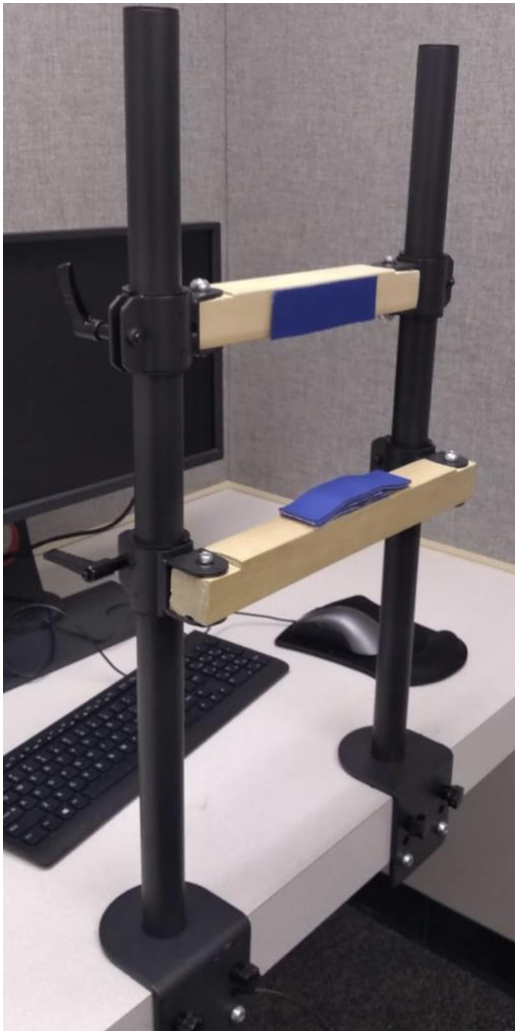


How to make a research-grade chin & head rest for about \$100

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Proper head stabilization for visual psychophysics can be critical for some research questions. Costs for such an apparatus, however, can be prohibitive if many are required, ranging from \$600 to over \$1000 each from specialized manufacturers.

Here, I'll take you through a low-cost implementation of a sturdy, adjustable, chin and headrest, step-by-step, using parts that can easily be obtained online and at a hardware store. In addition to these components, access to and competency with basic shop tools is all that is required! This is what we're shooting for:



What you'll need:

1. **Monitor stands (x2)** – I found this product to be about perfect for just \$42 ([amazon link](#)). You can, of course, use other monitor stands but a few things to think about are:

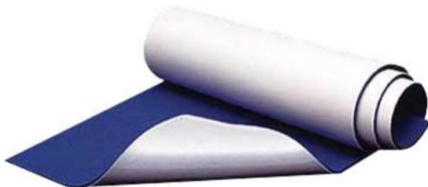


- A) how tall above the desk do you need the head rest component to go?
- B) how thick is the desk for the clamping component? This stand has a variable-thickness clamp and accommodate up to 5 inch or so desk thickness.
- C) can you easily remove the (vesa) monitor mounts and then how thick of a piece of wood will fit and how will you attach it?
- D) Are the grips where the monitor mount attaches to the post easily adjustable to move the participant's chin rest up or down.
- E) Make sure it comes with two monitor mounts (unless you only want the chin rest and not the head rest component).

2. **1.5 by 1.5-inch piece of wood** – This is to construct the chin and read rest that connect the two monitor stands. Home depot sells them in 3 foot lengths, which is enough for 1 chin rest. An inexpensive hardwood like popular seems like a good bet. The dimensions you choose will be based on the monitor stand you get. The dimensions here work with the monitor stand above.



3. **Self-adhesive gel padding** – This is optional but makes the points where the participant's head and chin contact the wood more comfortable. One roll of this, sold by [Silipos](#), can cover the needs of half a dozen or so chin rests.



4. **Tools** – Drill (with 1/2 inch bit), hand or circular saw, sandpaper, tape measure, level.

