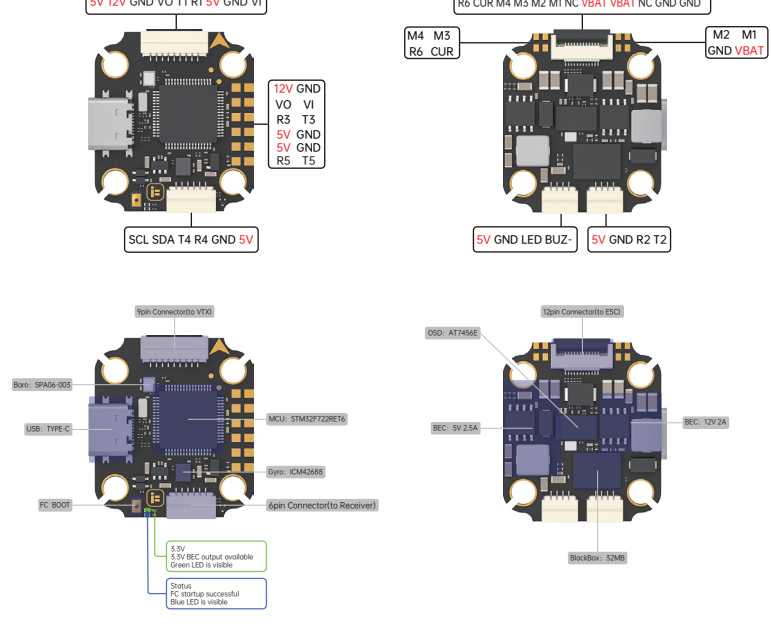


iFlight Borg F7 Mini FC Wiring diagram

Parameters:

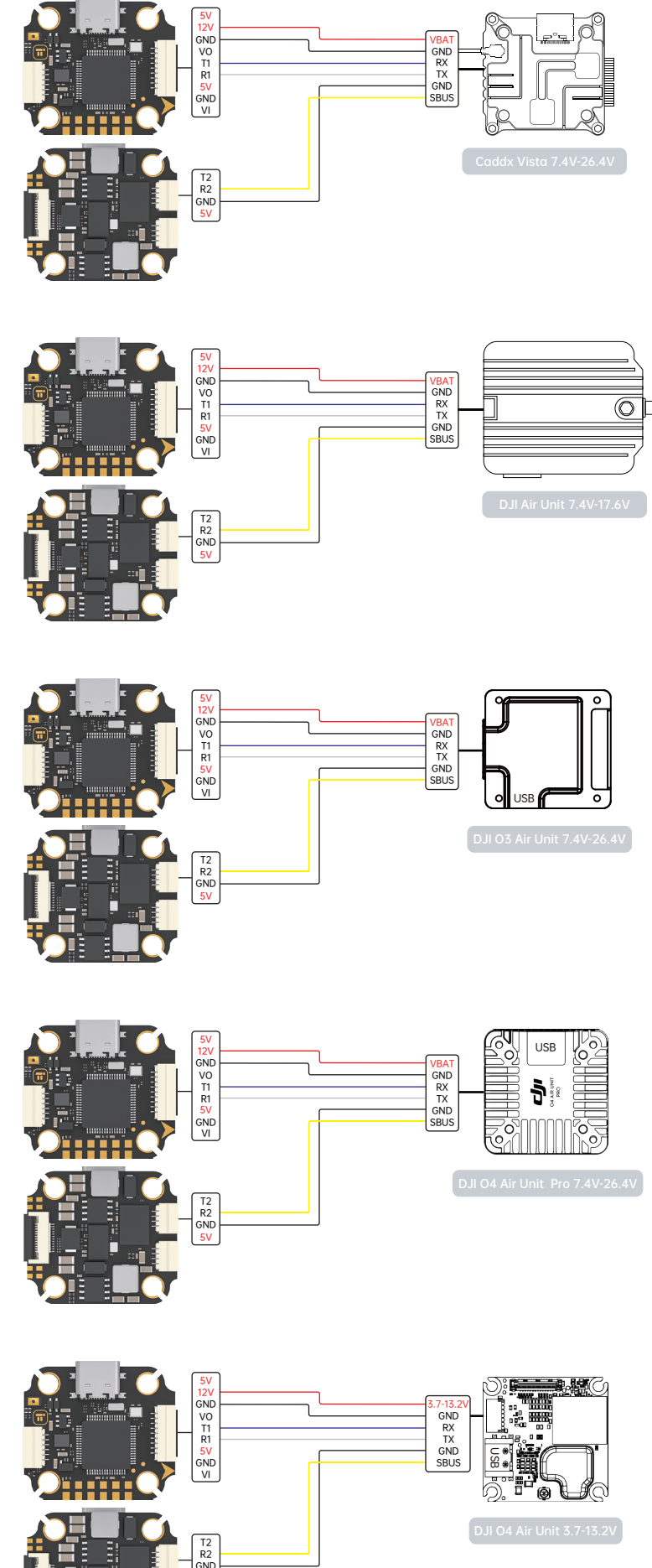
FC Specifications
Input voltage: 4-8S, Support LiHV battery
Dimensions: 27*30.6mm
Mount pattern: 20*20mm
Weight: 6.8g
MCU: AT32F722ET6
Gyro: ICM42688
Baro: APA06-003
OSD: AT7456E (LGA)
Blackbox: 32MB
Motor outputs: 4
IOC: Yes
BEC: 5V 2.5A, 12V 2A (12V with VTX switch)
LED Strip: Supported
Sleepin: Yes
VTX protocol: Support DJI MSP/SmartAudio/RCRampHDZero
UARTS: 6
Uart: 6*UART (UART1, UART2, UART3, UART4, UART5, UART6)
UART1: VTX HD / Analog
UART2: Receiver
UART3: GPS or other sensors that require a serial port
UART4: GPS
UART5: GPS or other sensors that require a serial port
UART6: ESC Telemetry
VTX ON/OFF Mode Command:
resource PINIO 1 C0
set pinio_config = 1,1,1,1
set pinio_box = 40,41,255,255
set box_user_name = VTX_ON/OFF
aux 0 40 8 900 2100 0 0
save

