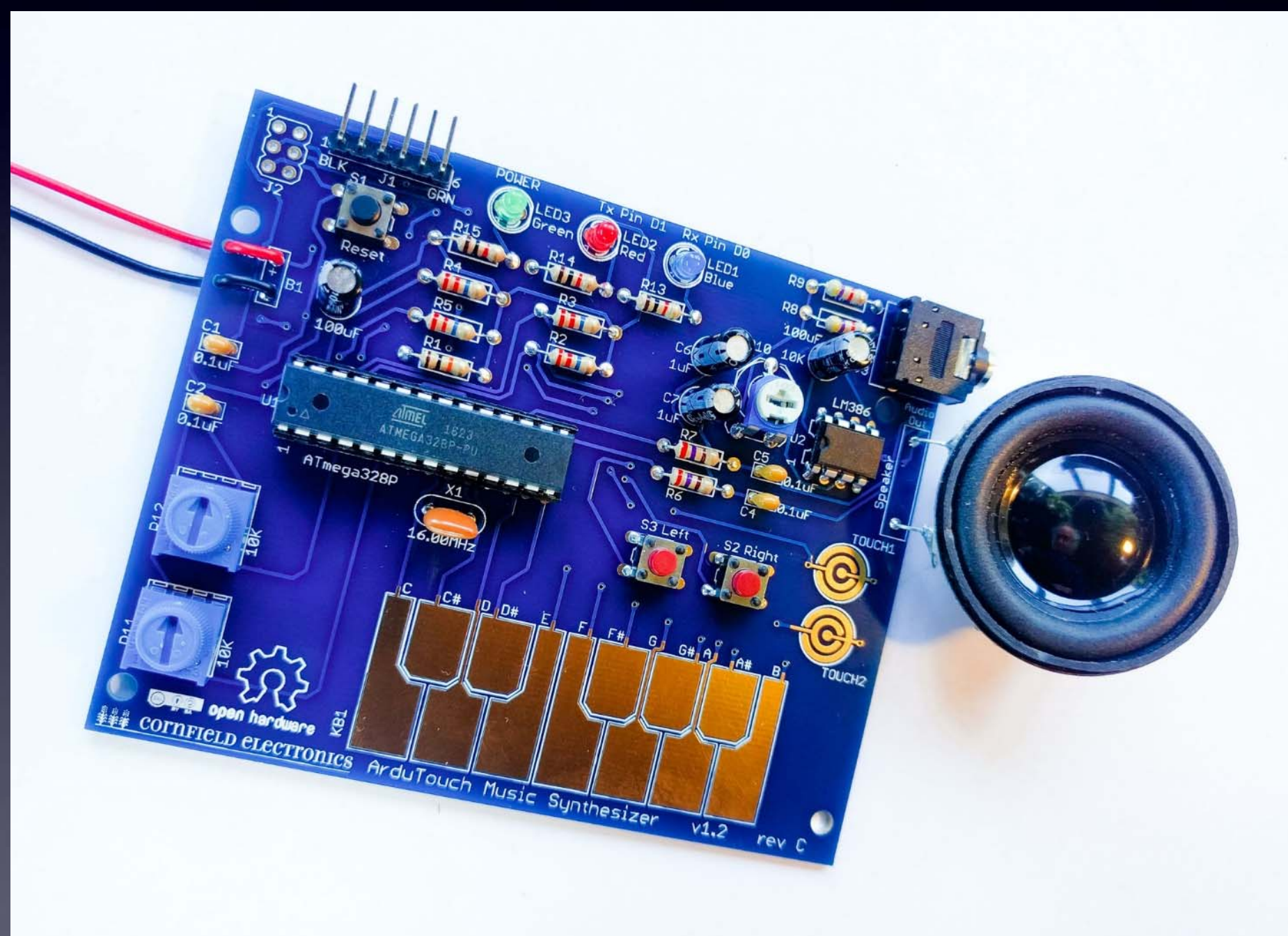


# ArduTouch Music Synthesizer

## Assembly Instructions



rev C



cornFIELD electronics

# Learn To Solder



The following photos will show you how to solder.

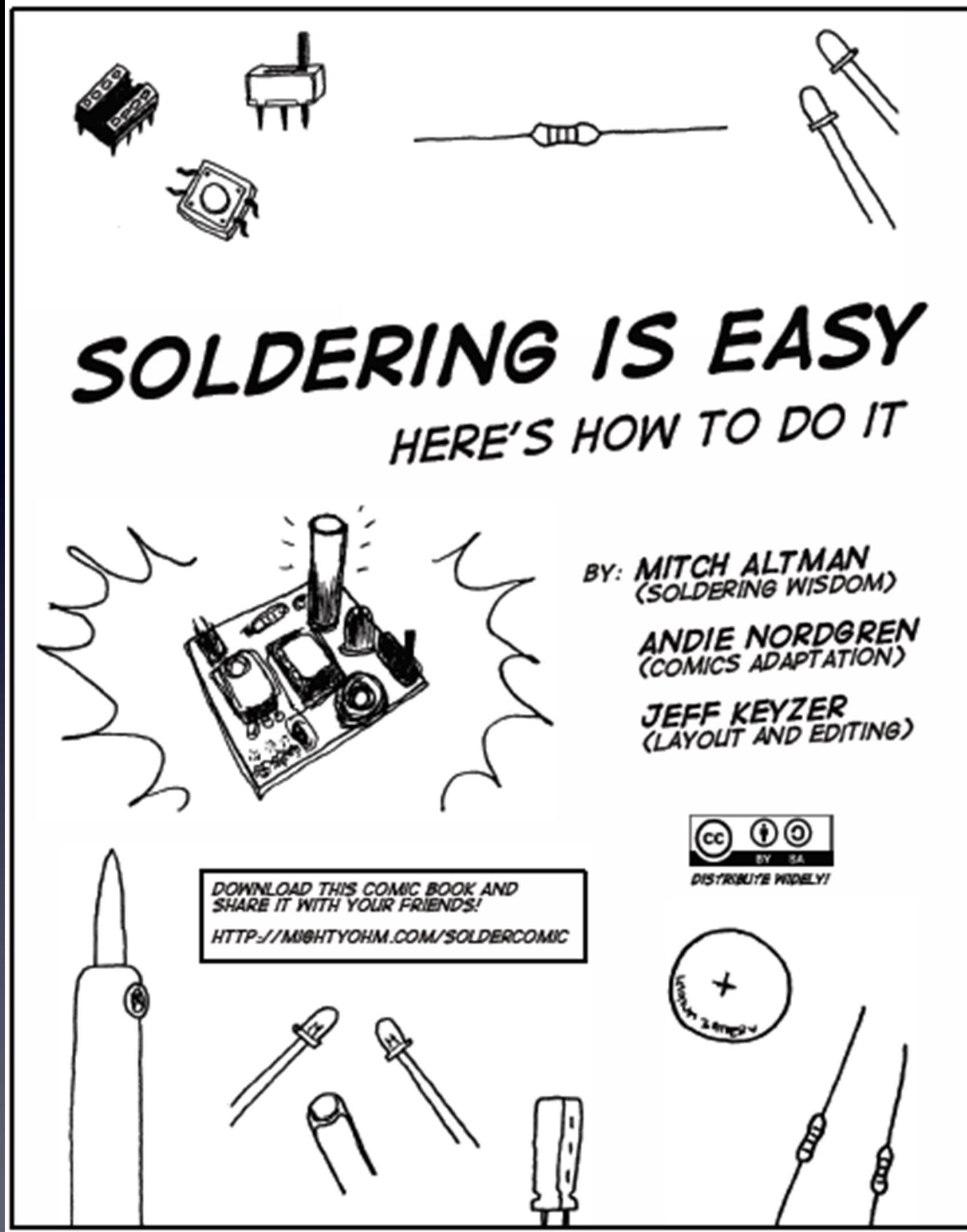
But feel free to download the “Soldering Is Easy” comic book for free!

(In many different languages.)

download for free at:  
<http://mightyohm.com/soldercomic>

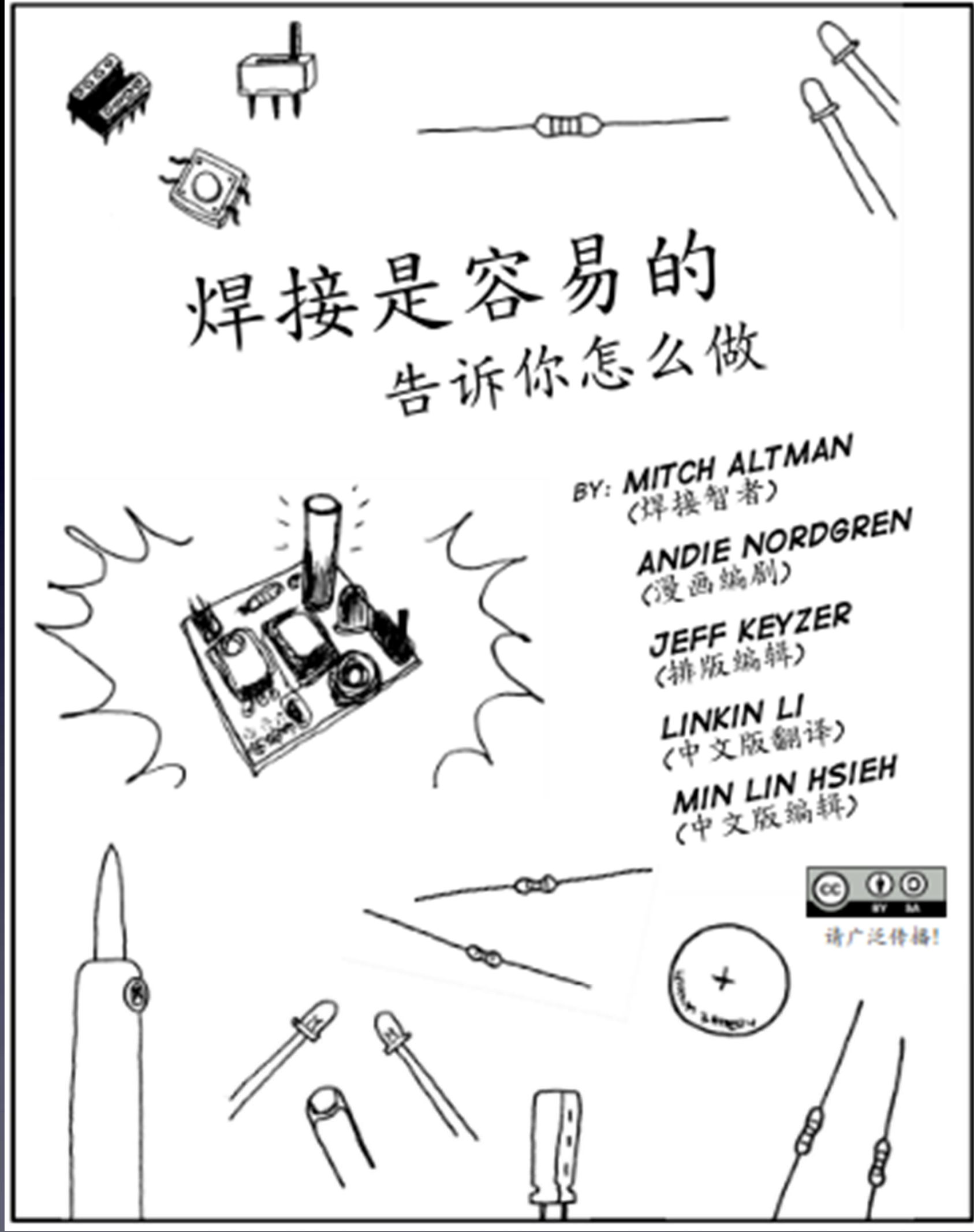


# Learn To Solder



download for free at:  
<http://mightyohm.com/soldercomic>

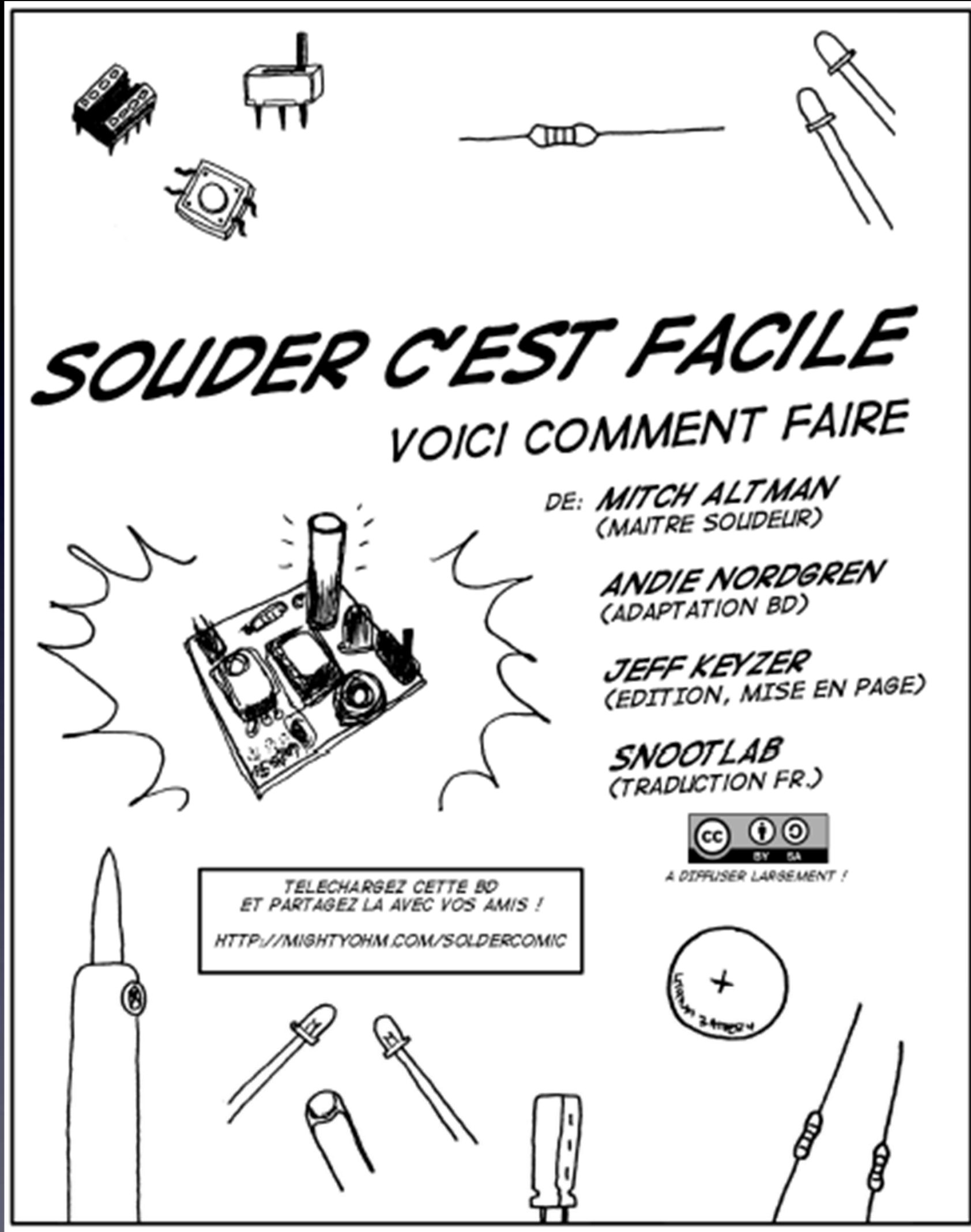
# Learn To Solder



Download in the language of your choice for free at:  
<http://mightyohm.com/soldercomic>



# Learn To Solder



Download in the language of your choice for free at:  
<http://mightyohm.com/soldercomic>

# Learn To Solder



Download in the language of your choice for free at:  
<http://mightyohm.com/soldercomic>

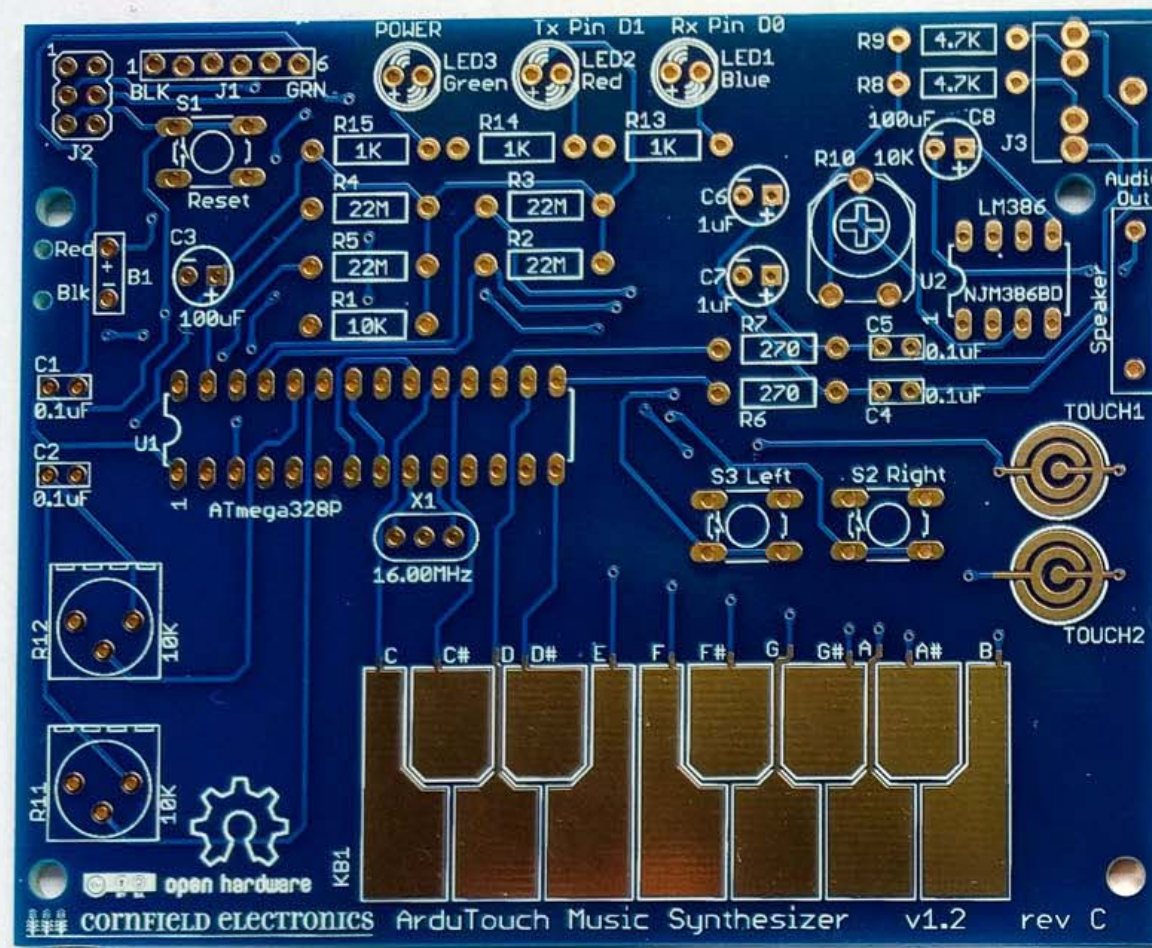


# Learn To Solder

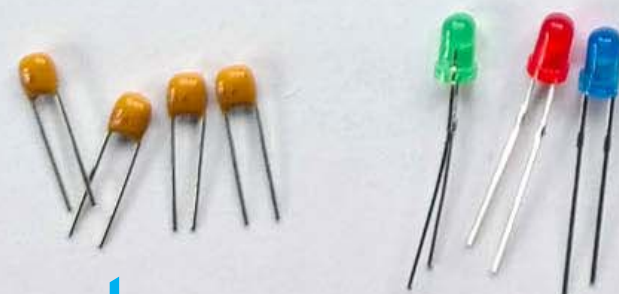
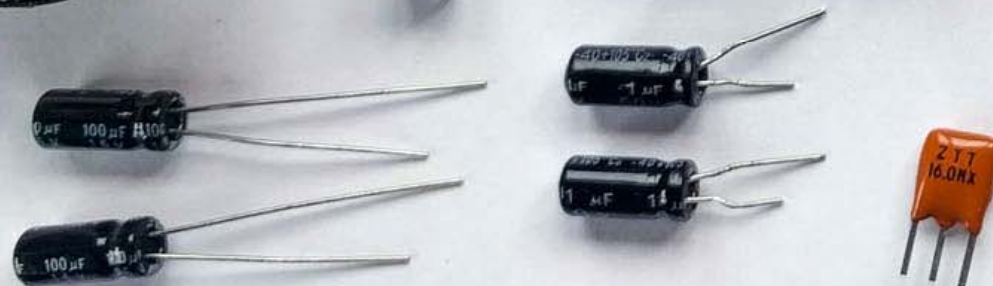
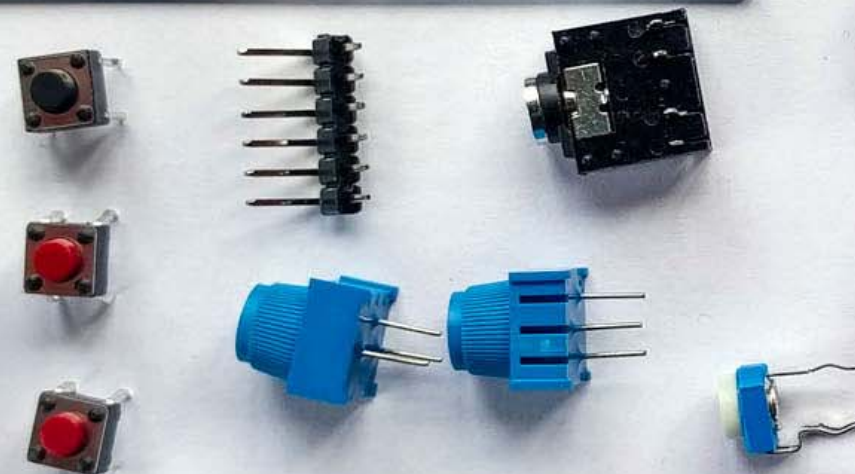
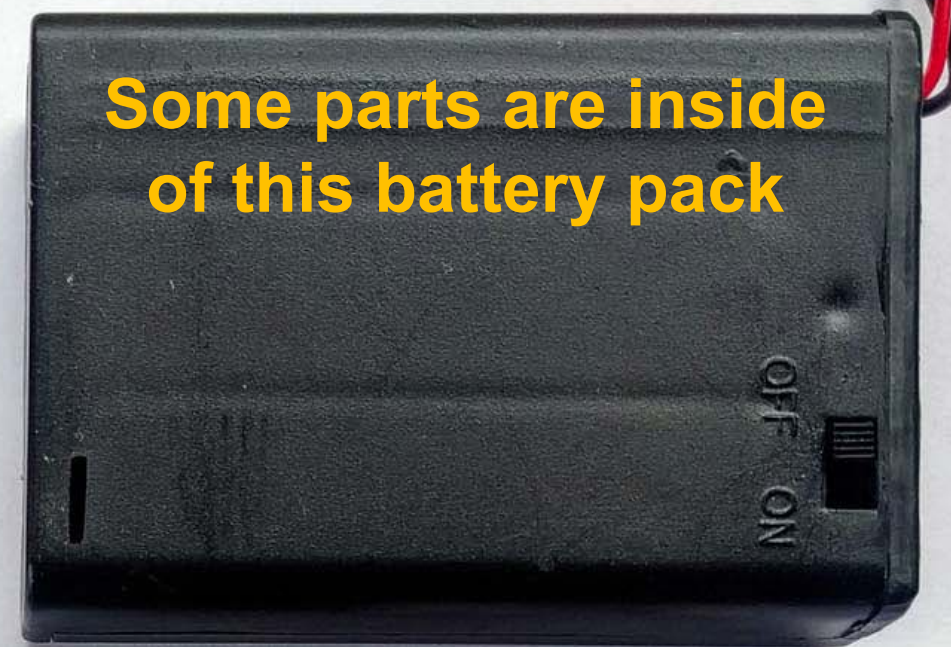


Download in the language of your choice for free at:  
<http://mightyohm.com/soldercomic>



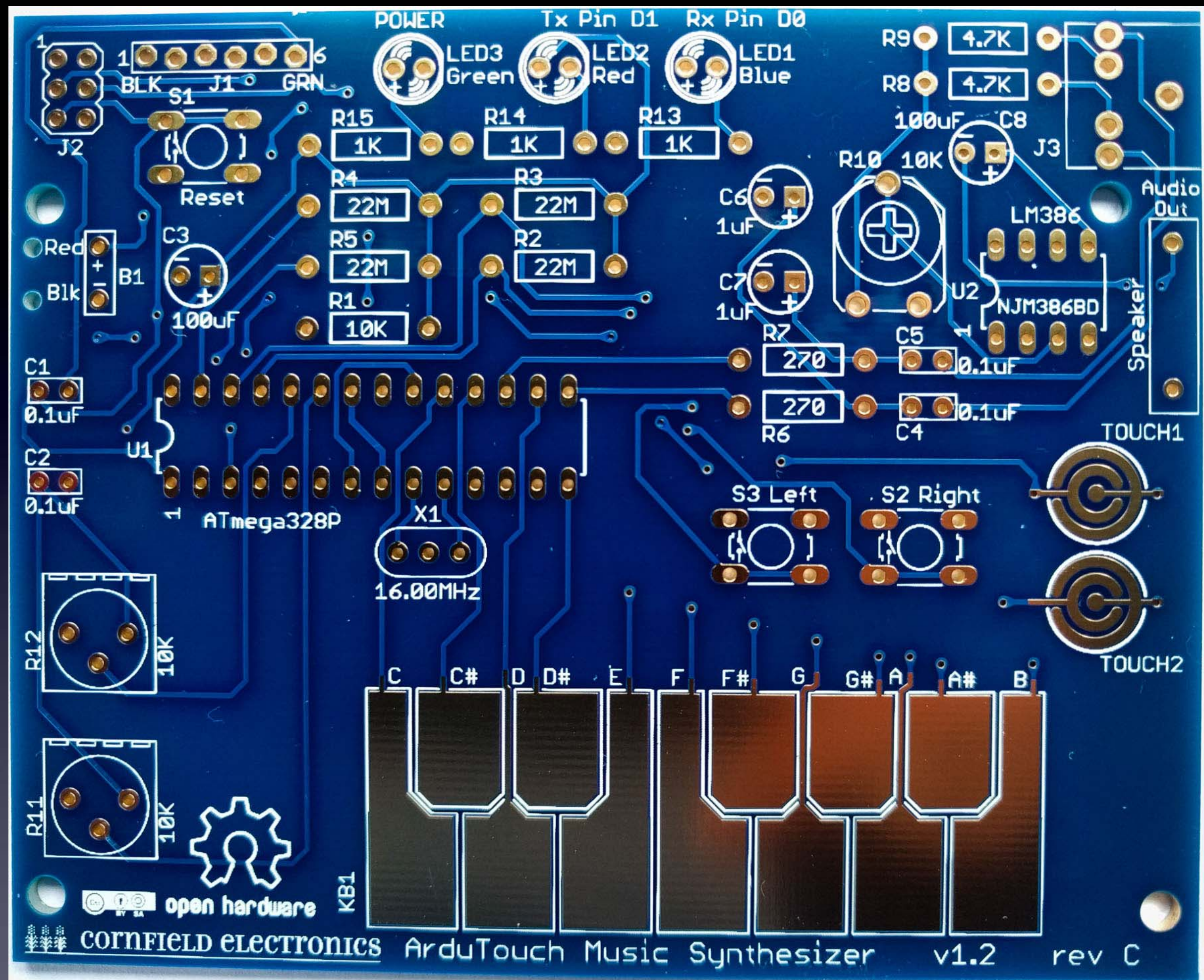


Some parts are inside  
of this battery pack



All of the parts





The board we'll solder the parts to





Note:  
Most  
lead-free solder  
has poisonous fumes!

### The tools you'll need:

- soldering Iron (35W or less) (0.7mm)
- solder (60/40 Sn/Pb, rosin core, 0.031" diameter or less) (63/37 is also good)
- soldering iron stand
- cellulose kitchen sponge (*not plastic!*)
- *small* wire cutter



# Our first part



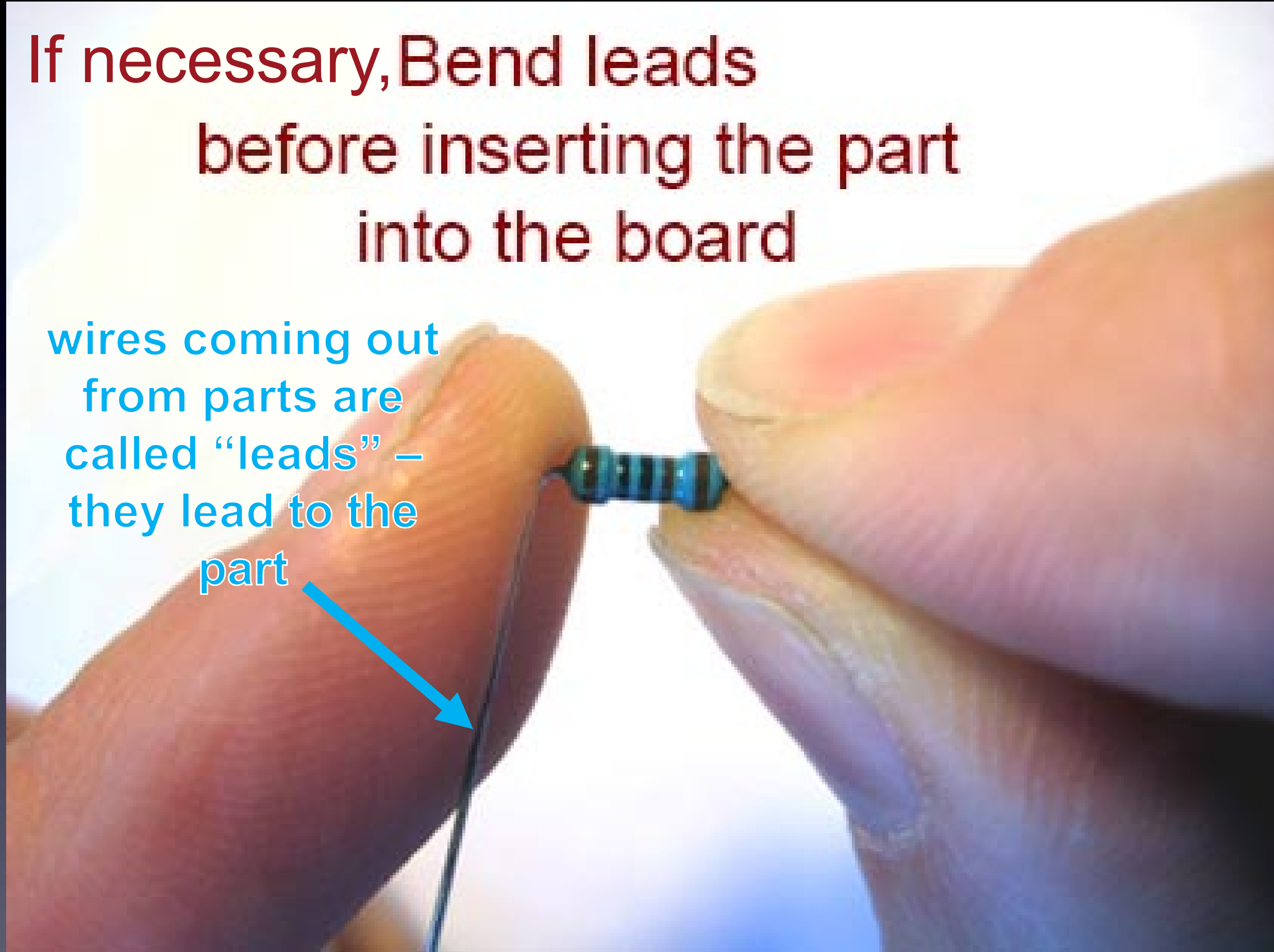
R1: Brown, Black, Orange

→ (not Brown, Black, Red) ←

# Some parts, such as resistors, need their leads bent first

If necessary, Bend leads  
before inserting the part  
into the board

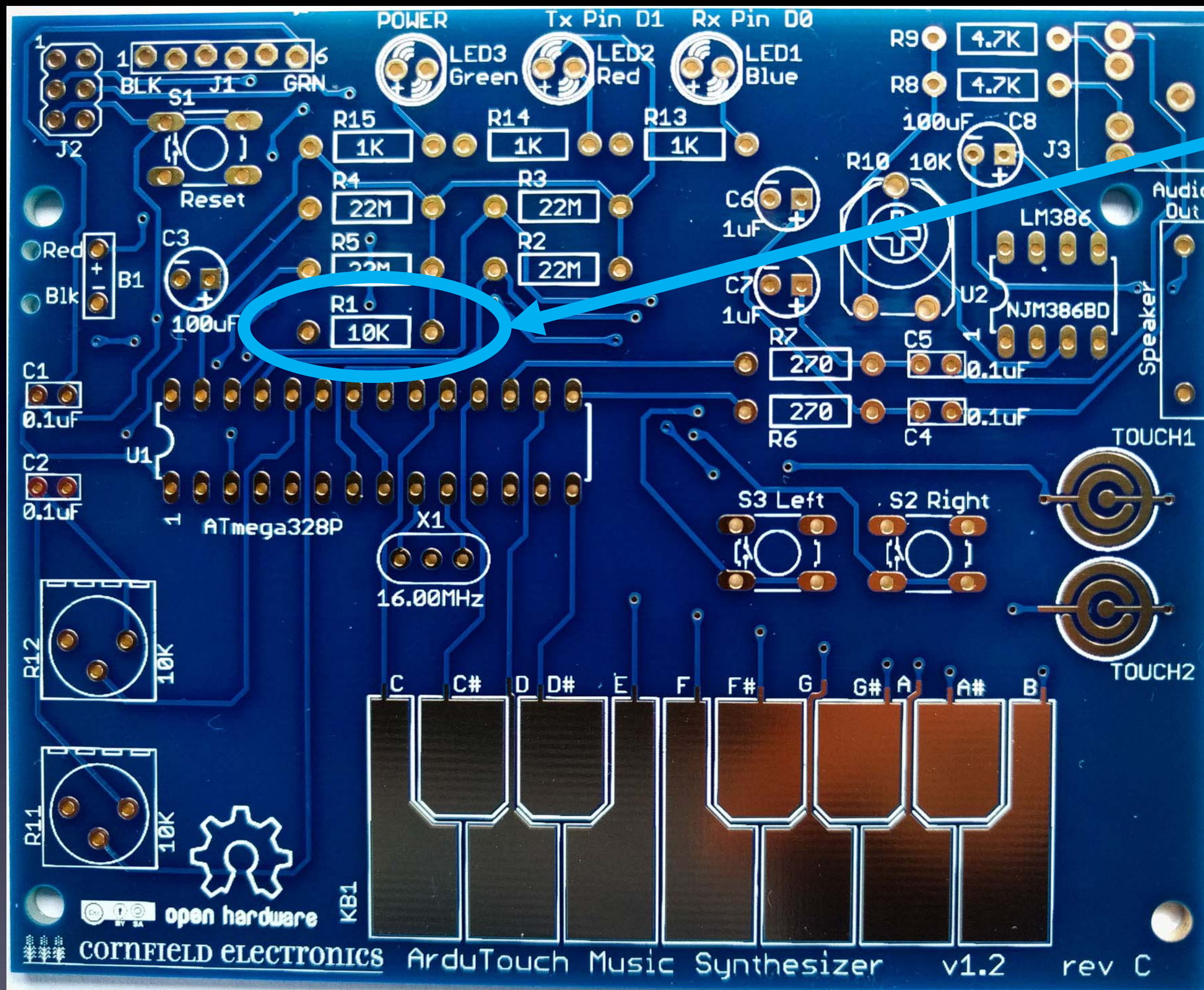
wires coming out  
from parts are  
called “leads” –  
they lead to the  
part





**R1 – this is how it will look *before* inserting it into the board**





R1

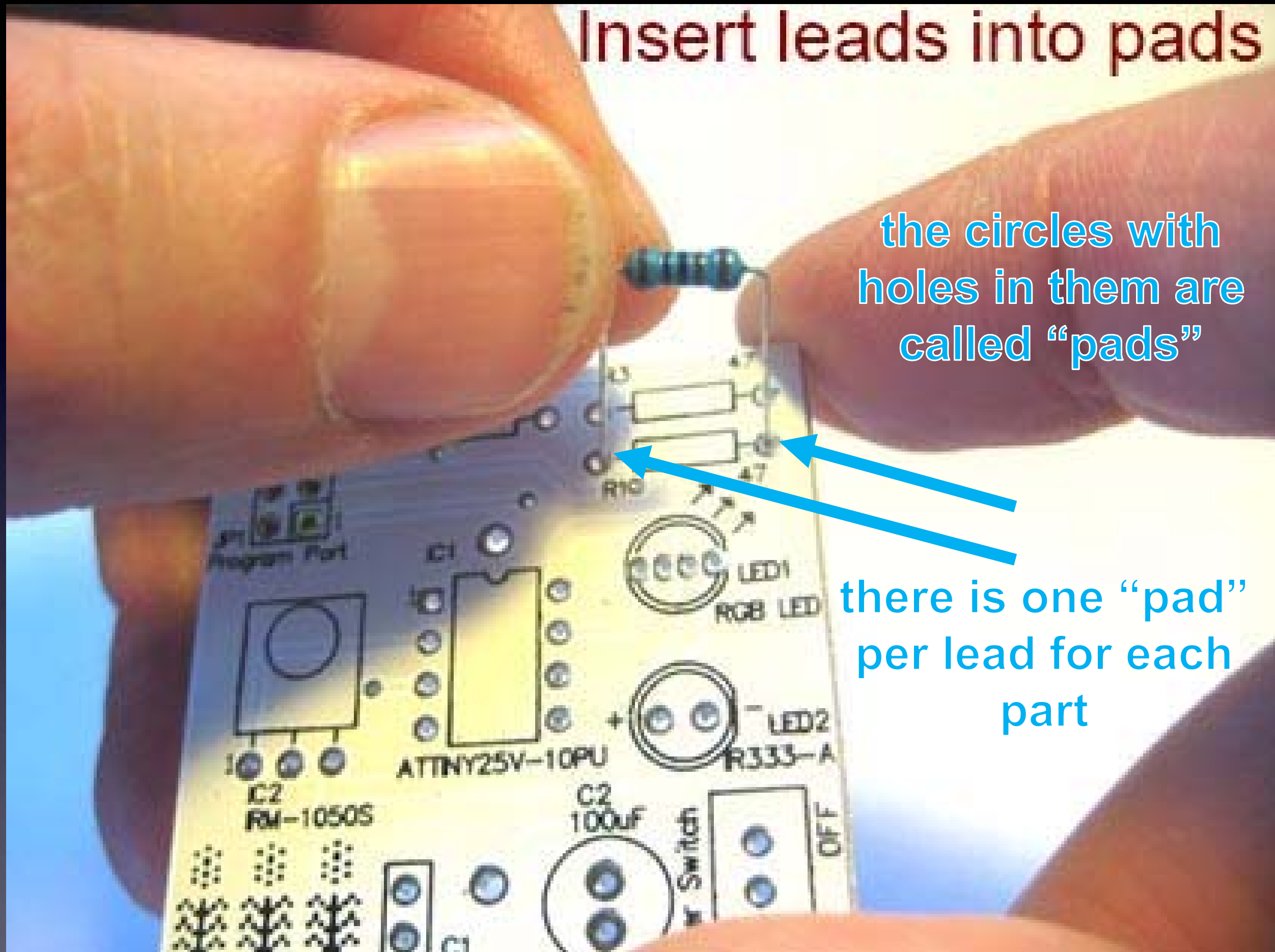
R1 – this is where it goes



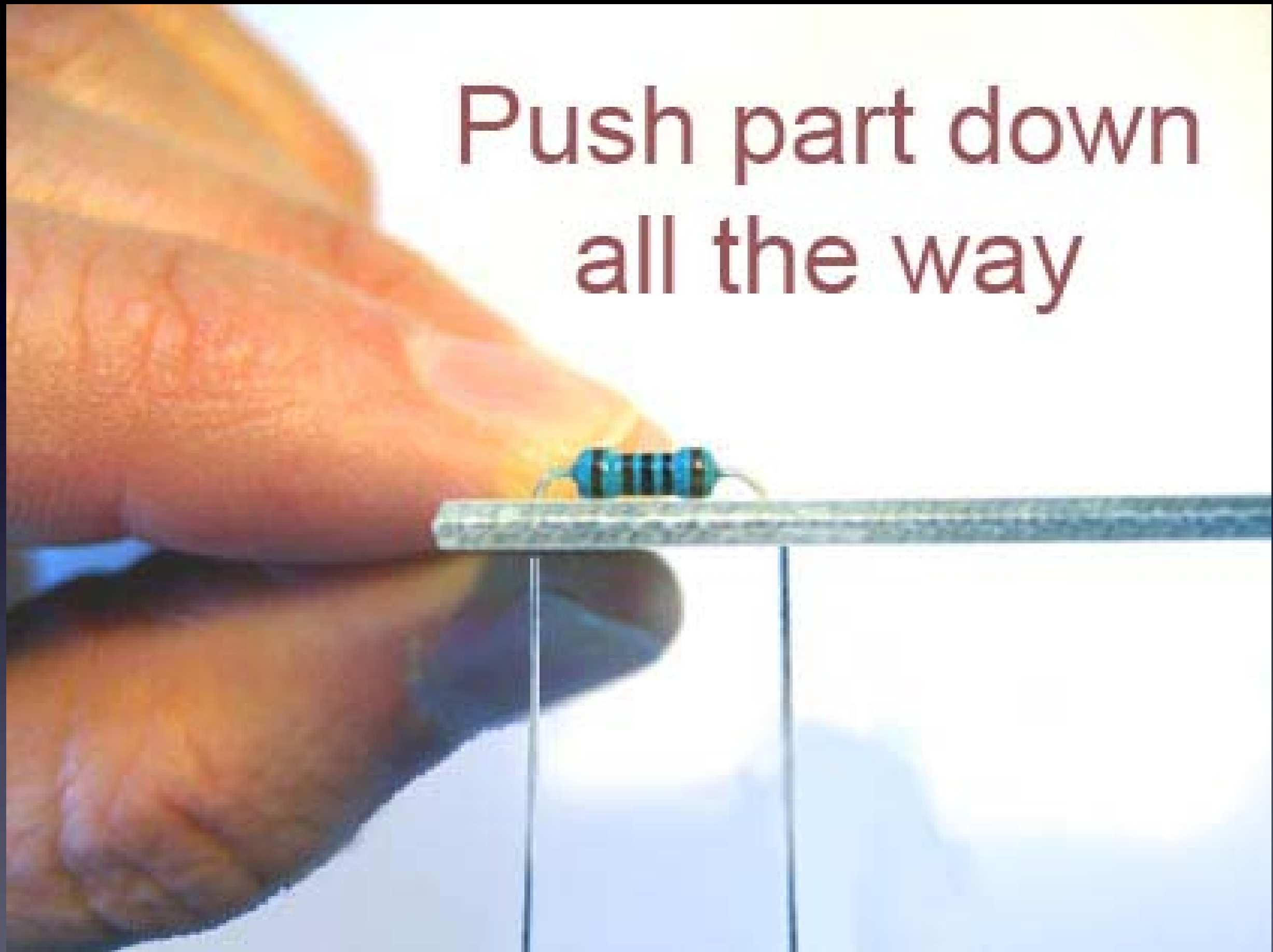
Insert leads into pads

the circles with  
holes in them are  
called "pads"

there is one "pad"  
per lead for each  
part



Push part down  
all the way





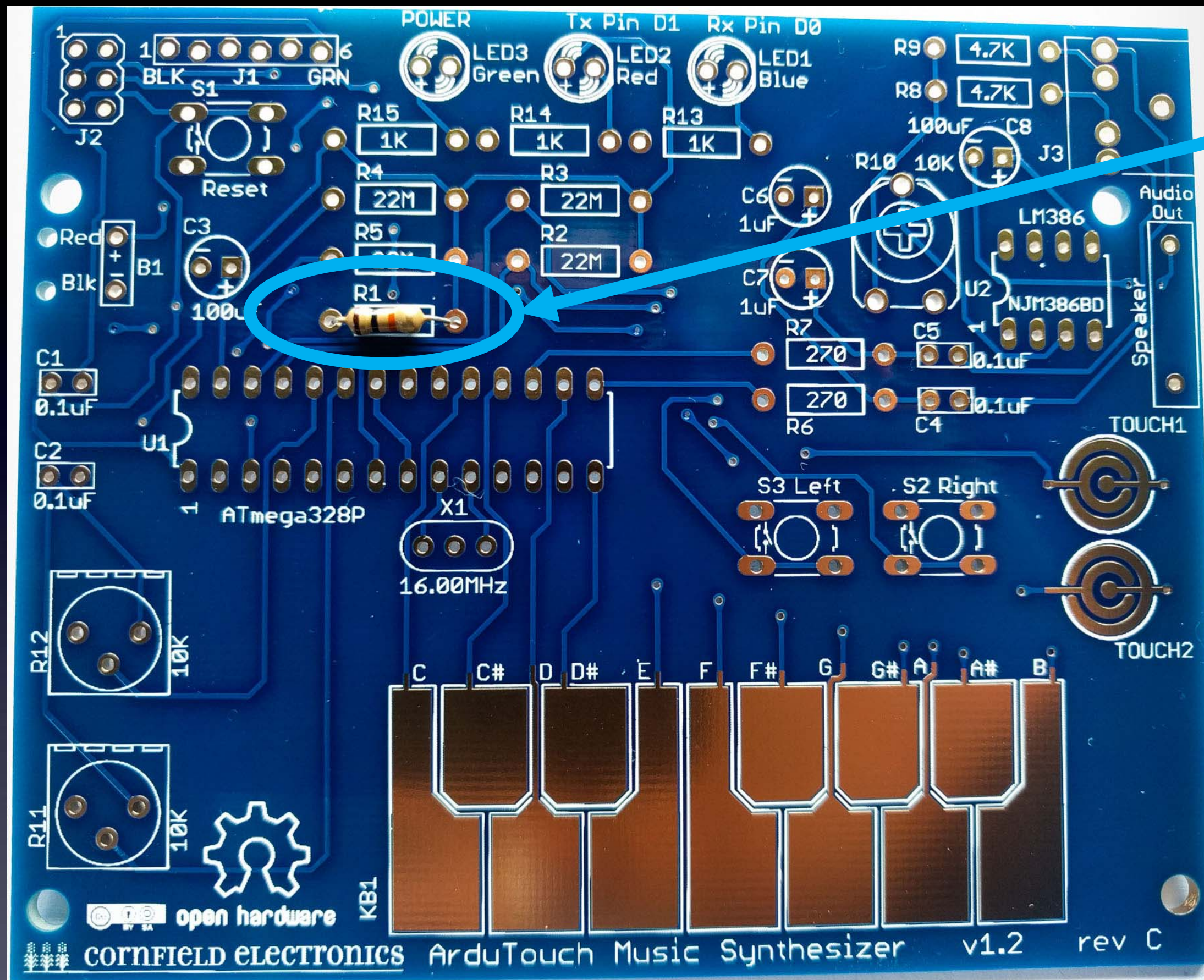


Upside down

Wires bent  
half way  
out (only half way)  
like a “V”

so that the part won't fall out while soldering it





**R1 – inserted into the board**





# How to hold a soldering iron

(Like a pencil – held from underneath)

**Important**

The perfect kind of solder for  
electronics:

60/40 rosin core,  
0.031" (0.7mm) diameter (or smaller)

*(63/37 is also good)*

Note:

Most  
lead-free solder  
has poisonous fumes!



# The perfect kind of solder for electronics:

*This is the only good **Lead-Free** solder I have found!*  
(after years of searching)



**Chip Quik Germanium-Doped Solder**  
**Sn/Cu0.7/Ni0.05/Ge0.006**

# 3 Safety Tips...



# Safety Tip #1:

## Hot !!

(When you touch the tip,  
*you will* let go quickly every time!)

# Safety Tip #2:

Lead (Pb) is toxic

But it easily washes off your hands  
with soap and water



Safety Tip #3:

*(coming soon)*

2 secrets  
to good soldering...



Secret #1:

Clean the tip!

