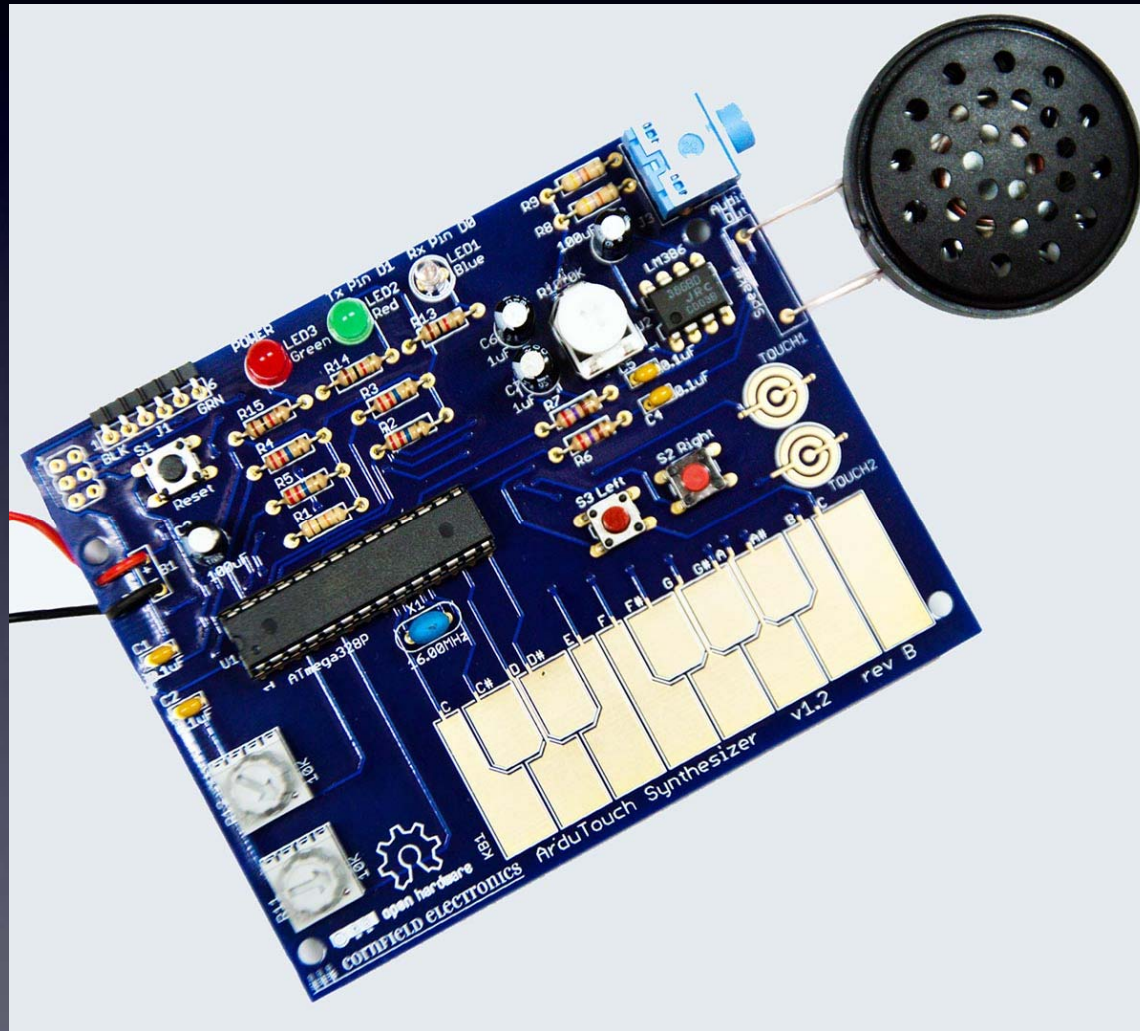


ArduTouch Music Synthesizer

Assembly Instructions



rev B

ArduTouch Music Synthesizer

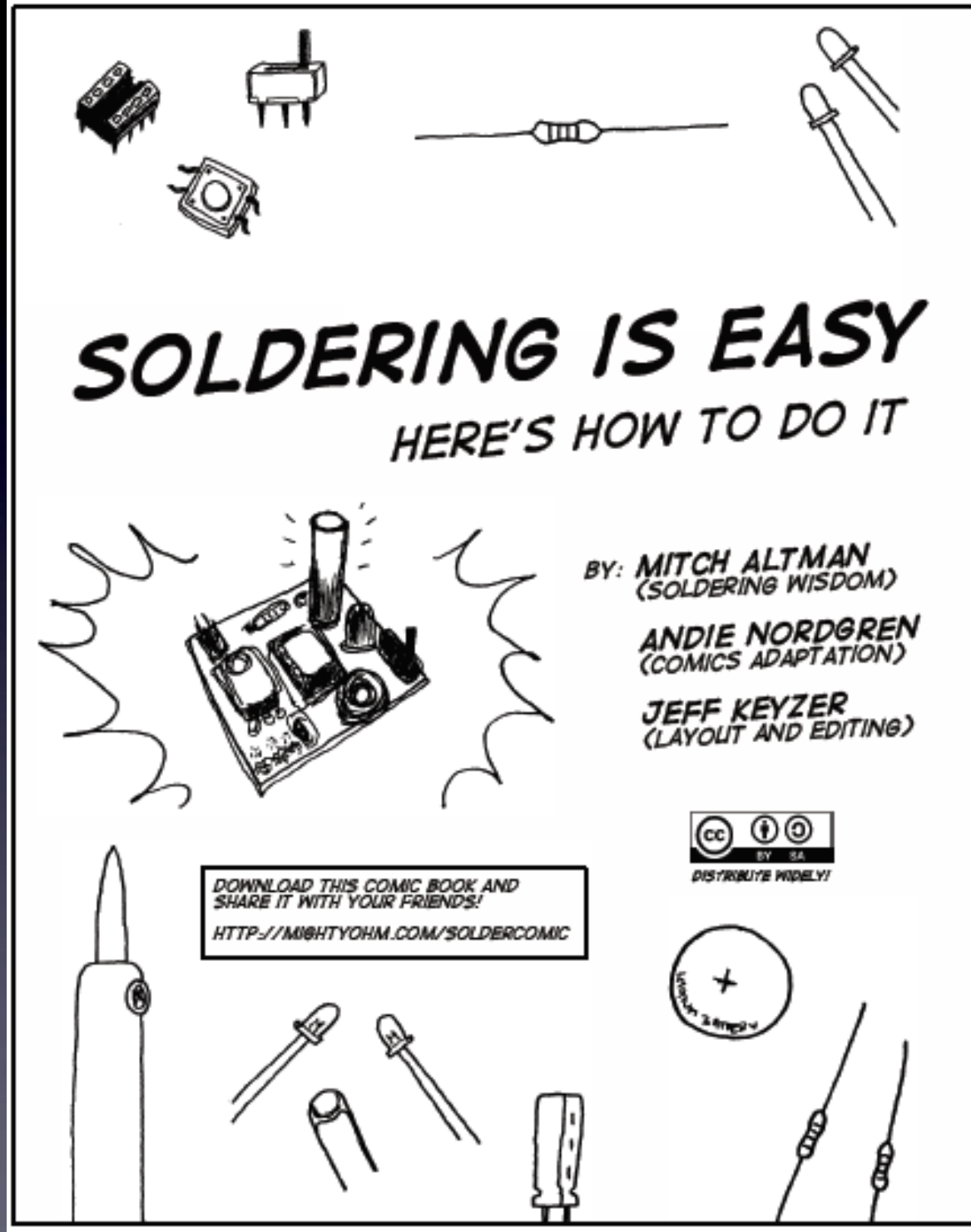
Assembly Instructions

Note:

These assembly instructions are modified from the instructions for assembling the rev A board, so please don't get confused when you see some photos that are similar, but a little different than your rev B board.

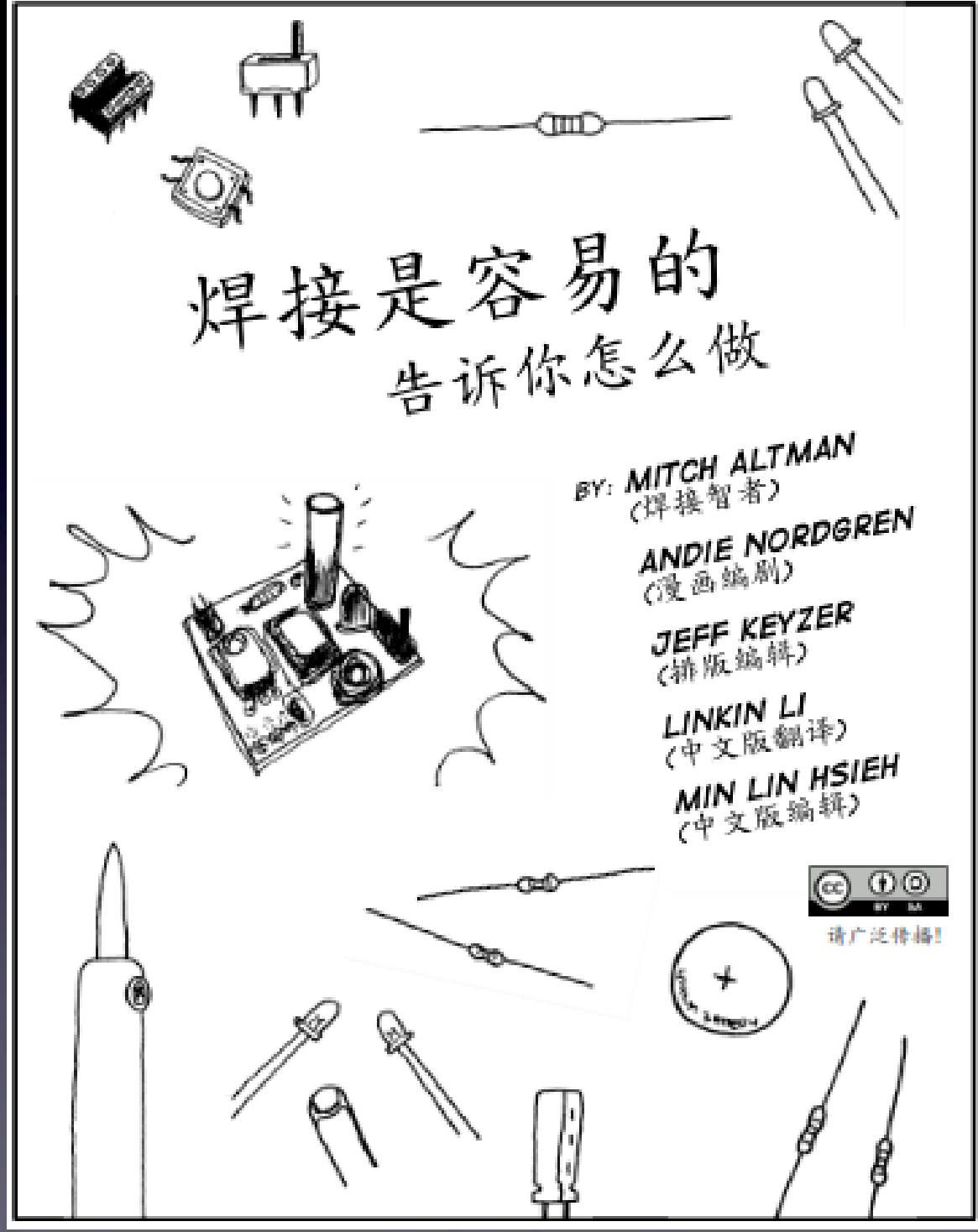
rev B

Learn To Solder



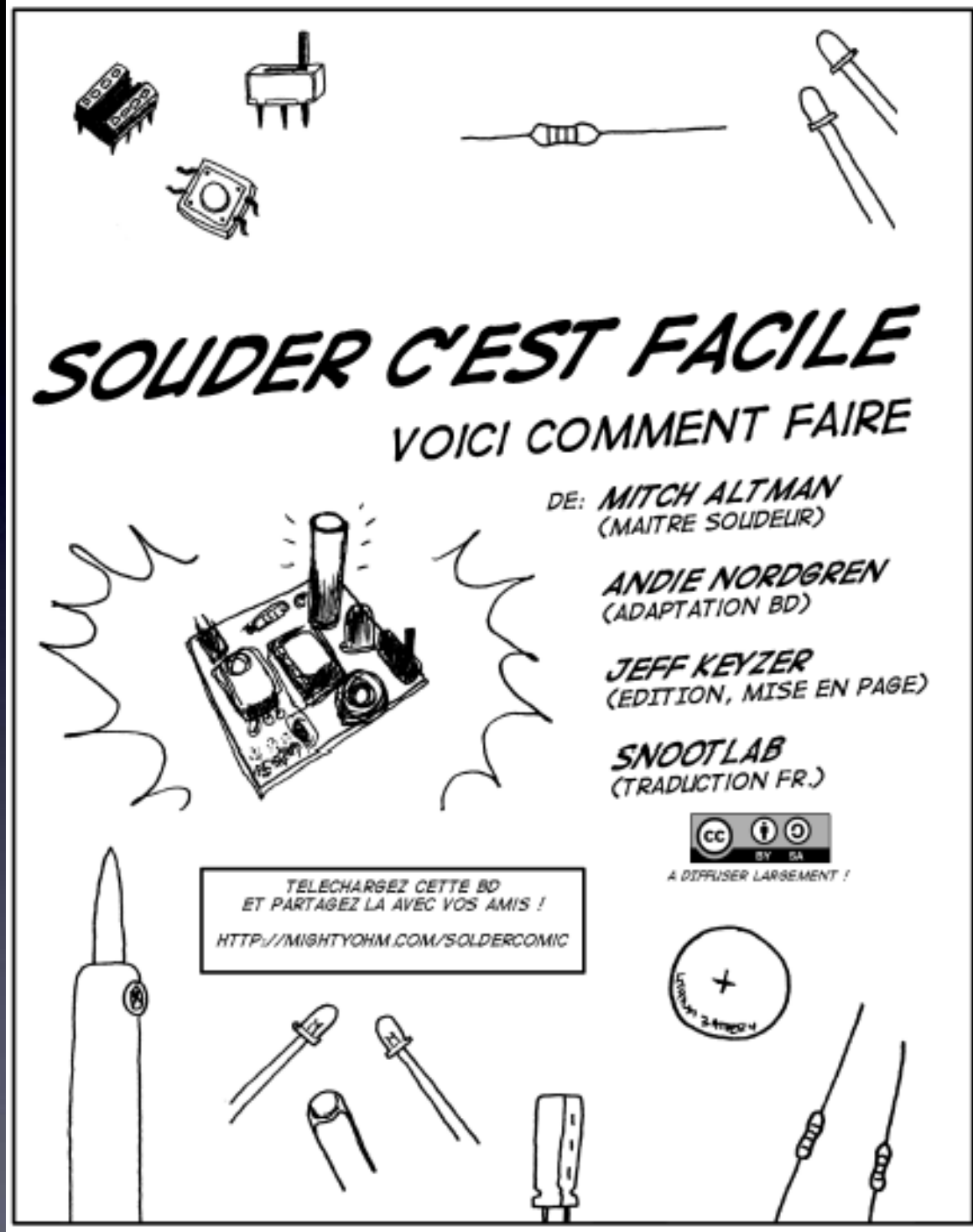
download for free at:
<http://mightyohm.com/soldercomic>

Learn To Solder



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Learn To Solder

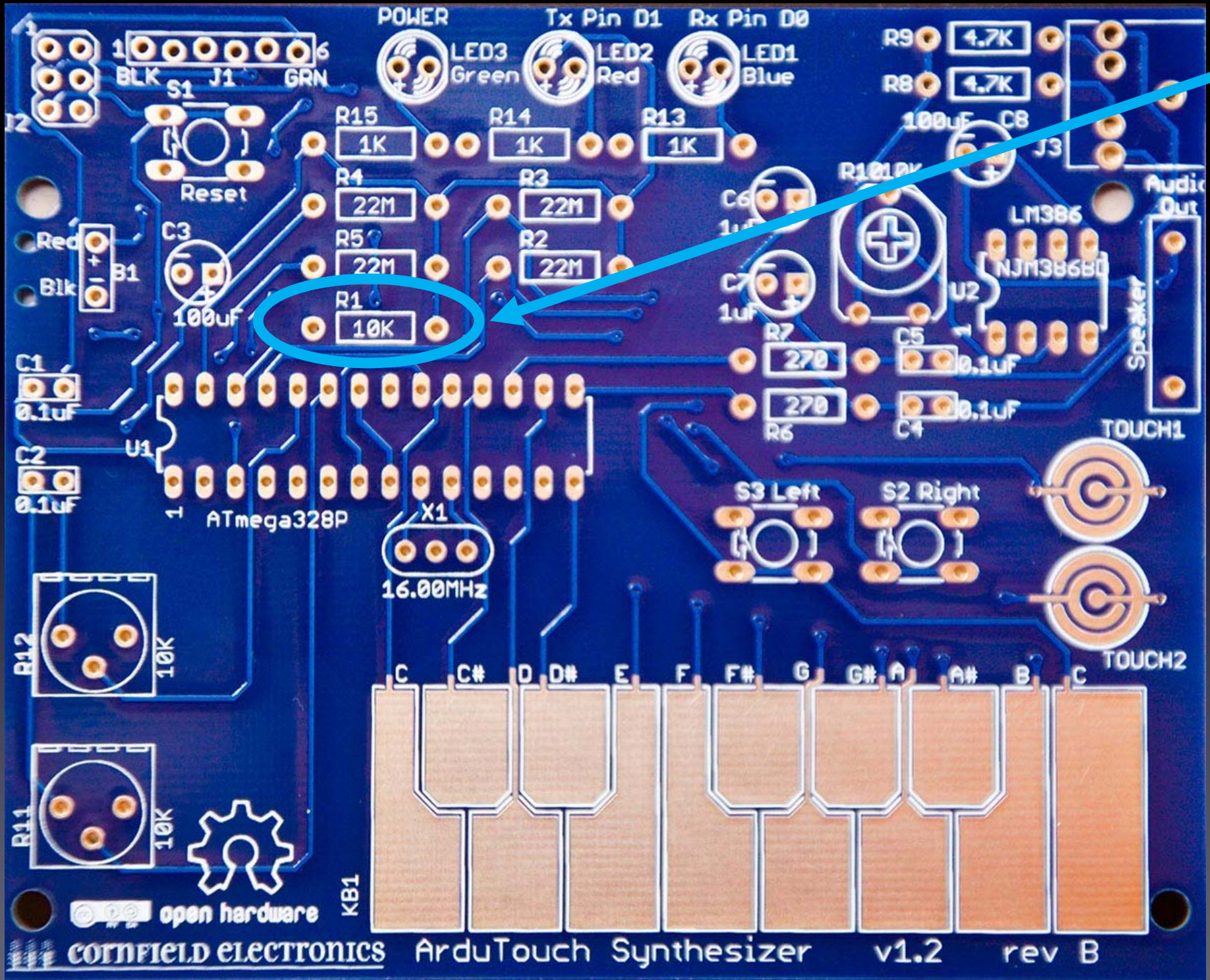


Download in the language of your choice for free at:
<http://mightyohm.com/soldercomic>

Learn To Solder



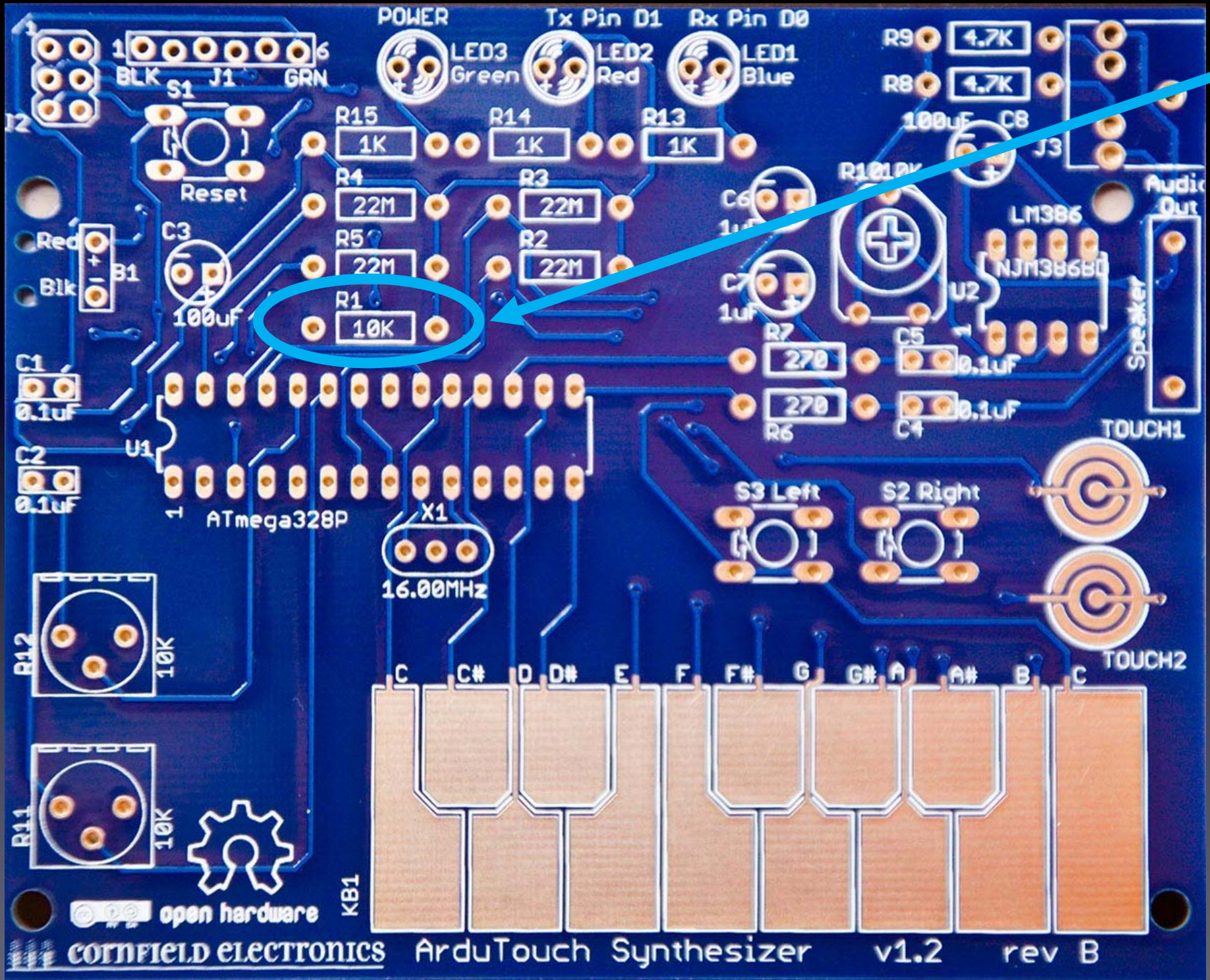
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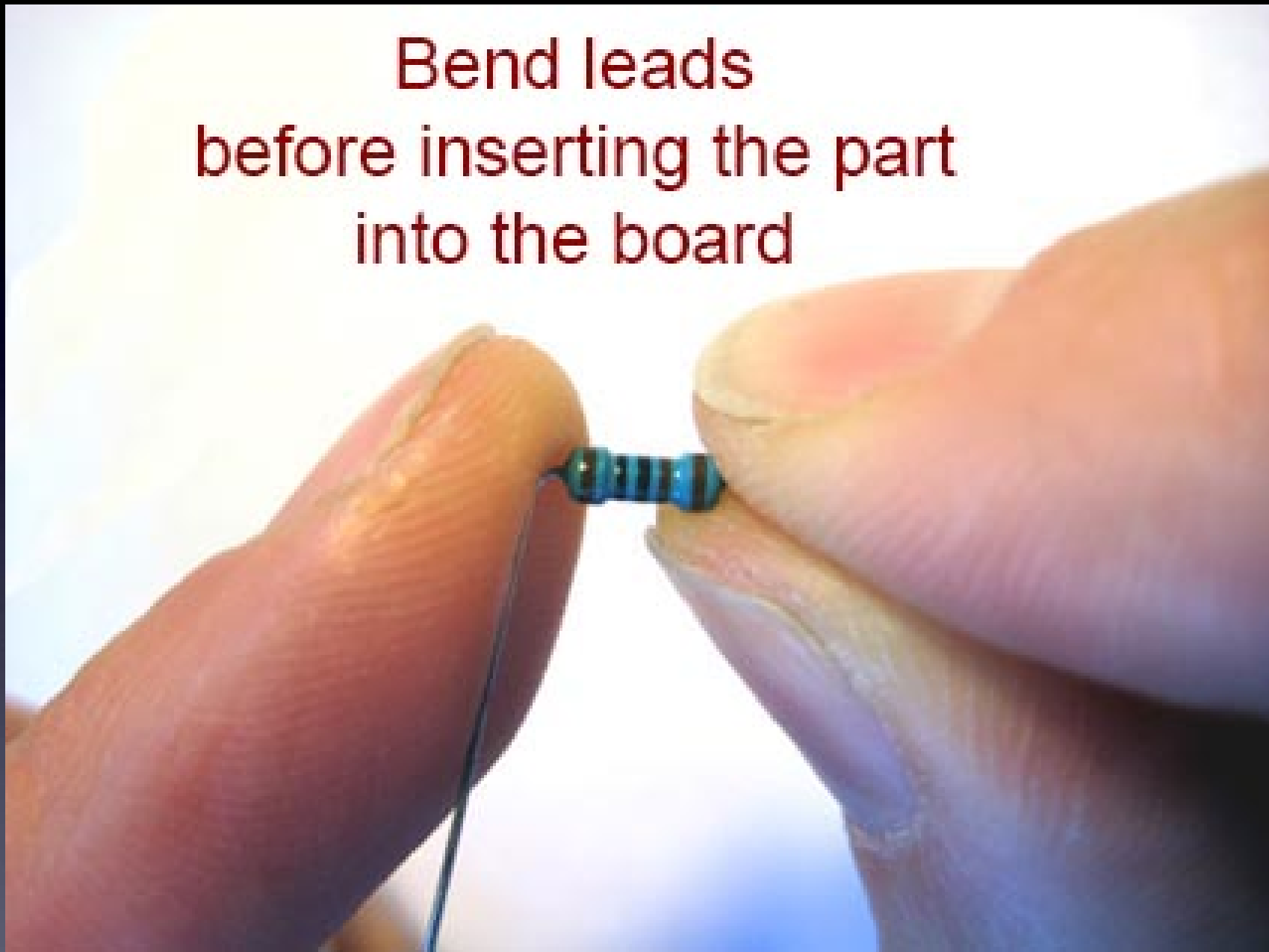


