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Repetier-Host Documentation

Installation

Prerequisites

Before you start with the installation, you should check if your computer meets the requirements. Currently available computers should have no problems at all. If you have an old computer running Windows XP you may have difficulties. The Repetier-Host works on Windows XP and later and on Linux. If you have a Macintosh computer, check for the Repetier-Host Mac on this site. All you need is .NET framework 4.0 or a recent Mono installation, if you are running Linux. The only other requirement is a graphic card with OpenGL. For a good rendering performance OpenGL 1.5 or higher is needed. With lower versions you may have speed issues with live preview.

Getting the software

Go to the Repetier-Host ([download page here](#)) and download the latest version for your operating system.

Now, go to the Arduino ([download page here](#)) and download the latest version for your operating system.

Windows installation

First, go to the folder you downloaded the Arduino file into and run the

arduino-1.6.0-windows.exe file (or latest version) by right clicking on it and choose the 'RUN AS ADMINISTRATOR' option – follow the on-screen instructions to install the program

Next, The Repetier-Host windows file comes with an installer. Go to the folder you downloaded the Repetier-Host file into and run the setupRepetierHost_6.exe file (or latest version) by right clicking on it and choose the 'RUN AS ADMINISTRATOR' option – follow the on-screen instructions to install the program

The Repetier-Host installer already contains Model slicing software Cura and Slic3r.

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Linux Only Installation (non Windows)

The linux version comes as gzipped tar file. Move it to where you want your files and unpack its contents and run the post installation script:

```
tar -xzf repetierHostLinux_1_03.tgz

cd RepetierHost

sh configureFirst.sh
```

After that you have a link in /usr/bin to the installation, so you can start it with Repetier Host. Make sure you have all required Mono libraries installed. If you are in doubt, install Mono develop, which has all needed libraries as dependency.

One problem that most linux distributions have is, that the normal users are not allowed to connect to a serial console. You need to put your user into the right group. On Debian you can call:

```
usermod -a -G dialout yourUserName
```

to add your user to the group dialout.

First start

After the first start-up, a dialog may pop up asking you, where your work directory should be. The latest windows versions skips this step, because the installer already created a work directory for you. You can select any directory, where you have write privileges, but it is advised to use a separate directory for this purpose.

The work directory is, where the Repetier-Host will put temporary stl files, sliced results and if enabled the log file.
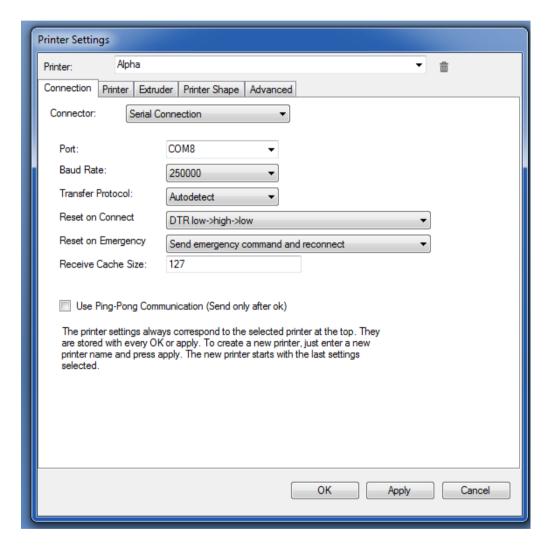
Configuration

