Breadboard net labels

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VIEW IN BROWSER

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Summary

Small labels that can be plugged into a breadboard to give names to the nets you use.

0.10 hrs	1 pcs	0.15 mm	0.40 mm	PLA	1 g	Prusa MINI / MINI+

Hobby & Makers > Electronics

Tags: customizable   label   breadboard   labels   customisable   writable

These are small labels that can be plugged into a breadboard to give names to the nets you use. They are great if you have built a circuit that is a little more complex and attaches to other systems at certain points. Then when you have to disconnect the external system, like a microcontroller board or a sensor module, you would not know anymore how to connect them again later. These small labels can carry a net name and be plugged right there where your wire would go in. I know, breadboards aren't for long-living projects and they're most often completely undocumented. But there's no reason not to change that.

The example photo shows a programmer circuit that I built with a USB-serial adapter and a few parts to automatically program and reboot an ESP32 module with no manual interaction. This circuit is often used on ESP32 modules that have a USB connector. (You can find it in their schematics, I have it from Espressif's Pico Kit v4.1.) Since I'm going to build devices with ESP32 but without USB, I wanted to have a comfortable programmer. It requires 6 wires going out, and now I'll always know which goes where. One day I'll make a PCB for it... Until then, I have my breadboard net labels. 😁

I've experimented printing them with PLA and PETG. PETG is softer and might not be robust enough. PLA is a bit more stable here. Since my PLA is black, I cut out some leftovers of a label printer and sticked them onto the plastic labels. Then just write on them with a permanent marker or similar. It's easier if you have white PLA (the white one in my photo is PETG and an earlier, wider design). You could even use different PLA colours to code their meaning.

The OpenSCAD script is also attached, in case you want to change the sizes. But it's really simple anyway.

I also tried printing it with 0.07 mm layer height, but had problems getting them off the printbed and the first layer got loose. 0.15 mm worked well (first layer 0.2 mm so it went out exactly). The layer height can't be much greater because the whole print is only 0.8 mm high.

⚠ Attention: Plug them into your breadboard with care! You might not be able to get the pin out if it breaks. Widening the breadboard hole with a thicker metal pin might be necessary upfront. Tilt the label to both sides while gently pushing it in, if it won't go in immediately.
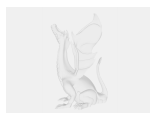
Model files

breadboardlabel.3mf

breadboardlabel.stl
🗔 OpenSCAD export

breadboardlabel.scad
🗔 Source script

Print files

breadboardlabel_015mm_pla_mini_6m.gcode

⊗ PLA   ⊞ 0.40 mm   ≡ 0.15 mm   ◷ 0.10 hrs   ⚖ 1 g   ▤ Prusa MINI / MINI+

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