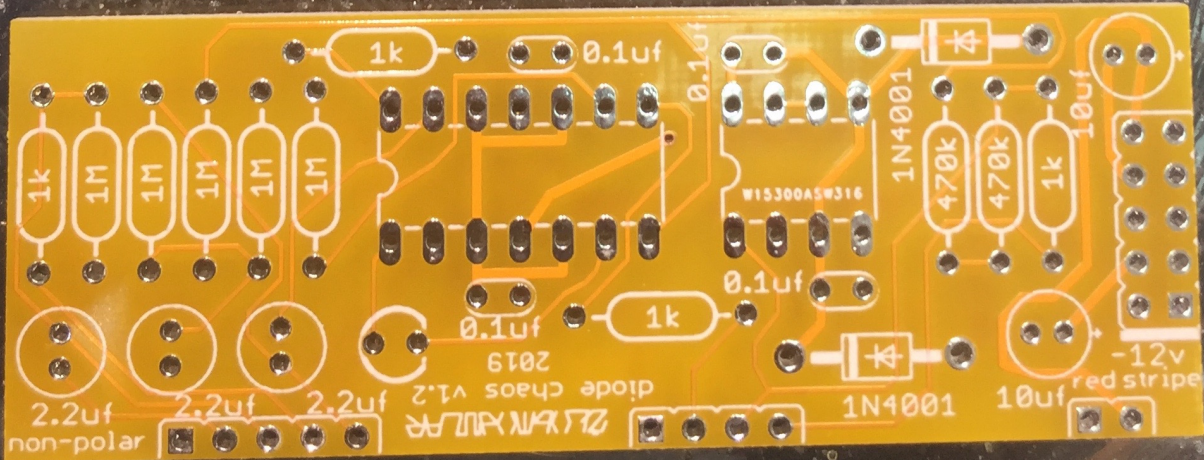
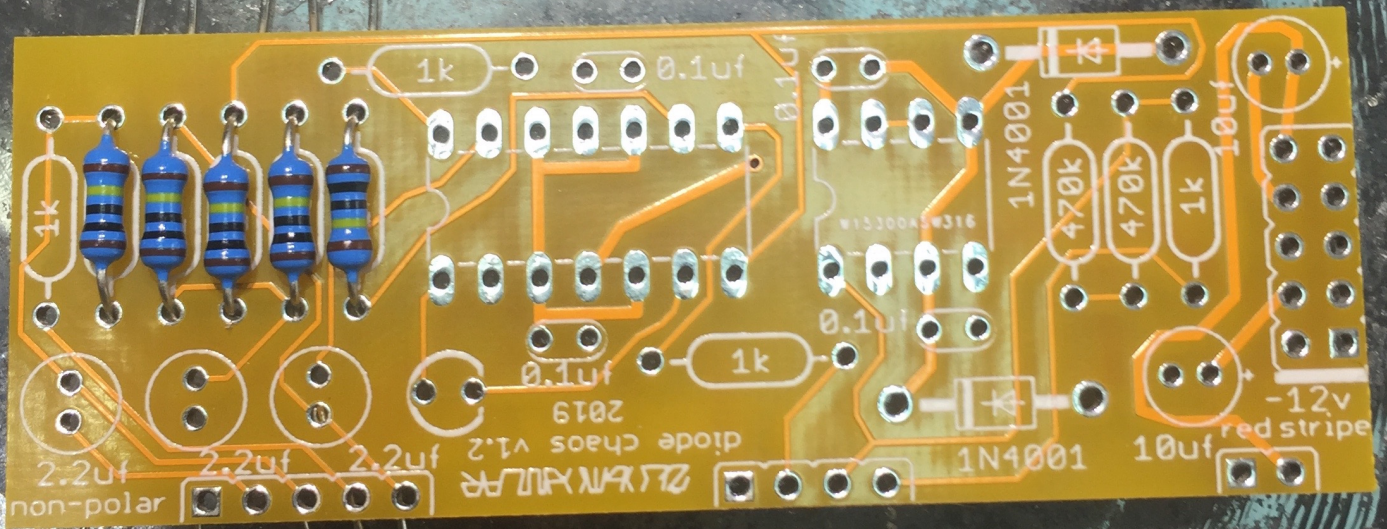


five: 1M
brown,
black, black,
yellow,
brown

1M

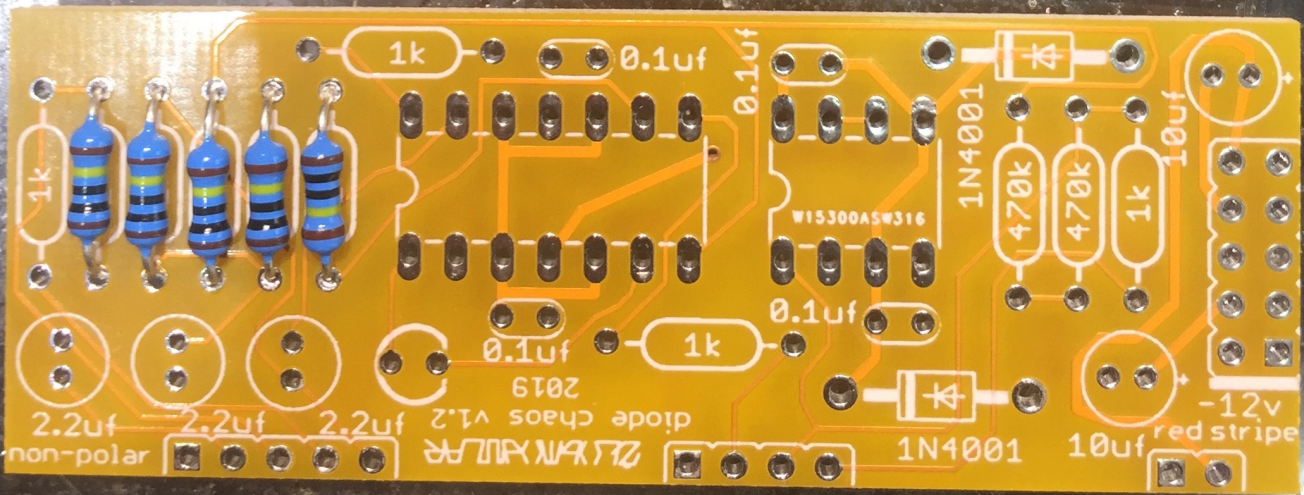


insert the resistors into the side that is silkscreened and bend the legs to hold in place. make sure all resistors are flush with pcb before soldering.

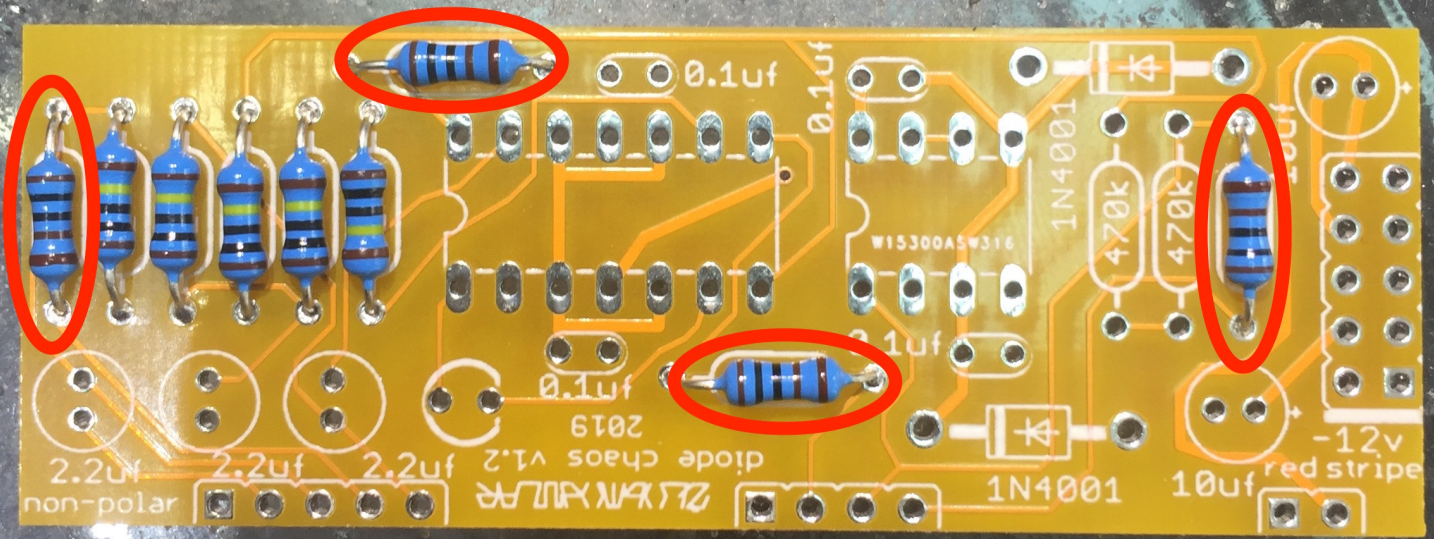


for beginner soldering tips and techniques consult my docs for the miniatt or minimix. some SDIY knowledge is assumed for these docs.

four: 1K
brown,black,
black,brown,
brown

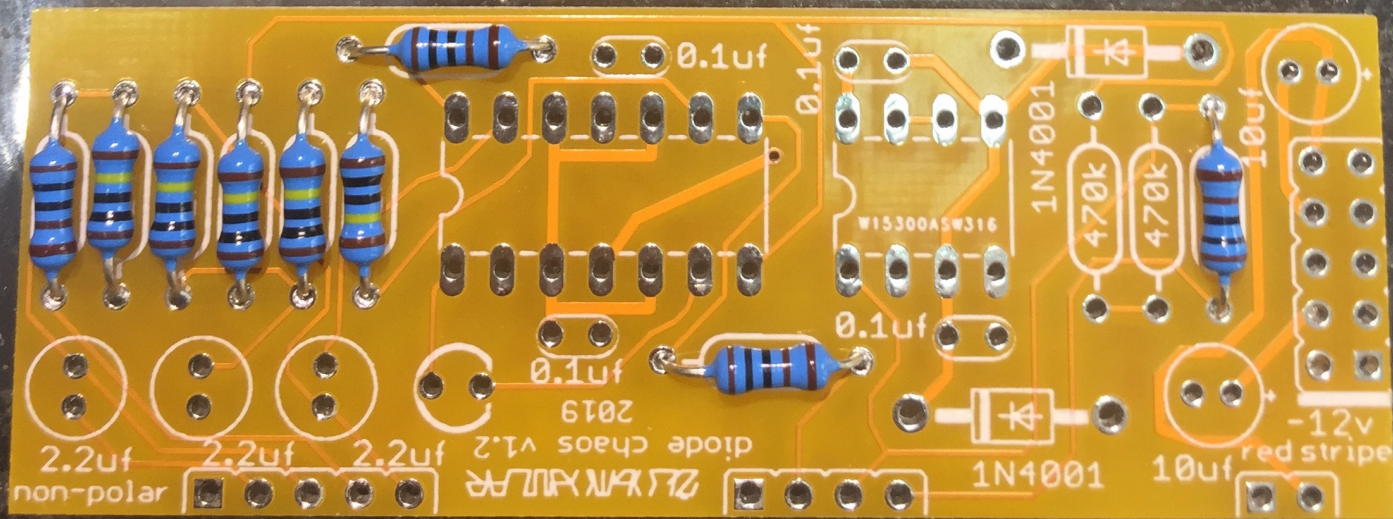


four:
1K

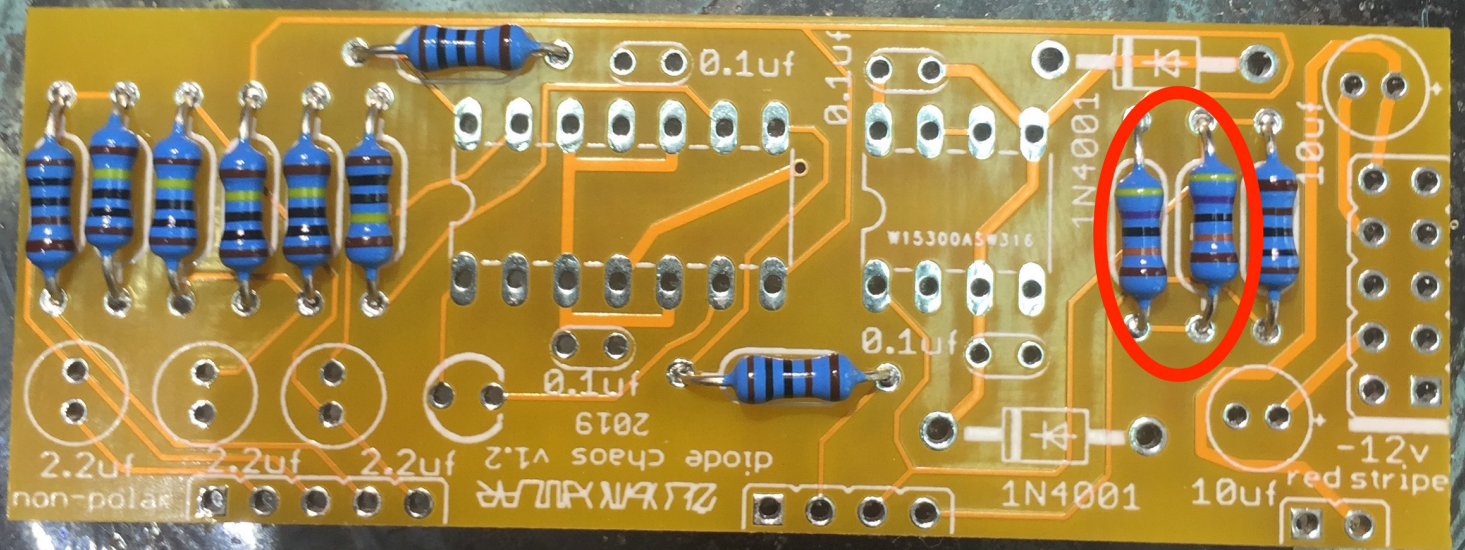


two: 470K
yellow
purple, black,
orange, brown

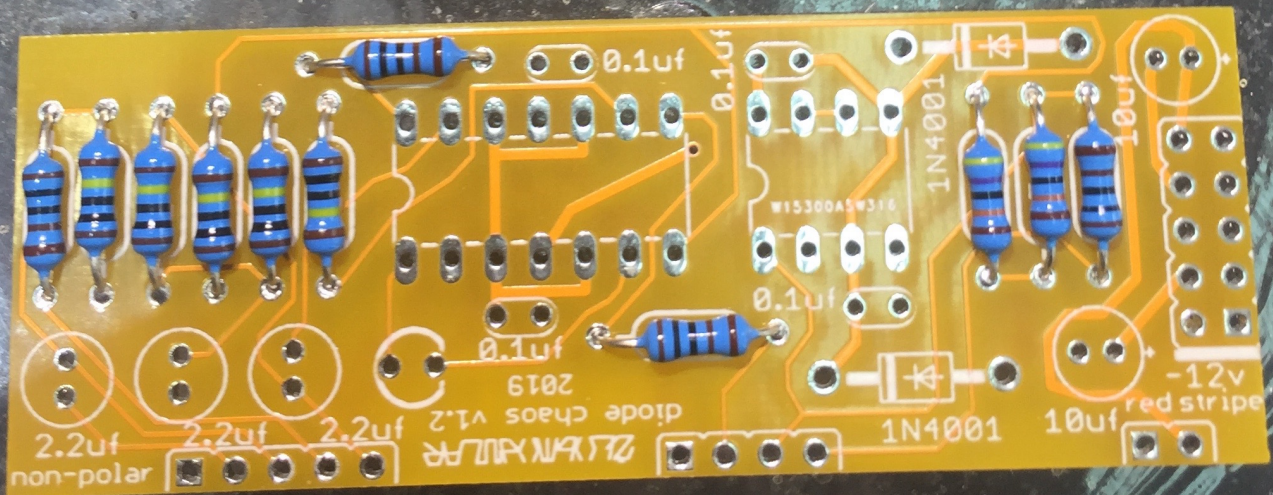
470k



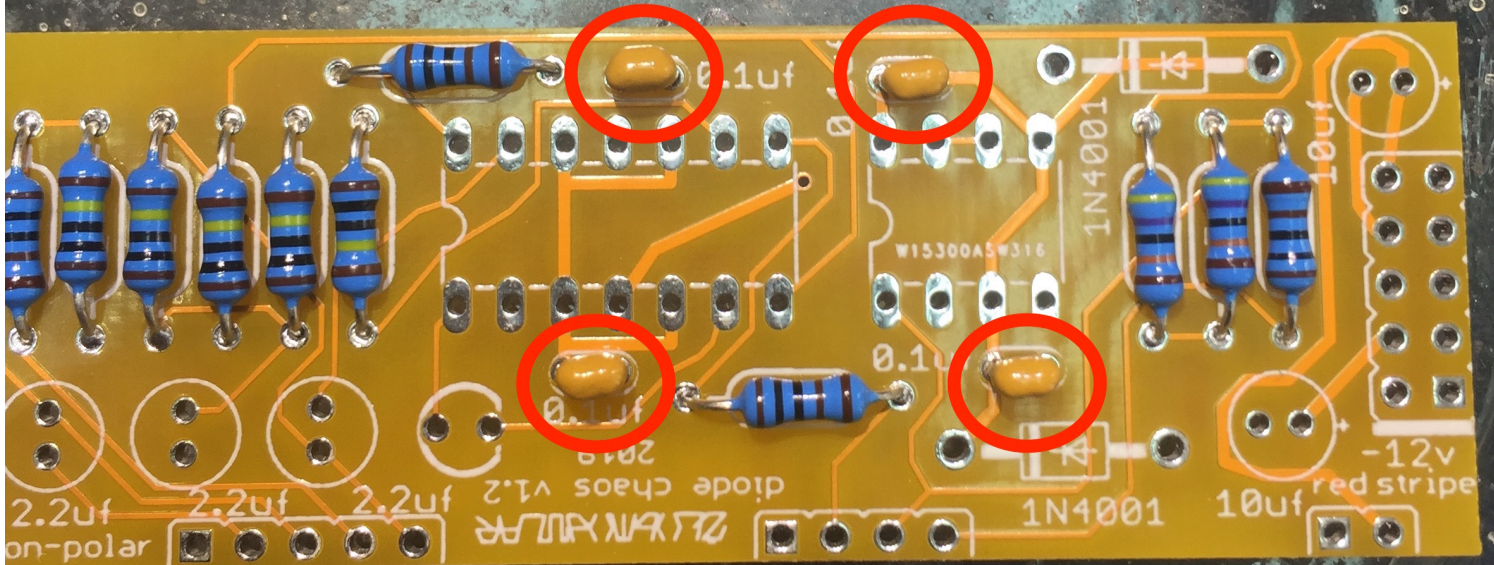
two: 470K



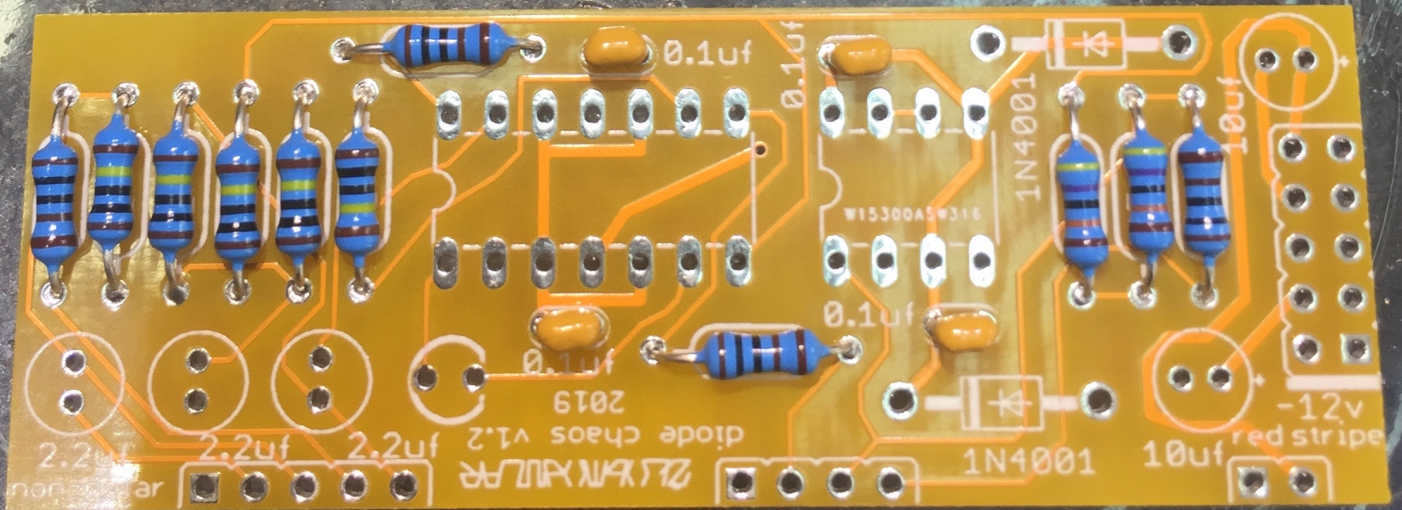
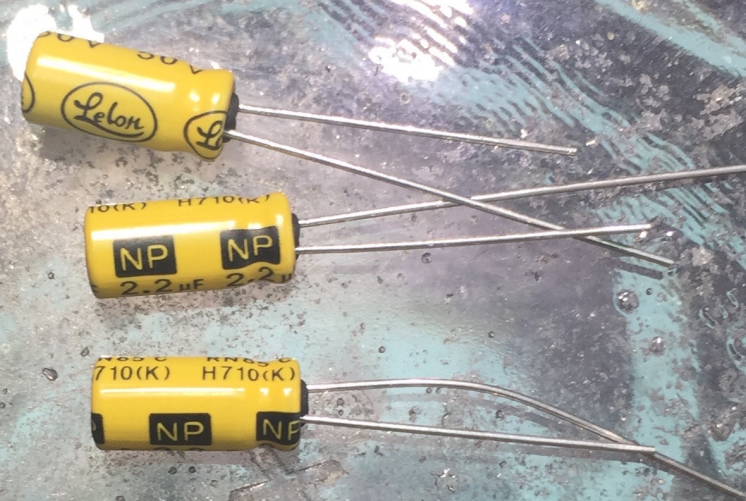
four: 0.1uF
code 104



four: 0.1uF

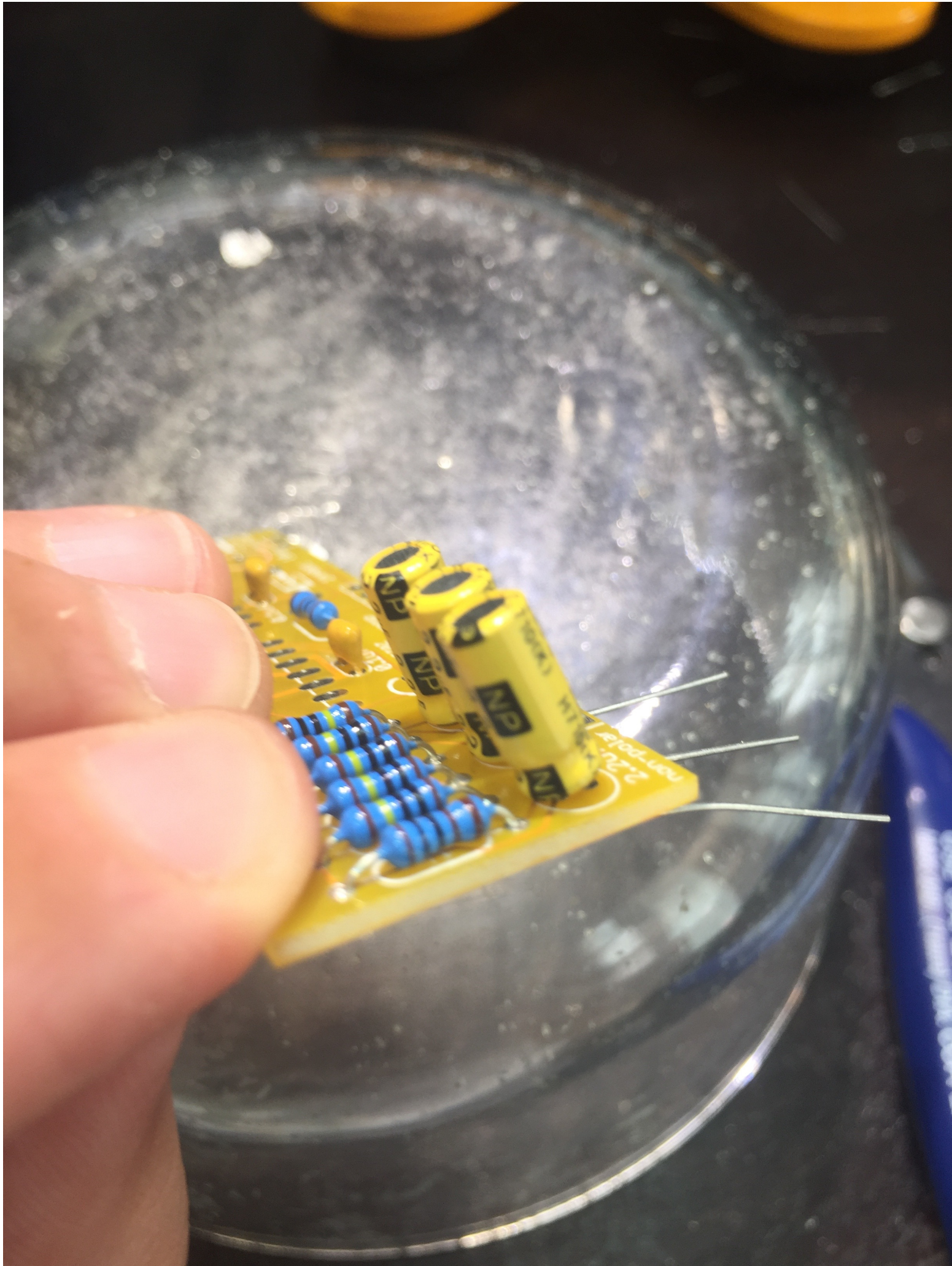


three: 2.2uF
non/bi polar

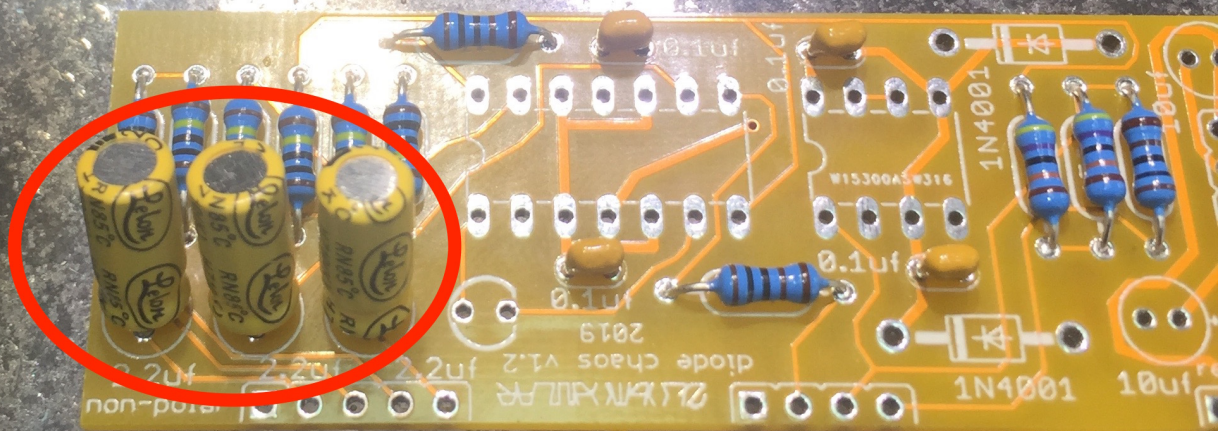


bend all three
caps at an angle,
so the module
fits better into
3hp

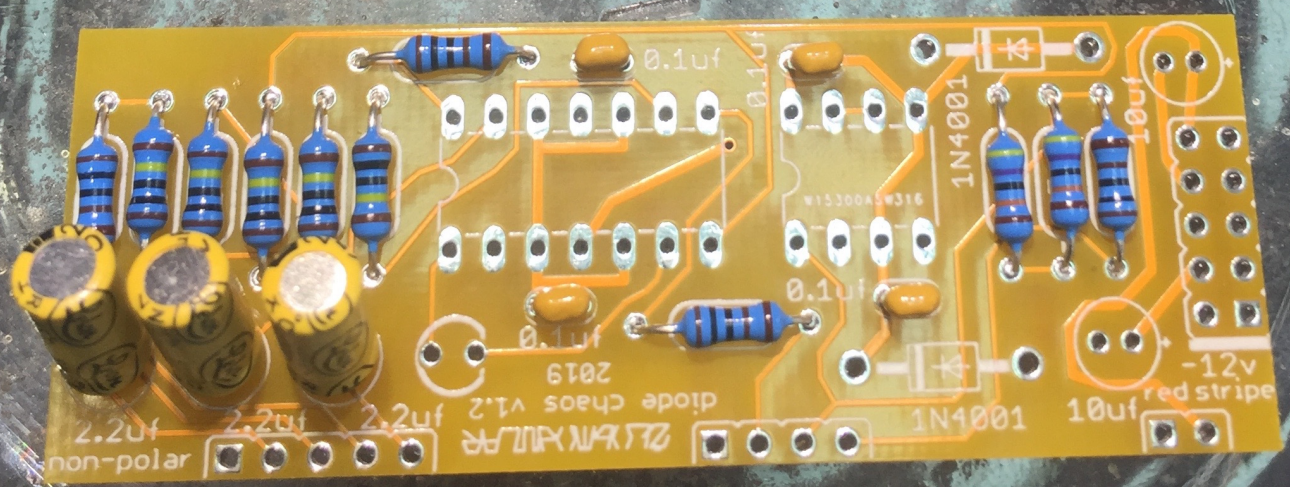
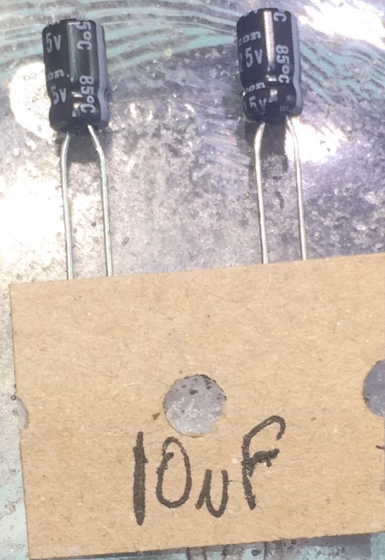




