



Wooden Passive Amplifier for iPhone

by [manuelmasc](#) on November 24, 2016

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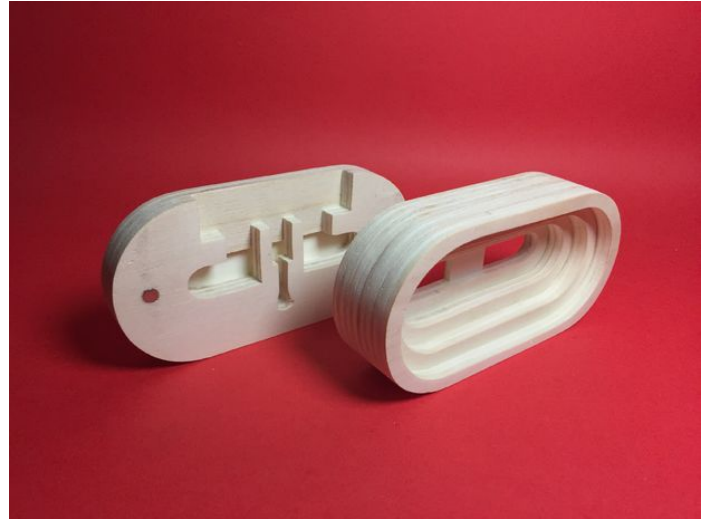
Author:manuelmasc

I'm an Italian maker, I study law, I like DIY Projects and I love to reuse materials from broken stuff or saved from the garbage.

Intro: Wooden Passive Amplifier for iPhone

Hi everyone!

In this ible I'm going to show you how to make a cheap Passive Amplifier for your smartphone. It's a really easy project, it will took you almost 4 hours, and you need just a piece of plywood, a scrollsaw and different grane of sandpaper.



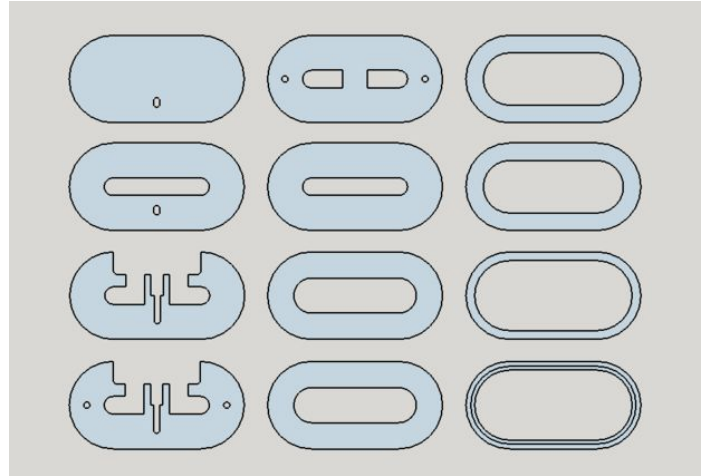
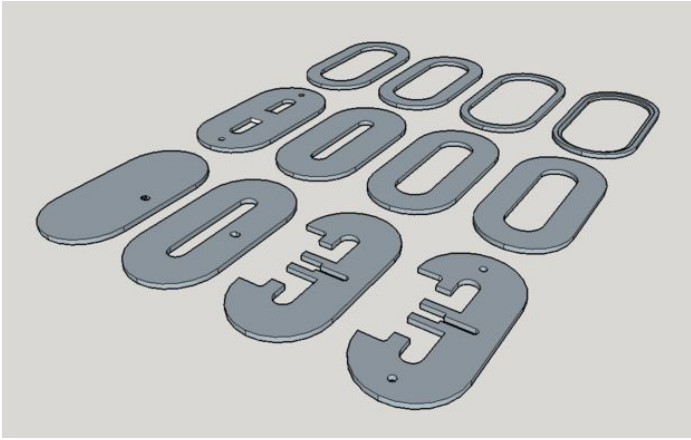
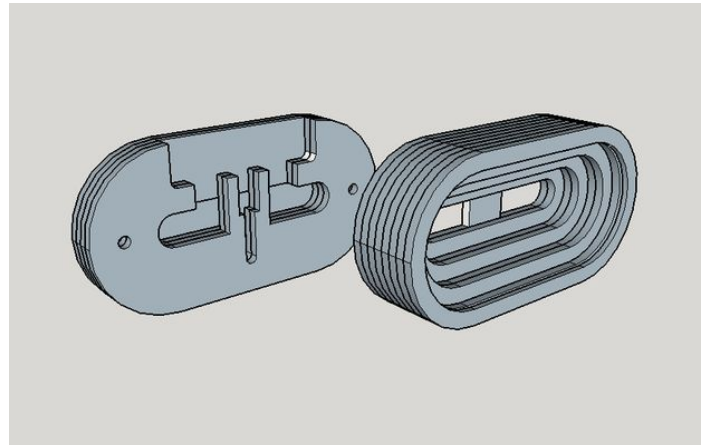
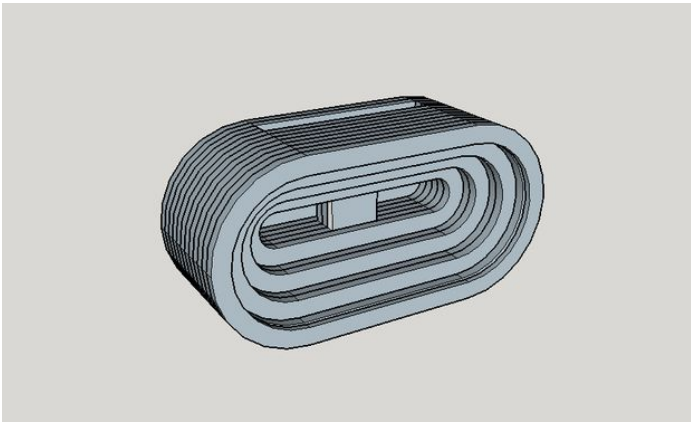
Step 1: The Template

