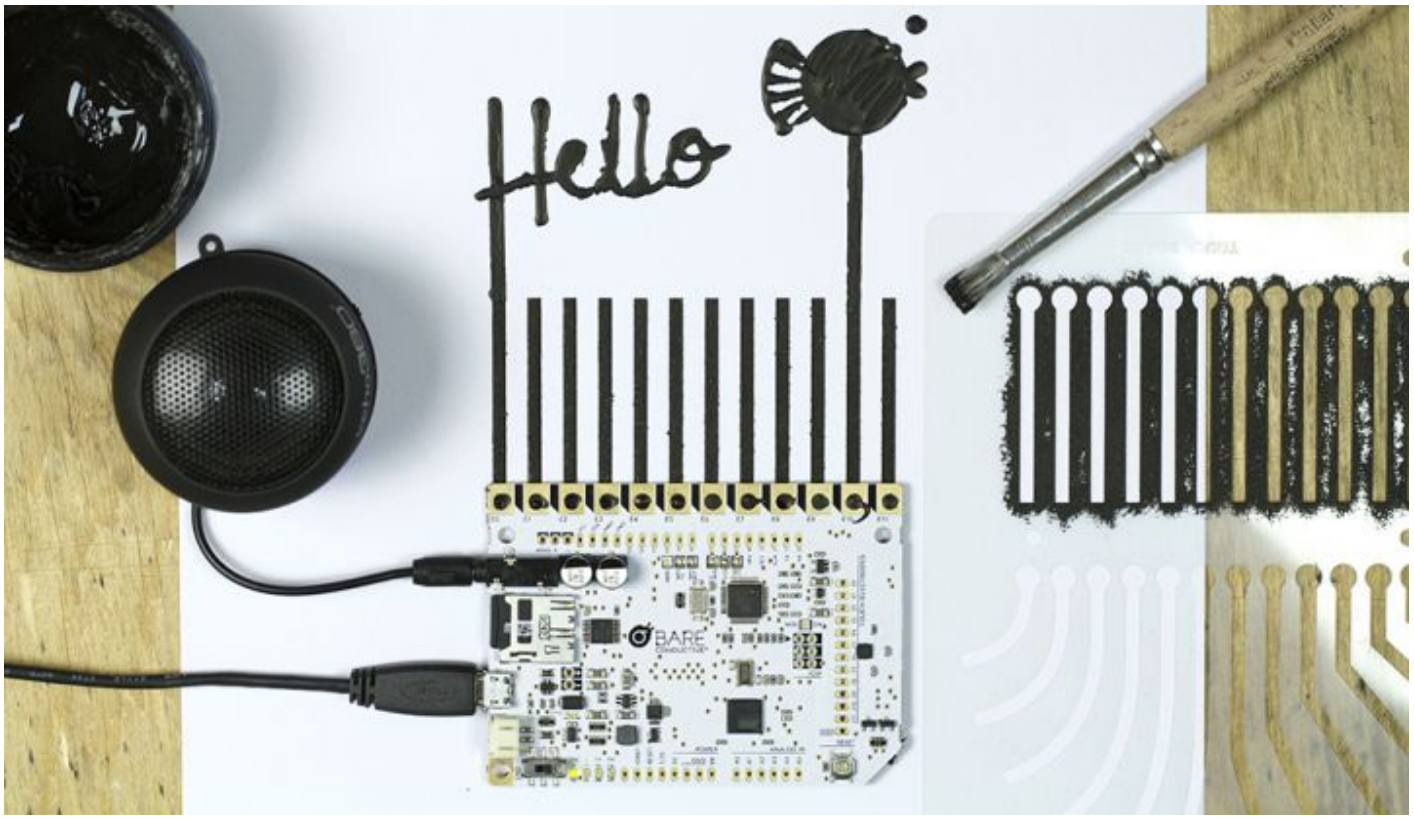

GETTING STARTED WITH THE TOUCH BOARD

An A to Z on setting up your Touch Board, changing the sounds, and creating an interactive surface with Electric Paint.

Isabel
Author

2014/08/05
Date Posted

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INFORMATION

This tutorial is a step-by-step introduction to your Touch Board. It will take you through powering it up and changing the sounds on your micro SD card, all the way to using our stencil and Electric Paint to create a series of graphical touch sensors on paper!

This is the most basic introduction to the Touch Board and is a great place to start if you're a

beginner, or if you want to get acquainted with the board. We will show you how to use the Touch Board's electrodes as touch sensors with no programming required.

We'll also show you a few different ways you can use Electric Paint to create interactive graphics.

We'll be posting more tutorials showing how to use your Touch Board in lots of other cool projects, from making proximity sensors, to MIDI devices, and light switches, so make sure to come back for more, or click on the Suggested Tutorials tab above for more interesting projects.

Make sure you have a micro USB cable and a micro SD card adapter before you begin! These are essential to getting started with the Touch Board.

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Materials

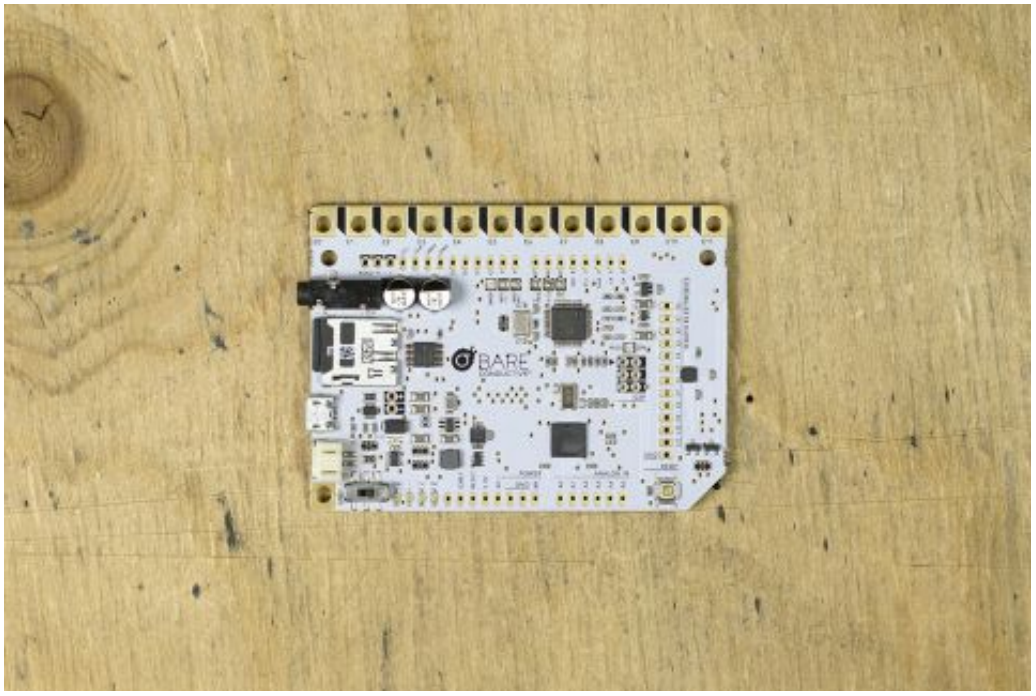
To begin you will need:

1 x Touch Board
1 x Electric Paint Pen or Jar
—
1 x micro USB cable
1 x Speaker or Headphones
1 x micro SD card adapter
—
1 x Paper
1 x Stencil
1 x Masking Tape
1 x Stencilling Brush

Step 1

Let's Begin!