Configuring your printer

The next step is to configure the Repetier-Host software so your printer can connect to your computer. If you have installed the 'Arduino' program (see page 1), the driver will already be installed.
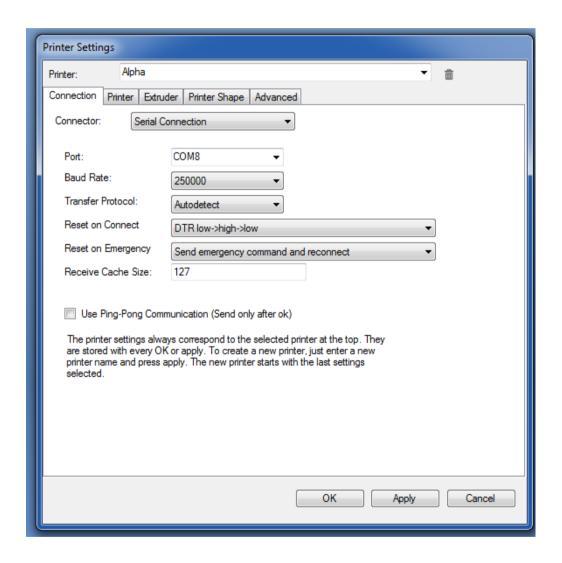
Go to the menu "Config"->"Printer Settings" or click the button Printer Settings. You will see a window like this:
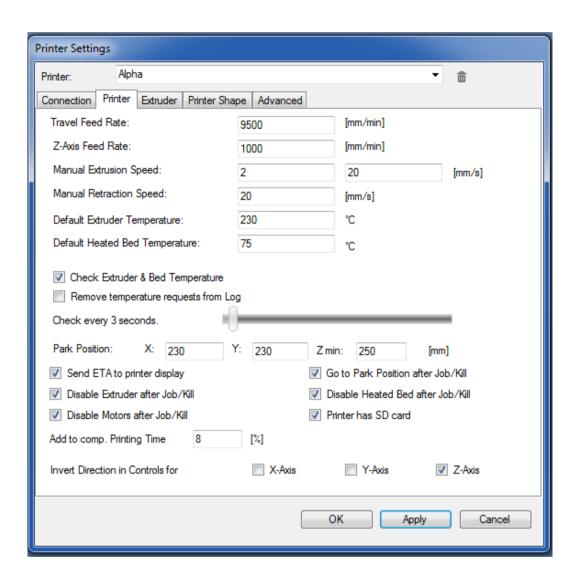

