

Work instructions

Ultimaker S5 (mid 2020) & Ultimaker S3 firmware recovery

Introduction

You can follow this guide to fix an Ultimaker S5 (mid 2020) or an Ultimaker S3 affected by a severe firmware issue. In such cases, the printer becomes unresponsive and it will be stuck in the boot up process.

Firmware recovery procedure

- ESD safe work environment
- Micro SD card, 1 GB minimum (*Warning: Will be erased*)
- Computer with micro SD card reader (*or a similar external device*)
- Safety plug (*recommended*)

Instructions

Prepare the SD card

1. Download the latest recovery image:

[The latest recovery img can be found on our website](#)

⚠ Note: The recovery images are printer specific

1. Connect your micro SD card to your computer
2. Write the firmware .img file to the SD card using a disk imager tool

📘 Tip: The appendix contains detailed instructions on how to use a disk imager tool.

3. With the image written to the micro SD card, safely remove the SD card from your PC

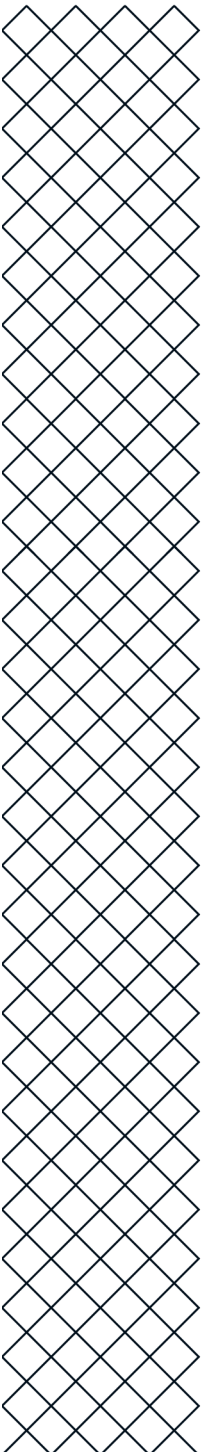
Remove the printer bottom cover

⚠ Note: This procedure involves working with sensitive electronic components. Take ESD precautions before you start.

⚠ Caution: Make sure the printer is turned off and the power cable is disconnected. It is recommended to place the Ultimaker safety plug into the power entry.

1. Gently place the printer on its left side, with the bottom facing towards you
2. Remove the bolts that secure the bottom cover
3. Move the cover away from the printer, disconnect the speaker cable, and place the bottom cover aside





Firmware recovery instructions

⚠ Note: Recovering the printer firmware will erase all settings, including those set by the factory. The lift switch calibration, bed leveling and the XY calibration will have to be redone.

1. Insert the micro SD card into the slot on the Ultimaker mainboard (*see image*)
2. Place the bottom cover back

i Tip: Secure it with only a few bolts, as the bottom cover will need to be removed again later. It is not necessary to reconnect the speaker cable.

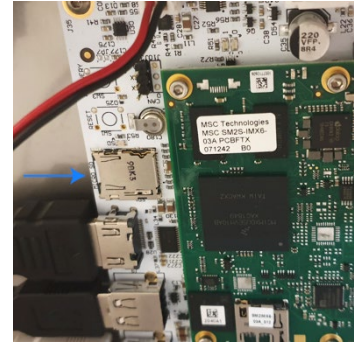
3. Reconnect the power cable and turn the printer on
4. The firmware recovery begins automatically. Wait for the installation progress to be completed

i Tip: The display will show **Installation complete**.

5. Turn off the printer and disconnect the power cable
6. Open up the bottom cover
7. Push on the micro SD card to remove it from the slot in the mainboard
8. Place back the bottom cover and secure in place

i Tip: Make sure to connect the speaker cable to the connector at the side of the mainboard. Secure the bottom cover with all eight bolts.

The procedure is complete and the Ultimaker S5 (mid 2020) / Ultimaker S3 is ready to use again.





SD card disk imaging guide

Windows

The Win32 Disk Imager is recommended. Download the tool here:

<https://sourceforge.net/projects/win32diskimager/>

1. Open the Win32 disk imager tool
2. Select the 'recovery.img'
3. Select your SD card drive number
4. Press **write**. Wait for the process to finish completely
5. Safely remove the SD card from your PC

To restore the SD card after the firmware recovery procedure:

1. Insert SD card in computer
2. Right click and select **Format**

MacOS

The ApplePi Baker app is recommended. Download the app here:

<https://www.tweaking4all.com/software/macosex-software/macosex-apple-pi-baker/>

1. Open the ApplePi-baker application
2. Select the SD card in the list of available devices on the right
3. Click **Restore Backup** and navigate to the 'recovery.img'
4. Wait for this process to finish
5. Safely remove the SD card from your computer

To restore the SD card after the firmware recovery procedure:

1. Insert SD card in computer
2. Open Disk Utility
3. Select the SD card and select the Erase tab
4. Select the desired file format and select **Erase**