It's not hard to get the inspiration since you can find lots of cool ideas both on google and on instructables.com, but since I wanted to get a perfect fit with my iPhone 6, I created a quick template using SketchUp adapting each measurement to it.

The objective was to create it as small as possible and to get all the pieces out of a 30cmx45cm plywood piece (thick 4mm) that I had from a previous project.

As you can see from the 2nd picture, at the end of this instructable we will obtain 2 pieces held together by 4 magnets. I created it in this way in order to insert and remove easily the charging cable (which can be placed in the central groove).

You could print the 4th photo to use it as a template, or you could modify it as you want.



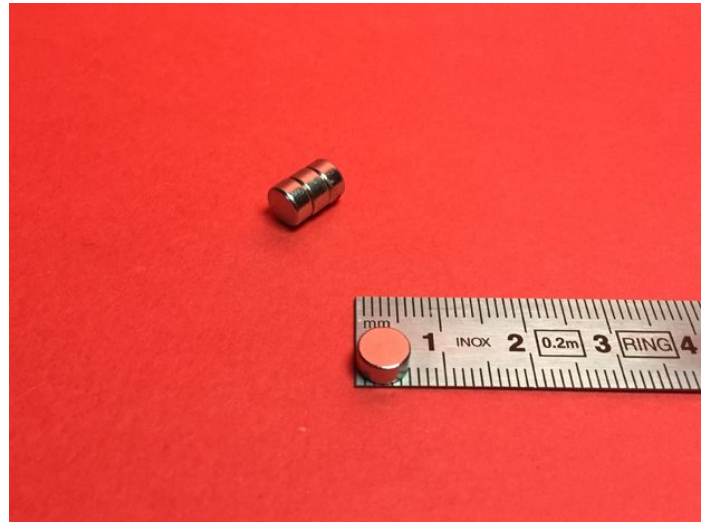
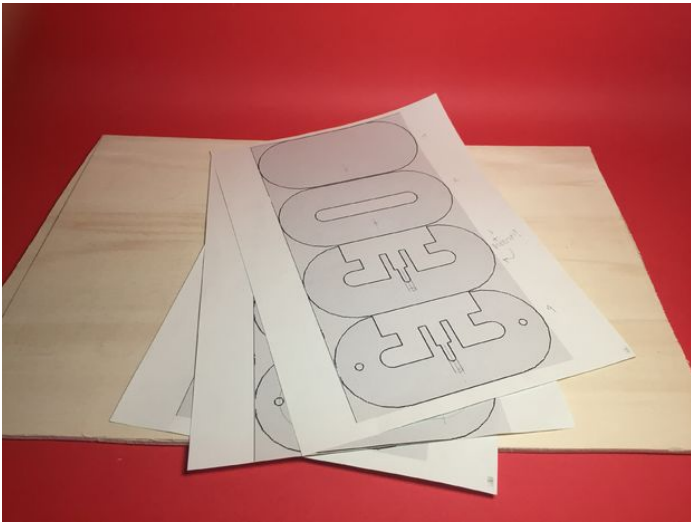
Step 2: Materials & Tools

