

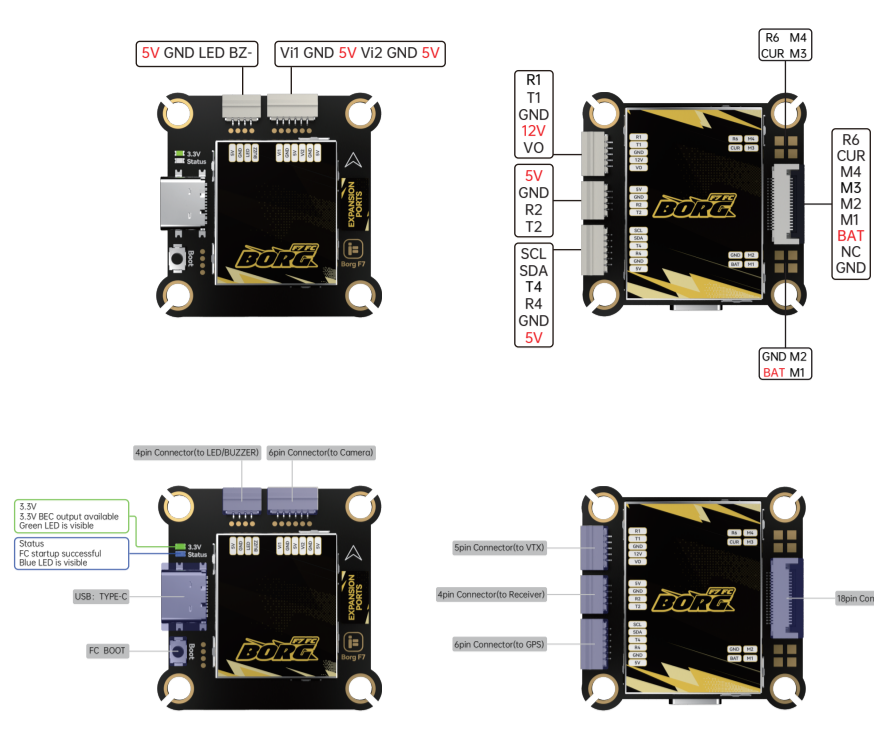
iFlight Borg F7 FC Wiring diagram

Parameters:

FC Specifications
 Input voltage: 4-8S, Support LHV battery
 Dimensions: 37.5*37.5mm
 Mount pattern: 30.5*30.5mm
 Weight: 14g
 MCU: STM32F722RET6
 Gyro: ICM42688
 Baro: SPA06-003
 OSD: AT7456E (LGA)
 Blackbox: 52MB
 Motor outputs: 4
 I2C: Supported
 BEC: 5V 2.5A, 12V 2A (12V with VTX switch)
 LED Strip: Supported
 Buzzer: Yes
 VTX protocol: Support DJI MSP/SmartAudio/RCTransp/HDZero
 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_1_name = VTX_ON/OFF
 max: 40 8 900 2100 0 0
 save

