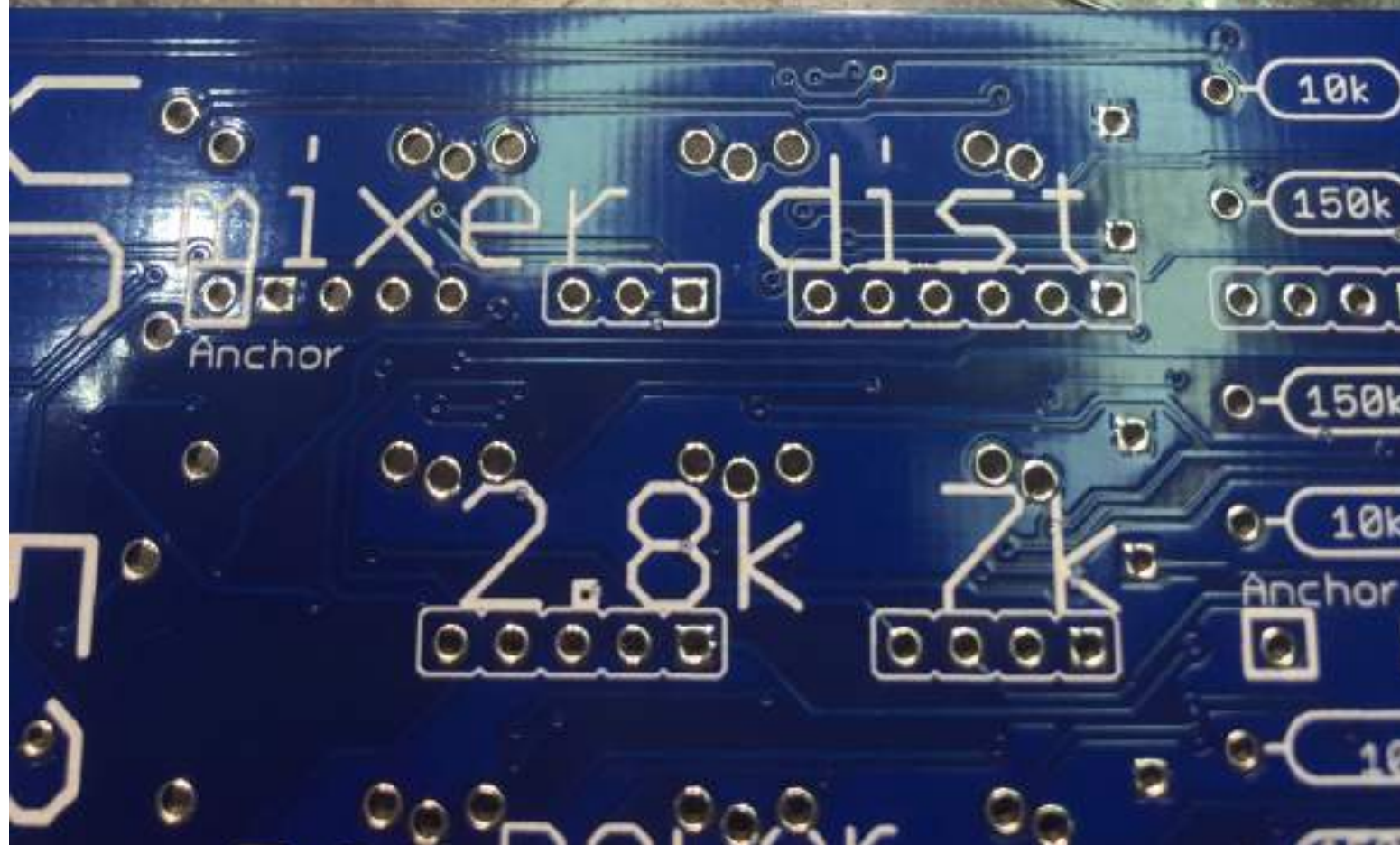
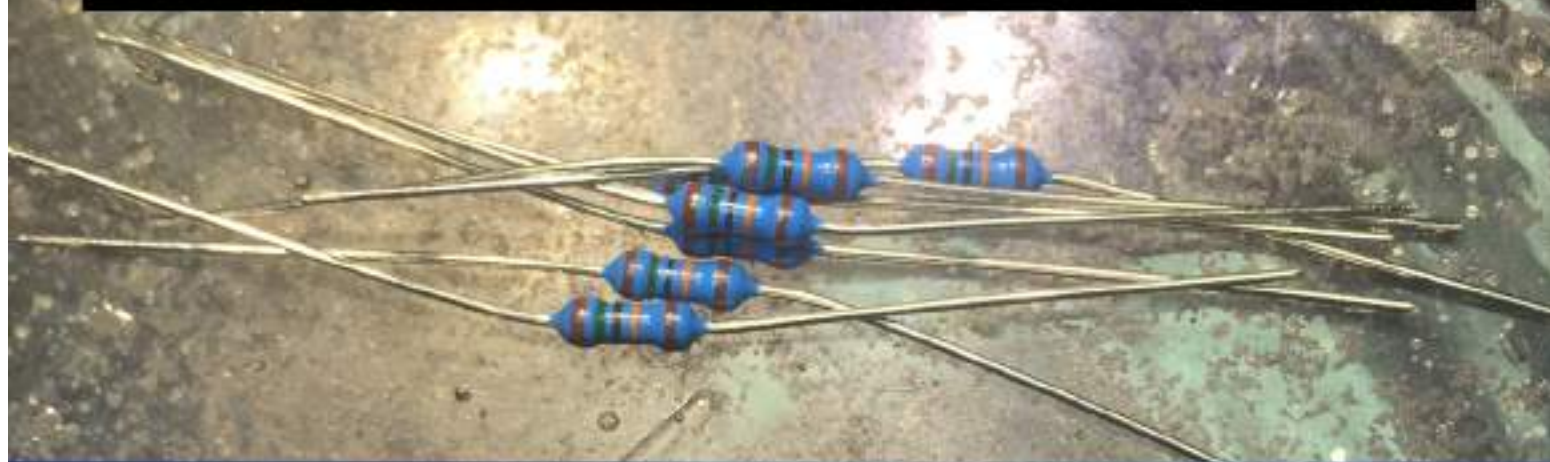
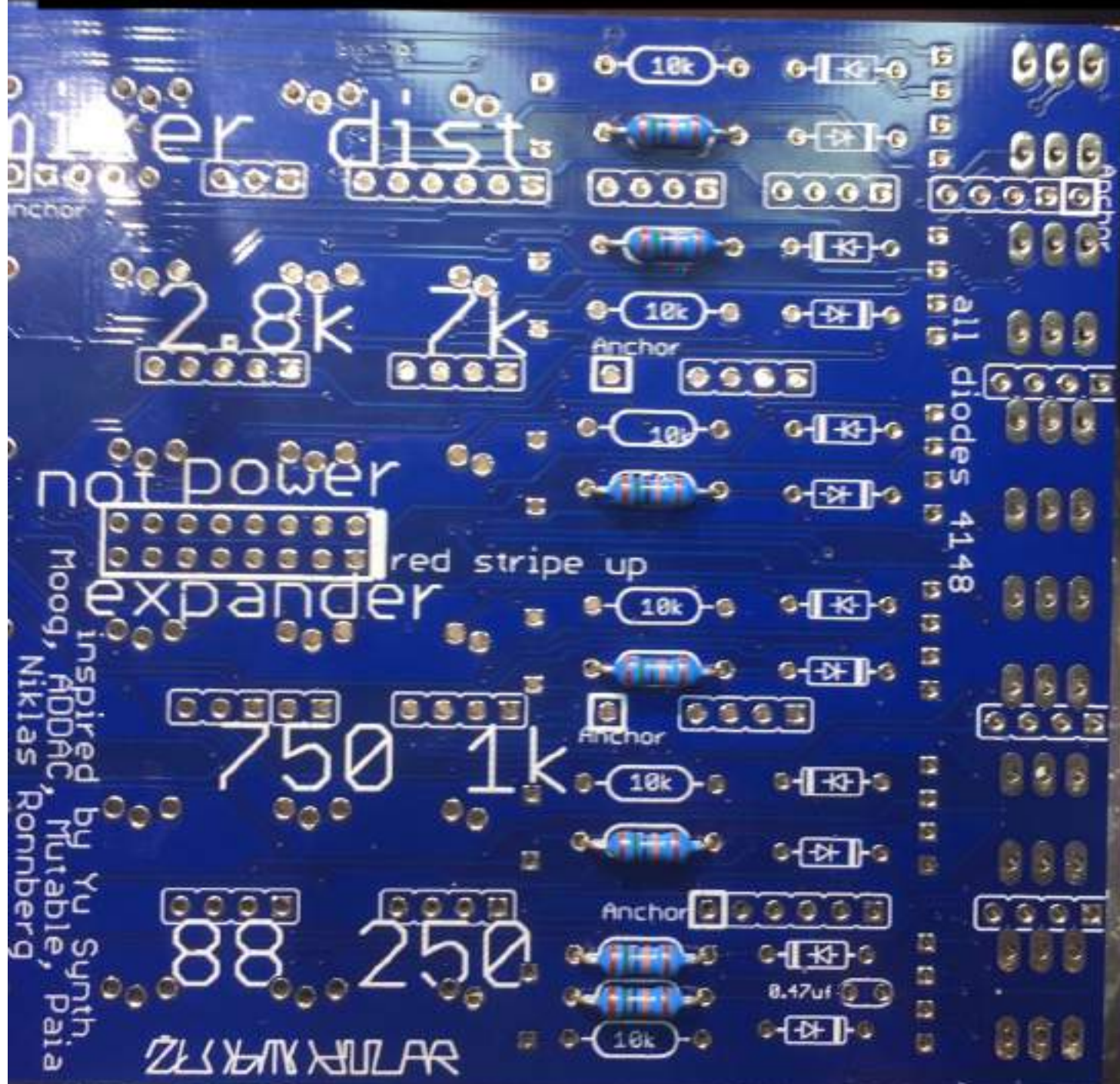


**SEVEN 150K RESISTORS
BROWN, GREEN, BLACK, ORANGE,
BROWN.**

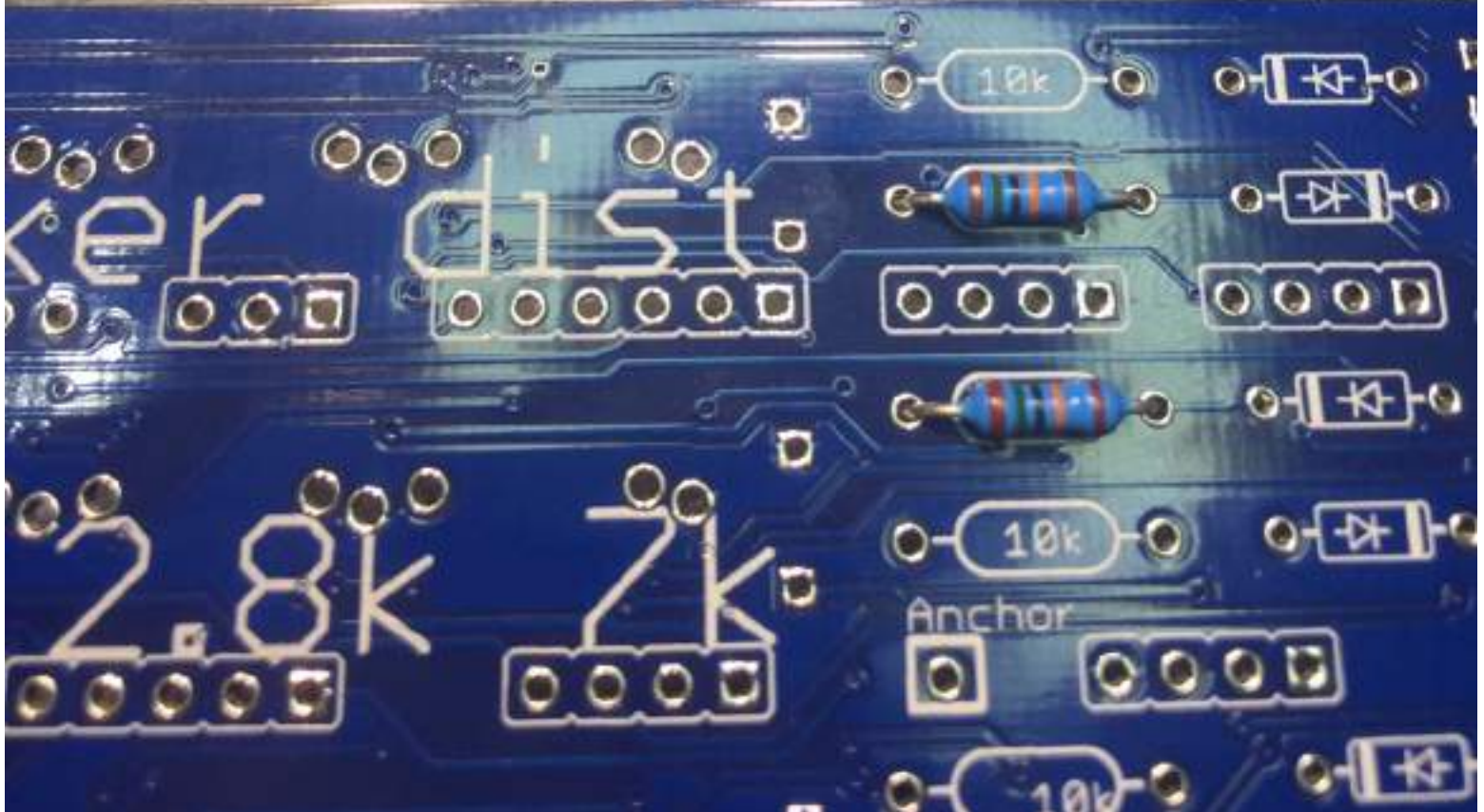
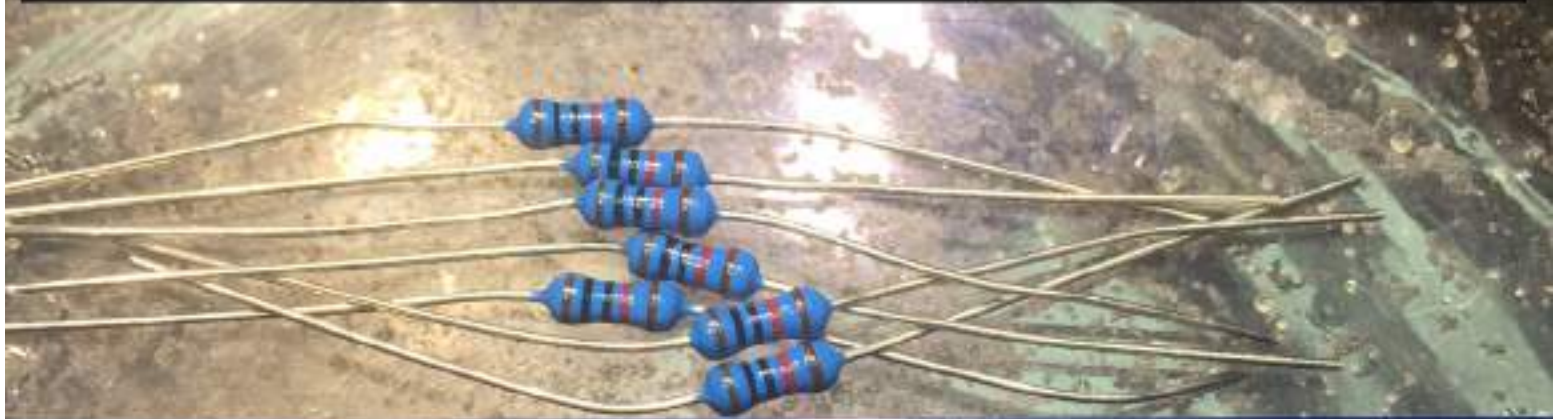
**RESISTORS/DIODES/CAP ARE
SOLDERED HORIZONTALLY ON
THE TOP PCB**



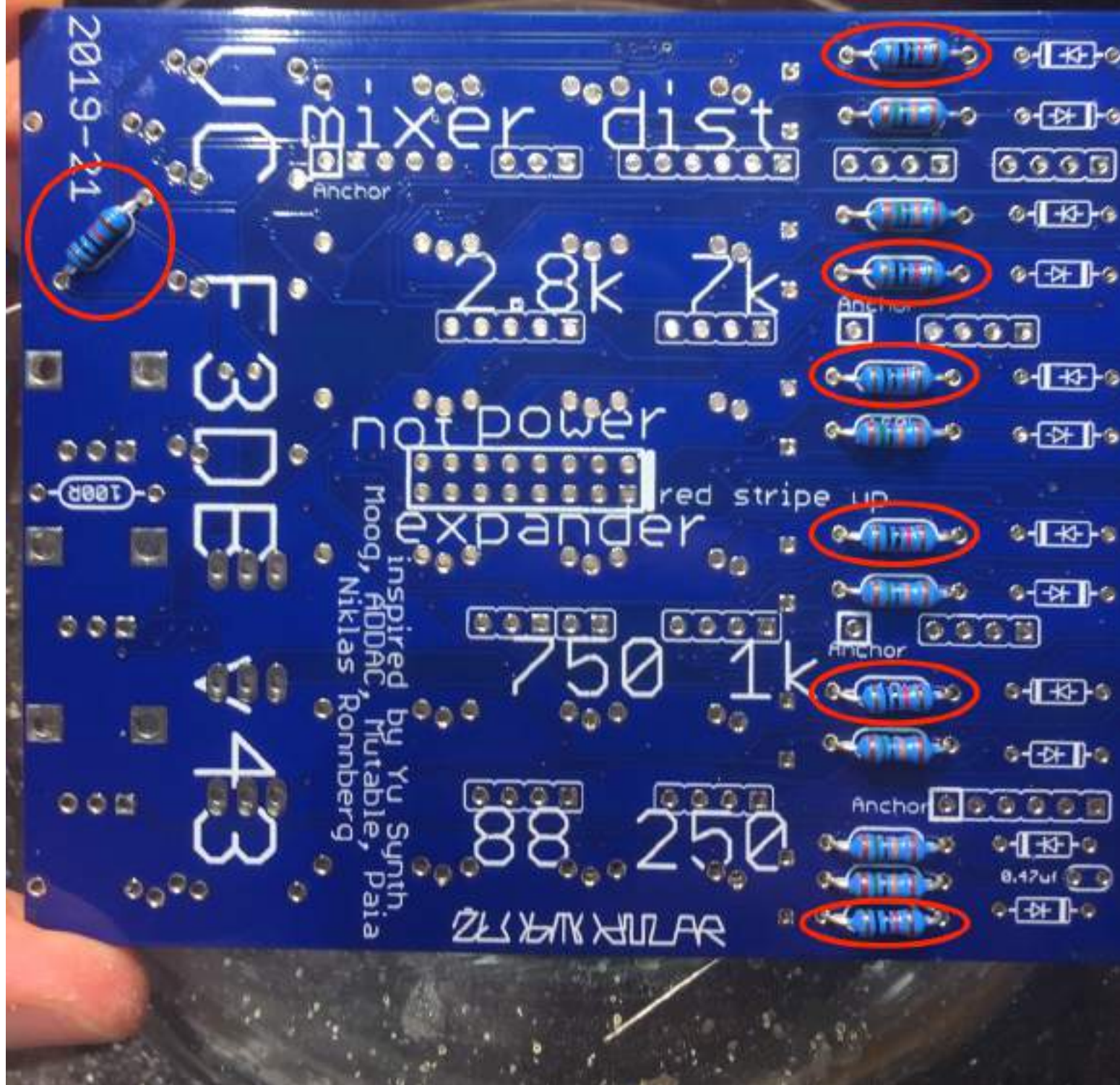
SEVEN 150K. MAKE SURE
THEY ARE FLUSH WITH THE
PCB



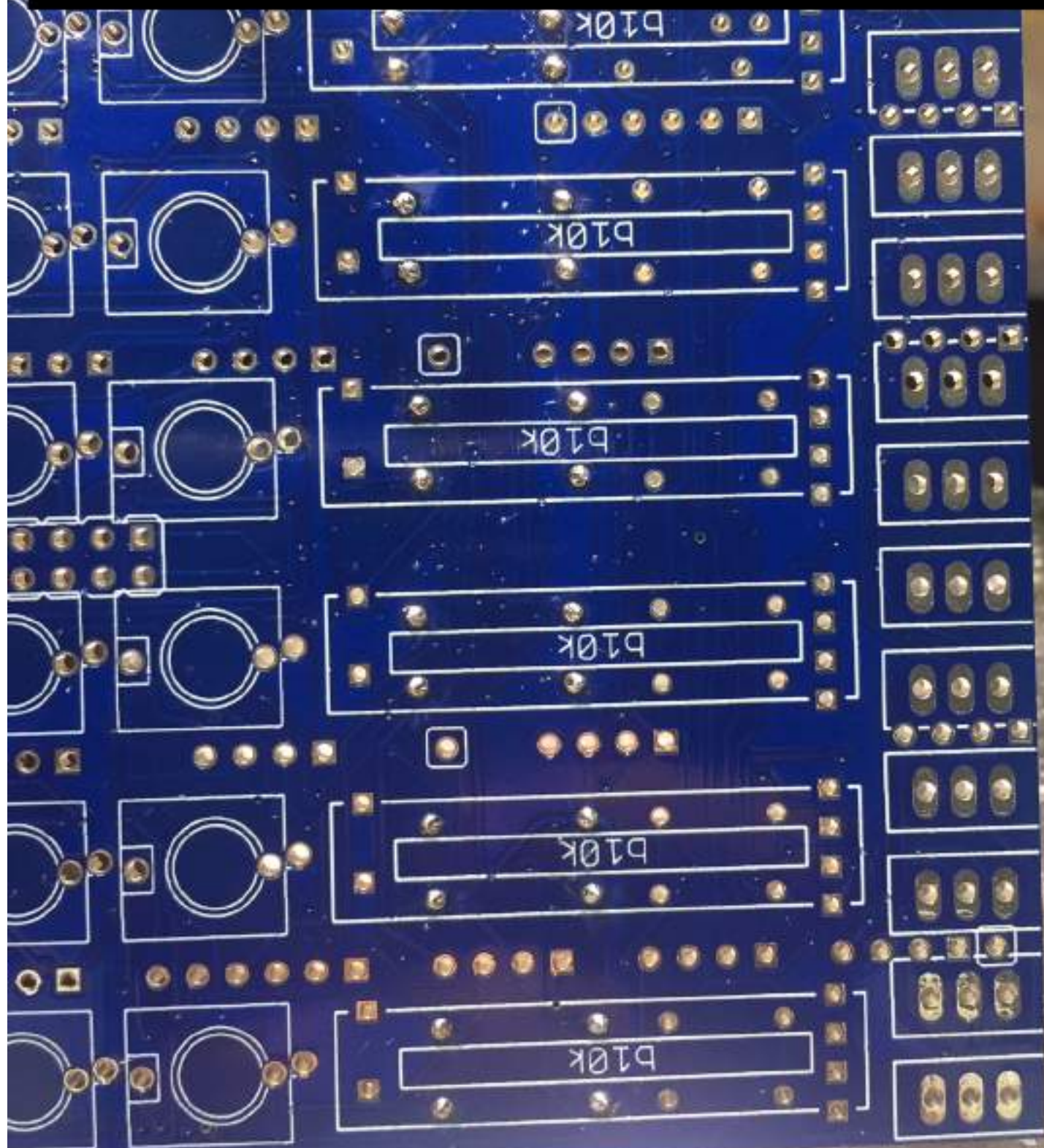
**SEVEN 10K
BROWN,BLACK,BLACK,RED,BROWN**

