Jay-D Build Guide

Introduction

The beginning

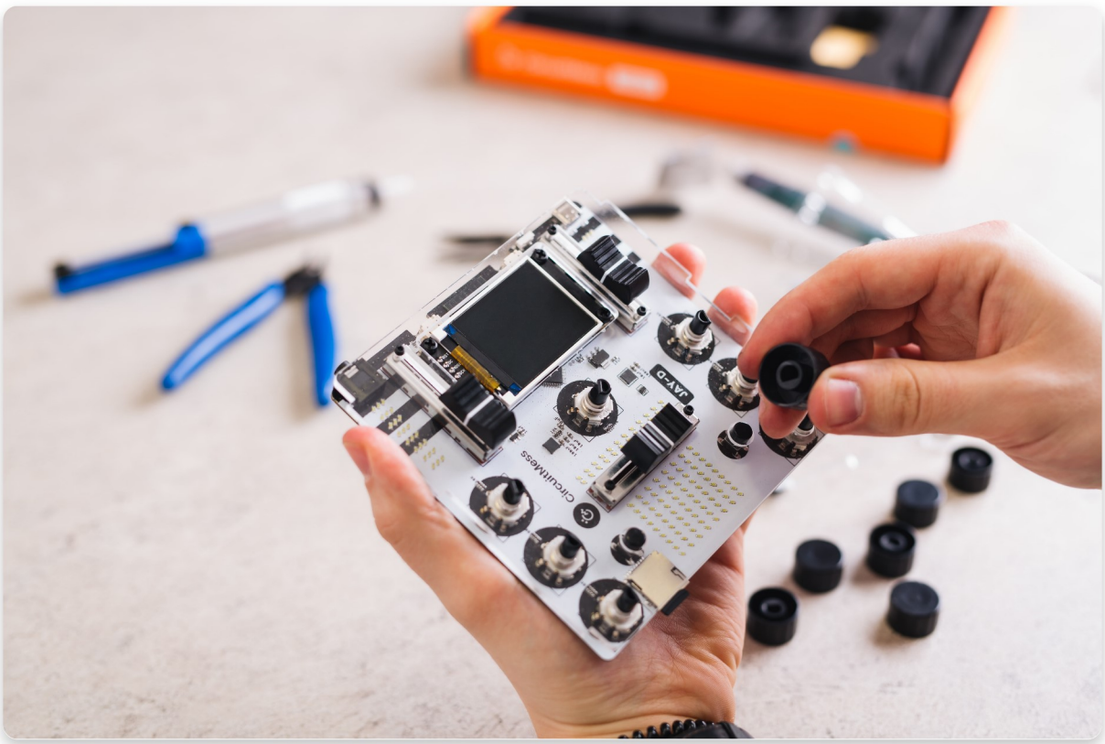
Welcome to CircuitMess Jay-D build guide!

By following this build guide, you'll learn how to assemble your own mini DJ mixtable. With Jay-D, you'll learn how microcomputers and other electronic components are used for sound production. You'll also get a bit closer to becoming a DJ superstar!

Check out the anatomy guide before you start to learn more about the components you're about to assemble.

A great addition to this guide that leads you through all the steps of the build is the anatomy guide that explains the components on the main board in more depth.

- You can check it out here!



Get ready to have some fun!

Age group

Jay-D is designed for everyone that's at least **11 years old** - like it says on the box.

Some of the assembly steps should be approached carefully, so make sure to have an adult jump in if you need some help with soldering or tightening the bolts later in the process. It's okay to ask for help.

Don't worry though! We'll go through the assembly step by step and provide some useful tips along the way. We'll give you a heads-up if there's something important to keep in mind while assembling.

Assembly time

It should take you approximately **4 hours** to fully assemble your Jay-D.

Of course, the assembly time depends on your previous knowledge and experience. If you don't have any experience yet, don't worry! It just might take you a little longer to get into the groove and overcome the challenges in the beginning.

Skills

You don't need to have any specific skills before getting your hands dirty with this DIY project.

The main objective here is to have fun and learn something new.

So hold on tight, read all the instructions, and get ready to have fun! This is a great opportunity and your first step in your big engineering career.

Learning with Jay-D

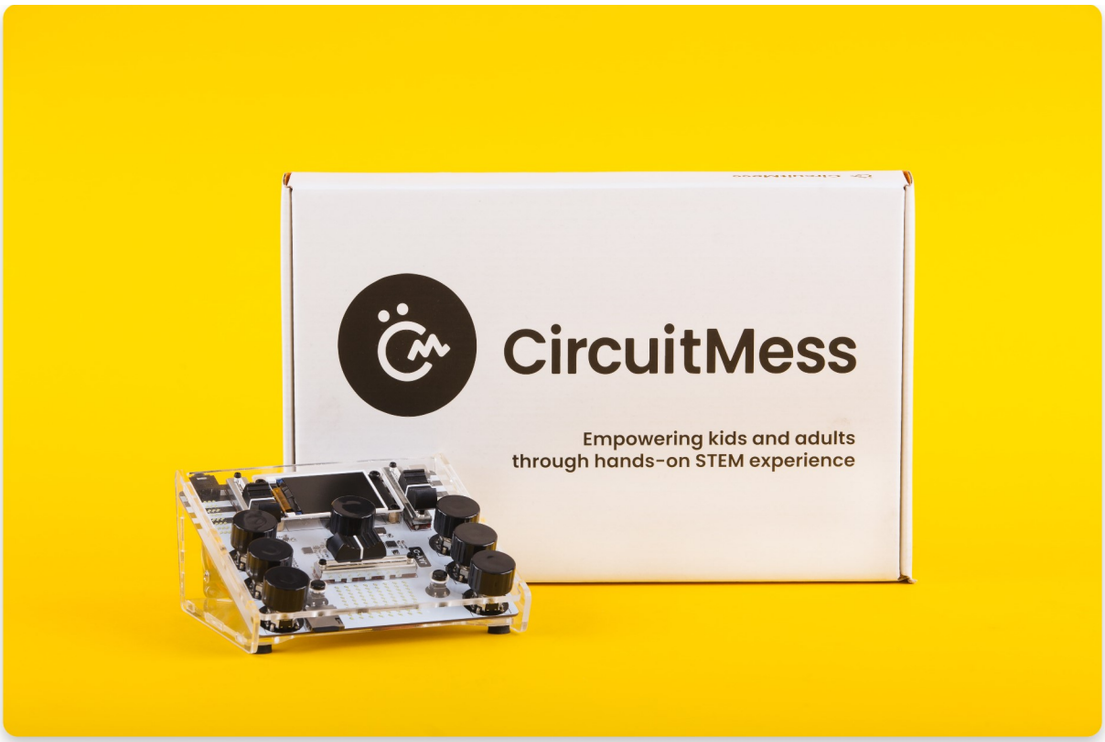
As previously mentioned, Jay-D will teach you a few useful things in the following 4 hours or so.

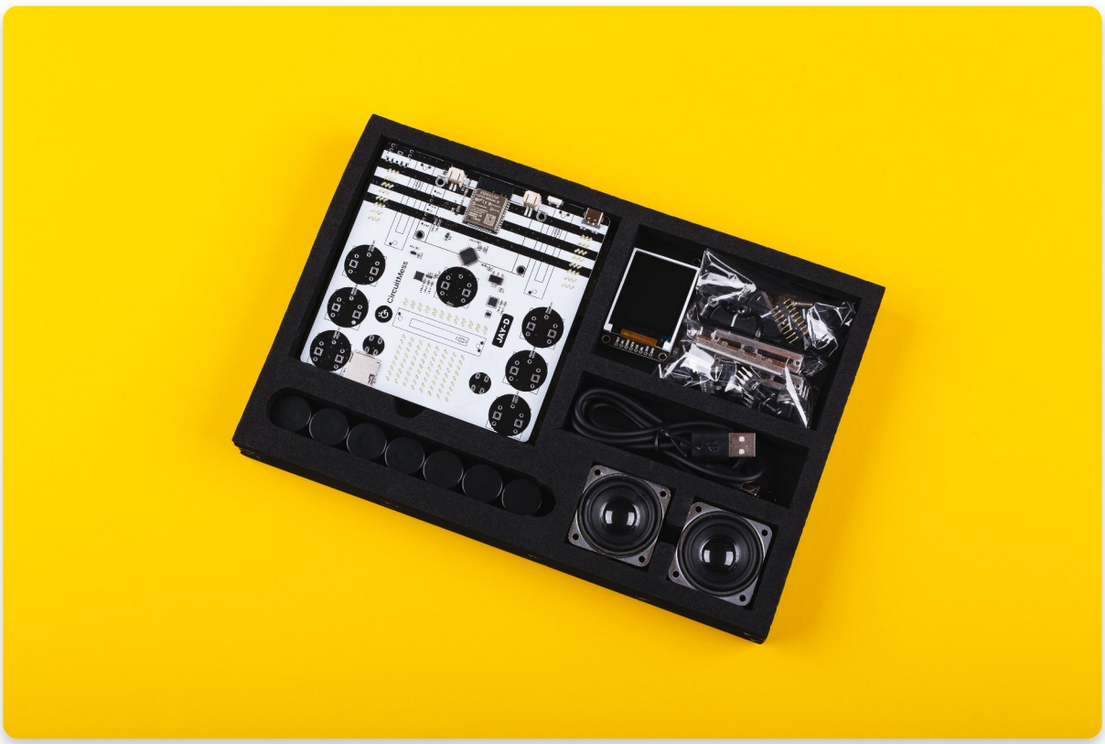
Here's what you will learn:

- What components are needed for digital sound production
- What are the sound waves and how can they be produced using computers and various electronic components
- What is a DAC and how it can be controlled for simultaneous playback of multiple sound files
- How a DJ mixtable works
- How to code custom light shows for your Jay-D mixtable
- How to code a custom sound effect into your Jay-D turntable

What's in the box?

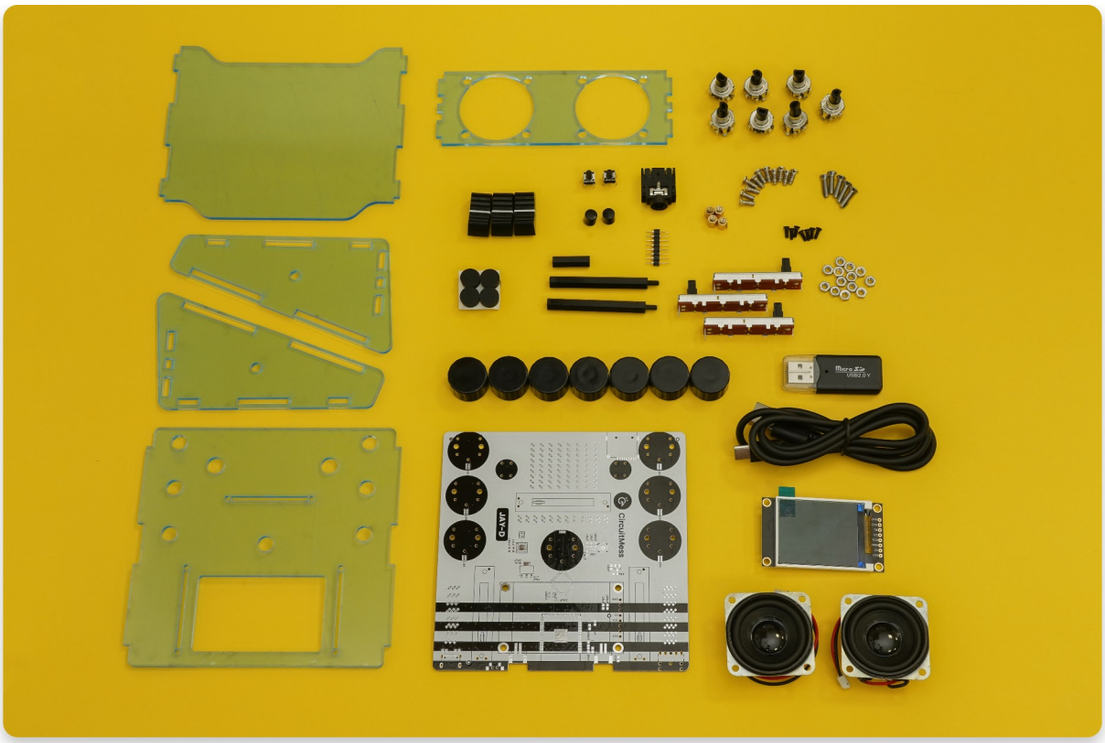
Let's meet all the components that arrived in the box!





Open your Jay-D box and check if you have all the components. Make sure to lay it all on a clean surface where you'll inspect if everything is there according to the photo and the list below.

In case something is missing, please contact us at **contact@circuitmess.com**. Send us a photo of everything that came in the box, and we'll get back to you as soon as possible to resolve the issue.

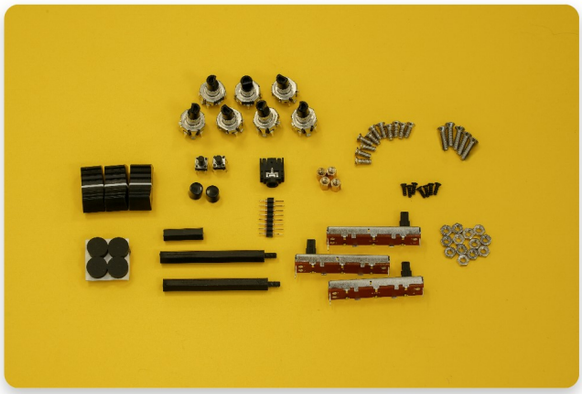


Here is the list of components:

1. **Main circuit board – connects all the chips together**
2. **Display board – 128*160 TFT color display**
3. **Acrylic casing**
4. **A bag of other small components such as resistors, pushbuttons, nuts, and bolts** (we'll go over that in the next step)
5. **Two 5W speakers**
6. **Custom-made plastic knobs**
7. **USB-C cable for charging and programming the device**
8. **4GB Micro SD card with a bunch of royalty-free beats preloaded**

> The SD card is already inserted into Jay-D's SD card slot!

Check all the small components



1. Rotary encoders (x7)
2. Plastic caps for sliders (x3)
3. Small black pushbuttons (x2)
4. Small black button caps (x2)
5. Male pin header
6. Headphone jack
7. Brass spacers (x4)
8. Medium metal bolts (x11)
9. Big metal bolts (x5)
10. Adhesive rubber feet (x6)
11. Black nylon spacers (x2 long, x1 short)
12. Slider potentiometers (x3)
13. Metal nuts (x13)
14. The smallest metal bolts (x7) (we used the black ones in the photos, but yours should be silverish like the rest of the bolts)

Meet the tools

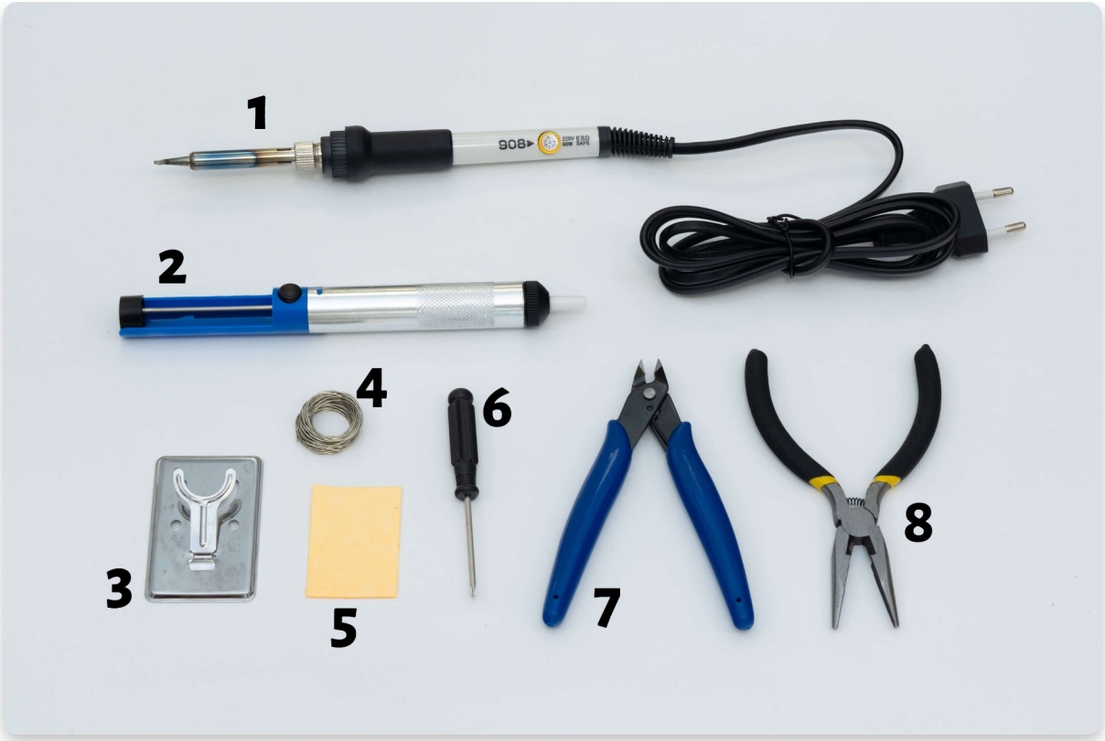
Mandatory tools

In this chapter, we'll explain what tools you'll need to assemble your Jay-D.

If you have your **CircuitMess Tools pack** in front of you, you should be all set!

In case you got the Jay-D kit without the Tools pack, this is a good time to borrow some of the tools or purchase them.

The tools required are essential whenever you are assembling, fixing, or modifying electronic devices and are the tools of the trade for every maker/hardware hacker/modder/electrician.



All the tools from the box

1. **Soldering iron**
2. **Desoldering vacuum tool (solder sucker)**
3. **Soldering iron stand**
4. **A small reel of rosin-cored solder**
5. **Cleaning sponge**
6. **Phillips screwdriver**
7. **Diagonal cutter pliers**
8. **Needle-nose pliers**

Soldering iron

This is the most important tool in a maker's arsenal.
For Jay-D's assembly, any entry-level soldering iron will suffice.

If you plan to dive into the world of DIY projects, you should consider getting a more expensive one with more features. There are also many soldering irons with interchangeable tips that can be particularly useful when working with much smaller components.

There are two types of soldering irons you could have received in your tools pack. The first one is white with a temperature regulator, and the second one is blue with a small metal button. Both of them will do the job of soldering the components in place and there is no big difference between them.

You will find the instructions on how to properly solder and take care of both soldering irons in the next chapter.

The soldering iron from the Tools pack

Soldering sponge

This small piece doesn't seem like much until you soak it in some water. It then turns into a super solder-cleaning sponge! Use it after soldering a couple of joints to remove the excess solder from the tip of your iron. Make sure that the sponge isn't dripping wet or bone dry - it should be damp.

Diagonal cutter pliers

With pliers like these, you'll be able to trim the legs of soldered components and cut wires!

We prefer this type shown in the picture (Plato, model 170), but any other type will do.

Diagonal cutter pliers

Needle-nose pliers

You're going to need pliers like these when assembling the casing, or when plugging in some tricky connectors!

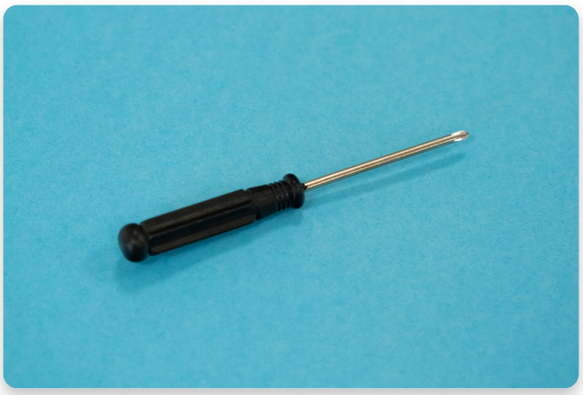
They're generally useful when doing some fine mechanical work.

Needle-nose pliers

Standard cross screwdriver

You'll need this cross (Phillips) screwdriver to assemble the casing together.

A standard 2.0mm cross screwdriver should do the trick.



Standard cross screwdriver

Desoldering vacuum tool (solder sucker)

This tool is useful when cleaning up soldering mistakes, but it isn't necessary for assembly.

If you plan on doing some hacking, modding, or hardware repairs in the future, having this is always a good idea.

Desoldering vacuum tool

Additional useful tools

Helping third hand with magnifier

This could make your soldering experience a little more enjoyable, especially when doing some more complicated projects.

Helping hand with a lot of additional tools

Multimeter

A multimeter can be used for many things: testing tricky connections, measuring battery voltage, testing resistors & capacitors, measuring the current consumption, and more.

It’s a useful tool when you’re trying to figure out what went wrong with any electronics kit.

Multimeter

Solder wick

You can use solder wick along with the desoldering vacuum tool to clean up any soldering mistakes. Just put it on the wrongly soldered joint and press on it with a hot soldering iron, then it will soak up the excess solder like a sponge!

Useful for fixing solder joints when they cannot be easily reached with a solder sucker.

Solder wick

Assembly

Soldering introduction

The first thing that you'll do as a part of the Jay-D assembly process is soldering!

Have you ever done that before? If your answer is no, we suggest you look at the following few links where you'll find useful tutorials and blogs about soldering. It will only take you 10 minutes to get into the zone and understand how it's done. Here are the links:

- Adafruit's video tutorial featuring Collin Cunningham – A tutorial featuring Collin Cunningham, a super charismatic electronics guru.
- Adafruit's standard soldering tutorial – A great and thorough video tutorial. An absolute must-read, even if you know how to solder. Make sure to check the "common soldering mistakes" section at the end.
- Sparkfun's video soldering tutorial – Another well-made how-to-solder video tutorial.
- Sparkfun's standard soldering tutorial – A detailed tutorial made by Sparkfun.

A little bit of heat + some solder = a connection!

There are several rules of soldering that everybody, regardless of their skill level, should follow at all times.

- **Never inhale the dust and the fumes that can be produced by the soldering iron!** These can be hazardous, so please don't inhale them.
- **Never touch the tip of the soldering iron!** Even if the soldering iron is turned off or completely disconnected from the power source, there is still a possibility that it's very hot and, therefore, can cause very uncomfortable pain if touched. Always keep it facing away from your hands. If you're finished with the soldering iron, unplug it from the power source and leave it to cool off for at least five minutes before putting it back in the box.
- **Clean the soldering iron!** The sponge is your best friend while soldering. Make sure to use it often and clean your soldering iron if you wish to have an easy and simple soldering experience. Carefully hold one part of the sponge with one hand and wipe the tip of the soldering iron on the other part of the sponge to remove the extra solder. Repeat the process until the tip of the iron is nice and clean from the old solder.
- **Check your solder joints twice (at least)!** Most of the malfunctions in the world of electronics are due to bad solder joints, so regardless if this is your first or 100th soldering project, always make sure to inspect your joints multiple times before proceeding to the next step.
- **Keep the soldering iron on the stand when you're not using it.**
- **Know how much solder is needed!** Make sure to put just enough solder, not too much, and not too little, since both can cause the device to malfunction.
- **Don't leave any residual solder on the board!** The solder should only be on the parts where the pins connect to the board. Everything else should be clean. Little pieces of solder all over the board are a big no-no!

Now go over these rules a couple of times so you don't forget them!

If you follow these rules, your soldering experience should be easy peasy.

Using the soldering iron

The soldering iron is very easy to use but only when used properly.

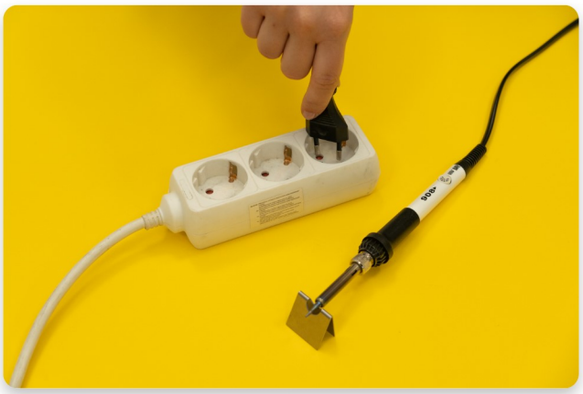
If you have purchased the CircuitMess tools pack with your Jay-D kit, you have gotten a white soldering iron with a temperature regulator.

Remember the rules mentioned previously? Good! Let's go over the instructions on how to use the soldering iron now...

Soldering iron instructions

Step 1

Set up your soldering iron so it stands on the stand - as shown in the photo. After that, plug it into a power outlet.



Step 2

Set the temperature to **250°** by turning the regulator. There is a small black arrow next to the regulator wheel, so make sure that it points to the right temperature, like in the photo.

Your soldering iron is now ready to use, but give it a minute or two, so it can heat up. The safest way to let it heat up is to leave it on the stand while you wait!

Set the temperature to 250°

Step 3

Once you're done with soldering (don't worry, we'll let you know when that time comes), you'll unplug the iron from the power outlet to turn it off.

Please use the soldering iron stand every time you are not using the soldering iron to make sure you don't burn the surface or the circuit board!

Make sure to not touch the soldering iron tip for at least five minutes after you have turned it off.