Take out your Touch Board



Step 2

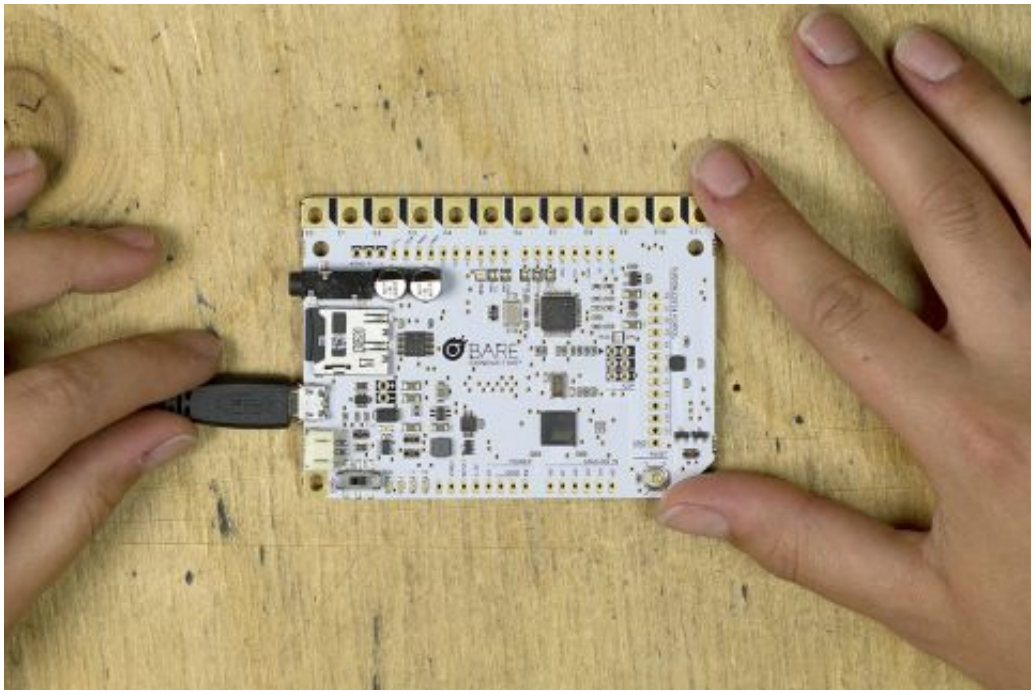
Power Up

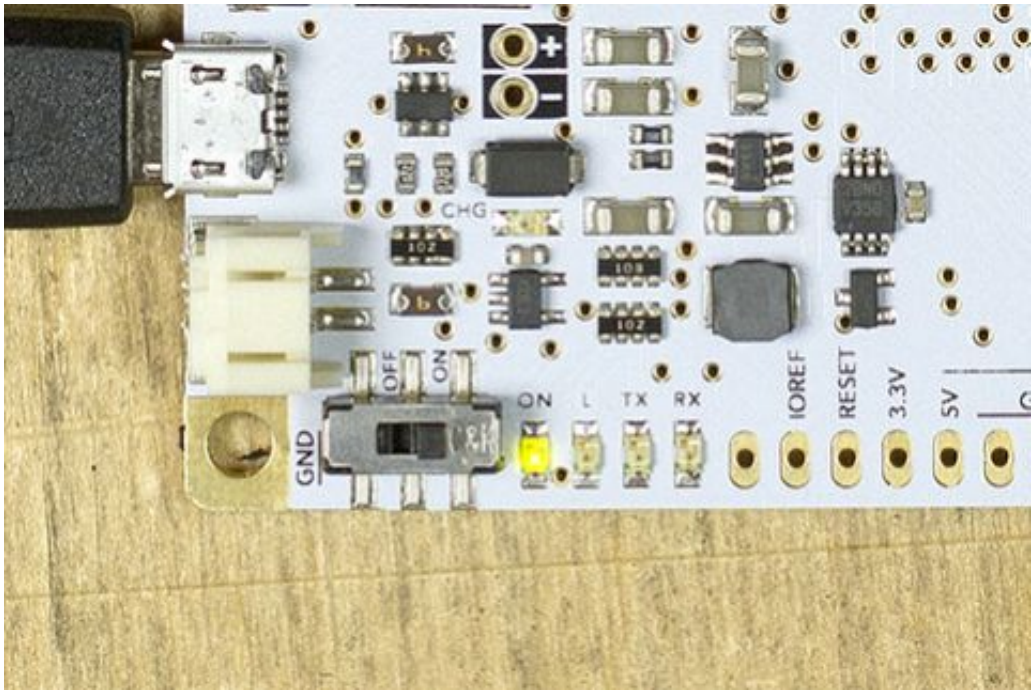
Plug your micro USB cable into the Touch Board.

You can power it directly from your computer, or from a USB charger.

Make sure the on/off switch at the bottom left hand corner of your Touch Board is switched to ON.

You should see the green light next to the on/off switch come on. This means your Touch Board is live!

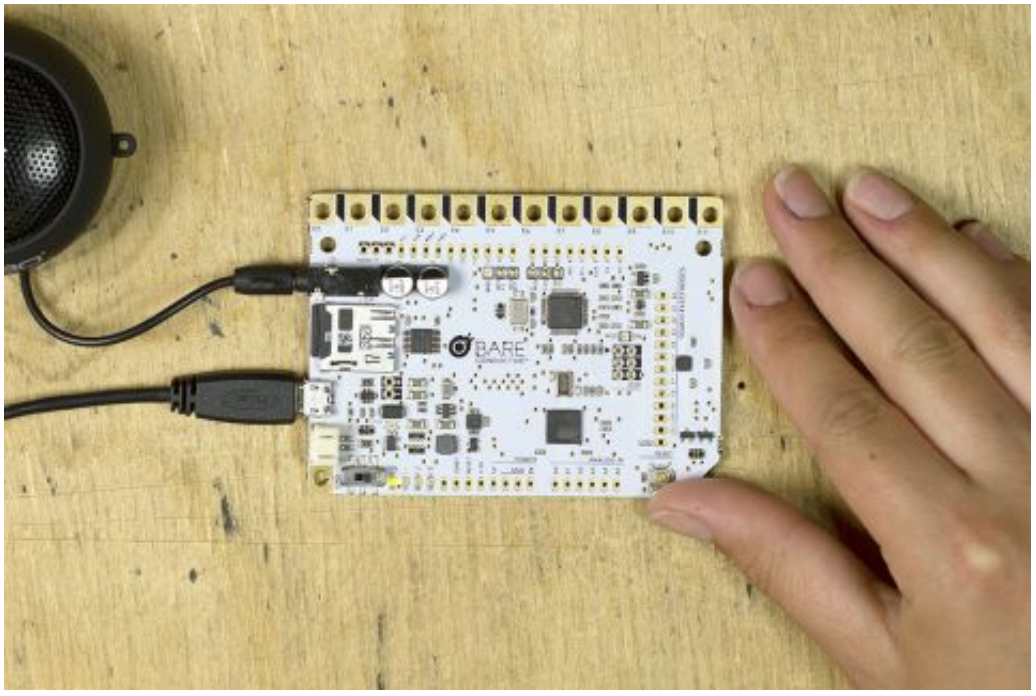




Step 3

Audio Jack

Plug your speaker (or headphones) into the audio jack on the top left hand corner of your board.



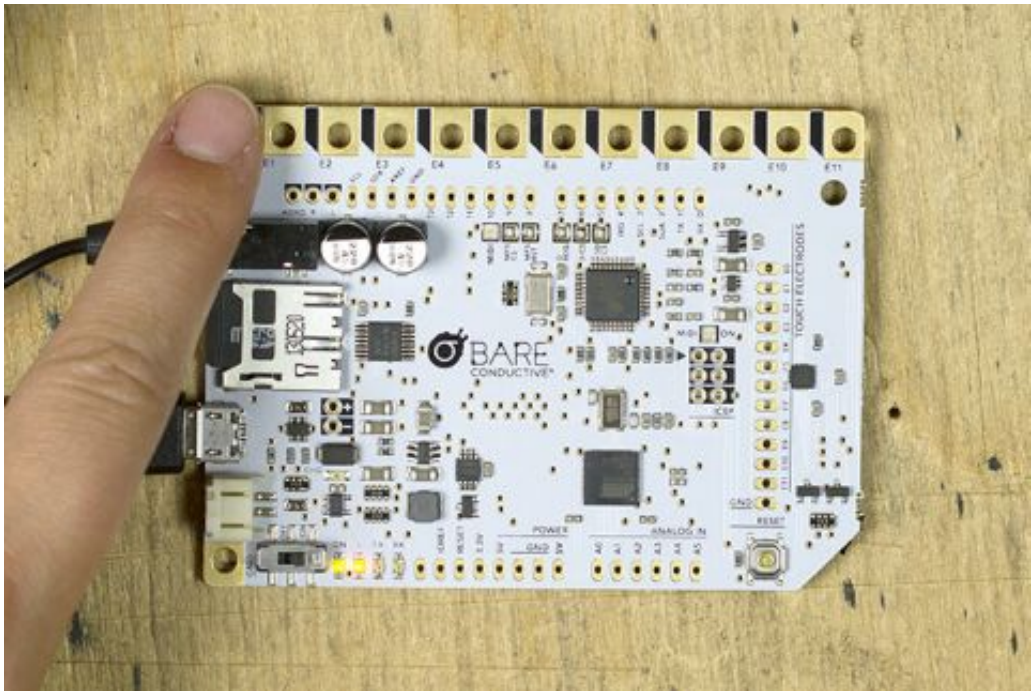
Step 4

Electrodes

Now, touch the Electrode on the upper left hand corner of your board. Can you hear Becky's voice?

The Electrodes are the twelve golden squares that run along the top edge of your Touch Board. They are numbered E0 to E11.

Listen to the Audio Guide to find out more about the Touch Board and it's different features. Once you've explored it enough, and you're ready to upload your own sounds, just move on to the next step.



Step 5

mp3 tracks

The first step is to select the sounds that you want your Touch Board to play. You may want to record your own sounds, or you may already have a library of audio to choose from. Freesound.org is also a great resource for sounds and music.

I've selected two tracks that I want to use "bubbles.wav" and "STE-101.wav", and put them in a folder titled Audio Tracks. As you can see, these are currently formatted as "wav" files. If your tracks are not currently mp3s, you'll need to convert them.

I use the Online Audio Converter to edit these files (see link below). Follow the steps below to convert a file:

1) Upload your files

2) Select "MP3 (.mp3 files)" Output Format, and choose the quality you'd like, I've chosen "Normal 128 kbit/s"

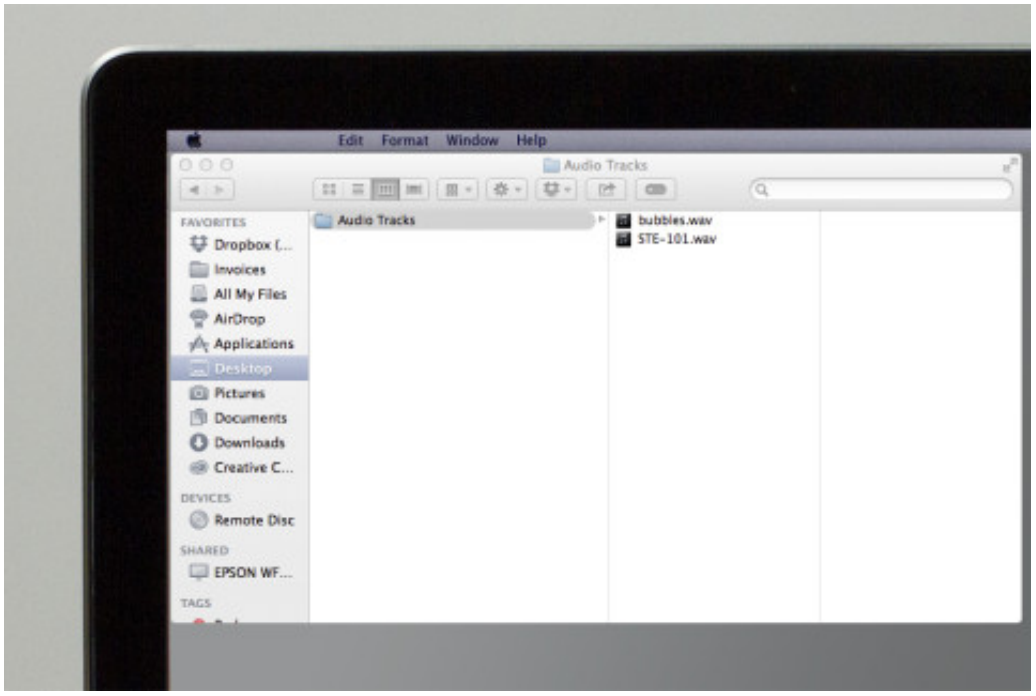
3) Click on "Convert"