MATERIALS:

- 30cmx45cm board of plywood (4mm thick)
- templates
- 4x magnets

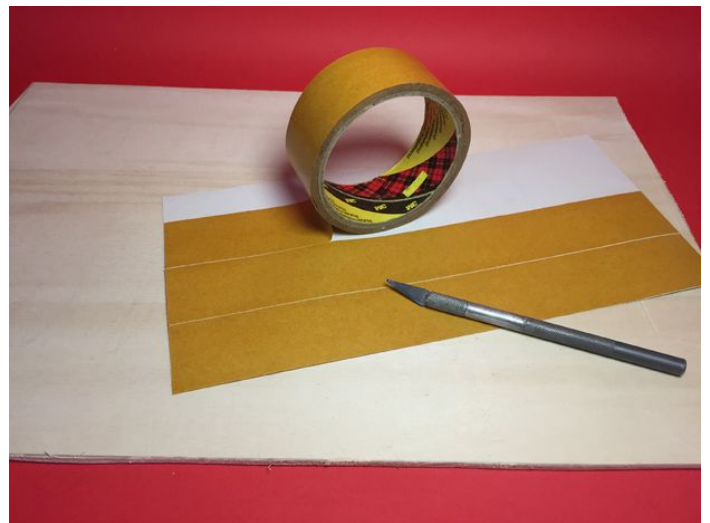
TOOLS:

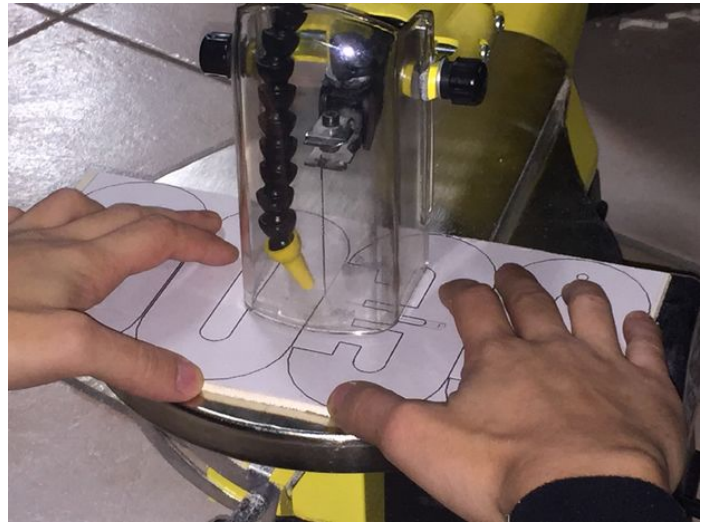
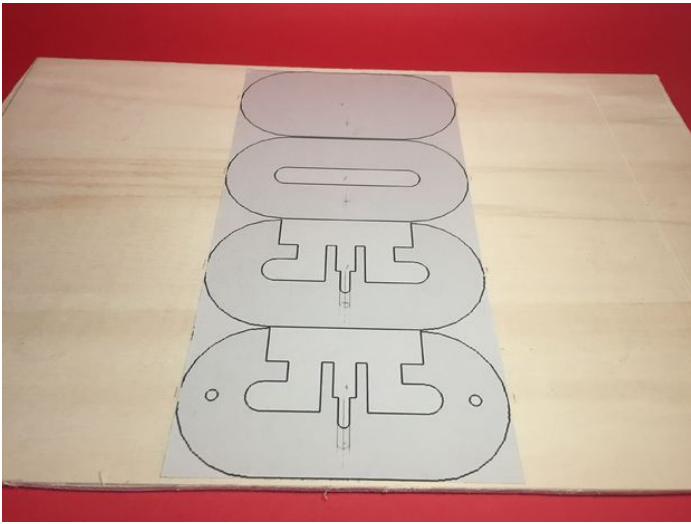
- scroll saw
- double sided tape
- round and flat file
- sandpaper (different grits)
- wood glue
- clamps



Step 3: Start to Cut

After attaching the template to the plywood, I cut all the 12 pieces around the outer edge in order to handle them better during the next inner cuts.

