

Birch Mini Joystick - A

SUMMARY

Title

Birch Mini Joystick - A

Subtitle

A small, non-USB analog joystick that has a sliding motion and can be used for gaming. This joystick has a small range of motion and is compatible with the Xbox Adaptive Controller.

Device Specifications

Build Time:

- ☐ < 1hr
- ☒ 1-4 hr
- ☐ 5-10hr
- ☐ >10hr

Cost:

- ☐ \$0 - \$10
- ☐ \$11 - \$25
- ☒ \$26 - \$50
- ☐ \$51 - \$100
- ☐ \$101 - \$250
- ☐ \$250+

Stage: Recently Added

Skills: Soldering, 3D Printing

Need: Agility / Dexterity

Disability: Mobility / Physical

Difficulty: Intermediate

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Usages: Recreation and Leisure, Computer Access

Type: Gaming

Designer: Makers Making Change

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Device Details

Overview

The Birch Mini Joystick – A is a small non-USB analog gaming joystick that moves in a sliding motion instead of the typical pivoting motion of a joystick or thumbstick. It has a relatively small range of motion (approximately +/- 2 mm) and a moderately low force required. There are 5 interchangeable toppers that can be used with this joystick, and there are multiple mounting options. It has a 3.5 mm TRRS plug (the size of a headphone jack) and can be used to play games with the Xbox Adaptive Controller (XAC). It may be compatible with other interfaces that use joysticks with 3.5 mm TRRS cables, such as the [Enabled Controller](#).

For the USB version of this joystick please see the Birch Mini Joystick – U.

Optional toppers:



Usage

1. Plug the 3.5 mm TRRS cable from the joystick into the host device (such as the Xbox Adaptive Controller). If using the Xbox Adaptive Controller, plug it into X1 to use at the left joystick, or plug into X2 to use as the right joystick.
2. Ensure the arrow on the joystick is pointing in the “up/forward” direction, away from the user.
3. Mount the device if needed. Instructions go over three mounting methods:
 - a. Table top mounting – non slip pads
 - b. Tabletop mounting – hook and loop fasteners
 - c. Camera mount with ¼-20 thread
4. Move joystick as you would with a standard controller.

For more detailed usage instructions please see the Birch Mini Joystick – A User Guide available at the GitHub repository.

Cost

\$38.76 (\$30.76 for components and 3D prints, \$8 for shipping)

A more detailed breakdown is available in the bill of materials.

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Build Instructions

The Birch Mini Joystick – A consists of 3D printed parts and electronic components. The Assembly Guide is available at the GitHub repository.

Skills Required

- 3D printing
- Soldering

Time Required

3D printing time for all essential components: 2 hours 57 minutes

3D printing time including optional prints (toppers and mounting): 5 hours 19 minutes

Assembly time: approximately 1 hour

Tools

- Flush Cutters
- Wire Strippers
- Soldering Iron
- Philips Head Screwdriver
- Continuity tester (Such as a multimeter)
- (Optional for mount adapter) ¼-20 Screw or Hex Bolt, at least ½" long

Components

- Mini 2-Axis Analog Thumbstick
- Analog Mini Thumbstick Breakout Board with Included Male Headers
- Universal Proto-Board PCB 4cm x 6 cm
- 8x M2 x 8 mm Machine Screws
- 3.5 mm Male TRRS Cable

Optional parts for mounting:

- ¼-20 Tee Nut
- 2x M3 x 10mm Screws
- 2x M3 Nuts

3D Printing

- Birch Enclosure Bottom
- Birch Enclosure Top
- Inner Disk
- (Optional for mounting) Joystick Camera Mount Adapter

Design

The enclosure was designed using Autodesk Fusion 360.



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Attribution

Designed by Josie Versloot and Tyler Fentie – Makers Making Change