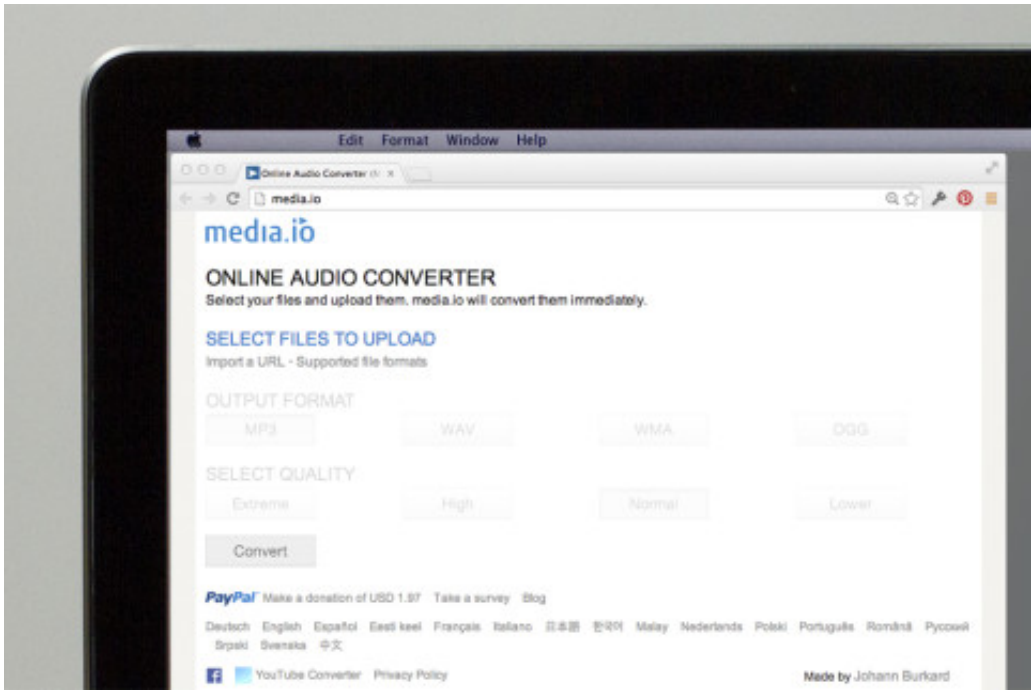
4) Download your files once Converted

5) Save your files in the Audio Tracks folder

Links

- Freesound
- Online Audio Converter

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Select your files and upload them, media.io will convert them immediately.
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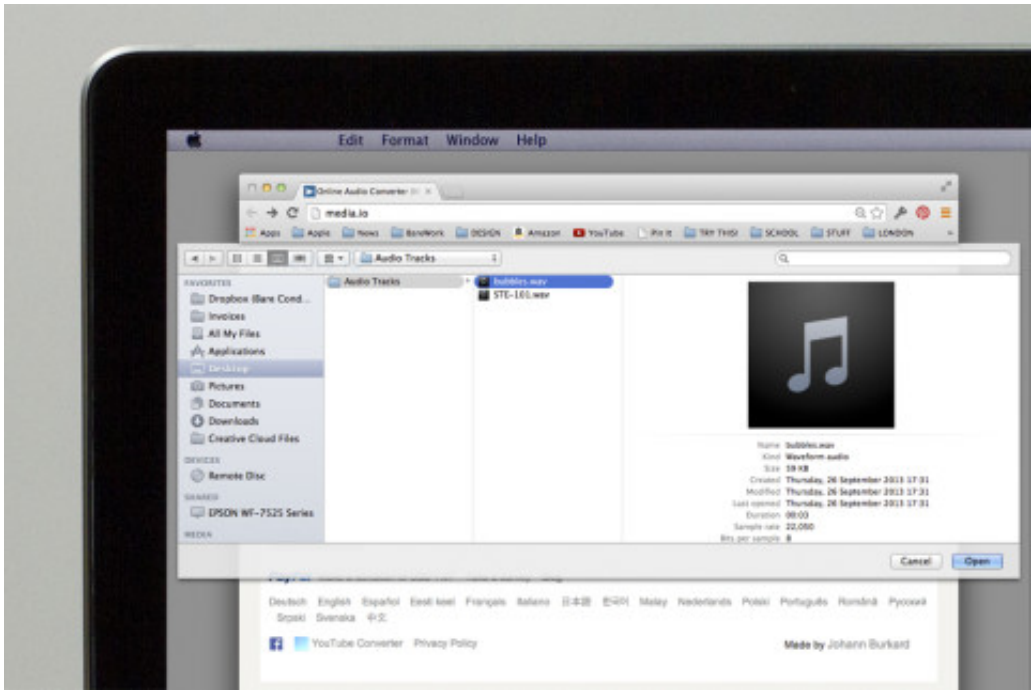
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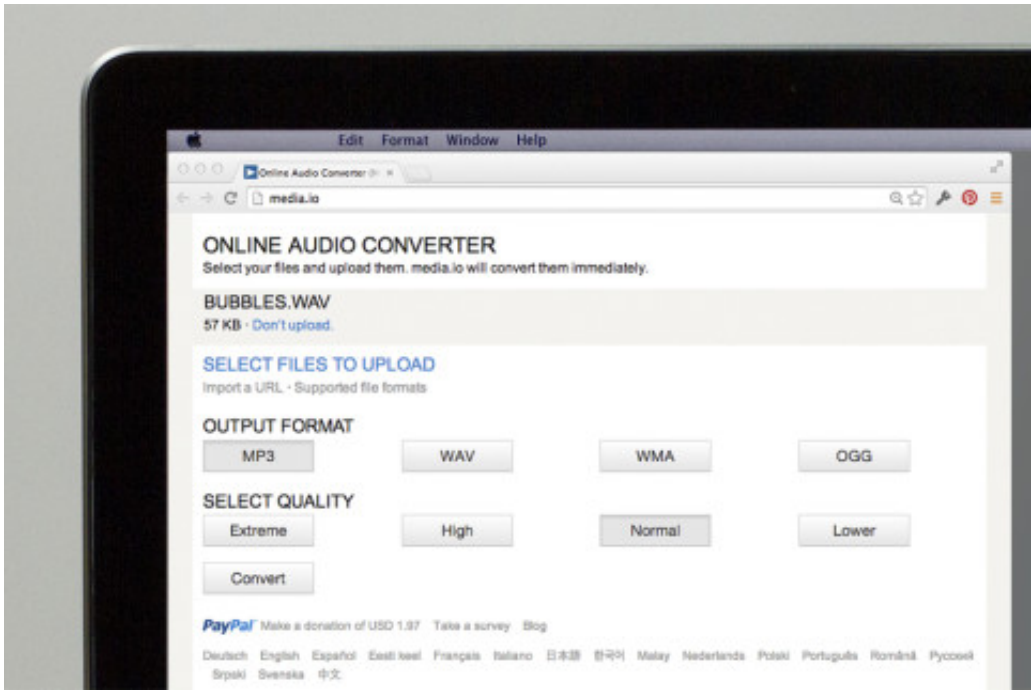
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SELECT FILES TO UPLOAD
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SELECT QUALITY
Extreme
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Convert
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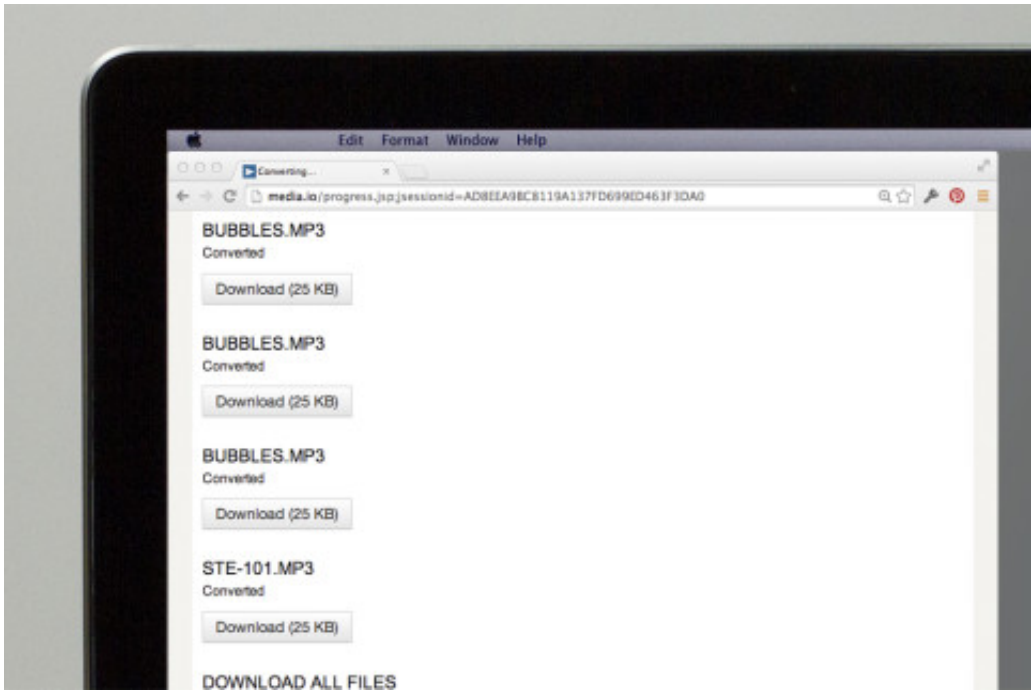
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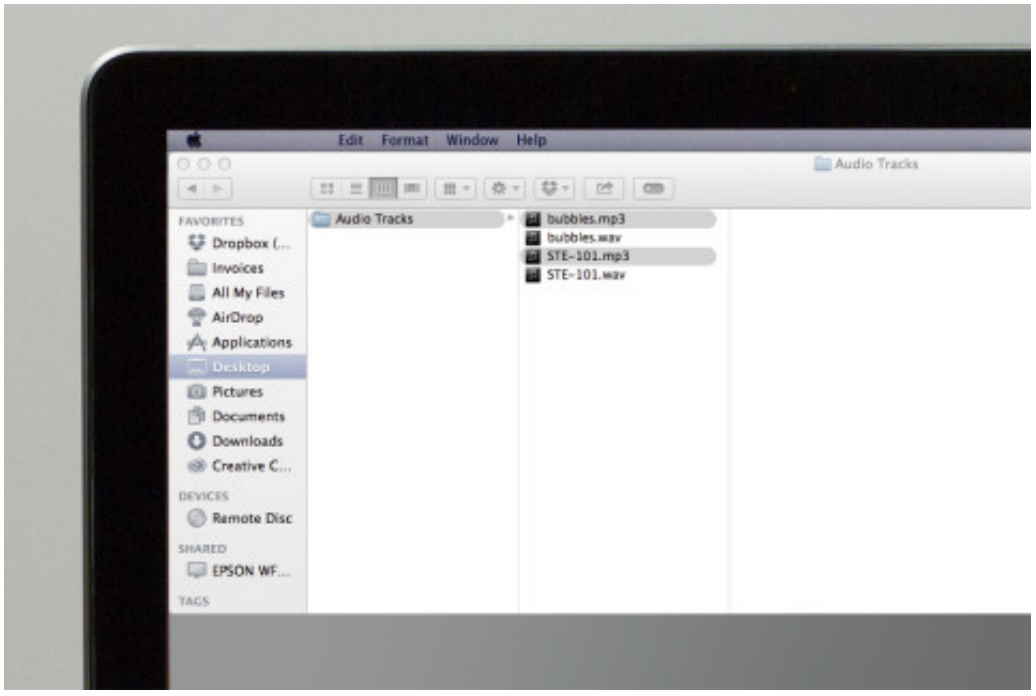


