

Firmware Recovery (USB EEPROM and RAM)

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

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

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

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

FPGA SPI Flash bitstream pathname

Not yet retrieved

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: *.jic file

IIC EEPROM write progress

USB Firmware file path

Latest firmware version flashed on FX2 microcontroller EEPROM

USB Cypress FX2 microcontroller IIC EEPROM firmware pathname

Cypress used for Recovery F

Recovery Procedure

Recovery Procedure

VID 0x04B4

PID 0x8613

Cypress USB Generic Driver

Select *.jic 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

—A Cypress device is already inserted when OpenFut start to run—

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

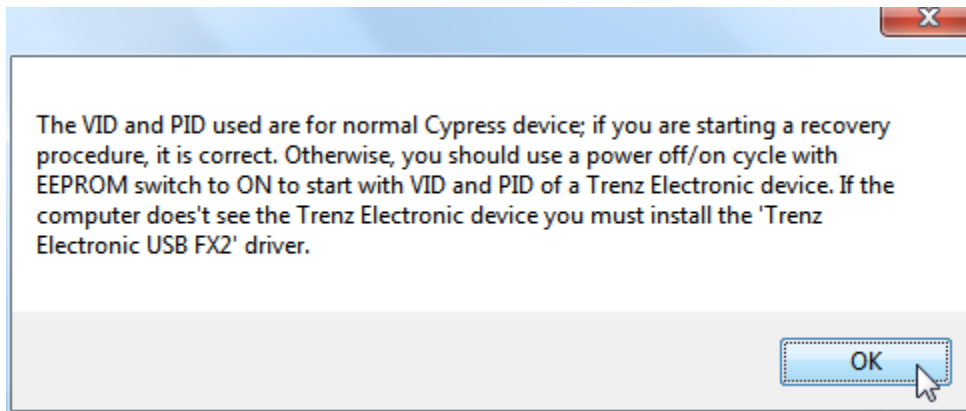
INFO: Generic Cypress USB Driver used for the recovery of Trenz Electronic Firmware (TE_USB_FX2 Gen3) for FX2 microcontroller

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

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

OpenFutNet start with a Cypress device

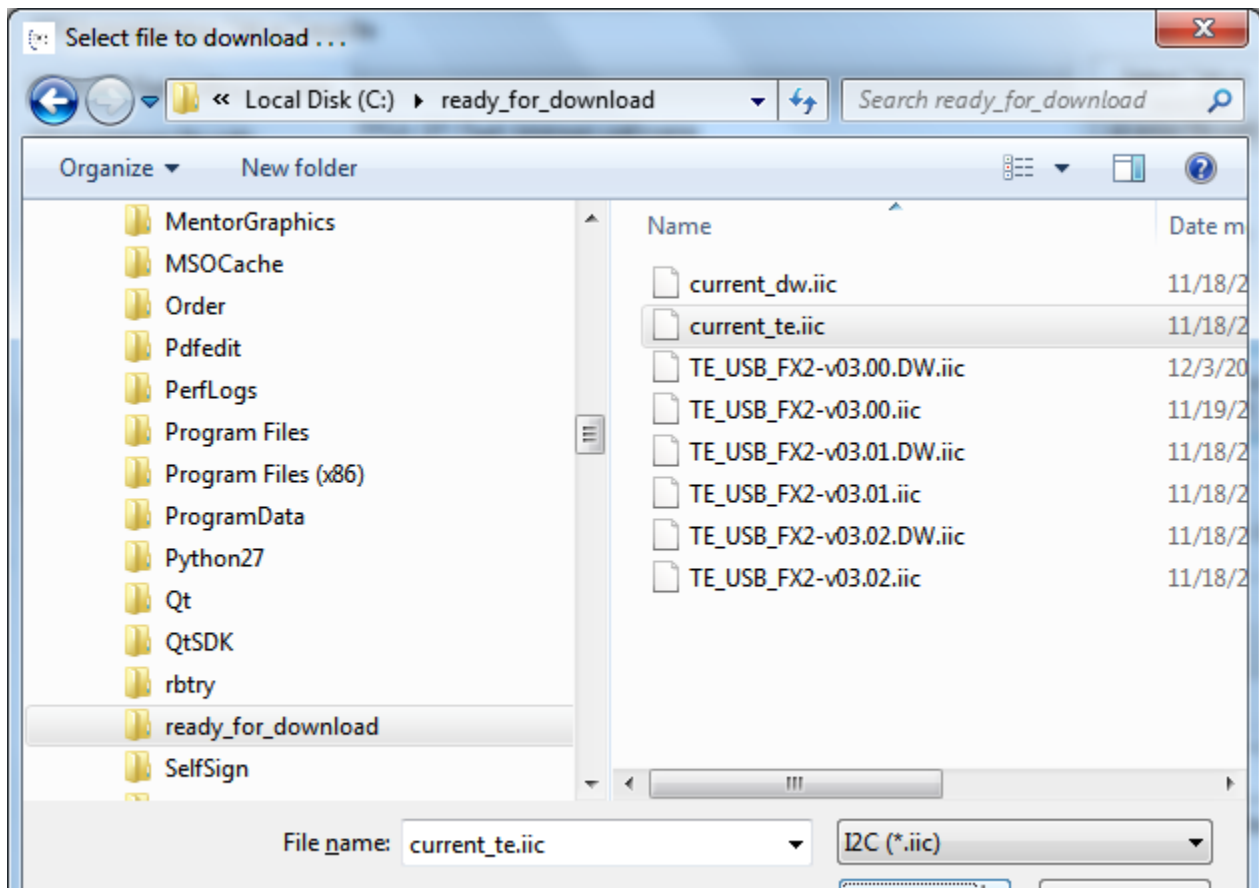
Click OK into the pop-up. (In the next version, it will appears only if Verbose flag is checked).

