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Clracing F7 MPU V2 Flight Controller for Racers Instruction Manual

Contents

CLRACINGF7 MPU V2

The Flight Controller for RACERS

Main Features

1. MCU: STM32F722RET6216MHz
2. 6-Axis MPU6000 Separated Interrupts
3. Build in Beta flight OSD
4. Up to 8S(36V) direct battery power
5. Build in Voltage monitoring resistor
6. Build in 5V/3A BEC and 3.3V/250mA for system
7. Led strip share 5V with 5V/3.0A BEC
8. 5V OR VBAT, camera and VTX POWER VIA Pit Switch
9. 6 Full UARTS: UART1, UART2, UART3, UART4, UART5, UART6
10. Buildin Camera Control pin with necessary resistor and capacitor near camera connection
11. Buzzerpads for external buzzer
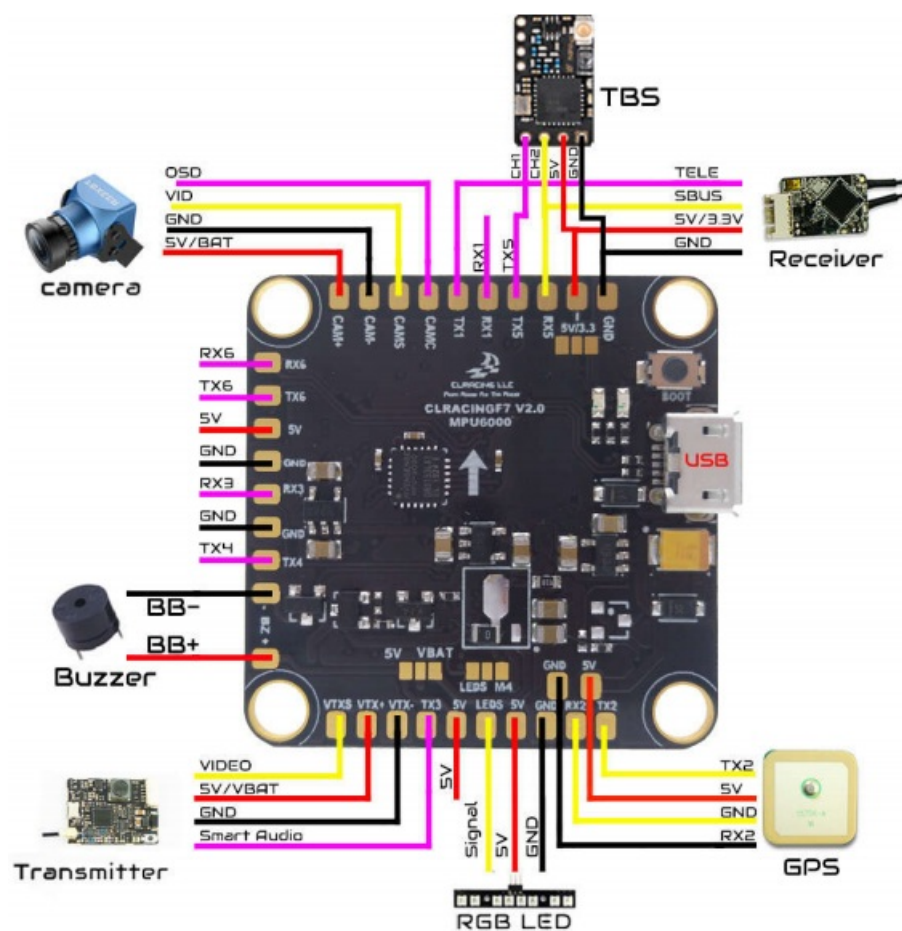12. VBAT Polarity protection