Chapter One - Soldering the components

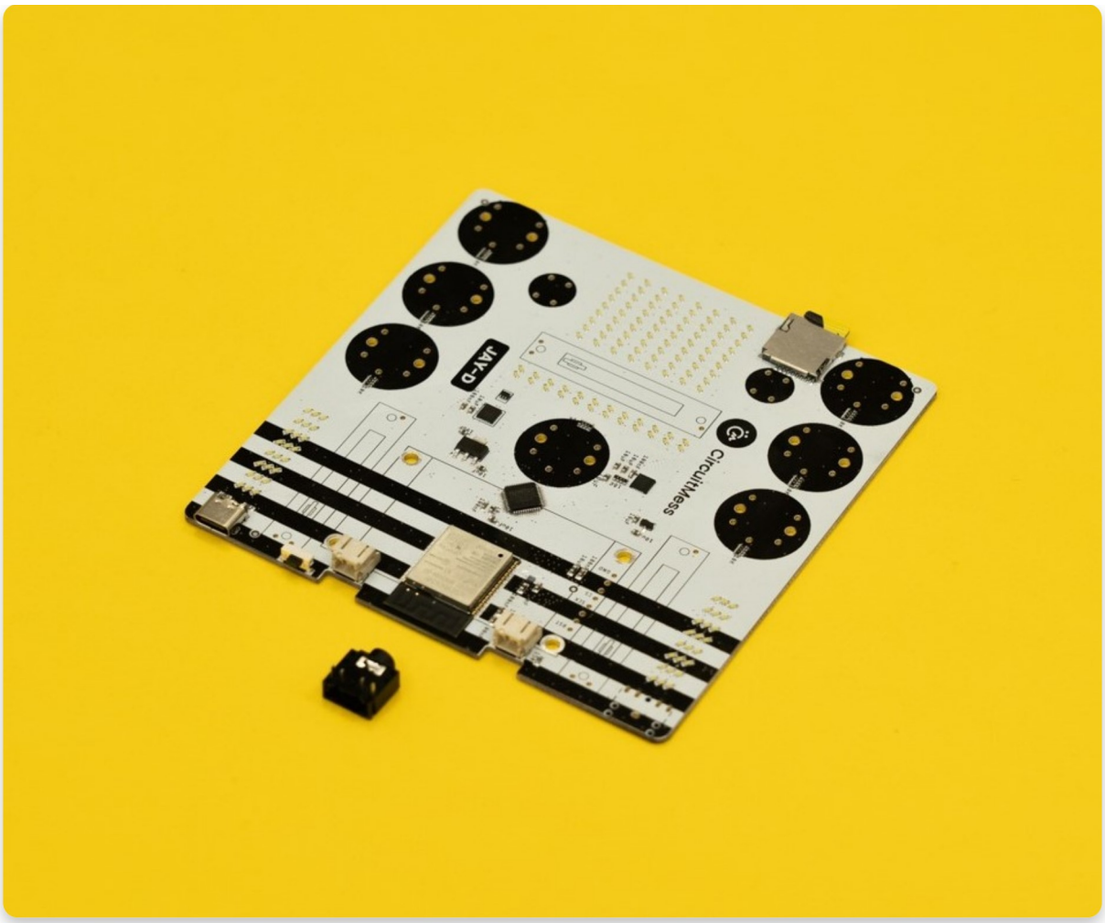
Now when you learned about soldering, it's time to put that into practice. Ready?

Part One - Soldering the first component

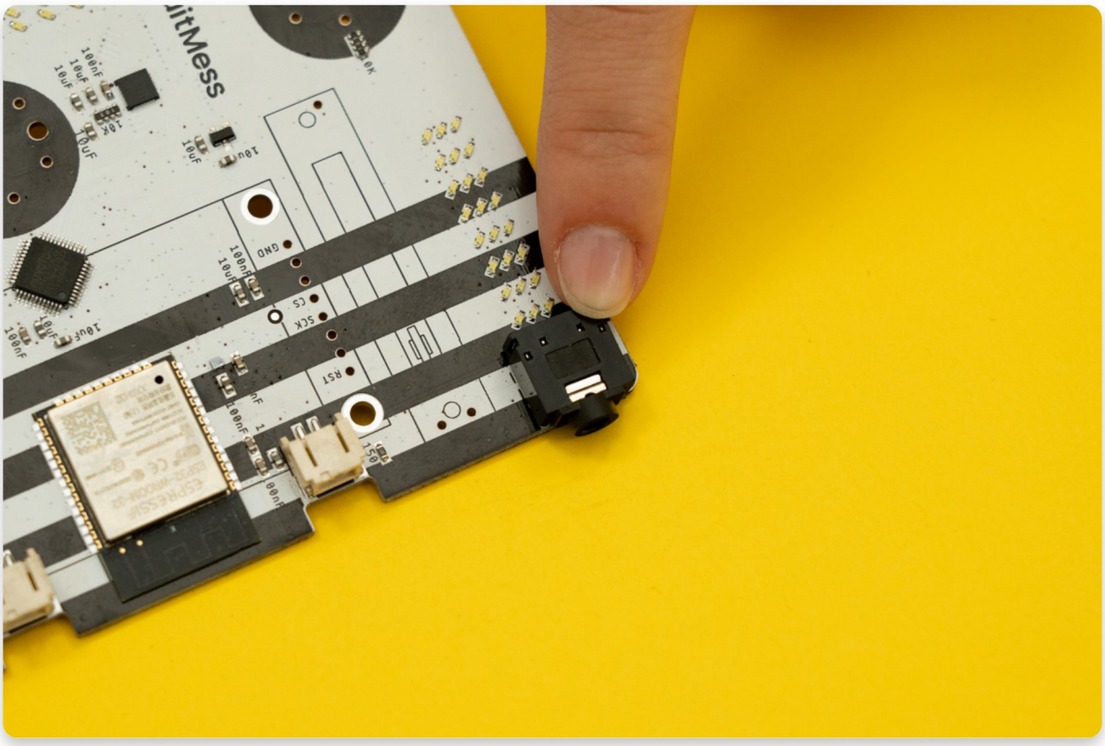
Let's start by soldering the headphone jack.

Here are the parts necessary for this step:

- The circuit board
- The headphone jack.

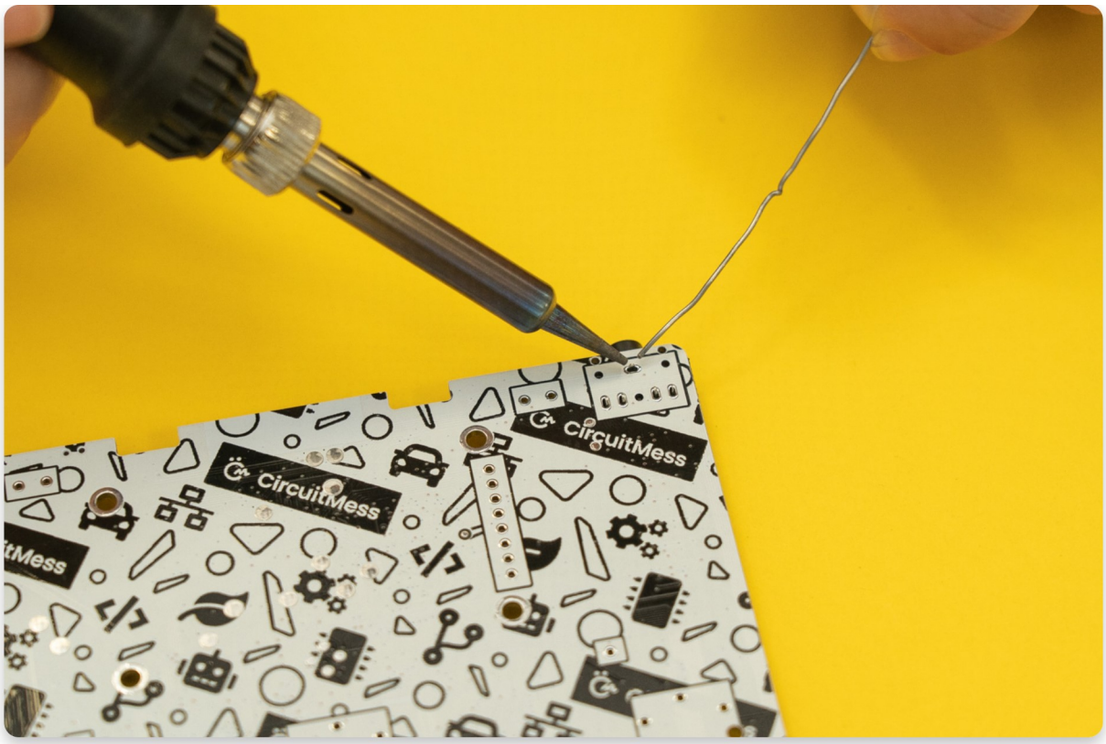


It's important that you solder this component in the right place. Make sure that you have the circuit board facing upwards, as shown in the photos. Once you find the place for the headphone jack pins in the corner of the board (where the black and white stripes are) adjust the component so it fits all the way in.



Adjust the component in its place

Once the pins are in, turn the board upside down while ensuring the headphone jack doesn't fall out. There are five soldering connections you'll have to make here.



Turn the circuit board upside down and get ready to solder the first component

Now it's time to solder the first pin!

Firstly, carefully place the soldering iron on the first pin, so that it’s touching both the pin and the little plated area around the hole that the pin is going through.

Leave it like that for about ten seconds so it heats up and then apply the tip of the solder to it. The solder should easily melt and spread evenly around the joint.

Making the first connection

Repeat the process four more times after soldering the first pin to the board.

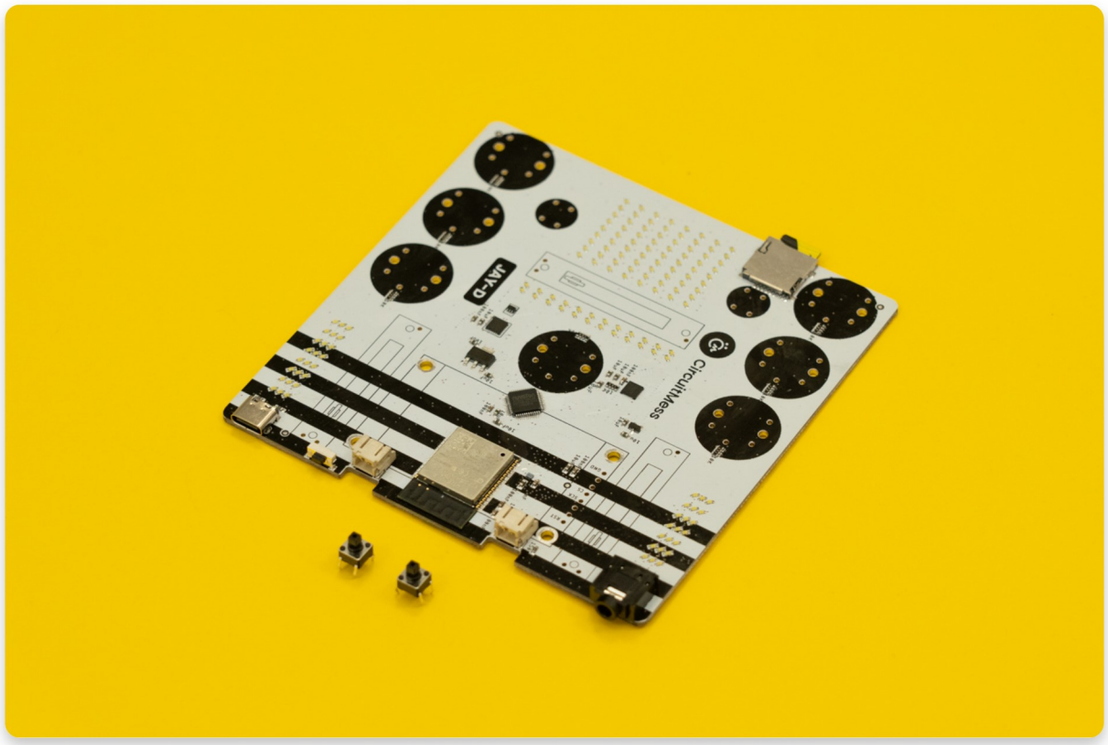
This is how your soldering connections should look

When you solder every pin, turn the board again so you can see its front side. Check if the headphone jack sits tightly in its place.

Nice! You soldered your first components on the board.

Part Two - Soldering the pushbuttons

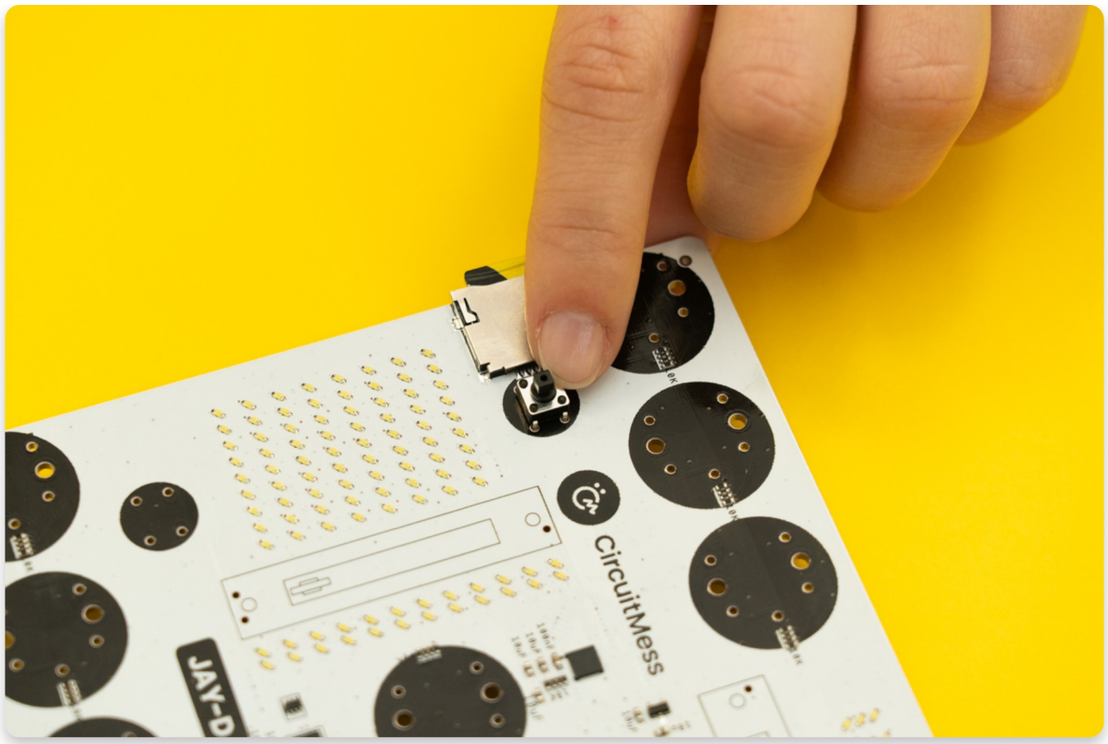
In this step, you'll solder the two small pushbuttons to the board. Here are the components you will need:



The circuit board and two pushbuttons

Now it's time to find their place on the board. Find two small black circles with four holes in places where the pins should go. These circles are located next to the LED board and the SD card socket.

Heads up - the pushbutton pins are shaped like a rectangle, so make sure to fit them accordingly. Also, ensure that the pins go all the way through the board.

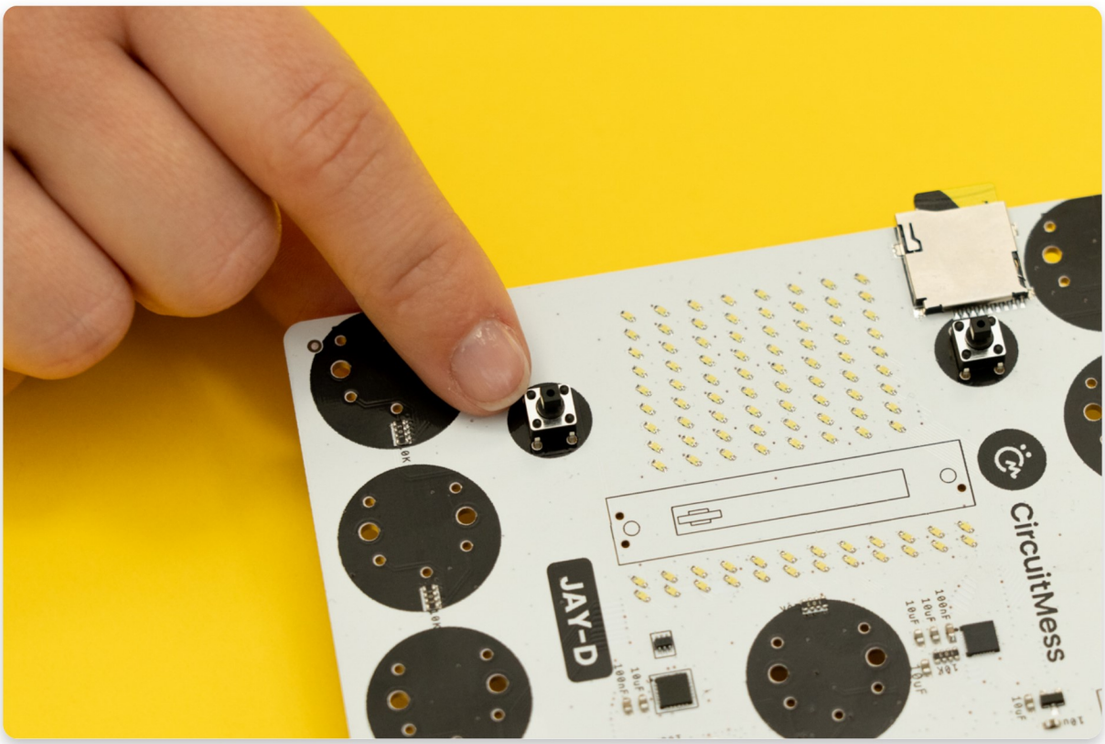


This is where you should solder your first pushbutton.

Again, solder the pins from the back side of the board. Flip it and make sure the pushbutton doesn't fall out. Start by soldering the first pin and repeat the procedure for the rest of the pins.

The first pushbutton is soldered to the board

You're doing great! Now it's time to solder the second pushbutton just across the LED display. Insert all four pins and turn the board upside down so you can make the connections.



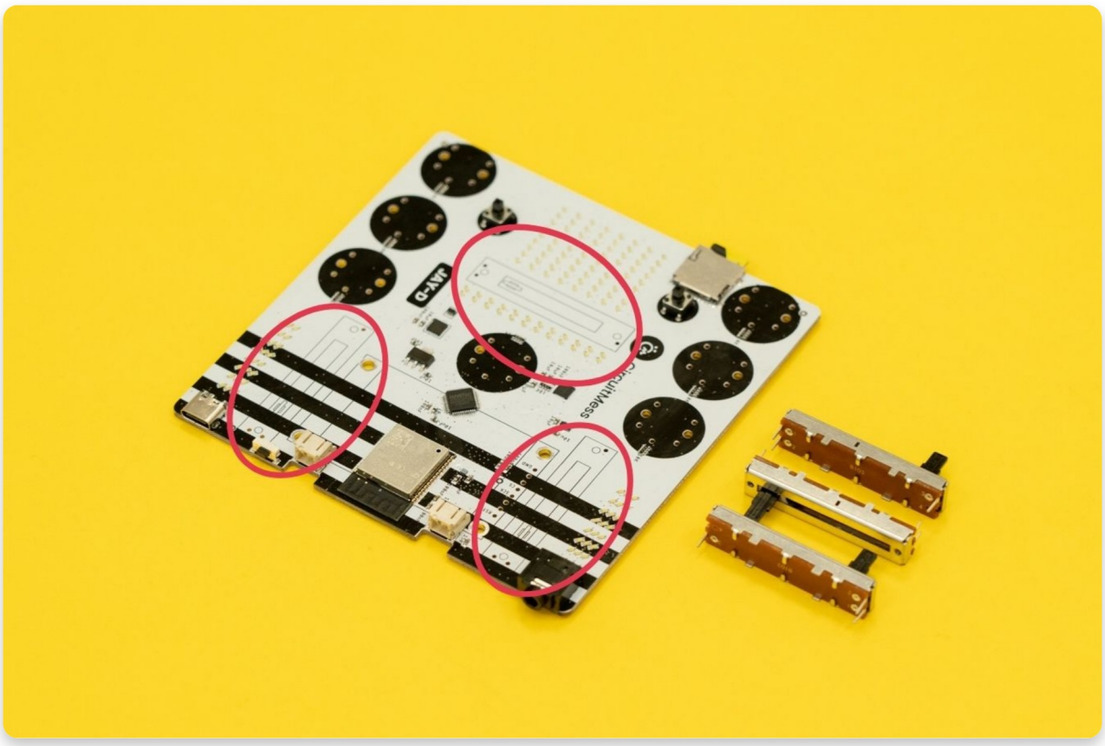
The second pushbutton is soldered to the board

Part Three - Soldering the sliders

It's time to solder the sliding potentiometers. They are crucial components that will later be used for mixing, so your board will now start looking like a real mixtable.

There are three sliders and each slider has three pins that need to be soldered to the board. There is one pin on one end of the slider and two pins on the other end, so you don't have to worry about aligning them the wrong way.

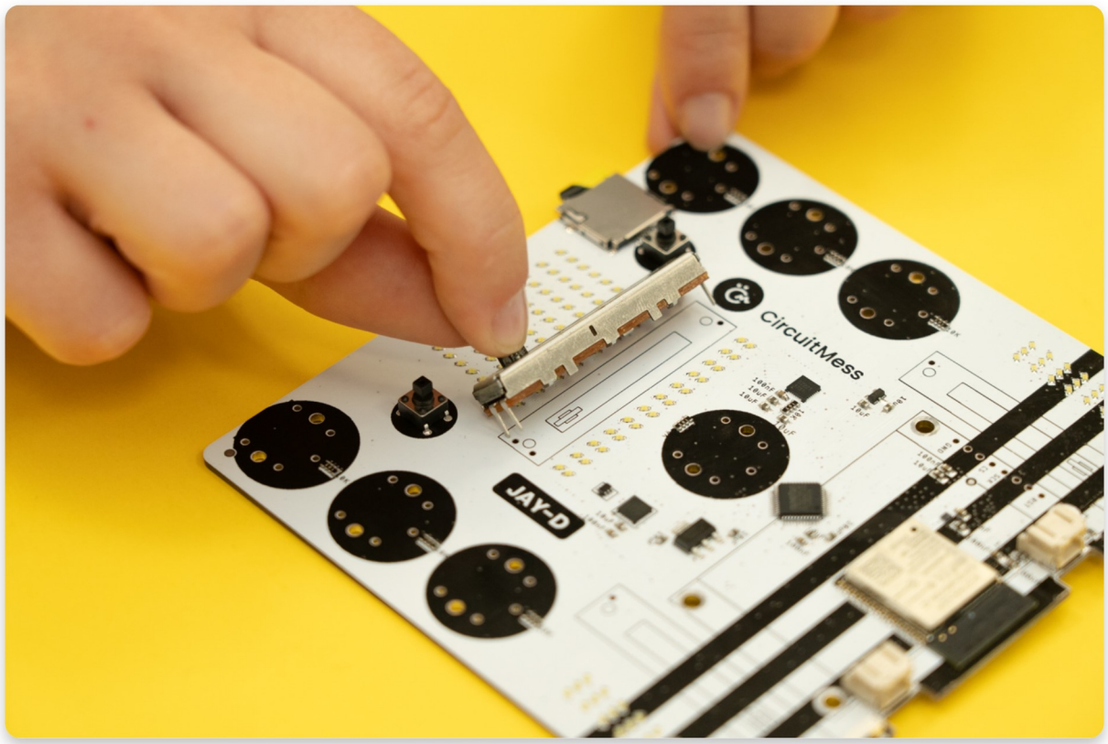
This time, there are no circles pointing to the location of where the sliders should go, but there are three thin rectangles marking their position. Find them on the board and use the photo below as a guide.



This is where the sliders should go!

Start with any of the three sliders.

As previously mentioned, there are three pins on each slider. Fit the slider so that the two pins on one side go into the two holes on the PCB board and one pin goes into the single hole on the other side. of the PCB



Insert the slider

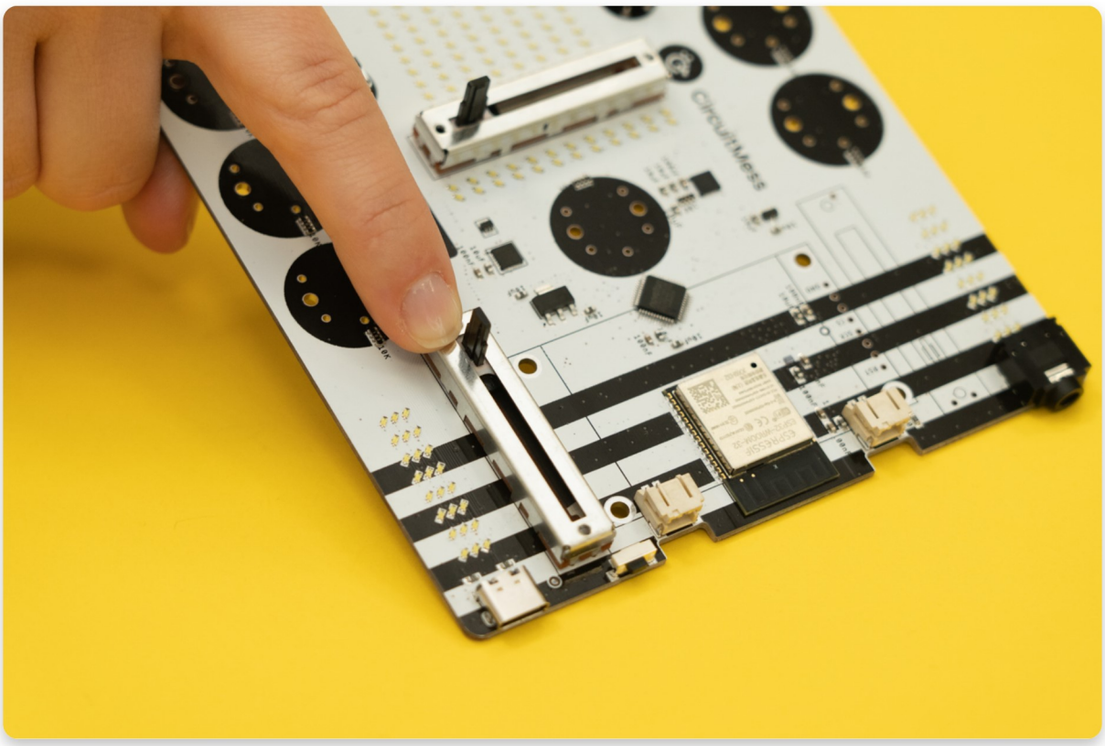
After you've inserted the first slider, turn the board upside down and solder the three pins.

