F4 Magnum Manual - V1.0

(OMNIBUSF4 Firmware)
1. Select Power
Long press the button for 10 seconds to switch high / low power at any time. When the selected power is 200mW, the LED dot “.” will be on, when the selected power is 25mW, the LED dot “.” will be off.

2. Select channel / frequency group
   1) Select frequency group -- long press the button for 2 seconds to enter frequency group selection, and then short press the button to select a F, R, A, B, E or H frequency group. Long press for 2 seconds to exit frequency group selection.

   2) Select channel -- When it is out of frequency group selection, please short press to select the 1~8 channels within the selected frequency group.

   3) Frequency group and channels are switched and shown by digital tube, changes by every 2 seconds.

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<thead>
<tr>
<th>FR</th>
<th>CH</th>
<th>CH1</th>
<th>CH2</th>
<th>CH3</th>
<th>CH4</th>
<th>CH5</th>
<th>CH6</th>
<th>CH7</th>
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### Features

**Flight controller (OMNIBUSF4 Firmware)**
- STM32F405 MCU
- MPU6000 accelerometer/gyro (connected via SPI)
- On-board OSD
- On-board Buzzer
- Integrated 5V/3A BEC
- Integrated LC Filter
- Dedicated PPM/Sbus receiver input
- On-board high-capacity black box flight log recorder

**ESC**
- Continuous current 30A
- Supply voltage 2-4S Lipo
- EFM8BB21F16G MCU
- BLHeli-S firmware, supports DSHOT, MULTISHOT, ONESHOT125
- Top quality MOSFET
- 3oz high TG PCB board
- On-board current sensor

**VTX**
- Frequency band: 5362-5945MHz
- Channel: 48
- Transmit power: 13dBm/23dBm
- Supply voltage: 4.5V-5.5V
- Antenna port: 50Ω

**Receiver XM+**
- Dimension: 21.5*12*2.3mm (LxWxH)
- Weight: 1.6g
- Number of Channels: Up to 16CH from SBUS (CH1~CH15 for PWM, CH16 RSSI for FC)
- Operating Voltage Range: 3.7~10V
- Operating Current: 30mA@5V
- Operating Range: Full range
- With RSSI output on board: Analog 0~3.3V
- Firmware upgradeable
- Compatibility: Frsky D16 mode
Via Device Firmware Upload (DFU, USB) - windows

Required Software:

- A OMNIBUSF4.hex file (for flashing).
- Zadig USB driver installation – [http://zadig.akeo.ie/](http://zadig.akeo.ie/)
- Betaflight Configurator

Flashing steps:

- Place the board into DFU mode by shorting out (soldering or screwdriver) the boot pins on top of the board. Your device will be detected as a STM Device in DFU mode (or STM BOOTLOADER).

- Load up Zadig USB driver and select the STM DFU or STM BOOTLOADER device (if it is not listed please confirm step 1, and/or select "Options / View All Devices" in the Zadig menu. Install the WinUSB driver.
Virtual Communications Port

The F3 Femto utilises the STM32 Virtual Com Port (VCP). This allows the UARTs on board to be utilised whilst the USB is connected. This requires the STM VCP driver to be installed in order for the VCP to be recognised.

The STM32 VCP driver can be downloaded here --> http://www.st.com/web/en/catalog/tools/PF257938

**NOTE:** Once you download and run the installation it has **not** installed the driver, merely unpacked the choice of drivers. Locate the installation directory and then run the .exe file pertaining to your system.

e.g. C:\Program Files (x86)\STMicroelectronics\Software\Virtual comport driver\Win8\ <-- will have two files present. One for 64 bit systems and one for 32 bit systems.

- Betaflight Configurator