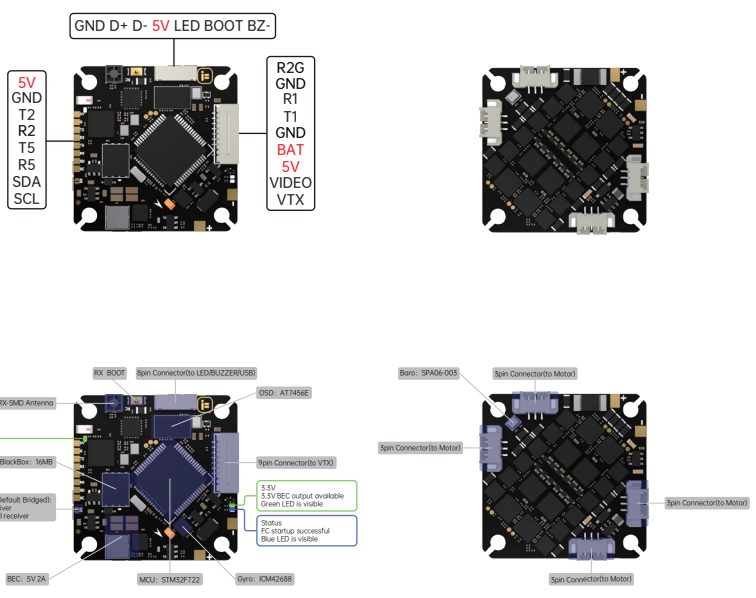
iFlight Borg F7 RX AIO Wiring diagram

Parameters:

FC Specifications
Input voltage: 2-4S. Support LIHV battery
Dimensions: 32*32mm±1
Mount pattern: 25.5*25.5.φ3
Weight: 7g±1
MCU: STM32F722
Gyro: ICM42688
Baro: SPA06-003
OSD: AT7456E
BlackBox: 16MB
Motor outputs: 4
I2C: Supported
BEC: 5V 2A
LED Strip: Supported
Beeper: Yes
VTX protocol: Support DJI MSP/Smartaudio/IRCTramp/HDZero
UARTS: 4
Uart: 4*UART (UART1、UART2、UART5、UART6)
UART1: VTX HD / Analog
UART2: Built-in ELRS receiver/SBUS input
UART5: GPS or other sensors that require a serial port
UART6: ESC Telemet
Firmware target: IFLIGHT_BLITZ_F722_X1 (Betaflight)
ESC Specifications:
MCU: STM32G071
Driver: FD6288
Input voltage: 2-4S. Support LIHV battery
Output current: 12A Continuous
ESC Firmware: IFLIGHT BLITZ G3 -Rev. 32.9
Current Sensor Rate: 200 (1/10mV/A)
BEC: N/A
Telemetry: Supported (AIO Wires have been connected, set the sensor input of UART6 to ESC to use)
Bidirectional DSHOT: Supported
Protocol: Supports DShot150/300/600、MultiShot、OneShot
Firmware: BL32 (32bit ESC)

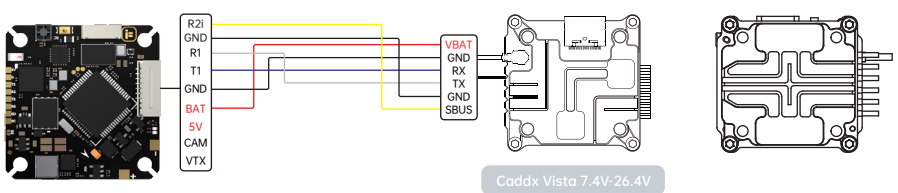
Receiver Specification
MCU: ESP8285
RF: SX1281
Receiver Type: 2.4GHz
Telemetry power: 17mW (12.3dBm)
LNA: N/A
Firmware: iFlight 2.4GHz Nano RX
Lua Script: iFlight 2.4GHz Nano
TCXO: Yes

Firmware:
FC Firmware: IFLIGHT_BLITZ_F722_X1
ESC Firmware: IFLIGHT BLITZ G3 -Rev. 32.9
Receiver Firmware: IFLIGHT 2.4GHz Nano RX