R1: Brown, Black, Orange

(not Brown, Black, Red)

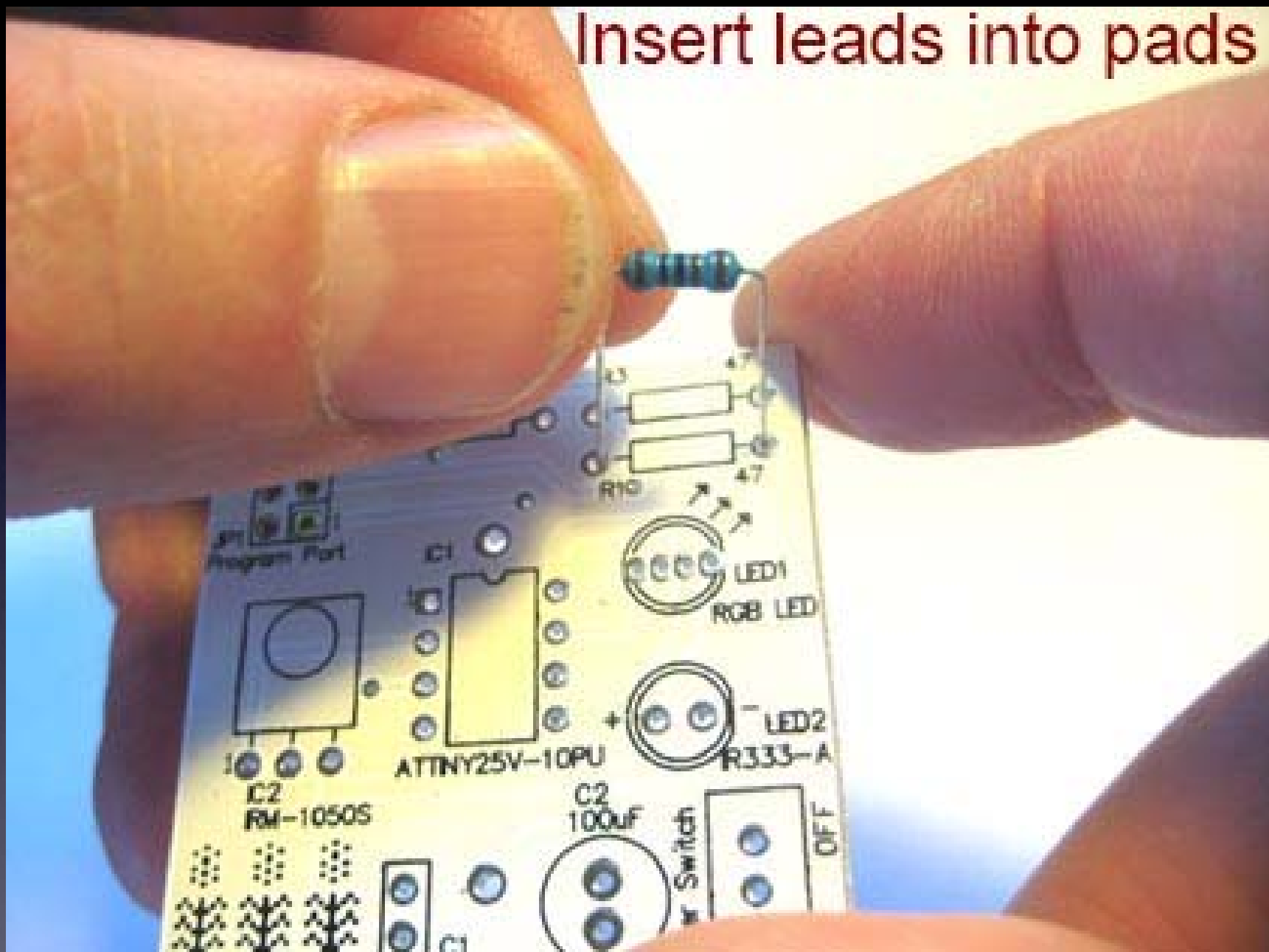


Bend leads
before inserting the part
into the board

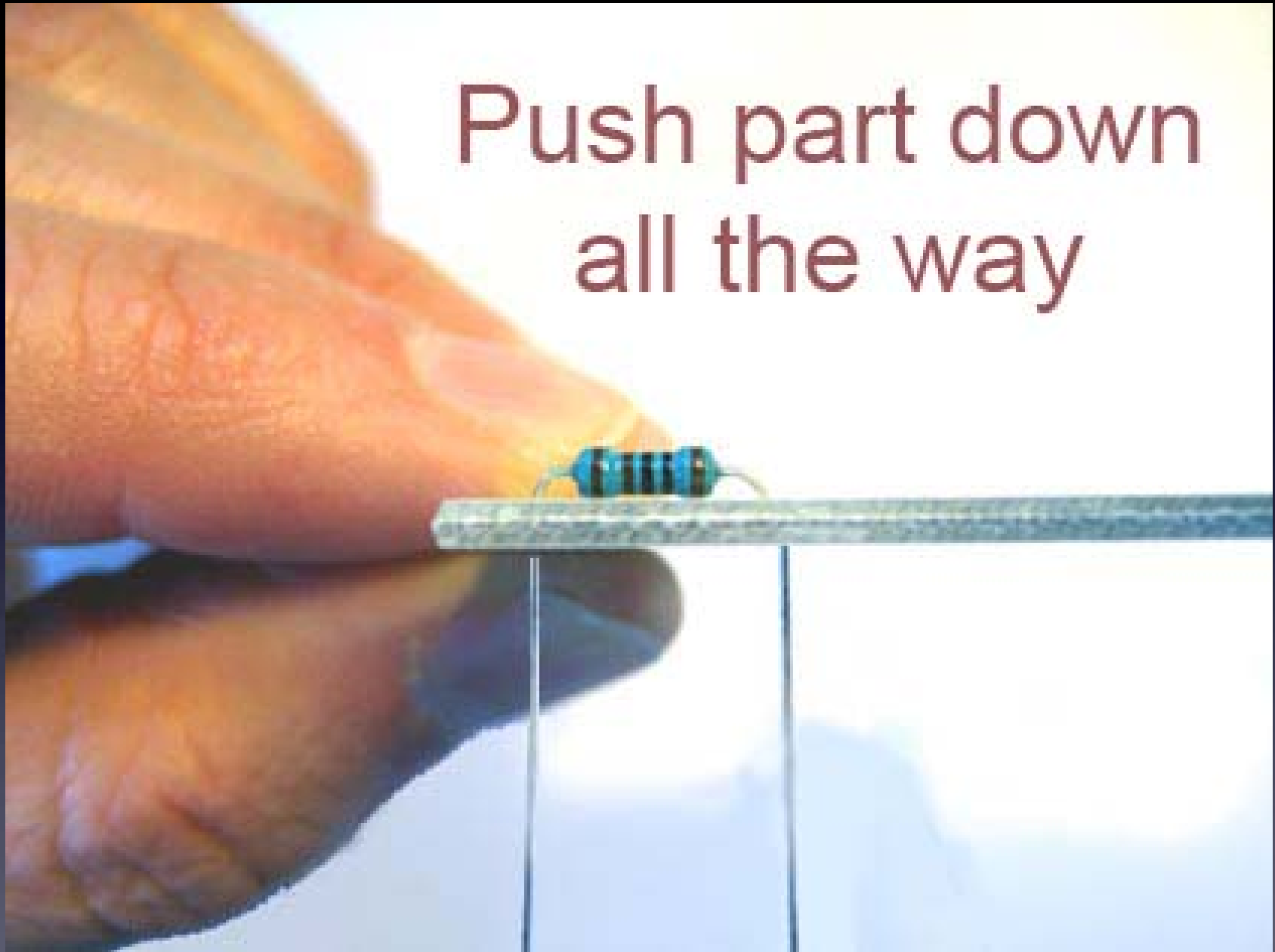


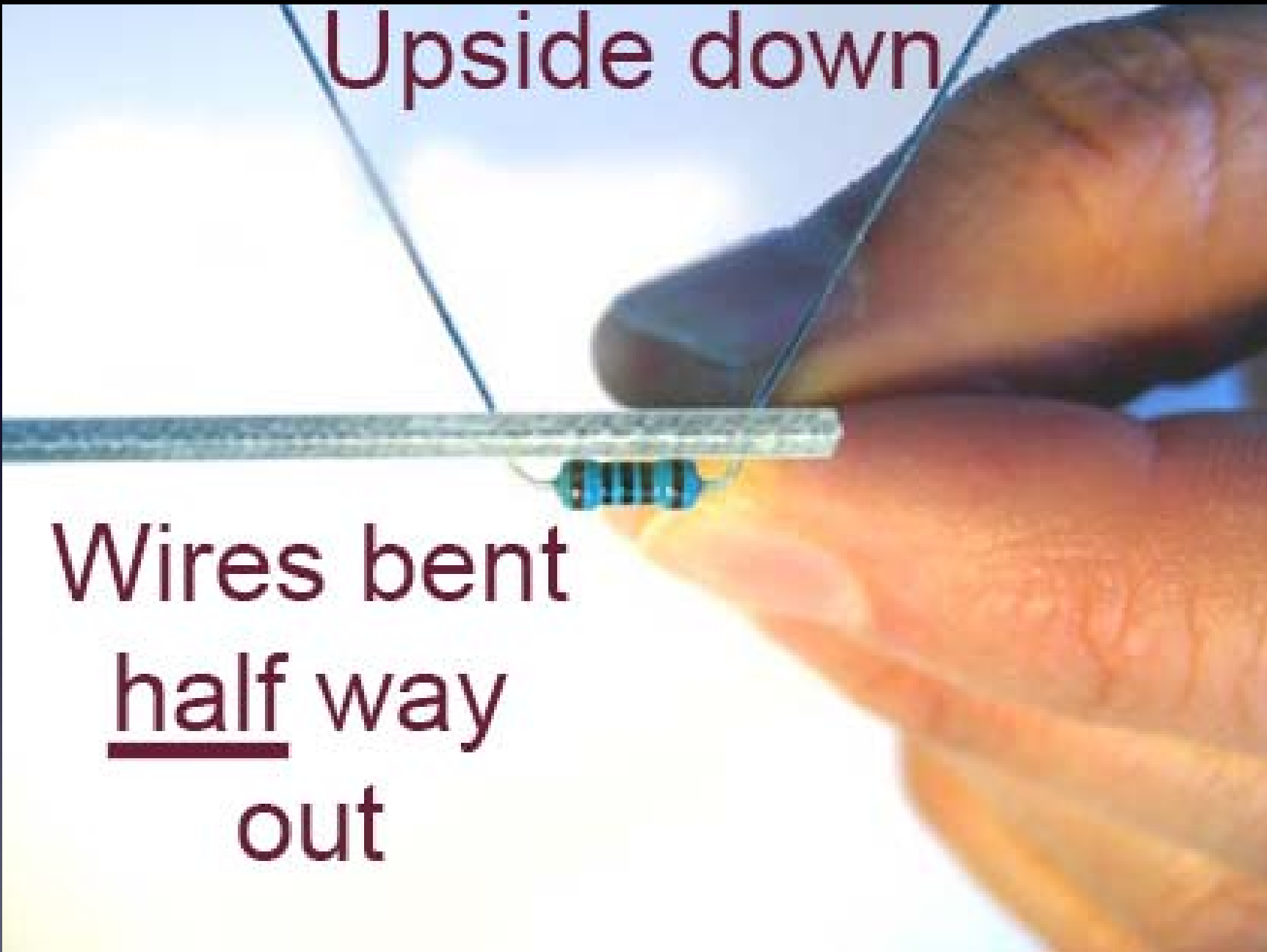


Insert leads into pads



Push part down
all the way

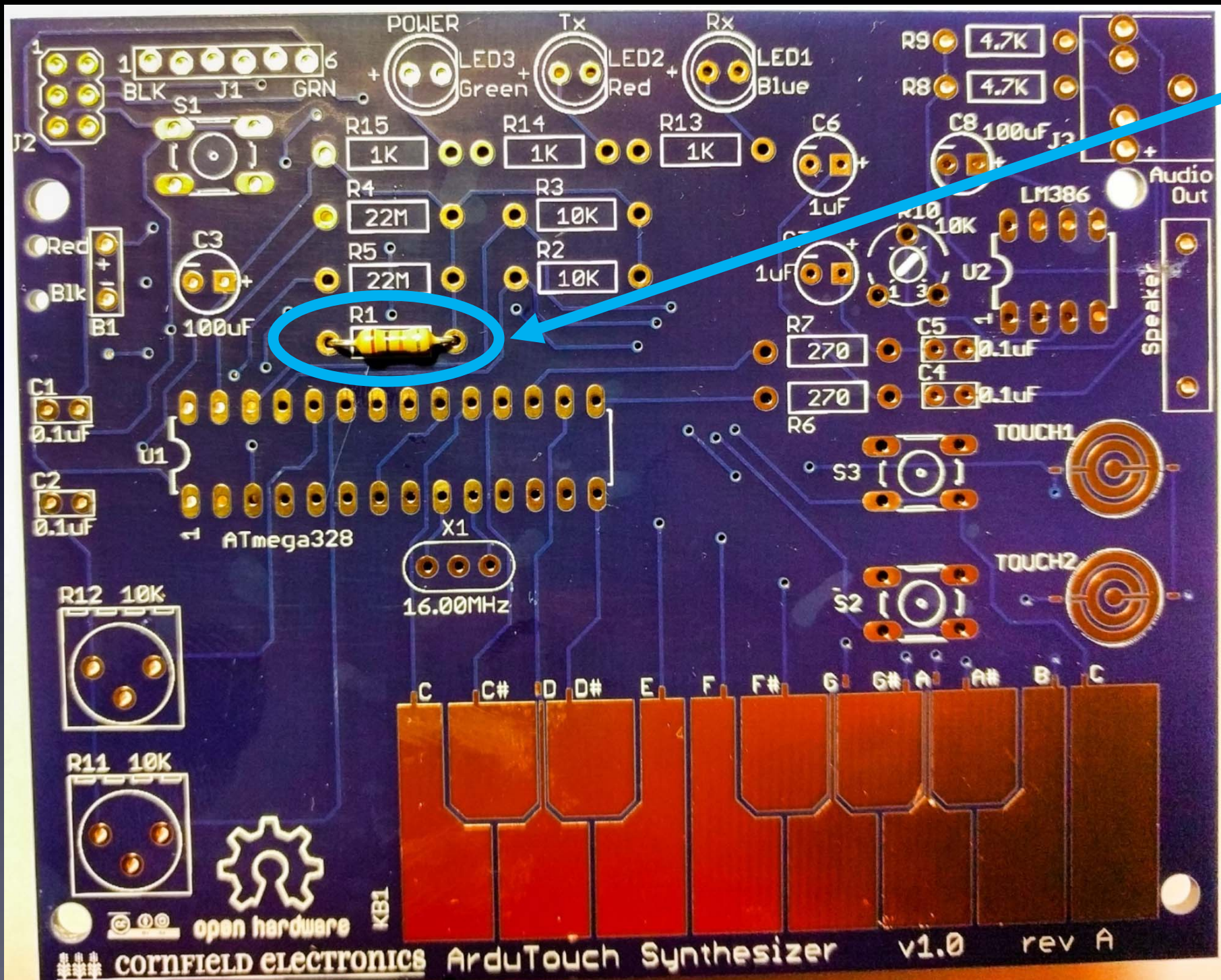




Upside down

The image shows a close-up of a person's hand holding a thin, grey wire. A small, blue, cylindrical resistor with black bands is attached to the wire. The wire is being bent at a 90-degree angle. The background is a bright, out-of-focus sky.

Wires bent
half way
out



How to hold a soldering iron

(Like a pencil – held from underneath)

The perfect kind of
solder for electronics:

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

3 Safety Tips...

Safety Tip #1:

Hot !!

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!

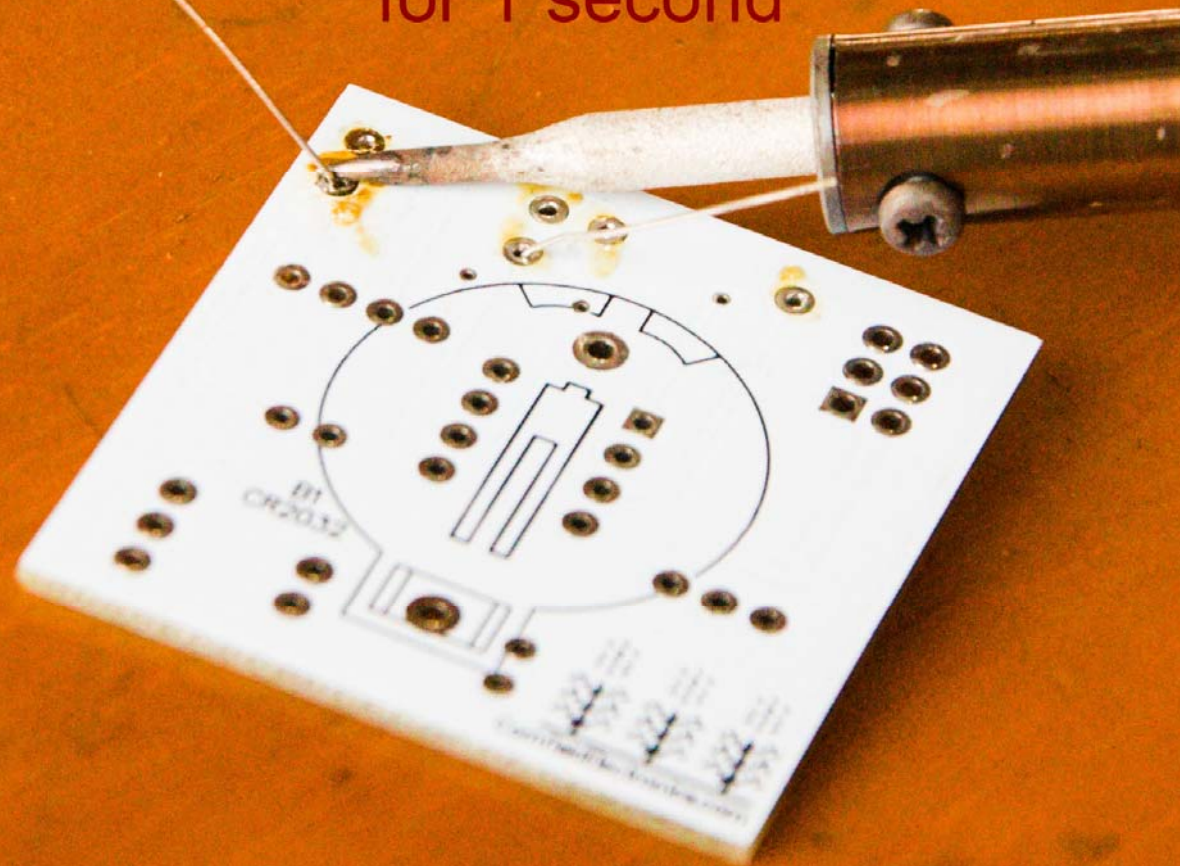
(before every solder connection)

Bang 3 times,

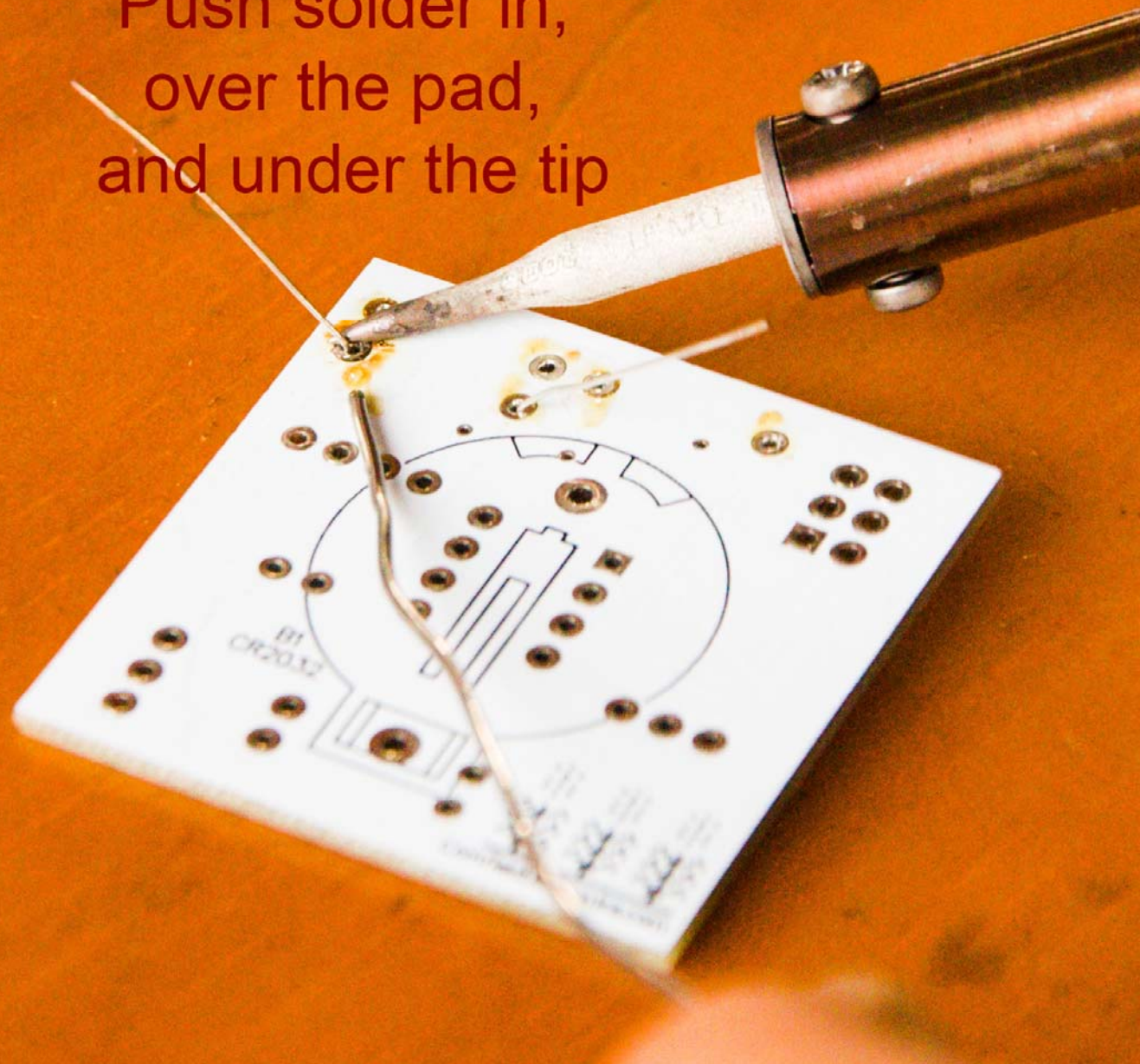
Swipe, Rotate, Swipe:

Keep the tip shiny silver!