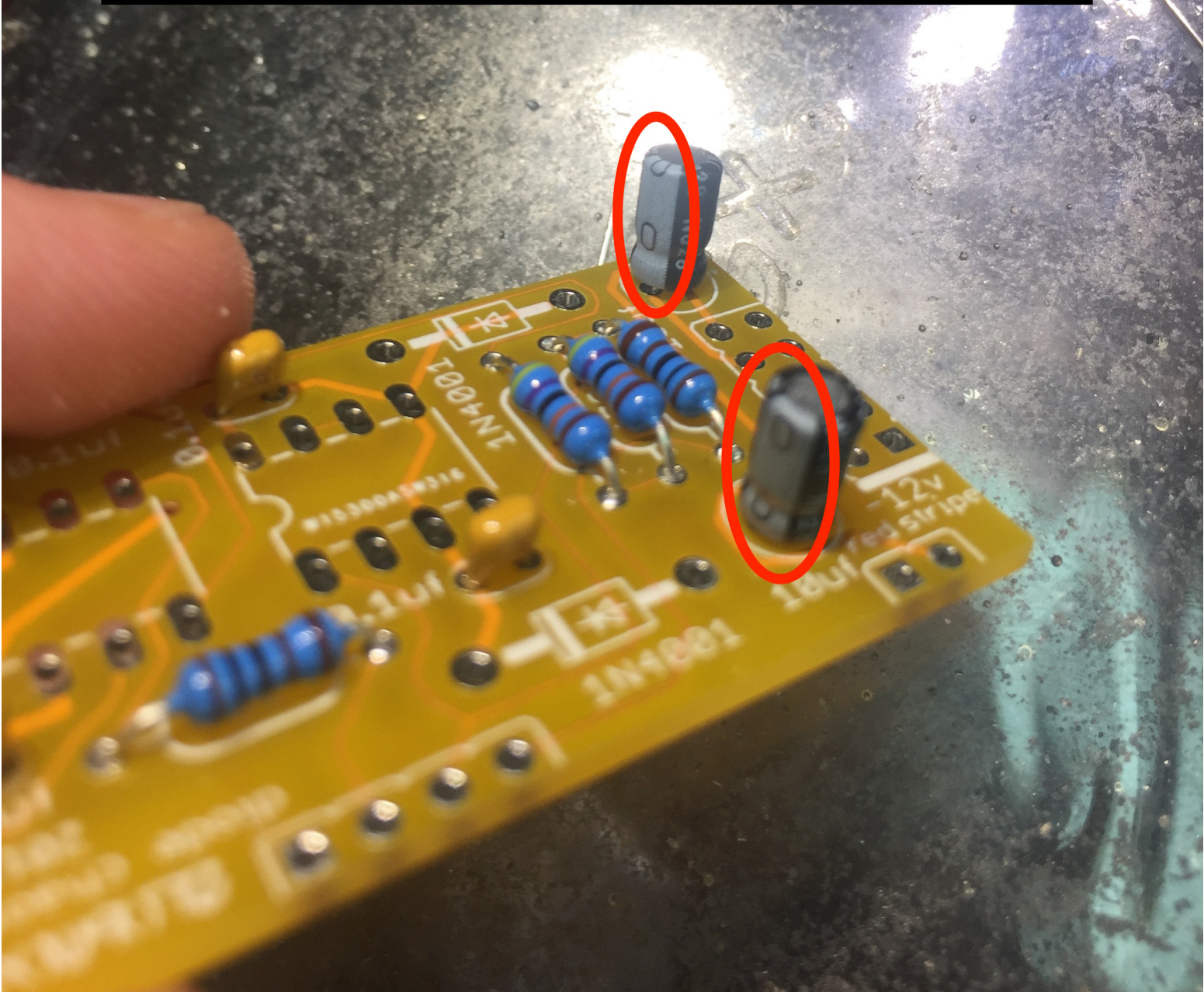
three: 2.2uF
non/bi polar caps. they are
not polarized/directional.



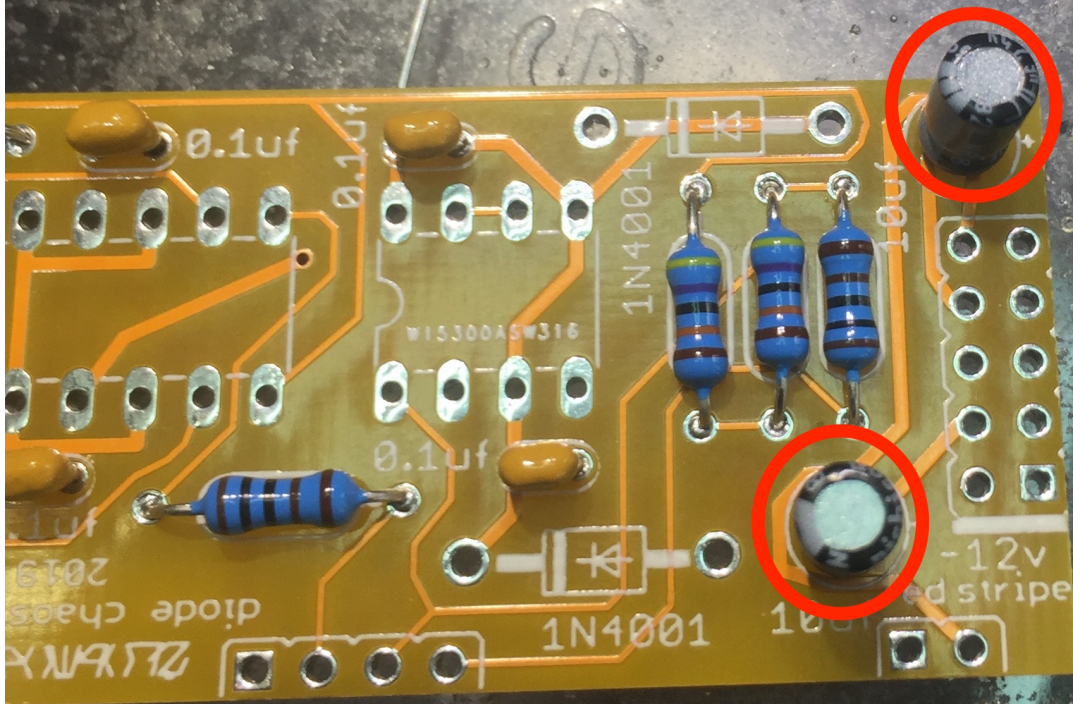
two: 10 uF



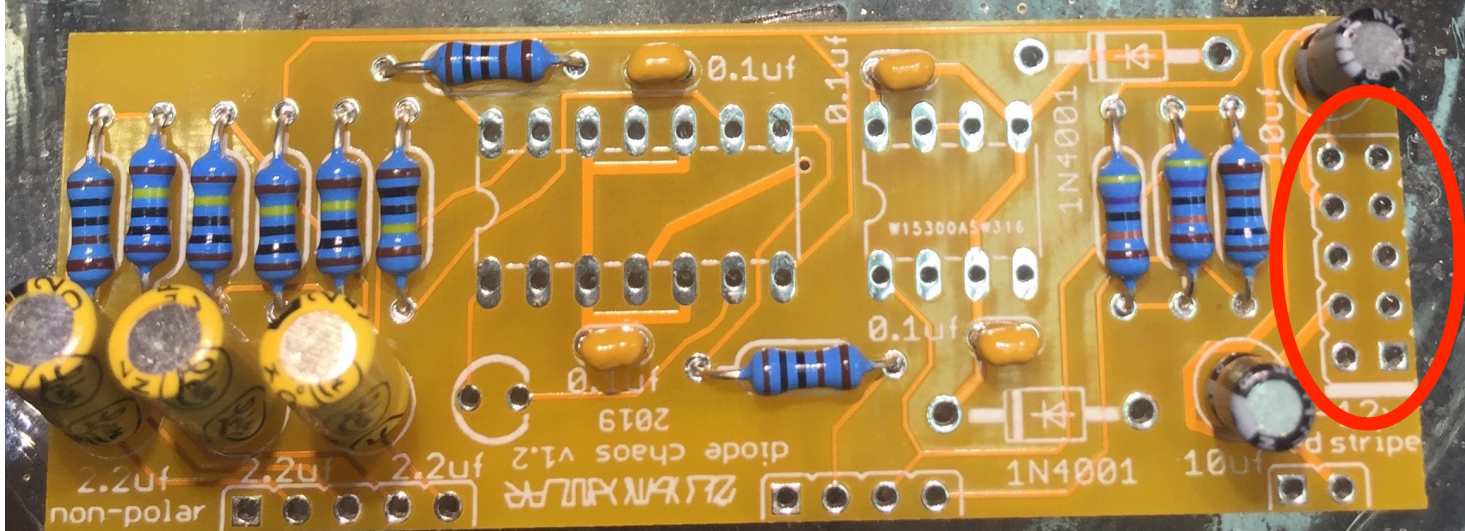
two: 10 μ F
these are polarized and directional. follow the plus sign on the pcb, long leg goes through there. negative stripe faces left



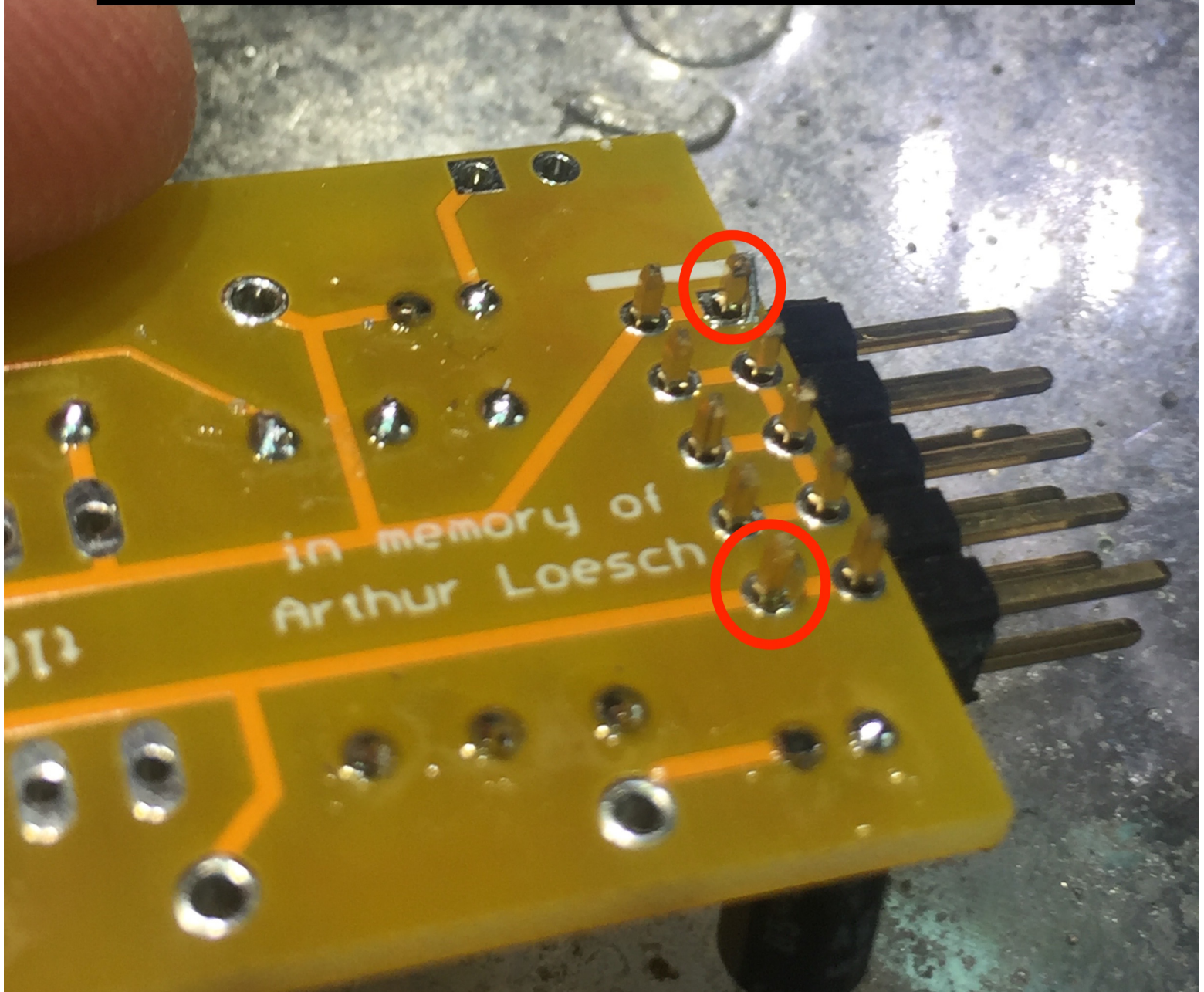
two: 10 uF. make
sure they are flush
with the pcb



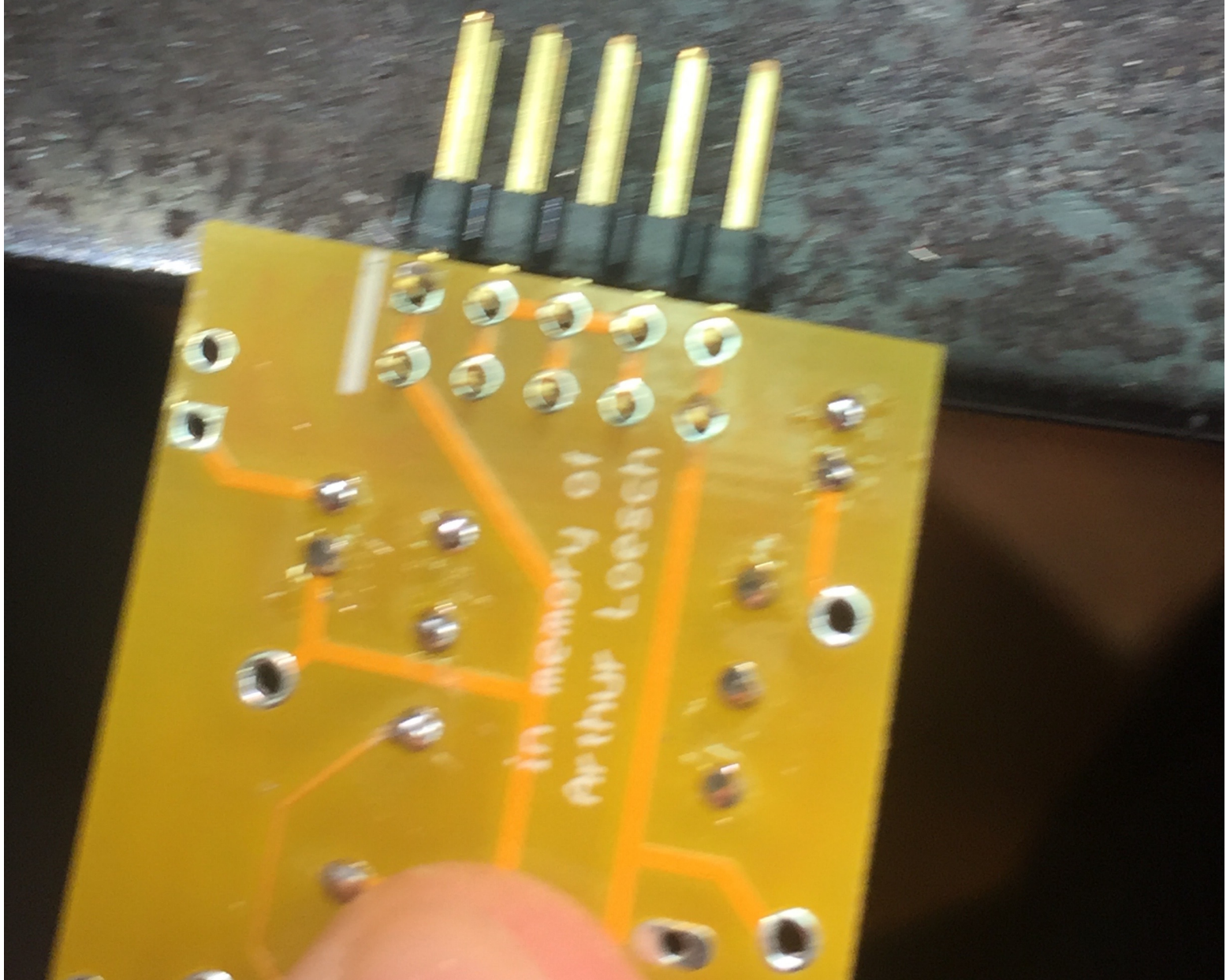
10 pin right angle power header



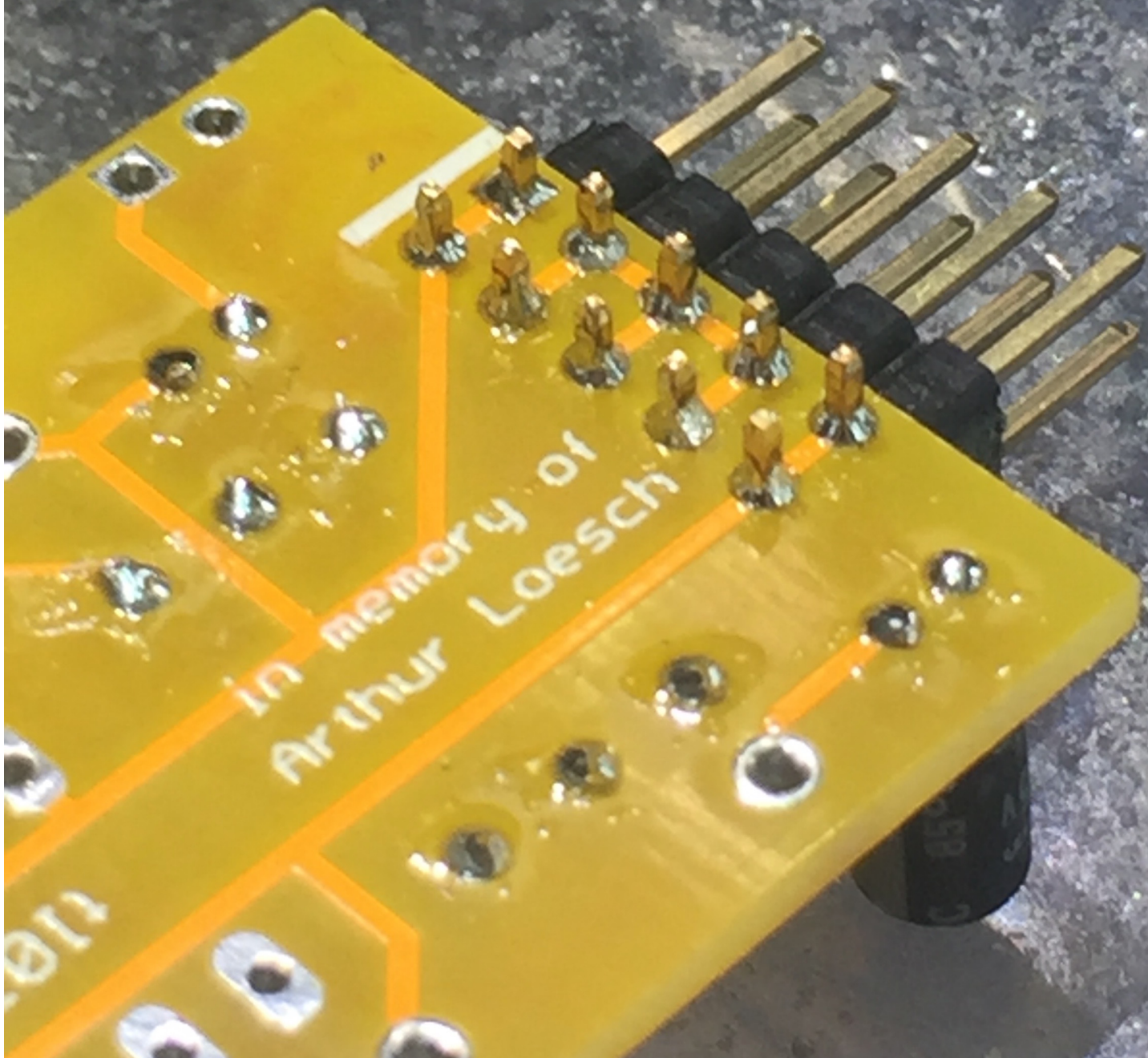
10 pin power header. the short side goes through the top of the pcb. i like to tack solder on the corners to hold it in place or follow next picture



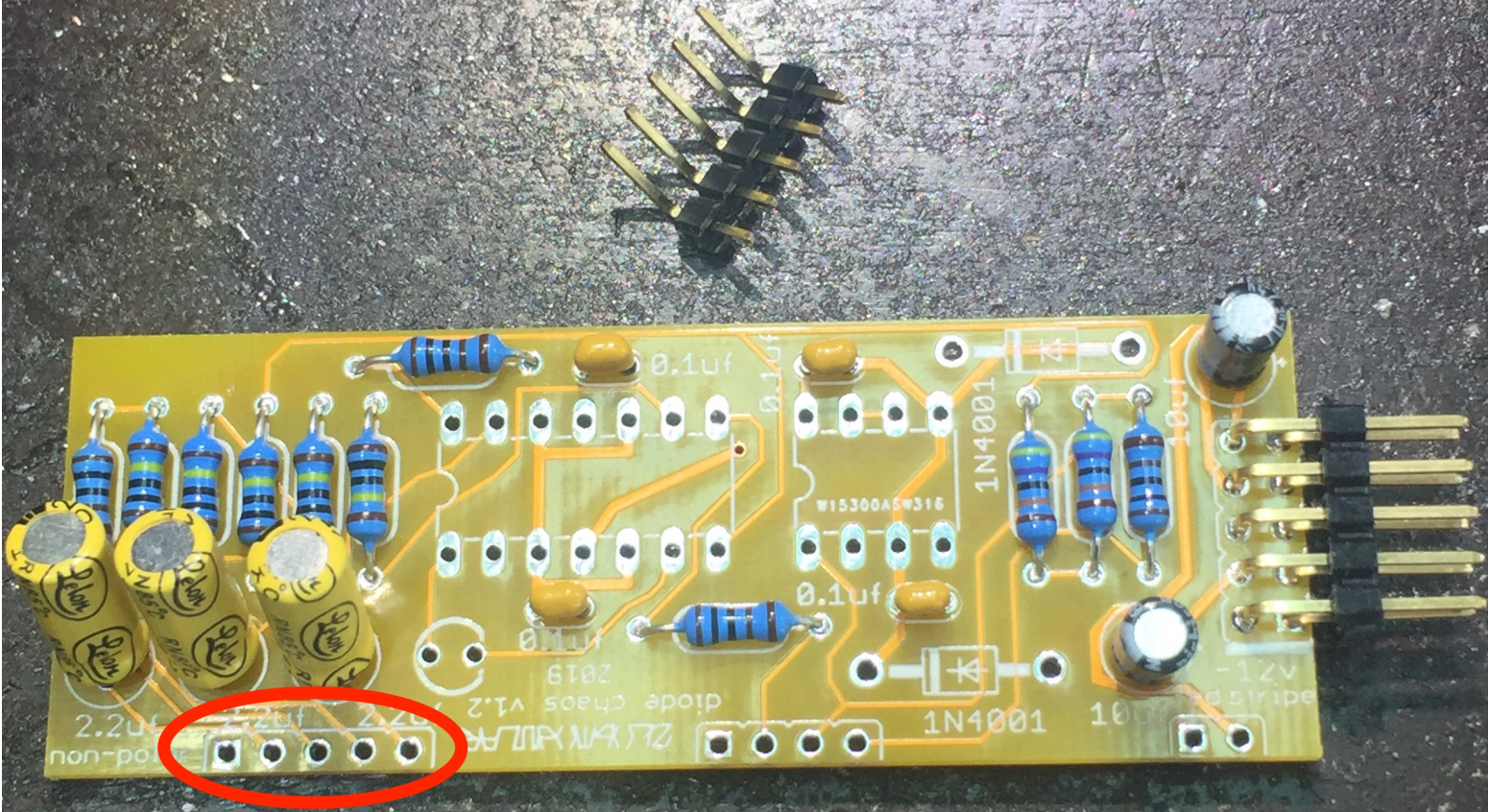
sorry blurry picture.. or
you can press the
header against a flat
surface to tack it in
place. make sure it's
flush with the pcb



