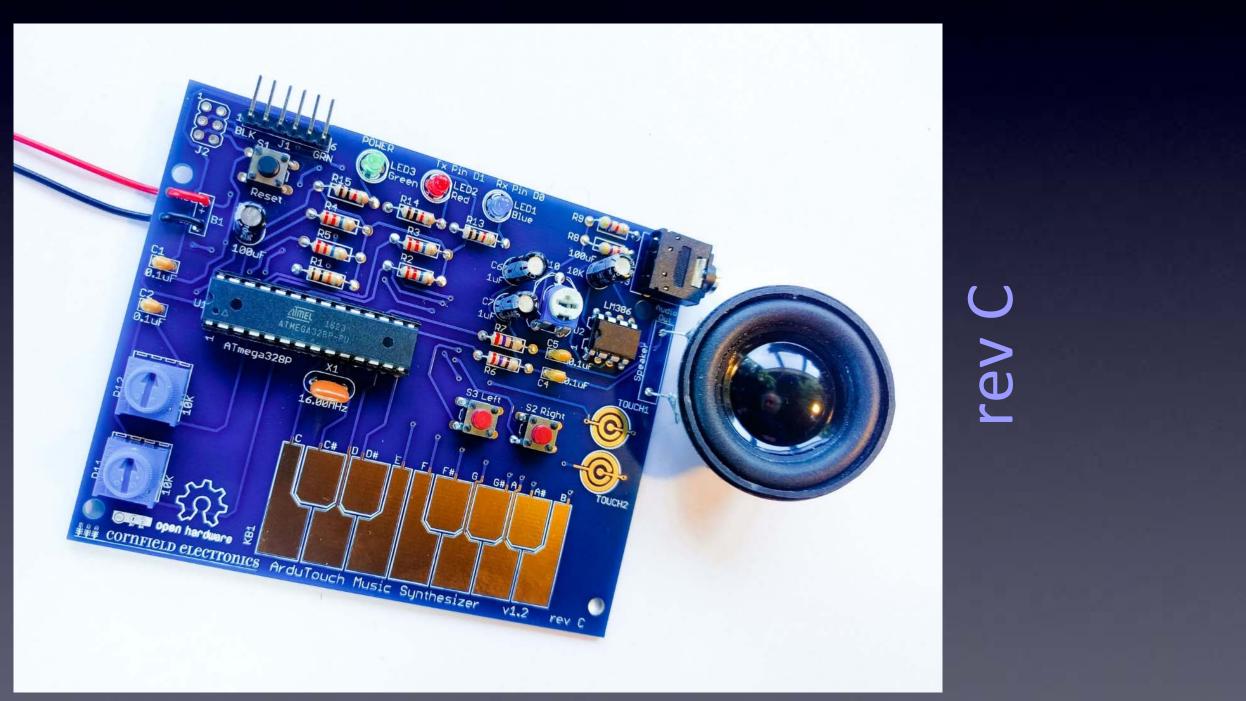
## ArduTouch Music Synthesizer Assembly Instructions & Programming Instructions









## 21-Apr-2025

## **CORNELLO ELECTRONICS**



The following photos will show you how to solder.

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

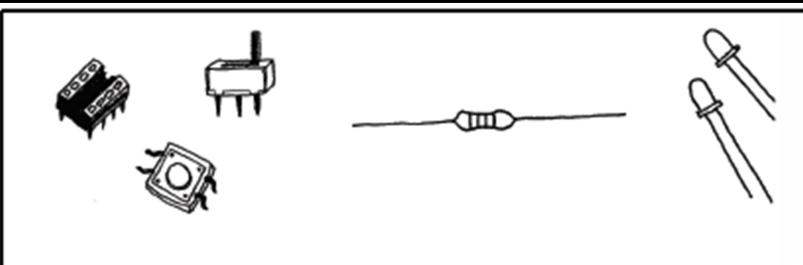
(In many different languages.)

## Learn To Solder

## download for free at:

# http://mightyohm.com/soldercomic



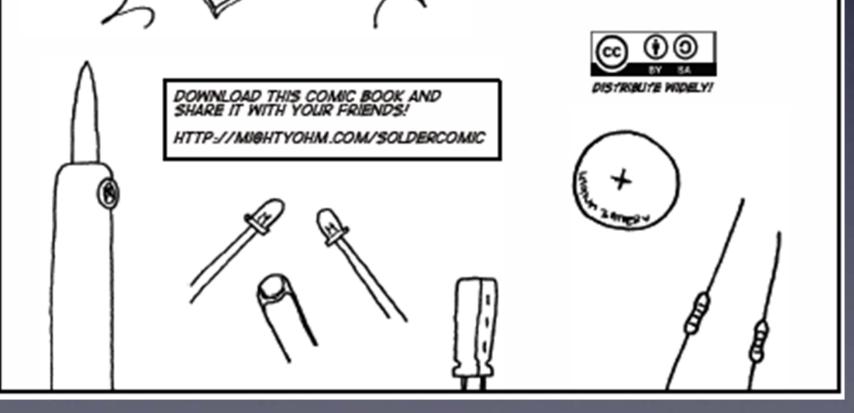


## SOLDERING IS EASY HERE'S HOW TO DO IT

BY: MITCH ALTMAN (SOLDERING WISDOM)

(COMICS ADAPTATION)

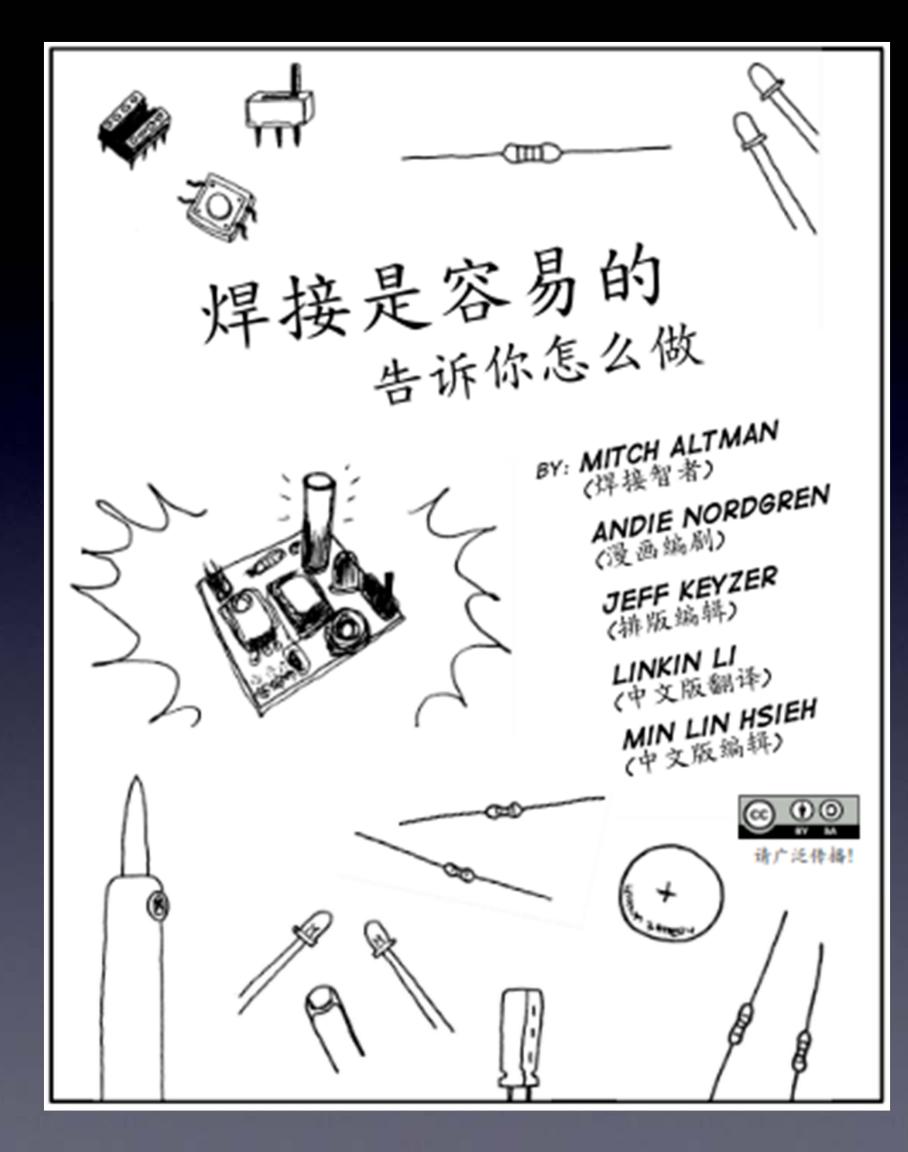
JEFF KEYZER (LAYOLIT AND EDITING)



## download for free at:

# http://mightyohm.com/soldercomic

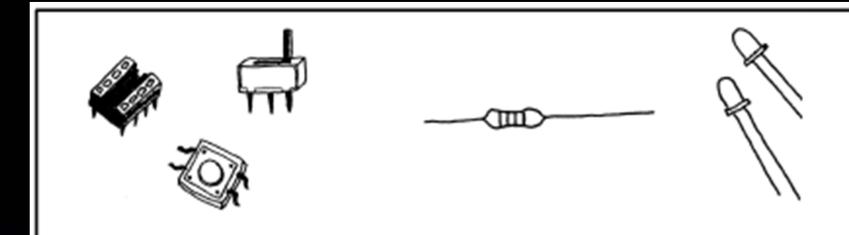
## Learn To Solder



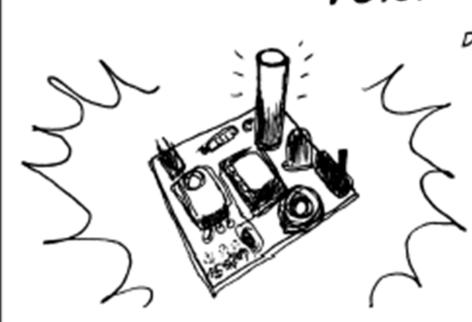
## download for free at:

# http://mightyohm.com/soldercomic





SOLIDER C'EST FACILE VOICI COMMENT FAIRE



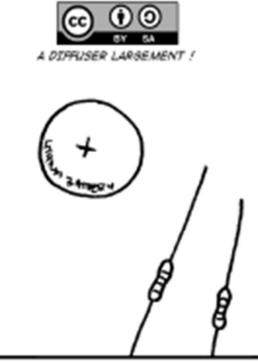
TELECHARGEZ CETTE BO ET PARTAGEZ LA AVEC VOS AMIS ! HTTP://MIGHTYOHM.COM/SOLDERCOMIC

DE: MITCH ALTMAN (MAITRE SOUDEUR)

> ANDIE NORDGREN (ADAPTATION BD)

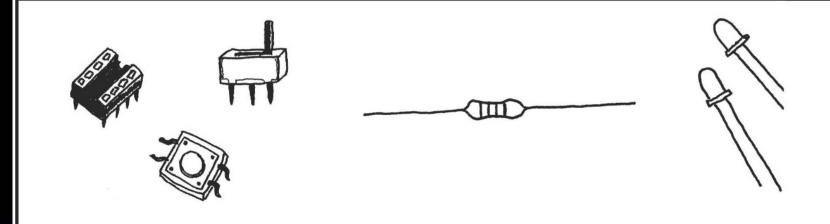
JEFF KEYZER (EDITION, MISE EN PAGE)

SNOOTLAB (TRADUCTION FR.)

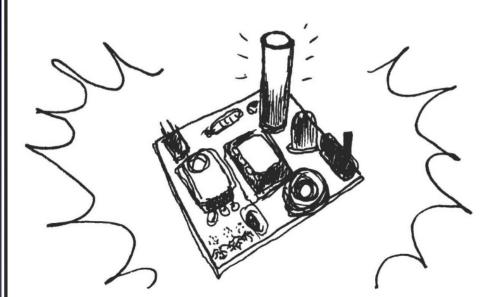


## download for free at:

# http://mightyohm.com/soldercomic



SOLDAR ES FÁCIL! APRENDE CÓMO HACERLO



POR: MITCH ALTMAN (SABIDURÍA EN SOLDADO)

> ANDIE NORDGREN (ADAPTACIÓN A COMIC)

**JEFF KEYZER** (DISEÑO Y EDICIÓN)



DISTRIBULYE AMPLIAMENTE!

## Learn To Solder

## download for free at:

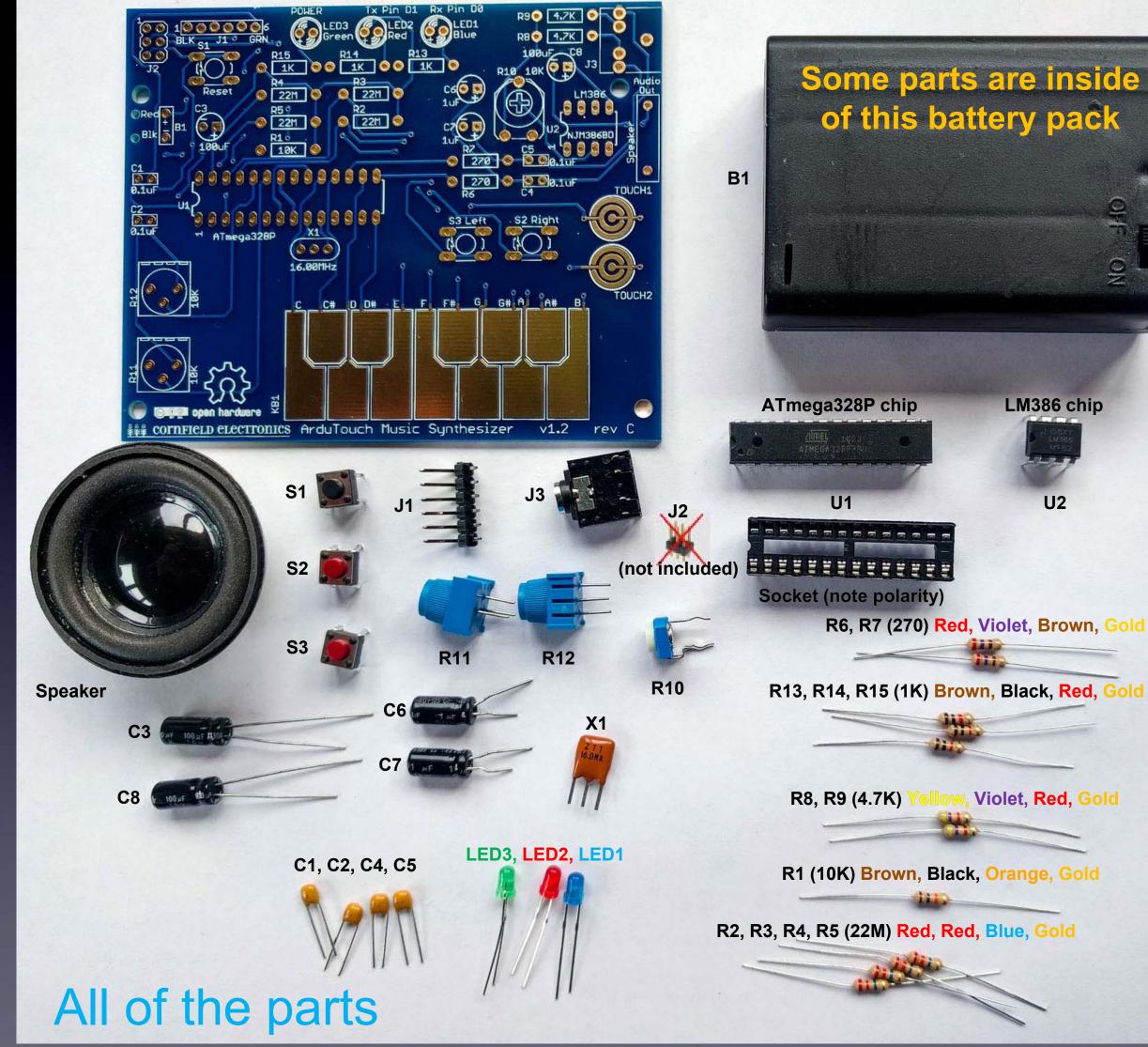
# http://mightyohm.com/soldercomic



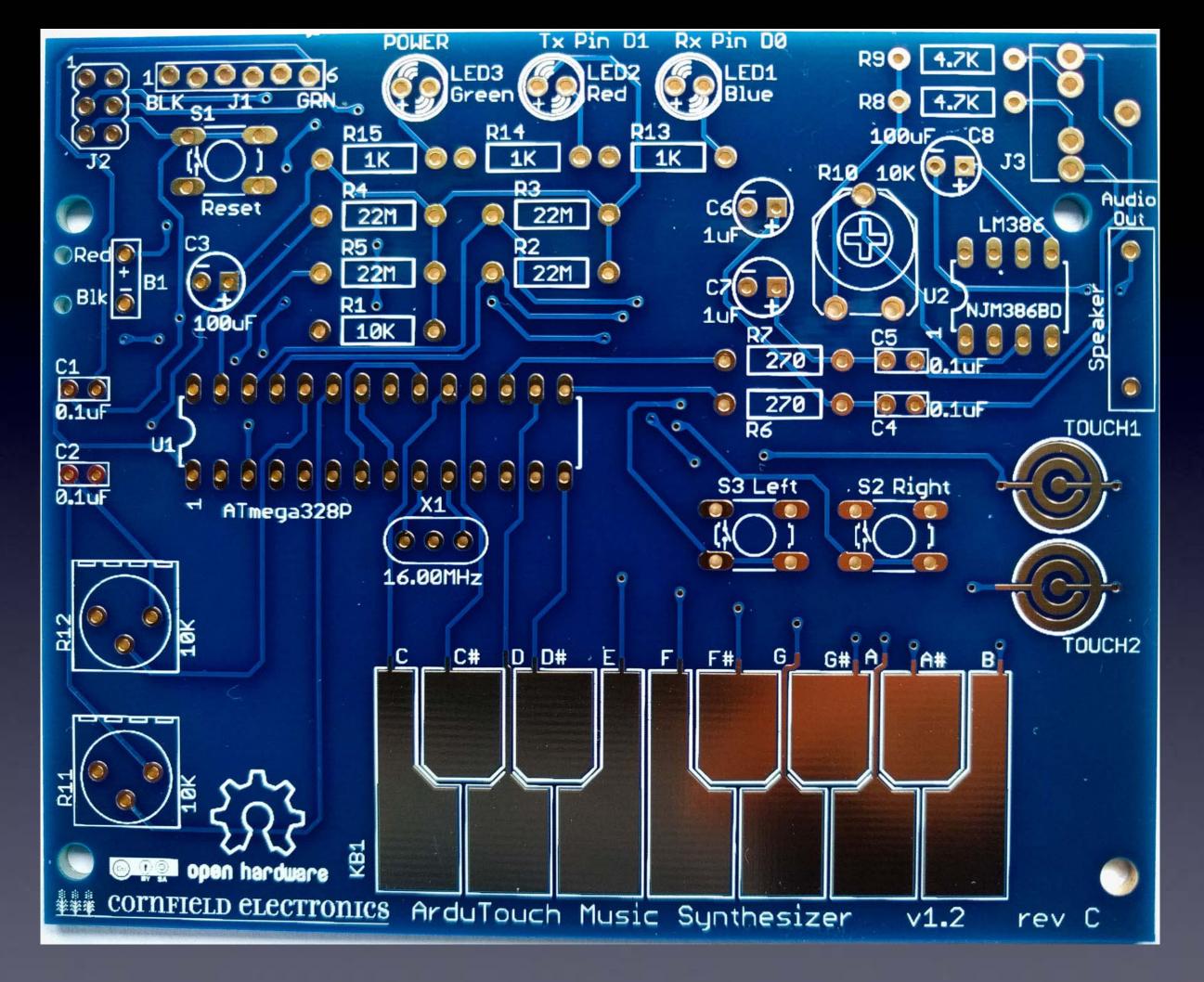


## download for free at:

# http://mightyohm.com/soldercomic



NO



The board we'll solder the parts to



## The tools you'll need:

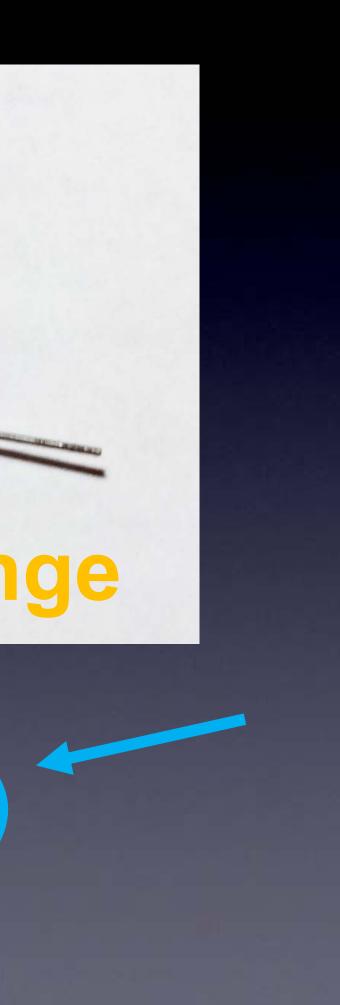
- soldering Iron (35W or less)
- solder (more details coming)
- soldering iron stand
- cellulose kitchen sponge (not plastic!)
- small wire cutter



## 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

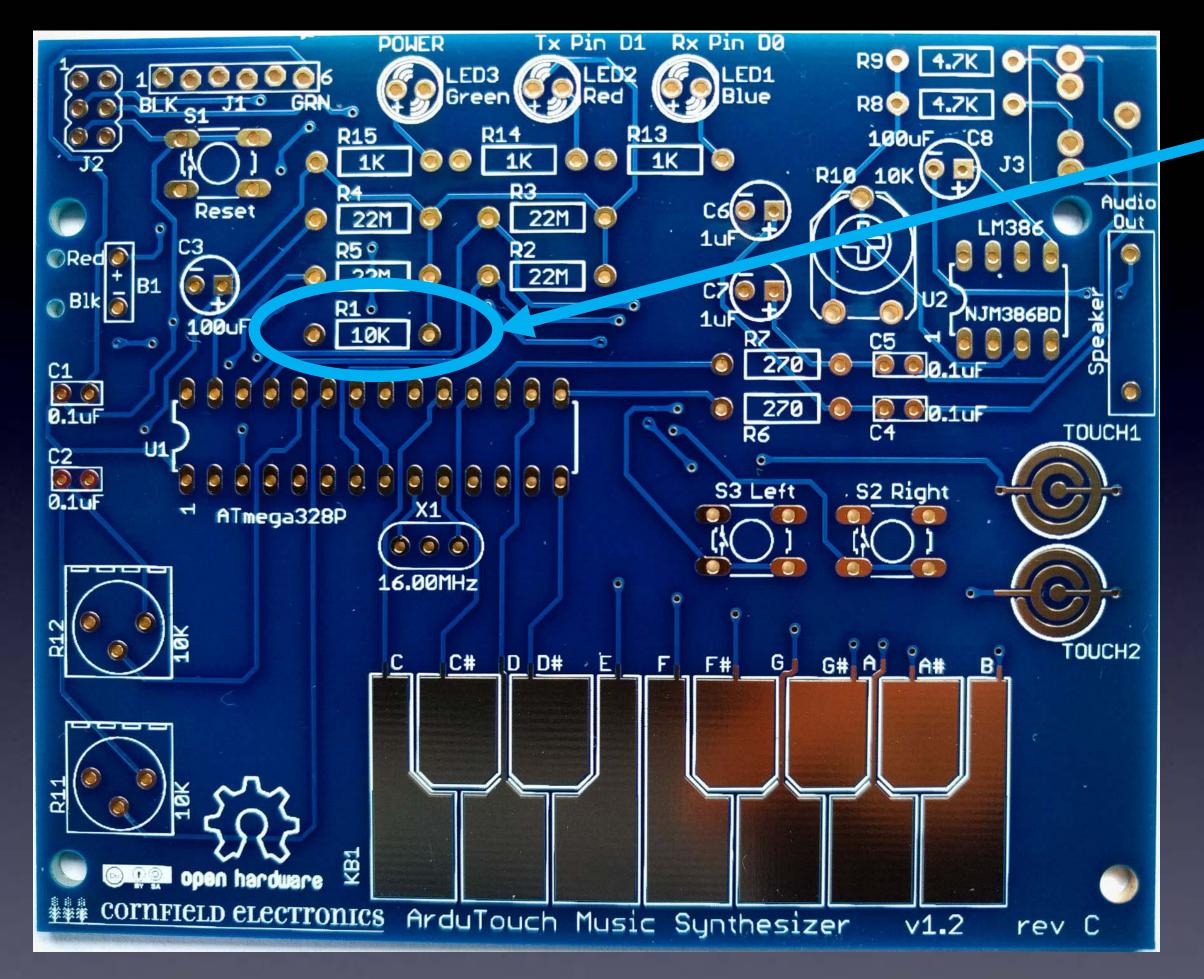
wires coming out from parts are called "leads" – they lead to the part





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





R1 – this is where it goes







the circles with holes in them are called "pads"

there is one "pad" per lead for each part

LEDI

ATTINY25V-10PU

C2 100uF

witch

CE LED

FD2

5

## Push part down all the way

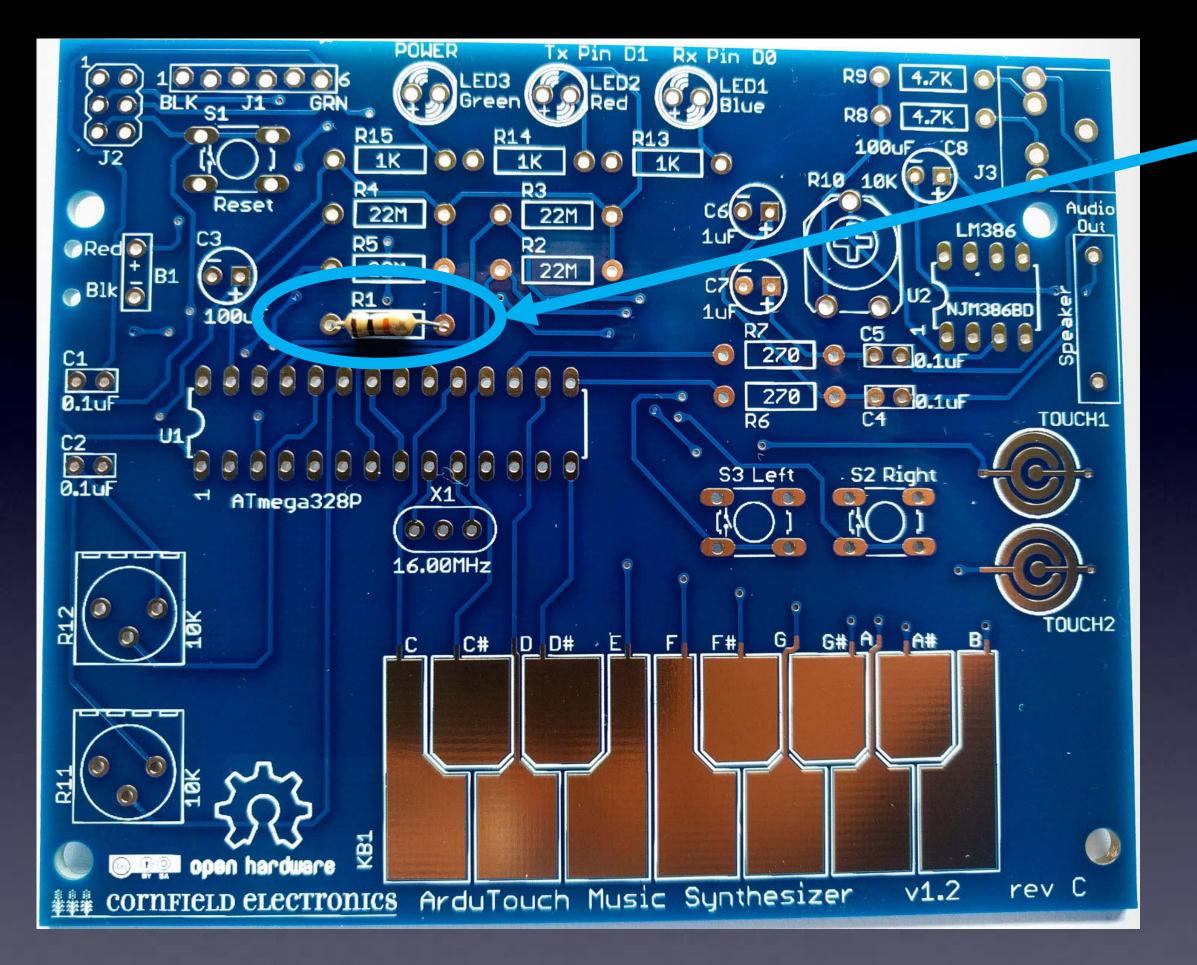


## Upside down/

## 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)



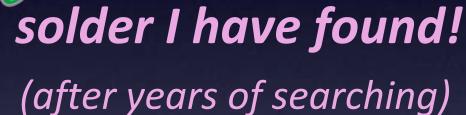
Importani

## The best kind of solder for DIY electronics: (Sn – Tin / Pb – Lead) 63/37 rosin core, 0.031" (0.8mm) diameter (or smaller) Note: Most Lead-Free solder has poisonous fumes!