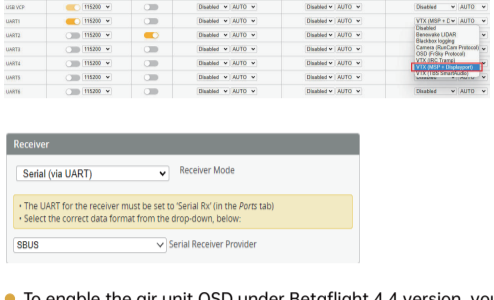
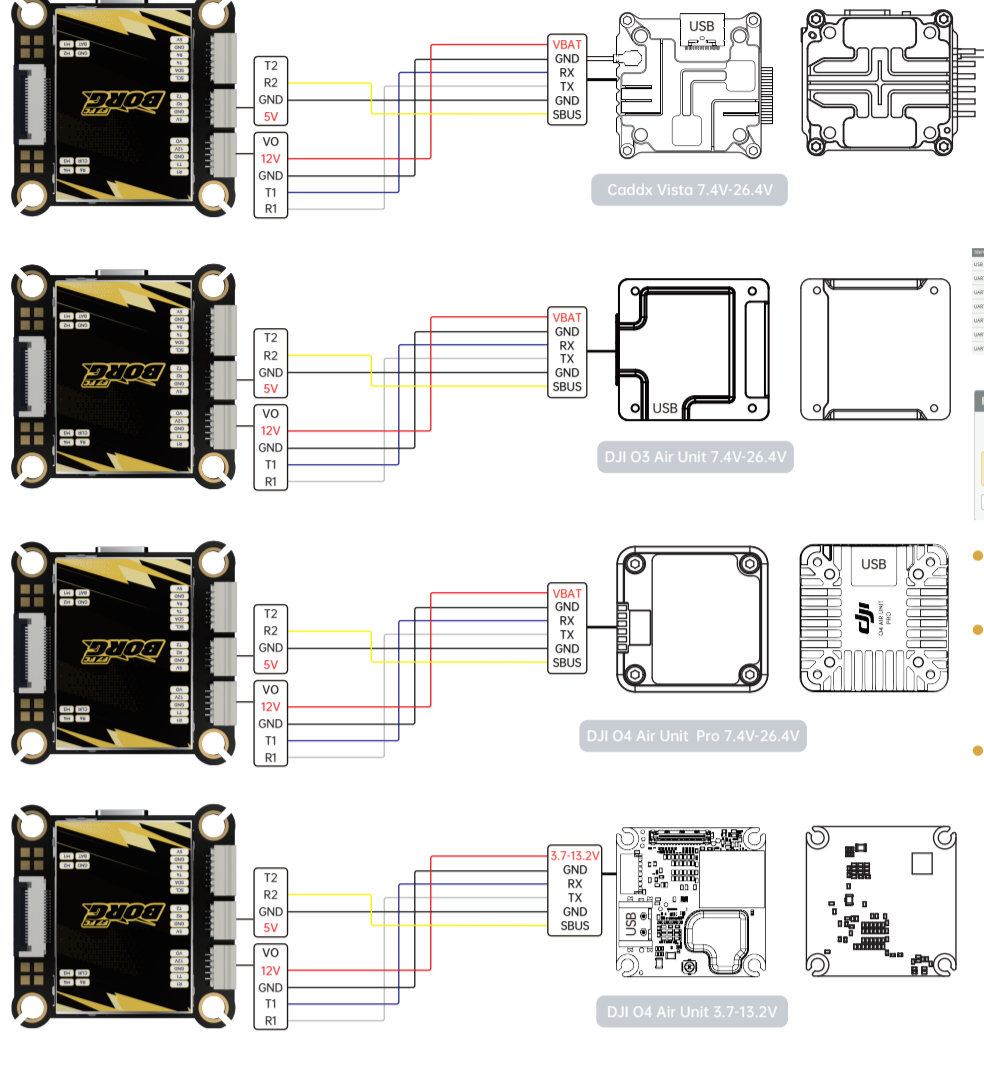
Camera switch command:
 resource PINIO 2 C14
 set pinio_config = 1,1,1,1
 set pinio_box = 40,41,255,255
 set box_user_2_name = CAM_SW
 max: 41 9 900 2100 0 0
 save