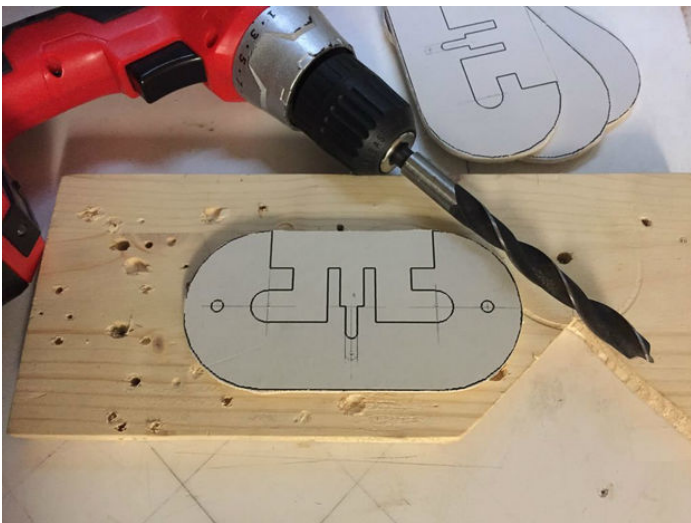


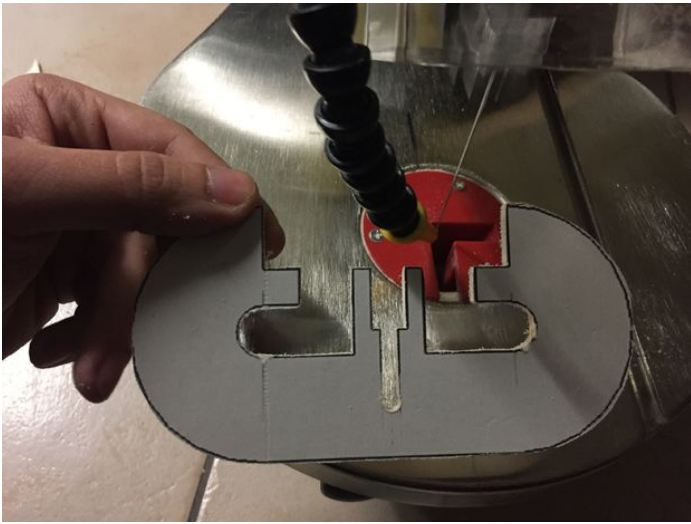


Step 4: Drill the Holes

A good idea to simplify all the curves is to drill some holes.

I used a 12mm drill bit for the small curves, and a 5mm drill bit for the magnet holes.

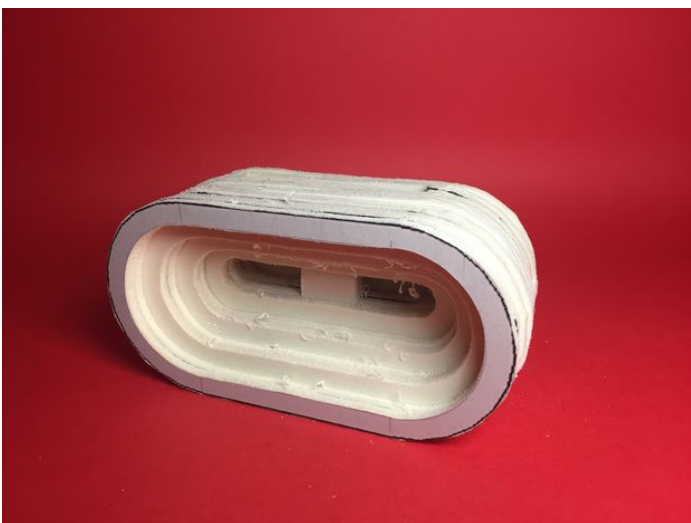
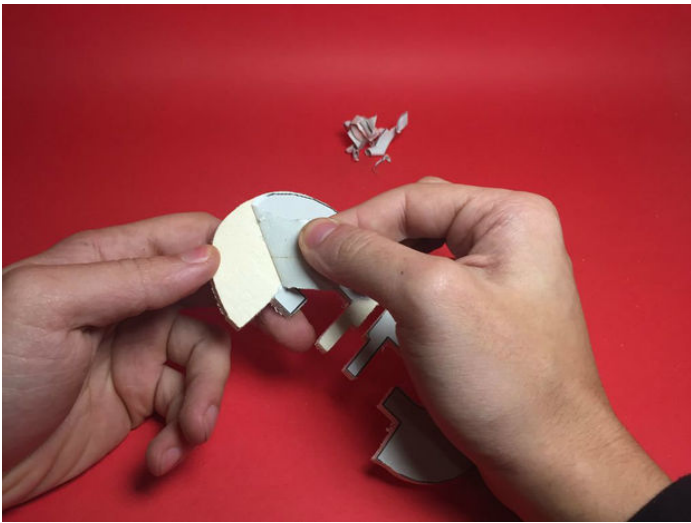