## A good kind of solder for DIY electronics:

This is the only good





Kester **K100LD Rosin** (not "No Clean") 0.031" diameter (0.8mm)

## A good kind of solder for DIY electronics:

This is the only good

nd-Free (after years of searching)



Kester K100LD Rosin Solder

0.031" diameter (0.8mm)

## Note:

99%

If you use Lead-Free solder it is *helpful* to also have flux paste in a syringe And Isopropyl Alcohol

## solder I have found!

## Another good kind of solder for DIY electronics:



Duratoo **D01685 Rosin** 0.7mm diameter (as good as the Kester K100LD Rosin)

## This is another good *cond-Free* solder I have found!

## 3 Safety Tips...

## Safety Tip #1:

## Hot !!

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



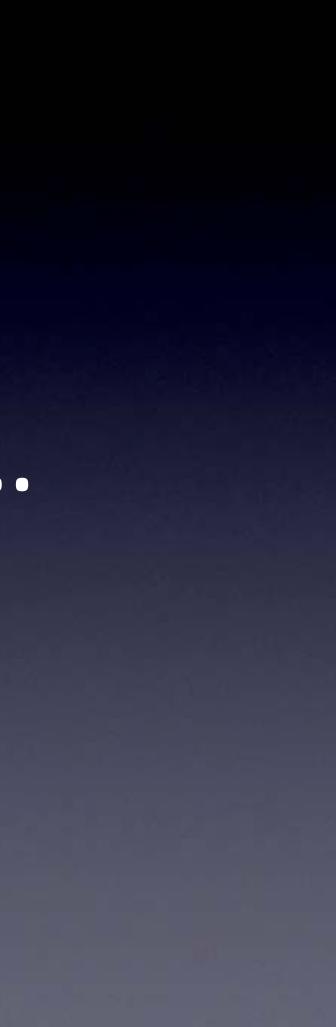
Safety Tip #2: Soldering chemicals are toxic

But they easily wash 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!

othe

## 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

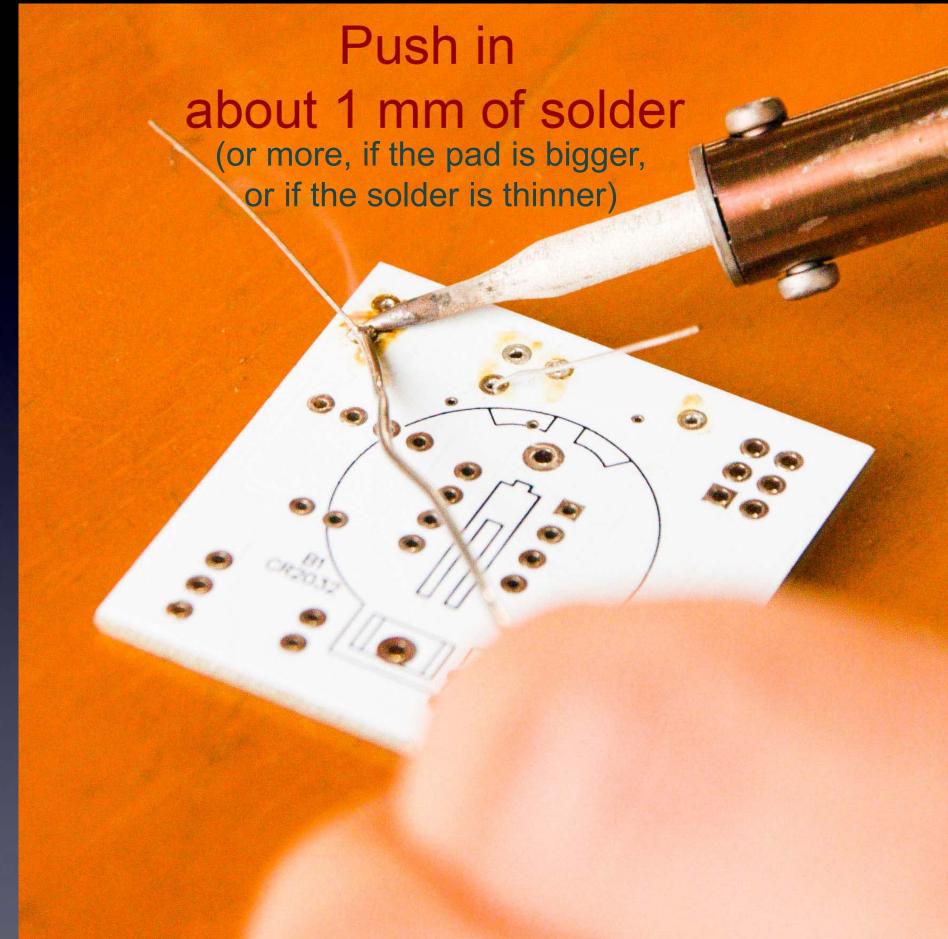
## Push solder in, over the pad, and under the tip

Make sure solder melts on the <u>underside</u> 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 <u>underside</u> 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 !!

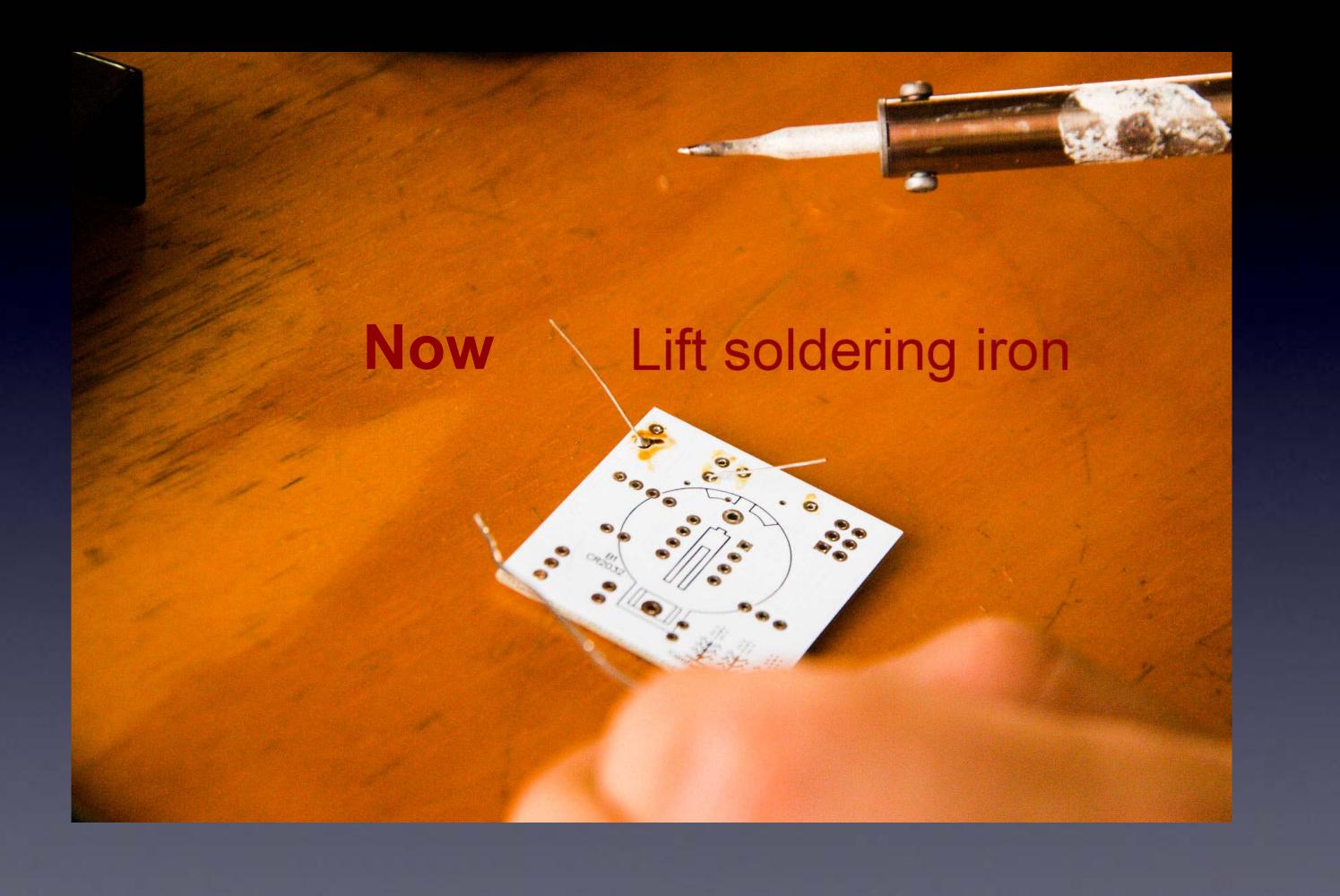




## Secret #2:

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





## **A Little Mountain** of Solder



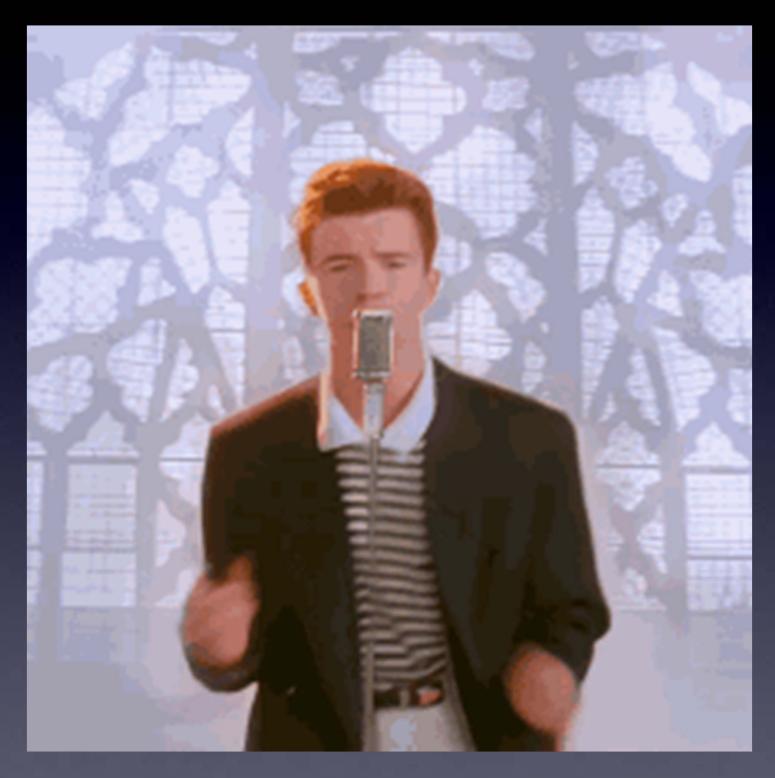
## Perfect !!

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 ! is just as important as the preceding steps!





### The Rhythm ! and speed (about 1 second per step) Clean the tip





## Tip Down





## Solder In





Solder Out







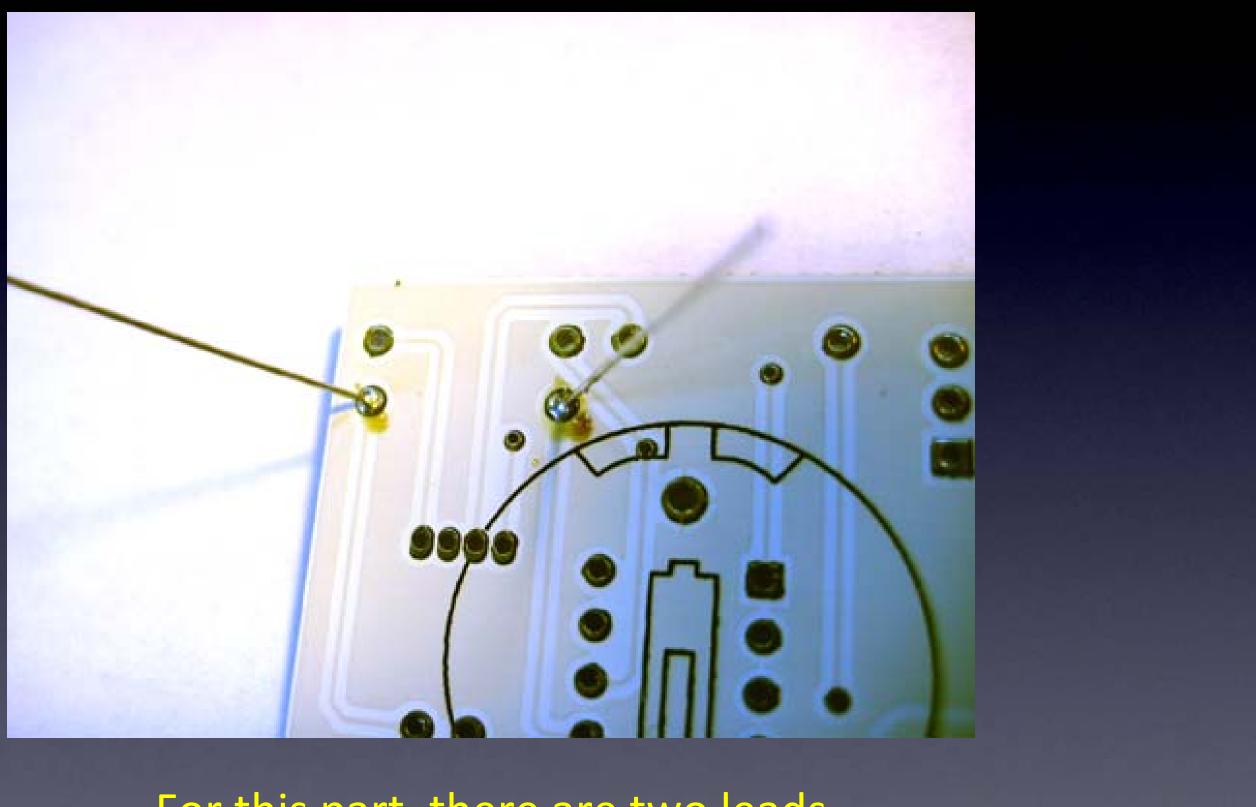
## MAIT!

Lift Tip





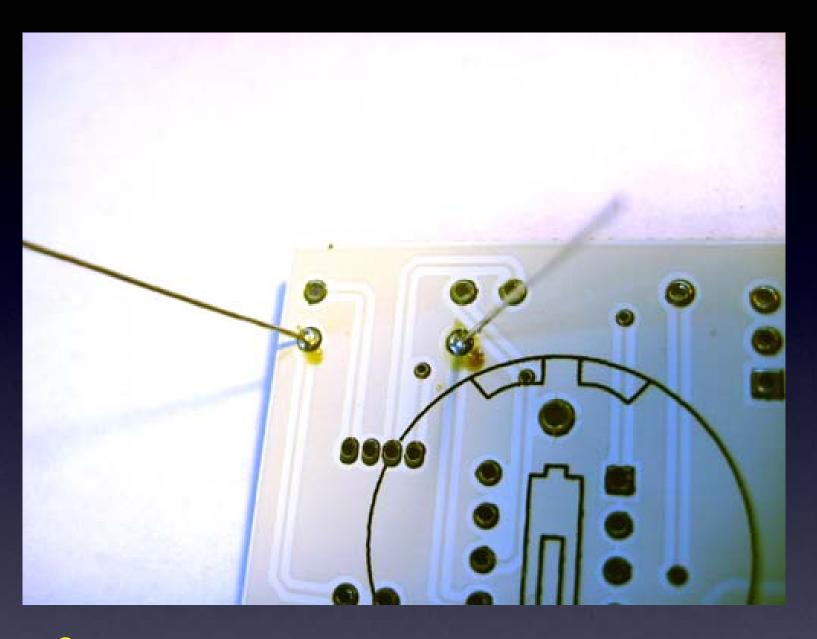
#### If you are using solder WITH lead (Pb), you can now Solder all of the leads of the part to the board



For this part, there are two leads Here you can see two good solder connections



### Two good solder connections



- Little mountains (not flat)
- Pads totally covered in solder
- Can't see the hole
- No connections to other pads



### Now cut the leads short

Hold the lead while cutting it all the way down to the little mountain 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





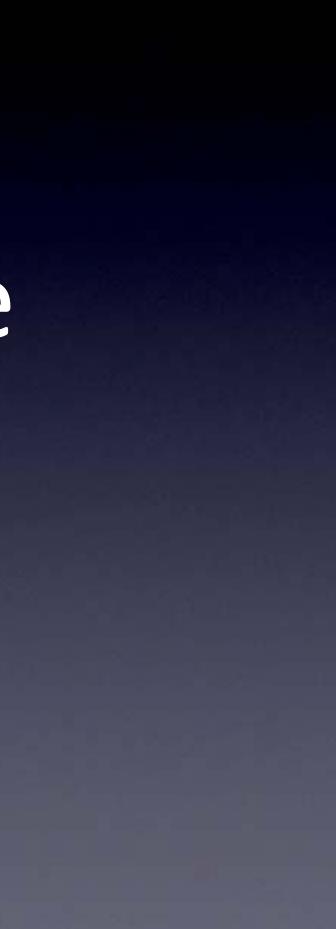
## R1soldered to the board

- **Each connection** (not flat)
  - - with solder)
- - with solder)
- No connections

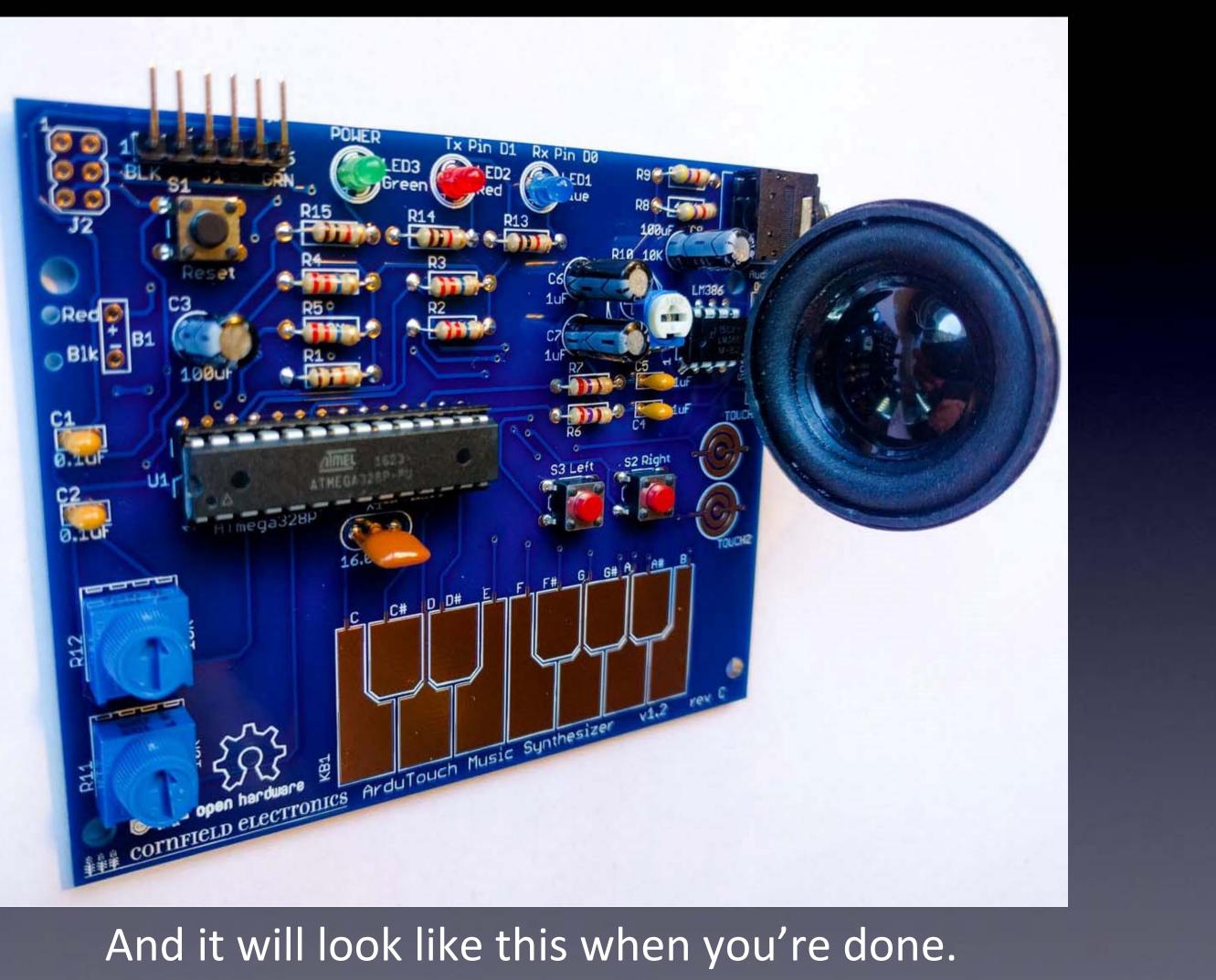


Notice that: is a small mountain You cannot see any pad (they're totally covered You cannot see the holes (they're totally covered

## One part at a time

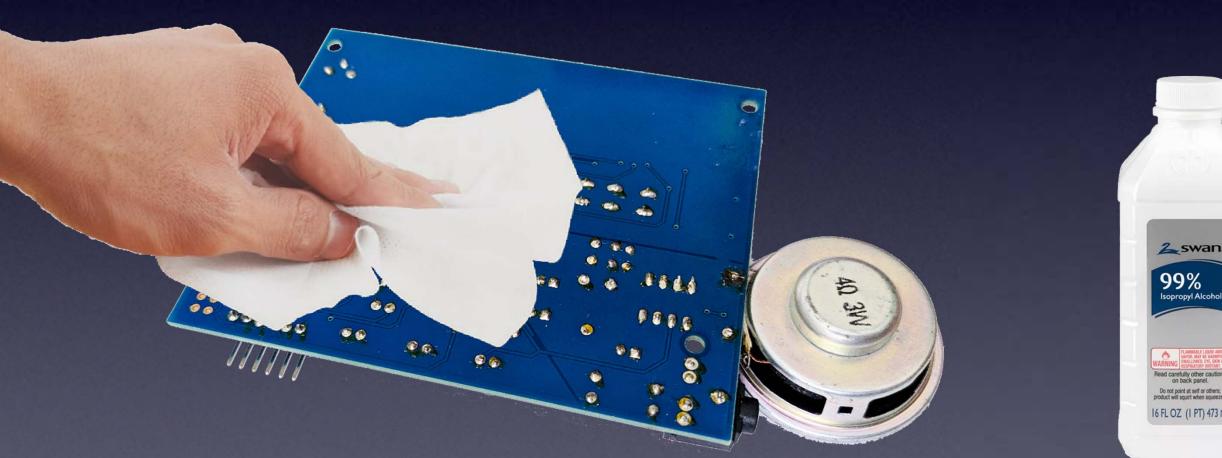


## Till all the parts are soldered



#### If you used any *flux paste for re-working problems*

#### The bottom of the PCB will be sticky from the flux



You can clean it with a cloth wet with Isopropyl Alcohol



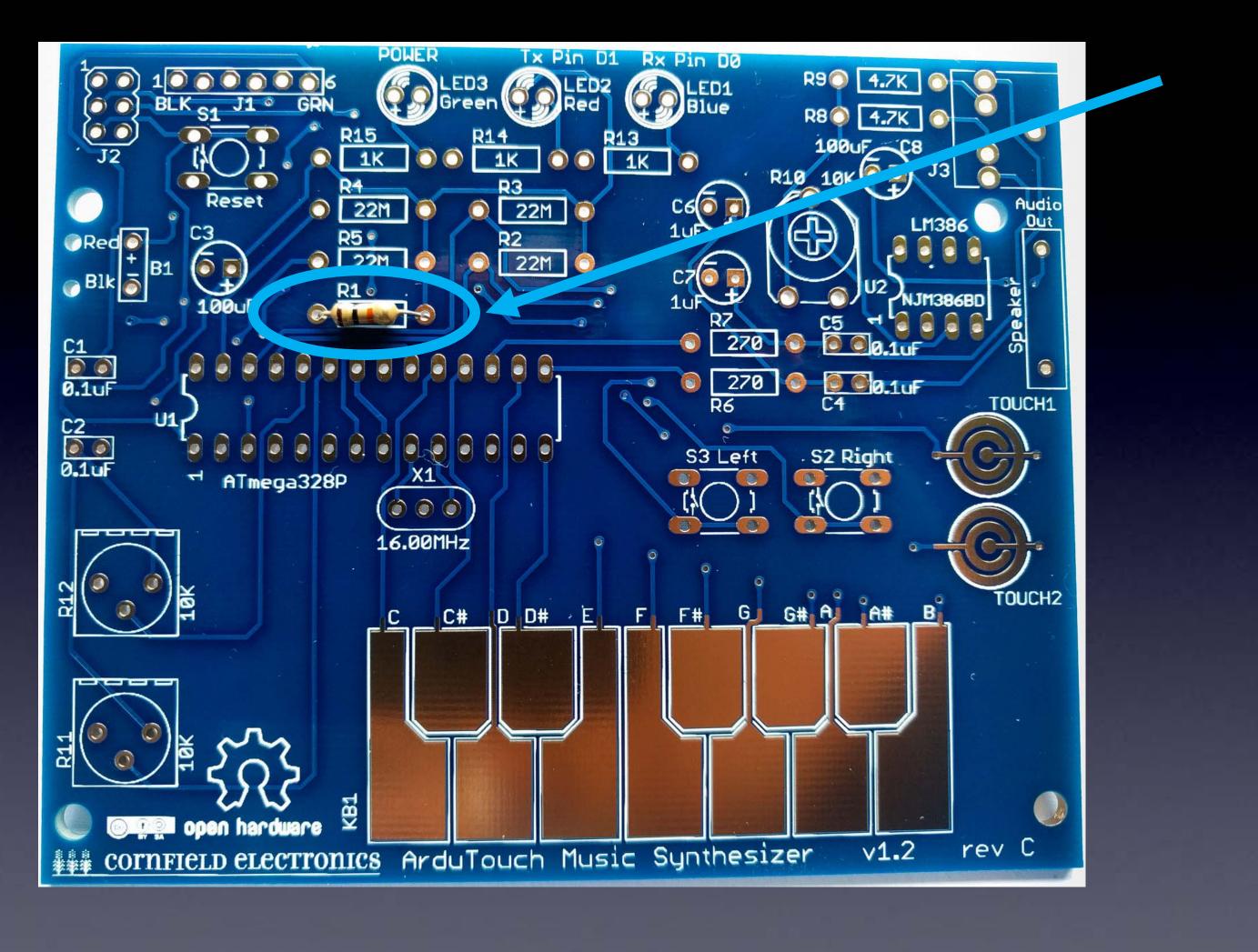




## Then put in the batteries, Turn it on, And it works!

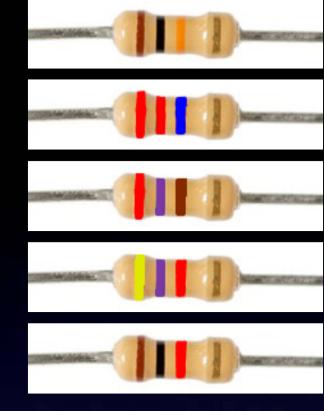
(Or you start debugging.)