Firmware:
 Betaflight: iFLIGHT_BL_TZ_F722
 iNAV: iFLIGHT_BL_TZ_F722



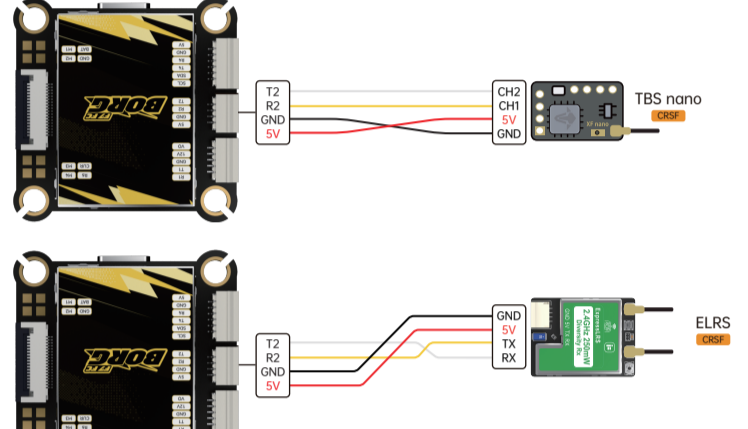
DJI Digital Transmitters: SUBS Protocol

Firmware Target: iFLIGHT_BL_TZ_F722

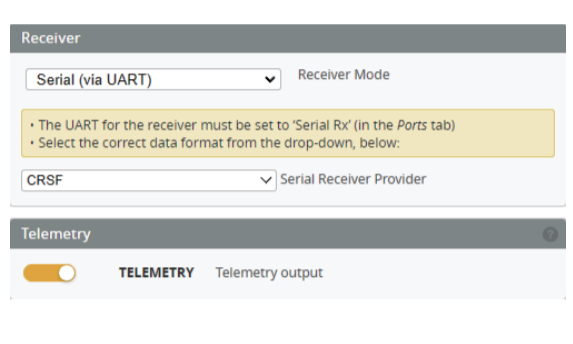


- To enable the air unit OSD (MSP+Displayport) in the peripheral port where the air unit signal is connected to the port interface.
- Please check your protocols, otherwise your DJI Radio won't input signals!
- DJI Goggle protocol and Betaflight protocol has to match! For lower signal latency use the 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

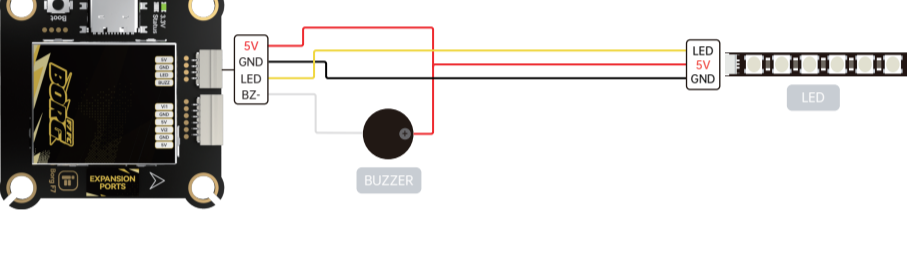
Others Receivers(TBS/ELRS): CRSF Protocol



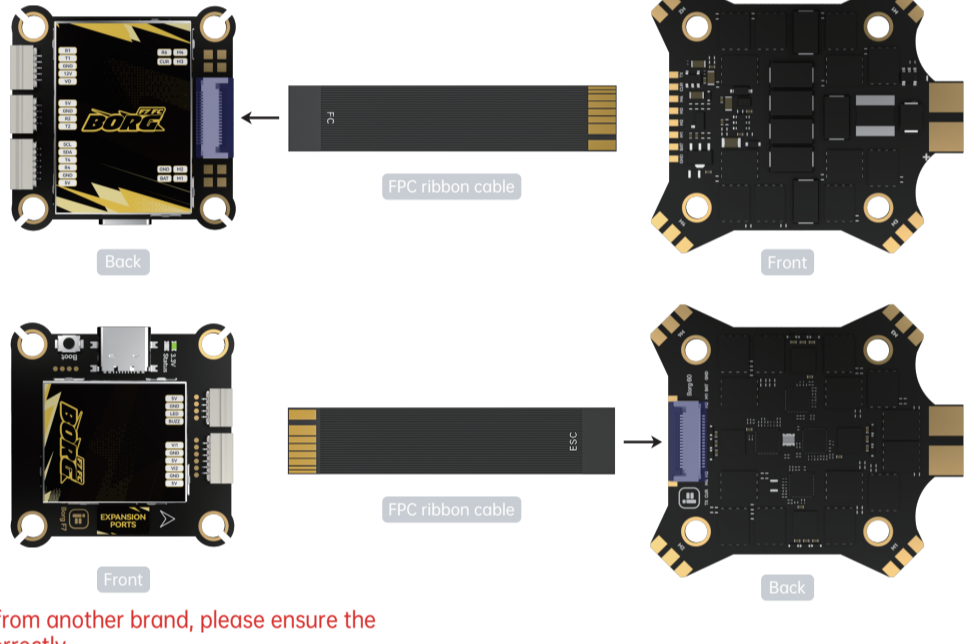
Serial	Port	Protocol	Receiver Mode	Telemetry
UART1	1	CRSF	Serial (via UART)	TELEMETRY
UART2	2	CRSF	Serial (via UART)	TELEMETRY
UART3	3	CRSF	Serial (via UART)	TELEMETRY
UART4	4	CRSF	Serial (via UART)	TELEMETRY
UART5	5	CRSF	Serial (via UART)	TELEMETRY
UART6	6	CRSF	Serial (via UART)	TELEMETRY



