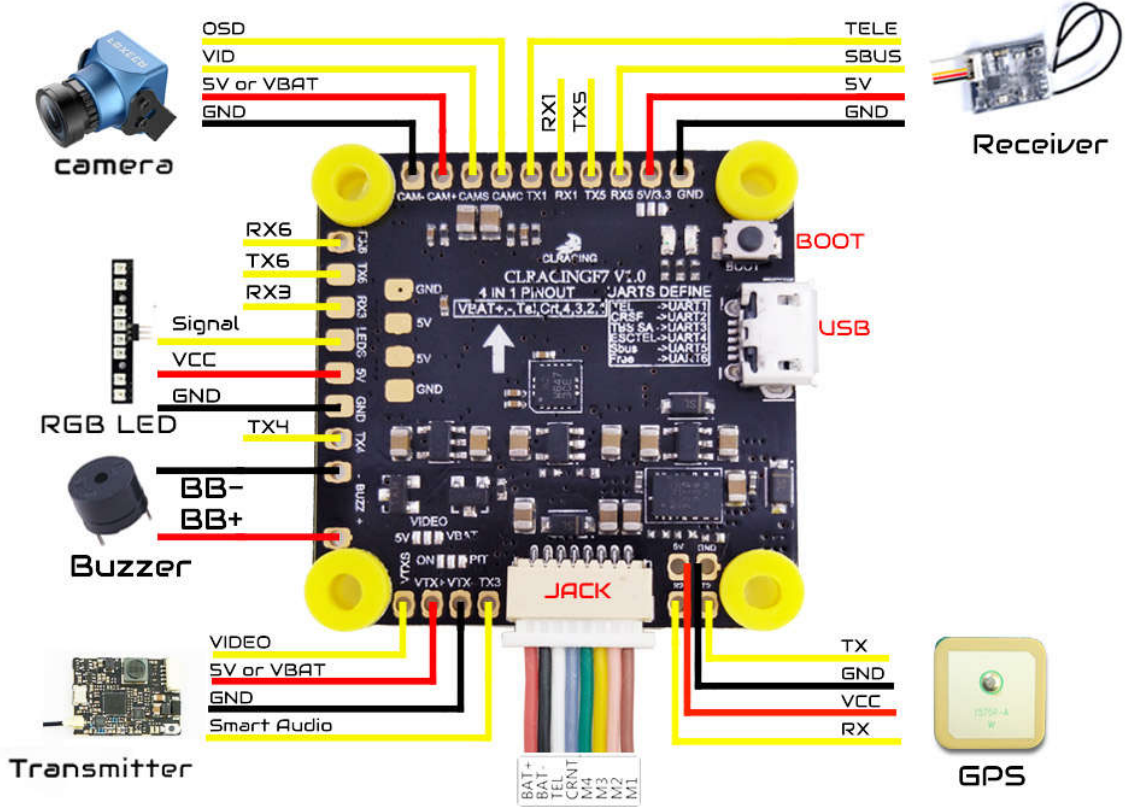


# General Overview

## 1. F7 FC+4IN1 ESC



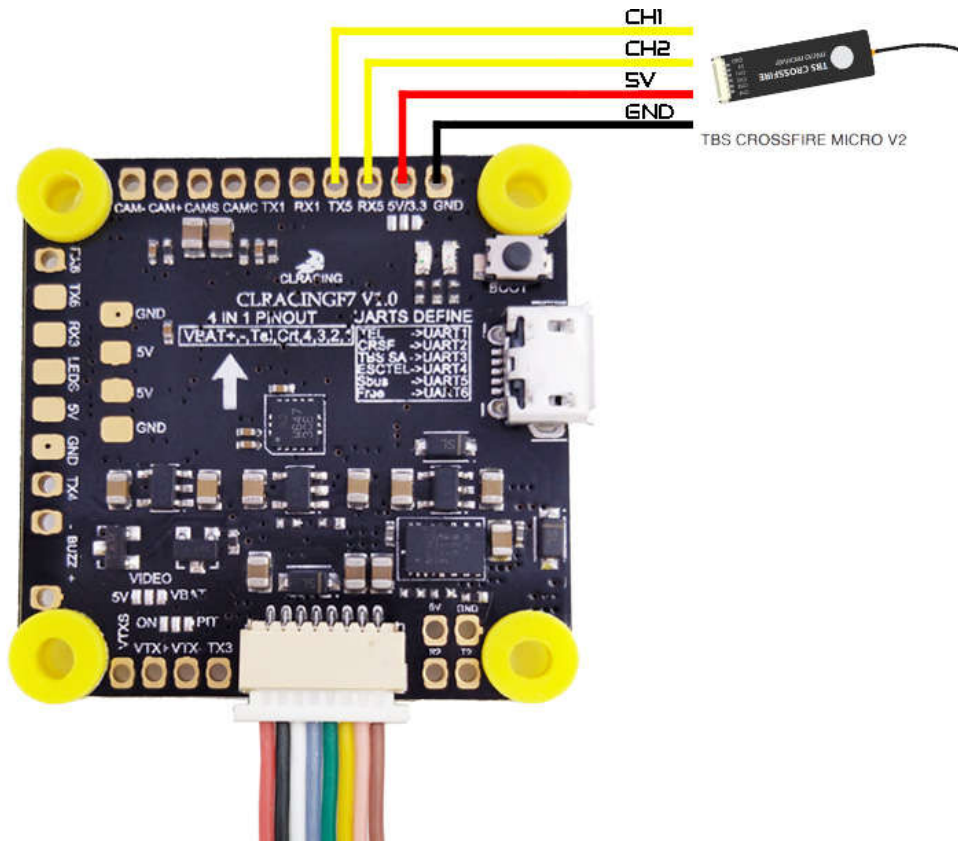
## 2. F7 FC+PDB



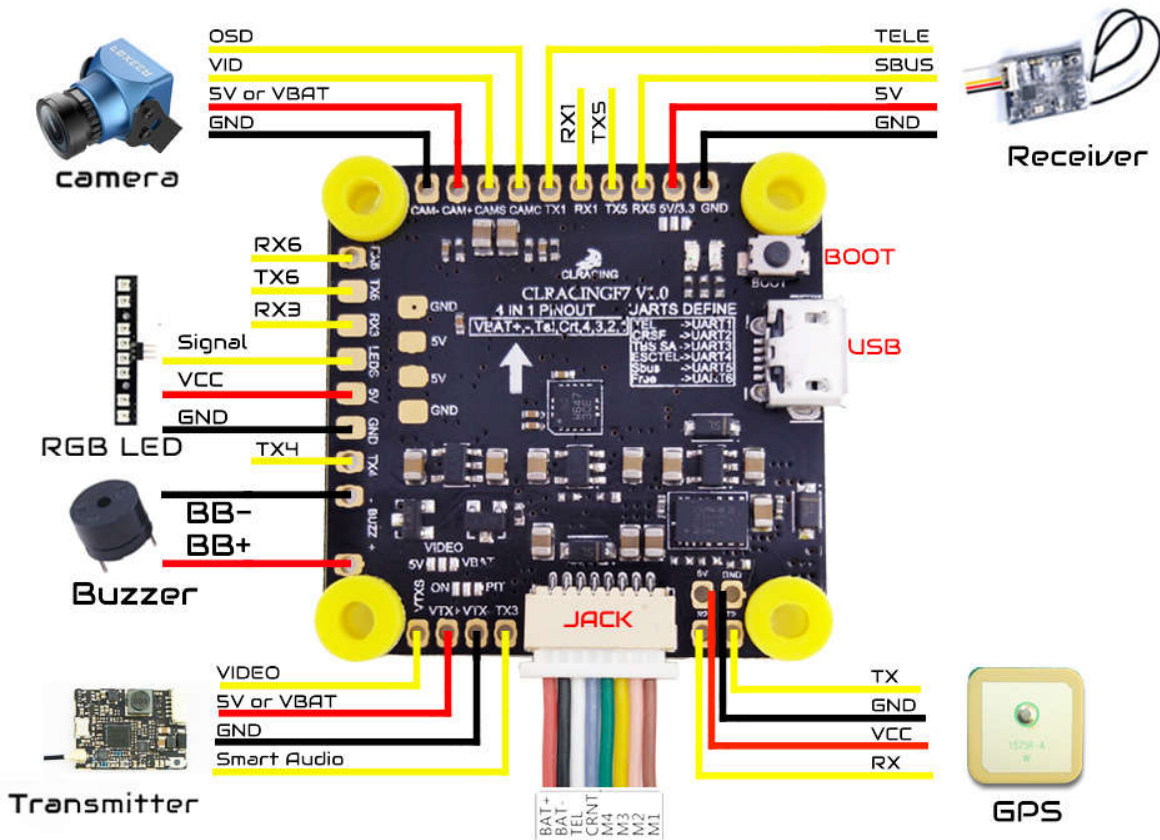


### 3. TBS X-fire set up

Use UART5 as Serial-RX



### 4. GPS

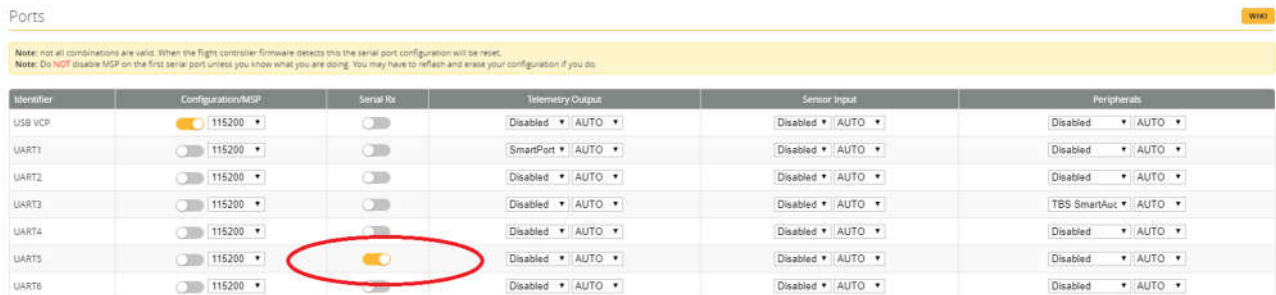


Pad Name	function	Pad Name	function
VCC	POWER VBAT+	TX1	UART1 TX
GND	GROUND VBAT-	RX1	UART1 RX
CAMC	CAMERA OSD PIN	TX2	UART2 TX
CAMS	CAMERA SIGNAL	RX2	UART2 RX
VTXS	VTX SIGNAL	TX3	UART3 TX
VTX+	VBAT+ or 5V	RX3	UART3 RX
VTX-	VBAT-	TX4	UART4 TX
Sbus	SBUS RECEIVER	RX4	UART4 RX
LED_S	RGB LED SIGNAL	TX5	UART5 TX
BB+	BEEPER +	RX5	UART5 RX
BB-	BEEPER -	TX6	UART6 TX
ON	VTX POWER CONSTANT ON	RX6	UART6 RX