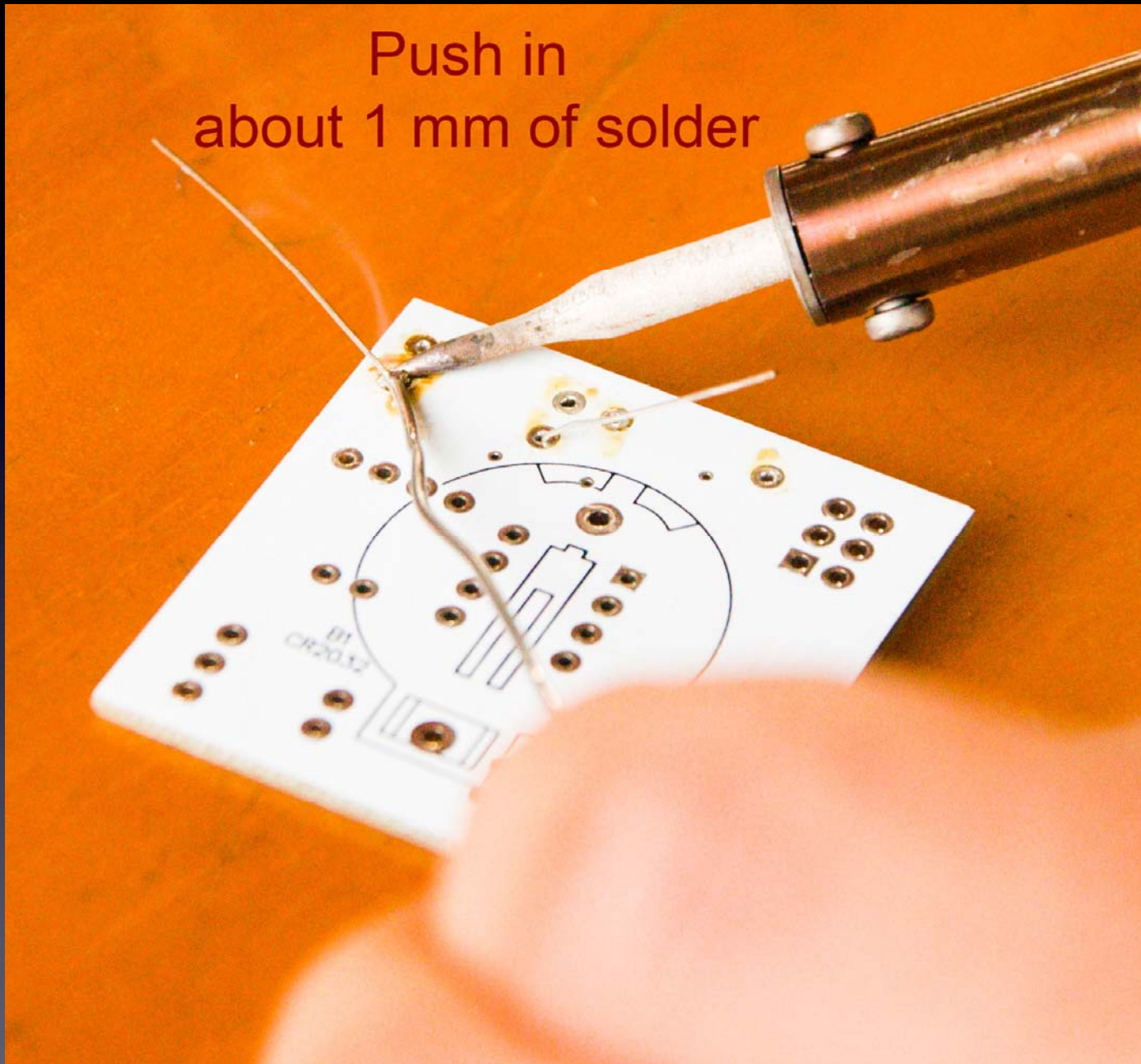
Lay clean tip across half of the pad,
touching the pad and lead
for 1 second



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



Push in
about 1 mm of solder



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



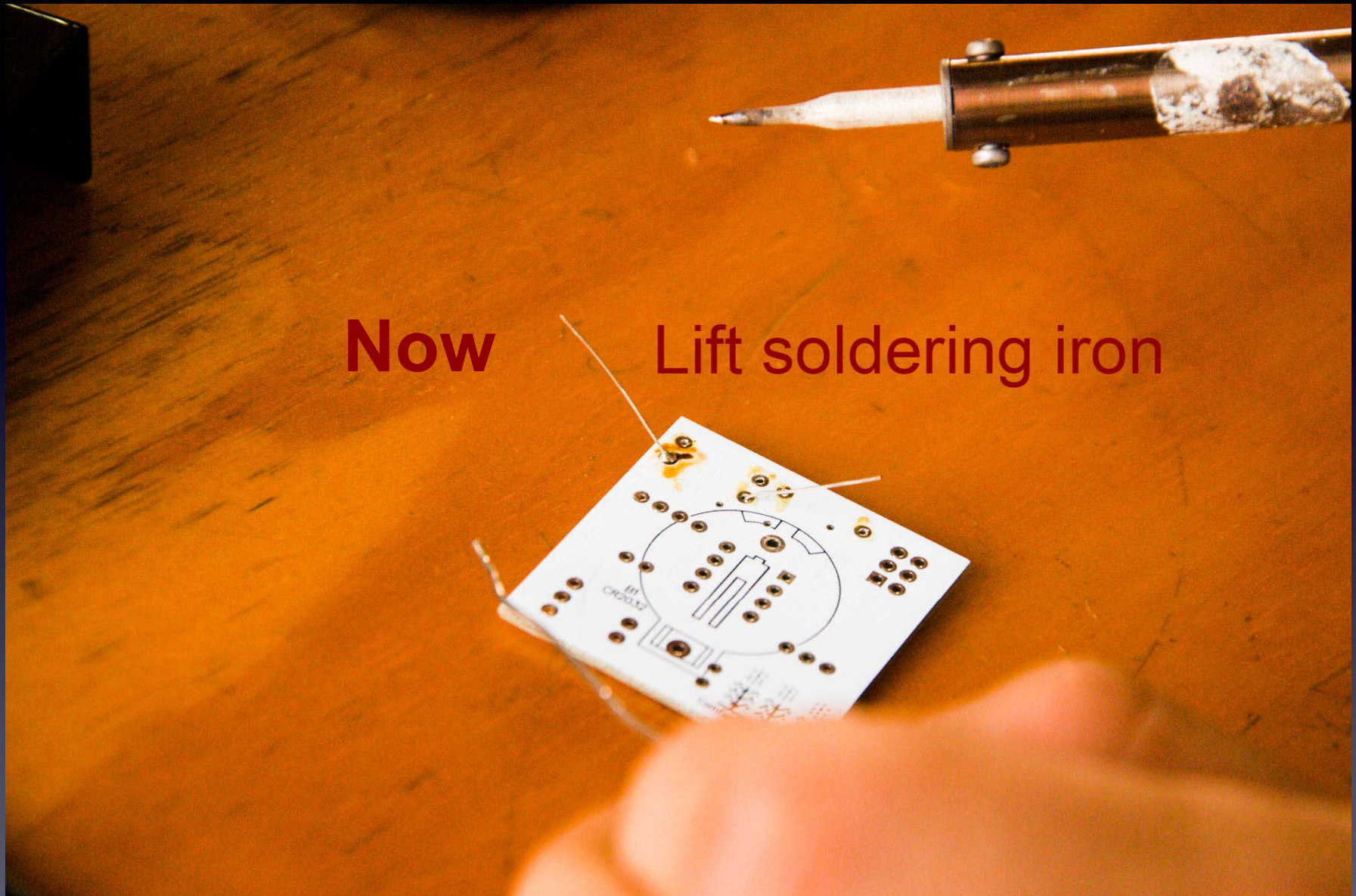
Pull solder away,
But keep holding soldering iron down
for 1 more second

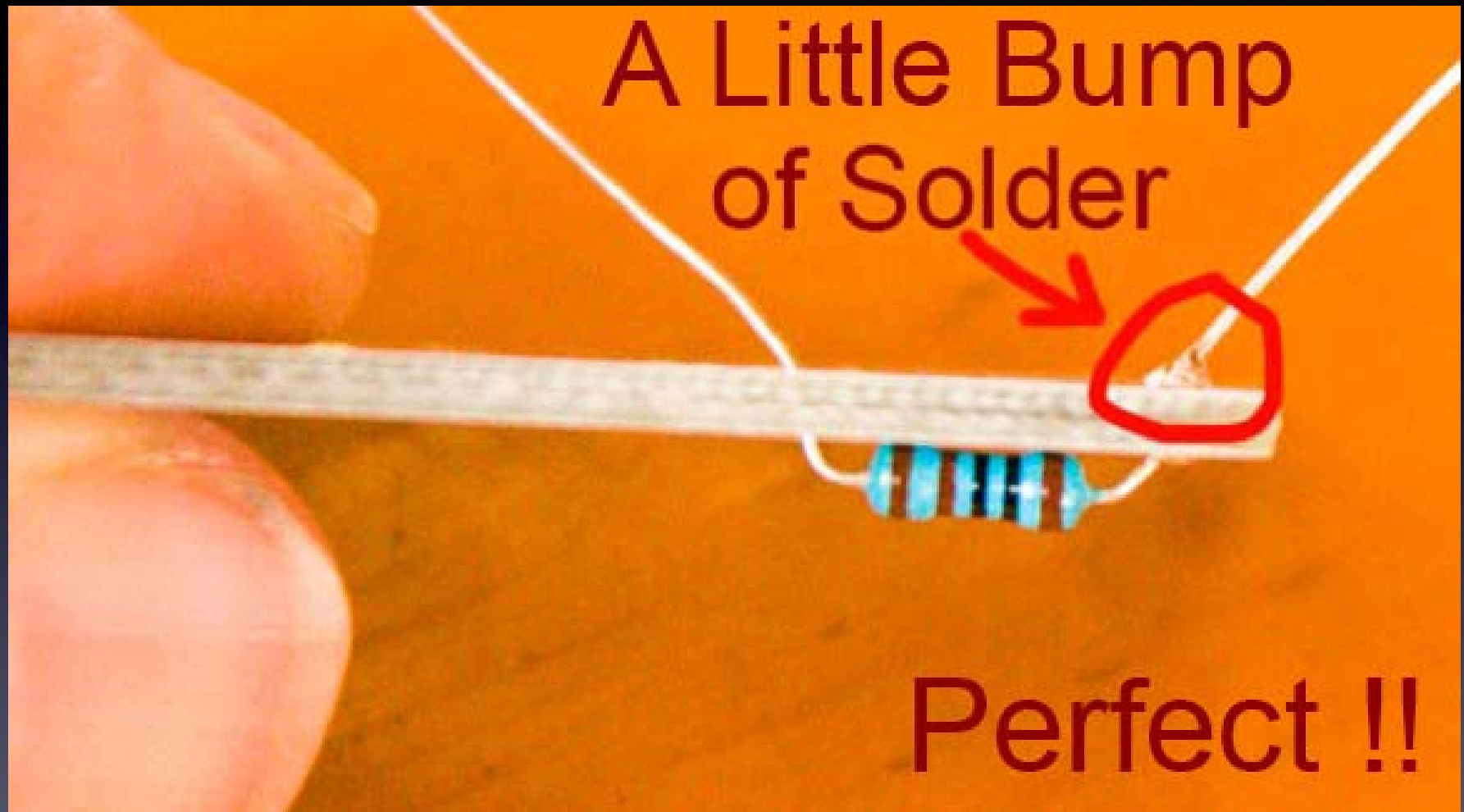
Secret #2:

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

Now

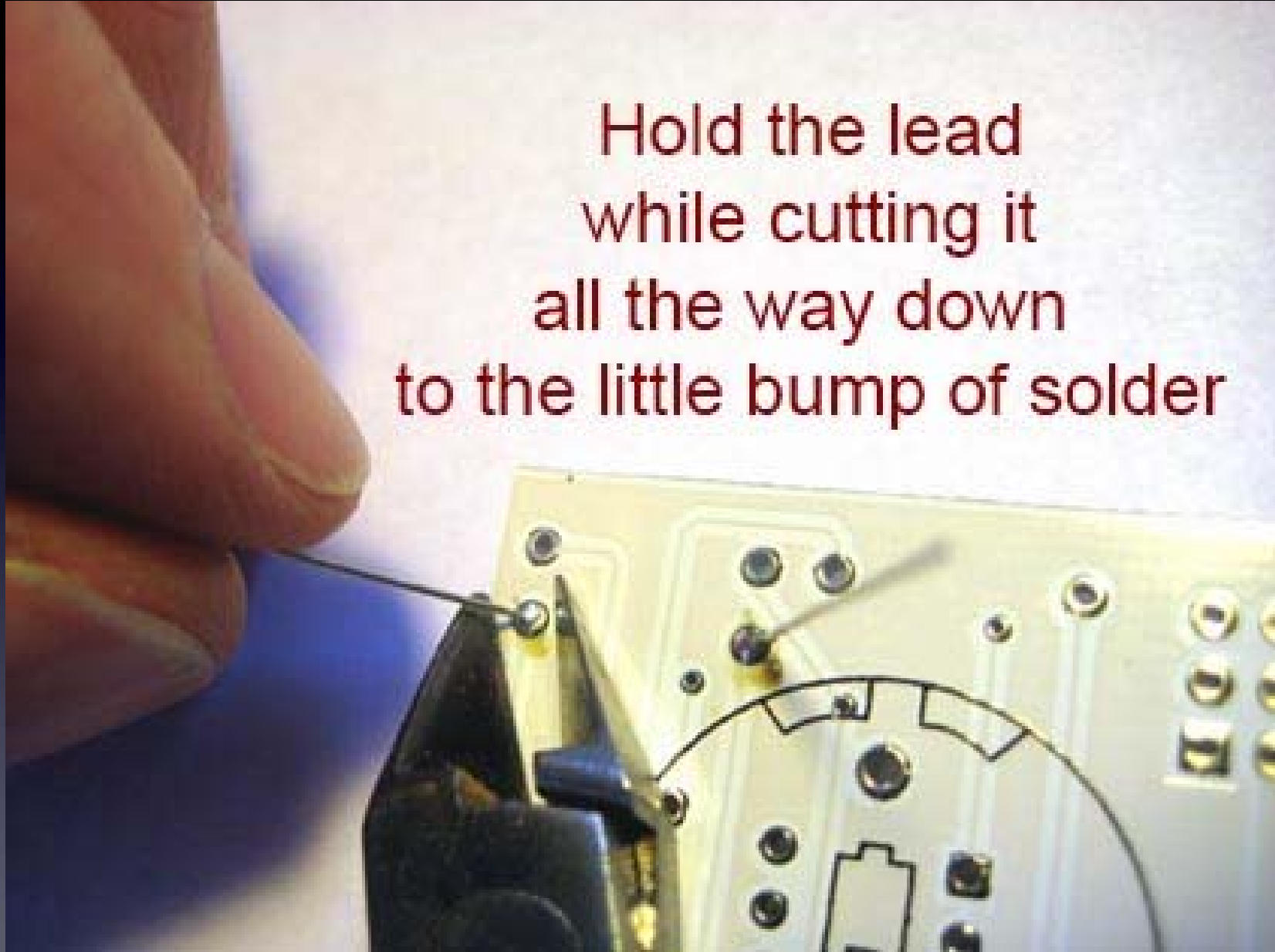
Lift soldering iron





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.

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

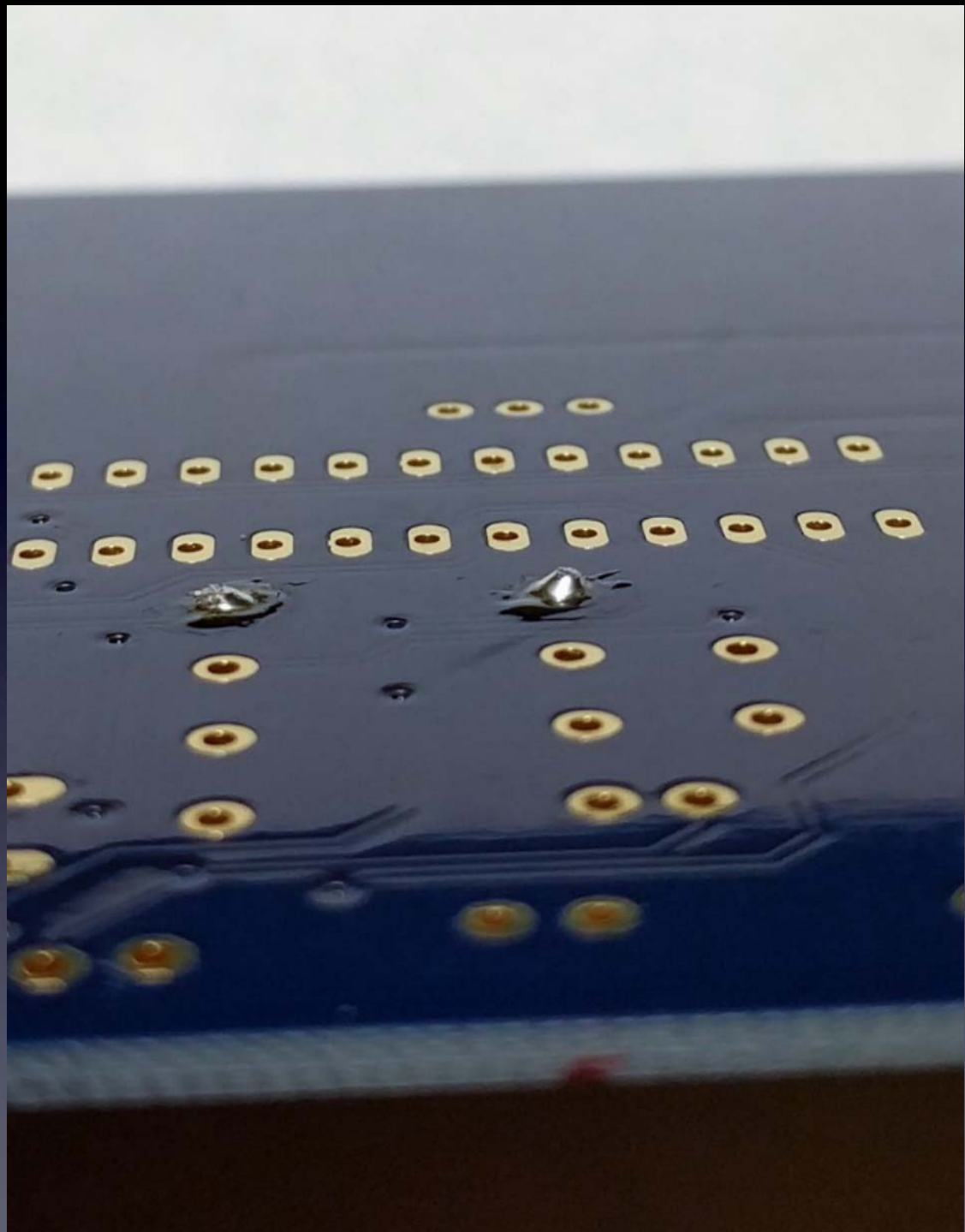
Safety Tip #3:

Hold or cover the lead !



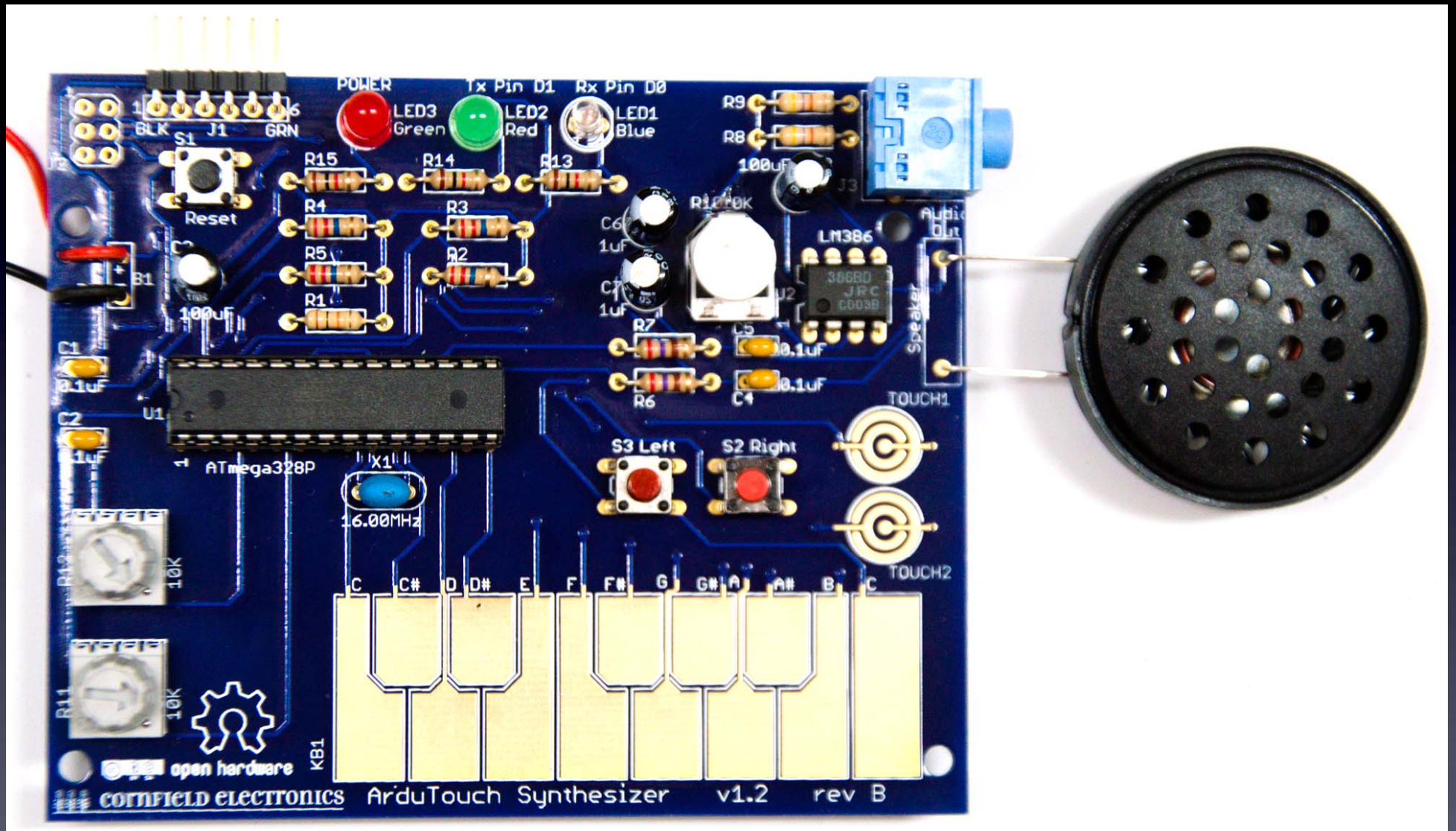
All done !

No wire sticking out



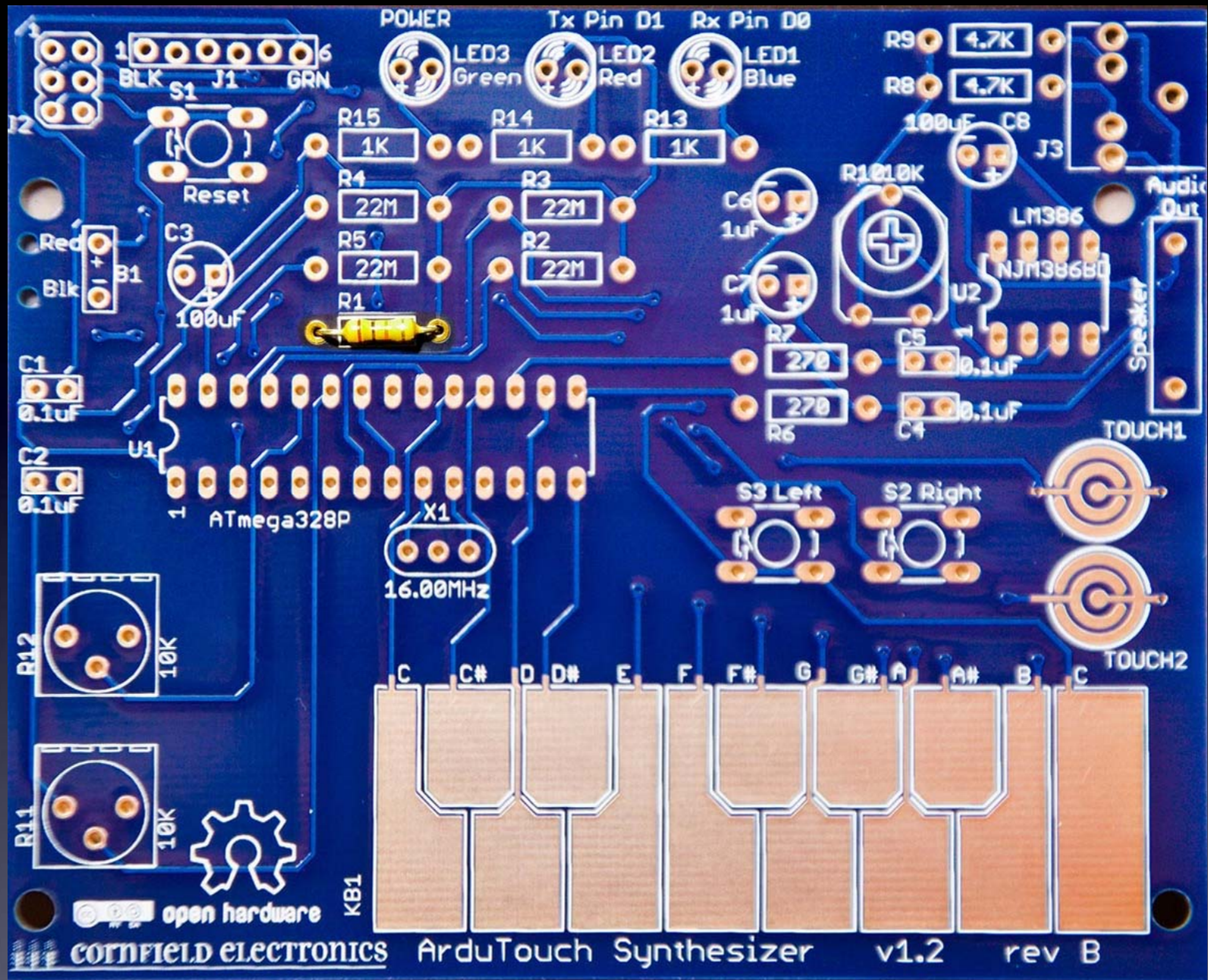
One part at a time

Till all the parts are soldered



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

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:



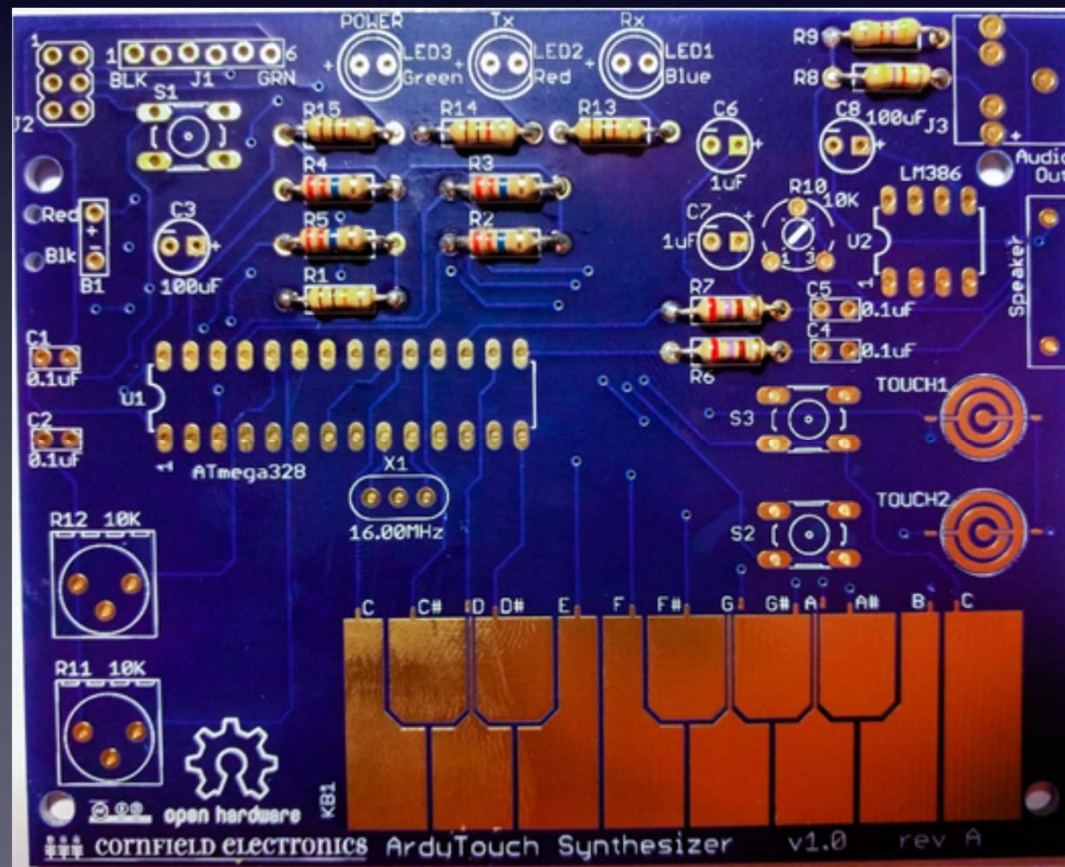
10K: Brown, Black, Orange

22M: Red, Red, Blue

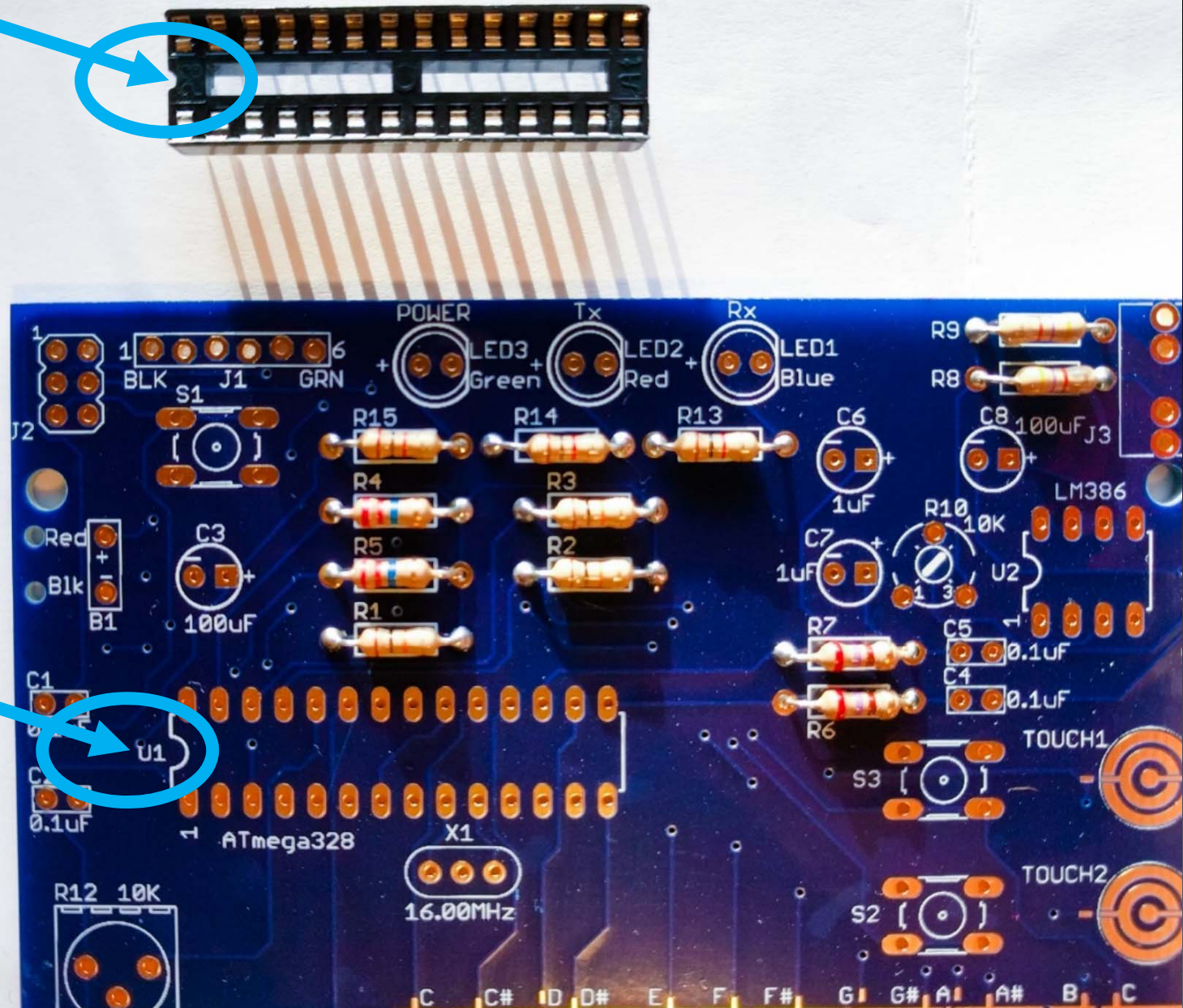
270: Red, Violet, Brown

4.7K: Yellow, Violet, Red

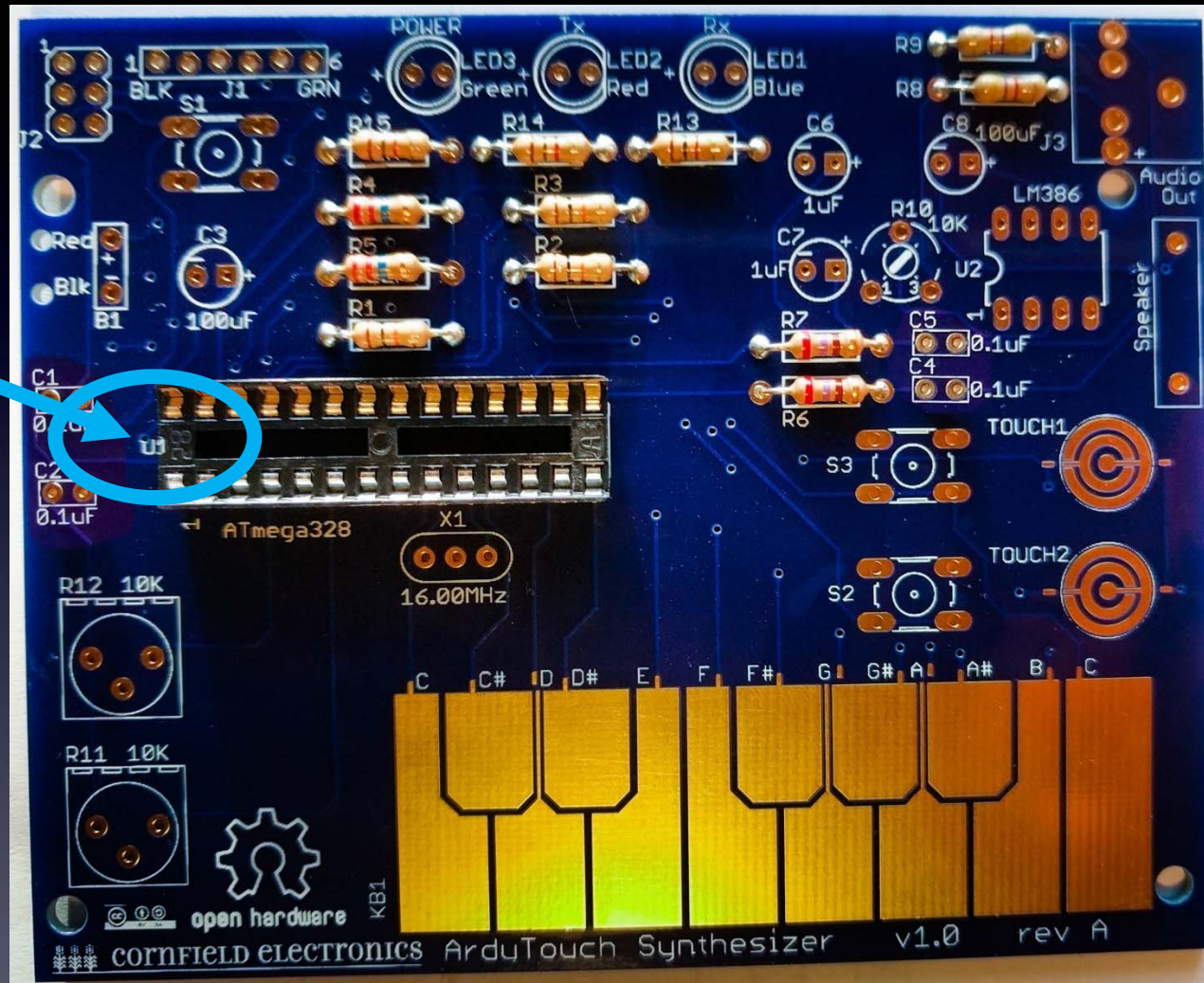
1K: Brown, Black, Red



U1: microcontroller socket



U1: microcontroller socket

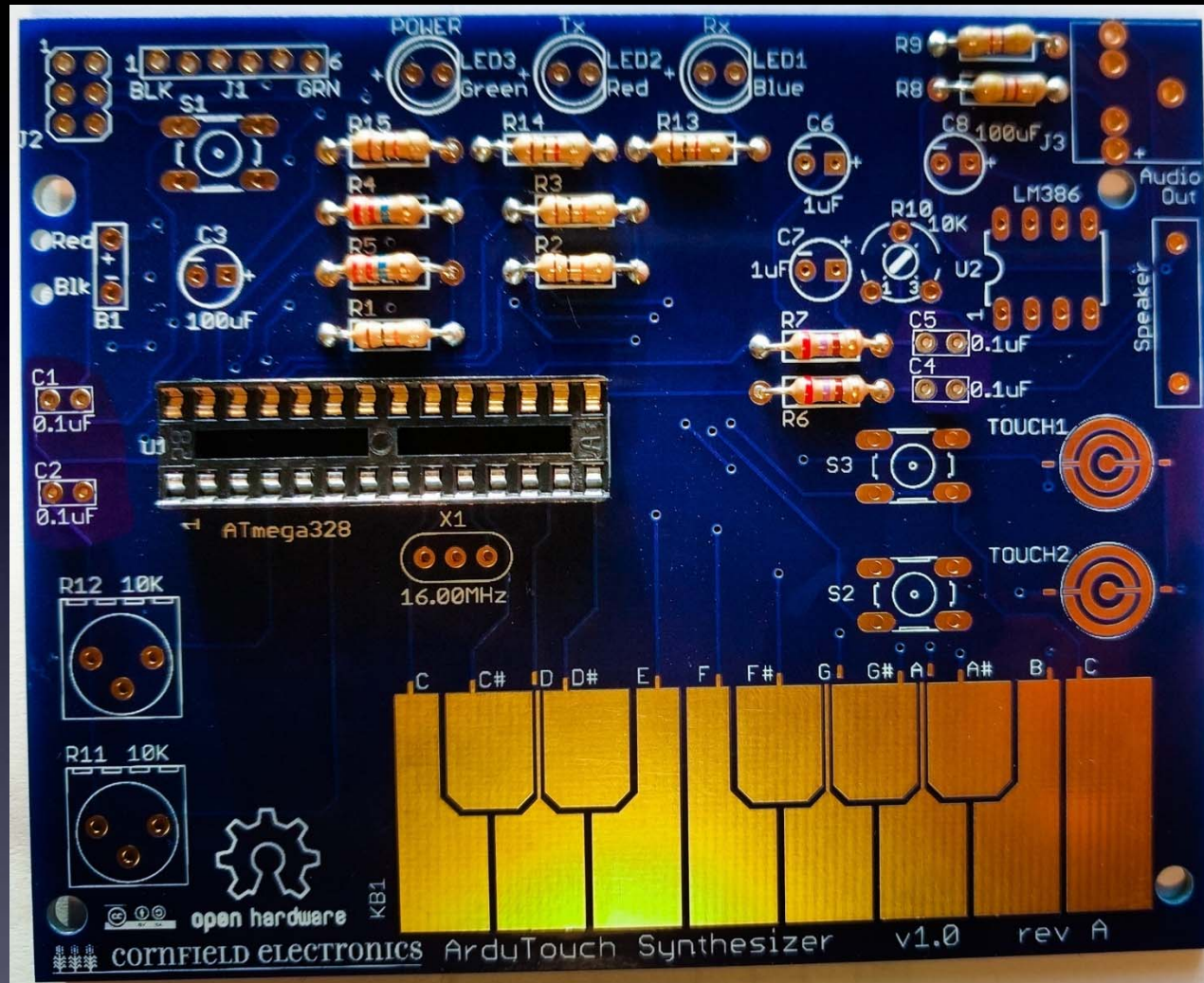


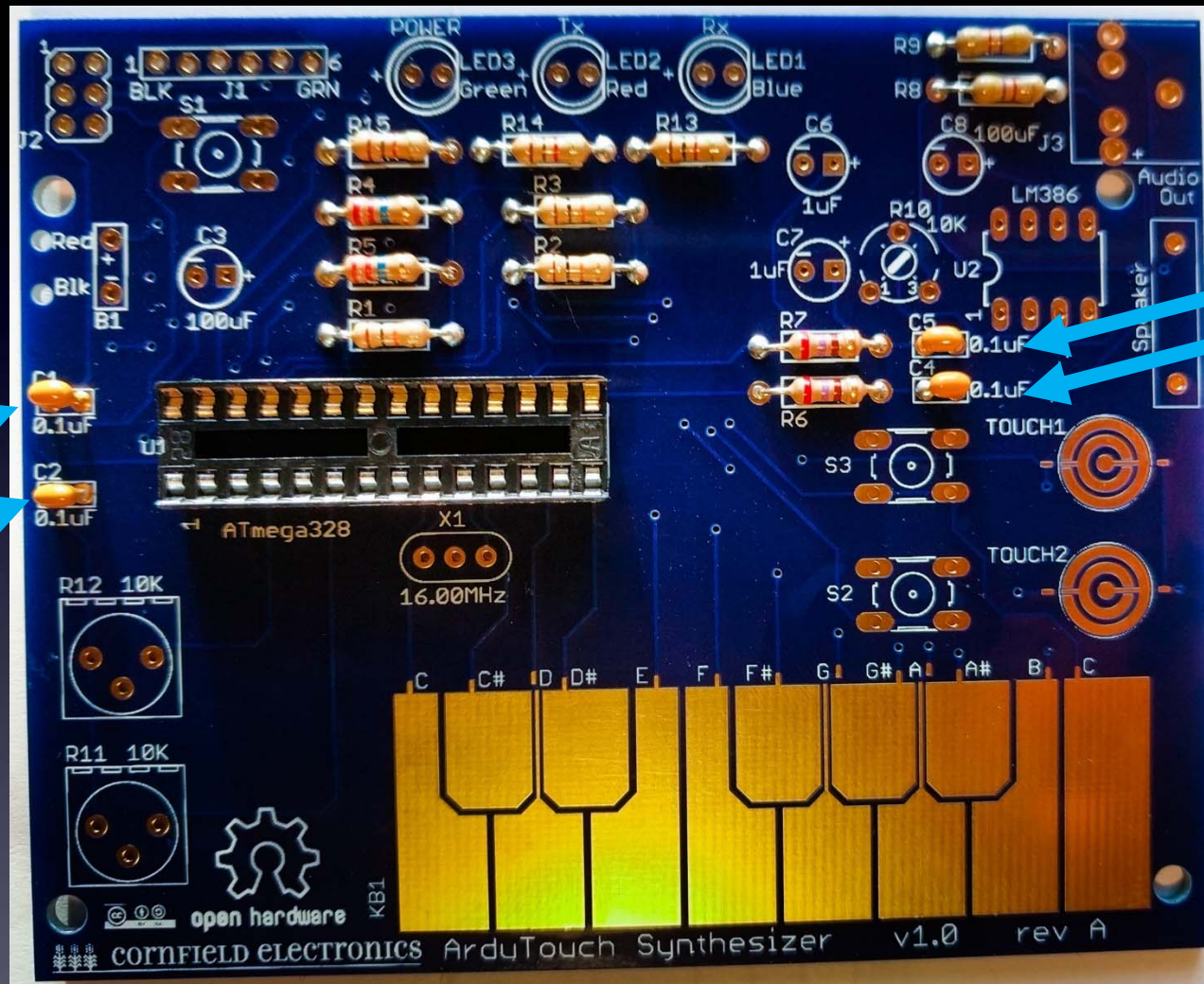
U1: microcontroller socket



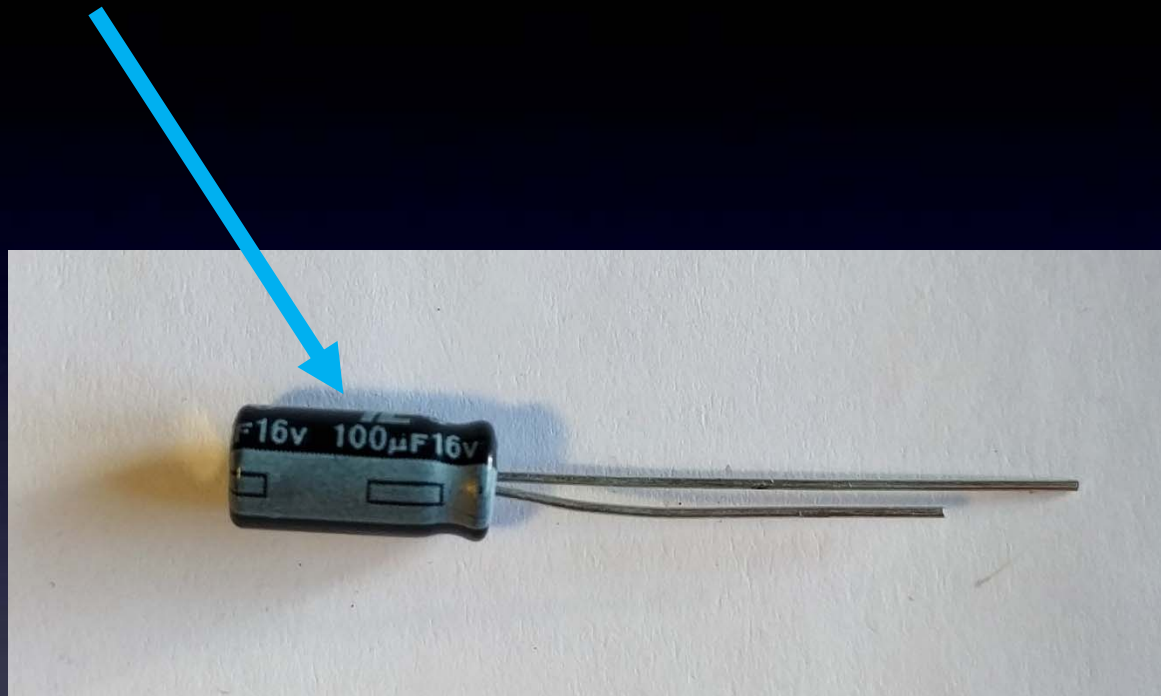
bend pins down on corners,
and solder all 28 leads to the board