Step 6

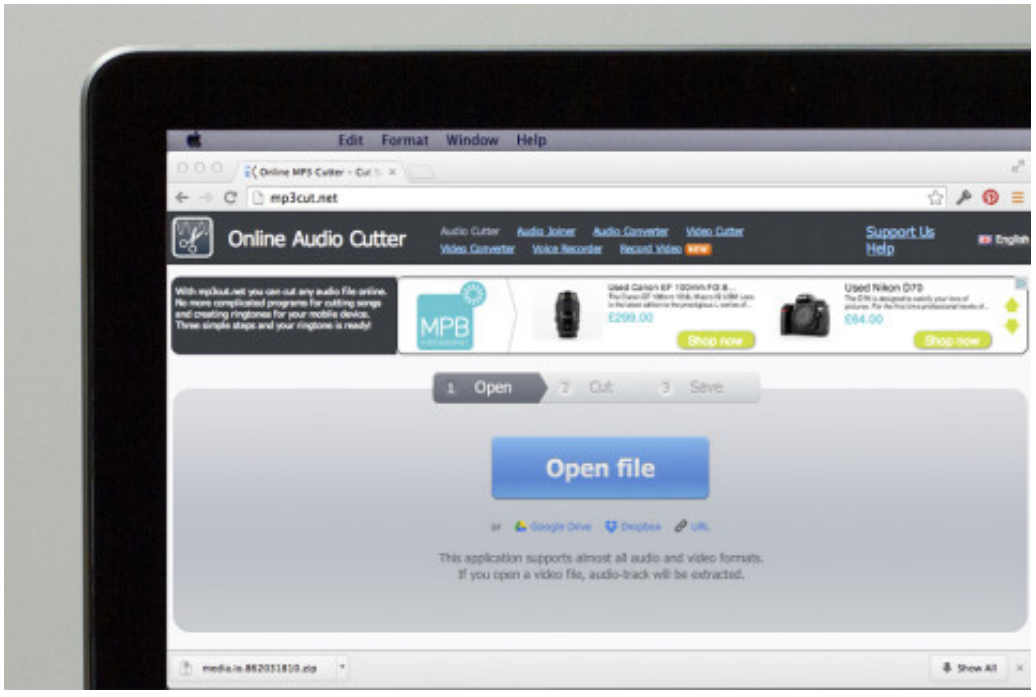
Crop your Tracks

If you want to crop your tracks there's some great free software online that will allow you to do this.

I use Online mp3 Cutter (see link below) when I want to quickly crop a track.

Links

- Online mp3 Cutter



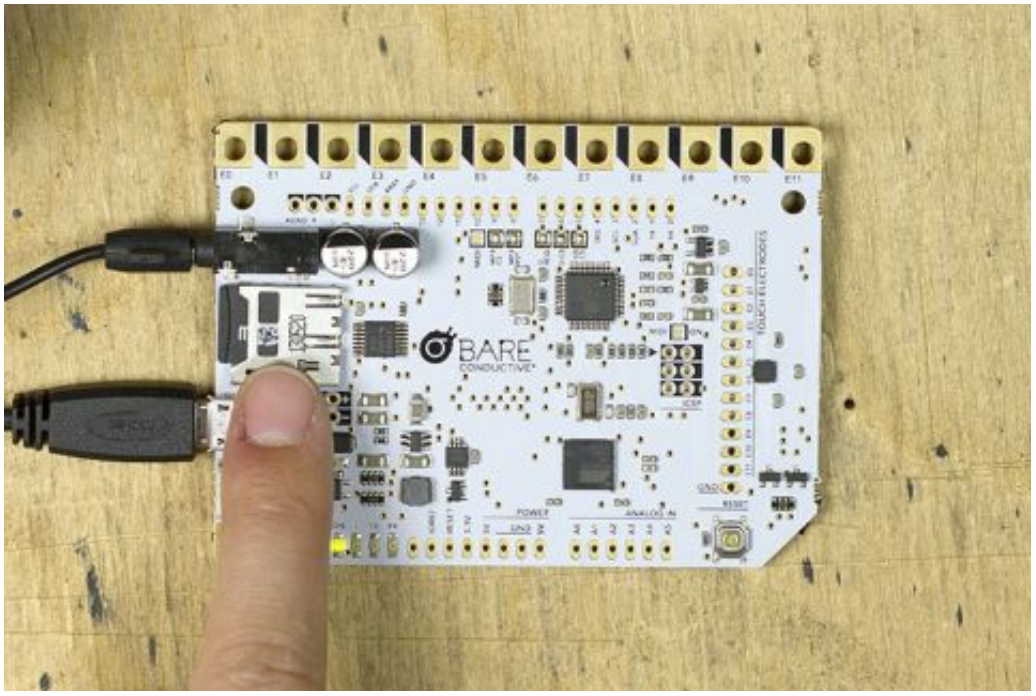
Step 7

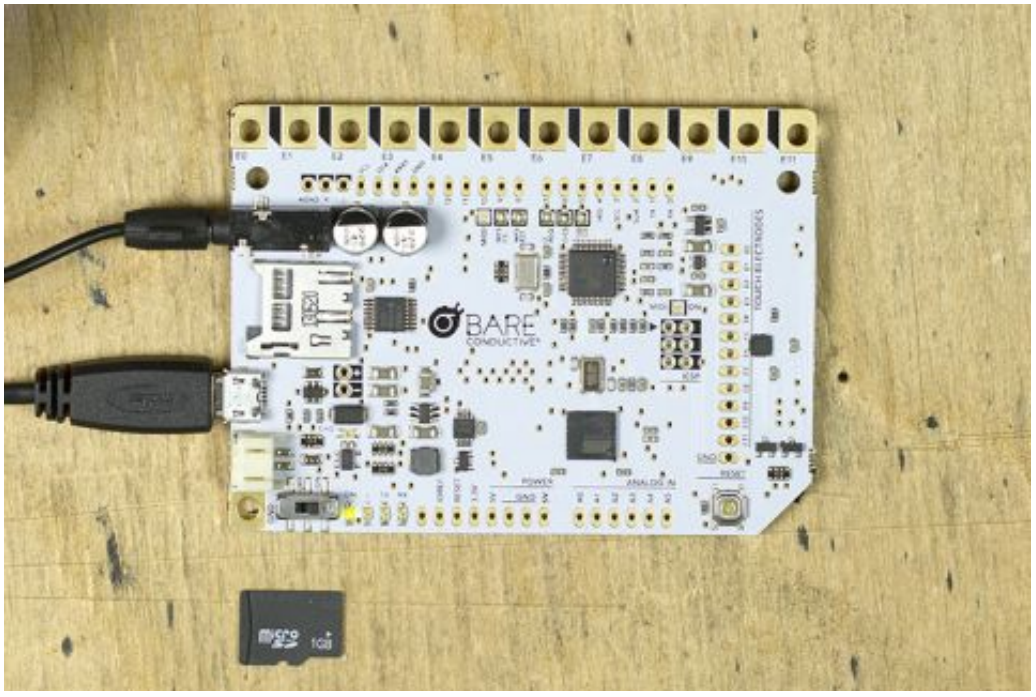
Micro SD Card

Once you've selected your tracks and have converted and cropped them accordingly, it's time to load them onto your micro SD card!

This card is located on the left hand side of your Touch Board, between the Audio jack and the micro USB port.

Push gently on the edge of the card, and it should pop out of the holder.





Step 8

Micro SD Card Adapter

We've chosen to use a micro SD card on the Touch Board in order to keep its footprint as small as possible. Unfortunately, this means that your computer probably won't have a slot to insert the card directly.

To do this, you'll need to purchase a SD card Adaptor or Reader. You may already have one from your camera of phone.

In this tutorial, I'm using a micro USB card Reader.

Insert your reader into the USB on your computer, and then insert the micro SD card you've just removed from your Touch Board.