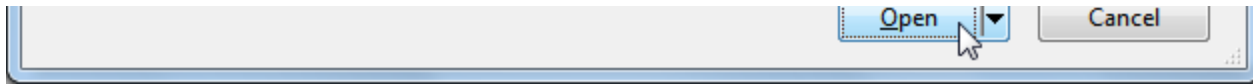


Verbose Recovery Information

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](#).

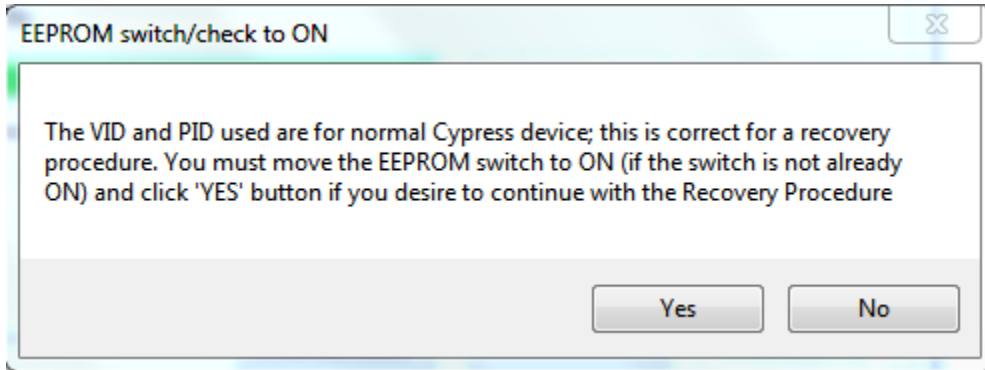




Select the .iic file (firmware file)

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.

OpenFutNET informs you, with a pop-up, that a Cypress device has been inserted and not a Trenz Electronic device.



Pop-up warning about EEPROM switch

Move the EEPROM switch to enable the USB EEPROM connection, if it is not already done.



Do not turn off (power off) the module when you are enabling the USB EEPROM connection.

Click 'Yes' in the pop-up.

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

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TE Reference based: Yes/No

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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

Type

Major Version

Minor Version

VID

PID

Trenz Electronic USB FX2

Select *.iic file or enter file path

Program USB: write IIC EEPROM

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☐ 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

USB port (or more generally when the TE module is powered on with EEPROM switch OFF).

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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

EEPROM and RAM of USB FX2 microcontroller programmed successfully