(before every solder connection)

Bang (lightly) 3 times,

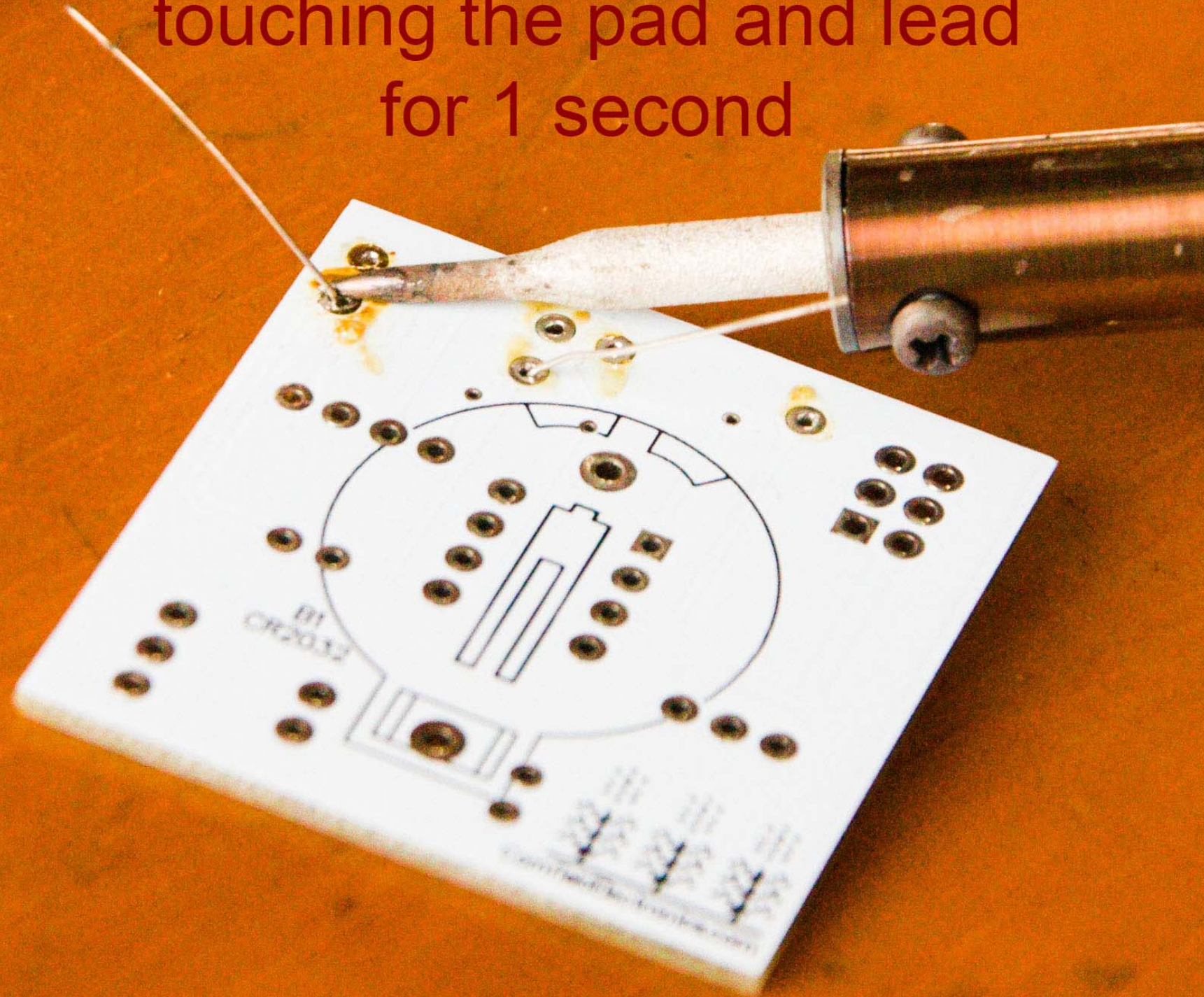
Swipe, Rotate, Swipe (on the sponge):

Keep the tip shiny silver!

knock solder off the tip

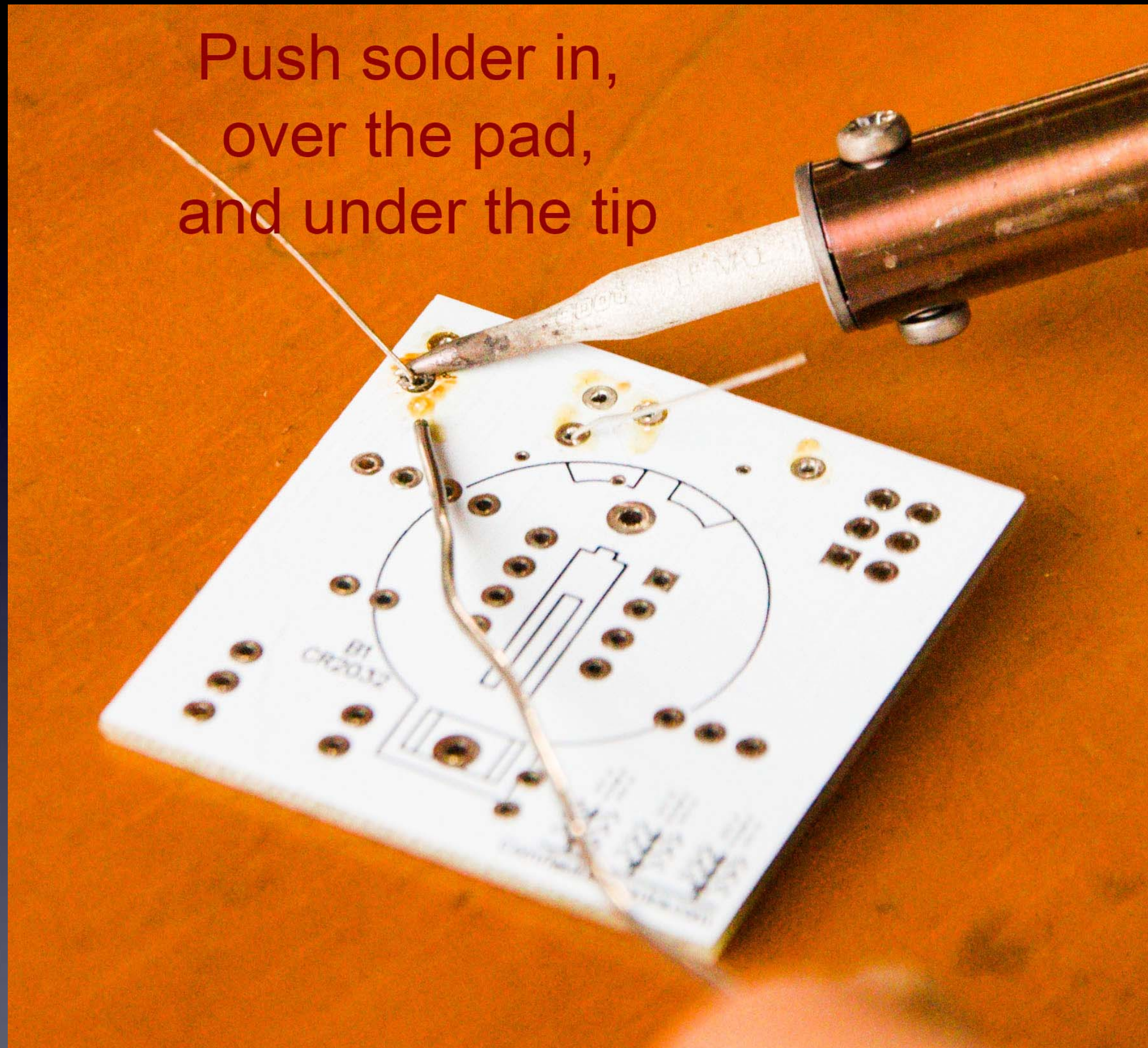


Lay clean tip across half of the pad,  
touching the pad and lead  
for 1 second





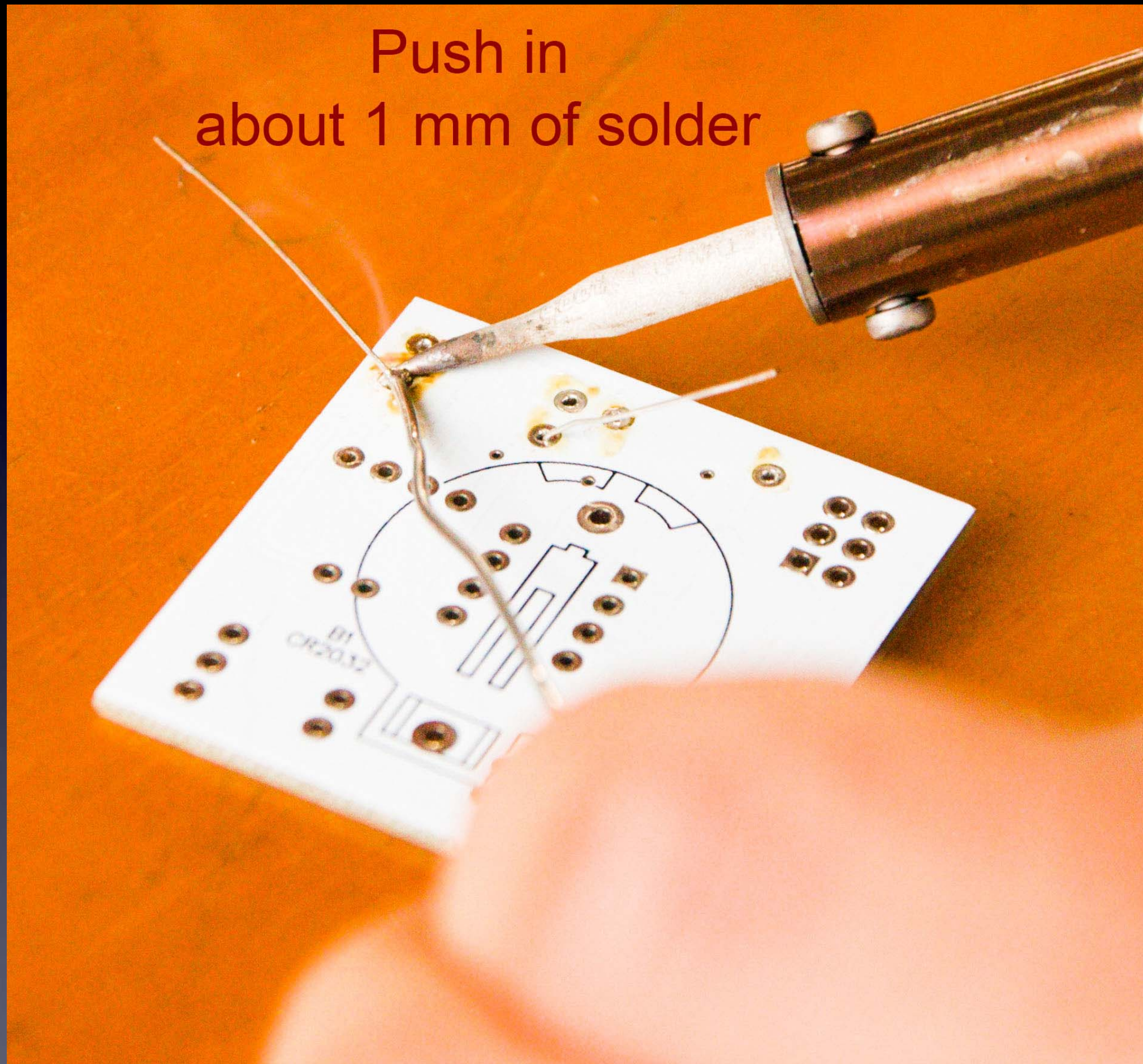
Do this quickly (slowly doesn't work well) – solder in & out in about 1 second



Make sure solder melts on the underside of the soldering iron tip  
(not the side or top of the soldering iron tip)!



Do this quickly (slowly doesn't work well) – solder in & out in about 1 second



Make sure solder melts on the underside of the soldering iron tip  
(not the side or top of the soldering iron tip)!





Pull solder away,  
***But*** keep holding soldering iron down  
for 1 more second

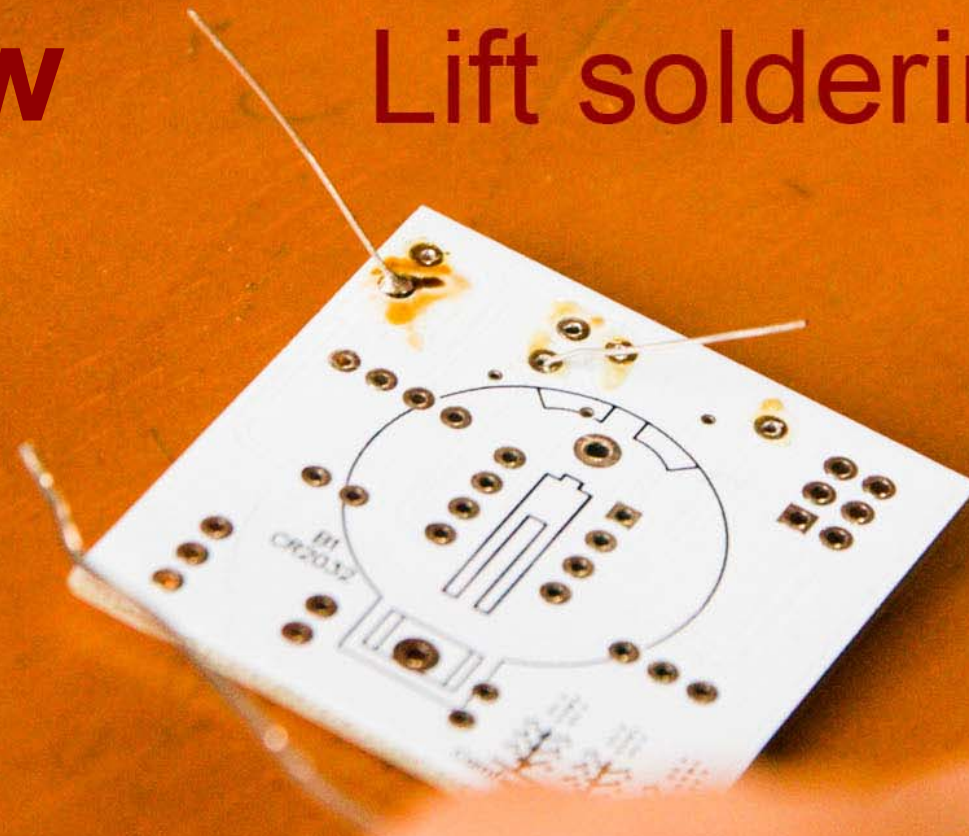
Secret #2:

Keep hot tip down  
1 second  
for solder to flow !!

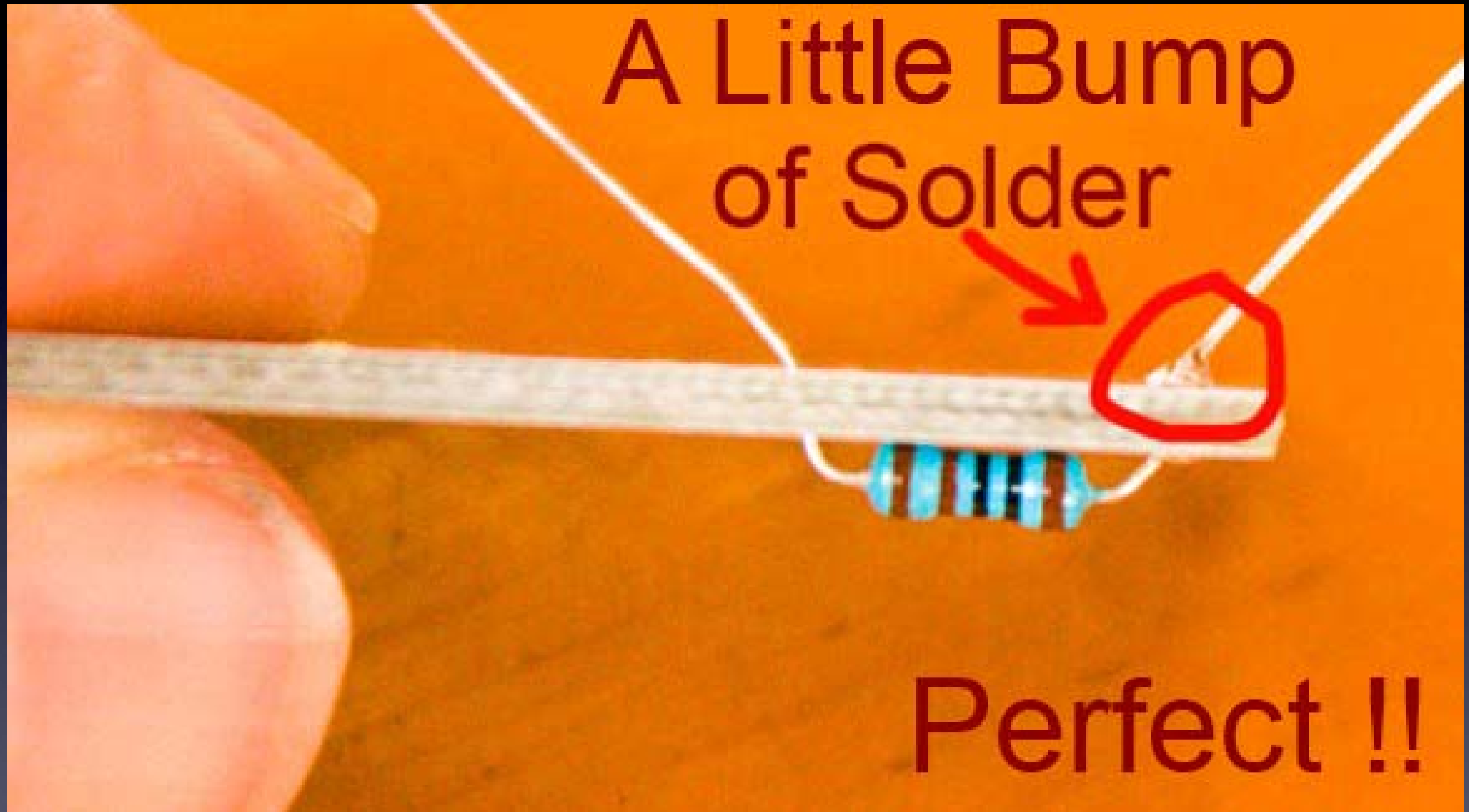


**Now**

**Lift soldering iron**







If you can see any of the pad, or the hole, you need more solder  
– so, just do all the steps again to make it perfect.

# The Rhythm !

and speed (about 1 second per step)



The Rhythm !

and speed (about 1 second per step)

Clean the tip





**The Rhythm !**  
and speed (about 1 second per step)



Tip **Down**

**The Rhythm !**  
and speed (about 1 second per step)



Solder **In**



**The Rhythm !**  
and speed (about 1 second per step)



Solder **Out**

**The Rhythm !**  
and speed (about 1 second per step)



***WAIT !***



**The Rhythm !**  
and speed (about 1 second per step)



**Lift** Tip

# The Rhythm !

and speed (about 1 second per step)





The Rhythm !

and speed (about 1 second per step)

Clean the tip



**The Rhythm !**  
and speed (about 1 second per step)



Tip **Down**



**The Rhythm !**  
and speed (about 1 second per step)



Solder **In**

**The Rhythm !**  
and speed (about 1 second per step)



Solder **Out**



**The Rhythm !**  
and speed (about 1 second per step)



***WAIT !***

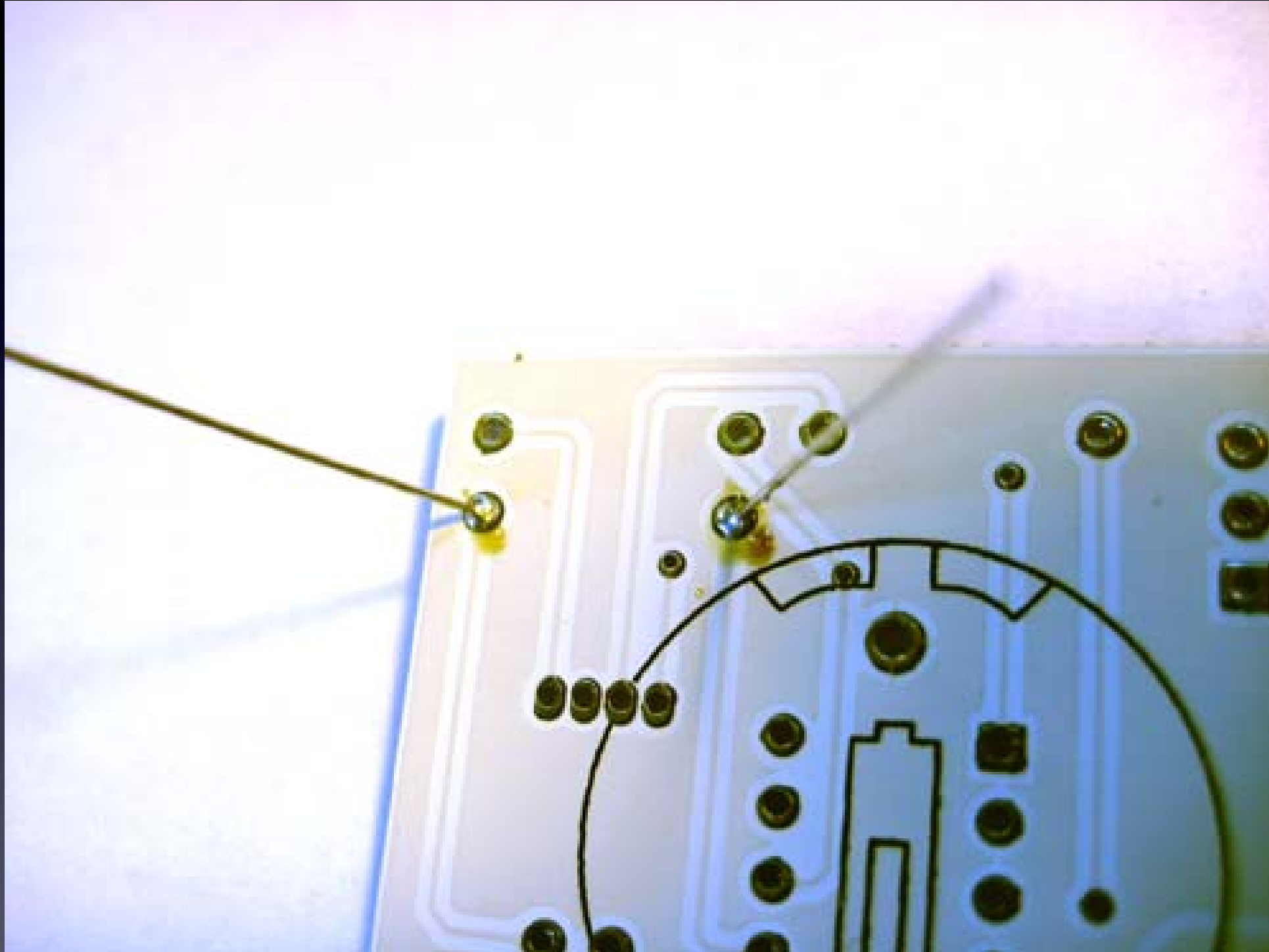
**The Rhythm !**  
and speed (about 1 second per step)



**Lift** Tip



# Solder all of the leads of the part to the board

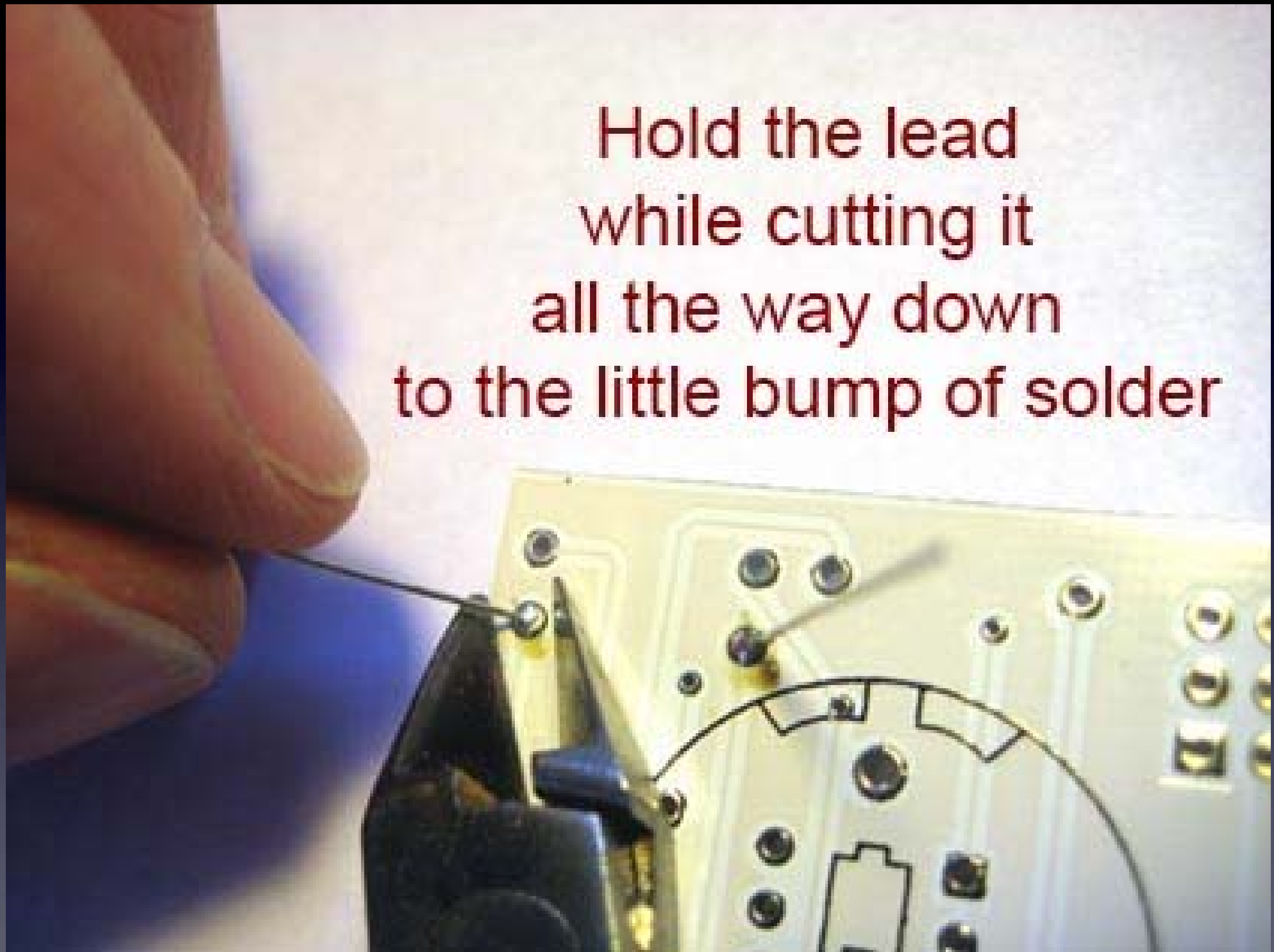


For this part, there are two leads

Here you can see two good solder connections

# Now cut the leads short

Hold the lead  
while cutting it  
all the way down  
to the little bump of solder



Cutting with the tip of the wire cutter gives you more control

Safety Tip #3:

Hold or cover the lead !

(or it will fly into your eye!)

*(They like doing that – so please hold or cover the lead when you cut.)*





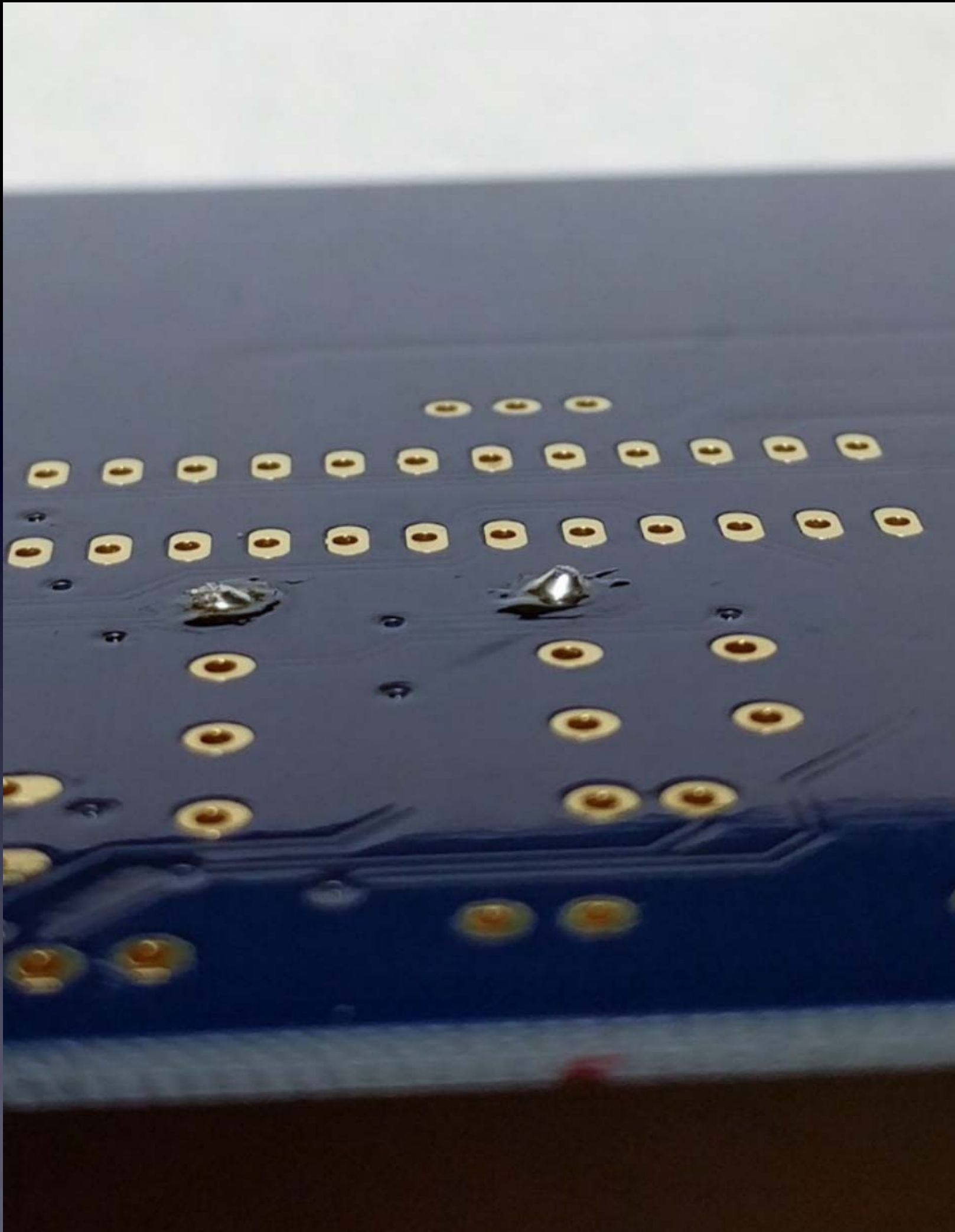
All done !

No wires sticking out

# R1 soldered to the board

Notice that:

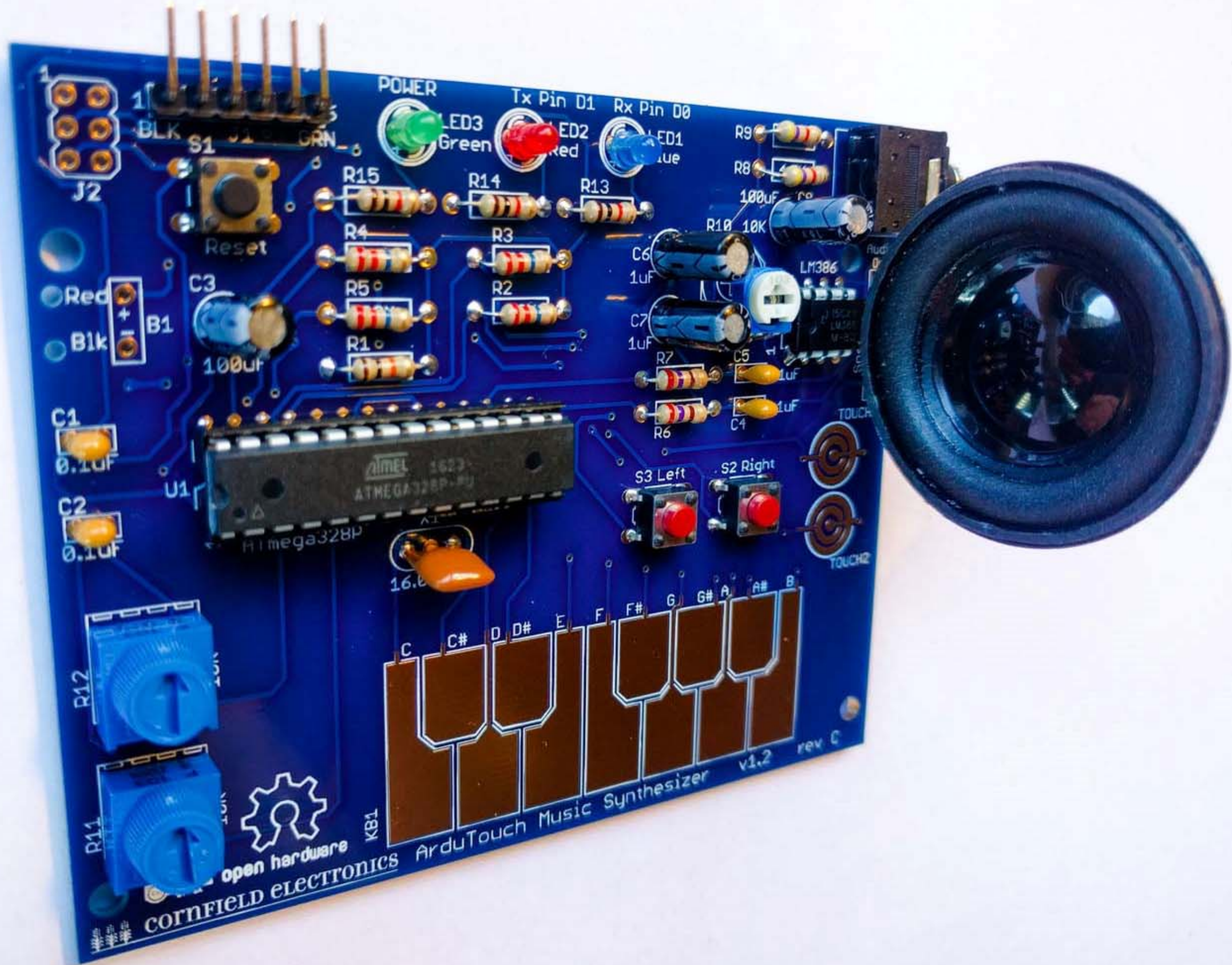
- each connection is a small bump (not flat)
- you cannot see any pad (it's totally covered with solder)
- you cannot see the hole (it's totally covered with solder)



One part at a time



Till all the parts are soldered



And it will look like this when you're done.

Then put in the batteries,

Turn it on,

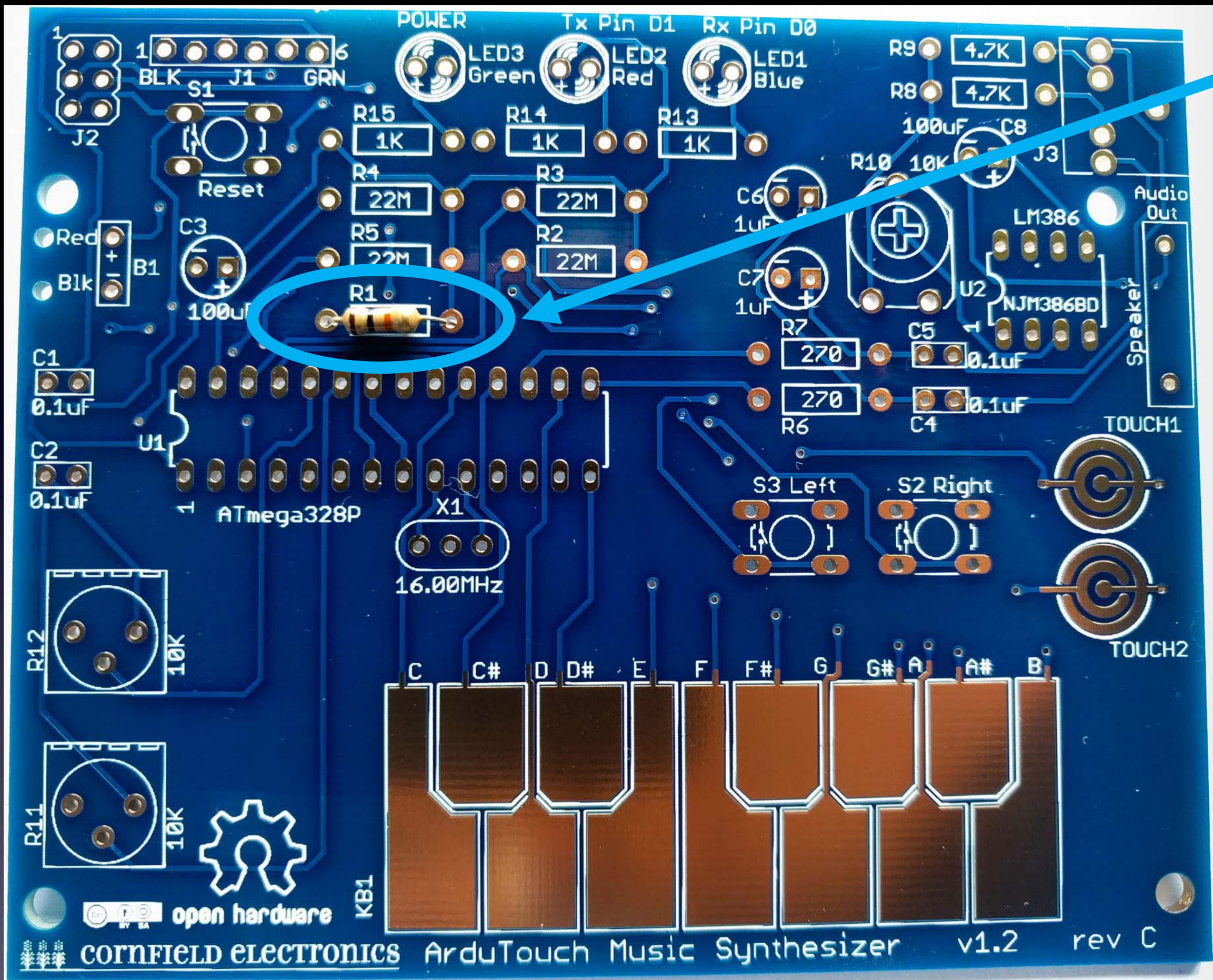
And it works!

(Or you start debugging.)




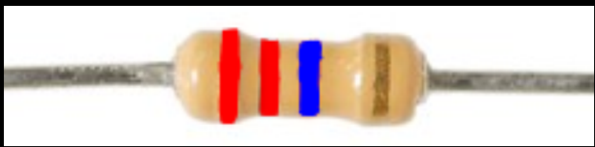



Let's start!

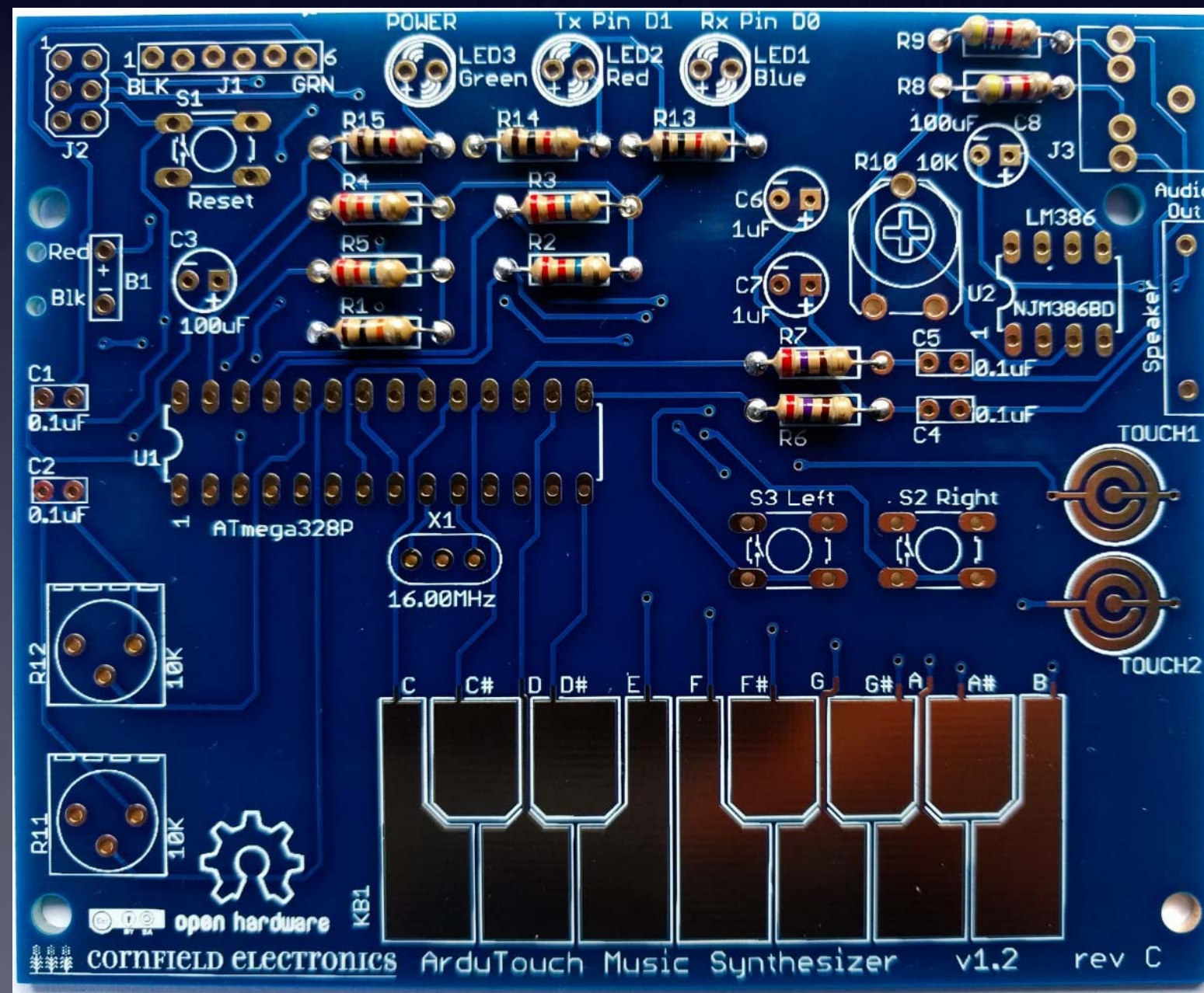




If you haven't done so already, solder R1: brown, black, orange



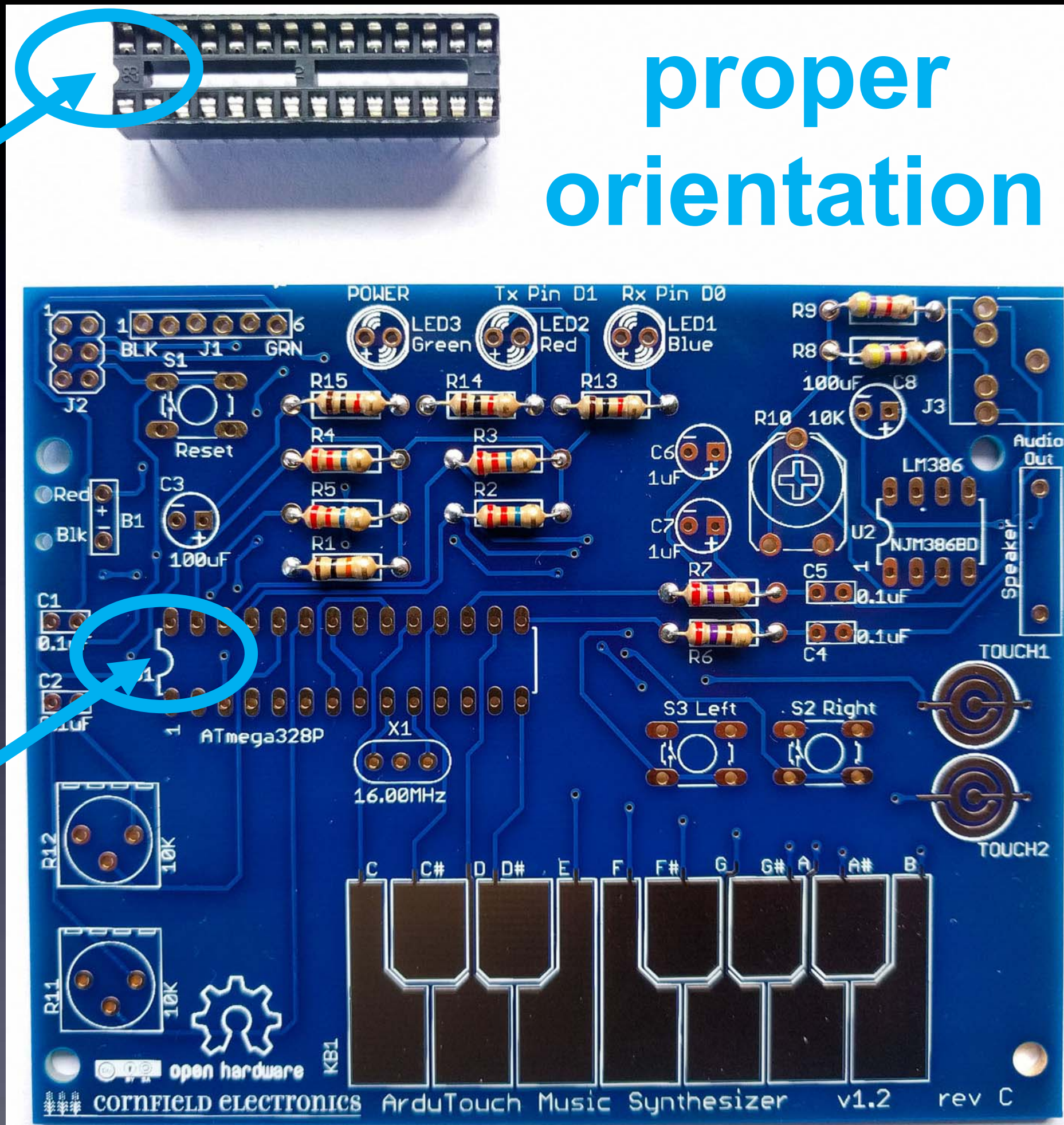
R1:		10K: Brown, Black, Orange
R2, R3, R4, R5:		22M: Red, Red, Blue
R6, R7:		270: Red, Violet, Brown
R8, R9:		4.7K: Yellow, Violet, Red
R13, R14, R15:		1K: Brown, Black, Red