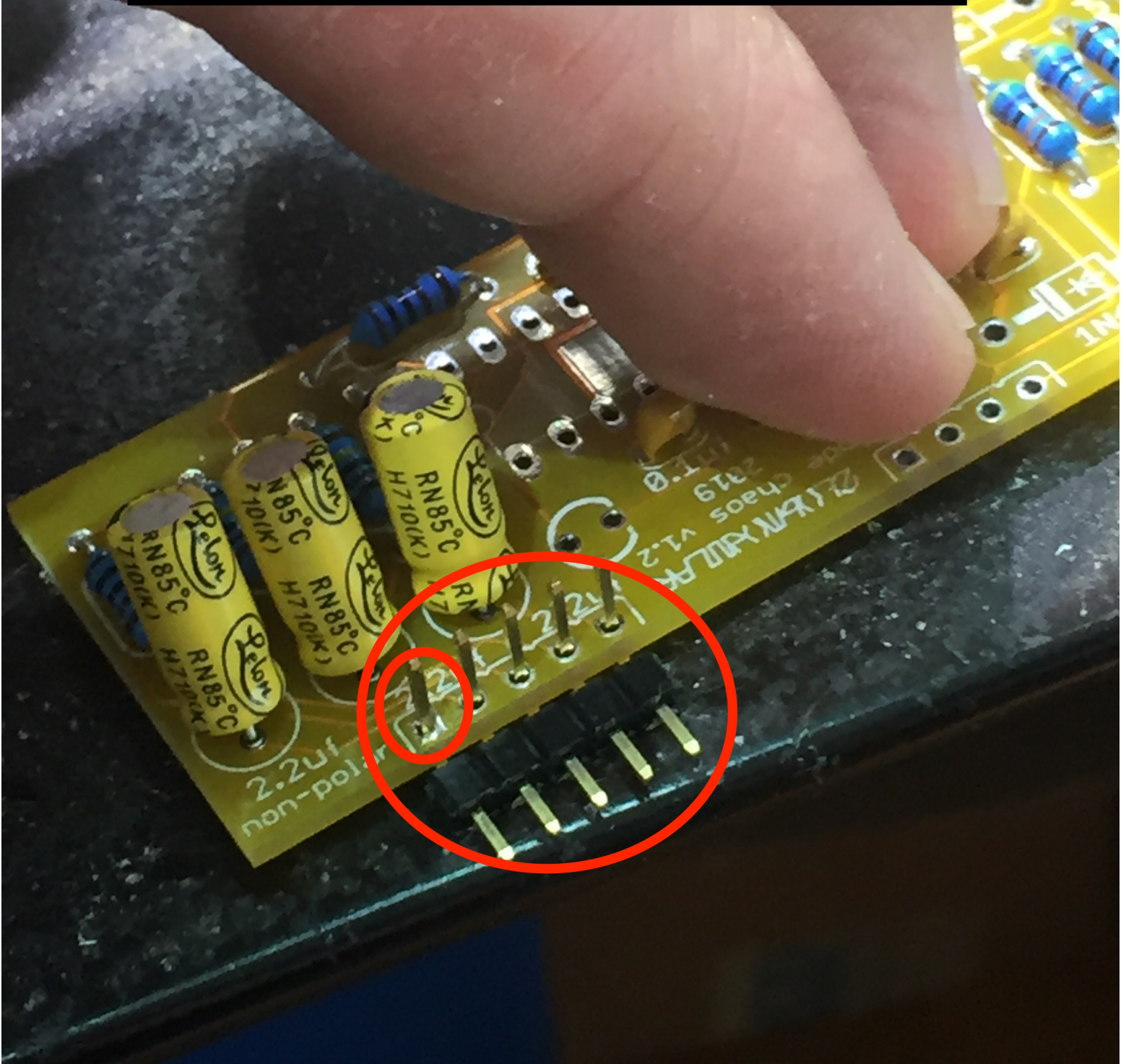
make sure the power header is thoroughly soldered. they will require more heat (ie holding the iron on the pad longer) to solder correctly like the below conical shapes



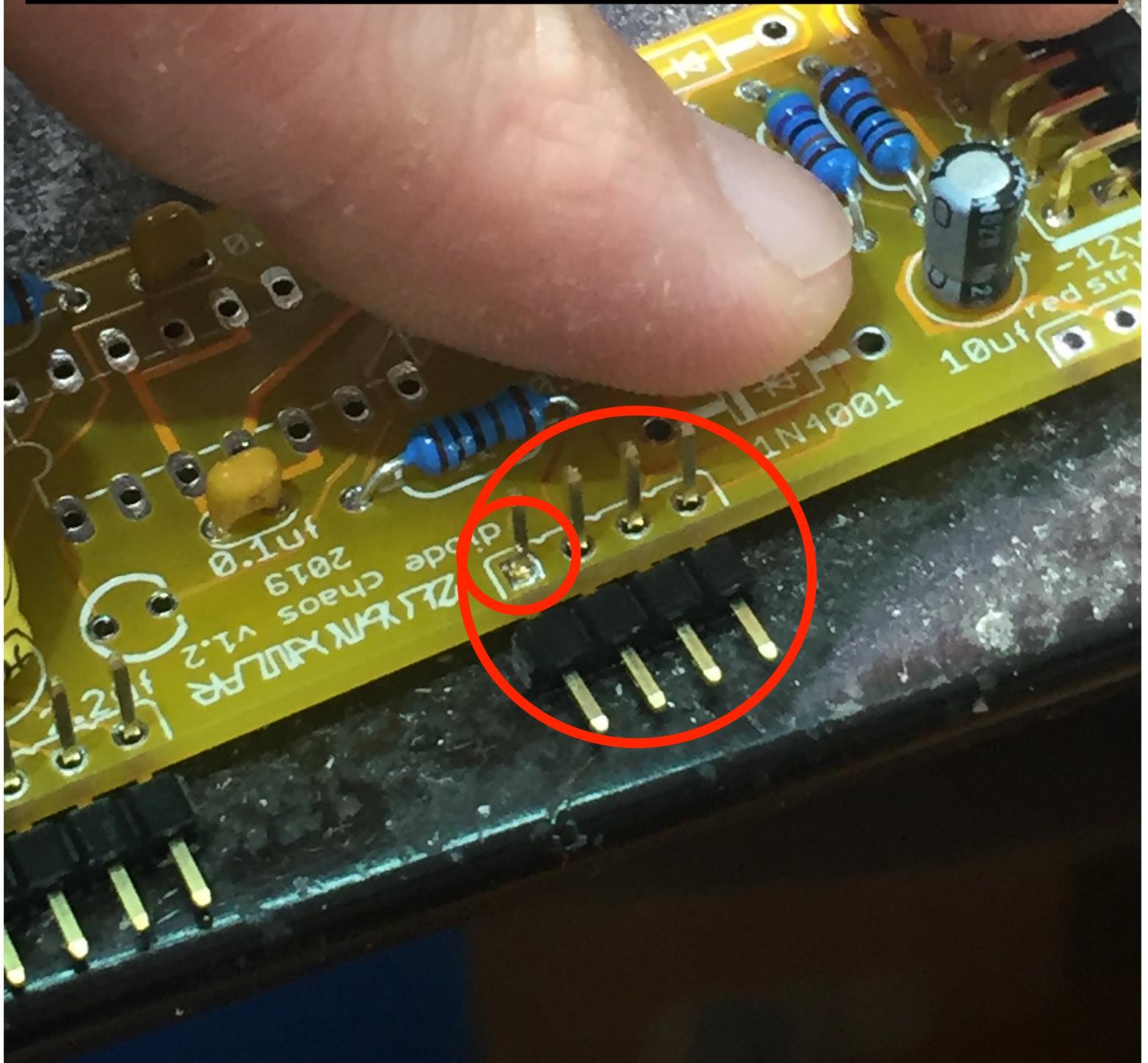
5 pin header. long side goes through the bottom of the pcb.



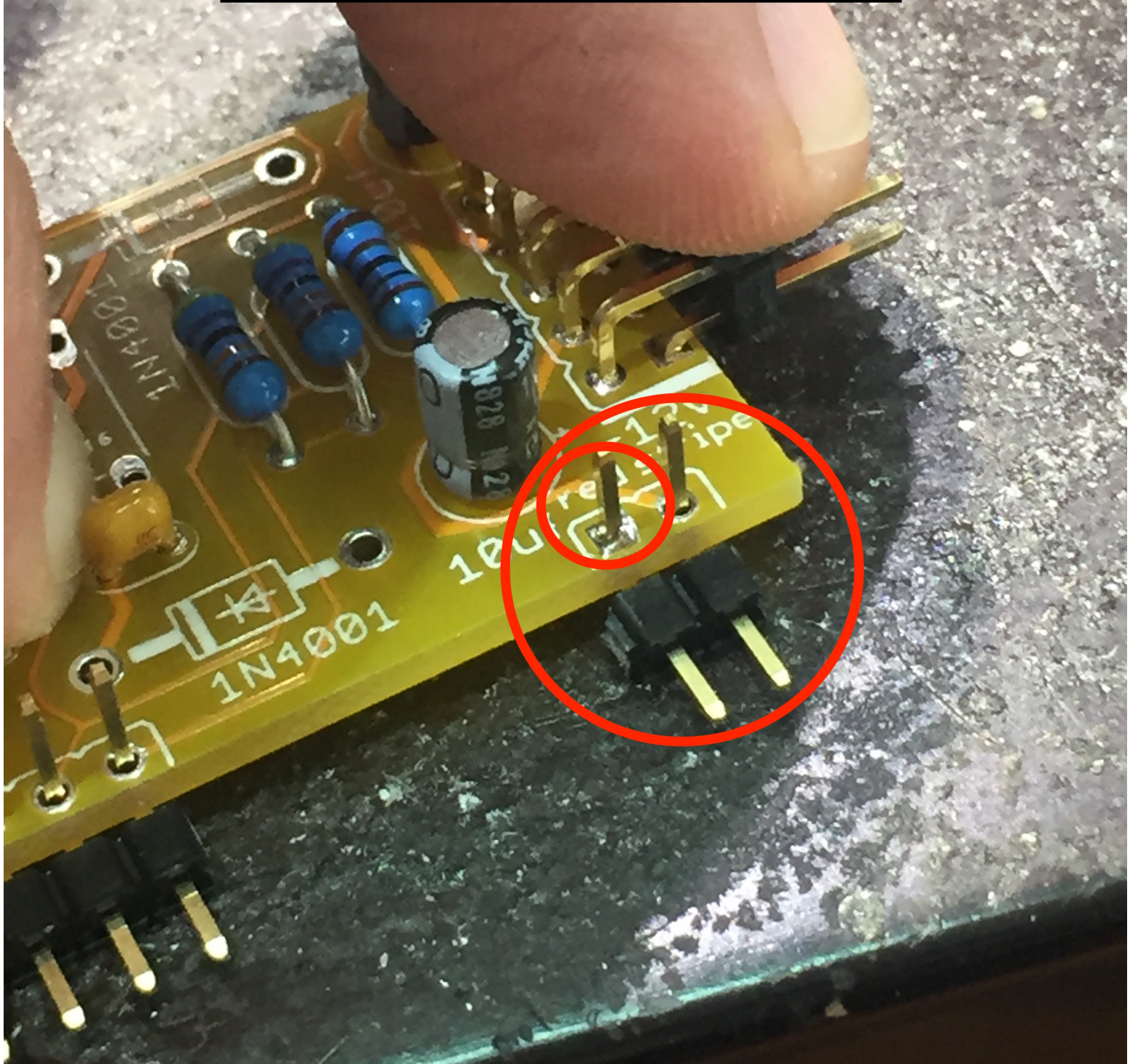
long side through the bottom of the pcb. you can use a flat surface to tack the headers in place



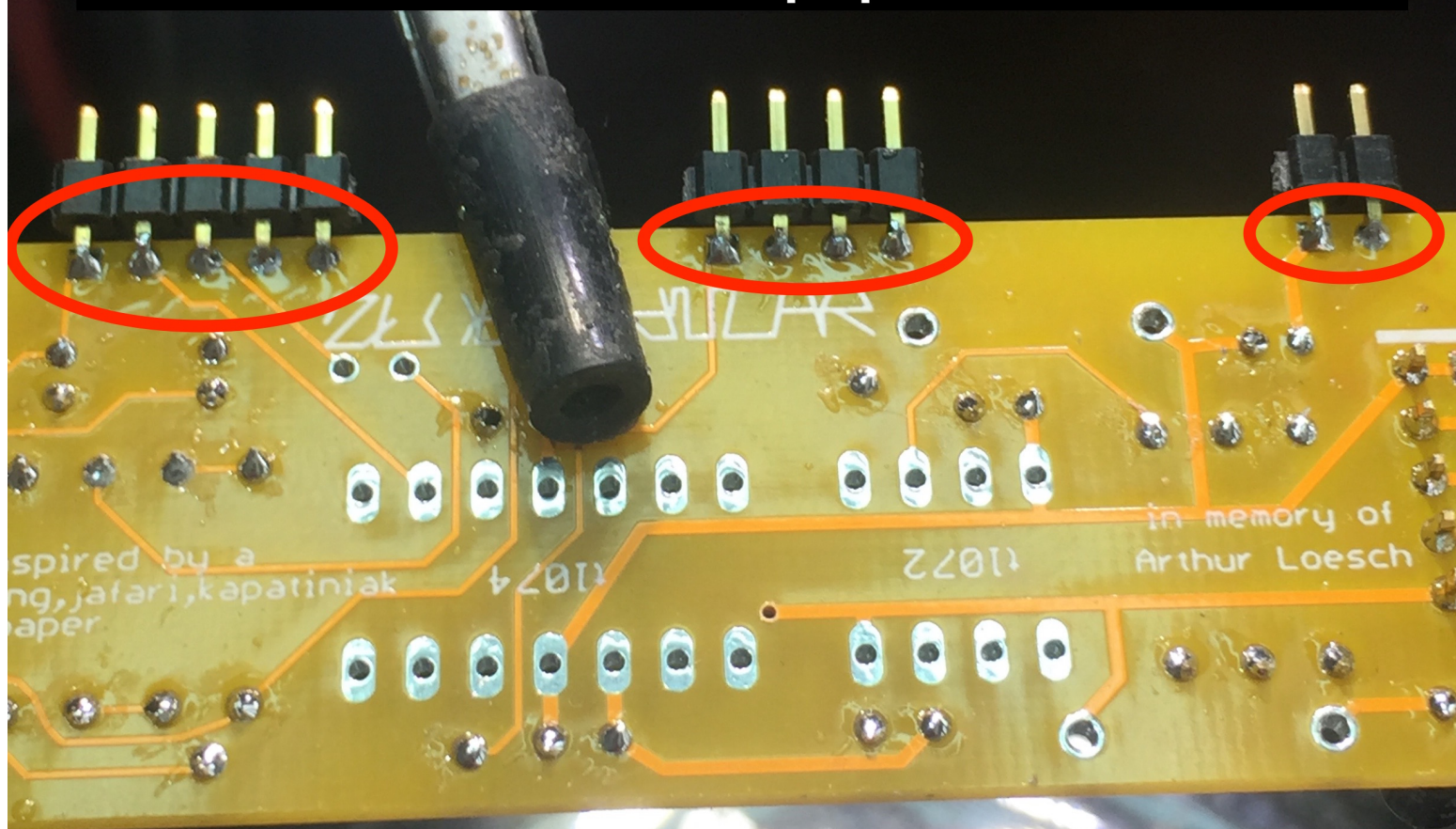
long side through the bottom of the pcb for the 4 pin header. tack the top and use a flat surface to keep it flush. you can solder the top pins, or the bottom pins.



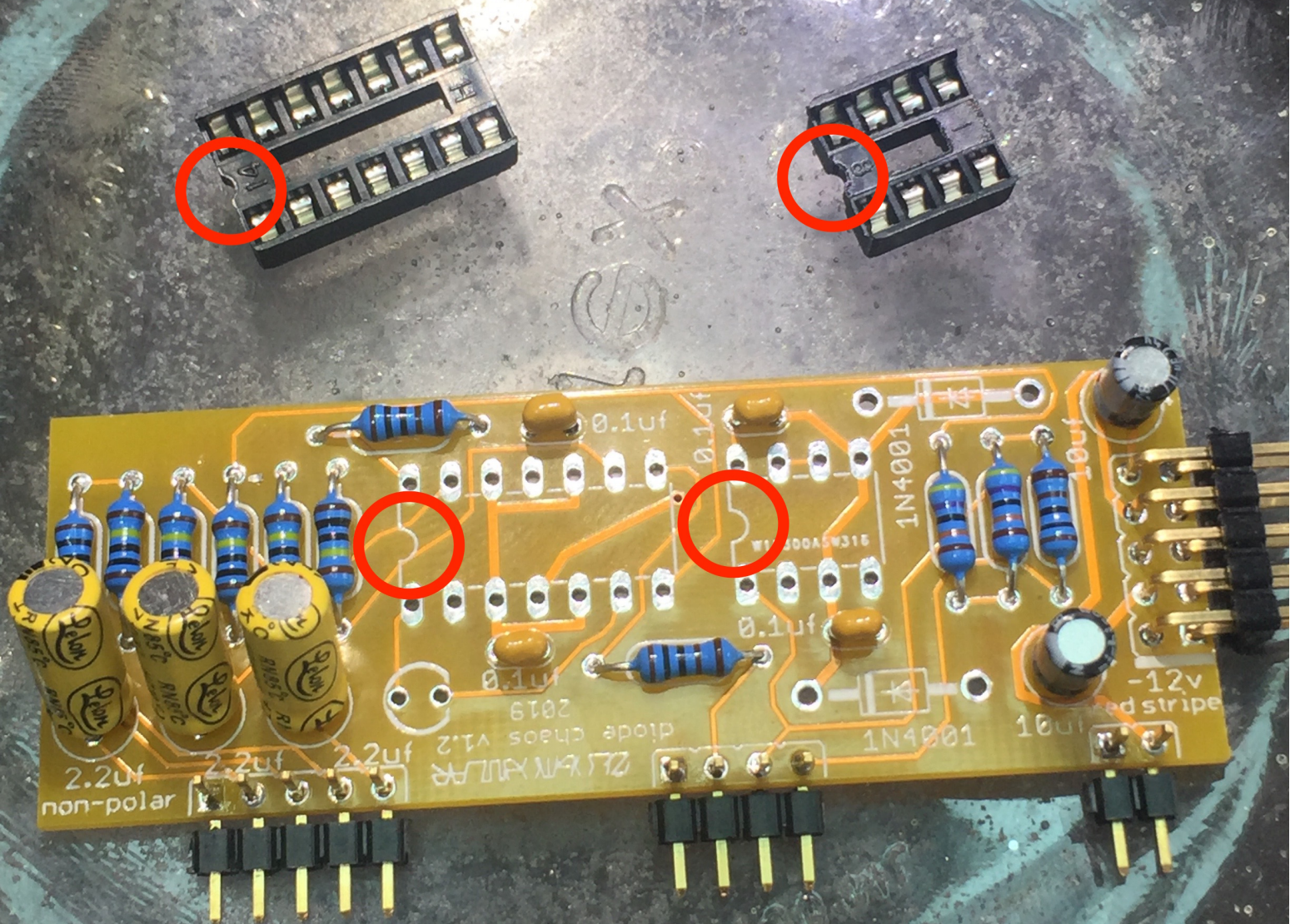
do the same for the 2
pin header



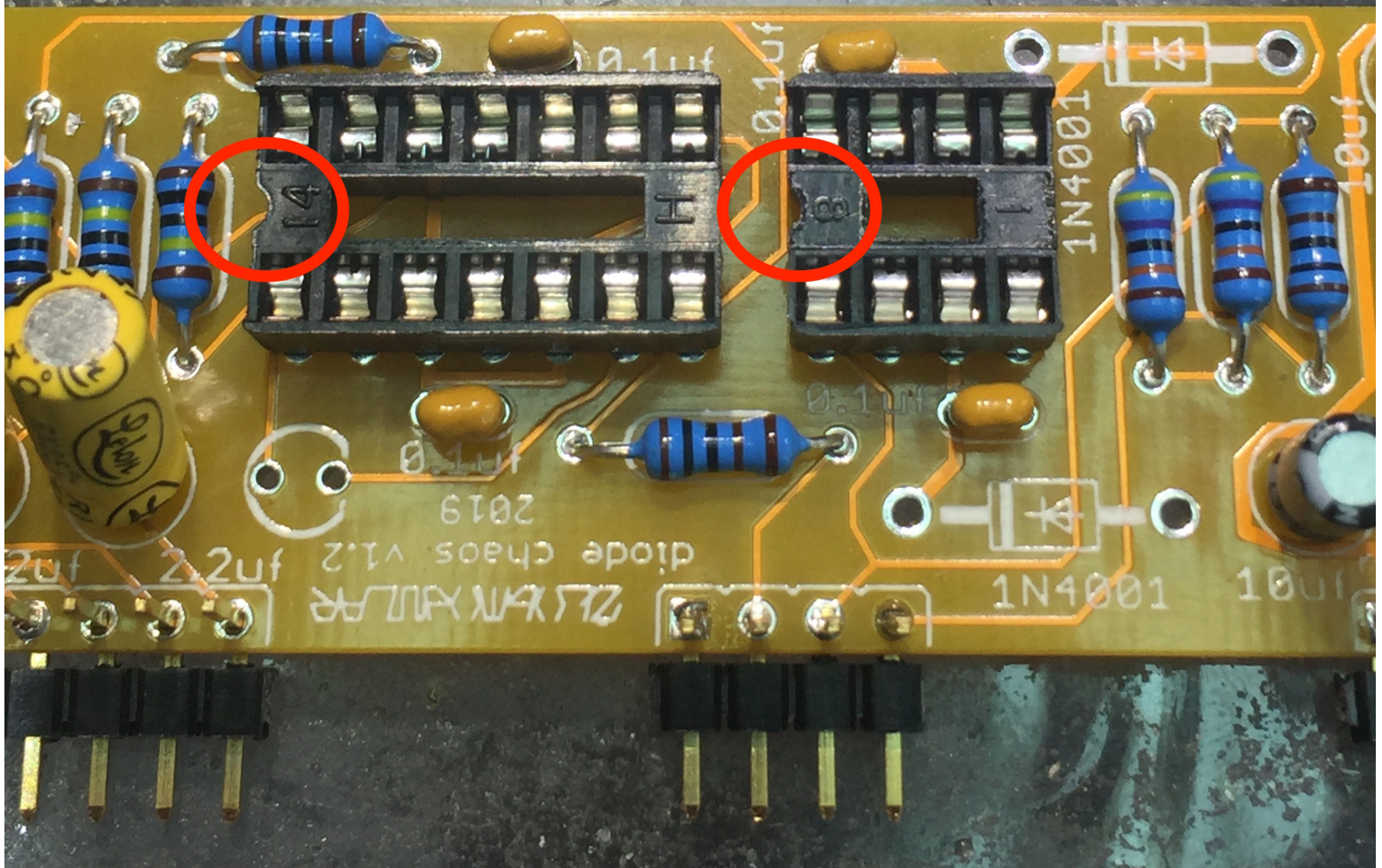
i like to solder the bottom pins of the right angle headers. you can solder the top or bottom. but make sure they are symmetrcial and flush with the pcb because the mother board has to connect to the top pcb.