First, click on the top drop-down box named 'Printer:' by default, this will show 'default' as the printer name. Type 'Alpha' in that box – NOW CLICK the APPLY button at the bottom of the window. 'default' should have now changed to 'Alpha' as above.
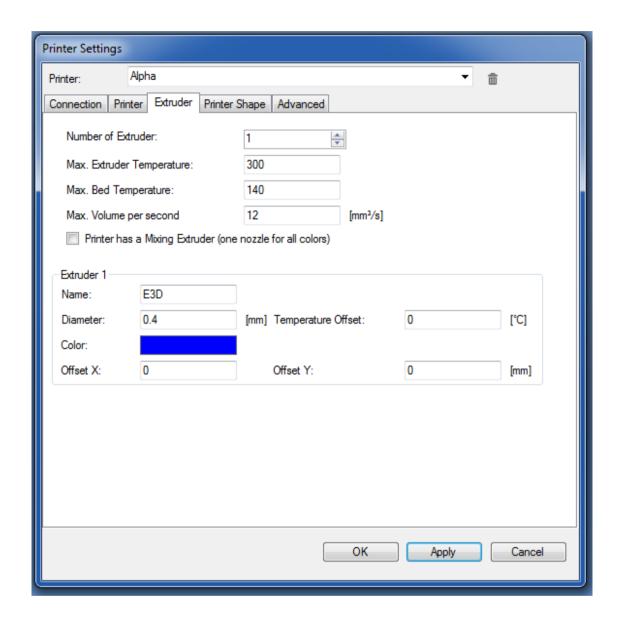
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In the first tab named 'Connection', you set how to connect with your printer. In "Port" you select the port, where your printer is connected. At the opening of the window, all available ports were scanned and added to the list. Select the right one by clicking the Windows 'Start' button, right click 'Computer' on the right hand list, click 'Manage' then 'Device Manager'. Then expand the PORTS (com & lpt) – with your Kora Alpha connected to a USB port on your computer, the com port number is shown as 'Arduino' or 'USB Serial Port' with the Com port number in brackets after it. Enter this number in the Port drop-down box. Then set all other boxes. NOW CLICK the APPLY button at the bottom of the window
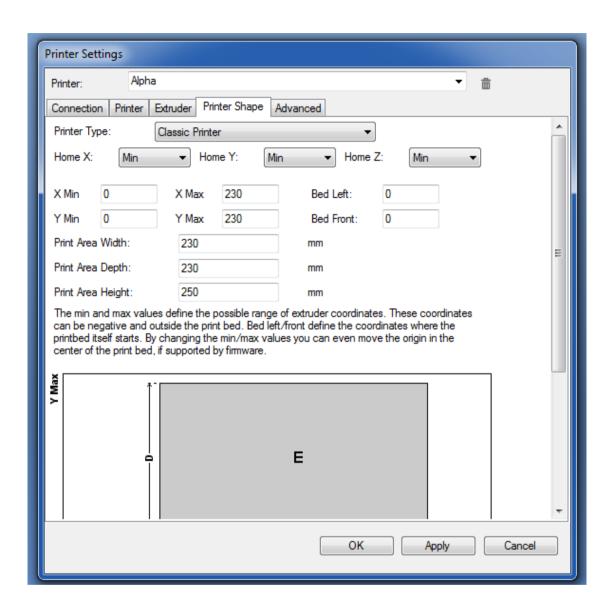
In the second tab named 'Printer', this defines important behaviour you want. Copy EXACTLY the settings shown below into the window. NOW CLICK the APPLY button at the bottom of the window
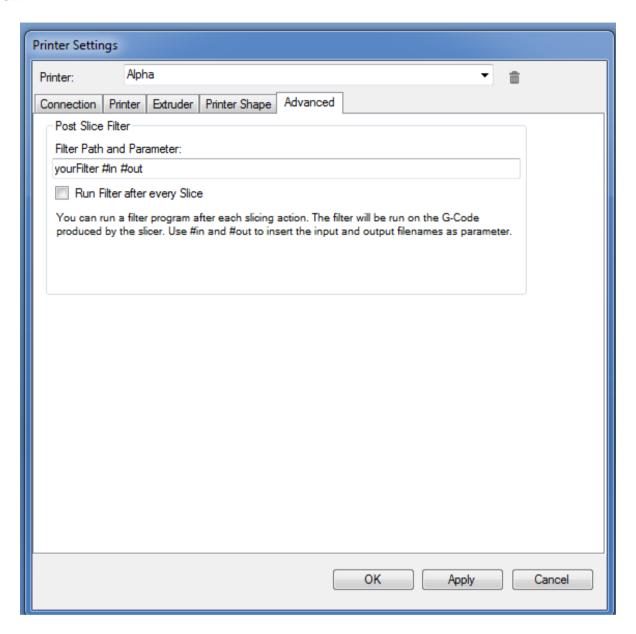
In the third tab named 'Extruder', this tab sets some important information about the Kora Alpha 'hot end' or 'extruder'. Copy EXACTLY the settings shown below into the window. NOW CLICK the APPLY button at the bottom of the window

In the forth tab named 'Printer Shape', this tab sets some important information about the Kora Alpha print area sizes. Copy EXACTLY the settings shown below into the window. NOW CLICK the APPLY button at the bottom of the window

In the fifth tab named 'Advanced', this tab is for advanced users and should be left as default. Check it is showing as the window below. NOW CLICK the APPLY button at the bottom of the window
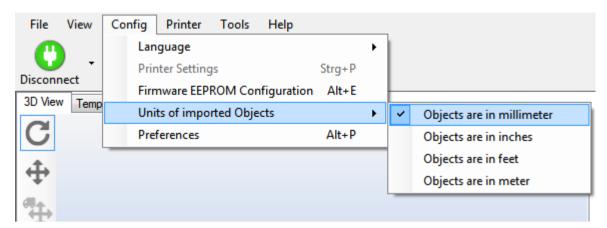

NOW CLICK the OK button at the bottom of the window.