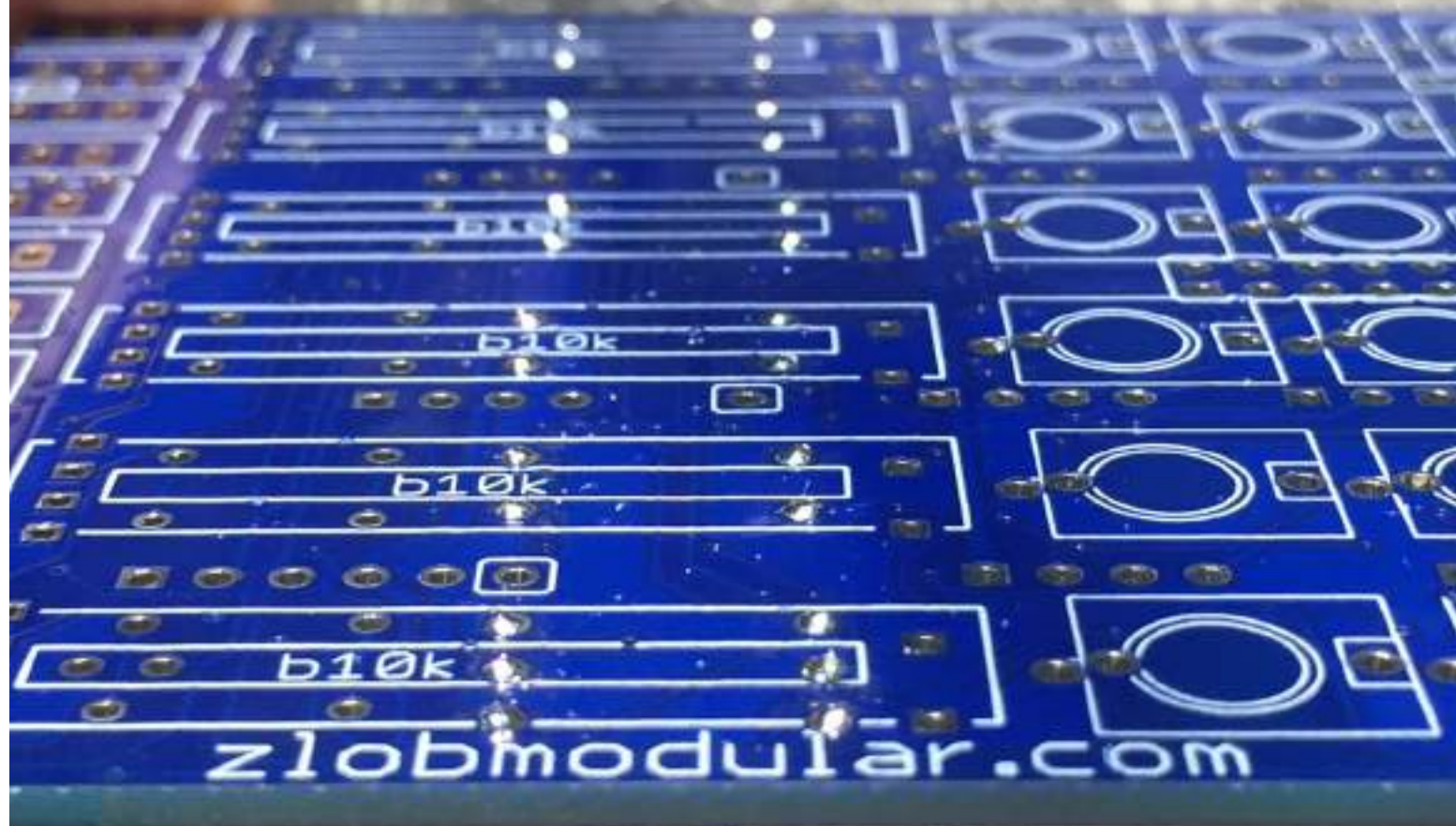


SEVEN 10K

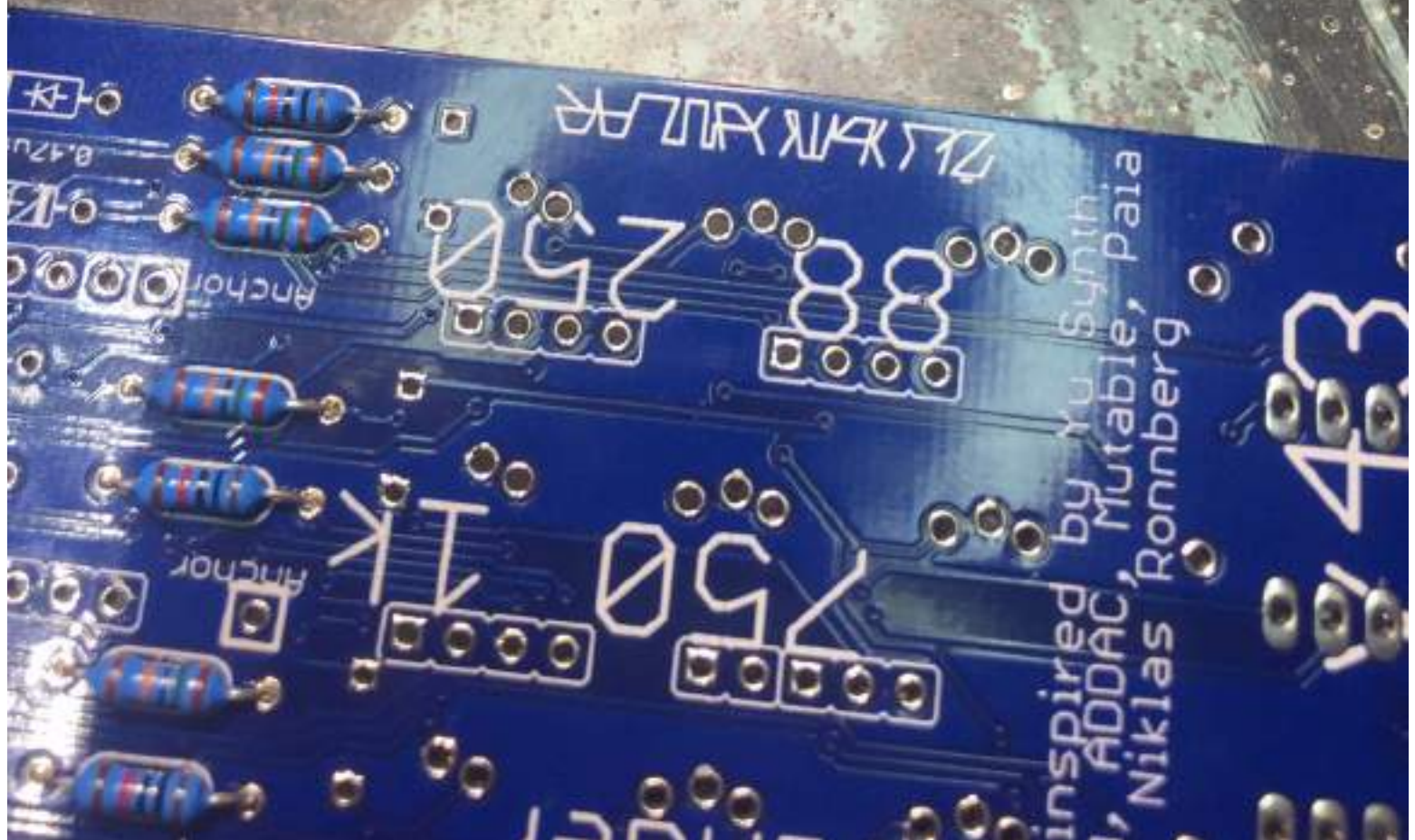


YOU HAVE TO CLIP ALL RESISTORS AND
DIODES AS CLOSE AS POSSIBLE AND REHIT
WITH IRON TO FLATTEN OUT. SO THE SLIDE
POTS CAN SIT FLUSH ABOVE THE SOLDER
JOINTS

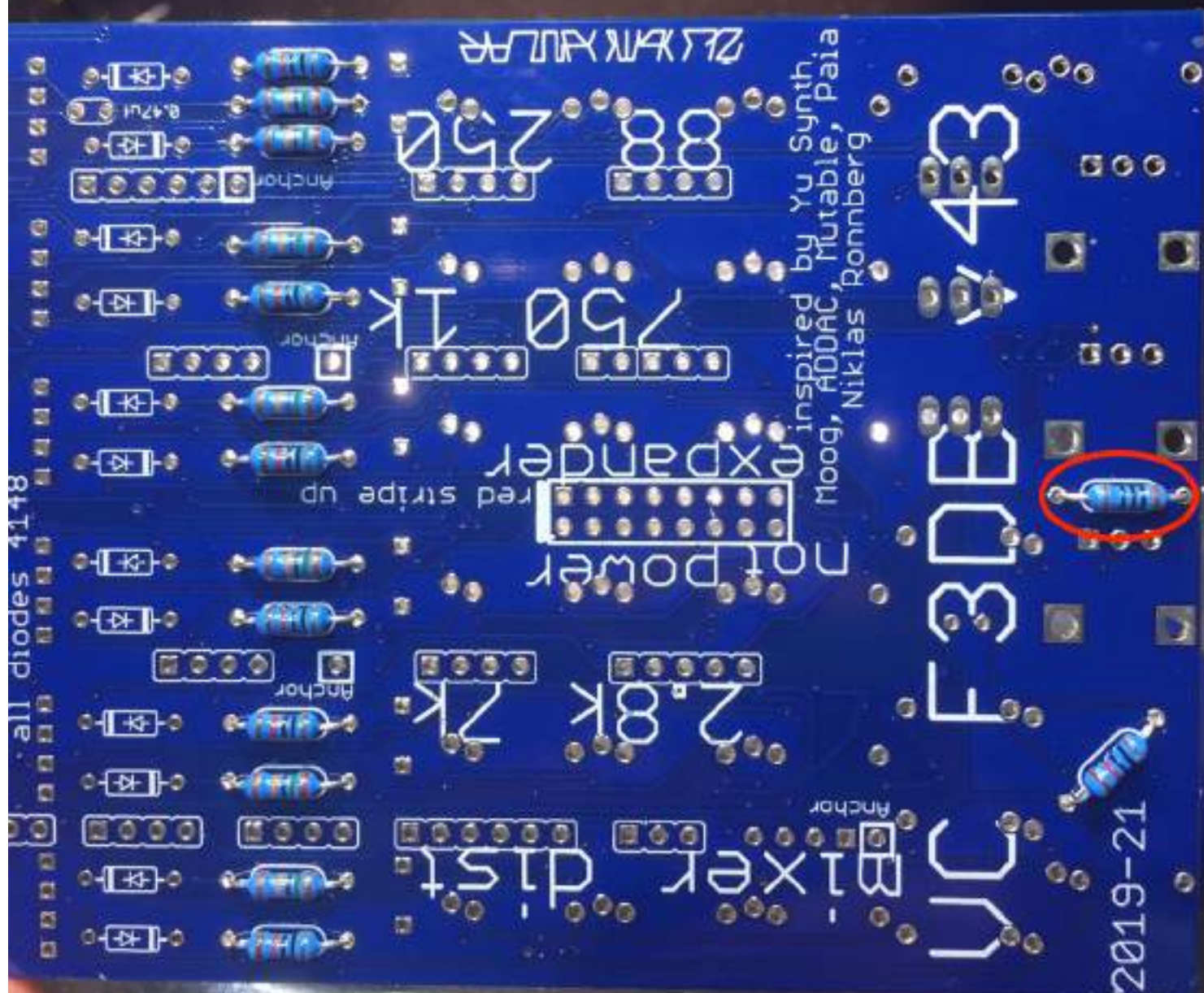




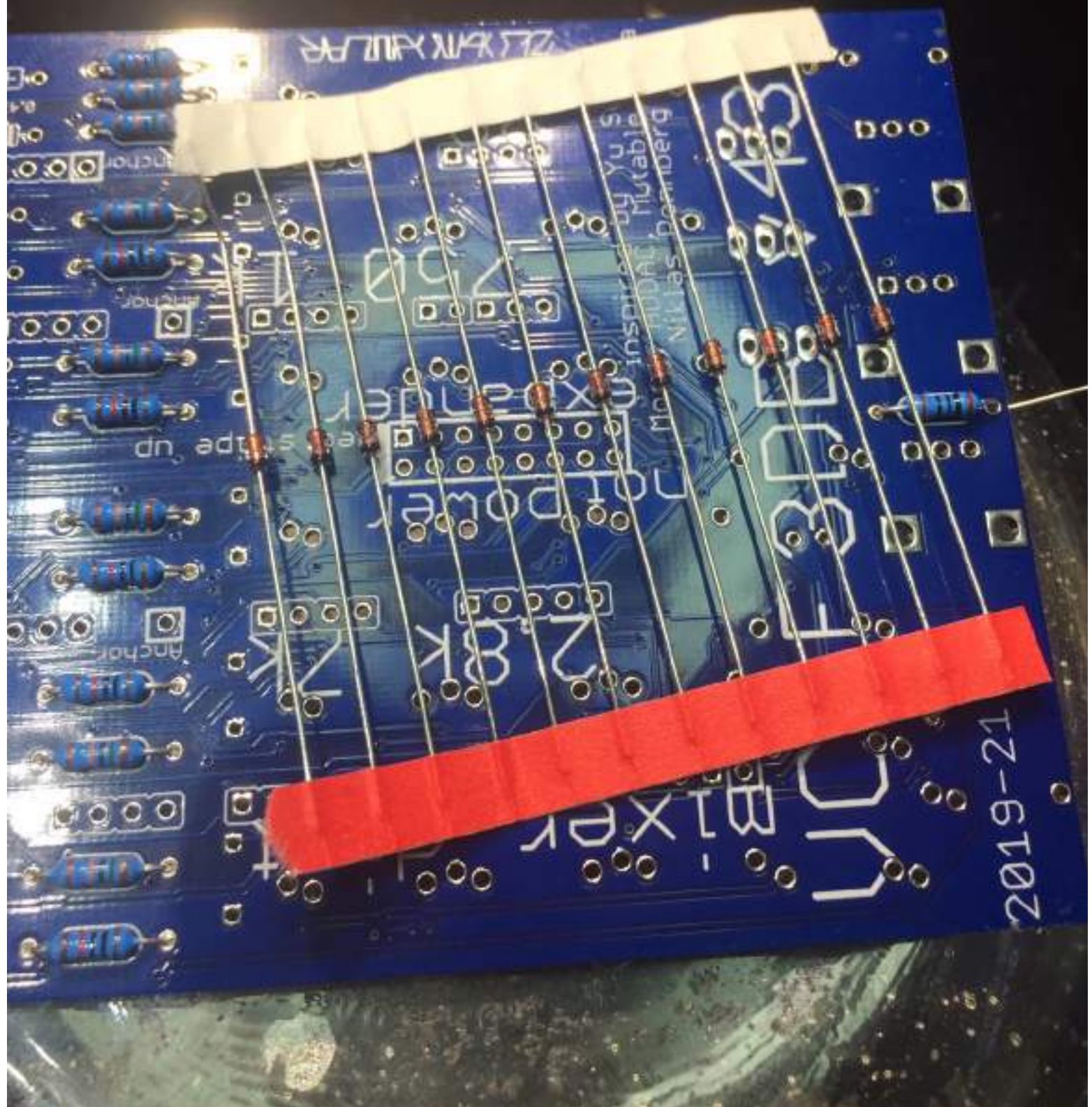
ONE 100R(OHM)
BROWN,BLACK,BLACK,
BLACK,BROWN



100R



**TWELVE 4148 DIODES
BE CAREFUL WHILE HANDLING
AND DONT OVERHEAT**

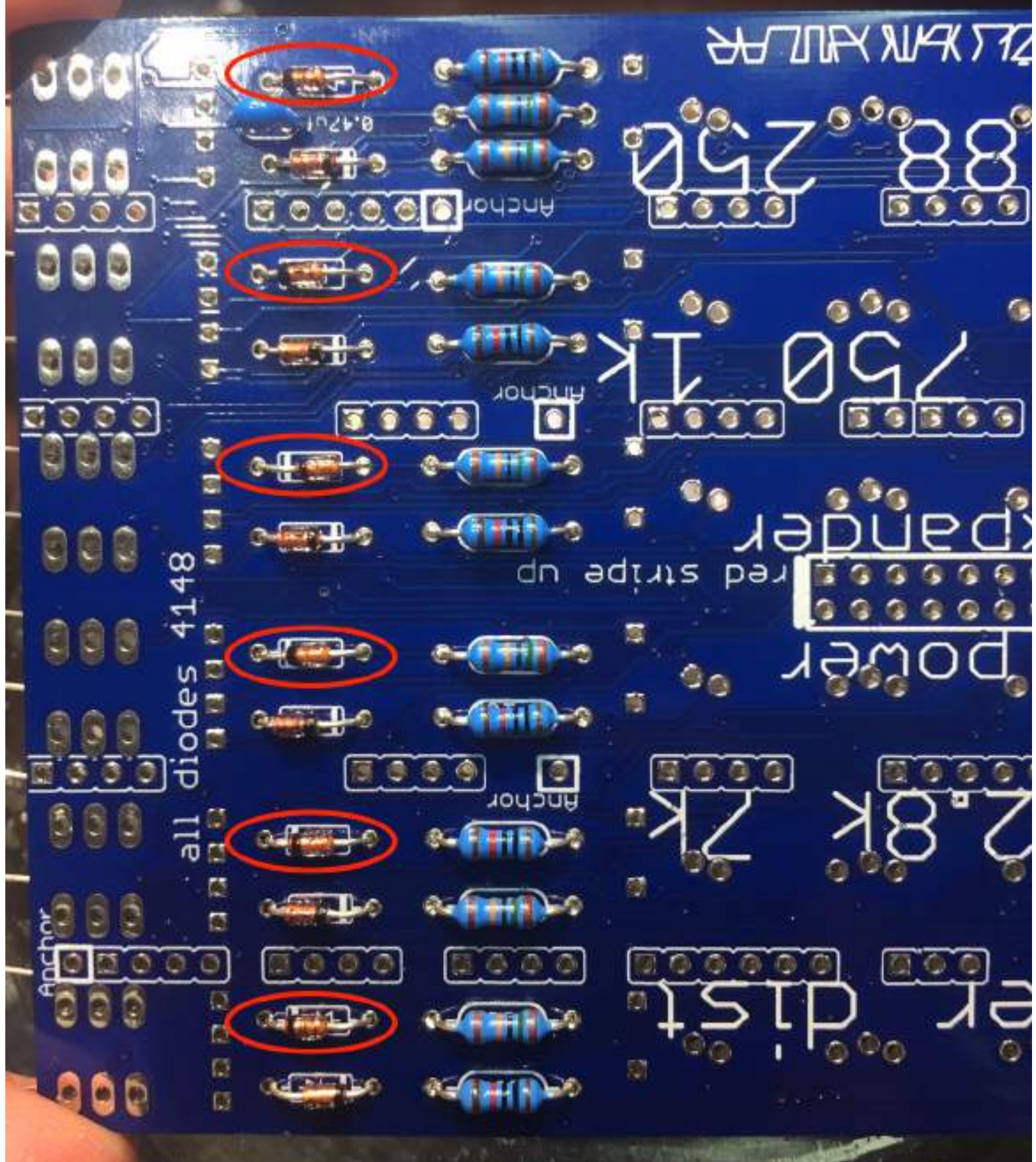


ONE 0.47UF
CODE 474

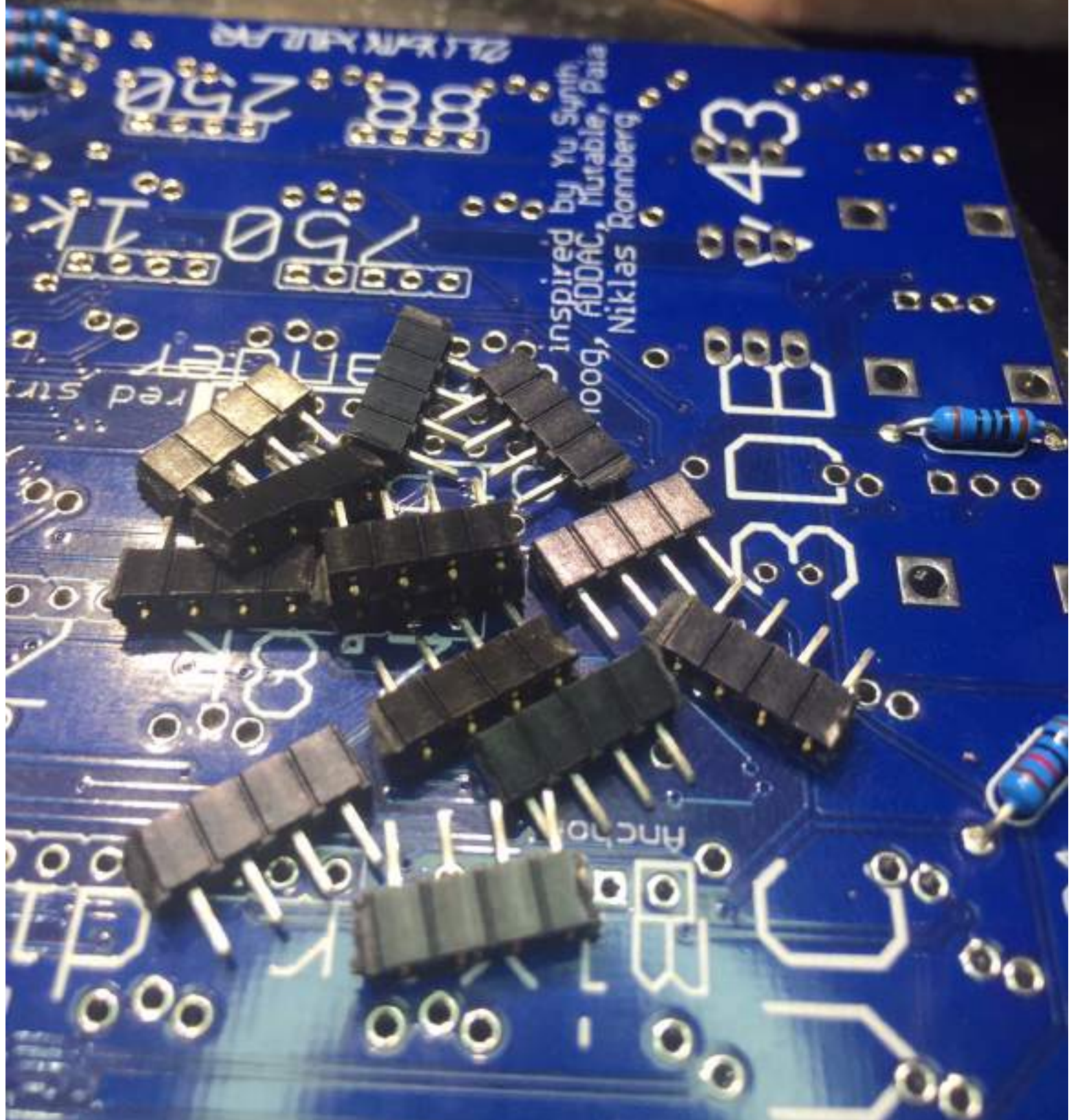




THE OTHER 6 DIODES FACE LEFT

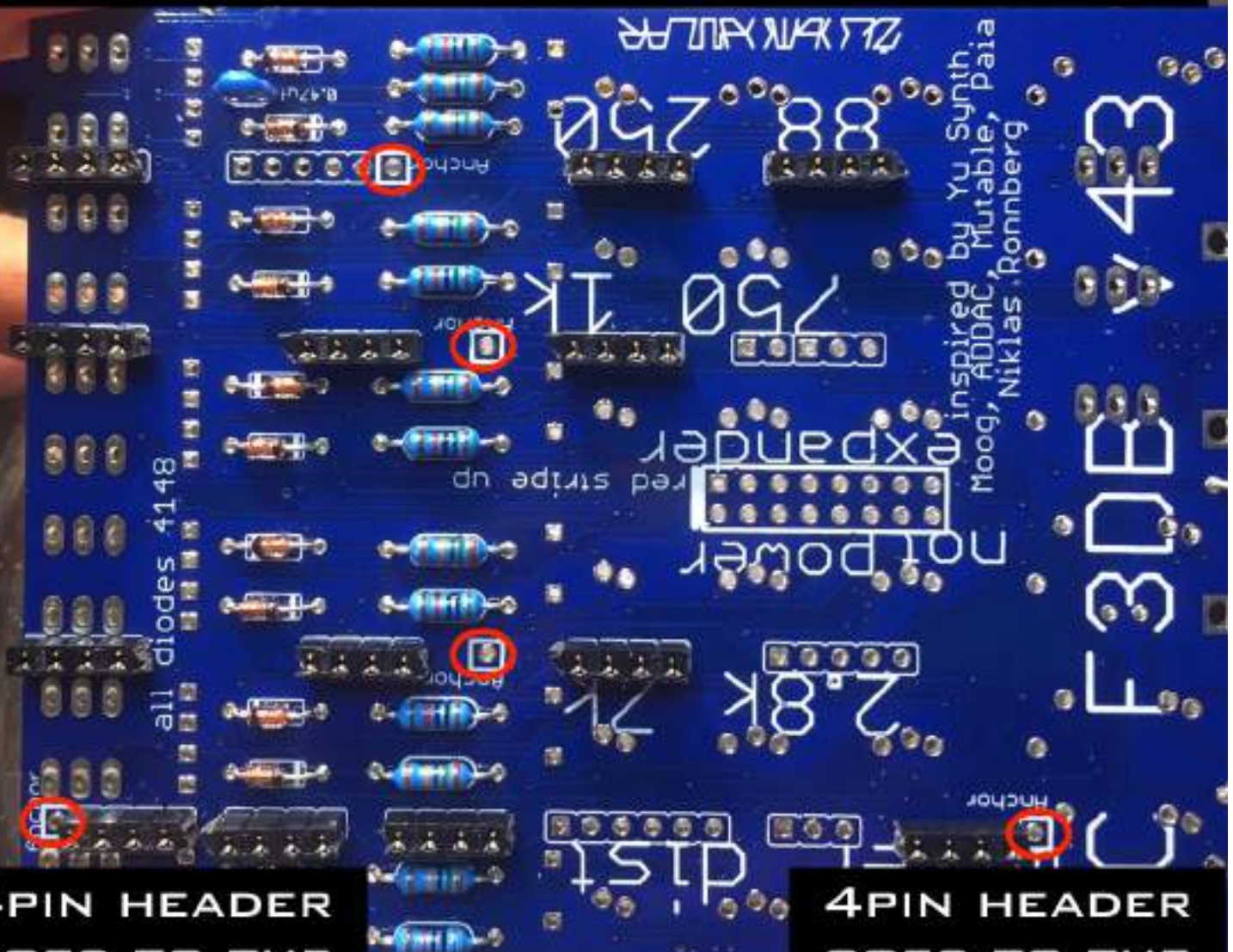


THIRTEEN 4PIN LOW PROFILE TUNING FORK FEMALE HEADERS



BE AWARE OF THE ANCHOR POINTS OUTLINED
WITH A SILKSCREEN SQUARE.
DO NOT PLACE THE FEMALE HEADERS
IN THESE HOLES IN RED.

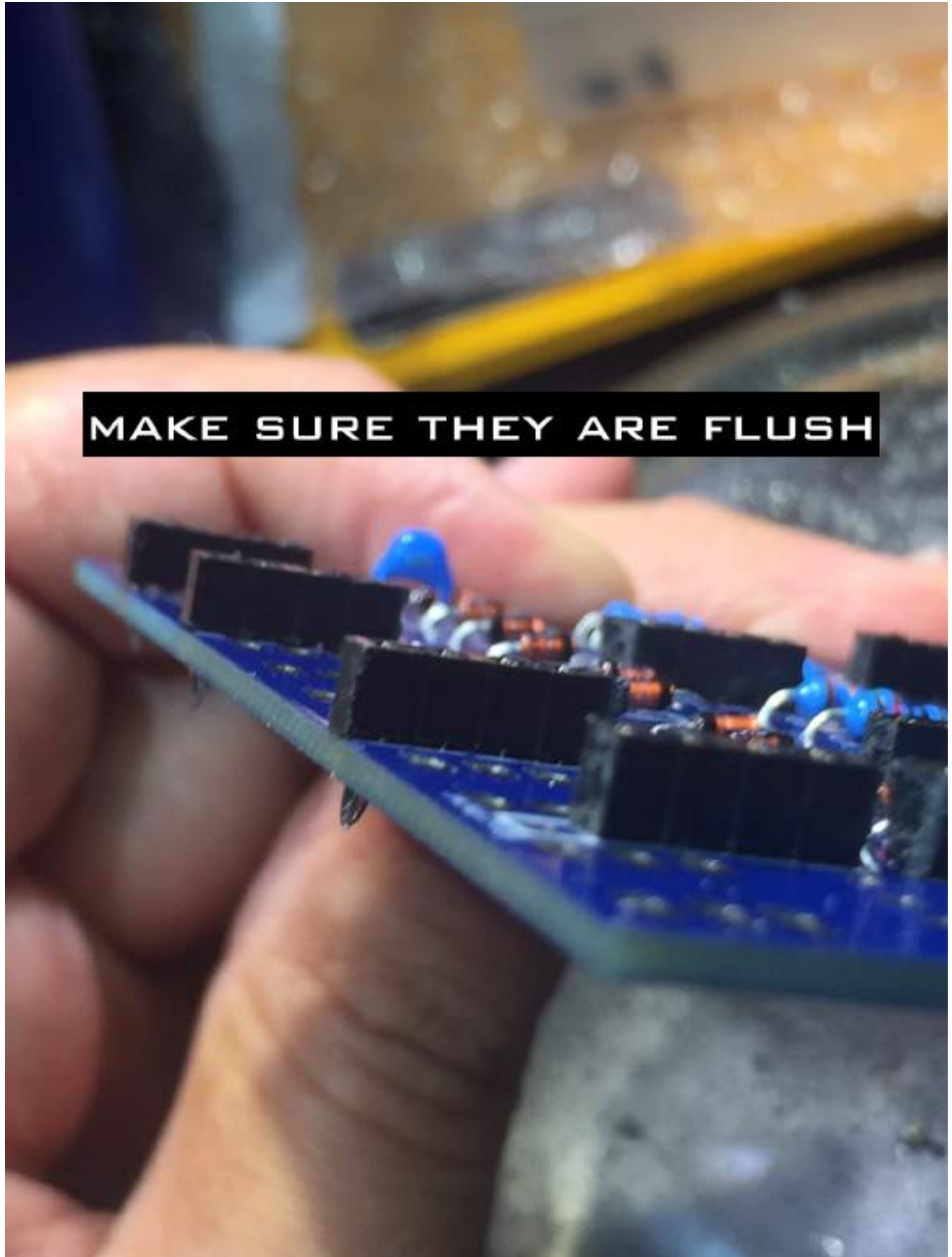
HEADERS MUST BE FLUSH WITH THE PCB.
MAKE SURE YOU ARE INSERTING THE
HEADERS THROUGH THE BOTTOM OF THE
PCB. AND TRY TO GET THEM AS
HORIZONTALLY SYMMETRICAL AS POSSIBLE.