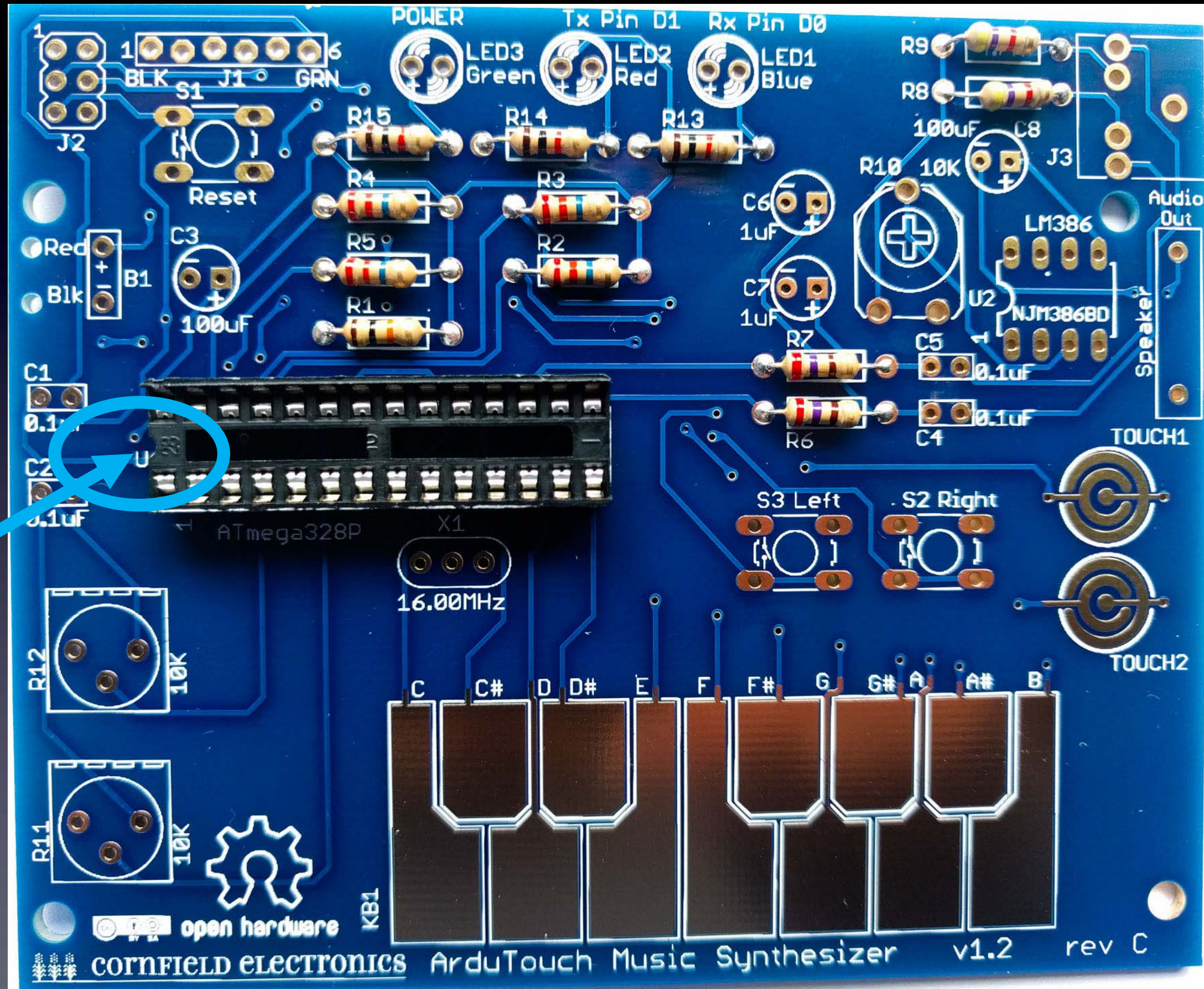
# U1: microcontroller socket

proper  
orientation



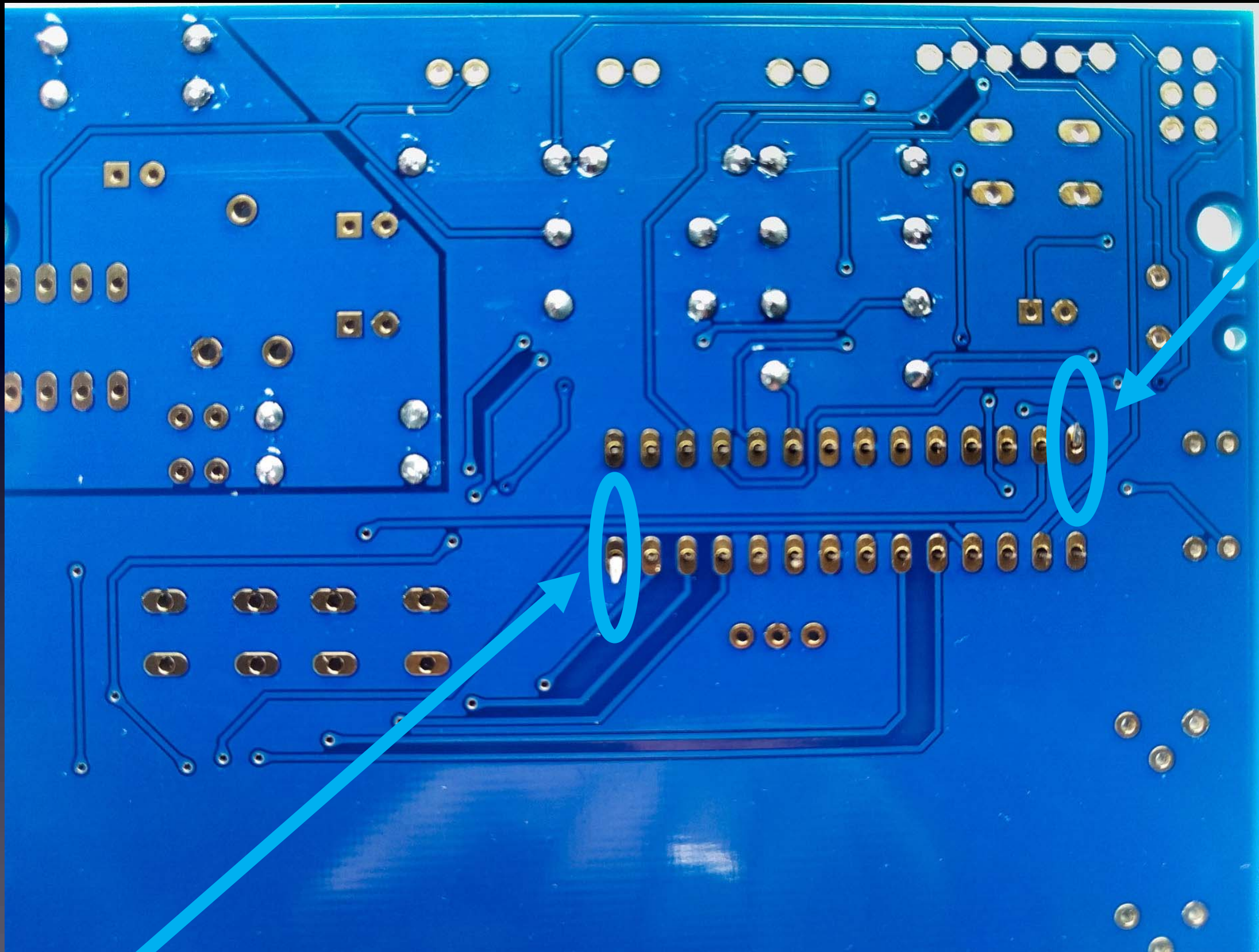


# U1: microcontroller socket: inserted correctly





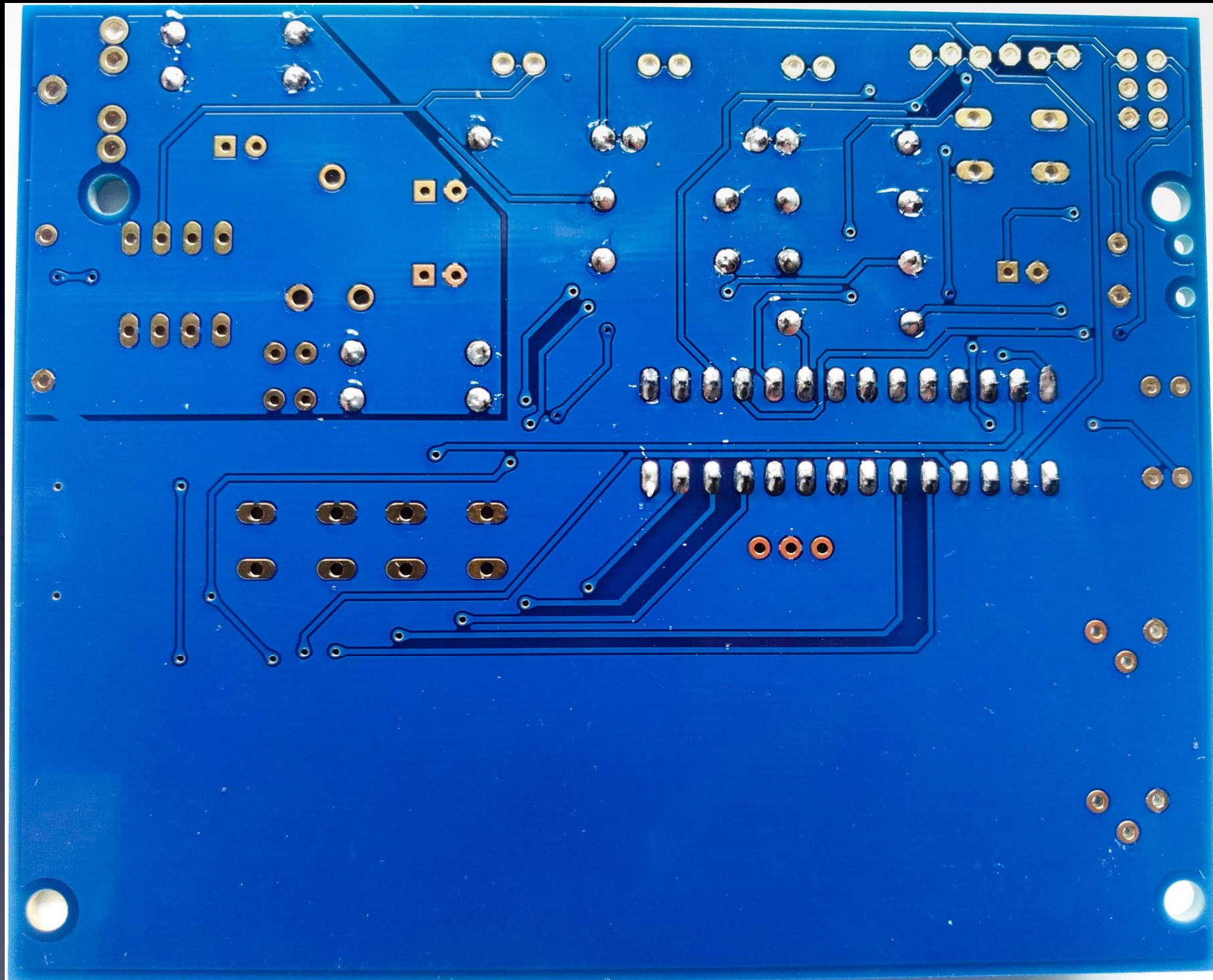
# U1: microcontroller socket



bend pins down on two corners,  
and solder all 28 leads to the board



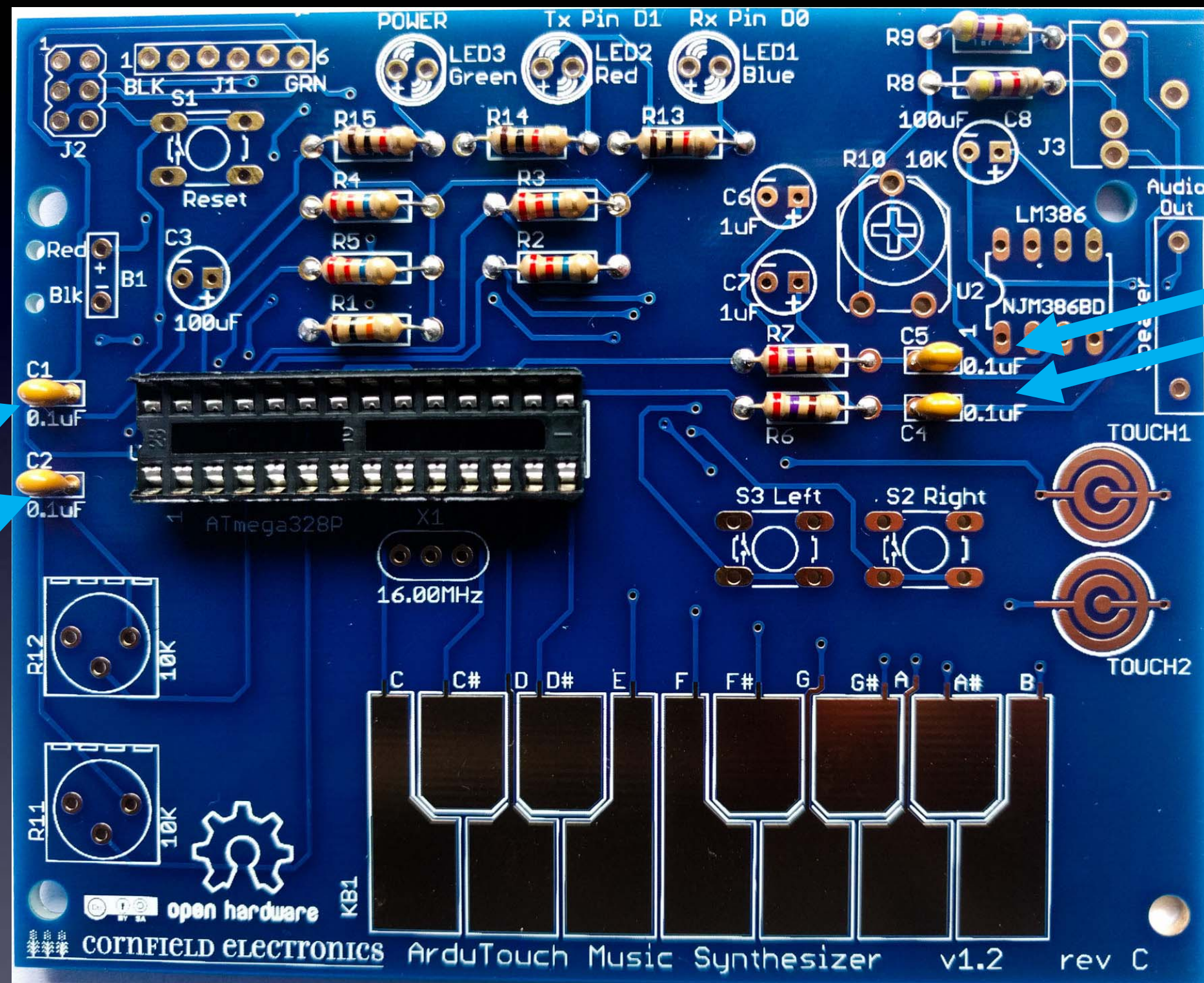
# U1: microcontroller socket



All 28 leads soldered to the board:

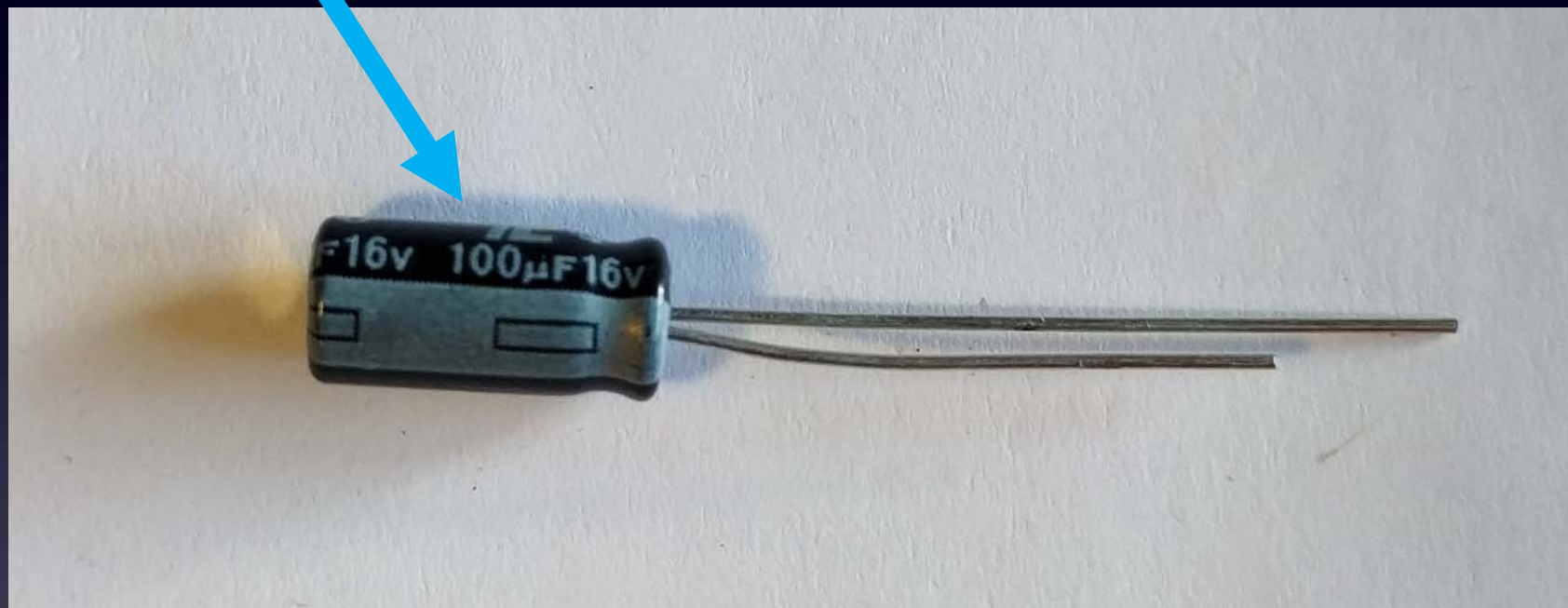
→ Notice that each has a little bump of solder (not flat). ←



