

# Firmware Update (USB EEPROM and RAM)

An *update boot* (aka TE USB FX2 firmware update) is a multi-step boot operation. It follows these steps.

Follow the same procedure described in [update boot](#) and use OpenFutNet instead of [CyConsole](#) or [CyControl](#).

TE USB FX2 module with the USB EEPROM enabled (when TE USB FX2 module is powered on) should be already inserted at this point.

- A) [TE USB FX2 module is seen under Device Driver as a Trenz Electronic Device](#).
- B) [TE USB FX2 module is seen under Device Driver as a DEWESoft Device](#). In this case, you should start a [Recovery boot procedure](#).

Open a USB Firmware Upgrade Tool (double click OpenFutNet.exe).

- A) TE USB FX2 module is seen under Device Driver as a Trenz Electronic Device.

OpenFutNet: Open Firmware Upgrade Tool .NET v1.02 Beta

FPGA programming: \*.bit or \*.mcs file

FPGA SPI Flash writing progress: [Progress Bar]

FPGA bitstream file path: [Text Box] FPGA SPI Flash bitstream pathname

Trenz Electronic Reference Architecture based on MicroBlaze soft processor: No, Custom project not base

TE Reference based: Yes/No Major Version Minor Version Release Version Build Version

USB Cypress FX2 microcontroller EEPROM programming: \*.jic file

IIC EEPROM write progress: [Progress Bar]

USB Firmware file path: [Text Box] USB Cypress FX2 microcontroller IIC EEPROM firmware pathname

Latest firmware version flashed on FX2 microcontroller EEPROM: TE FX2 Firmware Gen3 3 0

VID: 0x0BD0 PID: 0x0300

Trenz Electronic USB FX2

☐ Clear the log text, in the box below, before every new programming operation

☐ Verbose log text: Yes/No

☐ Flash ID retrieved: Yes/No

Clear the log text in the box below

Show Help

Refresh information about FPGA and FX2

---A Trenz Electronic device is already inserted when OpenFut start to run---

INFO: The Trenz Electronic module starts as a Trenz Electronic Device: this happens when EEPROM switch is set to ON when the TE module is attached to USB port (or more generally when the TE module is powered on with EEPROM switch ON).

INFO: Trenz Electronic TE\_USB\_FX2 driver used for normal work with Trenz Electronic module

INFO: You can write a new firmware inside the EEPROM (if EEPROM switch is set to ON)

INFO: You can write a new FPGA bitstream inside SPI Flash.

OpenFutNet Trenz Electronic device already inserted

- B) TE USB FX2 module is seen under Device Driver as a DEWESoft Device. You should start a [Recovery Boot](#); you are not able to go any further in Firmware Upgrade.

OpenFutNet: Open Firmware Upgrade Tool .NET v1.02 Beta

FPGA programming: \*.bit or \*.mcs file

FPGA SPI Flash writing progress

FPGA bitstream file path

Select \*.bit or \*.mcs file, or enter file path

Program FPGA: write SPI Flash

Trenz Electronic Reference Architecture based on MicroBlaze soft processor

Not yet retrieved Not yet retrieved Not yet retrieved Not yet retrieved Not yet retrieved

TE Reference based: Yes/No Major Version Minor Version Release Version Build Version

USB Cypress FX2 microcontroller EEPROM programming: \*.iic file

IIC EEPROM write progress

USB Firmware file path

Select \*.iic file or enter file path

Program USB: write IIC EEPROM

Latest firmware version flashed on FX2 microcontroller EEPROM

Trenz Electronic Gen2 Not yet retrieved Not yet retrieved VID 0x0547 PID 0x1002

Type Major Version Minor Version DEWESoft device

☐ Clear the log text, in the box below, before every new programming operation

☐ Verbose log text: Yes/No

☐ Flash ID retrieved: Yes/No

—A DEWESoft device is already inserted when OpenFut starts to run—

INFO: The Trenz Electronic module starts as a DEWESoft Device: this happens when EEPROM switch is set to ON when the TE module is attached to USB port (or more generally when the TE module is powered on with EEPROM switch ON).

INFO: The Trenz Electronic module runs the 2nd generation firmware (TE\_USB\_FX2 Gen 2)

INFO: You can't write a new firmware inside the EEPROM (even if EEPROM switch is set to ON)

INFO: DEWESoft : you can't write a new FPGA bitstream inside SPI Flash.