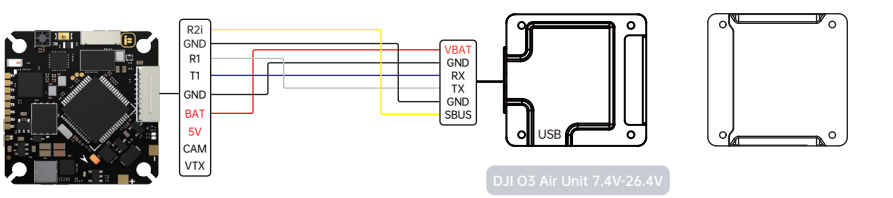


DJI Digital Transmiters: SUBS Protocol

Firmware Target: IFLIGHT_BLITZ_F722_X1

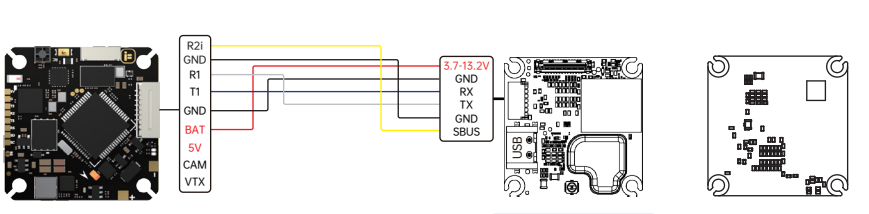


Caddx Vista 7.4V-26.4V

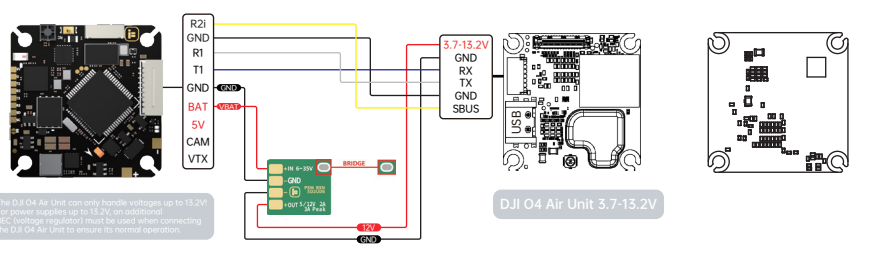


DJI O3 Air Unit 7.4V-26.4V

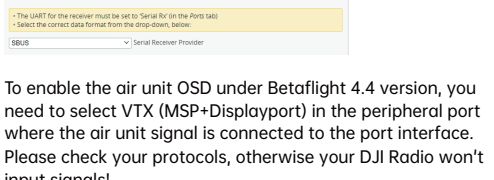
DJI O4 Air Unit Pro 7.4V-26.4V



DJI O4 Air Unit 3.7-13.2V

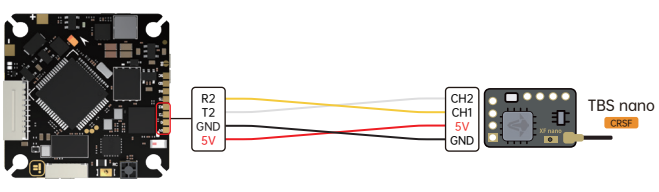


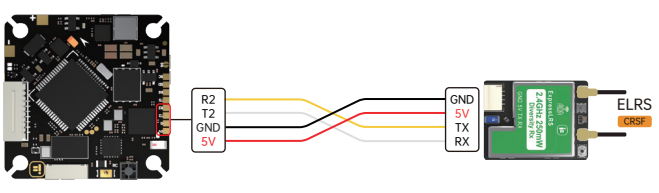
DJI O4 Air Unit 3.7-13.2V

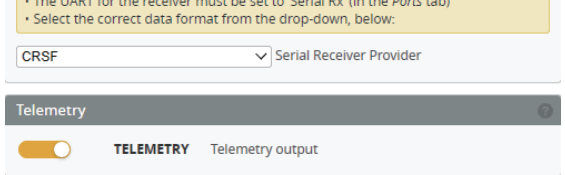


- To enable the air unit OSD under Betaflight 4.4 version, you need to select VTX (MSP+Displayport) in the peripheral port where the air unit signal is connected to the port interface.
- Please check your protocols, otherwise your DJI Radio won't input signals!
  DJI Goggle protocol and Betaflight protocol has to match!
  For lower signallatency use the SBUS BAUD_FAST protocol option on both ends.
- For Betafllght Copy Paste"set sbus_baud_fast=on"into your Beataflight Configurator CLI then hit enter.
  Use"save"and hit enter to save the changes.
  Default: sbus_baud_fast=off, Goggle protocol set to NORMAL

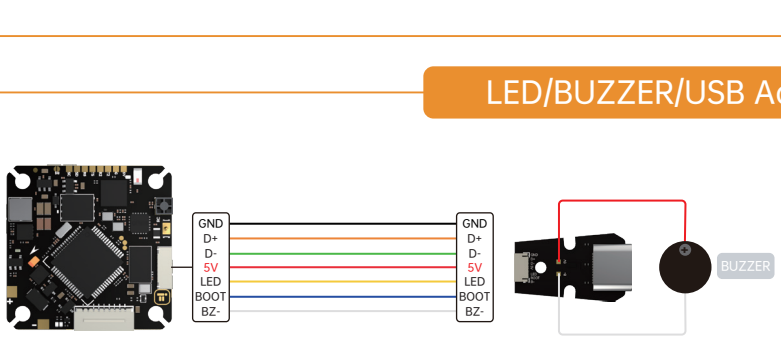
Others Receivers(TBS/ELRS): CRSF Protocol