U1: microcontroller socket

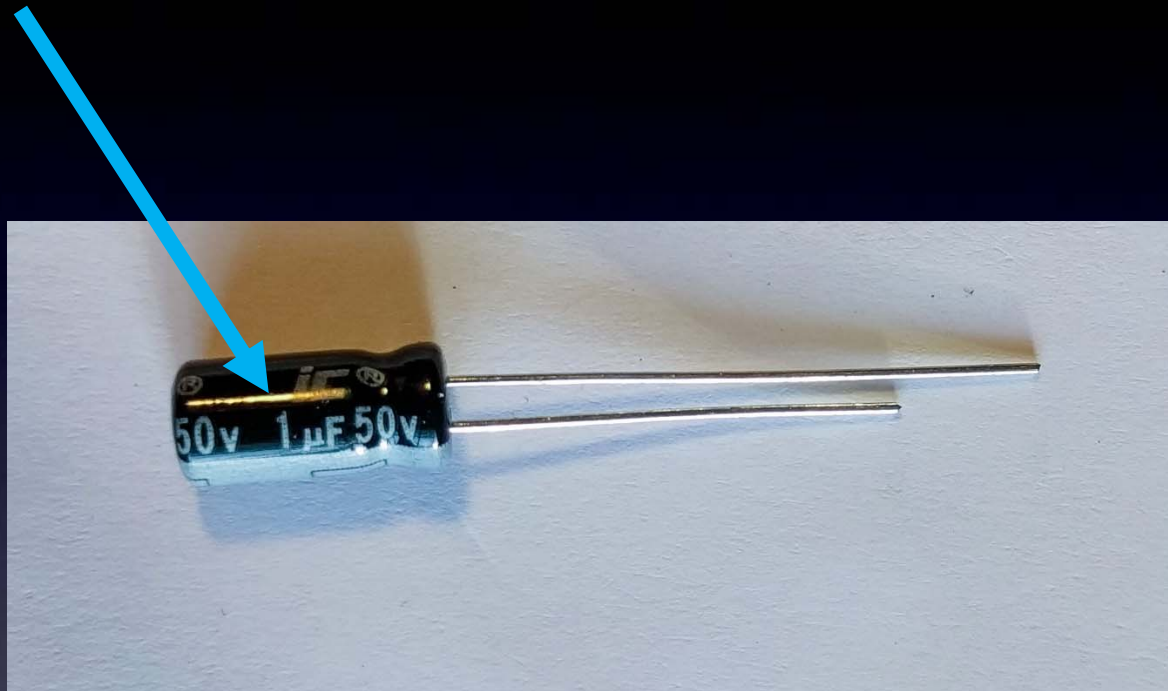




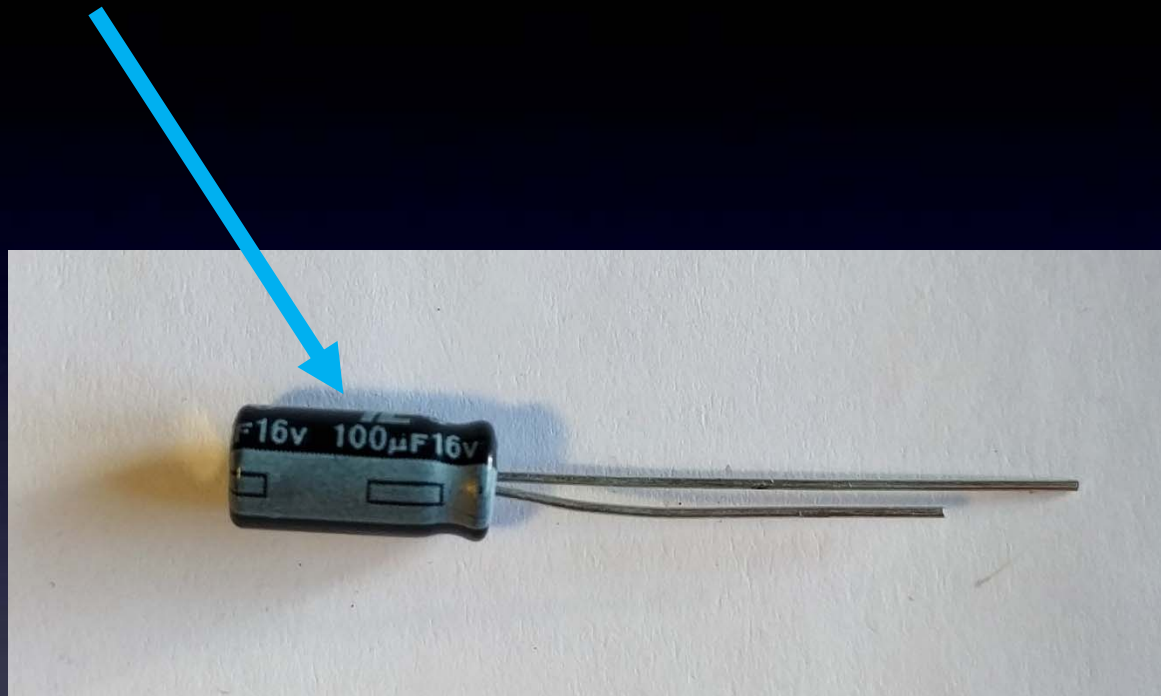
C1, C2, C4, C5



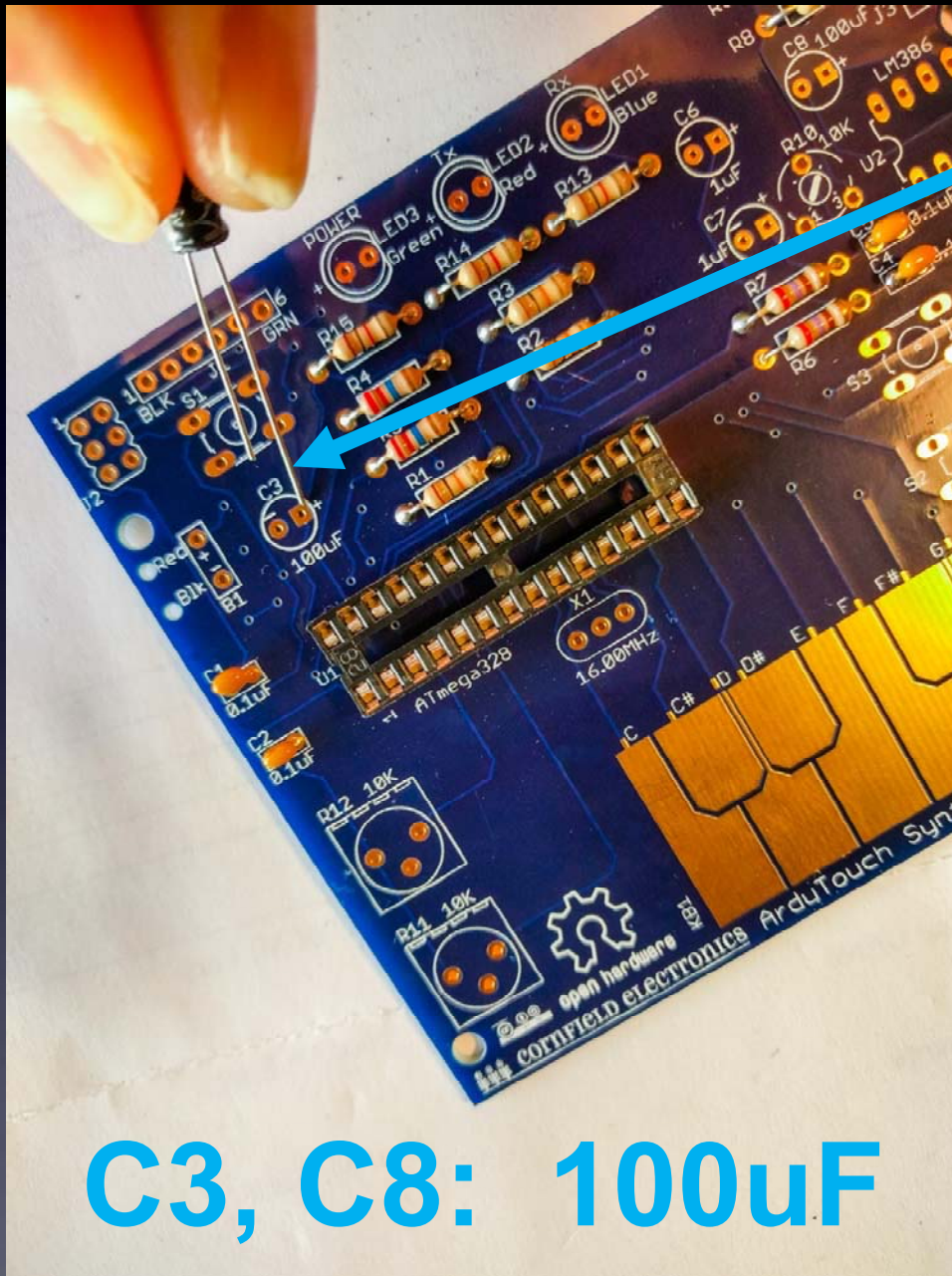
C3, C8: 100uF



C6, C7: 1uF

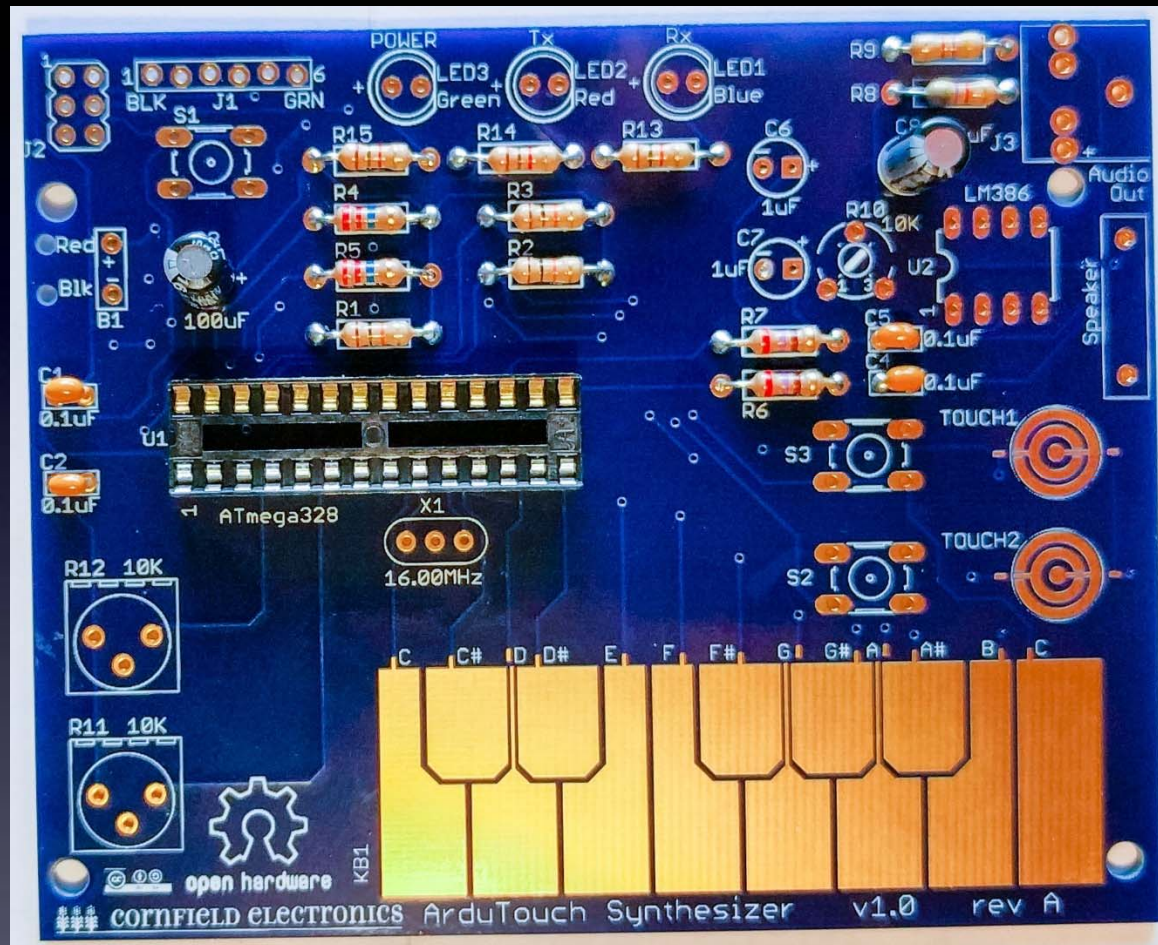


C3, C8: 100uF

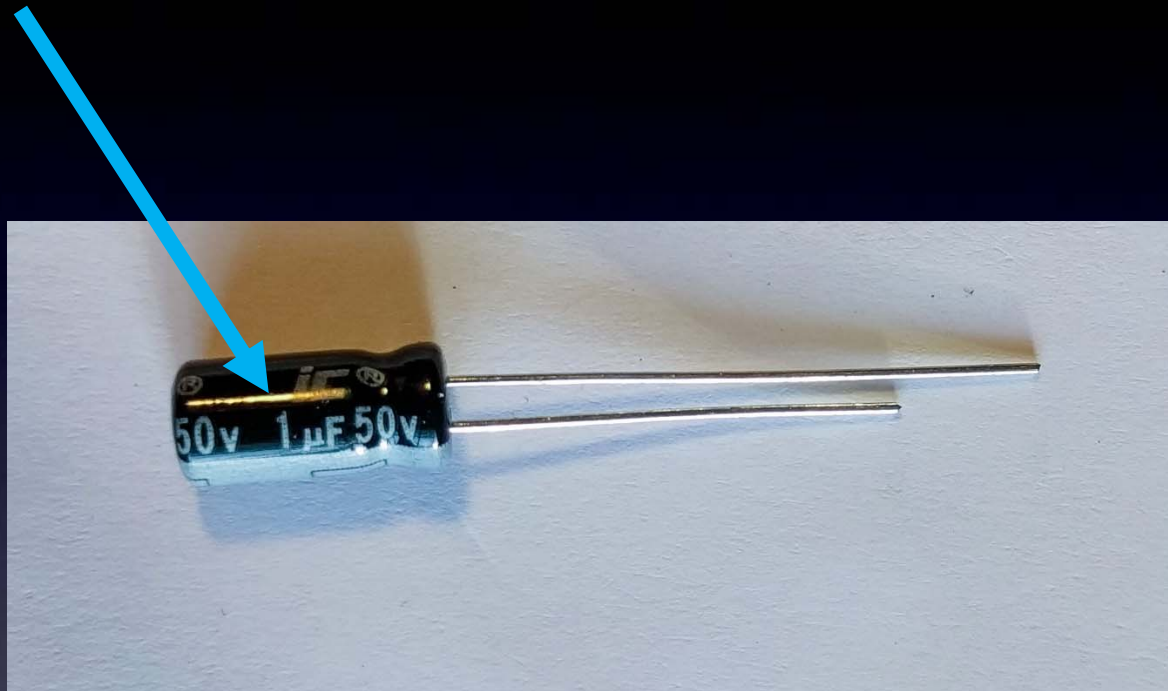


C3, C8:
Long Lead “+”

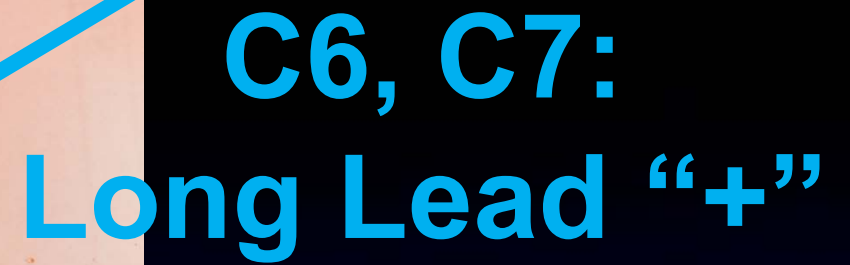
C3, C8: 100uF



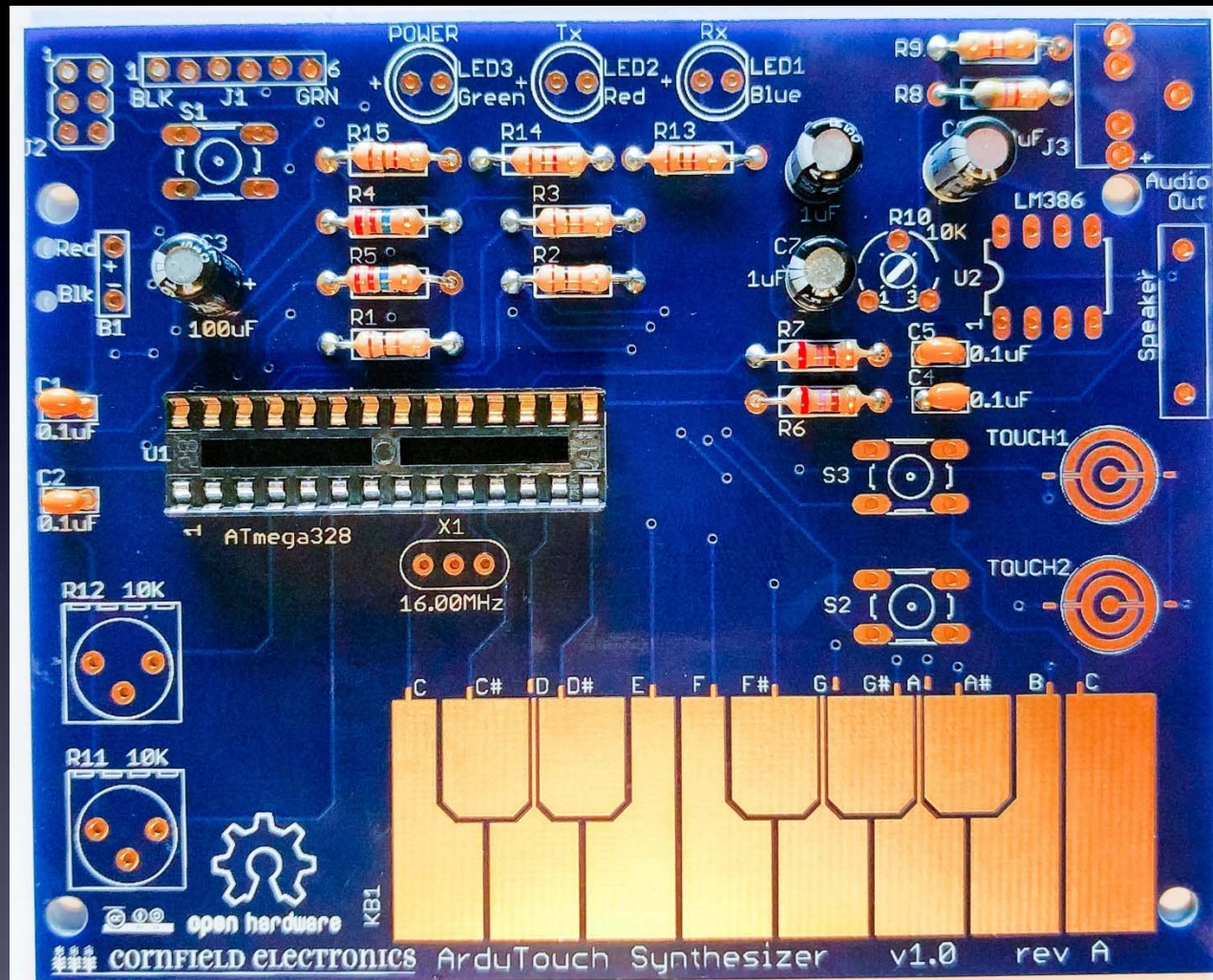
C3, C8: 100uF



C6, C7: 1uF



C6, C7: 1uF

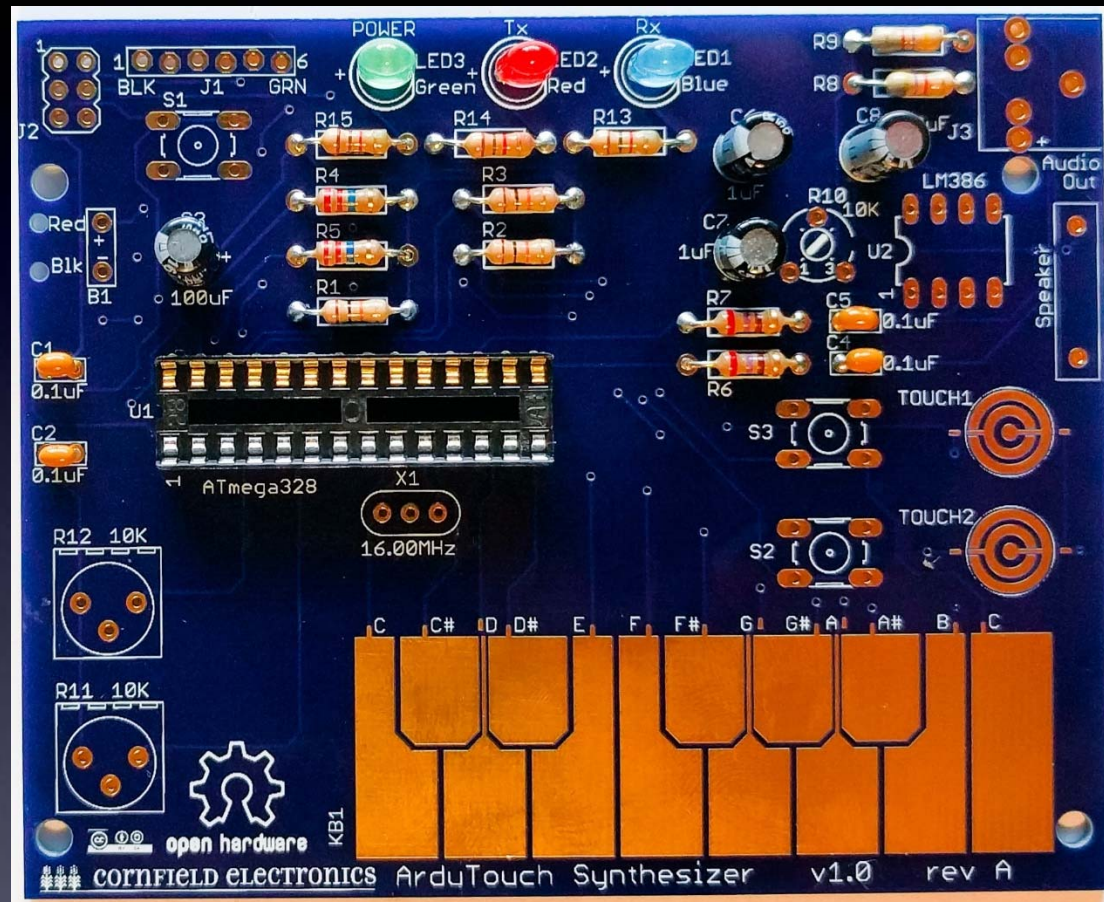


C6, C7: 1uF



Save
these leads

We'll use them for the speaker

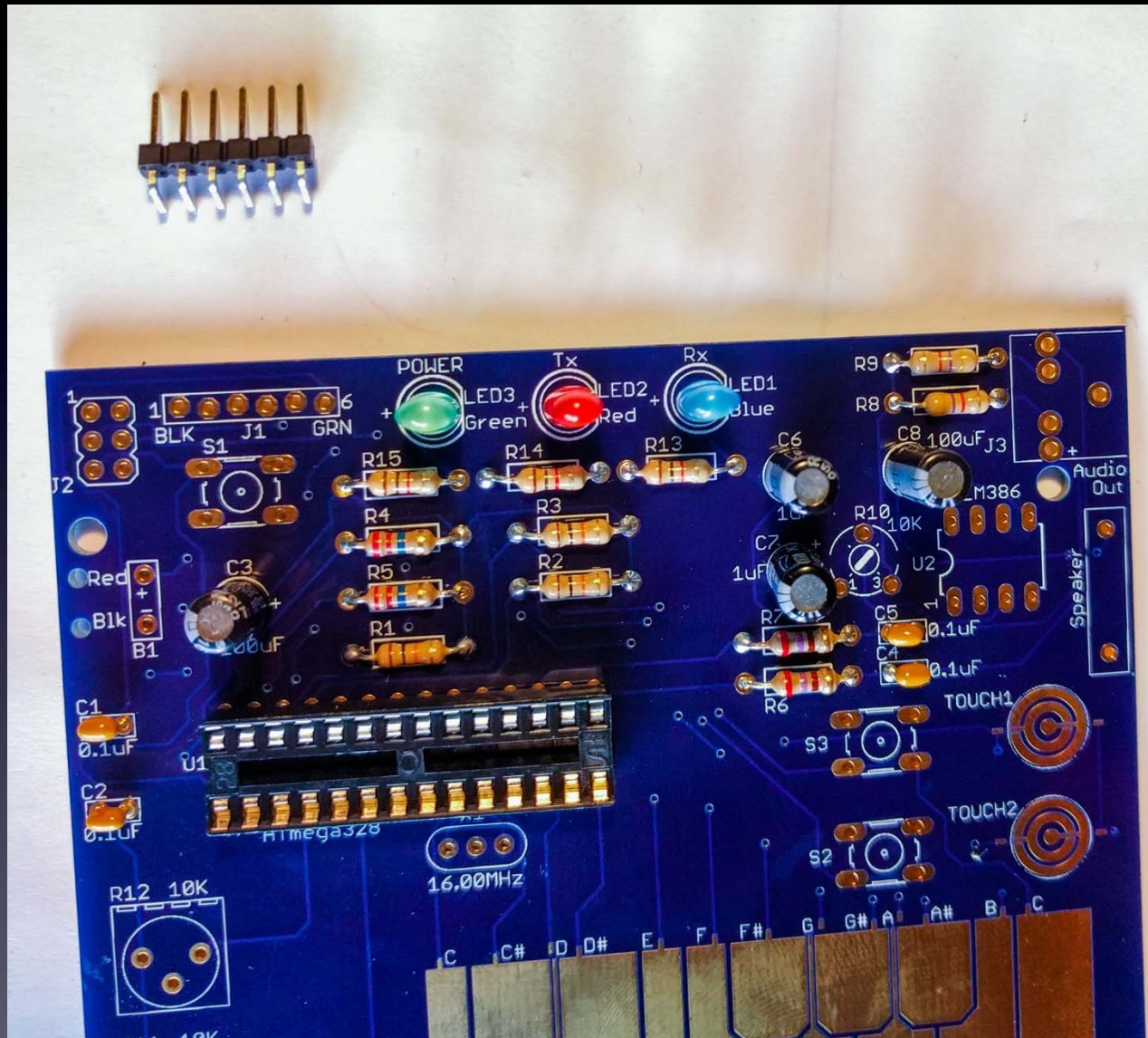


LED1, LED2, LED3
Green, Red, Yellow



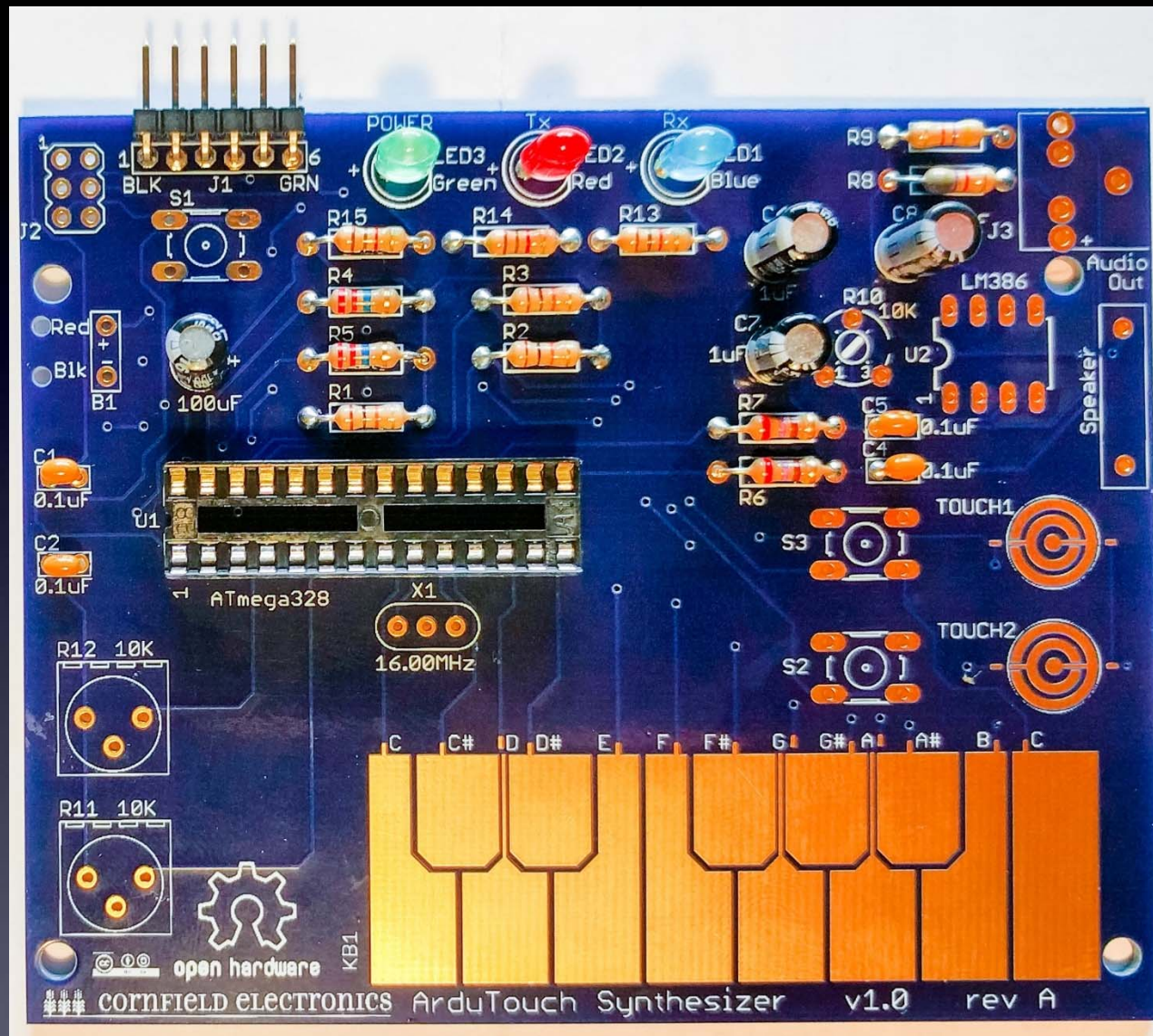
J1

Short leads into board

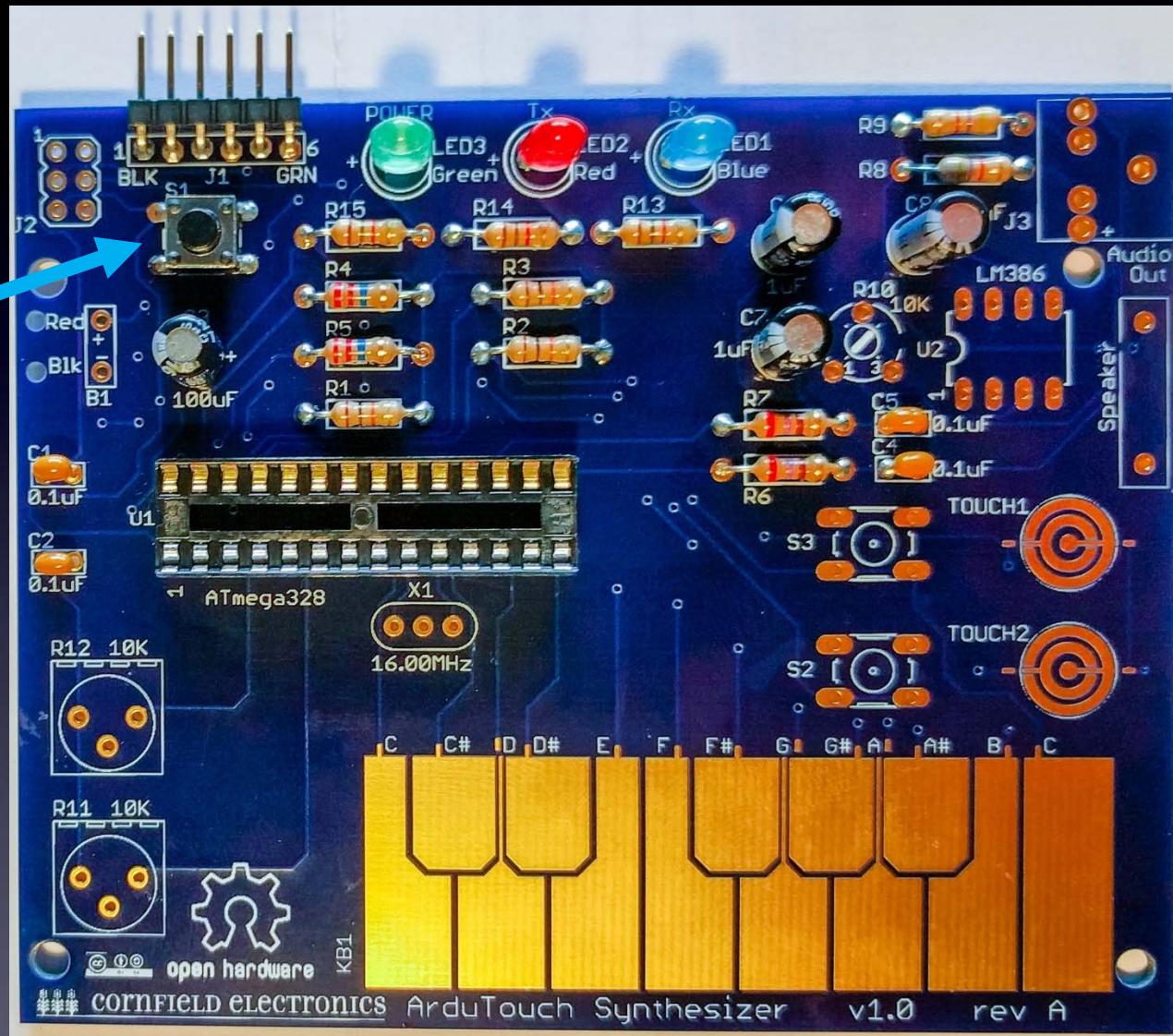


J1

(if it falls out, solder one lead on the top of the board, then turn over the board and solder the other 5 leads)

