

Bukobot Host/Slicing Settings

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host-slicing-settings

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Host & Slicing Settings

These settings are universal, but we recommend using “[Repetier Host for Windows/Linux/Mac](#)” as the host software which also uses the built-in “[Slic3r](#)” slicing program. You can download [starter Slic3r profiles](#) here, or make your own. Note that these profiles are pretty conservative, and a well-tuned Bukobot should be able to use them at 150-200% speed.

Before trying to add these profiles, you should launch Slic3r and close it so that it will create the folder for its settings. You should unpack the *printer*, *print* & *filament* folders from the above starter Slic3r profiles into this folder. On a Mac, the folder will be `~/Library/Application Support/Slic3r` (as of Lion, `~/Library` is a hidden folder, so use the “Go to Folder” menu option). On Windows you can find it in `C:\Users\<username>\AppData\Roaming\Slic3r` directory (for Windows 7).

All numbers are usually in metric millimeters (mm) and temperatures are in celsius (C) unless noted.

Global Specs / Settings

- Compatibility: Reprap 5D / Marlin / Sprinter (**250,000 Baud**)
- Nozzle Diameter: 3mm Filament / 0.35mm extrusion hole
- Extruders: 1 for all Bukobots except for the Bukobot 8 Duo which has 2

- X & Y Steps using 15 teeth / 3.18 pitch synchromesh cable 55.99/mm
- Z Steps for M6 threaded rods: 3200
- Extruder Steps using Tatsu Drive Gear and 13.6:1 ratio stepper motor: 1260/mm
- X/Y Travel Speed: 100-200mm/sec (150mm/sec recommended)
- X/Y Extruding Speeds: Max about 200mm/sec (tested), (100mm/sec average recommended)
- Extruder Retract Speed: 25mm/minute or less (20mm recommended)
- Z axis speed: 250mm/minute (4mm/sec) or less (200mm/minute recommended)
- Build Volume: 200mm X 200mm X 200mm (8" inches cube)
- Center of platform: X=100mm, Y=100mm

Repetier-Host Settings

Use the following values for the Printer Settings in Repetier-Host.

Connection

- Baudrate = 250000
- Stop Bits, Parity, Transfer Protocol, Receive Cache Size, Use Ping-Pong are left as defaults.

Printer

- Travel Feed Rate = 9000mm/min (==150mm/s)
- Z-Axis Feed Rate = 6000mm/min (==100mm/s)
- Default Extruder Temp = 185
- Default Heated Bed Temp = 0
- Number of Extruders = 2 for Duo, 1 otherwise.
- Select Remove M105 Request from Log.
- Park Position X=0, Y=200 for 8" build area models or 150 for 6", Z-Min=50. This moves the head to the left, pushes table to front and raises the head a bit - but choose whatever you like.
- Deselect Go to Park Position after Job/Kill (the Slicer end code settings suggested below already do this)
- Select Disable Motors after Job/Kill
- Other settings are left as default.

Printer Shape

- Printer Type: Classic Printer
- XMin = 0, XMax = 275 for Duo or 200 for single extruder 8" model or 150 for 6" model, BedLeft = 75 for Duo or 0 for other models
- YMin = 0, YMax = 200 or 150 (for 8" or 6" model), BedFront = 0 (Note "BedFront" is *not* the offset of the front of the bed as you might think; it is the Y axis offset when the *hot end* is at the front of the print area. In other words, you should think of co-ordinate motion in terms of the tool head moving in relation to an imaginary stationary object)

rather than the movement of the platform itself. This is why for the Bukobot design the Y axis minimum position occurs when the bed is at the rear of the printer so that the hot end is at the front of the bed.)

- Print Area Width/Depth/Height: 200 for 8" model, 150 for 6" model

Note: the XMin and YMin values assume you have adjusted the X & Y endstops so that they trigger when the extruder is level with the corresponding edge of the print area. For a Duo you should be looking at the right-hand extruder (Extruder 2) for the X endstop adjustment.

Advanced

- Can be left as default.

Slicer Settings

Recommended G-Codes

START CODE

G28 - homing

END CODES

M104 S0; Turns off heaters

G1 X0 Y150; Homes X axis and brings object to the front

M84; Disables all motors

Recommended Filament Settings

Filament: 2.87mm average, range of 2.80mm - 3.00mm will vary with filament color / batch

Hot End (Extruder) Temperatures

- PLA (Diamond Age / Printbl.com): 185c average, some colors may need more or less up to 200c
- PLA (Ultimachine, others): 200c average, some colors may need more or less up to 210c or so.
- ABS: Between 210-230c with 220 average for most colors

Platform Temperatures

- PLA: With Kapton tape or clean glass 60c
- PLA: With Blue Masking tape 0c (room temperature)
- ABS: With Kapton Tape 110c, if still doesn't stick well, try up to 120c.

Quality Settings

Note: Most settings will depend greatly on the objects being printed but these are recommended as a starting point.

First layer height should always be 0.3mm (for better platform adhesion)

- fast printing use 0.3mm
- Good quality 0.2mm
- High detail: 0.1mm or 0.05mm

Raft/Brim: Usually not needed, but may depend on object.

Fill: Recommended minimum of **3 solid layers** and **2 perimeters** (shells) for good results.

Filament Cooling

PLA usually does not need a fan for cooling, but it will help produce better results and faster prints for small parts, bridging and details.

- Install a fan duct to add cooling for PLA (like example image)
- Use software to slowdown print:
 - Min layer time: 20 seconds
 - Minimum Speed: 10mm/sec

ABS should not be cooled with a fan, but should use the same settings as PLA to slow down the printing when doing very small areas or parts

Dual Extruder Calibration Script

[Gcode Calibration Generator](#)

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