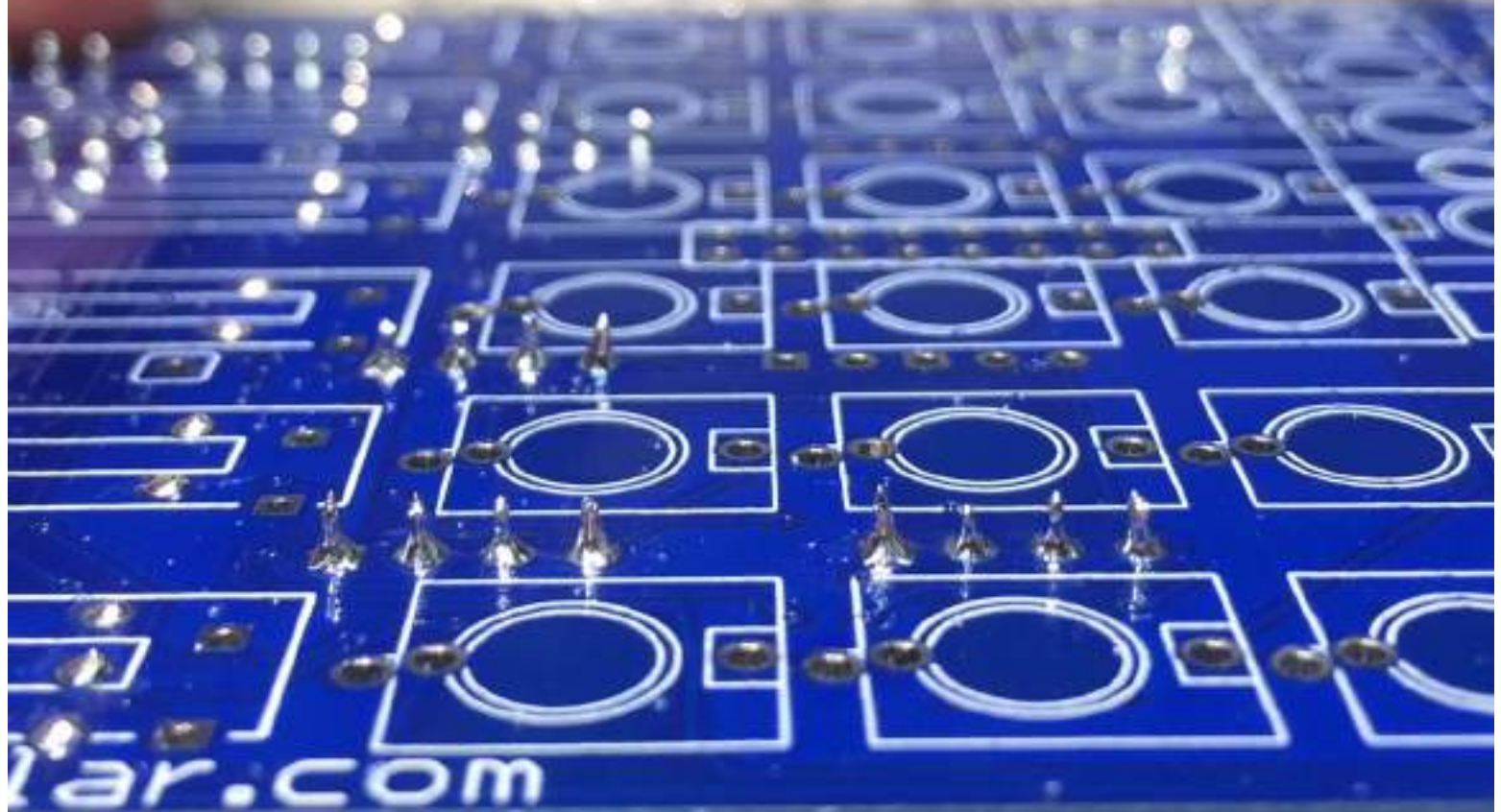
4PIN HEADER
GOES TO THE
RIGHT OF THE
ANCHOR POINT

4PIN HEADER
GOES TO THE
LEFT OF THE
ANCHOR POINT

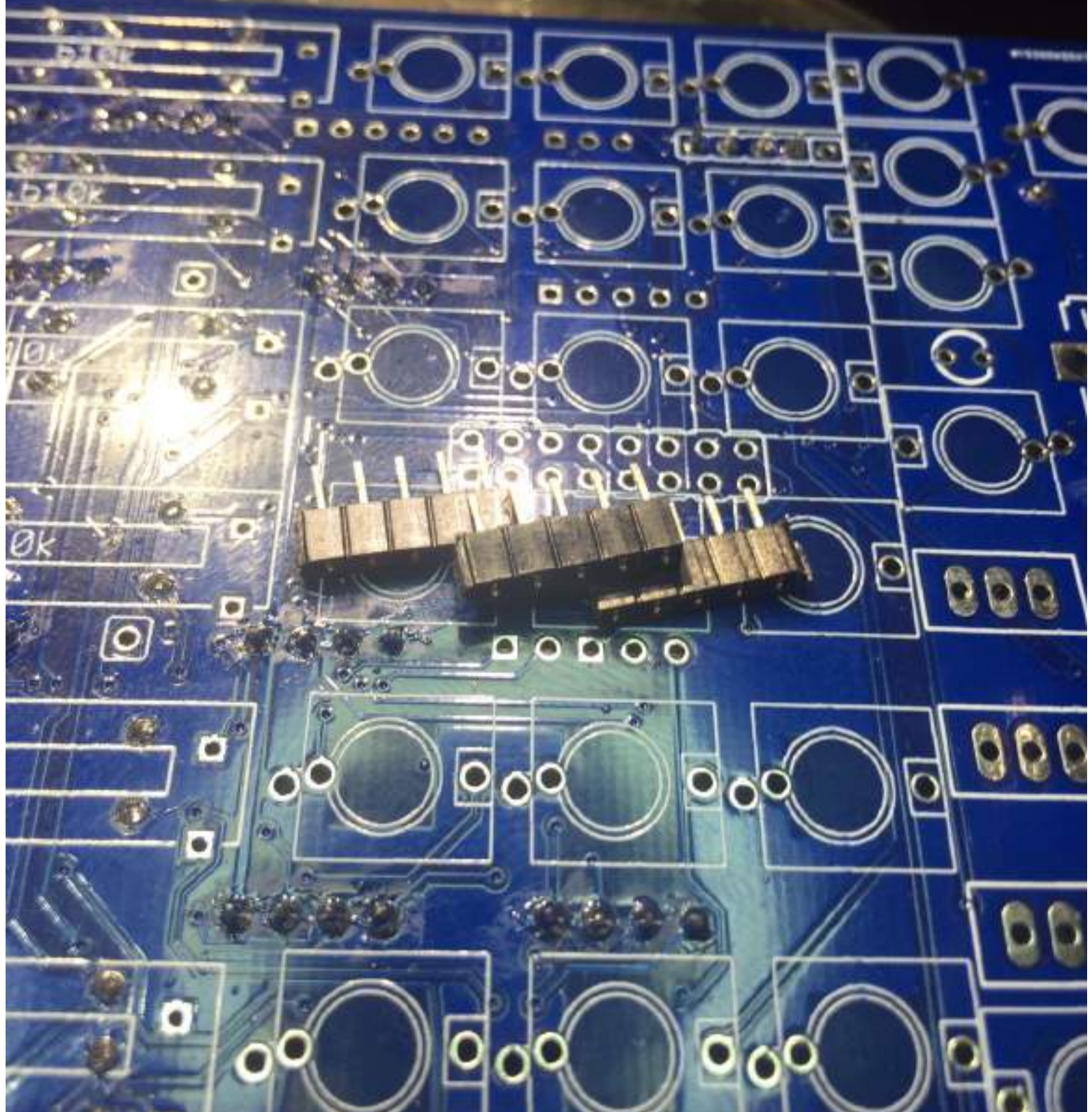
MAKE SURE THEY ARE FLUSH



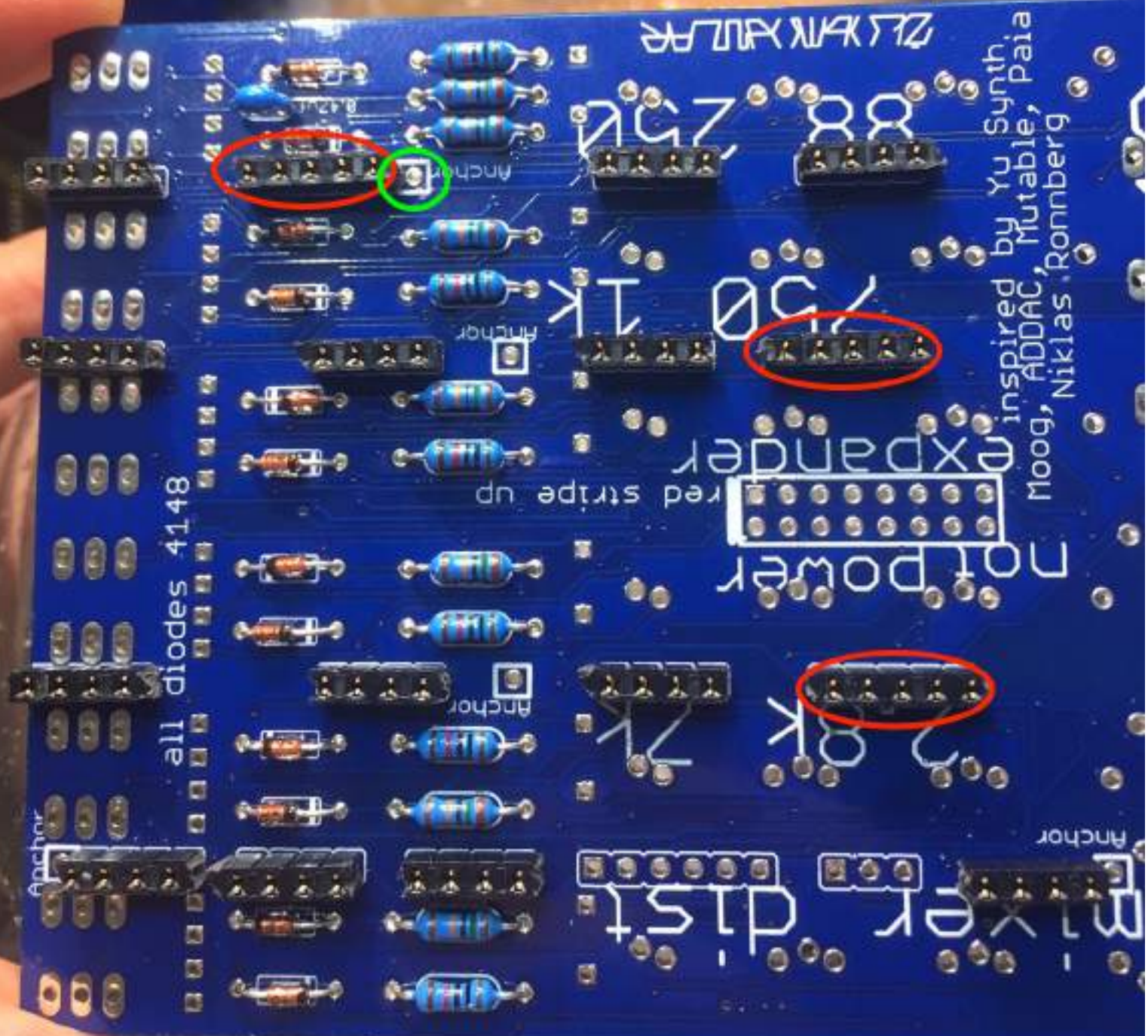
**MAKE SURE ALL PINS ARE
SOLDERED AND SOLDERED
REALLY WELL. YOU WILL NOT
BE ABLE TO ACCESS THESE
EASILY ONCE JACKS AND
OTHER PARTS ARE
SOLDERED TO THE TOP OF
THE PCB**