Step 5: Remove the Templates

Once you have finished to cut all the pieces you can remove all the templates.

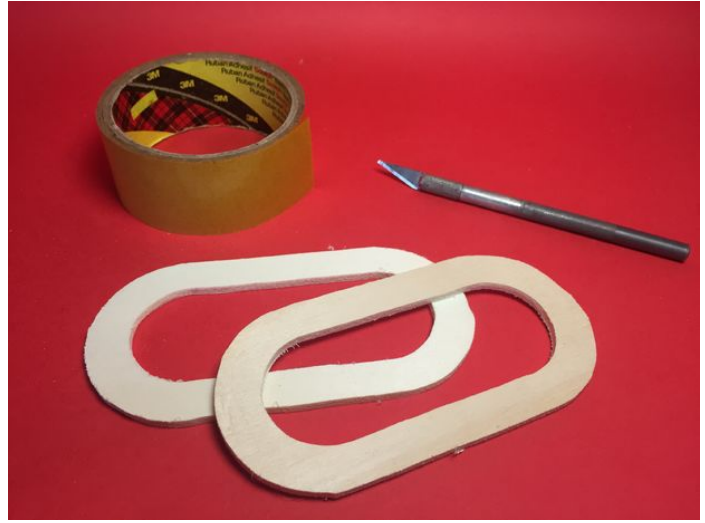
Be sure to cut all the pieces **around** the black line and not **on** it. It's better to sand the material in excess instead of having to cut another piece because you cut too much.



Step 6: Sand the Internal Edges

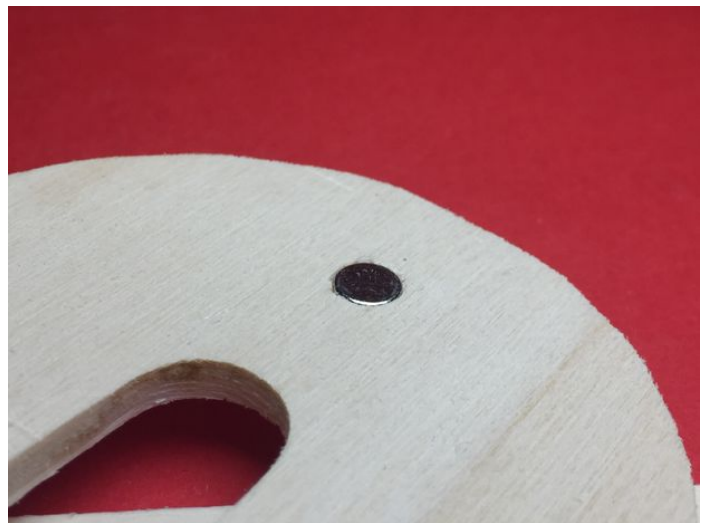
Use the double sided tape to temporarily hold together the pieces that have the same shape to sand them at the same time.

For the moment don't think about the outer edges; we will sand them later in another step once all the pieces will be glued together.