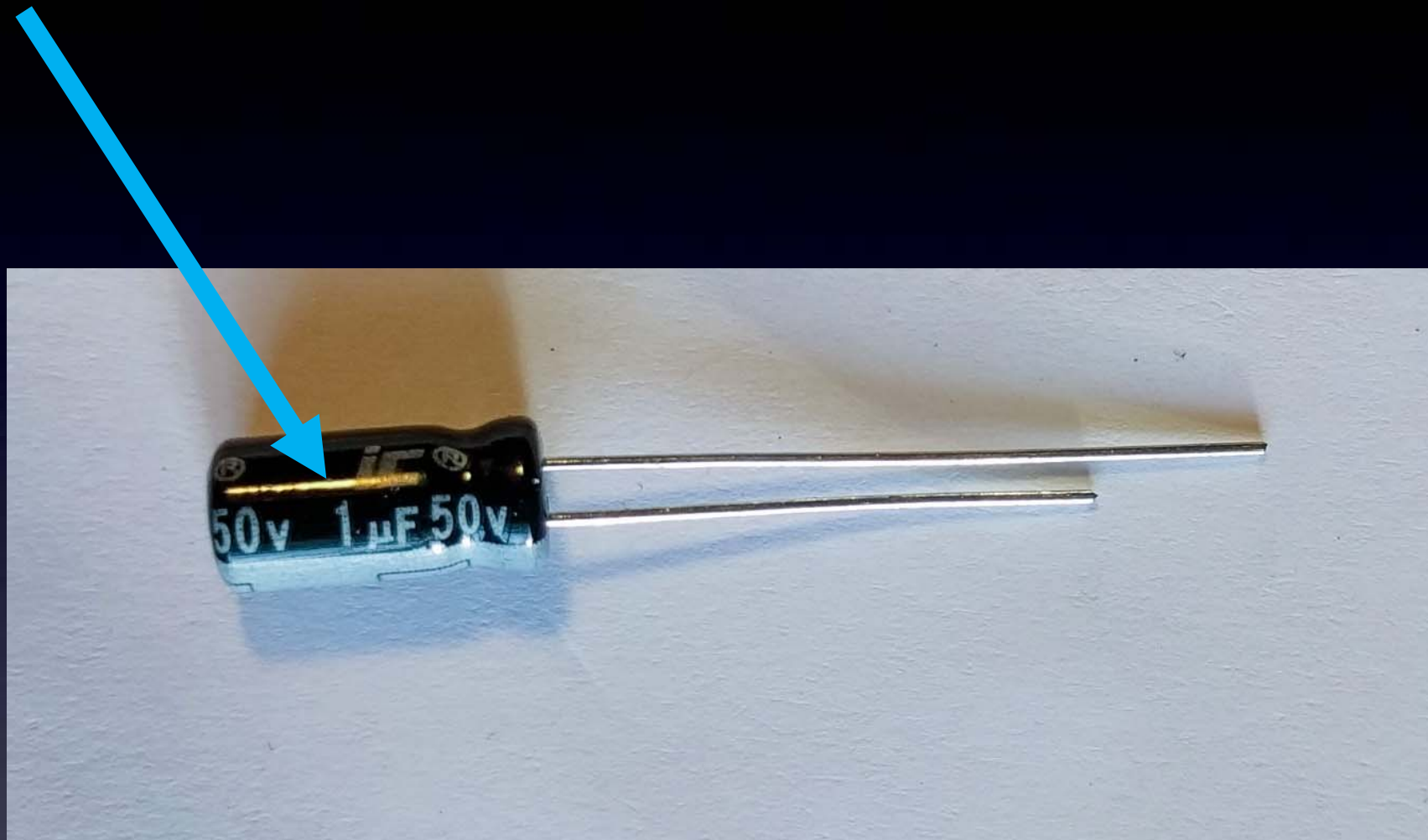


C1, C2, C4, C5



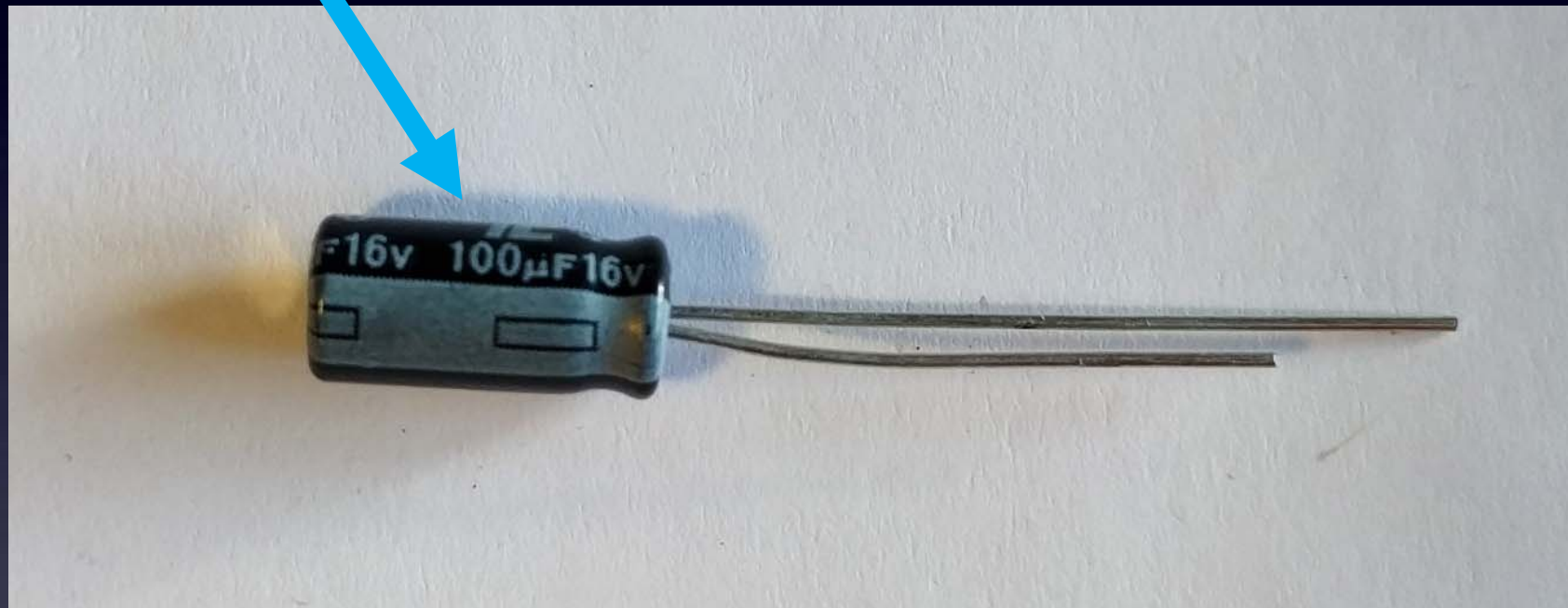


**C3, C8: 100uF**



Different than C3, C8 !  
C6, C7: 1uF

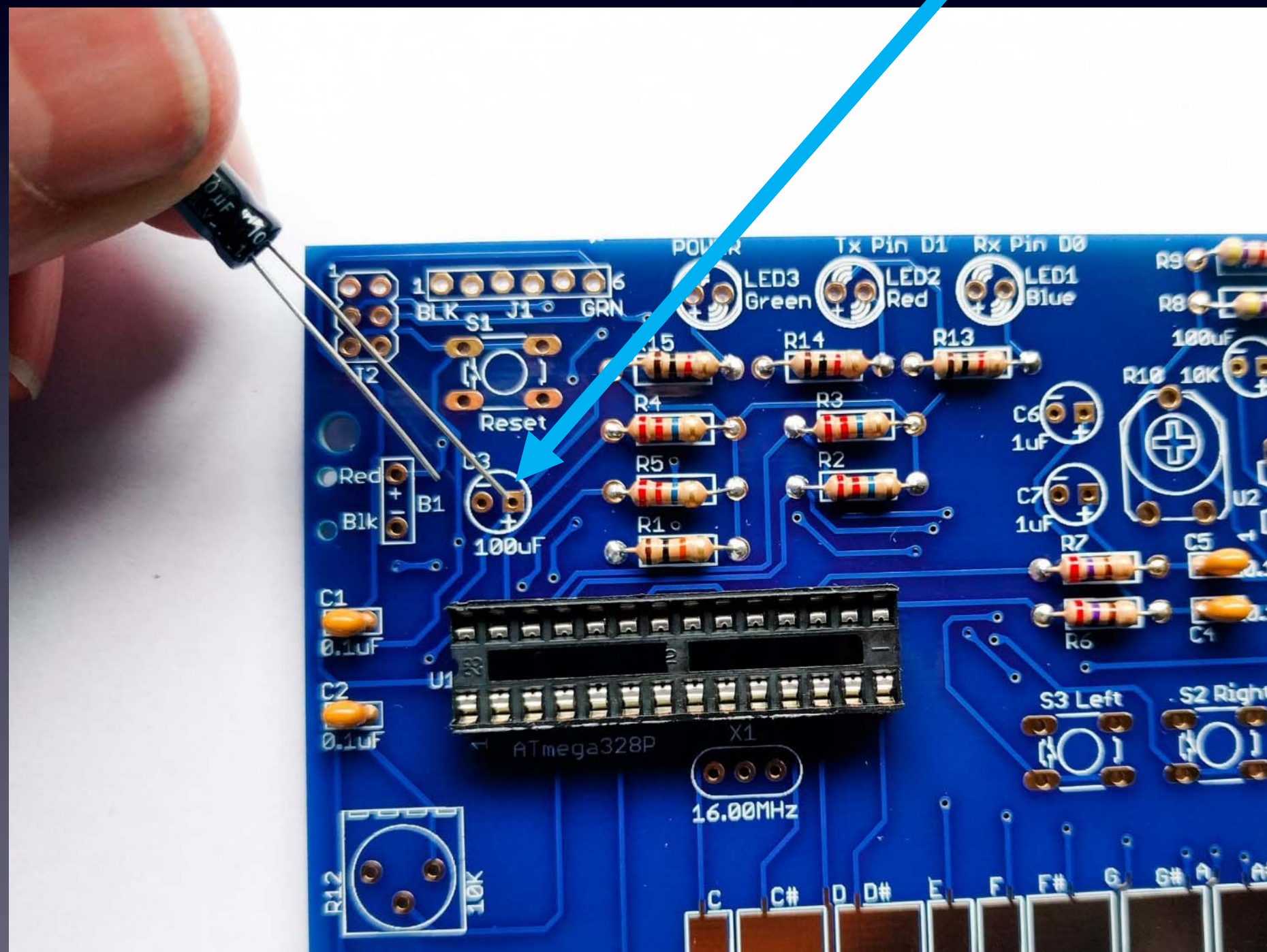




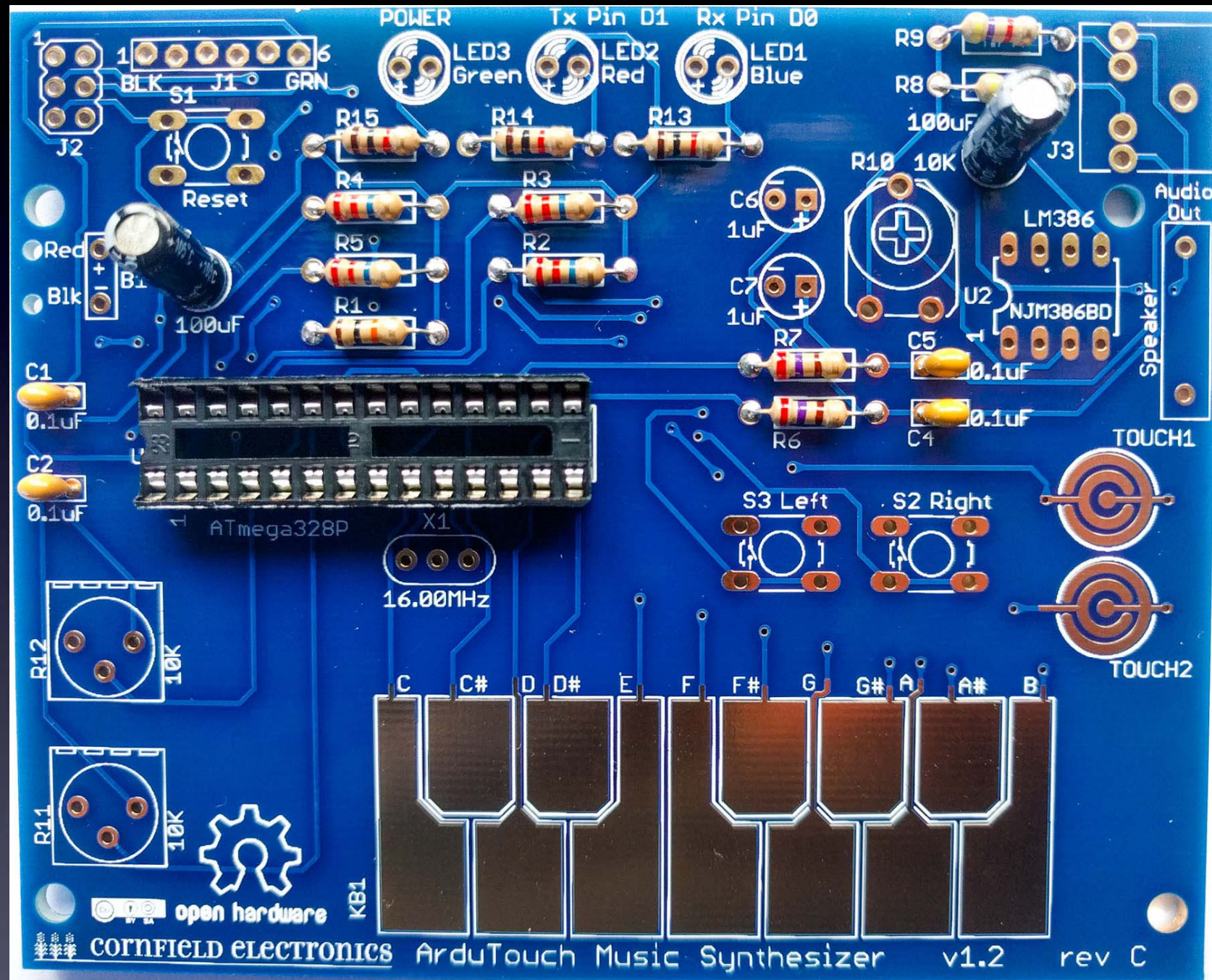
C3, C8: 100uF

**C3, C8:**  
**Long Lead “+”**

**Use 100uF !!**





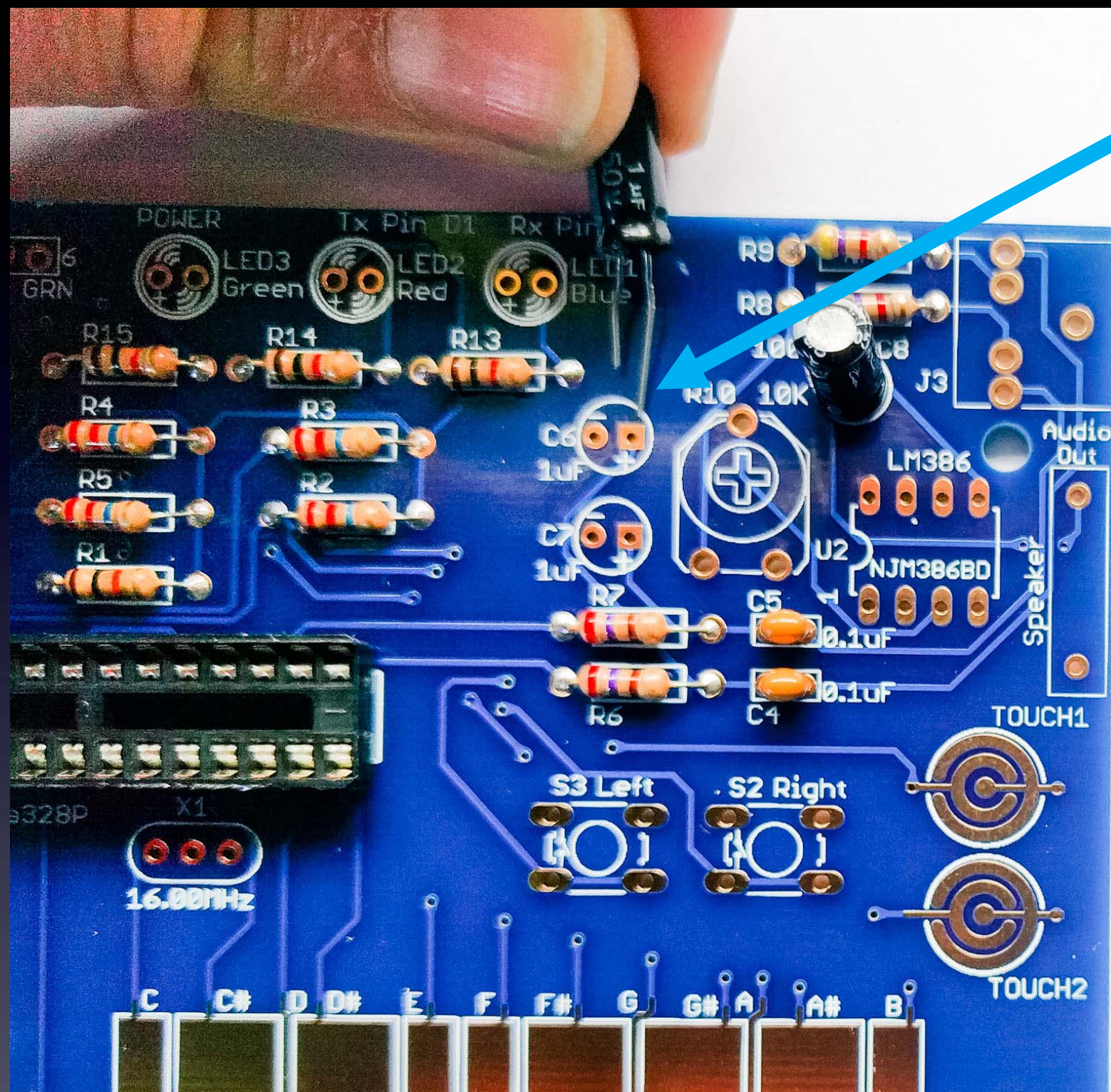


**C3, C8: 100uF – soldered to board**



C6, C7: 1uF

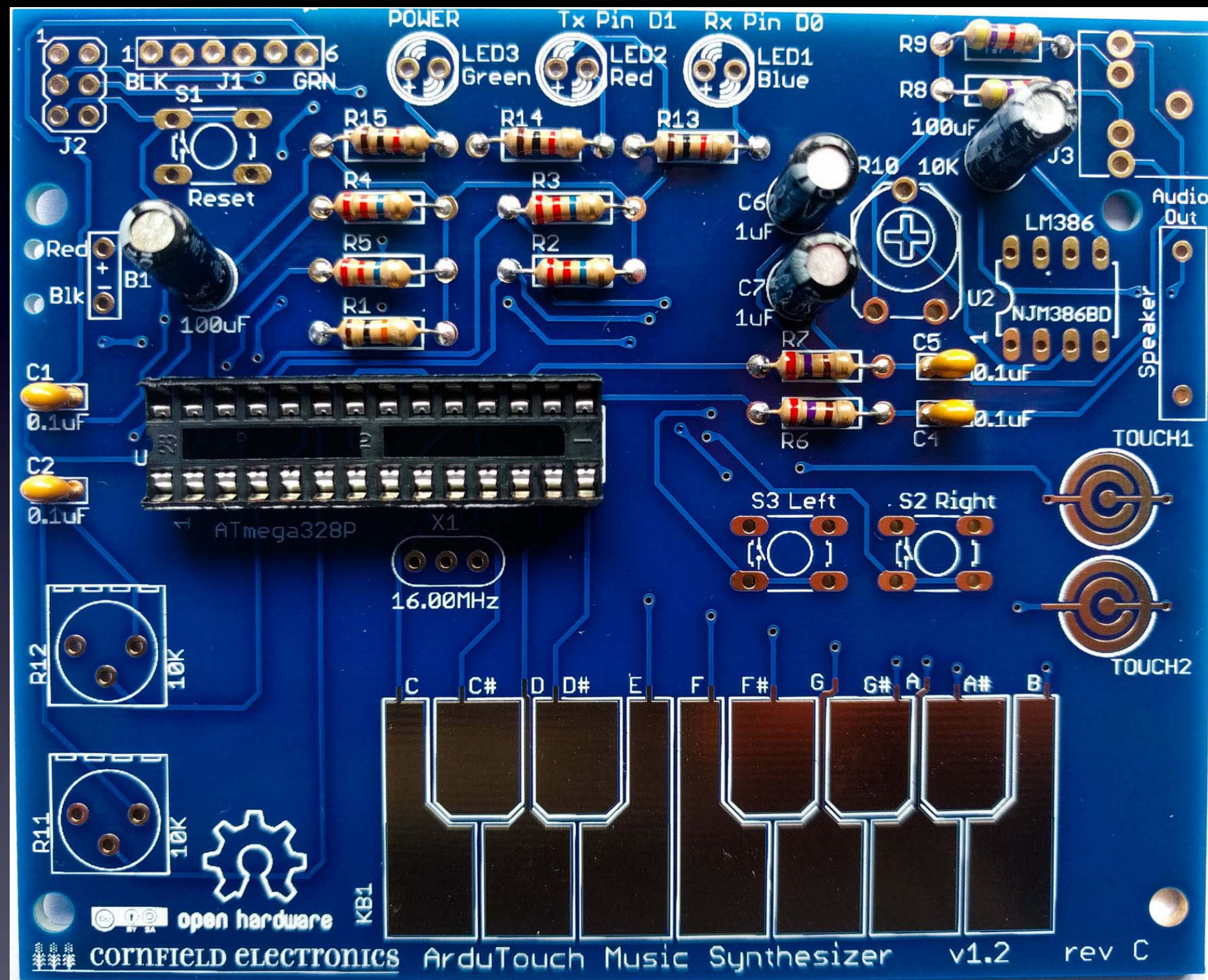




**C6, C7:**  
**Long Lead “+”**

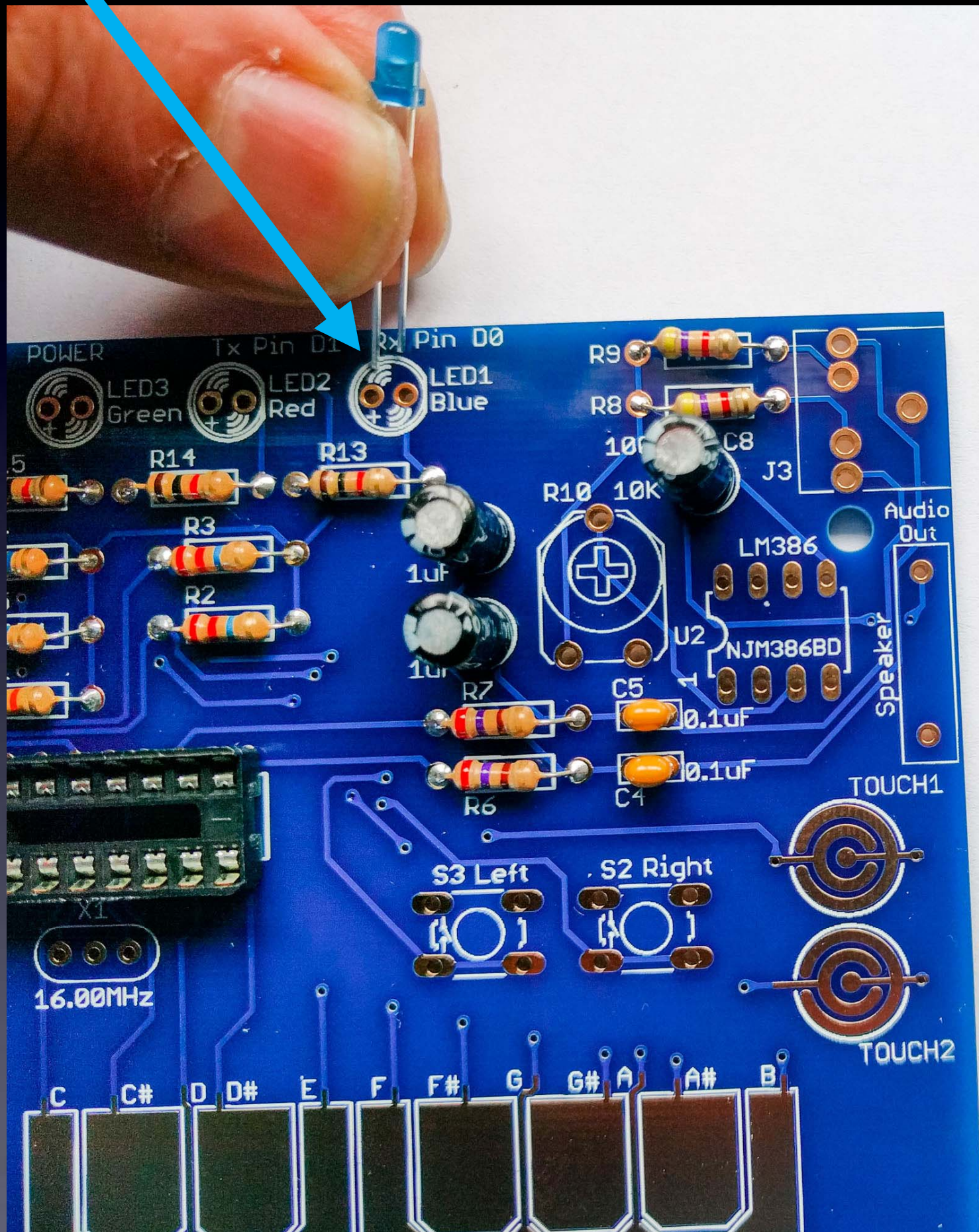
**Use 1uF !!**





C6, C7: 1uF – soldered to board

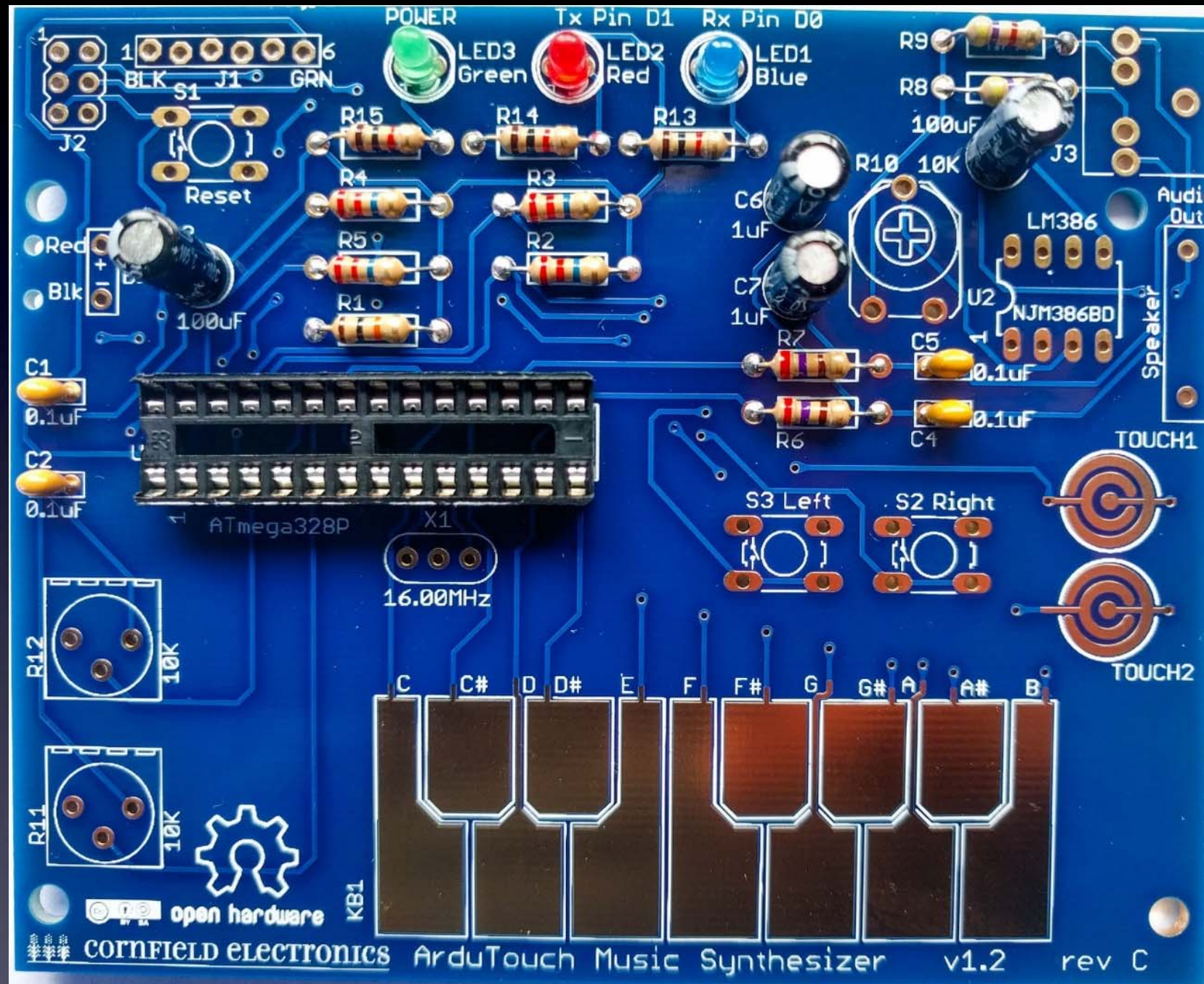




**Save  
these leads**

We'll use them for the speaker

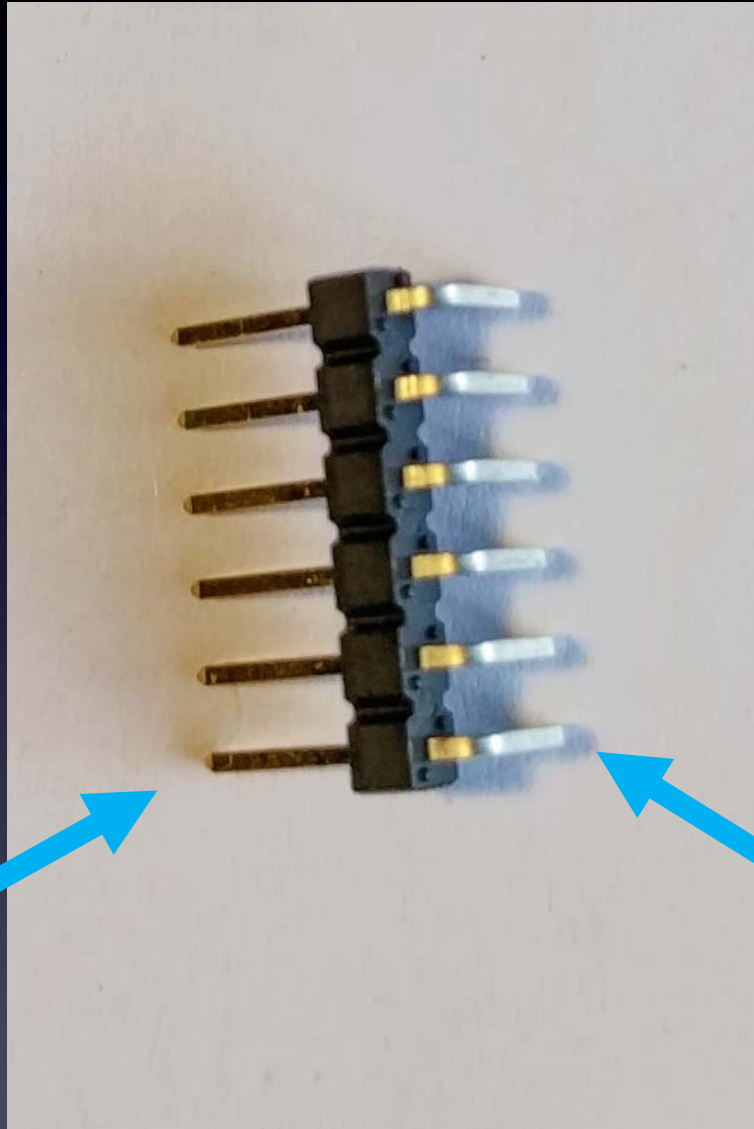




LED1, LED2, LED3

Green, Red, Blue – soldered to board





long leads

short leads

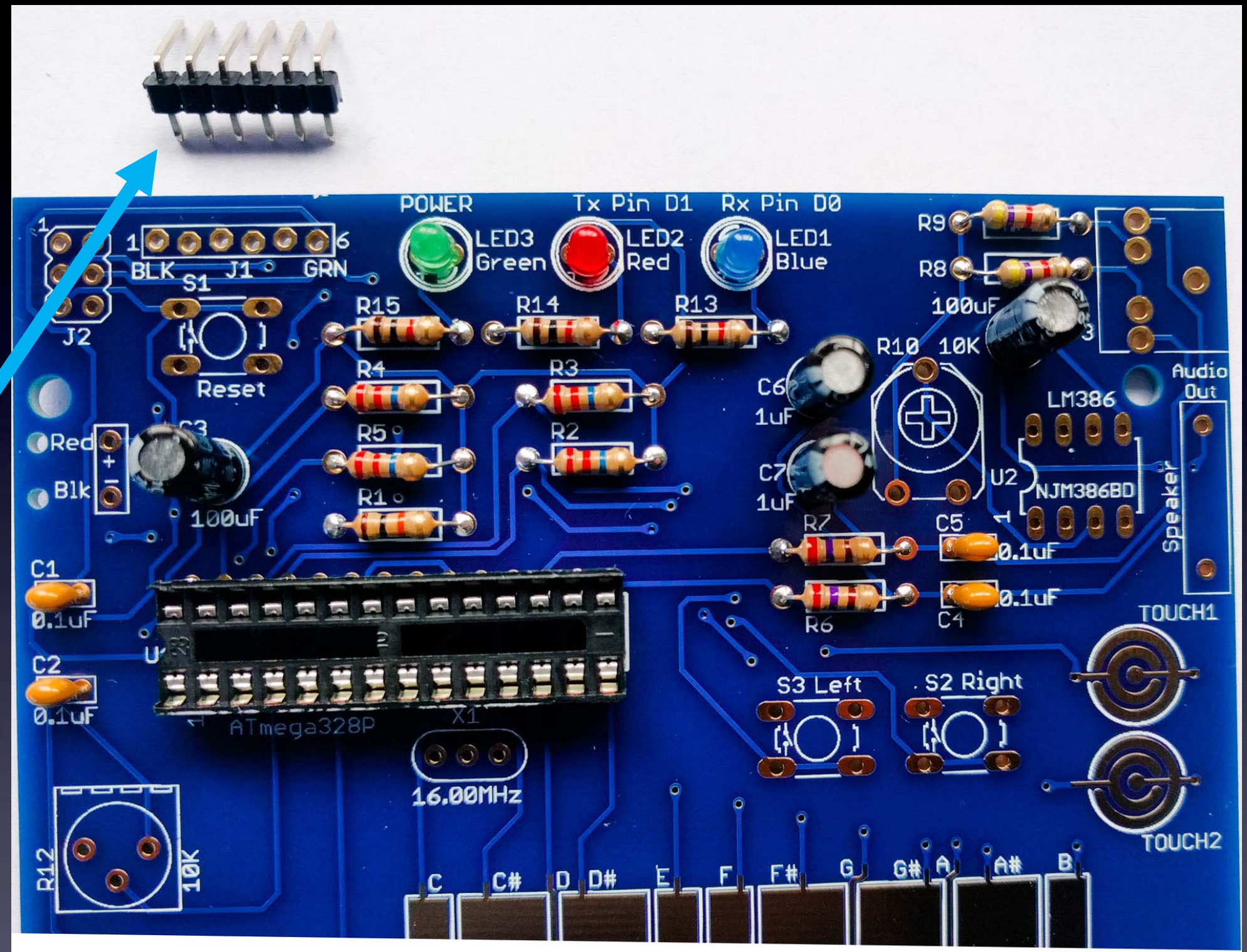
**J1**

# Short leads into board

J1

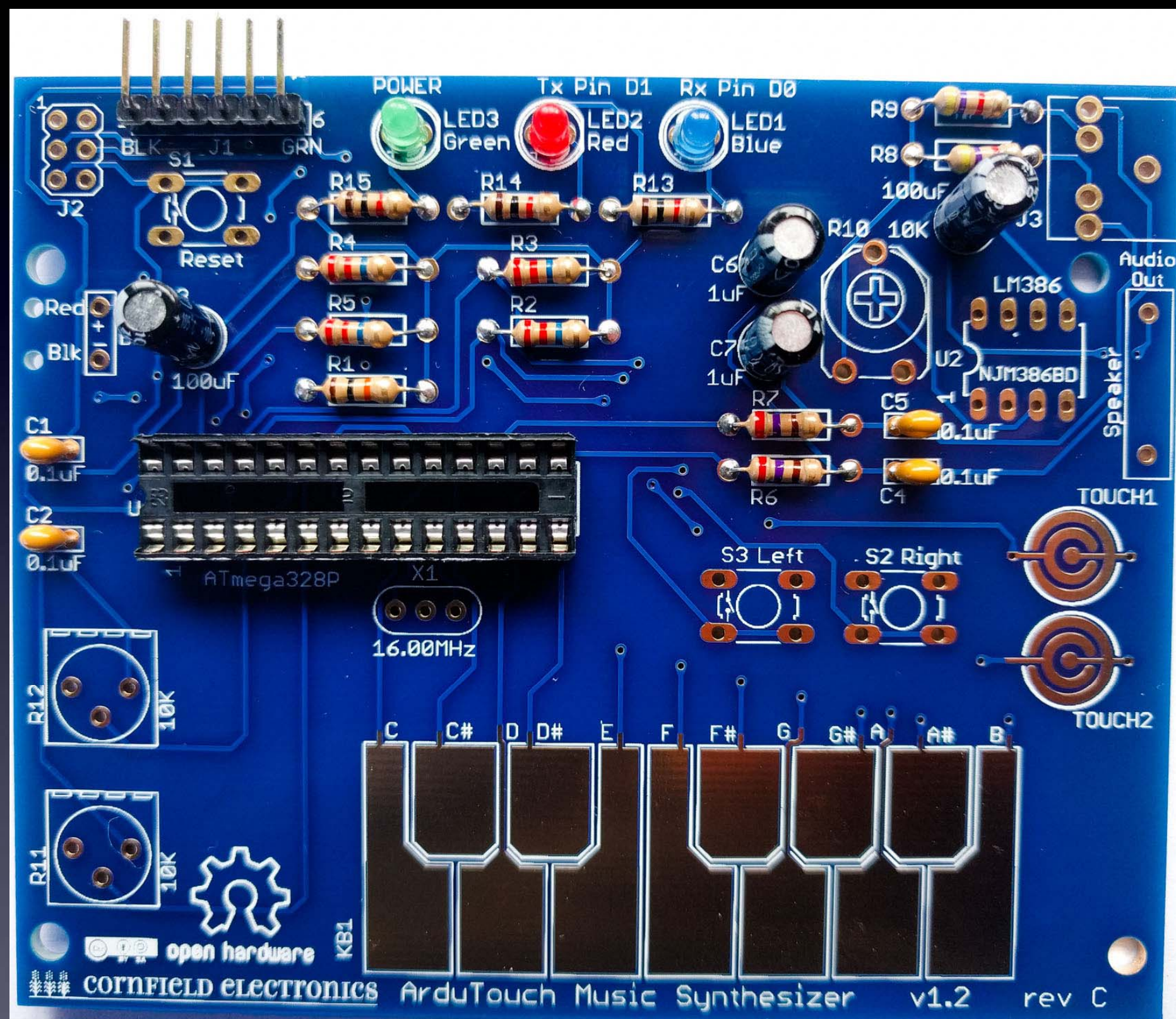
short leads  
go into the board

→ long leads sticking out from  
board

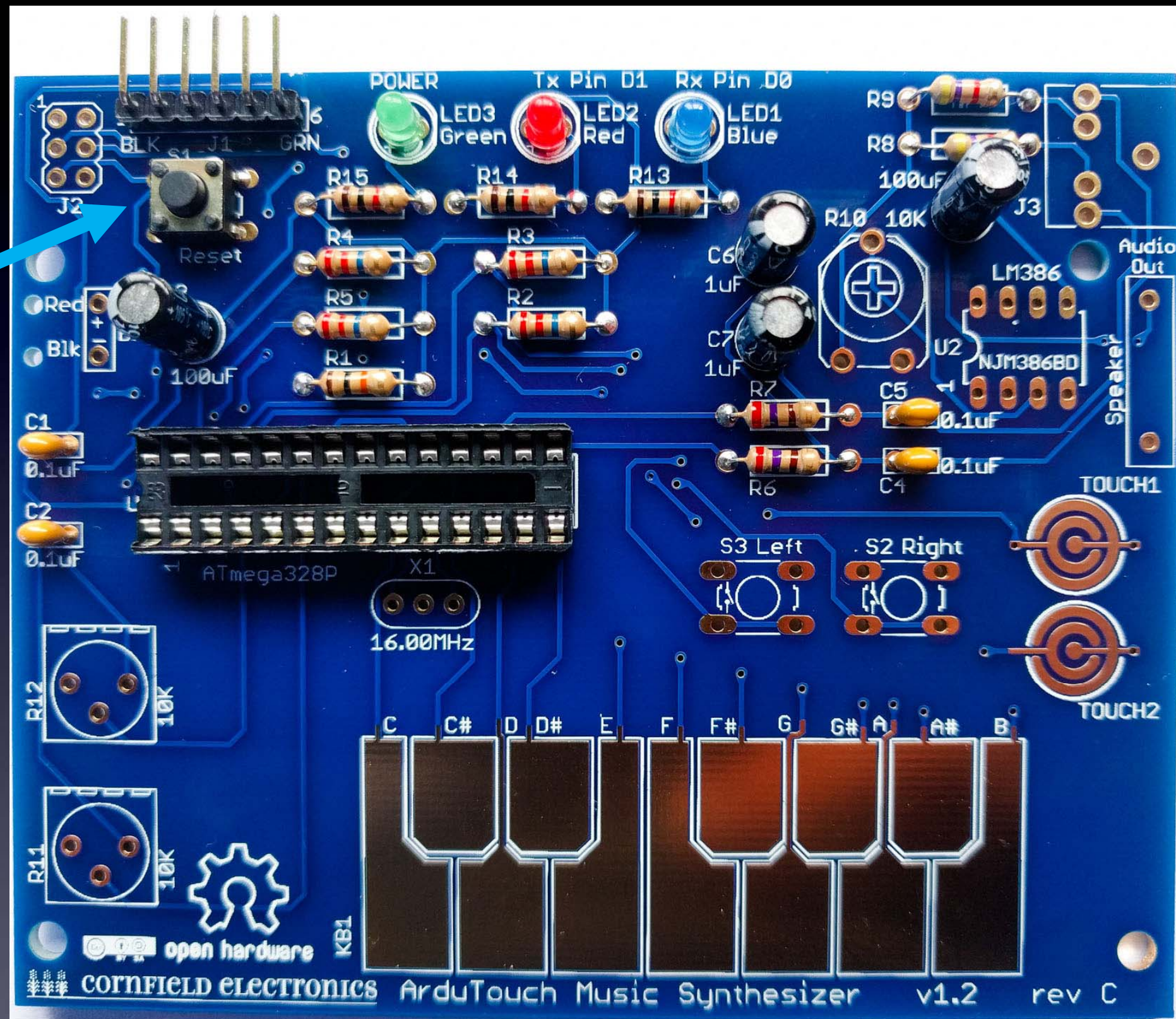




J1







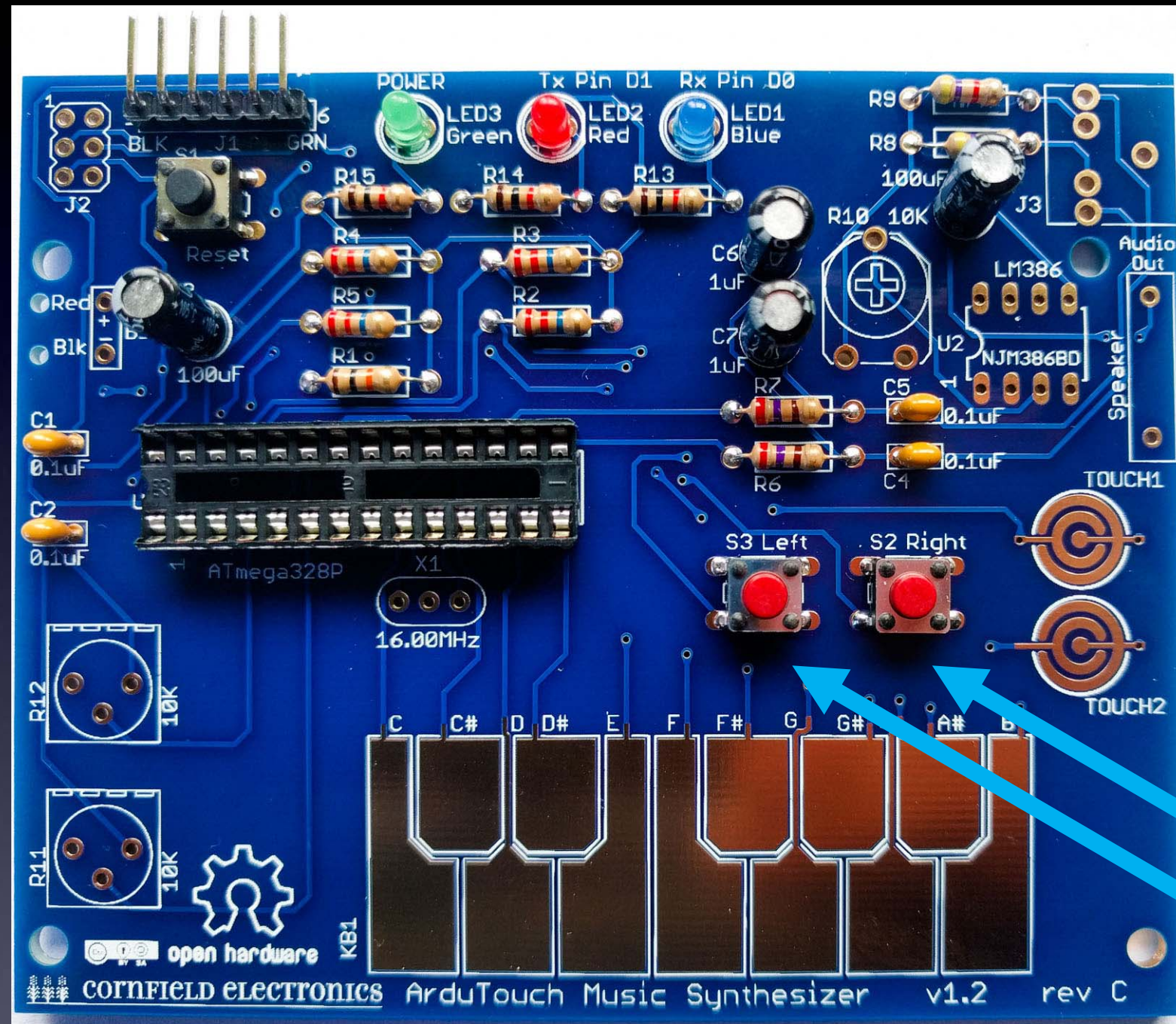
## S1: black Reset button

Note: The color of this switch is not important (some kits may have different colors).

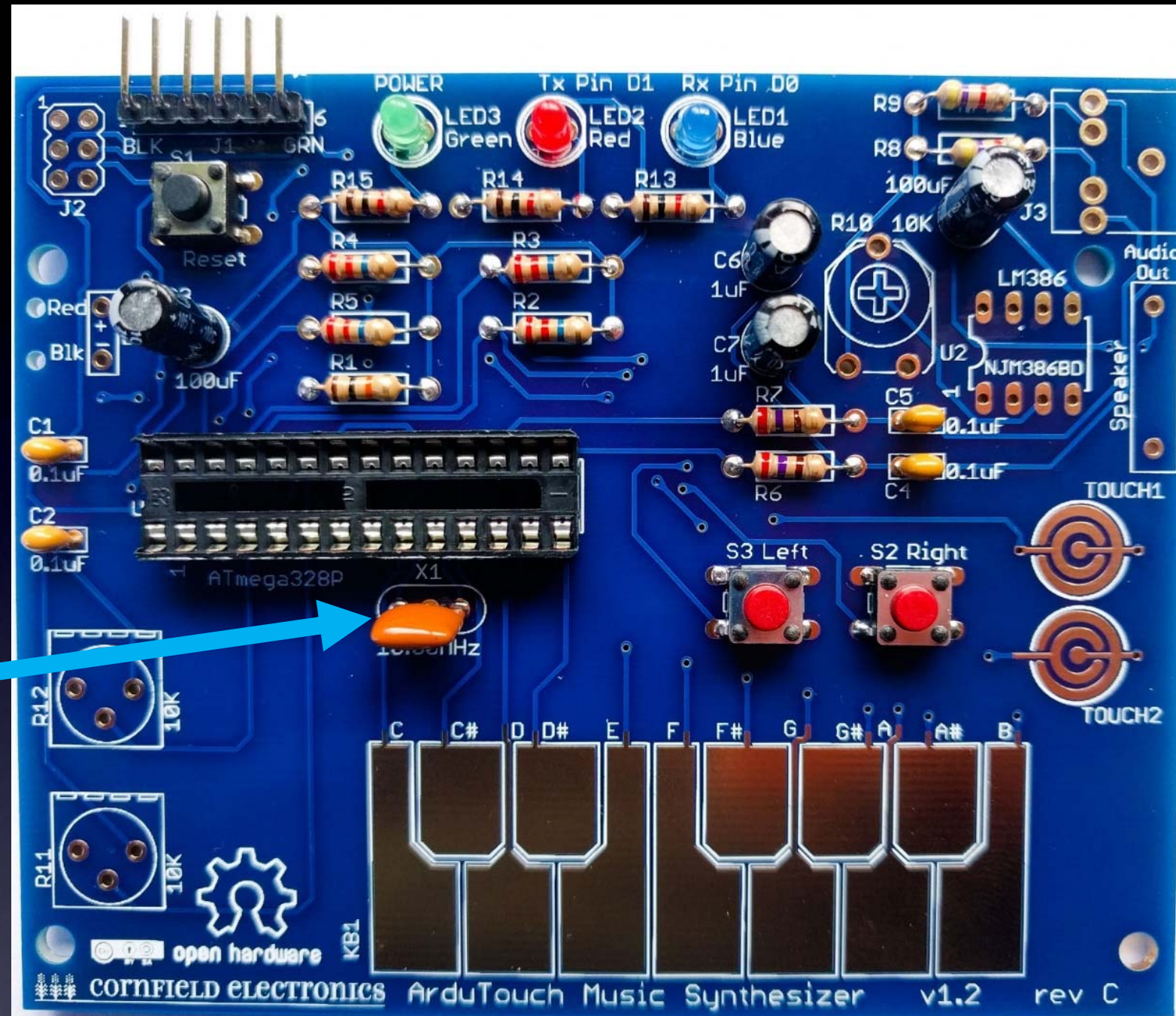


# S2, S3: Red buttons

Note: The color of these switches is not important (some kits may have different colors).







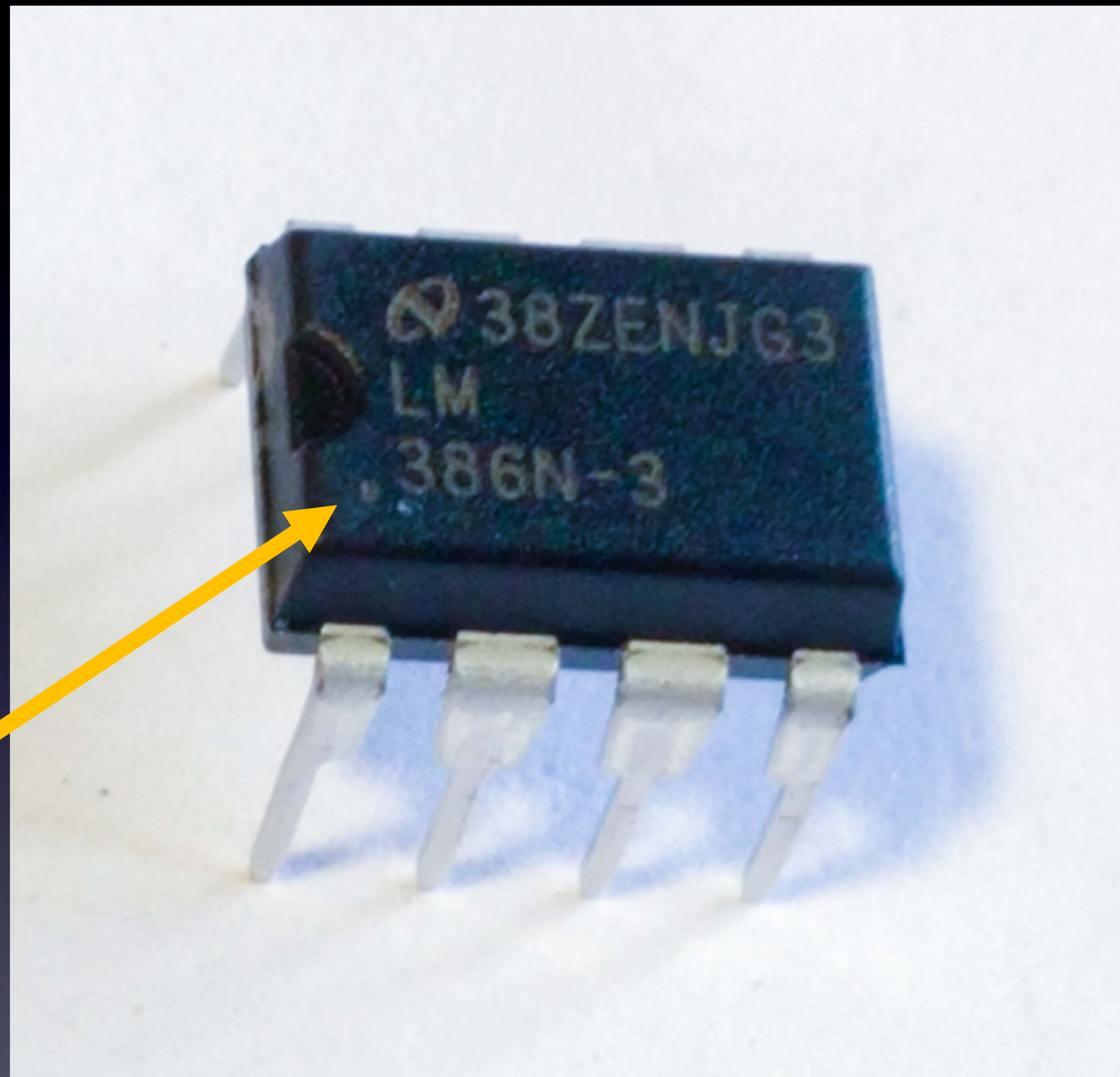
**X1**

**The orientation of X1 does not matter.**

Note: X1 may be yellow or blue.



# U2

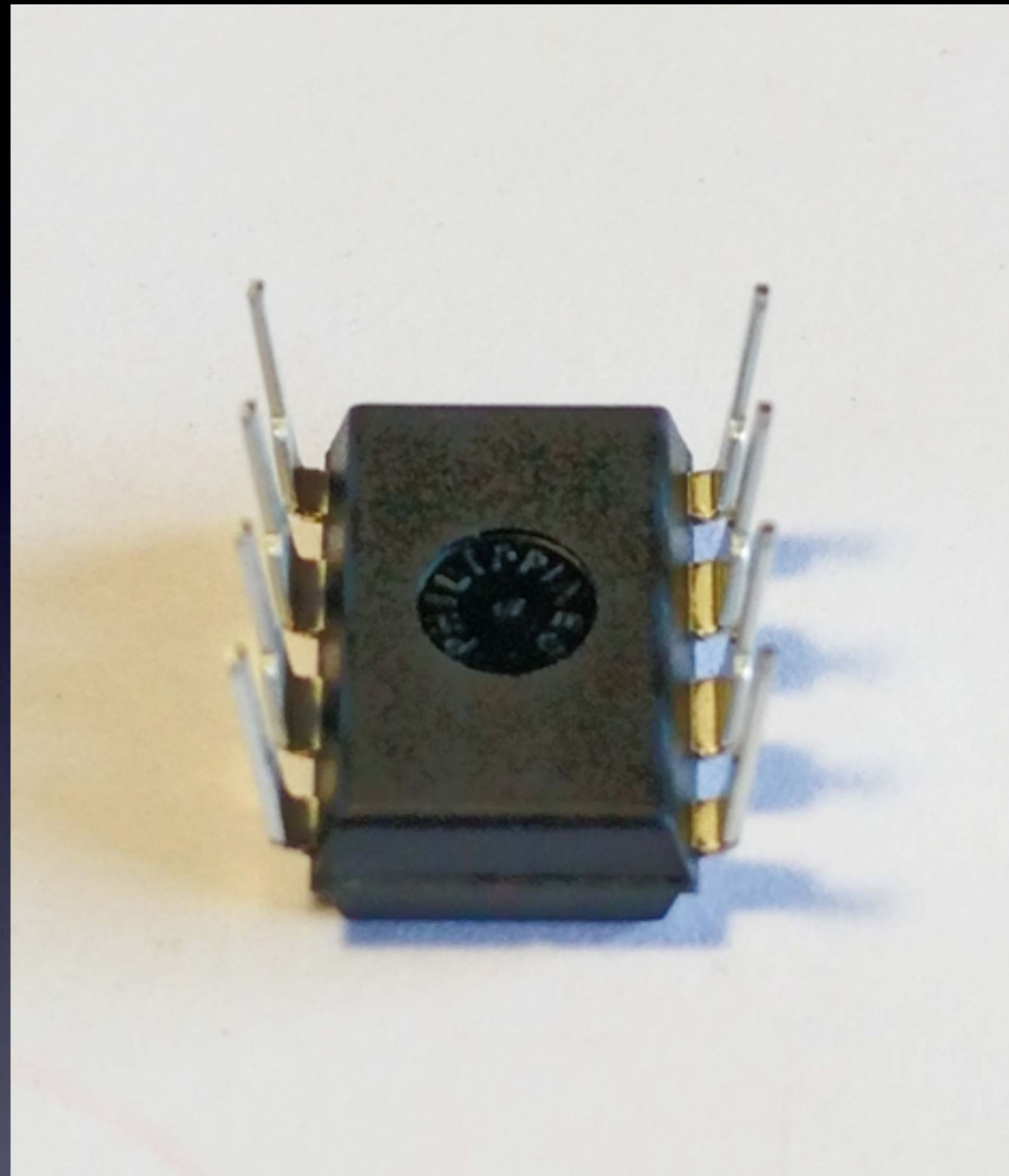


Indented black dot  
Pin 1

Note: Your chip may be marked differently, but “386” will be printed on it somewhere.

Note: Your chip may or may not have the indented half-moon at the left,  
it may have a black indented dot at the lower-left corner showing Pin 1.

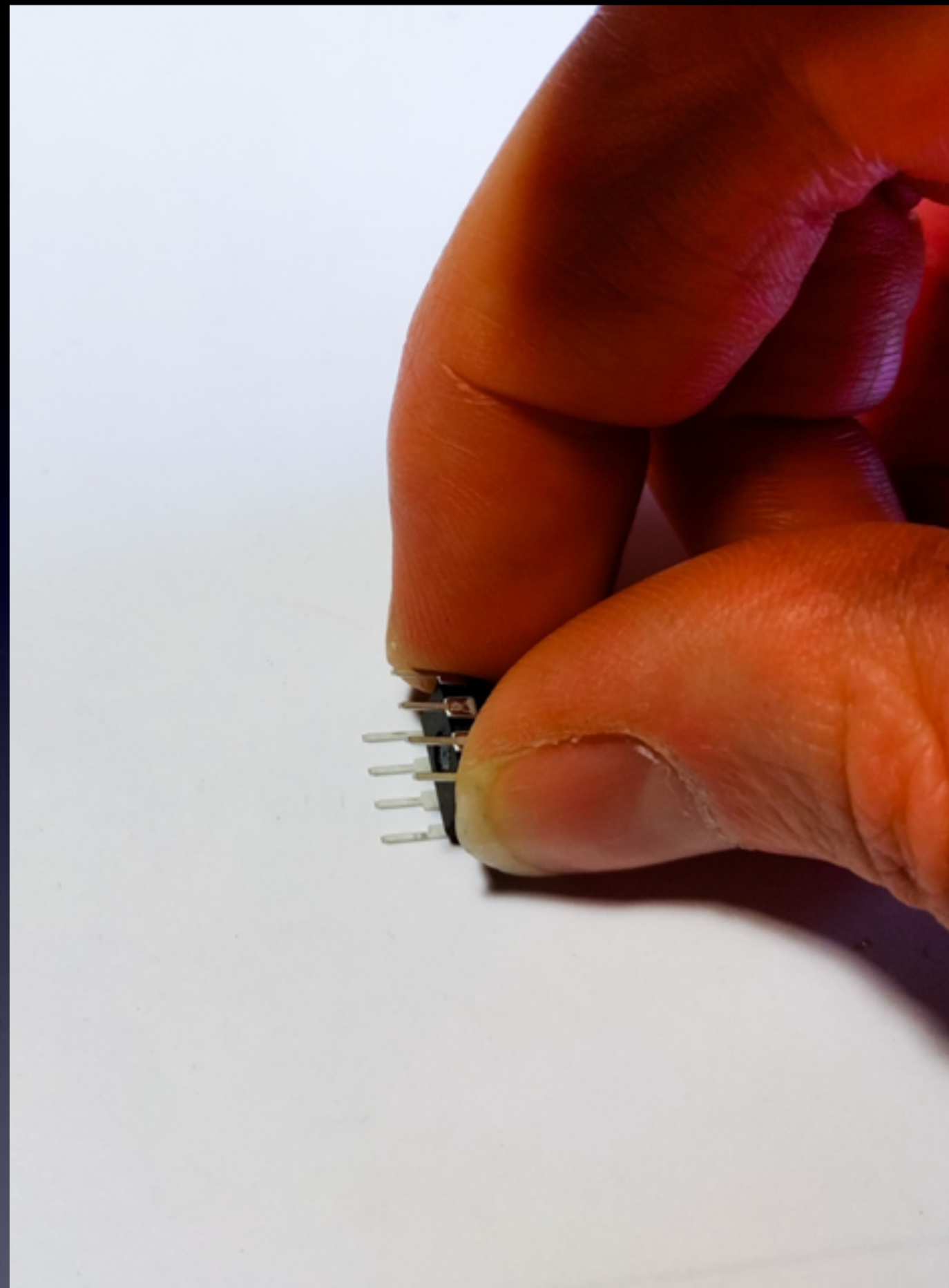
**U2**



**When chips are new,  
their pins are bent out.**



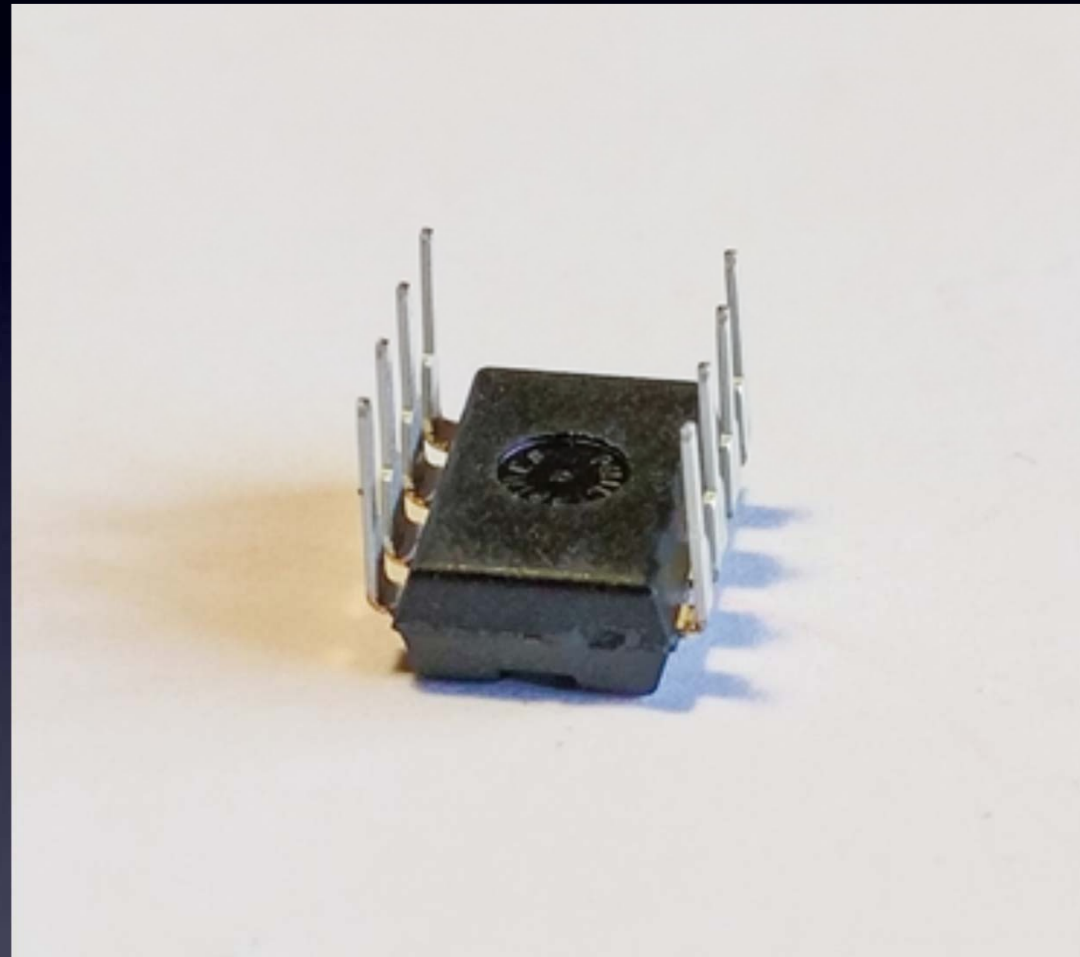
# U2



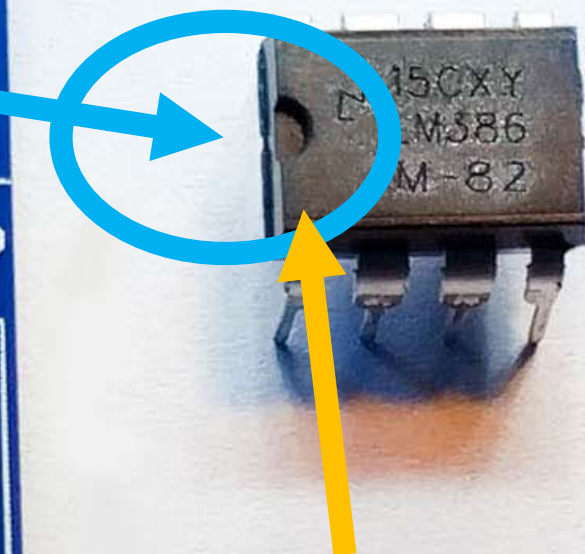
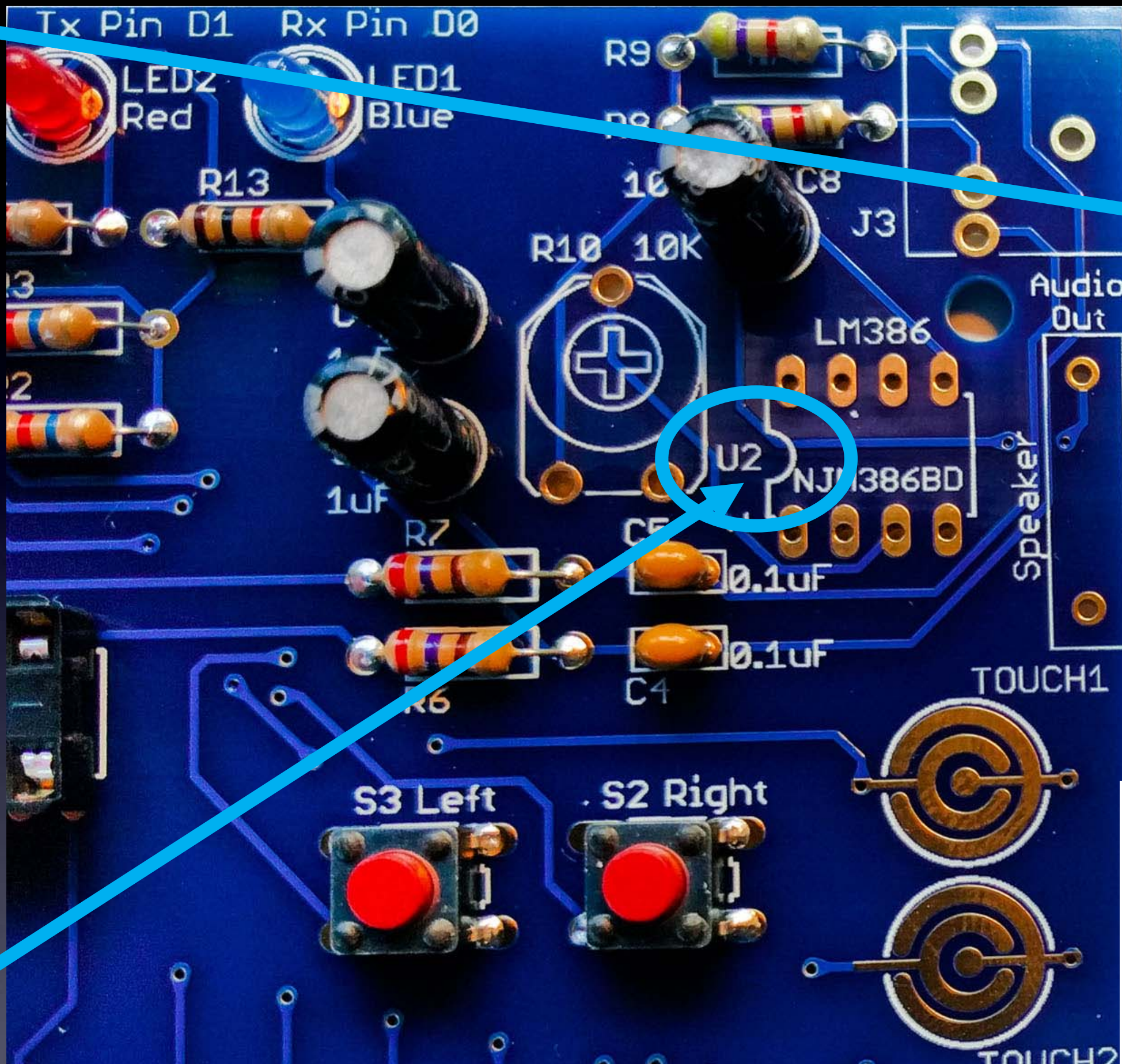
**We need the pins bent straight and parallel.  
Use your work table to (gently) bend the leads.**

# U2

**Gently  
bend leads  
so they're straight  
and parallel**







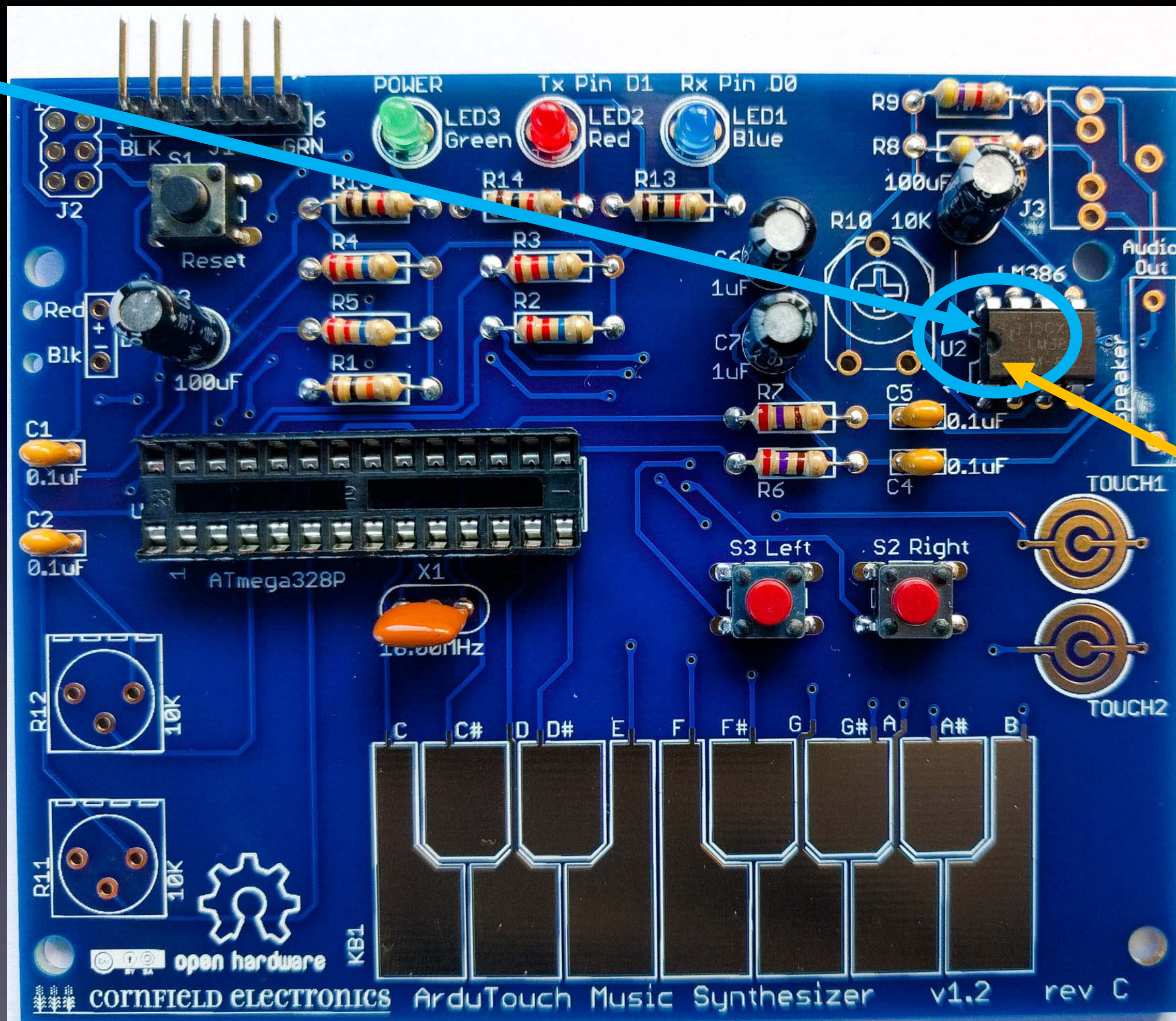
Indented black dot  
Pin 1

**proper  
orientation**

Note: Your chip may or may not have the indented half-moon at the left, it may have a black indented dot at the lower-left corner showing Pin 1.

**U2: audio amp chip**



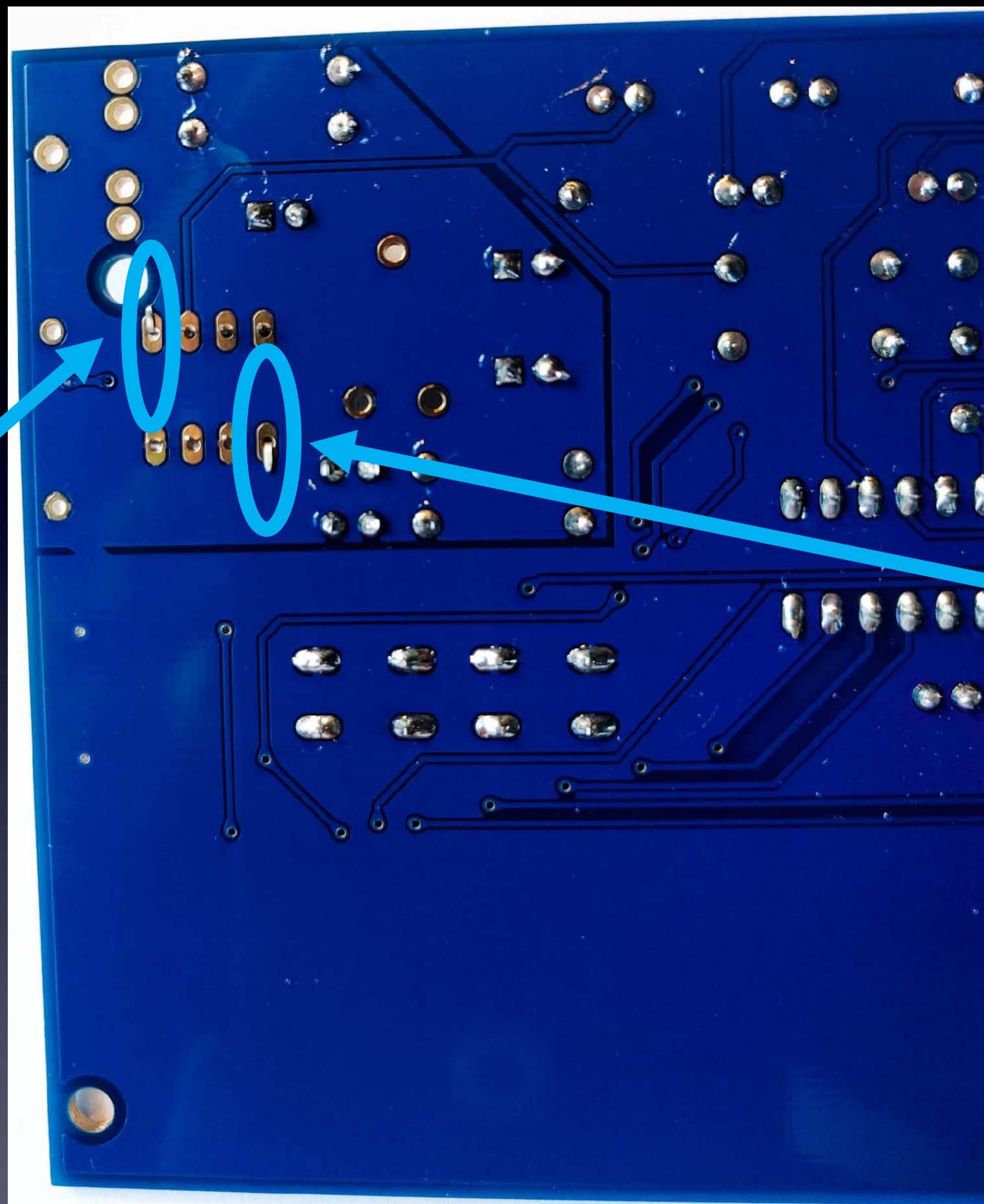


Indented black dot  
Pin 1

U2: inserted correctly

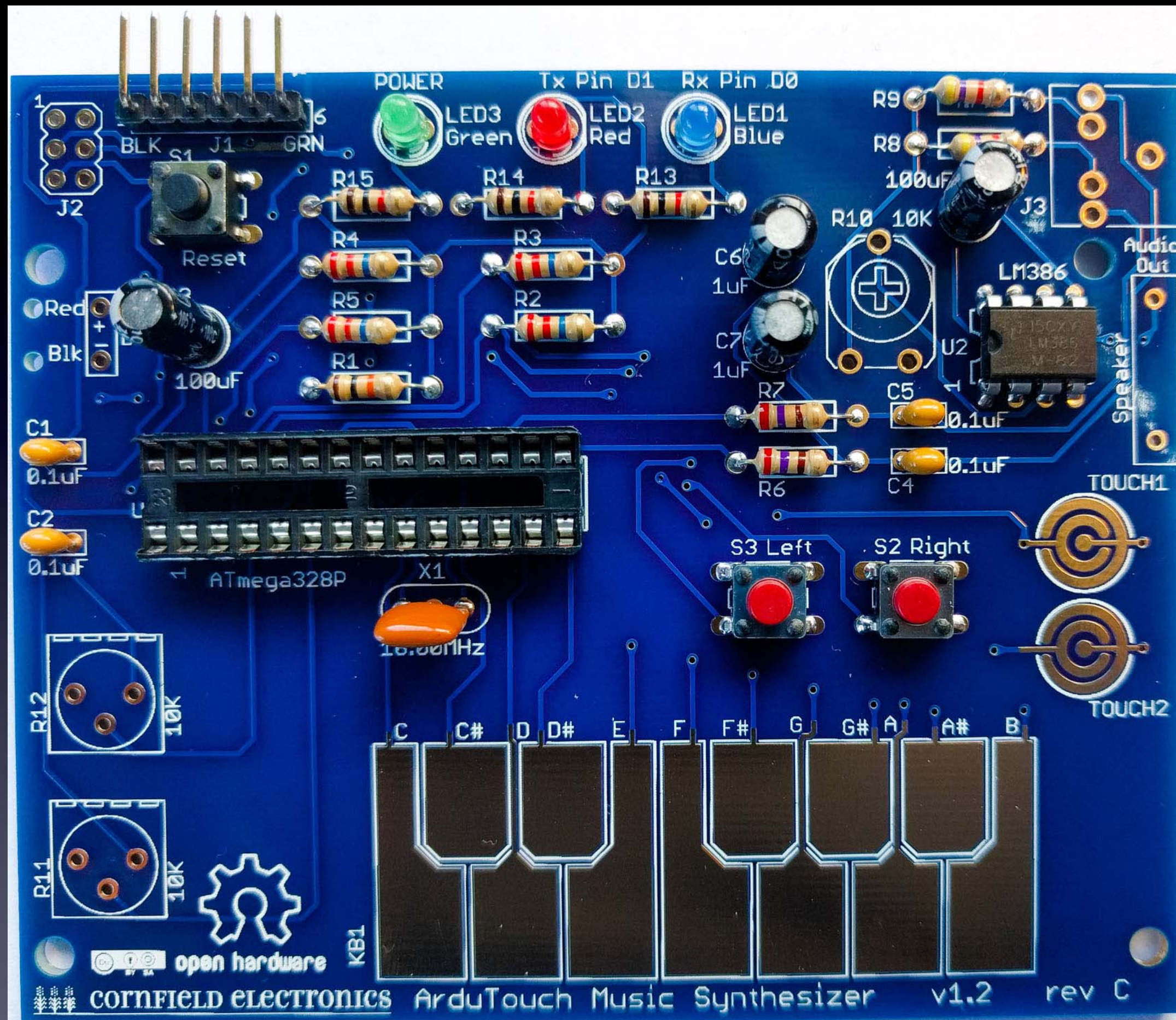


U2



bend pins down on two corners,  
and solder all 8 leads to the board

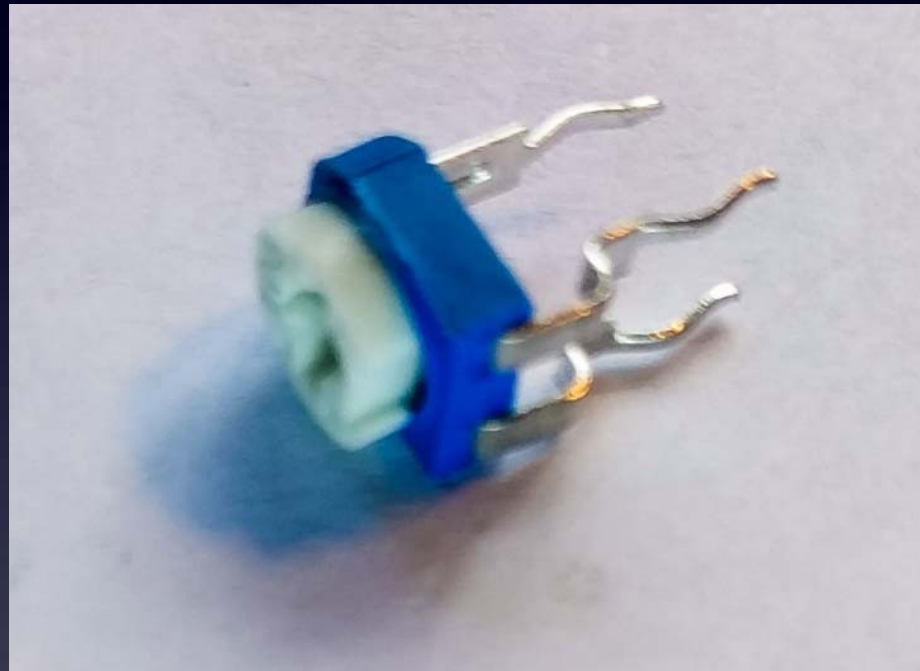




U2 – soldered to board

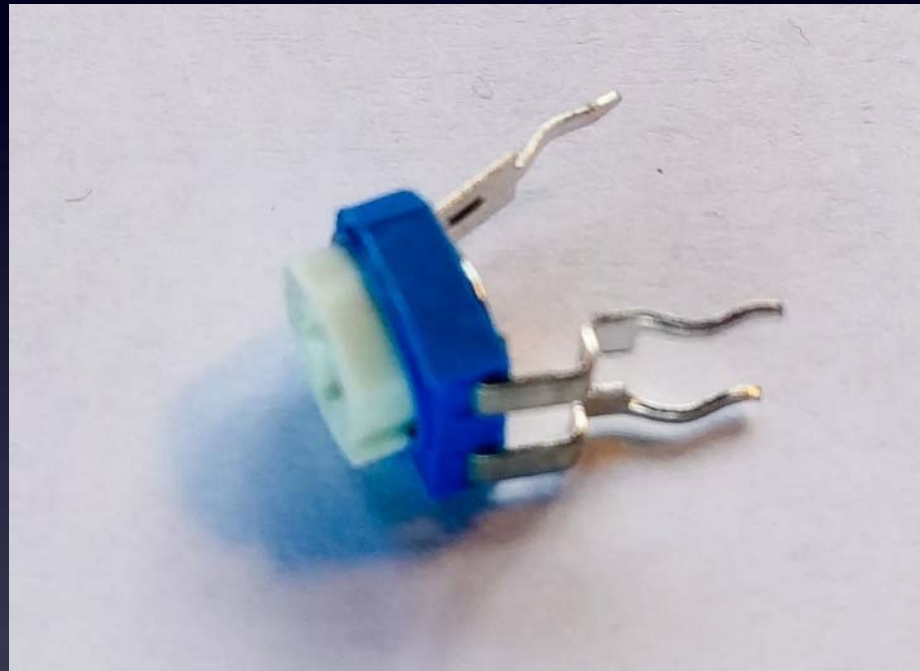


# R10: volume control



When new, the pins point straight down.

