

Circuit Board Assembly Holder

S Serpent10i

VIEW IN BROWSER

updated 28. 3. 2022 | published 27. 3. 2022

Summary

Use this to hold Through Hole (THT) components during PCB assembly.



16.06 hrs



3 pcs



0.20 mm



0.40 mm



PLA



204 g



Prusa
MK3/S/S+

[Hobby & Makers](#) > [Electronics](#)

Tags: [assembly](#) [board](#) [soldering](#) [pcb](#) [circuit](#) [throughhole](#)

Years ago, when first learning to solder, I found some jigs like this:

<http://www.fortex.co.uk/product/pcb-assembly-jig-pcsa1/>

But they were all ludicrously expensive (200+ USD), so I never really though much of them until came upon this:

https://www.nutsvolts.com/magazine/article/september2011_Collier

It was DIY, and much cheaper, only ~80 bucks in materials, though that still seemed like a lot, but now with 3d printing I could easily make something sturdy enough while being 1/10th the cost, less than \$8.

I hope you find it useful!

Print Size: 245mm x 205mm x 25mm (easy to print on mk3)

Included gcode is for prusa mk3

Required Hardware:

4x M4 Hex Nuts

4x M4 Bolt (Hex Head) (Greater than 25 mm, Less than 40mm)

Superglue

25mm+ thick foam cut to size

Print:

1x pcb_holder_frame

2x (or 4x) pcb_holder_arms

4x pcb_holder_nut_holder

4x pcb_holder_screw_grip

Assembly:

1. Glue nut_holder onto screw_grip
2. Insert M4 Hex Nut into each of the 4x nut_holder
3. Insert M4 Bolt into each of the 4 corners of the frame
4. Place 1 or 2 arms (depending on pcb thickness) between the M4 Bolts on opposite sides of the print
5. Screw the combined nut_holder and screw_grip onto the M4 Bolts

Assembly complete!

Use:

1. Place the PCB between the two arms with the edges inside the angled grove cut into the arms and push them together
2. Check that the top (where the parts will stick up) is facing the inside of the frame, away from the screw_grips
3. Lock the arms in place using the screw_grips
4. Assemble PCB, (Recommended to make multiple passes from shortest to tallest components, grouping similar heighted components together)
5. Insert foam to hold parts in place
6. Flip over and solder parts in place
7. Repeat steps 4-6 until all parts have been added

Model files



pcb_holder_frame.stl



pcb_holder_arm.stl

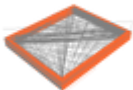


pcb_holder_screw_grip.stl



pcb_holder_nut_holder.stl

Print files



pcb_holder_frame_02mm_pla_mk3.gcode

🌀 PLA 🌀 0.40 mm 📏 0.20 mm ⌚ 9.35 hrs ⚖️ 130 g 🖨️ Prusa MK3/S/S+



4x_pcb_holder_arm_02mm_pla_mk3.gcode

🌀 PLA 🌀 0.40 mm 📏 0.20 mm ⌚ 2.11 hrs ⚖️ 24 g 🖨️ Prusa MK3/S/S+



4x_pcb_holder_nut_holder_02mm_pla_mk3.gcode

🌀 PLA 🌀 0.40 mm 📏 0.20 mm ⌚ 4.60 hrs ⚖️ 50 g 🖨️ Prusa MK3/S/S+

License

This work is licensed under a
GNU



General Public License v3.0

- ✗ | Sharing without ATTRIBUTION
- ✓ | Remix Culture allowed
- ✓ | Commercial Use
- ✓ | Meets Open Definition
- i | Share under the same license