## Let's start!

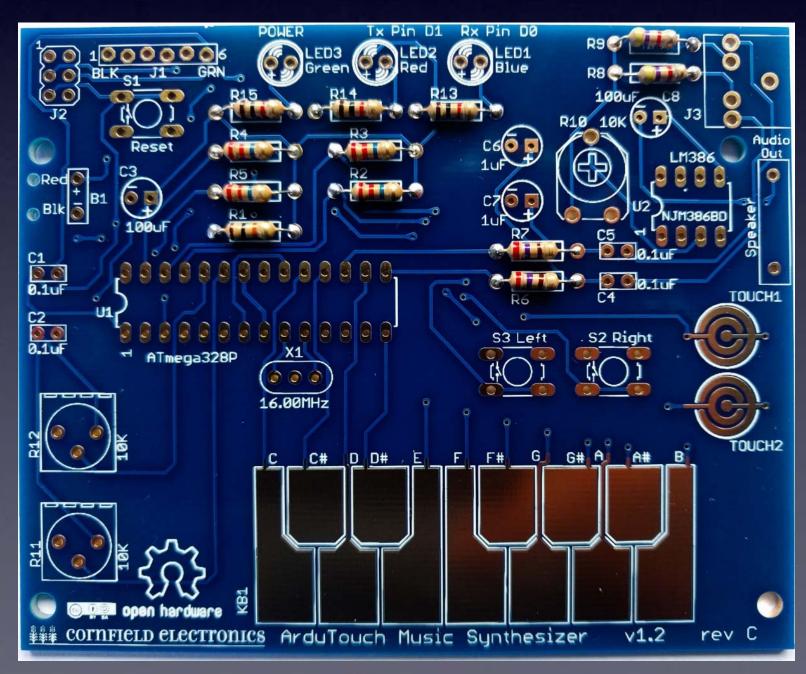


If you haven't done so already, solder R1: brown, black, orange

### R1: R2, R3, R4, R5: R6, R7: R8, R9: R13, R14, R15:



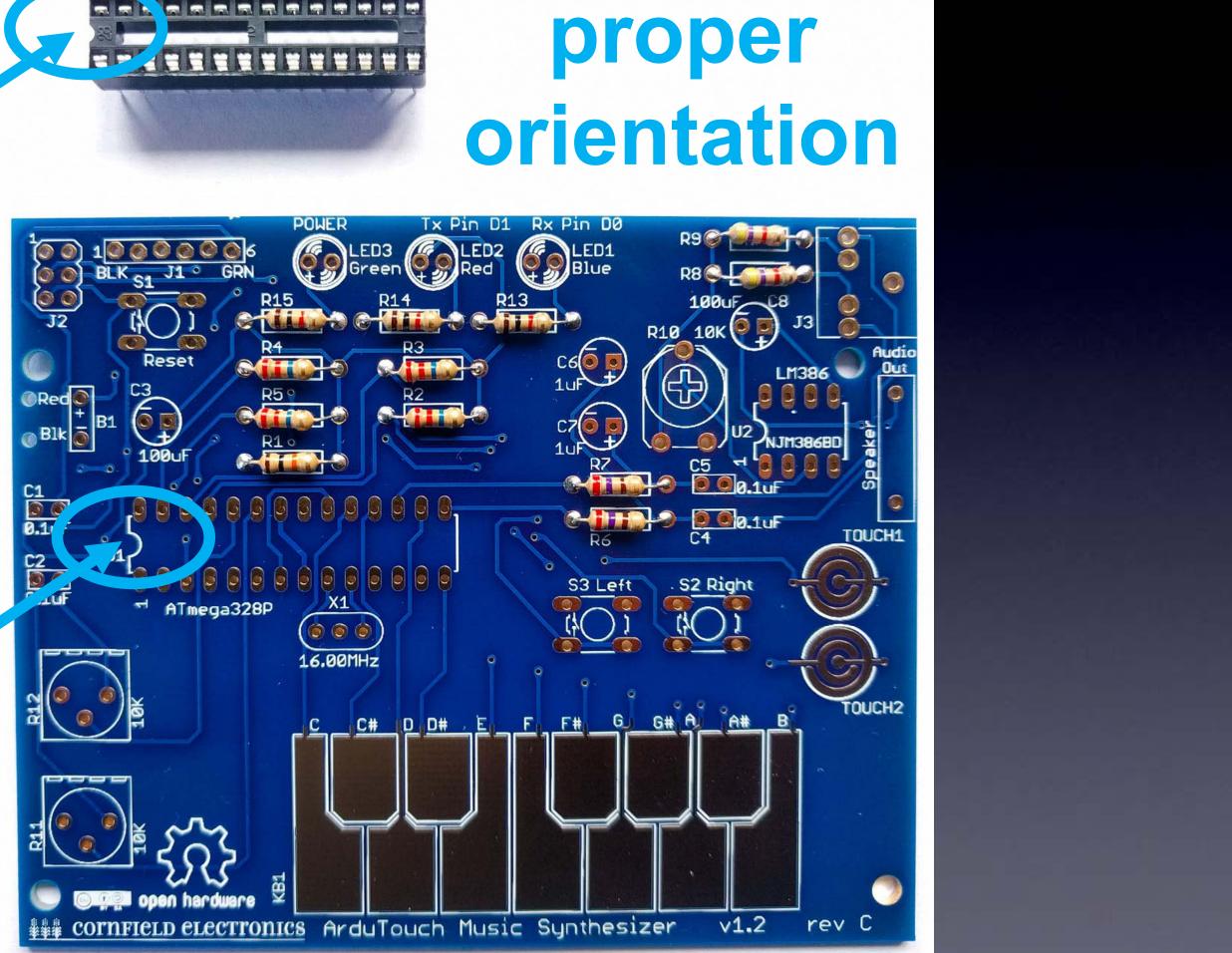
10K: Brown, Black, Orange
22M: Red, Red, Blue
270: Red, Violet, Brown
4.7K: Yellow, Violet, Red
1K: Brown, Black, Red



## U1: microcontroller socket

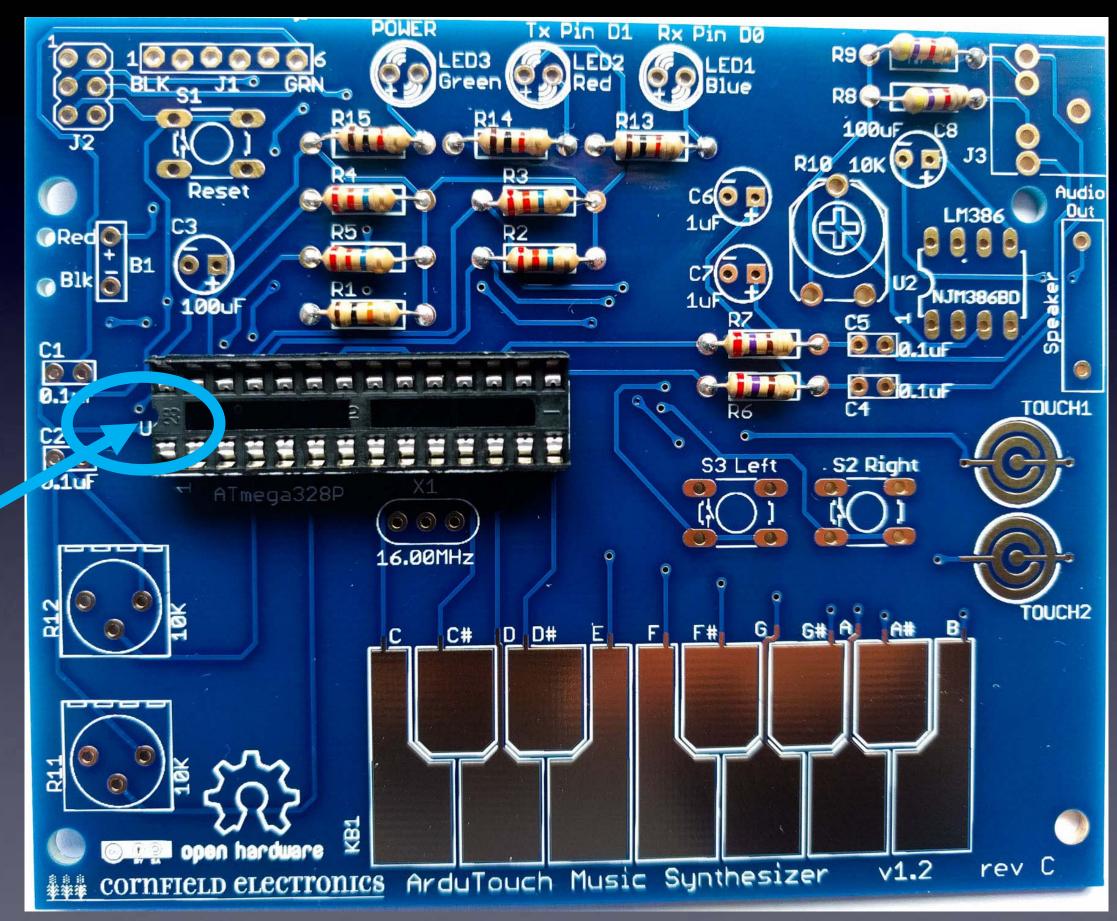


## proper



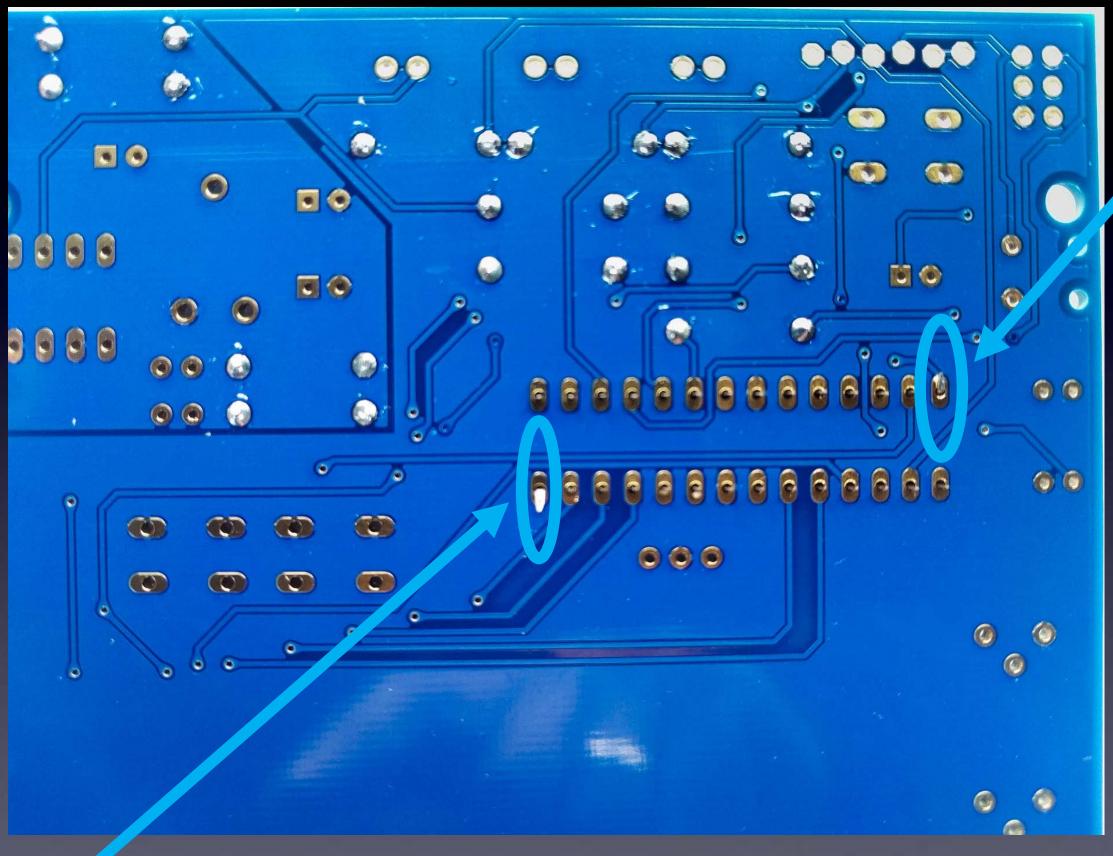


### U1: microcontroller socket: inserted correctly





### **U1: microcontroller socket**



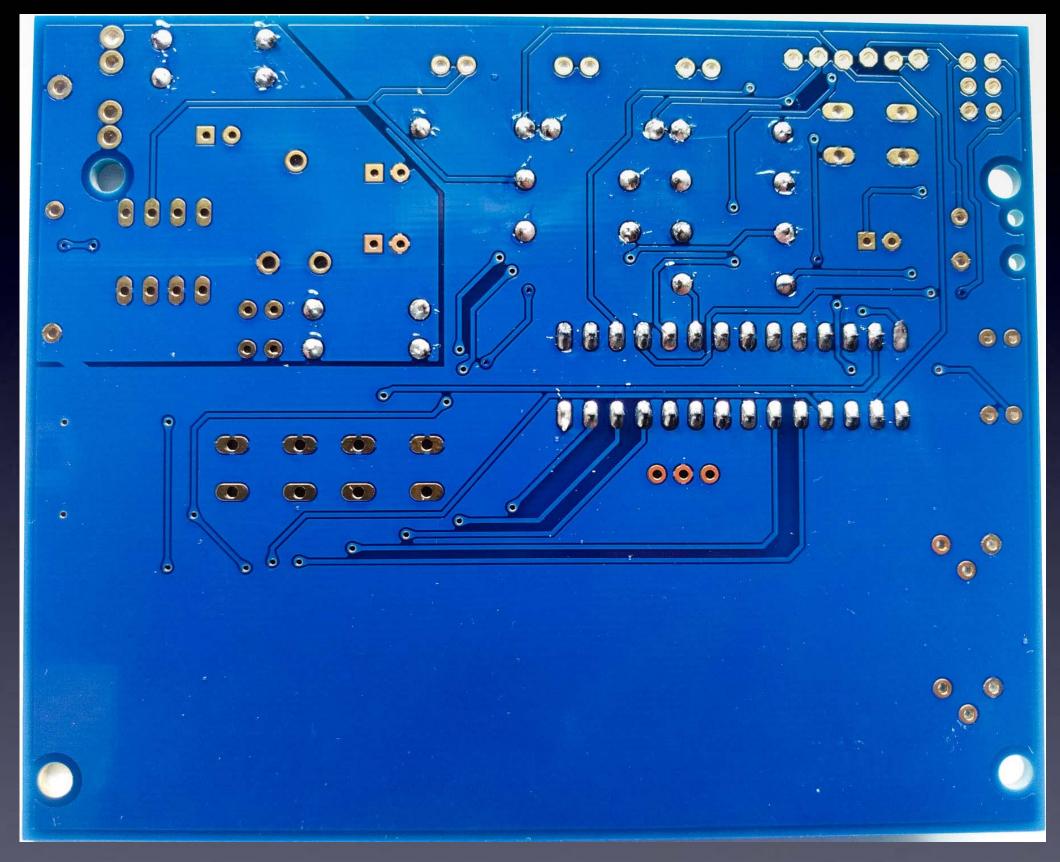
## bend pins down on two corners,







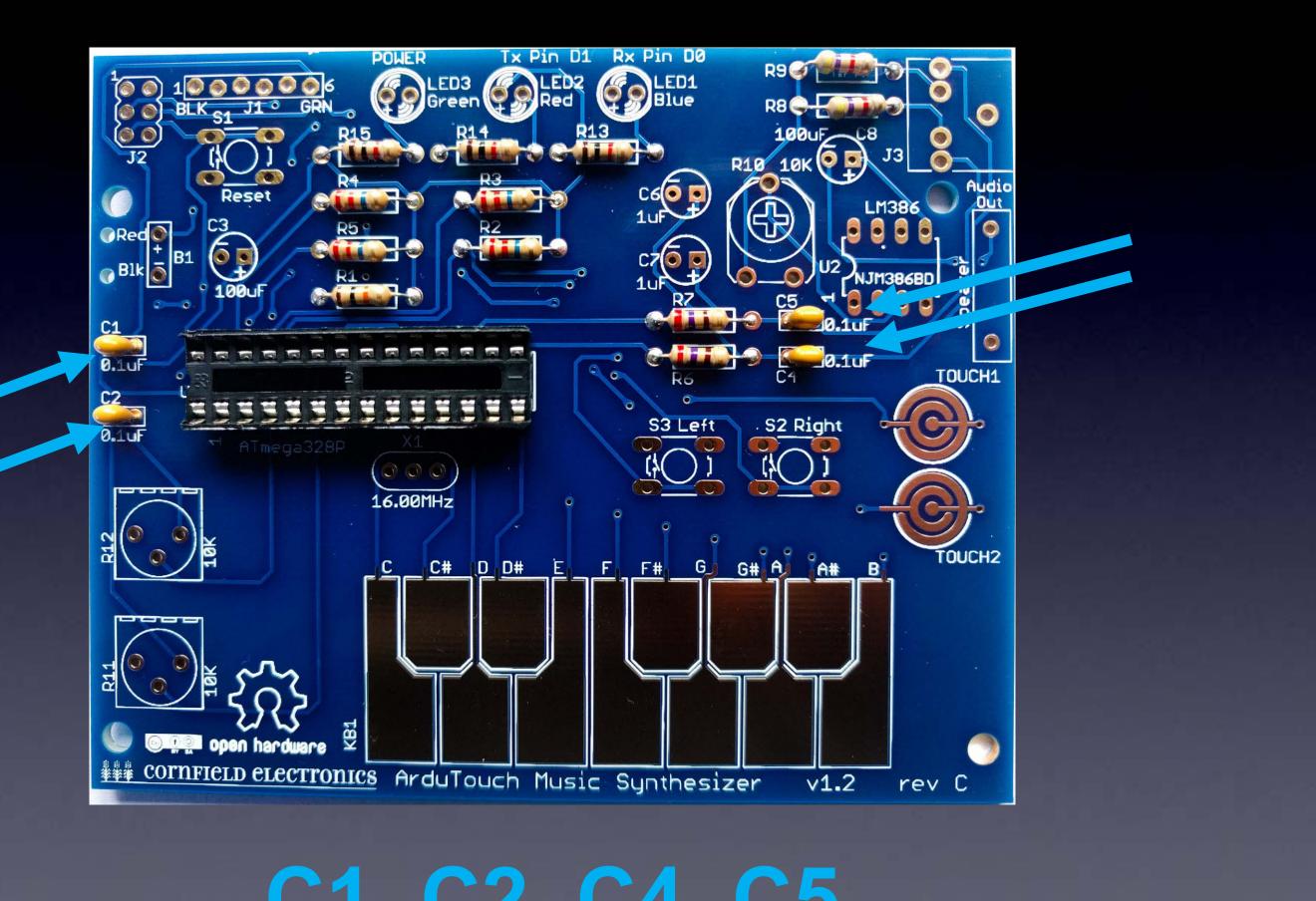
## U1: microcontroller socket



All 28 leads soldered to the board:

