

Manual K+K FXE2 FPGA Uploader

Version 1.0.0 - 2026-07-30

KK_FXE2_FpgaUploader updates FXE_3HE board with MicroSemi FPGA.
Needs FXE2 device with USB connection.

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History

Date	Version	Who	Description
26-07-30	1.0.0	Loryn	created

1. Requirements

Extract the .zip file in a directory with write access.

The executable file **KK_FXE2_FpgaUploader** is intended exclusively for K+K FXE2 devices connected to an FXE_3HE board featuring a MicroSemi FPGA.

Please connect the device via USB to your computer and power the device.

The executable already contains the FPGA stream to be loaded. The FPGA code is indicated in the file name.

2. Starting

On start **KK_FXE2_FpgaUploader** establishes the USB connection, USB firmware version and FPGA IDs are read. Informations found in the version string are displayed in the *Device Info* box, FPGA IDs are shown in der *Device FPGA* box. The version string is displayed in the message box.

If the device does not have a MicroSemi FPGA, the update will be rejected.

KK_FXE2_FpgaUploader needs USB firmware 1.32. In case of device USB firmware is lower then 1.32, please use **KK_FXE2_FpgaUploader** to update firmware first.

3. Main Window

At start **KK_FXE2_FpgaUploader** displays the main window.

K+K FXE2 FPGA-Uploader - 1.0.0 2026-07-30 - FPGA user code 260521.51

File Help

Select Device

USB

KK-FXE2 Refresh Reopen

Device Info

Hardware: FXE2 Serial number: 0000031D Firmware: U20-1.32 26-05-19

Device FPGA

FPGA type: MicroSemi Device-ID: 0F8051CF FPGA Code: 231117.31

Progress

USB

Description	State	KK-FXE2	%
Read version	Done		100
Read config	-		-
Read IDs	Done		100
Transmit code	-		-
FPGA action	-		-
Reset	-		-

Update FPGA Cancel

Messages

USB: Firmware version: FXE2 / # 0000031D User 1 / U20-1.32 26-05-19 / HW: 23111731 / IP: 192.168.178.98
LAN: LAN: -

Main Window

The main window is divided into six groups:

1. Menu
2. Select Device
3. Device Info
4. Device FPGA
5. Progress
6. Messages

Menu:

The menu item **File – Exit** close the program - same action as close button in window title.

To switch on/off debug log use **Help** menu items **Debug log, Debug stream, Debug error only**. The debug log serves for error detection and is switched off by default. Option *Debug error only* is switched on by default. If debug logs are written all error free debug files are deleted on program end.

Debug log files are in sub folder **Debug** of the executable. Debug settings are stored in INI file (see chap 6).

Help – About displays version informations about KK_FXE2_FpgaUploader.

Select Device:

USB box shows all found FXE2 devices on USB. First USB device is selected automatically.

Click *Refresh* to search for USB devices again. If USB device is plugged in or powered, USB enumeration starts again.

Click *Reopen* to establish USB connection again and to read USB firmware version.

Device Info.

Shows informations found mainly in the firmware version strings like device serial number, hardware configuration, FPGA User Code, firmware version number and date, IP and MAC address.

Device FPGA:

Shows FPGA type and ID of FPGA on FXE board. Displays loaded FPGA Code.

Progress:

Displays the progress of the function steps.

Includes buttons for starting the update or cancel operation.

Messages:

The message box displays USB firmware version string and progress updates.

5. Update FPGA

Please connect your K+K FXE2 device via USB to your computer, power the device and start **KK_FXE2_FpgaUploader**.

The USB connection to the device is established automatically, the USB firmware version and FPGA IDs are read and displayed in *Messages* box and *Device FPGA* box.

Click *Update FPGA* to start the update process. If the device FPGA code is identical with code in filename or if the device does not have a MicroSemi FPGA, update is denied.

Otherwise the FPGA stream is transferred to the device, the programming process is started and the loaded FPGA is then verified. Finally, the device is reset.

The firmware version and FPGA IDs are then read in again and displayed.

6. INI file

The settings for debug log and window positions are loaded from and saved into INI file (*.ini). The INI file is located in same directory as the executable.