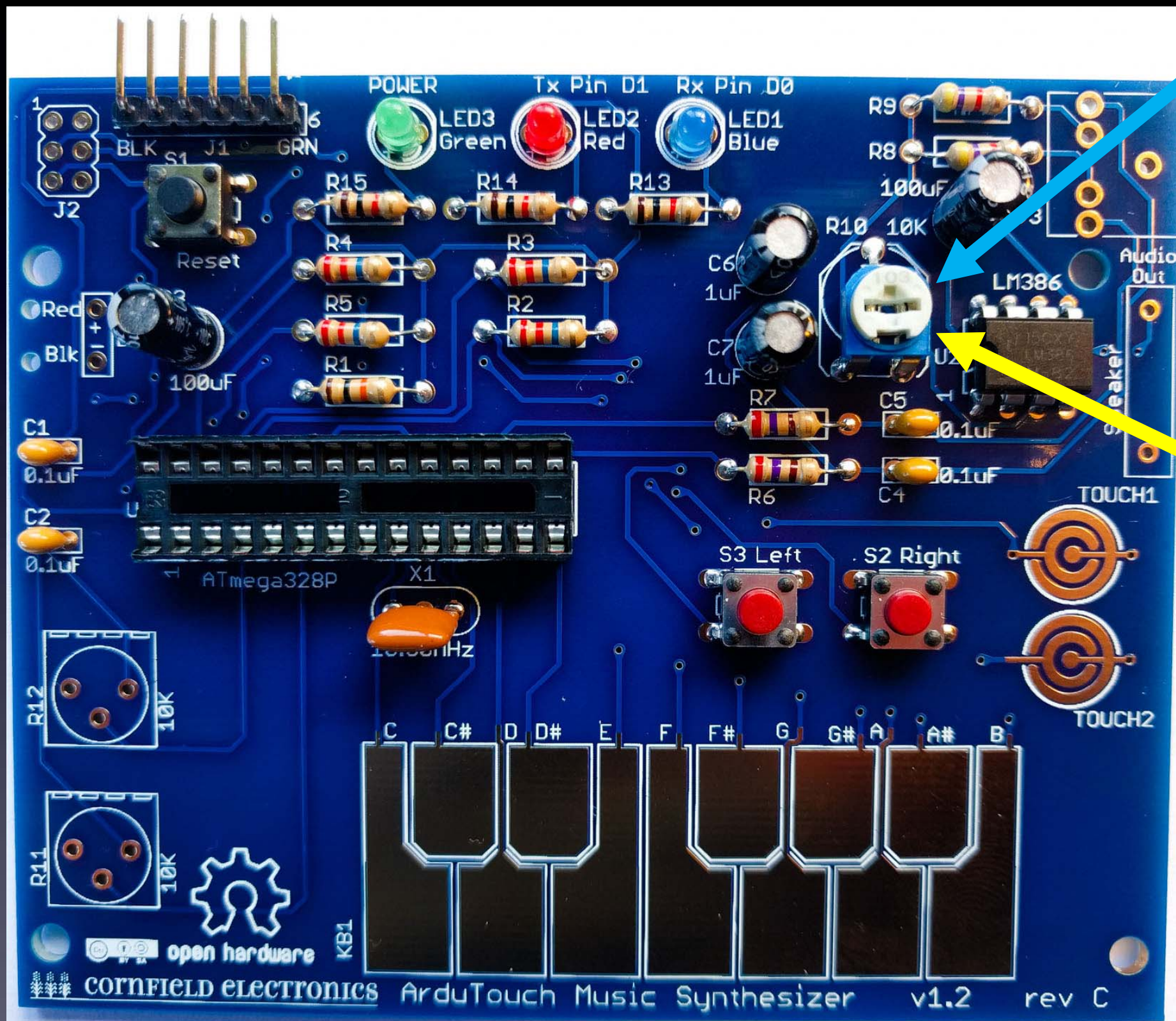
# R10: volume control



We need to bend them out a little to fit into the board.

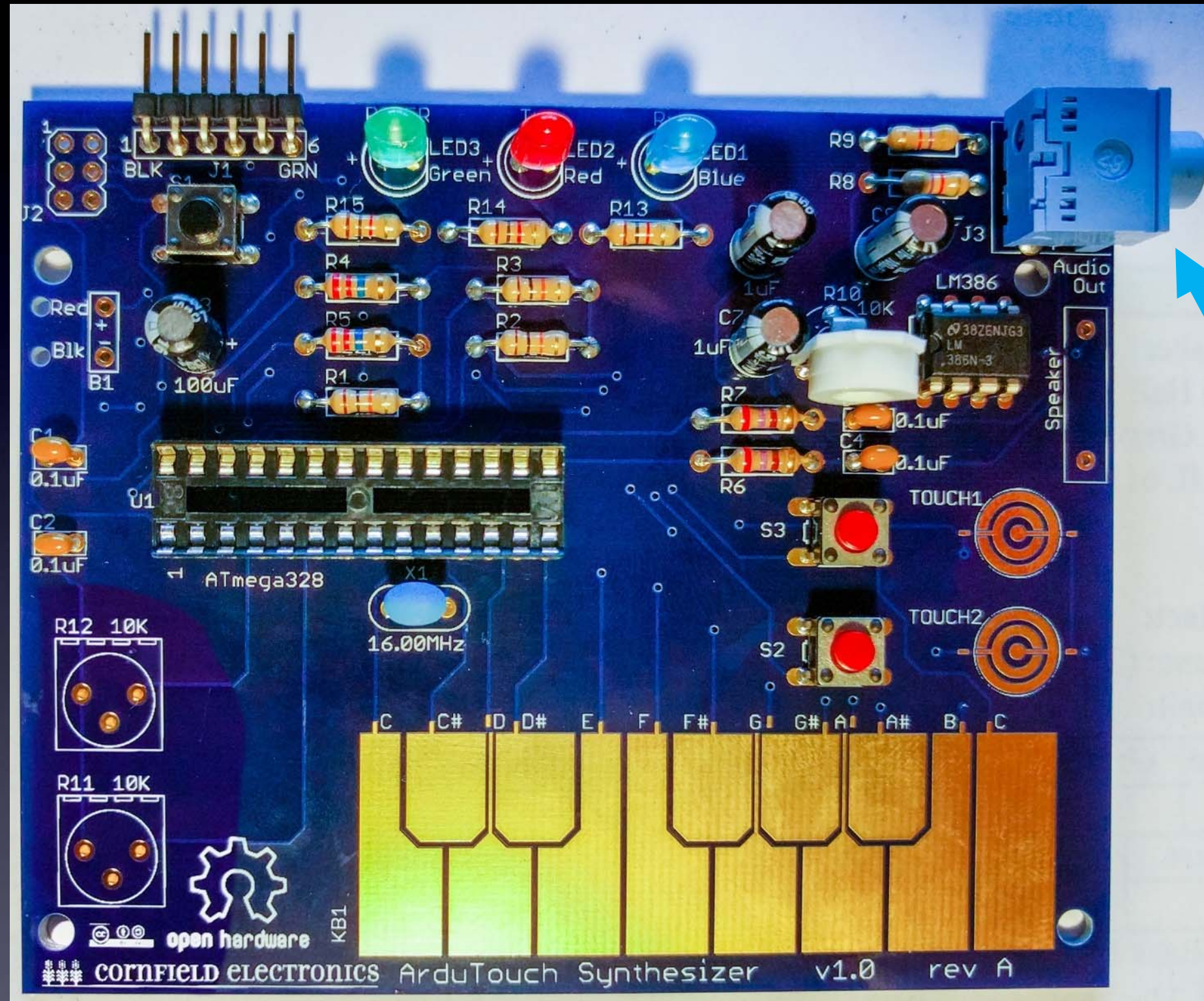


# R10: volume control



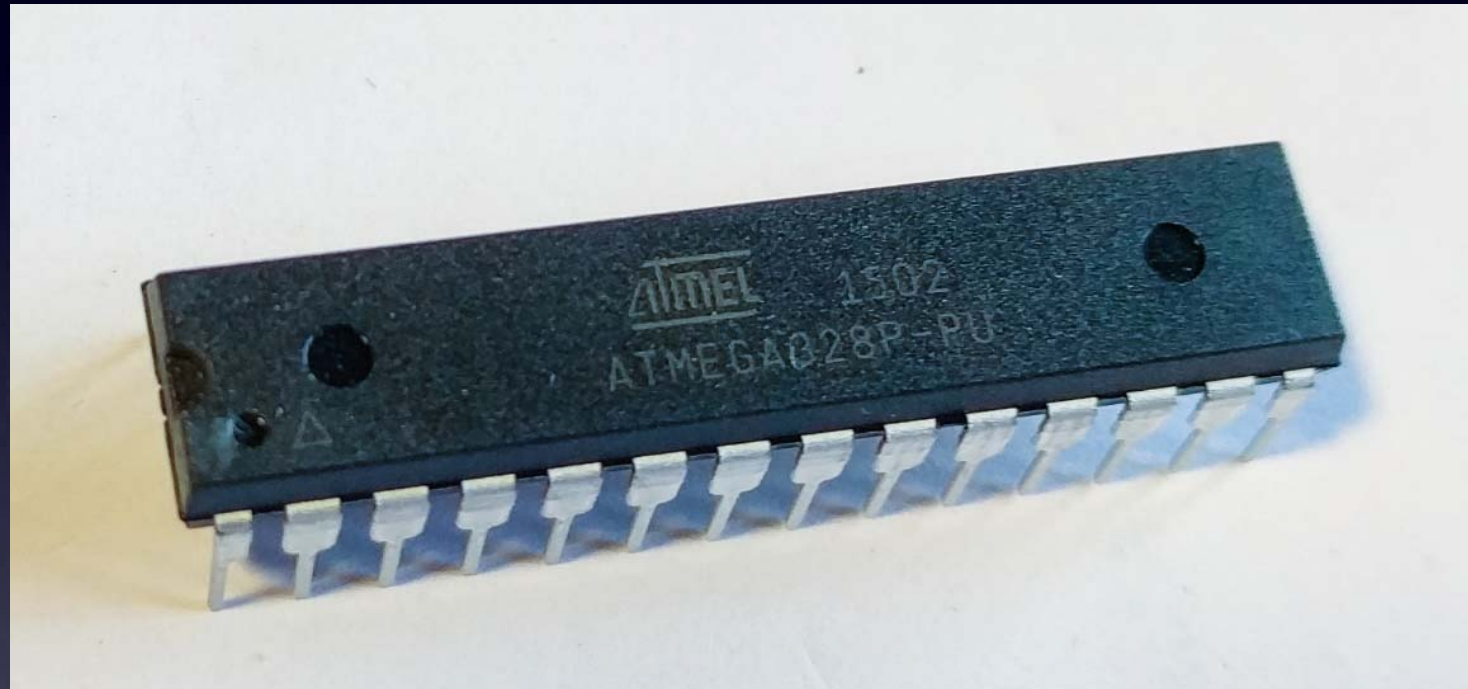
If necessary,  
rotate the white top  
so that it looks  
like this photo  
(rotated half-way)





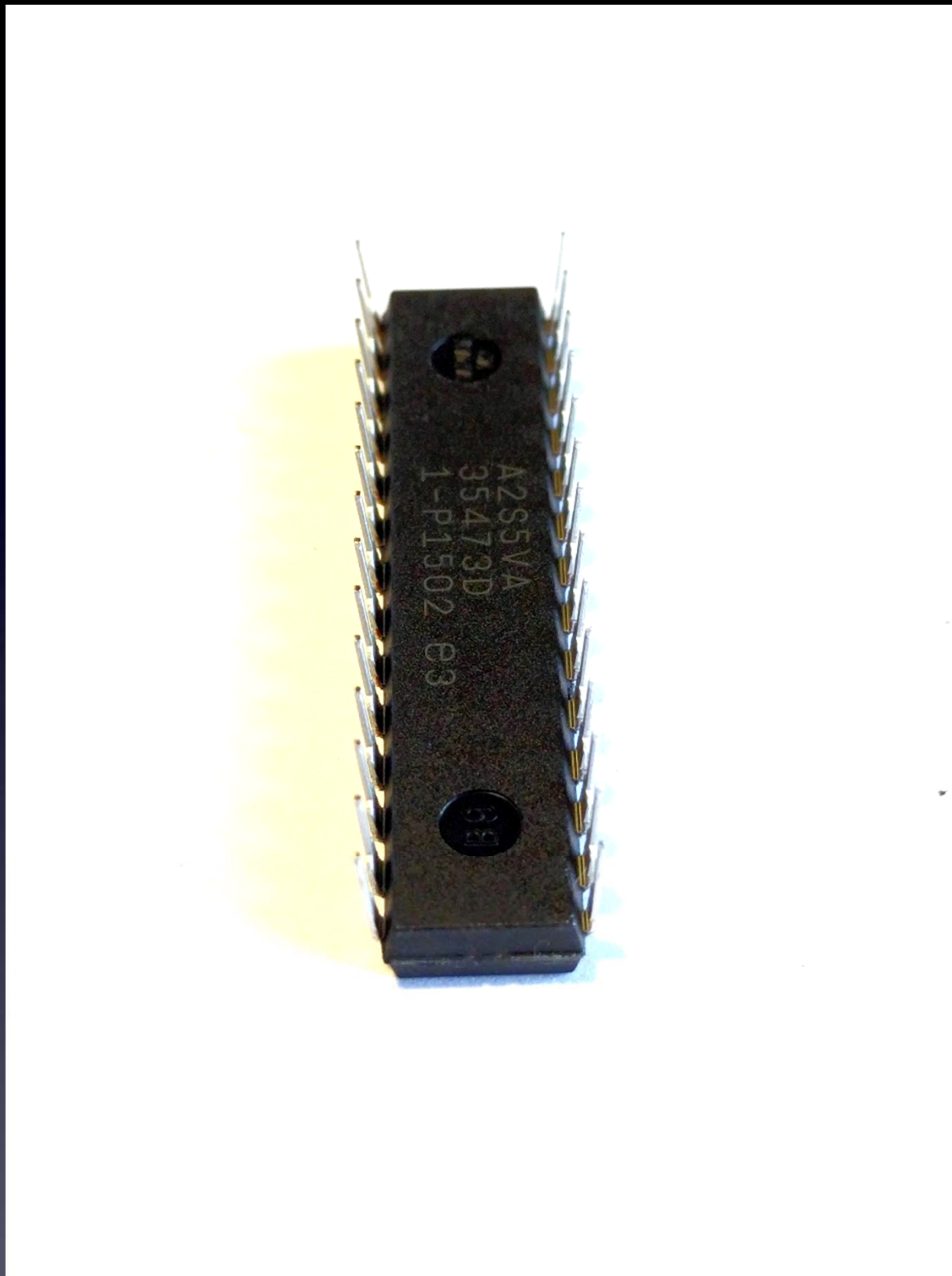
**J3: headphone / output jack**





**U1: microcontroller**

# U1



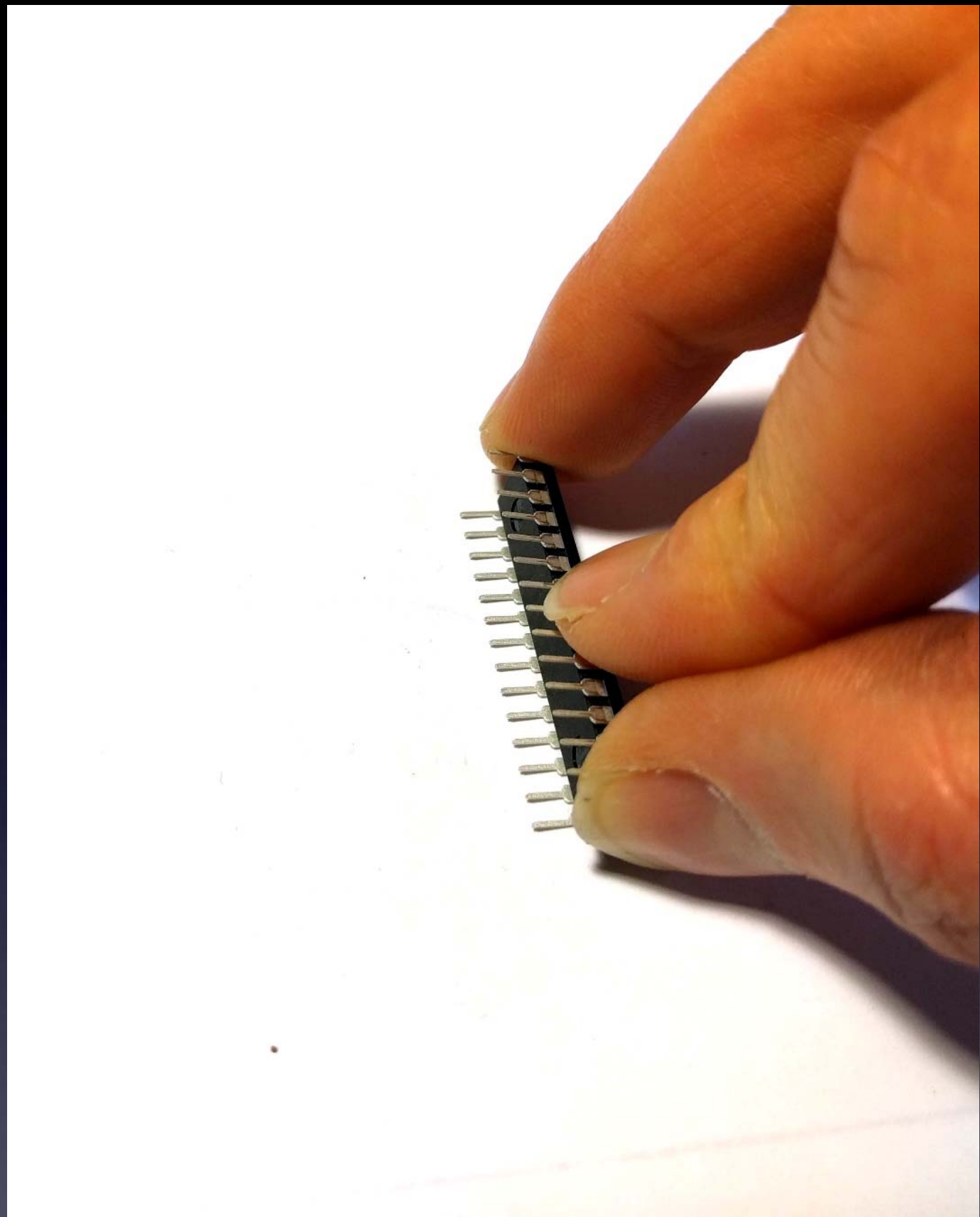
**When chips are new,  
their pins are bent out.**

Note: Your kit's U1 chip may or may not have its pins already bent straight and parallel.  
If not, you need to bend them, as shown in the next picture.

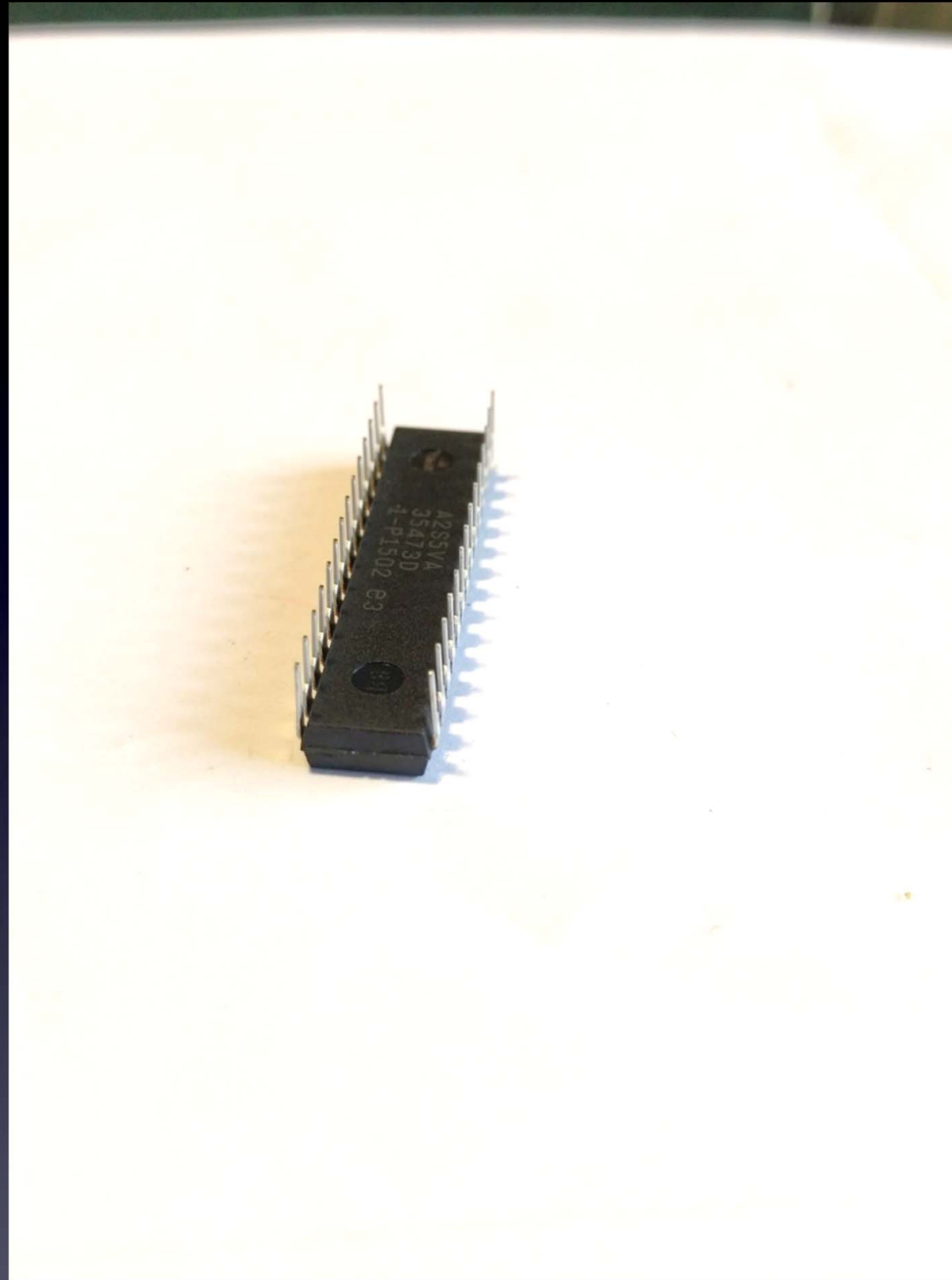


# U1

Note: Your kit's U1 chip may or may not have its pins already bent straight and parallel.  
If not, you need to bend them, as shown in this picture.



**We need the pins bent straight and parallel.  
Use your work table to (gently) bend the leads.**

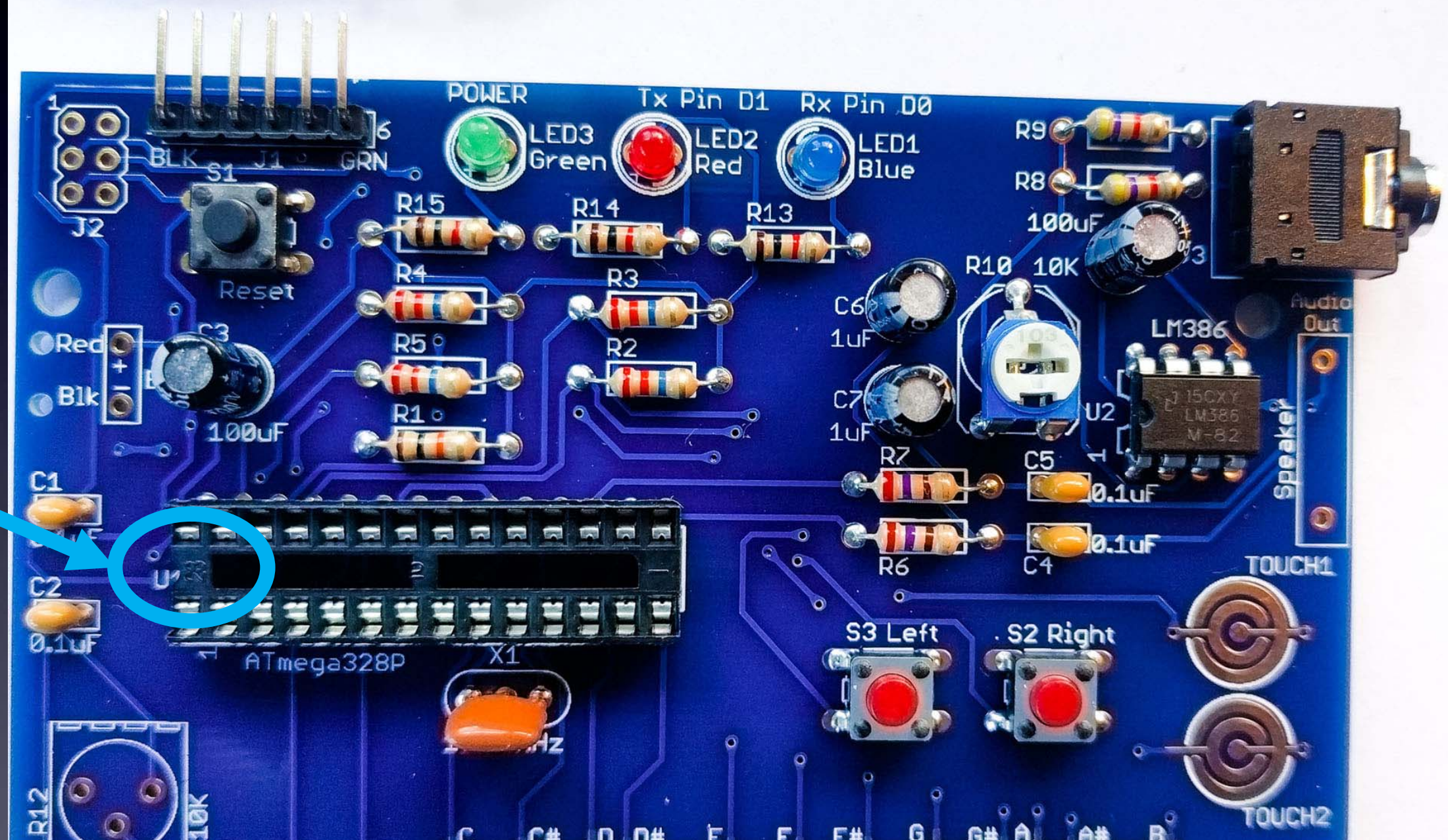


## U1: microcontroller

These pins must be straight and parallel

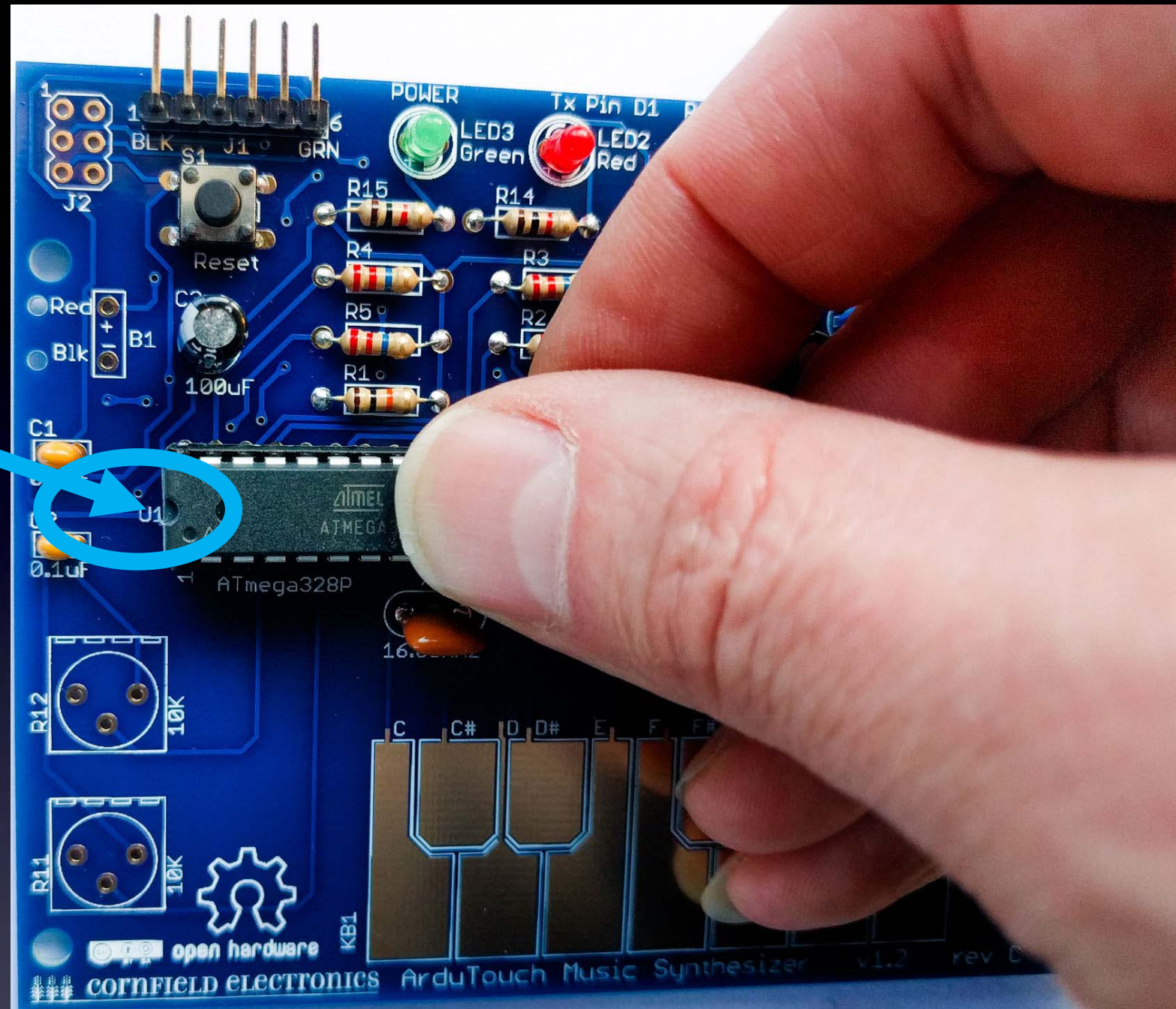


proper  
orientation



U1: microcontroller





## U1: microcontroller

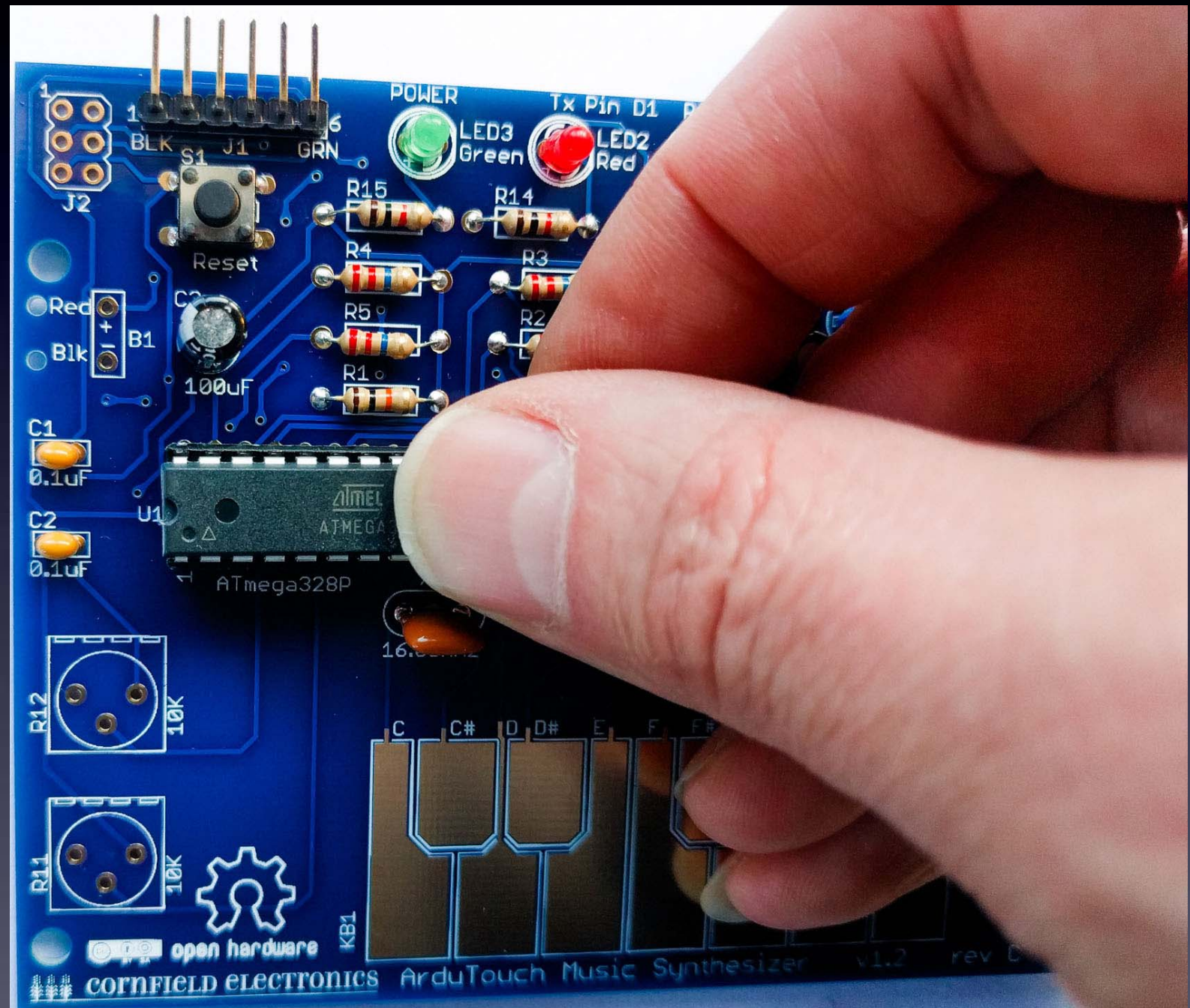
make sure each pins rests in its hole in the socket  
→ with the proper orientation



**Use two thumbs to push microcontroller into the socket**

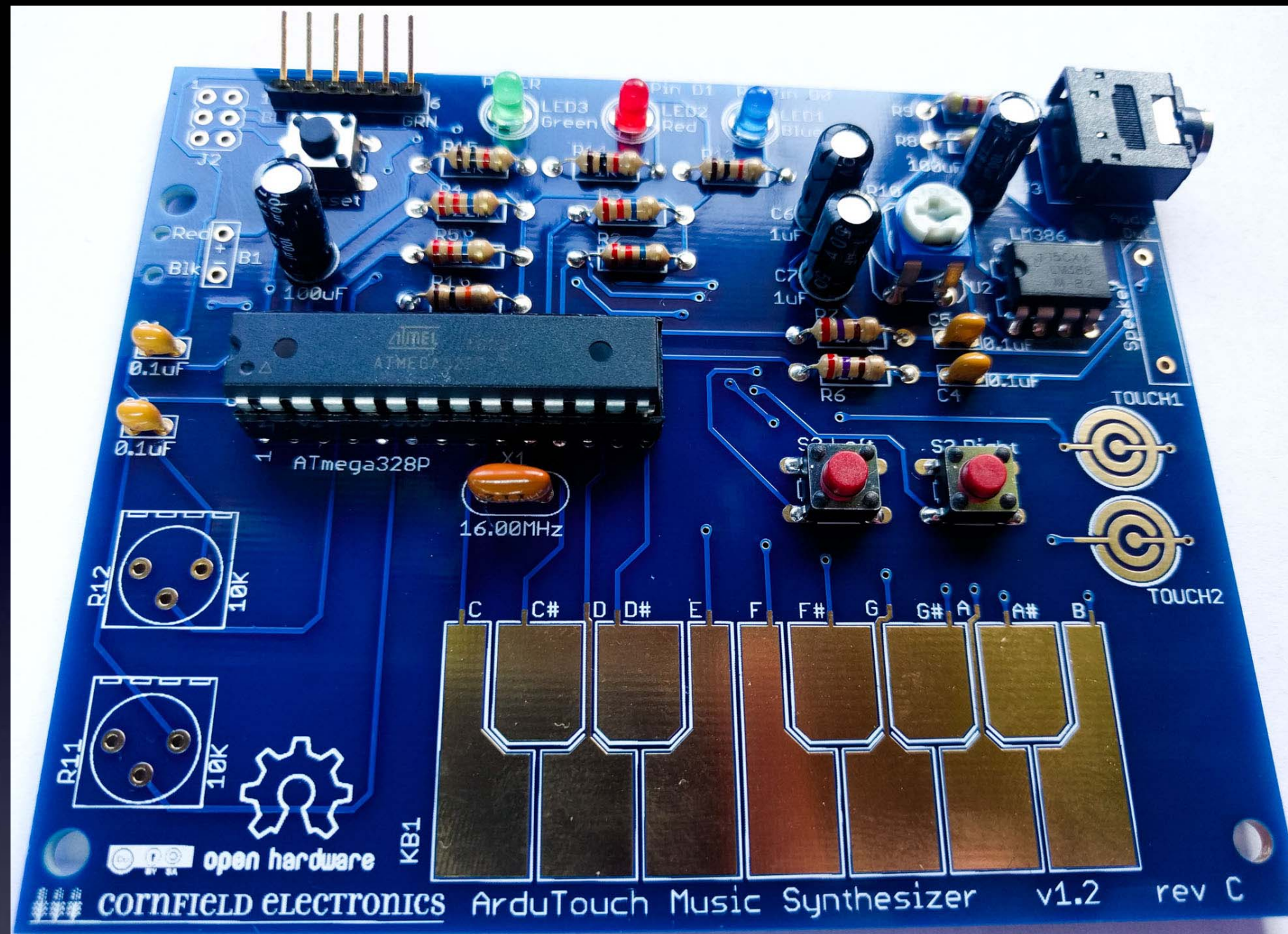
**Make sure all 28 pins  
are in place,  
and push it into its socket.**

**(This is actually way easier  
with 2 thumbs.)**



**U1: microcontroller**



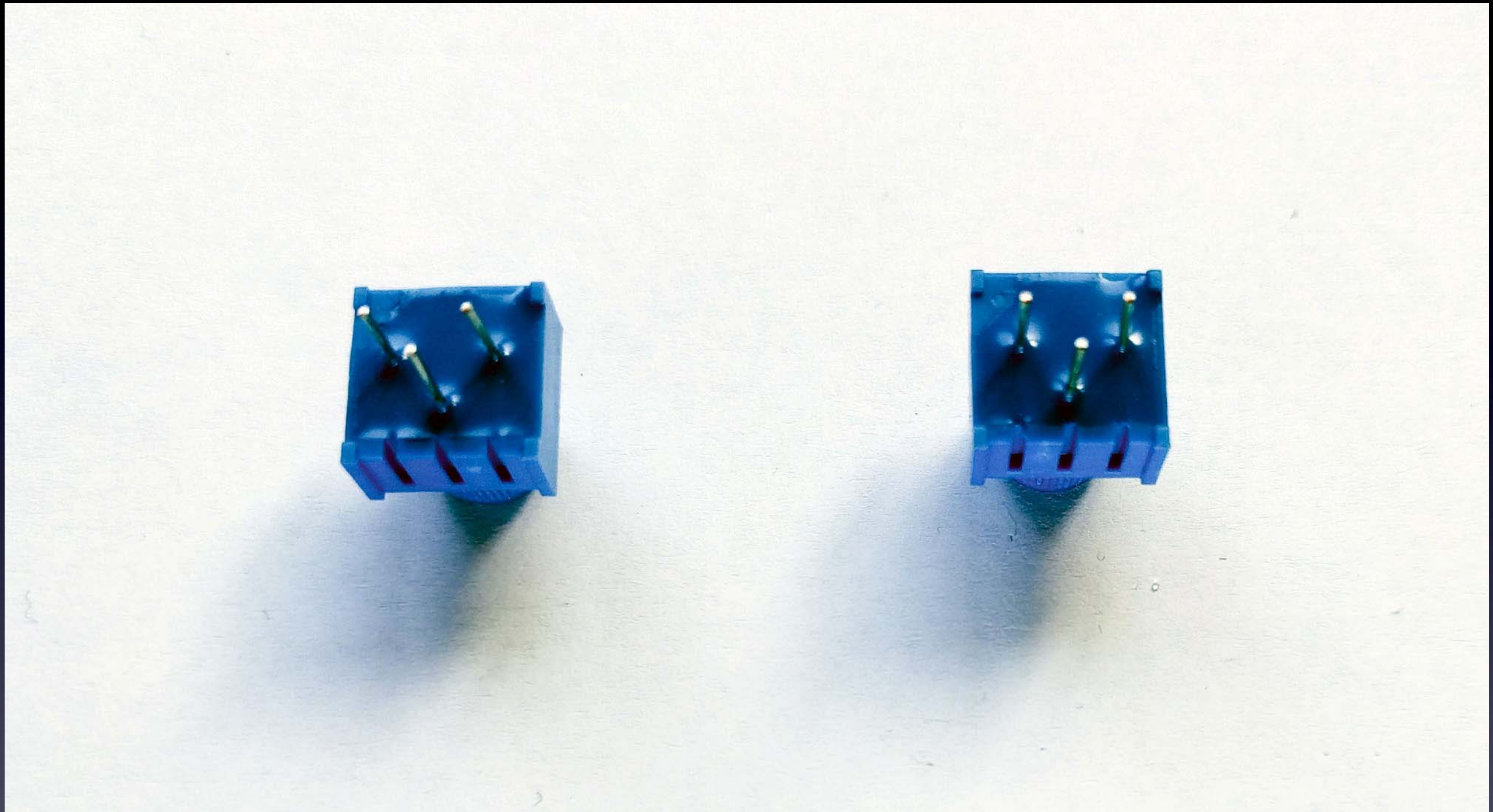


## U1: microcontroller

**Inspect all pins, and be sure each went into its hole in the socket – not bent.**

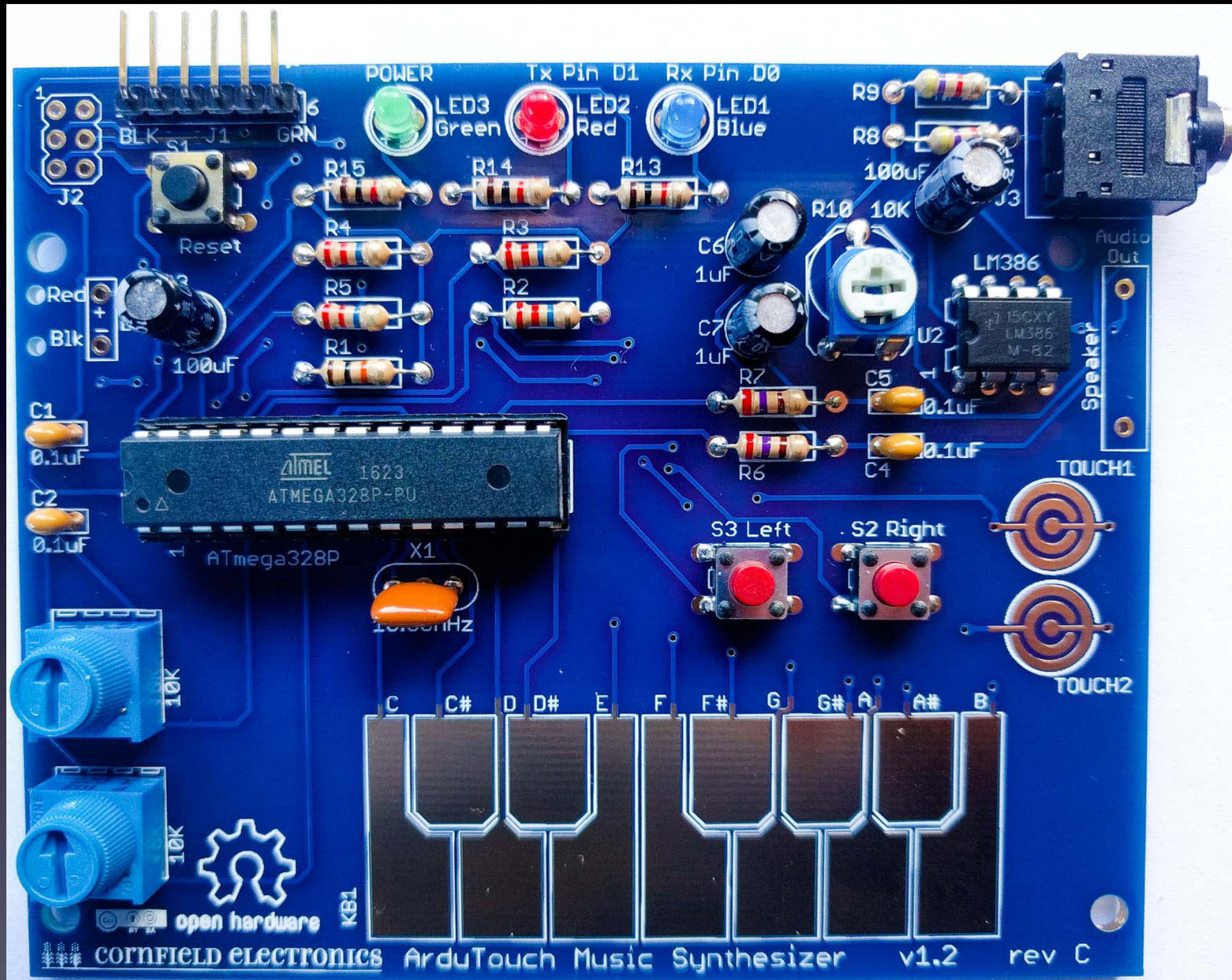
*If any pins are bent, (gently) pry out chip, straighten pins, and insert again.*