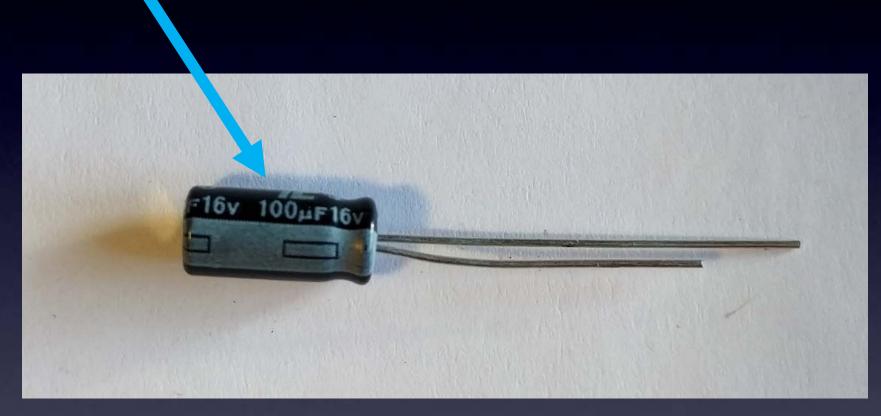






C1, C2, C4, C5

## C3, C8: 100uF

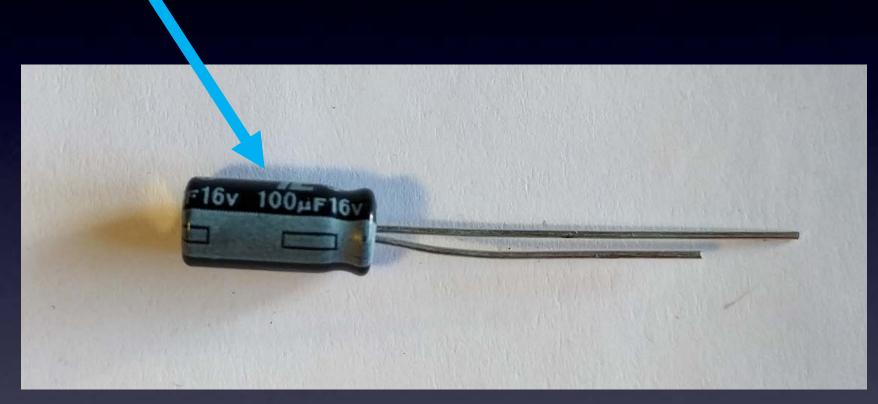


# 

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

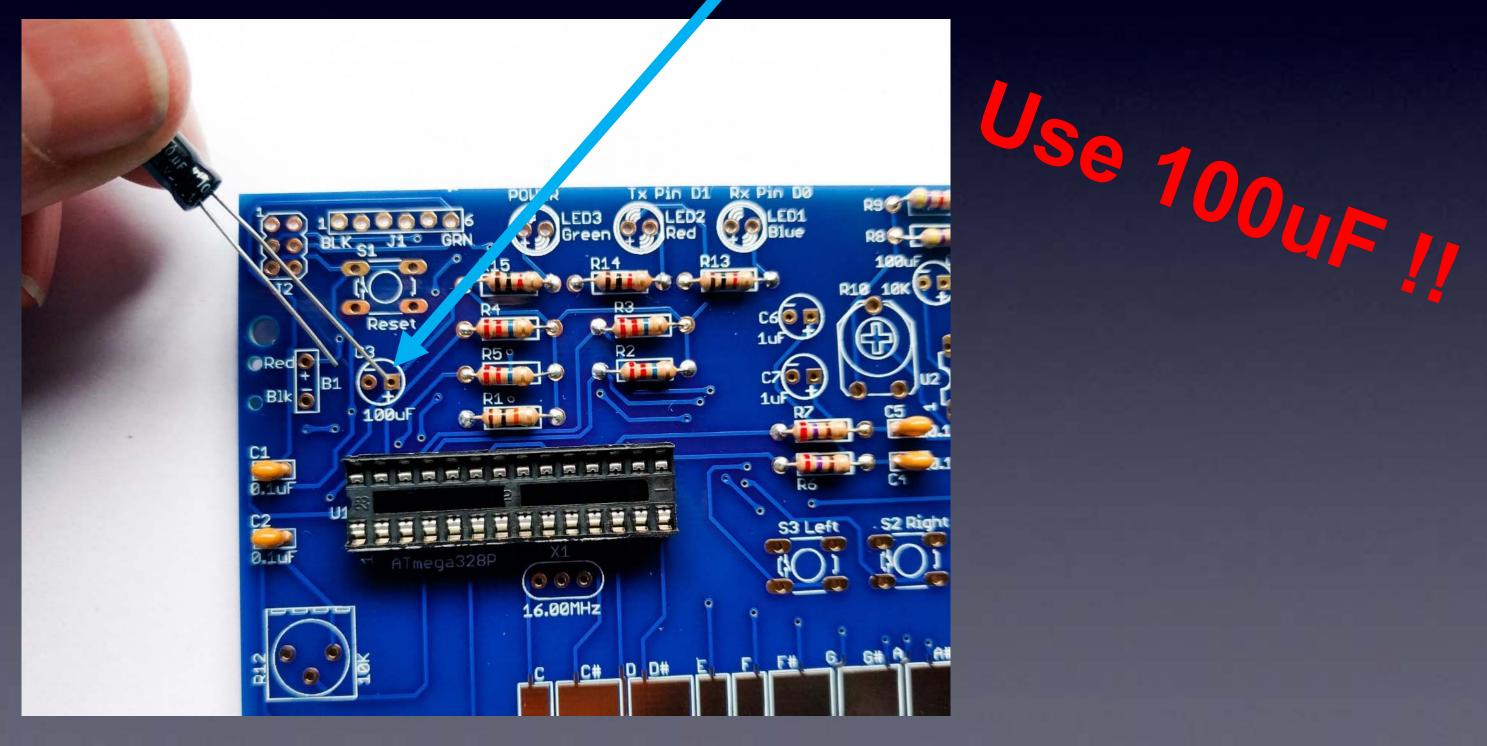


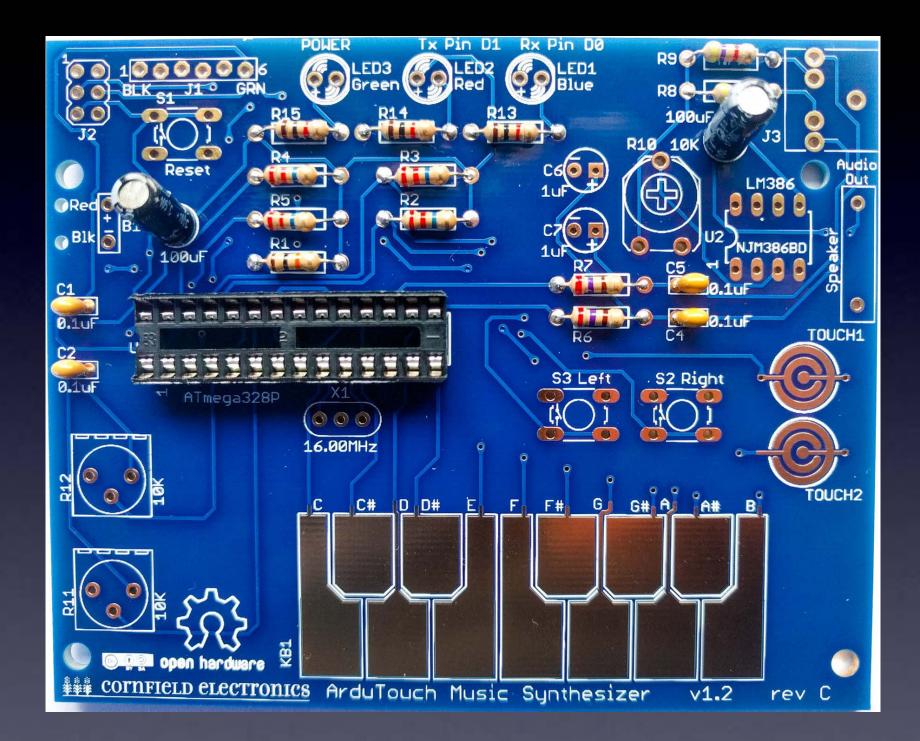
## C3, C8: 100uF





## C3, C8: Long Lead "+"



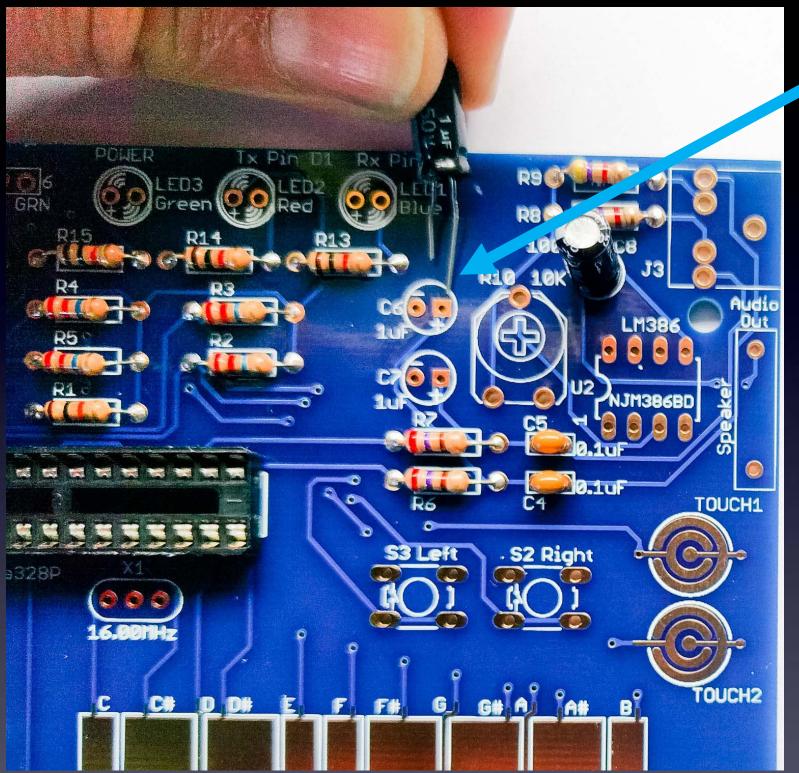


## C3, C8: 100uF – soldered to board



## C6, C7: 1uF

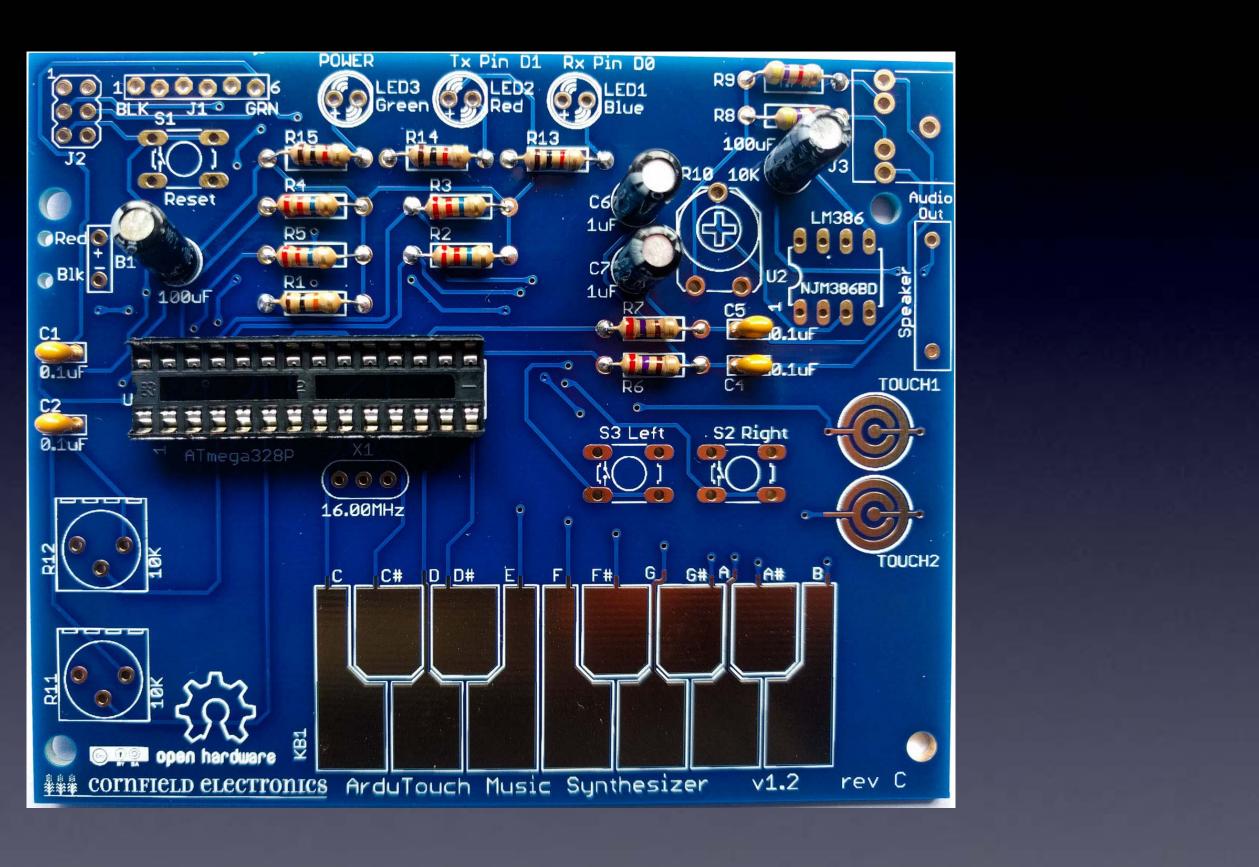




## **C6, C7:** -ong Lead "+"

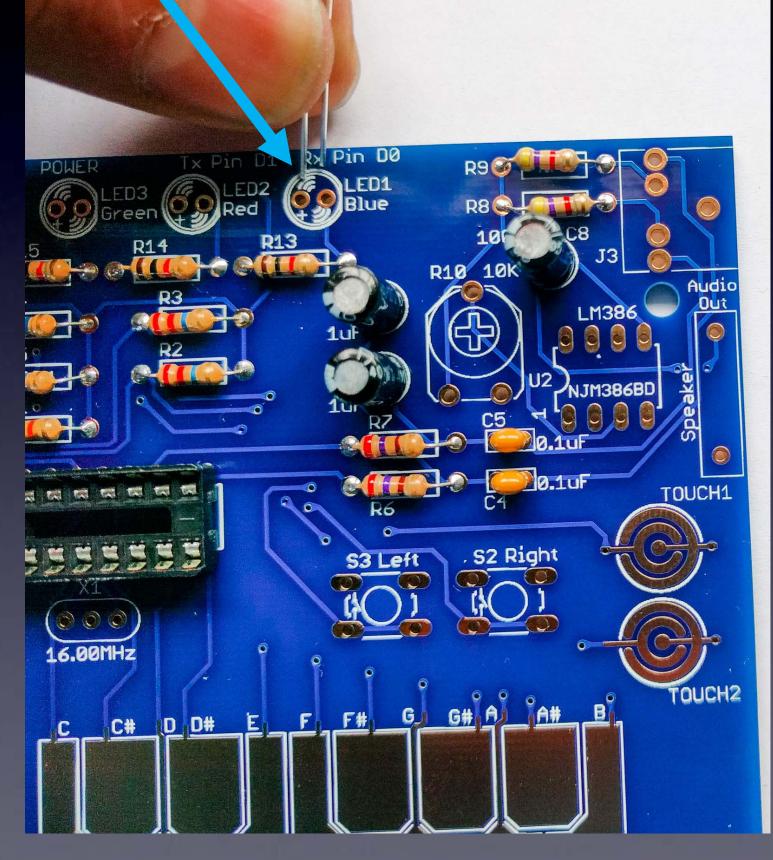






## C6, C7: 1uF – soldered to board

## LED1, LED2, LED3: Long Lead "+"

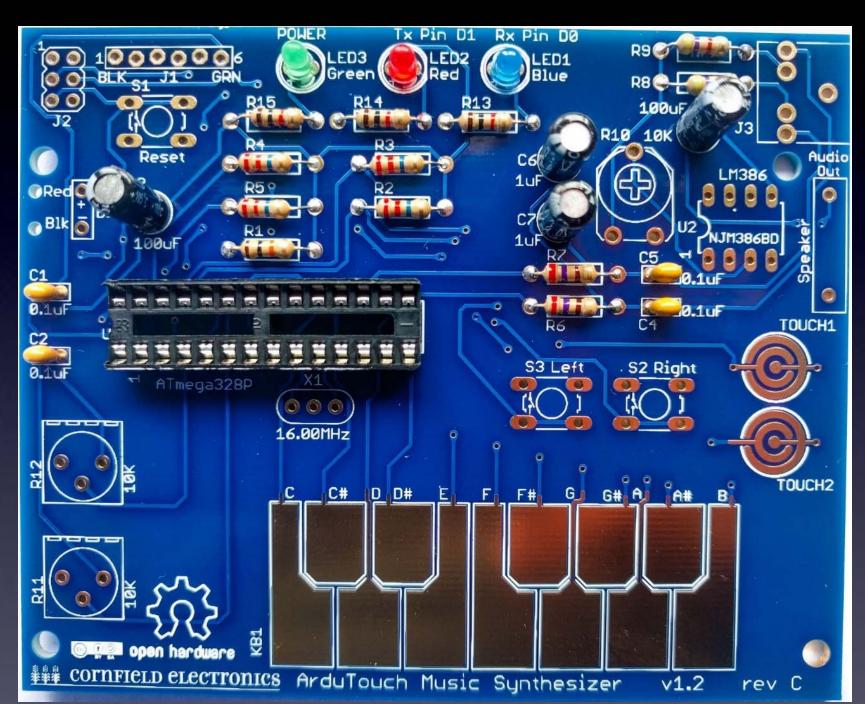




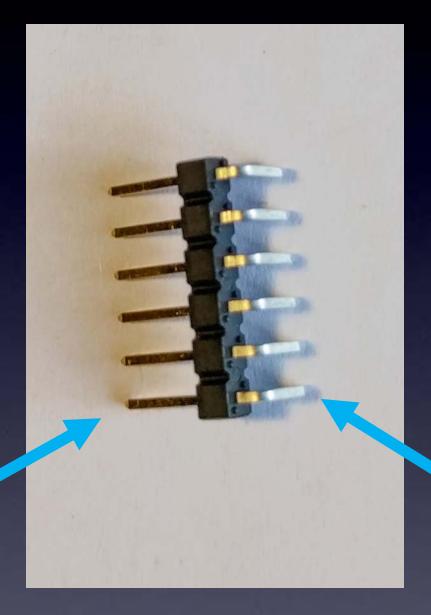
We'll use them for the speaker



## LED3, LED2, LED1 Green, Red, Blue – soldered to board





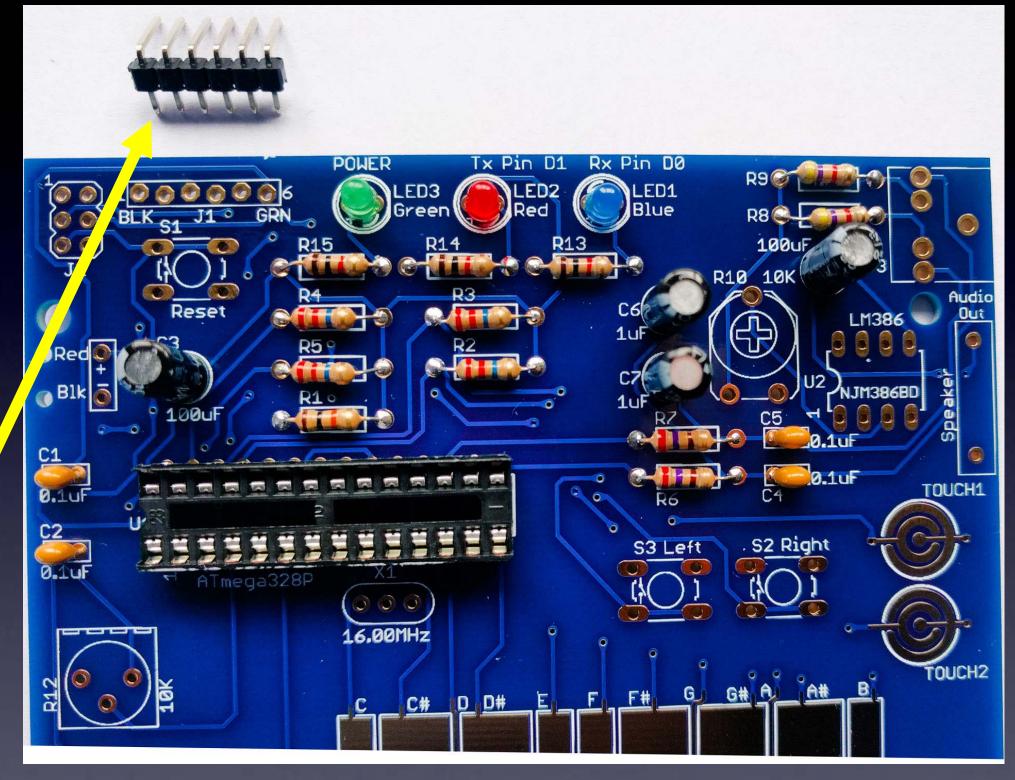


#### long leads

**J1** 

short leads

## Short leads into board



 $\rightarrow$  long leads sticking out from board

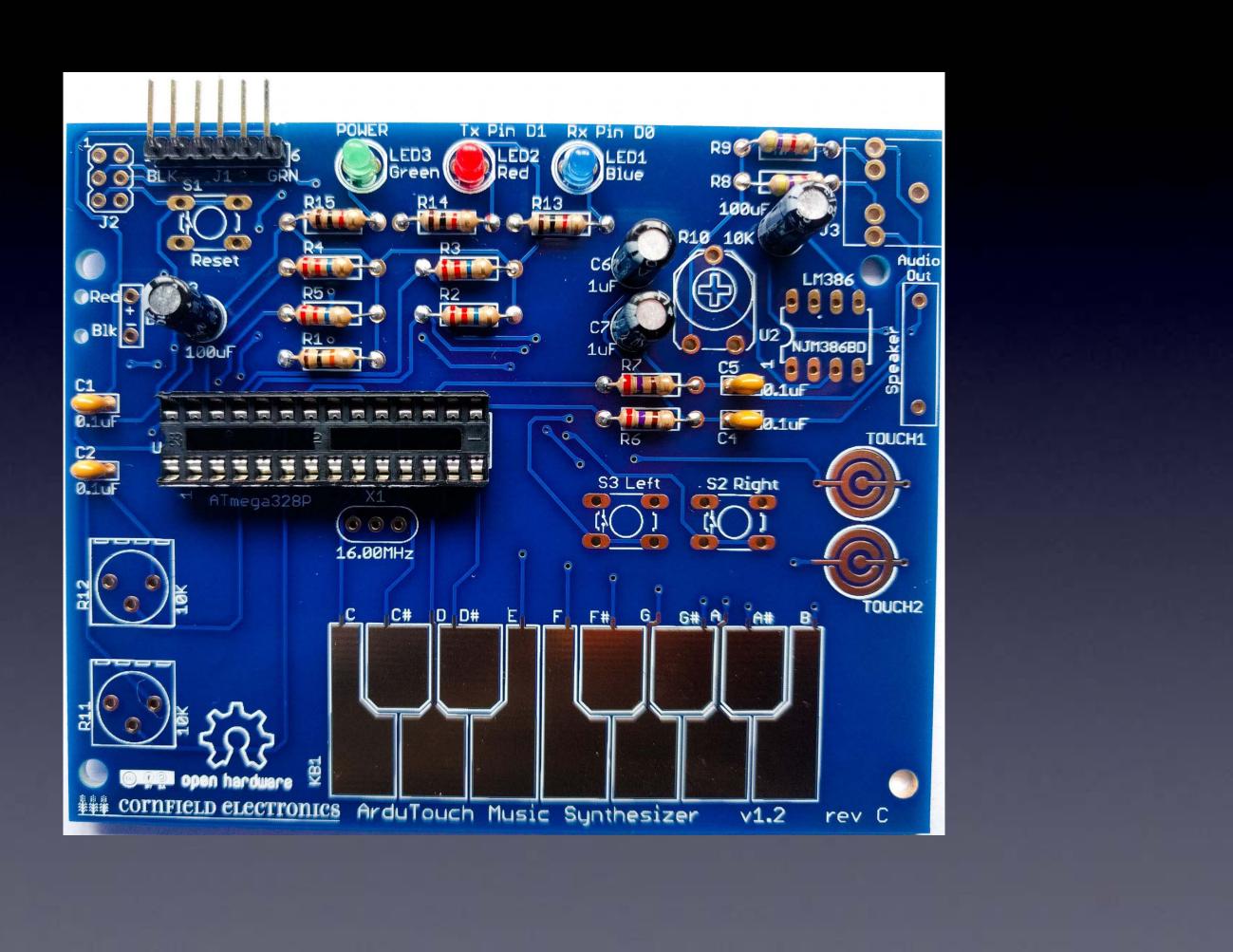
**J1** 

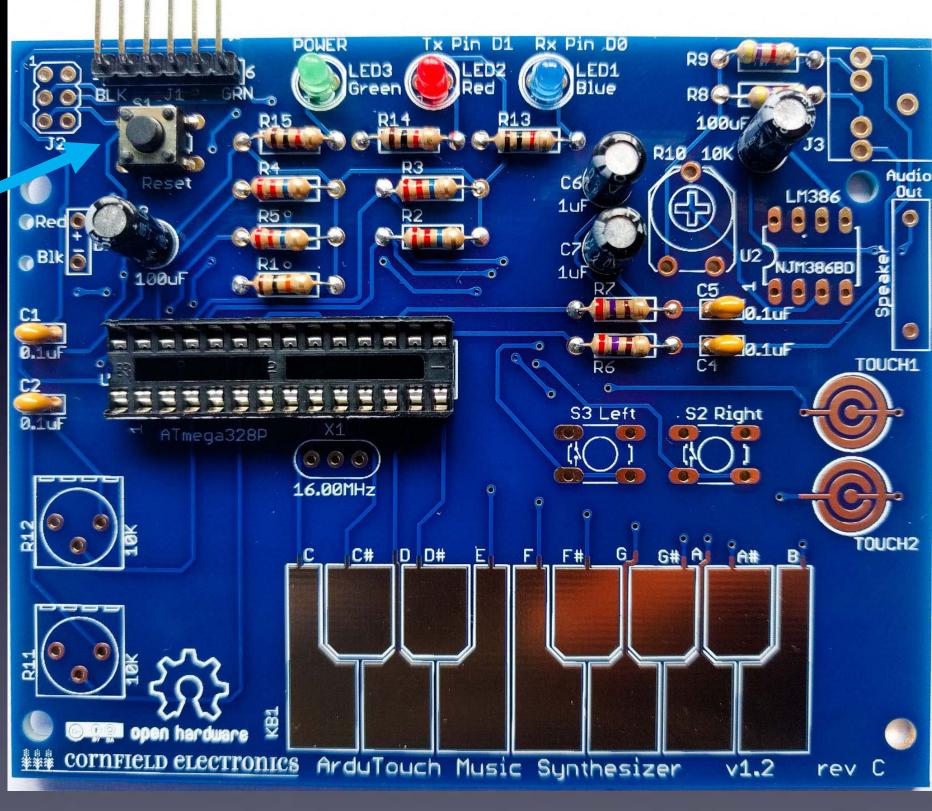
**IMPORTANT**:

short leads

go into the board

#### **J1**





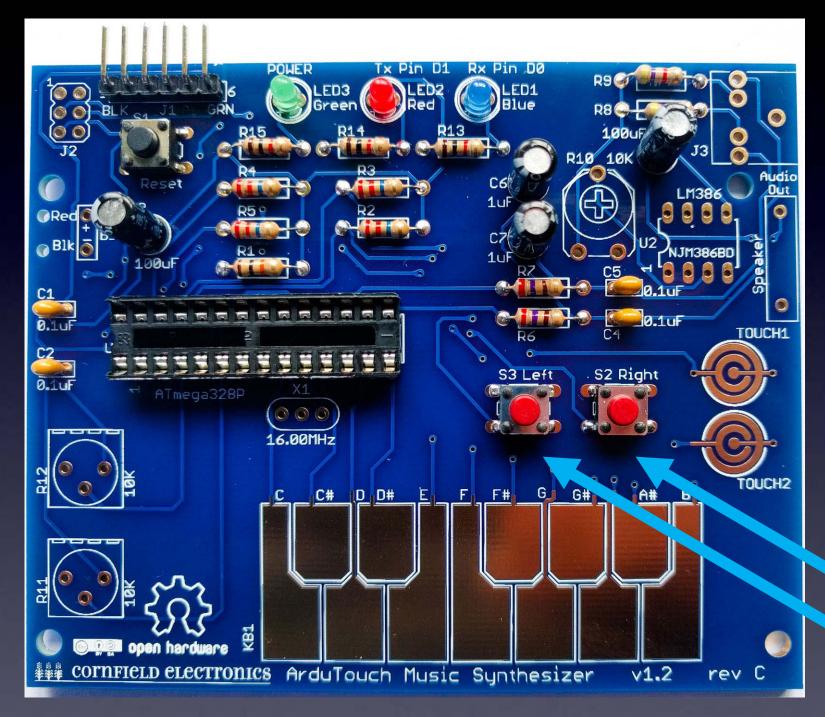
#### S1: black Reset button

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

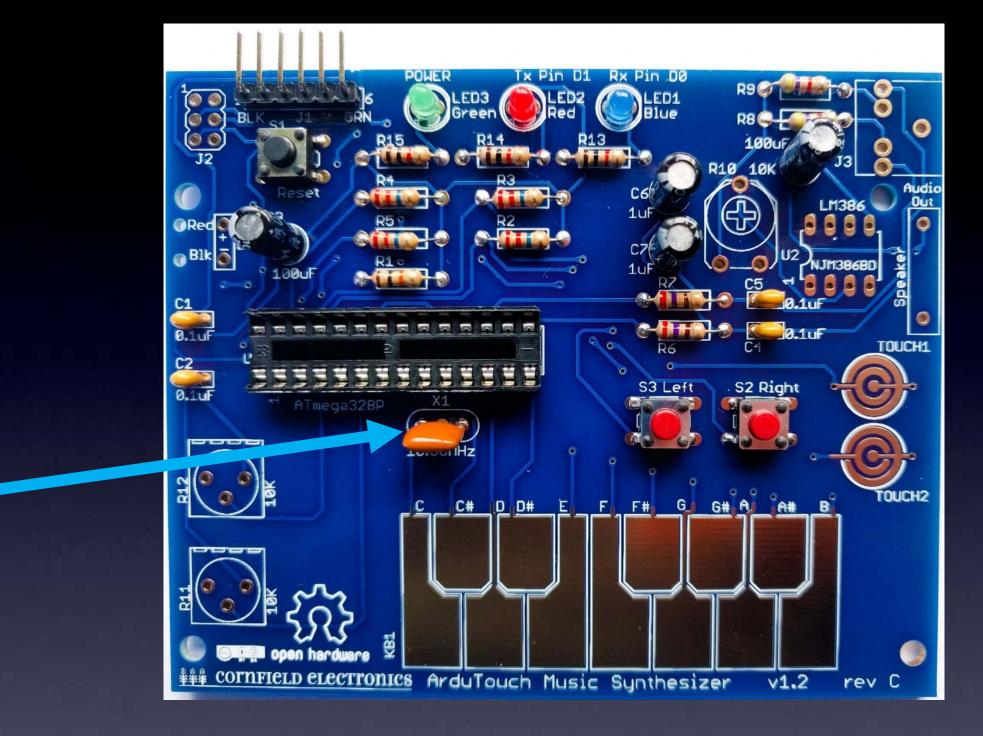


### S2, S3: Red buttons

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







**X1** 

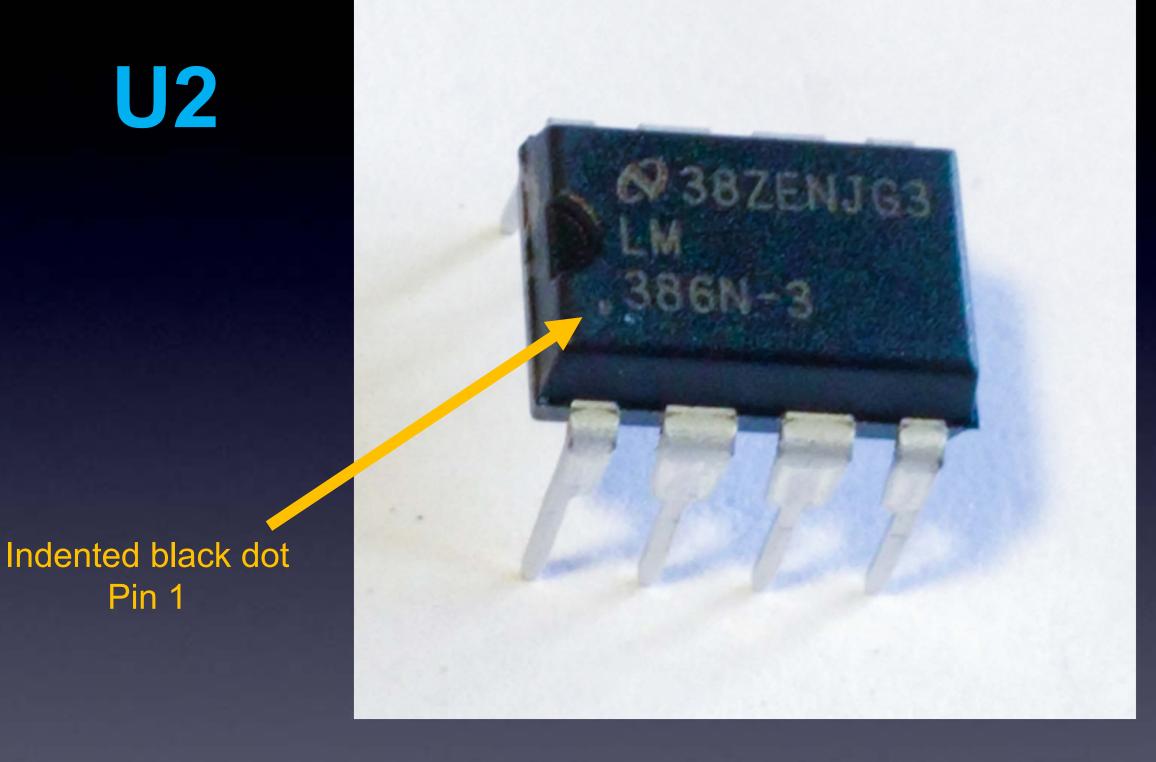
#### The orientation of X1 does not matter.

Note: X1 may be yellow or blue.



## **J2**

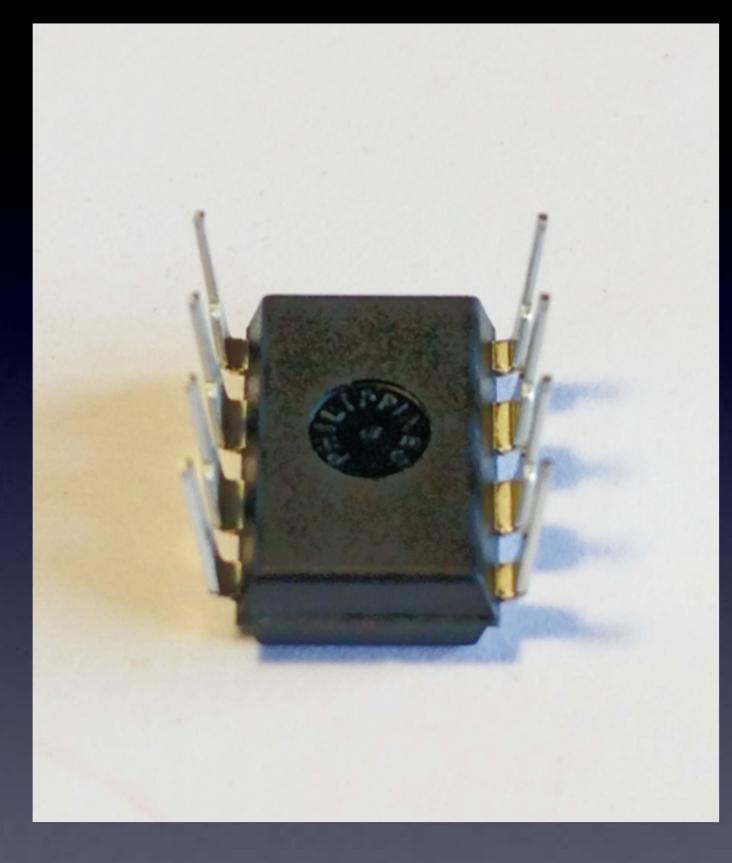
Pin 1



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**



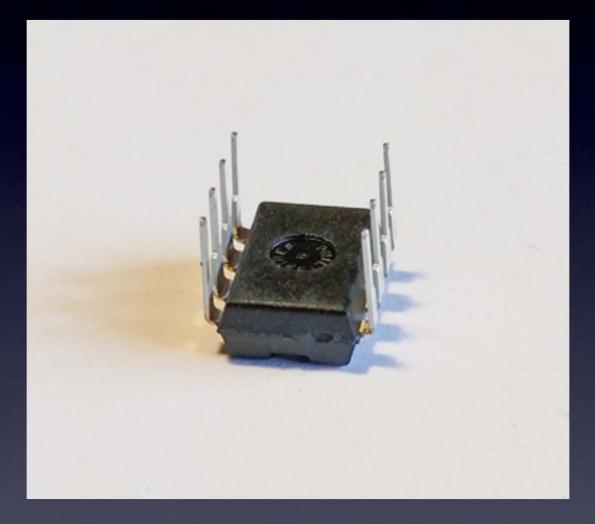
#### When chips are new, their pins are bent out.

