⫿⫿ᖇ FrSKY — How to update the firmware of the FrSky XMR receiver

Introduction

FrSKy XMR receiver doesn't have any S.Port (nor a S.Bus). Thus, the firmware update procedure is not the same than X6R, X8R, etc. receivers.

The main reason to update the firmware (other than bug fixes) is to switch between the EU-LBT (European standard) and the FCC (rest of the World) protocol.

Generaly speaking, if your XMR has been purchased from an European dealer, the default firmware will be EU-LBT.

In the same way, a XMR purchased outside of the European zone, will be flashed with the FCC firmware.
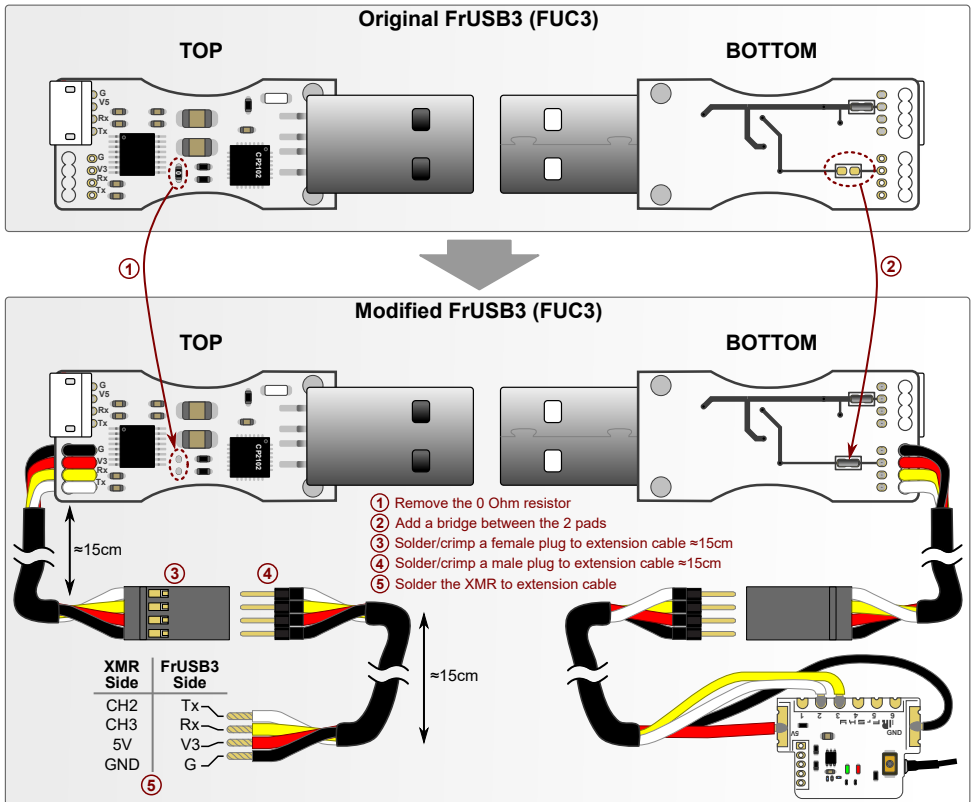
Required hardware and files

- FrSky XMR receiver
- FrSky FrUSB3 (FUC3)
- Soldering equipment for working on PCB (Printed Circuit Board)
- Desoldering equipement for working on PCB (Printed Circuit Board)
- Colored electric wires (4x colors, gauge about 22 AWG, length about 30cm)
- Pair of plug connector male and female with 4 contacts for electric wires (recommended 22 AWG)
- PC computer equipped with Windows 7 operating system or above
- On www.frsky-rc.com download "frsky_update_sport_rev##" software for FrUSB3 (FUC3) product
- On www.frsky-rc.com download last firmwares for FrSky XMR receiver

Preliminary modification of FrUSB3 or FUC3

WARNING : Once the modification described below has been done, you can't use it anymore to flash classical receivers with S.Port.

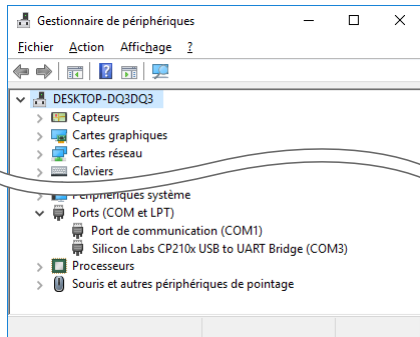Please modify FrUSB3 (FUC3) as described in the following illustrations.