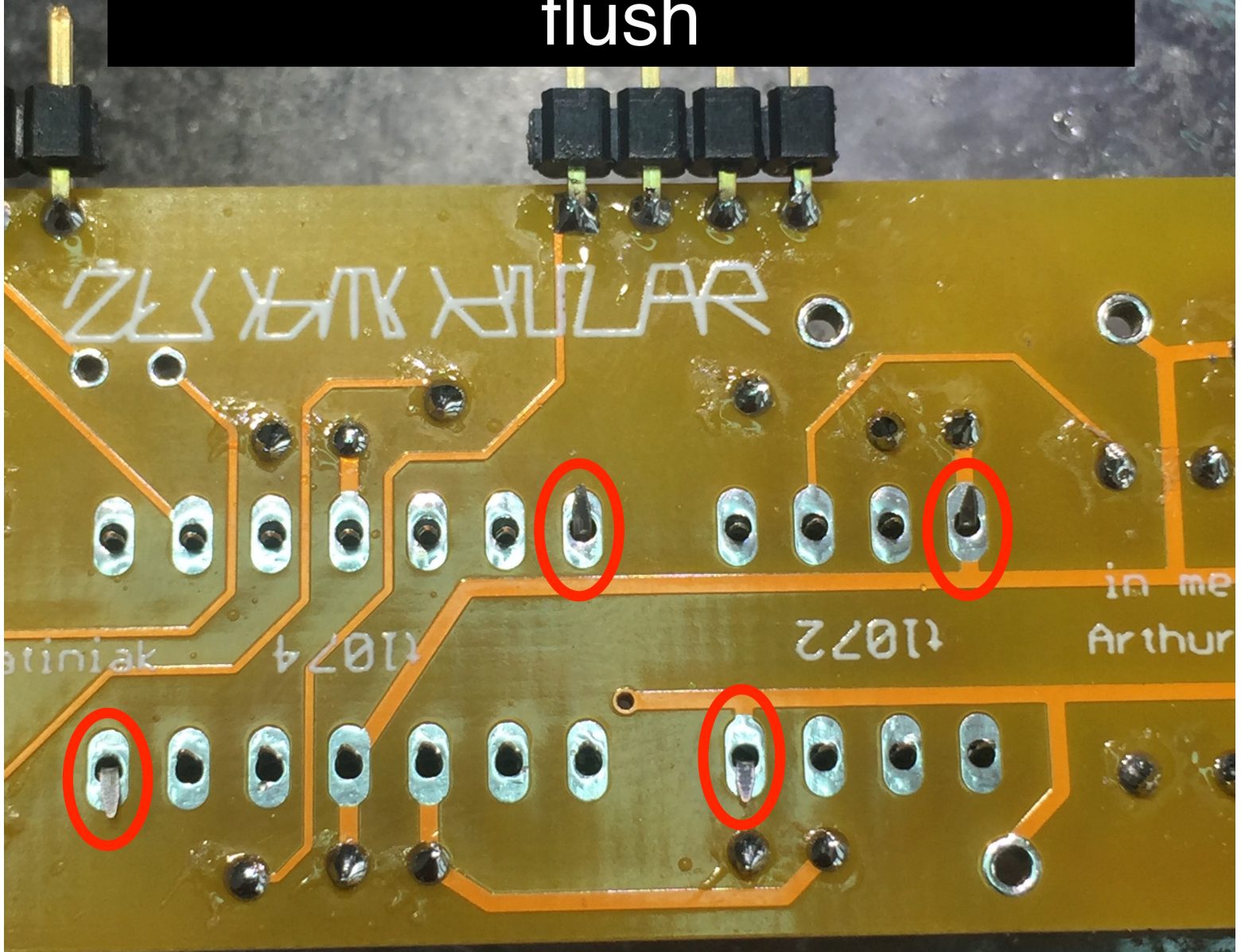
one 14 pin socket
and one 8 pin socket. pay
attention to the notches on
the sockets and notches
silkscreened on the pcb



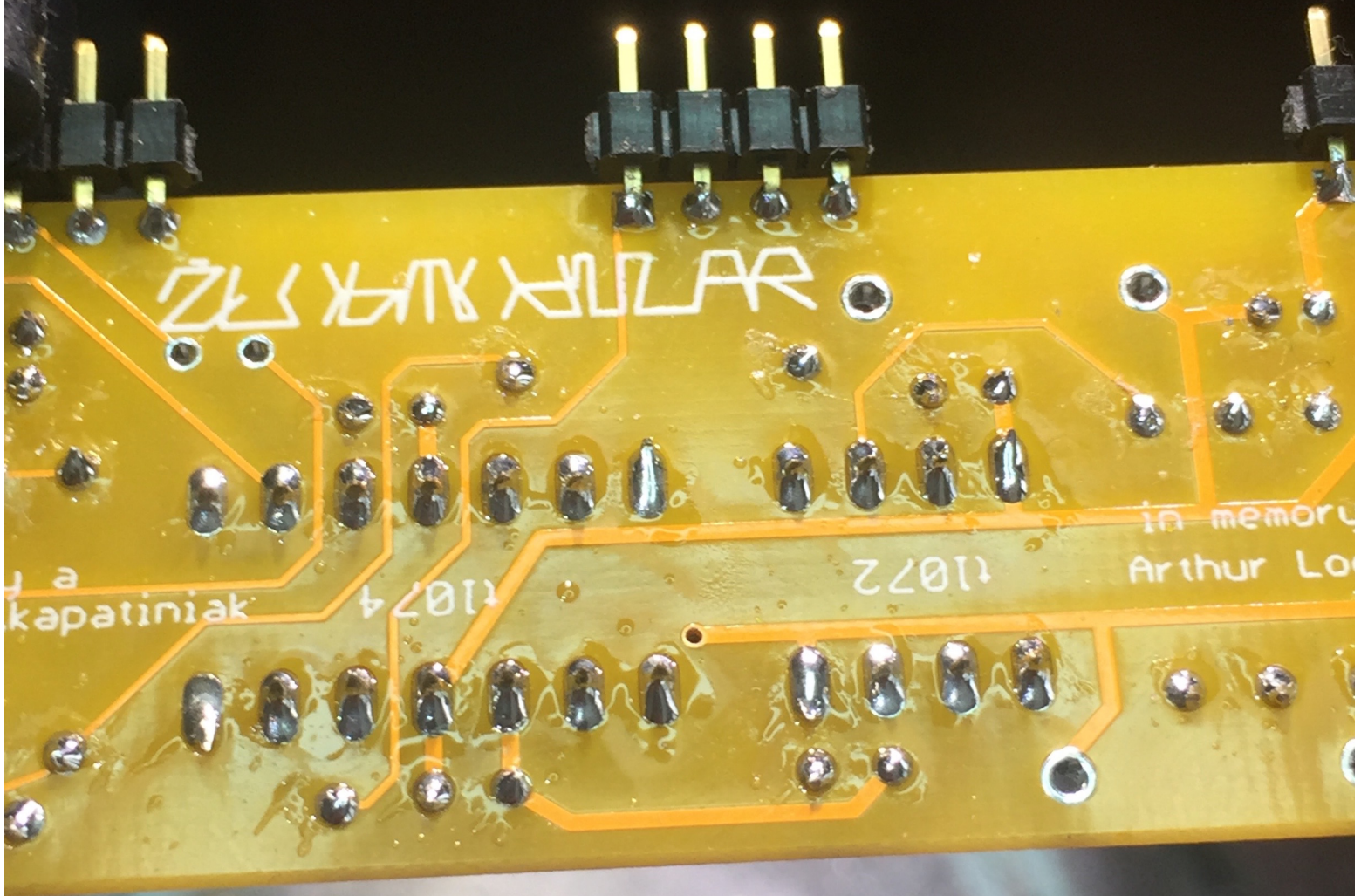
notches on the left



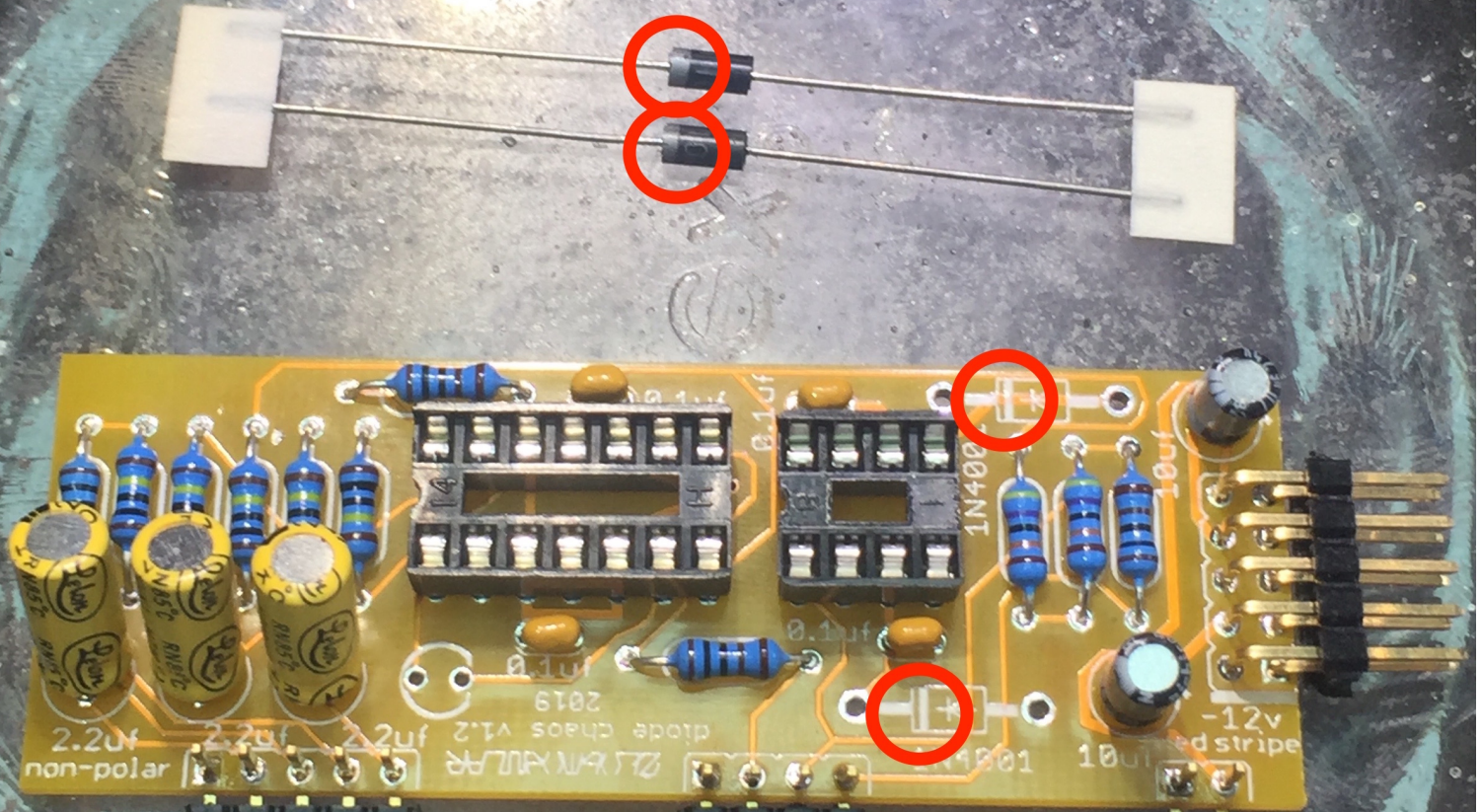
bend or tack opposite corners
of the sockets to hold them in
place. make sure they are
flush



soldered sockets

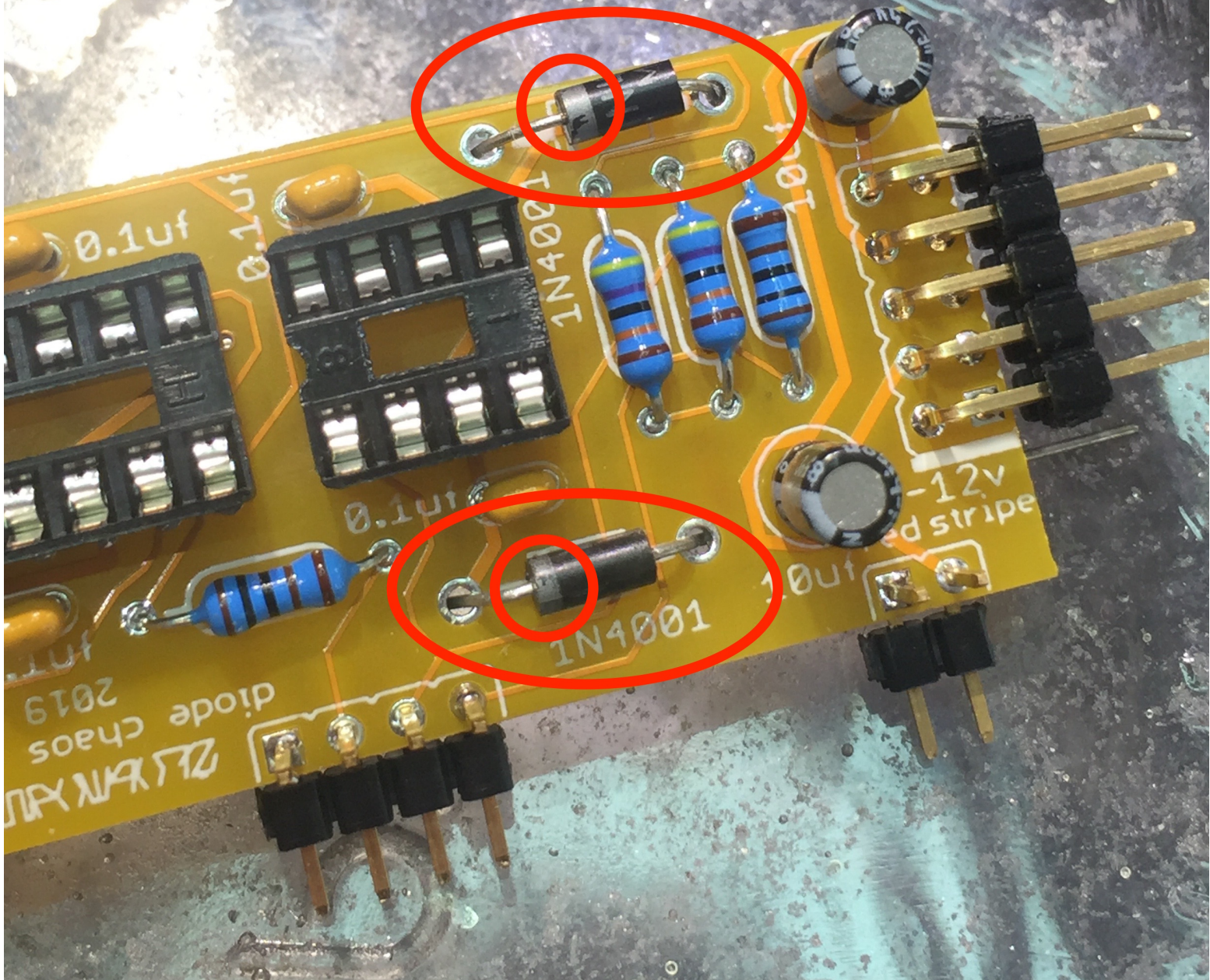


two: 4001 diodes. these are directional and have a polarity. follow the gray cathode stripe

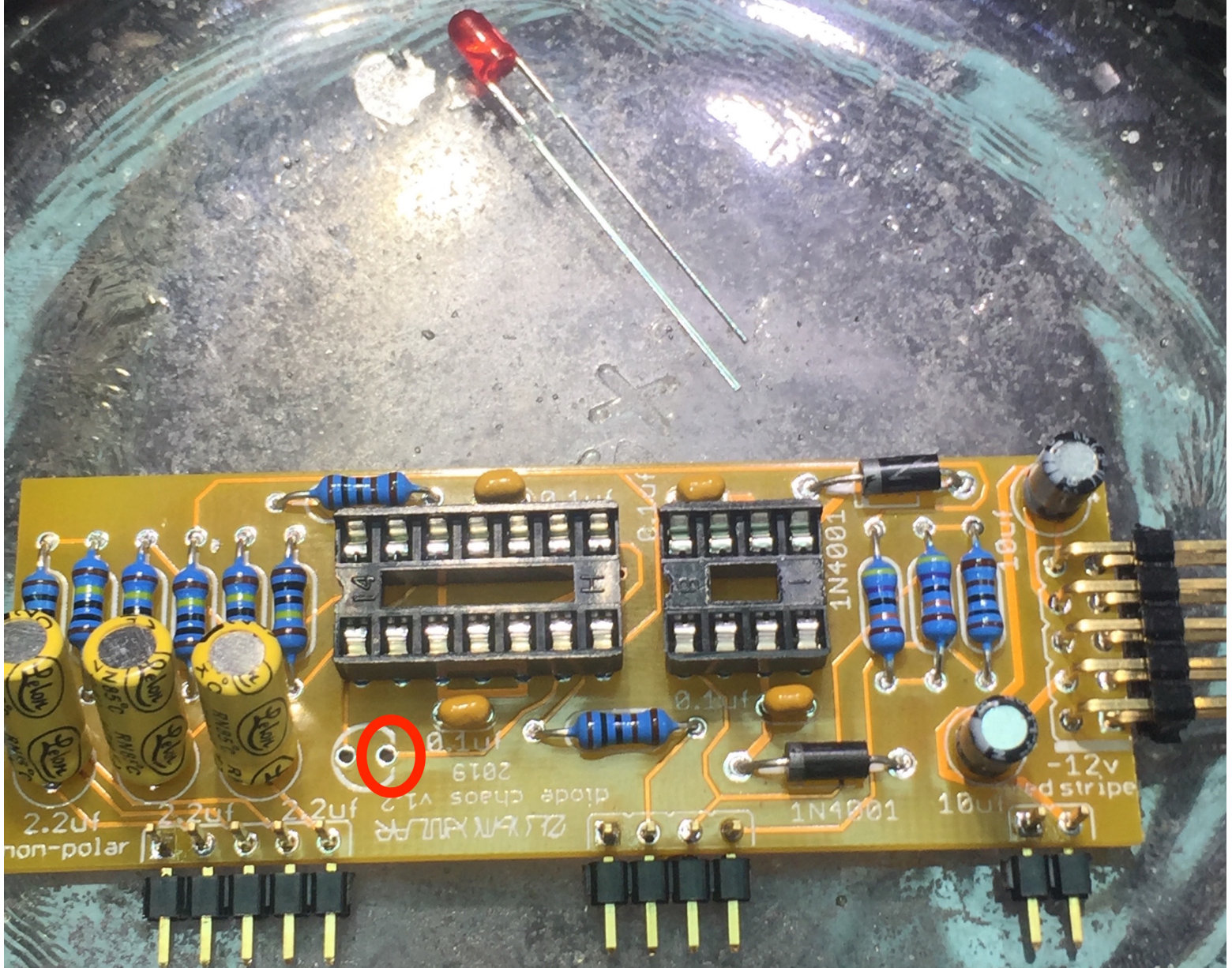


diodes are active components and are sensitive to electrostatic discharge. also be careful not to overheat them

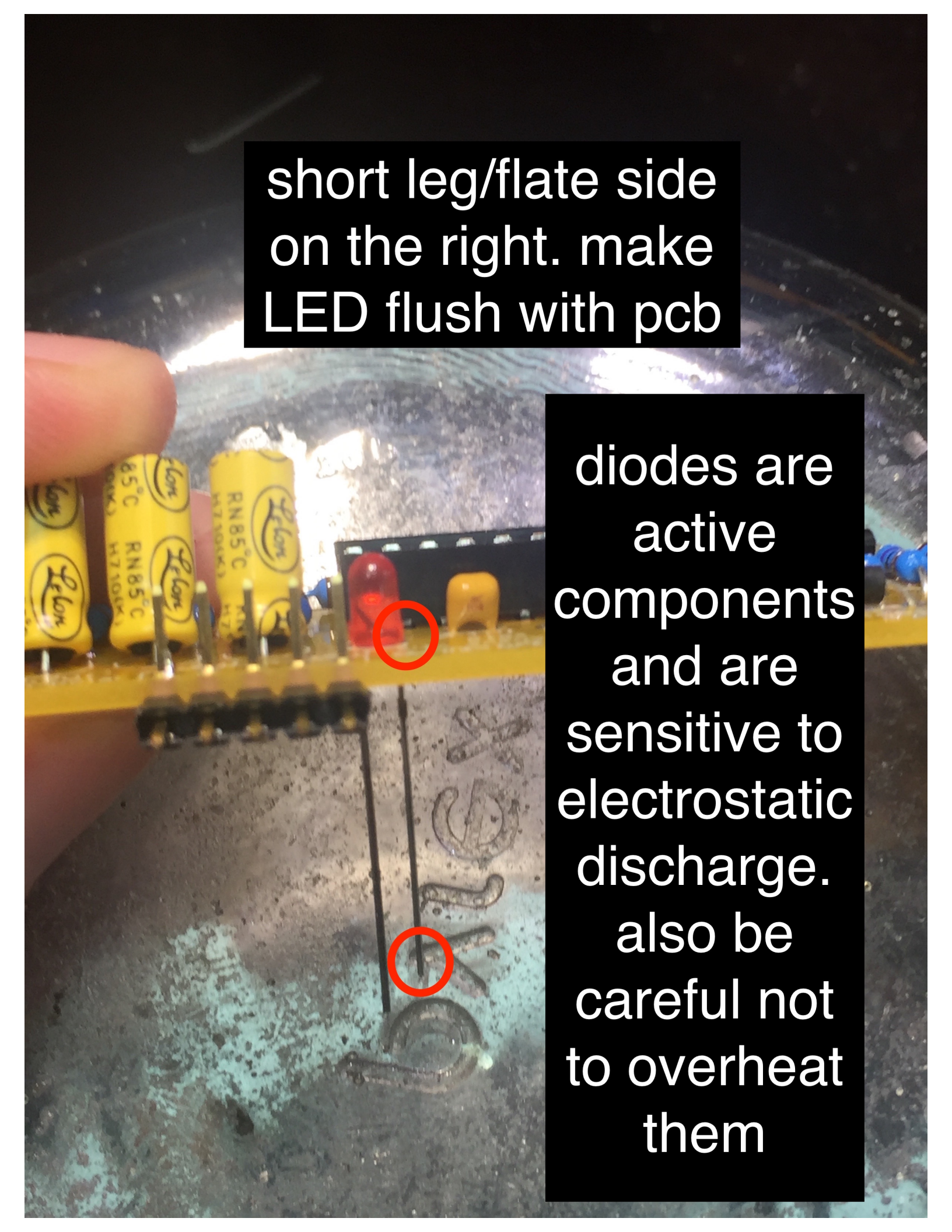
stripes face left



1 red LED goes on the motherboard. LEDs like other diodes have a polarity and are directional



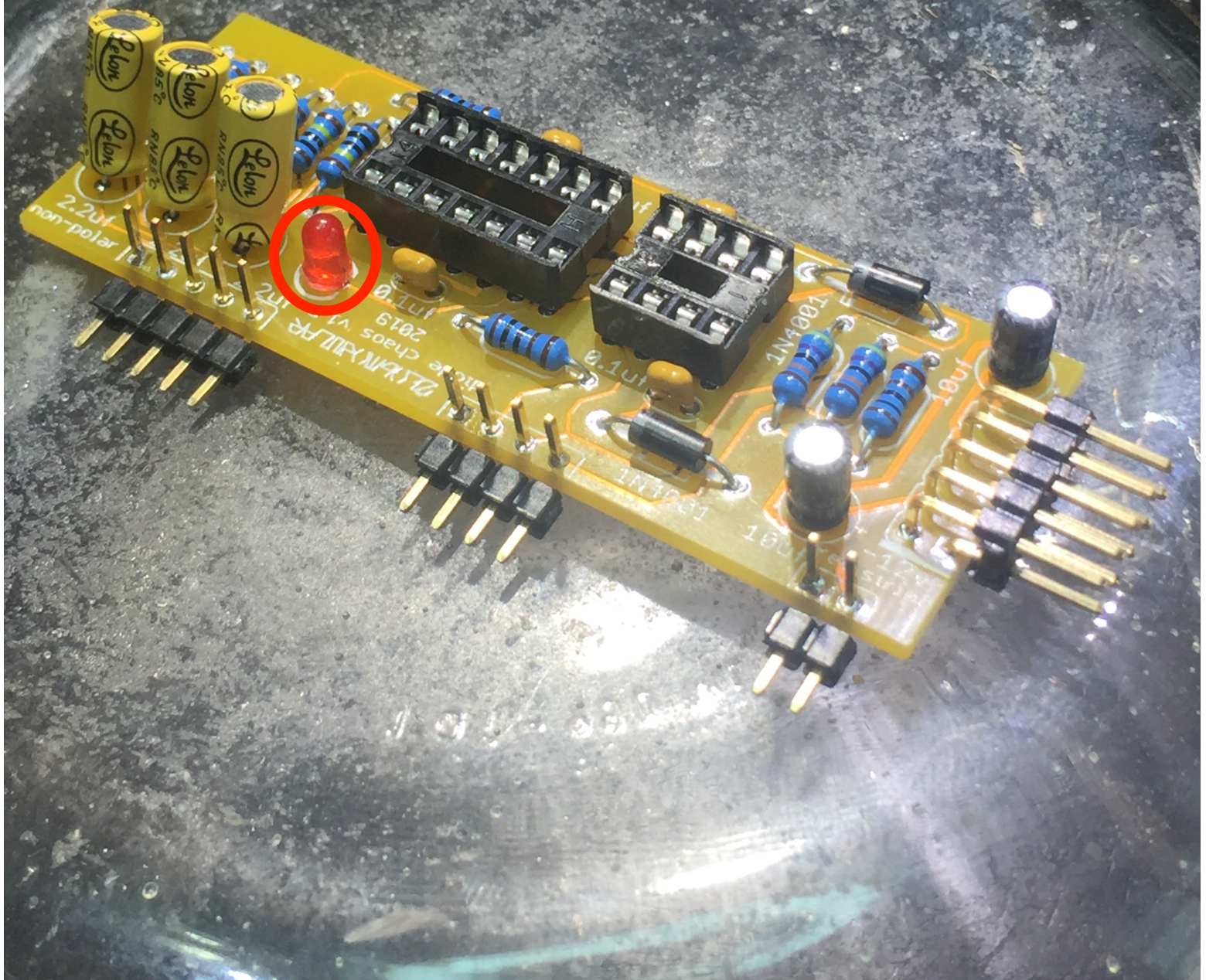
cathode is the short leg and flat side of LED.