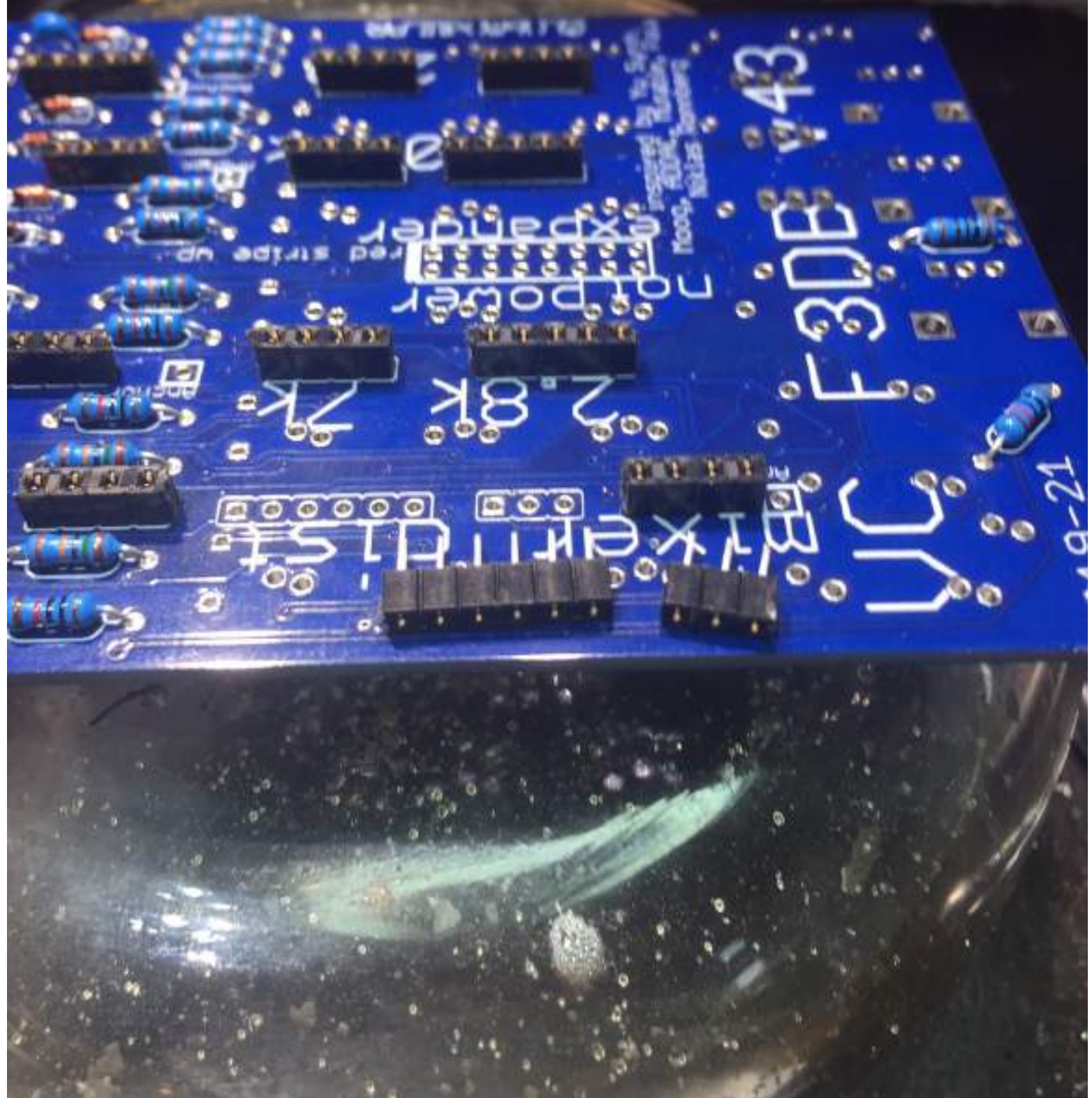
THREE 5PIN HEADERS



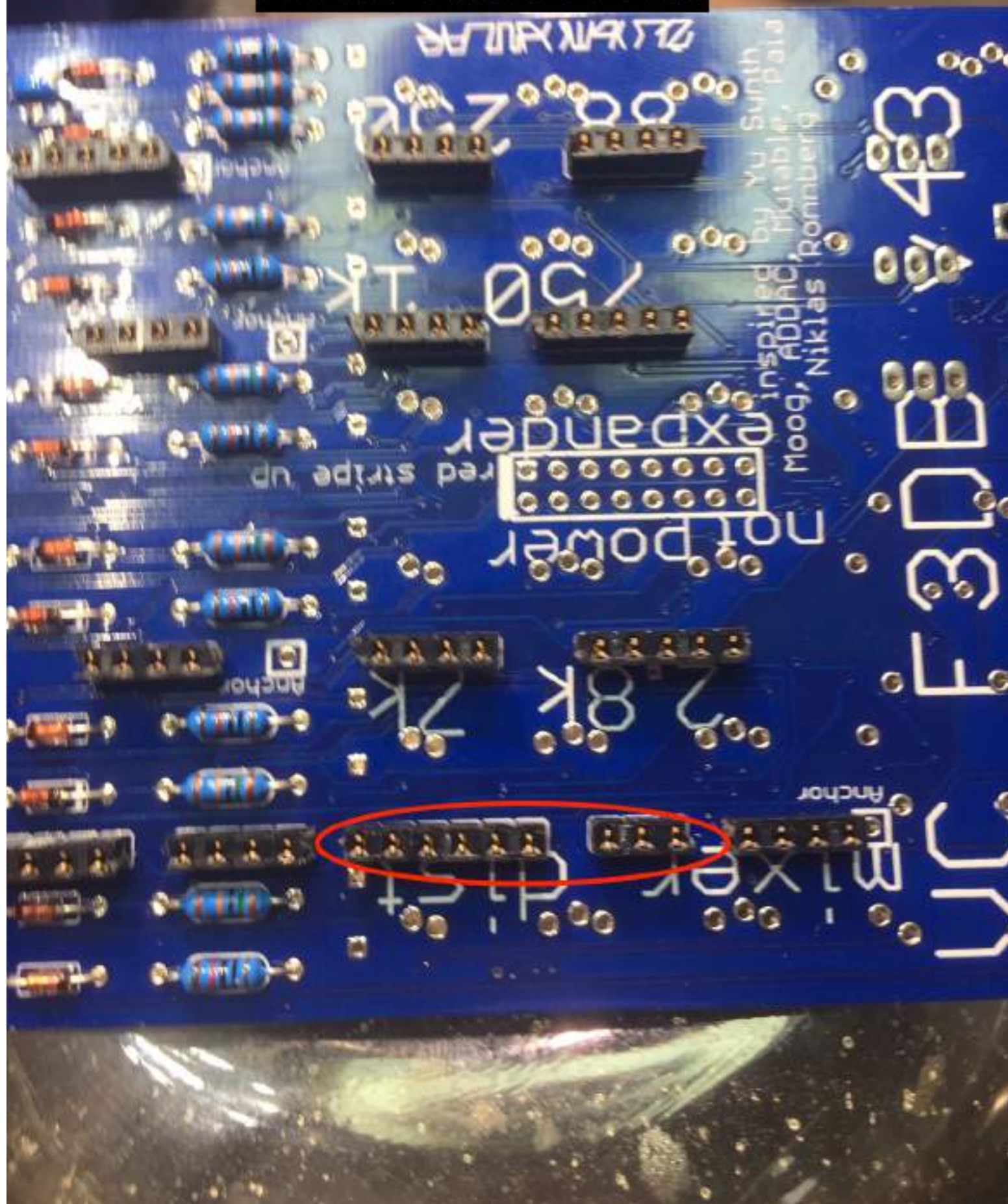
BE CAREFUL OF THE
ADJACENT ANCHOR POINT IN
GREEN.
THREE 5PINS

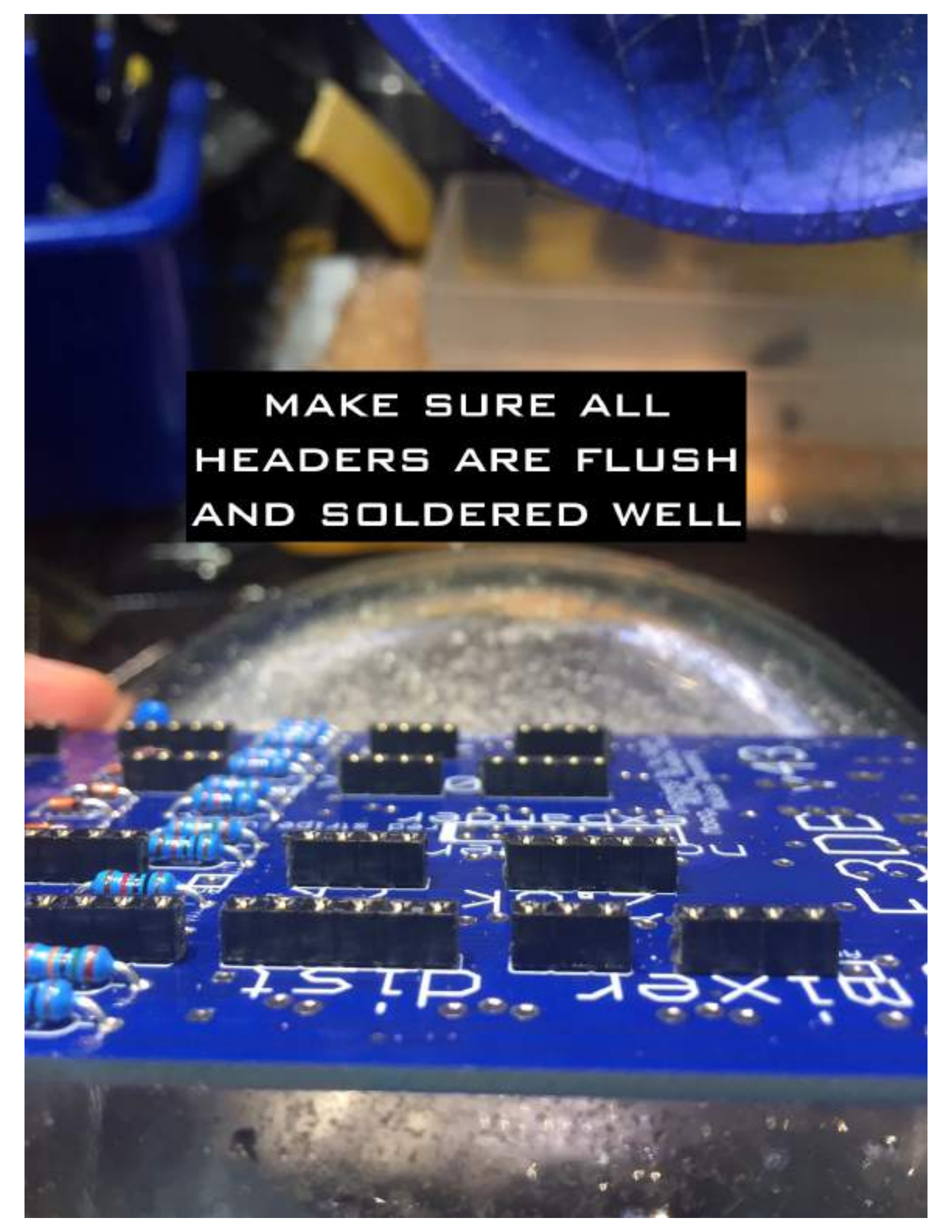


ONE 6PIN AND ONE 3PIN



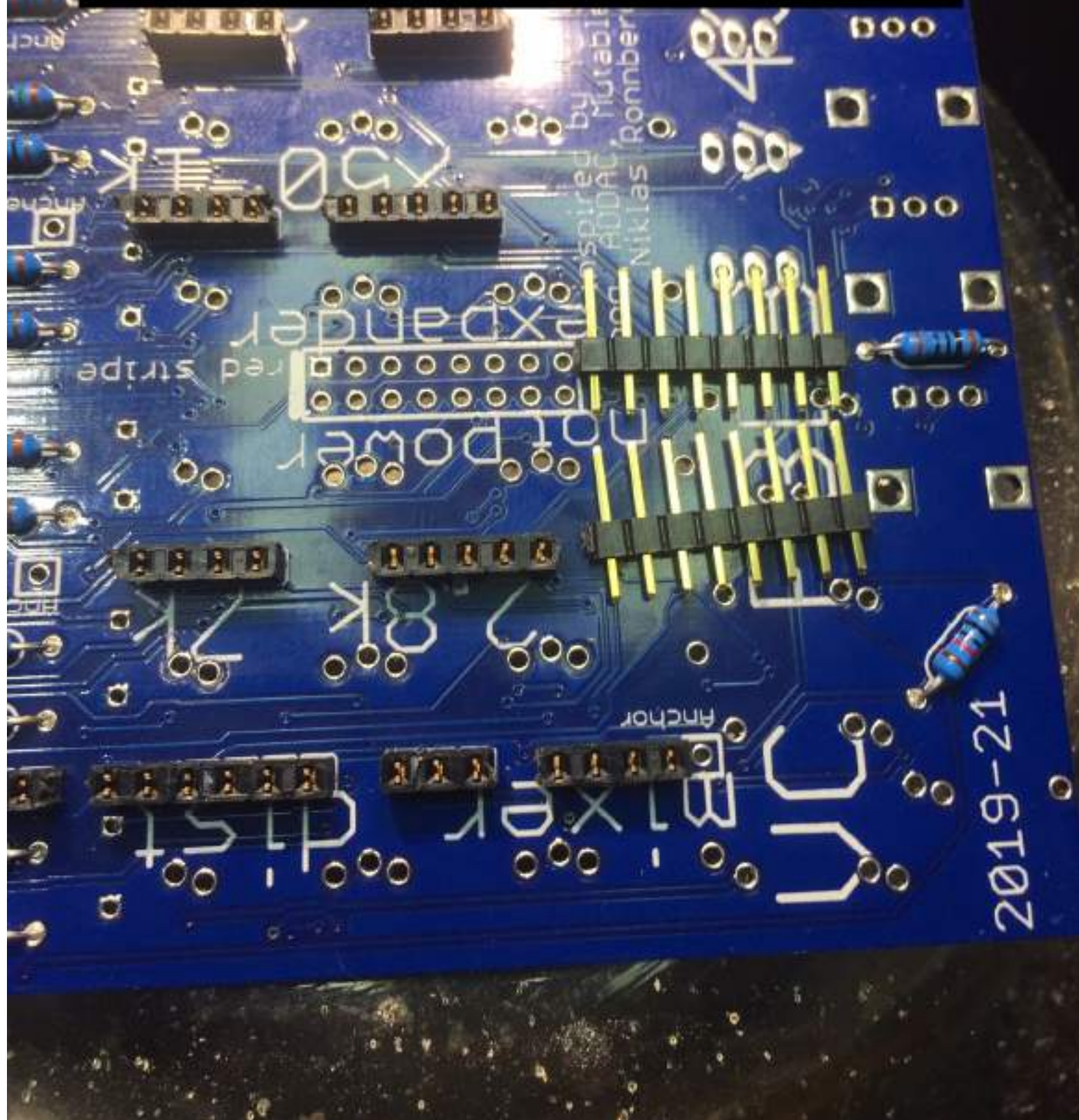
6PIN AND 3PIN





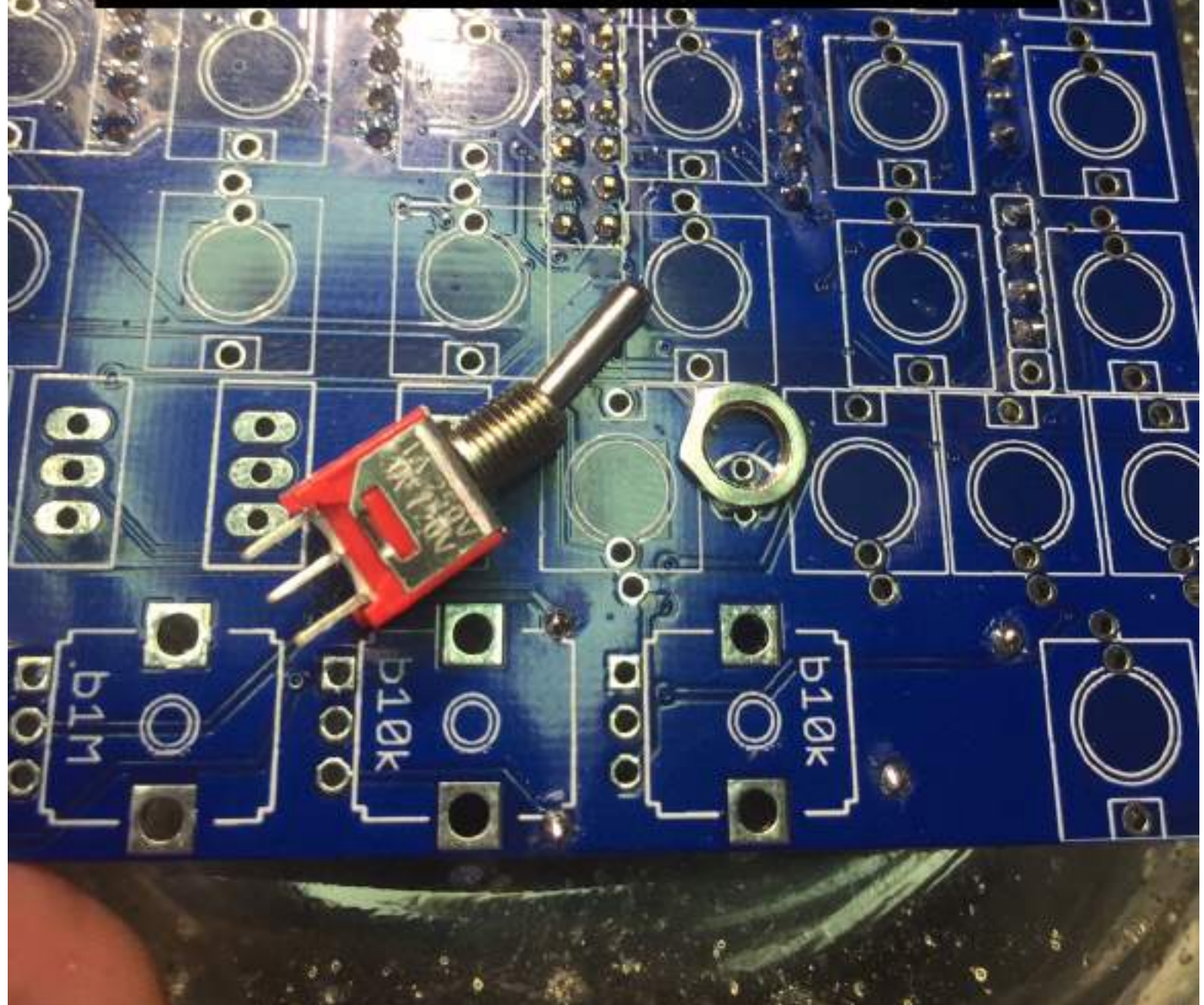
**MAKE SURE ALL
HEADERS ARE FLUSH
AND SOLDERED WELL**

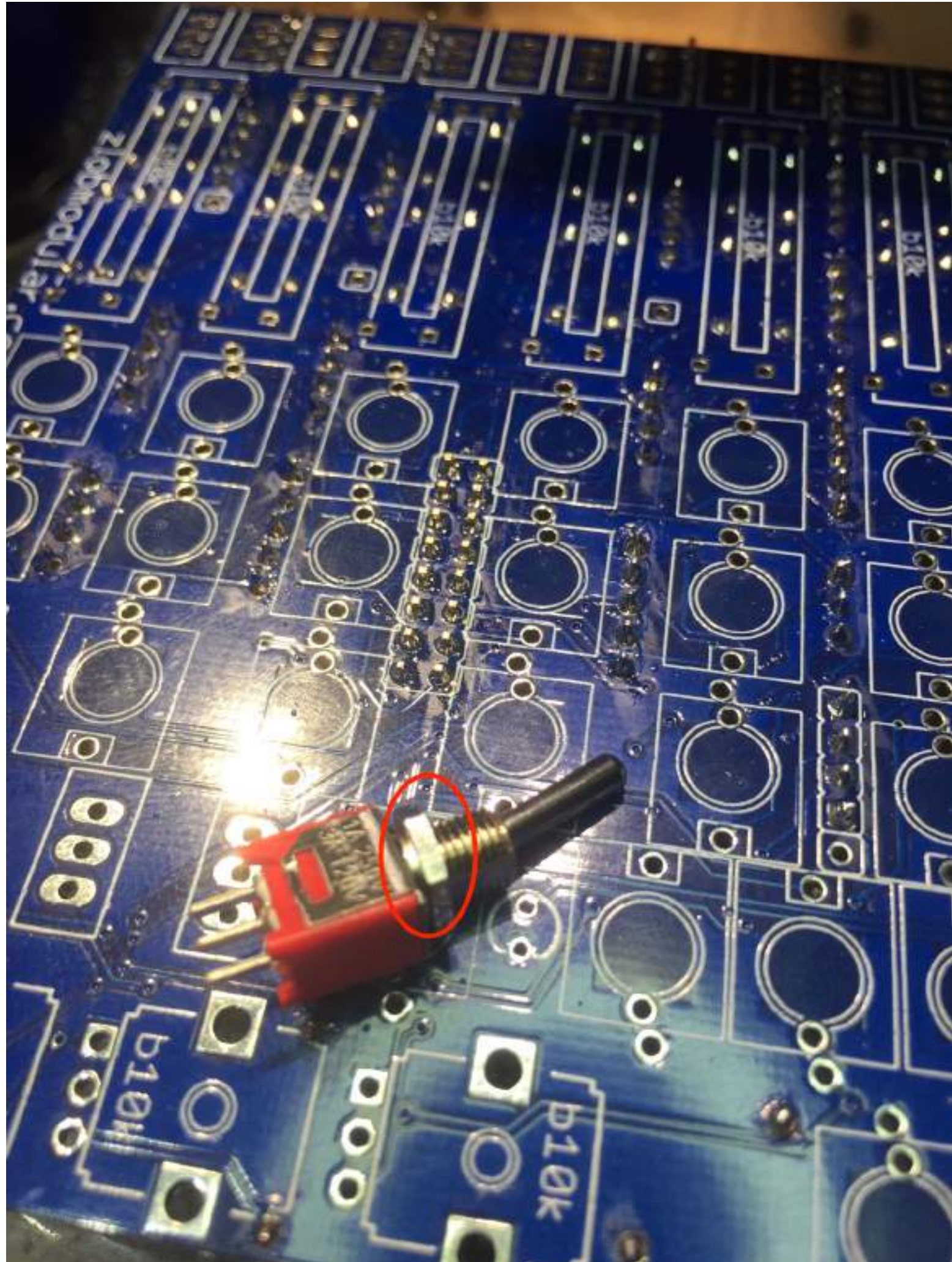
**TWO 8PIN STRAIGHT MALE
HEADERS. SHORT END
THROUGH BOTTOM OF THE
PCB**



16 PIN HEADER

**6 TOGGLE SWITCHES.
TOGGLE SWITCHES COME
WITH 2 NUTS. ONE NEEDS
TO BE SCREWED ON TO
EACH SWITCH BEFORE
PLACING IN PCB**



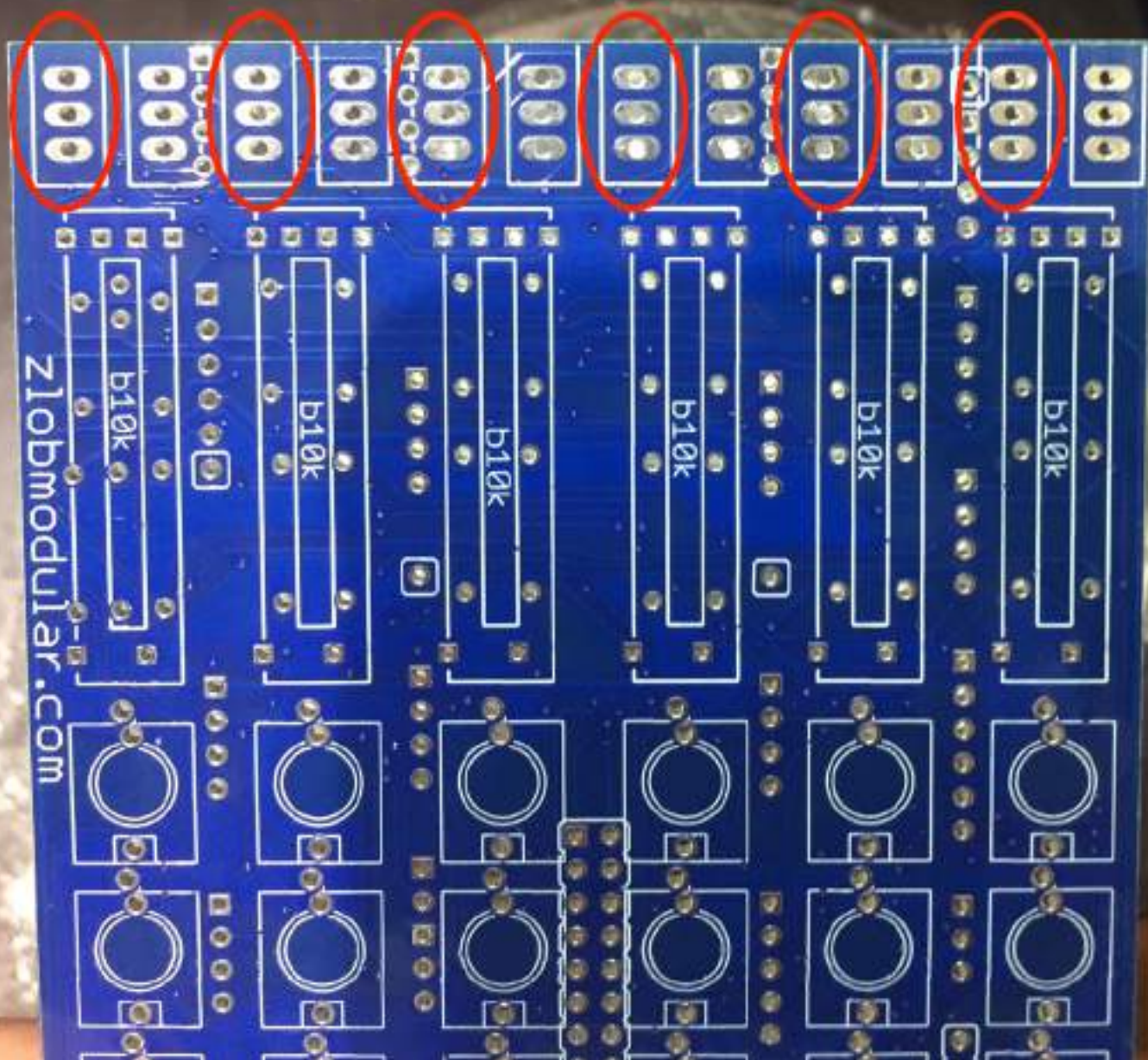


**IT HELPS TO CLIP AND
REHIT THESE 3
HEADERS THAT ARE
CLOSE TO SWITCHES**

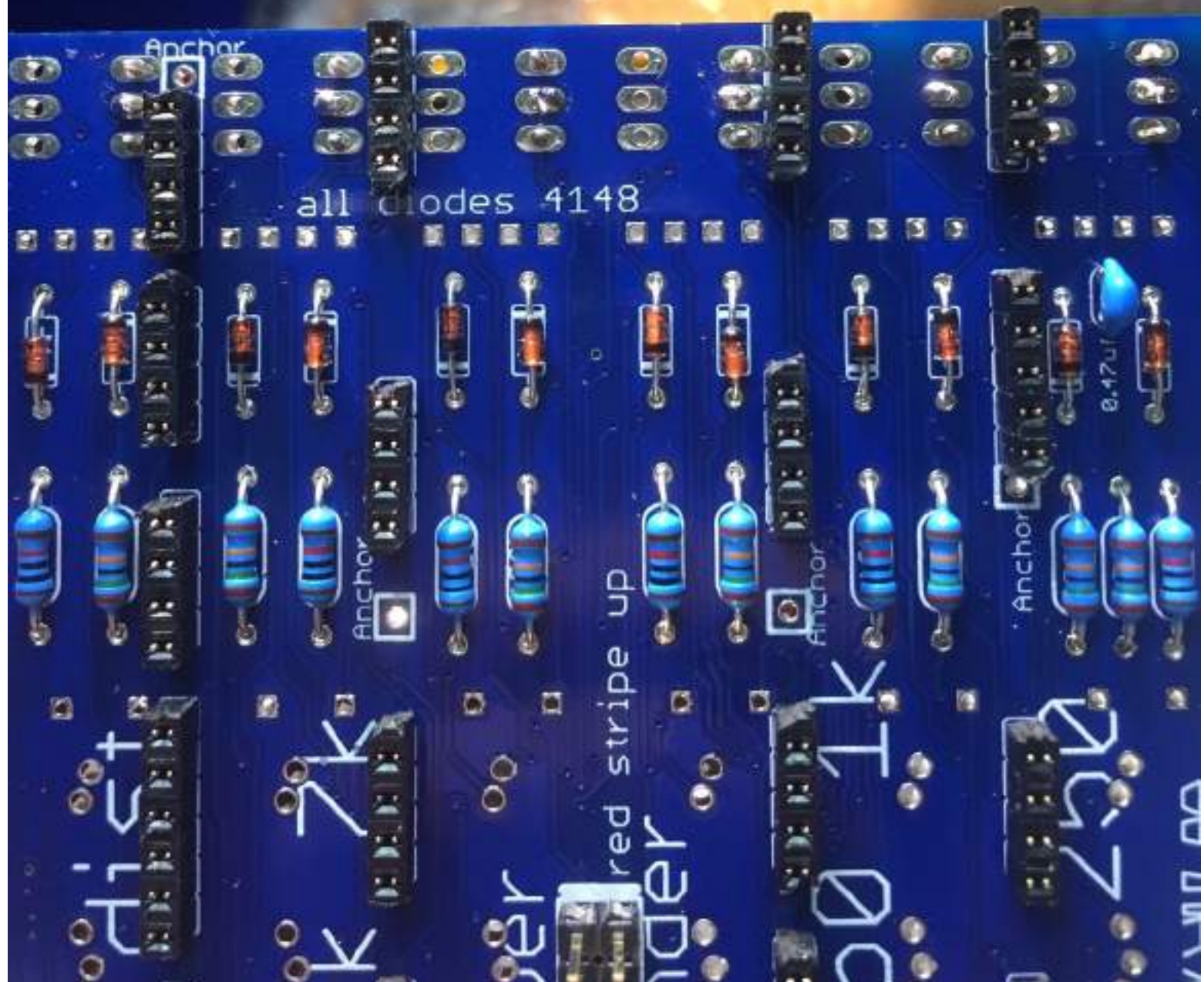


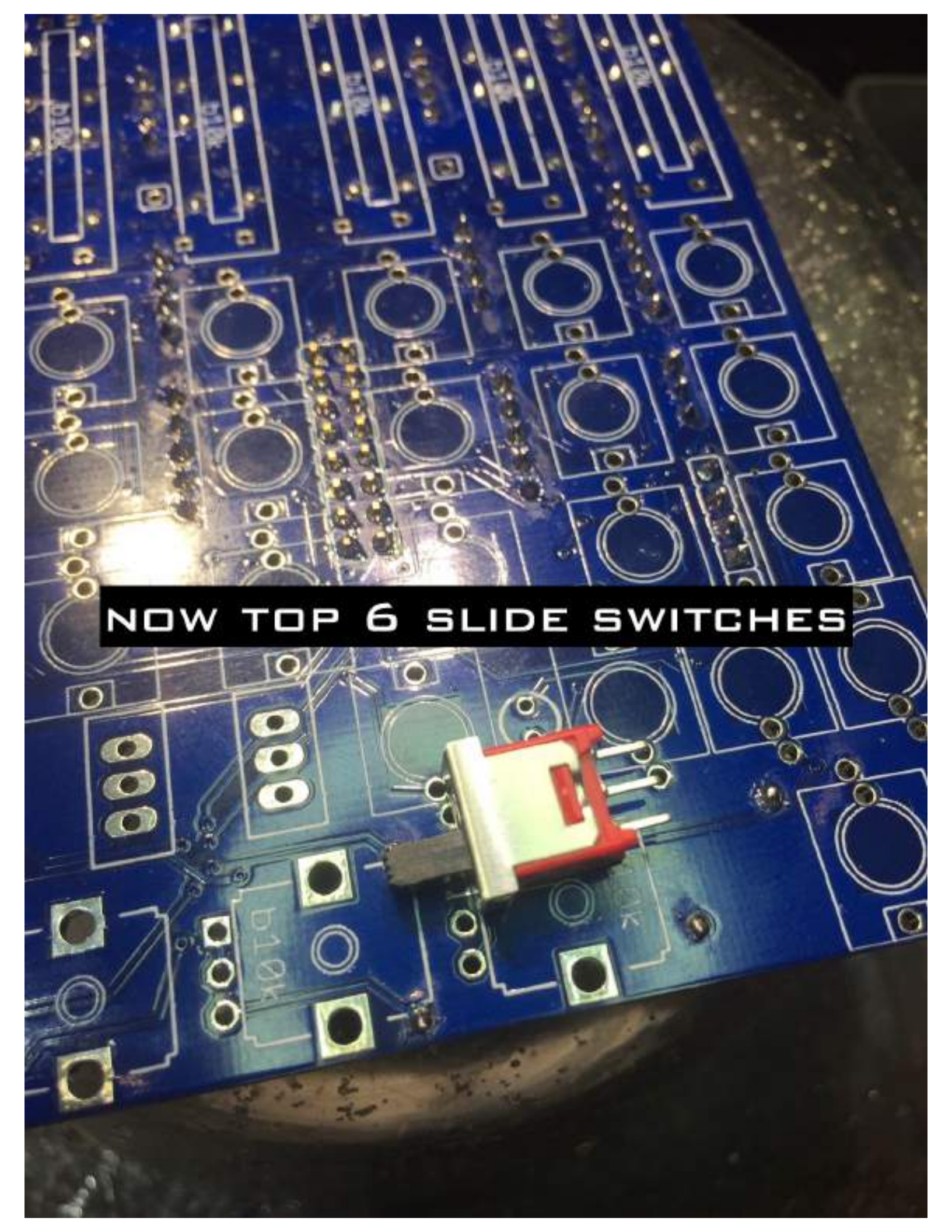
**DONT GET CONFUSED.
THE TOGGLE AND SLIDE
SWITCHES HAVE THE
SAME FOOTPRINT.**

TOGGLES ARE IN RED

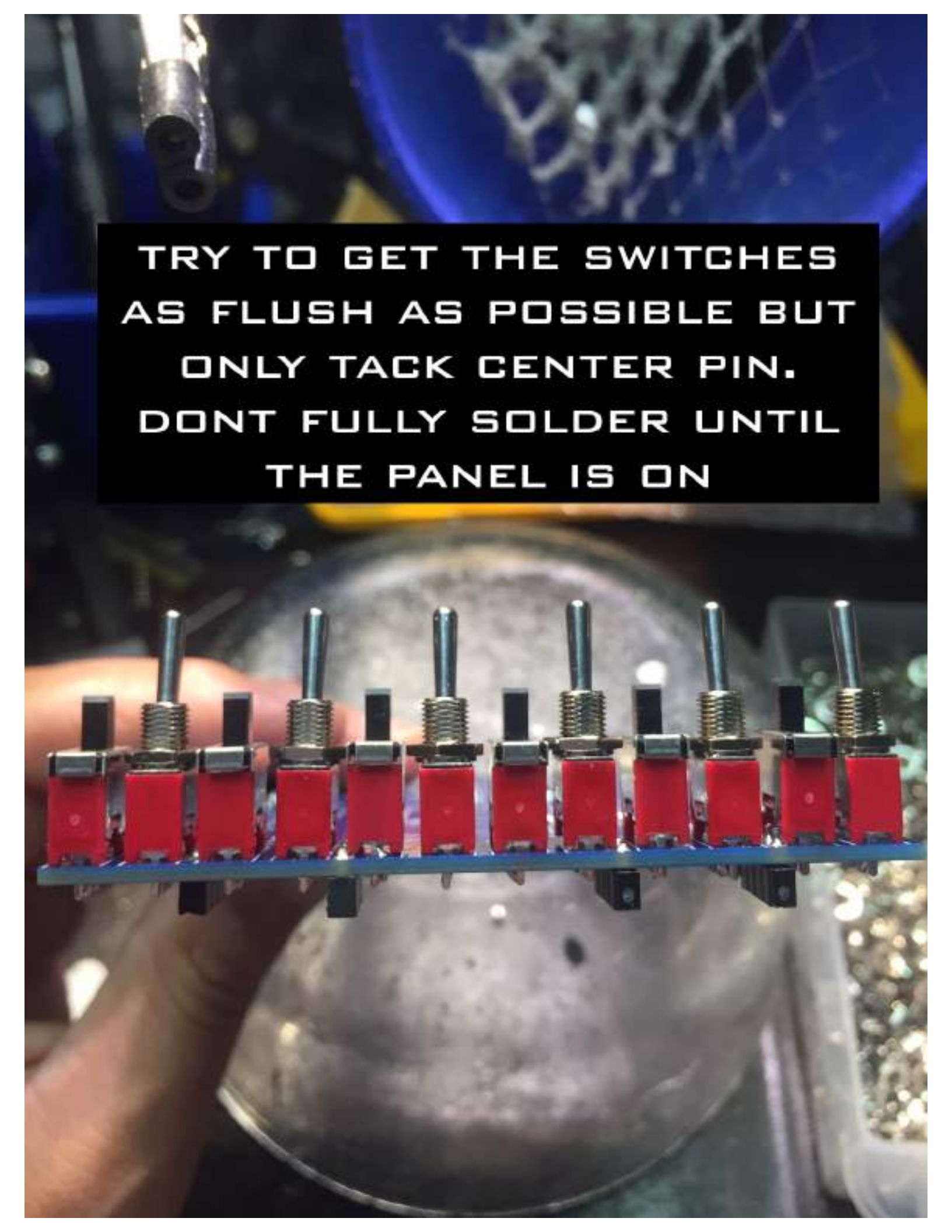


**WHEN I ASSEMBLE I TACK
THE TOP CENTER PINS OF
THE 12 SWITCHES. IT
MAKES IT EASIER PUTTING
THE PANEL ON LATER.
MAKE SURE THEY ARE FLUSH**

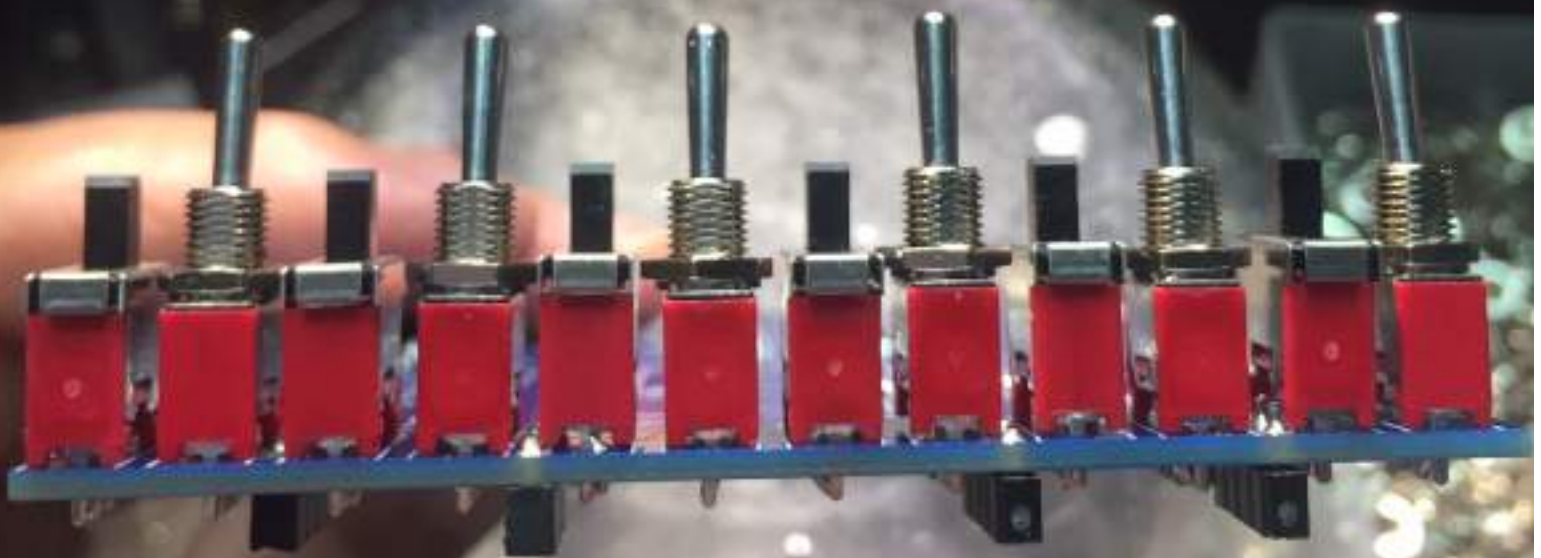


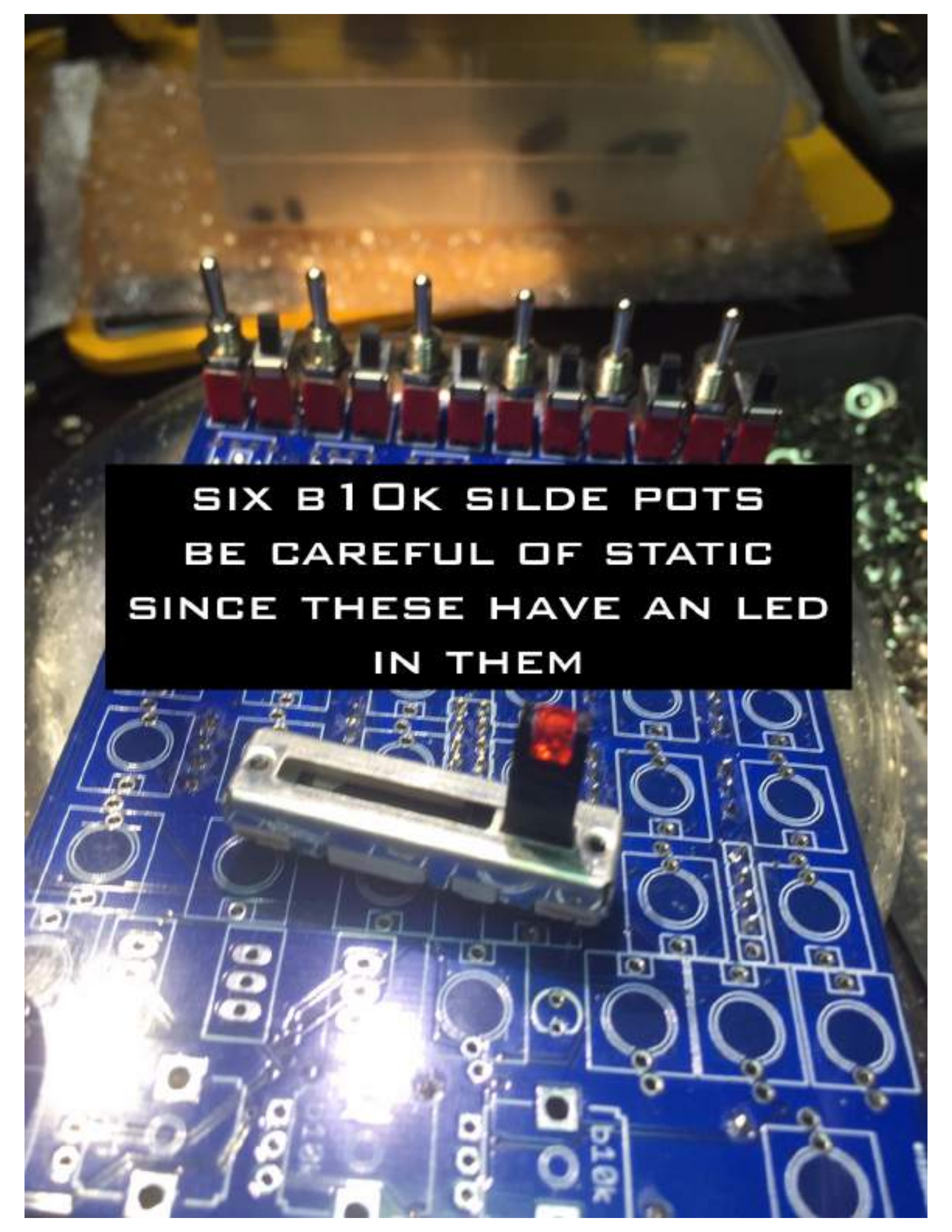
A close-up photograph of a blue printed circuit board (PCB) populated with various electronic components. The board features numerous circular and rectangular pads, some of which are populated with small, dark components. A prominent feature is a red and white slide switch mounted on the board. The text "NOW TOP 6 SLIDE SWITCHES" is overlaid in a black box with white text. The background is dark and out of focus.