Original FrUSB3 (FUC3)

TOP   BOTTOM

① ②

Modified FrUSB3 (FUC3)

TOP   BOTTOM

① Remove the 0 Ohm resistor
② Add a bridge between the 2 pads
③ Solder/crimp a female plug to extension cable ≈15cm
④ Solder/crimp a male plug to extension cable ≈15cm
⑤ Solder the XMR to extension cable

≈15cm

③ ④

≈15cm

XMR Side	FrUSB3 Side
CH2	Tx
CH3	Rx
5V	V3
GND	G

⑤

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FrUSB3 (FUC3) driver

The driver of FrUSB 3 is usually installed automatically on a PC running Windows 7 (or above), when plugged to the computer the first time. However, if the driver installation failed, download the drivers from : https://www.silabs.com/documents/public/software/CP210x_Windows_Drivers.zip, decompress then launch the installer corresponding to your Windows version.

How to check if the drivers are successfully installed

1 - In Windows OS, open "*Configuration pannel*" window or "*Parameters*" window.
2 - From this window, select the field "Search".
Enter "Device Manager" then click to search results.
3 - You should obtain this left illustration.
4 - Check if the line "*Silicon Labs CP210x USB to UART Bridge*" does exist under the header "*Ports (COM and LPT)*".
If you can't find the line, then the FrUSB3 (FUC3) installation has failed.
5 - You must remember the COM port number (at the end of the "Silicon Labs" line). Knowing this number is mandatory for the next step. In this illustration the COM port number is 3. On your computer it can be any number depending of the installed hardware.
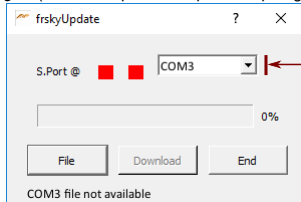
How to update the firmware of the FrSky XMR receiver

1 - Download the latest XMR firmware from the offical FrSky website: www.frsky-rc.com .
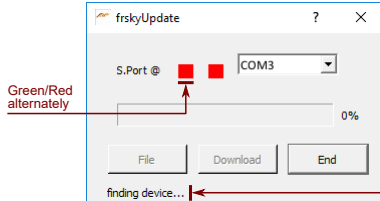After unpacking the archive, you will get two files:
• **XMRFCCyymmdd.frk** for the non-European version
• **XMRLBTyymmdd.frk** for the European version
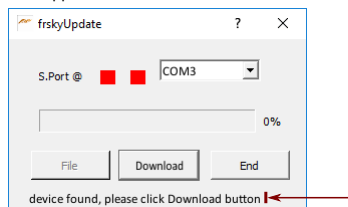Note : yymmdd represents the date of the version, yy for the year, mm for the month, dd for the day.
2 - Download the FrUSB3 (FUC3) software from the FrSky website www.frsky-rc.com from product's page.
After unpacking, you will obtain several files. The executable file which must be launch is named :
frsky_update_sport_rev##.exe (where ## is the version number)
3 - Plug your FrUSB3 to the computer
4 - Launch the executable "**frsky_update_sport_rev##.exe**" as an administrator (right click on the file).
5 - Select the COM Port of FrUSB3 listed in the "*Device manager*" (see the step 5 on the previous paragraph)
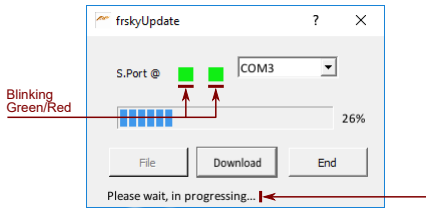
6 - Click on "*File*" button, then select the firmware file : **XMRFCCyymmdd.frk** or **XMRLBTyymmdd.frk**. The status will display "*finding device...*".

Green/Red alternately

7 - Plug the XMR to the FrUSB3 by connecting female plug ③ to male plug ④.
This operation results in the discovery of the XMR by the FrUSB3. After pluging the XMR, the message "*device found*" should appear.

8 - Click on the "Download" button in order to launch the firmware update procedure of the XMR. Green and red LEDs will be blinking during the flash progress. The bar will indicate the flash progression. The status will display "*Please wait, in progressing...*".

Blinking Green/Red

9 - When the transfer is completed, the progress bar indicates 100%, the status changes to "Firmware is updated". Red led will be steady on.
10 - Quit the software by clicking on the "End" button.
11 - Unplug the XMR to the FrUSB3 by deconnecting female plug ③ from male plug ④.
12 - Desoldering the XMR from his extension cable. The XMR is now ready to be used. You can bind it and install it in your model.

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XMR - Firmware Update - v**Unpublished**.En1 - P02
Ceeb182 on https://github.com/Ceeb182/Nonofficial_frsky_doc