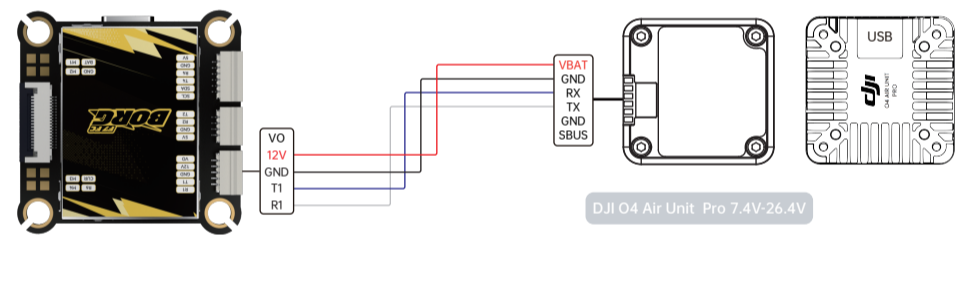
LED/BUZZER



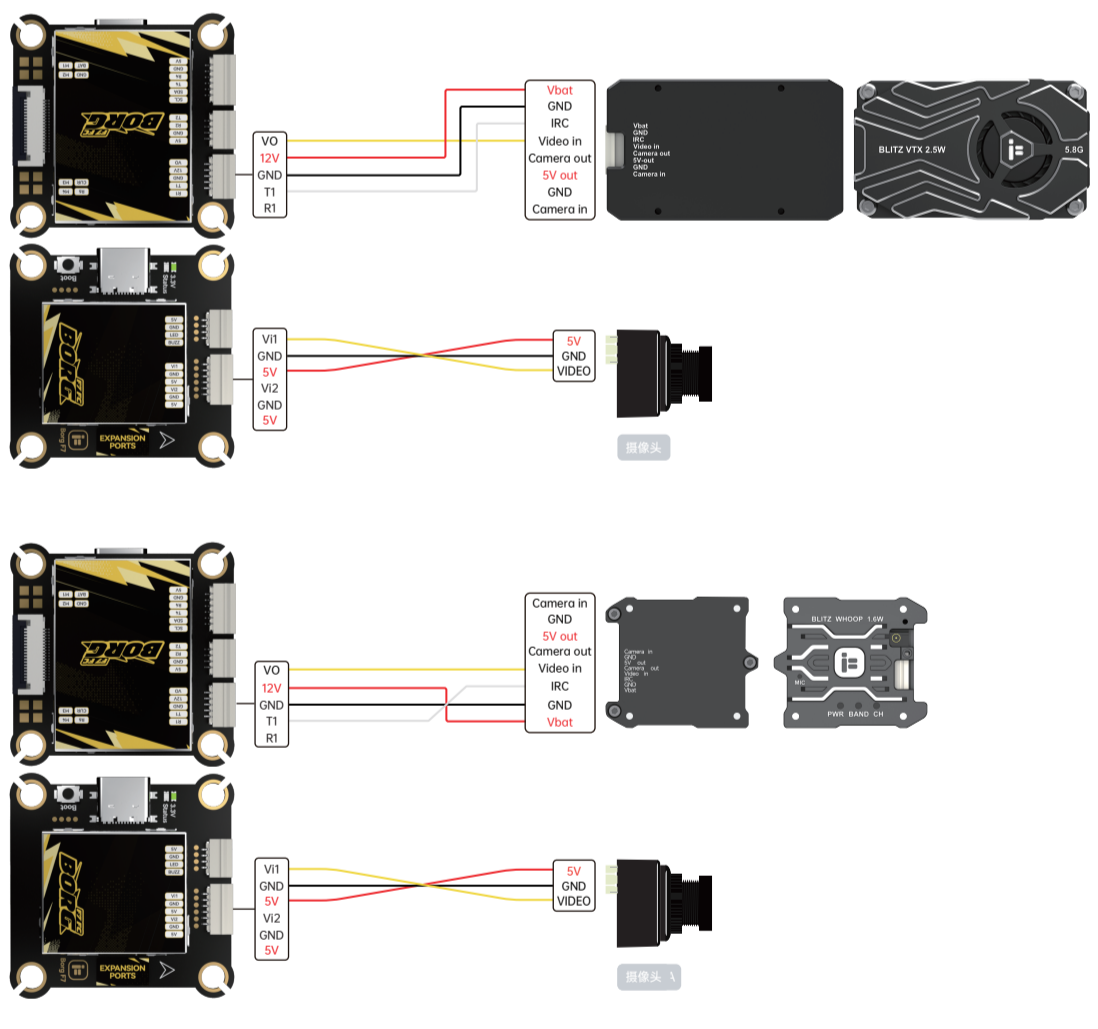
ESC



VTX/CAM



Identifier	Configuration/MSP	Serial Rx	Telemetry Output	Sensor Input	Peripherals
UART1	115200	Enabled	Disabled / AUTO	Disabled / AUTO	VTX MSP + C / AUTO
UART2	115200	Enabled	Disabled / AUTO	Disabled / AUTO	Disabled
UART3	115200	Enabled	Disabled / AUTO	Disabled / AUTO	Disabled
UART4	115200	Enabled	Disabled / AUTO	Disabled / AUTO	Disabled
UART5	115200	Enabled	Disabled / AUTO	Disabled / AUTO	Disabled
UART6	115200	Enabled	Disabled / AUTO	Disabled / AUTO	Disabled



Identifier	Configuration/MSP	Serial Rx	Telemetry Output	Sensor Input	Peripherals
UART1	115200	Enabled	Disabled / AUTO	Disabled / AUTO	VTX MSP + C / AUTO
UART2	115200	Enabled	Disabled / AUTO	Disabled / AUTO	Disabled
UART3	115200	Enabled	Disabled / AUTO	Disabled / AUTO	Disabled
UART4	115200	Enabled	Disabled / AUTO	Disabled / AUTO	Disabled
UART5	115200	Enabled	Disabled / AUTO	Disabled / AUTO	Disabled
UART6	115200	Enabled	Disabled / AUTO	Disabled / AUTO	Disabled

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_1_name = VTX_ON/OFF