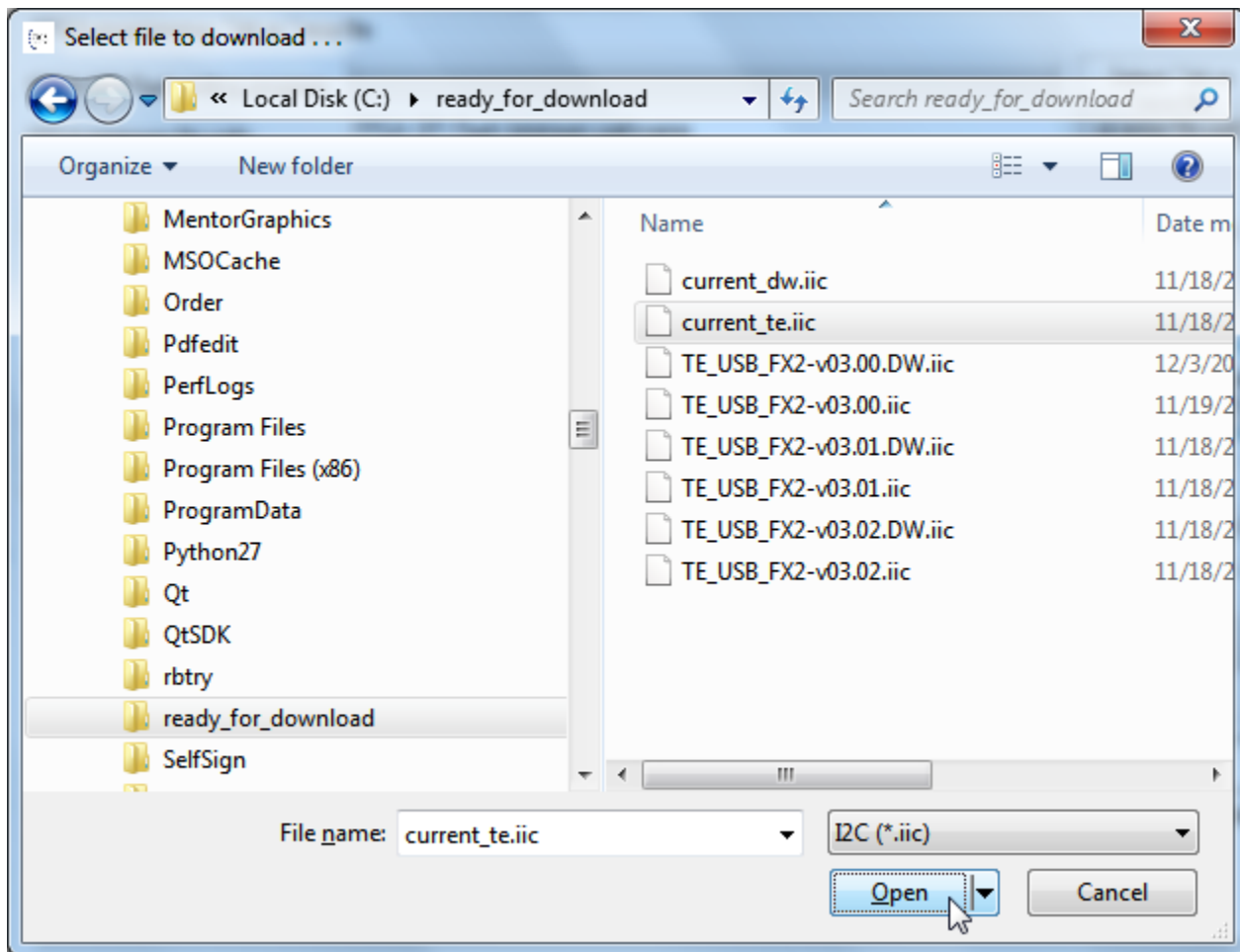
INFO: You should start a Recovery Procedure to change the firmware of FX2 microcontroller

Status

#### OpenFutNet DEWESoft device already inserted

Press the "Select \*.iic file or enter file path" button corresponding to the firmware file pathname selection.

Select a suitable .iic firmware upload file. You can download the firmware available at [Trenz Electronic GitHub](#).



**Select .iic file (firmware file)**

Press the "Program USB: write IIC EEPROM" button if you want the \*.iic file to be written into the large EEPROM of the EZ-USB FX2LP USB FX2 microcontroller.

When the progress bar reaches 100%, the following log text message notifies the successful completion of the USB upgrade procedure.

OpenFutNet: Open Firmware Upgrade Tool .NET v1.02 Beta

FPGA programming: \*.bit or \*.mcs file

FPGA SPI Flash writing progress

FPGA bitstream file path

Trenz Electronic Reference Architecture based on MicroBlaze soft processor

TE Reference based: Yes/No

Major Version

Minor Version

Release Version

Build Version

Select \*.bit or \*.mcs file, or enter file path

Program FPGA: write SPI Flash

USB Cypress FX2 microcontroller EEPROM programming: \*.iic file

IIC EEPROM write progress

USB Firmware file path

Latest firmware version flashed on FX2 microcontroller EEPROM

TE FX2 Firmware Gen3

3

2

VID 0x0BD0

PID 0x0300

Trenz Electronic USB FX2

Select \*.iic file or enter file path

Program USB: write IIC EEPROM

☐ Clear the log text, in the box below, before every new programming operation

☐ Verbose log text: Yes/No

☐ Flash ID retrieved: Yes/No

Clear the log text in the box below

Show Help

Refresh information about FPGA and FX2

INFO: The Trenz Electronic module starts as a Trenz Electronic Device: this happens when EEPROM switch is set to ON when the TE module is attached to USB port (or more generally when the TE module is powered on with EEPROM switch ON).  
INFO: Trenz Electronic TE\_USB\_FX2 driver used for normal work with Trenz Electronic module  
INFO: You can write a new firmware inside the EEPROM (if EEPROM switch is set to ON)  
INFO: You can write a new FPGA bitstream inside SPI Flash.

FX2 microcontroller EEPROM programming: START..... STOP. SUCCESS: FX2 microcontroller EEPROM programmed.  
FX2 microcontroller RAM Programming: START..... STOP. SUCCESS: FX2 microcontroller RAM programmed

SUCCESS: FX2 microcontroller EEPROM and RAM programmed

OpenFutNet Firmware Programmed