Step 9

Audio Tracks

Your micro SD card should show up on your desktop under the name "TB AUDIO"

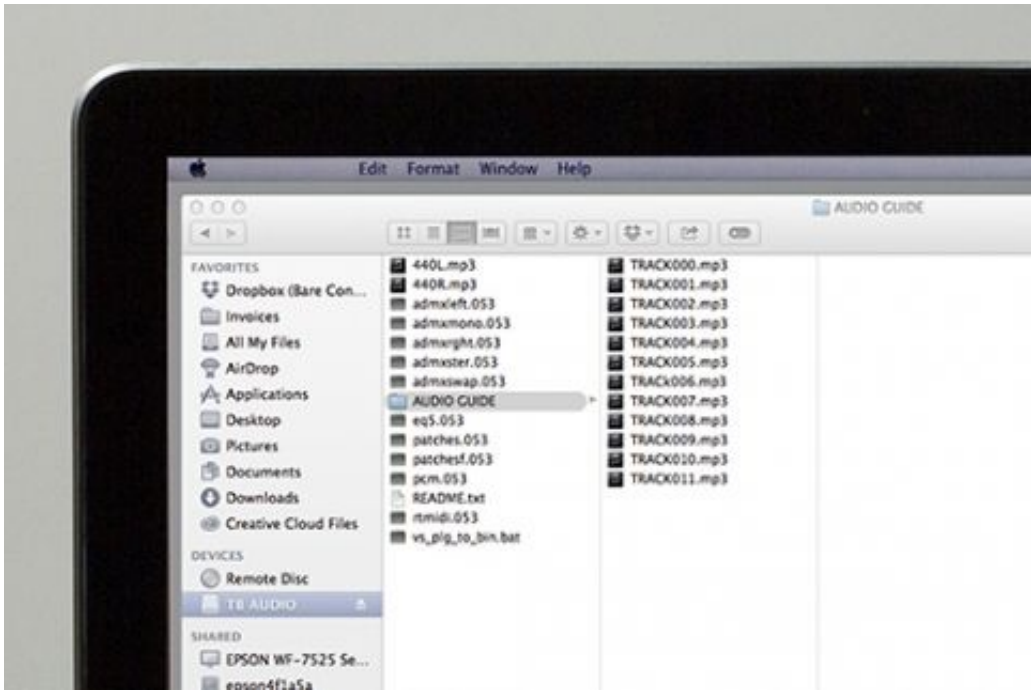
When you click on it, you should see a series of files that look like the image on the right.

The document titled "README.txt" contains instructions on the Touch Board Audio, as well as the Audio Guide in written form. Don't delete this document if you feel you may want to review these instructions in future.

It's also important that you keep all the files in the top level of the SD card, a lot of these files are related to the workings of the Touch Board, so deleting or moving them may affect your board's functionality.

You will see twelve tracks titled:
TRACK000.mp3
TRACK001.mp3
TRACK002.mp3
up to TRACK011.mp3

These are the files you need to replace to input your own audio. You can create a folder titled "AUDIO GUIDE" to save these files if you want to keep them for future reference.



Step 10

Replacing Audio Tracks

Now, for the bit you've been waiting for. Changing the audio tracks on the SD card.

Select the mp3 files that you want to put on the board, and drop them in the top level of your micro SD card. Make sure you've already moved the Audio Guide tracks to another folder.

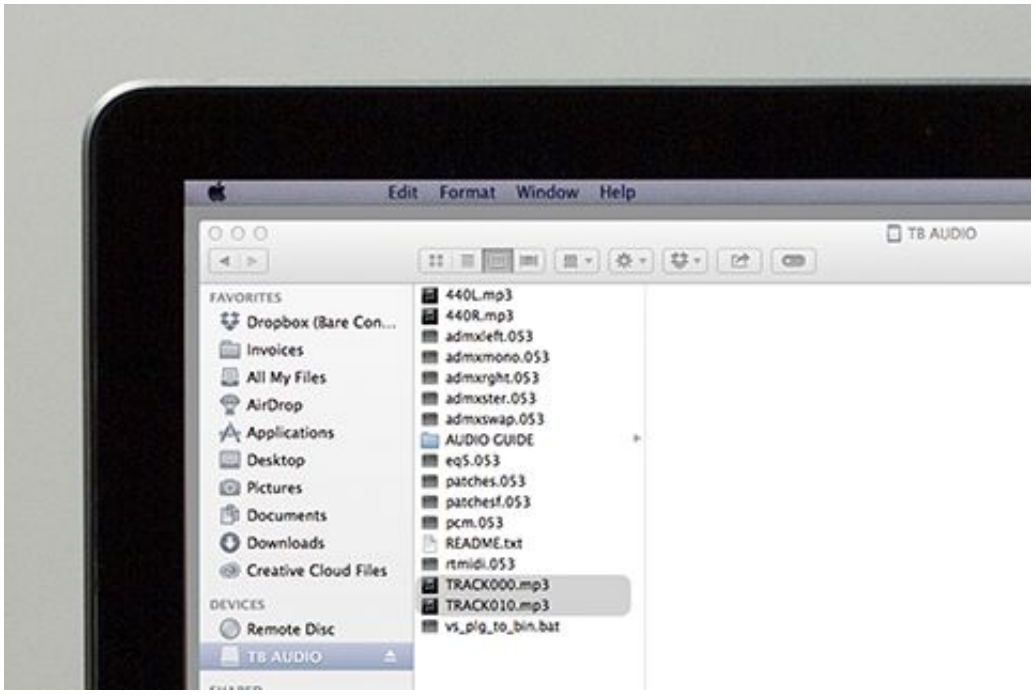
In order for your Touch Board to read the audio tracks, these need to be named:
TRACK000.mp3
TRACK001.mp3
TRACK002.mp3

...up to TRACK011.mp3

TRACK000.mp3 will be for E0
TRACK001.mp3 will be for E1
TRACK002.mp3 will be for E2
and so on....

The tracks I've selected are for Electrode E0 and Electrode E10, so I've renamed my tracks to TRACK000.mp3 and TRACK010.mp3

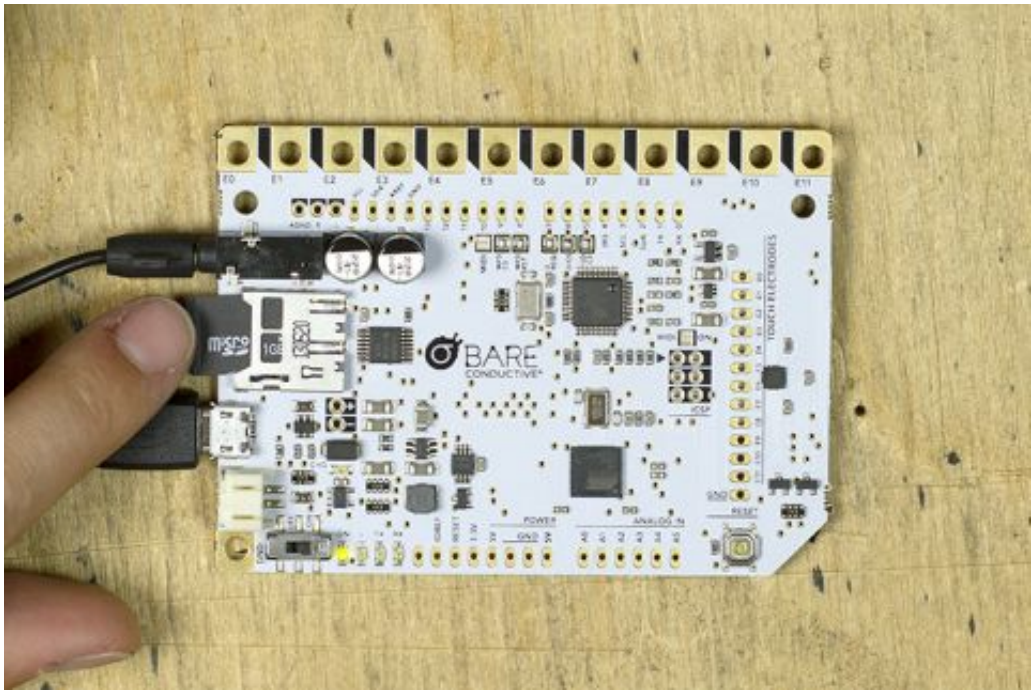
As I haven't put any other tracks, my remaining electrodes will not produce any sound.



Step 11

Re-insert your micro SD Card

Once you've re-named all your mp3 files according to the system above, you can eject your micro SD card, and slide it back into your Touch Board.