Your Kora Alpha is now configured to function correctly with the Repetier-Host software. This information will be automatically saved and it is not necessary to repeat this process whenever the Kora Alpha is used on this computer.

Units Settings

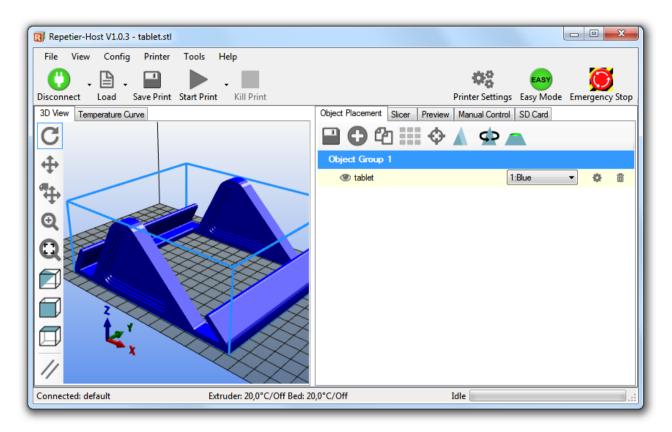From the 'Main Screen' on Repetier-Host, check the following settings are applied

The Repetier-Host uses internally only millimetres. Unfortunately STL and OBJ format do not contain a scaling hint. Therefore you need to select the units used for the creation. That way the Repetier-Host will convert the units correctly into millimetres.

Object Placement

Objective

Prepare all objects you want to print, so your printer can print them. Learn how to arrange them on your print bed. Rotate and scale them to your preference.

Workflow

Open the "Object Placements" tab. You will see the print area on the left side. You start with importing all STL files using the "Add Object" button ⊕. You can select multiple object files at once if you want. This must be in one of the following formats: STL, OBJ, 3DS. The Repetier-Host will always try to position the objects in a non overlapping way onto your bed.

Browsing 3D View

In this window you see your 3D objects. At the left side, you find some navigation buttons:

The first 4 buttons change the behaviour of the left mouse button. Starting at the top, you get "Rotate" ↻, "Move Viewpoint" ✛, "Move Object" ✛ and "Zoom" 🔍. All functions can be used with control keys, so that you don't have to change all the time.
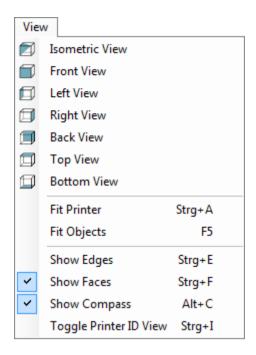
Control: Holding the control button, you can rotate the view with the left mouse button.

Shift: Holding shift button you can move the view point with the left mouse button.

Right Mouse Button: Move the object by holding the right mouse button.

Mouse Wheel: Zoom view

With this icon the objects will be zoomed to fit exactly in the preview area.

With the next three icons you can select between predefined view orientations. You find more view options at the top View menu:

Fit Printer (Strg+A): Zooms to fit the complete printer area into the window with maximum size.

Fit Objects (F5): Zooms to fit all objects into the window with maximum size.

Show Edges (Strg+E): Toggles display of triangulation edges.

Show Faces (Strg+F): Toggles display of triangulation faces.

Show Compass (Alt+C): Toggles display of coordinate compass at the left bottom.

Toggle Printer ID Vies (Strg+I): Toggles the display of the printer ID on top of the right tab. Use this to distinguish the printer when you have more than one Repetier-Host running.

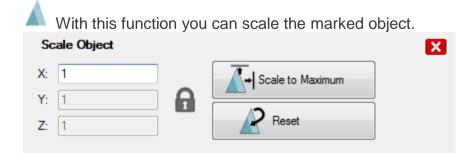"Use Parallel Projection" toggles between parallel and perspective projection.

Object Placement

Object Placement | Slicer | Preview | Manual Control | SD Card

Here you can export all displayed objects at once. If you save them as .amf file, the object grouping and material assignments remain intact, if you save it as .stl or .obj file, everything gets combined into one object.