Soldering the first pin

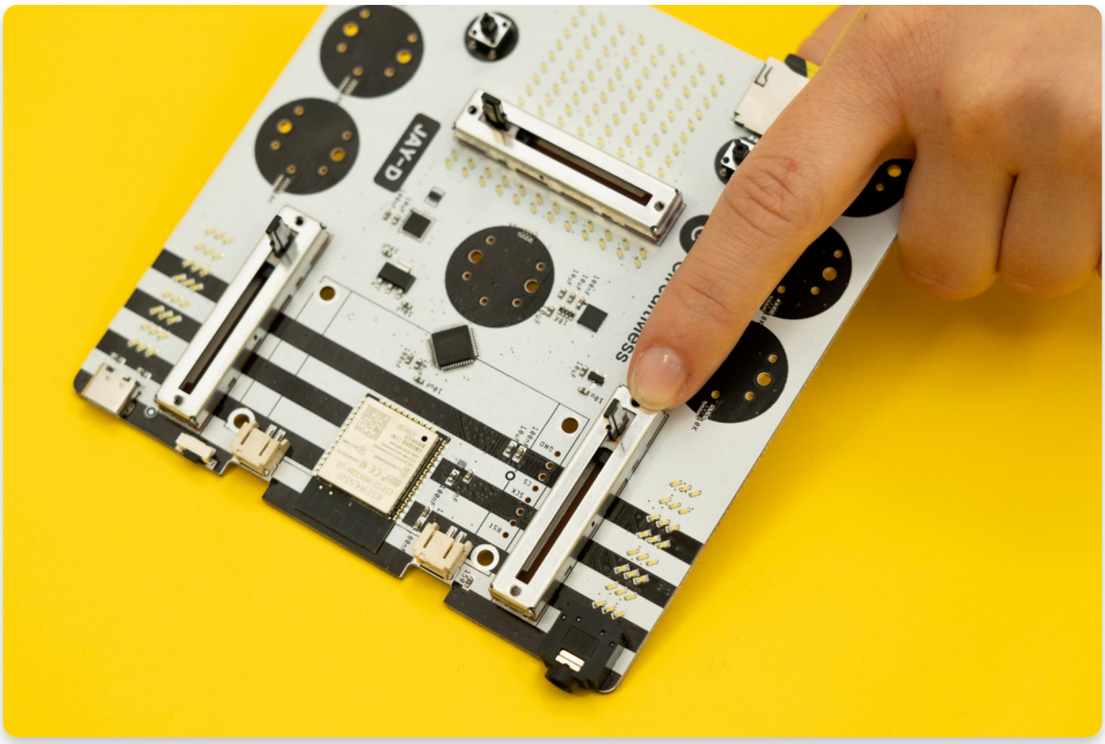
Soldering the two pins

Put the second slider potentiometer on the board and solder it like the first one.

Repeat the process for the last slider as well.

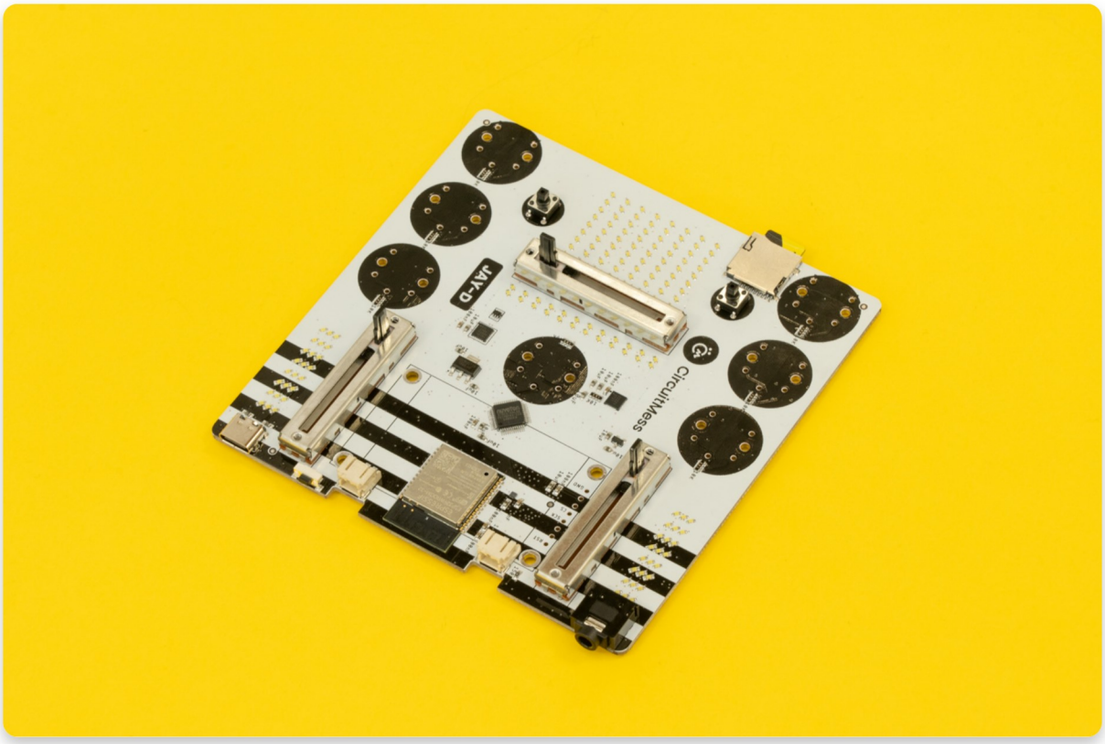


The second slider



The third slider

All the sliders are now soldered to the board - good job! Ready for the next step?



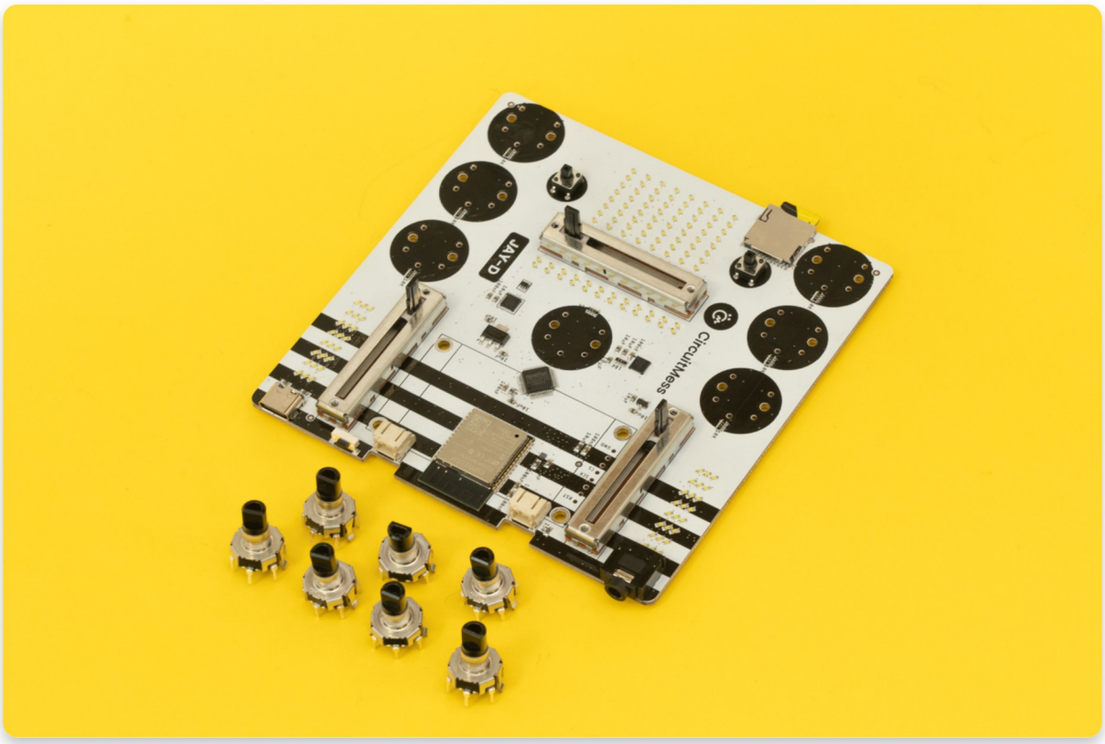
Sliders soldered to the board from the front

Sliders soldered to the board from the back

Part Four - Rotary encoders

In this part, we'll show you how to solder the seven rotary encoders. Just like the sliding potentiometers, these rotary encoders will be one big step closer in finishing your mixtable.

Here are the components that you'll need for this step. Got everything? Cool, let's start!



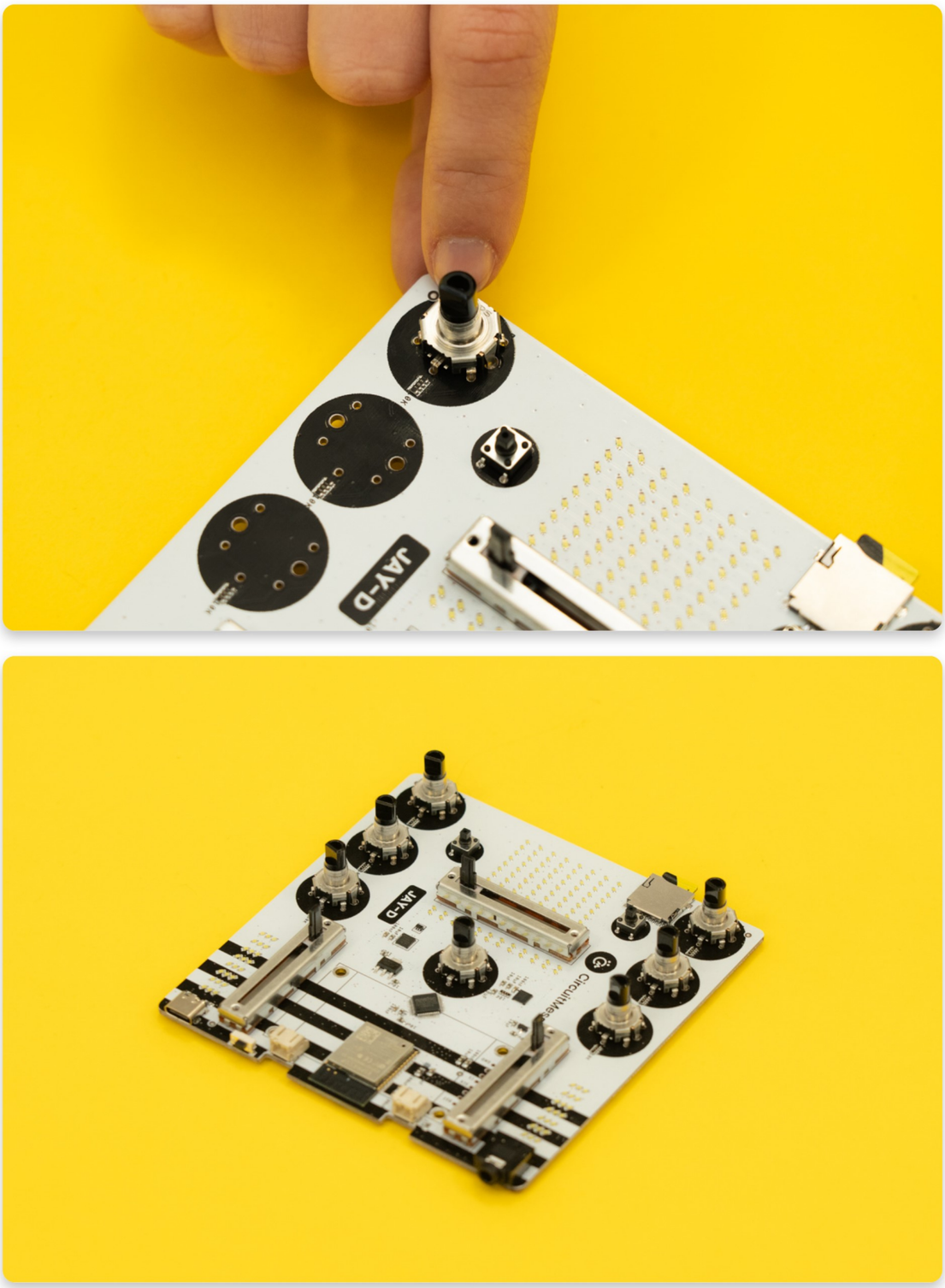
Components you need: 7 rotary encoders + board

Start with inserting the first encoder. As you can see in the photo, each rotary encoder goes where the black circle is shown on the board - it's hard to miss it.

Also, keep in mind that all pins must be inserted into the holes to solder the

encoder to the board later. In case any of the pins bend when inserting, simply straighten them out with your fingers and try again.

There are seven pins on each encoder arranged so that there is only one way to insert it. After you insert the first rotary encoder, repeat this step six more times.



Insert all the rotary encoders

When it comes to soldering the encoders, please be careful because **not all the pins need to be soldered to the board**!

You will need to solder the five small pins and leave the two big ones just like they are without soldering them to the board. In the photos below, you can see the process step by step and the final result.

Solder the first pin of the rotary encoder

Solder the rest of the pins (except for the two big ones)

Solder the five small pins and leave out the two big ones

Now repeat the soldering step six more times until all the encoders are soldered to the board.

Your soldering joints on all the rotary encoders should look like this

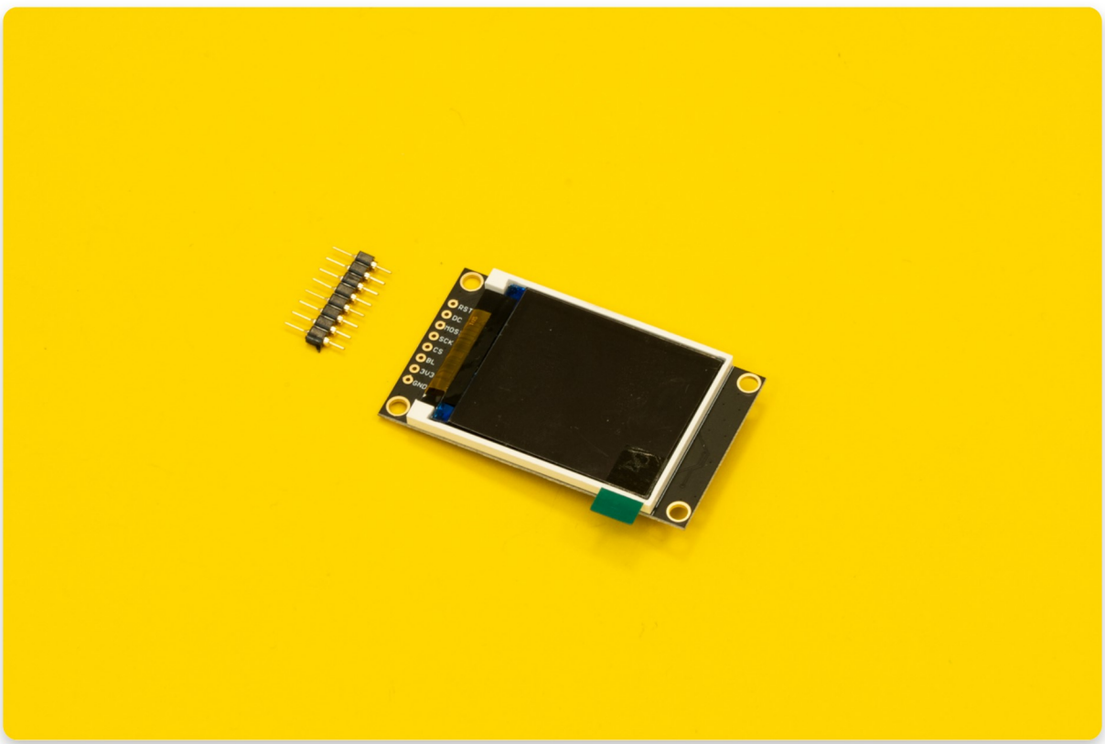
Part five - Soldering the screen

Soldering the screen is the last step in this chapter. This is a pretty big one, so you should treat it with care.

You'll notice a little protective layer on top of it, which you can take off by pulling the little green tab. Don't do that just yet, this protective layer makes sure that the screen stays protected all the way through the soldering part.

After you've completed your soldering, take it off so your screen can really shine! Everything will work just as well even if the protector remains on, so don't worry too much about it. Let's start!

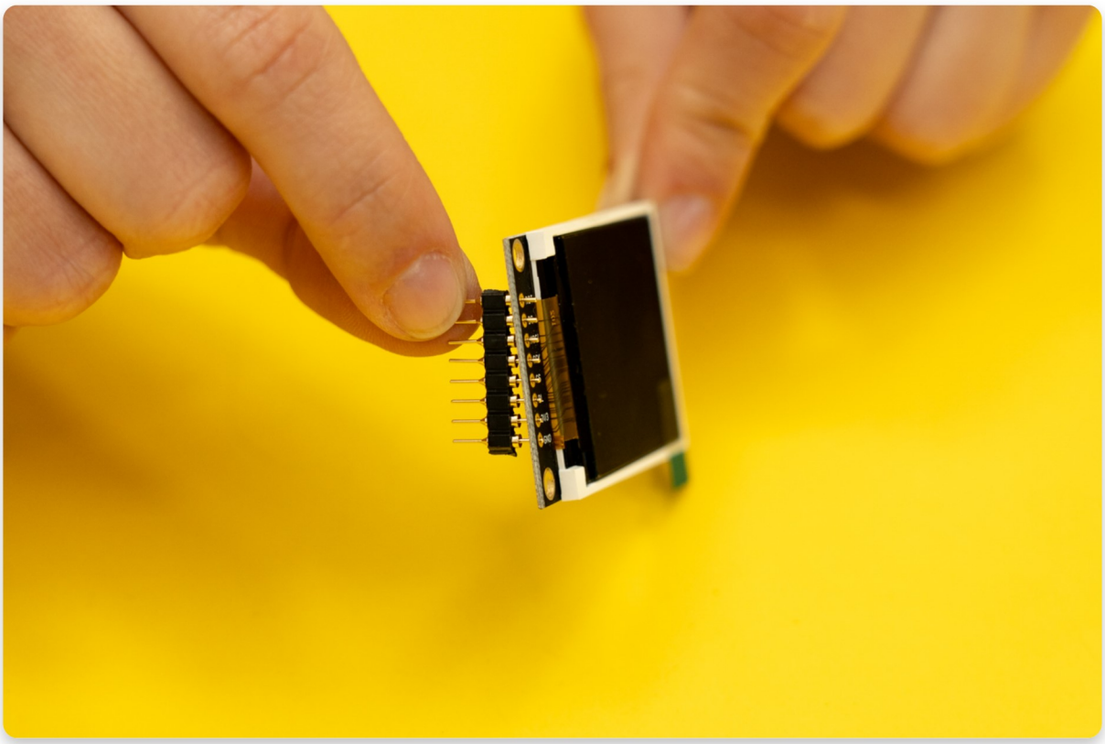
You'll need the screen and the pin header, to begin with.



Components you'll need for this step

Insert the pins into the board with the screen.

Be careful in how you insert the pins since the upper and the bottom part of the pins are different. **The pins on the side that you should insert into the PCB are shorter than the pins on the opposite side. Use the photo below as a reference.**

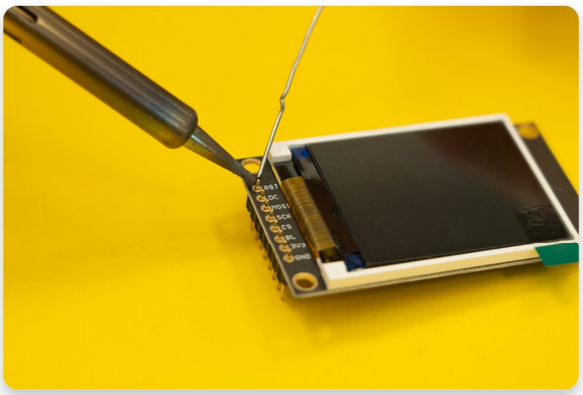


Insert the pin header

It's soldering time! Now, bear with us, this is important.

Pins should be soldered perpendicular to the board with the screen. There is a useful tip that you can use at this point:

1) Solder just the first pin of one row of headers



Solder only the first pin

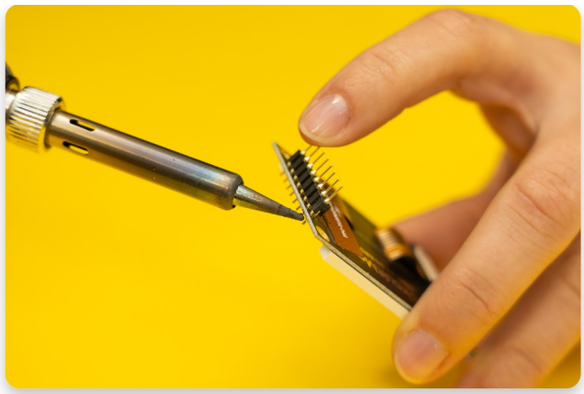
2) When the first pin is soldered, check if the pin header is perpendicular to the board

3) If the header is slightly skewed and needs adjusting, melt the solder and tilt the headers with your fingers.

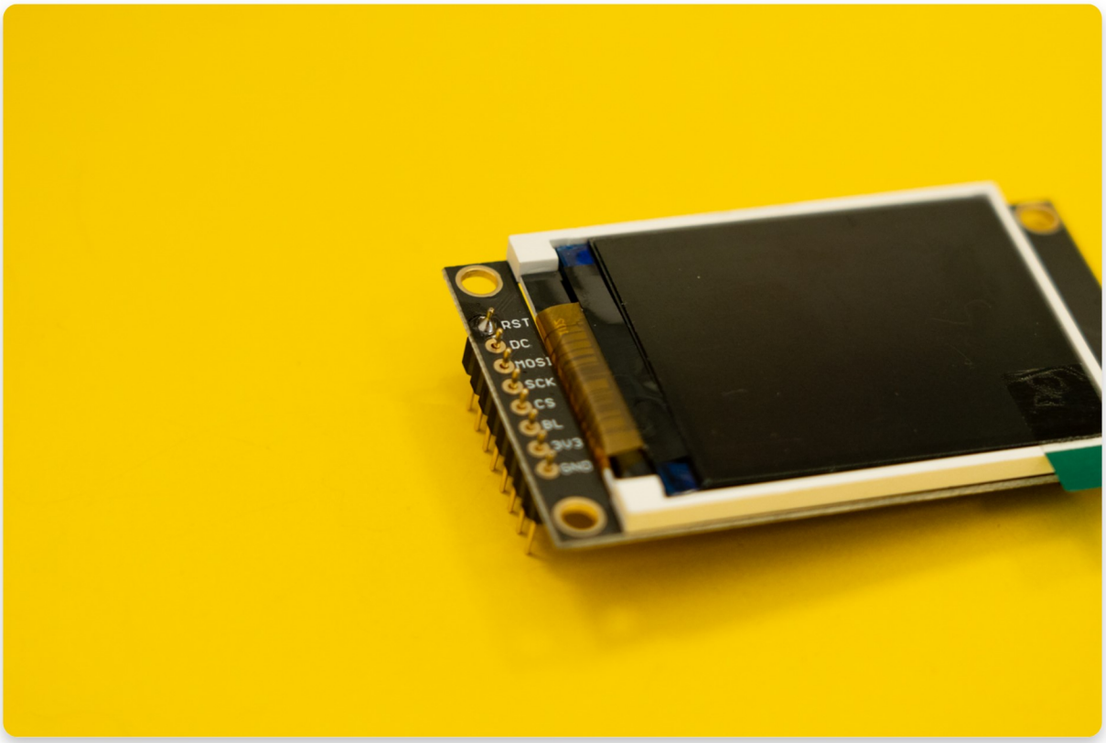
(Watch out not to burn yourself.)

Adjust the pin header by melting the solder on the first pin

4) Check if the headers are aligned correctly, if not then repeat the process

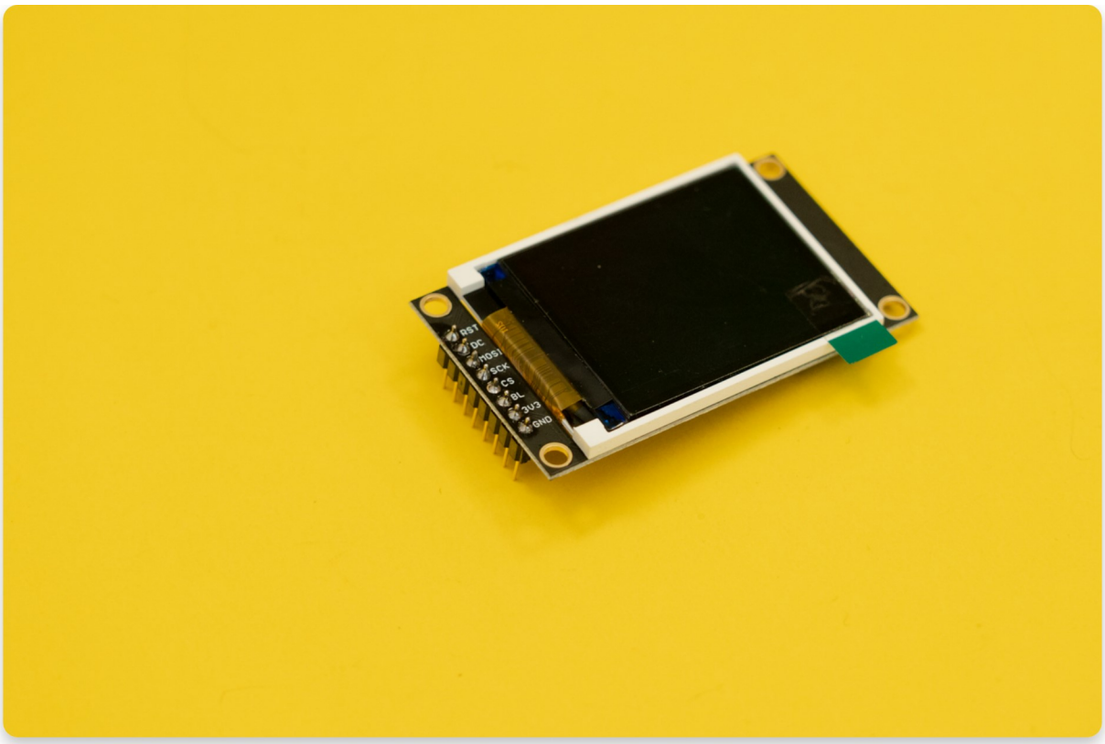


Repeat the step if necessary until the pin header is perpendicular to the board



The first pin is soldered and should look like this

When you're confident that the pin header is perpendicular, continue to solder all the remaining pins, just like in the photo.