13. Build in 32MB Blackbox flash chip
14. M4 Can be selected either led strip signal or M4 signal for RPM filtering
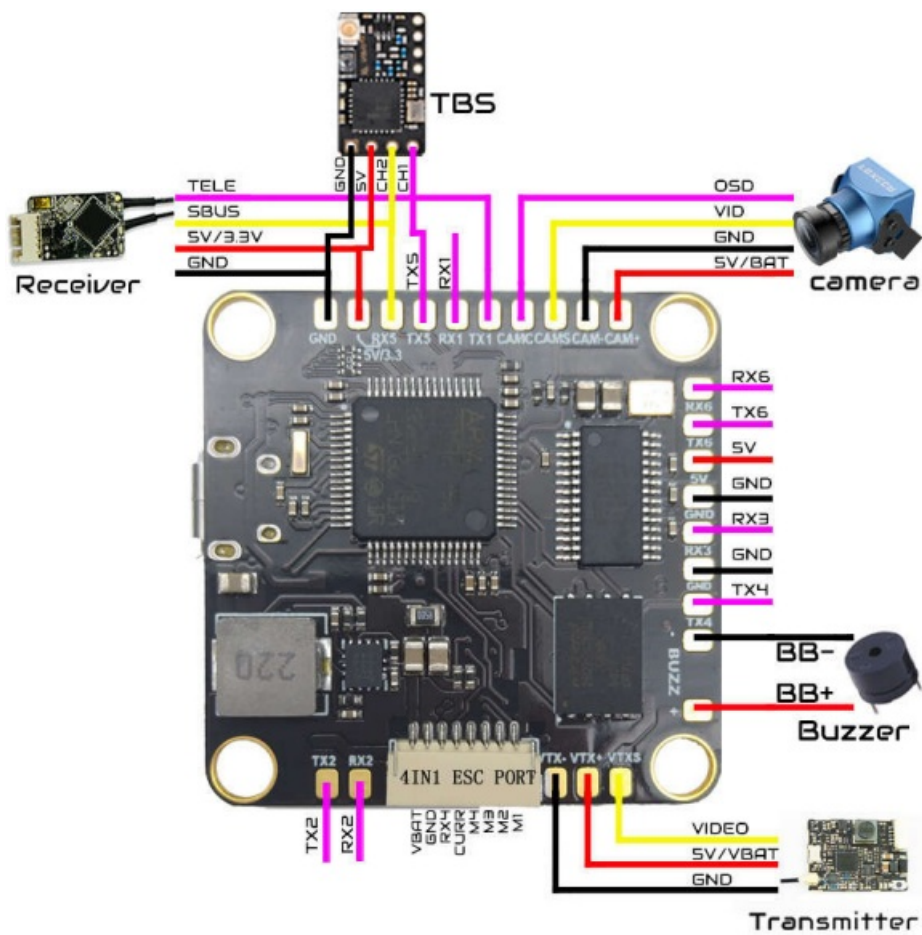