Firmware:
Betaflight: iFLIGHT_BUTZ.F722
iNAV: iFLIGHT_BUTZ.F722



DJI Digital Transmitters: SUBS Protocol

Firmware Target: iFLIGHT_BUTZ.F722



Channel	Frequency	Power	Mode	Protocol	Receiver	Receiver Mode
CH1	115200	1000	Disabled	AUTO	Disabled	AUTO
CH2	115200	1000	Disabled	AUTO	Disabled	AUTO
CH3	115200	1000	Disabled	AUTO	Disabled	AUTO
CH4	115200	1000	Disabled	AUTO	Disabled	AUTO
CH5	115200	1000	Disabled	AUTO	Disabled	AUTO
CH6	115200	1000	Disabled	AUTO	Disabled	AUTO
CH7	115200	1000	Disabled	AUTO	Disabled	AUTO
CH8	115200	1000	Disabled	AUTO	Disabled	AUTO
CH9	115200	1000	Disabled	AUTO	Disabled	AUTO
CH10	115200	1000	Disabled	AUTO	Disabled	AUTO
CH11	115200	1000	Disabled	AUTO	Disabled	AUTO
CH12	115200	1000	Disabled	AUTO	Disabled	AUTO
CH13	115200	1000	Disabled	AUTO	Disabled	AUTO
CH14	115200	1000	Disabled	AUTO	Disabled	AUTO
CH15	115200	1000	Disabled	AUTO	Disabled	AUTO
CH16	115200	1000	Disabled	AUTO	Disabled	AUTO
CH17	115200	1000	Disabled	AUTO	Disabled	AUTO
CH18	115200	1000	Disabled	AUTO	Disabled	AUTO
CH19	115200	1000	Disabled	AUTO	Disabled	AUTO
CH20	115200	1000	Disabled	AUTO	Disabled	AUTO

Receiver

Serial (via UART) Receiver Mode

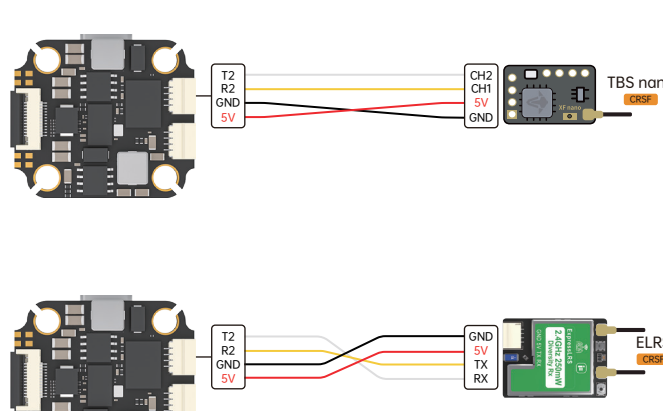
The UART for the receiver must be set to Serial Rx (in the Ports tab)