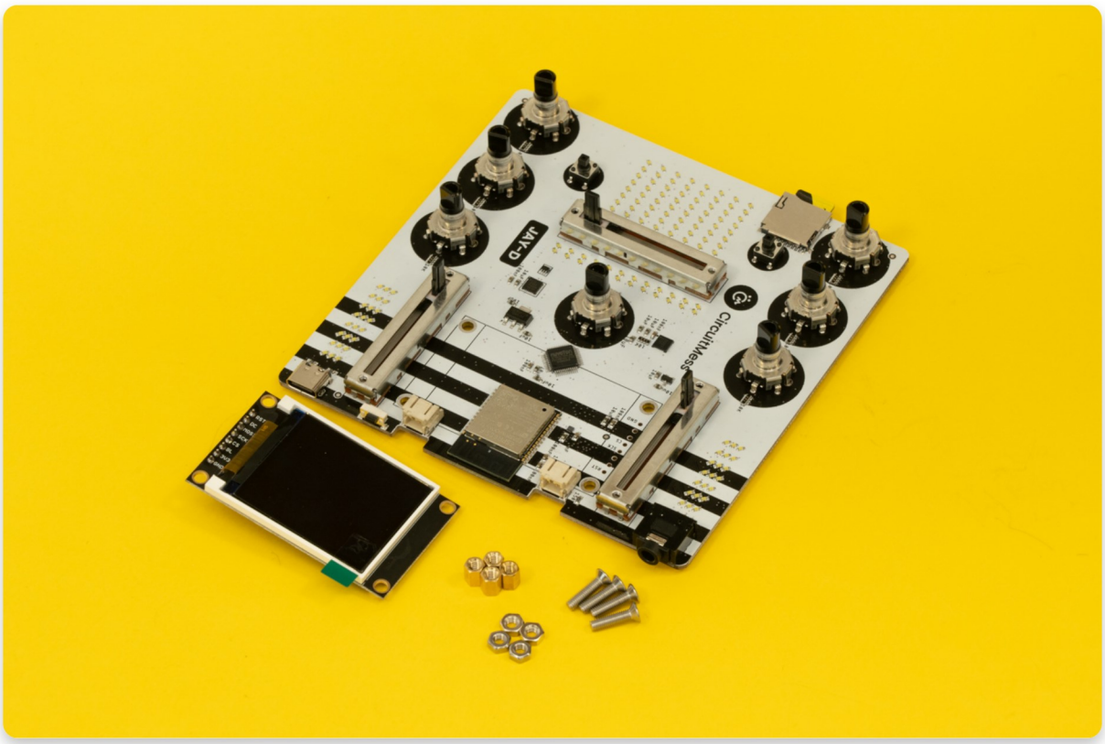


All the pins are soldered!

You successfully soldered the pin header that will connect the screen with the main board. Now we'll guide you through that process as well.

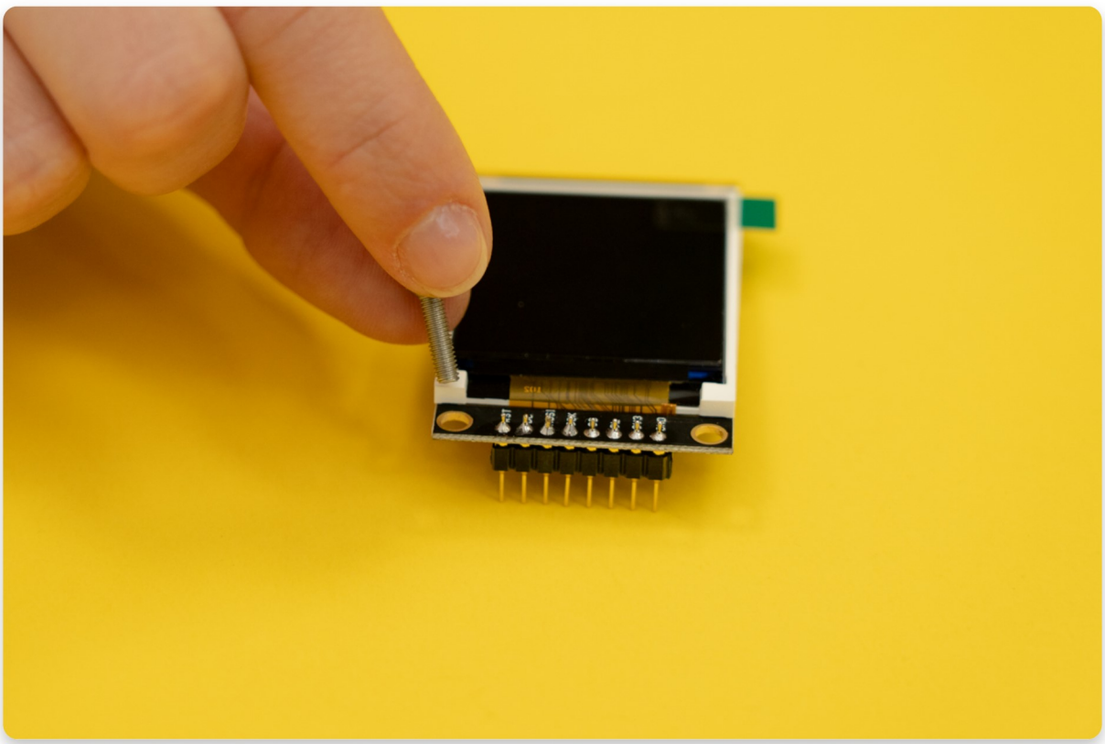
Here is what you need in this step:

- Main board
- Screen
- 4 big metal bolts
- 4 metal spacers
- 4 golden spacers.

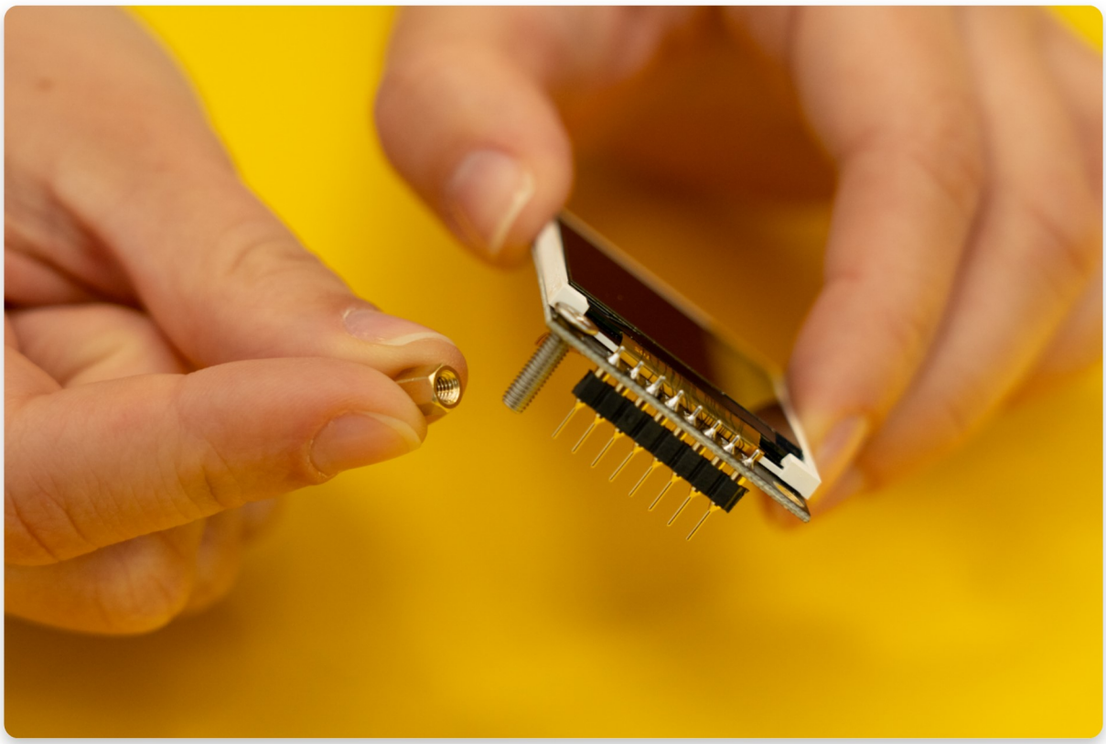


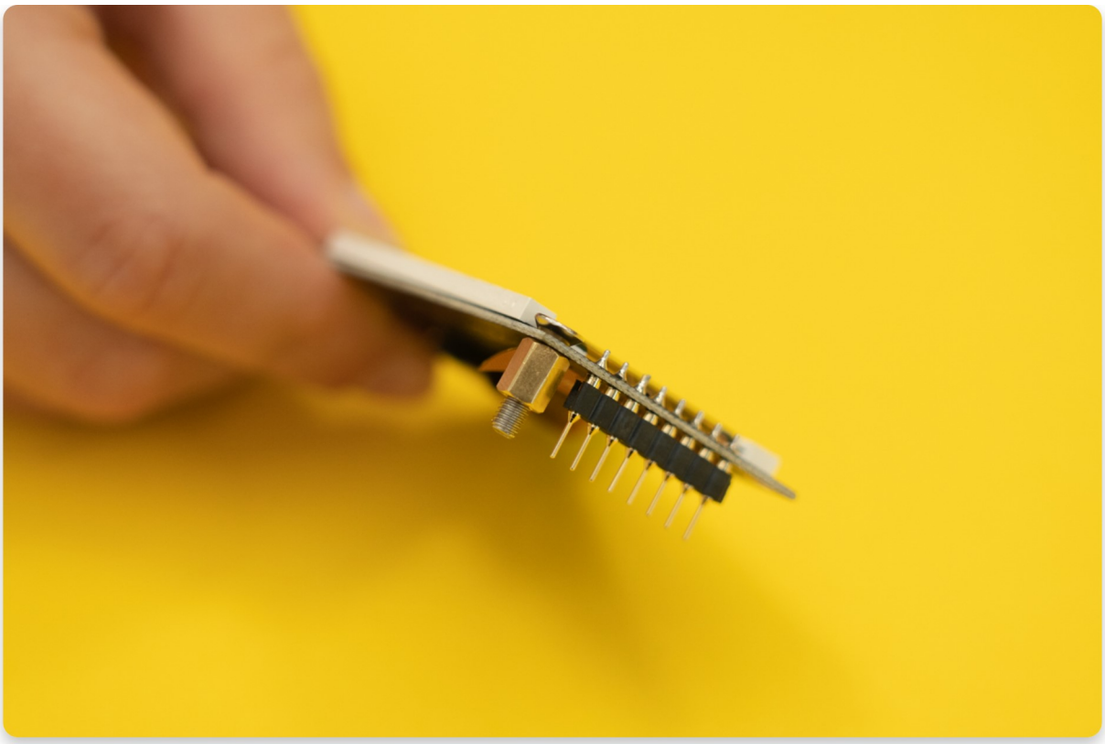
All the components you need

Start by inserting the big metal bolts into one of the holes in the corner of the display board.



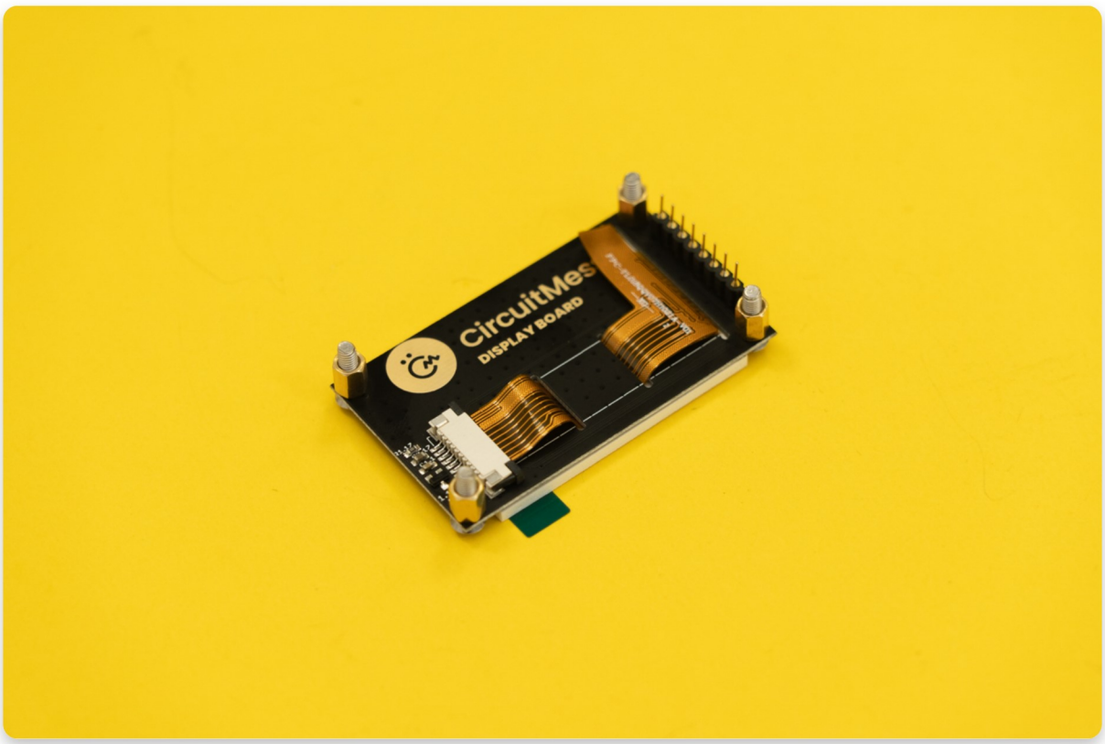
Take one golden spacer and place it on the opposite side of the board screwing the bolt at the same time so that the spacer sits tightly. You can do that with your hand but don't be afraid to ask for help from an adult to make sure the bolt is tightened correctly!



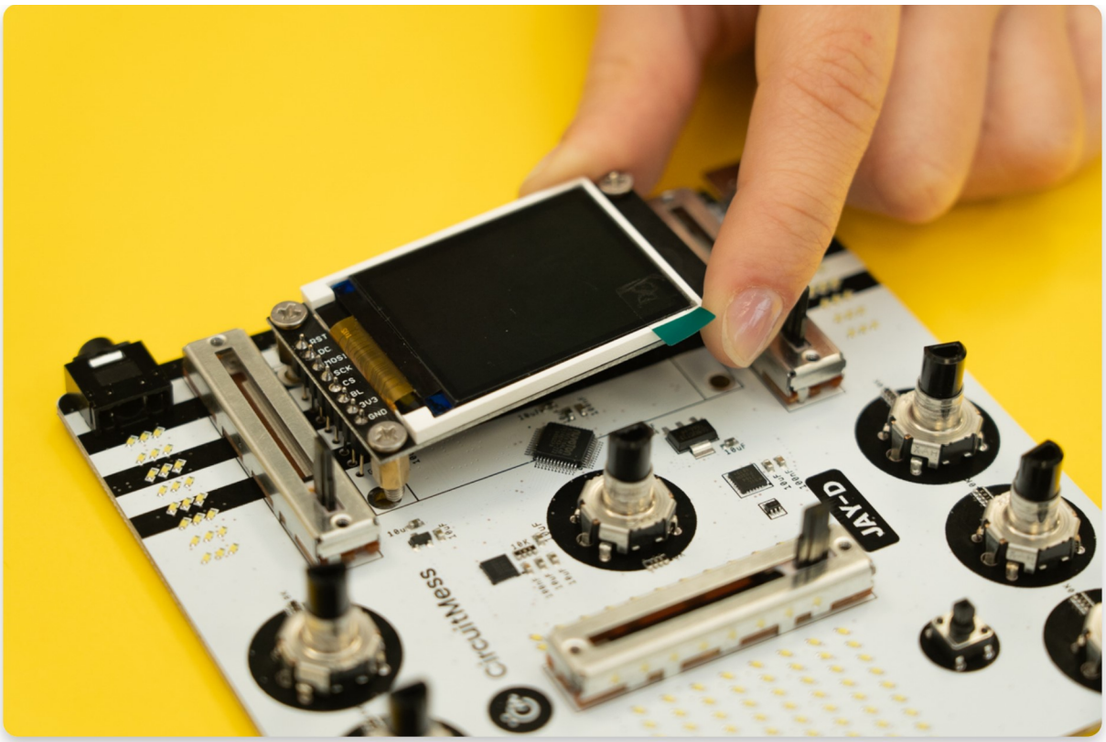


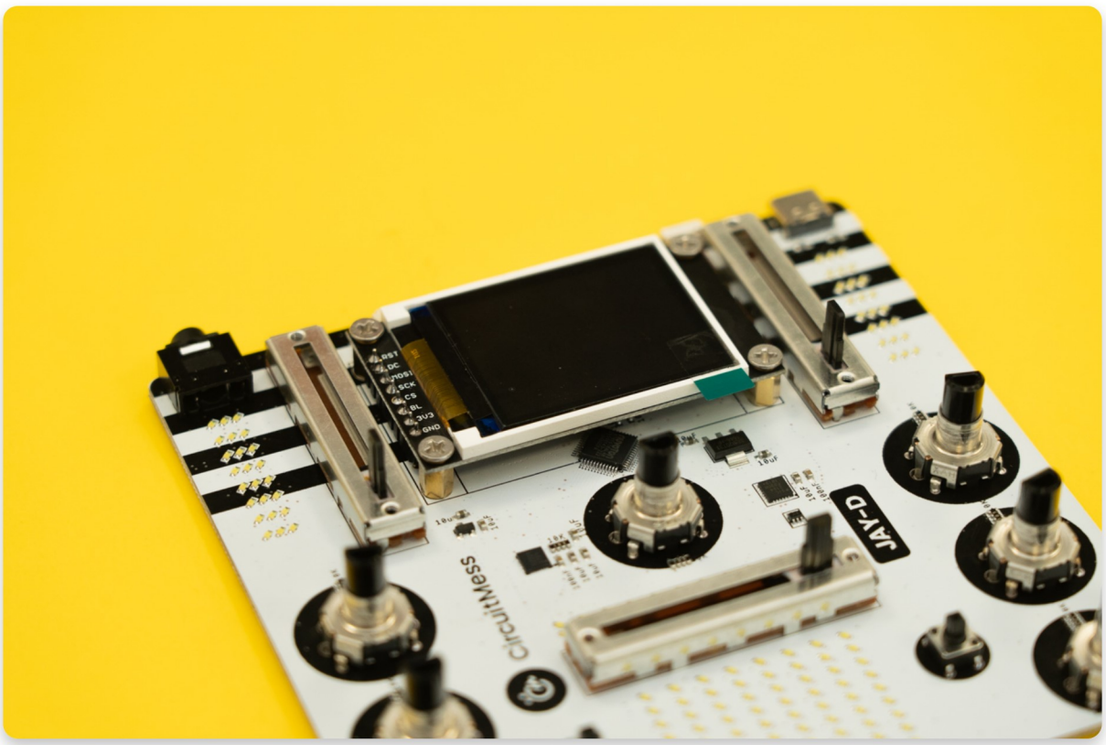
Tighten the bolt

Repeat the same step on each of the corners of the screen. Take one big metal bolt and one golden spacer per corner and make sure that they are tight enough.



You can now place the screen on the board. Make sure to adjust the screen like in the photo so that the pins go on the left side where the headphone jack is.





If you wondered how are we going to tighten the screen to the board - well, it's time to give you an answer.

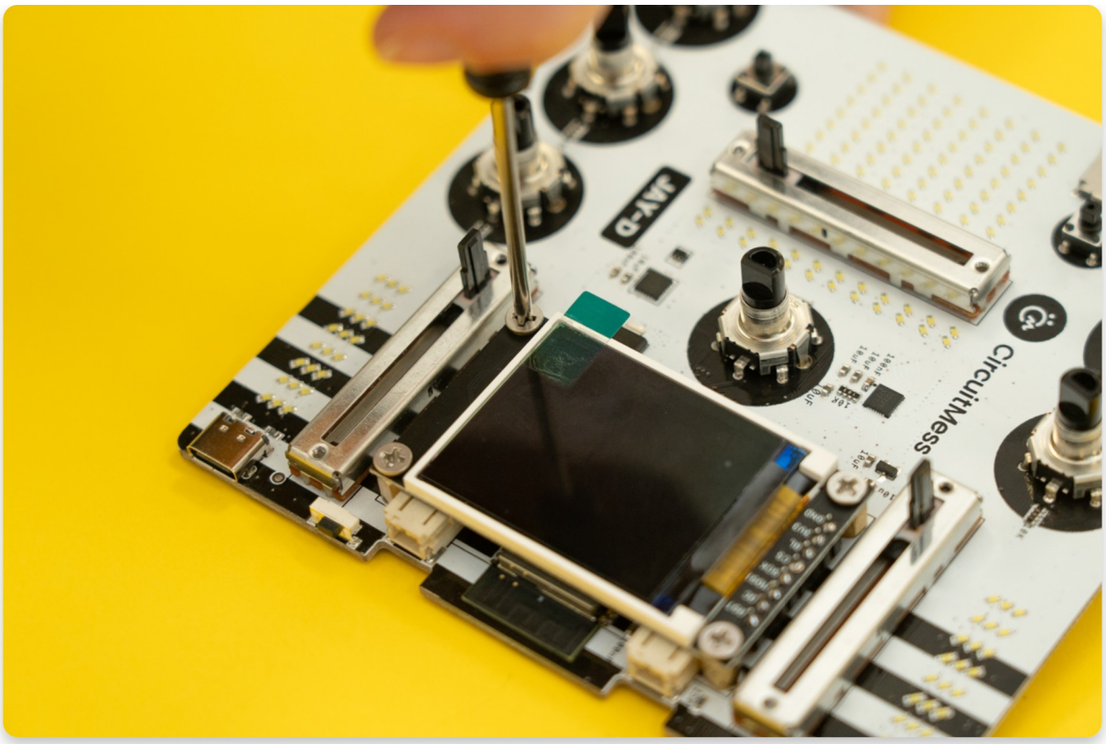
Turn the main board upside down while holding the screen, so it doesn't fall out. Take one metal nut and place it at the bottom of the bolt. Tighten it with your fingers, so it holds the screen in place.

Repeat that for all four bolts!

Tighten the nut so it holds the screen in place

Repeat that step until all nuts are tightened

For extra protection, tighten the bolts by screwing them with your screwdriver. It would be best if you screwed the bolt on one side of the board while holding the nut on the other side.



Tighten the bolts with the screwdriver

Alright, everyone, this is the last time you're going to use your soldering iron in this project! It's time to solder the screen to the board. Once it's finally connected, it'll be ready to show your cool music creations.

Turn the board upside down and you should see the pins of the screen poking through. It's located between the two spacers you were just tightening in the previous step.

Time to use the soldering iron one more time!

Solder the pins that connect the screen

Remember

We hope you had a great time soldering the components. Sadly, you'll have to turn off your soldering iron now, but there are fun steps ahead, and we're not quite done yet! Please turn off your soldering iron by unplugging it from the power outlet. Leave it on the soldering iron stand for at least five minutes, so it cools off before you put it away.
Ready to continue?

Chapter Two - First check

It's time to see if everything works!

This is a short, but sweet step where you find out if everything works as it should.

Only after doing that should we go on with assembling the casing!

It would be a lot of work to disassemble the casing if we found out something wasn't working! That's why it is important to do this simple check.

Let's start...

Step #1

Find a power adapter with an output of minimally 2A (ampere). This means that almost any adapter that you use to charge your smartphone should work just fine.

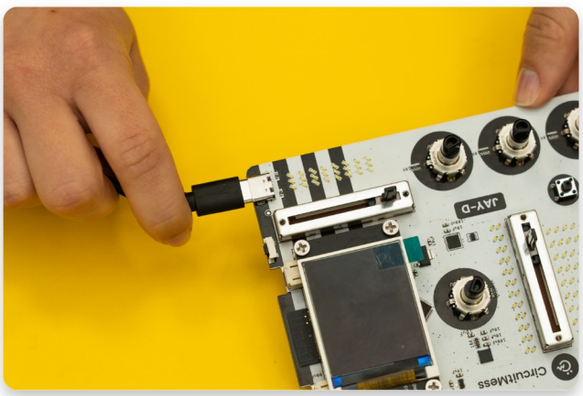
You'll need a 2A power adapter

Step #2

Use the USB-C cable for charging and programming the device that you got in the box. Insert the cable into the power adapter.

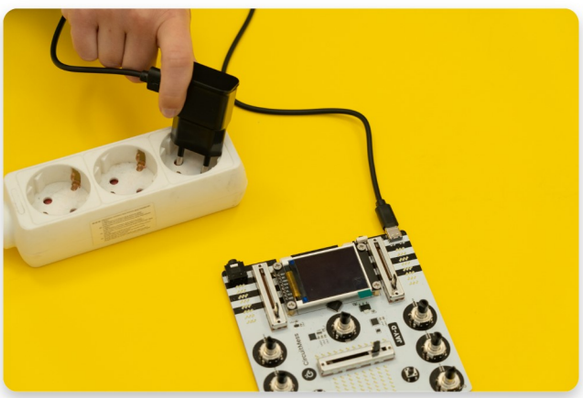
Step #3

Insert the other side of the USB cable into the USB port on the board.

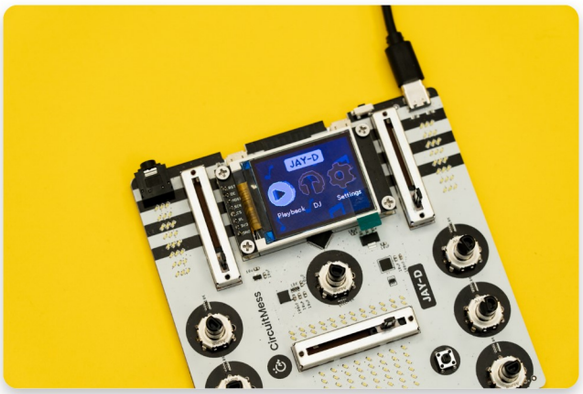


Step #4

Connect the power adapter to the power outlet to turn on your Jay-D.



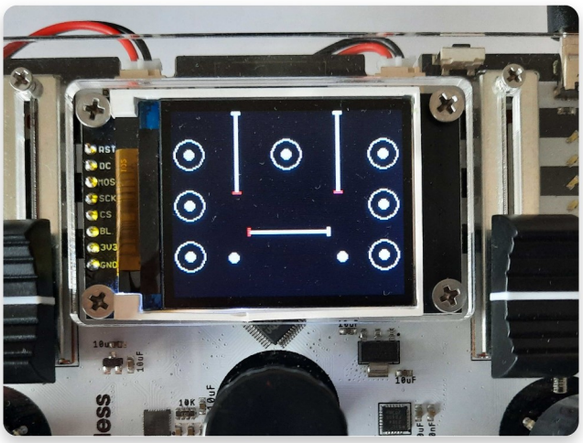
Step #5 - Is it working?



If you did a good job with soldering all the pins and if all the components work - **you should get something showing on the screen.**

You still can't program or mix some music, but if your Jay-D shows an image on the screen, feel free to continue with the tutorial.

