

Open_FUT (gen 2)



Precondition

The (generation 2) TE03xx device driver should be already [installed](#) and a Generation 2 firmware should be already programmed in USB FX2 microcontroller's EEPROM and RAM.

[Open_FUT \(gen2\)](#) is a Trenez Electronic Python application that use [Trenz Electronic Command API](#) and [DEWESoft C API](#) to program USB firmware and FPGA bitstream. It can be downloaded from [here](#).

It is not possible to use for Firmware Recovery (USB EEPROM and USB RAM programming): use [CyControl](#), [CyConsole](#) or [OpenFutNet](#) instead.

It can be used for:

- Firmware Update (USB EEPROM programming): you should use a [.iic file \(EZ-USB FX2LP USB FX2 microcontroller firmware\)](#) ;
- FPGA Configuration (SPI Flash and FPGA programming): both [.bit](#) and [.mcs](#) file formats for Xilinx Platform (not for third-party) SPI Flash memories are supported.

Firmware Update



EEPROM connection shall always be enabled during EEPROM programming.

A Firmware Update (aka *Update Boot*, more precisely TE USB FX2 firmware update) is a multi-step boot operation:

- Check that EEPROM connection is enabled (EEPROM switch is set in a way to enable EEPROM connection to USB FX2 microcontroller)
- 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 Trenez Electronic Device](#). In this case, you should start a [Recovery boot procedure](#) to download [Generation 2 firmware](#).
 - B) [TE USB FX2 module is seen under Device Driver as a DEWESoft Device](#). Case B is considered true from now on: TE USB FX2 module is seen under Device Driver as a DEWESoft Device.
- Open the [USB Firmware Upgrade Tool Open_FUT \(gen 2\)](#): double click "ofut.py".
- Press the "..." button (it means for "Select *.iic file or enter file path") at left of "Program USB" 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](#).
- 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.



The [procedure is the same of Open_FUT \(gen 3\)](#) but with Dewesoft vid/pid (current_dw.iic) in place of Trenez Electronic vid/pid (current_te.iic).

FPGA Configuration

An FPGA Configuration (aka TE USB FX2 SPI and FPGA programming) is a multi-step operation:

- Insert the TE USB FX2 module with the USB EEPROM enabled (when TE USB FX2 module is powered on).
 - A) [TE USB FX2 module is seen under Device Driver as a Trenez Electronic Device](#). In this case, you should start a [Recovery boot procedure](#) to download [Generation 2 firmware](#).
 - B) [TE USB FX2 module is seen under Device Driver as a DEWESoft Device](#).
- Open the [USB Firmware Upgrade Tool Open_FUT \(gen 2\)](#): double click "ofut.py". Case B is considered true from now on: TE USB FX2 module is seen under Device Driver as a DEWESoft Device.

From now on it is possible to follow the [same procedure of Open_FUT \(gen 3\)](#).