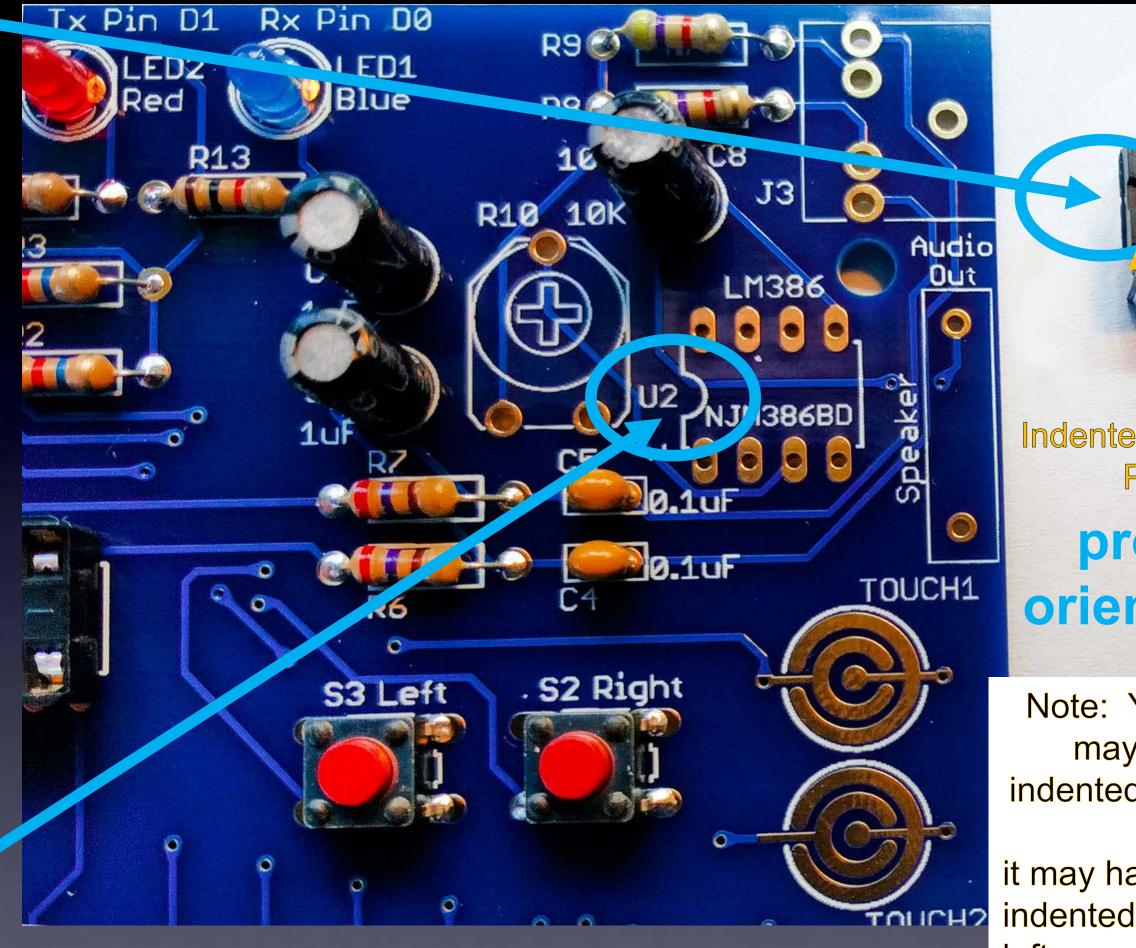
#### **J2**

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

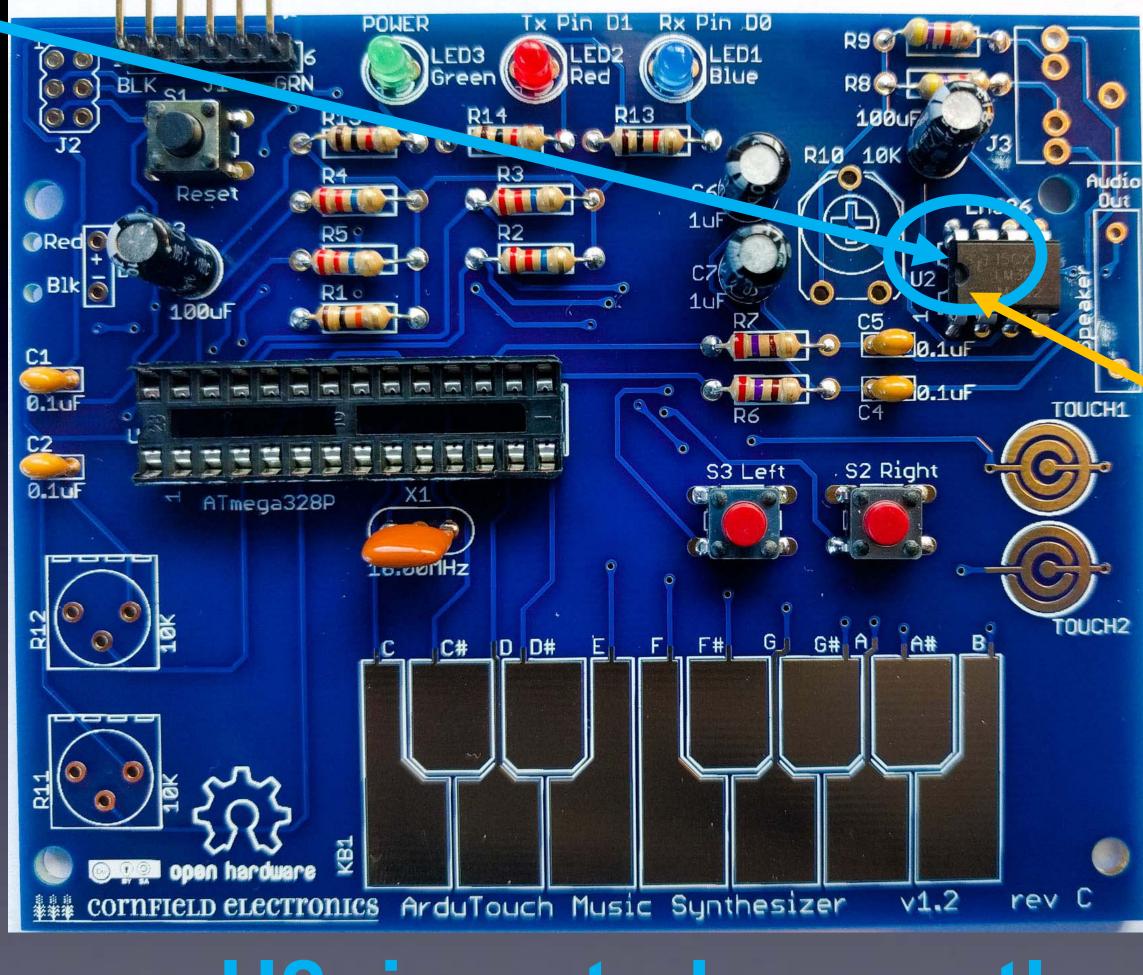




#### U2: audio amp chip

Indented black dot Pin 1 proper orientation

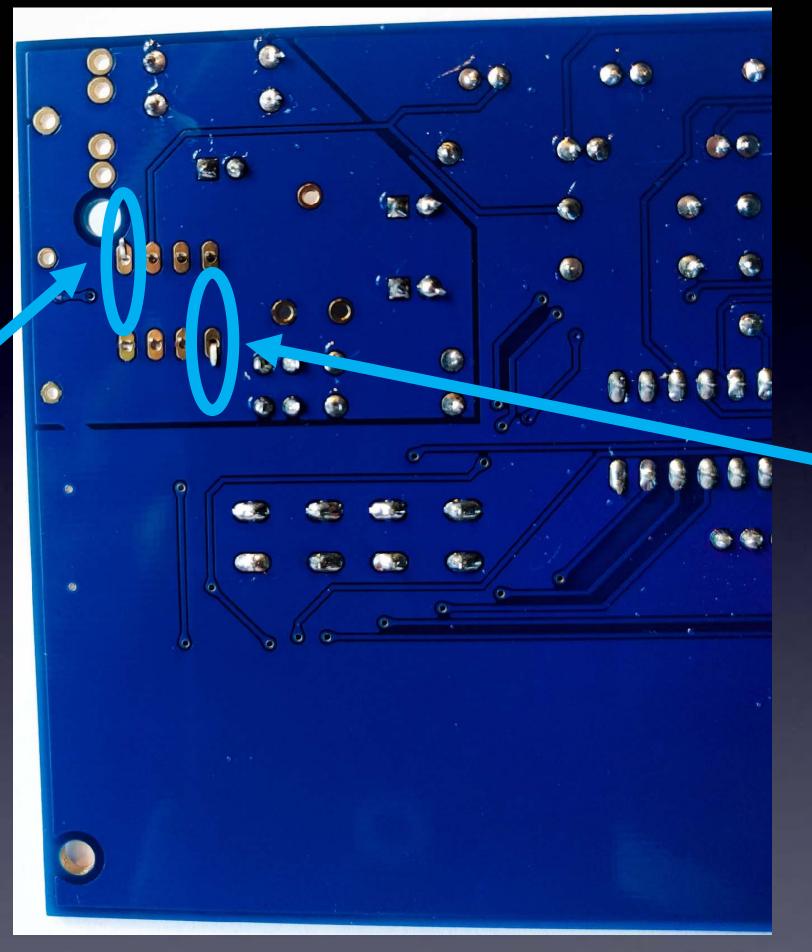
Note: Your chip may or may not have the indented half-moon at the left, it may have a black indented dot at the lowerleft corner showing Pin 1.



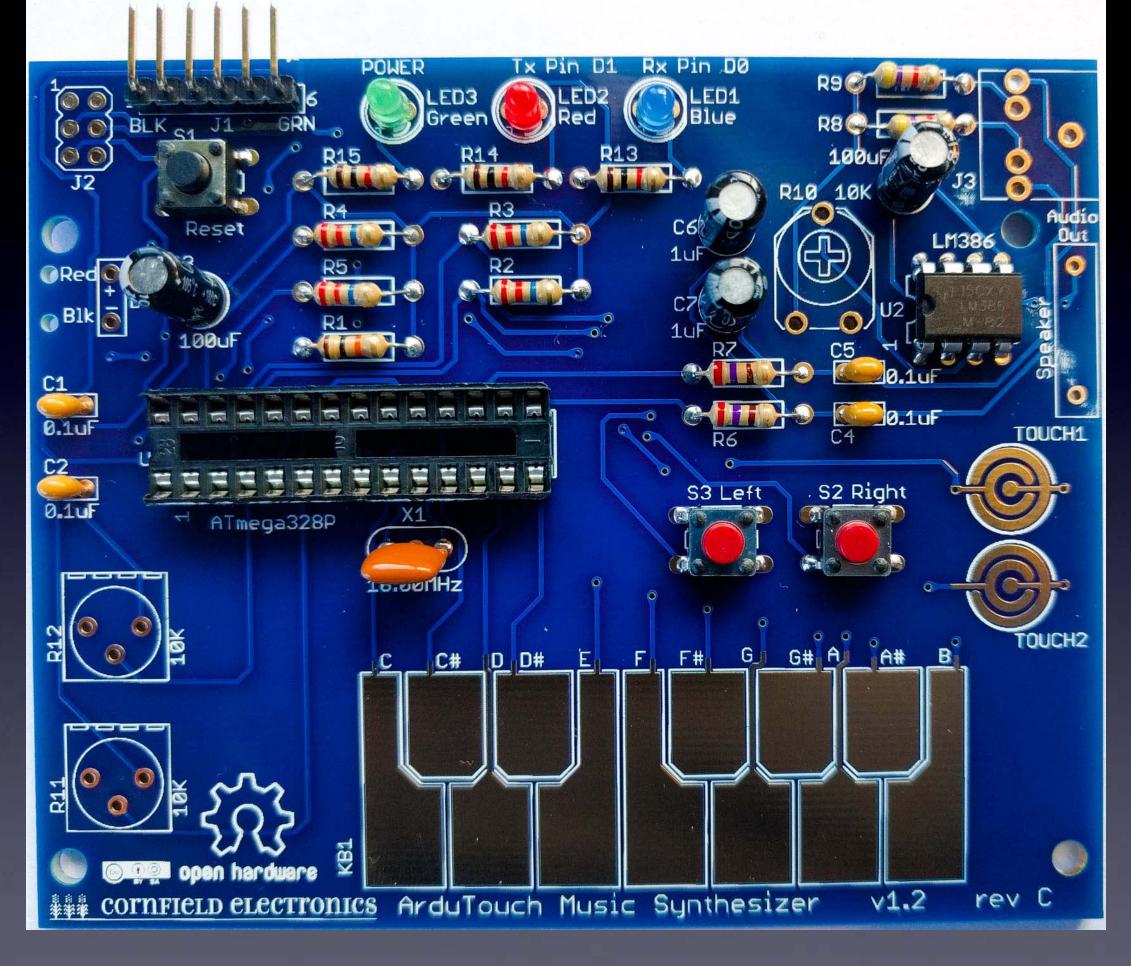
#### **U2: inserted correctly**

#### Indented black dot Pin 1

**U2** 



bend pins down on two corners,



#### U2 – soldered to board

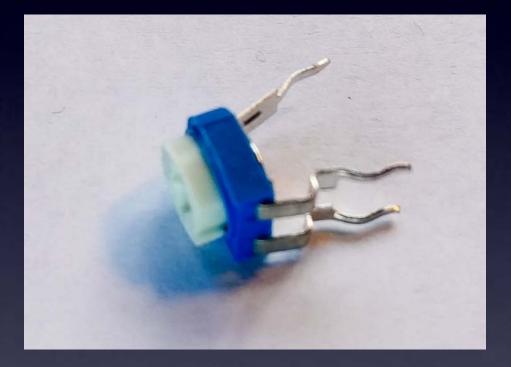
### R10: volume control



#### When new, the pins point straight down.



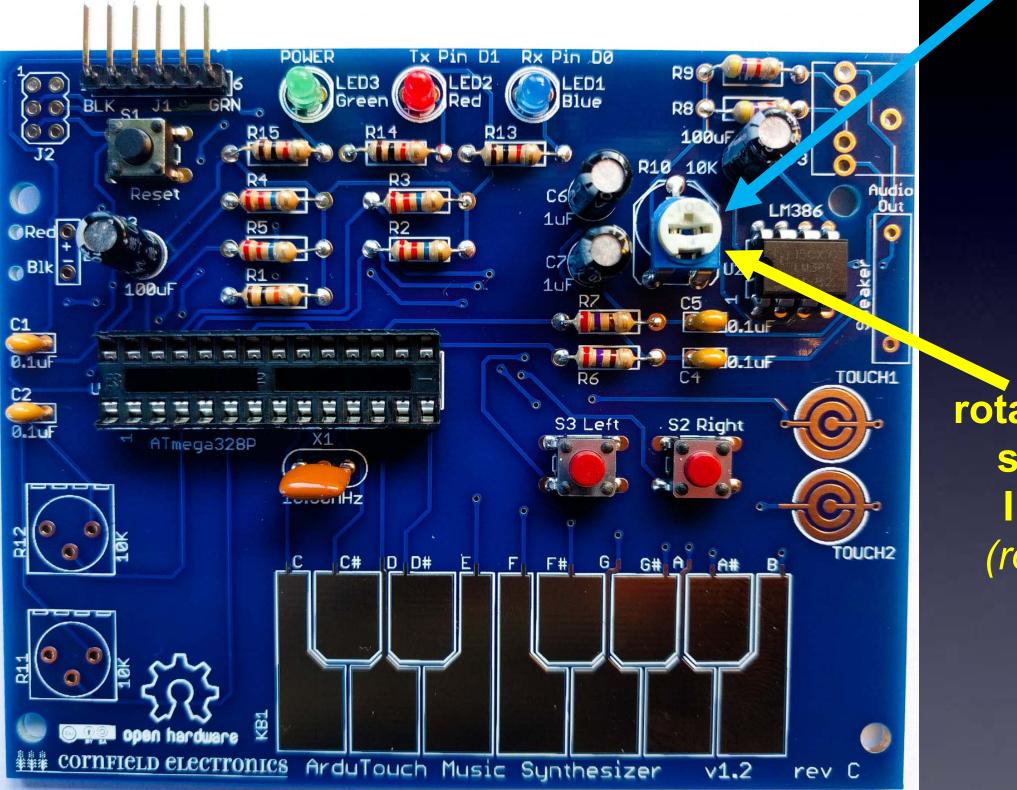
### **R10: volume control**



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

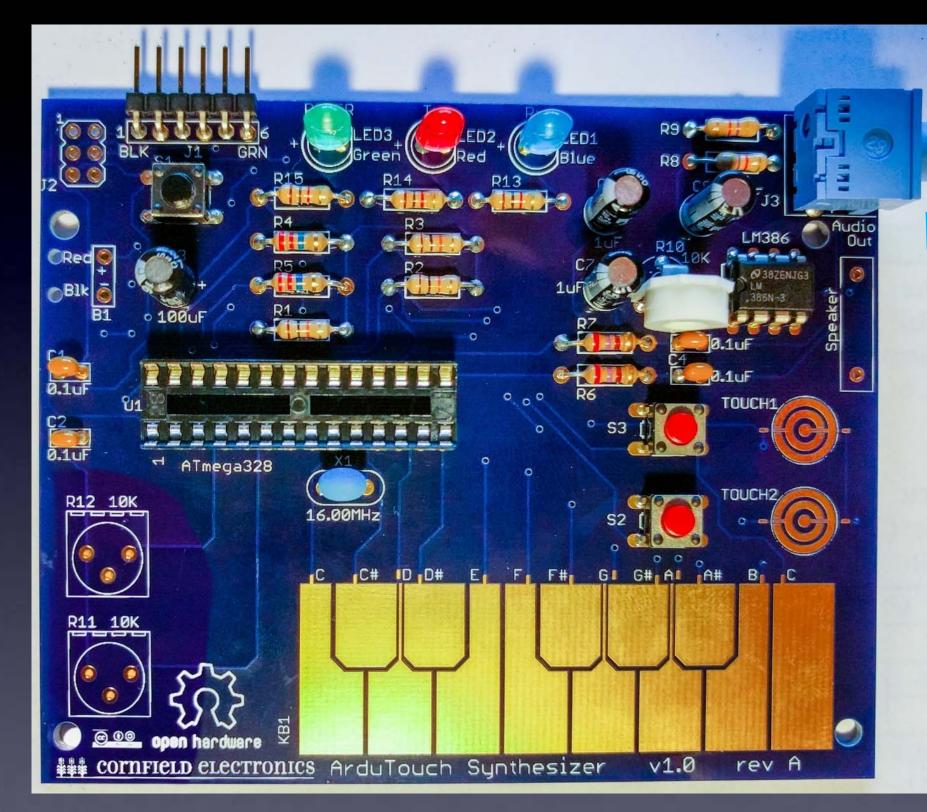


### **R10: volume control**



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

#### J3: headphone / output jack







## **U1: microcontroller**

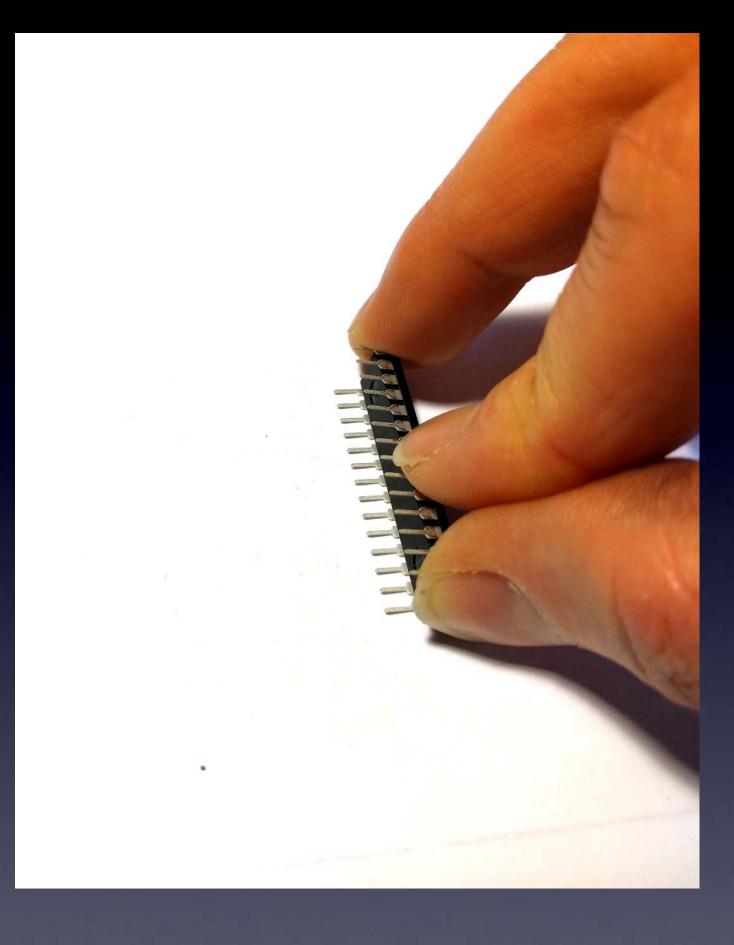
## **U1**



# 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.

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.



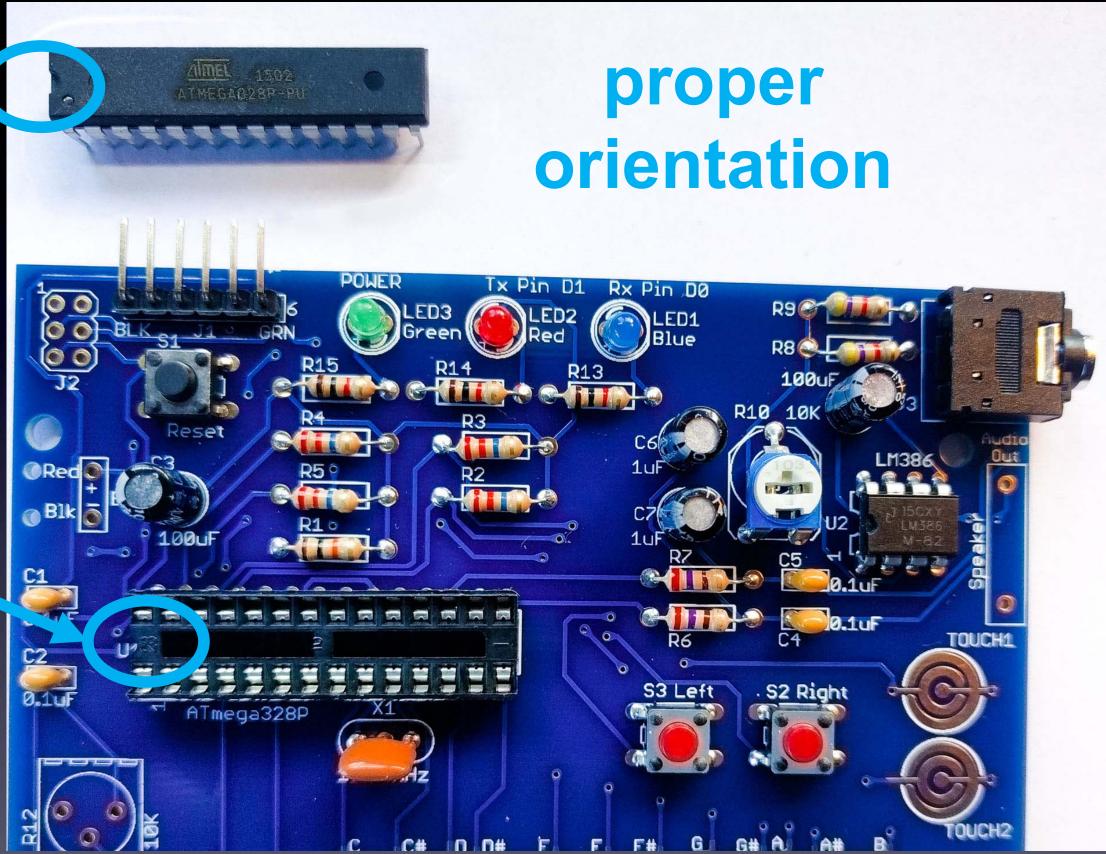
We need the pins bent straight and parallel. Use your work table to (gently) bend the leads.