NOW TOP 6 SLIDE SWITCHES



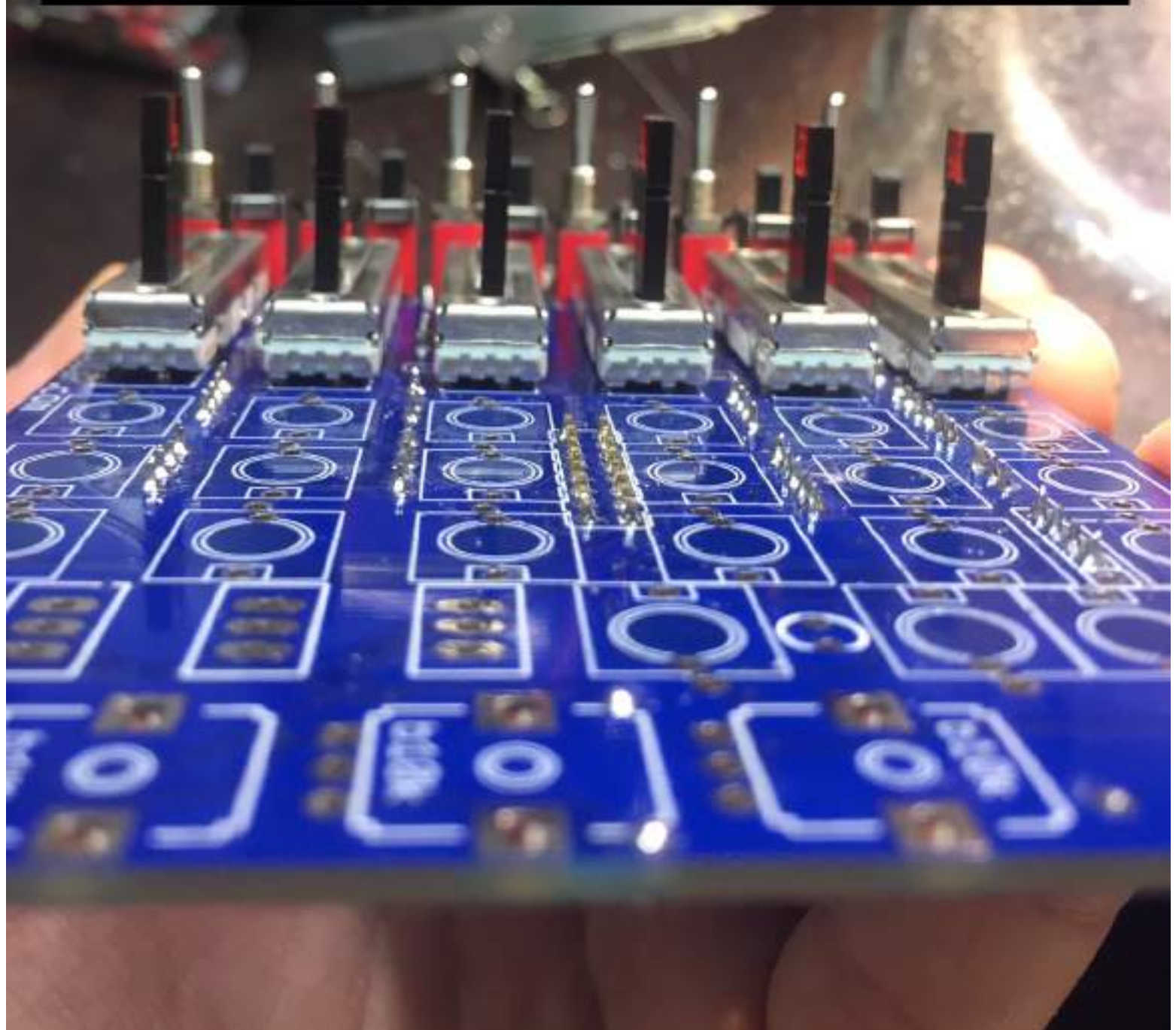
**TRY TO GET THE SWITCHES
AS FLUSH AS POSSIBLE BUT
ONLY TACK CENTER PIN.
DONT FULLY SOLDER UNTIL
THE PANEL IS ON**



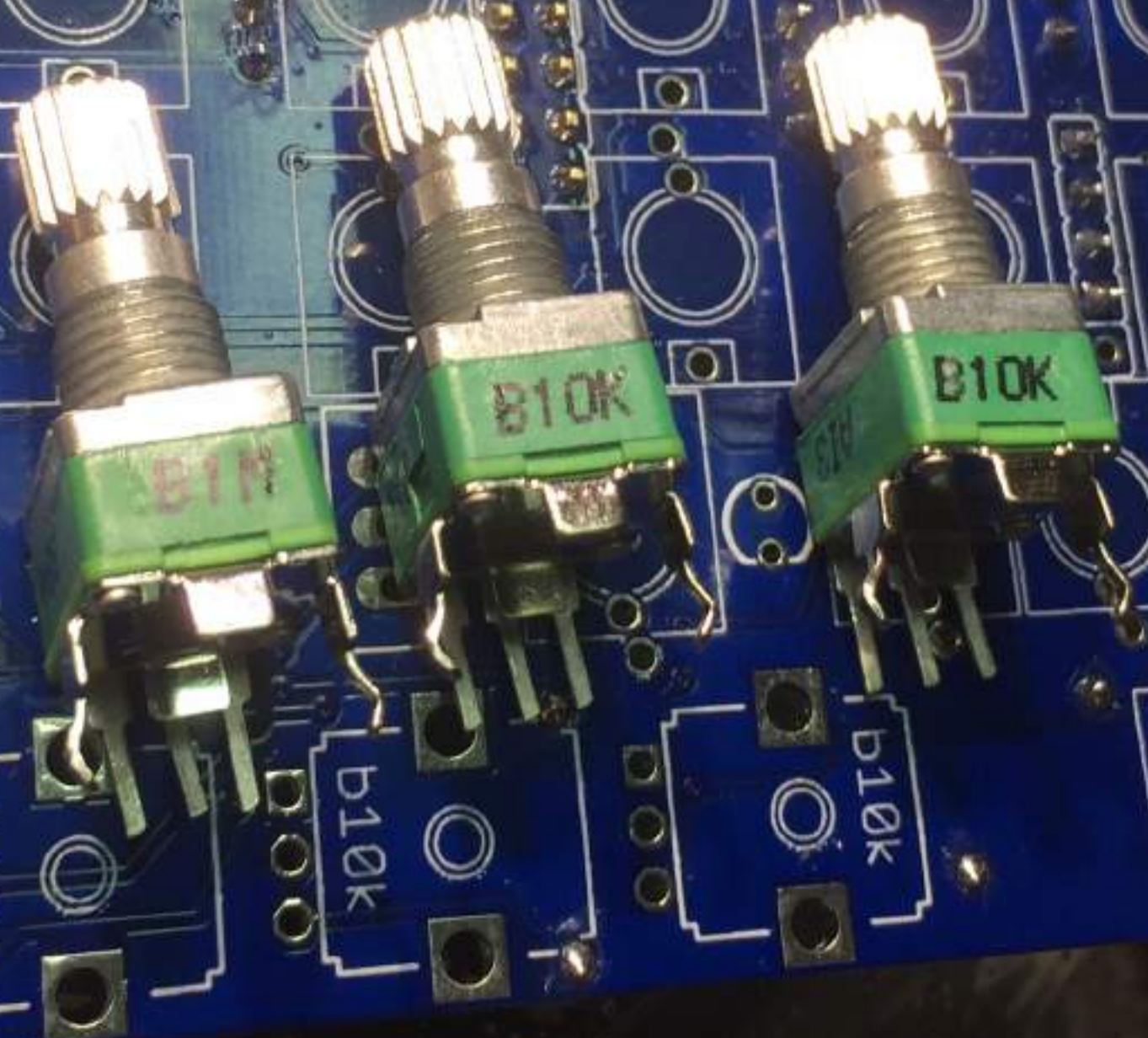


**SIX B10K SLIDE POTS
BE CAREFUL OF STATIC
SINCE THESE HAVE AN LED
IN THEM**

**BE GENTLE WITH THE
SLIDER PINS
WHEN INSERTING INTO THE
PCB. MAKE SURE THEY CAN SIT
FLUSHLY WITH THE PCB. DO
NOT SOLDER YET**



ONE B1M, AND TWO B10K



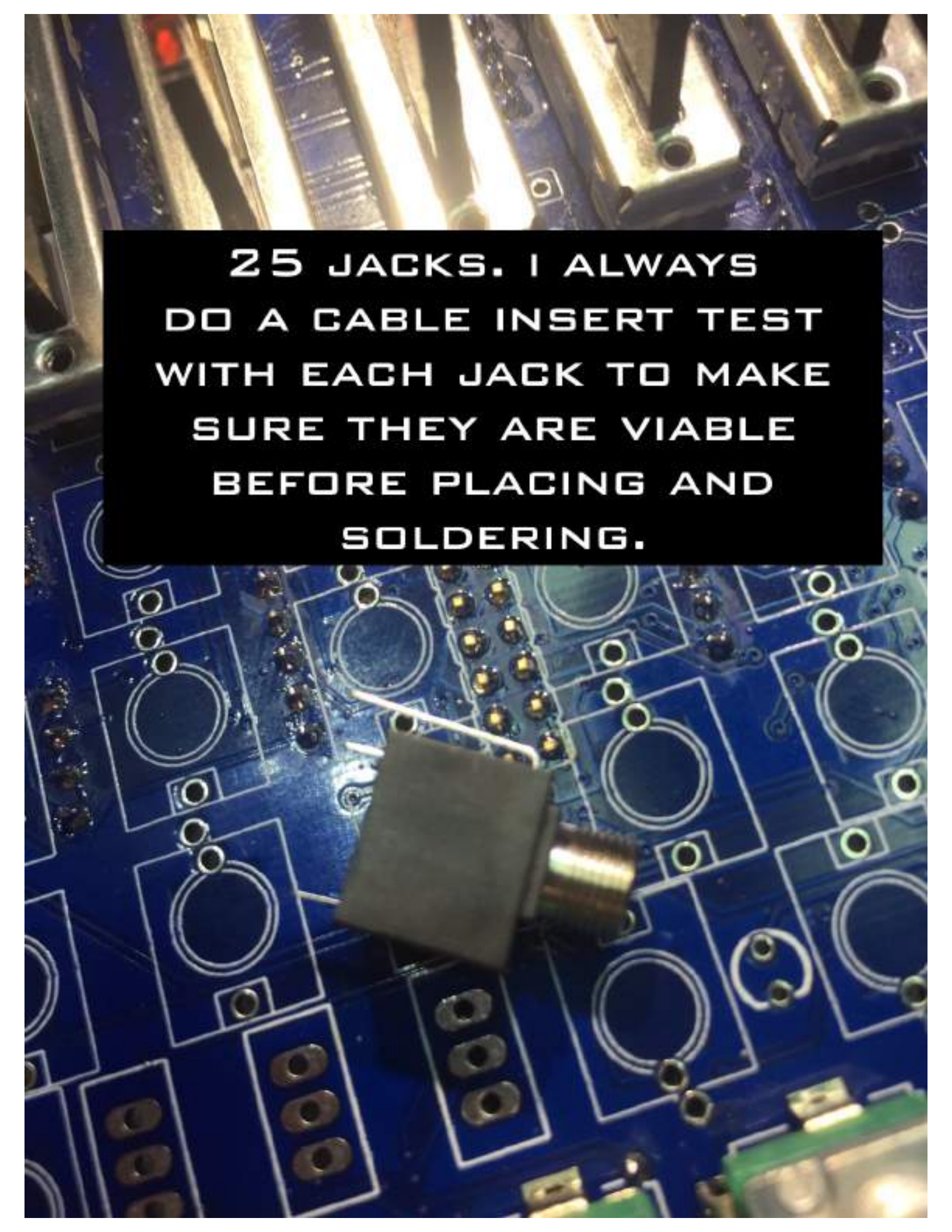
**MAKE SURE THEYRE
FLUSH WITH THE PCB.
DONT SOLDER YET.**

B1M

B10K

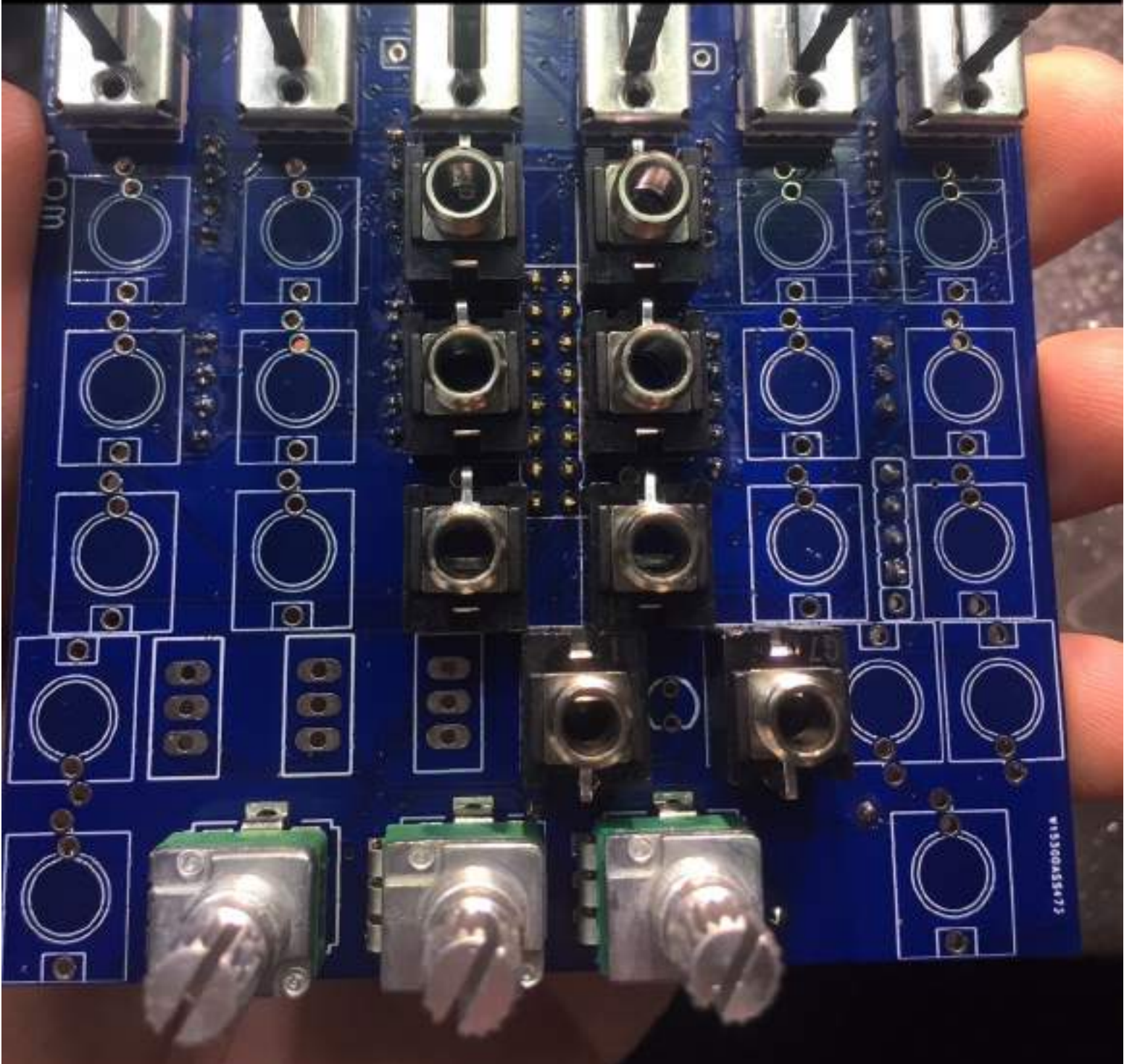
B10K

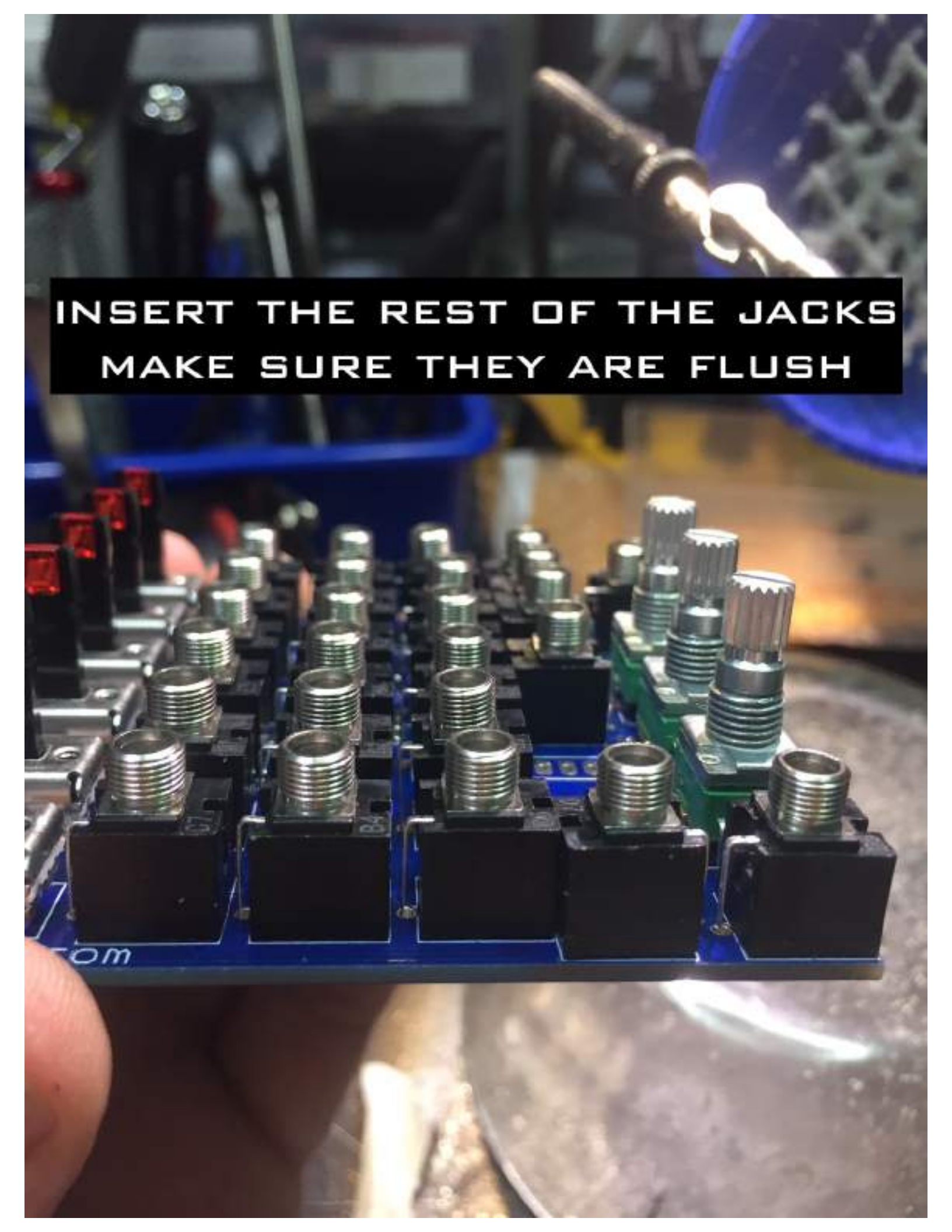




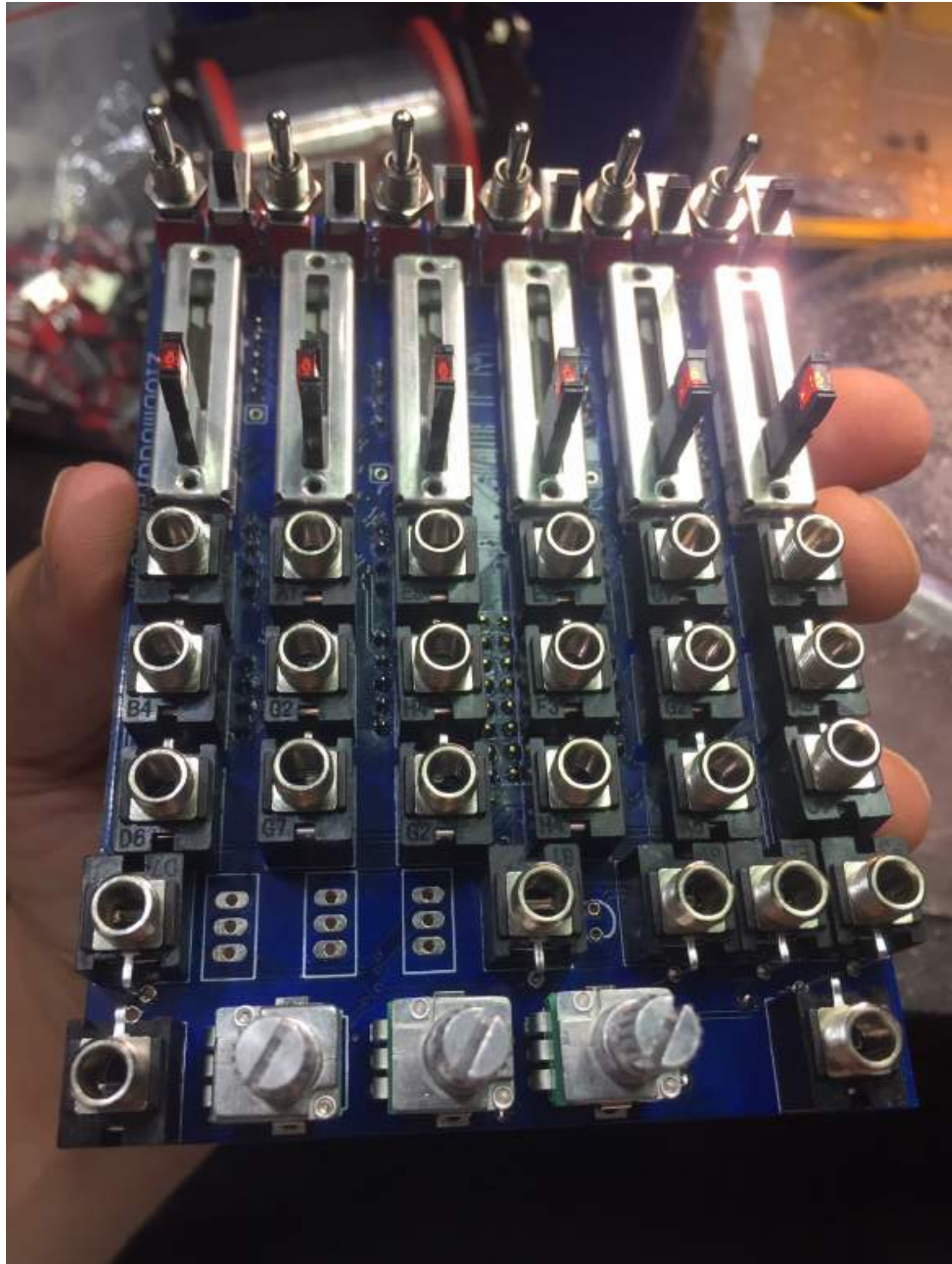
**25 JACKS. I ALWAYS
DO A CABLE INSERT TEST
WITH EACH JACK TO MAKE
SURE THEY ARE VIABLE
BEFORE PLACING AND
SOLDERING.**

