

WOLF 2 - Programming the FW

(for WiFi, FPGA and MCU)

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WiFi ESP-07 module

by USB cable and additional Wolf 2 COM port:

1. Connect Wolf and PC using a **USB-C cable**.
2. Holding down the **Flash Key** switch-on Wolf and hold the Flash key down to the end of programming!
3. Set the Wolf's **Second COM Mode** to **ESP**. (3V BAT must be fully charged!)
4. Start WiFi Download application `flash_download_tool_3.9.4.exe` and
 - choose **ESP8266**
 - choose file `ESP_ATMod.ino.bin` to the address **0x00000**
 - set Wolf's **COM port** and bitrate **115200 Bd**
 - set (40) **26 MHz, QIO, "DoNotChgBin"**
5. Click **START** to start programming.
6. Restart Wolf.
7. Check the ESP32 new response by typing **AT** and **AT+GMR** to the **COM port** in the terminal program.

Altera FPGA

A) by USB-Blaster programmer:

1. Connect the **Altera USB-Blaster programmer** to the 10-pin **JTAG connector on FPGA**.
2. Switch-on Wolf.
3. In application **Quartus II programmer** choose the FW file (e.g. **WOLF-14.1.0.jic**).
4. Start programming FW into FPGA.
5. Remove the **Altera USB-Blaster programmer** and restart Wolf.

or

B) by USB cable and SD card:

1. Connect Wolf and PC using a **USB-C cable** and switch-on Wolf.
2. In the Wolf's menu choose **SD Card - USB SD Card Reader**.
3. Copy the FW file (e.g. **WOLF-14.1.0.jic**) from PC to SD card.
4. In menu **SD Card – File Manager** choose the FW file using **encoder 2**.
5. Choose **Flash FPGA firmware** and wait! for programming to finish.
6. Switch-on Wolf.

STM32 MCU

A) When programming a blank MCU we have to use the **ST-Link V2 programmer**:

1. Connect the **ST-Link programmer** to **MCU's 10-pin JTAG connector**.

2. Install the **MCU BOOT jumper**.
3. Push and hold the Switch-on button for the whole programming time!
4. In application **STM32CubeProgrammer** choose **ST-Link programmer**.
5. Choose the FW file (e.g. **STM-14.2.0.bin**) and programme it into MCU.
6. Release the Switch-on button, remove the **MCU BOOT jumper** and **ST-Link programmer** and restart Wolf.

B) Otherwise we can simply use a USB cable in DFU mode (3V BAT must be fully charged!):

1. Connect Wolf and PC using **USB-C cable** and switch-on Wolf.
2. In menu choose **DFU mode**. (Wolf goes directly into DFU mode – blank screen!)
3. Push and hold the Switch-on button for the whole programming time!
4. In application **STM32CubeProgrammer** choose **USB**.
5. Choose the FW file (e.g. **STM-14.2.0.bin**) and programme it into MCU.
6. Release the Switch-on button and restart Wolf!