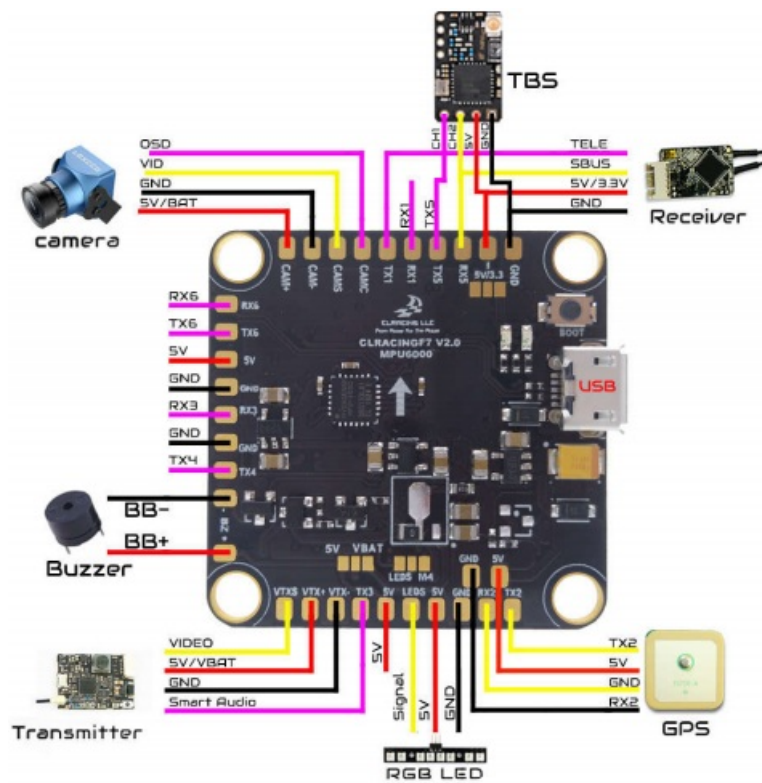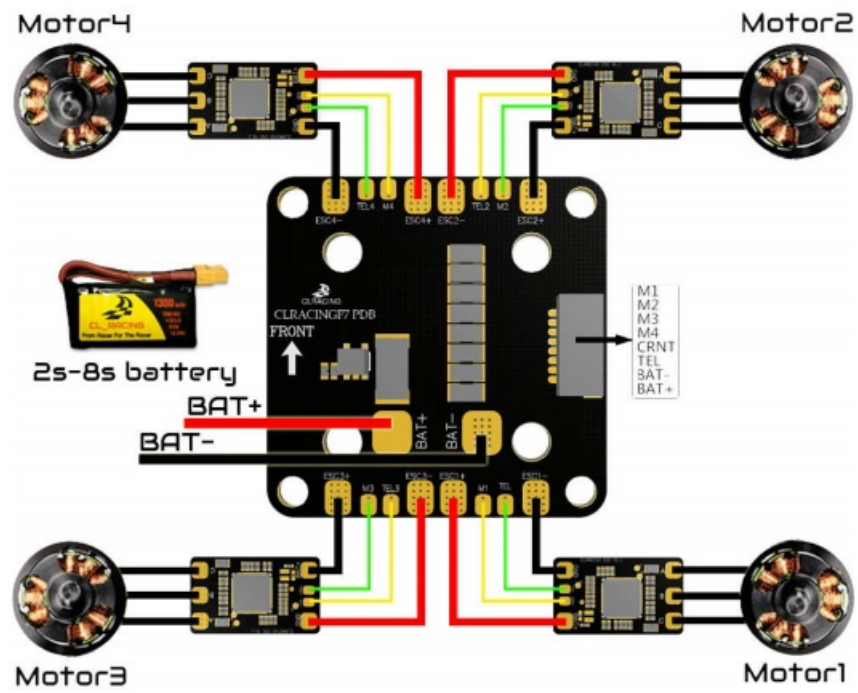
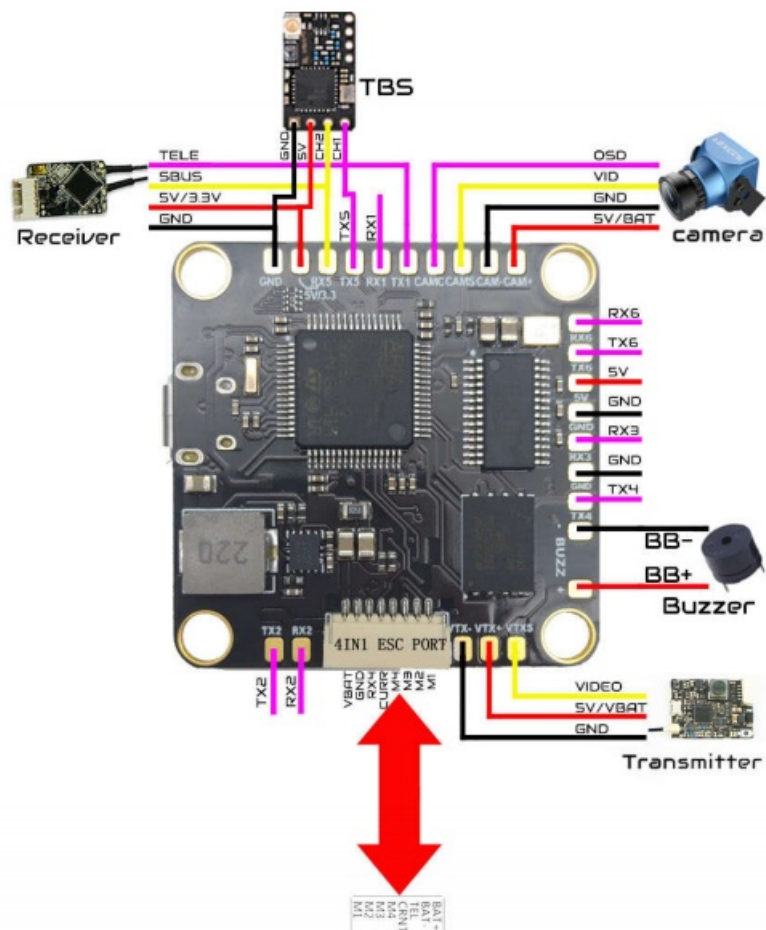