Select the correct data format from the drop-down below:

CRSF Serial Receiver Provider

- To enable the air unit OSD under Betaflight 4.4 version, you need to select VTX (MSP+Displayport) in the peripheral port where the air unit signal is connected to the port interface.
- note: DJI FPV Remote Controller2 is for DJI O3 Air Unit
DJI FPV Remote Controller is for DJI Air Unit and Vista
- Please check your protocols, otherwise your DJI Radio won't input signals!
DJI Goggle protocol and Betaflight protocol has to match!
For lower signal latency use the SBus BAUD_FAST protocol option on both ends.
- For Betaflight Copy Paste "set sbus baud fast=on" into your Betaflight Configurator CLI then hit enter.
Use "save" and hit enter to save the changes.
Default: sbus baud fast=off, Goggle protocol set to NORMAL

Others Receivers(TBS/ELRS): CRSF Protocol



Channel	Frequency	Power	Mode	Protocol	Receiver	Receiver Mode
CH1	115200	1000	Disabled	AUTO	Disabled	AUTO
CH2	115200	1000	Disabled	AUTO	Disabled	AUTO
CH3	115200	1000	Disabled	AUTO	Disabled	AUTO
CH4	115200	1000	Disabled	AUTO	Disabled	AUTO
CH5	115200	1000	Disabled	AUTO	Disabled	AUTO
CH6	115200	1000	Disabled	AUTO	Disabled	AUTO
CH7	115200	1000	Disabled	AUTO	Disabled	AUTO
CH8	115200	1000	Disabled	AUTO	Disabled	AUTO
CH9	115200	1000	Disabled	AUTO	Disabled	AUTO
CH10	115200	1000	Disabled	AUTO	Disabled	AUTO
CH11	115200	1000	Disabled	AUTO	Disabled	AUTO
CH12	115200	1000	Disabled	AUTO	Disabled	AUTO
CH13	115200	1000	Disabled	AUTO	Disabled	AUTO
CH14	115200	1000	Disabled	AUTO	Disabled	AUTO
CH15	115200	1000	Disabled	AUTO	Disabled	AUTO
CH16	115200	1000	Disabled	AUTO	Disabled	AUTO
CH17	115200	1000	Disabled	AUTO	Disabled	AUTO
CH18	115200	1000	Disabled	AUTO	Disabled	AUTO
CH19	115200	1000	Disabled	AUTO	Disabled	AUTO
CH20	115200	1000	Disabled	AUTO	Disabled	AUTO

Receiver

Serial (via UART) Receiver Mode

The UART for the receiver must be set to Serial Rx (in the Ports tab)

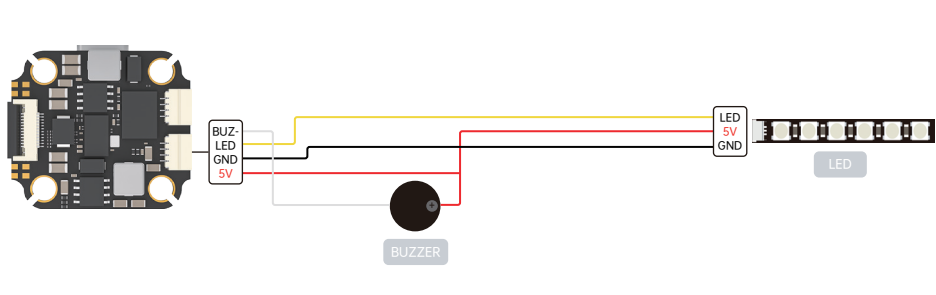
Select the correct data format from the drop-down below:

CRSF Serial Receiver Provider

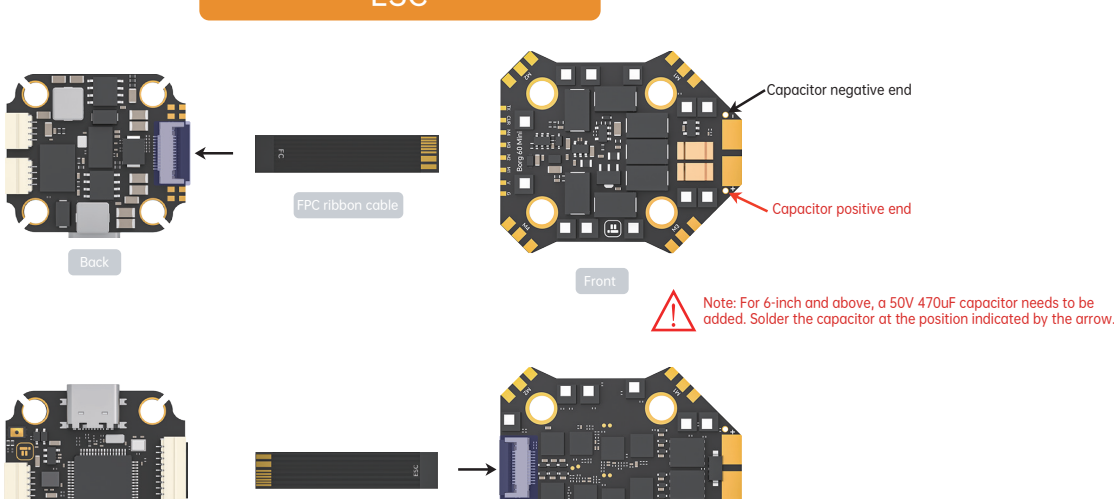
Telemetry

TELEMETRY Telemetry output

LED/BUZZER

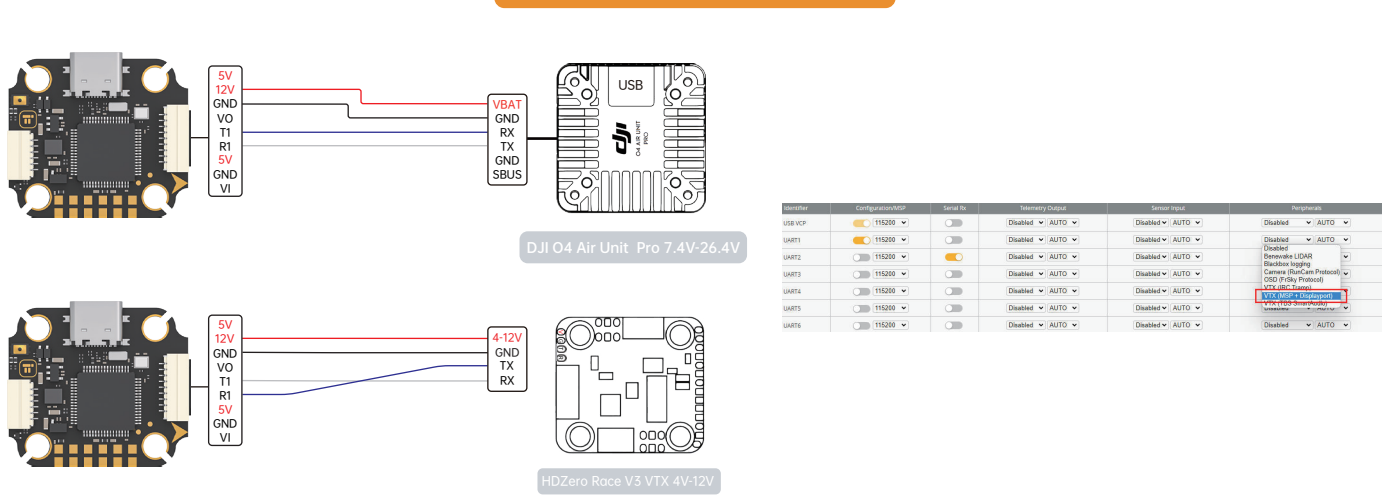


ESC



Note: If using ESCs from other brands, please ensure the wiring is connected correctly.
5-inch models do not require an external capacitor to fly, while 6-inch or larger models need to add a 50V 470uF capacitor.