PIT	VTX POWER CONTROLABLE FROM RADIO	5V	5V OUTPUT FROM FC
CRT	CURRENT SENSOR INPUT		

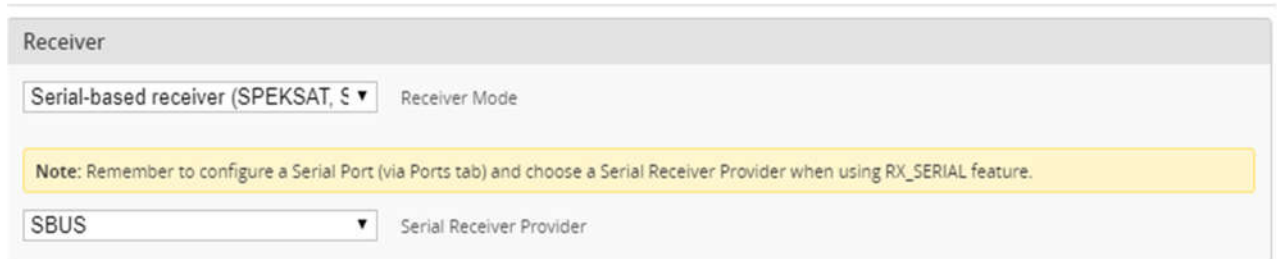
# BETAFLIGHT SETUP

## 1. Sbus

Choose UART 5 AS Serial RX, Solder your sbus signal to RX5 pad



Then in the configuration tab Choose



## 2. RX Voltage selection Jumper



Solder on the left will output 5v , Solder the jumper on the right will output 3.3V

### 3. Smart port telemetry

Choose UART1 AS Smart port on the telemetry output, then go to CLI

Enter set tlm\_halfduplex = OFF, Save

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"/>	SmartPort   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 type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	TBS SmartAuc   AUTO
UART4	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART5	<input type="checkbox"/> 115200	<input checked="" type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART6	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO

### 4. Use True Pit mode for Team racing

First Solder Jumper pad on PIT side



Then go to CLI Copy the following command to the CLI

resource PINIO 1 A14

set pinio\_box = 39,0,0,0

save

wait for the FC reboot then go to "mode tab" set VTX PIT MODE on a AUX switch you preffer



**CAUTION:** when using PIT mode, FC power up will not power your VTX until you turn on the switch on your radio you assigned to the VTX PIT mode