Step 7: The Magnets

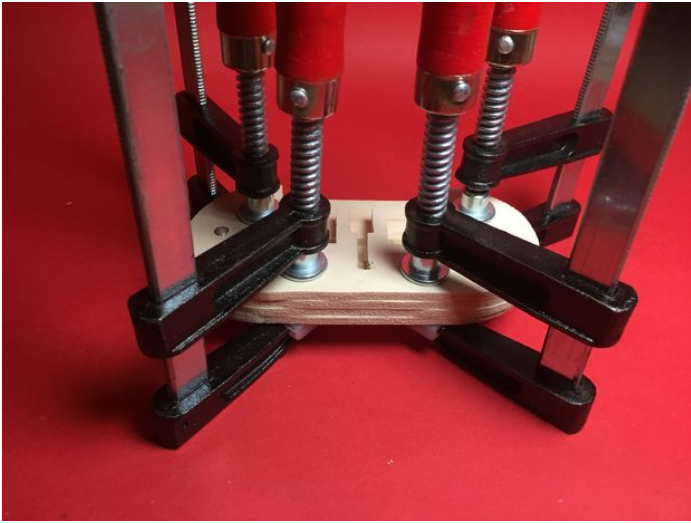
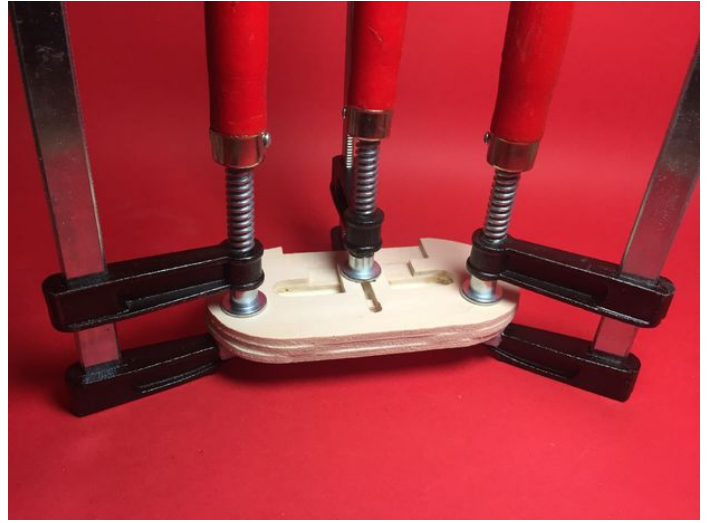
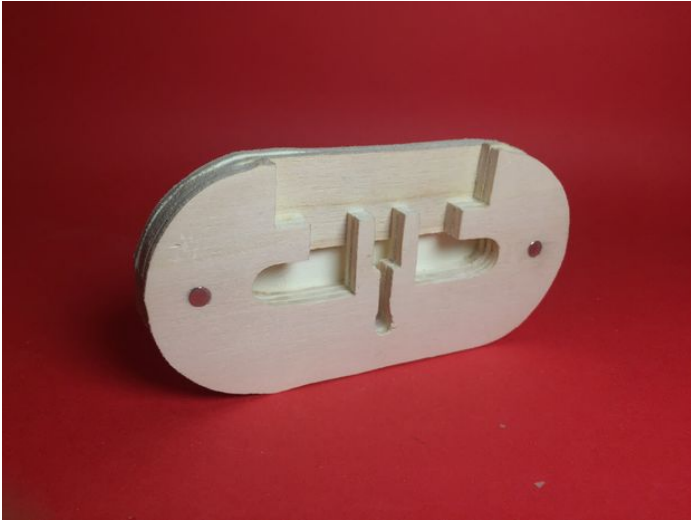
Glue the magnets in place. Scratch a little the magnets and then insert them in the holes **paying attention to the polarity**.



Step 8: The Back Piece

Glue together the 4 pieces on the left of the template to create the back piece.

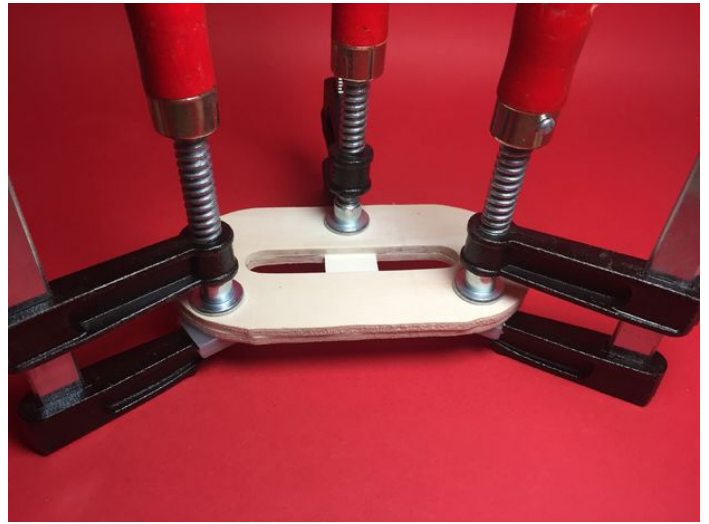
Glue and clamp 2 pieces per time being sure to keep aligned the inner curves.



