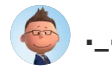




Ham Radio PTT Switch Enclosure for M12 Push Button, Snap-Fit Magnetic Base

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updated 28. 10. 2026 | published 28. 10. 2026

Summary

Snap-fit desk PTT enclosure for a 16 mm M12 momentary button. Magnet base, no screws.

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Tags: [enclosure](#) [snapfit](#) [magnetic](#) [16mm](#) [hamradio](#)
[amateurradio](#) [pushbutton](#) [ptt](#) [pushtotalk](#) [momentaryswitch](#)

Overview

A compact desktop housing for the common 16 mm, M12x1 thread momentary push button (the red-cap style). The base snaps on without screws, a hidden magnet holds it to steel surfaces. The housing is about as small as it can be while still fitting the switch and leaving room to tighten the mounting nut with a socket from inside. Overall size is about 39 x 39 x 34 mm.

On the Air

This is a shack desk PTT for any rig with a PTT jack. It sits next to the paddle or keyboard, so you can key up without reaching for the hand mic and keep your other hand free for logging. The flared base keeps it from tipping when you press it, and with the optional magnet it stays put on a steel desk, rack, or monitor stand. Check your rig's PTT jack pinout before wiring the plug. In my experience, the 3.5mm cables are approximately 4mm while RCA cables may be 6mm - this value can be adjusted with the SCAD file.

It works equally well as a push-to-talk button for Discord, OBS, or streaming, or anywhere else you need a momentary switch on the desk.

Print Settings

Nozzle: 0.4 mm

Material: PETG. The snap arms flex every time the base is removed, and PETG handles that much better than PLA.

Layer height: 0.2 mm

Walls: 3 to 4 perimeters. This matters for the snap arms.

Infill: 20 to 25%

Supports: none

Part cooling fan: 30 to 50% for better layer bonding

Orientation: housing upside down (top face on the bed) for a clean button surface; base flat with the snap arms pointing up. The files are already oriented this way.

Hardware and Assembly

1x 16 mm momentary push button, M12x1 thread, 14 mm hex nut - <https://a.co/d/0c0HcPWF>

1x cable, up to 4mm diameter (for example a 3.5 mm TRS lead or 2-core cable) - <https://a.co/d/04eEv9E3>

1x 10 x 4mm neodymium disc magnet (optional) - <https://a.co/d/088R9mhC>

4x 6mm adhesive rubber bumpers (optional) - <https://a.co/d/0gwRro6B>

CA glue for the magnet (optional)

14 mm socket for tightening the nut (See Print Files)

1. Clean any PETG strings off the snap bumps and grooves.
2. Press the magnet into the pocket in the base, with a drop of CA glue if you like.
3. Push the switch down through the top panel, thread the 14 mm nut on from inside, and tighten it with the socket you can also print.
4. Feed the cable in through the angled hole and and solder it to the switch's two terminals - there's enough space to easily solder the wires while the switch is in place (I've found this is the easiest way to do it).
5. Line up the base with the cable notch at the back and press it on until both sides click.
6. Add the rubber feet.
7. To open, put a coin or flat screwdriver in the front pry slot and twist.

Design Notes

The model is fully parametric in OpenSCAD with Customizer support. You can adjust switch hole, nut, and body sizes; cable diameter and entry angle; magnet size, fit, and pocket position; snap fit (`snap_depth`, `snap_preload`, `crush_rib_interference`); wall thickness, base flare, and corner radius; and foot size.

When you change the snap settings, the console prints an estimate of how far the snap arms bend. Keep it under about 2% for PETG.

Fit tips:

Base too hard to snap on: lower `snap_depth` to about 0.55.

Base rattles: raise `crush_rib_interference` to 0.25.

Magnet loose: lower `magnet_fit_clearance` to 0.1.

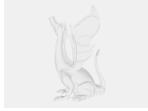
Printed and fit-tested in PETG with the default settings.

Makes, remixes, and fit reports with other switches or rigs are welcome.

Model files



parametric-model-socket.stl



parametric-model-desk-ptt.scad



parametric-mode-desk-pttl.stl

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