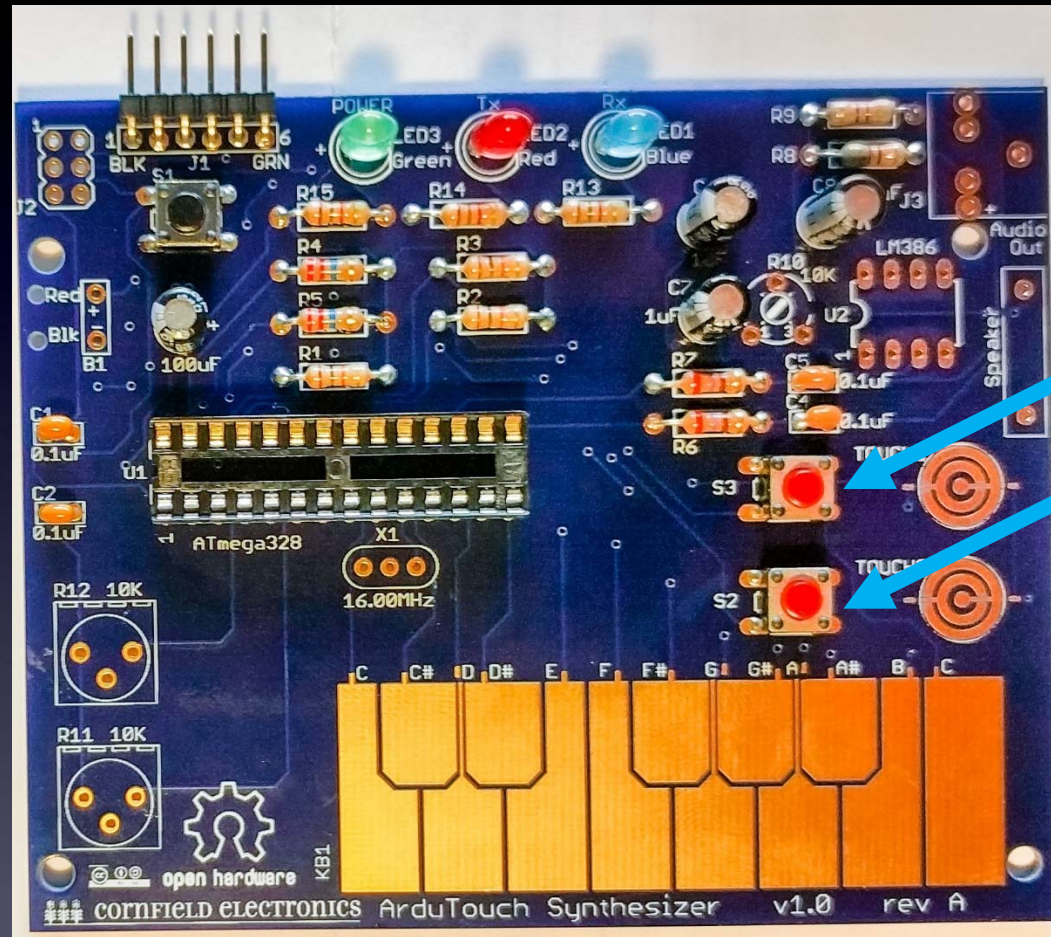


J1

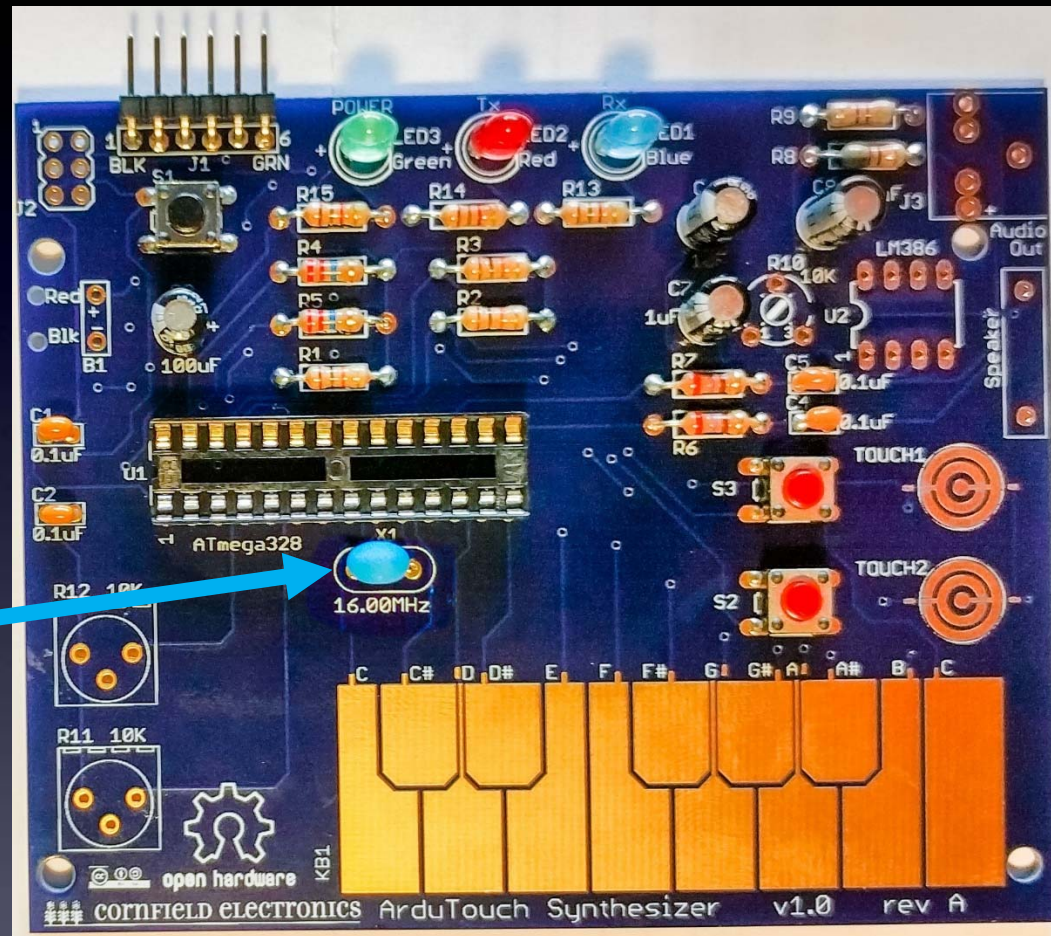


S1: black Reset button

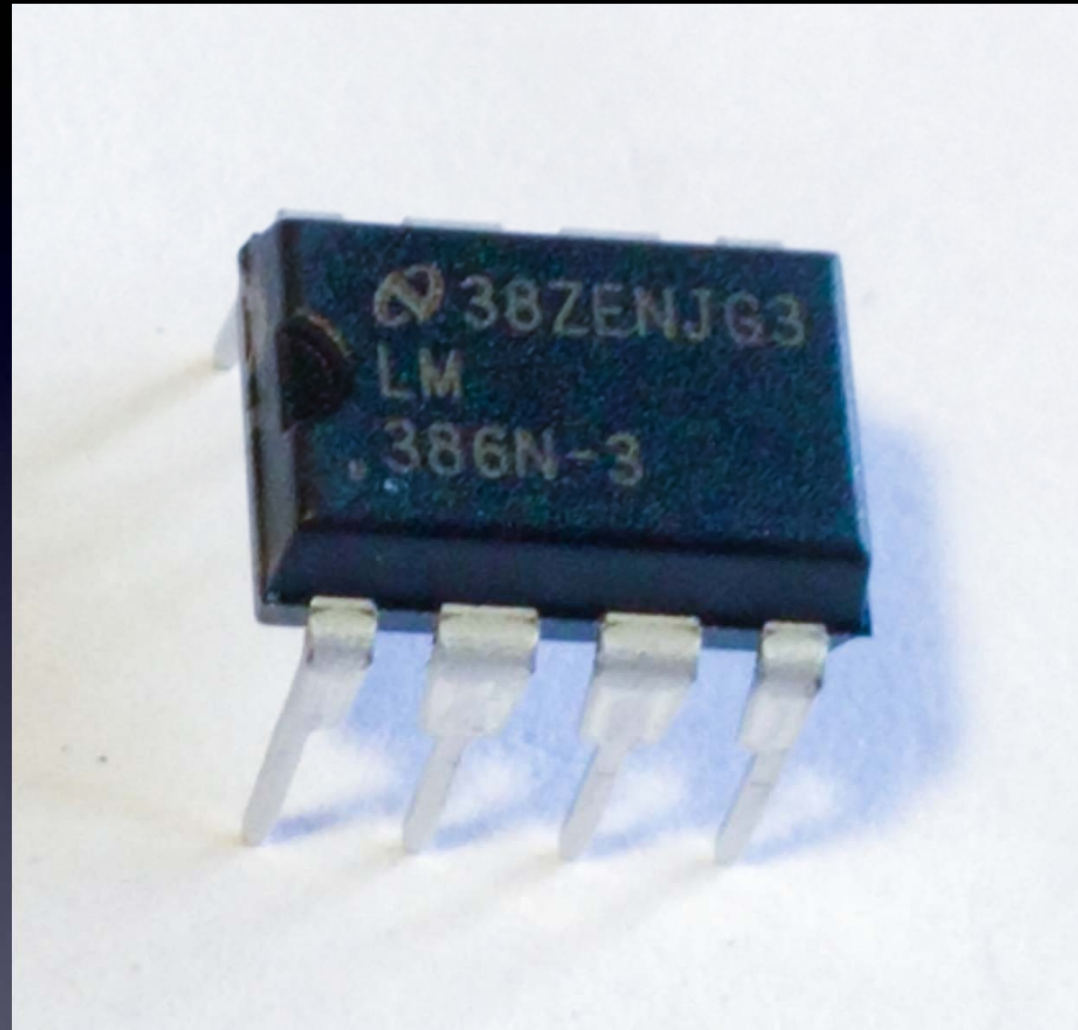
S2, S3: Red buttons

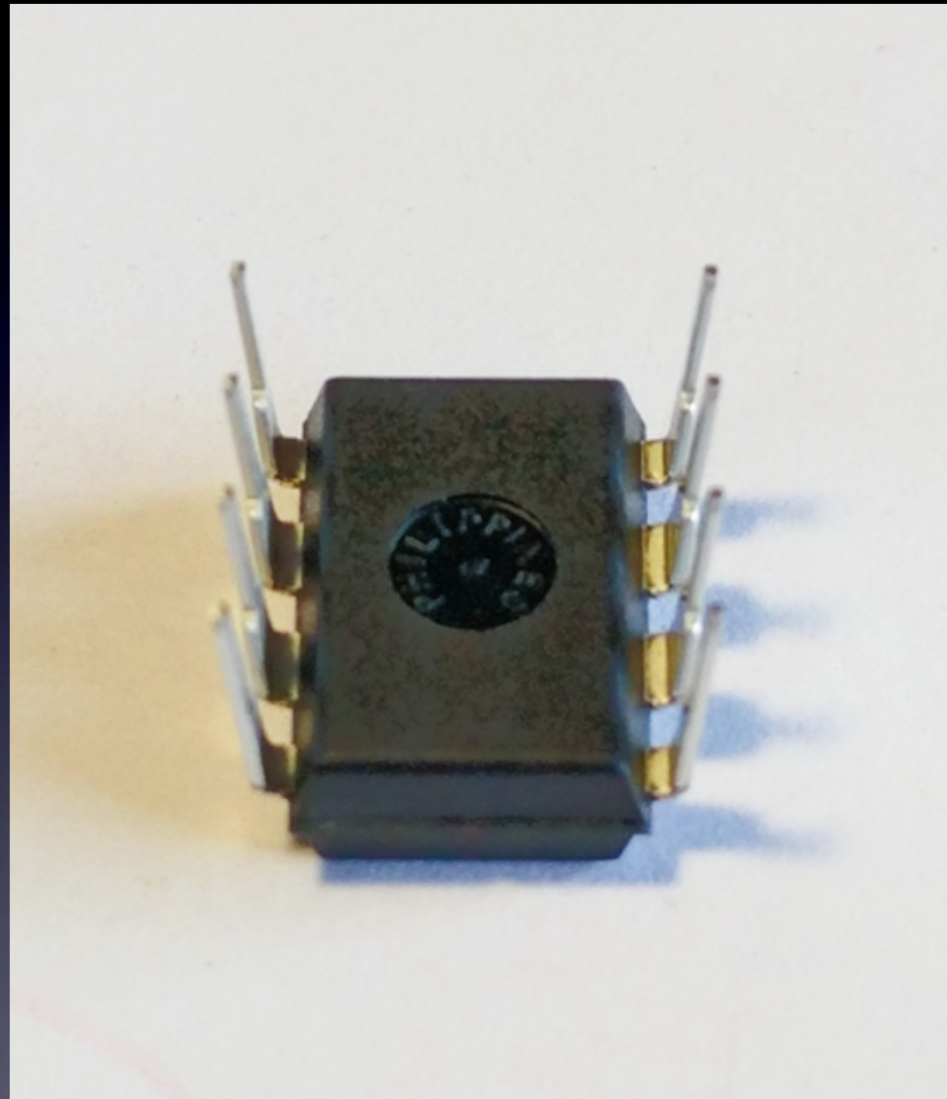


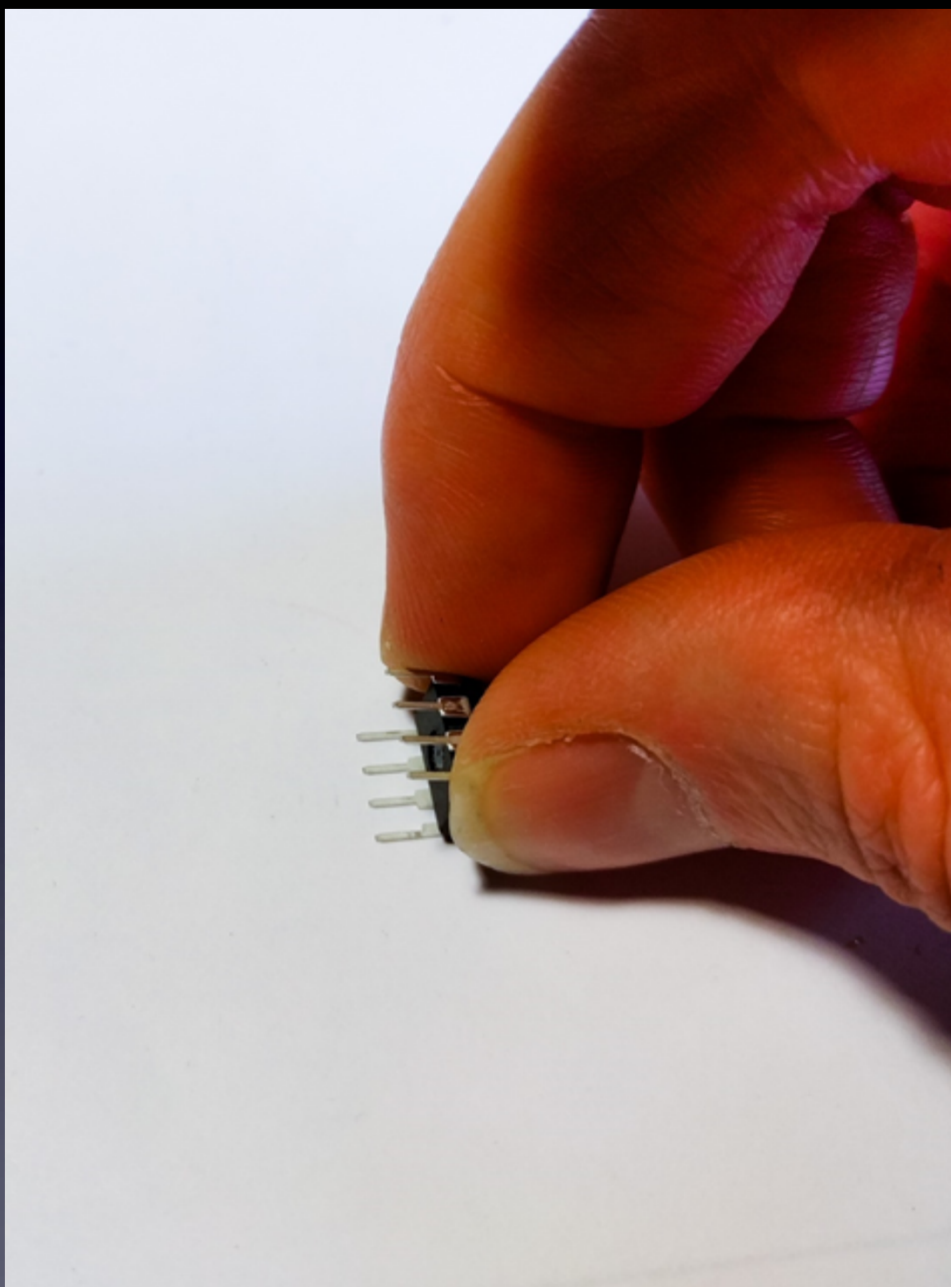
on the rev B board these are side by side
(instead of on top of each other)