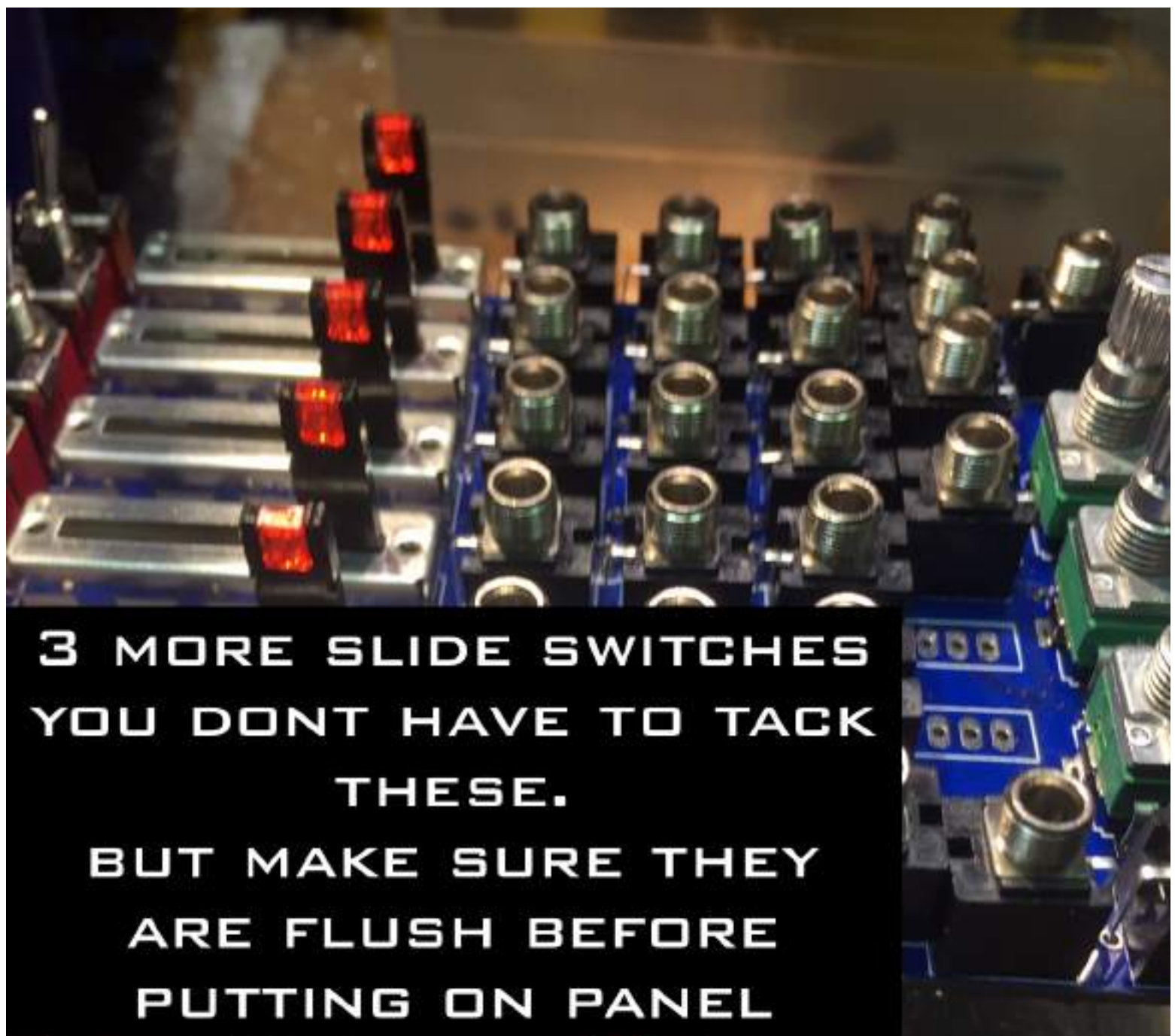
IT'S EASIEST TO PLACE FROM THE
CENTER AND WORK YOUR WAY
OUT. MAKE SURE ALL PINS ARE
POKING THROUGH PCB AND THEY
ARE FLUSH. DONT SOLDER YET

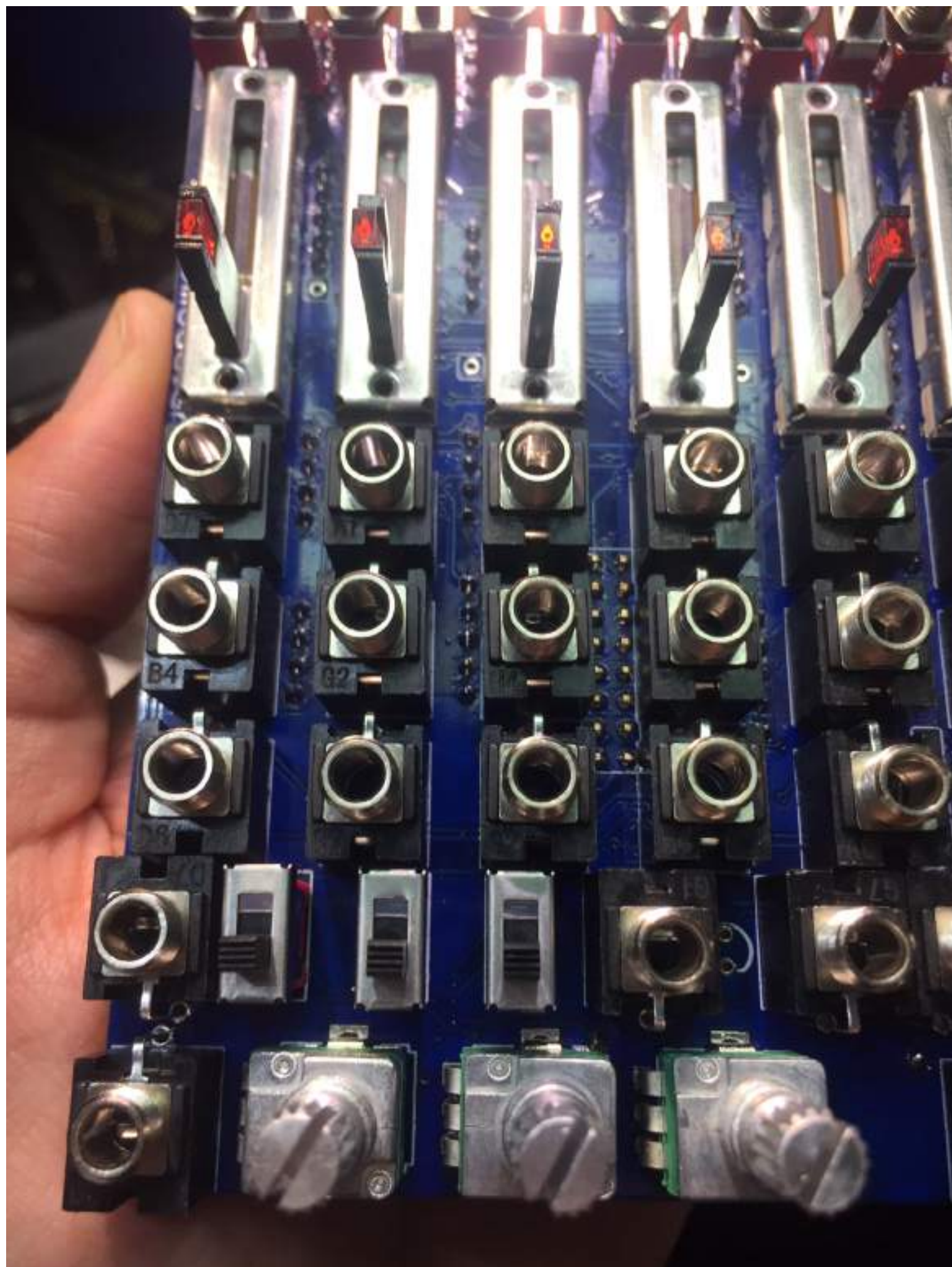




**INSERT THE REST OF THE JACKS
MAKE SURE THEY ARE FLUSH**







A close-up photograph of a 3mm yellow LED with two long, thin metal leads. The LED is resting on a dark, textured metal surface. In the background, a bright orange glow is visible, possibly from a heat source or a light source. A black rectangular box with white text is overlaid on the image, reading "ONE 3MM YELLOW LED BE CAREFUL WHILE HANDLING".

**ONE 3MM YELLOW LED
BE CAREFUL WHILE HANDLING**



**LED GOES SHORT LEG/
FLAT SIDE DOWN. DO
NOT SOLDER YET.**

CAREFULLY FIT THE PANEL ON.
TRY NOT TO FORCE IT ON. MAKE
SURE EVERYTHING IS FLUSH



**THREE BLACK NUTS
AND WASHERS**



PUT THE BLACK WASHERS ON

The image shows a custom electronic circuit board, likely a breadboard or prototype board, with various components and labels. The board is populated with several integrated circuits (ICs) and passive components. The labels on the board include:

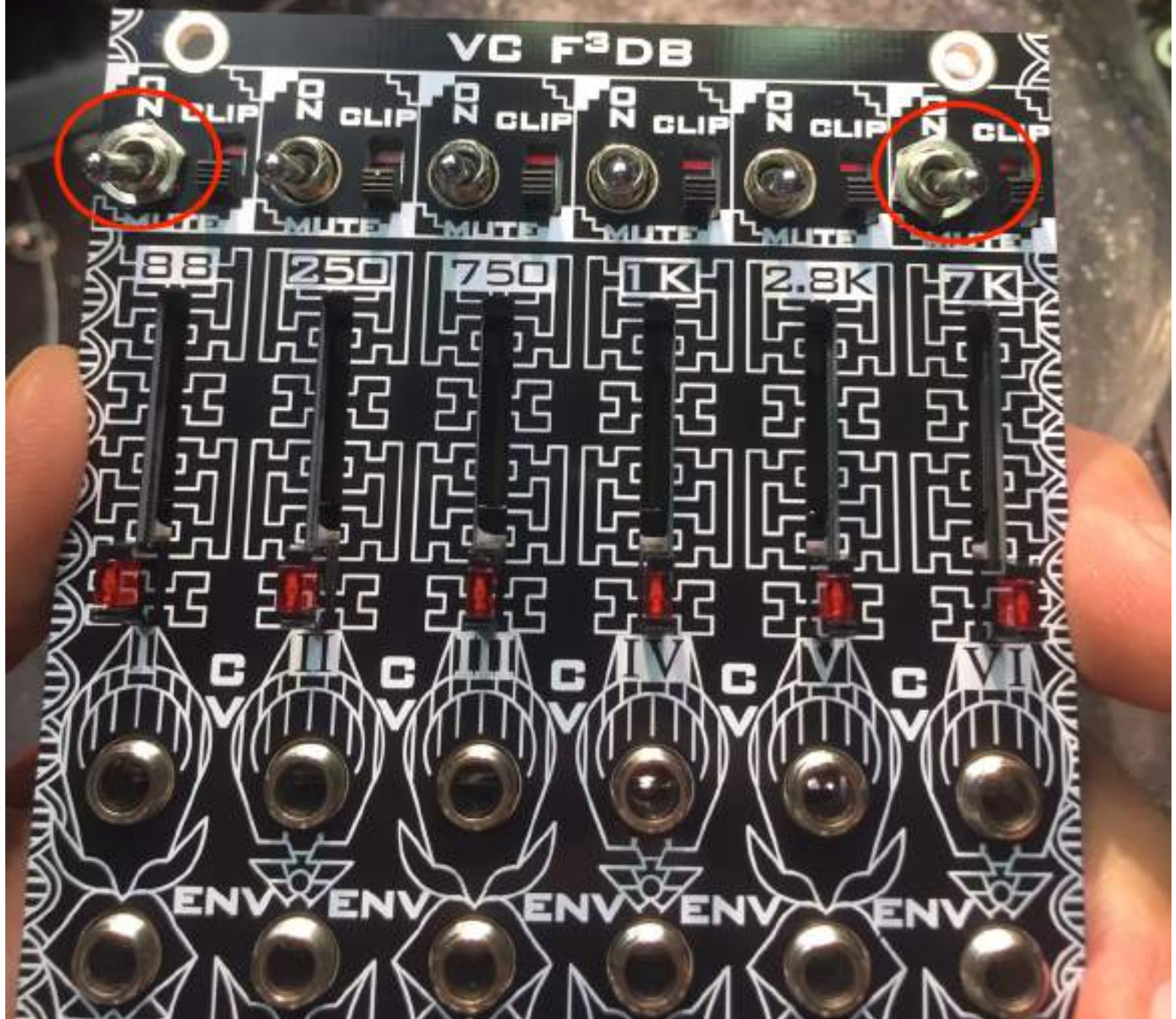
- V2 F3 D3
- ENV
- OUT
- INII
- FBIN
- FBCV
- ODD
- EVEN
- GAIN
- GAIN FB
- FEED BACK
- SUM
- OUT

The board is held by a person's fingers, and a bright light source is visible in the upper left corner, illuminating the components.

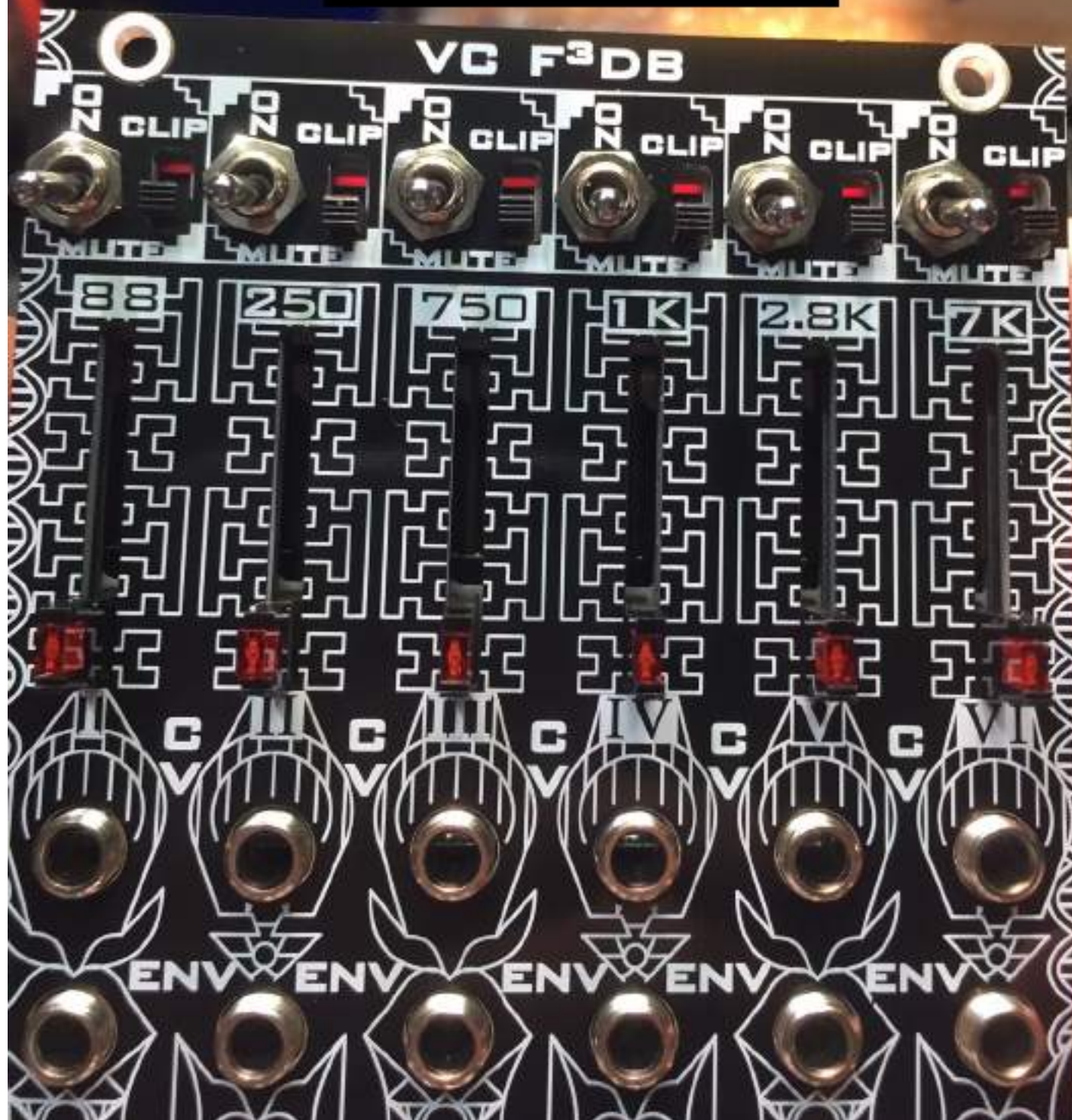


NOW NUTS

PUT THE LEFT AND RIGHT
TOGGLE NUTS ON TO HOLD
THE PANEL ON

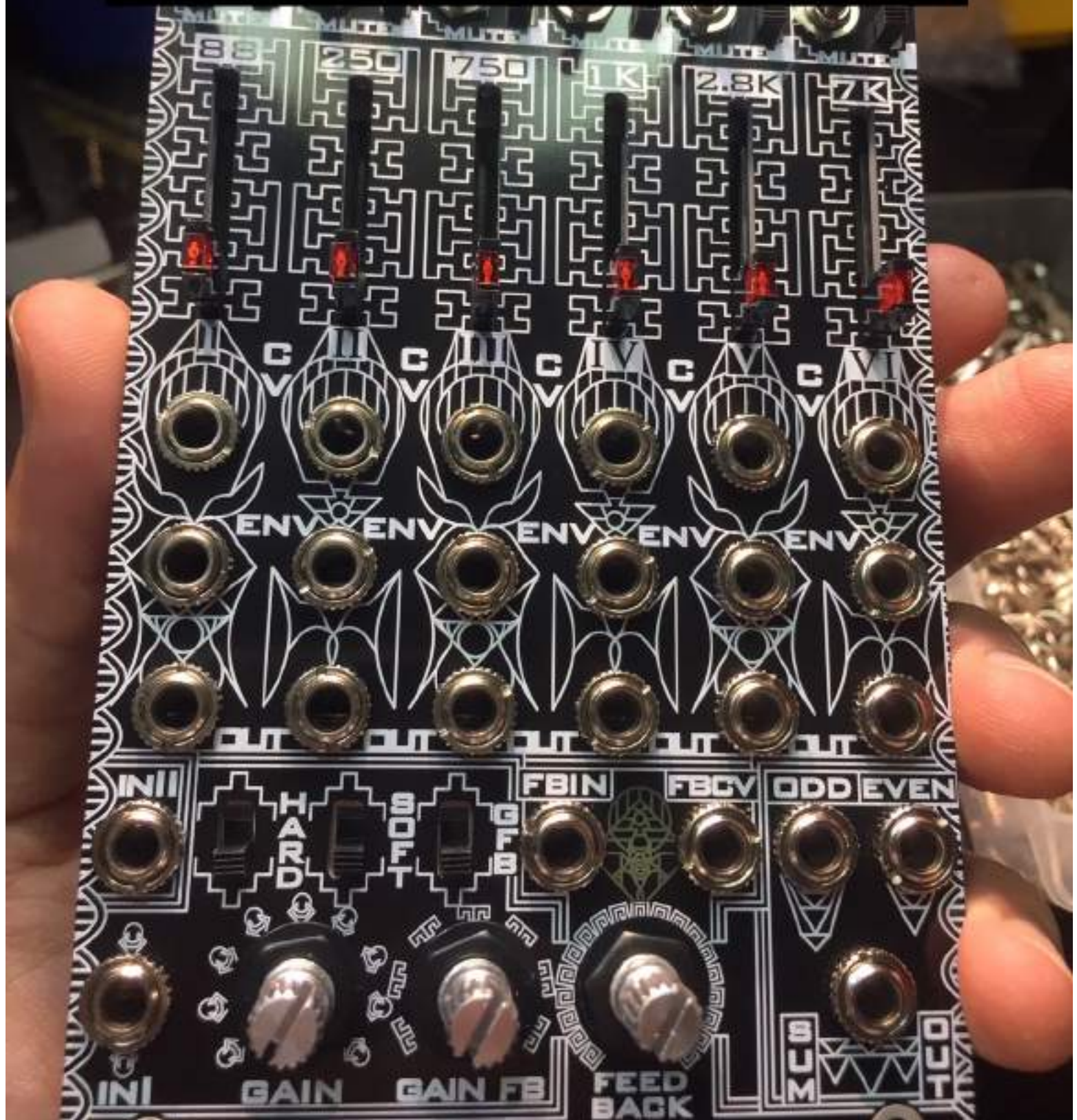


NOW THE REST OF
THE TOGGLE NUTS
HAND TIGHTEN

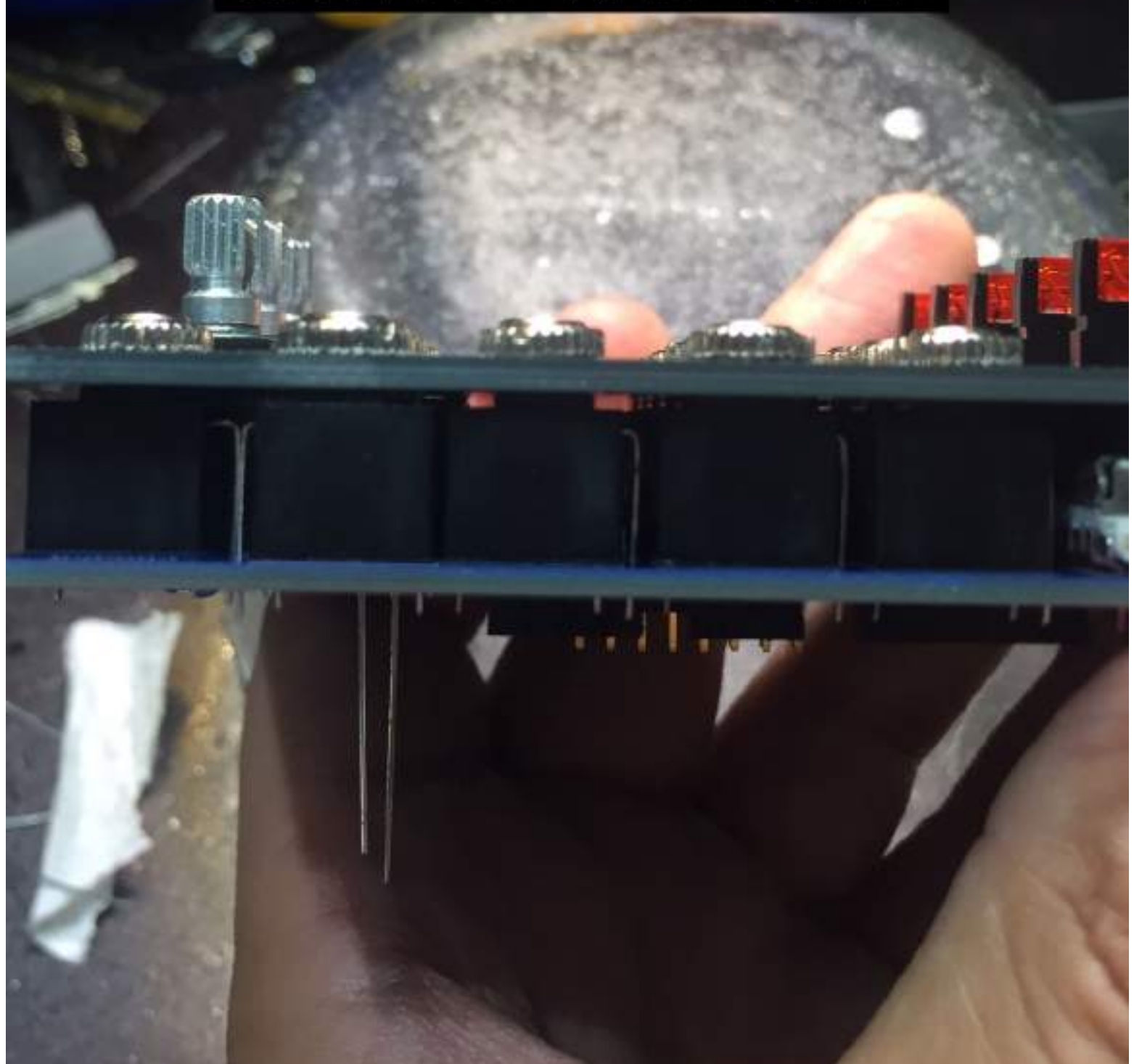


NOW ALL JACK NUTS,
HAND TIGHTEN

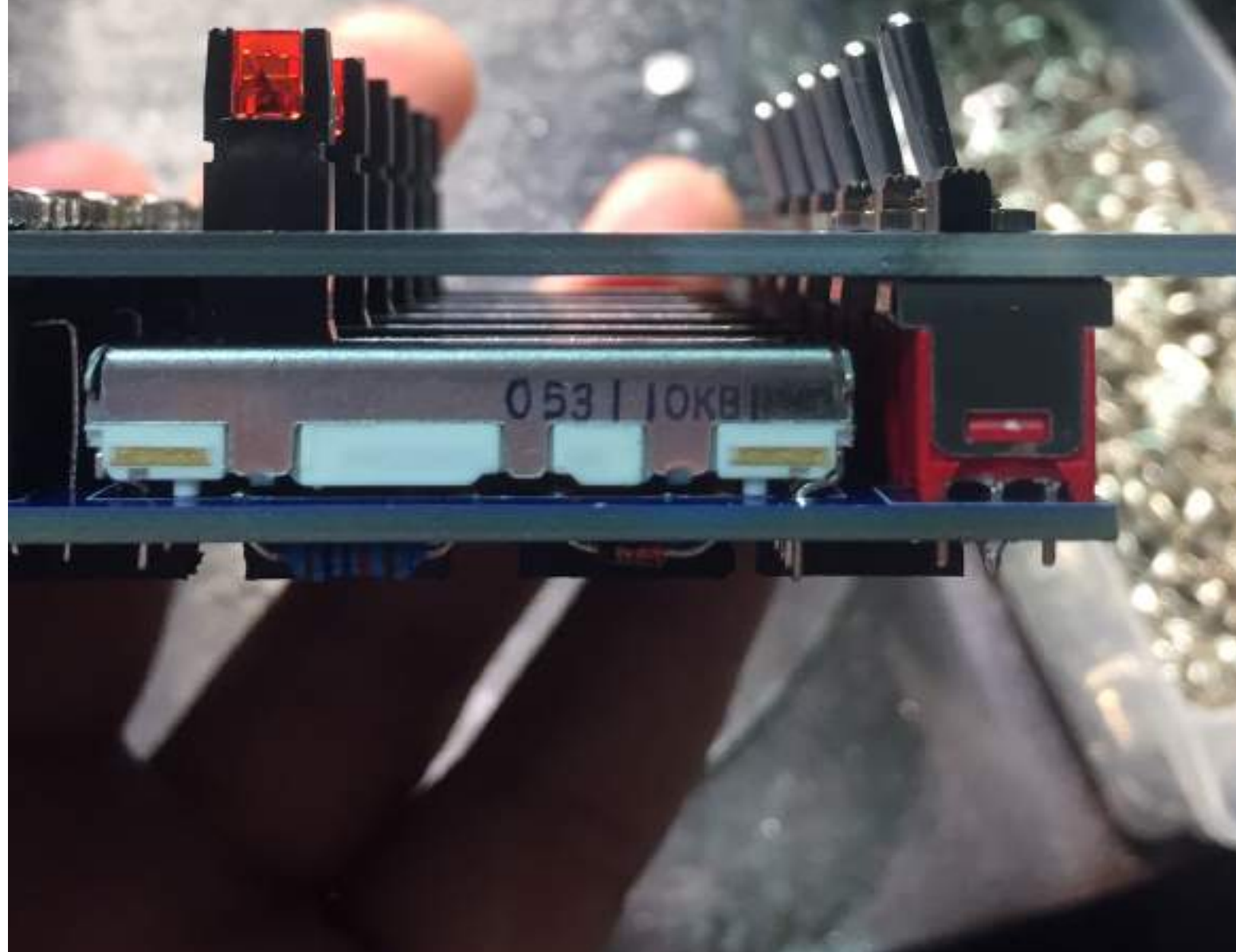
MAKE SURE ALL PINS ARE
POKING THROUGH PCB