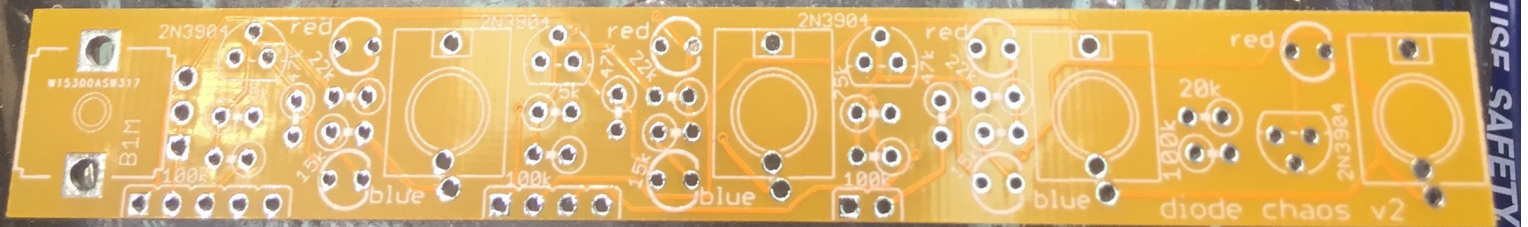
short leg/plate side
on the right. make
LED flush with pcb

diodes are
active
components
and are
sensitive to
electrostatic
discharge.
also be
careful not
to overheat
them

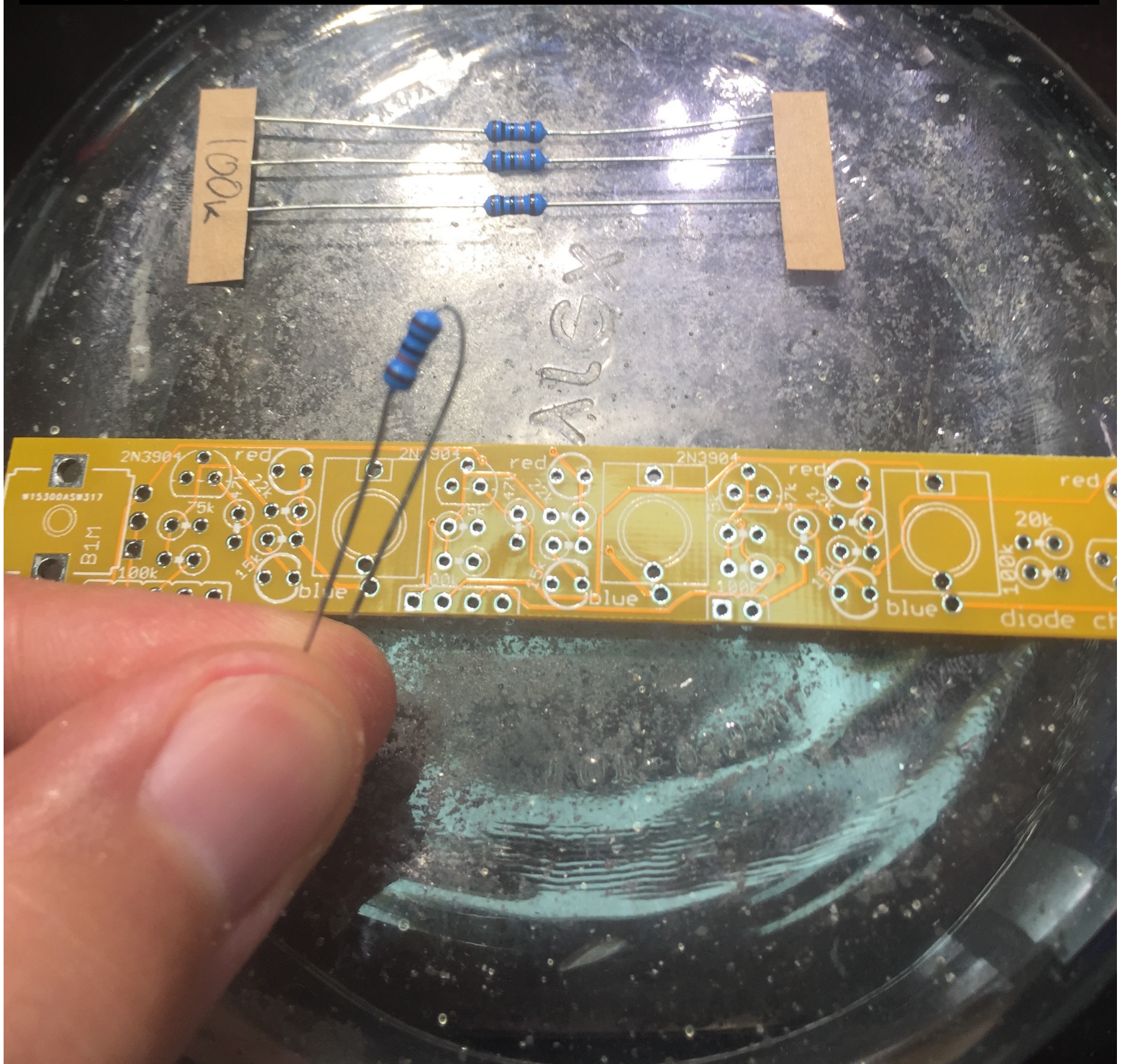
finished motherboard



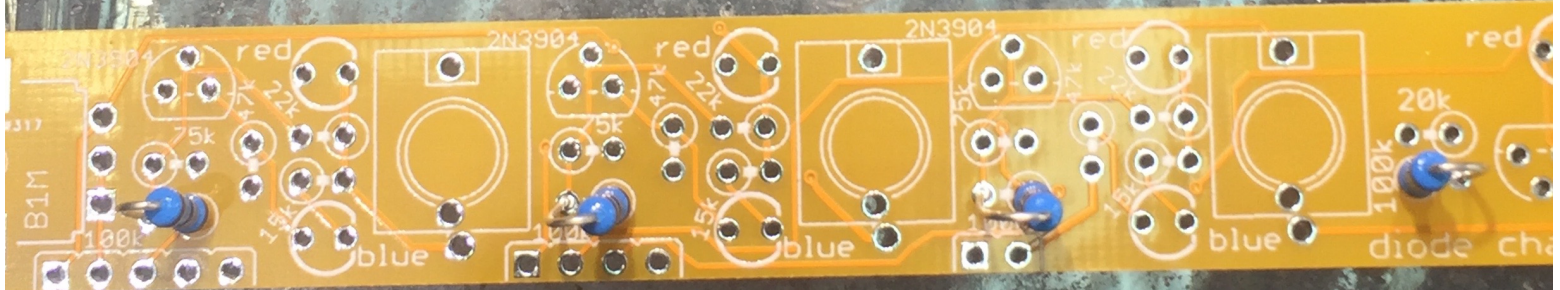
four: 100K
brown, black,
black,orange,brown



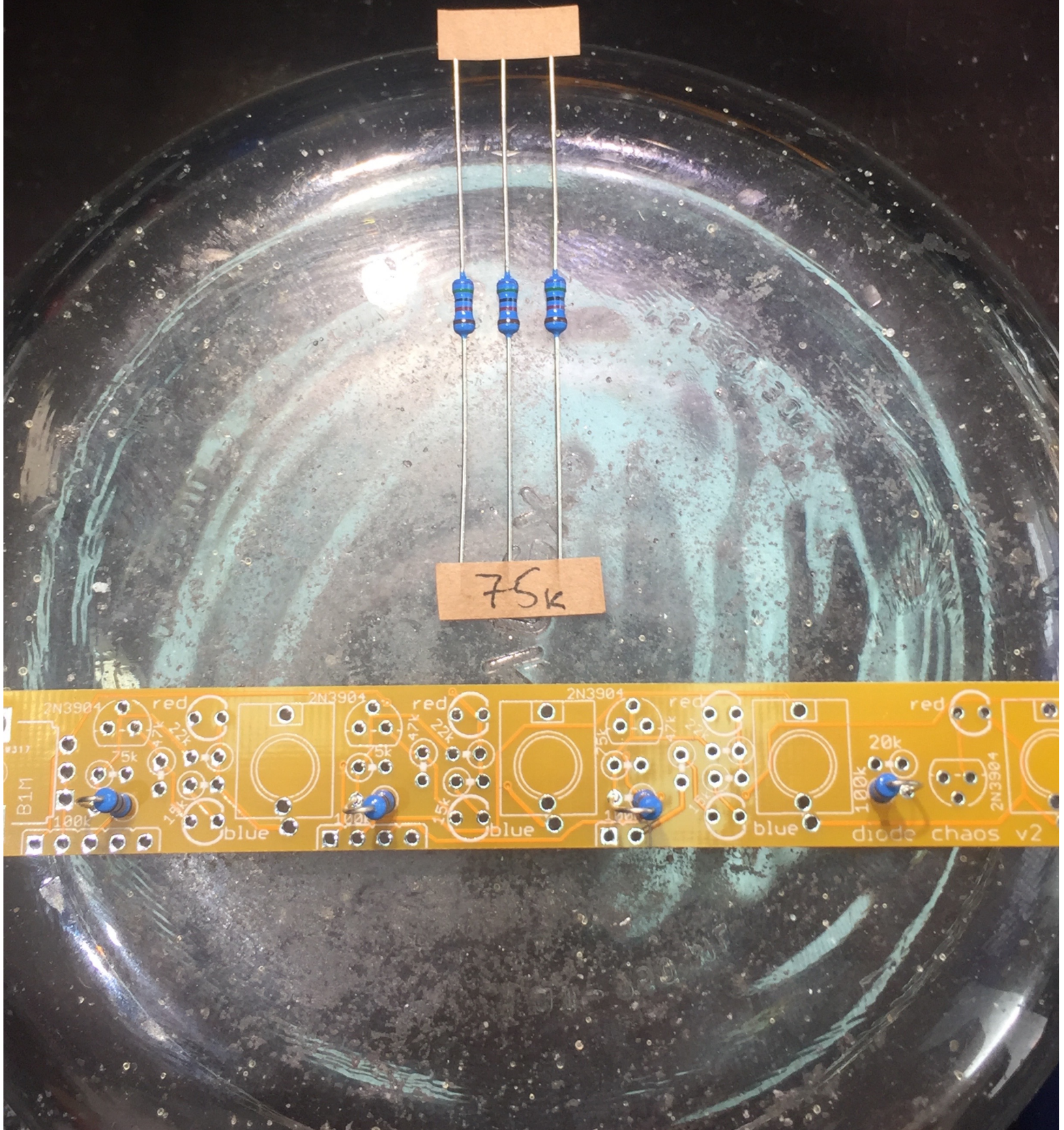
the resistors on the top pcb have to be bent like below so they are soldered vertically to save space. the direction is important so the legs dont short circuit each other.



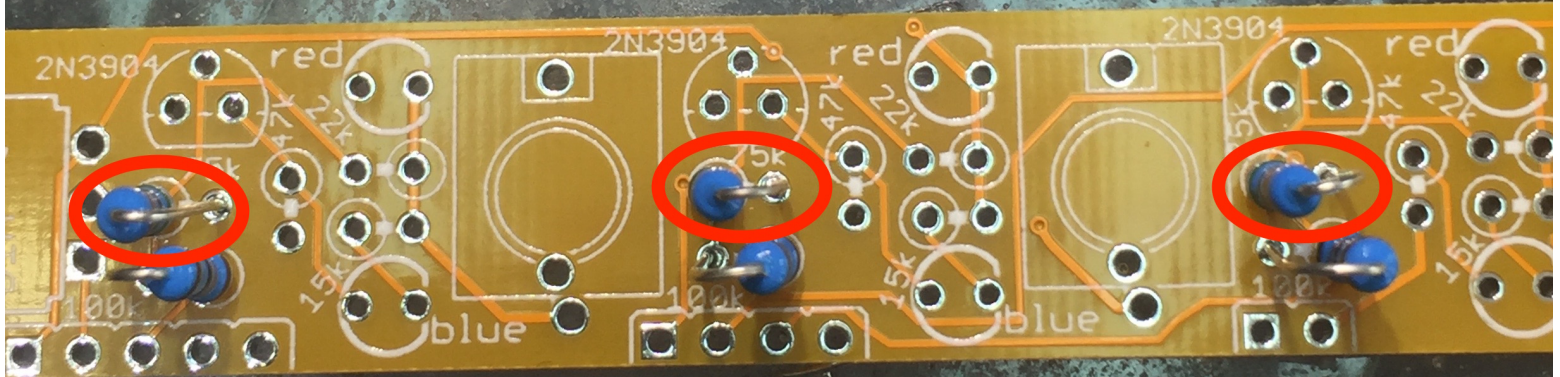
four: 100K



three: 75K
purple, green, black,
red, brown

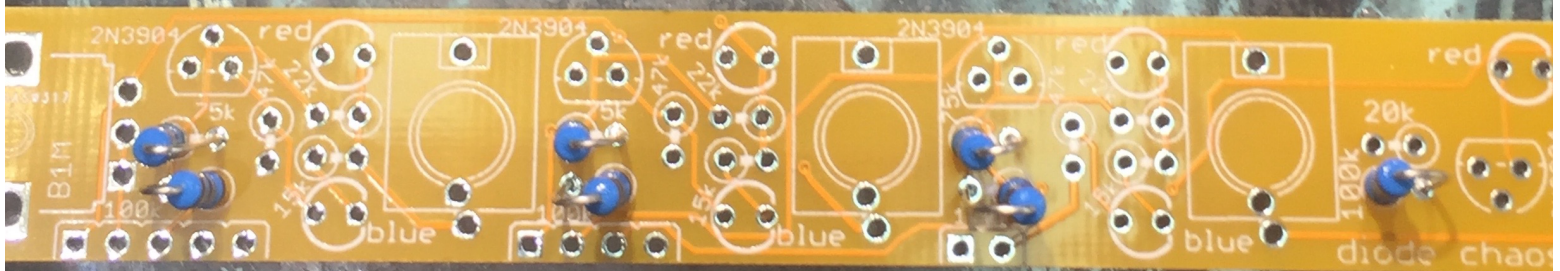


three:
75K

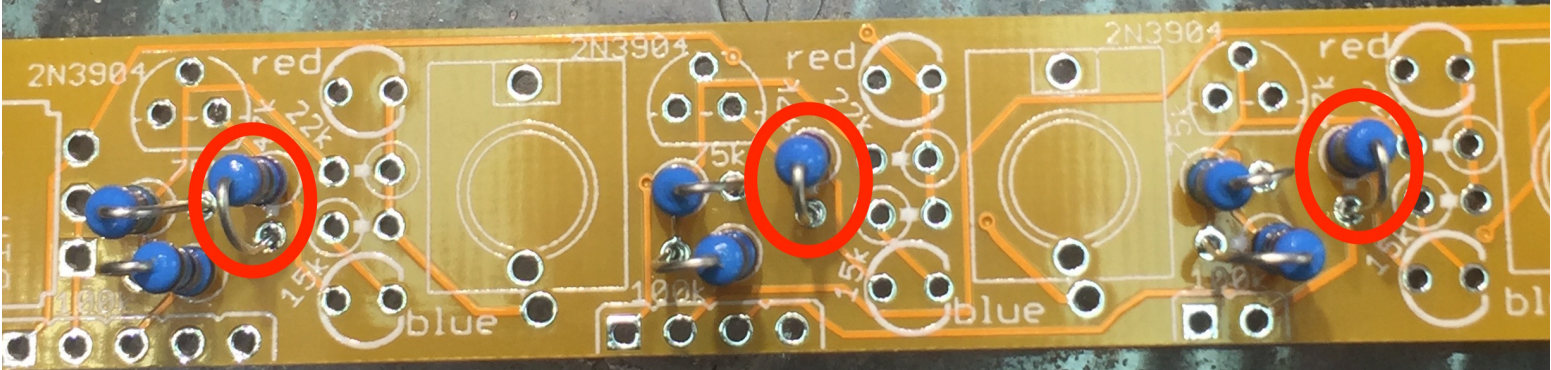


three: 47K
yellow, purple, black, red,
brown

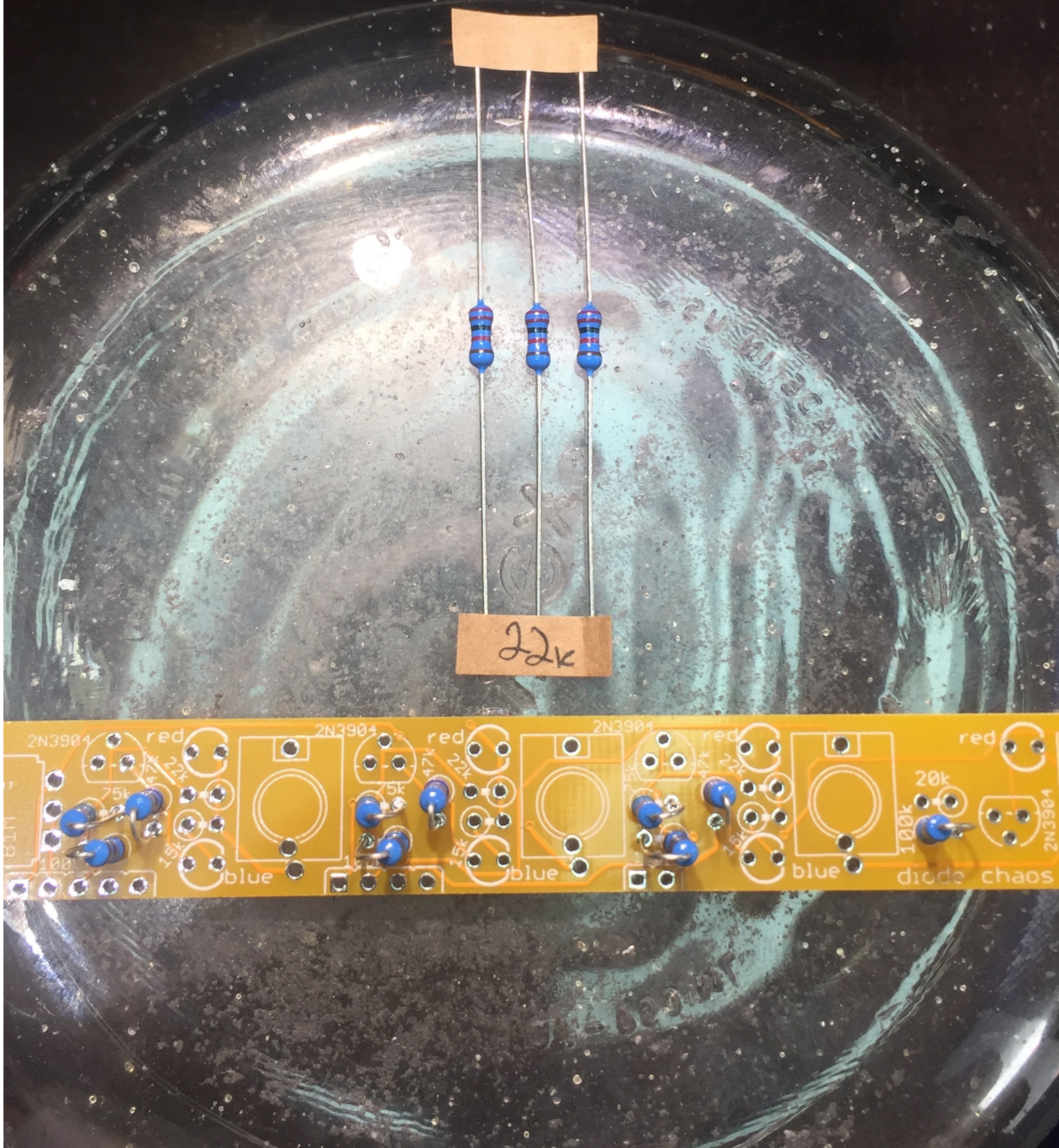
47k



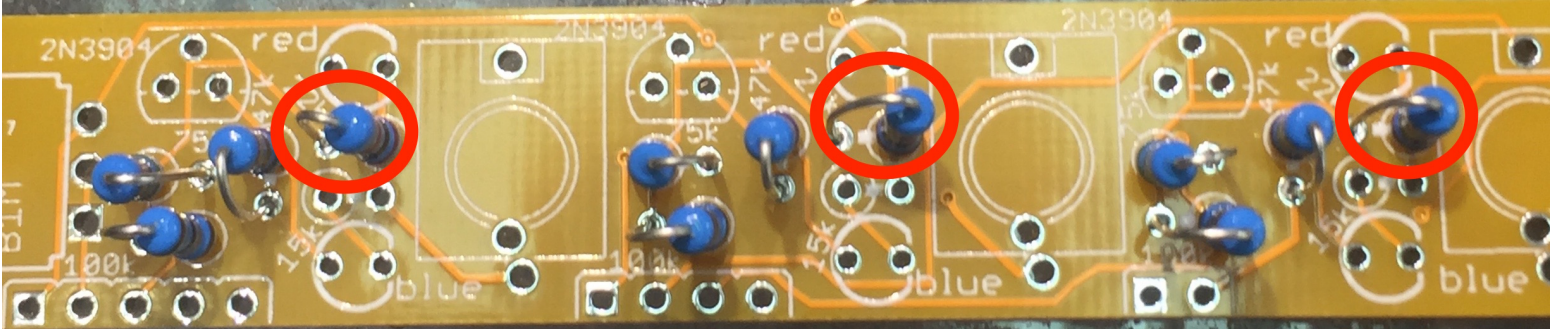
three: 47K



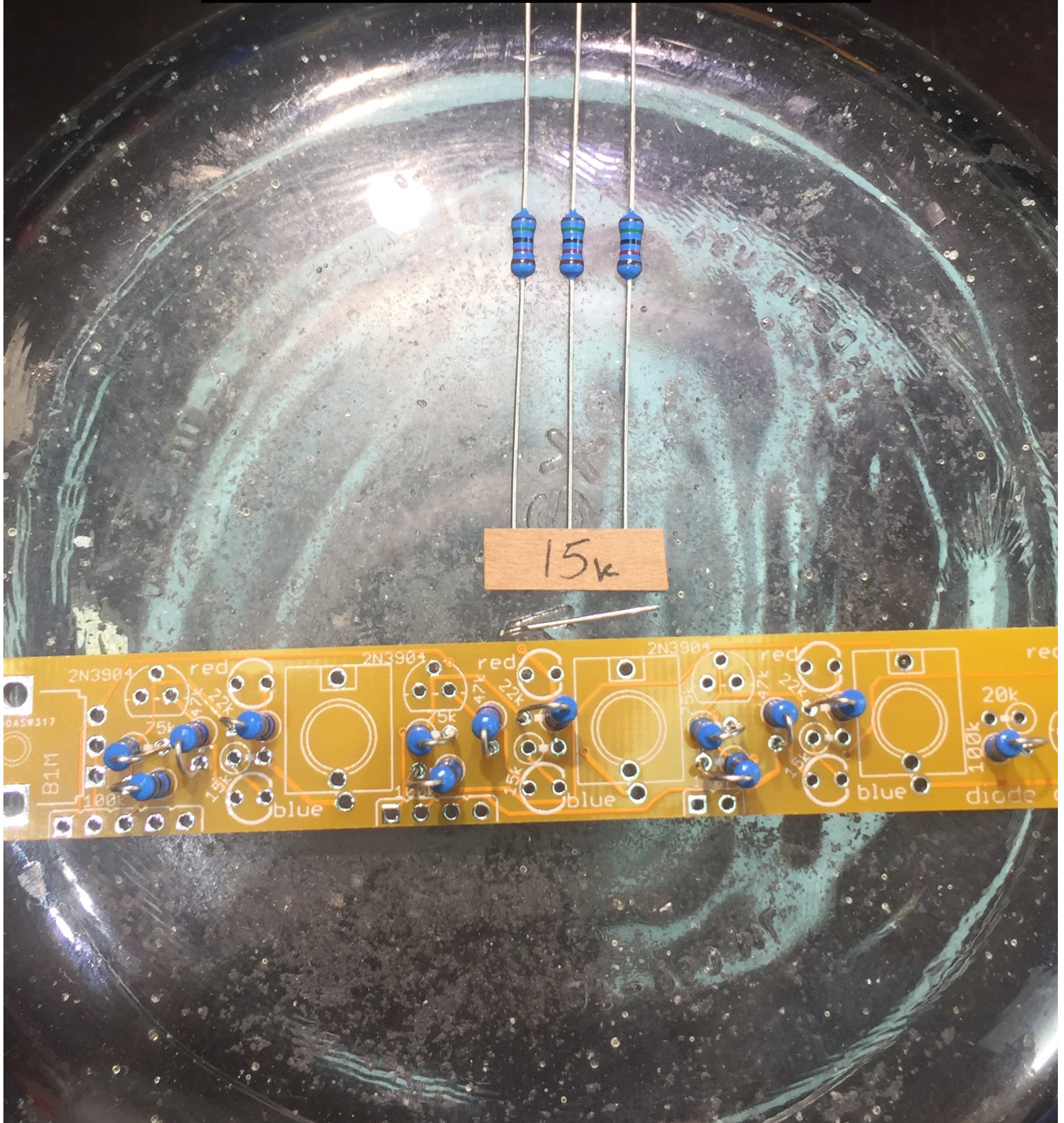
three: 22K
red,red,black,red,brown



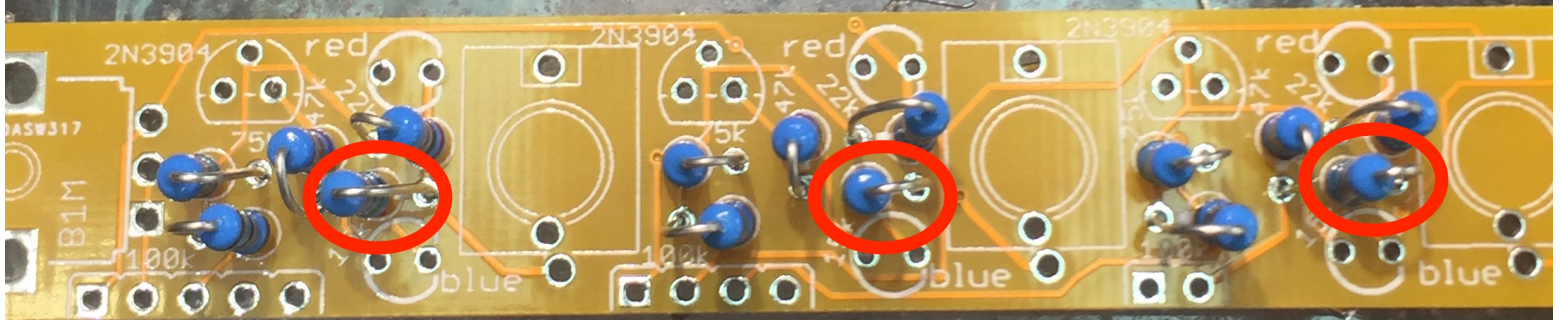
three: 22K



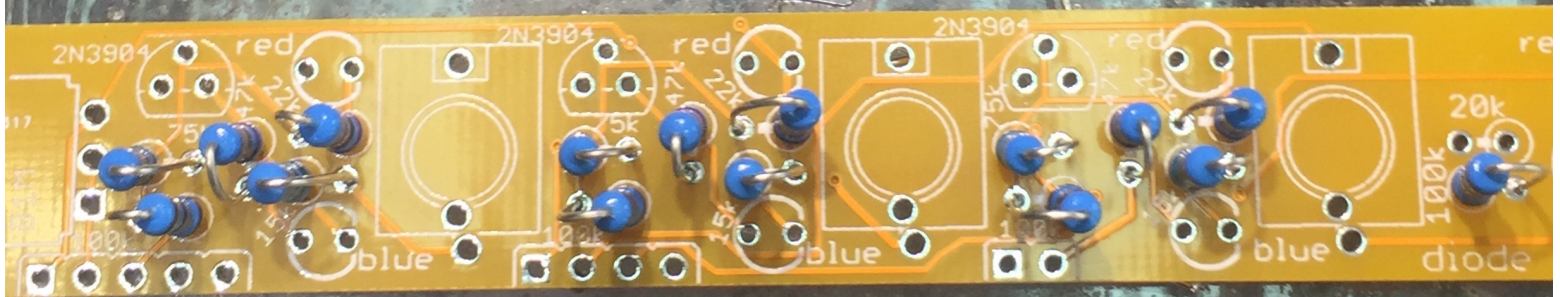
three: 15K
brown, green, black, red,
brown