Here you can add objects in .stl, .obj, .amf and .3ds format.

Here you can duplicate the marked object(s) as many times as you want.

Copy Marked Objects

Number of Copies: 1

☑ Auto Position after Adding Objects

Copy   Cancel

Click here to place all objects so that they fit on the bed.

This function centres the marked object in the centre of the bed.

With this function you can scale the marked object.

Scale Object   ❌

X: 1   Scale to Maximum

Y: 1   🔒

Z: 1   Reset

If the lock is closed, all axes are changed simultaneously. If you click on the lock to unlock, you

can adjust each axis separately and the object may be distorted. A click on "Scale to Maximum" enlarges the object so that it has the maximum printable size.

With this function you can rotate the marked object around each axis. Click on "Lay Flat" to place the object flat on the bed.

Rotate Object

X:	0	Reset Rotation
Y:	0	
Z:	0	Lay Flat

This option is only used to control the object and has no influence on the print. With "Position" the height of cut position is defined, "Inclination" and "Azimuth" define rotation of the cutting plane.

Cut Objects

Position

Inclination

Azimuth

Selecting and moving objects

You can select one object by right clicking on it. If you press the ctrl-key while right clicking the selected object is added. ctrl-clicking a selected object removes it from the selection.

To move the selected objects, hold the alt-key down while left clicking and dragging the objects. When you select "Top View" from the left toolbar, the movements will follow your mouse movements. If you don't, the direction of the move is not the same as the mouse movement.

Depending on your configuration, the object may start to pulse or change its colour, if it is not entirely on the print bed. This should help you to identify printing problems, even before you start slicing.

Grouping Objects

Object groups are used only for multi extruder prints. For multi extruder prints you normally get one stl file for each colour. After you have loaded them, each has its own group, which normally causes wrong relative positioning. So you need to drag the second stl onto the first stl to merge

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them into one group. After merging you have to assign each file a separate extruder. Assigning the same extruder will normally cause problems during slicing.
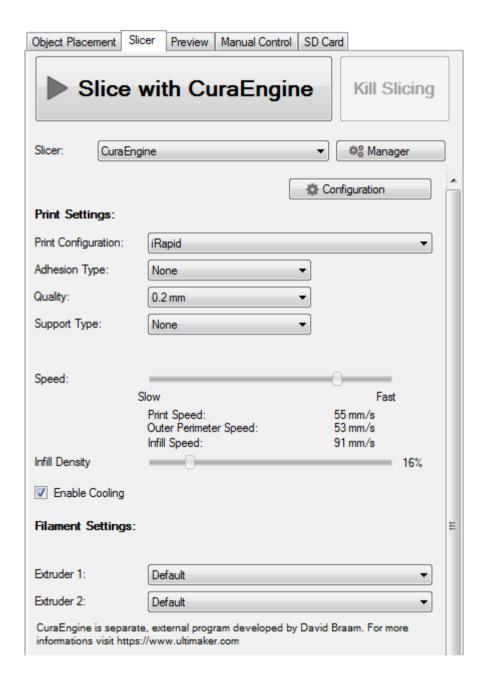
Now it's time to slice your objects. Open the slicer tab and continue there. More on this in the next chapter.