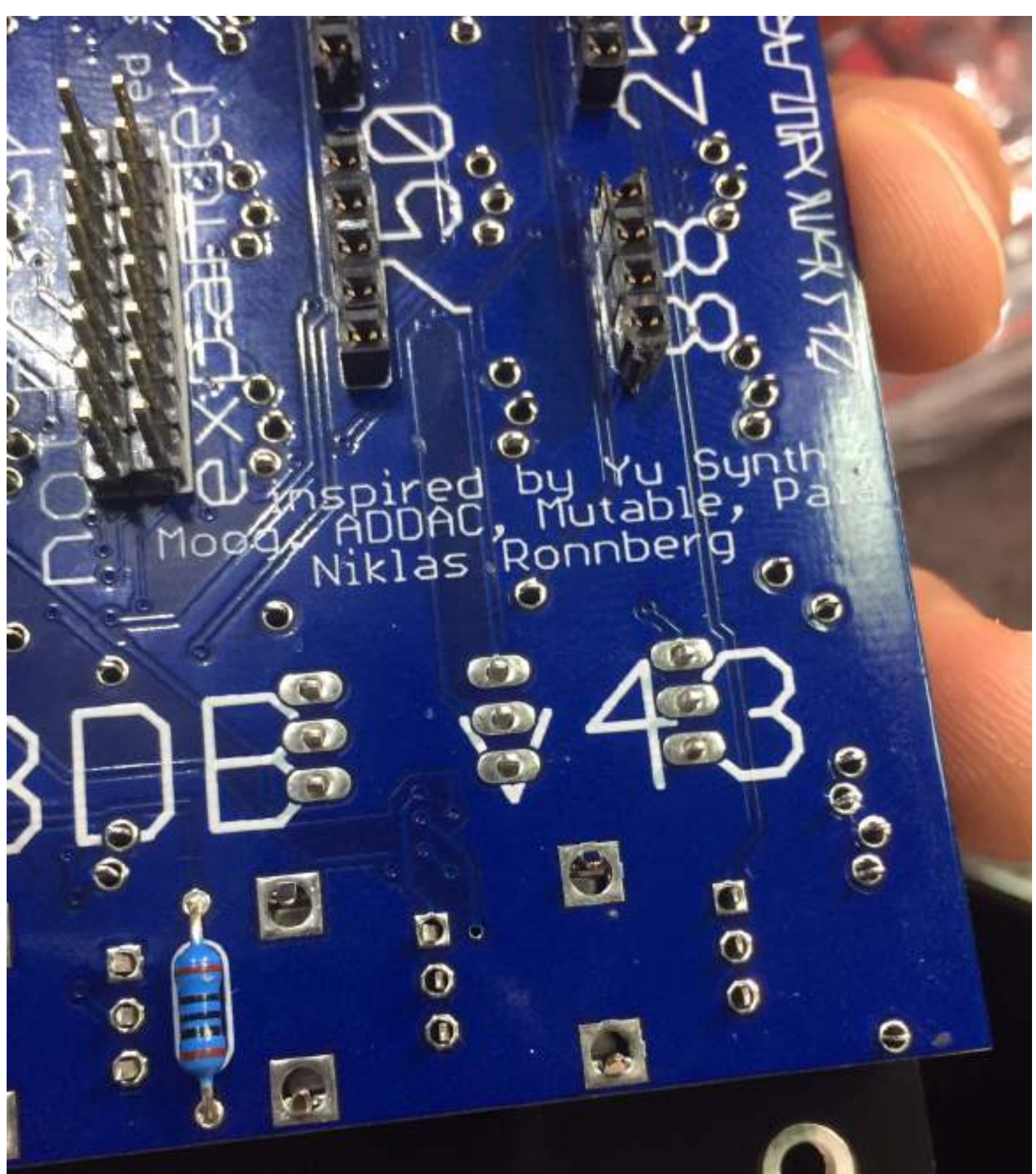


**MAKE SURE PARTS
ARE SITTING FLUSH
WITH PCB AND PANEL**



**MAKE SURE POTS AND
SWITCHES ARE FLUSH**





**ALL PINS SHOULD POKING
THROUGH PCB**

SAME FOR SLIDERS

4148

red stripe up

Anchor

Anchor

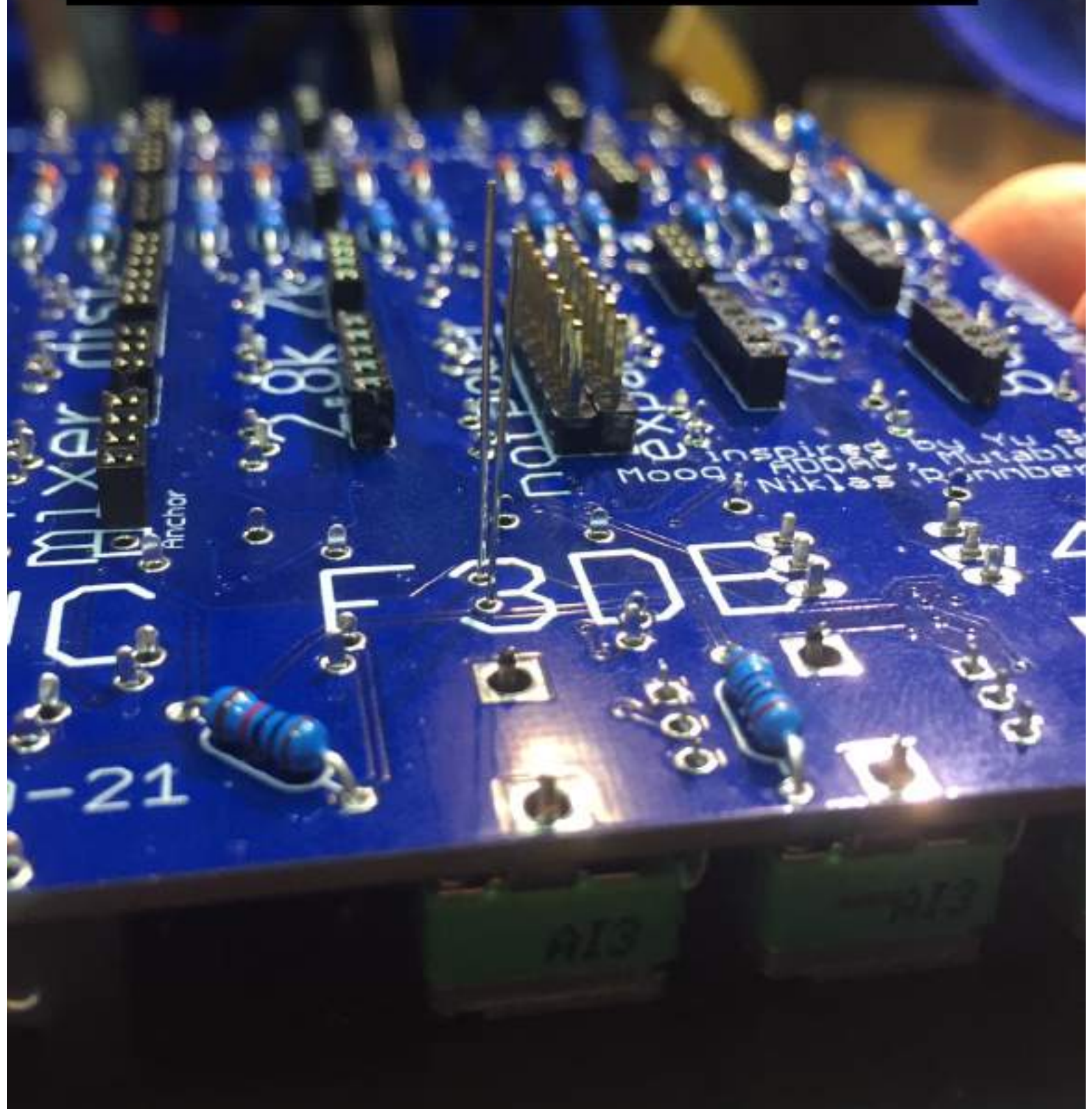
0.47uf

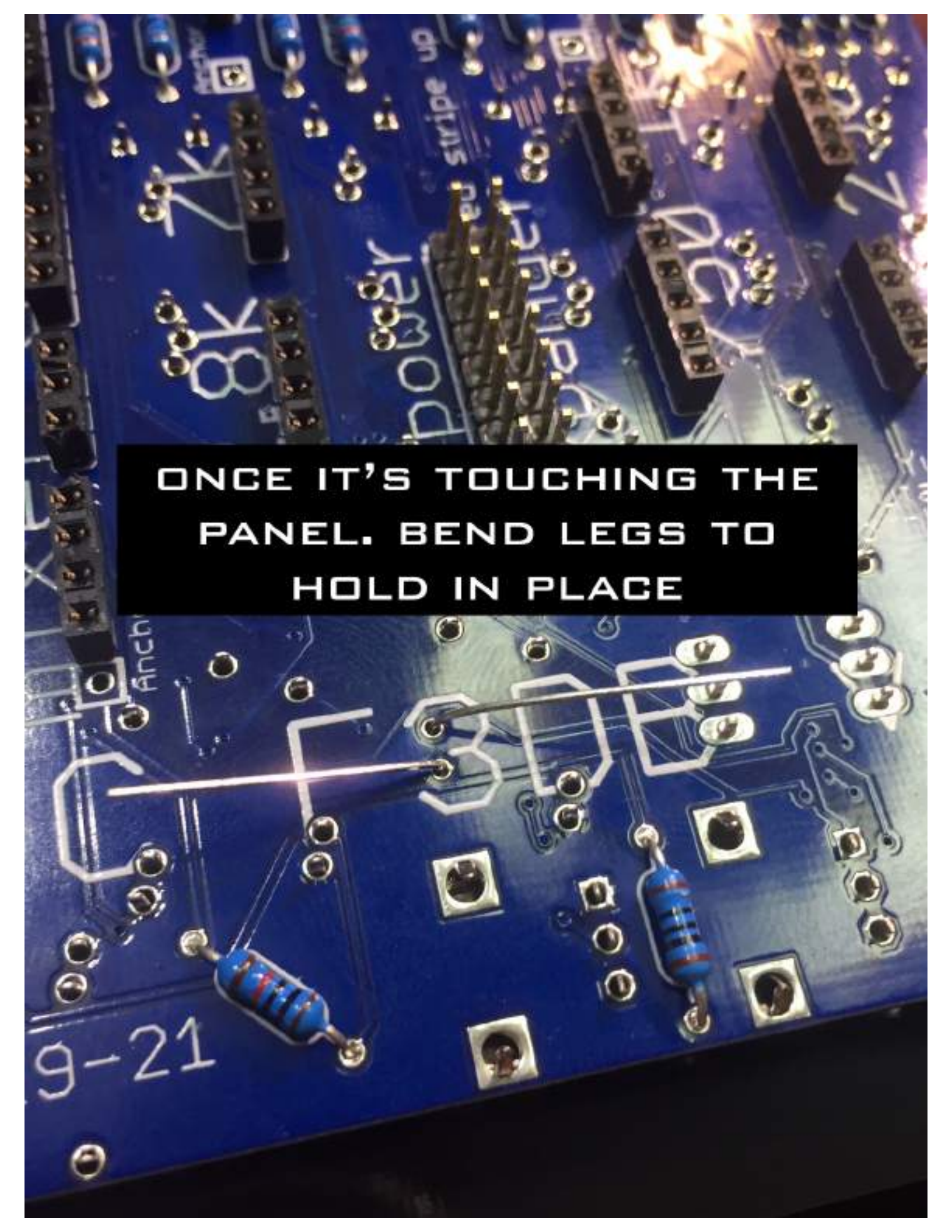
250

250

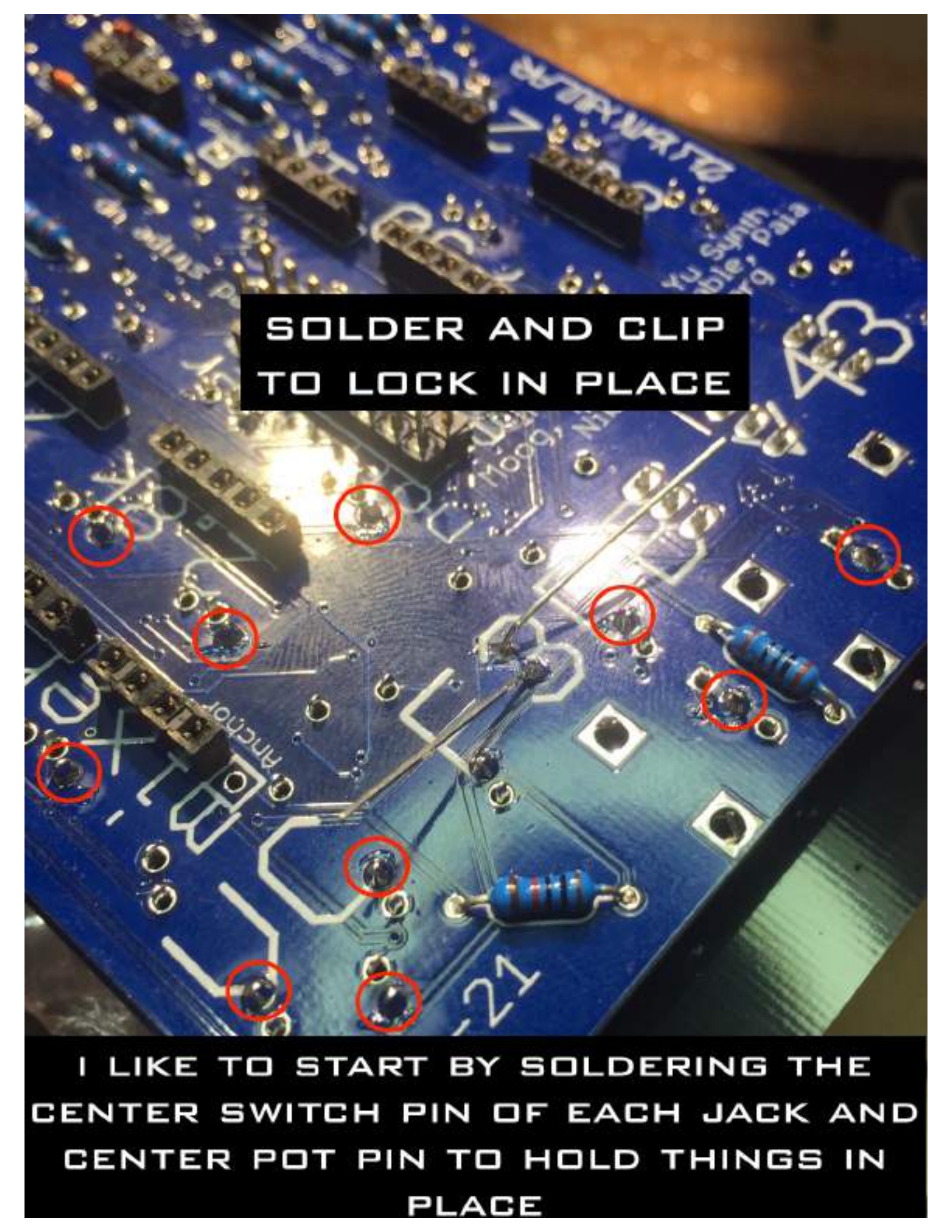
250

**LED THE LED DROP ONTO
THE SOLDERMASK CUTOUT
ON THE PANEL**





**ONCE IT'S TOUCHING THE
PANEL. BEND LEGS TO
HOLD IN PLACE**



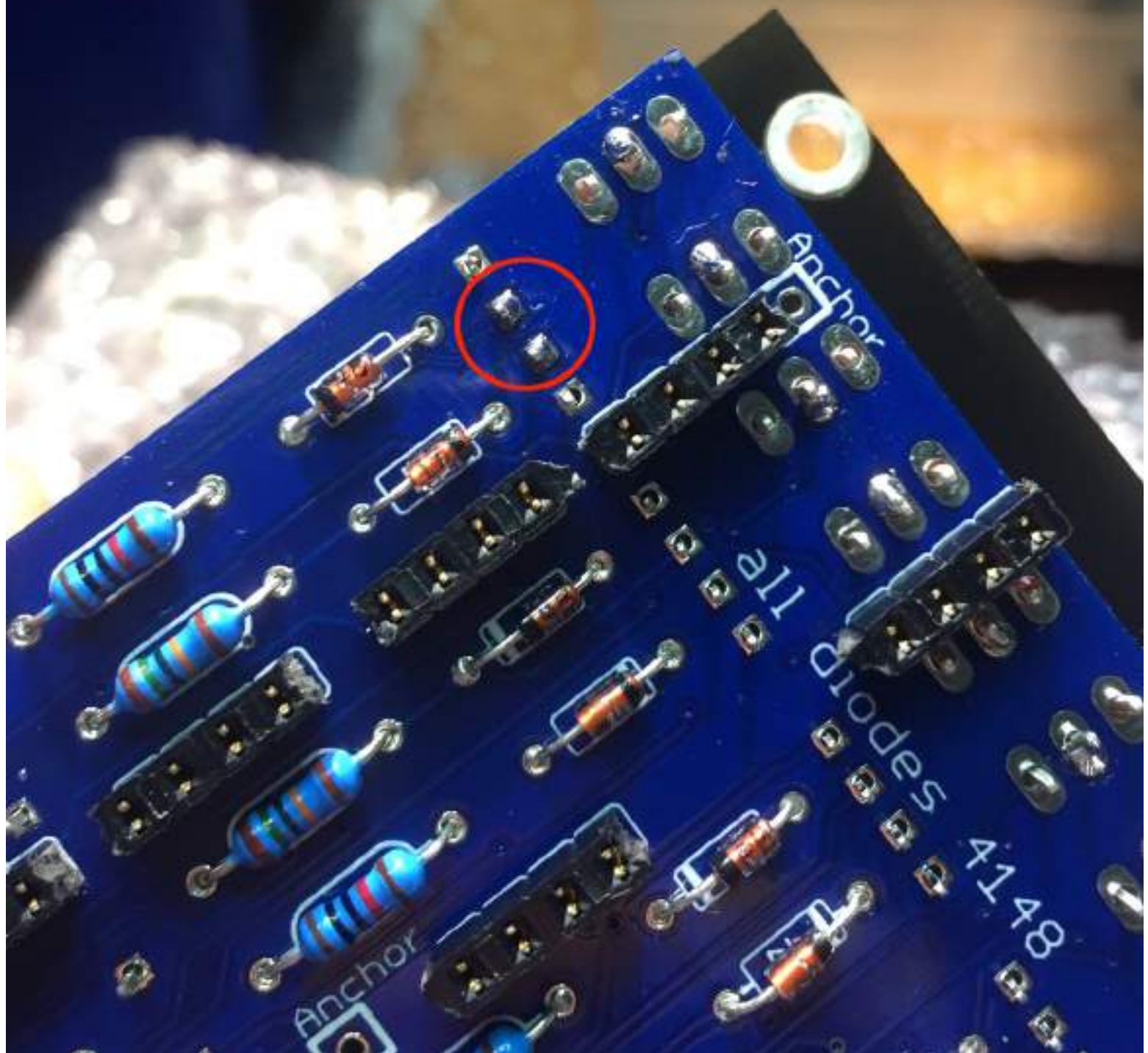
**SOLDER AND CLIP
TO LOCK IN PLACE**

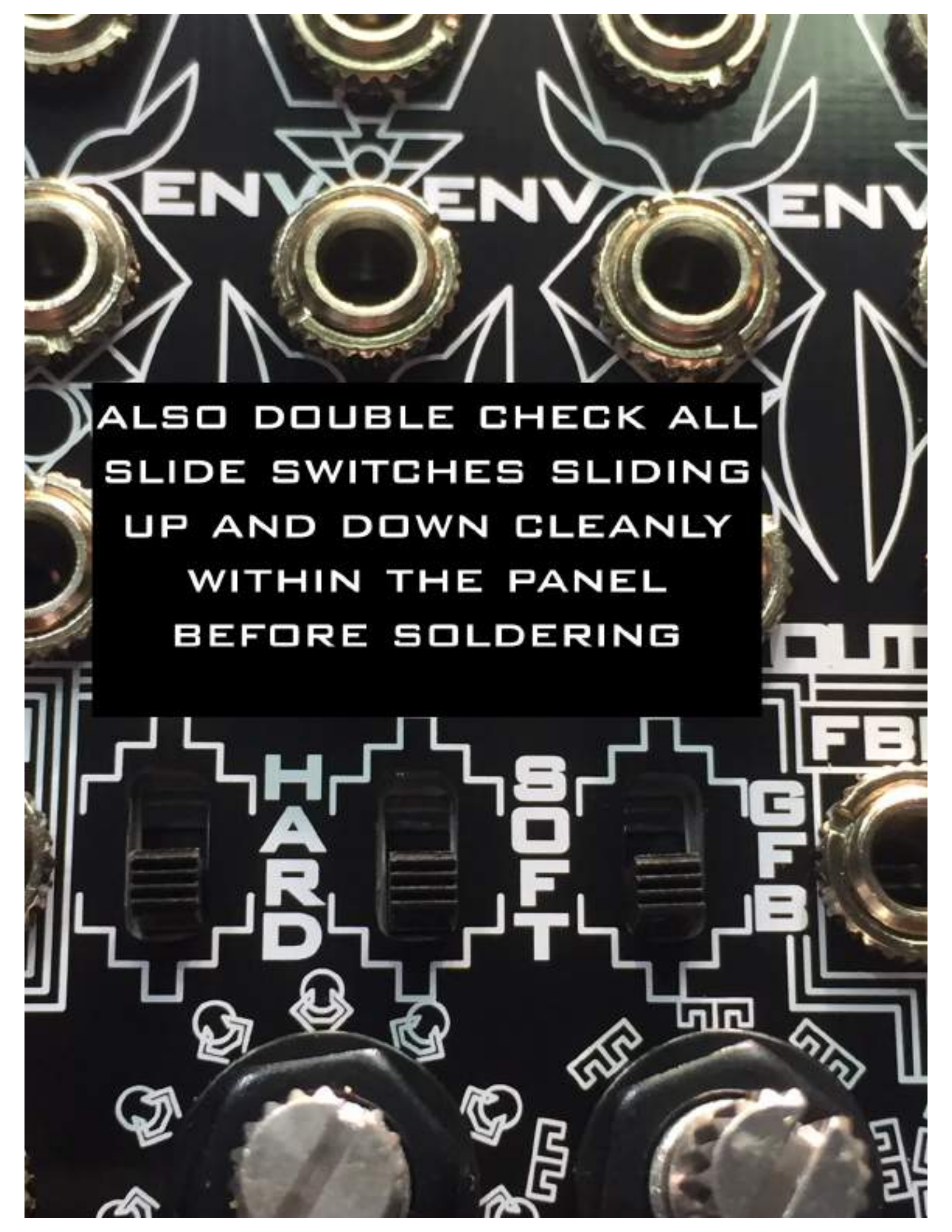
**I LIKE TO START BY SOLDERING THE
CENTER SWITCH PIN OF EACH JACK AND
CENTER POT PIN TO HOLD THINGS IN
PLACE**