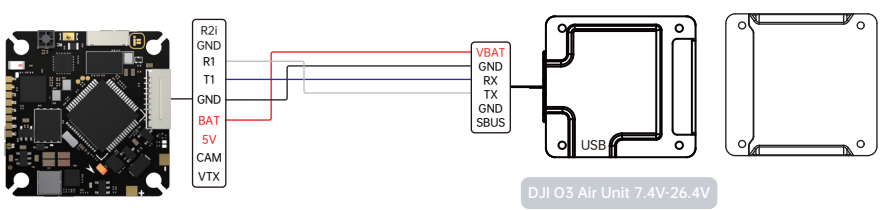




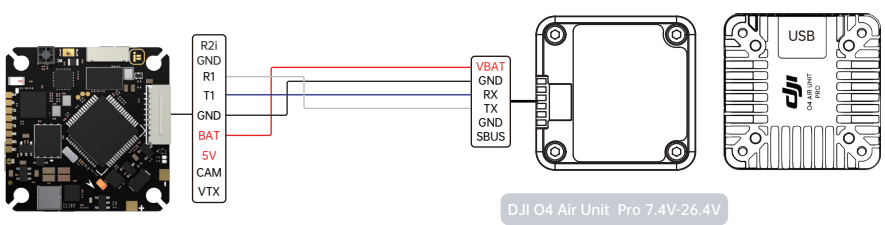
LED/BUZZER/USB Adapter



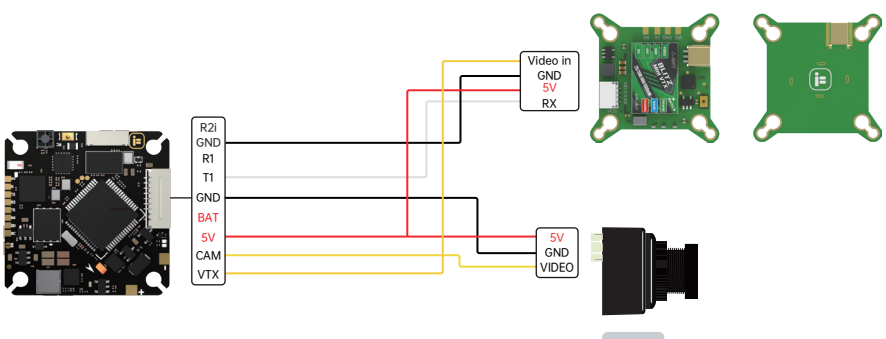
VTX/CAM



DJI O3 Air Unit 7.4V-26.4V



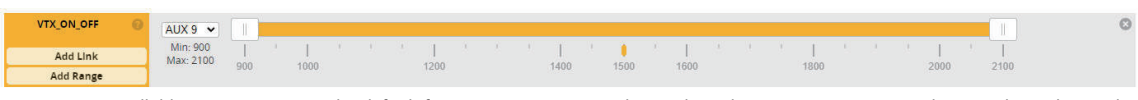
DJI O4 Air Unit Pro 7.4V-26.4V



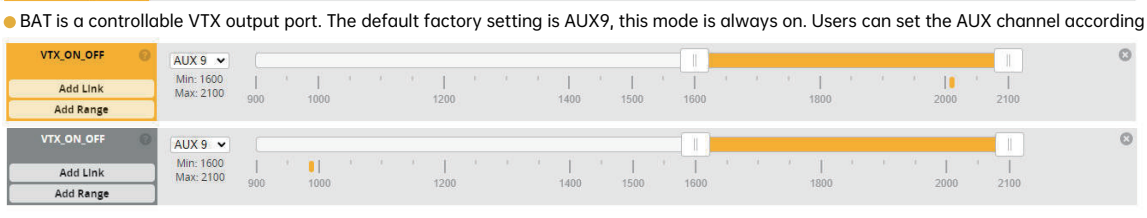
CAMERA

Identifier	Configuration/MSP	Serial Rx	Telemetry Output	Sensor Input	Peripherals
USB VCP	115200		Disabled AUTO	Disabled AUTO	Disabled AUTO
UART1	115200		Disabled AUTO	Disabled AUTO	VTX (IRC Tran AUTO
UART2	115200	✓	Disabled AUTO	Disabled AUTO	
UART3	115200		Disabled AUTO	Disabled AUTO	
UART4	115200		Disabled AUTO	Disabled AUTO	
UART5	115200		Disabled AUTO	Disabled AUTO	
UART6	115200		Disabled AUTO	Disabled AUTO	Disabled AUTO

Disabled
