Modular Mounting System
MAKER GUIDE

Makers Making Change
A Neil Squire Program

Overview

This document contains the necessary information to build the Modular Mounting System for the LipSync Hub.

Contents

Maker Checklist

This list provides an overview of the steps required to build and deliver the device.

Maker To Do List

- ☐ Read through the Assembly Guide to become familiar with required components, tools, supplies, and safety gear and overall assembly steps.
- ☐ Talk to User about customization options (e.g., color, any special requests, etc.)
- ☐ Order hardware components
- ☐ Gather tools, supplies, and safety equipment.
- ☐ Assemble the device
- ☐ Print “User Guide”

Items to Give to User

- ☐ Assembled, tested stand
- ☐ “User Guide”

Tool List

Optional

- Superglue
- ¼” Wrench

Customization Guide

Hardware

While the stand is designed for commercial ¼-20 hardware, it is also possible to use the 3D printed nuts and bolts included in the Maker Guide and build files if commercially available ¼-20 hardware is difficult to source in small amounts.

The original Modular Mounting System used M5 hardware, and the LipSync Hub Modular Mounting System is compatible with M5 (although it may be loose when nut is not tightened) and M6 hardware.

3D Prints

The components of the LipSync Hub Modular Mounting System are derived from the Modular Mounting System on Thingiverse. While the LipSync Hub Modular Mounting System is designed for use with ¼-20 hardware as opposed to the M5 hardware on the original design, it is possible to use the LipSync Hub adaptor with the existing Modular Mounting System for a larger variety of arms and bases.

3D Printing Guide

3D Printing Summary

Metrics	Single Unit
Total Print Time (min)	1h10m
Total Number of Components	9
Typical Total Mass (g)	41
Typical Number of Print Setups	1

3D Printing Settings

Print File Name	Qty	Total Print Time (hr:min)	Mass (g)	Infill (%)	Support (Y/N)	Layer Height/ Nozzle Diameter(mm)	Notes
StandBaseLowPoly.stl	1	2:32	18	20	N	0.2/0.4	
StandArmLowPoly.stl	1	1:23	9	20	N	0.2/0.4	
StandAdaptorLowPoly.stl	1	1:12	8	20	N	0.2/0.4	
Adaptor Pin.stl	1	0:05	1	20	N	0.2/0.4	
PrintableBolt.stl	2	0:12	1	20	N	0.2/0.4	
PrintableBoltWithHandle.stl	1	0:10	1	20	N	0.2/0.4	
PrintableKnob.stl	2	0:34	1	20	N	0.2/0.4	

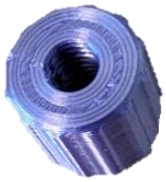
Post-Processing

- Optional: Printed bolts can be used with metal nuts, such as the T-Nut in the LipSync Hub, to break in the threads

