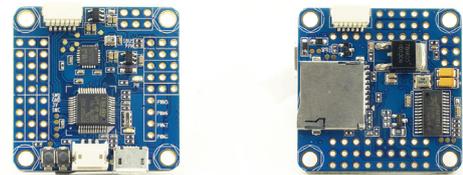


# OMNIBUS F3 AIO v1.1

The Omnibus flight controller uses the MPU6000 over SPI for the best possible flight performance. If you haven't already seen it, you should checkout Josh's awesome video on different IMUs. Also onboard are a barometer and AB7456 OSD chip for the BetaFlight integrated OSD.

Also onboard is a high performance 5v, 1.5a STMicrocontroller L78 voltage regulator, so you can plug the flight battery right into the flight controller, without a PDB.

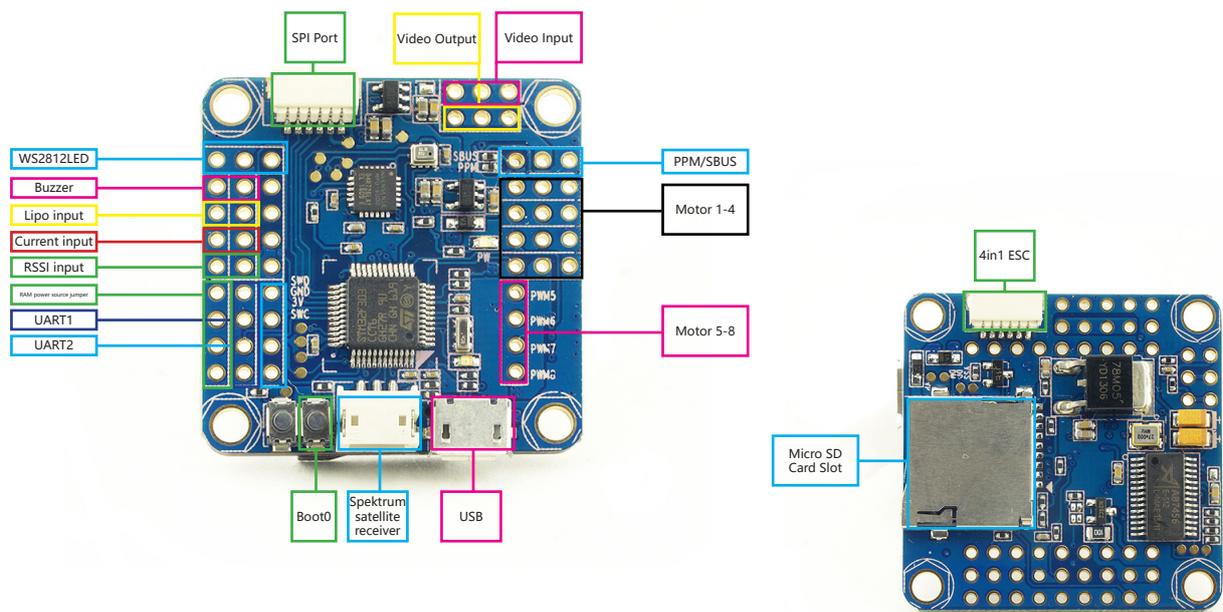
- STM32 F303 MCU, Runs Betaflight firmware(supported from v3.0)
- Barometer BMP280 (Optional)
- Compass HMC5983L
- MPU6000 Over SPI Bus
- 4PWM output as PLUG and Pinheaders, 4x PWM output as pinheaders
- Only 35x35mm, mount holes 30.5x30.5mm
- SD card slot
- Supports Lipo direct plug in (up to 4S)
- STM32 controls OSD chip over SPI in DMA mode, less CPU using, faster rate
- external SPI to control VTX or RX



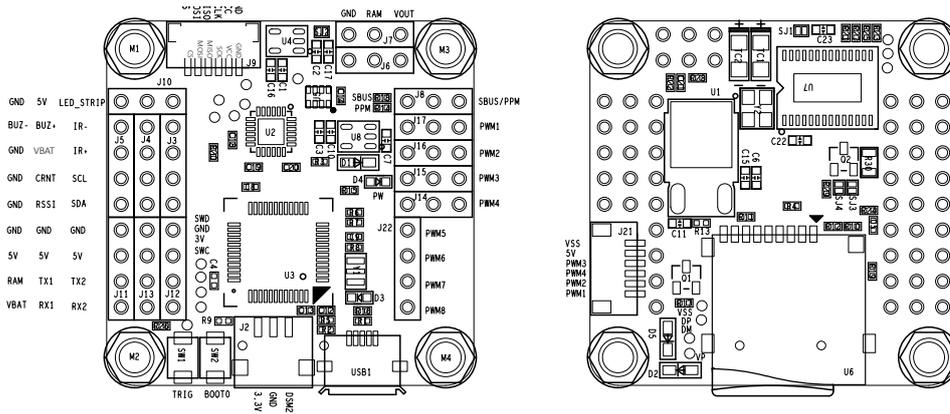
## Firmware update

OMNIBUS F3AIO v1.1 will be supported by Betaflight v3.0, you can use Target "OMNIBUS" to update the firmware. Before Betaflight v3.0 release, you can find the updated firmware in our product page in our webshop.