Step 12

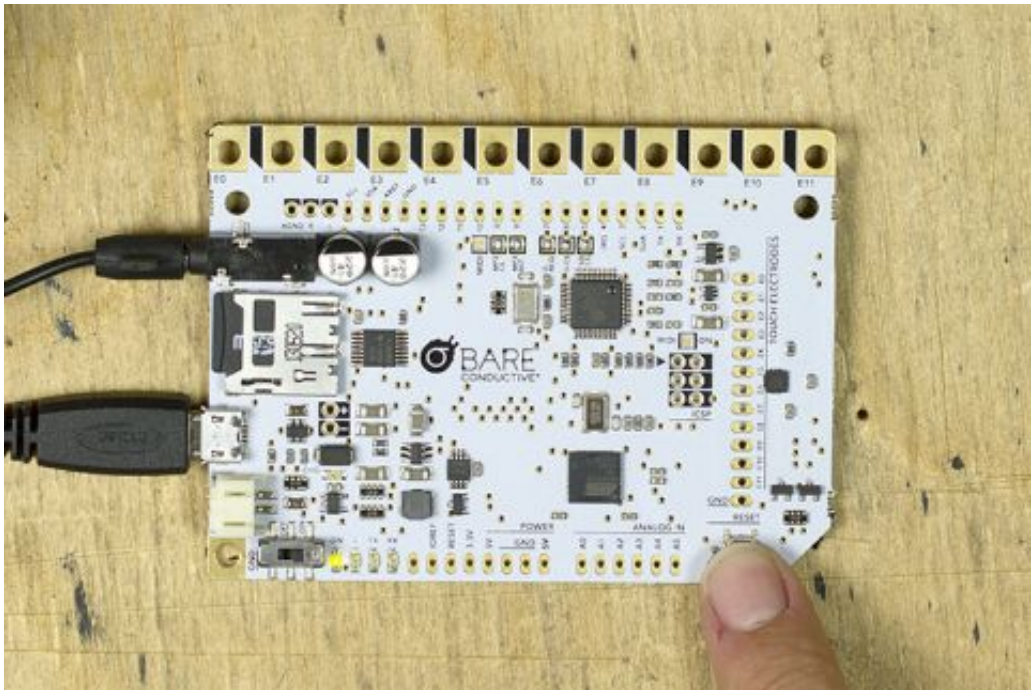
Test your Touch Board

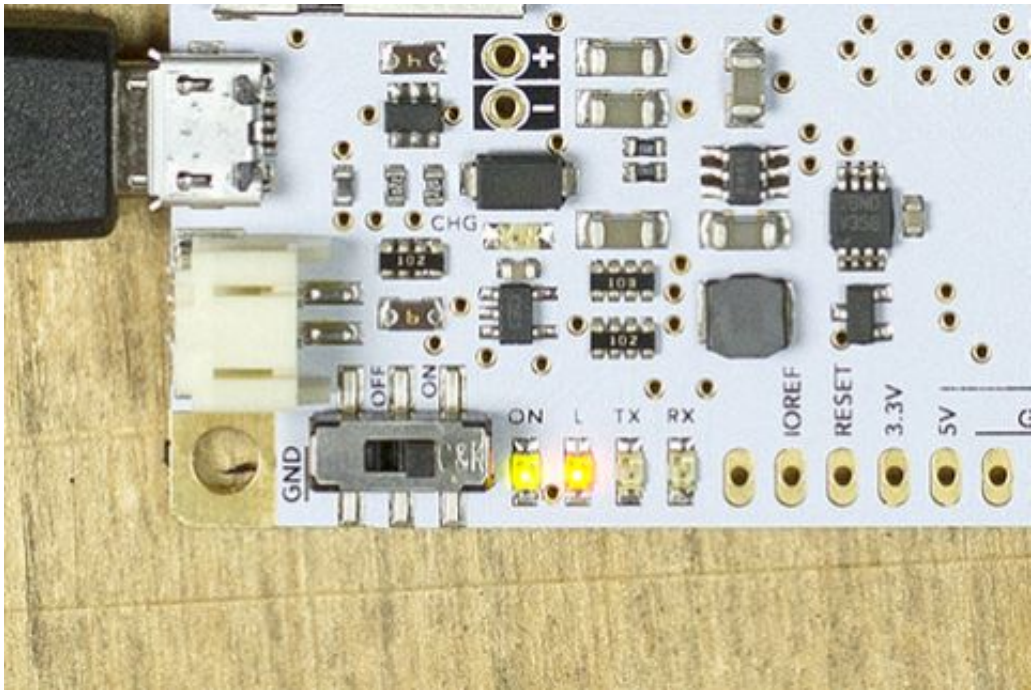
Once your card is back in your board, press the "Reset" button on the bottom right hand corner. This will make your electrodes re-calibrate.

The orange light at the bottom left hand corner will flash while your Touch Board is resetting. Once it stops flashing you can touch any of the Electrodes you've created track for, and hear the sounds you've uploaded.

Success!

Now we're ready to start painting.





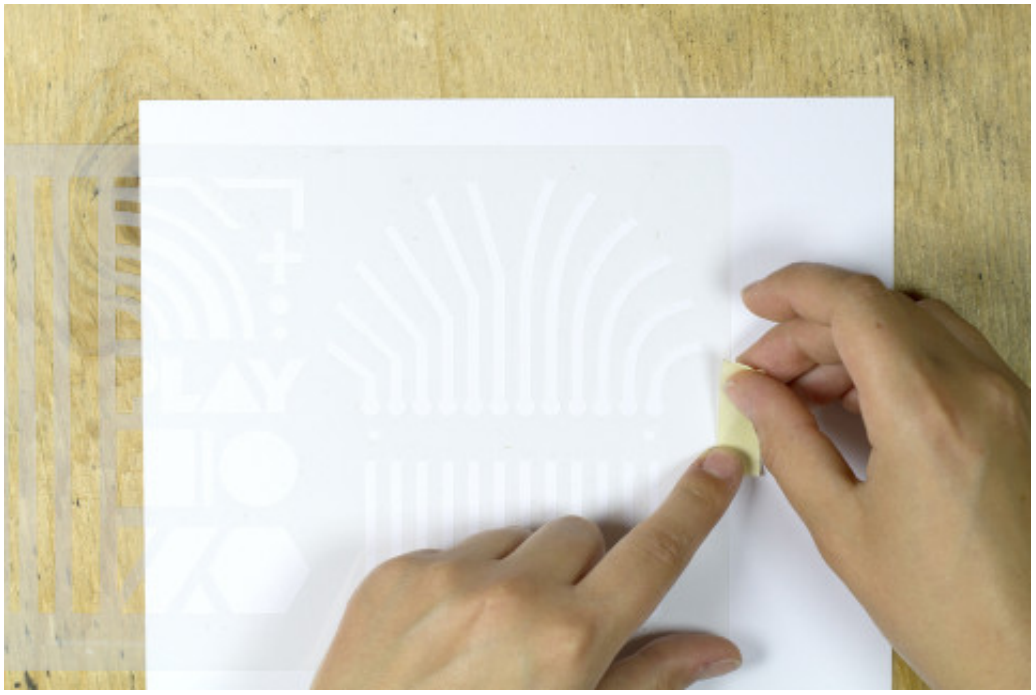
Step 13

Preparing your stencil

If you have one of our stencils, creating the grid to connect to your Touch Board will be easy. In the following steps I'll give you a quick explanation on how you can use this stencil with Electric Paint.

If you're using paper, take some masking tape and fluff it on your jeans or t-shirt, this will make the tape slightly less sticky and will ensure you don't rip the paper when you remove it.

Tape down the stencil on the surface you've selected for your board. We've purposely selected a very thin stencil to make it easy to use with Electric Paint.