**R11 & R12: potentiometers**





**R11 & R12: potentiometers**





**Speaker**

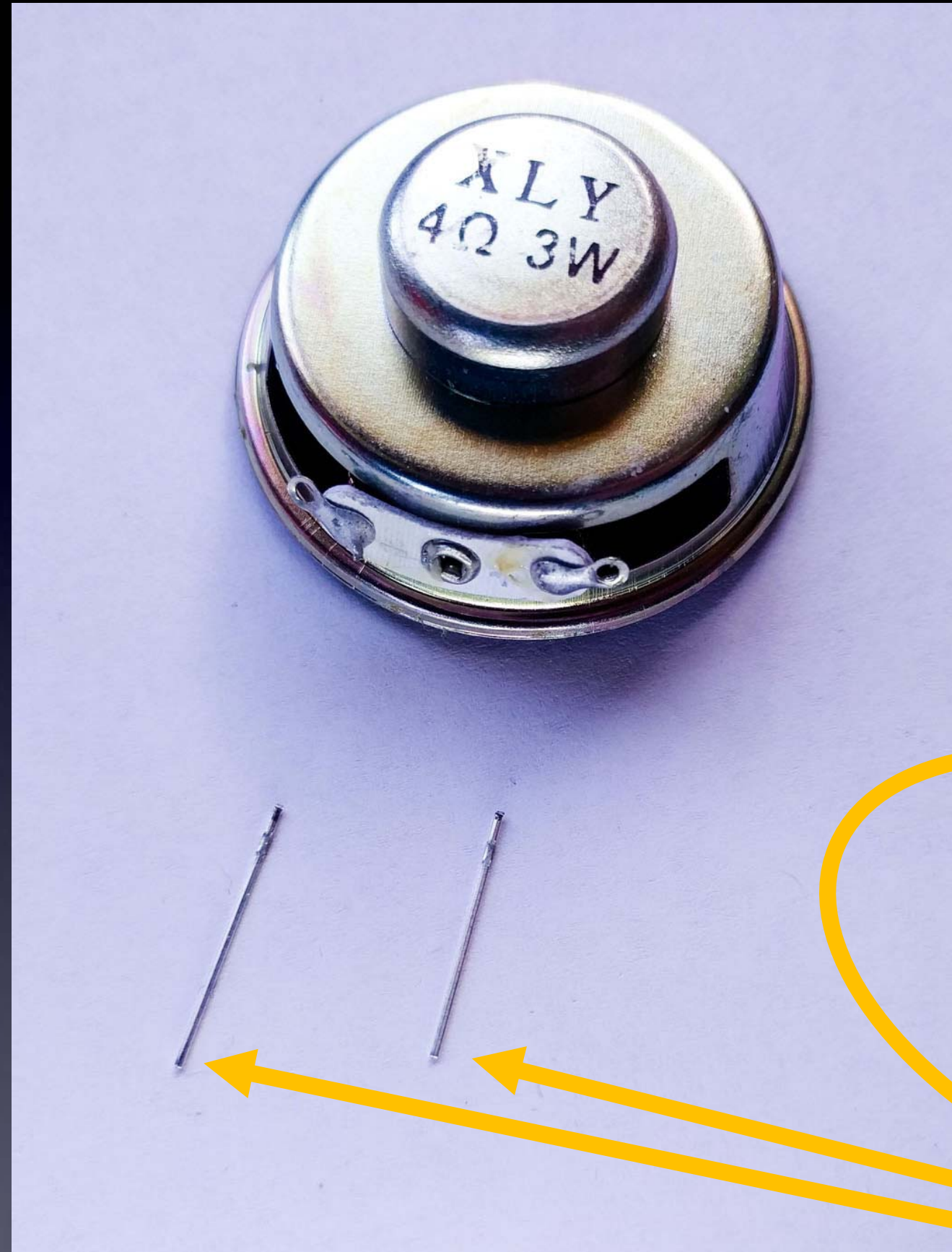
**Some kits have a  
speaker that looks  
like this**



**Speaker**



We'll add leads  
to the speaker



Saved  
leads

from the LEDs

Speaker

**Tin one side  
of each lead**

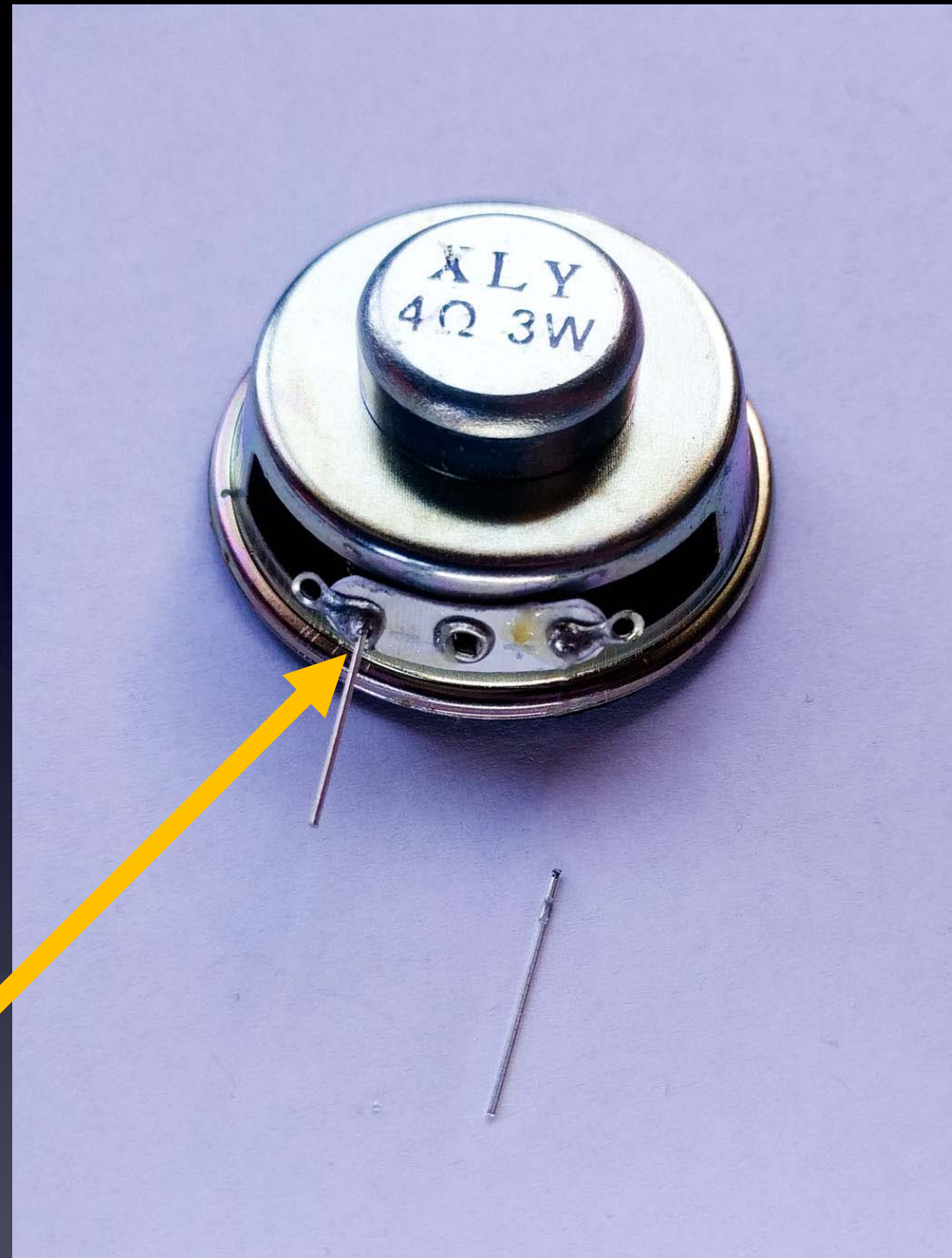
(i.e., cover with  
thin film of melted solder)



**Speaker**



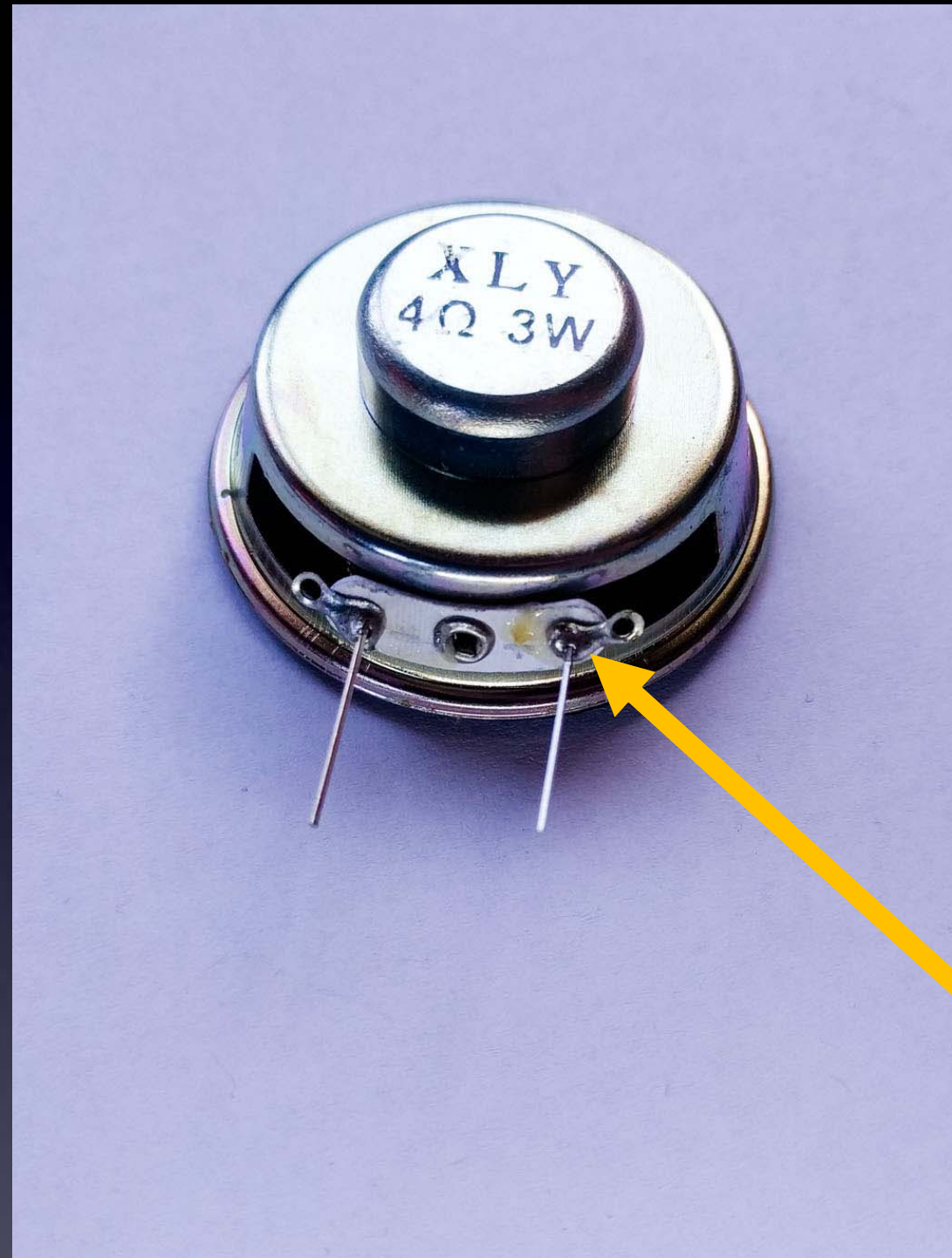
**Solder one lead  
to speaker**



**Notice the  
correct place  
to solder the wire**

**Speaker**

**Solder next lead  
to speaker**

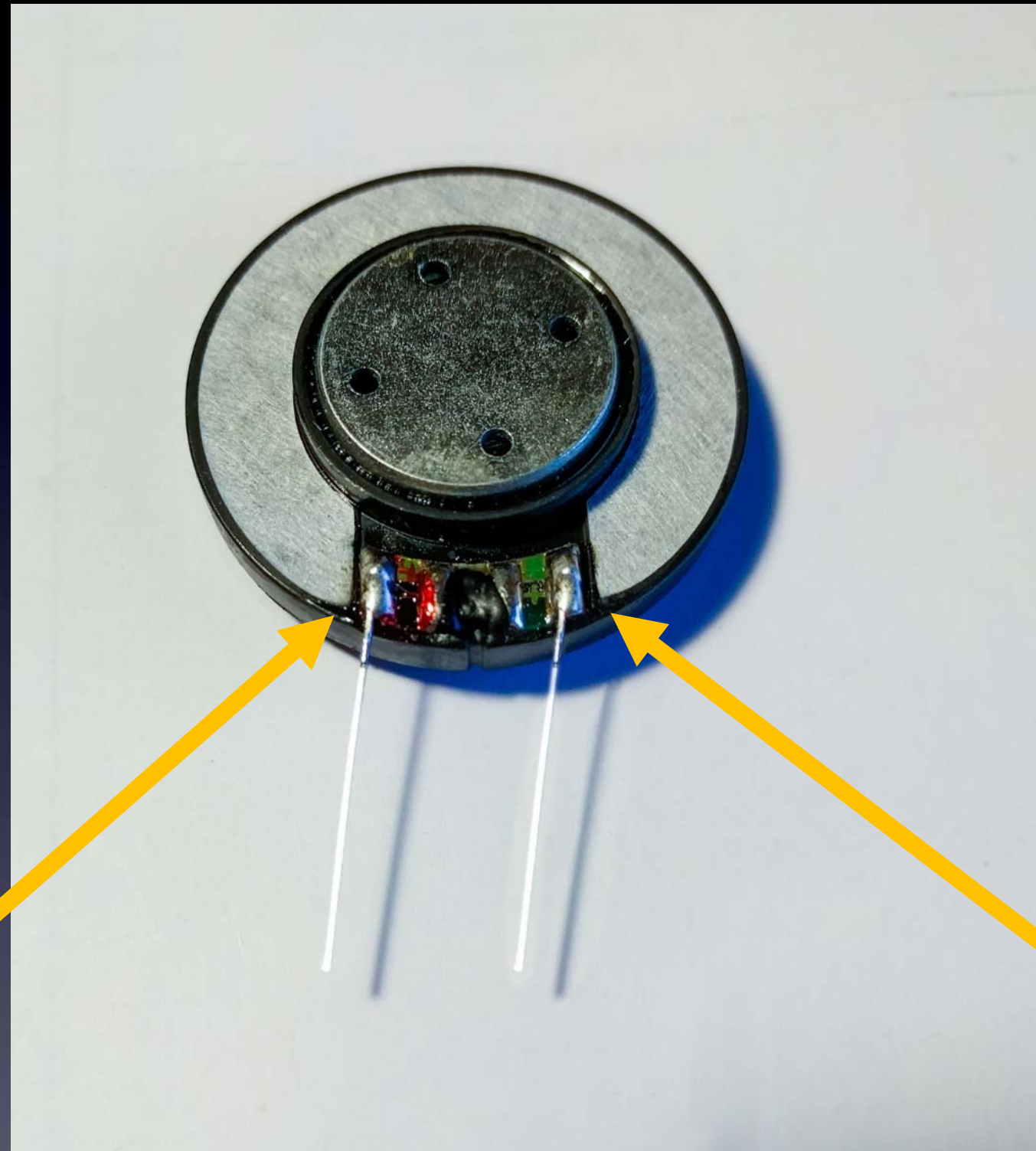


**Notice the  
correct place  
to solder the wire**

**Speaker**



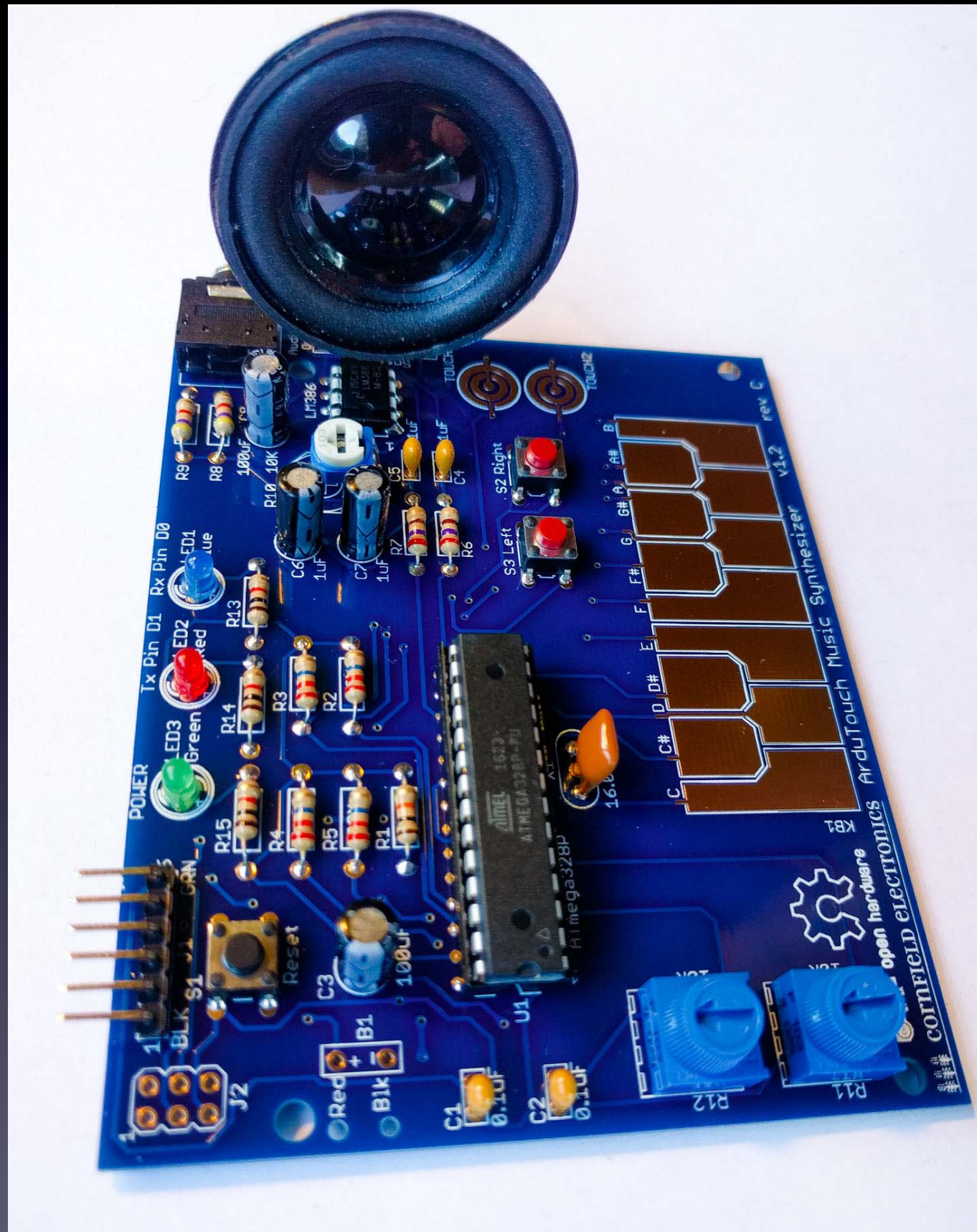
**Some kits have a speaker that looks like this**



**Notice the correct place to solder the wires**

**Speaker**

**Insert  
speaker into board  
and solder  
both leads to board.**

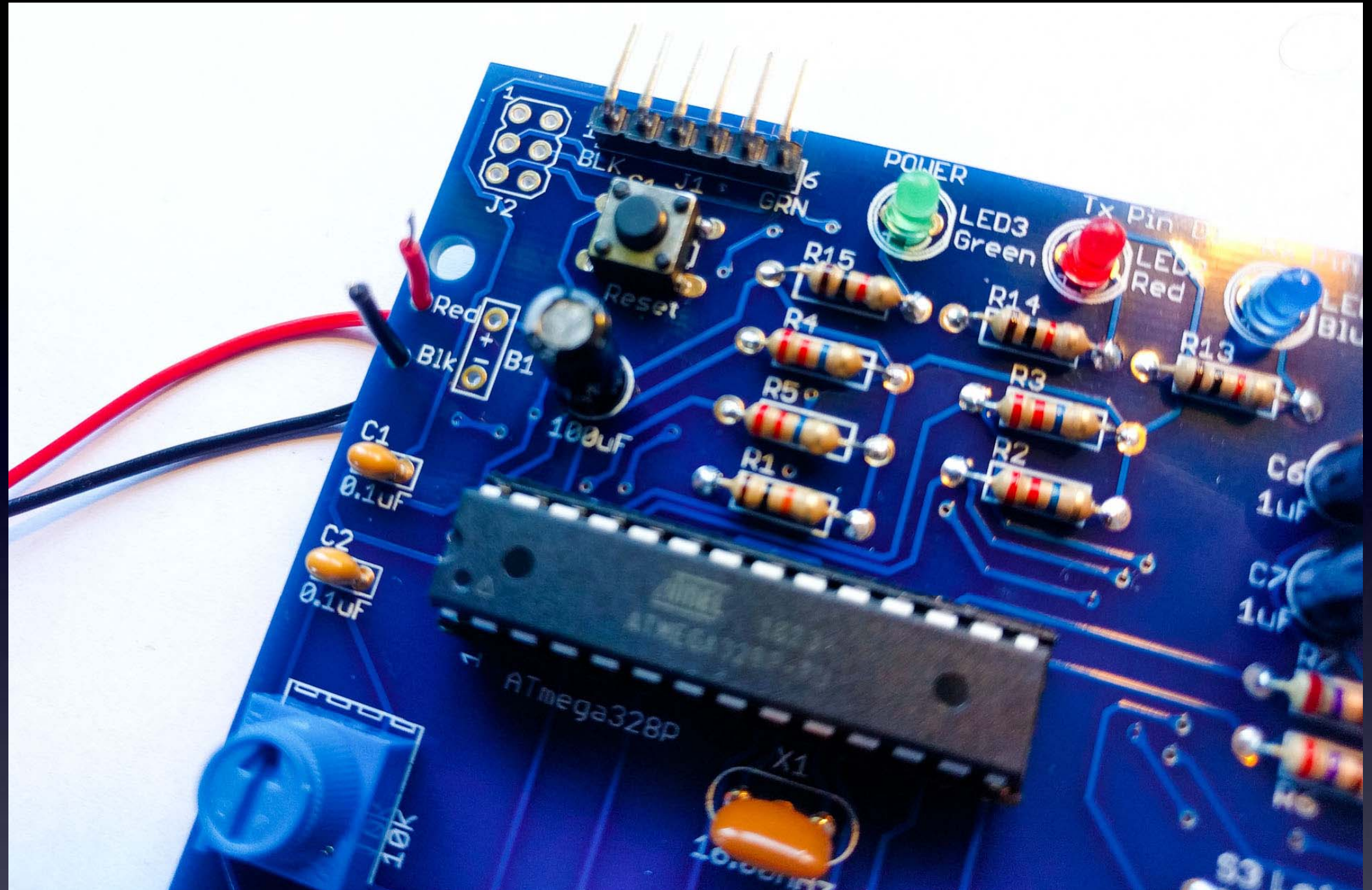


**Speaker**



*Note: Some battery pack wires have thicker red and black plastic coatings.*

*If so,  
you can widen the these  
two holes by gently  
rotating a scissors or small  
knife or small Phillips  
screwdriver on the top  
and bottom of these two  
holes.*

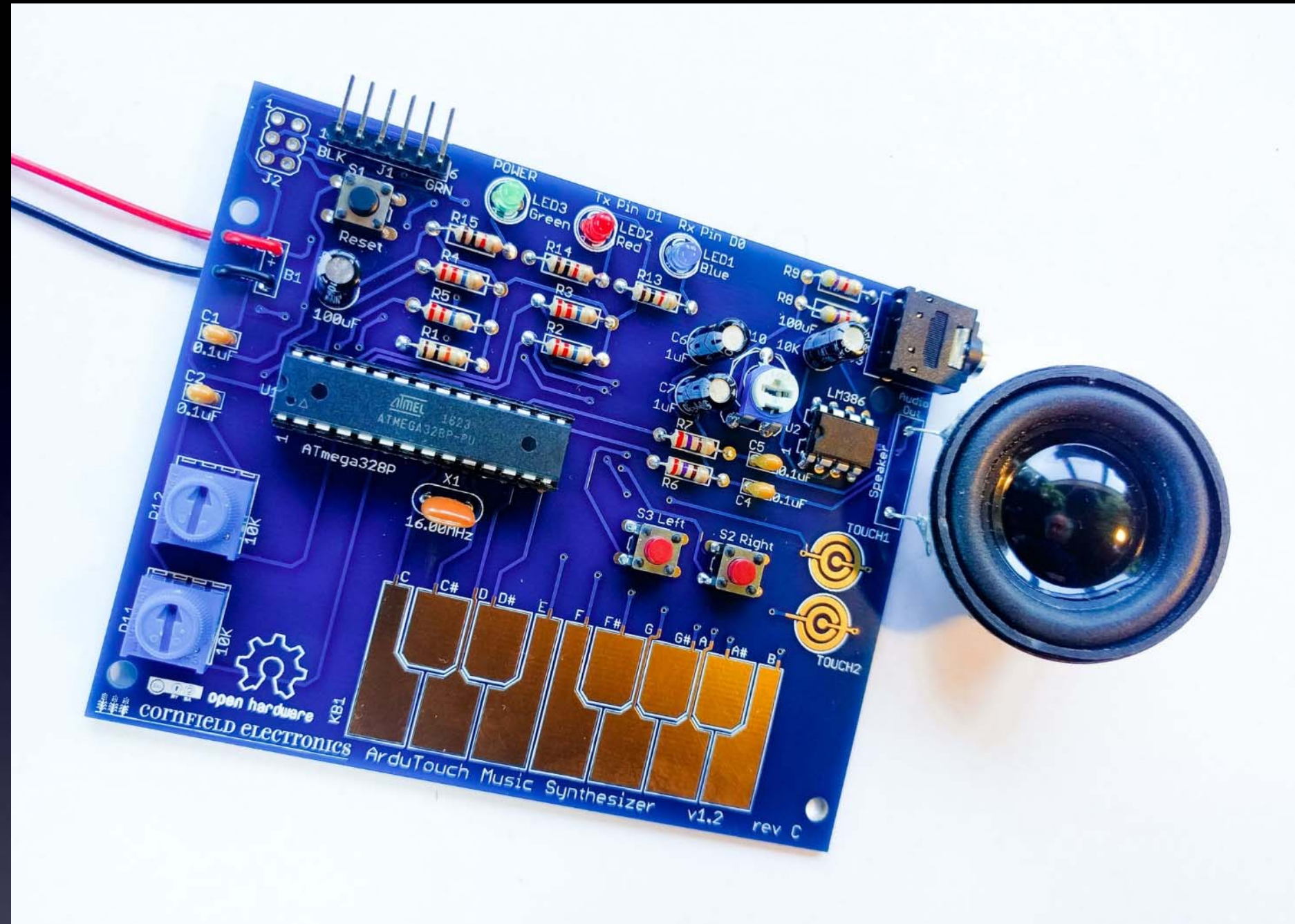


**Push battery pack  
leads through holes.**

# Make sure Red and Black go through their correct holes!

# Battery pack





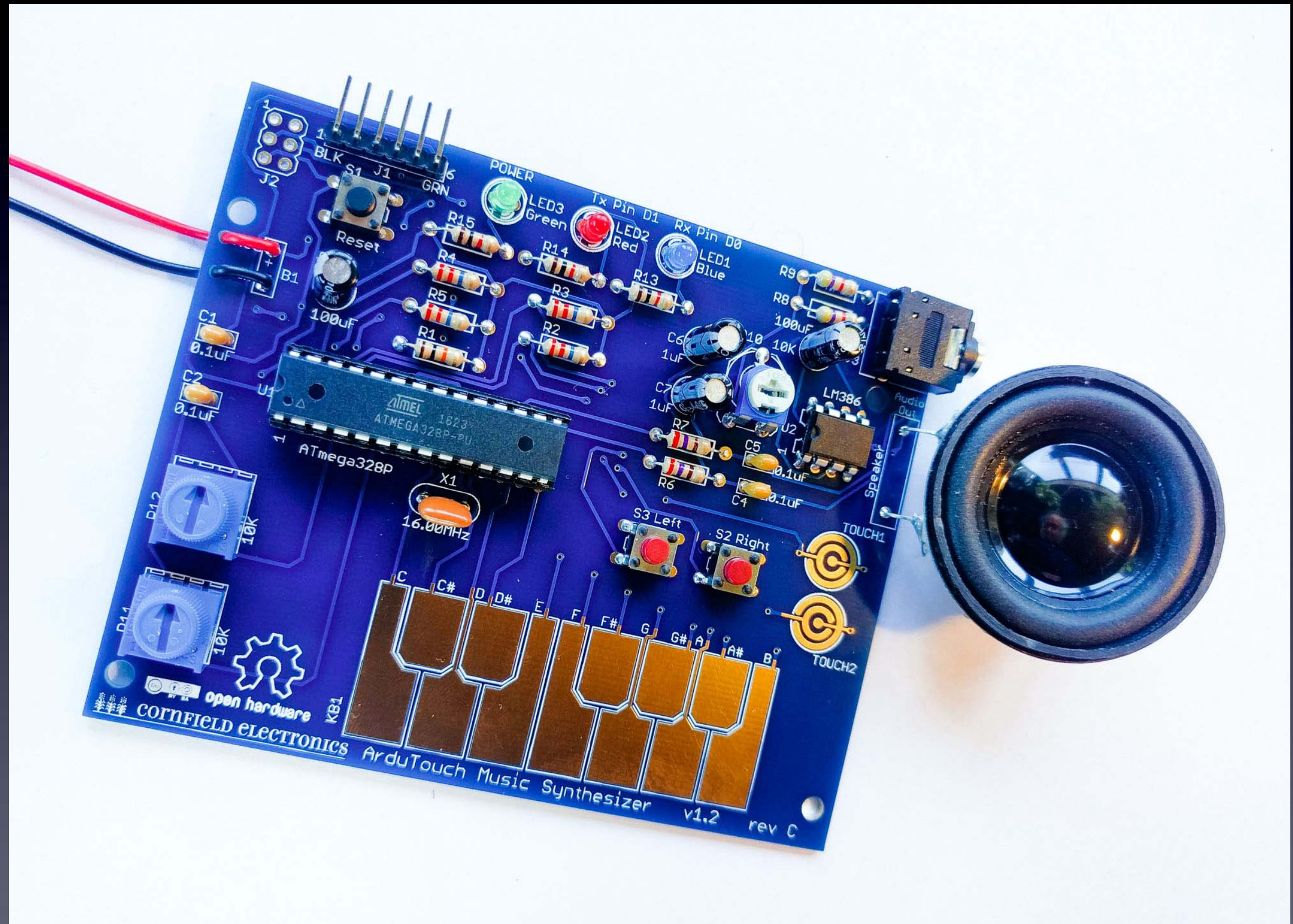
Loop one lead into its pad,  
and solder.

Then loop the other lead into its pad,  
and solder.

Battery pack

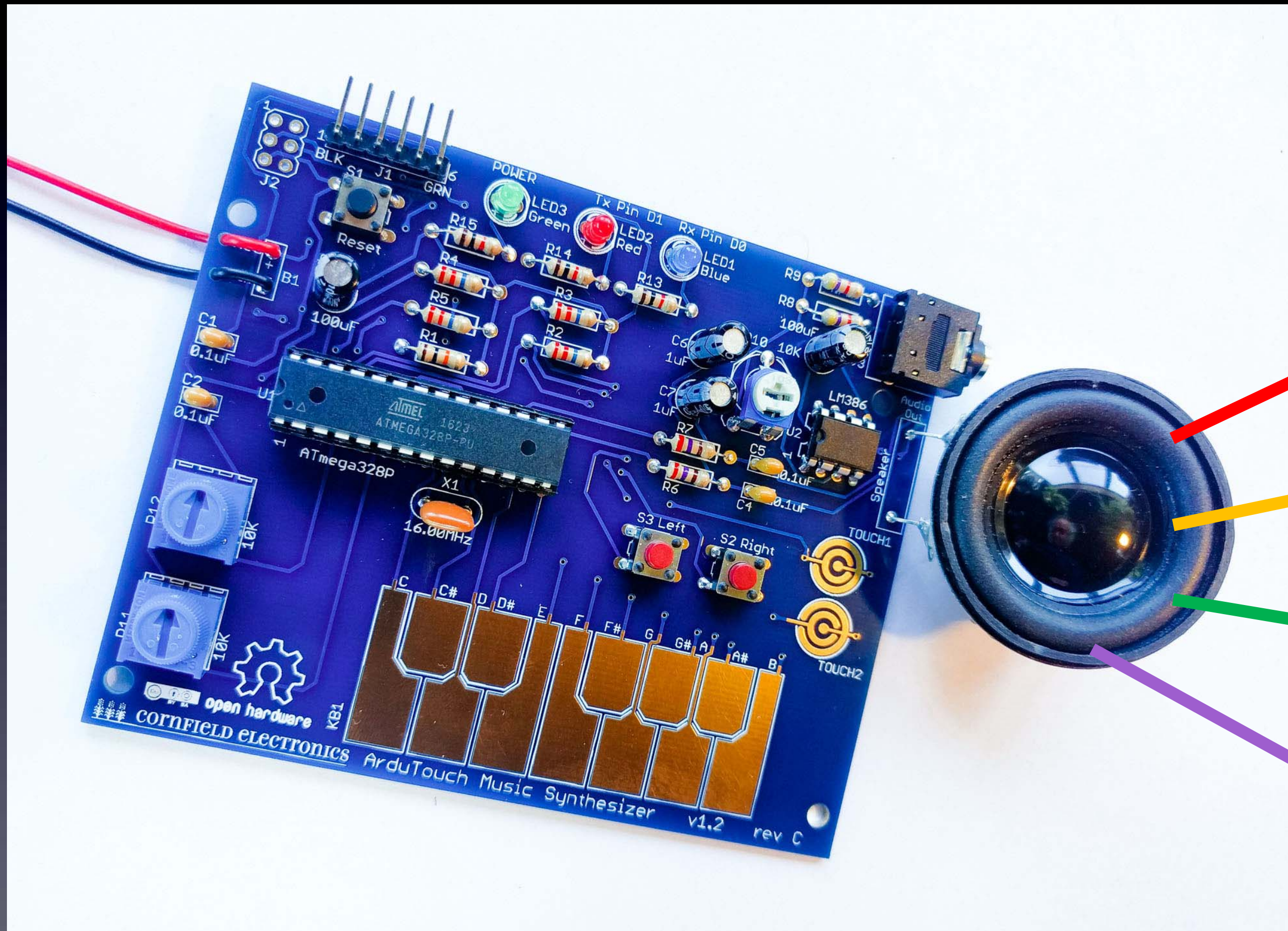


# Done!





# Let's make noise!





Please Remember:

to

**Wash your hands**

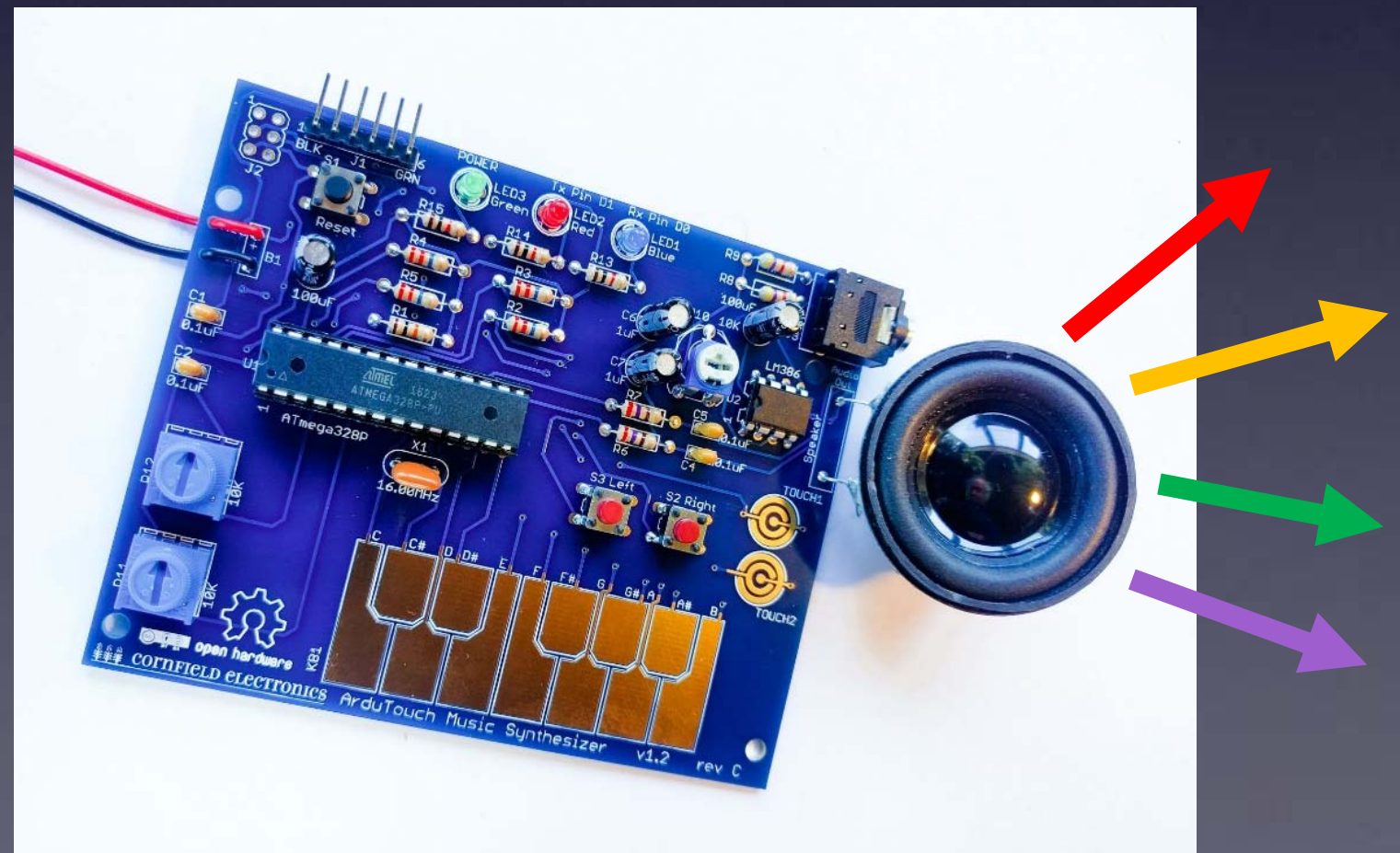
after soldering

# Let's make noise!

Your ArduTouch comes pre-programmed with a really cool synthesizer, called “Thick”.

“Thick” plays 4 sawtooth waves at once.

- the left and right buttons change octaves
- long press the left and right buttons to change sounds
- the Bottom knob controls the glide rate
- the Top knob controls how each of the 4 notes glide separately
- Try playing with these and see!



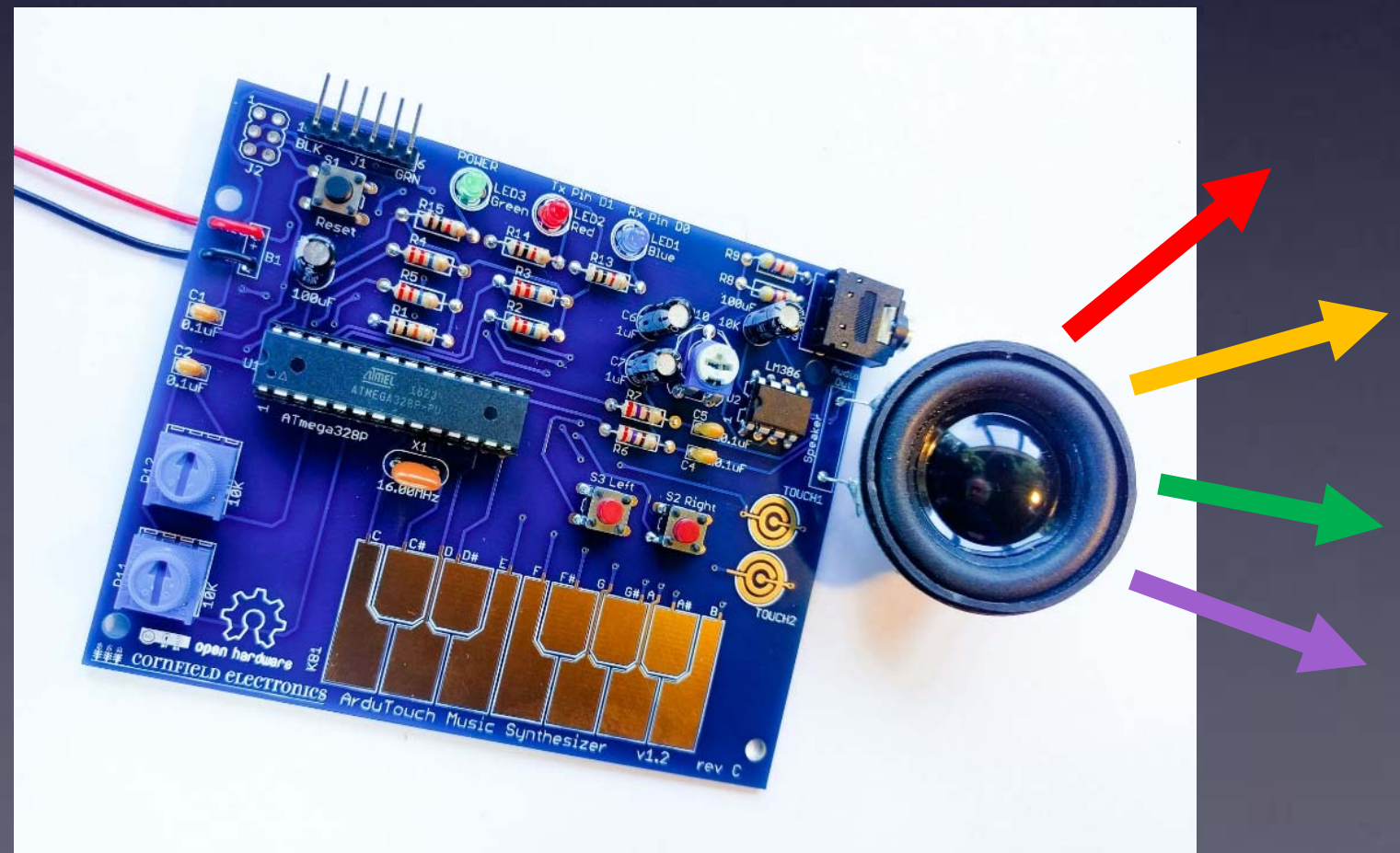


# Let's make noise!

Your ArduTouch comes pre-programmed with a really cool synthesizer, called “Thick”.

If you are happy playing with “Thick” then no need to re-program your ArduTouch.

But if you want to program other synths into your ArduTouch, the next pages show you how...