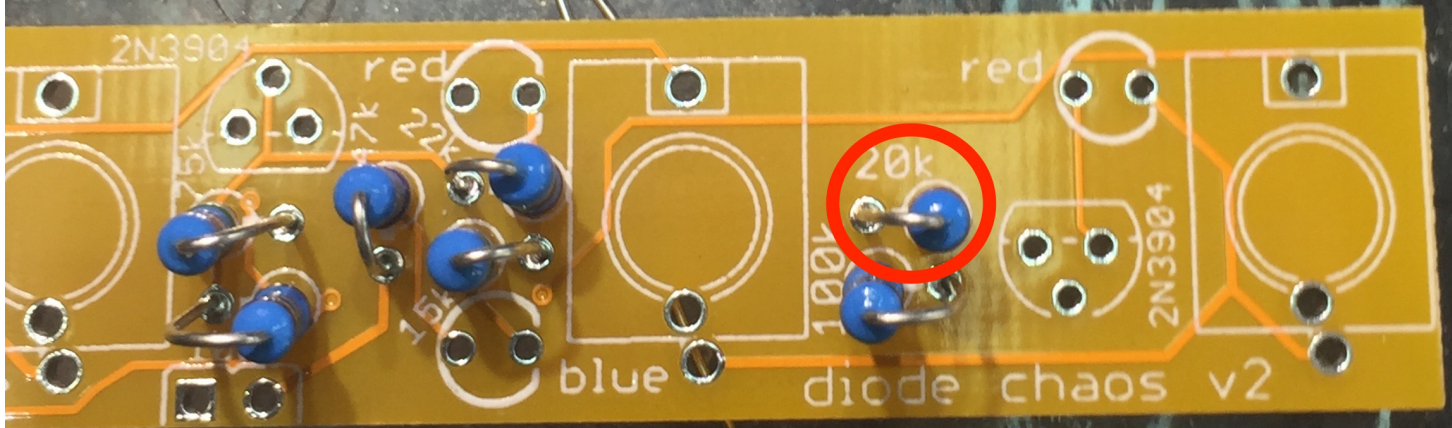
three: 15K



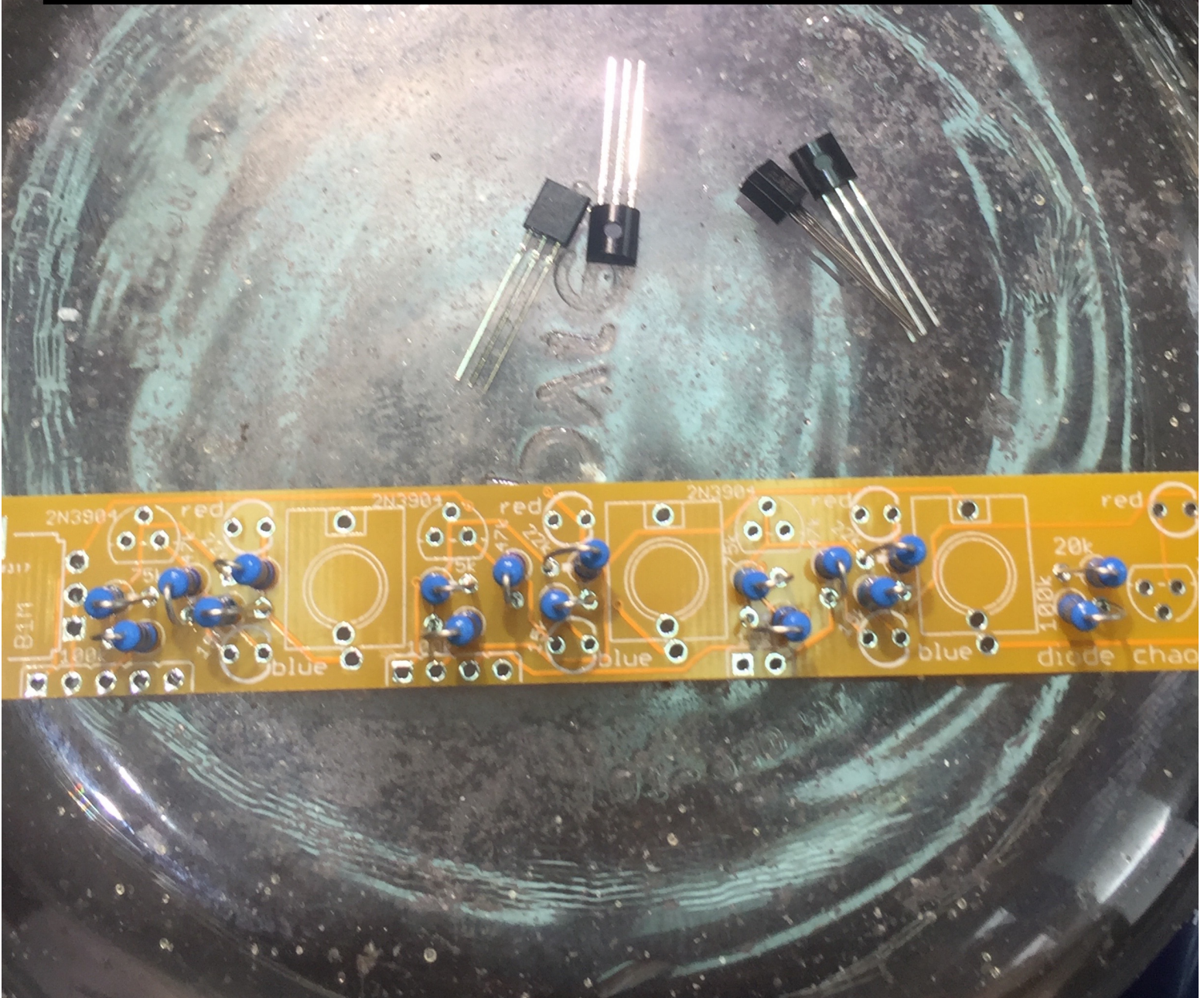
one: 20K
red,black,black,red,brown



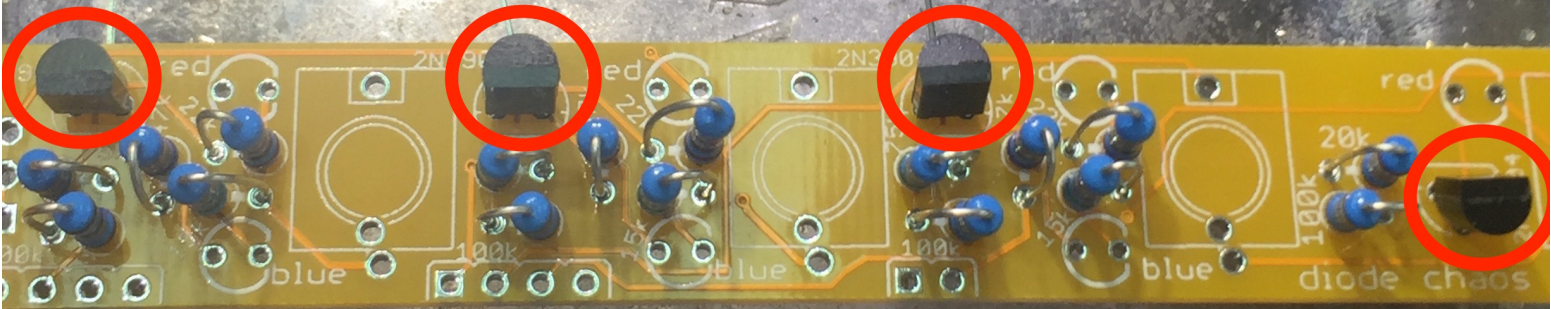
one:20K



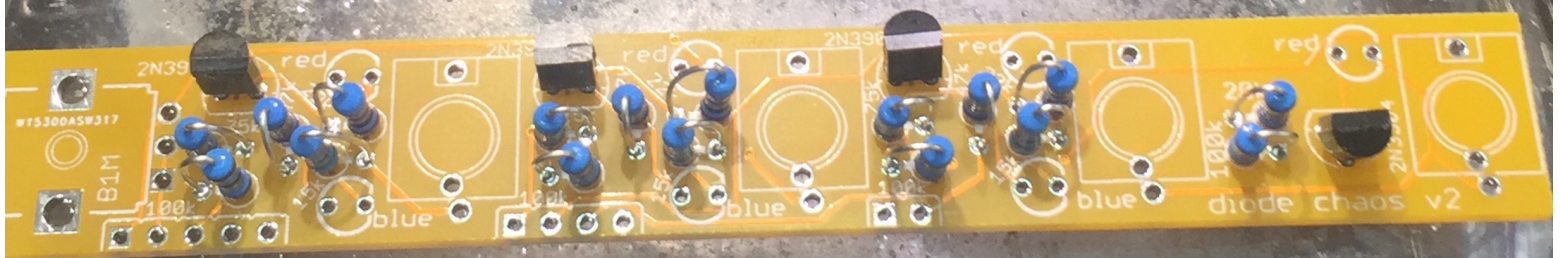
four: 3904 npn transistors. with flat side facing you bend the middle leg back a little bit. these are active components be aware of electrostatic discharge.



four: 3904 transistors

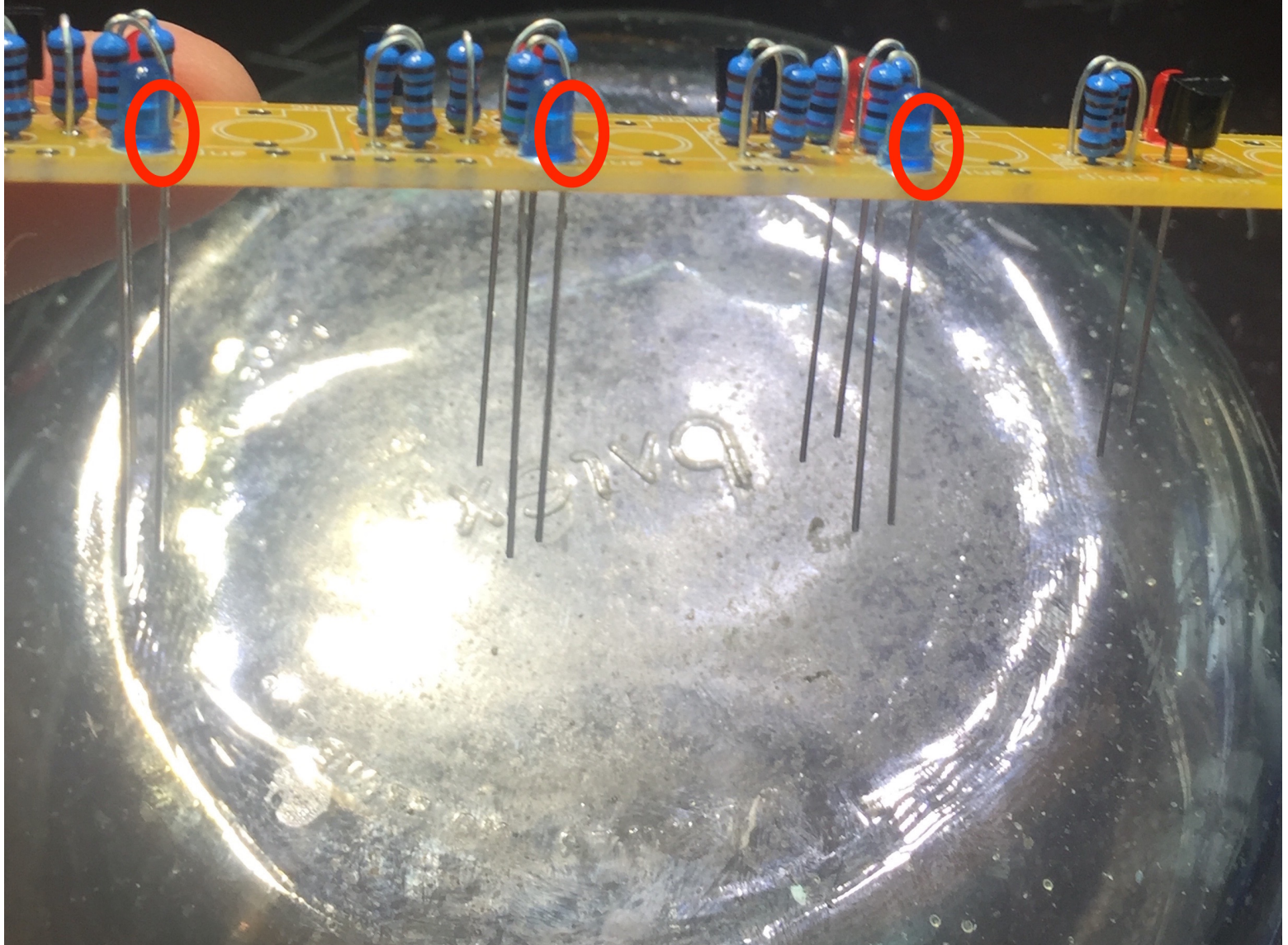


four: red LEDs
four: blue LEDs

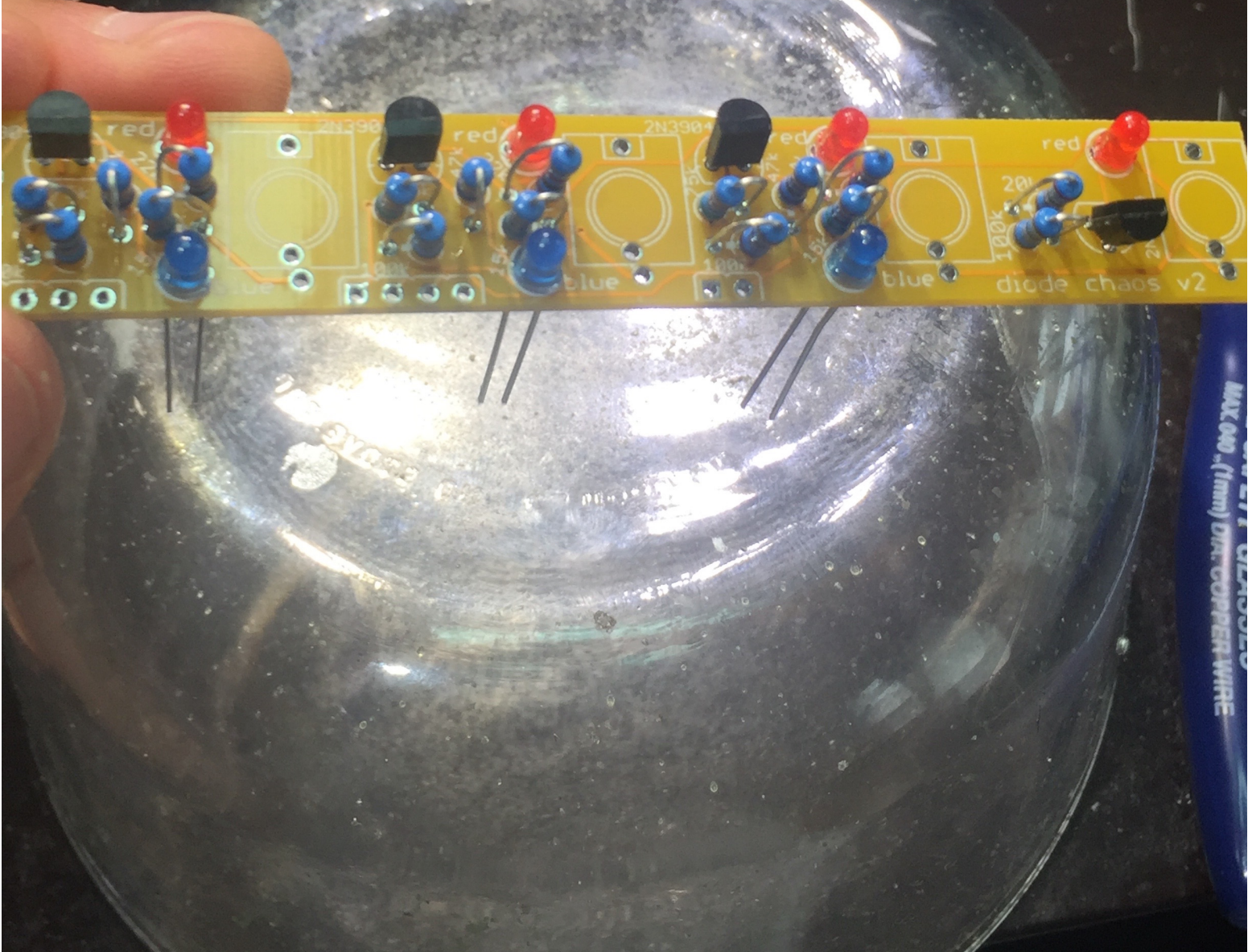


LEDs are active components
and are sensitive to
electrostatic discharge. also
do not overheat them.

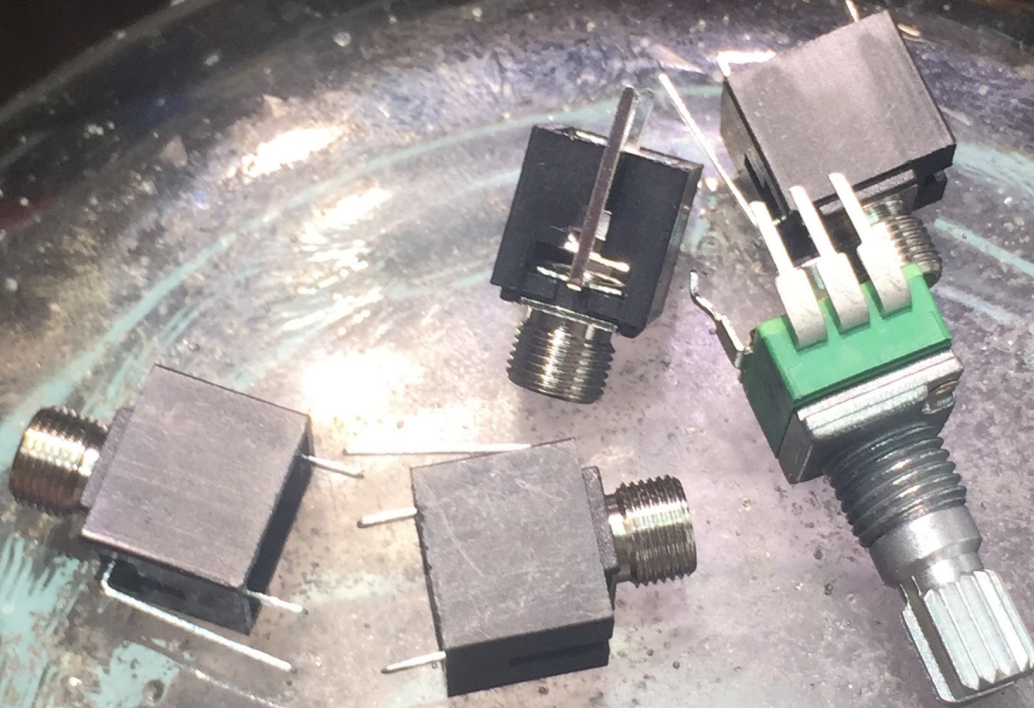
all short leg/flat sides of the LEDs face down (or to the right in this case). red LEDs go on the right and blue go on the left



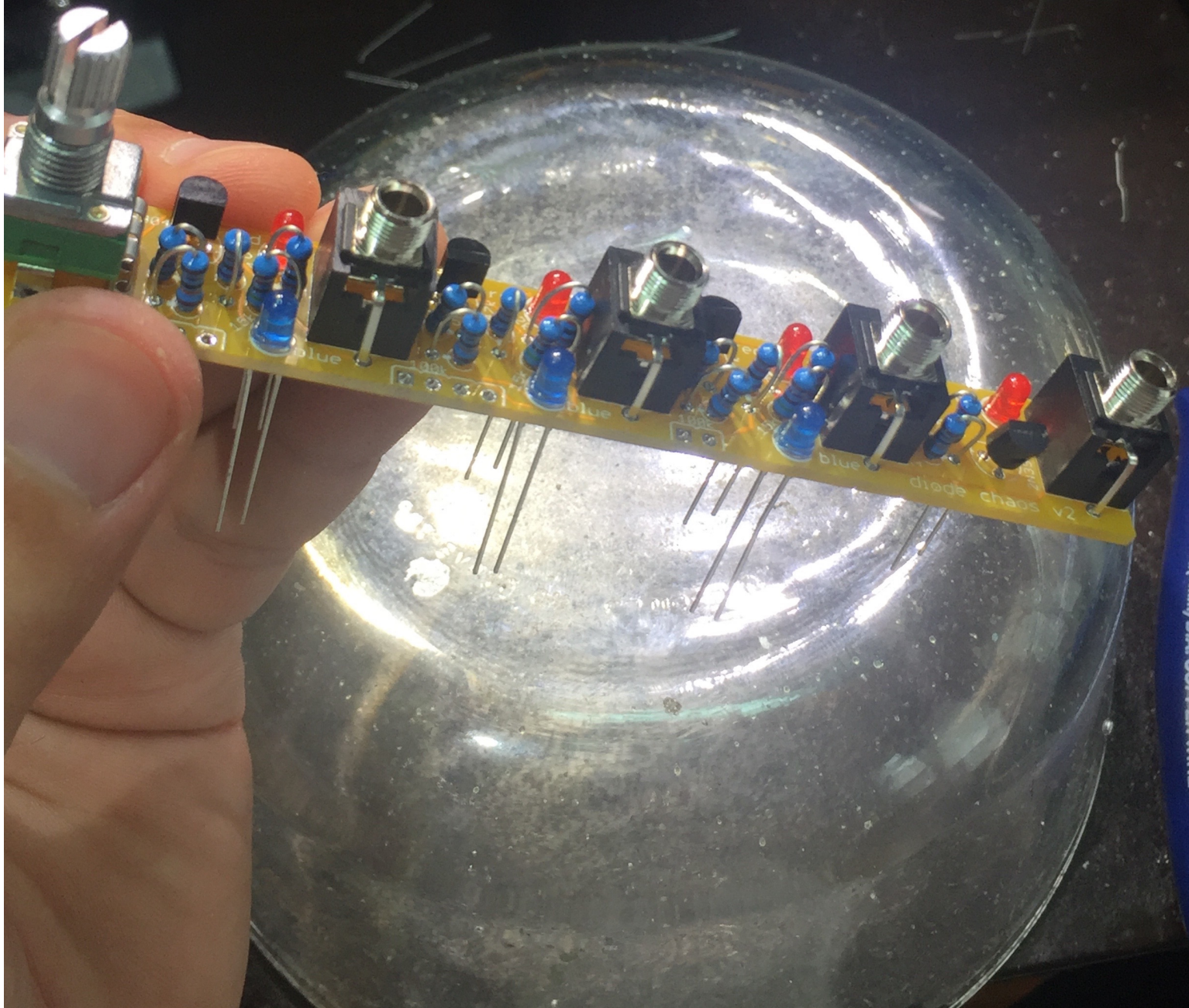
red on the right, blue on the left. DO NOT solder yet.



4 jacks, one 1M potentiometer



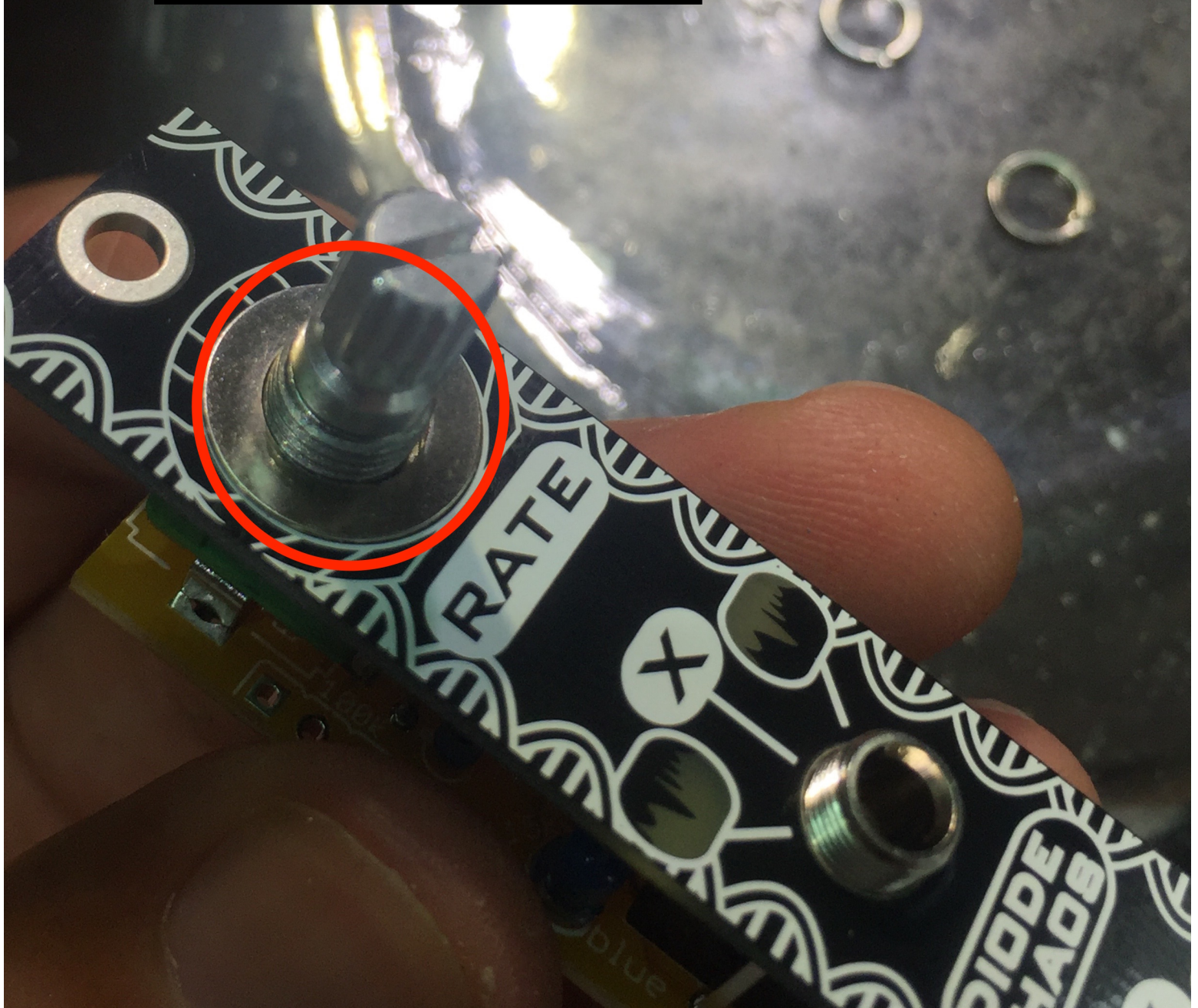
insert potentiometer and
jacks



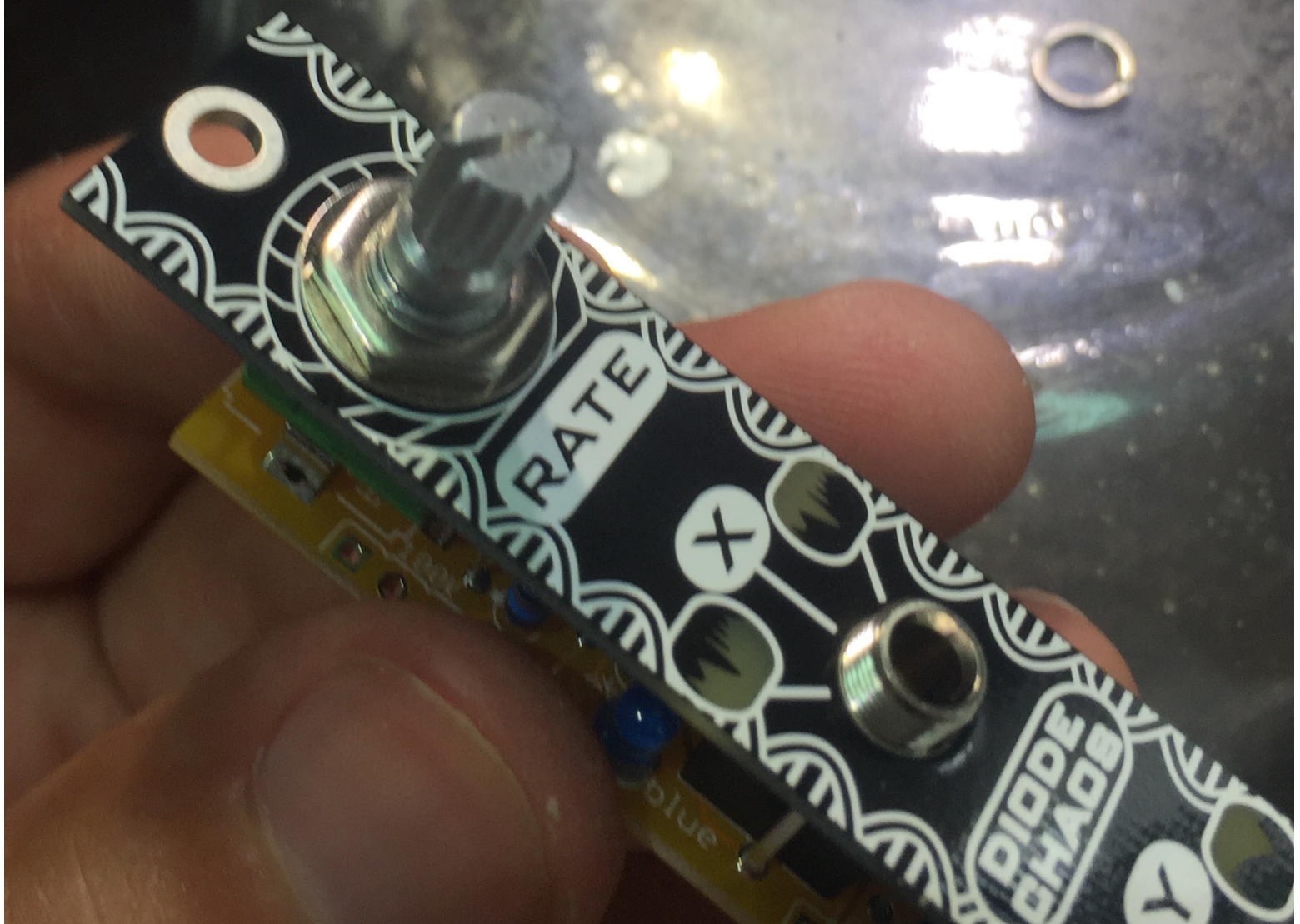
one washer, one
potentiometer nut,
four jack nuts.