Slicing

Setup your slicer

Kora recommend you use the Cura Slice Engine to slice your models prior to printing. Select **Slicer:** 'CuraEngine' from the drop-down menu below
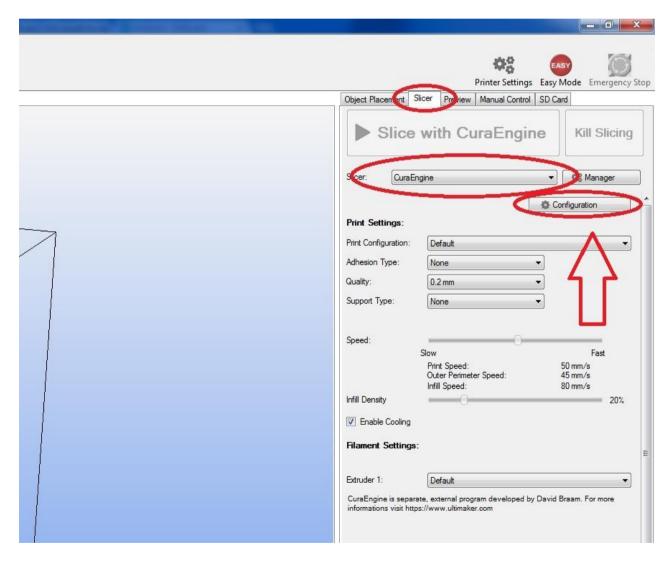
CuraEngine is external slicer software which is bundled with the Repetier-Host. Here you select your printing configurations to use plus some additional important settings. To define the parameters behind your configuration, click the "Configuration" button to enter the setup.

Kora supply 'Alpha' pre-configured settings for the Cura Engine on your Kora USB stick supplied with your machine or to download from the Kora website www.kora.co.uk/downloads

These pre-configured settings are a 'starting place' for your Kora Alpha Cura slicing settings. As you become more familiar with the 3D Printing environment, you will from time to time change these settings to 'fine tune' individual prints and when printing with new filament materials.
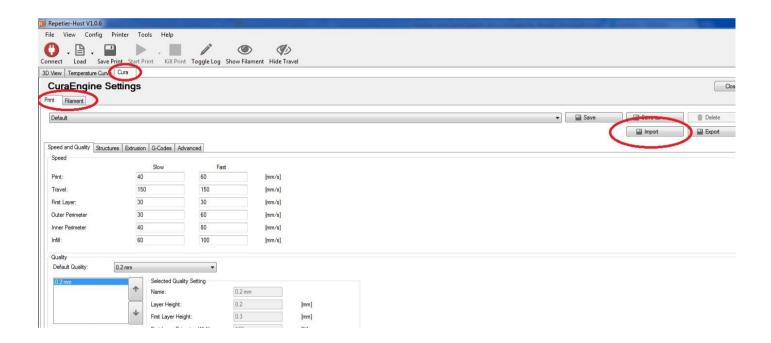
To load the pre-configured settings select the 'configuration' button on the main Repetier-Host screen (see below – check the circled items are also selected as shown before proceeding)
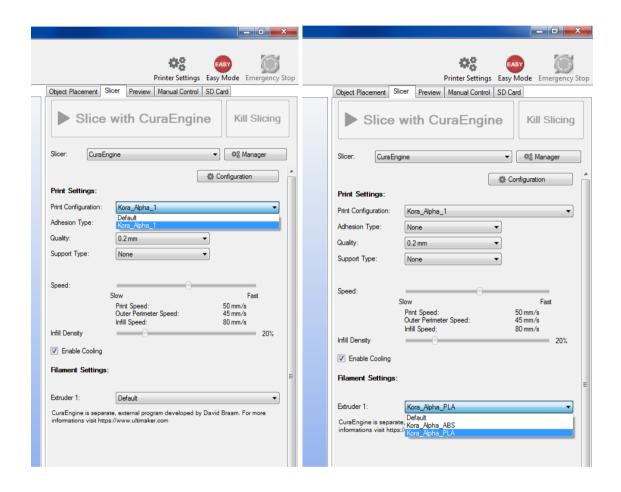
Then select the 'Printer' tab at the top left of the window (see below). Then click the 'import' button. The file menu will appear, navigate to your Kora USB stick or the folder you downloaded your Kora Cura Configuration files to and select the file 'Kora_Alpha_1.rcp'