VTX/CAM



Channel	Frequency	Power	Mode	Protocol	Receiver	Receiver Mode
CH1	115200	1000	Disabled	AUTO	Disabled	AUTO
CH2	115200	1000	Disabled	AUTO	Disabled	AUTO
CH3	115200	1000	Disabled	AUTO	Disabled	AUTO
CH4	115200	1000	Disabled	AUTO	Disabled	AUTO
CH5	115200	1000	Disabled	AUTO	Disabled	AUTO
CH6	115200	1000	Disabled	AUTO	Disabled	AUTO
CH7	115200	1000	Disabled	AUTO	Disabled	AUTO
CH8	115200	1000	Disabled	AUTO	Disabled	AUTO
CH9	115200	1000	Disabled	AUTO	Disabled	AUTO
CH10	115200	1000	Disabled	AUTO	Disabled	AUTO
CH11	115200	1000	Disabled	AUTO	Disabled	AUTO
CH12	115200	1000	Disabled	AUTO	Disabled	AUTO
CH13	115200	1000	Disabled	AUTO	Disabled	AUTO
CH14	115200	1000	Disabled	AUTO	Disabled	AUTO
CH15	115200	1000	Disabled	AUTO	Disabled	AUTO
CH16	115200	1000	Disabled	AUTO	Disabled	AUTO
CH17	115200	1000	Disabled	AUTO	Disabled	AUTO
CH18	115200	1000	Disabled	AUTO	Disabled	AUTO
CH19	115200	1000	Disabled	AUTO	Disabled	AUTO
CH20	115200	1000	Disabled	AUTO	Disabled	AUTO

Identifier	Configuration/MSP	Serial Rx	Telemetry Output	Sensor Input	Peripherals
USB VCP	115200	Disabled	Disabled	Disabled	Disabled
UART1	115200	Disabled	Disabled	Disabled	Disabled
UART2	115200	Disabled	Disabled	Disabled	Disabled
UART3	115200	Disabled	Disabled	Disabled	Disabled
UART4	115200	Disabled	Disabled	Disabled	Disabled
UART5	115200	Disabled	Disabled	Disabled	Disabled
UART6	115200	Disabled	Disabled	Disabled	Disabled

VTX ON/OFF Mode On

VTX ON/OFF Mode Off

12V is a controllable VTX output port. The default factory setting is AUX9, this mode is always on. Users can set the AUX channel according to actual needs.

VTX ON/OFF Mode On

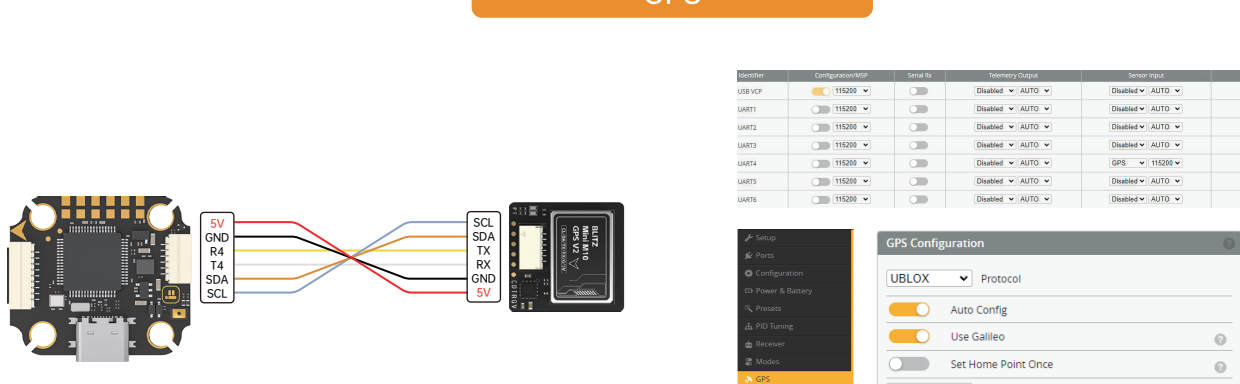
VTX ON/OFF Mode Off

To control VTX on/off, please drag the range to 1600-2000. If the icon is yellow, it is on, and if it is gray, it is off.

Ref flashing firmware or restoring the default factory settings requires manually entering the following commands in Betaflight CLI to re-enable VTX switch control:

```
resource PINIO 1 C0
set pinio_config = 1,1,1,1
set pinio_box = 40,41,255,255
set box_user_name = VTX_ON/OFF
aux 0 40 8 900 2100 0 0
save
```

GPS



SDA/SCL pads can not be remapped to UARTS

Dimensions/Mounting pattern

