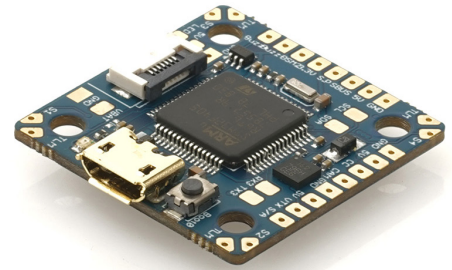# 80126

OMNIBUS F4 Nano V7

F405 / 5VBEC / Camera control / 6x UART / Flash

The Omnibus F4 Nano V7 flight controller uses the ICM20602 over SPI for the stable flight performance.Also onboard is AB7456 OSD chip for the BetaFlight integrated OSD.

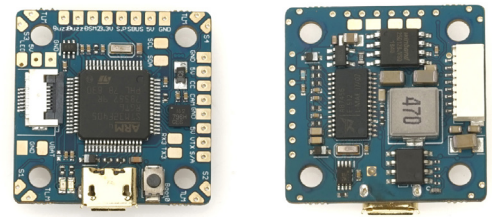Omnibus F4 Nano V7 using new target, supports 3-6s LIPO direct input, has 6x Hardware UARTs + 1x I2C

- Firmware, please use Omnibus F4 Nano V7 (will be incl. on the next release)

Modifications on v7:

- Tantalum Capacitors added for noiseless gyro reading
- Solder pads added for SmartAudio and Camera Control (next to Video pads)
- FPC port for Frsky RX
- This board now has 6 UART ports
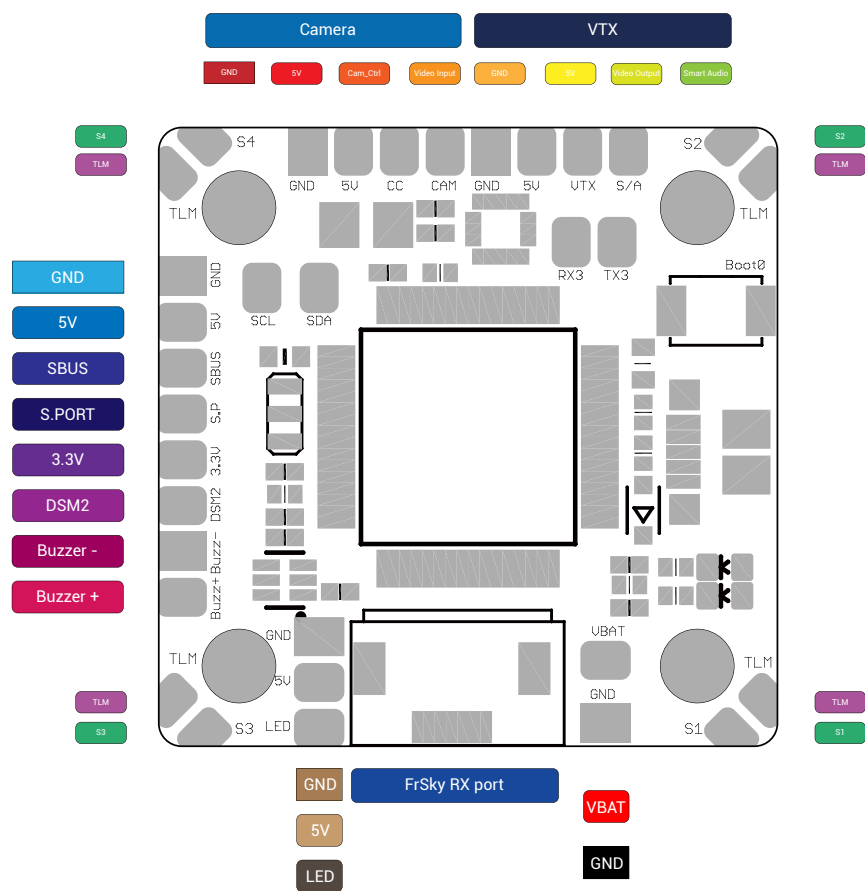- PWM pads on the corners
- 5V BEC, 2A output

Features:

- STM32 F405 MCU, Runs Betaflight firmware
- ICM Gyro Over SPI Bus
- 20 x 20 mm Mounting holes
- Supports Lipo direct plugin (3-6S)
- Supports 5V 1A BEC output (Buck)
- STM32 controls OSD chip over SPI in DMA mode (Betaflight OSD)
- More UARTs

Resources:

Function	Solder Pad Silk screen	Resouces	MCU Pin	Notes
SBUS	SBUS	RX 1	PA10	Build-in inverter
DSM2	TX1	TX 1	PA9	CLI serialrx_halfduplex set to ON
Smart Audio VTX	S/A	TX 5	PC12	
Smartport	S.P	UART 6	PC6/7	Build-in inverters
ESC Telemetry	TLM	RX 2	PA3	
Camera Control	CC		PA8	
SDA	SDA	I2C1_SDA	PB9	
SCL	SCL	I2C1_SCL	PB8	
GPS	RX4/TX4	UART 4	PA0/1	
WS2812B LED	LED		PA15	
Buzzer	Bz-/Bz+		PC5	

Pinmap

Camera
| GND | 5V | Cam_Ctrl | Video Input |

VTX
| GND | 5V | Video Output | Smart Audio |

| S4 |
| TLM |

| GND |
| 5V |
| SBUS |
| S.PORT |
| 3.3V |
| DSM2 |
| Buzzer - |
| Buzzer + |

| S2 |
| TLM |

Board layout labels:
- S4 GND 5V CC CAM GND 5V VTX S/A S2
- TLM RX3 TX3 Boot0 TLM
- GND SCL SDA
- 5V
- SBUS S.P
- 3.3V
- DSM2 Buzz- Buzz+
- TLM GND 5V VBAT GND TLM
- S3 LED S1

| TLM |
| S3 |

| TLM |
| S1 |

| GND | FrSky RX port |
| 5V |
| LED |

| VBAT |
| GND |

4in1 socket:
| S4 |
| S3 |
| S2 |
| S1 |
| TLM |
| Current |
| Vbat |
| GND |

| GND |

| RX4 | TX4 | GND | 5V (100ma) |