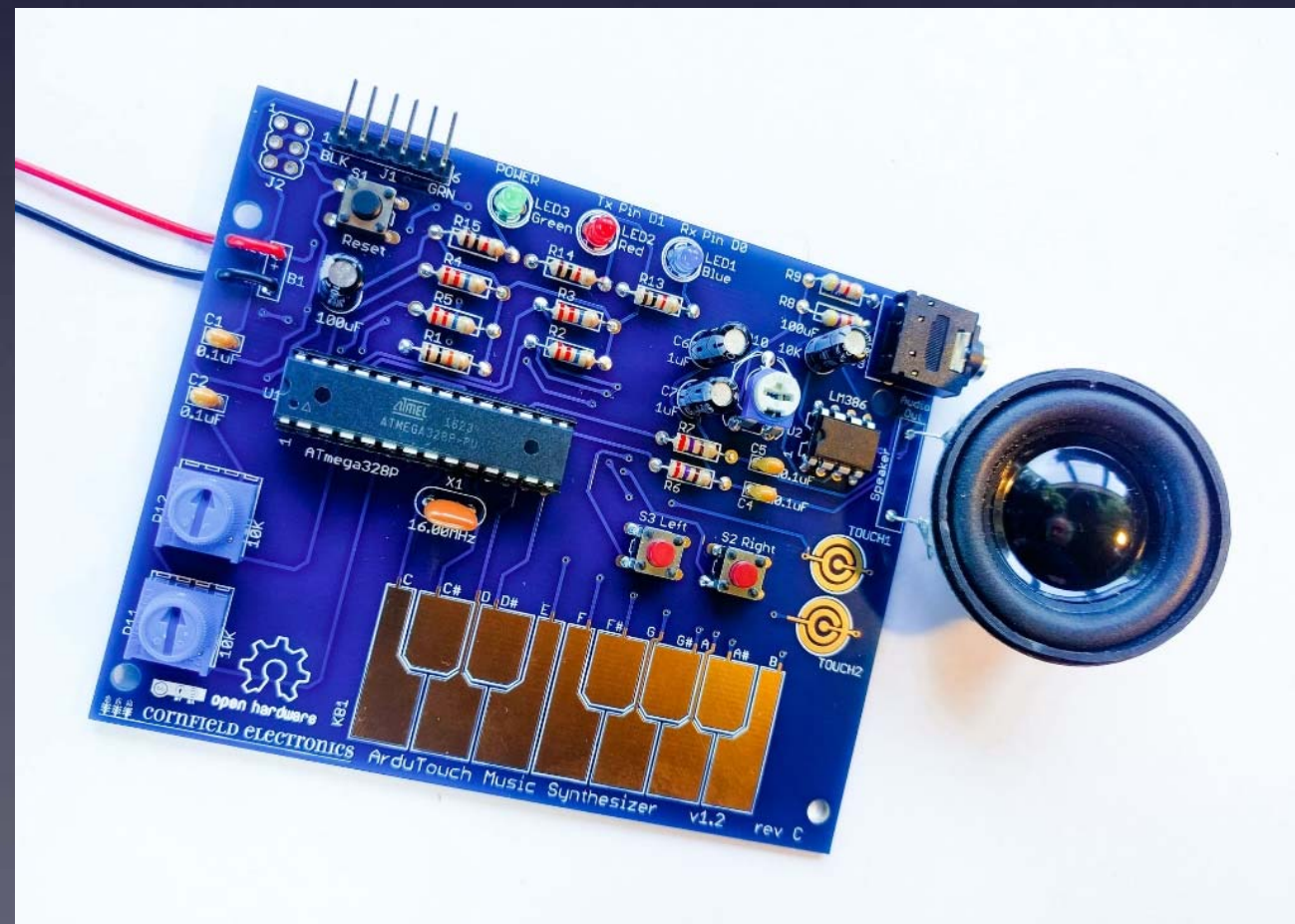


# Re-programming the ArduTouch

**We have written several way cool synthesizers for ArduTouch!  
Each is unique, and each way different than the others.**

**To program in a new synth in your ArduTouch, you will need:**

- the Arduino software <<http://arduino.cc>>
- a USB-Serial adapter cable (such as an FTDI, or equivalent)  
a nice one is available at  
<<https://cornfieldelectronics.com/cfe/products/buy.php?productId=usbcable>>
- a synth sketch and the ArduTouch Arduino library  
<<http://cornfieldelectronics.com/cfe/projects.php#ardutouch>>





# Arduino

**Arduino is a very powerful tool!  
But it is very easy to use.**

**It was designed for total beginners to use successfully.**

**I won't give a complete tutorial here – just some basics.**

**For more info, there are many good Arduino tutorials online.**

**A good place to start is:**

**<<https://www.arduino.cc/en/Tutorial/HomePage>>**



# Arduino

## First:

Download and install the Arduino software

< <http://arduino.cc> >

Any version is OK



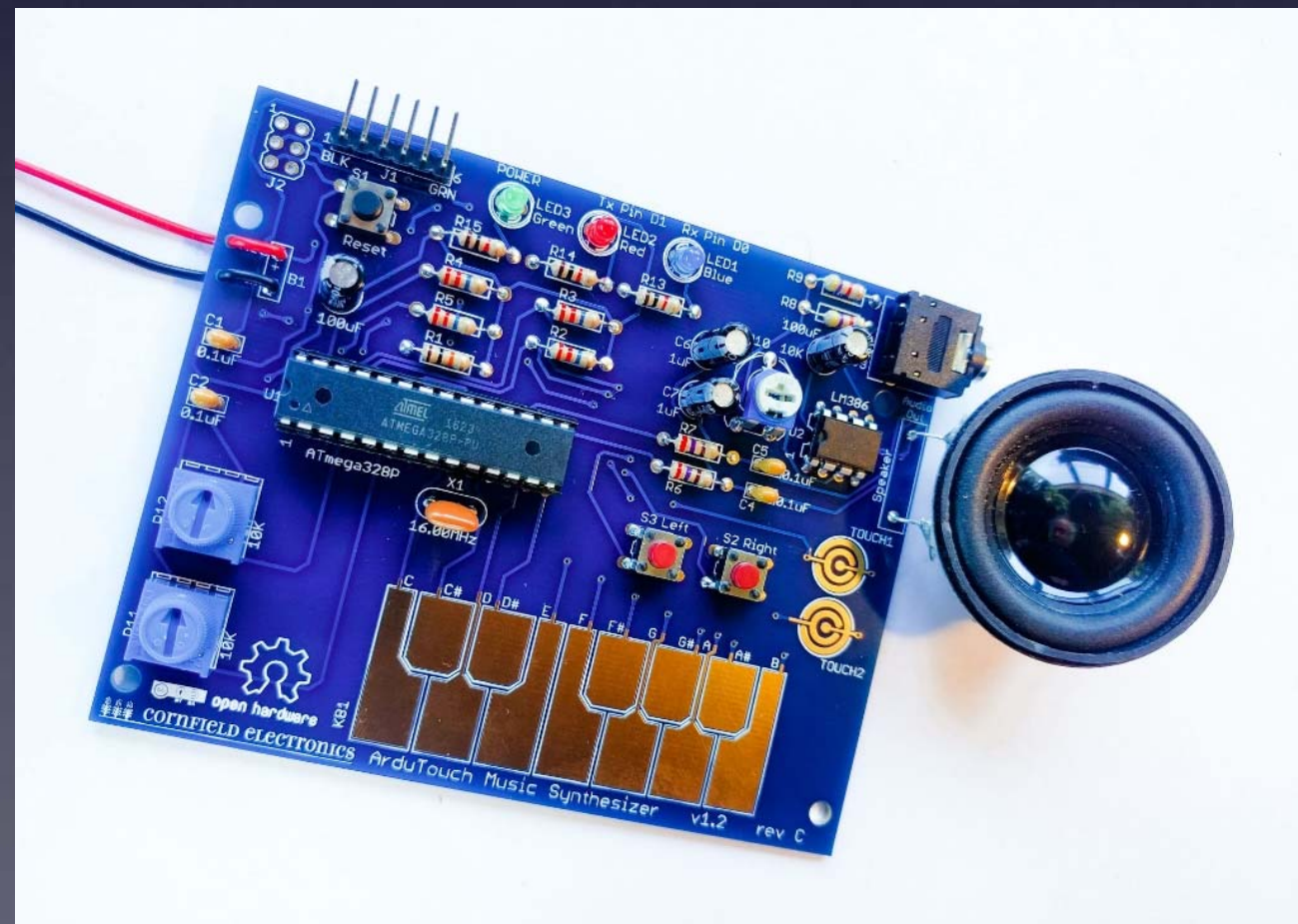


# Re-programming the ArduTouch

## Second:

Download and install the ArduTouch Arduino library  
<<http://cornfieldelectronics.com/cfe/projects.php#ardutouch>>

(details on this soon)



# Re-programming the ArduTouch

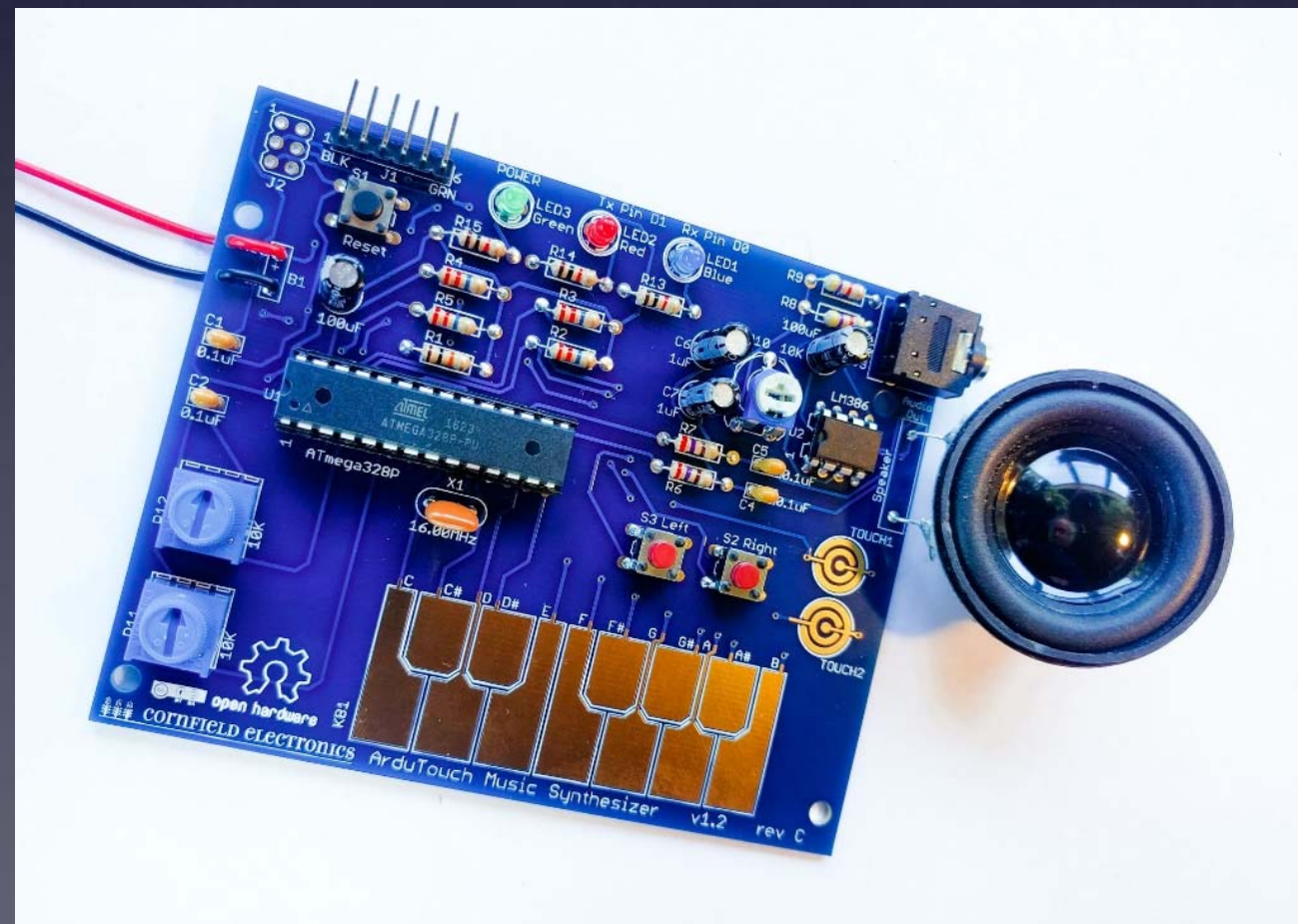
## Third:

Download ArduTouch synth sketches

<<http://cornfieldelectronics.com/cfe/projects.php#ardutouch>>

Store them on your computer anywhere you like.

(details on this soon)



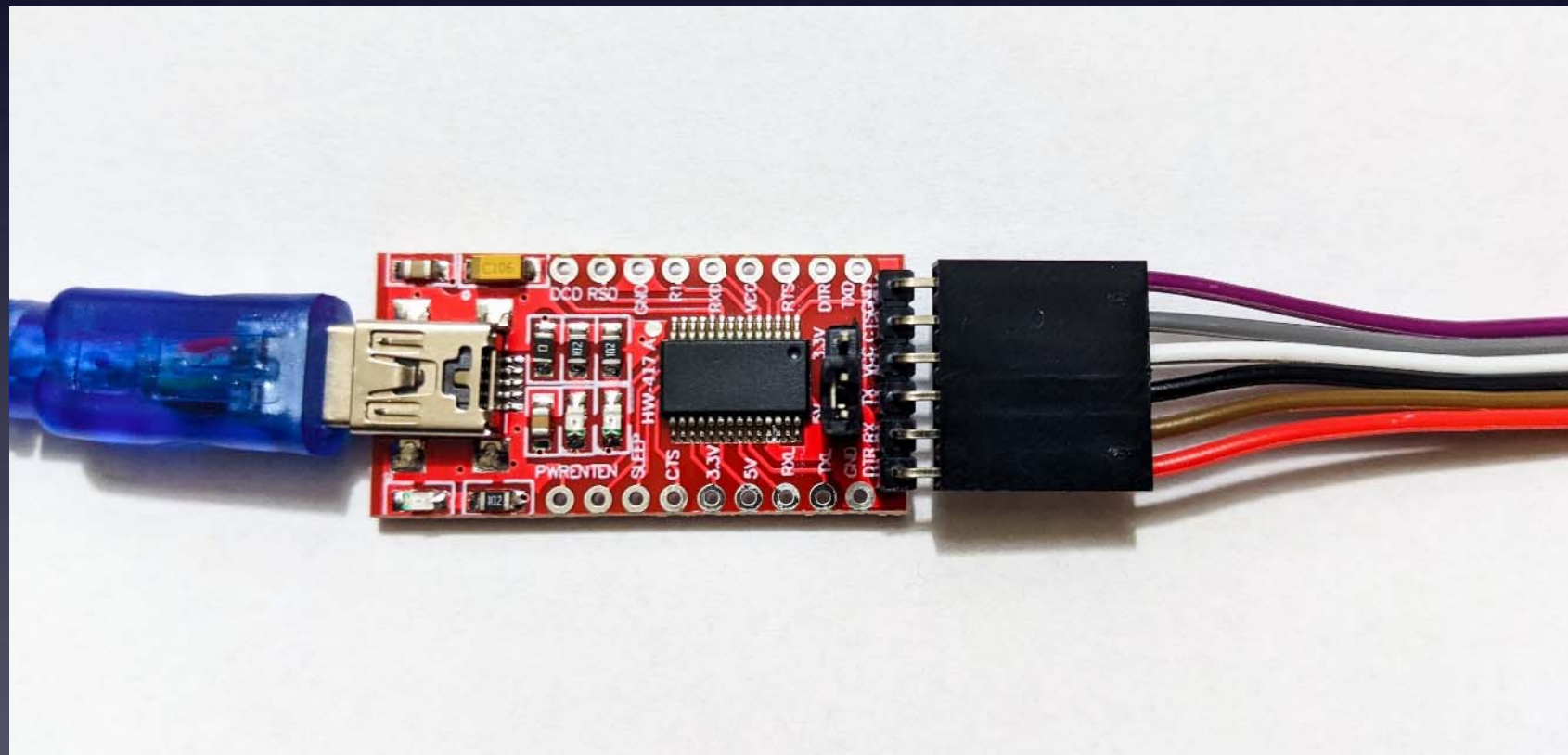


# Connecting your ArduTouch to your computer

## USB-Serial adapter cable

**Ones available from Cornfield Electronics look like this:**

[<https://cornfieldelectronics.com/cfe/products/buy.php?productId=usbcable>](https://cornfieldelectronics.com/cfe/products/buy.php?productId=usbcable)

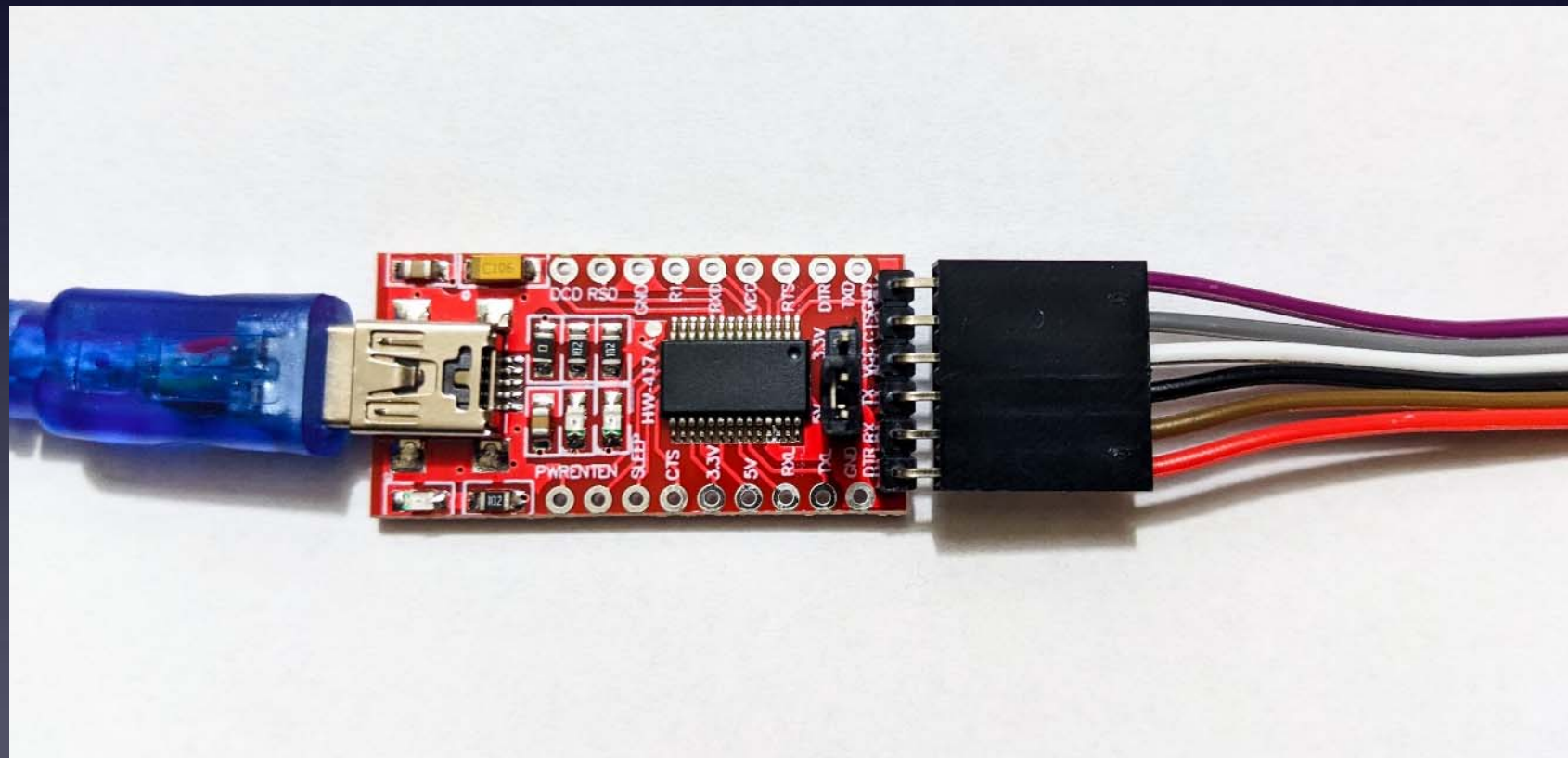


# Connecting your ArduTouch to your computer

## USB-Serial adapter cable

**Ones available from Cornfield Electronics look like this:**

[<https://cornfieldelectronics.com/cfe/products/buy.php?productId=usbcable>](https://cornfieldelectronics.com/cfe/products/buy.php?productId=usbcable)

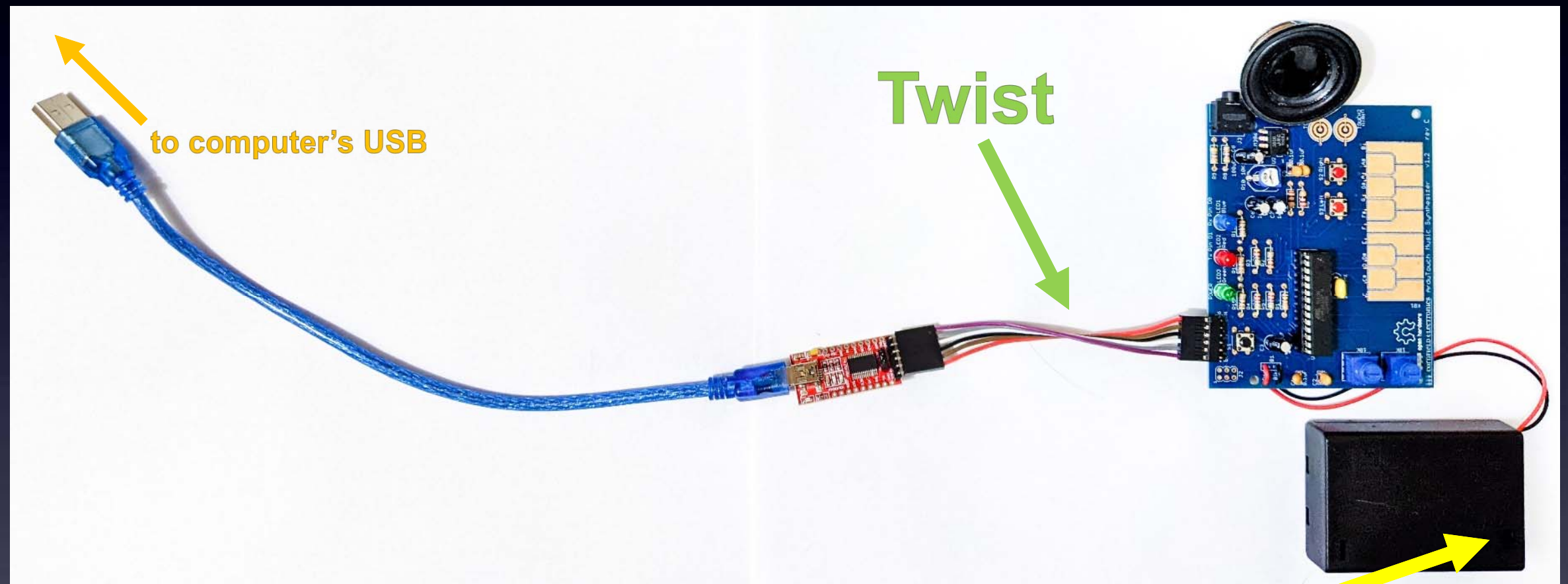


**You may need to download and install a driver  
for your Operating System (Windows, MacOS, or Linux):**

[<https://ftdichip.com/drivers/vcp-drivers/>](https://ftdichip.com/drivers/vcp-drivers/)



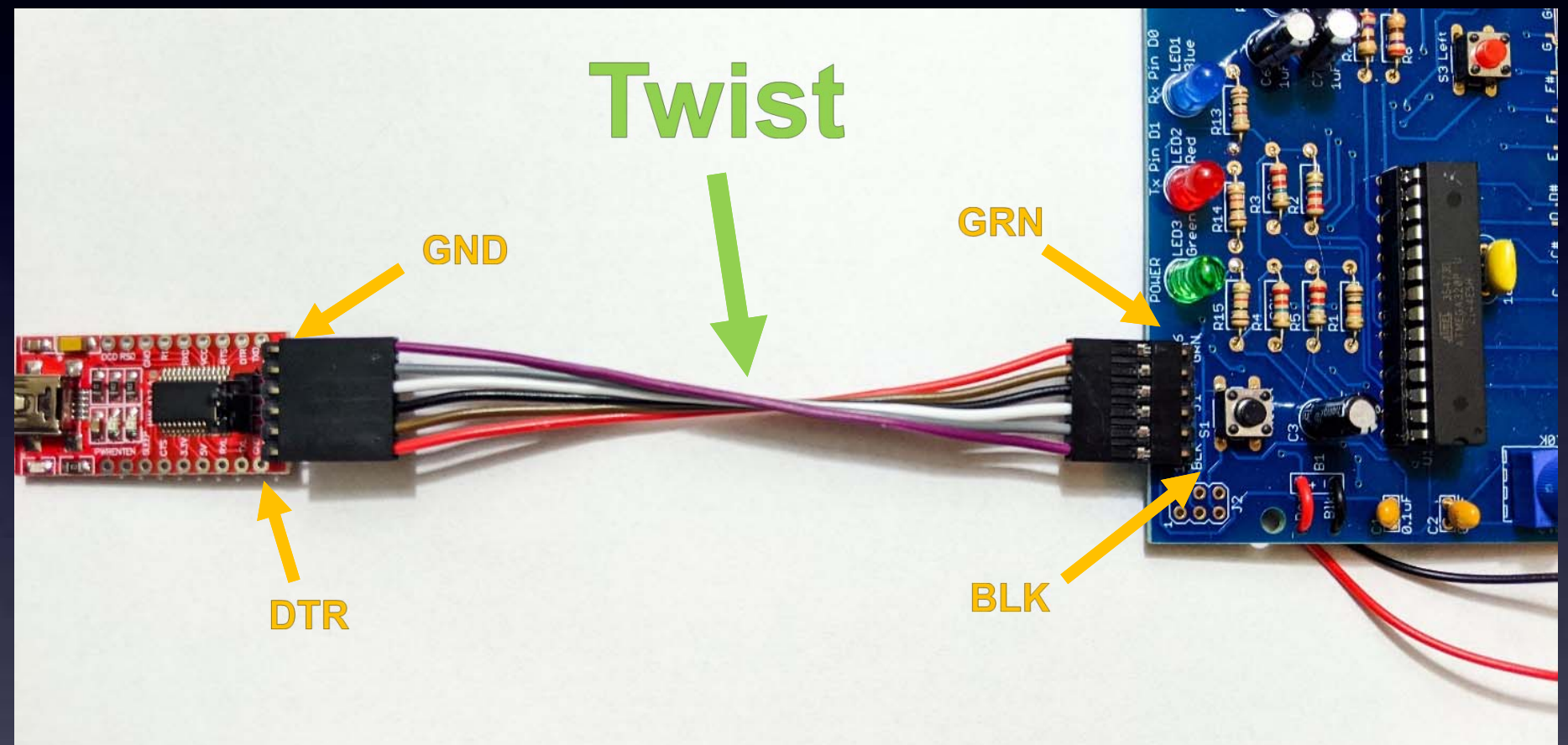
# Connecting your ArduTouch to your computer



**IMPORTANT:**  
Make sure the  
battery pack on your  
ArduTouch  
is OFF

# Connecting your ArduTouch to your computer

This shows a few more details:



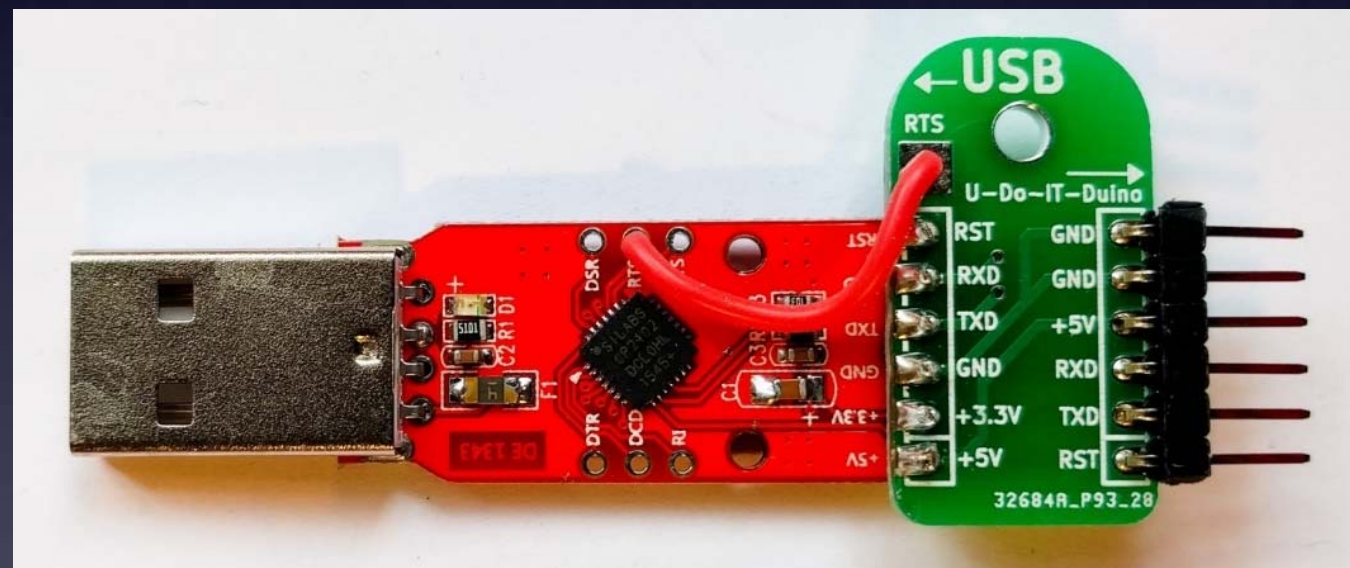
**IMPORTANT:**  
Make sure the  
battery pack on  
your ArduTouch  
is OFF



# Connecting your ArduTouch to your computer

USB-Serial adapter cable

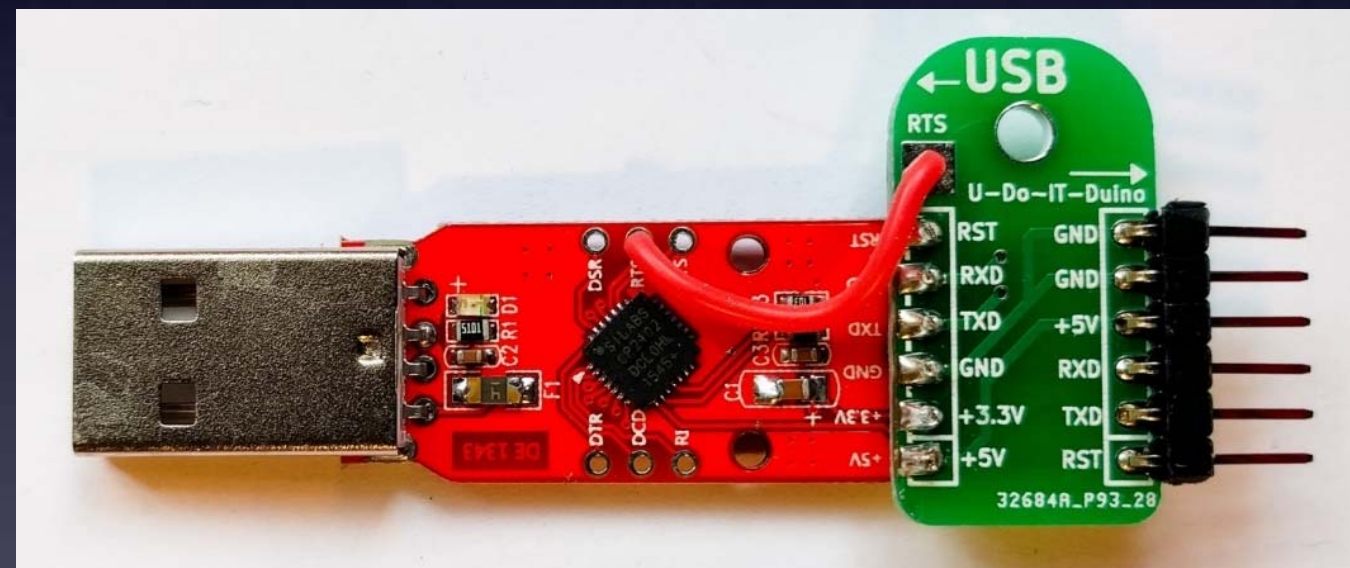
Old ones from Cornfield Electronics looked like this:



# Connecting your ArduTouch to your computer

USB-Serial adapter cable

Old ones from Cornfield Electronics looked like this:

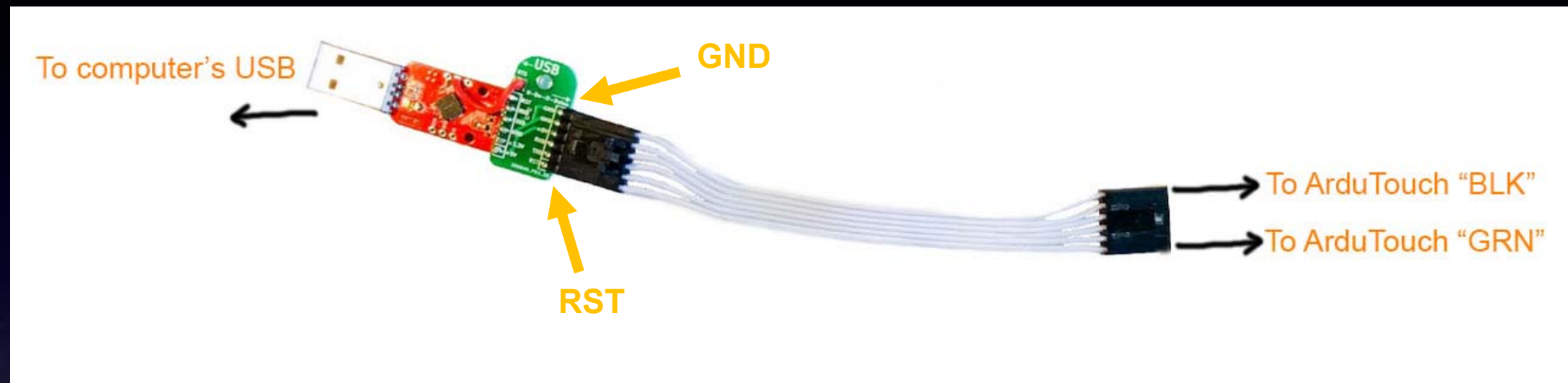


You may need to download and install a driver  
for your Operating System (Windows, MacOS, or Linux):

<<https://www.silabs.com/products/development-tools/software/usb-to-uart-bridge-vcp-drivers>>

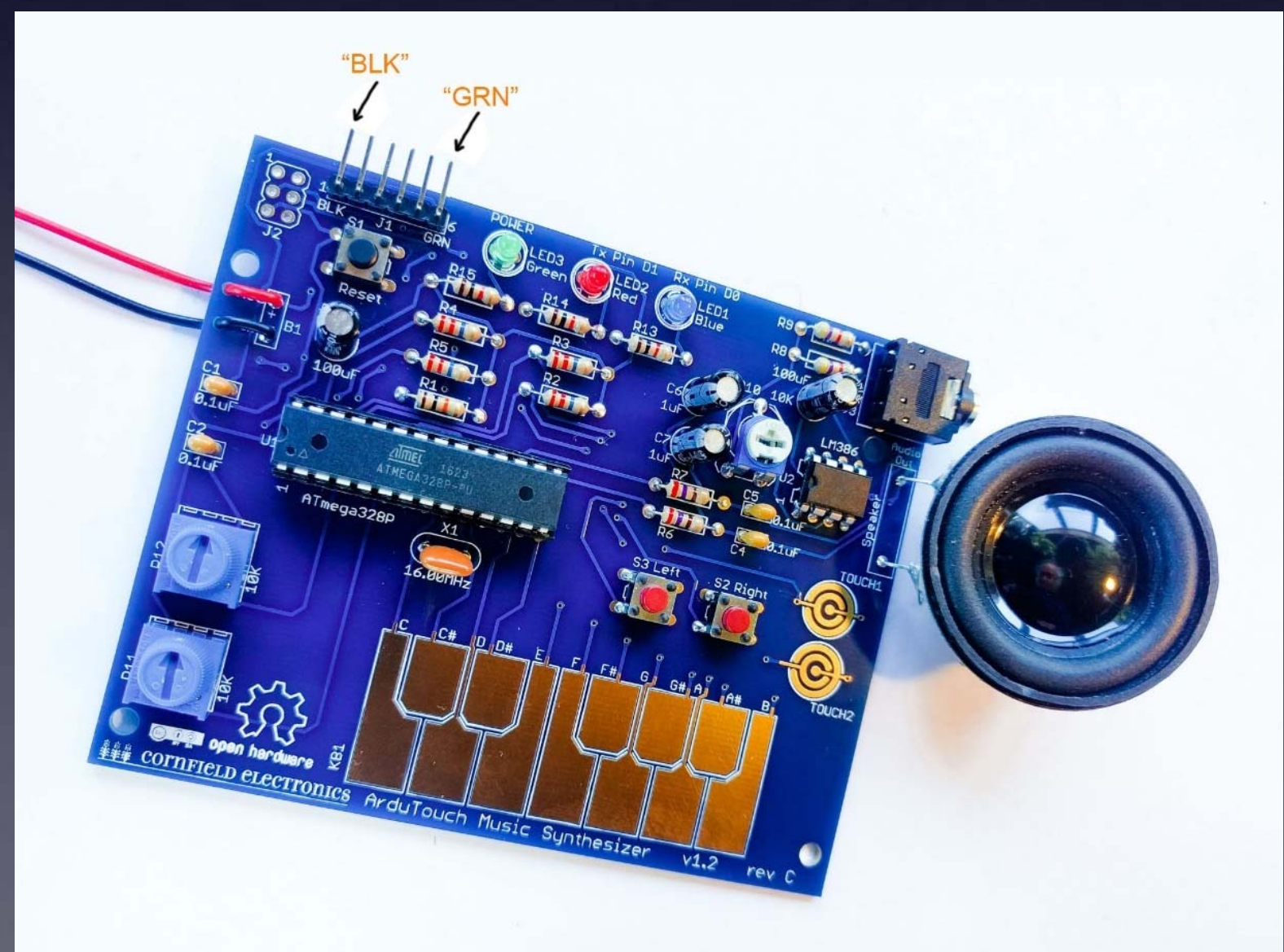


# Connecting your ArduTouch to your computer



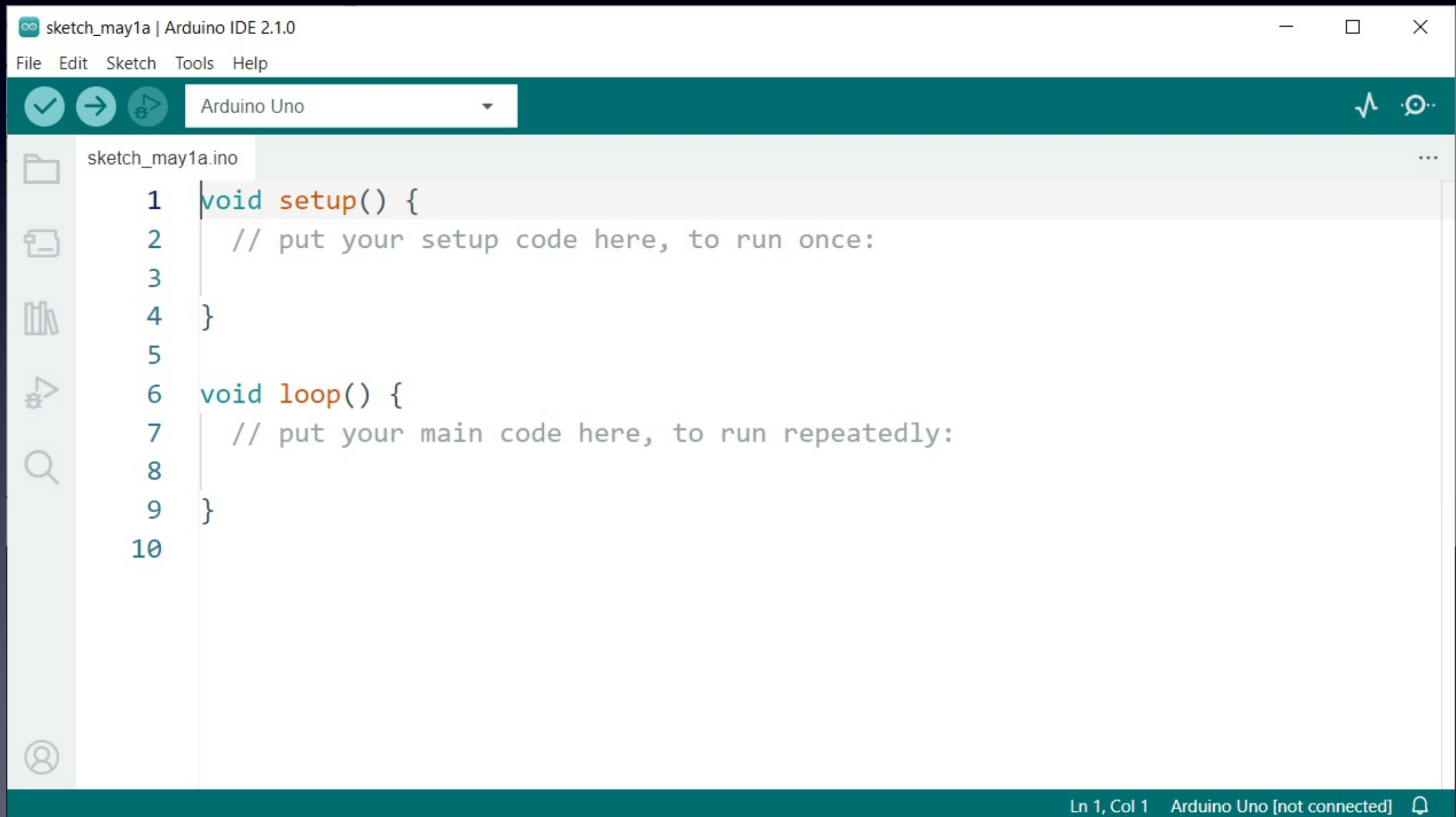
(Old ones)

**IMPORTANT:**  
Make sure the  
battery pack on your  
ArduTouch  
is OFF



# Arduino

**After you download and install the Arduino software start it, and you will see a screen that looks like this:**



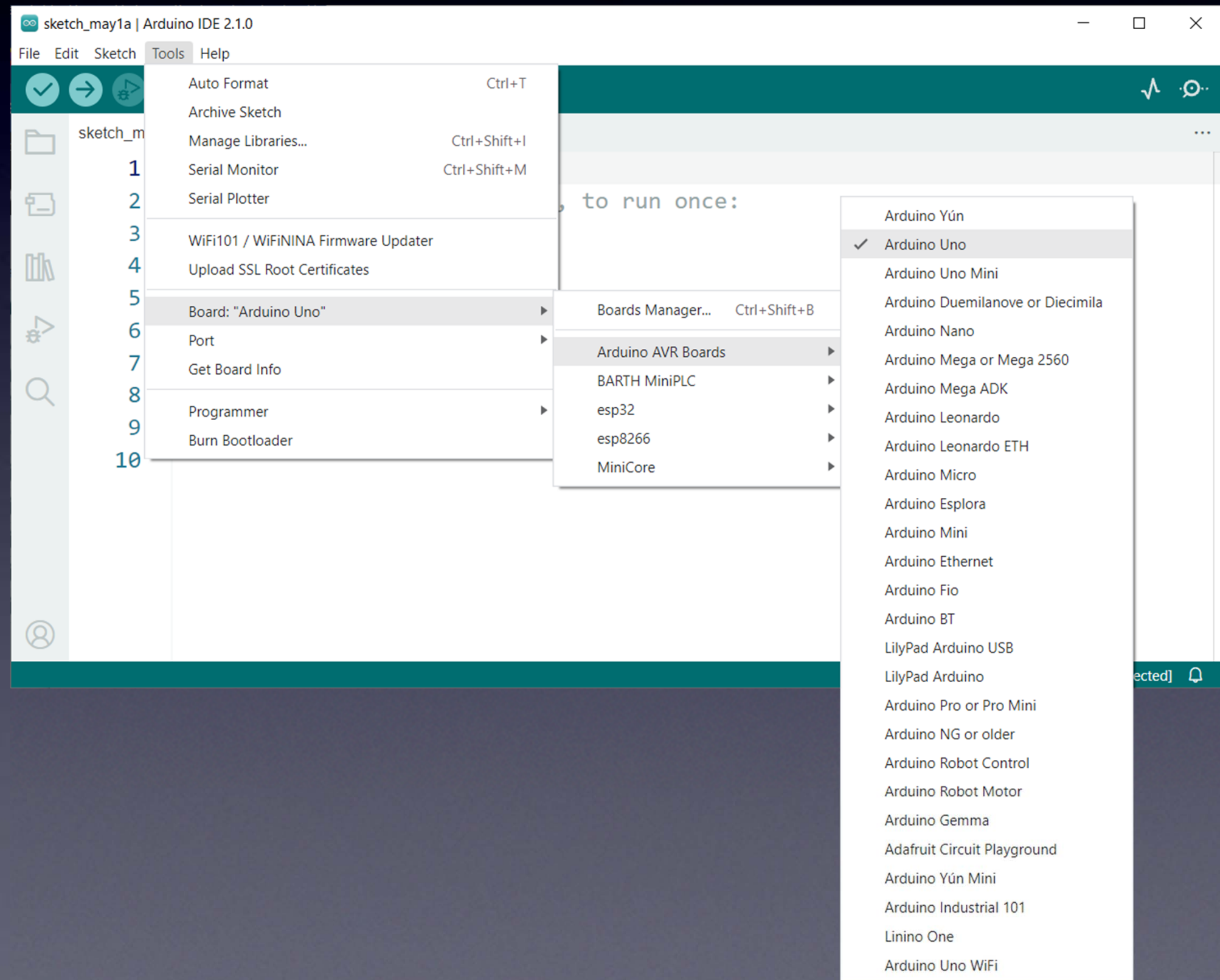


# Arduino

The first time you start your Arduino software you need to do three things to set things up

(1)  
Choose “Uno”  
as the Board

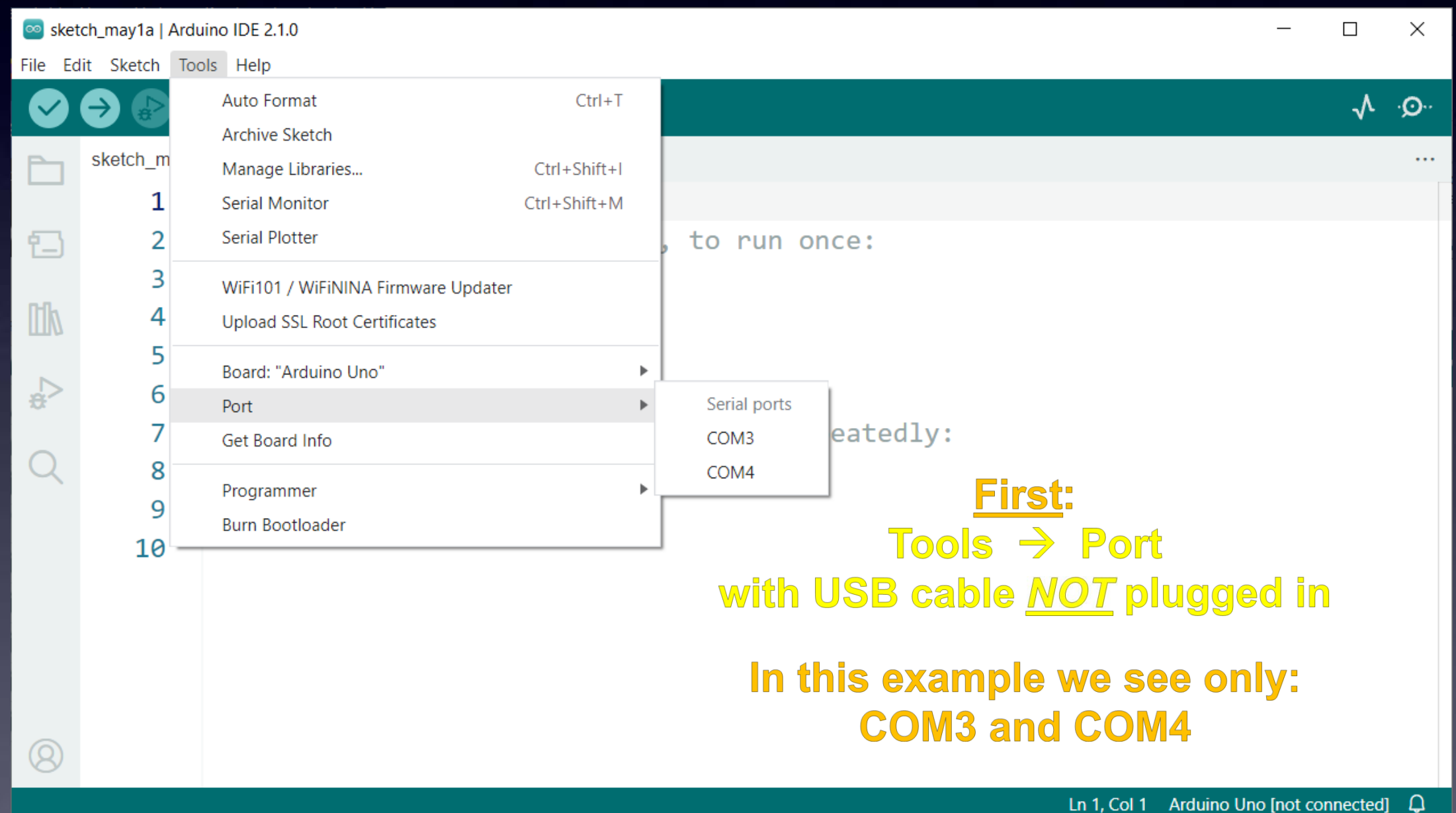
(Your  
ArduTouch board  
acts  
just like  
an  
Arduino Uno board)



# Arduino

The first time you start your Arduino software you need to do three things to set things up

(2)  
Choose  
the Port  
(this will be  
different  
depending on  
your Operating  
System)



**First:**  
Tools → Port  
with USB cable NOT plugged in

In this example we see only:  
**COM3 and COM4**

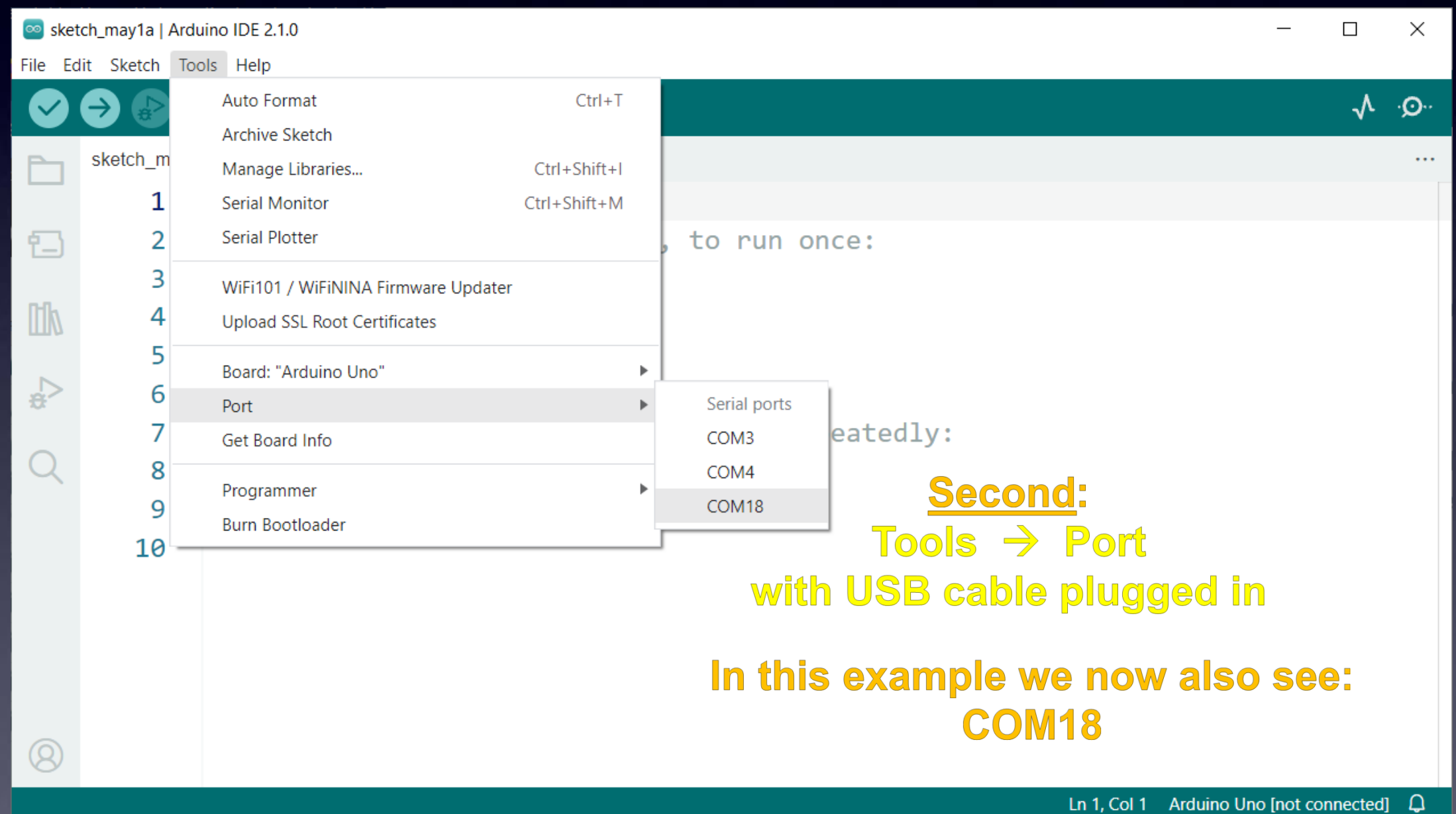


# Arduino

The first time you start your Arduino software you need to do three things to set things up

(2)  
Choose  
the Port  
(this will be  
different  
depending on  
your Operating  
System)

(After installing  
the driver for  
your USB-Serial cable  
and plugging it in  
your operating system  
will see a serial port  
and it appears here.)