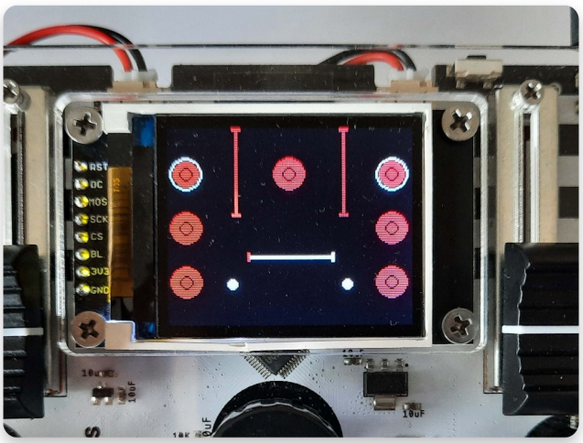
Step #6 - Input Test



The first thing that pops up when you turn on your Jay-D is the input test. In this step, you'll test if all the components are properly soldered by clicking, sliding, and rotating all the buttons, encoders, and sliders.

1. Click all the encoders and two small buttons
2. Rotate all the rotary encoders until they are completely red on the display
3. Slide all the slider potentiometers until they turn red on the display

Almost done! Keep up the good work.



Press any key to exit the input test and proceed to the next step in the build guide.

If the screen doesn't light up, that most probably means that **one of the components is not properly soldered**.

Check for any bad solder joints, solder bridges, unsoldered pins, and residual solder somewhere on the board.

!

ALWAYS disconnect the power supply before starting the soldering process!

After fixing the soldering joints, repeat the first check process to see if the screen lights up.

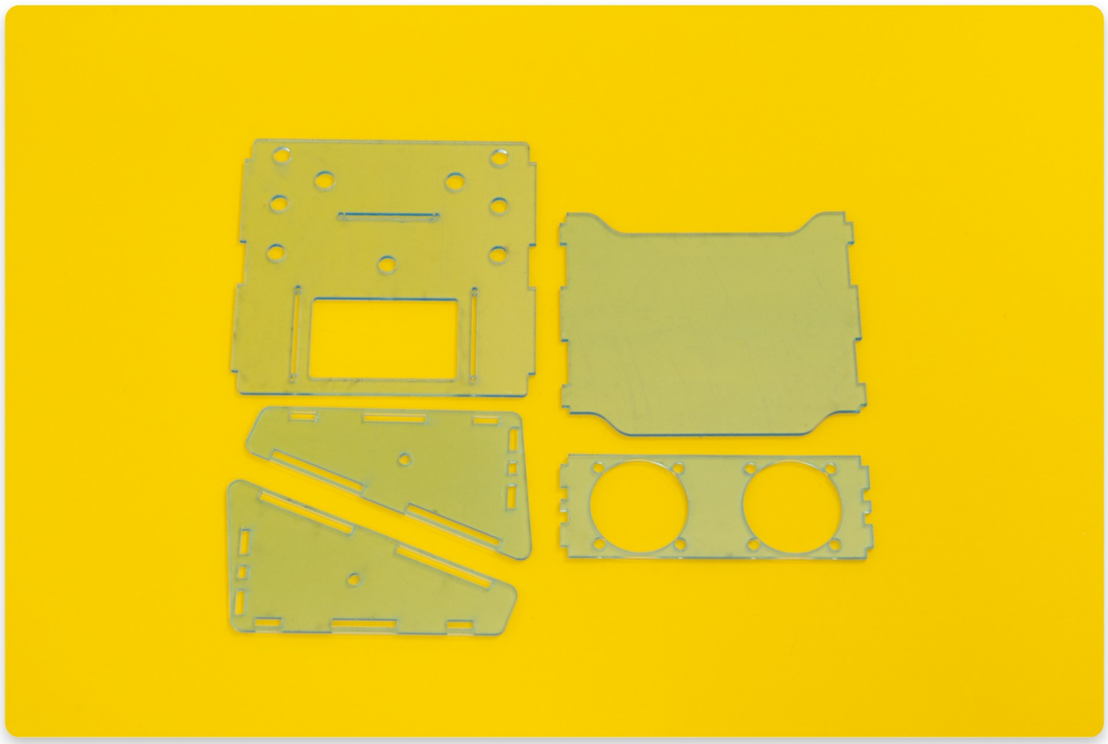
In case this doesn't help, reach out to us via **contact@circuitmess.com**, and we'll do our best to help out! Make sure to attach a few photos of your soldering joints on the boards so we can troubleshoot as soon as possible.

Chapter Three - Casing up

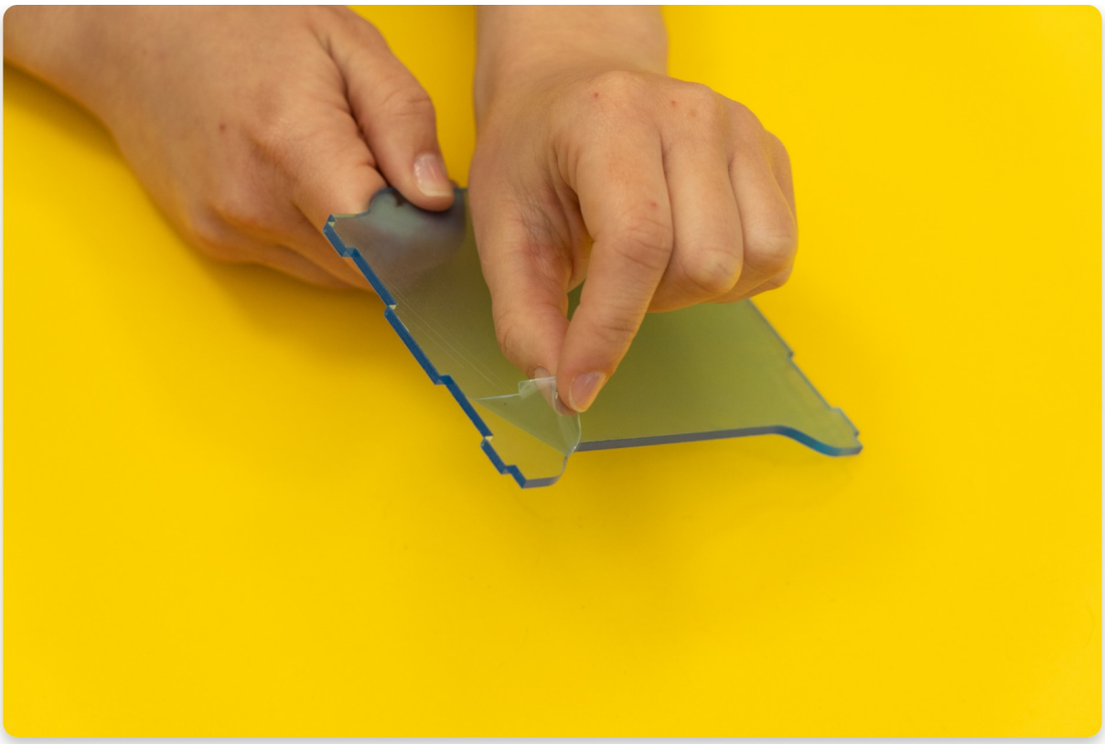
In this chapter, we'll explain how to assemble the casings.

This might be the most fun part of the whole process so let's start by peeling off the protective layers.

Each of the acrylic casing parts has a protective layer on both sides that needs to be peeled off. They are not yet fully transparent, but they should be once you finish this step!

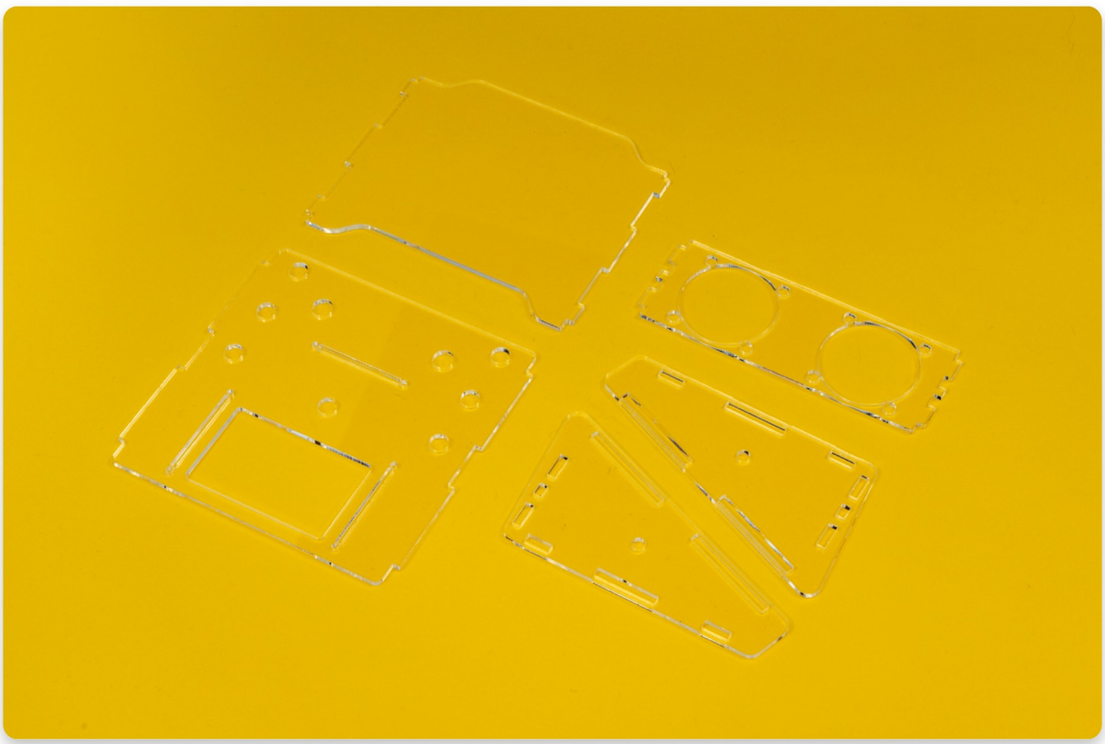


All the casing layers



Remember

Peel off the protective layer on both sides of the acrylic casing!



All the casings should be transparent once you remove the protective layer

Heads up!

This is a good time to remove the protective layer on the screen as well.

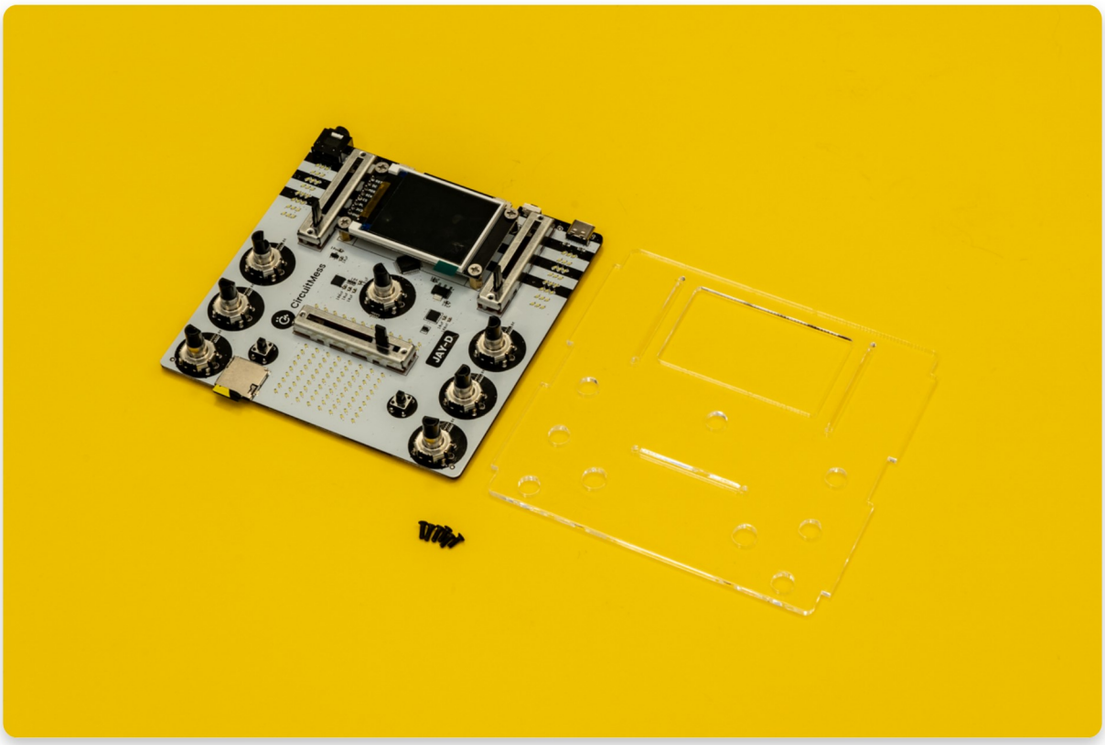
Step 1 - Assembling the front casing layer

Let's start by assembling the front casing layer. For this step, you'll need your main board that's now almost fully ready, the front panel, and **6 of the smallest bolts**.

The acrylic front panel that you need right now is easy to find - that's the biggest one with a window for the screen, 9 holes for the button caps, and 3 long holes for the sliders.

The bolts we used in the tutorial are black, but you should have the bolts in the same size in silver colour. The colour is the same as for the rest of the bolts in the kit so make sure to separate them by size: big, medium, small.

In this step, you'll use 6 out of the 7 smallest bolts - we added one spare for good luck!

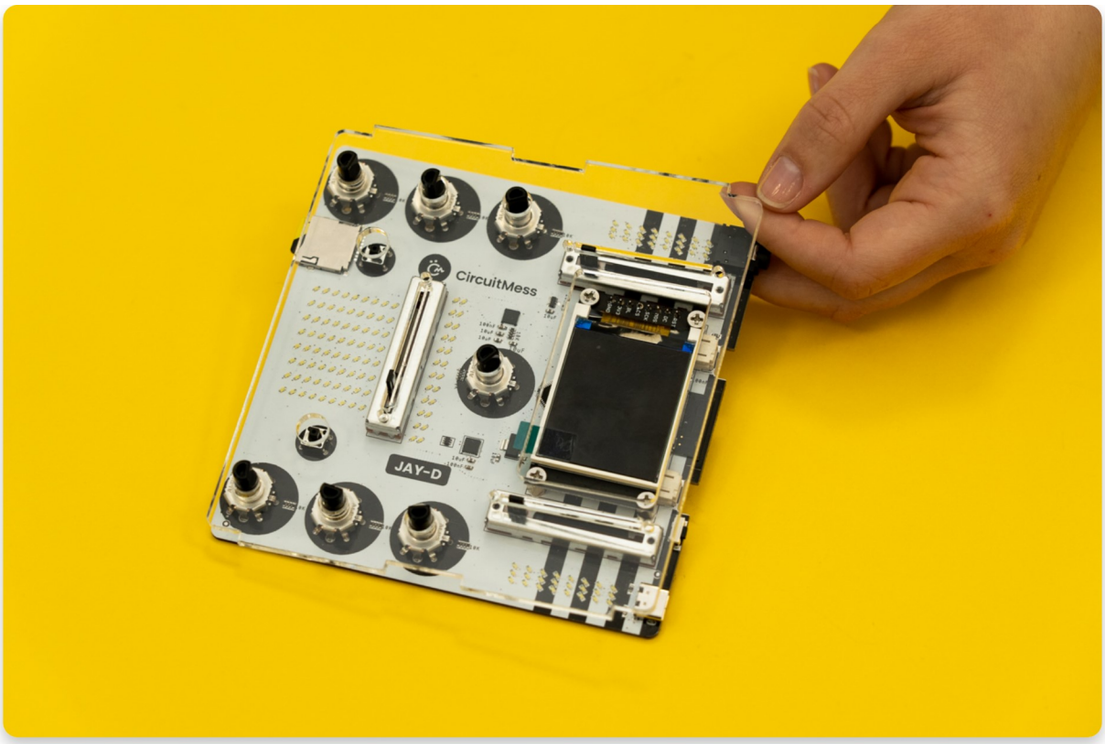


You need these components

Lay the casing panel on the front side of the board so that you adjust the holes for the screen, buttons, and sliders.

The casing panels shouldn't move a lot, but its best to tighten the front panel with a few bolts.

Place the sliders in the middle when tightening the front casing panels with small bolts. If sliders are placed fully on the top or the bottom of the slider component, they won't be able to move later because the casing panel will be tightened a bit too much.

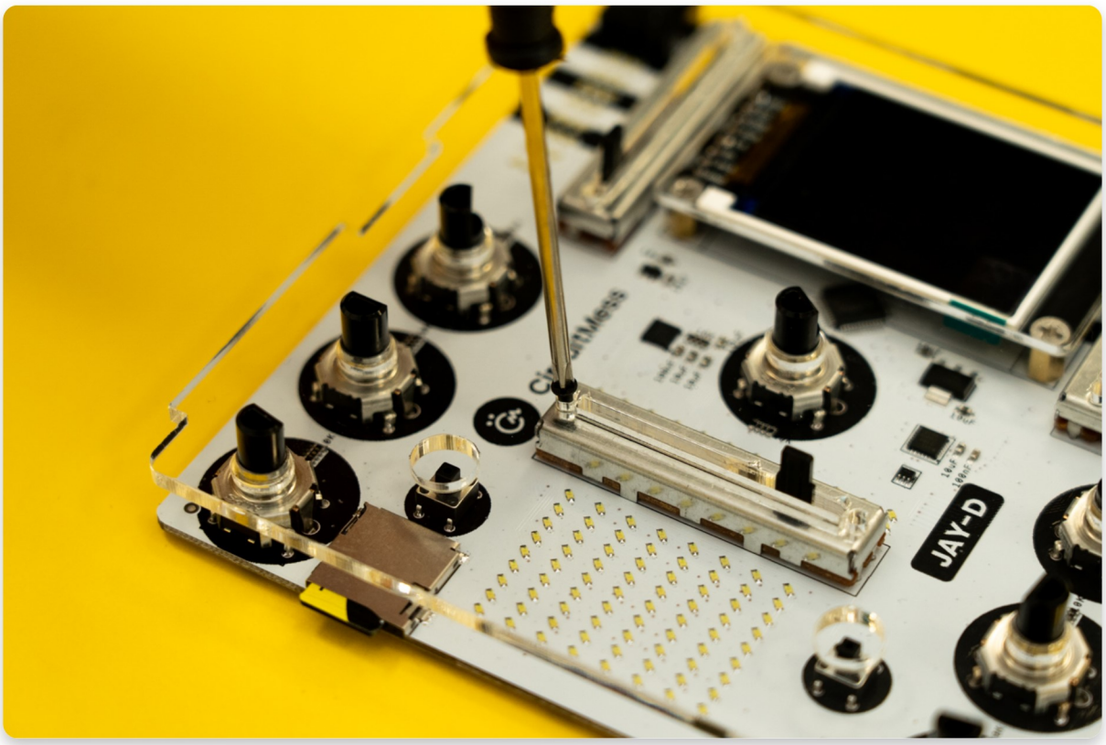


Place the casing panel on the board

If you carefully look at the casing layer where the slider potentiometers are, you'll see two tiny holes next to each long hole for the potentiometer. **That's where the small bolts go!**

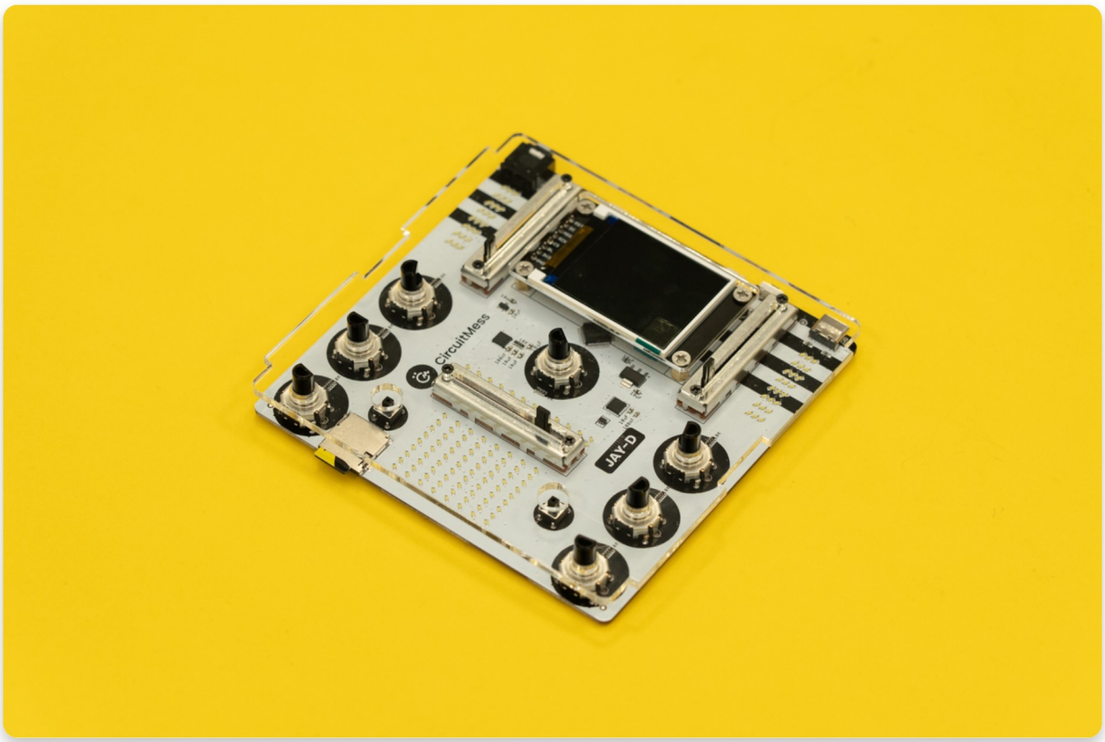
This is a perfect example of how carefully each detail is designed. These small holes for the bolts may not look like a big deal, but they will hold everything together once you tighten the bolts.

Take your screwdriver and tighten the casing layer by screwing each small bolt. There are 6 holes for the bolts in total - 2 next to every slider.



The bolt is securely tightened with a screwdriver

When you tighten all the smallest bolts, the first step in this chapter should be done - the front casing layer is all set!



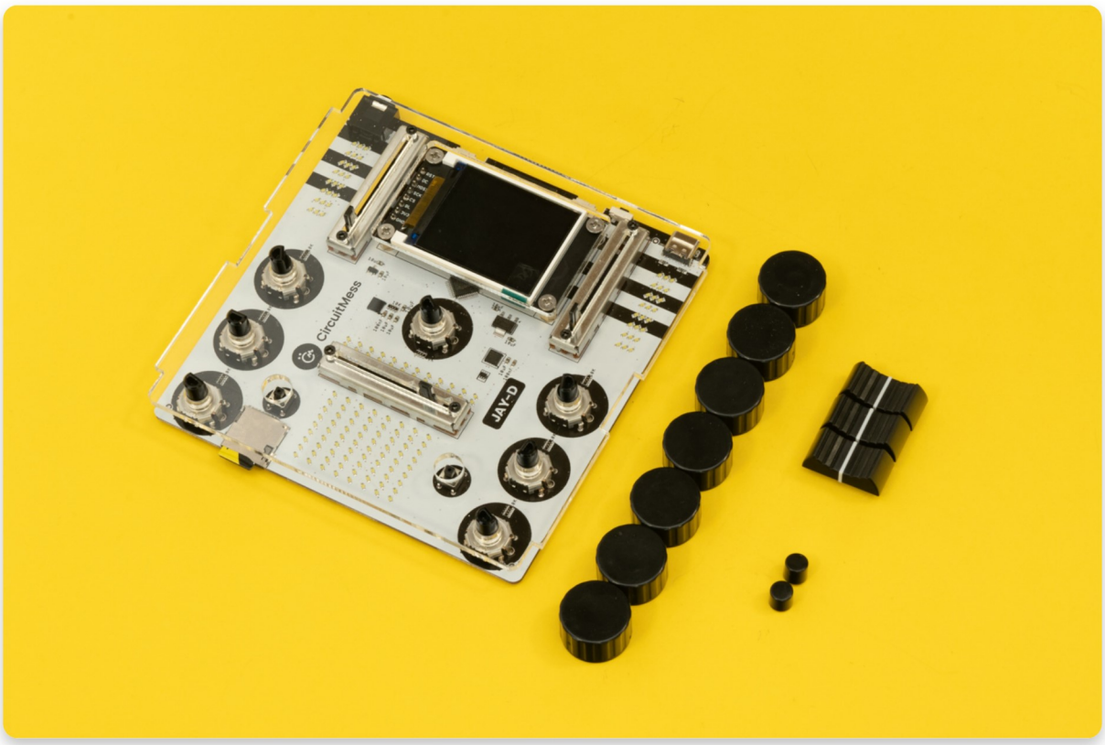
Step 2 - Button caps

Even though the console can work as-is, it would be much nicer to have a bit of a cleaner finish. The buttons, sliders, and rotary encoders themselves are rather small and aren't the most comfortable thing to hold. Therefore, we included some more comfortable button caps made out of plastic that will solve this issue.