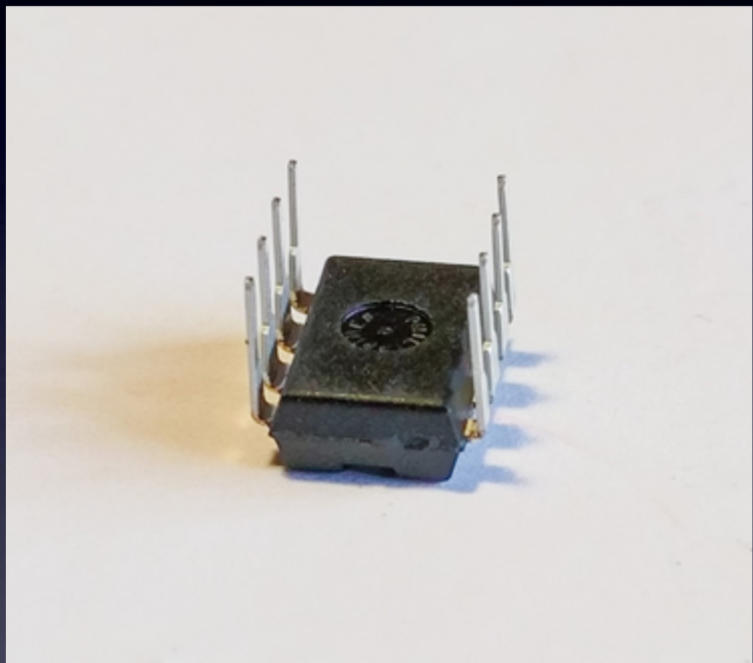


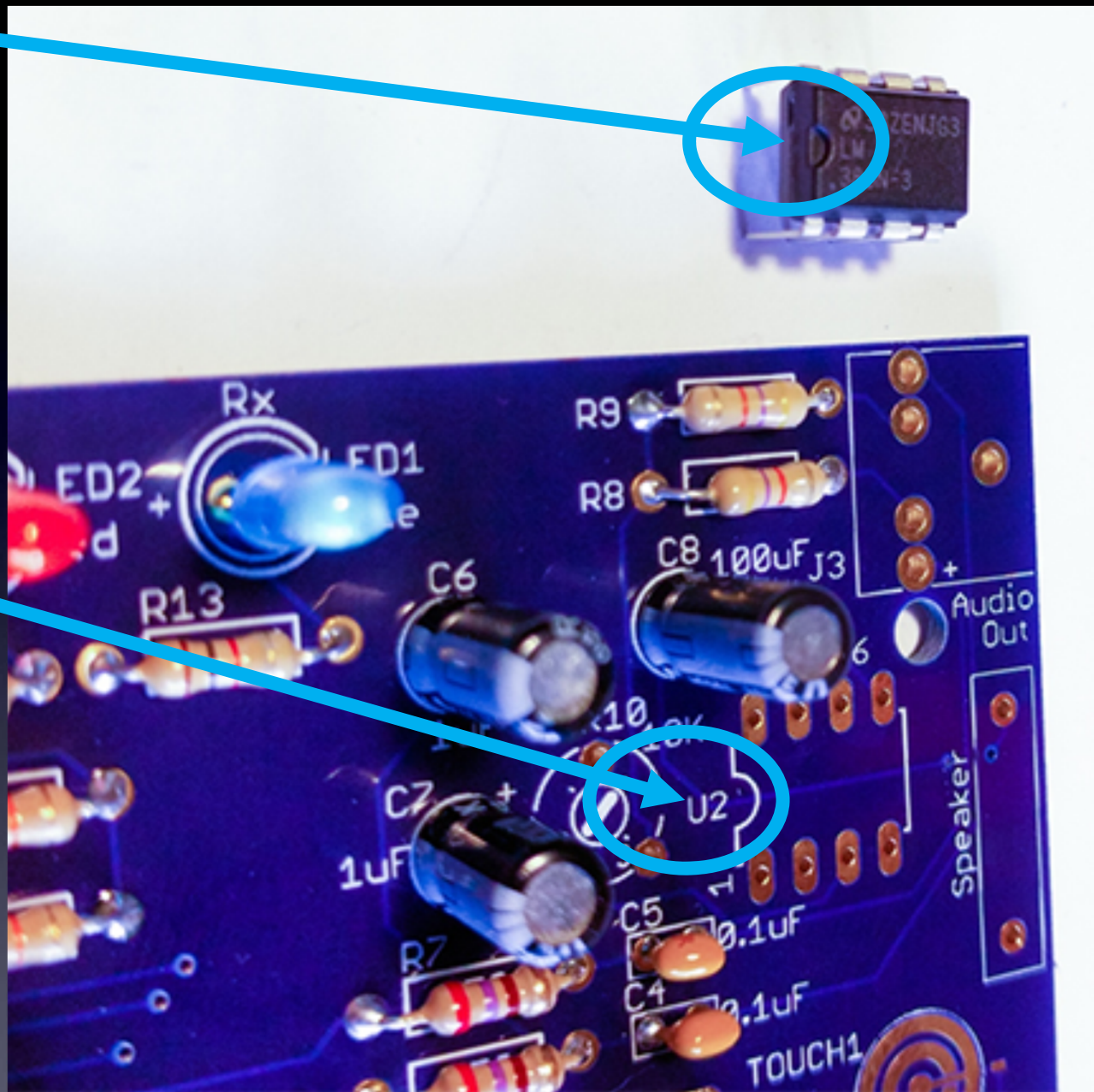
X1



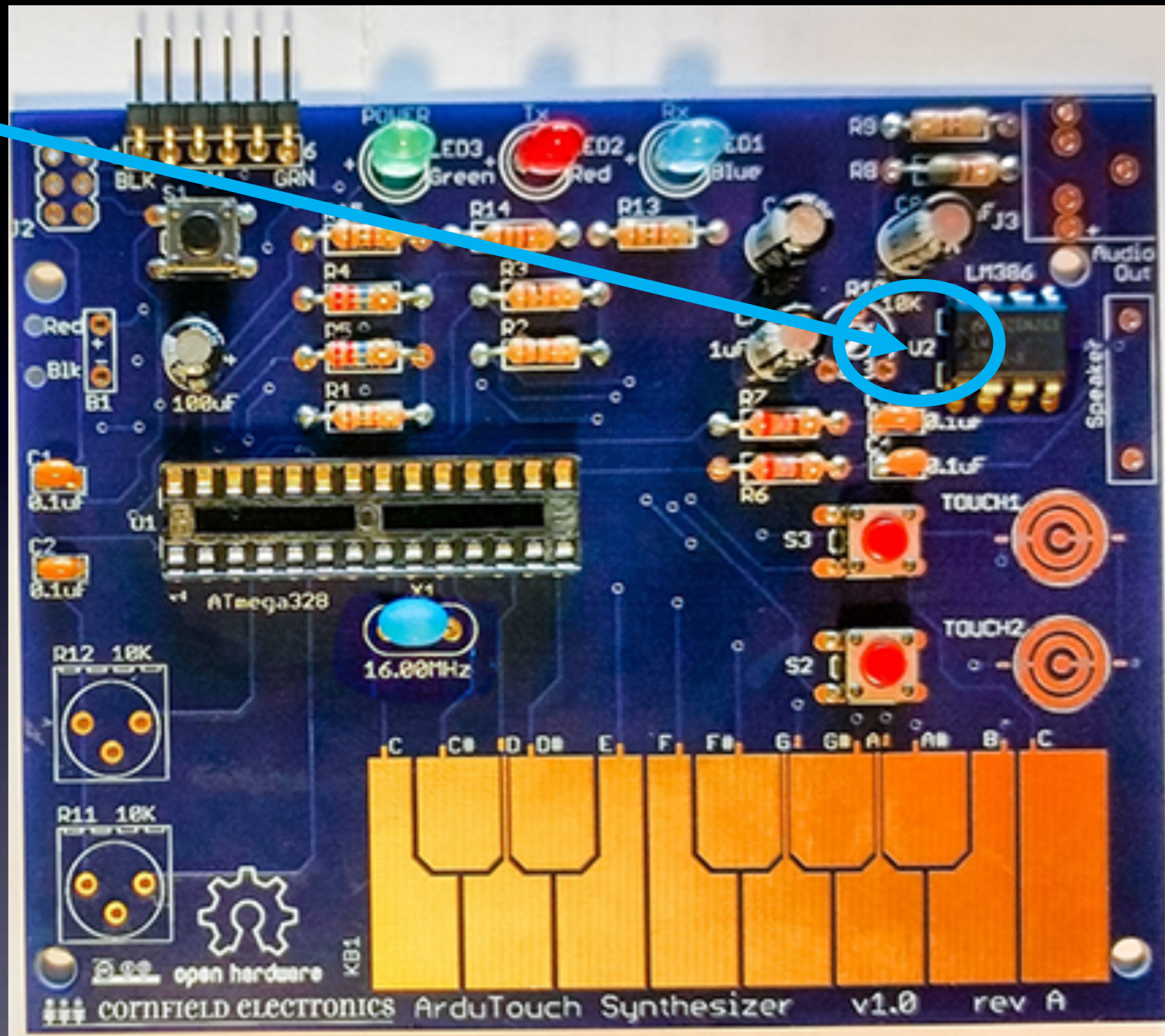






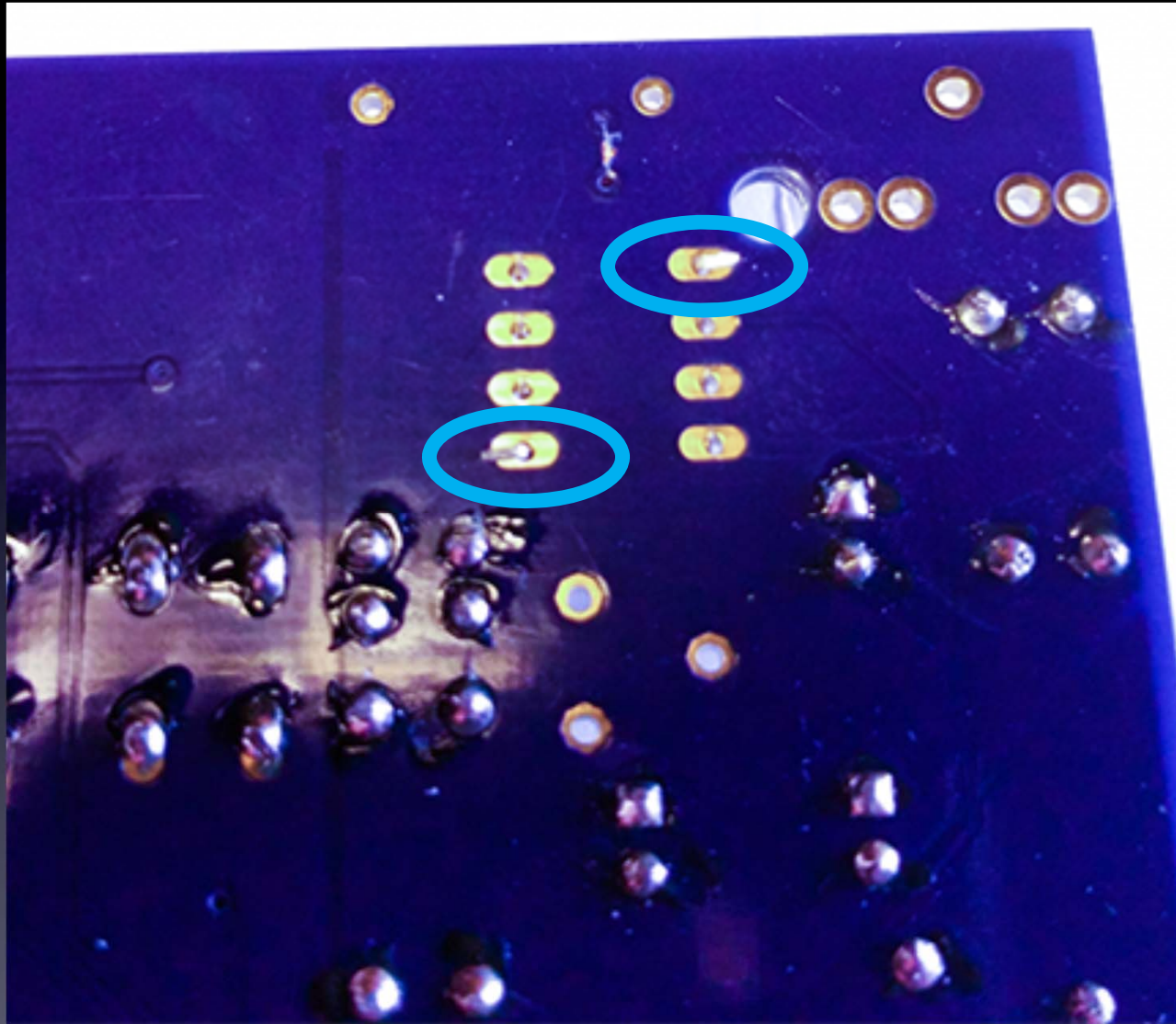


U2: audio amp chip

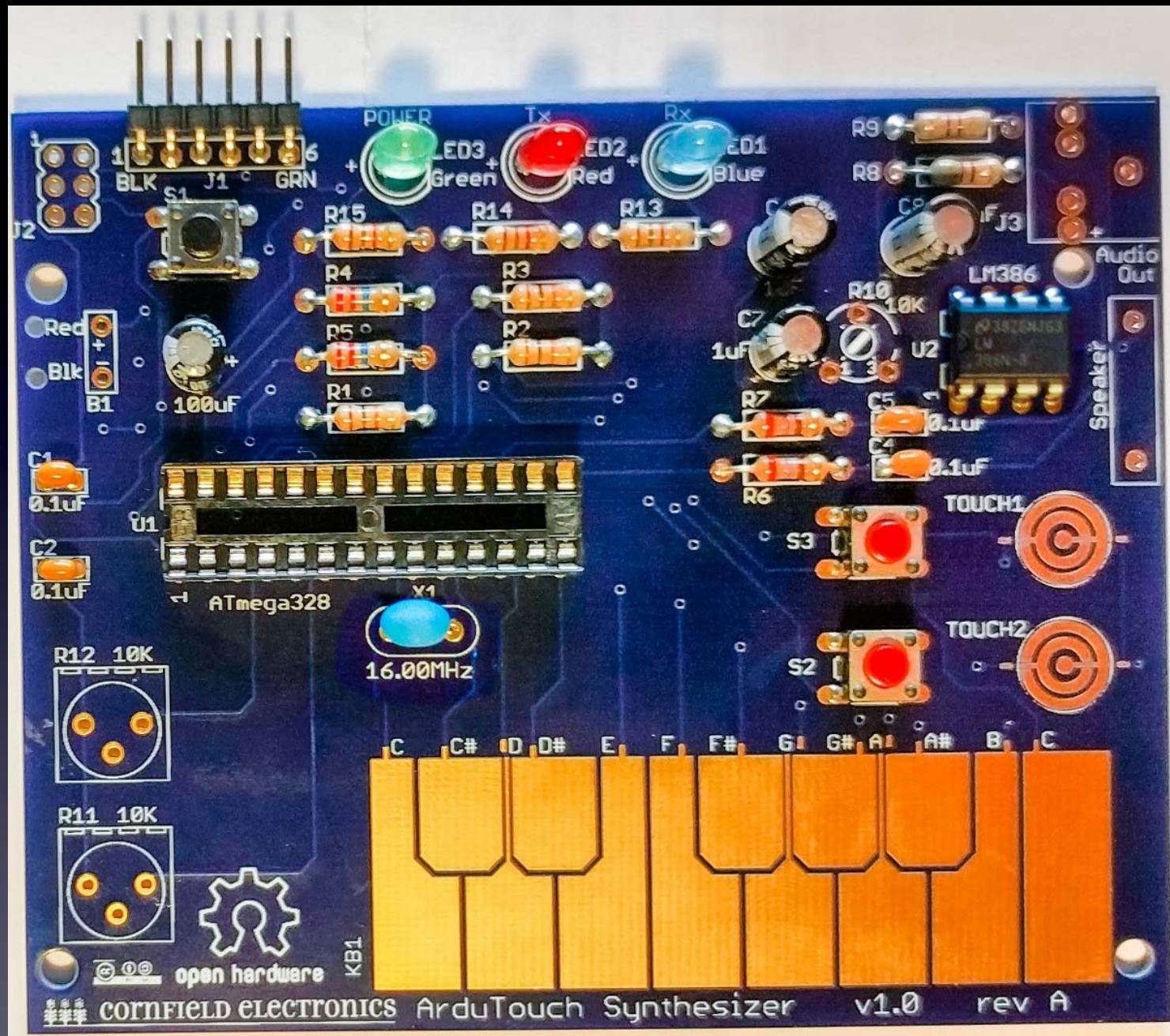


U2: audio amp chip

U2: audio amp chip

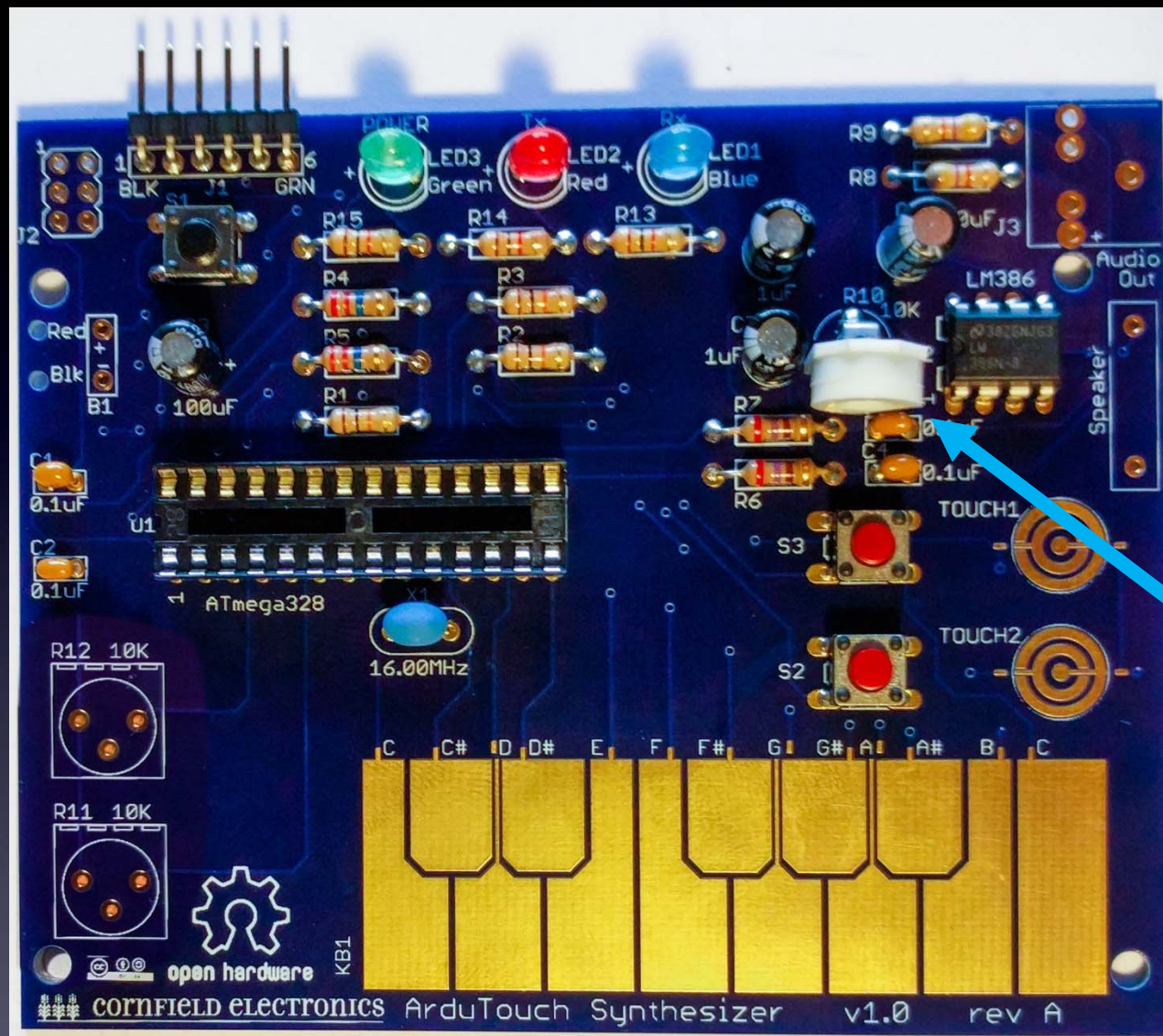


bend pins down on corners,
and solder all 8 leads to the board

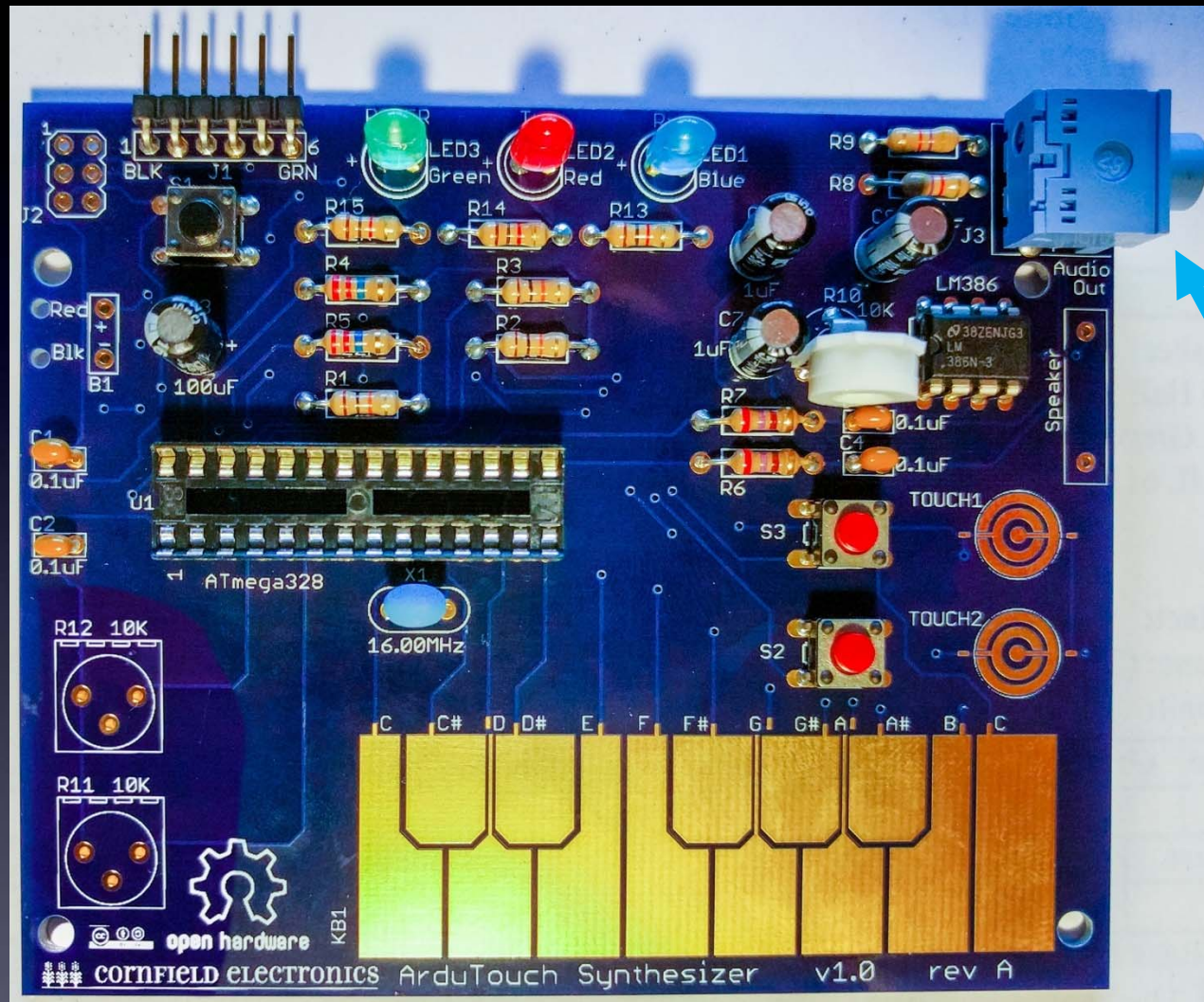


U2: audio amp chip

R10: volume control



on the rev B board, R10 lays flat
(and the pins don't fit in the holes well, so just push it in as far as it goes without forcing it, and solder)