## Connection example



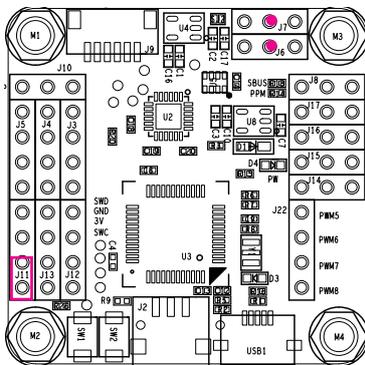
# Pin map



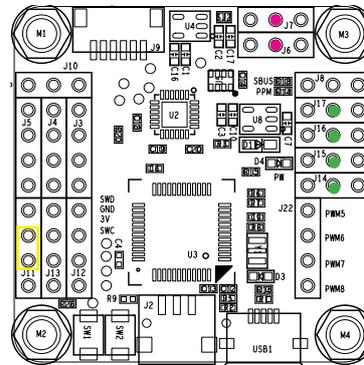
## RAM / Power source for VTX and Camera jumper

The RAM pin, was connect to nothing, just the 3 RAM pin are passthrough.

There are 3pin jumper next to UART1, which you could power the RAM pins by ESC\_5V(BEC, normally it is 5V) or VBAT(LIPO, normally 12 or 14V)



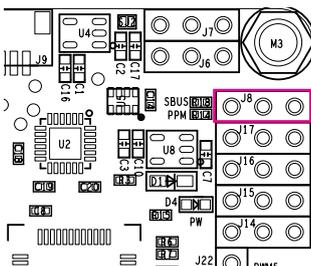
If short the red Jumper then the red pins will be connected to Lipo(Over VBAT pin)



If short the Yellow Jumper then the red pins will be connected to Lipo(Over VBAT pin)

## PPM / SBUS RX

**J8** was connect to PPM as default, you can change the solder pad from ppm to SBUS let the J8 connect to SBUS.

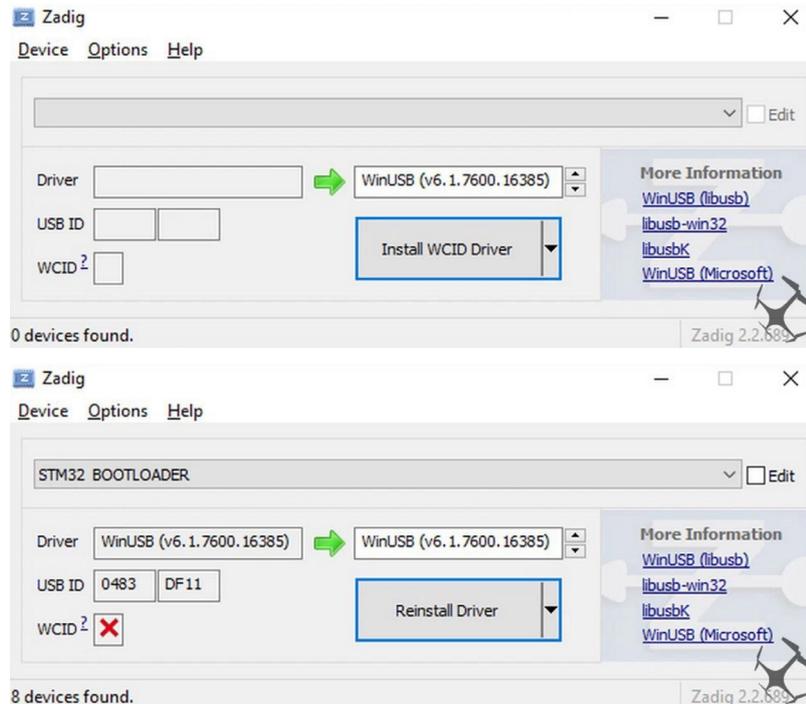


**Put 0 ohm Resistor on R14 will connect J8 to PPM**  
**Put 0 ohm Resistor on R18 will connect J8 to SBUS (UART3)**

**Notice:**  
**If move the resistor is too hard for you, you can use UART1 or 2 on left for SBUS receiver**

# How to use the onboard USB port updated firmware in GUI on windows

To flash the firmware you have to enter the so called DFU mode. On Windows 10 I had to use a tool called Zadig (download and start it) to be able to switch drivers for DFU mode to work. In order to switch drivers you have to take the following steps.



- Push BOOT button on the flight controller.
- Plug-in the USB cable (the red LED should not be as bright as normally).
- Fire up Zadig and hit "Options" and then "List All Devices".
- From the list choose "STM32 BOOTLOADER".
- Under "Driver" choose "WinUSB" on the right and hit "Reinstall Driver".
- Close Zadig, disconnect the flight controller, close all Google Chrome instances.

\* Pictures and text made by : Aerosufer

<http://www.aerosufer.ch/2016/07/25/omnibus-f3-flight-controller/>

## Review:

<http://nathan.vertile.com/blog/2016/07/07/omnibus-typhoon-miniquad/#review>