This step is very easy and straightforward, so let's see how it goes. You'll need:

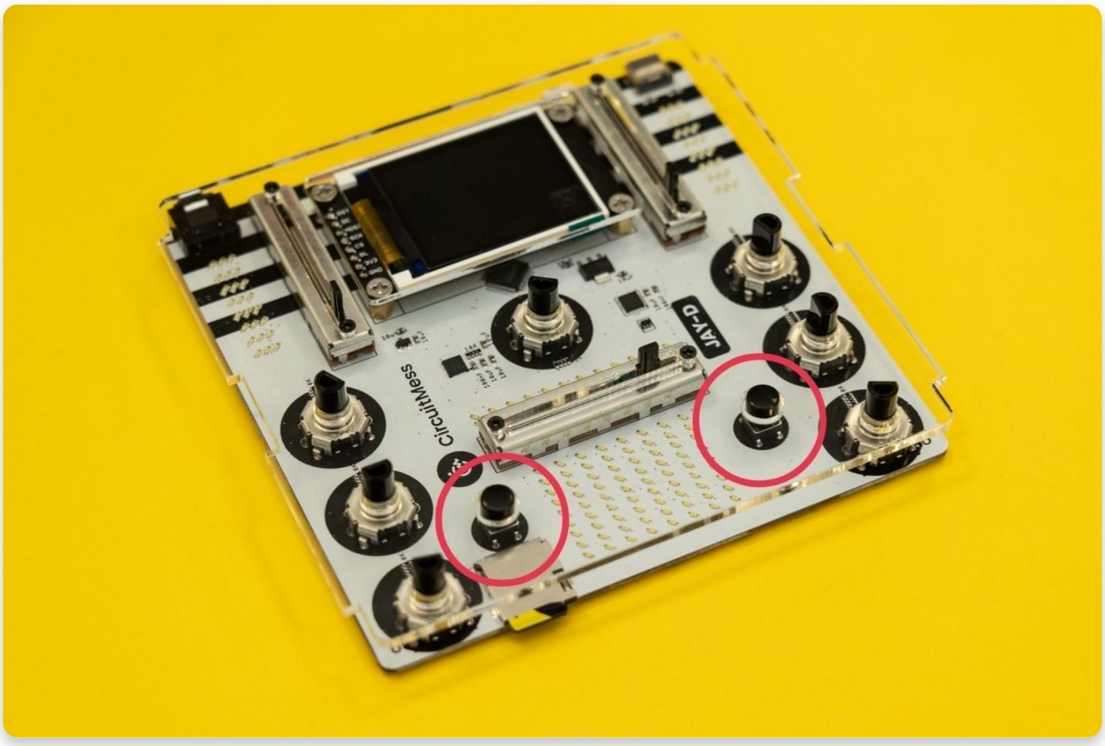
- The main board
- 2 small plastic button caps

- 3 plastic slider caps
- 7 plastic rotary encoder caps



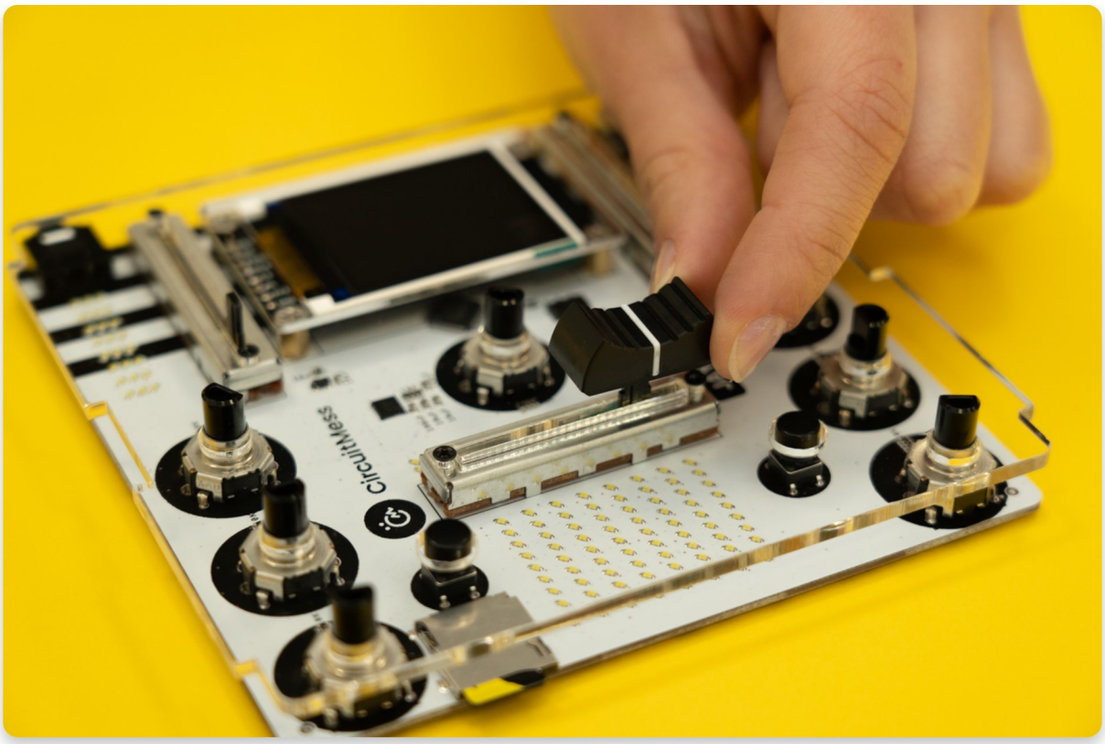
All the button caps you'll need are here!

Let's start by adding the two small button caps. Just like in the photo below, place the button caps on their respective location on the board and push until they *click* into place.



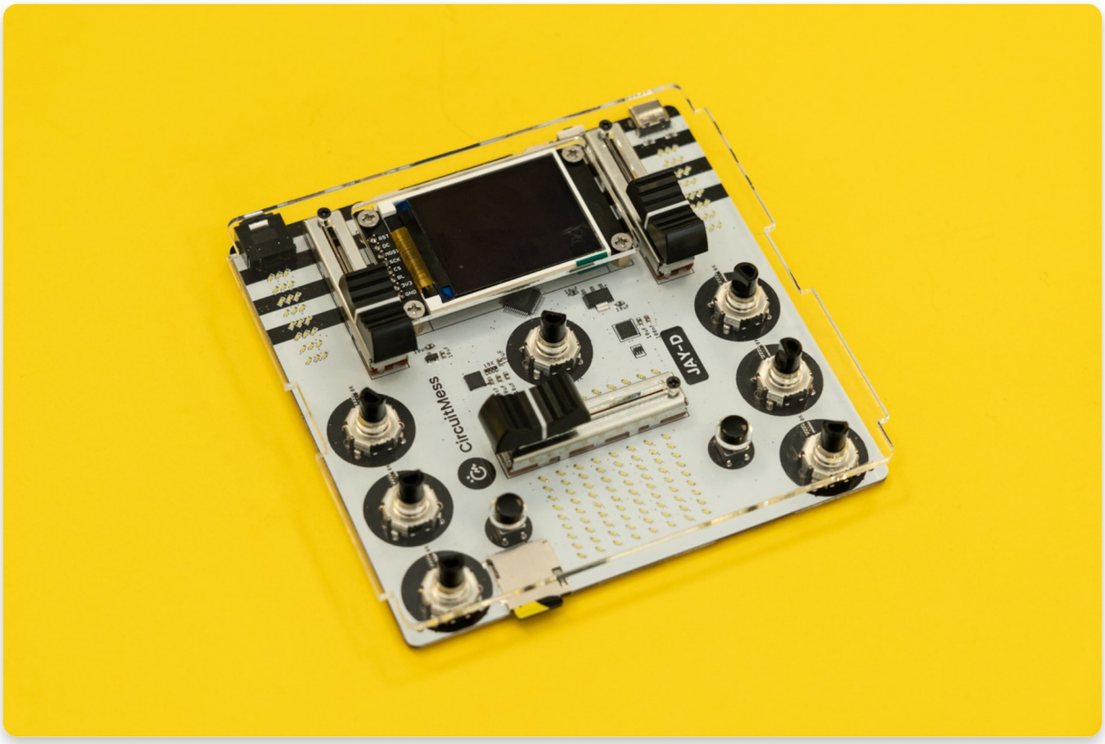
This is where the two small button cap components should go

Next up - assembling the **plastic slider caps**. Take one cap and place it on the slider, as seen in the photo. You should firmly push the cap, but it shouldn't touch the front casing layer.



Place the first slider cap

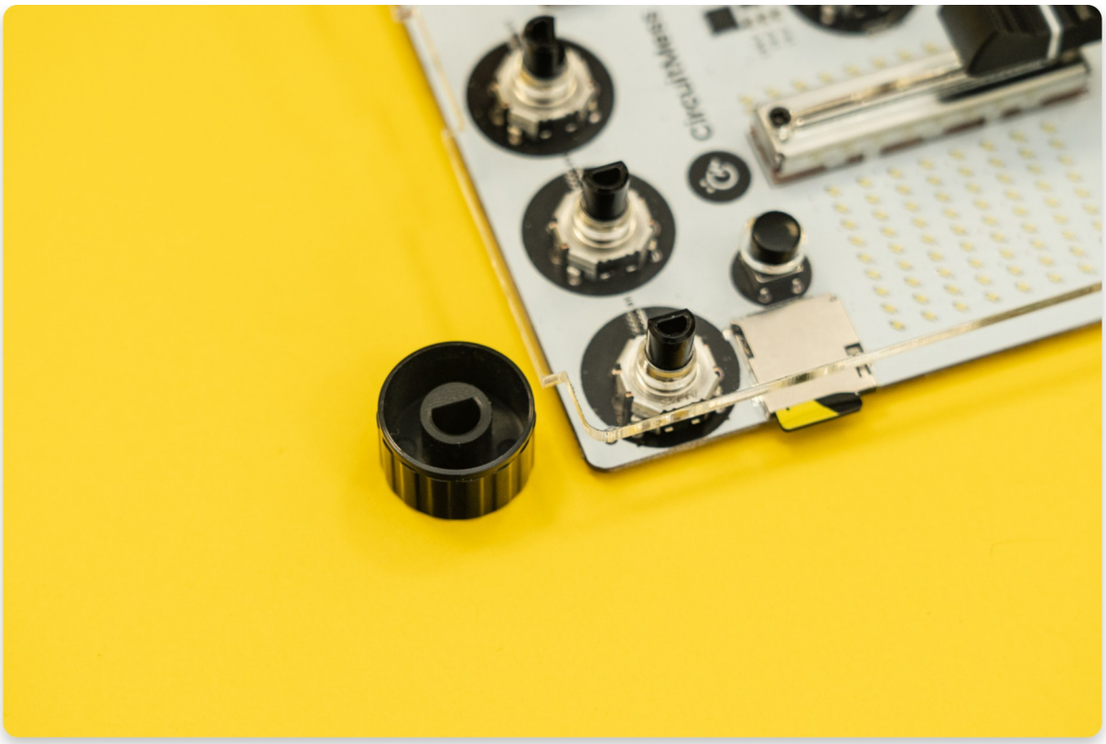
Repeat this step for the rest of the sliders - only two more to go!



Plastic slider caps - all set!

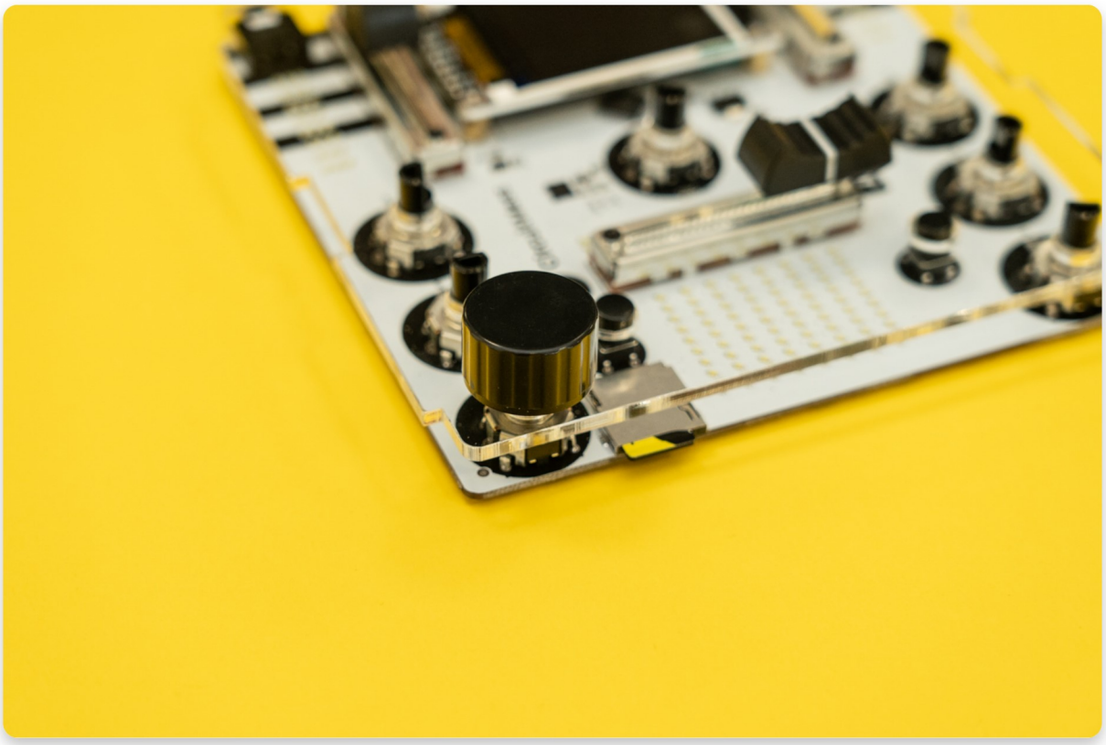
Lastly, you'll assemble the **rotary encoder caps**! These are, again, very easy to assemble.

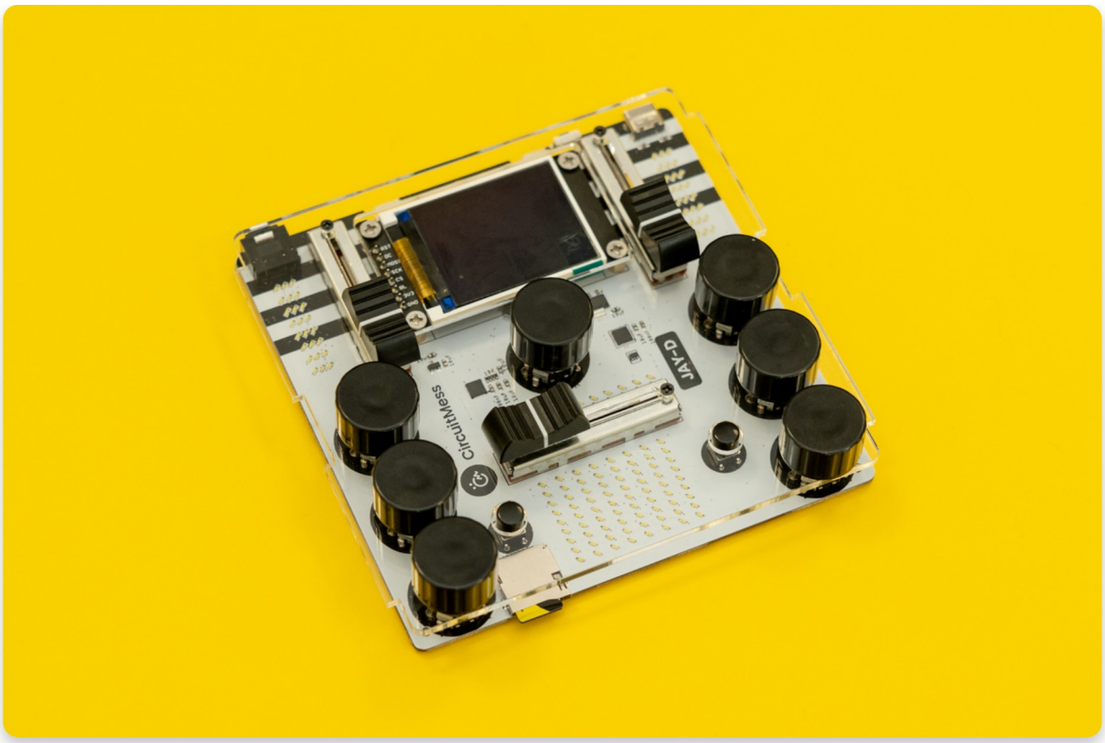
You have to keep in mind that there is a special puzzle-like design shown in the photo below. To assemble these caps, you have to align them to fit the components on the board.



Align the cap to fit the rotary encoder component on the board

Push the plastic cap so it fits the encoders component. Repeat the same step for the rest of the caps.

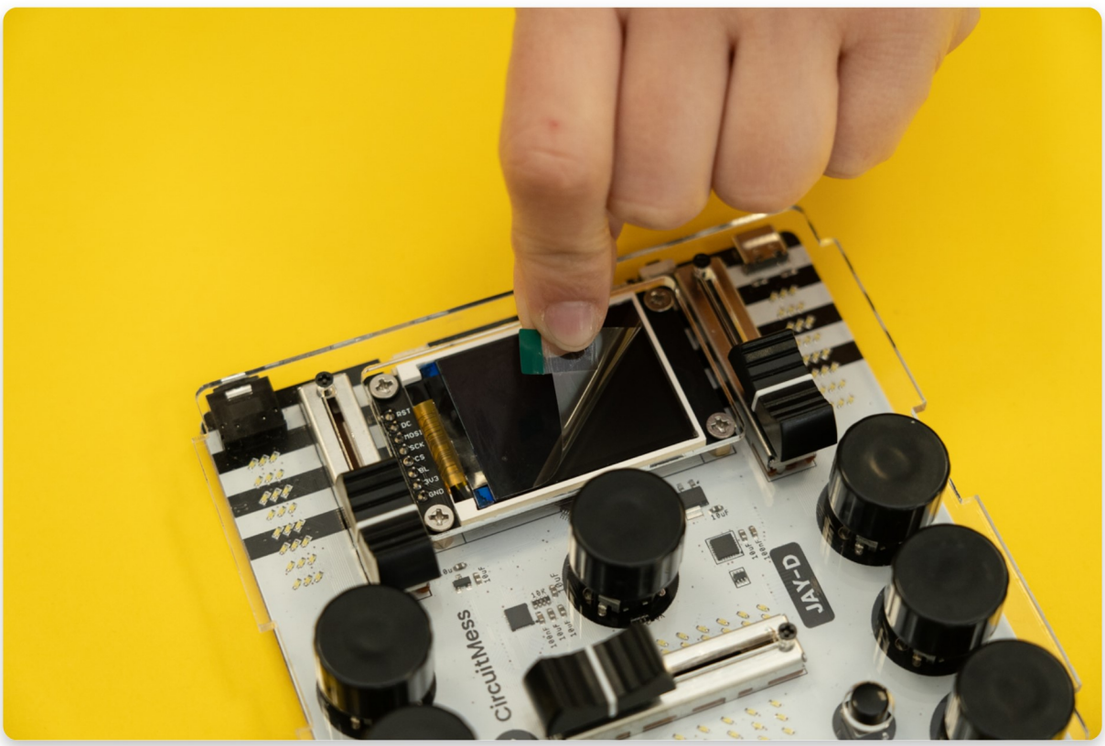




All of the plastic caps for the rotary encoders are adjusted

Remember

In case you haven't removed the protective layer from the screen, now would be a good time to do that!



Step 3 - Preparing the side casing

There are a couple of small components in addition to the side casing layer that you'll need to assemble in this step.

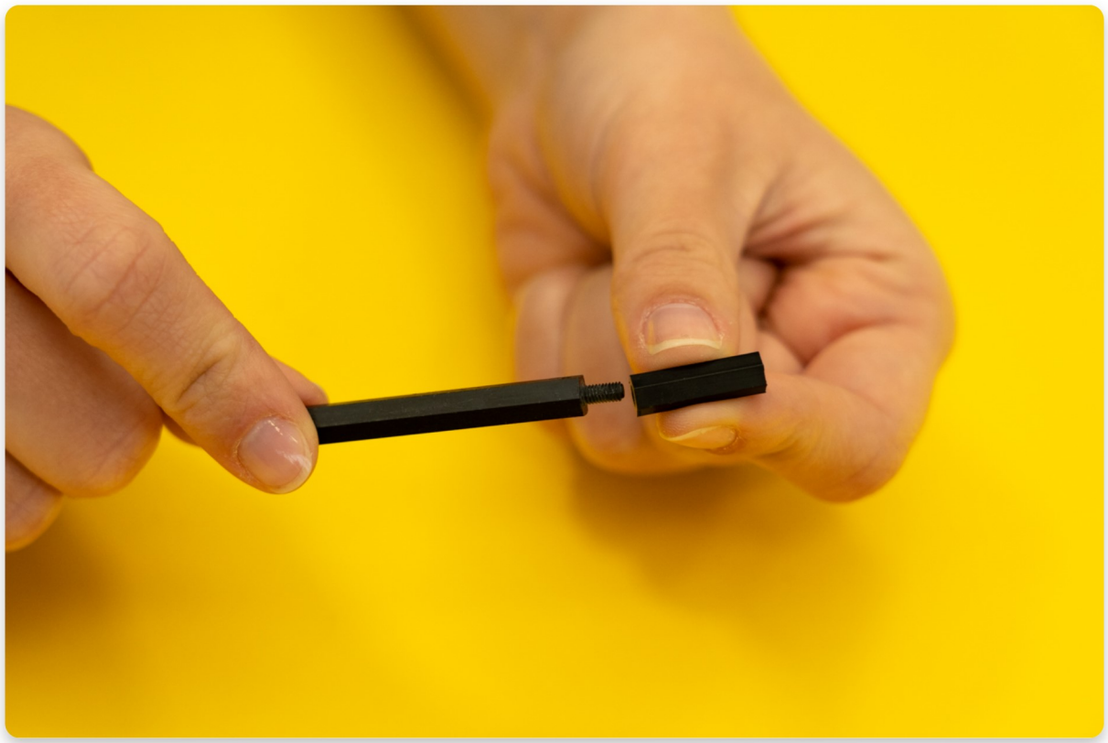
Those components are:

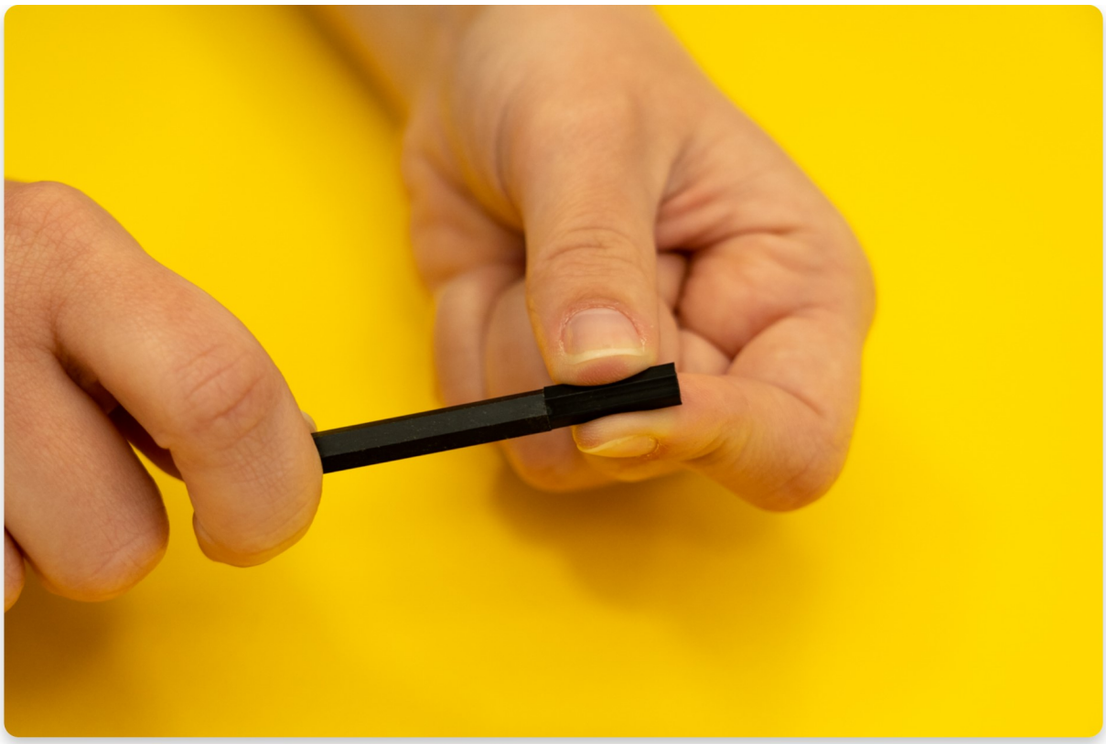
- The acrylic side casing layer
- 3 black nylon spacers (2 long and 1 short)

- One medium metal bolt (not the biggest, not the smallest)

The components you need for this step

Start by holding one long black nylon spacer. Add the shorter black nylon spacer and one longer spacer again and screw them until they are tightened.





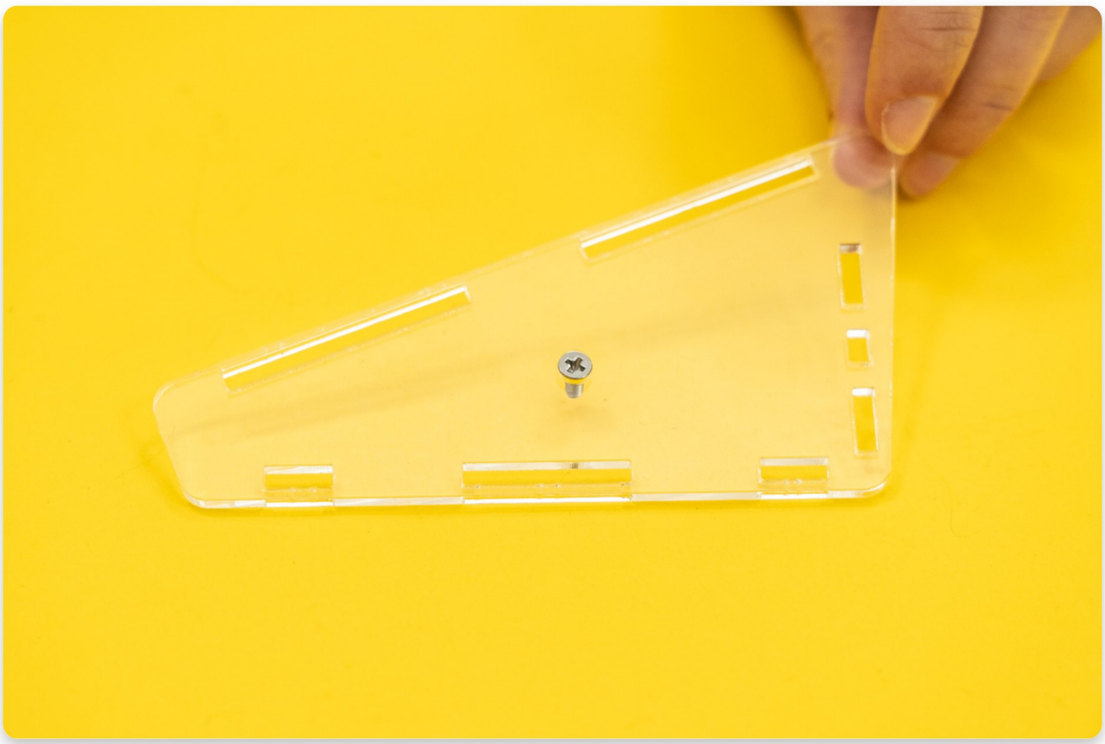
Tighten the black nylon spacer

Add the long nylon spacer

Ta-da! You tightened the nylon spacers

Next up, take the acrylic side casing layer and place one medium metal bolt in the middle.