put the
potentiometer
washer first

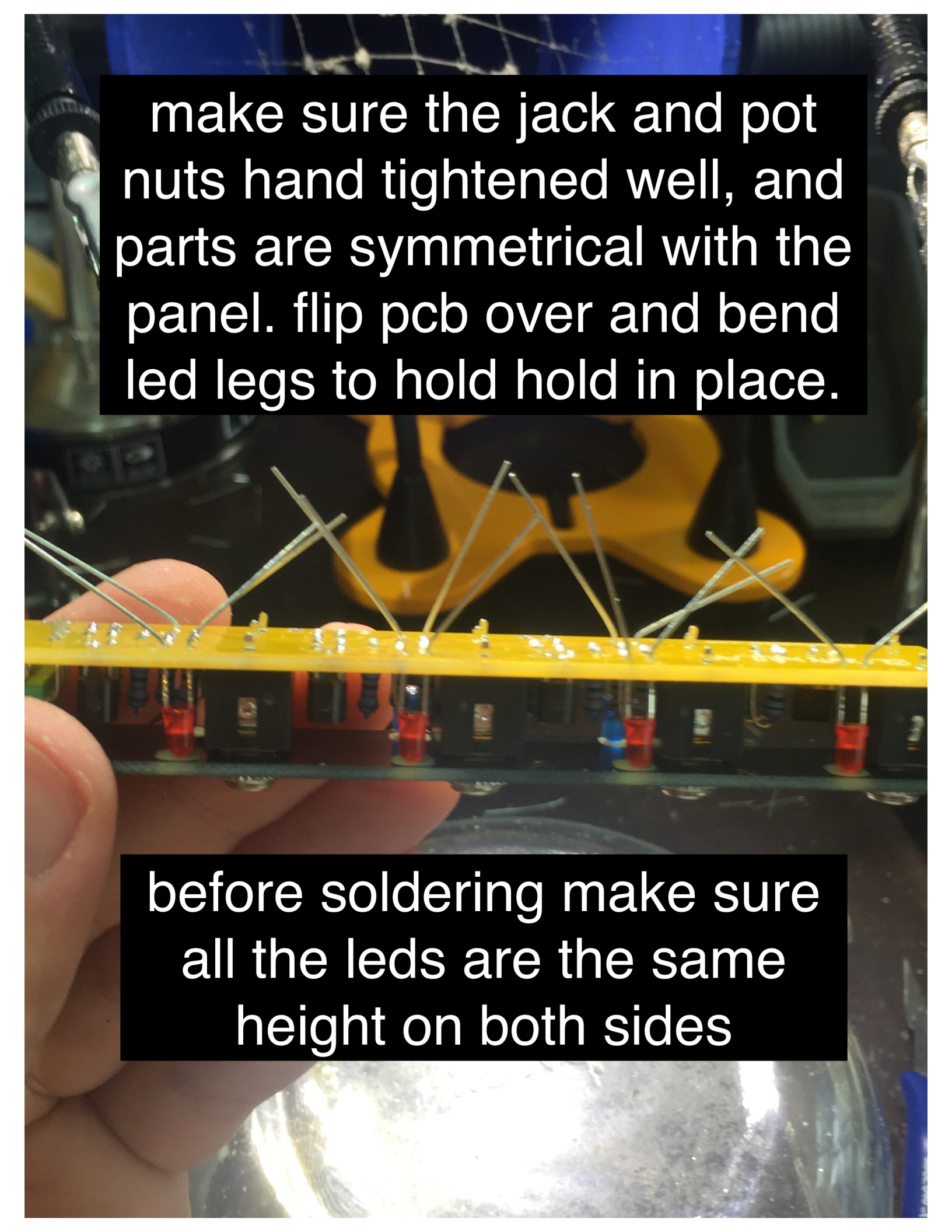


hand tighten
potentiometer
nut



hand tighten jack nuts.
make sure potentiometer
and jacks are flush with the
pcb and panel

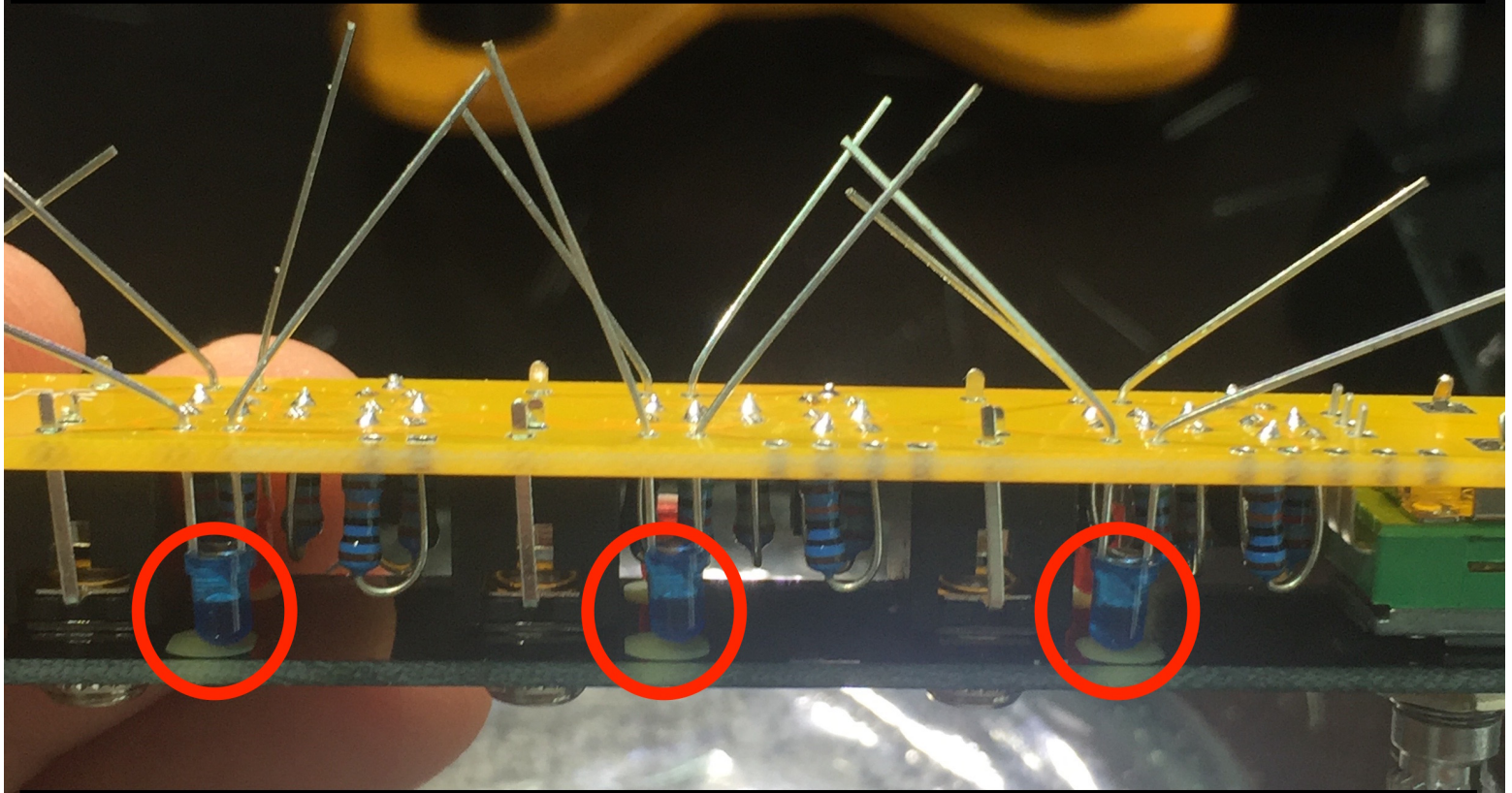




make sure the jack and pot nuts hand tightened well, and parts are symmetrical with the panel. flip pcb over and bend led legs to hold hold in place.

before soldering make sure all the leds are the same height on both sides

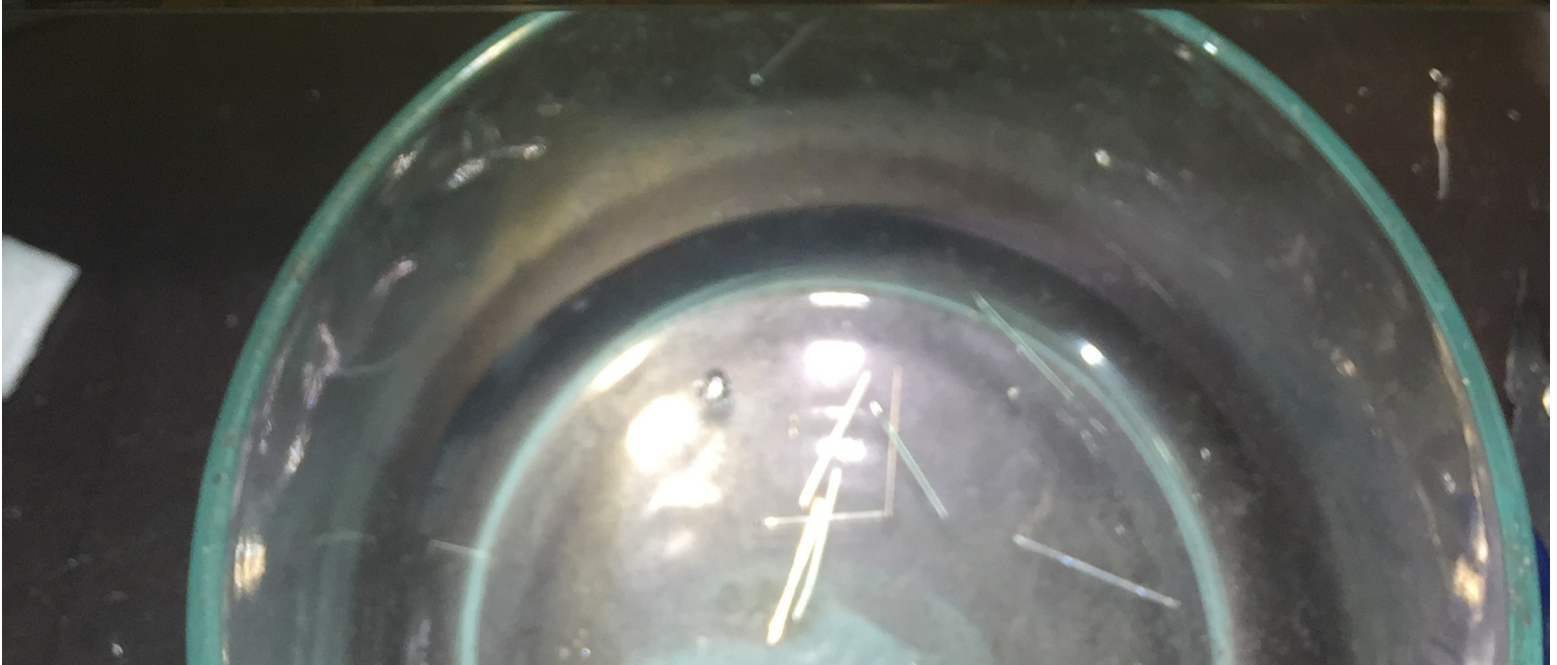
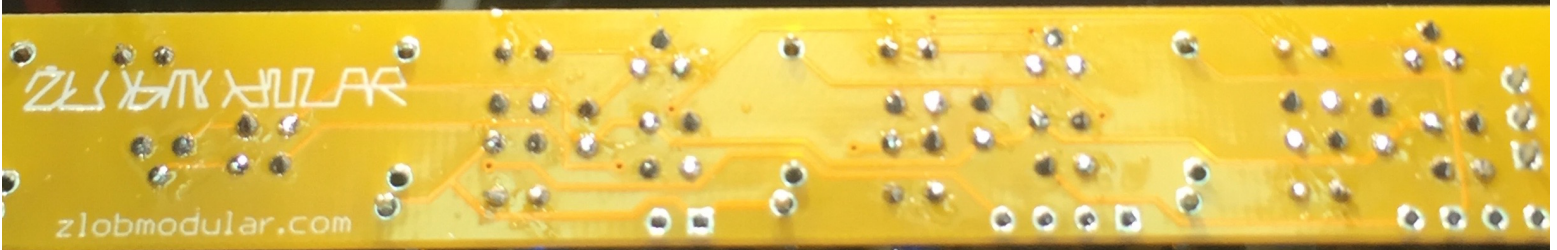
make sure the leds on this side are all the same height. be aware of static discharge and make sure all led flat sides match the silkscreen and face down




the leds should be close to the panel window. but keep in mind you have to fully tighten the jack nuts at the end so dont make them too close

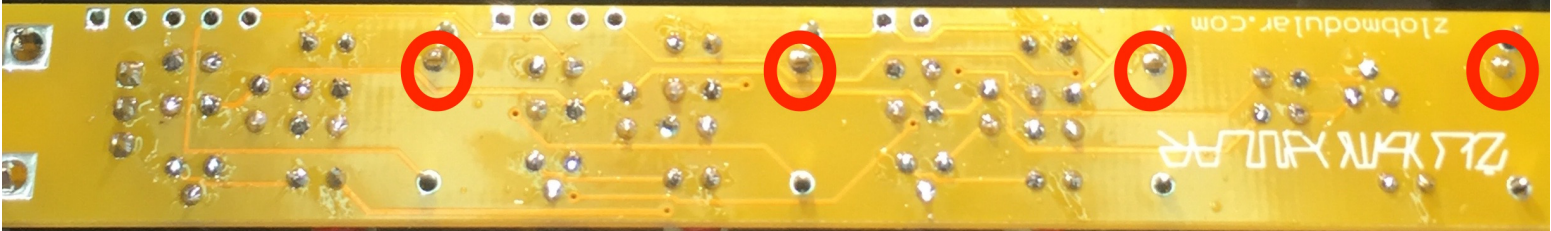


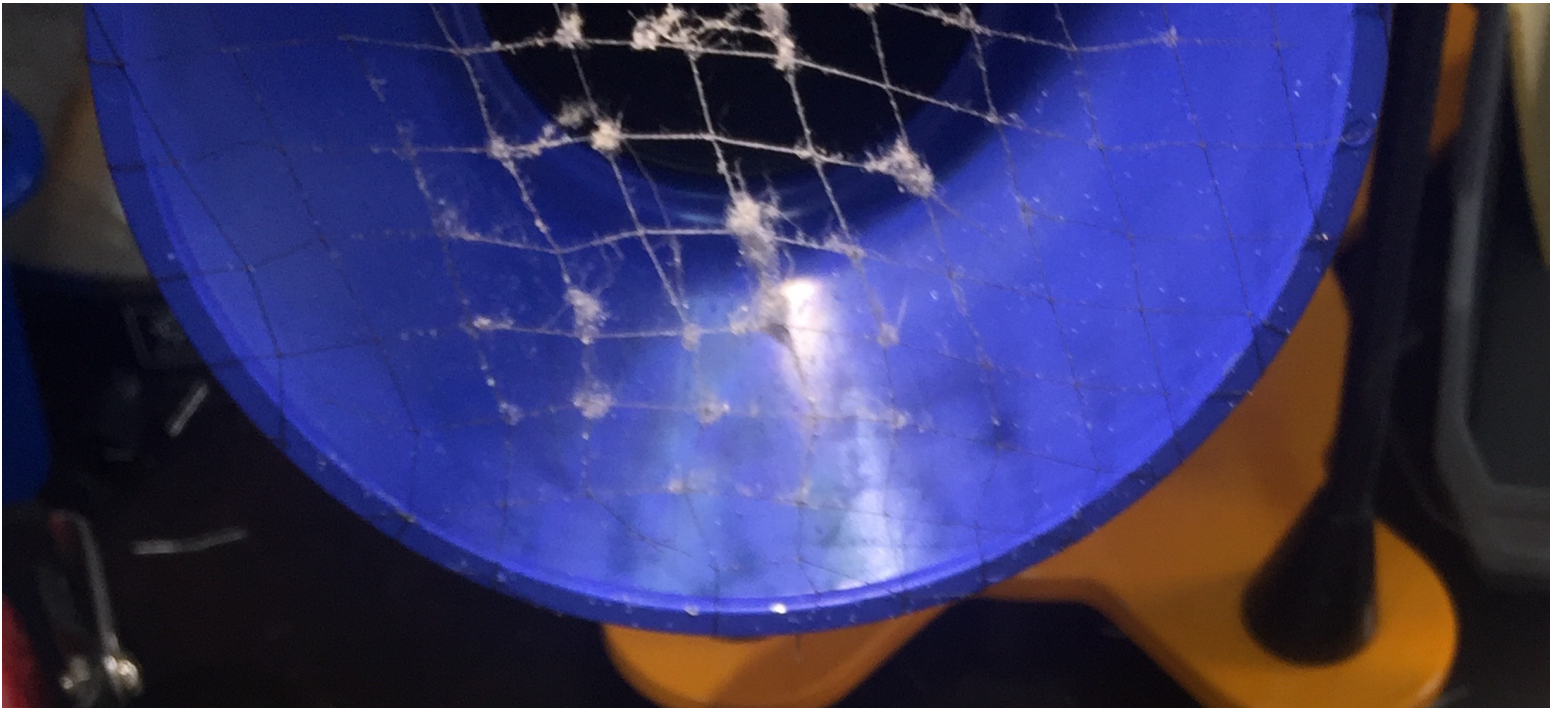
solder leds and trim



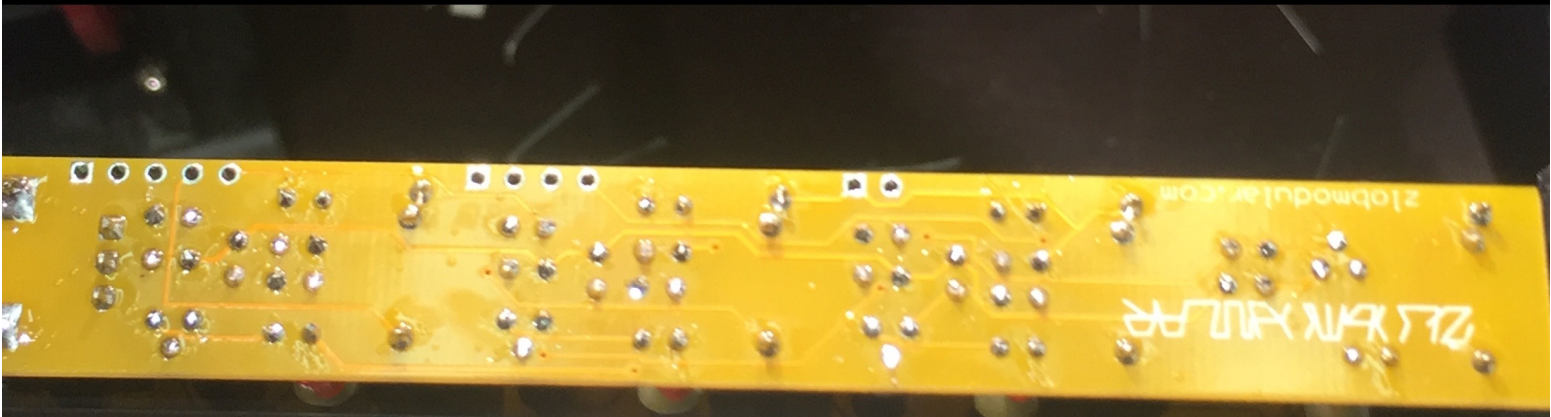


solder switch pin of each jack. this is a preference thing. but i think it helps keep the jacks more symmetrcial/flush when soldering.