Benewake LIDAR
Blackbox logging
Camera (RunCam Protocol)
OSD (FrSky Protocol)
VTX (IRC Tramp)
VTX (MSP + Displayport)
VTX (TBS SmartAudio)



- BAT 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.



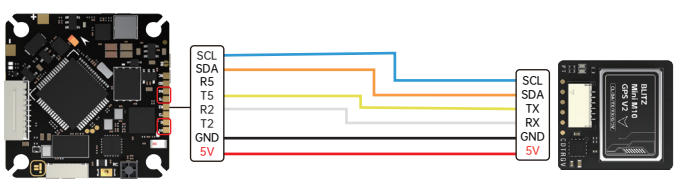
- VTX_ON_OFF Mode On
- VTX_ON_OFF Mode Off

- 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.

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

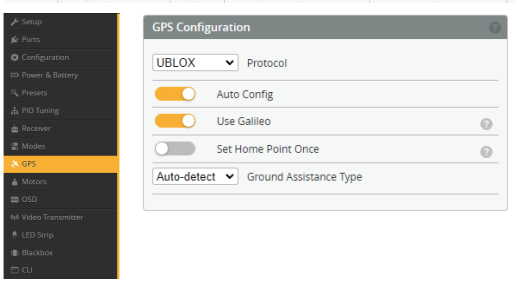
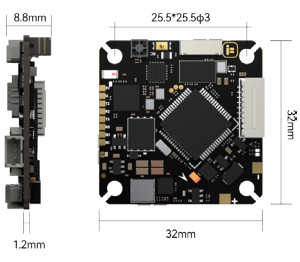
```
resource PINIO 1 C0
set pinio_config = 1,1,1,1
set pinio_box = 40,41,255,255
set box_user_1_name = VTX_ON_OFF
aux 0 40 8 900 2100 0 0
save
```

GPS



SDA/SCL pads can not be remapped to UARTs

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



Dimensions/Mounting pattern