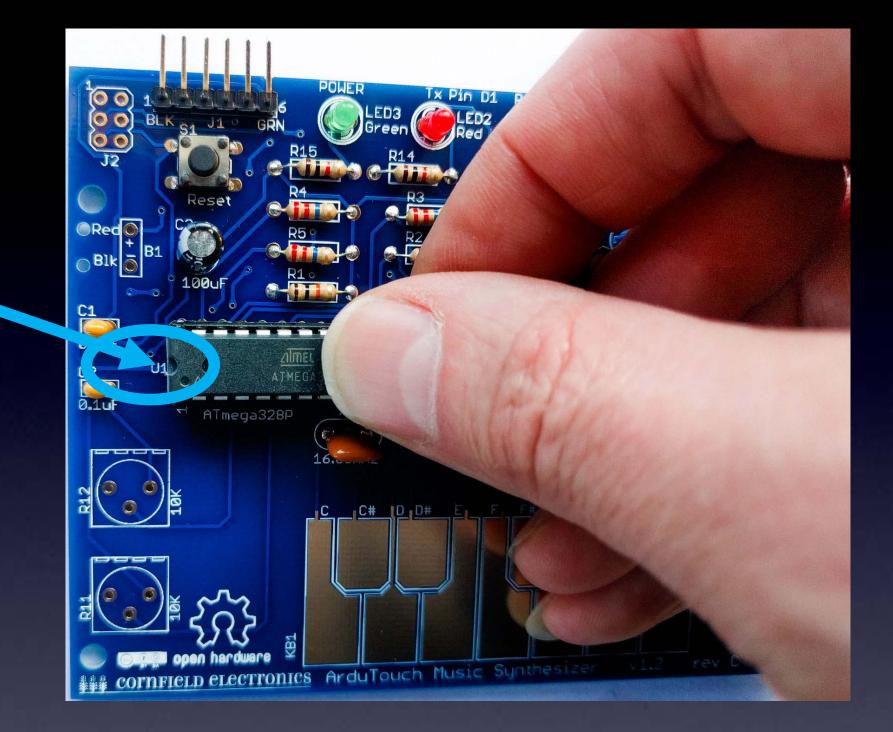
#### **U1: microcontroller** These pins must be straight and parallel



# proper



#### **U1: microcontroller**



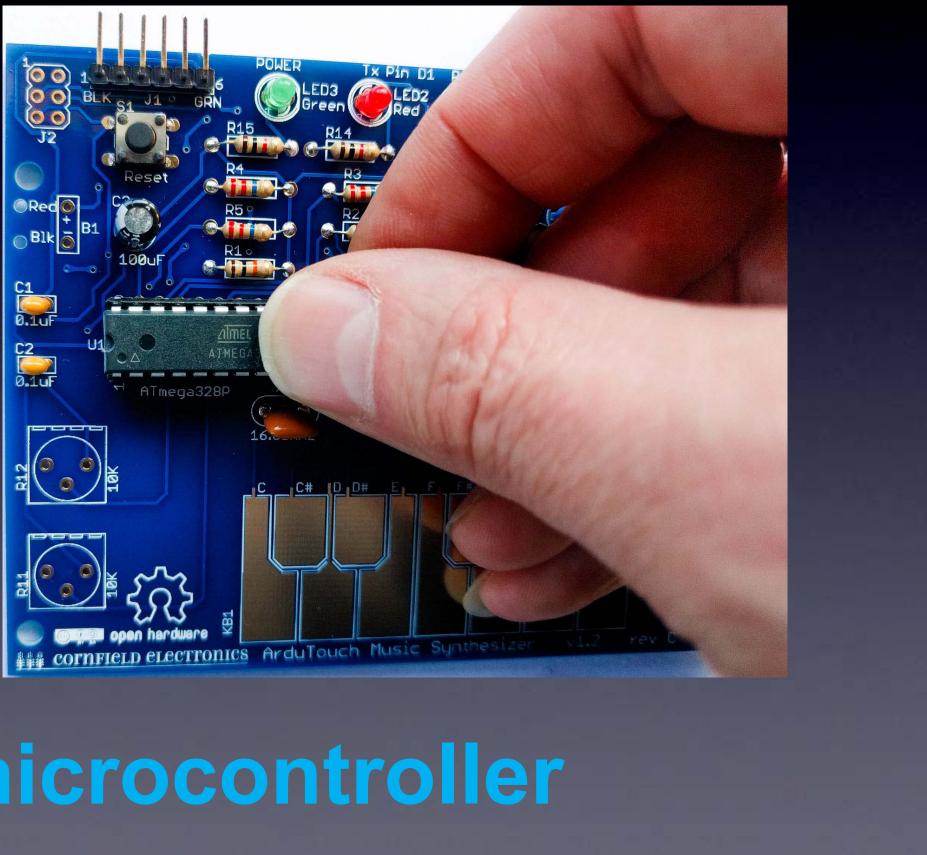
#### **U1: microcontroller**

make sure each pins rests in its hole in the socket  $\rightarrow$  with the proper orientation

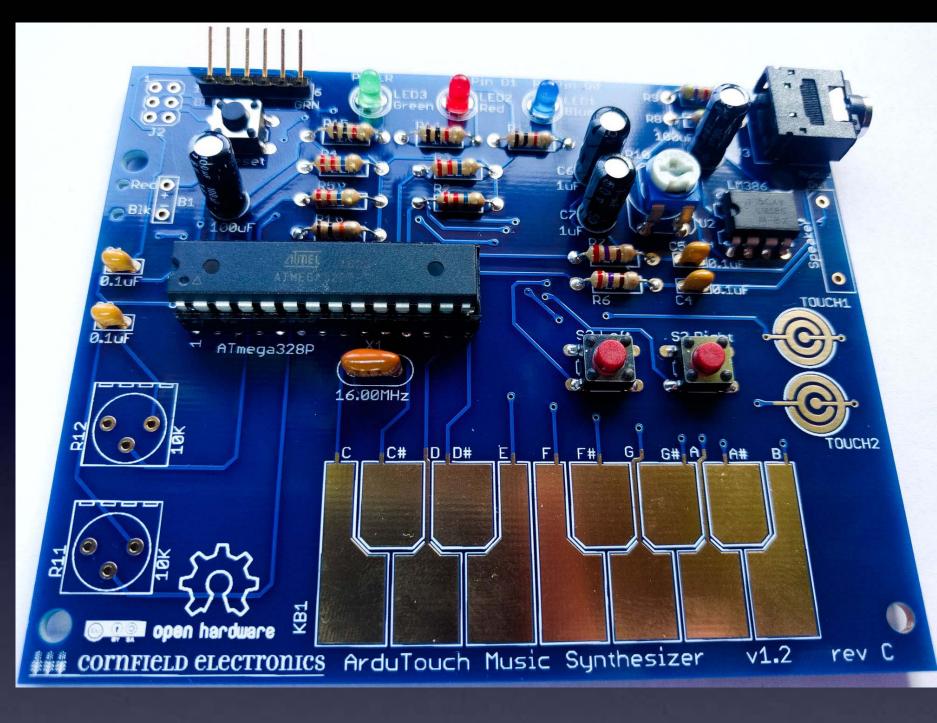
#### <u>Use two thumbs</u> to push microcontroller into its socket

#### 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

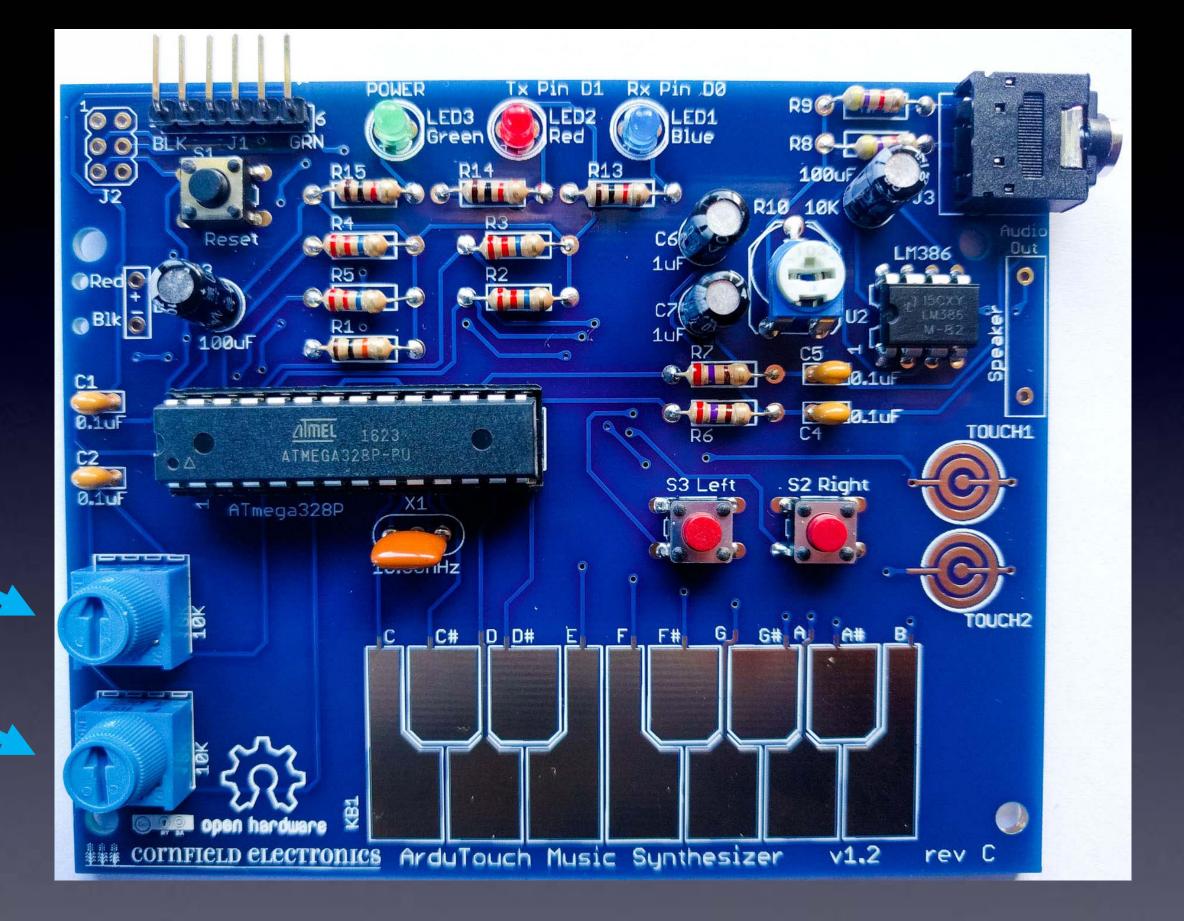
Inspect all pins, and be sure each went into its hole in the socket – not bent.

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



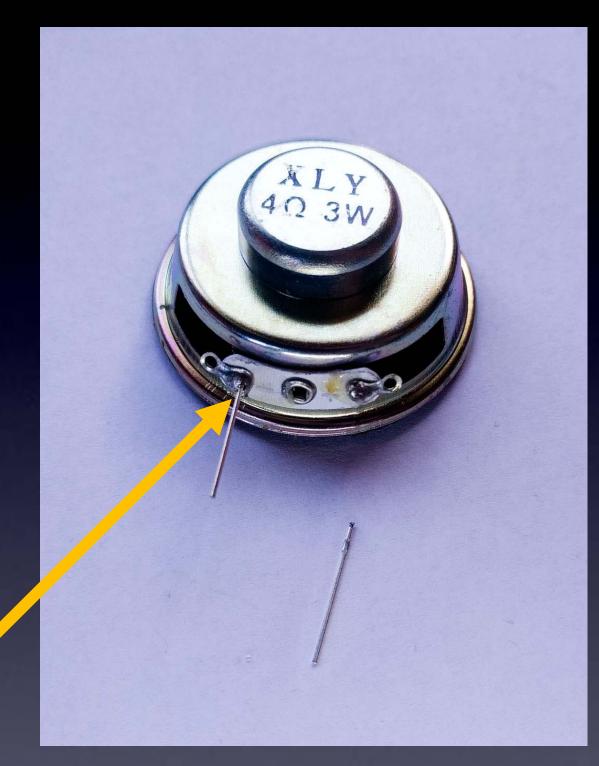
## Speaker

## We'll add leads to the speaker



### Speaker

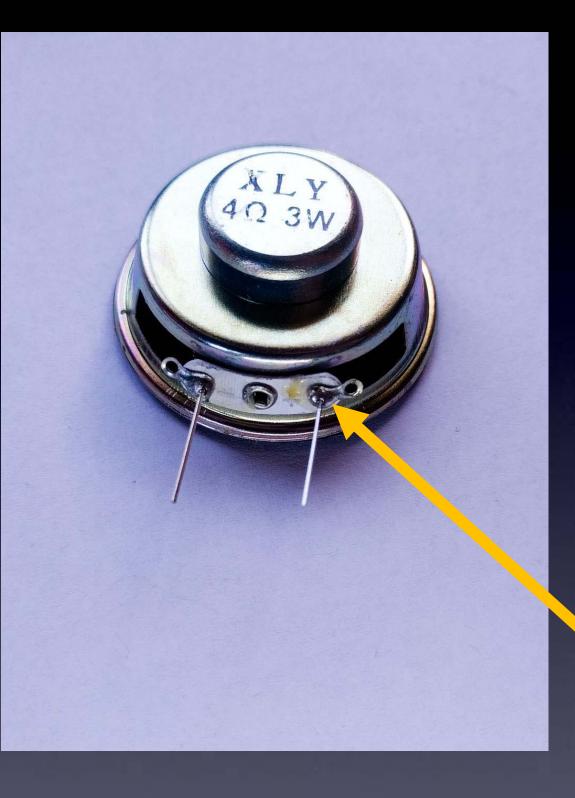
#### from the LEDs



## Solder one lead to speaker

Notice the correct place to solder the wire



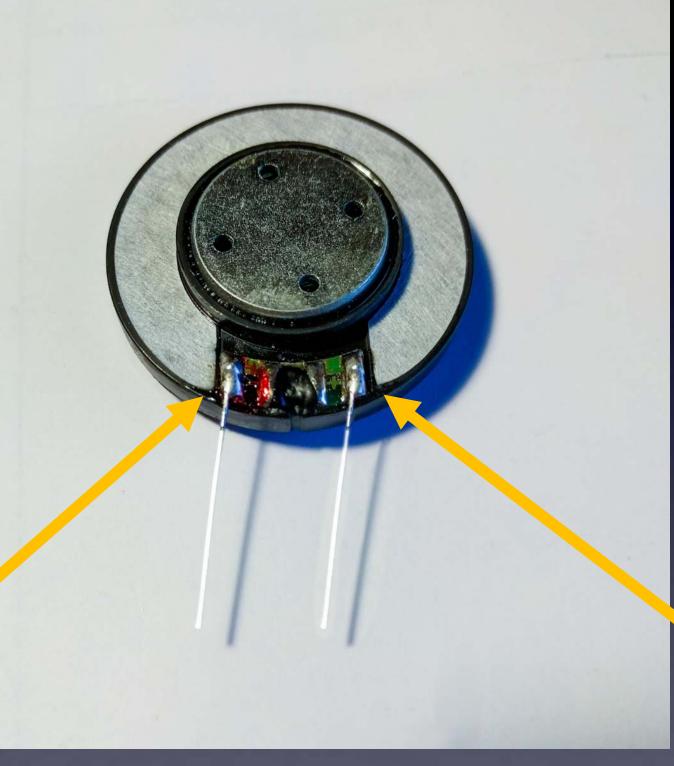


Solder next lead to speaker

Speaker

Notice the correct place to solder the wire

# Some kits have a speaker that looks like this

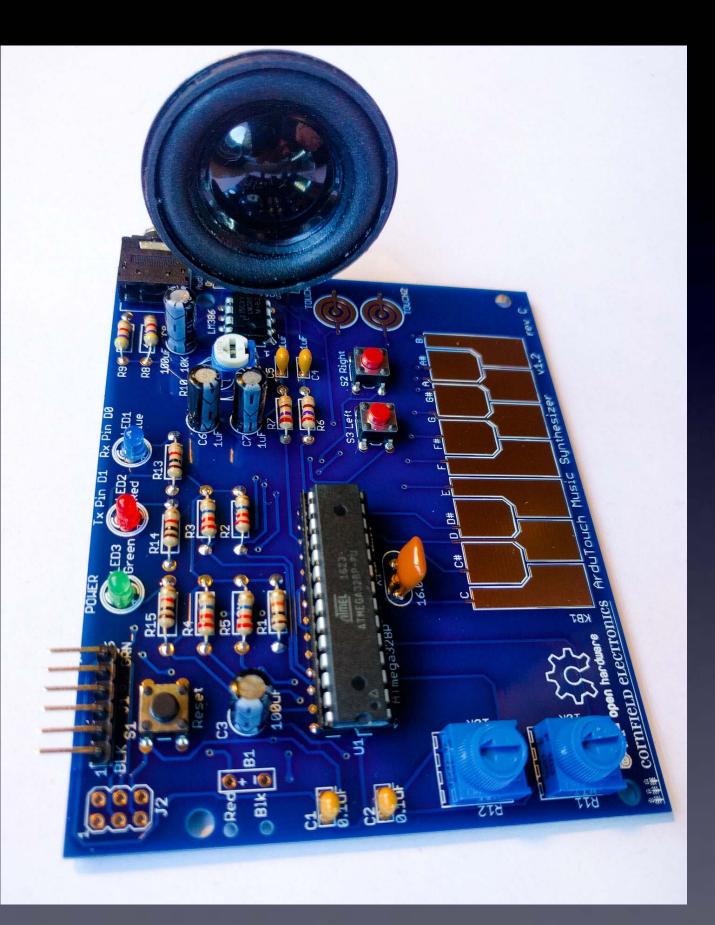


Notice the correct place to solder the wires

## Speaker



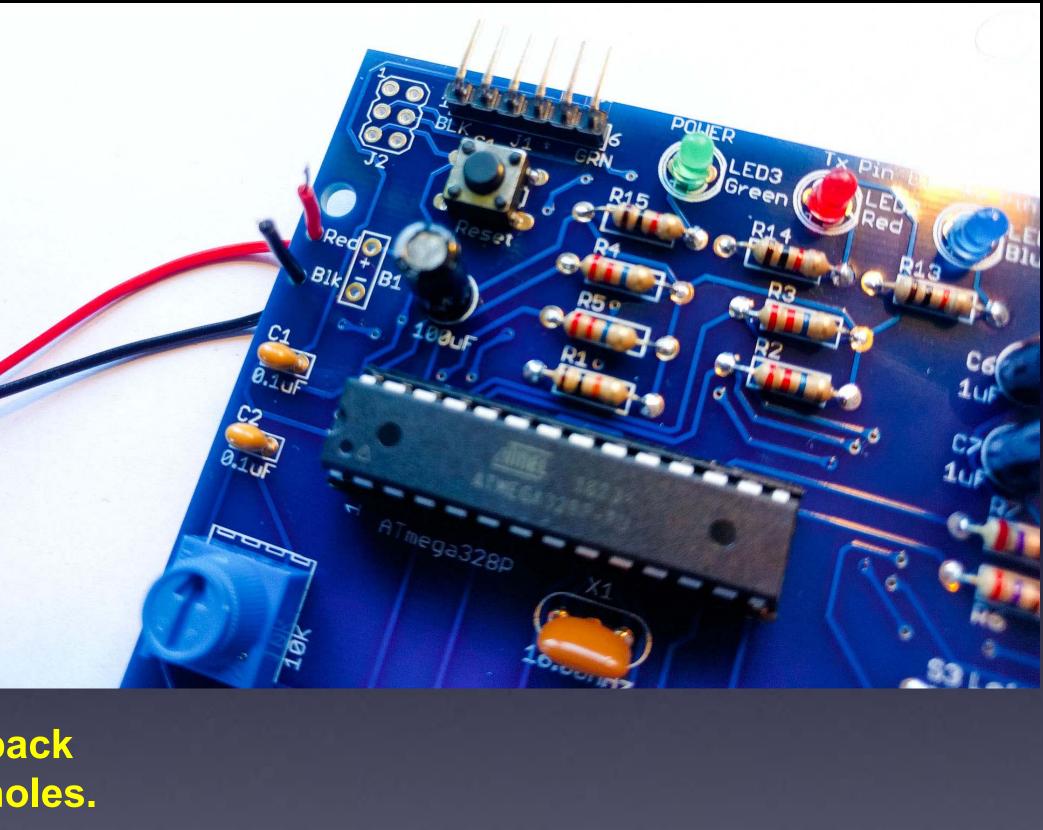
Insert speaker into board and solder both leads to board.



### Speaker

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

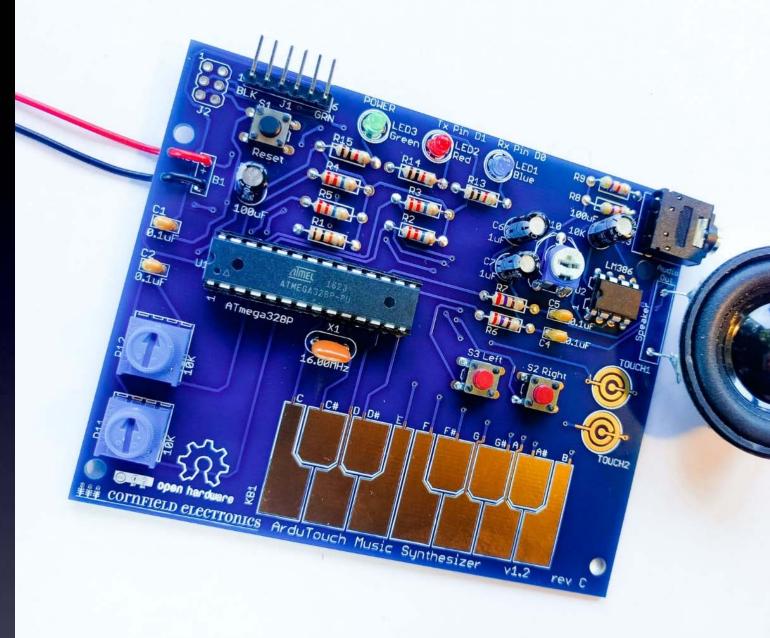
If so, you can widen the these two holes by gently rotating a scissors or small knife or small Phillips screwdreiver on the top and bottom of these two holes.



Push battery pack leads through holes.

Make sure Red and Black go through their correct holes!

## Battery pack



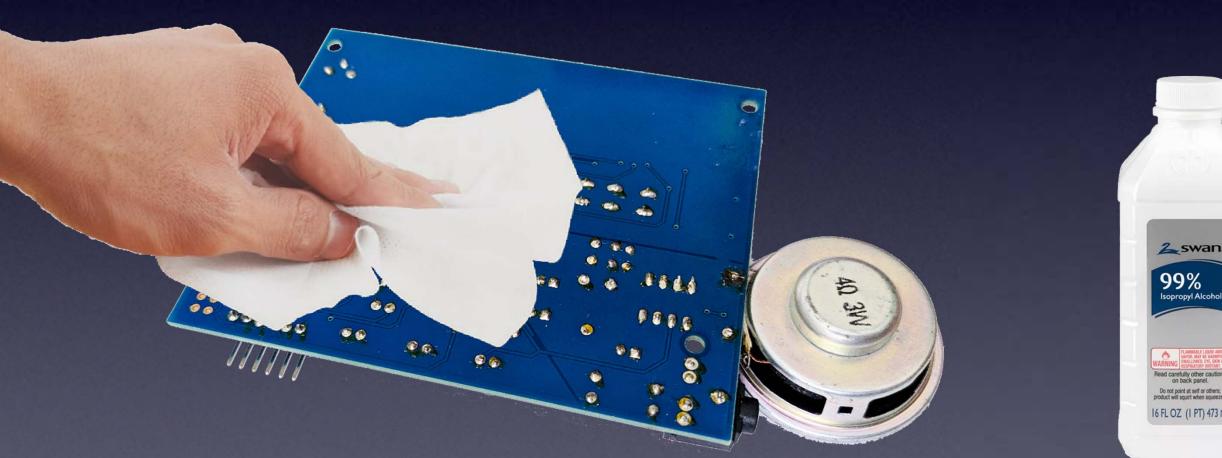
Loop one lead into its pad, and solder. Then loop the other lead into its pad, and solder.

### **Battery** pack



#### If you used any *flux paste for re-working problems*

#### The bottom of the PCB will be sticky from the flux



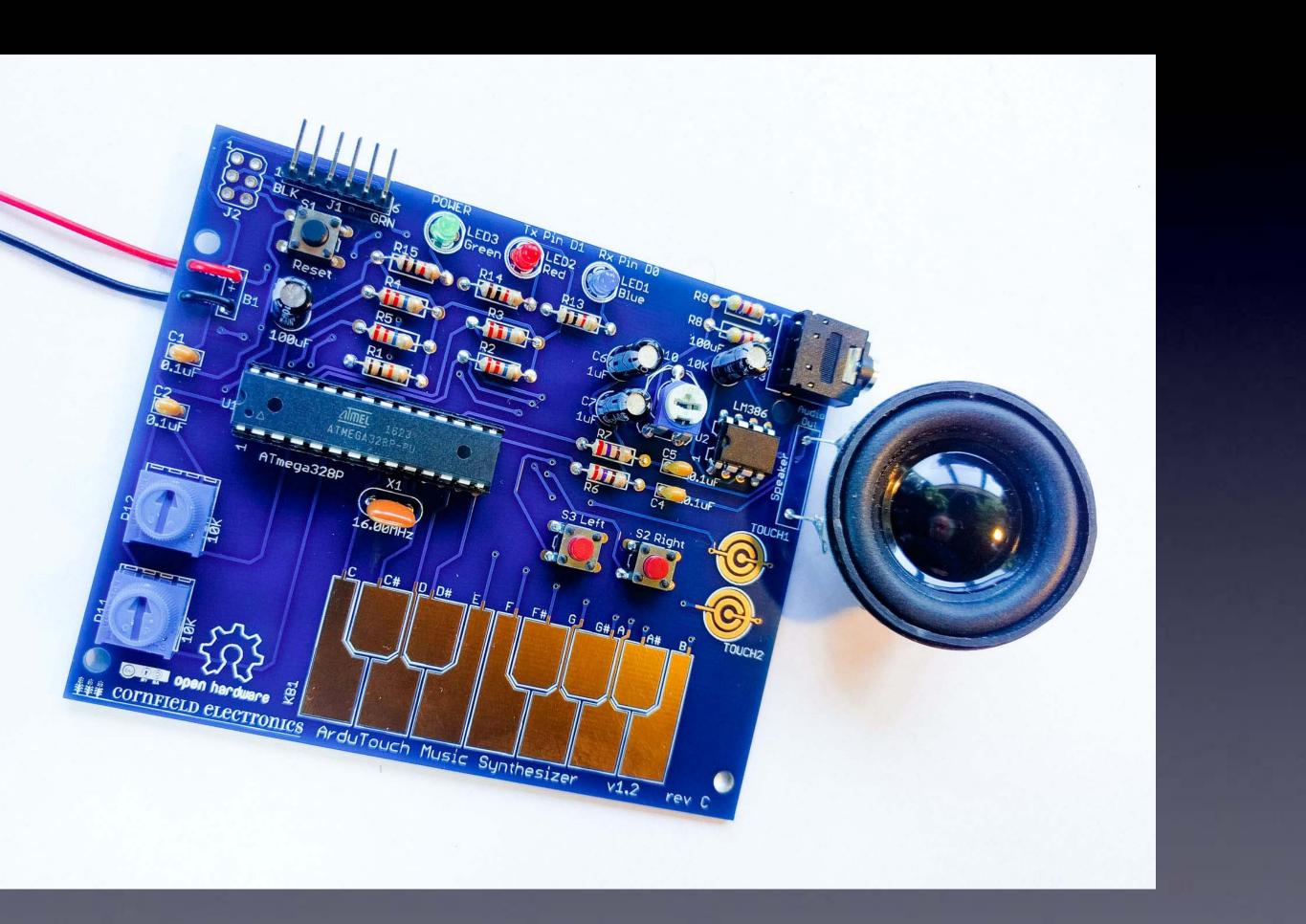
You can clean it with a cloth wet with Isopropyl Alcohol



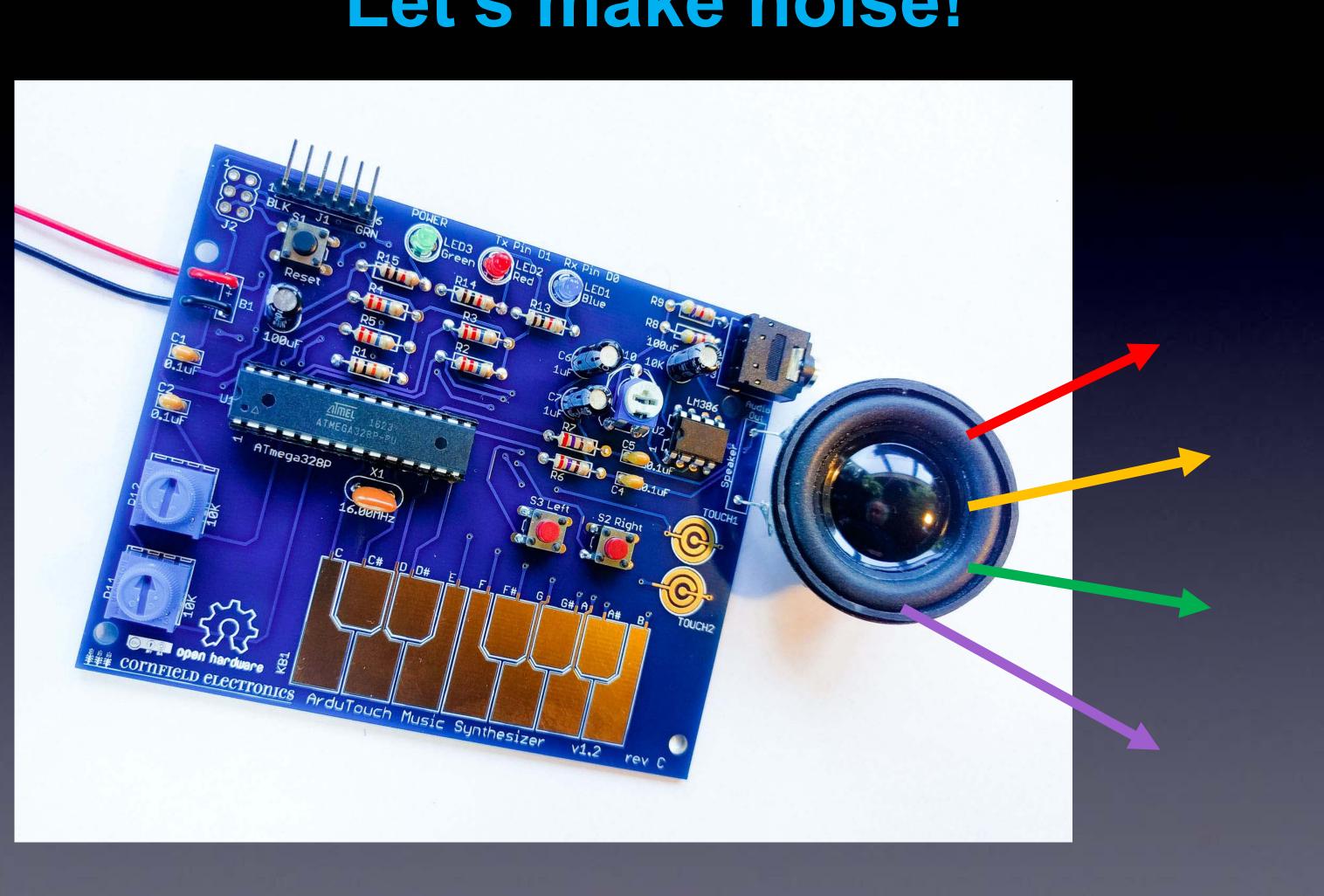




### Done!



## Let's make noise!



## Please Remember:

# $\mathbf{TO}$ Wash your hands after soldering

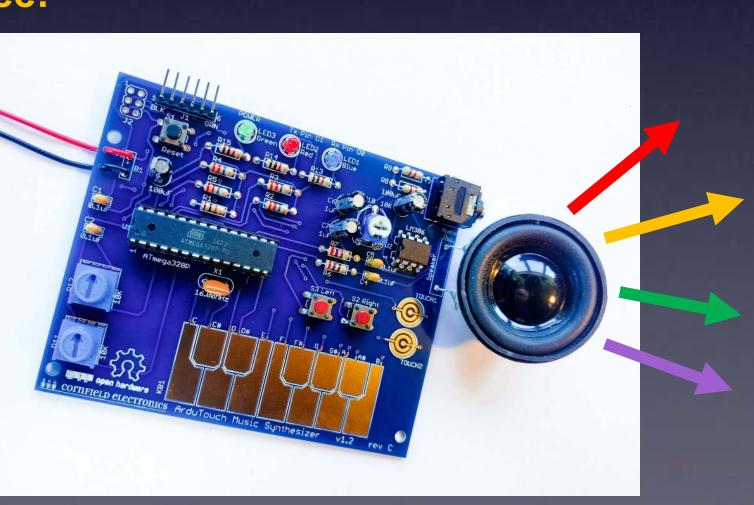


## Let's make noise!

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

"Thick" plays 4 sawtooth waveform notes 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! •



## **Optional: 3D Printed Case!**

The built-in speaker will sound \*\*way\*\* nicer with a case.