Instructions

Step 1 – Detach the vesa mounting plate from the grip that attaches to the post. Basically, go from this:



To this:



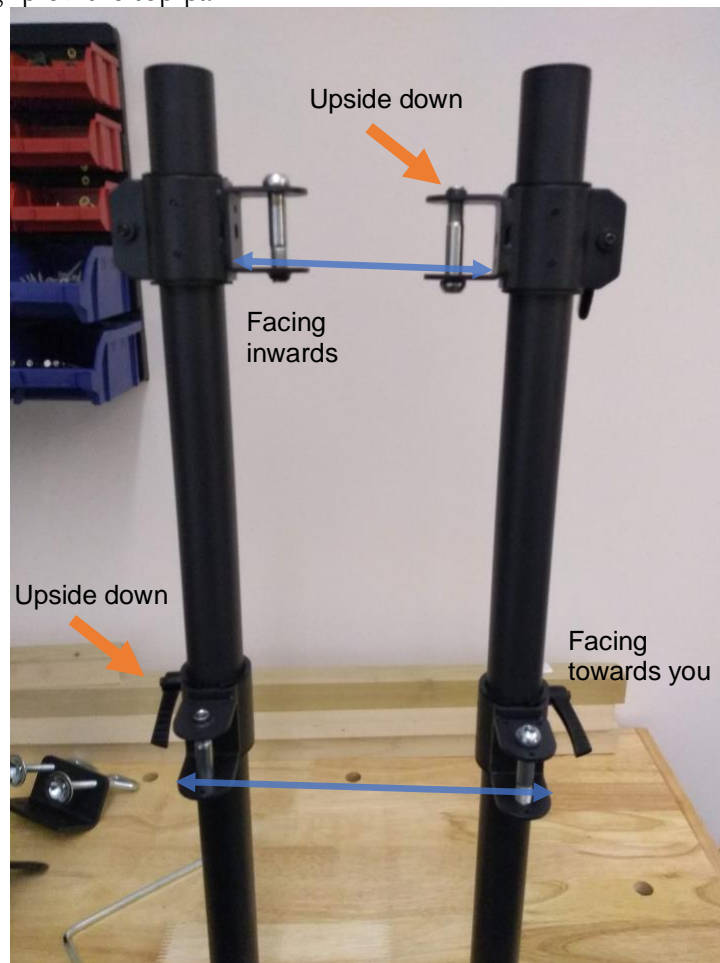
To do that, first remove the black plastic caps that cover a bolt that connects the joint.



Remove the bolt with the supplied allen key. This leaves you with just the gripping mechanism and the bolt. Save these. Repeat for the other monitor stand.

Step 2 – Measure the length of wood needed for the chin and head cross-beams. You can put the grips back on the mounts and line them up with the width you want. Notice, in the picture below, that the bottom grips (where the chin rest portion will go) are pointing towards you, whereas the top grips are pointing inwards. This ensures the headrest beam is further anterior than the chin rest beam, which juts out a bit towards you. This is essential for comfort – you do not want the head and chinrest to be on the same horizontal plane. Also notice that each side has one of the grips flipped upside down. This is so that the lever knob that tightens/loosens the grip is on the outside of both of the monitor stands.

Set the two posts as far apart as you'll want them (I did about 1ft, but keep in mind where the participant will sit and how they will put their arms around the posts to use a keyboard/button box). Then, make sure the bottom two grips are at the same height and the top two grips are at the same height and measure the distances shown in blue arrows below. First, the distance between the outer edge of the lip of each grip on the bottom pair. Second, the distance between the inner edge of grip on the top pair.



Step 3 – Cut the wood used for the chin and head rest crossbeams. Based on your measurements above, cut two pieces of wood accordingly. Now (and this is the most annoying part) the wood is just slightly too thick to fit between the metal flanks of the grip so you'll need to trim a little more than a saw-blades worth of wood off of one face of the wood, just at the ends.

Like this:



Now, both sides will fit between the grips.



Step 4 – Mark both sides of the wood where the opening on the grip is and drill a ½ inch hole straight through



The bolt can then attach the wood chin rest to the grip. Notice that one bolt will go upside down since one grip is upside down.



Step 5 – repeat step 4 for the upper beam (the head rest). Notice 1) This beam should be shorter, and 2) you'll need to shave off a bit more away to make it fit into the grip since the orientation is different.



Drill holes and bolt (again, one is upside down)



Step 6 – Sand (and optionally finish) the wood, cut some strip of gel and apply them for comfort, and we're basically done!

The clamping mechanism will vary depending on your setup. I didn't like that the screws on the clamp were in the way of the participant's legs, so I ended up just screwing the mounts into the desk using these holes



Using a washer and wood screws, you can affix the base to the desk through these holes

Or use the supplied clamping mechanism. With my setup, however, these screws sat too low under the table and got in the way of the participant's legs.

