

**Software manual**

Universal Device Firmware Upgrade (UDFU)

English (EN)

# Universal Device Firmware Upgrade (UDFU)

## 1 Installation

You will need the UDFU program to manage the firmware of different Eppendorf devices on your computer and for the transfer to the devices.

UDFU is a standard firmware upgrade procedure. The UDFU program is based on the "Microsoft .NET Framework".

### 1.1 System requirements

Minimum system requirements	Optimal system requirements
2 GB RAM	8 GB RAM
Microsoft Windows XP (32-bit) Service Pack 2	Microsoft Windows 7 (64-bit)
Microsoft .NET Framework 3.5 Service Pack 1 (3.51)	Microsoft .NET Framework 3.5 Service Pack 1 (3.51)
USB 1.0	USB 2.0

### 1.2 Installing Microsoft .NET Framework

1. Check to see if the Microsoft .NET Framework 3.5 Service Pack 1 is on your computer.
2. If the program is not installed on your computer, download "Microsoft.NET-Framework 3.5 Service Pack 1" from the Internet. Link: <http://download.microsoft.com>. Enter the keyword "Microsoft.NET-Framework 3.5 Service Pack 1" for your search.
3. Start the Microsoft .NET Framework setup file.
4. Follow the installation instructions shown on the screen.
5. Restart the computer.

### 1.3 Installing the UDFU program

1. Download the UDFU program from the [www.eppendorf-support.com](http://www.eppendorf-support.com) website (password required).
2. Unpack the downloaded file.  
To start the UDFU program press *UDFUFlashGUI.exe*.

### 1.4 Loading the firmware

1. Download the current firmware files from the [www.eppendorf-support.com](http://www.eppendorf-support.com) website (password required).
2. Save the firmware files on your computer.
3. Start the UDFU program (=> *UDFUFlashGUI.exe*).
4. Press the *Browse* button and select the desired firmware.  
The firmware file is displayed in the *Firmware available* window.

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## 2 Application

### 2.1 Program window

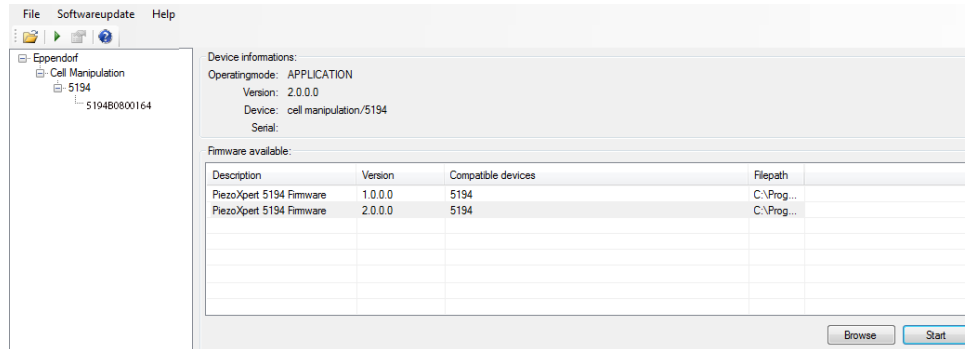


Fig. 1: Program window

#### **Browse button**

Loads firmware files to the UDFU program.

#### **Start button**

Starts the firmware update.

### 2.2 Updating the firmware

Several devices that support the UDFU program can be connected to the computer simultaneously. The devices are identified by serial number.

1. Start the UDFU program.
2. Connect the device to the computer with a USB cable.
3. Switch on the devices.

The connected devices are shown under the *Eppendorf* node. The devices are sorted by device type.

4. To update the firmware of a device, select device in the left window.

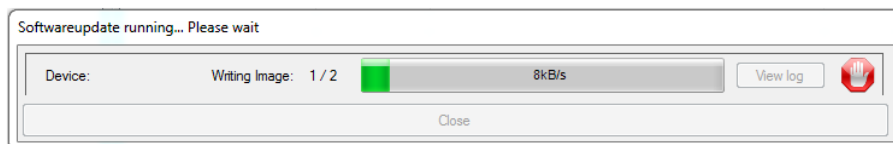
The *Device information* field shows the current data for the selected device.

5. To update the firmware of several devices at the same time, select superordinate node, e.g., "538x" or "5194".

All devices below this node will be updated.





6. Select the firmware in the *Firmware available* window.

7. Click the *Start* button.
8. Wait until the firmware upgrade is finished.  
 The upgrade progress is constantly displayed on the computer.



9. Click the *Close* button.
10. Disconnect the USB connection.

### 2.3 Status message symbols

Symbol	Meaning	Action
	Upgrade successful.	The device can be disconnected from the computer.
	Data transfer in progress.	Wait until the data transfer is finished.
	A fault has occurred.	Check USB connection, computer and device. Restart the upgrade.
		Do not click the button. The window does not contain any information for the service technician.
<i>Unknown USB device message</i>	The data transfer is not finished.	Wait until the data transfer is finished. The error message disappears as soon as the the process is finished.