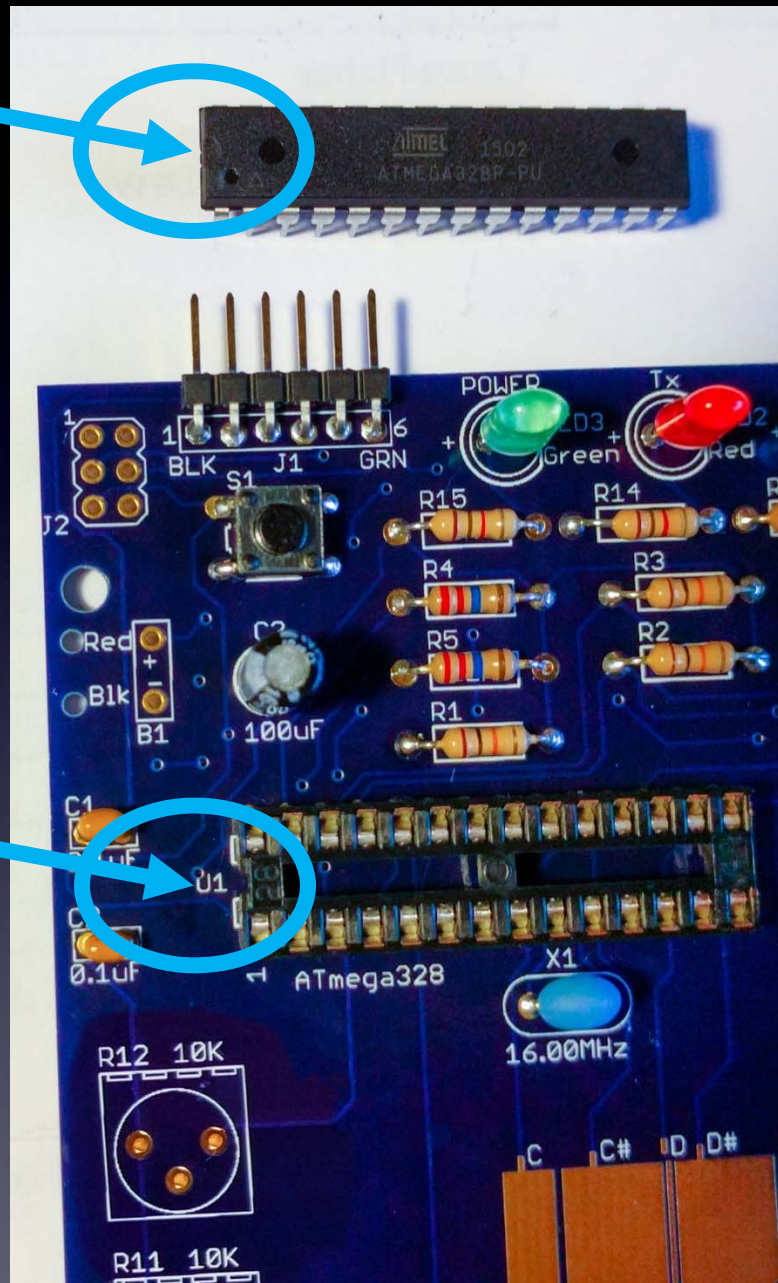
J3: headphone / output jack



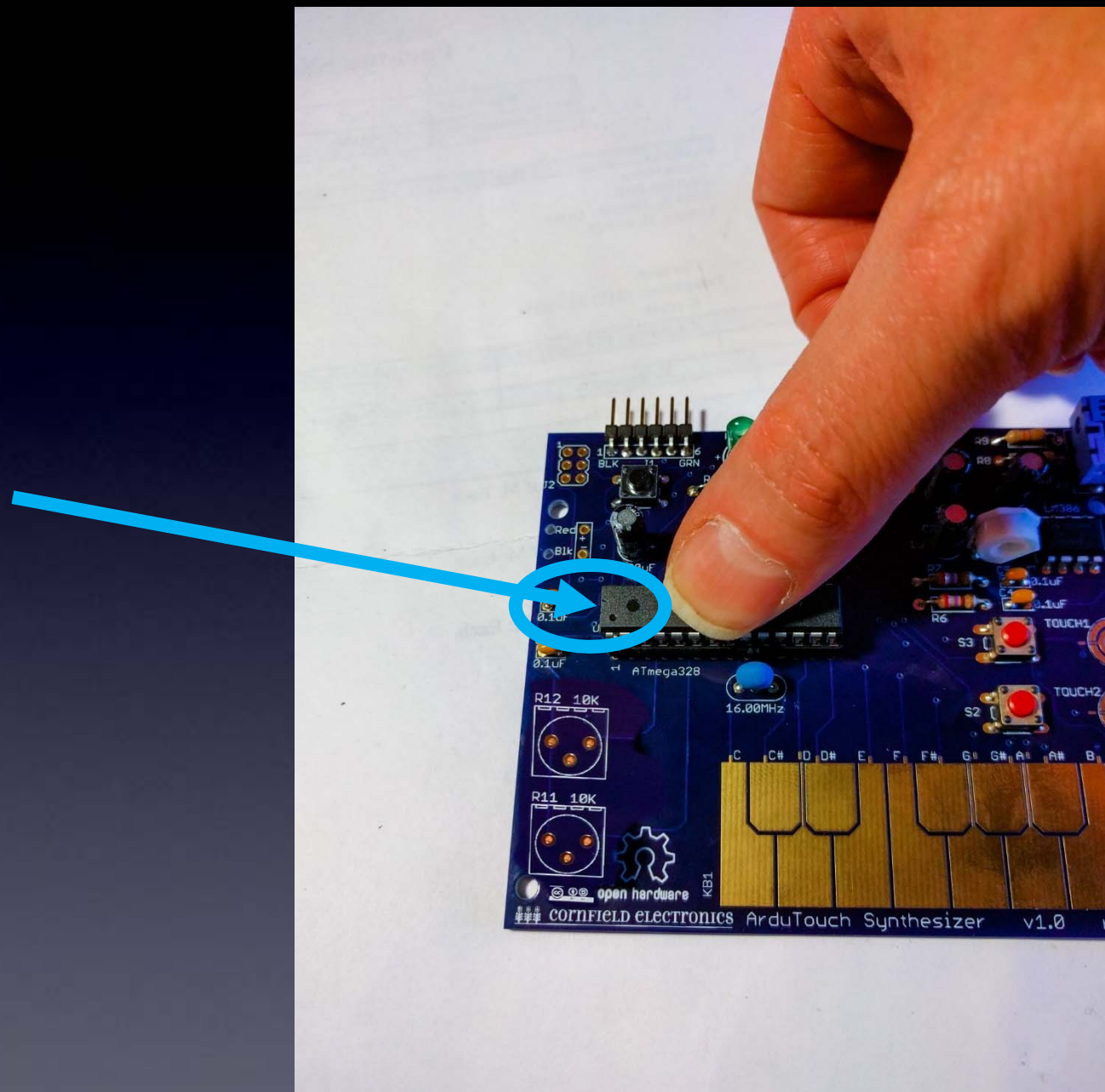
U1: microcontroller



U1: microcontroller

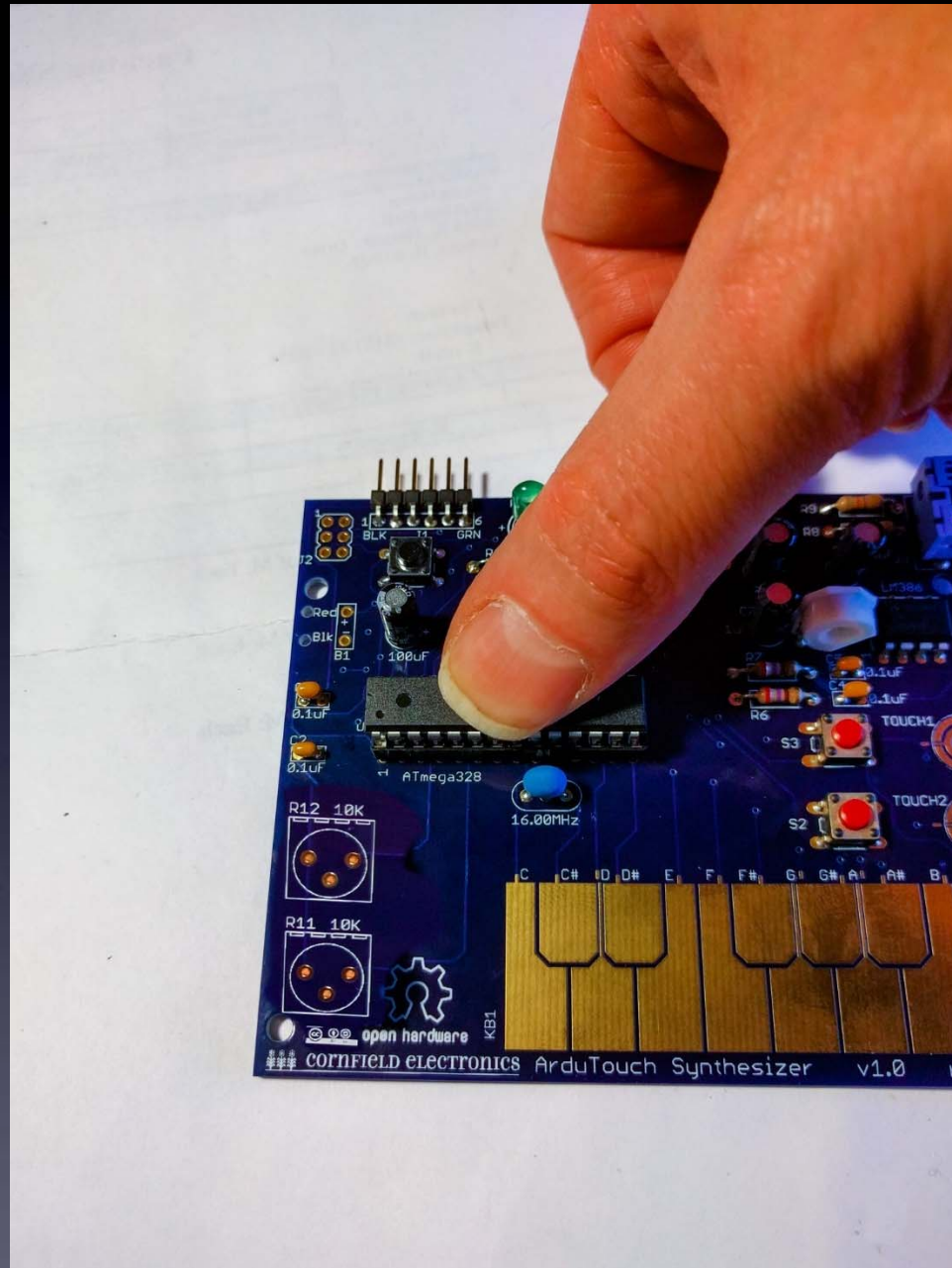


U1: microcontroller

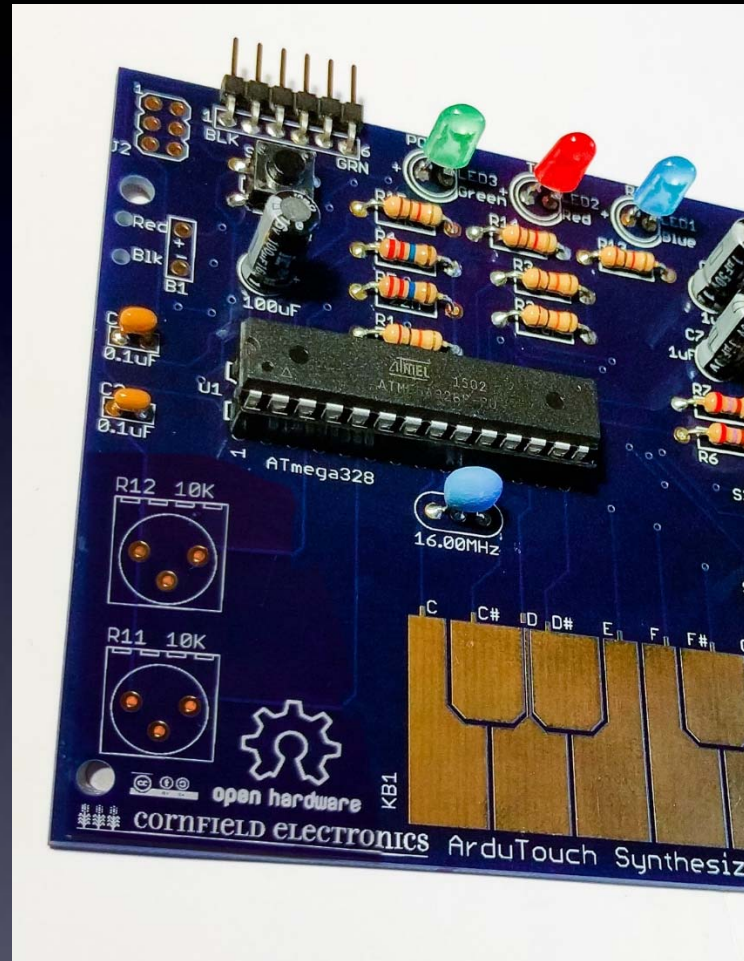


U1: microcontroller

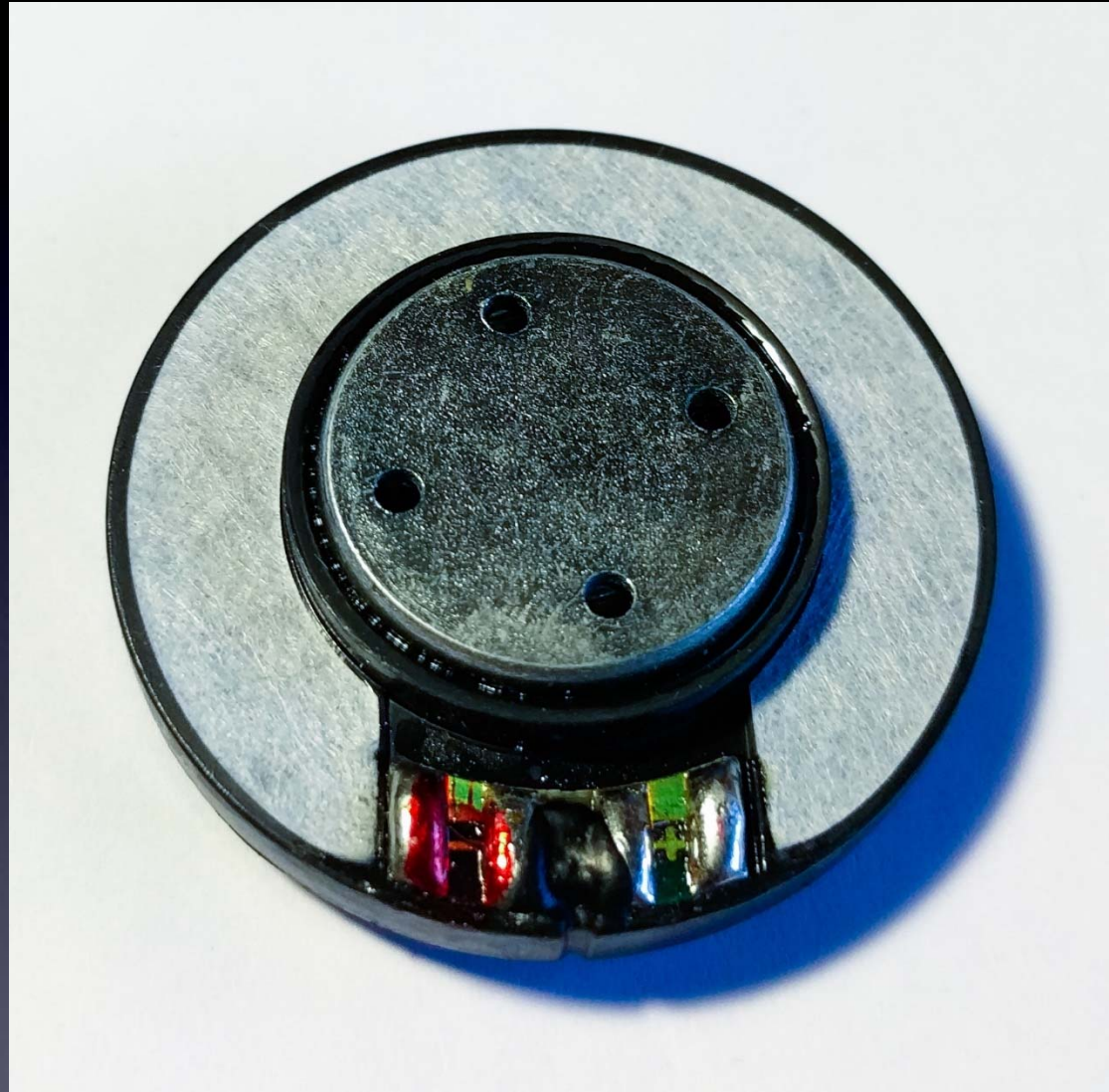
Use two thumbs to push microcontroller into the socket



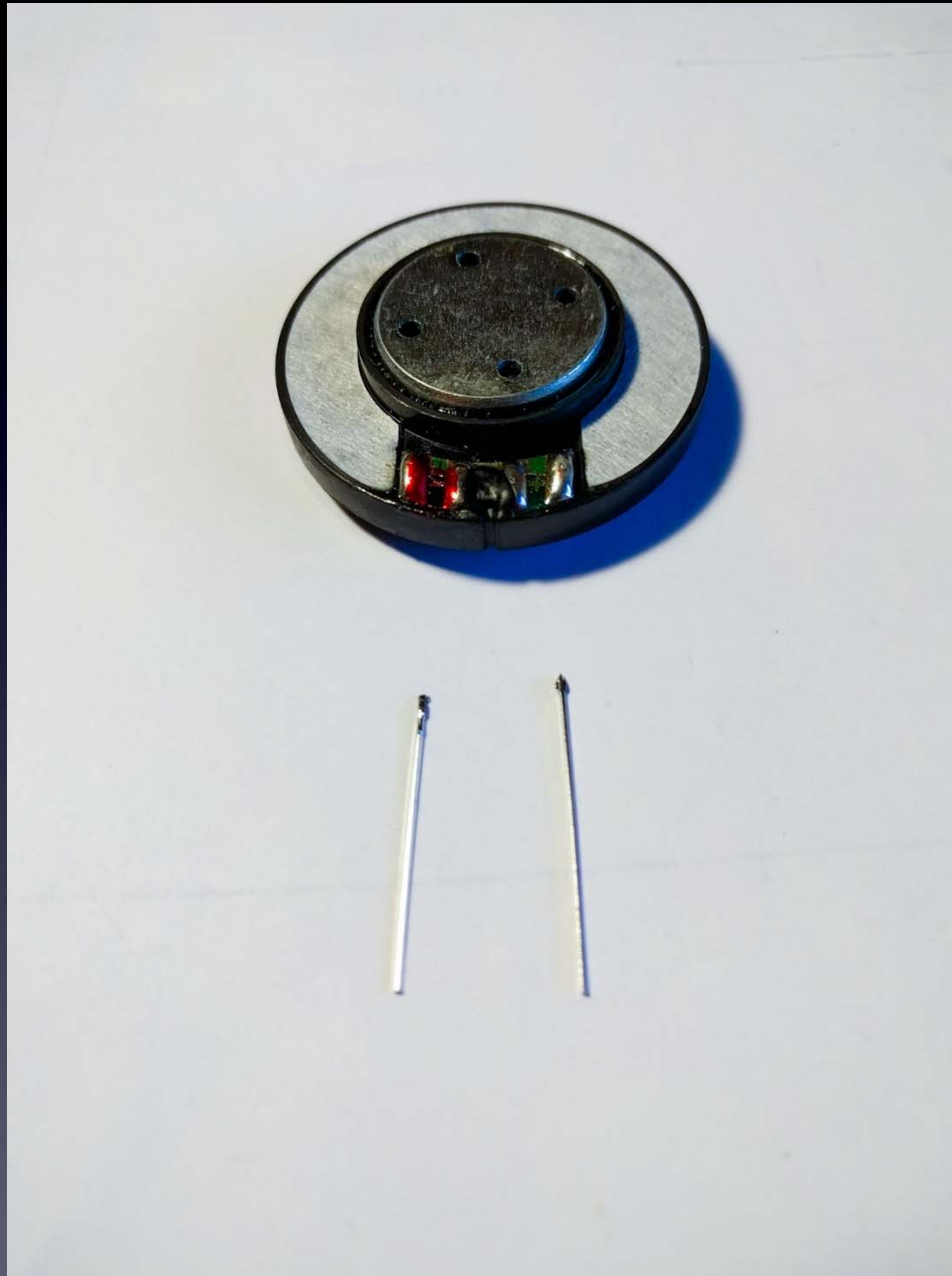
U1: microcontroller



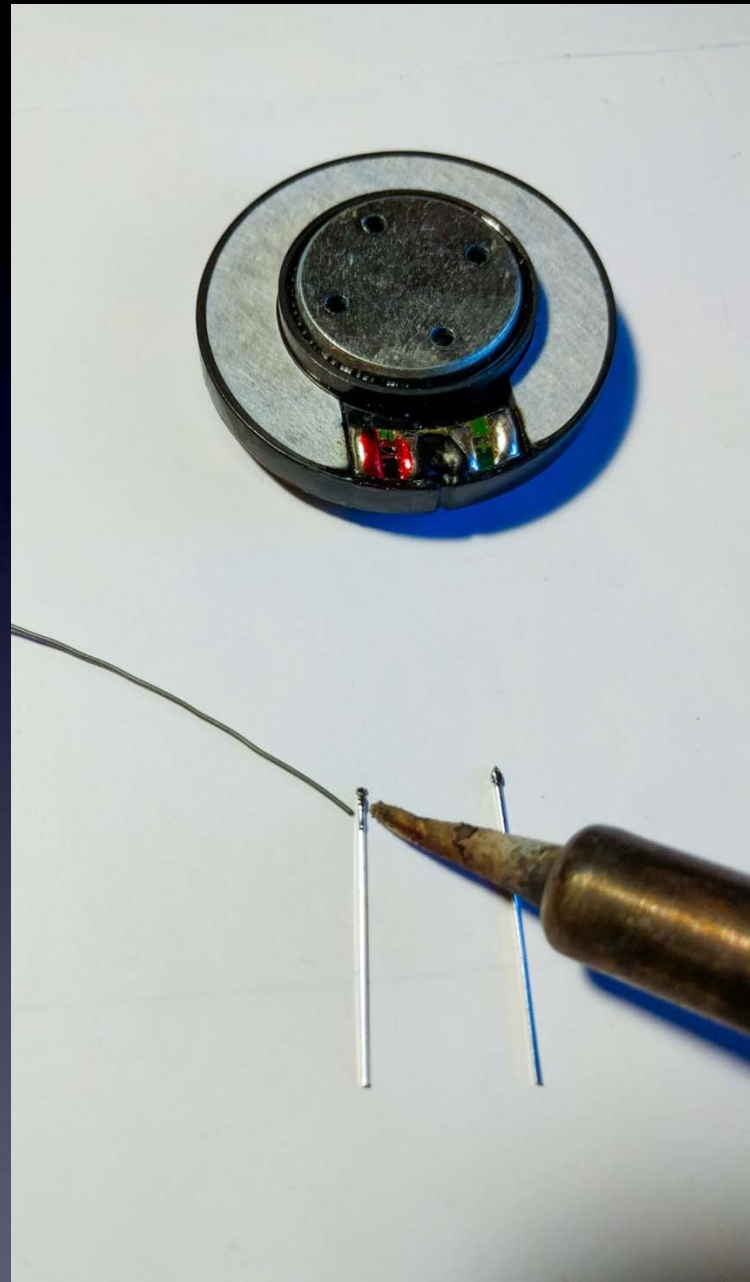
U1: microcontroller



Speaker

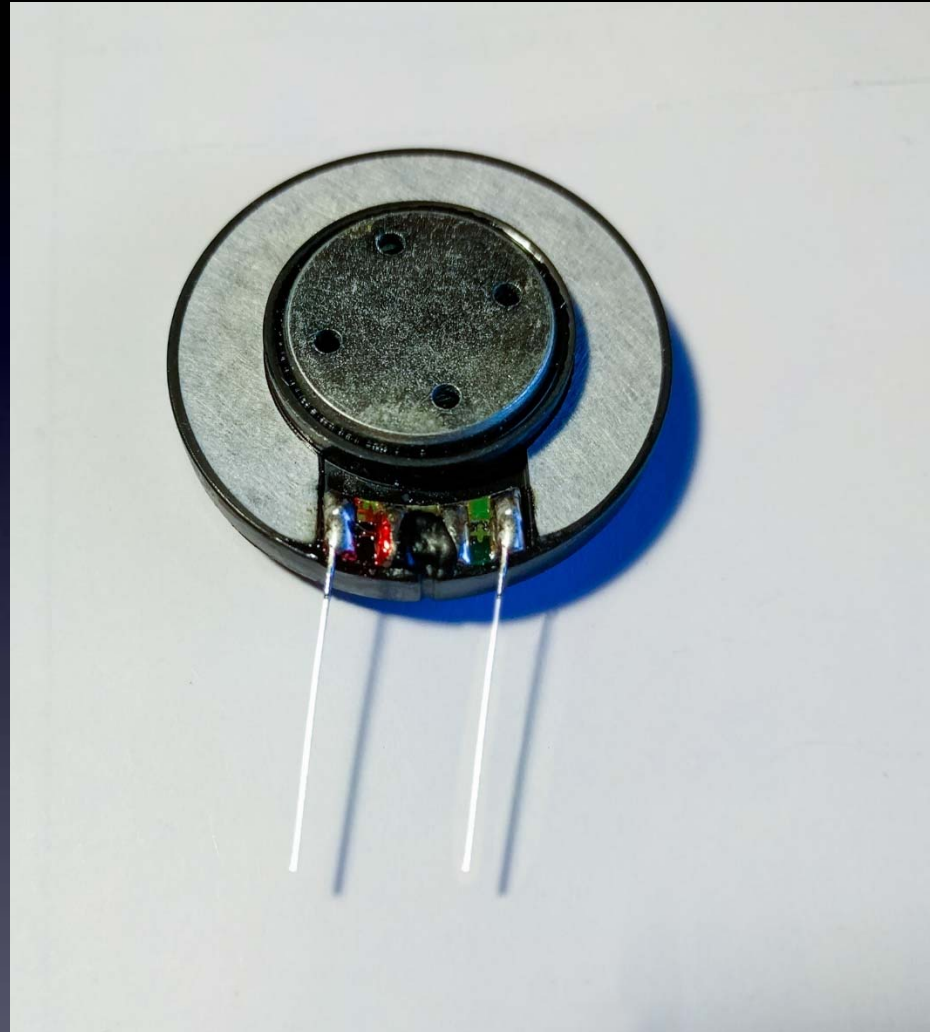


Speaker

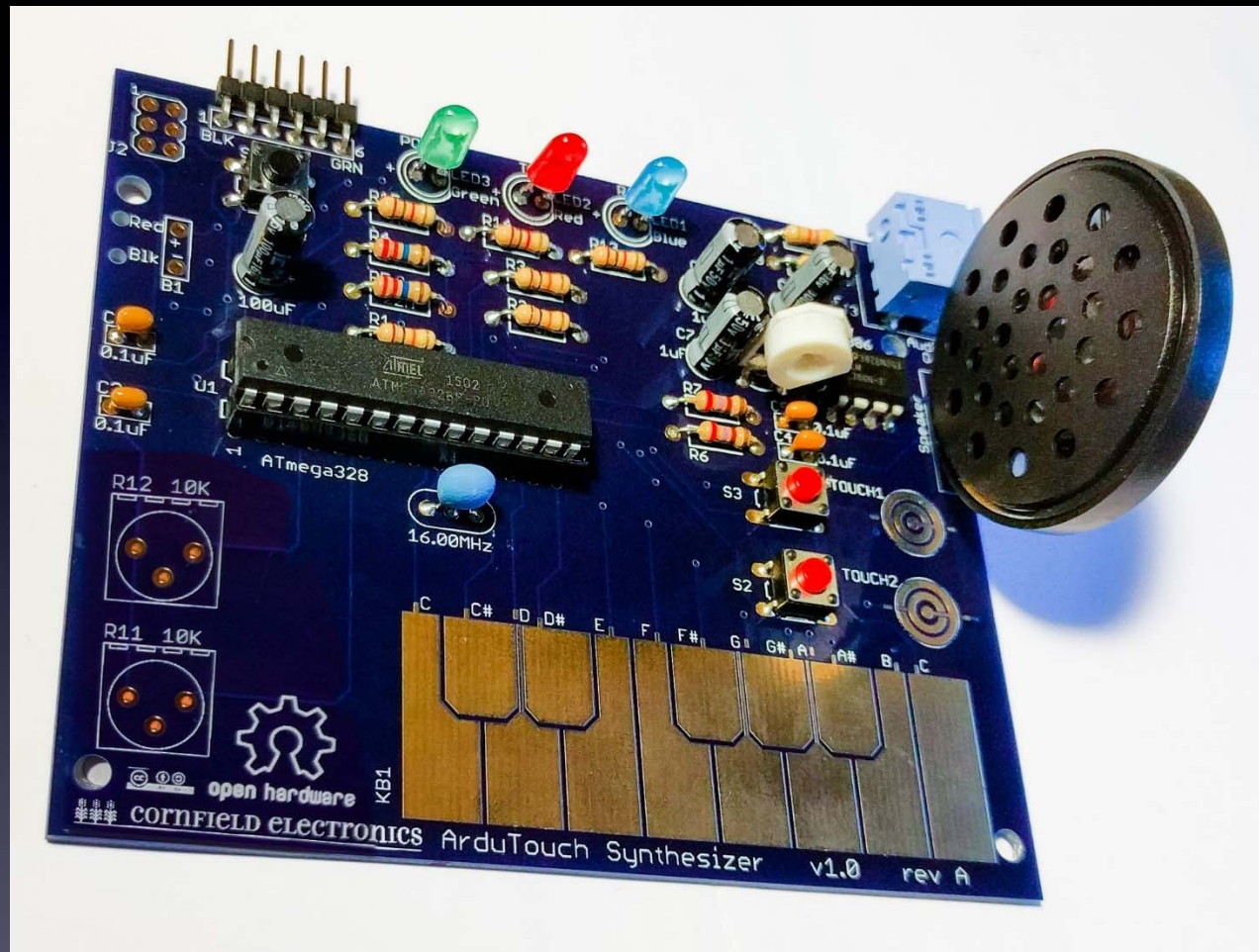


Speaker

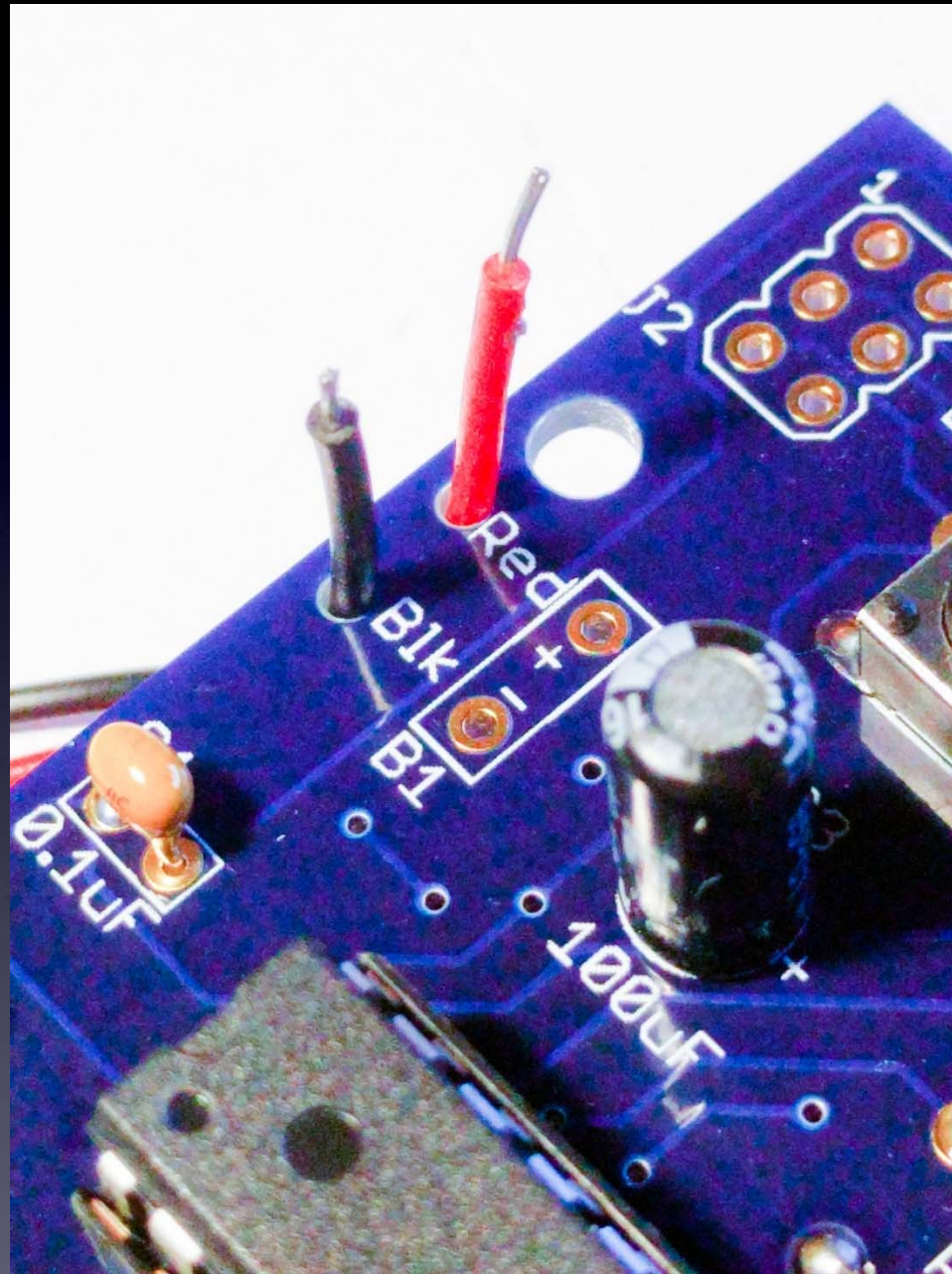




Speaker

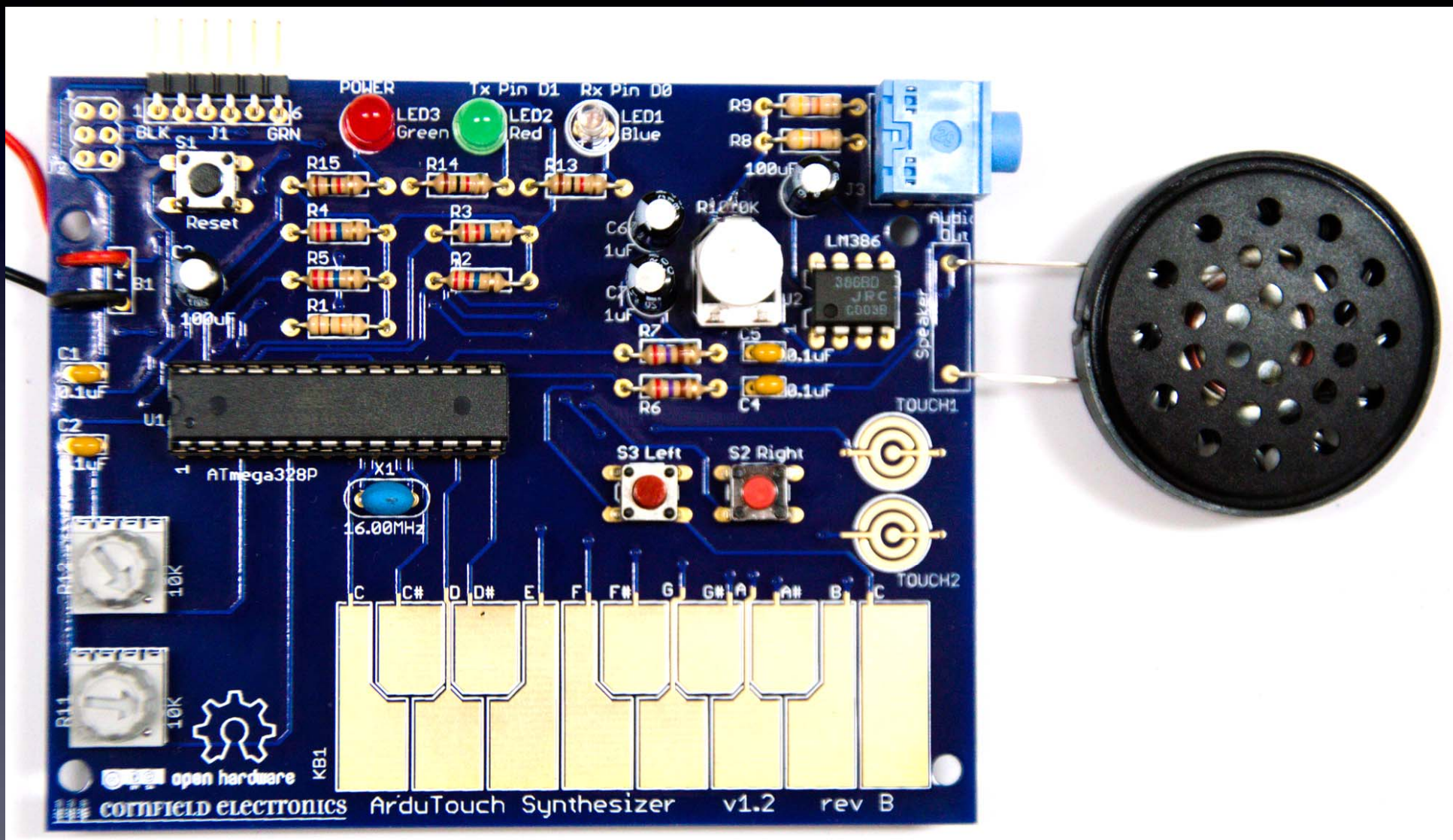


Speaker



Battery pack

Done!



Let's make noise!

