

HowTo use our 3D Printer

Material

At the moment only use ABS (green, red, white, blue, orange) Do not use PLA (black) or Ninja Flexible Material ... for those materials we have to wait for a firmware upgrade (14.07.2014).

Known Issues

Date	Description	Solution
14.04.2014	SD Card Slot does not hold Card	Use either USB and laptop or fix the SD Card with a tape
14.07.2014	Broken Fan	Replaced Fan

Creating a 3D Object

Choose a CAD or 3D Software which can handle stl files (examples: MeshLab, Blender, Bricscad, Qcad, FreeCAD, VariCad, Open CASCADE, Cycas CityEngine, BRL-Cad, Draftsight, LibreCAD, ...)

Create your 3D model and save it as STL file.

You can also have a look at the makerbot thingiverse library - where you can find free (gpl licensed) 3D models ready for printing: <http://www.thingiverse.com/>

If you want to share your CAD models with the group (or if it is more often used) add your STL file(s) to following repository:

```
ssh://iis.uibk.ac.at/projects/git/CAD-models
```

Makerware and 3D Print Files

To create 3D print files you have to use the original Replicator 2x software: makerware (Download: [Makerware](#))

1. start Makerware
2. **SELECT CORRECT 3D Printer**
3. MakerBots → Type of Makerbot → The Replicator 2x

Import your STL file in Makerware and use the following settings as default for print-file export (object without quotes refers to the imported stl file; "Object" refers to the menu point):

1. move object to platform (select object → select "Move" → "On Platform")
2. place object a bit to the front
3. select object → "Object" → select Extruder "left"
4. select "Make"
5. Export for "The Replicator 2X"
6. Select Left: "Makerbot ABS"
7. Resolution: Standard
8. Raft: "Left Extruder"

- 9. Supports (only if you have overhanging parts in you object): "Left Extruder"
- 10. Quality
 - 1. Infill: between 10% - 40% depending on how stable your object should be
 - 2. Number of Shells: 2
 - 3. Layer Height: 0.15mm
- 11. Temperatur:
 - 1. Extruders: 233
 - 2. select "Heat Build Plate"
 - 3. Build Plate: 116
- 12. Speed:
 - 1. Speed while extruding: 70mm/s
 - 2. Speed while traveling: 150mm/s

Save the x3g file on a FAT formated SD-Card. The SD card used with your MakerBot Replicator x2 must be formatted FAT16 with a maximum capacity of 2GB. Put the SD-Card into the printer and select your file to print.

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Last update: **2014/10/16 17:15**