Step 9: The Front Piece

Repeat the process of the previous step with the remaining 8 pieces in order to create the front piece.

Again, align the inner curves and make sure to clamp them in the right position because you will not be able to divide the pieces once the glue will dry.

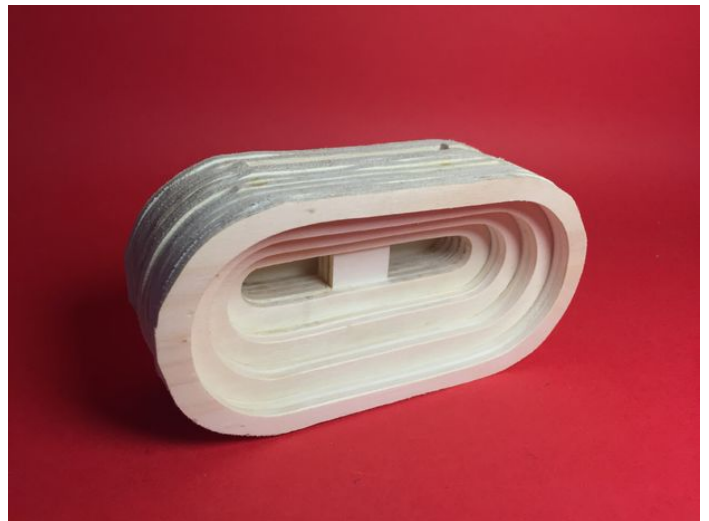


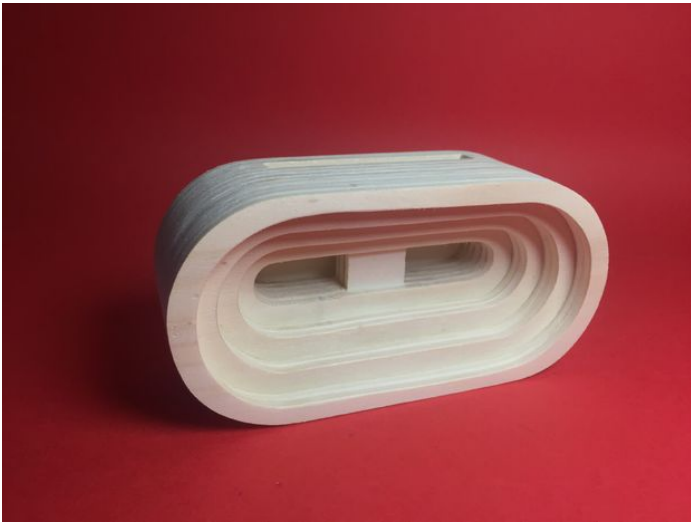
Step 10: Sand the Outer Edges

After lot of boring time waiting for the glue to dry, we can finally sand the outer edges.

In order to make it as smooth as possible, I suggest you to sand it using different grits of sandpaper, start with a coarse grit, and finish the job with a fine one.

This is the step where you can work on the errors made while cutting the pieces sanding away all the imperfections.





Step 11: Apply the Finish and Insert the Cable

As last step, apply a couple hands of your favourite wood stain or protective spray lacquer with a light sand in between and finally insert the cable. To secure it in place you will need just a small drop of hot glue.

I hope that you liked this project. It's amazing how well it works.

It could be a nice idea to give to friends and family as christmas present.

Thank you for reading my Instructable. ;)

Feel free to comment and ask if you need to know something!

manuelmasc





Related Instructables



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by Horatius.Steam



1000W Combo Guitar Amp by Spencer Cardillo



Passive iPhone / Victrola Amp
by theerikjohnson



Stylish Passive Amplifier by MarcoGhelfino



Make a music playing and LED reactive nightstand (no programming required) by dragonz2444



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Comments

1 comments

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Stuart.Sharp1978 says:
Are you going to upload the template?

Nov 24, 2016. 8:24 PM [REPLY](#)