Examples of Quality Prints

Photo of Device

PrintableKnob.stl



PrintableBolt.stl

PrintableBoltWithHandle.stl

Adaptor Pin.stl

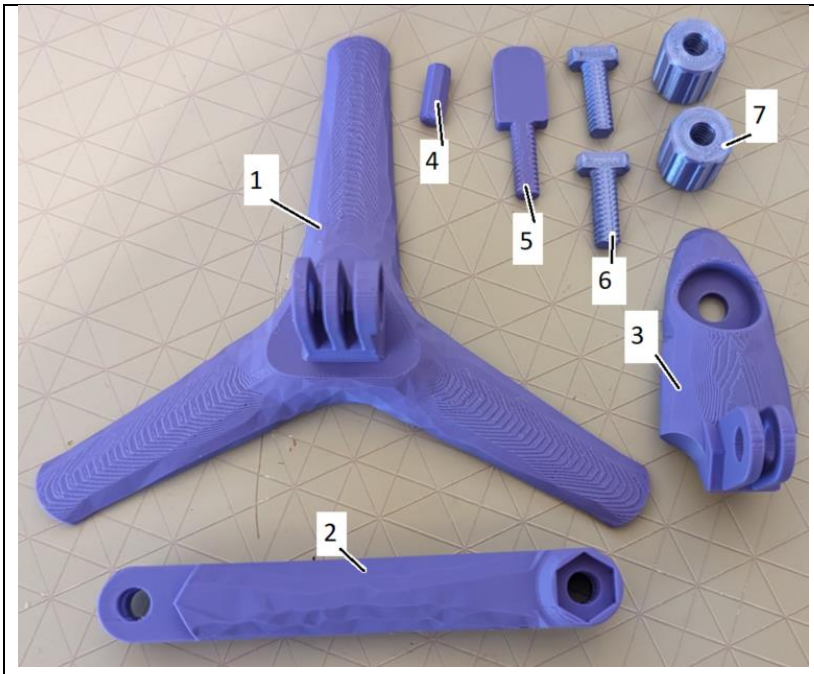
StandArmLowPoly.stl

StandAdaptorLowPoly.stl

StandBaseLowPoly.stl

Assembly Guide

Required Components



BOM

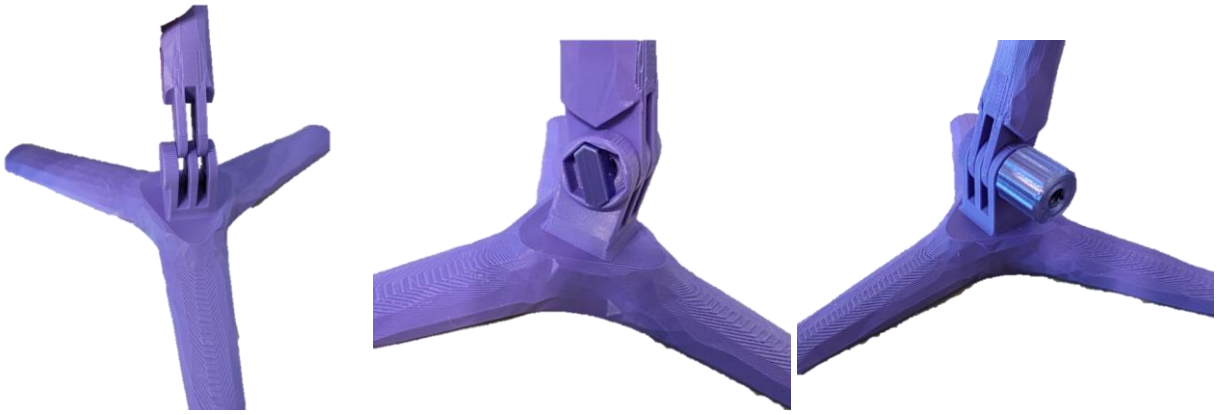
1. StandBaseLowPoly.stl
2. StandArmLowPoly.stl
3. StandAdaptorLowPoly.stl
4. Adaptor Pin.stl
5. PrintableBoltWithHandle.stl
6. PrintableBolt.stl
7. PrintableKnob.stl

Required Tools

- Superglue (Optional)
- ¼” wrench (Optional)

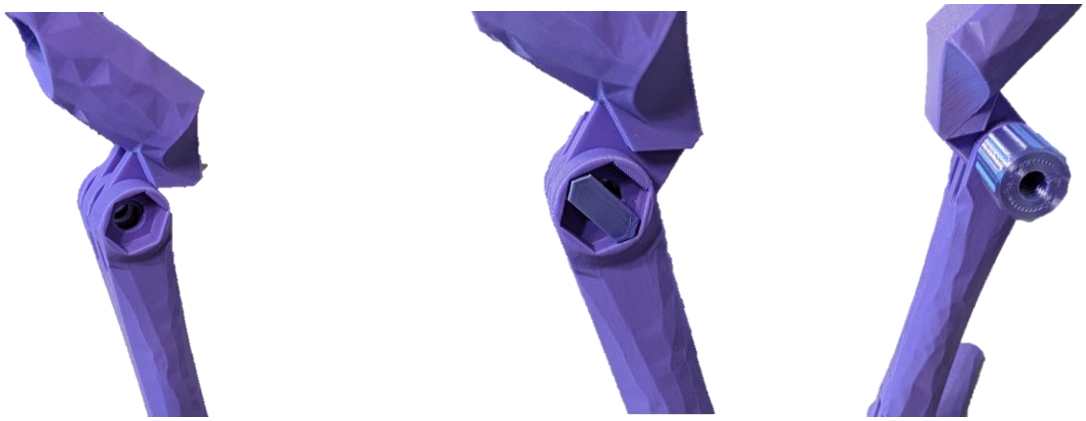
Step 1: Attach the arm to the base

Slide the two pronged end of the arm into the three prongs on the base, lining up the holes. Slide a 1/4-20 bolt through the hole so that the hex head of the bolt fits in the hex slot on the base. If you don't have access to a ¼-20 bolt, the 3D printable bolt can be used instead.



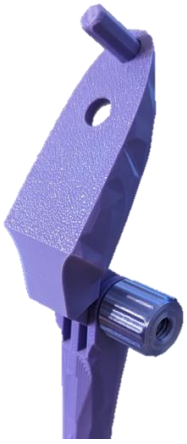
Step 2: Attach the adaptor to the arm

Slide the two pronged end of the adaptor to the three prongs on the arm, lining up the holes. Slide a 1/4-20 bolt through the hole so that the hex head of the bolt fits in the hex slot on the base. If you don't have access to a ¼-20 bolt, the 3D printable bolt can be used instead.



Step 3: Attach the pin to the adaptor

Place the octagonal pin in the slot on the adaptor. Superglue can be used to fix it in place if it is a loose fit.



Step 3: Attach the hub to the adaptor

Place the adaptor on the back of the hub, so the octagonal pin fits into the screw hole above the ¼-20 T-Nut. Use a ¼-20 bolt, or the 3D printed bolt with a handle

Step 4: Pose the Hub Stand

Loosen the nuts on both ends of the arm. Adjust the angle of the adaptor and base util the LipSync Hub is located in desired height and angle. Tighten both bolts to lock it in place.