 aux 0 40 8 900 2100 0 0
 save

Camera switch command:
 resource PINIO 2 C14
 set pinio_config = 1,1,1,1
 set pinio_box = 40,41,255,255
 set box_user_2_name = CAM_SW
 aux 1 41 9 900 2100 0 0
 save

● 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 use the VTX ON/OFF or camera switching function, adjust the channel range to 1600-2000. A yellow icon indicates the function is enabled, while a gray icon when it is disabled.

● The flight controller supports dual-camera switching. By default, full-channel activation outputs V1, with the channel set to AUX10. Users can set the AUX channel according to actual needs.

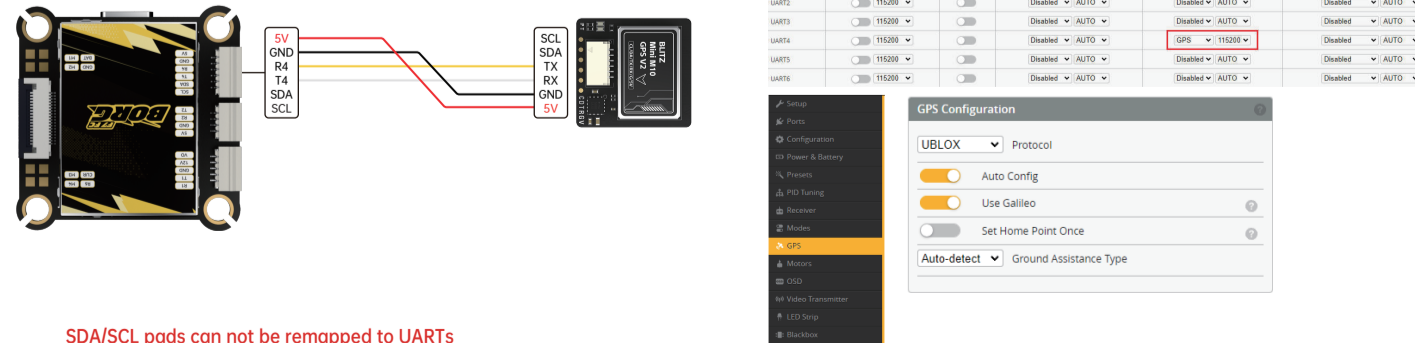
● Enable V1 Camera

● Enable V2 Camera

● A yellow icon indicates V1 camera is enabled, while a gray icon means V2 camera is enabled.

⚠ Note: When using dual cameras, ensure both cameras have the same format. Entering different formats may cause the OSD to fail to load. Please refer to the following firmware or restoring the default factory settings requires manually entering the following commands in Betaflight CLI:

GPS



Dimensions/Mounting pattern