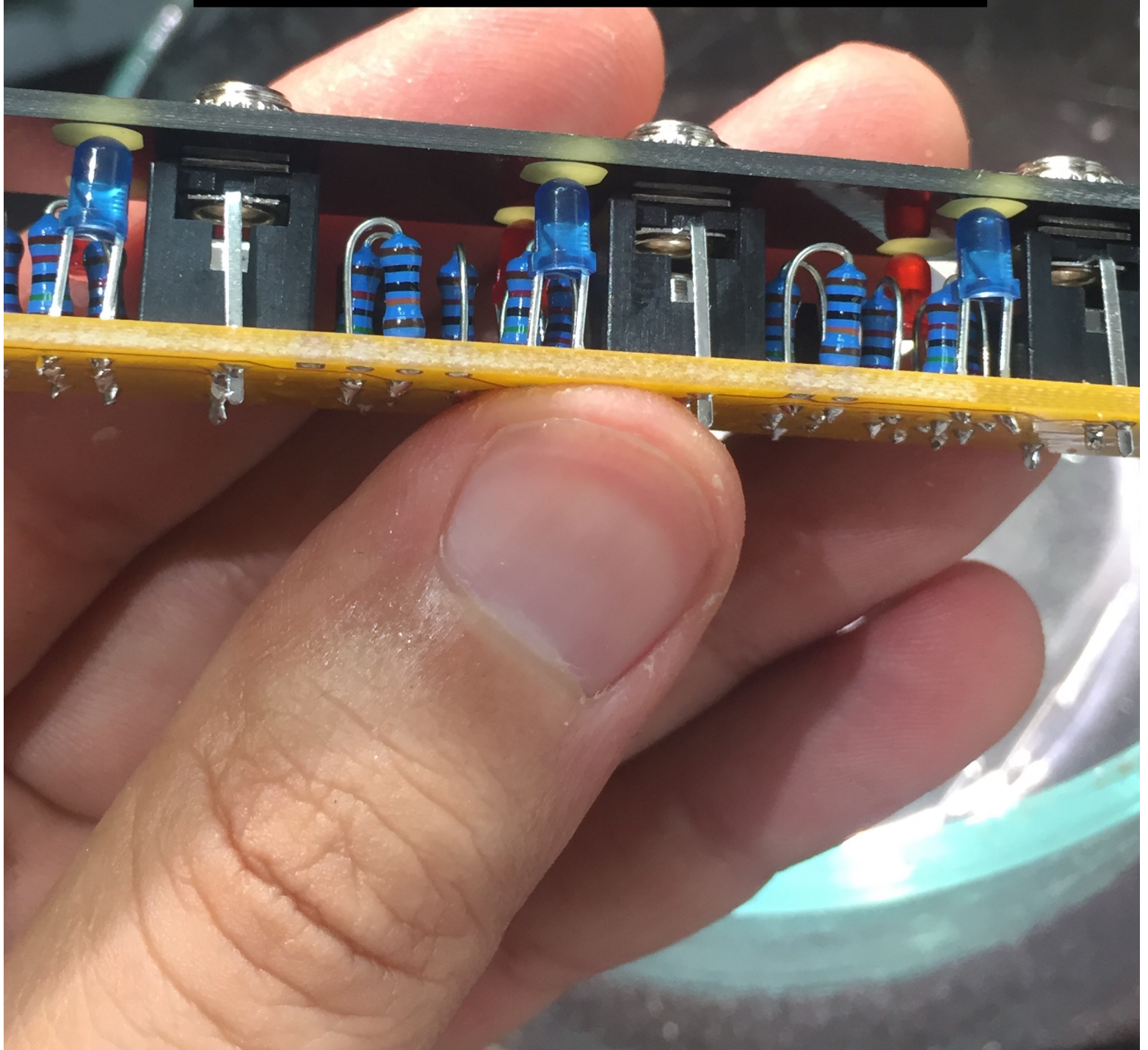





solder the rest of the jack and potentiometer pins



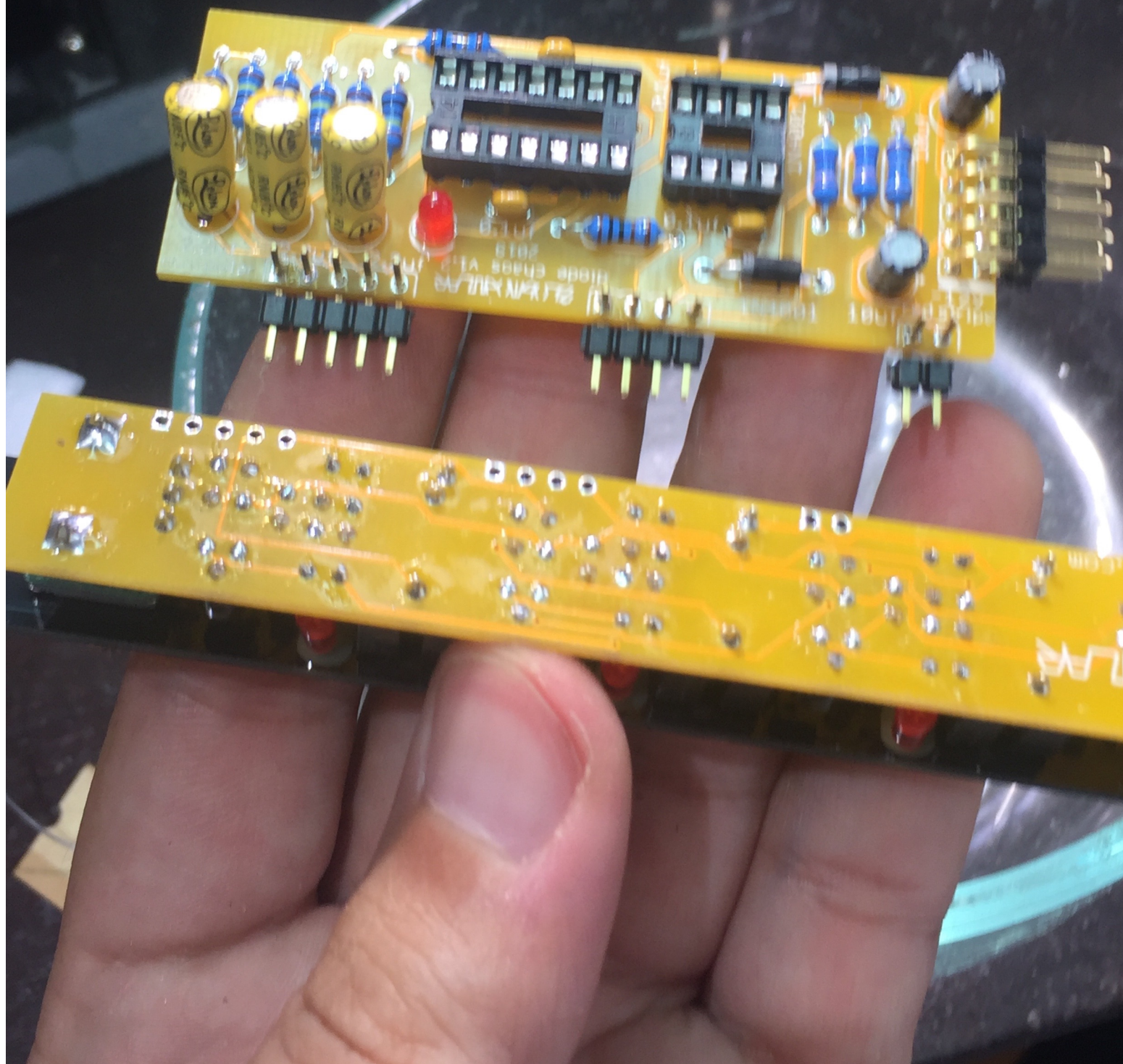
carefully bend the leds
toward their respective
window

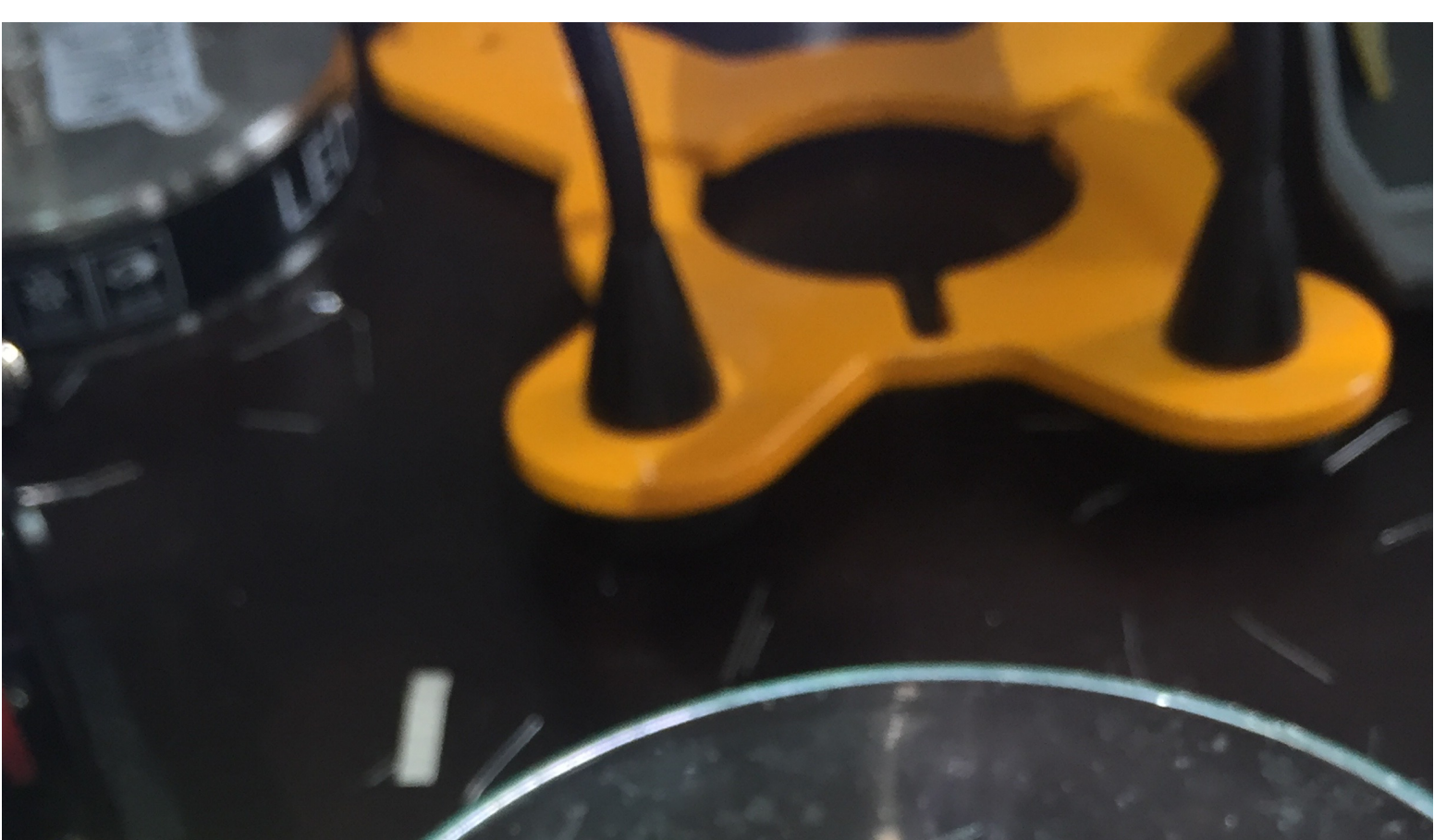
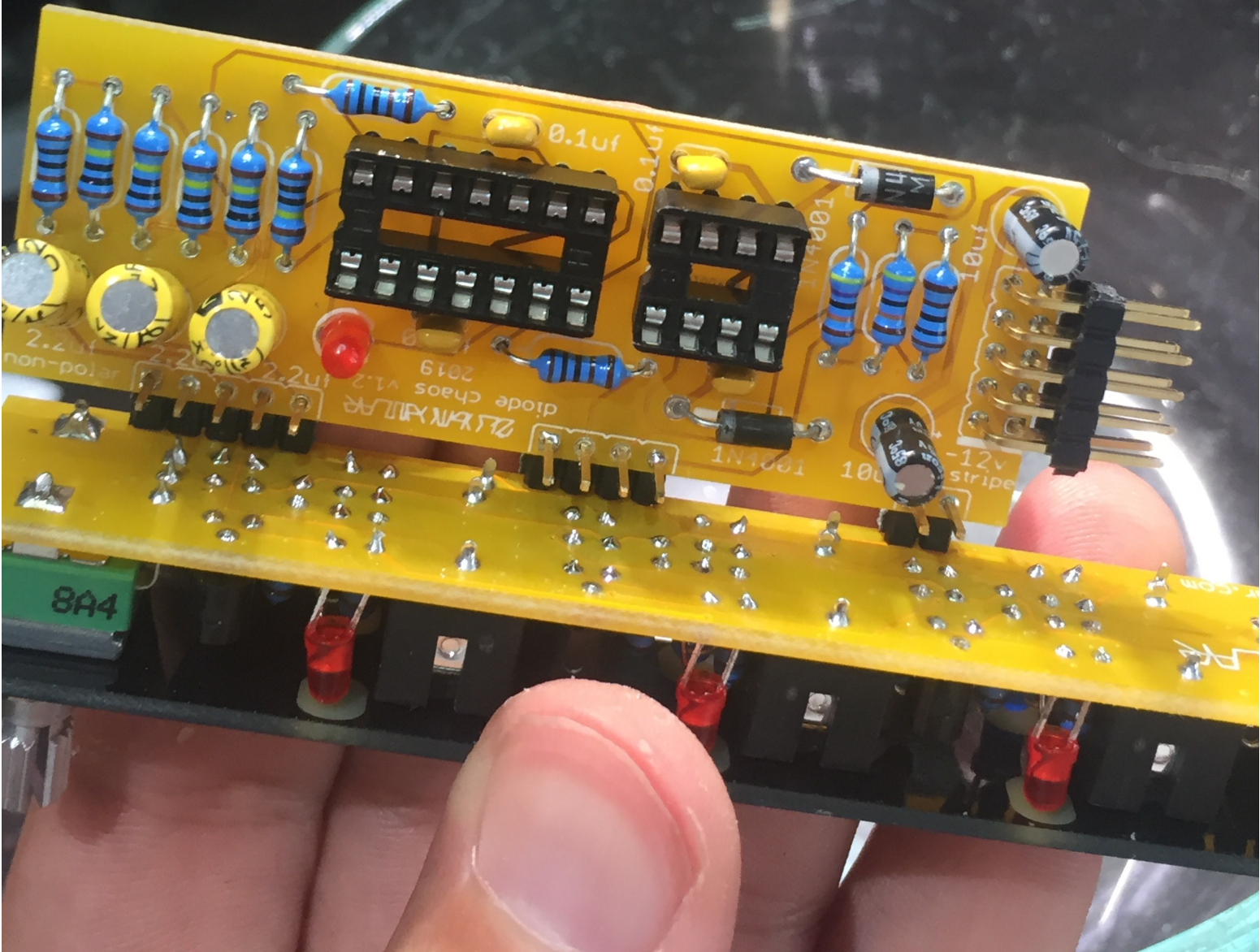




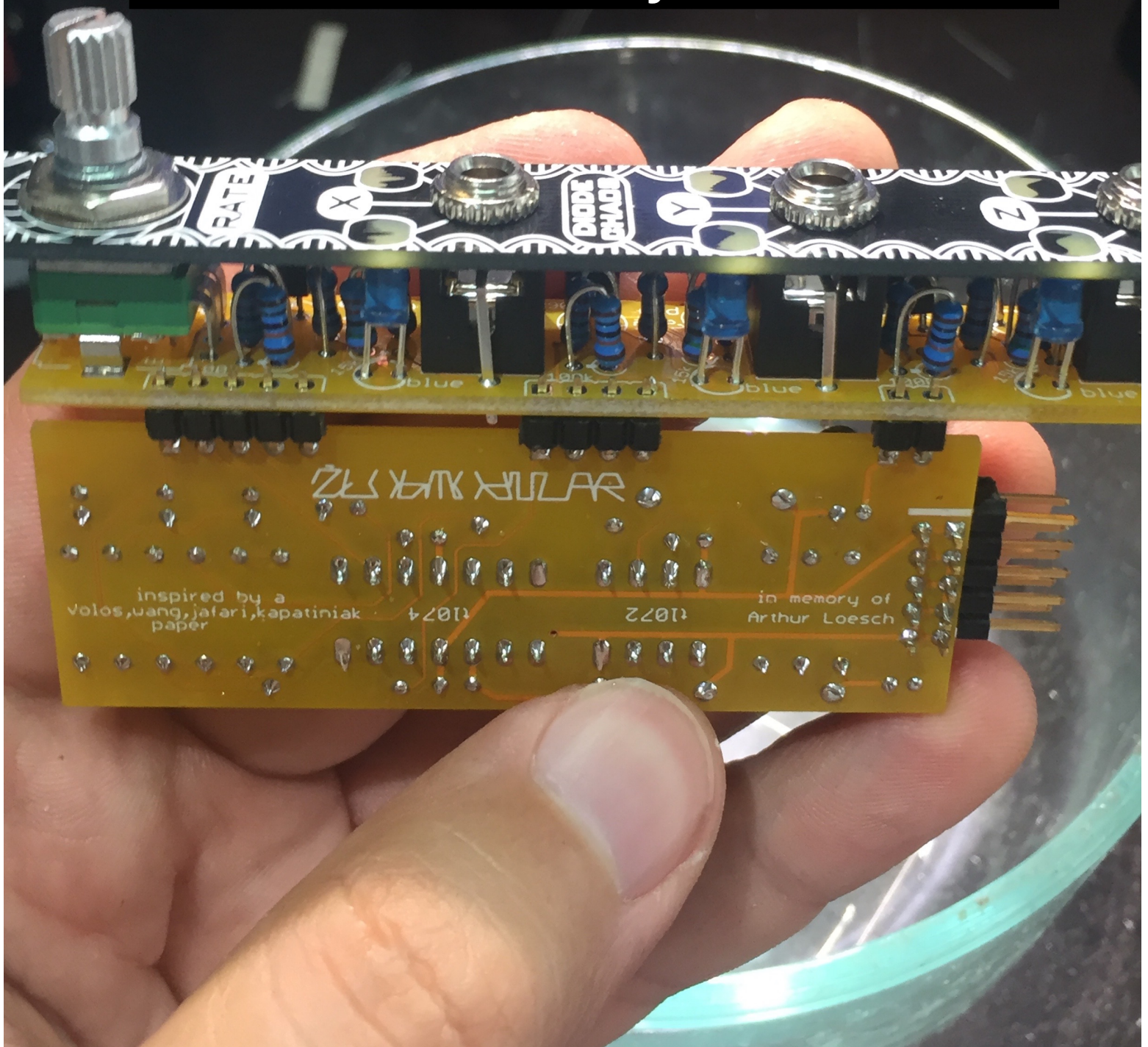
carefully bend the other leds
toward their solder mask
windows

now time to connect the
mother board to the top
pcb

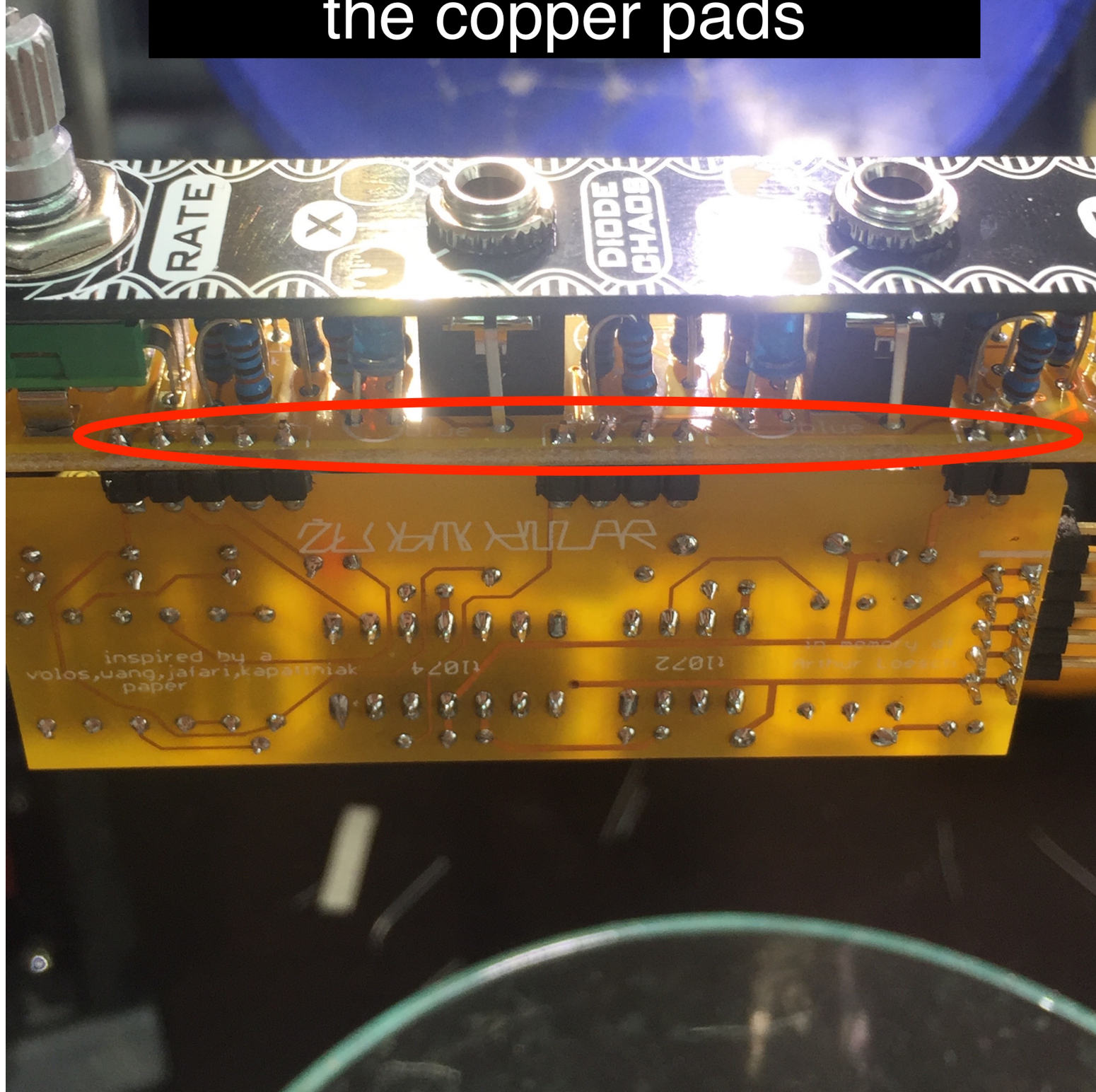


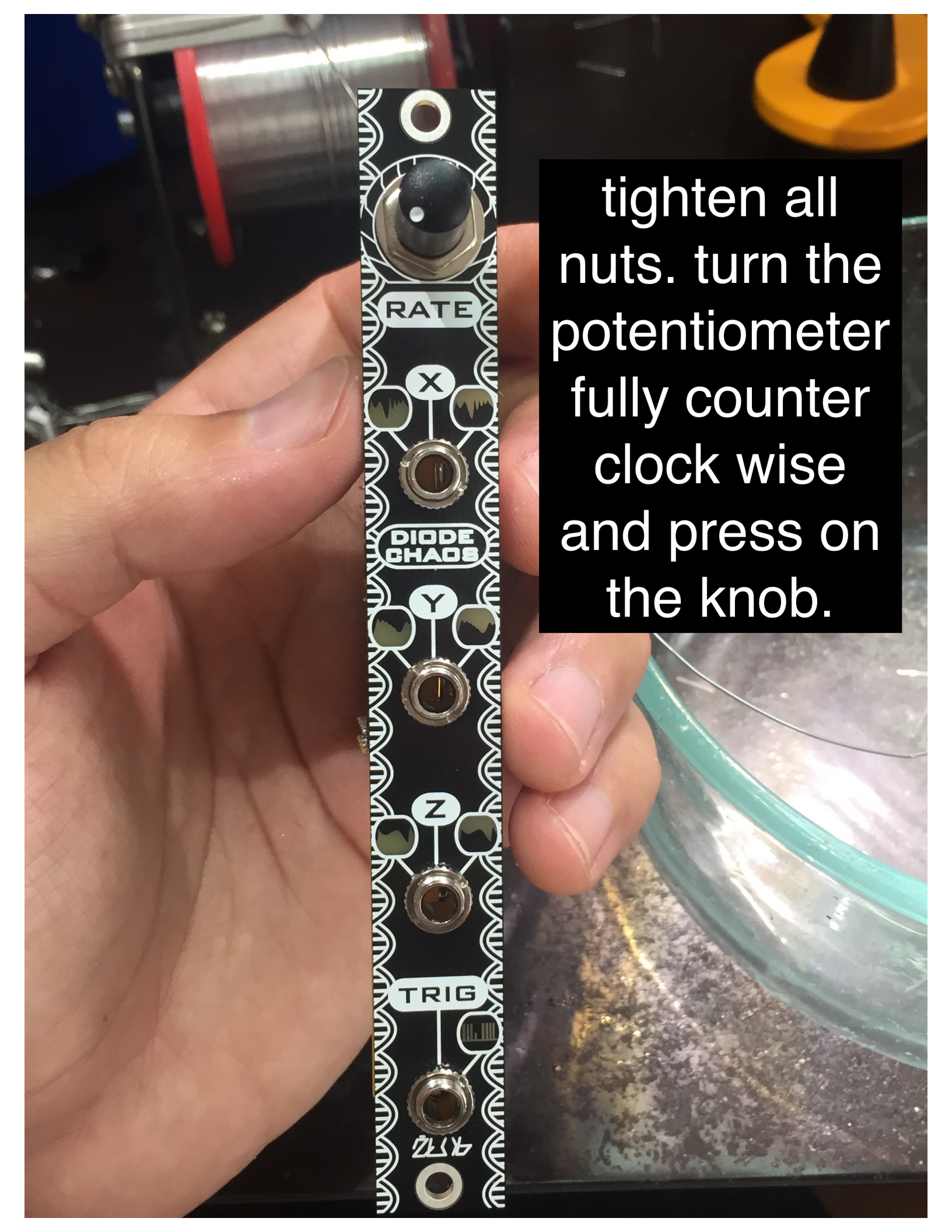


make sure headers
connecting mother to top pcb
are flush and symmetrical.



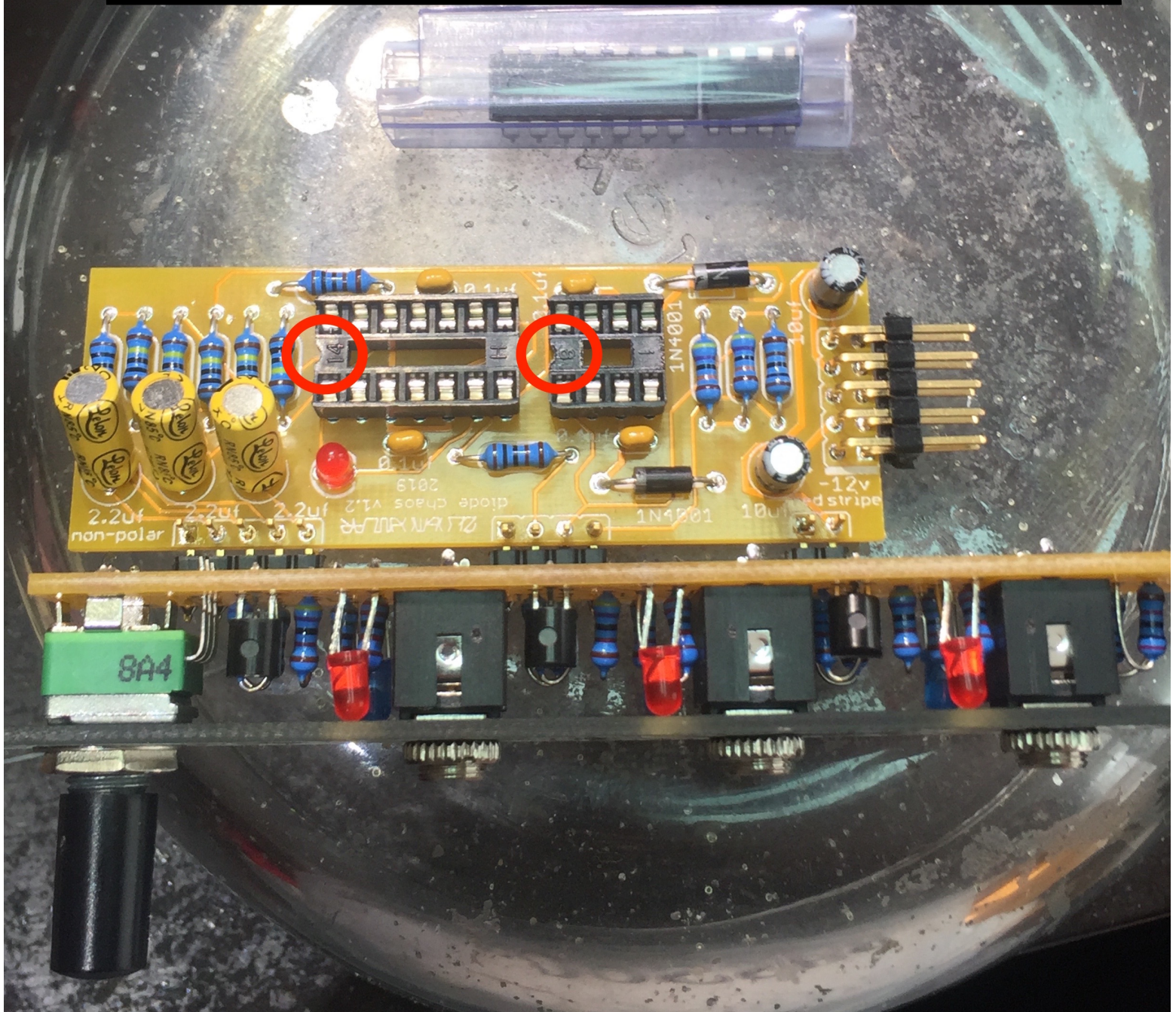
make sure the headers are thoroughly soldered. you should not be able to see the copper pads





tighten all
nuts. turn the
potentiometer
fully counter
clock wise
and press on
the knob.

finally, insert the chips. be aware of static discharge and pay attention the the direction of the chip. notches should match with the notches on the sockets



notches line up with sockets and writing should go left to right