#### **ArduTouch Case, by ipsofatso – on Thingiverse:** https://www.thingiverse.com/thing:4702927



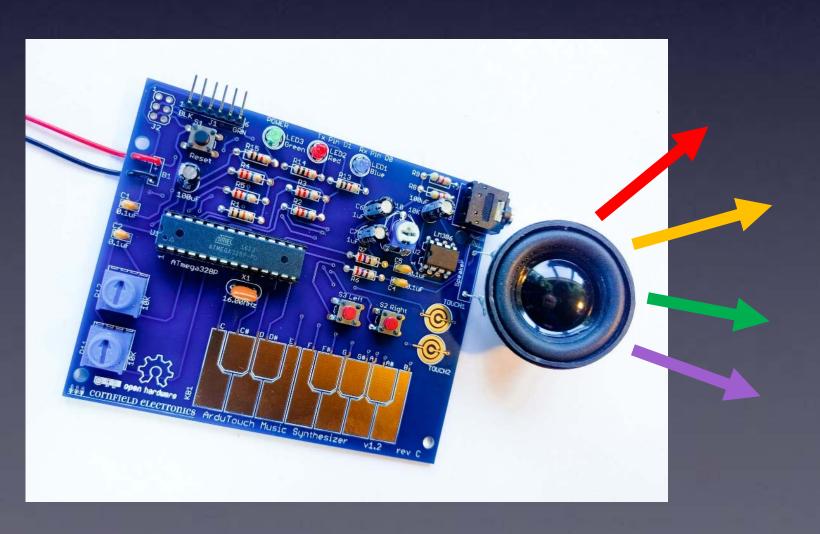


## Let's make noise!

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.

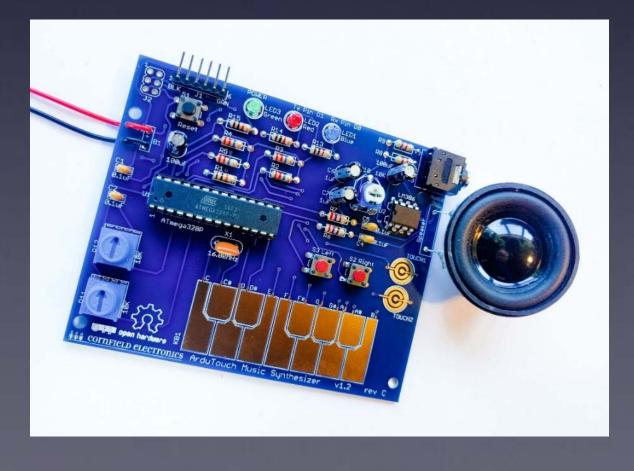
But if you want to program other synths into your ArduTouch, the next pages show you how...



## **Re-programming the ArduTouch**

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

## The following slides show you how to program these into your ArduTouch board...



#### **Fouch** ArduTouch! Thers.

## **Re-programming the ArduTouch**

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

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

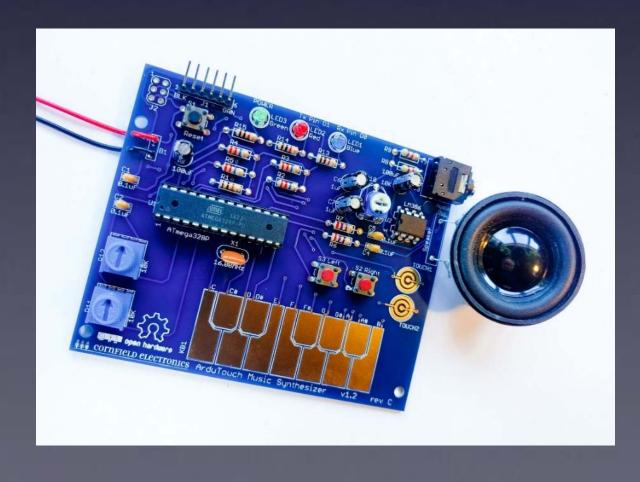
- the Arduino software <http://arduino.cc>
- a USB-Serial adapter cable (such as an FTDI, or equivalent) • a nice one is available at

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

a synth sketch & the ArduTouch Arduino library •

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

The following slides show you how to do the above, in detail.



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>







#### First: Download and install the Arduino software < http://arduino.cc >



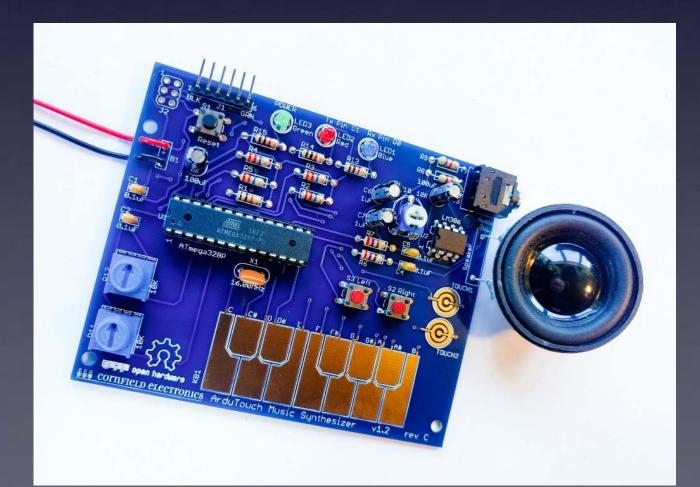


## **Re-programming the ArduTouch**

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)

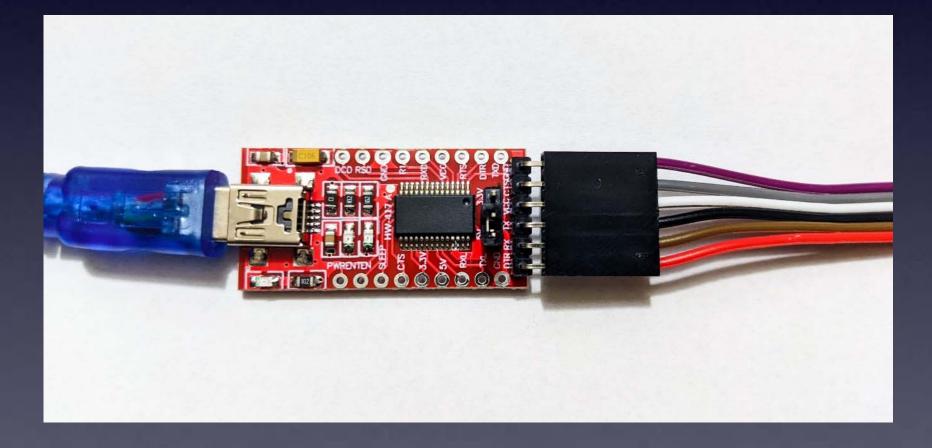




### **Connecting your ArduTouch** to your computer **USB-Serial adapter cable**

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

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

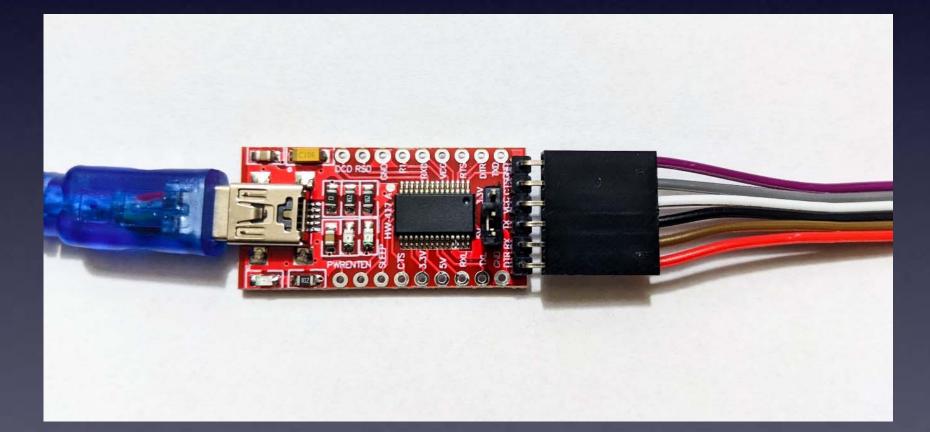




### **Connecting your ArduTouch** to your computer **USB-Serial adapter cable**

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

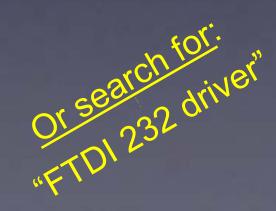
<https://cornfieldelectronics.com/cfe/products/buy.php?productId=usbcable>



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

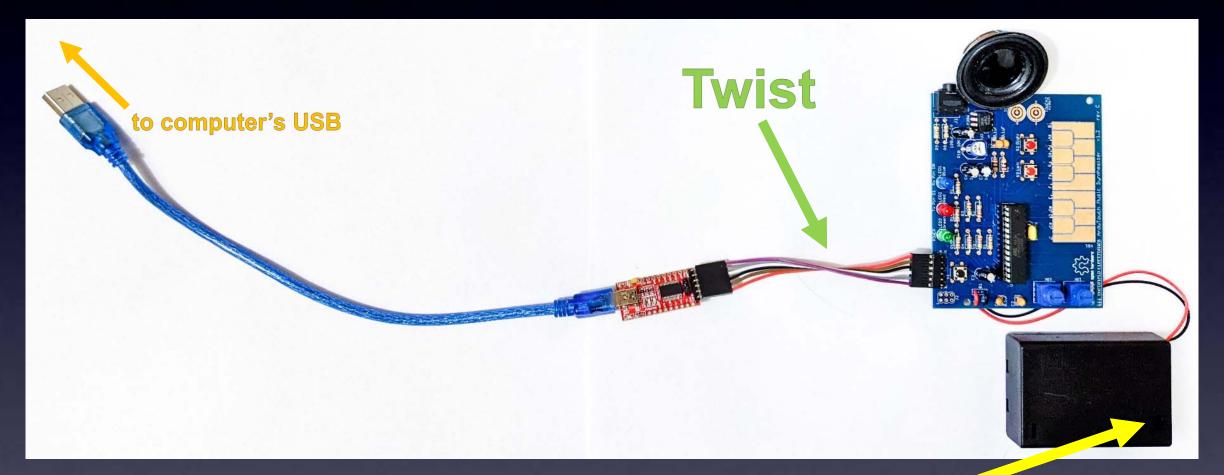
<https://ftdichip.com/drivers/vcp-drivers/>







## **Connecting your ArduTouch** to your computer

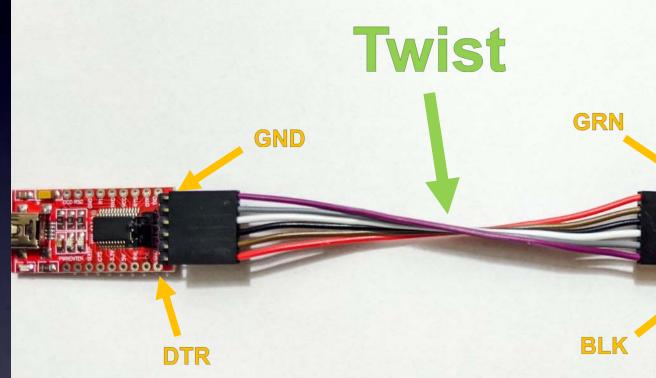


**IMPORTANT**: Make sure the battery pack on your ArduTouch is OFF



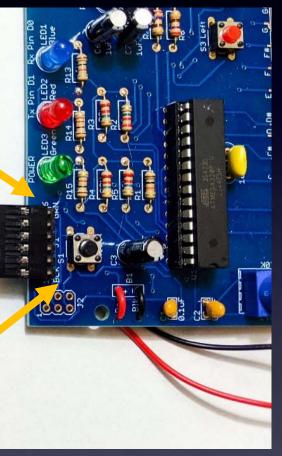
## **Connecting your ArduTouch** to your computer

#### This shows a few more details:



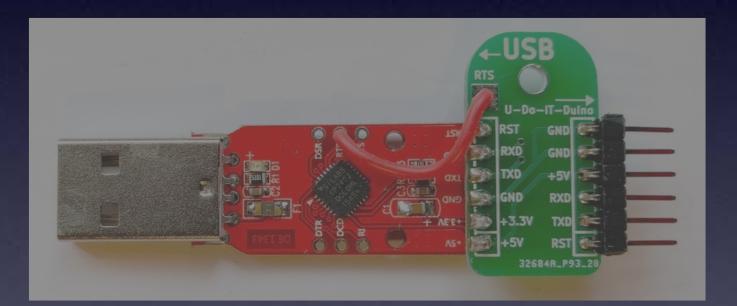
**IMPORTANT**: Make sure the battery pack on your ArduTouch is **OFF** 





### **Connecting your ArduTouch** to your computer **USB-Serial adapter cable**

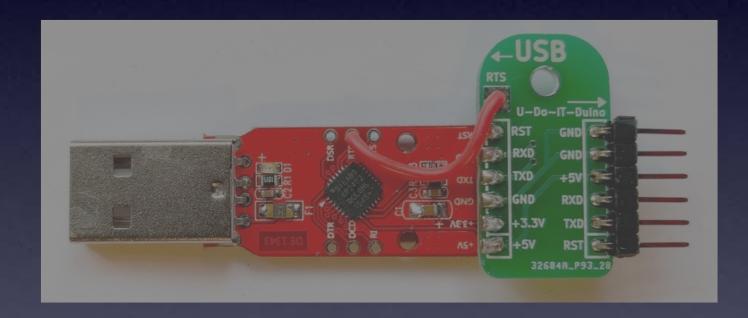
Old ones from Cornfield Electronics looked like this:





### **Connecting your ArduTouch** to your computer **USB-Serial adapter cable**

Old ones from Cornfield Electronics looked like this:



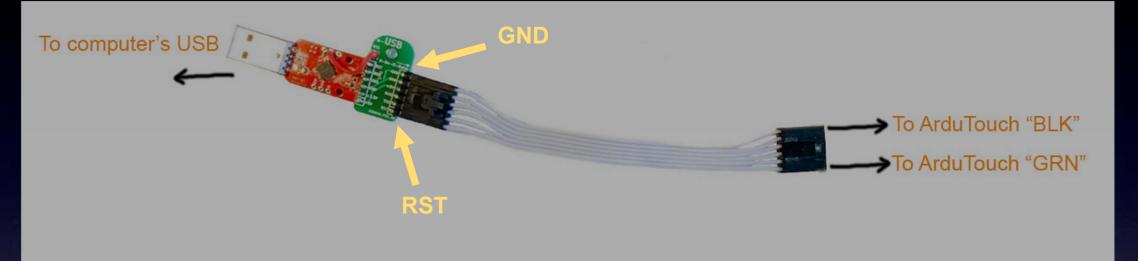
You may need to download and install a driver for your Operating System (Windows, MacOS, or Linux):

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



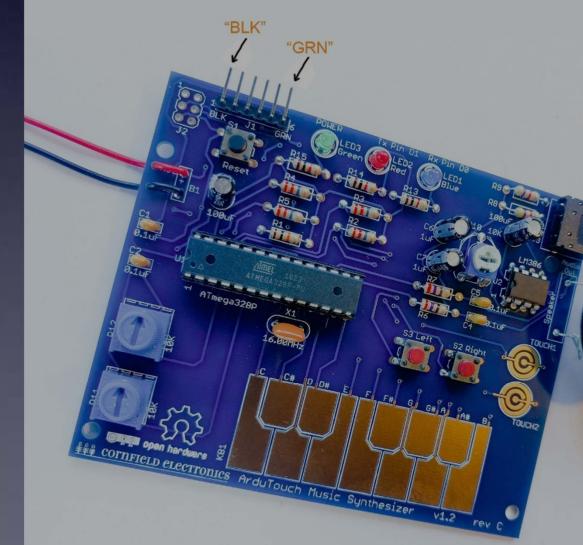


## Connecting your ArduTouch to your computer



#### **IMPORTANT:**

Make sure the battery pack on your ArduTouch is OFF





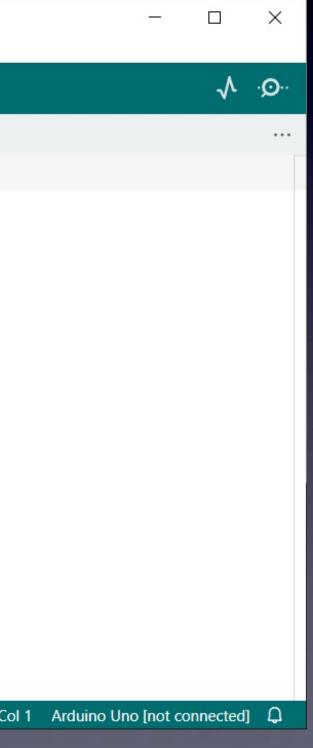
#### (Old ones)





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

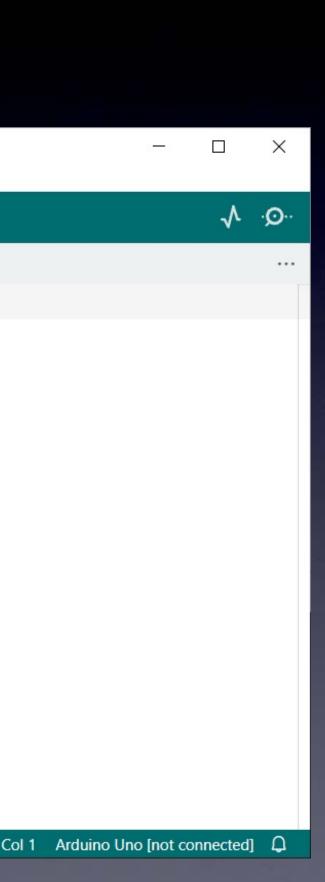
	sketch_may1a   Arduino IDE 2.1.0				
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	1	void	<pre>setup() {</pre>		
1	2	//	put your setup code here, to run once:		
	3				
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	5				
₽ B	6	1	loop() {		
	7	//	put your main code here, to run repeatedly:		
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The *first time* you start your Arduino software you need to do *three things* to set things up:

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Ph	sketch_may	1a.ino			
	1	void	<pre>setup() {</pre>		
1	2	//	put your setup code here, to run once:		
	3				
llh	4	}			
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⊂∆ ⊛	6	void	loop() {		
	7	11	put your main code here, to run repeatedly:		
Q	8				
	9	}			
	10				
8					
				Ln 1,	



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

#### (1) **Choose "Uno"** as the Board

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File

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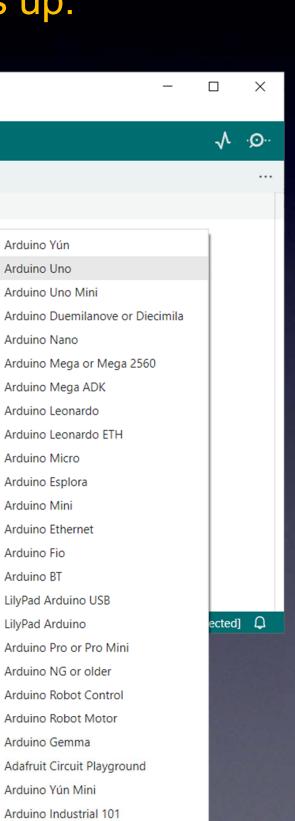
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C

8

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

sketch	n_may1a   A	Arduin	o IDE 2.1.0						
e Edit	Sketch	Tools	Help						
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	2		Serial Plotter		2	to run once	:		Arduino Yún
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\$	5		Board: "Arduino Uno"		•	Boards Manager	Ctrl+Shift+B		Arduino Duemilanov Arduino Nano
~	7		Port Get Board Info		•	Arduino AVR Boards BARTH MiniPLC		•	Arduino Mega or Me
2	8 9		Programmer Burn Bootloader		۲	esp32 esp8266		•	Arduino Mega ADK Arduino Leonardo Arduino Leonardo ET
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Arduino Esplora Arduino Mini

Arduino Ethernet

LilyPad Arduino

Arduino Gemma

Arduino Yún Mini

Arduino Uno WiFi

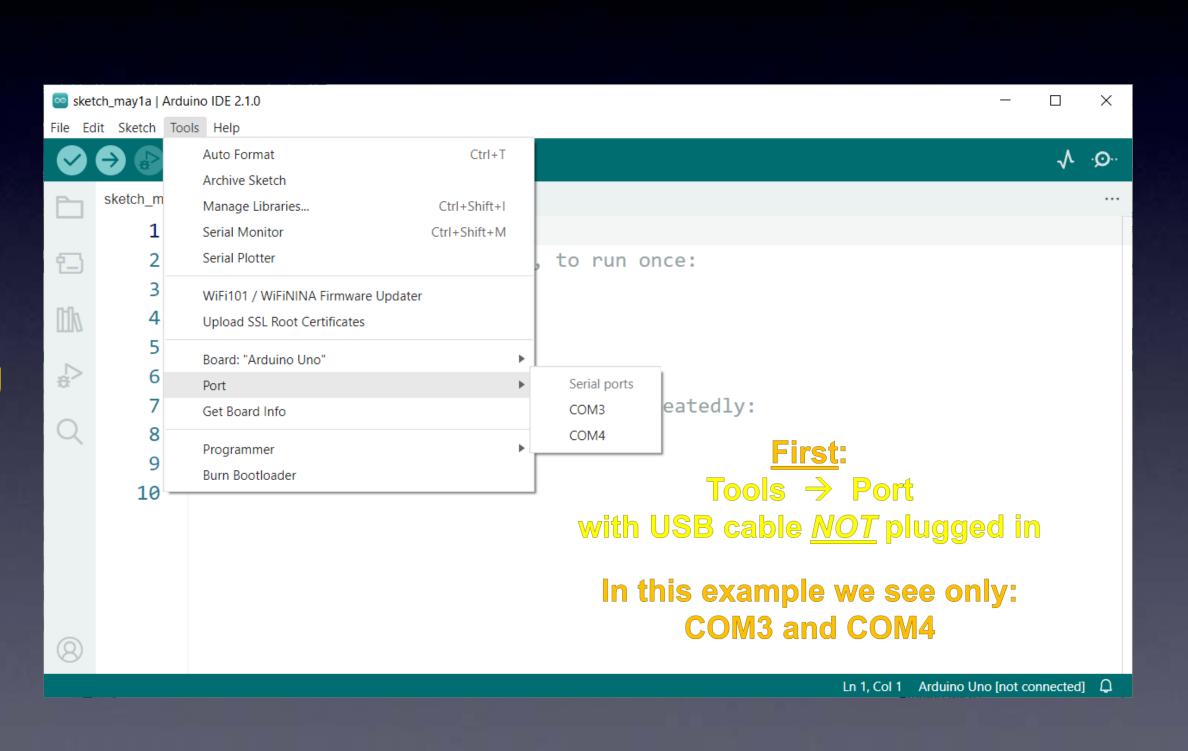
Linino One

Arduino Fio Arduino BT



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

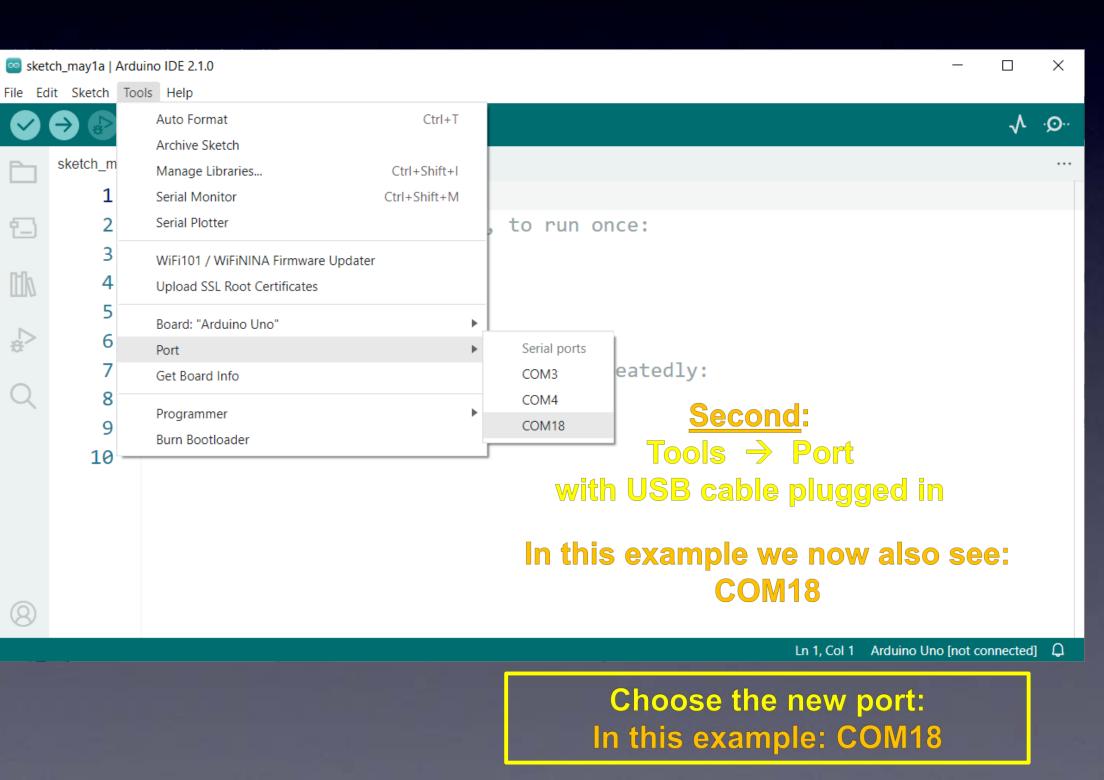
(2) Choose the Port (this will be different depending on your Operating System)



#### 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.



#### Your Arduino software is almost ready...

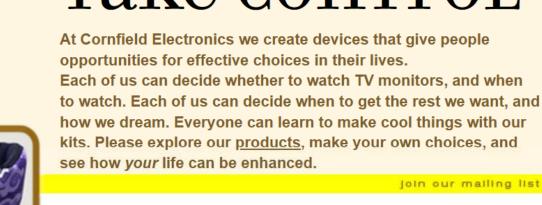
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	3					
llh	4	}				
	5					
₹>	6	void	loop() {			
	7	//	put your main code here, to run repeatedly:			
Q	8					
	9	}				
	10					
8						



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







Love it or hate it, TV screens are all around us. TV-B-Gone® universal remote control is the first fruit of our technical savvy, embodying our belief in empowerment and sense of humor This universal remote control fits in your pocket and allows you to discreetly turn TVs off wherever you go. TV-B-Gone fans around the world are using it for a variety of practical, philosophical, and humorous purposes. Imagine the possibilities..