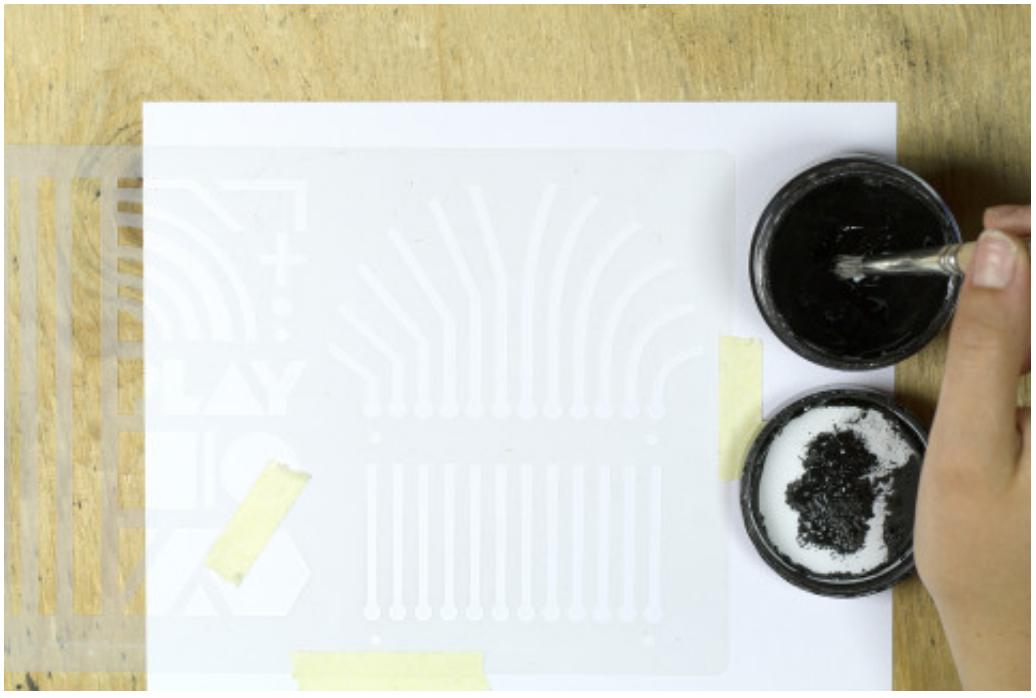
Step 14

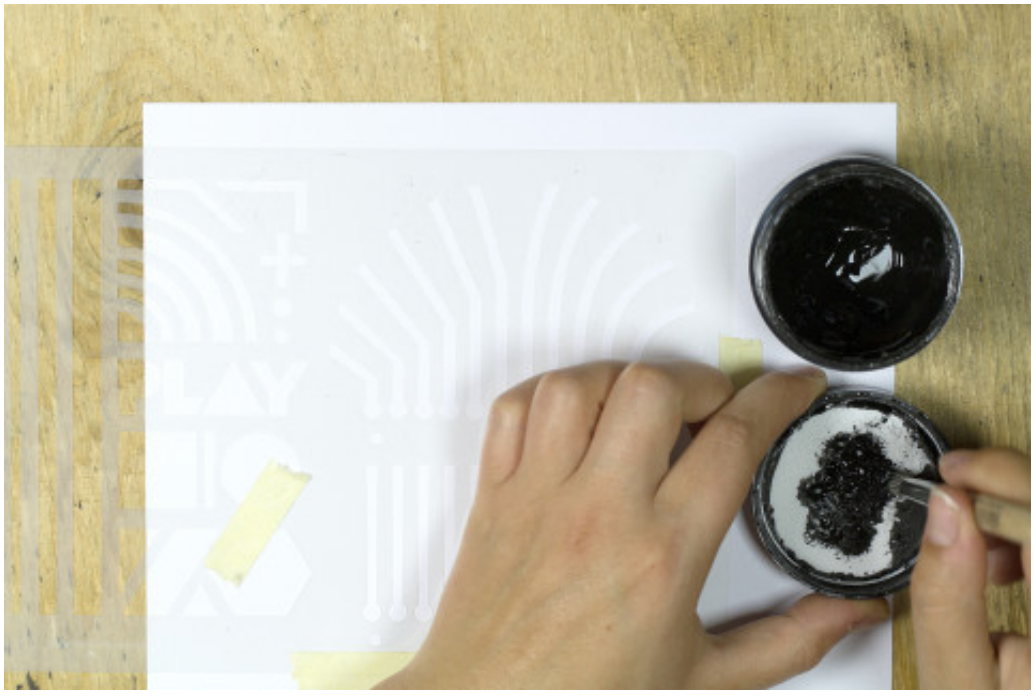
Stencilling

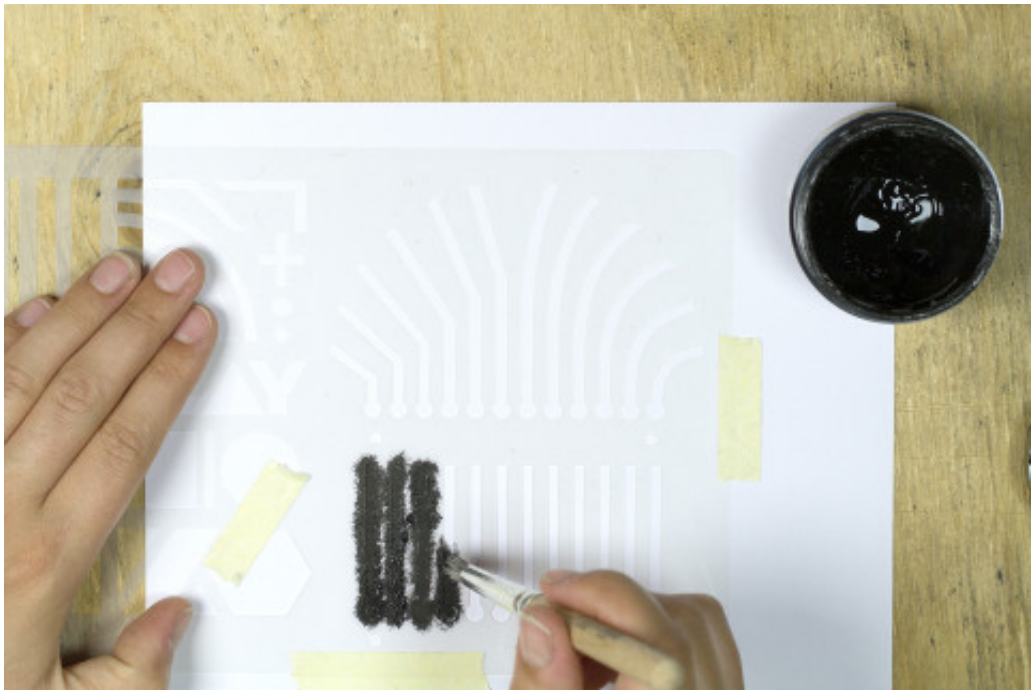
Next, open your Jar of Electric Paint, and using a stencilling brush, dab some paint on the jar's cap. You want to tap the brush a few times to ensure it has an even distribution of paint across its surface.

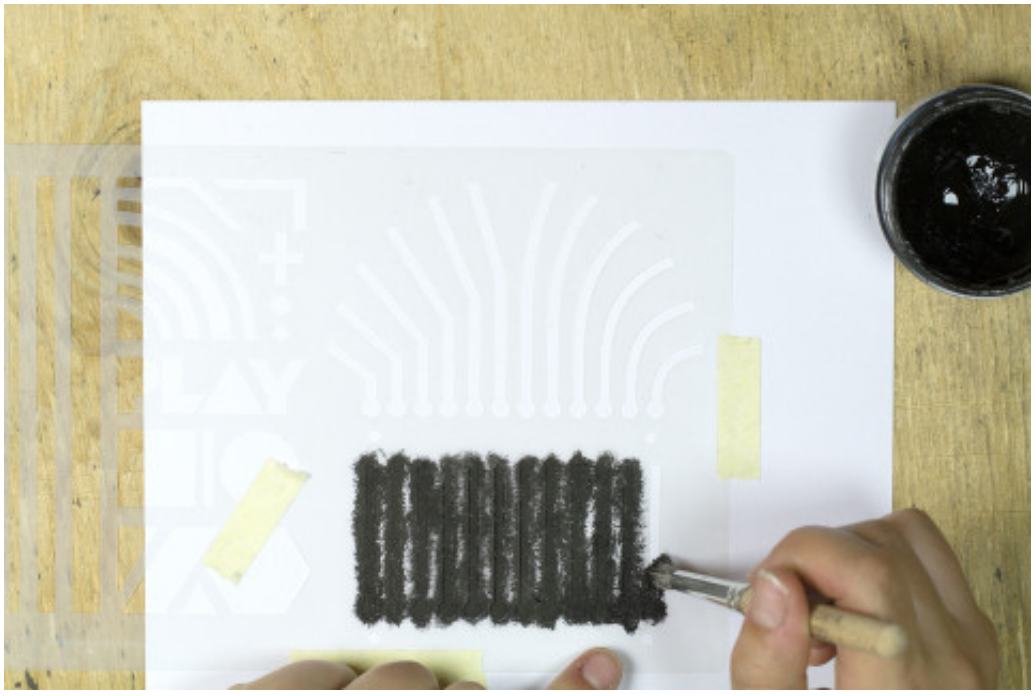
Holding your brush at a 90˚angle, dab the paint on the stencil repeatedly to get an even cover of paint. Make sure not to use too much paint in one go as this may make your stencil stick to the brush and it may lift.

You can make several passes to sure you have a healthy cover of paint on the paper.







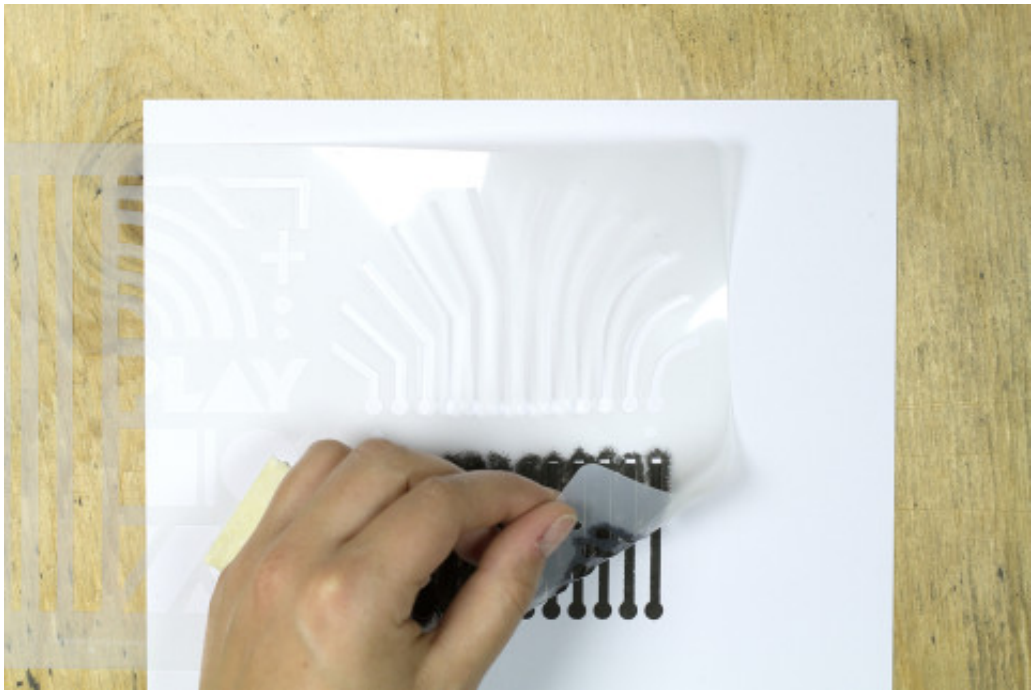


Step 15

Remove Stencil

Once you've finished applying the paint you can remove your stencil.

Do so carefully to make sure you don't smudge!