This bolt will hold the side casings together once you assemble everything.



Place the medium metal bolt in the middle

Hold the three nylon spacers in one hand and a screwdriver in the other hand. Tighten the metal bolt and the nylon spacers with a screwdriver like in the photo below.

In the end, you should get something like this

Step 4 - Assembling and connecting the speakers

Hold on tight! Jay-D wouldn't be a DJ mixtable if it wasn't for the speakers.

For assembling them onto the back casing layer and connecting them to the board, you'll need the following:

- The acrylic back casing layer
- Two speakers
- 8 medium metal bolts
- 8 metal spacers

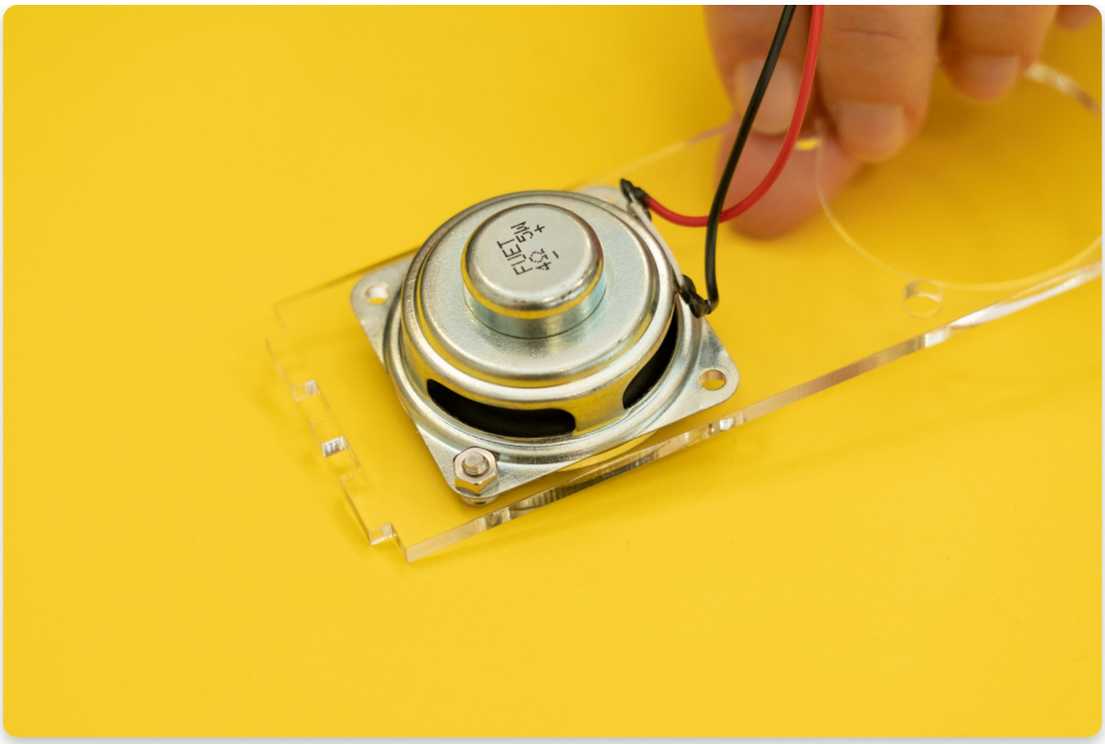
The components you'll need in this step

Start by placing one speaker from the back of the casing layer so it fits the hole.

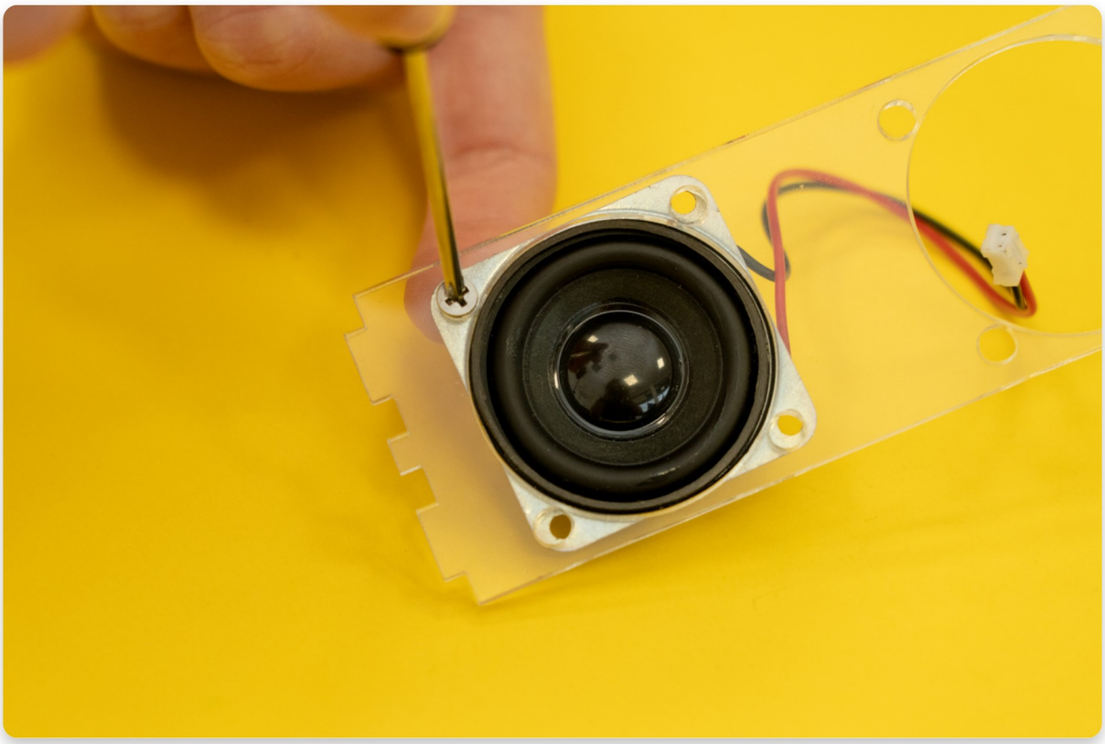
Then, from the upper side of the casing layer, you'll insert the metal bolt in one of the small holes in the corner.

Place the speaker from the bottom of the casing layer and insert the metal bolt from the upper side.

Secondly, flip the casing layer with the speaker placed there and add one metal spacer that will tighten the bolt and hold everything in place.



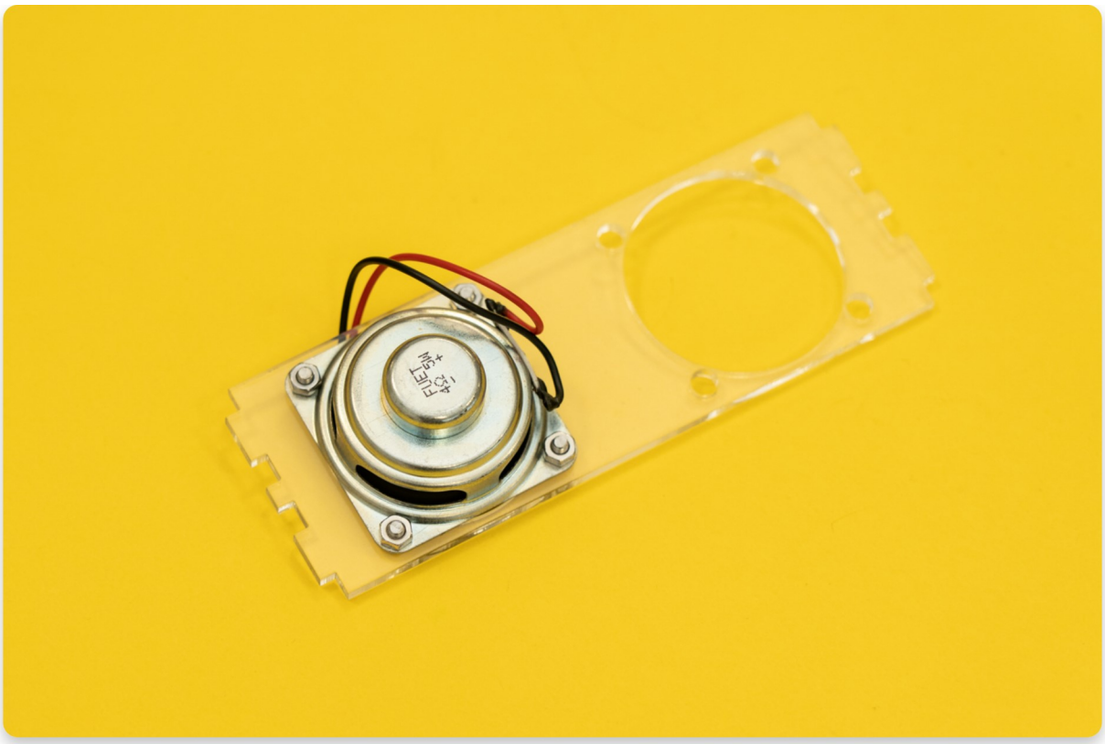
Add the metal spacer



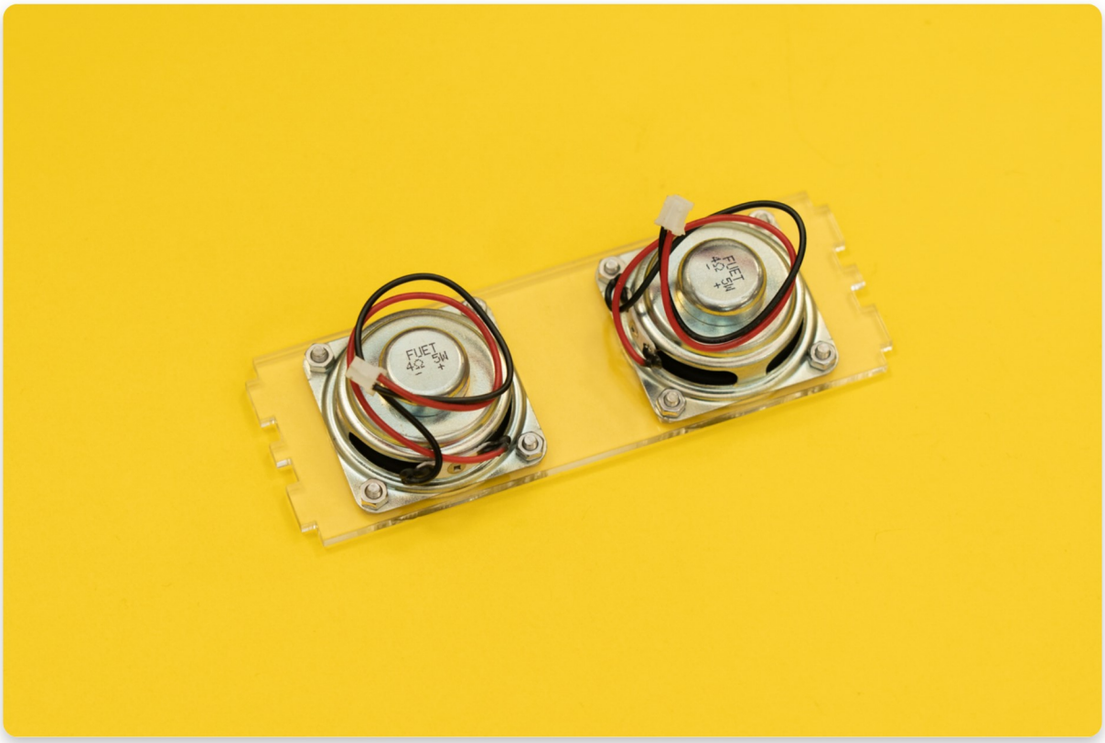
Tighten the metal bolt with a screwdriver

Repeat the same step for the rest of the bolts for the first speaker and for the second speaker as well.

Insert the metal bolt, add the metal spacer and tighten with a screwdriver.



The first speaker is tightened to the casing layer



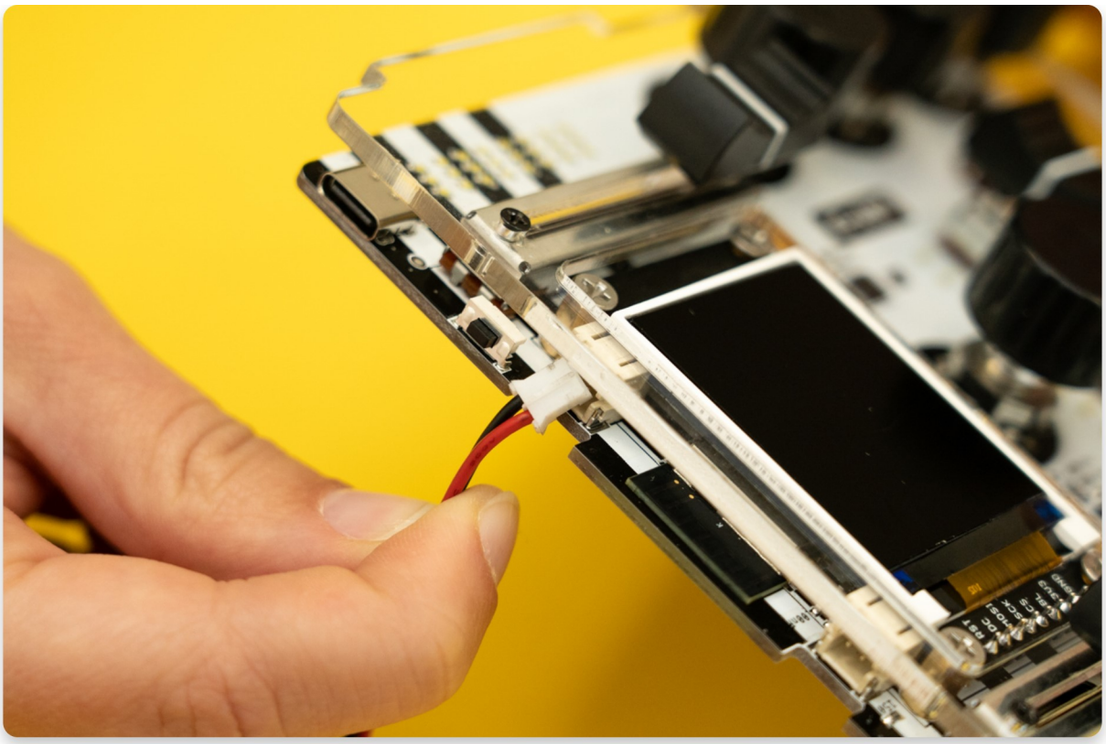
Both speakers are tightened to the casing layer

This is how they should look like from the front after you've tightened all the bolts and spacers. Looking good?

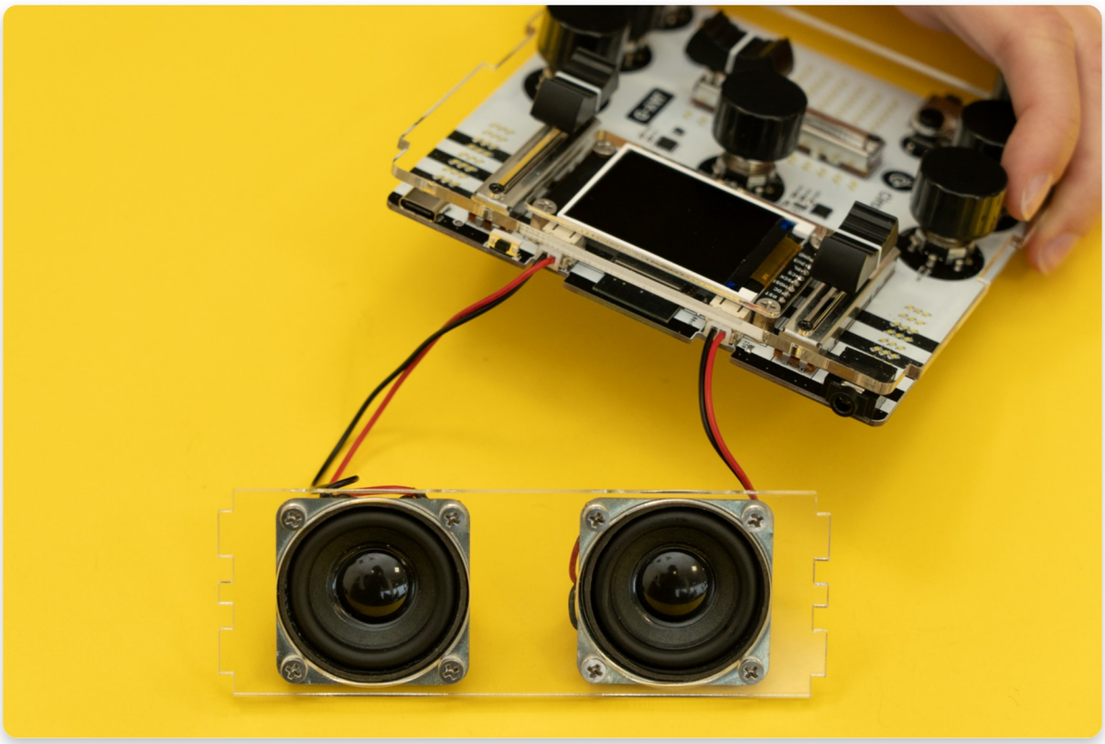
To connect the speakers to the board you'll need two things. You guessed it! It's the board and the speakers.

The cables from the speakers should be inserted into the ports on top of the board.

The board + the speakers



Insert the cable into the port



The speakers are assembled

Step 5 - Connecting the casing together

At this point, everything should be ready to be assembled together!

In the following photos, we'll show you how to connect all the acrylic casing layers you previously tightened to the board, speakers, and nylon spacers.

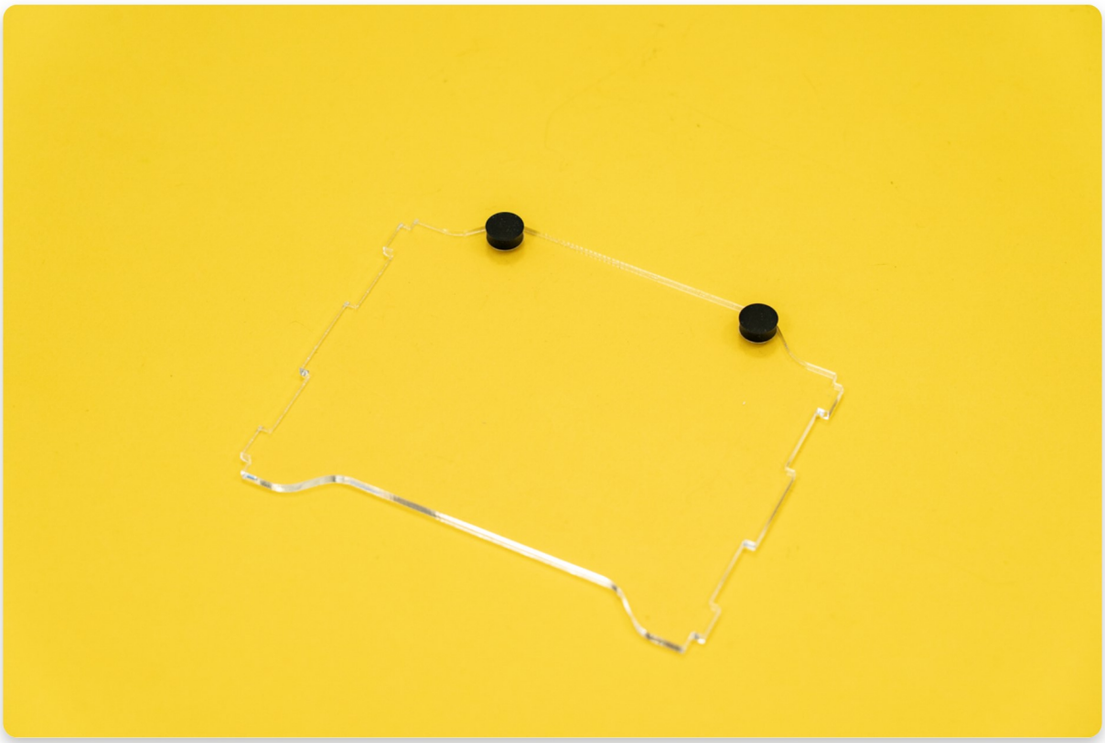
This part might be a bit tricky just because there are many parts you need to hold to connect, but if you follow our guidelines, you should be fine. Let's go through it step by step.

Firstly, you'll need the acrylic casing layer that goes at the bottom of Jay-D. This part is the biggest one remaining without any holes. Also, you'll need those small

anti-slip rubber feet.

The back side of the casing + rubber feet

Place the rubber feet on the edge of the acrylic casing layer. You can see the photo below to make sure you're sticking them correctly. These anti-slip rubber feet will prevent Jay-D from vibrating while you're playing the music.

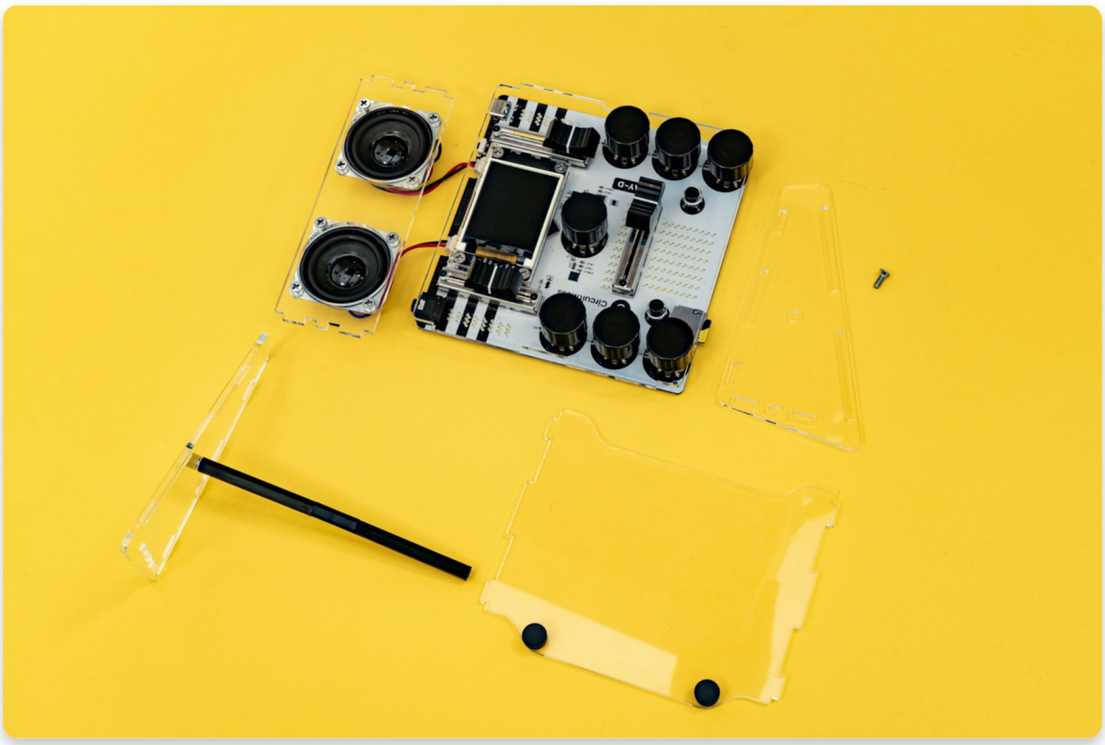


This is where you should stick the rubber feet

Here comes that tricky part with many components that need to be connected. You will need:

- The main board + speakers that are connected
- Both of the side casing layers (one of them has the nylon spacers connected)

- The bottom side of the casing layer where you just put the rubber feet
- One medium metal bolt



Components you need for this step

Start by placing the side casing layer with the nylon spacer on the table. This will be the base for assembling since it can stand on its own without any support.

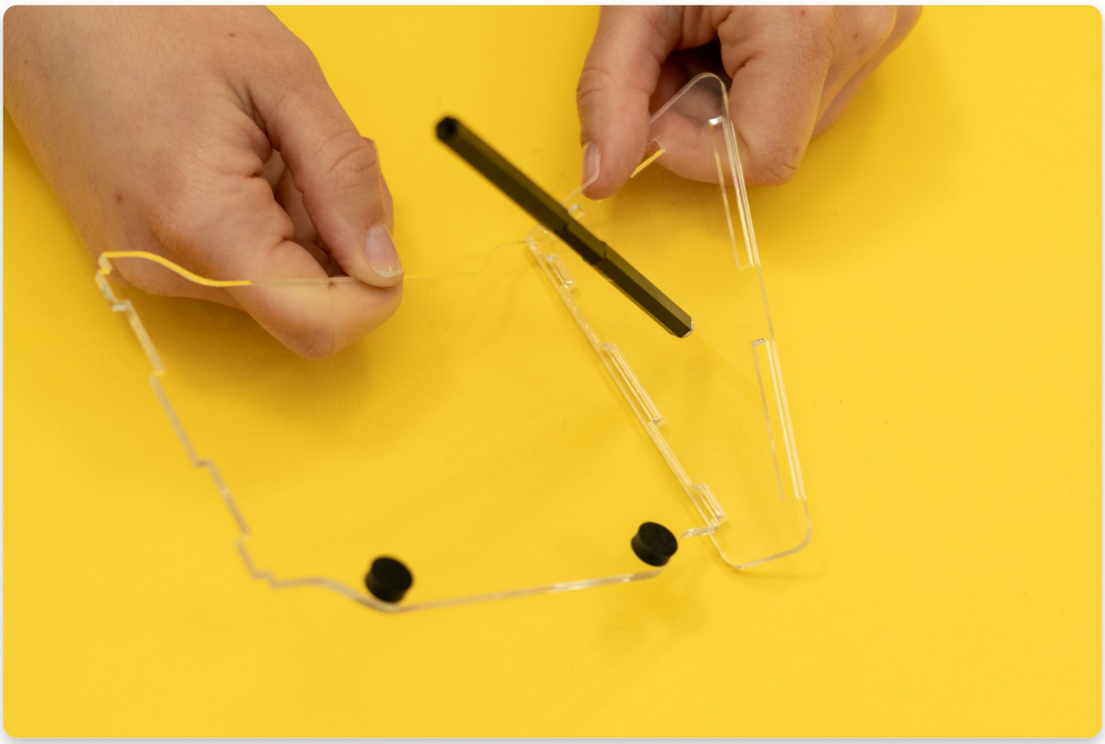
You might have noticed that all the casings have puzzle-like shapes on the edges. These shapes will enable you to assemble everything without gluing it together.