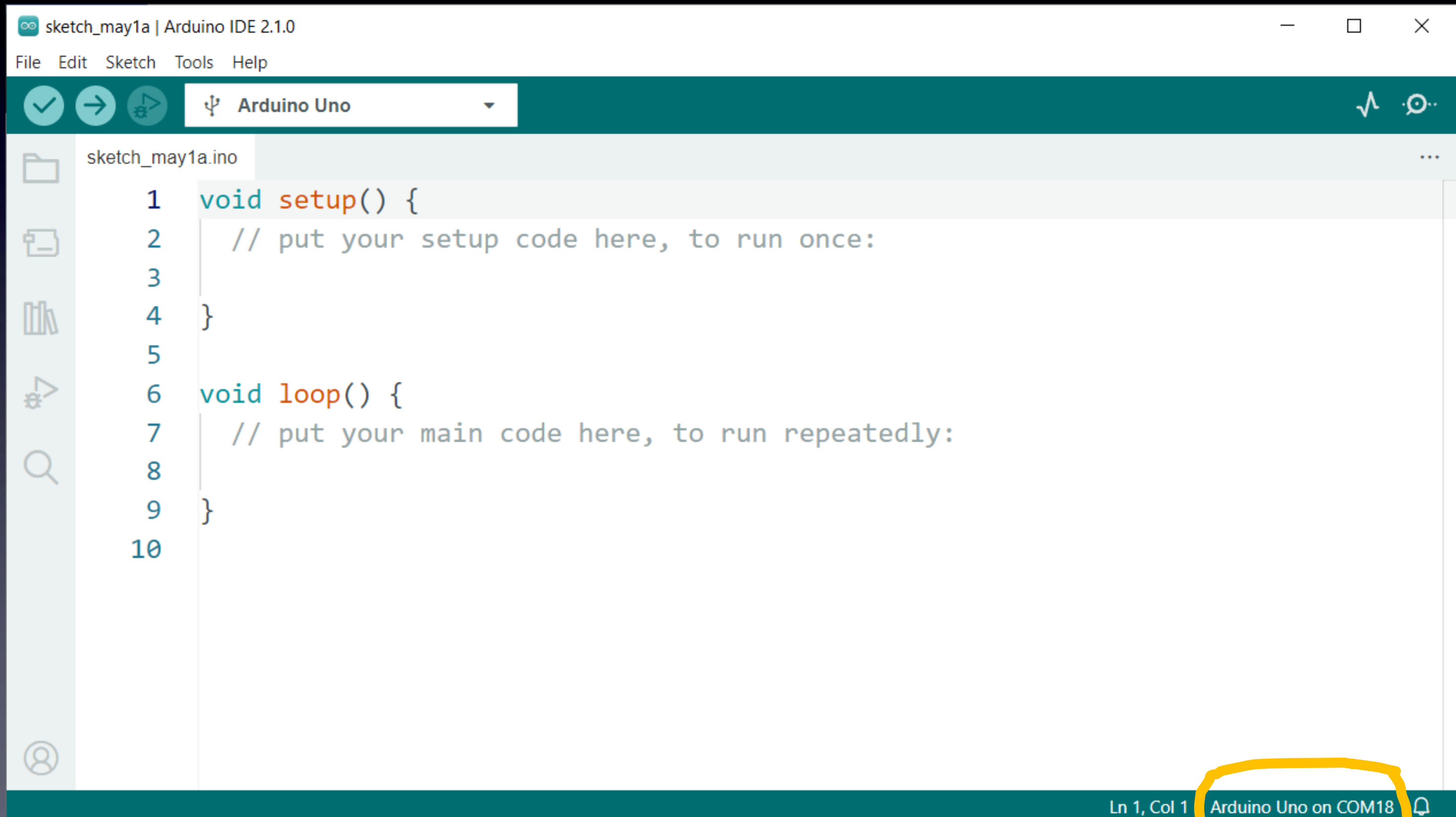


Second:  
Tools → Port  
with USB cable plugged in

In this example we now also see:  
**COM18**

# Arduino

Your Arduino software is almost ready





# Arduino

The first time you start your Arduino software you need to do three things to set things up

(3)  
Install  
the  
ArduTouch  
library



# Arduino

The first time you start your Arduino software you need to do three things to set things up

(3)  
Install  
the  
ArduTouch  
library





# Arduino

The first time you start your Arduino software you need to do three things to set things up

(3)  
Install  
the  
ArduTouch  
library



# Arduino

The first time you start your Arduino software you need to do three things to set things up

(3)  
Install  
the  
ArduTouch  
library

File Edit View History Bookmarks Tools Help

Cornfield Electronics :: Projects

https://cornfieldelectronics.com/cfe/projects.php?PHPSESSID=d5d4714nuevrq25drkkoirr1m3

Project: ArduTouch Arduino-compatible Music Synthesizer kit  
-- make way cool sounds and music!



==> **BUY an ArduTouch music synthesizer kit!** <==

Solder your ArduTouch kit together, and it works! You can make way wonderful music, sound, and noise. Use the ArduTouch Library or hack the existing sketches to create your own cool synthesizers. The documentation is getting good enough to learn how to use Digital Signal Processing (DSP) to make your own sounds for your own projects. (More documentation coming.)

This kit takes about 120 minutes to complete.

For **assembly instructions**, please see:  
[ArduTouch assembly instructions for Rev C board](#)

older versions (before 2017):  
[\(assembly instructions for Rev B, Rev A, and mono\)](#)

To program your ArduTouch music synthesizer kit, you'll need a USB-Serial TTL cable, such as an *FTDI Friend* or *FTDI Cable*, available all over the place. You can [purchase a nice one](#) from Cornfield Electronics. These USB-Serial TTL cables (made by Samurai Circuits), require a driver (from Silicon Labs):  
**Samurai Circuits board (SiLabs CP210x USB-to-Serial TTL) drivers:**  
[The latest drivers from SiLabs' website \(Windows, MacOS, Linux\)](#)

You will also need to download the free, open-source, Arduino software (for Windows, MacOS, or Linux).  
[Arduino software](#) (the latest version is fine to use).

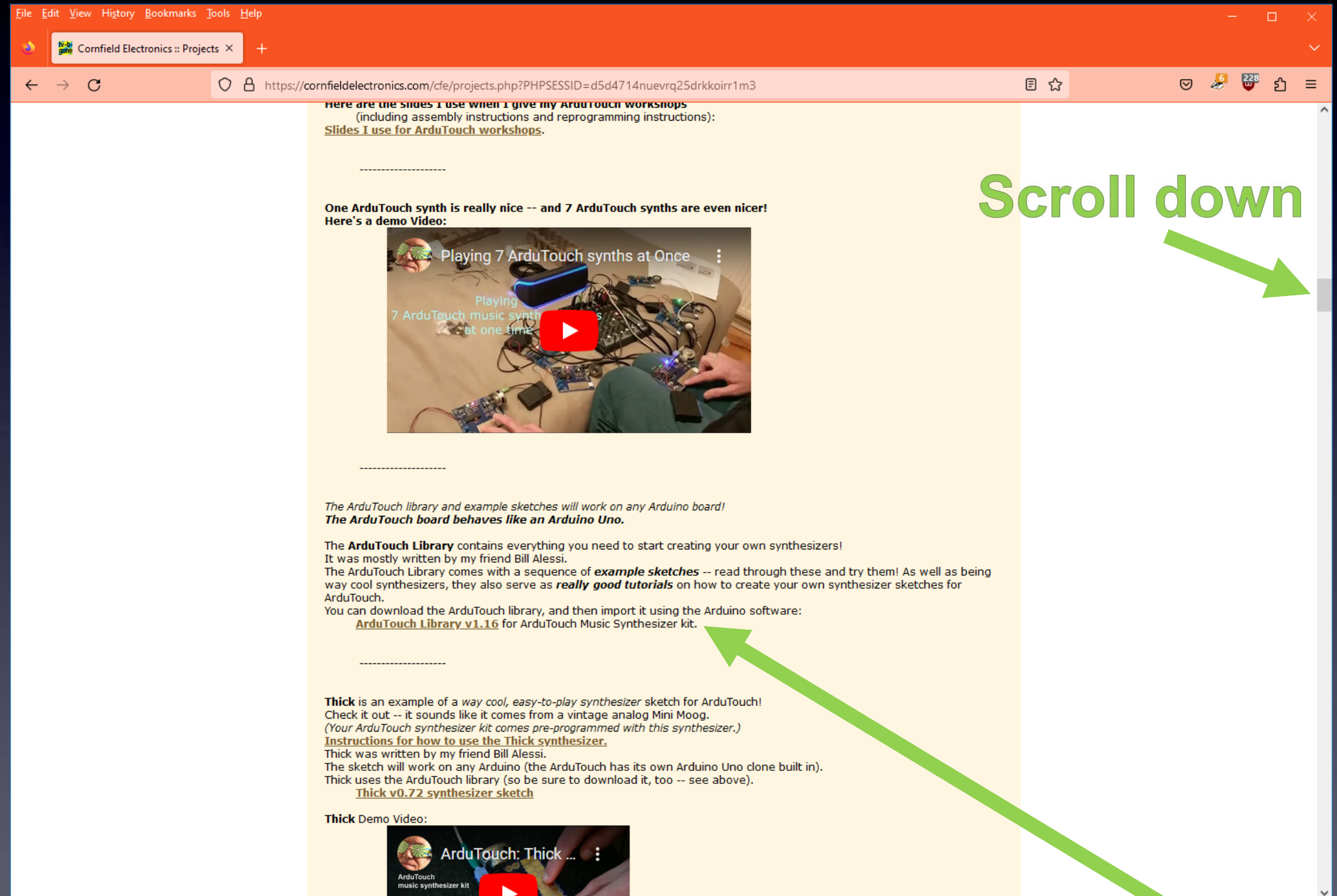
Scroll down



# Arduino

The first time you start your Arduino software you need to do three things to set things up

(3)  
Install  
the  
ArduTouch  
library

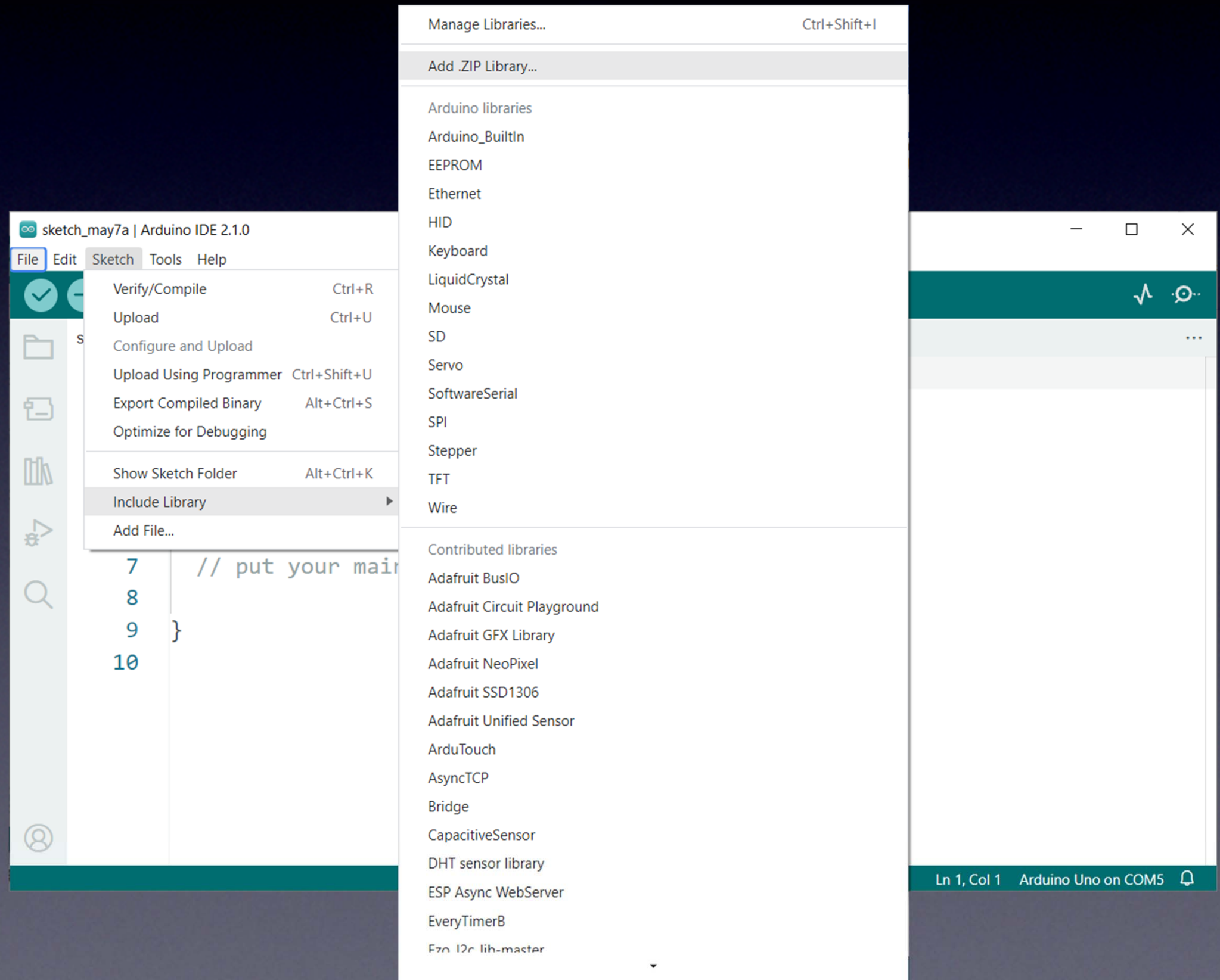


click this link to download the ArduTouch library

# Arduino

The first time you start your Arduino software you need to do three things to set things up

(3)  
Install  
the  
ArduTouch  
library

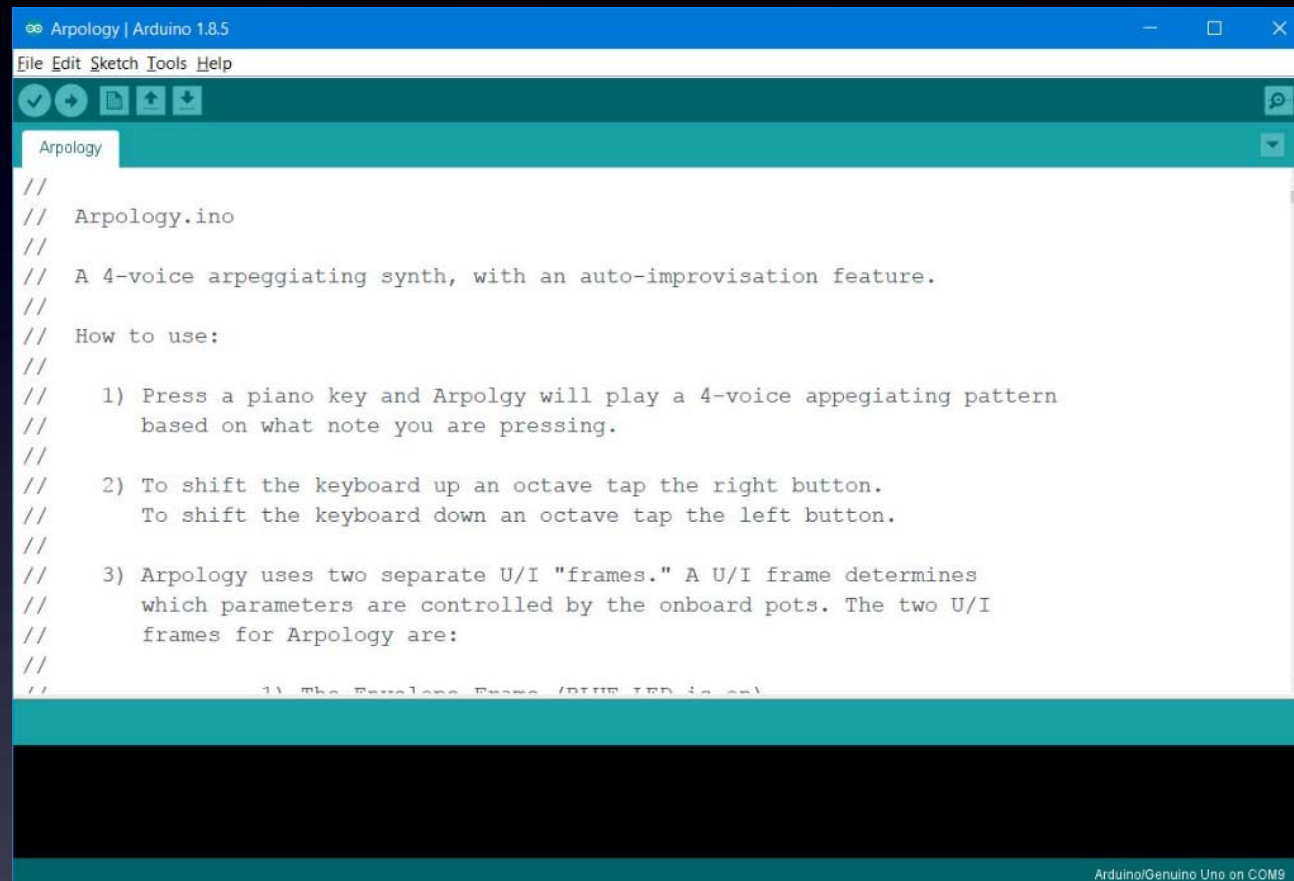




# Arduino

Designed for non-geeky artists

Download  
a new  
ArduTouch  
synth “sketch”

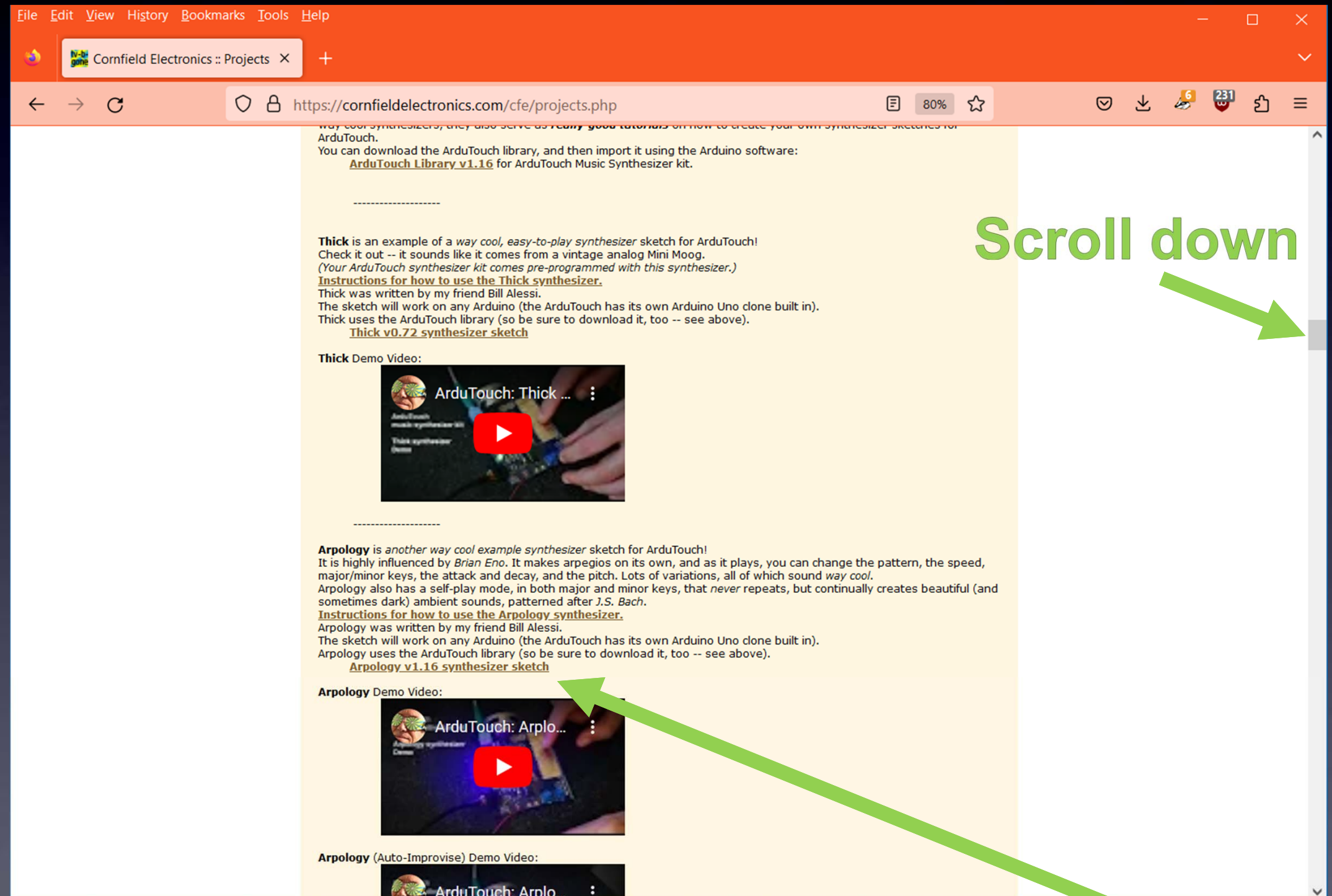
A screenshot of the Arduino IDE interface. The title bar reads "Arpology | Arduino 1.8.5". The menu bar includes "File", "Edit", "Sketch", "Tools", and "Help". Below the menu bar is a toolbar with icons for opening, saving, and running. The main text area shows the beginning of a C++ sketch named "Arpology.ino". The code includes comments describing it as a "4-voice arpeggiating synth, with an auto-improvisation feature" and provides usage instructions. The status bar at the bottom indicates "Arduino/Genuino Uno on COM9".

```
//  
//  Arpology.ino  
//  
//  A 4-voice arpeggiating synth, with an auto-improvisation feature.  
//  
//  How to use:  
//  
//    1) Press a piano key and Arpology will play a 4-voice arpeggiating pattern  
//       based on what note you are pressing.  
//  
//    2) To shift the keyboard up an octave tap the right button.  
//       To shift the keyboard down an octave tap the left button.  
//  
//    3) Arpology uses two separate U/I "frames." A U/I frame determines  
//       which parameters are controlled by the onboard pots. The two U/I  
//       frames for Arpology are:  
//  
//    1) The Envelope Frame (BLUE LED is on)
```

“Sketch” :  
an Arduino program

# Arduino

## Download a new ArduTouch synth “sketch”



click link to download a synth “sketch”



# Arduino

Download a new ArduTouch synth “sketch”

File Edit View History Bookmarks Tools Help

Cornfield Electronics :: Projects X +

← → ↻ 🔒 https://cornfieldelectronics.com/cfe/projects.php 120% ☆

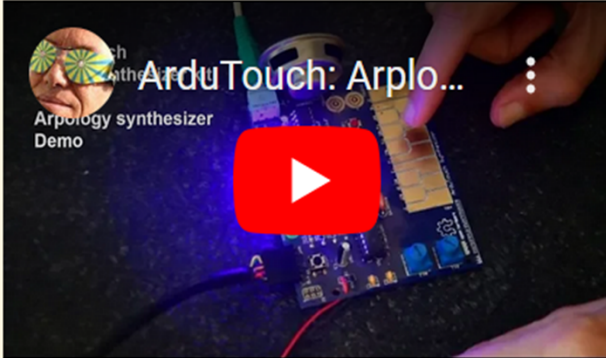
-----

**Arpology** is another way cool example synthesizer sketch for ArduTouch!  
It is highly influenced by *Brian Eno*. It makes arpeggios on its own, and as it plays, you can change the pattern, the speed, major/minor keys, the attack and decay, and the pitch. Lots of variations, all of which sound way cool.  
Arpology also has a self-play mode, in both major and minor keys, that *never* repeats, but continually creates beautiful (and sometimes dark) ambient sounds, patterned after *J.S. Bach*.

**Instructions for how to use the Arpology synthesizer.**  
Arpology was written by my friend Bill Alessi.  
The sketch will work on any Arduino (the ArduTouch has its own Arduino Uno clone built in).  
Arpology uses the ArduTouch library (so be sure to download it, too -- see above).

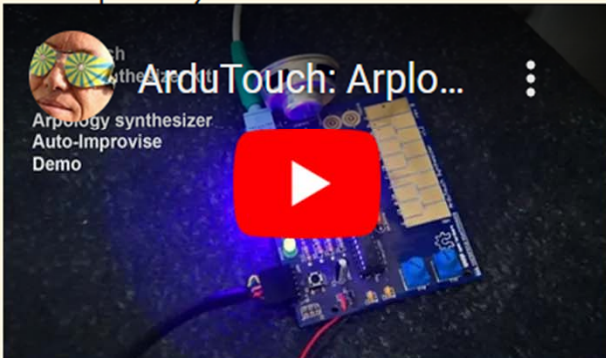
**Arpology v1.16 synthesizer sketch**

**Arpology Demo Video:**



ArduTouch: Arplo...  
Arpology synthesizer Demo

**Arpology (Auto-Improvise) Demo Video:**



ArduTouch: Arplo...  
Arpology synthesizer Auto-Improvise Demo

-----

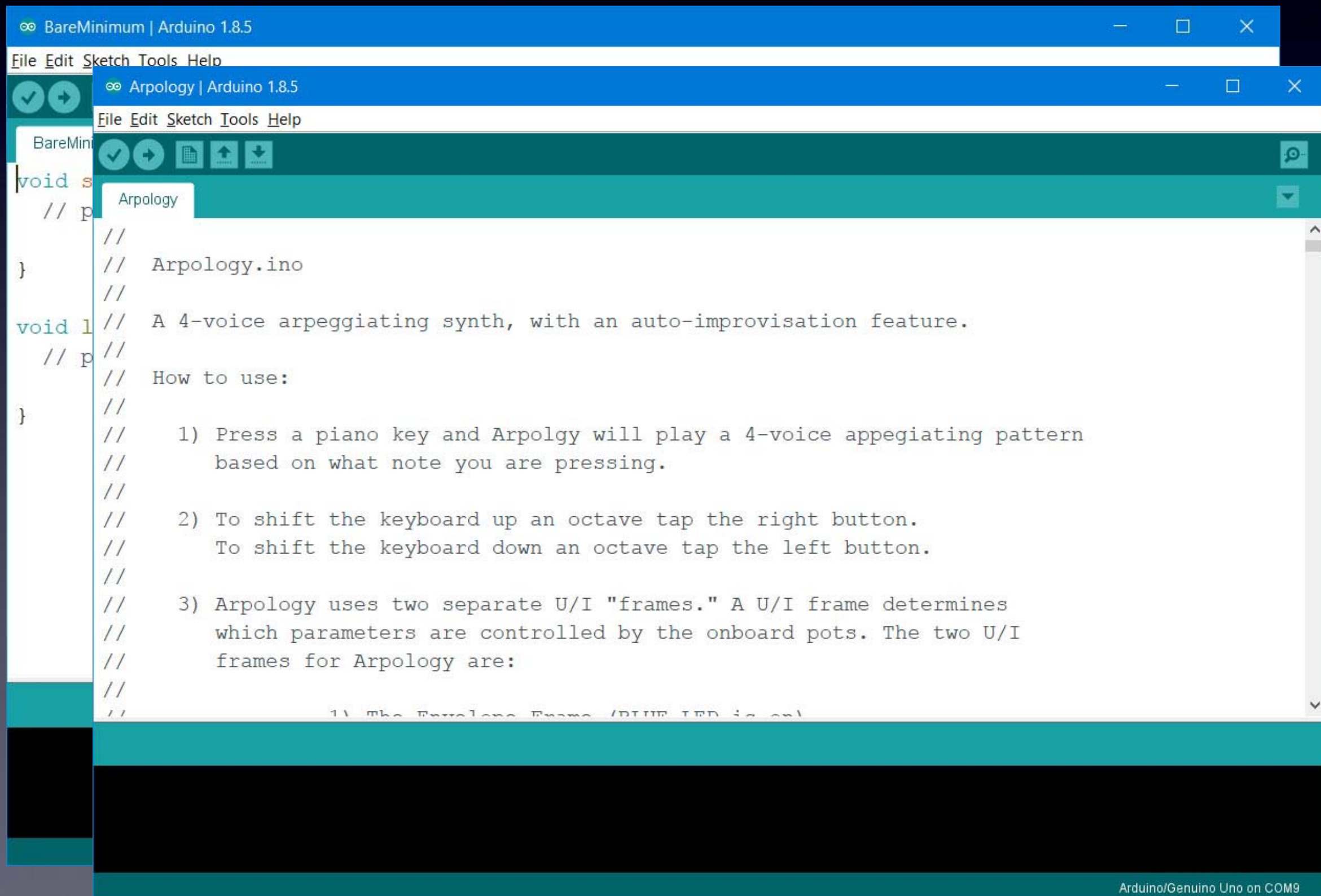
*Check it out!*

Also  
available  
for each synth:  
• Demo Videos  
• Instructions

# Arduino

You can open the ArduTouch synth sketch:  
File → Open...

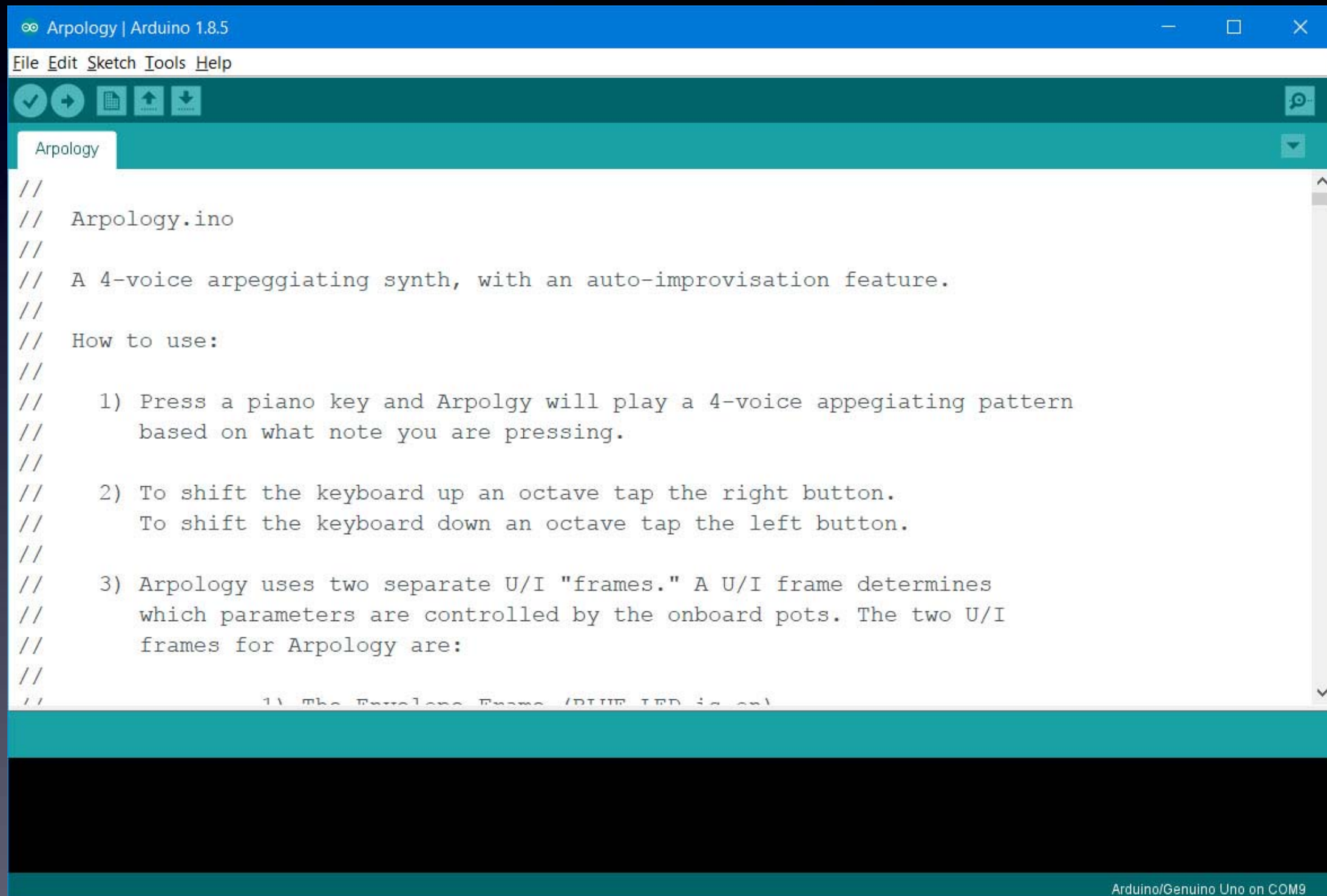
(I opened “Arpology here)





# Arduino

**You can now program your ArduTouch with a new synth sketch !**

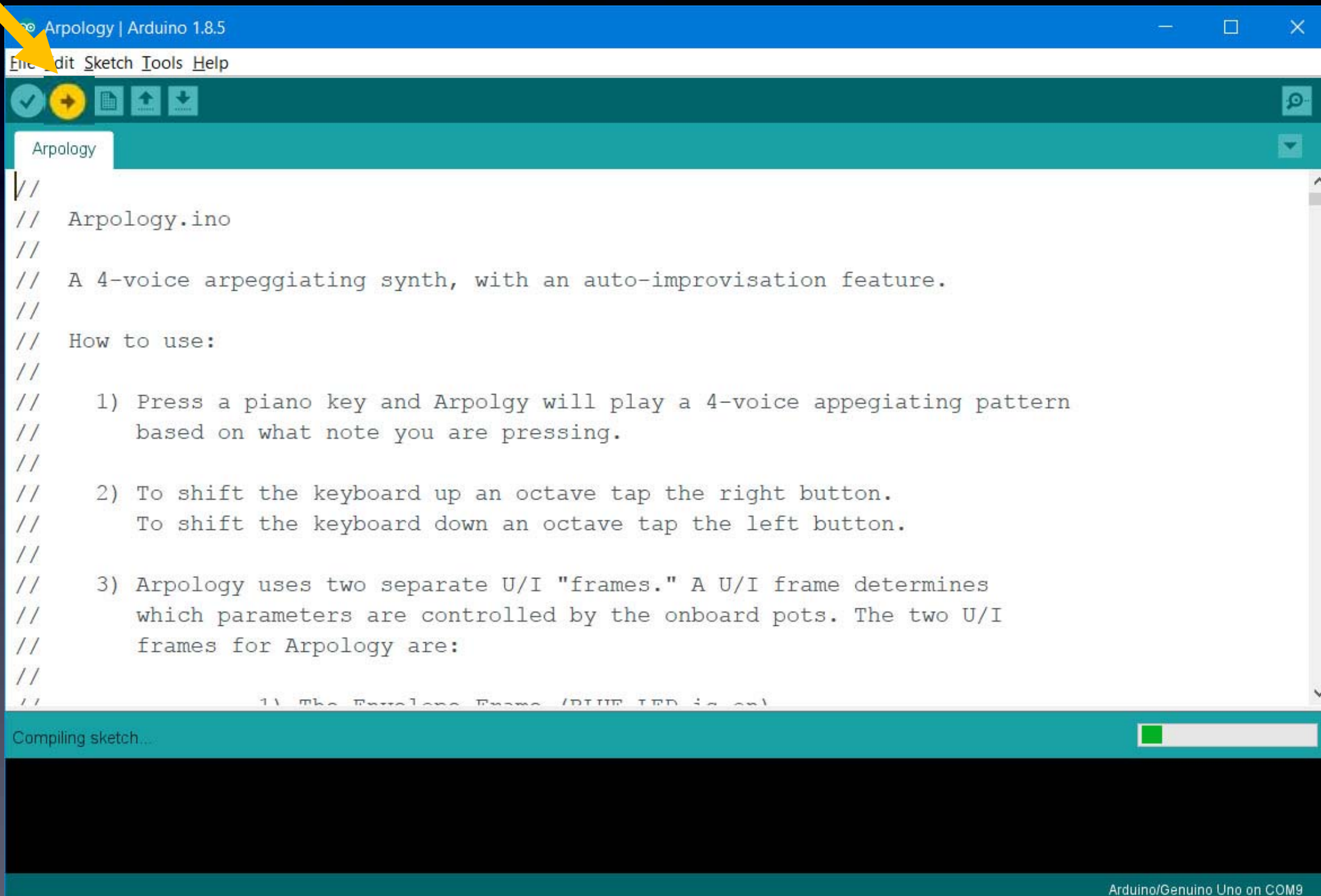
A screenshot of the Arduino IDE interface. The title bar reads "Arpology | Arduino 1.8.5". The menu bar includes "File", "Edit", "Sketch", "Tools", and "Help". Below the menu bar is a toolbar with icons for checking, running, saving, and uploading. A tab labeled "Arpology" is active. The main text area contains the following code:

```
//  
//  Arpology.ino  
//  
//  A 4-voice arpeggiating synth, with an auto-improvisation feature.  
//  
//  How to use:  
//  
//    1) Press a piano key and Arpology will play a 4-voice arpeggiating pattern  
//       based on what note you are pressing.  
//  
//    2) To shift the keyboard up an octave tap the right button.  
//       To shift the keyboard down an octave tap the left button.  
//  
//    3) Arpology uses two separate U/I "frames." A U/I frame determines  
//       which parameters are controlled by the onboard pots. The two U/I  
//       frames for Arpology are:  
//  
//    1) The Envelope Frame (BLUE LED is on)
```

The status bar at the bottom right indicates "Arduino/Genuino Uno on COM9".

# Arduino

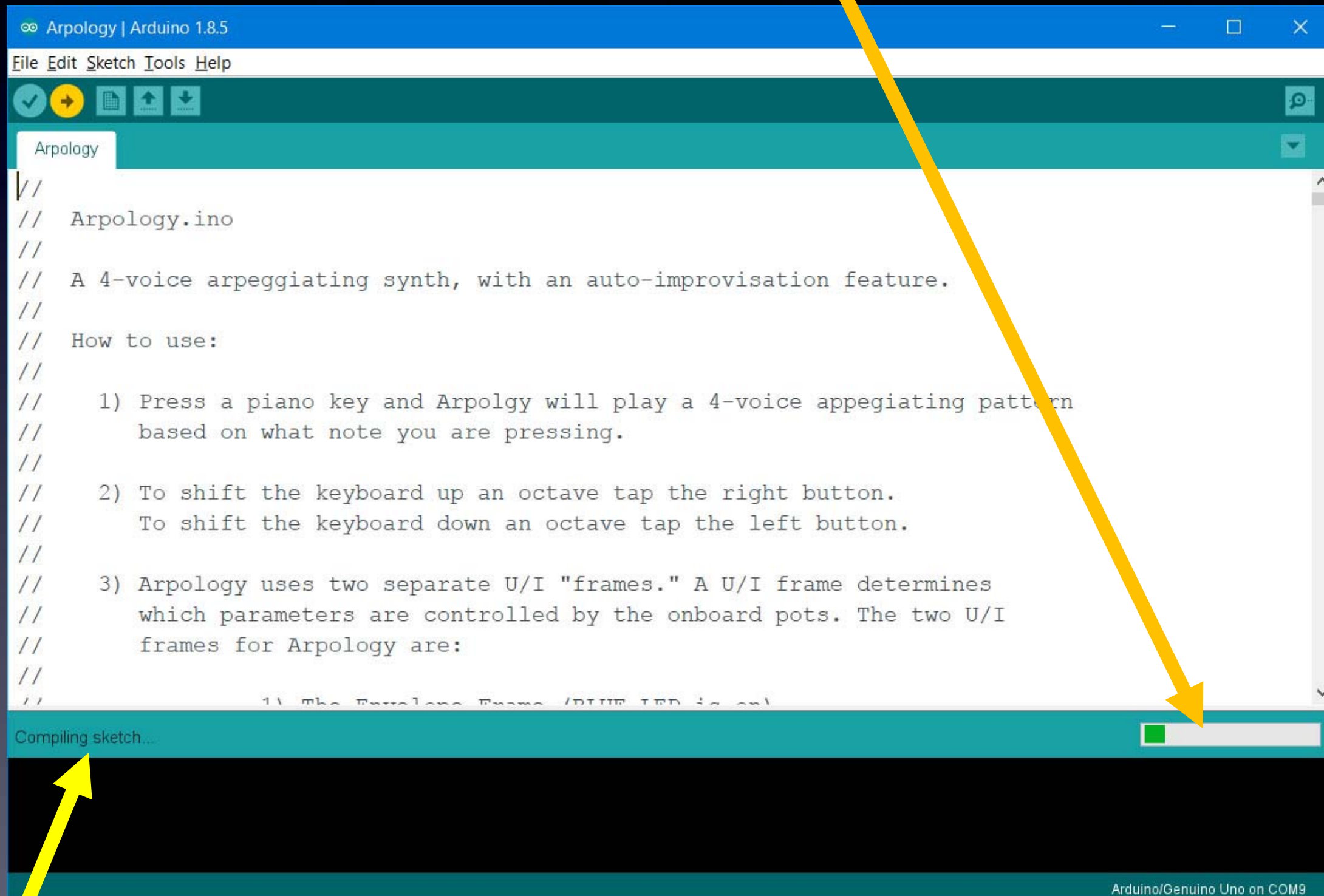
**With the USB-Serial cable connected to your ArduTouch board press the Upload button**





# Arduino

While uploading, you will see a progress bar...



...and when it's completed successfully, it says: "Upload done"

# ArduTouch

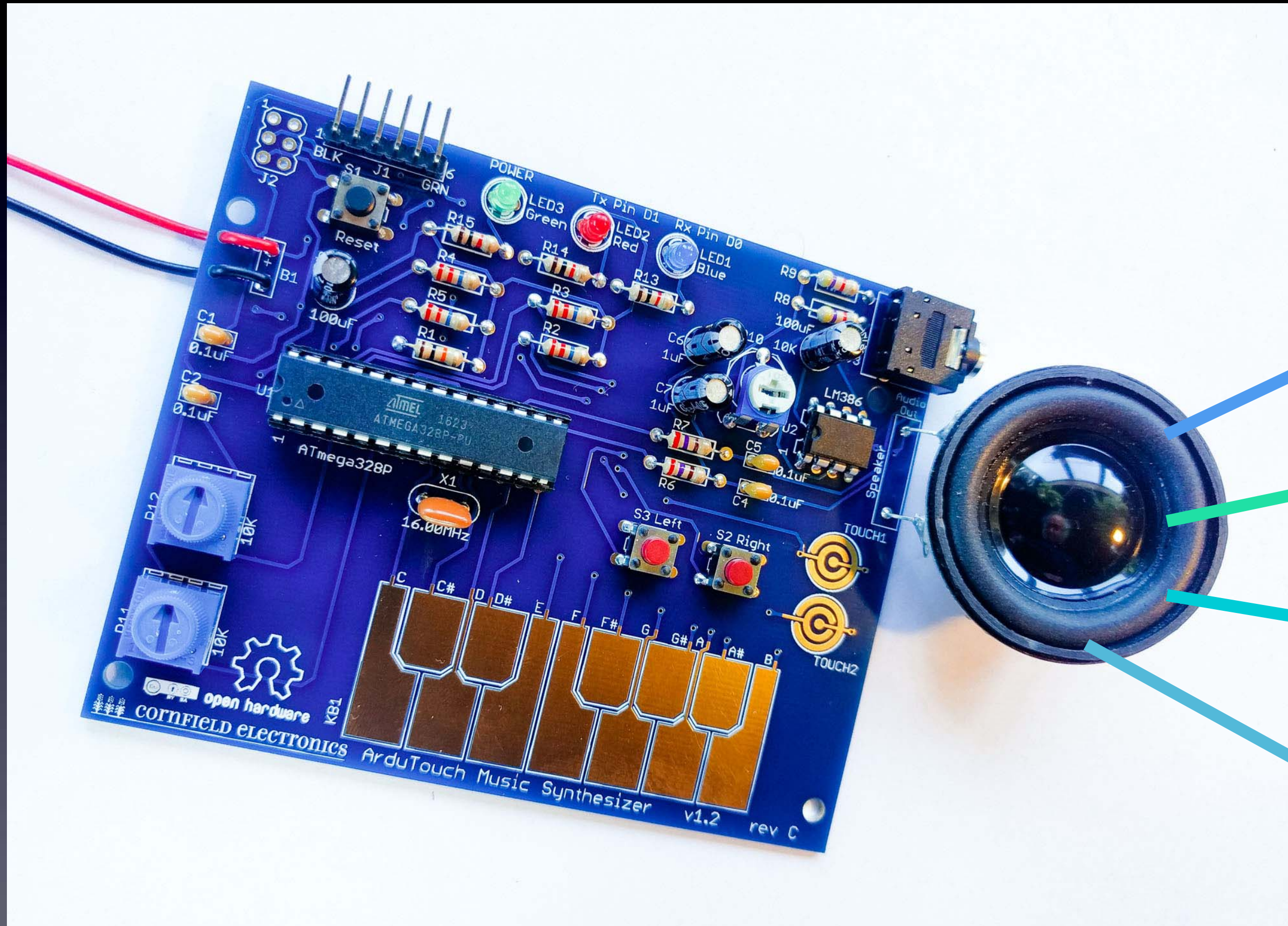
**Disconnect your ArduTouch board  
from the USB-Serial cable,**

**turn on your battery pack,**

**And...**



# Let's make new noise!



Please Remember:

to

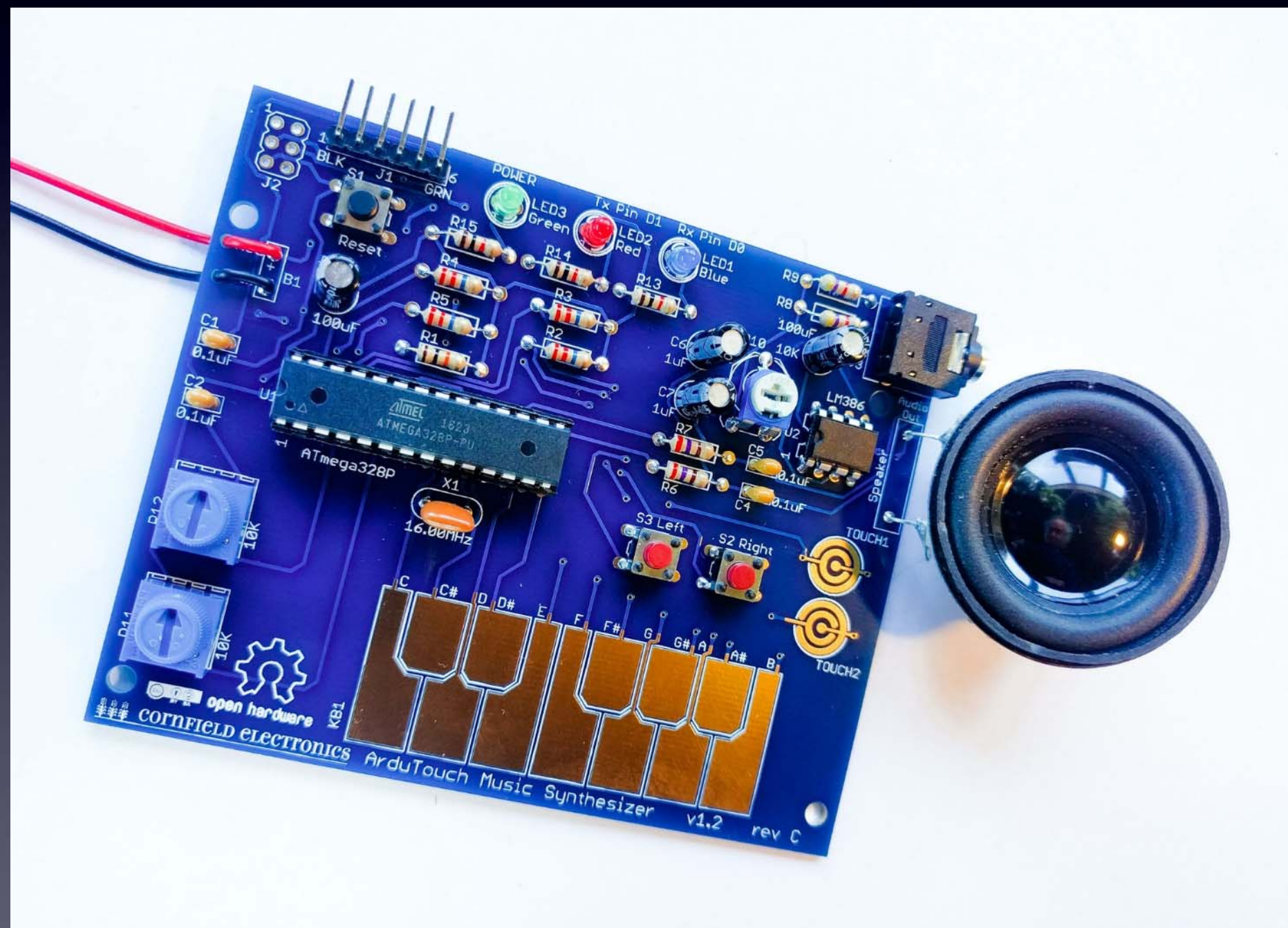
**Wash your hands**

after soldering



# ArduTouch Music Synthesizer

## Assembly Instructions



rev C



cornFIELD electronics