Step 16

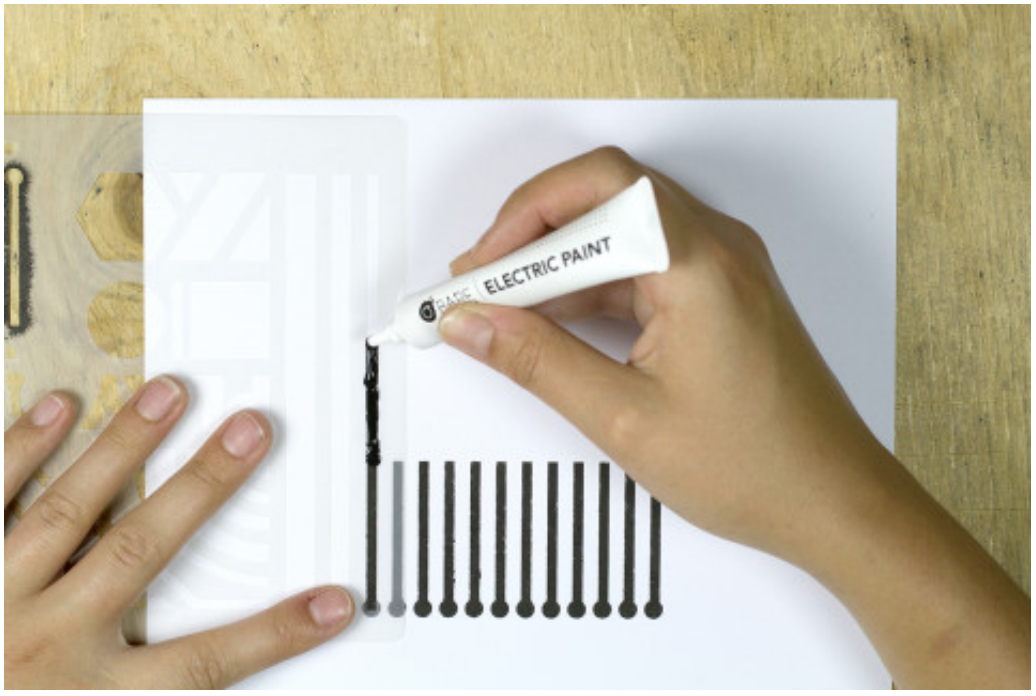
Draw Freehand

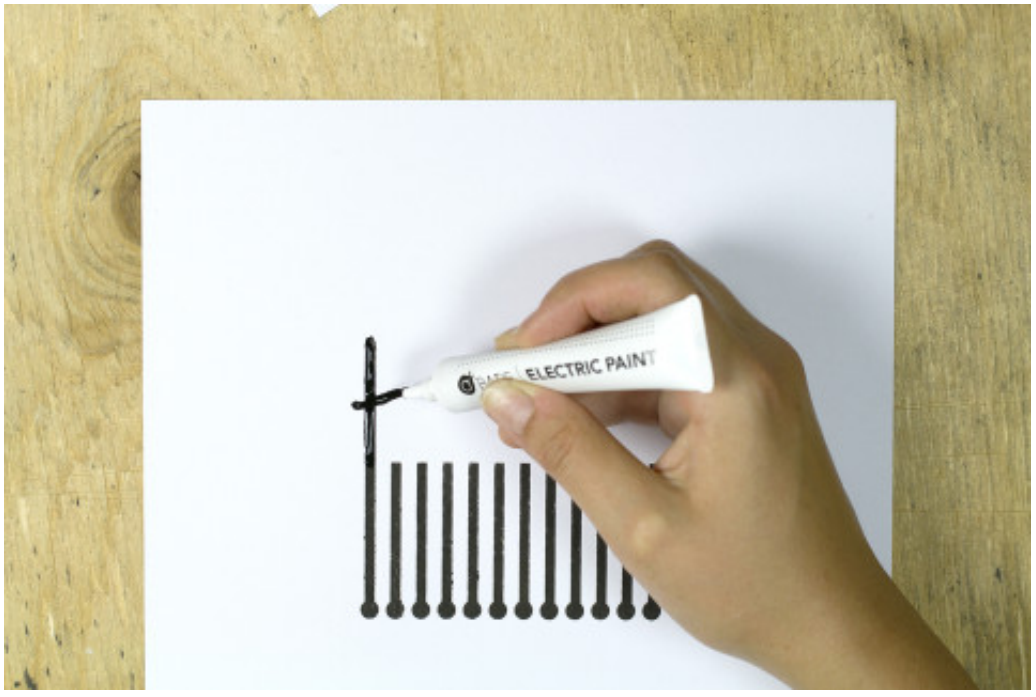
There are many ways to use your stencil. You can also use it directly with you pen when you're not trying to be 100% accurate.

There's many ways to create graphics, I've used the stencil to create some sections of my drawing, but I've also written and drawn freehand with the pen.

For more ideas make sure to check out our tutorials on screen printing, or cutting your own vinyl stencils.

Once you've finished your graphics, let your paper sit for 10-15 minutes to make sure the paint is totally dry so you don't smudge your drawing.


ELECTRIC PAINT


ELECTRIC PAINT

Step 17

A Cold Solder

Once you're ready to attach your Touch Board, it's time to take out your Electric Paint pen again.

Very carefully, squeeze a small droplet of paint onto each of the circles at the bottom of your grid. We are using the paint as a cold solder to ensure contact between our Touch Board's electrodes and the conductive paint.

It's very important to make sure the paint between these points doesn't smudge! If these lines touch each other, then they will create a short circuit. This won't break the board, but it will mean that the linked Electrodes won't be able to trigger sound, so make sure no to put so much paint that placing the Touch Board over the droplets will make them bleed onto each other.

Hello

Hello

Step 18

Attaching the Touch Board

Carefully center the Touch Board over your grid, and place it down so that each Electrode makes contact with the droplet below. Each droplet should align to the hole in the Electrode.

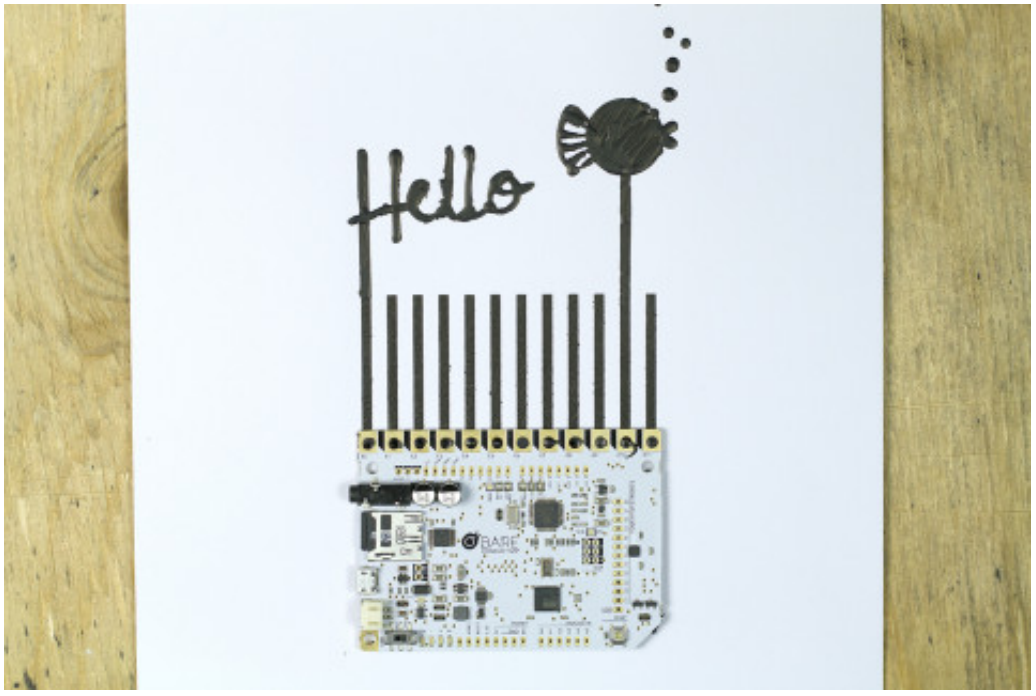
Make sure the paint doesn't bleed between the electrodes!

Step 19

Now for a Top Up!

Using your Electric Paint pen, squeeze another set of droplets on the top of your Electrodes. You don't need to cover them, but only connect to the paint beneath so a medium sized droplet should do.

Once you've topped up your Electrodes, set your paper and board aside to dry. Wait 5 - 10 minutes to make sure the board won't slide and smudge.



Step 20

Plug in your Touch Board

Once your cold solder is dry, plug in the micro USB cable and speaker.

Press the "Reset" button to re-calibrate your board.

Now test your touch sensors! Touch your finger to your graphics and listen to your audio tracks.

Made something cool with your Touch Board? Upload your project to our MAKE page, or email your photos to info@bareconductive.com

Introducing the Touch Board

00:07

HD

Step 21

Troubleshooting

If for any reason this doesn't work, why not double check the following problem areas:

1) Is your Touch Board on? (check the green light)

2) Is your speaker on and plugged in properly?

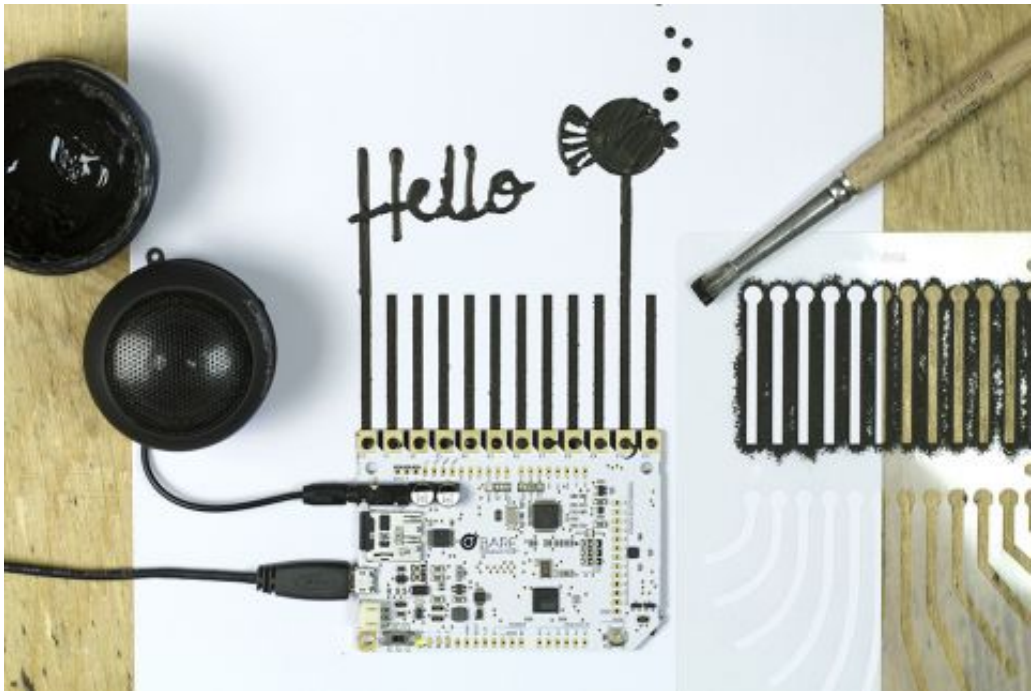
3) Are your audio tracks named correctly, and matching your selected Electrode?

4) Is the paint making contact with the Electrode?

5) Have any of your lines short circuited?

If you still can't get it working drop us a line at info@bareconductive.com.

We'd be happy to help you troubleshoot.



Electric Paint 10ml

£6.00

Nontoxic, solvent free and water soluble, Electric Paint Pens are a great prototyping tool for makers of all ages...

BUY ▸

TWEETS

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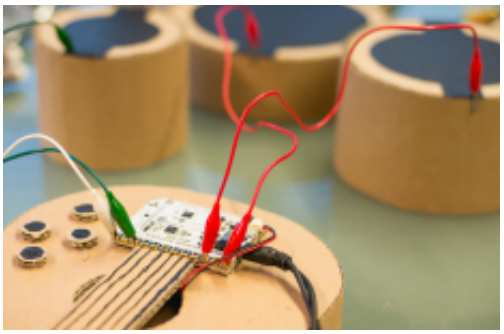
@montezumas @stevematthewson @GdnSmallBiz @UPS_UK chili choc was amazing! Your spitalfields store is close to our office. So tempting...
15th January 2015

Bare Conductive
@BareConductive

Hello @DavidAGraham. Probably easier to have a convo over email- info@bareconductive.com. Cheers!
15th January 2015

NEWS



Music Magic with the Touch Board

Read article

FAQS

What can Electric Paint be used for?
Lots of stuff! You can use Electric Paint for a range of applications, from creative to highly technical projects. It...

Can you get it in a different colour?
Electric Paint is only available in black, but it retains its properties even if coated with another material. This...

Does this material 'light up' or glow?
Bare Conductive's Electric Paint is not photoluminescent so it doesn't glow. However, it can carry power to...

See all FAQs

CONTACT

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