Years in the making NeuroDreamer sleep mask is another of our personal empowerment inventions. We all need rest, but we don't always get it in our busy lives. NeuroDreamer sleep mask lets you use your own brainwayes to

bring you the rest you need. And with the lucid dreaming model, you can take control of your dreams.

Want to learn electronics? We make way cool, fun, intriguing, educational kits that anyone can make! Our most POPULAR kits are: ArduTouch music synthesizer kit and TV-B-Gone kit!

We make truly useful technological solutions that put you in charge.

Welcome to our better world!

NOTE: As of 14-Feb-2023 Cornfield Electronics is a sole proprietorship of Mitch Altman

legal notices & privacy policy

## $\bigtriangledown$ $\not\cong$ ்ற £) ≡ show cart

#### join our mailing list

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





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rest but we don't always get it in our busy

lives. NeuroDreamer sleep mask lets you

use your own brainwayes to

#### ÚB. യ ഇ ≡ show cart

#### join our mailing list

C BY-SA 2023 cornfield electronics

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

(3) Install the ArduTouch library



#### **DO-IT-YOURSELF PROJECTS**

by <u>Mitch Altman</u>, and friends. Last modified: 5-Oct-2022

#### You Can Make Cool Things With Electronics!

The projects on this page were all created for total beginners, with no experience, so everyone can complete them successfully at my workshops, or at home, or anywhere!

All you need is:

a desire, a handful of parts, a soldering iron (with stand and sponge), a wire-cutter, a wirestripper, solder, and an afternoon.

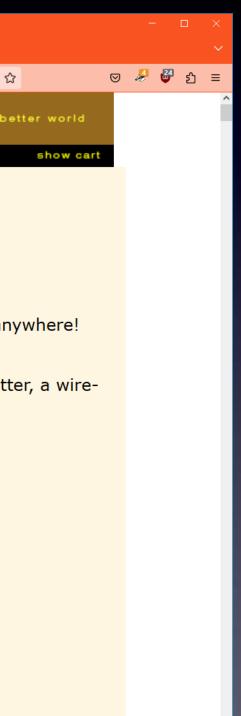


<u>Here</u> is a really nice tutorial on how to solder -- for total beginners! <u>Soldering Tutorial for total beginners</u>

#### **Open Hardware!**

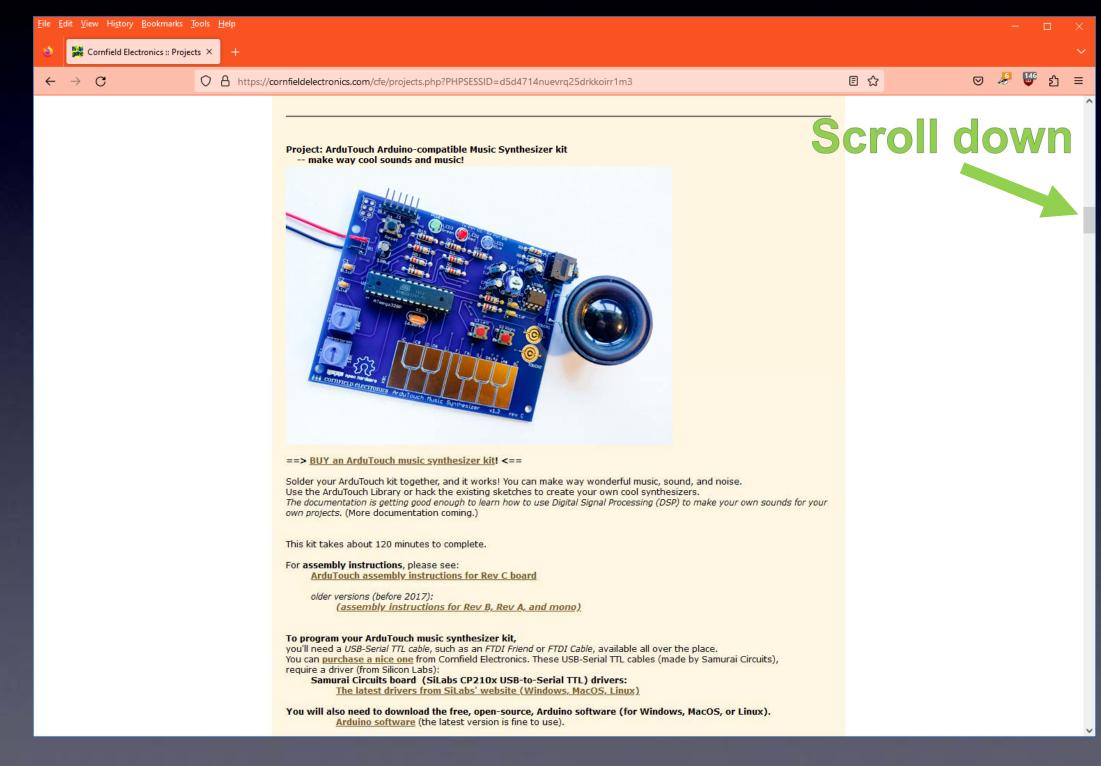
Everything on this page (and everything I do) is free and open source! (That's *free* as in *freedom*.)

(But everything here is free to download -- and that is free as in beer.) If you have any questions on anything, please feel free to email me: Transferring data from cornfieldelectronics.com... ch AT CornfieldElectronics DOT com



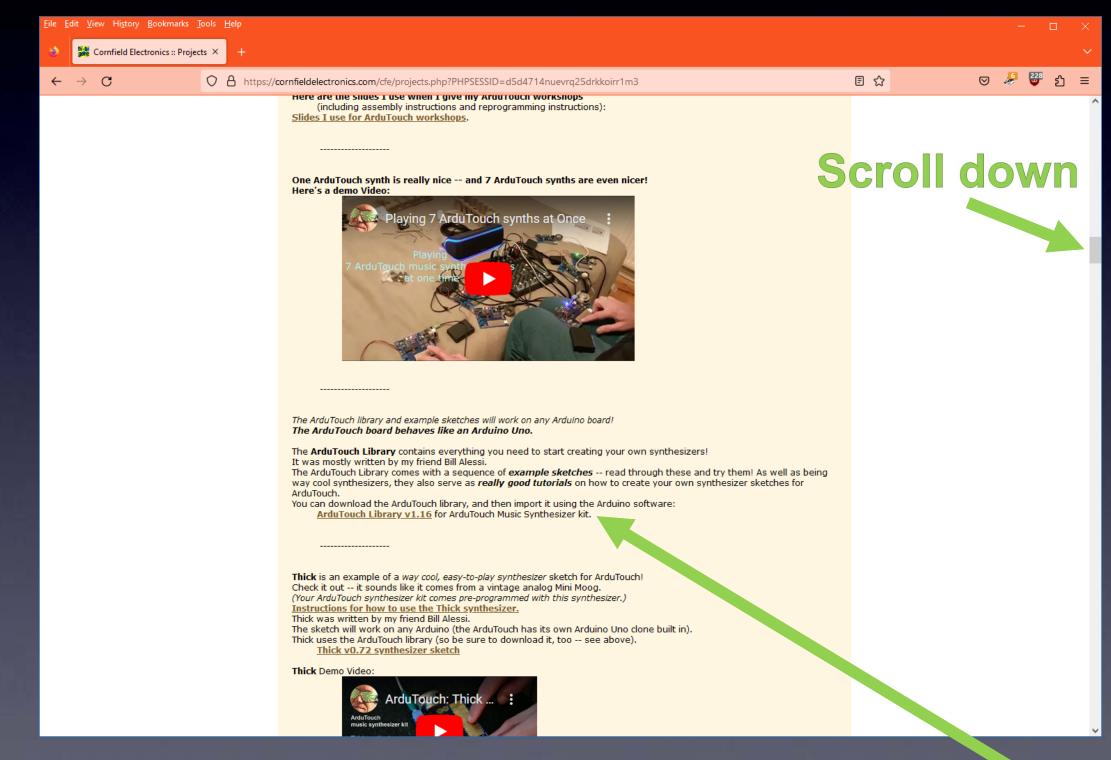
## The *first time* you start your Arduino software you need to do *three things* to set things up:

(3) Install the ArduTouch library



#### 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

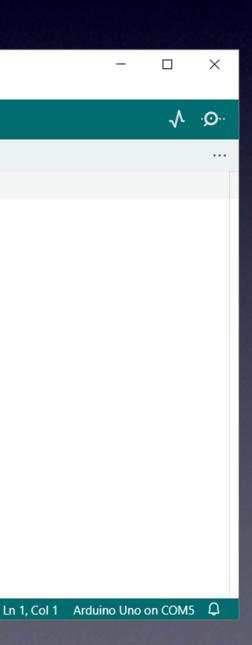


## The *first time* you start your Arduino software you need to do *three things* to set things up:

(3) Install the ArduTouch library

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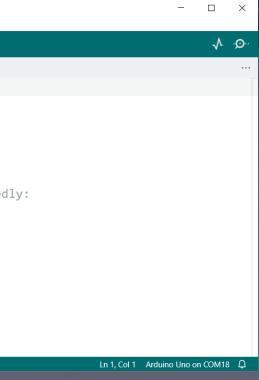
Manage Libraries	Ctrl+Shift+I
Add .ZIP Library	
Arduino libraries	
Arduino_BuiltIn	
EEPROM	
Ethernet	
HID	
Keyboard	
LiquidCrystal	
Mouse	
SD	
Servo	
SoftwareSerial	
SPI	
Stepper	
TFT	
Wire	
Contributed libraries	
Adafruit BuslO	
Adafruit Circuit Playground	
Adafruit GFX Library	
Adafruit NeoPixel	
Adafruit SSD1306	
Adafruit Unified Sensor	
ArduTouch	
AsyncTCP	
Bridge	
CapacitiveSensor	
DHT sensor library	
ESP Async WebServer	
EveryTimerB	
Fzo 12c lih-master	
÷	



## to program a new synth sketch

	<pre>set_register for the formula of the formula of</pre>
Your Arduino su	<pre>6 Void 100p() { 7     // put your main code here, to run repeatedly: 8     9 } 10</pre>
	8





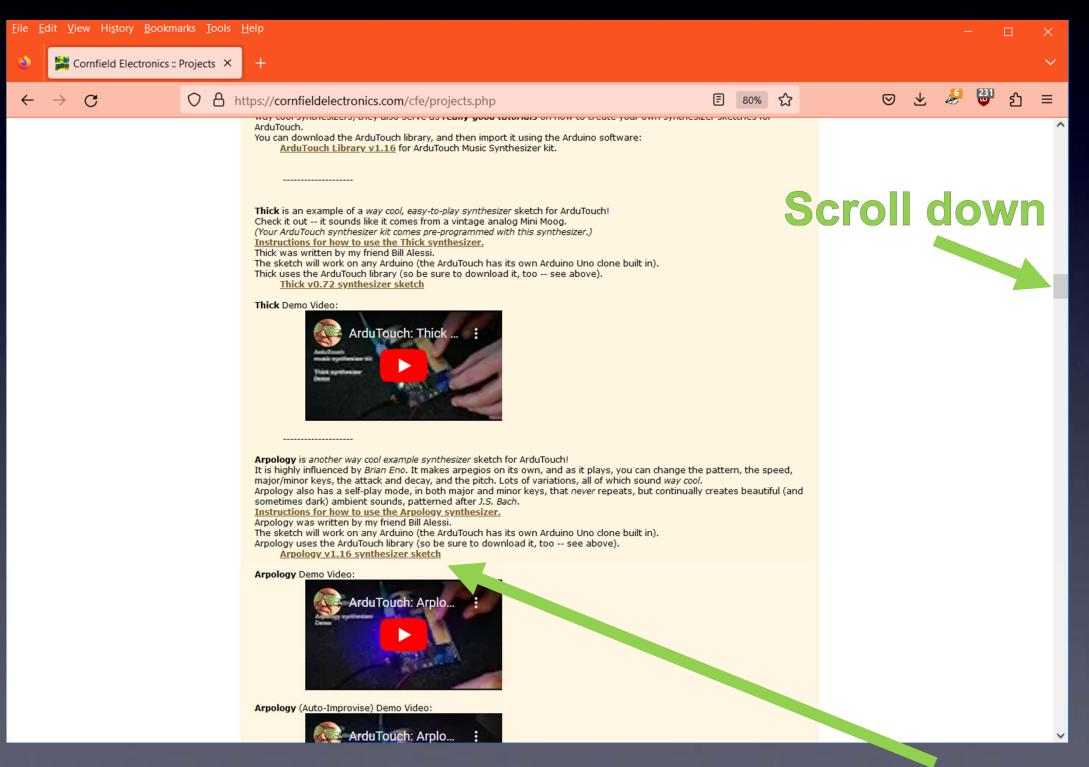
#### **Designed for non-geeky artists**

Download a new ArduTouch synth "sketch"

	rpology   Arduno 1.8.5	- U ^
<u>File</u>	dit <u>S</u> ketch <u>T</u> ools <u>H</u> elp	
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11		
11	Arpology.ino	
11	A 4-voice arpeggiating synth, with an auto-improvisation feature.	
11	n i voroc arpoggrading binon, wron an adoo improvibación reacarc.	
11	How to use:	
11		
11	<ol> <li>Press a piano key and Arpolgy will play a 4-voice appegiating pattern based on what note you are pressing.</li> </ol>	
11	based on what note you are pressing.	
11	2) To shift the keyboard up an octave tap the right button.	
11	To shift the keyboard down an octave tap the left button.	
11		
11	<ol> <li>Arpology uses two separate U/I "frames." A U/I frame determines which parameters are controlled by the onboard pots. The two U/I</li> </ol>	
11	frames for Arpology are:	
11		
11	11 The Freedows (Ditte IPD is an)	

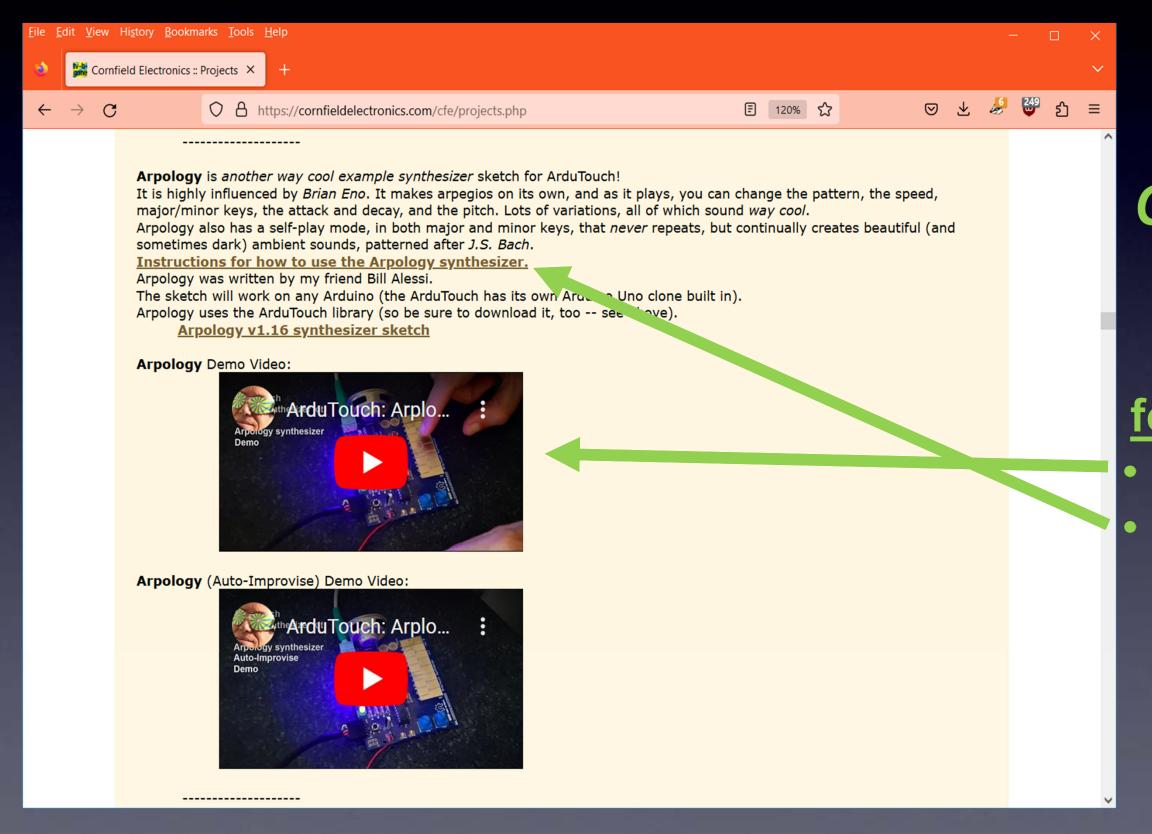
#### "Sketch" : an Arduino program

#### Download a new ArduTouch synth "sketch"



#### click link to download a synth "sketch"

#### Download a new ArduTouch synth "sketch"



#### Check it out! Also available for each synth: Demo Videos Instructions

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

#### (I opened "Arpology here)

∞ BareMinimum   Arduino 1.8.5
<u>F</u> ile <u>E</u> dit <u>S</u> ketch Tools Help
∞ Arpology   Arduino 1.8.5
<u>File Edit Sketch Tools H</u> elp
void s
// p
11
} // Arpology.ino
17
void 1 // A 4-voice arpeggiating synth, with an auto-improvisation feature.
// p //
// How to use:
} //
// 1) Press a piano key and Arpolgy will play a 4-voice appegiating pattern
<pre>// based on what note you are pressing.</pre>
11
// 2) To shift the keyboard up an octave tap the right button.
<pre>// To shift the keyboard down an octave tap the left button.</pre>
11
// 3) Arpology uses two separate U/I "frames." A U/I frame determines
<pre>// which parameters are controlled by the onboard pots. The two U/I</pre>
<pre>// frames for Arpology are:</pre>
11
// 11 The Formalione Frame (DITTE TED is on)



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

∞ Arpology   Arduino 1.8.5	
<u>F</u> ile <u>E</u> dit <u>S</u> ketch <u>T</u> ools <u>H</u> elp	
Arpology	
11	
// Arpology.ino	
11	
<pre>// A 4-voice arpeggiating synth, with an auto-improvisation feature.</pre>	
11	
// How to use:	
11	
// 1) Press a piano key and Arpolgy will play a 4-voice appegiating pattern	
<pre>// based on what note you are pressing.</pre>	
11	
// 2) To shift the keyboard up an octave tap the right button.	
<pre>// To shift the keyboard down an octave tap the left button.</pre>	
11	
// 3) Arpology uses two separate U/I "frames." A U/I frame determines	
<pre>// which parameters are controlled by the onboard pots. The two U/I</pre>	
// frames for Arpology are:	
11	
// 11 The Fortelane Frame (DITTE TED is an)	



Arduino/Genuino Uno on COM9

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

Arpology   Arduino 1.8.5	:
Encdit <u>S</u> ketch <u>T</u> ools <u>H</u> elp	
Arpology	
17	
// Arpology.ino	
77	
// A 4-voice arpeggiating synth, with an auto-improvisation feature.	
11	
// How to use:	
11	
// 1) Press a piano key and Arpolgy will play a 4-voice appegiating pattern	
<pre>// based on what note you are pressing.</pre>	
11	
// 2) To shift the keyboard up an octave tap the right button.	
<pre>// To shift the keyboard down an octave tap the left button.</pre>	
11	
// 3) Arpology uses two separate U/I "frames." A U/I frame determines	
<pre>// which parameters are controlled by the onboard pots. The two U/I</pre>	
// frames for Arpology are:	
11	
// 1) The Forelone Frame (DITTE IFD is an)	
Compiling sketch	

Compiling sketch



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

∞ Arpology   Arduino 1.8.5	
Eile Edit Sketch Tools Help	
Arpology	
// Arpology.ino	
11	
// A 4-voice arpeggiating synth, with an auto-improvisation feature.	
11	
// How to use:	
11	
// 1) Press a piano key and Arpolgy will play a 4-voice appegiating pattern	
<pre>// based on what note you are pressing.</pre>	
//	
<pre>// 2) To shift the keyboard up an octave tap the right button. // To shift the keyboard down an octave tap the left button.</pre>	
<pre>// To shift the keyboard down an octave tap the left button. //</pre>	
<pre>// 3) Arpology uses two separate U/I "frames." A U/I frame determines</pre>	
<pre>// which parameters are controlled by the onboard pots. The two U/I</pre>	
<pre>// frames for Arpology are:</pre>	
//	
// 1) The Farralane Frame (DITTE IFD is an)	
Compiling sketch	

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

Arduino/Genuino Uno on COM9

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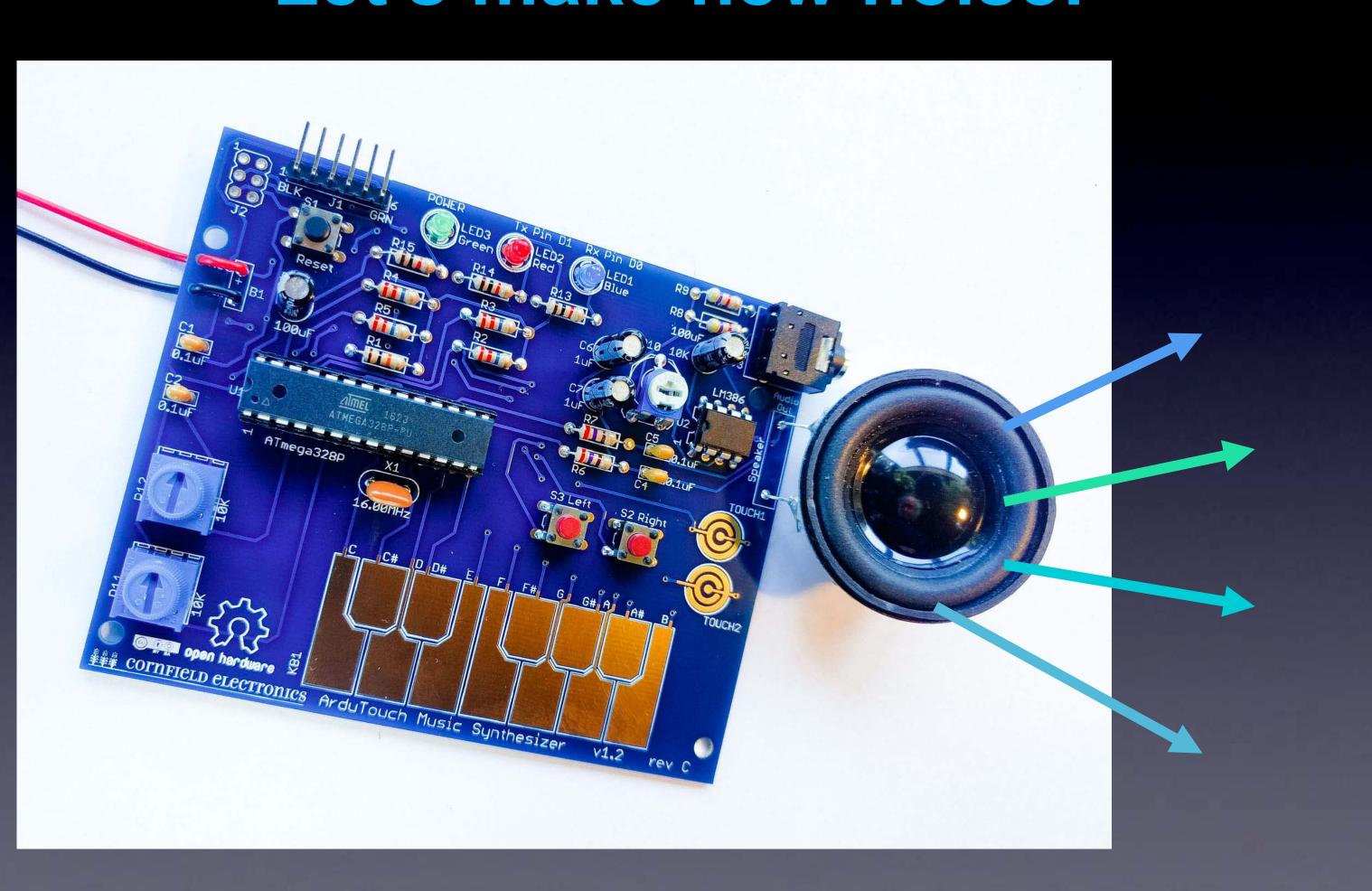
## ArduTouch

Disconnect your ArduTouch board from the USB-Serial cable,

turn on your battery pack,

And...

### Let's make new noise!



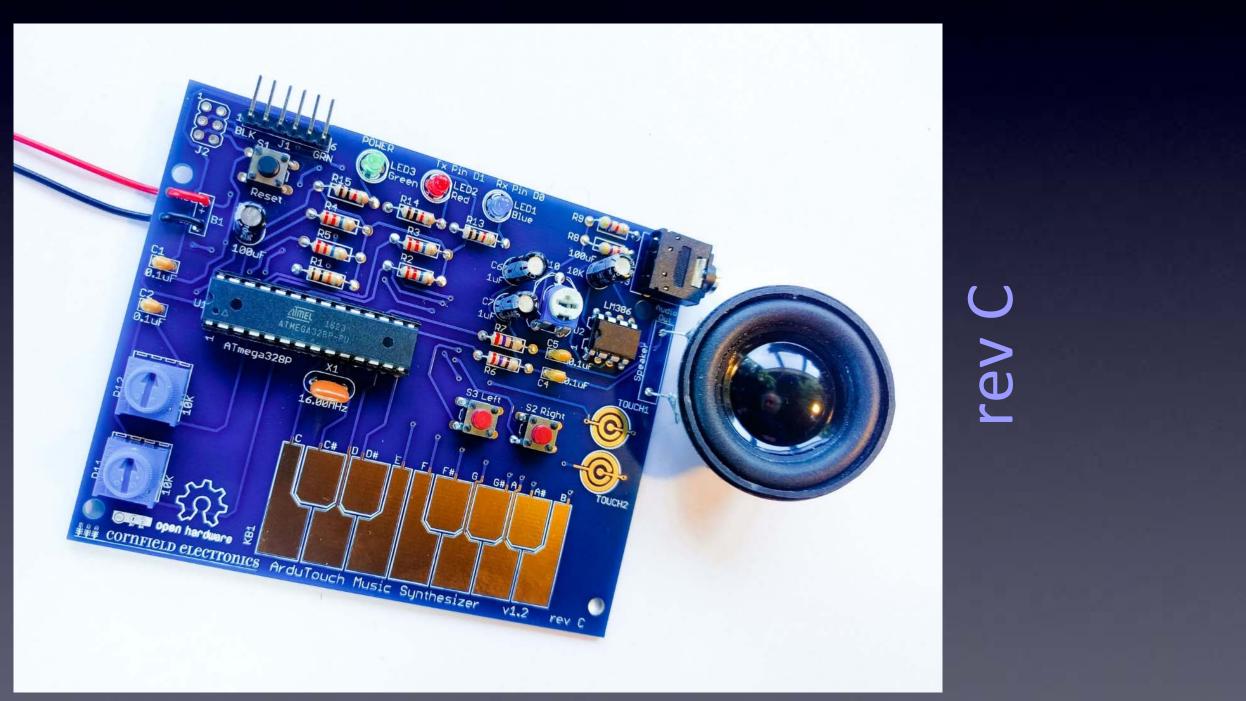


## Please Remember:

# $\mathbf{TO}$ Wash your hands after soldering



#### ArduTouch Music Synthesizer Assembly Instructions & Programming Instructions









#### 21-Apr-2025

#### **CORNELLO ELECTRONICS**