General Overview

1. FC TOP VIEW

2. FC BOTTOM VIEW

3. FC + 4in1 ESC

4. FC + 4in1 ESC
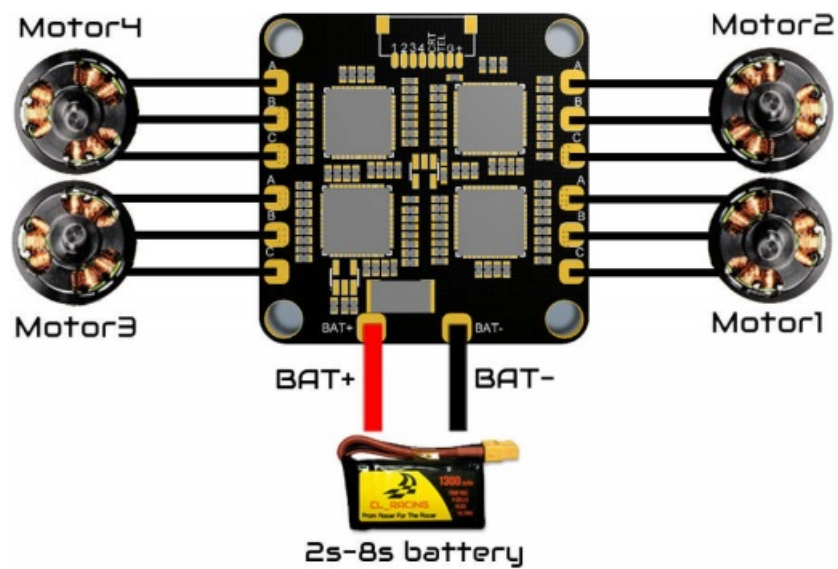
Pad Name	function	Pad Name	function
VBAT	POWER VBAT+	TX1	UART1 TX
GND	GROUND VBAT-	RX1	UART1 RX
CAM+	VBAT+ or 5V	TX2	UART2 TX
CAM-	GROUND VBAT-	RX2	UART2 RX
CAMC	CAMERA OSD PIN	TX3	UART3 TX
CAMS	CAMERA SIGNAL	RX3	UART3 RX
VTXS	VTX SIGNAL	TX4	UART4 TX
VTX+	VBAT+ or 5V	RX4	UART4 RX
VTX-	GROUND VBAT-	TX5	UART5 TX
LED_S	RGB LED SIGNAL	RX5	UART5 RX
BB+	BEEPER +	TX6	UART6 TX
BB-	BEEPER -	RX6	UART6 RX
ON	VTX POWER CONSTANT ON	5V	5V OUTPUT FROM FC
PIT	VTX POWER CONTROLABLE FROM RADIO		

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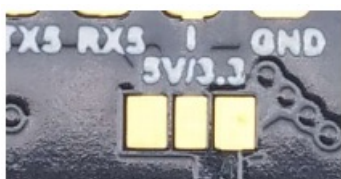
Solder on the left will output 5v , Solder the jumper on the right will output 3.3V

3. **Smart port telemetry**

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

Enter set tlm_halfduplex = OFF Save

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

VBAT and 5V jumper control both VTX power and Camera Power

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 "modetab "set VTX PIT MODE on a AUX switch you prefer

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

5. **Use LEDS signal for Motor 4 enable RPM filtering**

   For normal use solder the jumper on the M4 side.

   For RPM FILTERING

   Solder Jumper pads to the LEDS side,Motor 4 signal in the 4 in 1 socket will connect to LED_S internally for rpm-filtering motor 4.

   In the CLI type in

   resource MOTOR 4 none

   resource LEDS_STRIP 1 none

   resource motor 8 none

   resource MOTOR 4 B01

   save

   now you can go ahead use the RPM filtering setting from BF wiki to enable RPM filtering feature

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