Place the side casing layer on the table

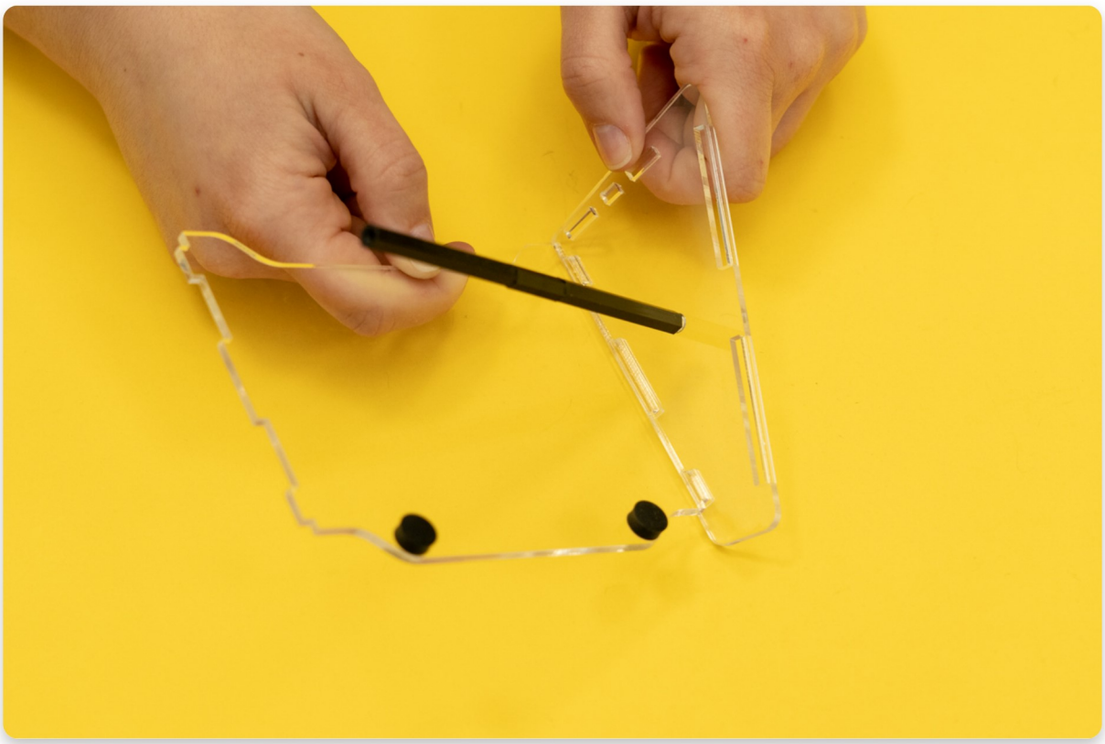
Now comes the puzzle part!

Take the bottom casing layer (the big one with the rubber feet) and **connect it to the side casing layer like a puzzle**.

Heads up! You might think that the rubber feet go on the outside, but it's quite opposite. **The rubber feet should go on the inside just like in the photo below.** We'll add some rubber feet on the outside later on.



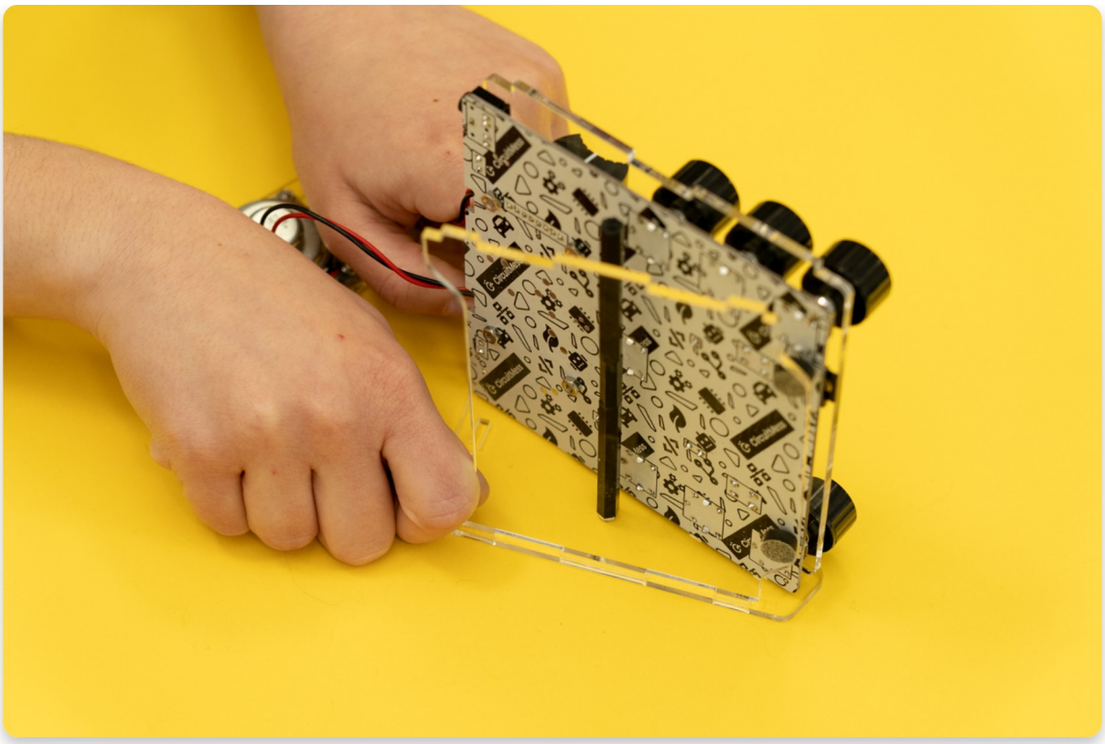
Connecting the bottom and the side casing part



Make sure it fits vertically

The next component you need to add is the main board with the front casing layer. Again, the front casing layer has that puzzle-like shapes on the edges so it should fit the side casing layer without much trouble.

The rubber feet should be inside the casing and touching the main board.

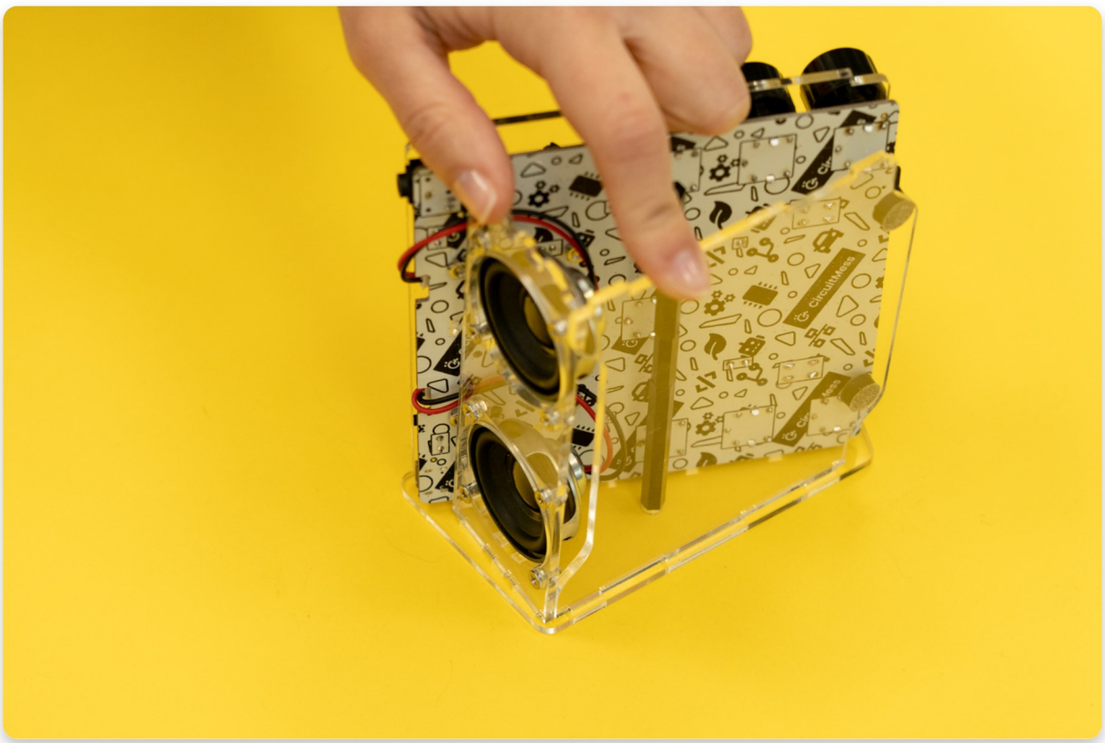


Add the front casing layer

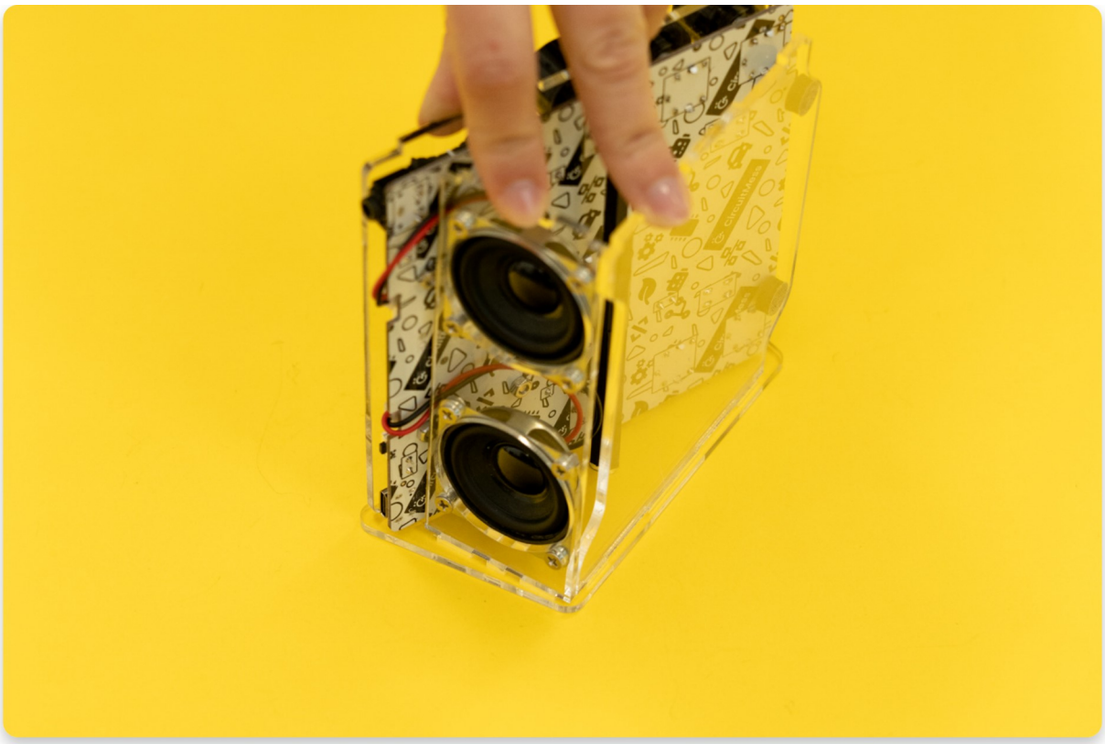
How are you holding up?

Next up - **the speakers**! Place the casing layer with the speakers on the shortest side of the side casing. Hold everything with one hand because there's one more component that needs to be added.

> **Remember!**
>
> Connect the speakers to the main board if you still haven't!



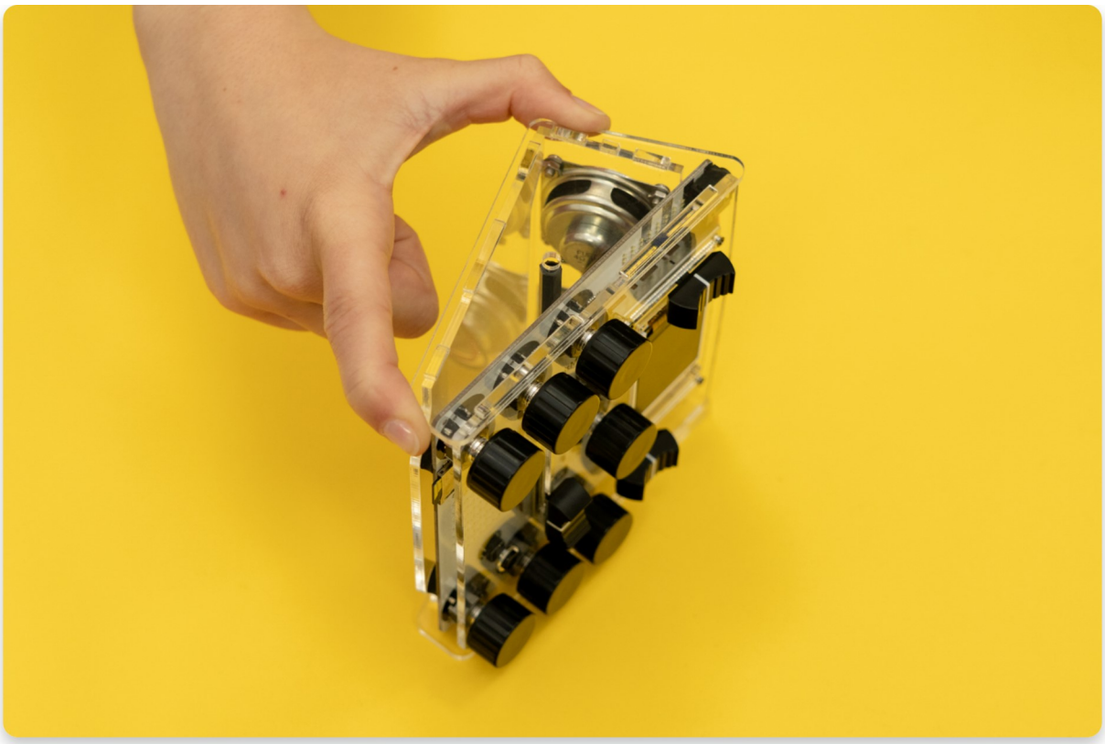
Add the speakers



Hold on tight!

Finally, it's time to add the last casing layer, and by tightening that one, you'll connect everything else.

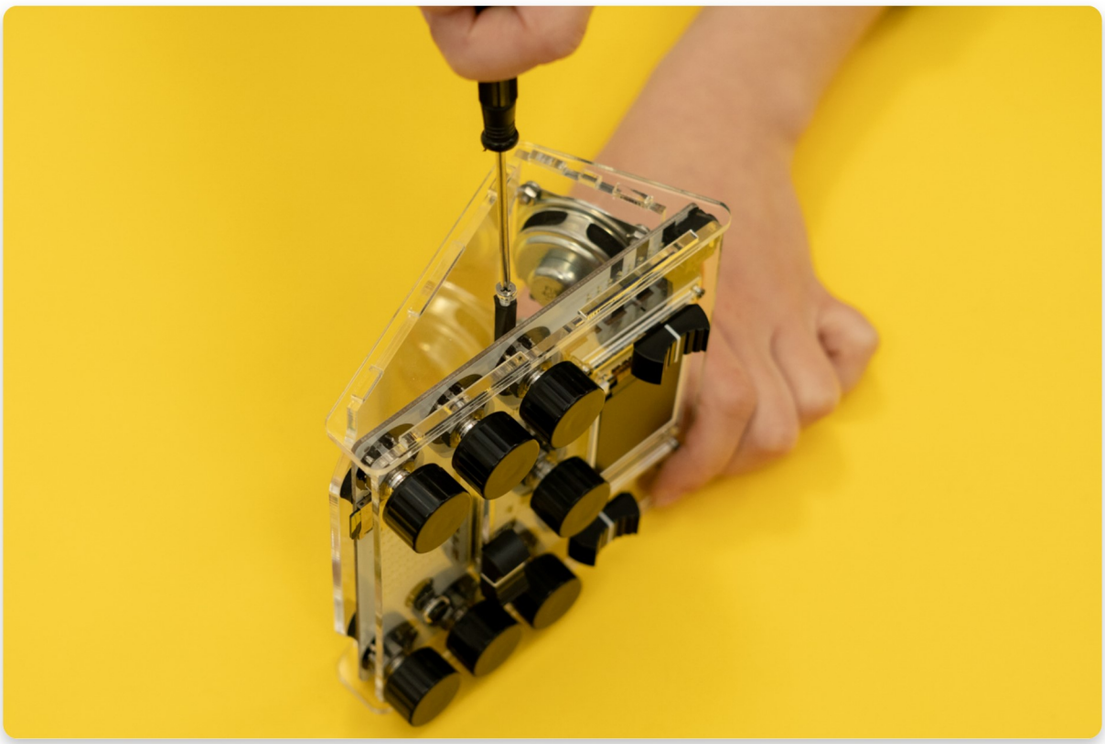
Hold everything that you assembled so far and add the second side casing layer on top of it to fit the puzzle. Don't let go just yet; we'll tighten that one up with a metal bolt.



Does it fit the puzzle?

Put the medium metal bolt in the middle of the acrylic casing layer and make sure it fits the nylon spacer.

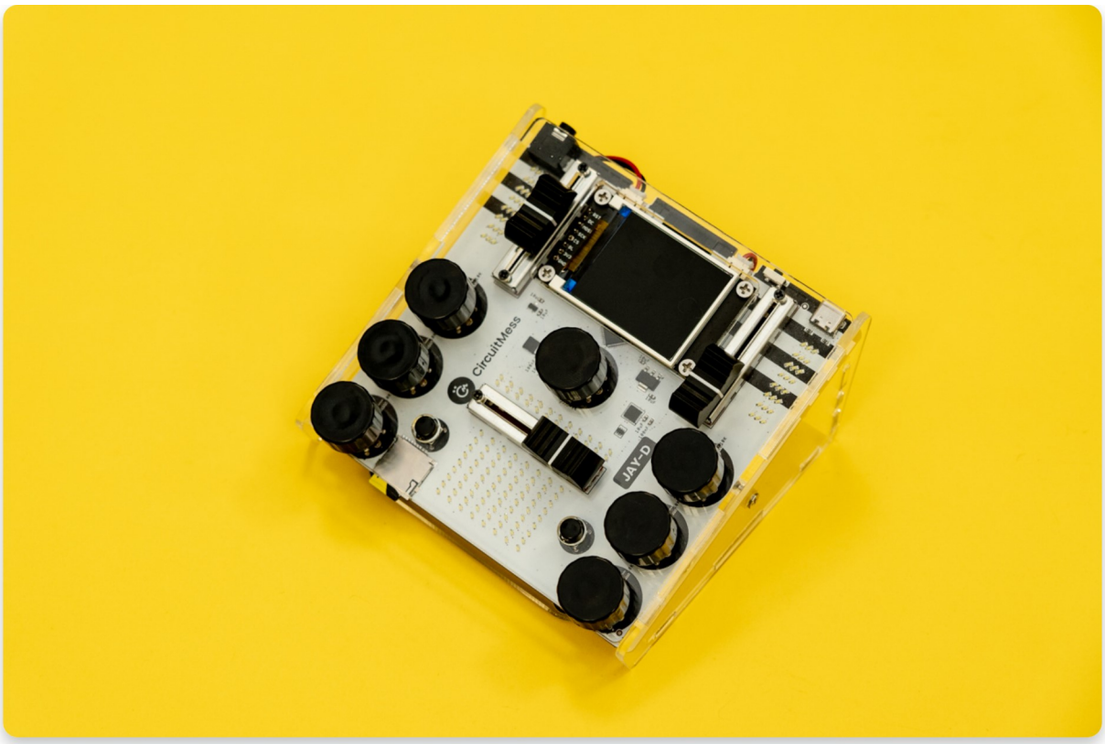
Tighten it with a screwdriver.



Tighten the bolt

Ta-da! Your Jay-D should look like this now. Pretty cool, isn't it?

Let's go over a few more steps now to make sure you have everything ready to start mixing.



Your Jay-D is assembled!

Last but not least - **let's use the remaining rubber feet** to secure the bottom casing layer.

Place the four rubber feet at the edges of the bottom casing layer.

... just like this!

> ! Make sure you turned off your soldering iron! Unplug it from the power source, place it on the soldering iron stand and let it cool off for at least 5 minutes before you put it away in your tools box.

What's next?

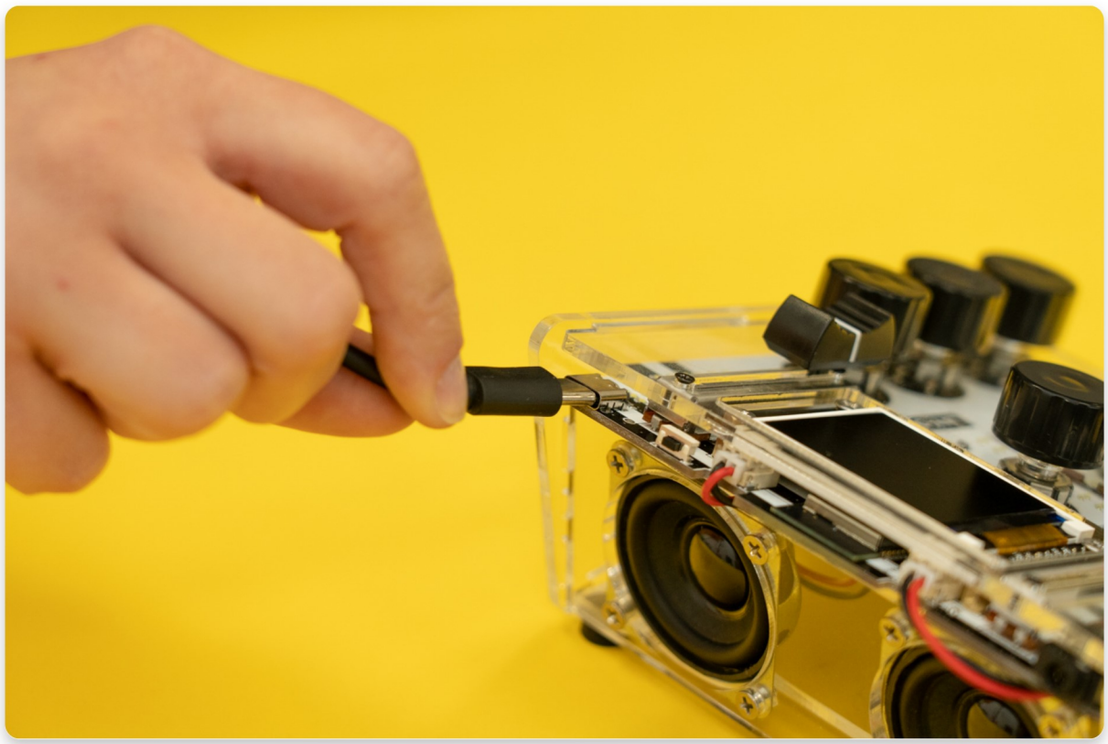
Becoming a DJ

Congratulations! You have just built your own DJ mixtable!

We sincerely hope you liked the project so far because there's more coming. After doing one final check to see if everything works, you'll learn how to use its features and mix music.

Final check:

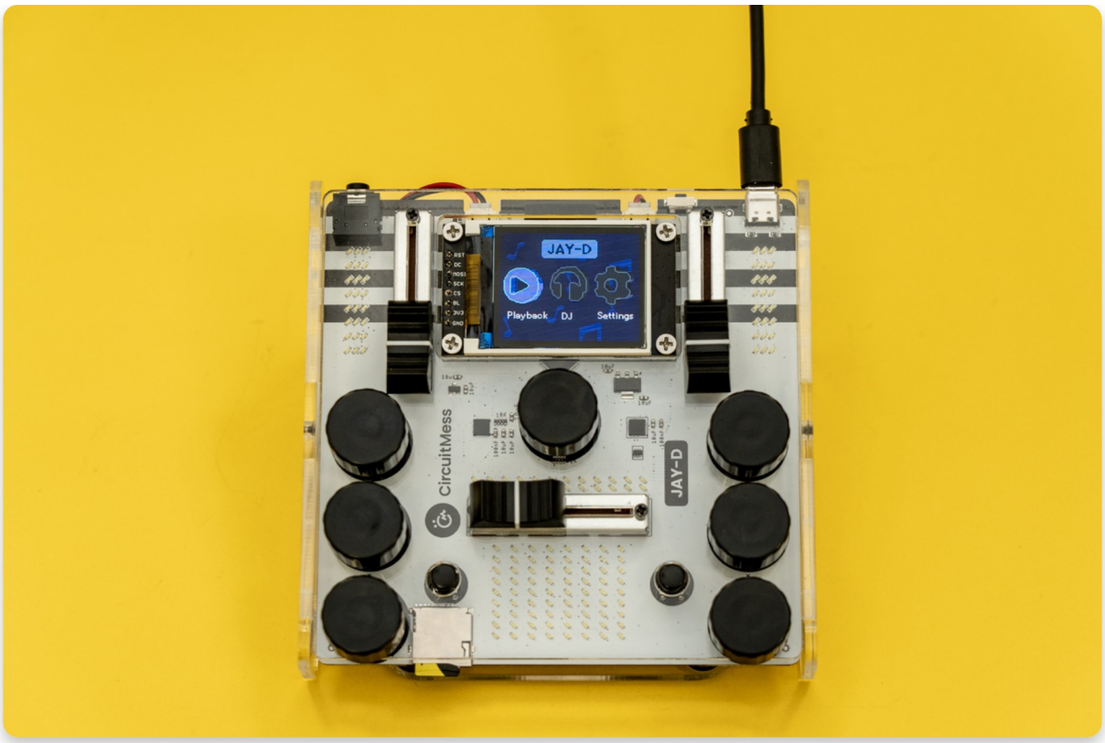
1. Insert the USB-C cable into the port on the board
2. Plug in the power adapter
3. The screen lights up!



Insert the cable into the port

Plug in the power adapter

The screen lights up!



Check out Jay-D's Usage Guide!

Now that you assembled your Jay-D, click on the link below and you'll find a step-by-step guide on how to remix songs and much more.

- Jay-D Usage Guide

In case you experience any trouble along the way or if the screen doesn't light up, check all the soldering connections once again and make sure you assembled every component correctly. If the issue persists, send us an email at contact@circuitmess.com with a couple of Jay-D photos attached so we can troubleshoot and help!