Then click the 'save' button above and to the left of the 'import' button

Now select the 'Filament Tab' at the top left of the window (see below). Then click the 'import' button. The file menu will appear, navigate to your Kora USB stick or the folder you downloaded your Kora Cura Configuration files to and select the file 'Kora_Alpha_PLA.rcf' This file is for use when printing with PLA Filament. If you print with ABS Filament, you should also import the file 'Kora_Alpha_ABS.rcf'
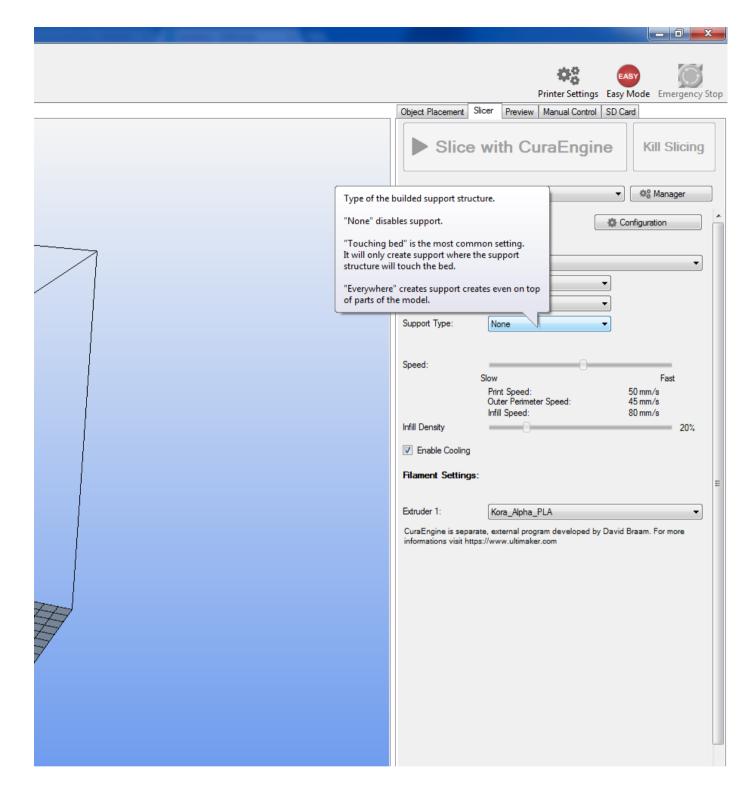
These files need only to be imported once. After that they will be automatically saved and available in the drop-down menu on the main Repetier-Host SLICER screen (see below) each time Repetier-Host is opened. Usually, select **Print Configuration:** as Kora_Alpha_1. Always select the appropriate **Filament Settings:** as Kora_Alpha_??? - ??? is for each different filament type you are printing (eg. Kora_Alpha_PLA for PLA filament or Kora_Alpha_ABS for ABS filament etc. – this selects, amongst other features, the correct extruder temperature for printing your chosen filament.

You can select any 'control option' in Repetier-Host, then hover your mouse over that setting and an 'explanation bubble' will appear guiding you how to use this option (eg. 'Adhesion Type', 'Support Type' etc etc.) This feature is particularly useful as it refers specifically to the control button or bar you have selected. Many controls throughout Repetier-Host have this feature! (see page 20 below for example)

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The following screenshot shows the Slicer tab interface:

Slice with CuraEngine | **Kill Slicing**

Tooltip text:

> Type of the builded support structure.
>
> "None" disables support.
>
> "Touching bed" is the most common setting. It will only create support where the support structure will touch the bed.
>
> "Everywhere" creates support creates even on top of parts of the model.

Support Type: None

Speed:
Slow — Fast
Print Speed: 50 mm/s
Outer Perimeter Speed: 45 mm/s
Infill Speed: 80 mm/s

Infill Density: 20%

☑ Enable Cooling

Filament Settings:

Extruder 1: Kora_Alpha_PLA

CuraEngine is separate, external program developed by David Braam. For more informations visit https://www.ultimaker.com
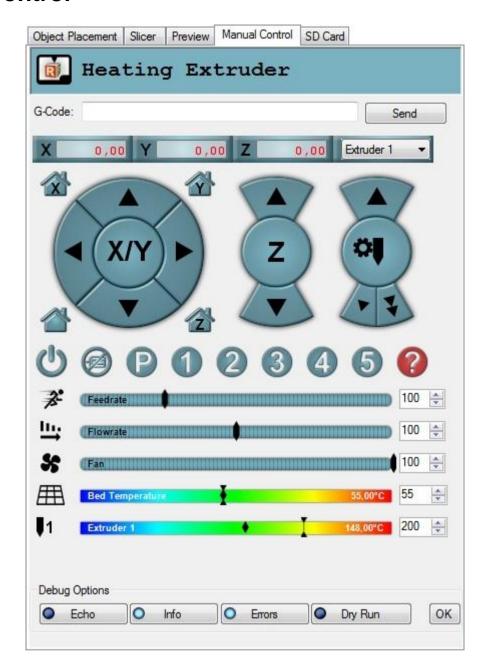
With reference to the 'Quality' drop-down box, this controls the print resolution. 0.2mm is deemed standard resolution, 0.4mm is course (sometimes referred to as 'draft' quality) and 0.08mm is fine quality. The finer the quality the smoother the print finishes, but the longer it takes to print. 0.2mm is usually a good compromise between quality and speed of print and will be selected in most cases.
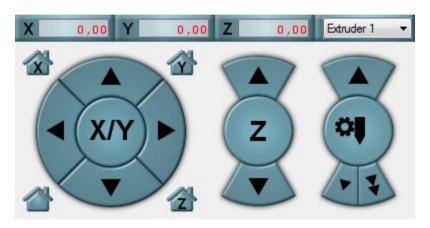
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Manual Control

When you turn your printer on, you will often come to this tab. At the top you see the most important printer status, so you always know what is happening.

The next row allows it to send any g-code command you like. Enter it and press return or hit the send button. With the cursor up/down keys you can move through the history of manually sent commands. If the "Easy Mode" is enabled, this field is not displayed.

The next block controls the positioning of the extruder. With the arrow keys you move the extruder in any direction. When you hover over the arrow, you will see a distance appear in mm, telling you how large the move will be. At the top you see the current extruder position. After the connection, they are red. Red means the Repetier-Host has no idea where the extruder really is. Press the home button to move the extruder to its defined position. After that the colour turns black, telling you the position is known. From now on, the moves are only possible inside the printer cube defined in the printer settings. So if you are at x=200 and the cube is 230 mm wide, pressing 50 mm right will only move to 230 mm.

CAUTION: This protection works only for the arrow keys. Below the arrows you have the following buttons:

Power: This turns the power supply on. This is not supported on Kora Alpha

Stop motor: Will disable the stepper motors.

Park: Moves the extruder head into parking position defined in printer settings.

Help bubbles: When you activate this, you will get help bubbles for all fields of the manual control.

Buttons 1 – 5 are for advanced users.

The "Speed multiply" slider allows it to change the printing/move speed in relation to the send feed rate. This function is compatible with the Kora Alpha. Be careful if you increase the speed. Very high speed can deteriorate print quality!

If the "Easy Mode" is disabled, you can change the flow rate, i.e. the amount of the extruded filament. A higher value gives a wider printed line.

The extruder and print bed blocks allow it to manually change the temperature during a print. The temperature can be set either on the right in the text field as well as by clicking on the temperature curve. If you change it in the text field, you need to press return or leave the field to set the value. By clicking the extruder or bed icon the extruder or the bed is deactivated or reactivated. In the right area of the temperature curve you see the last read temperature (you have enabled automatic temperature reading in printer settings?).

Here, you can change the PLA cooling fan speed and activate/deactivate it the same way as the temperatures.

In the last row you can set debug options for the printer if "Easy Mode" is disabled. Echo repeats the received lines, so you normally want it turned off. Info and error show messages at that debug level. These are interesting, so leave them on. The last one is something special, which works up to now only with Repetier-Firmware. In dry run mode, the firmware will ignore all commands to set temperature or extrude. That way you can send a file without using any filament. The last button "OK" re-sends the start/send command to the printer and is not normally used.

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