**DOUBLE CHECK SLIDERS ARE
FLUSH AND SLIDERS ARE
TRAVELING UP AND DOWN
SMOOTHLY BEFORE
SOLDERING**



**SOLDER THE CENTER PINS OF
EACH SLIDER TO HOLD IN
PLACE**





ALSO DOUBLE CHECK ALL
SLIDE SWITCHES SLIDING
UP AND DOWN CLEANLY
WITHIN THE PANEL
BEFORE SOLDERING

HARD

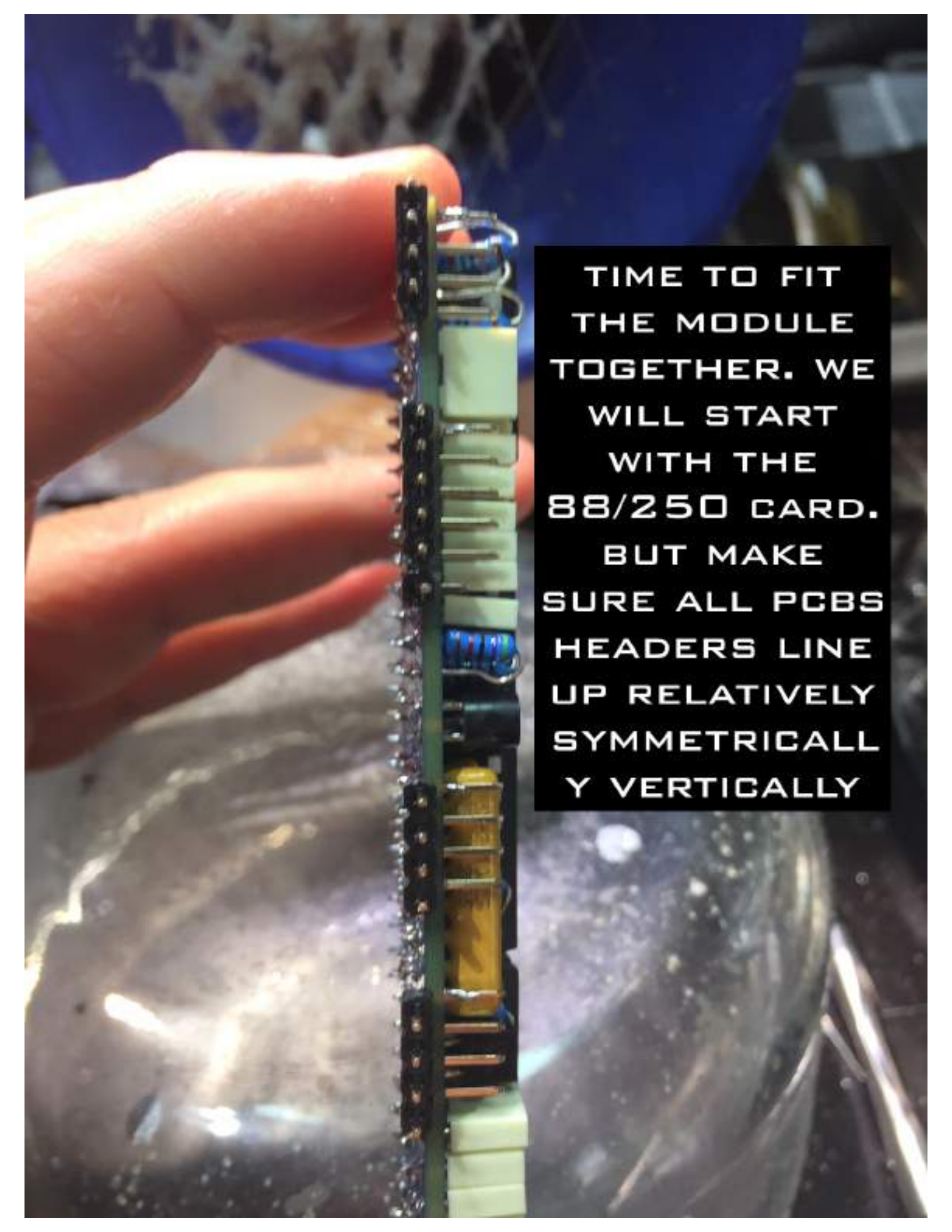
SOFT

GFB

FBI

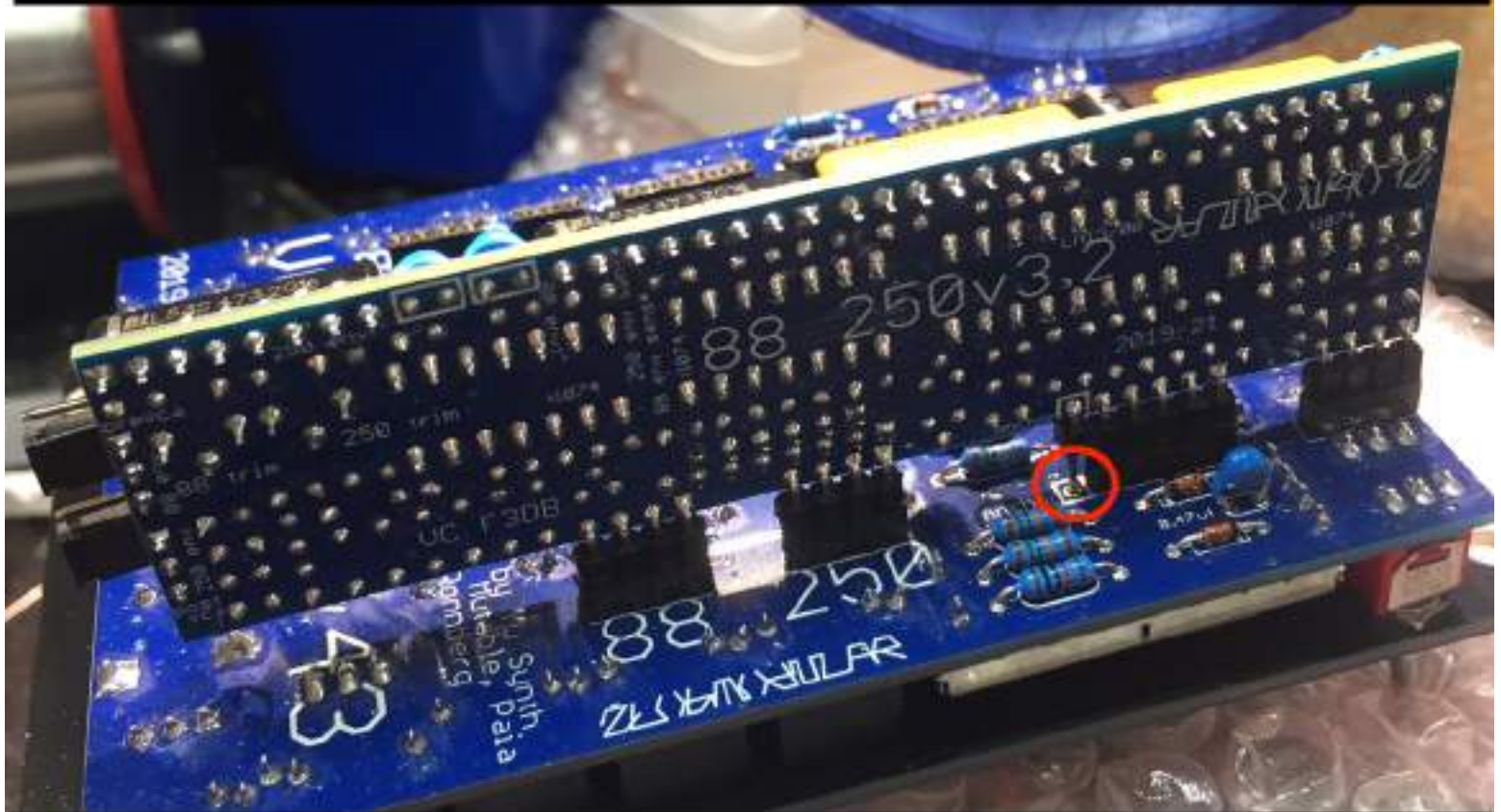
ALMOST
EVERYTHING
SOLDERED..





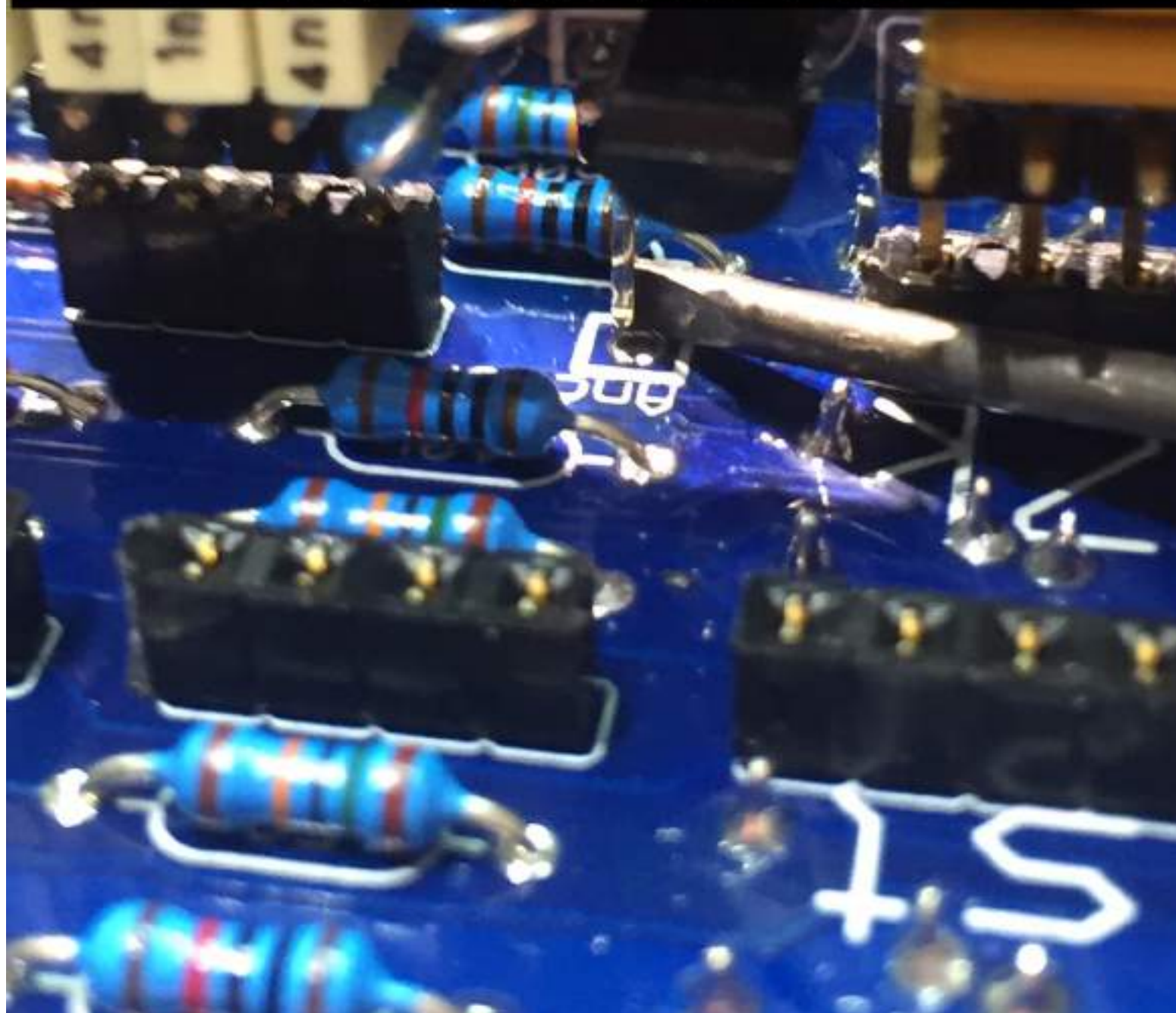
TIME TO FIT
THE MODULE
TOGETHER. WE
WILL START
WITH THE
88/250 CARD.
BUT MAKE
SURE ALL PCBS
HEADERS LINE
UP RELATIVELY
SYMMETRICALL
Y VERTICALLY

THE PCB CARDS ARE LABELLED ON THE BOTTOM SILKSCREEN AND ON THE BOTTOM OF THE TOP PCB. EACH PCB ONLY FITS INTO THE CORRECT FEMALE HEADERS. THIS PART CAN BE TRICKY FITTING ALL THE MALE HEADERS INTO THE FEMALE. IT HELPS TO FIT THE TOP PINS IN FIRST THEN FIT THE BOTTOM PINS IN TO OPEN UP THE HEADERS(SEE NEXT PICS FOR 750/1K CARD). THEN PUT THE WHOLE CARD IN, BUT YOU WILL HAVE TO GUIDE THE 1 PIN MALE INTO IT'S SLOT ON THE TOP PCB SIMULTANEOUSLY.



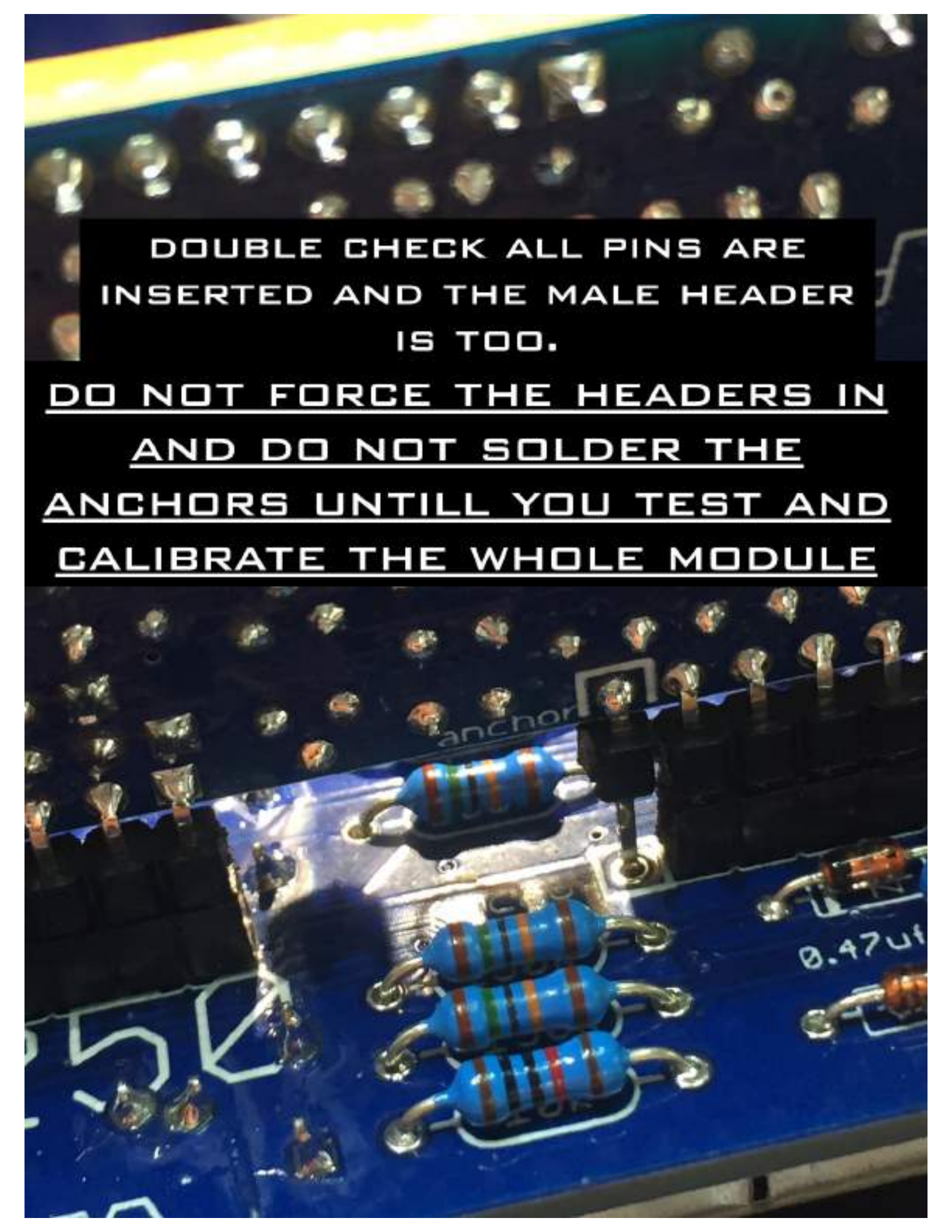
YOU MUST BE GENTLE AND PATIENT WHEN INSERTING THE CARDS. YOU DONT WANT TO OVER LOOSEN THE FEMALE PINS OR BEND ANY MALE PINS. WHEN YOU ARE INSERTING THE CARDS MAKE SURE YOU ARE WORKING ON A SOFT SURFACE SO YOU DONT DAMAGE OR SCRATCH THE LED SLIDERS

THE 2.8K/7K PCB IS PICTURED
HERE. BUT IT APPLIES TO ALL
THE PCBs. IT HELPS TO USE A
SCREWDRIVER TO GUIDE THE
1 PIN IN. YOU MIGHT HAVE TO
GENTLY BEND THE 1 PIN TO FIT
INTO THE TOP PCB



THIS IS FROM LATER BUT IT'S
WORTH NOTING NOW
MAKE SURE ALL PINS ARE
INSERTED AND THE PCB IS
SITTING FLUSH. YOU CAN SEE
BETTER HERE THAT THE MALE
PINS ONLY GO IN SO FAR. SO
DONT FORCE THEM TOO FAR,
THE BLACK PLASTIC PARTS
WILL NOT BE FLUSH.

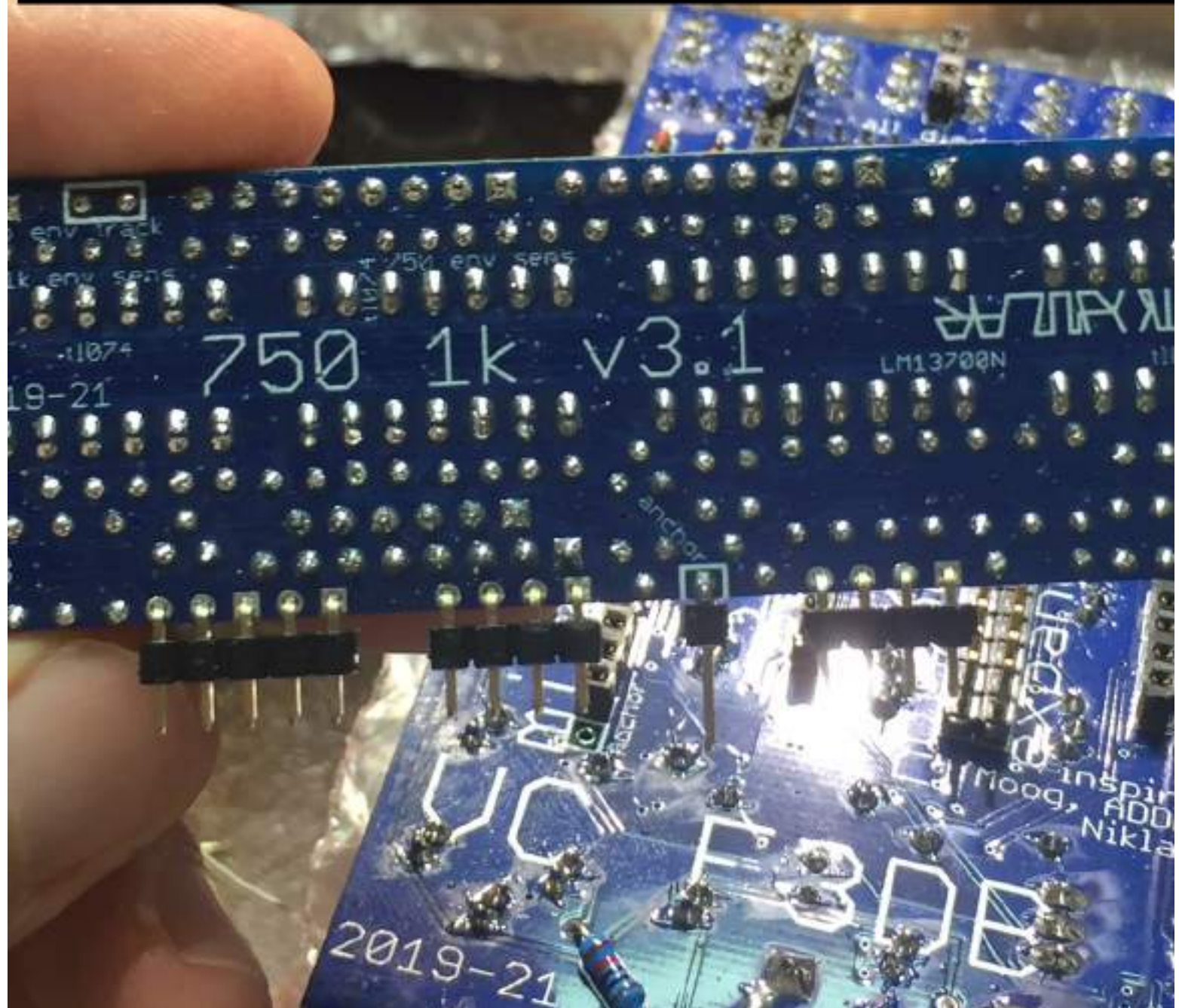




DOUBLE CHECK ALL PINS ARE
INSERTED AND THE MALE HEADER
IS TOO.

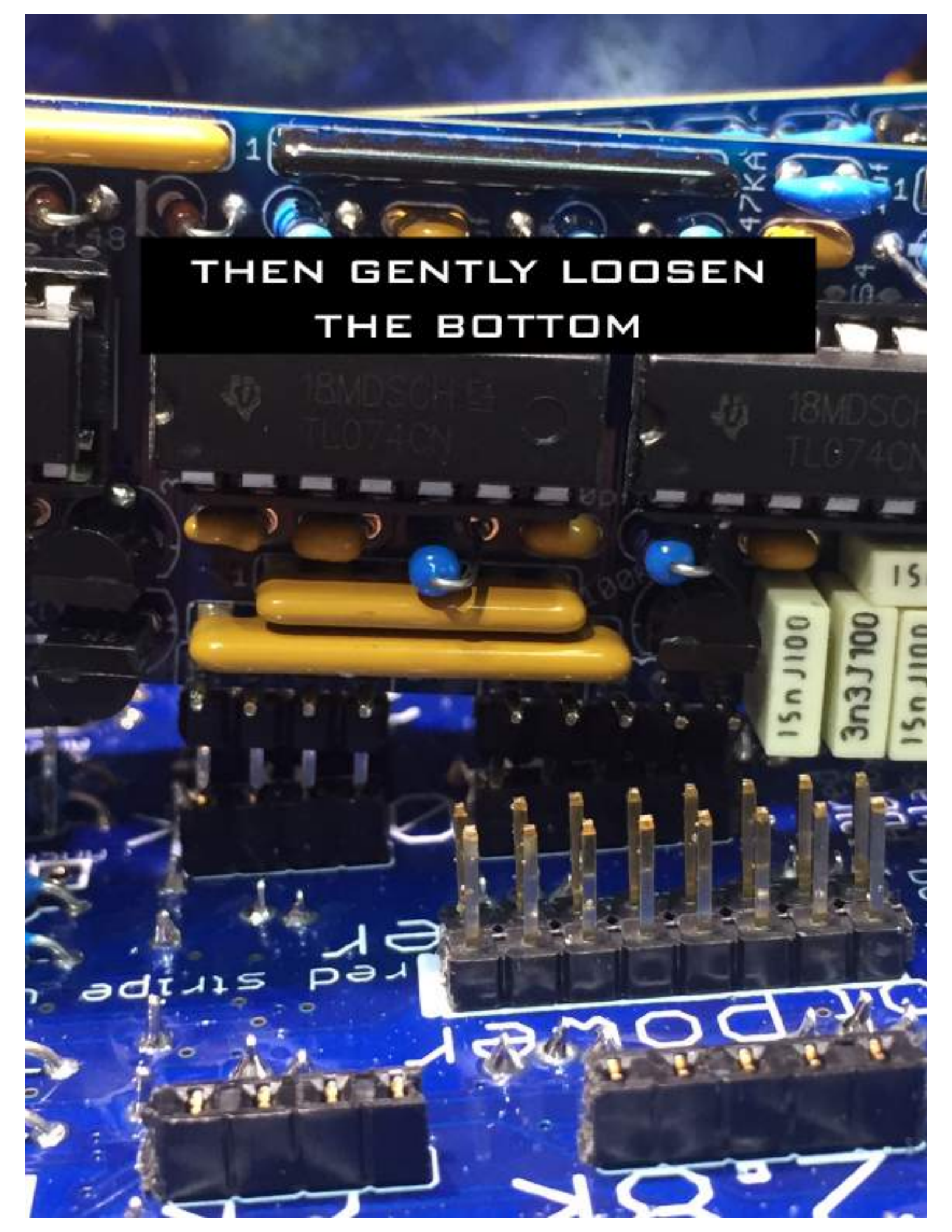
DO NOT FORCE THE HEADERS IN
AND DO NOT SOLDER THE
ANCHORS UNTILL YOU TEST AND
CALIBRATE THE WHOLE MODULE

**NOW THE 750/1K. CHECK ALL
MALE PINS ARE VERTICALLY
SYMMETRICAL. AND ICS ARE
ORIENTED CORRECTLY**



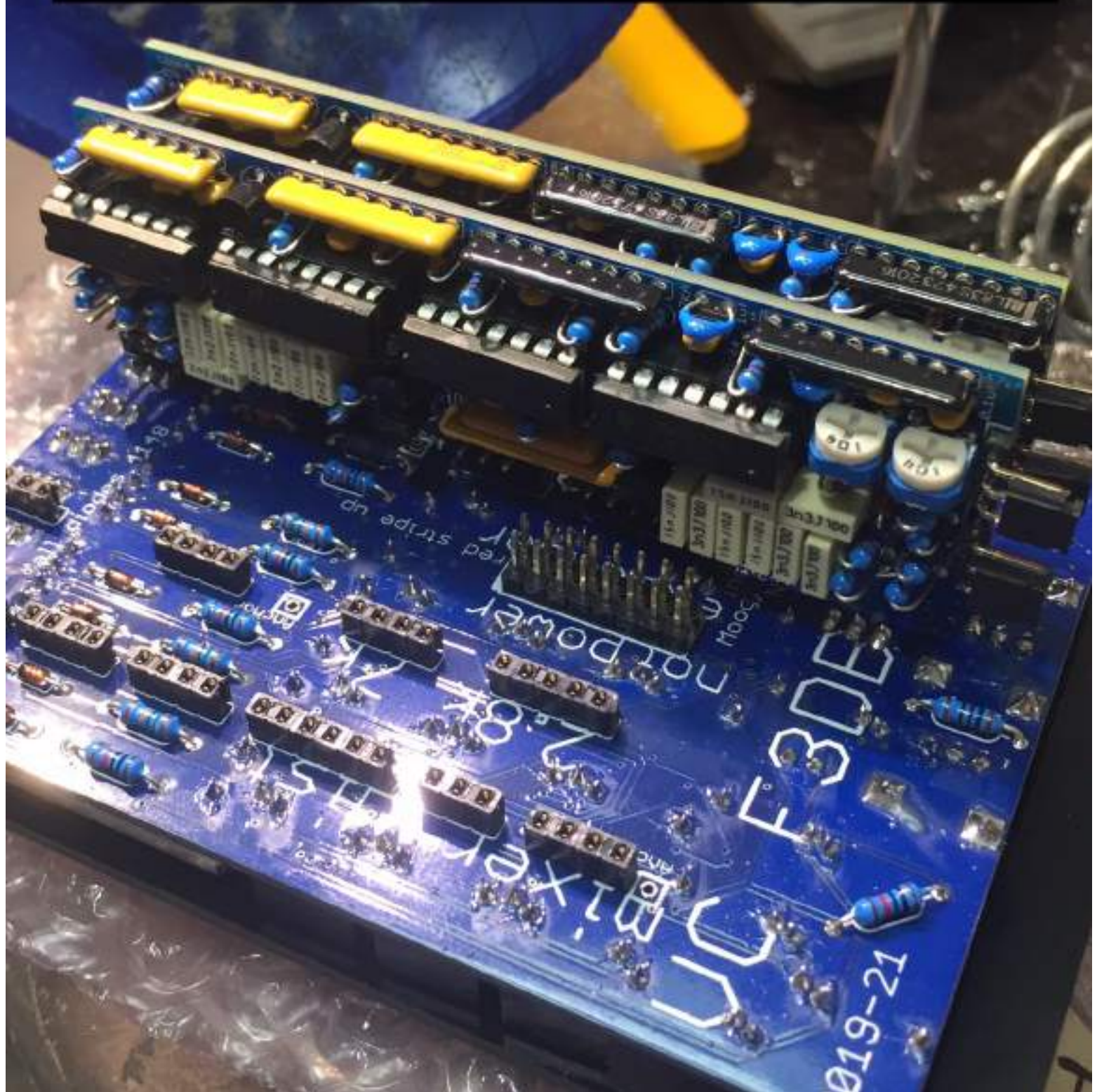
**GENTLY LOOSEN THE TOP
HEADERS**





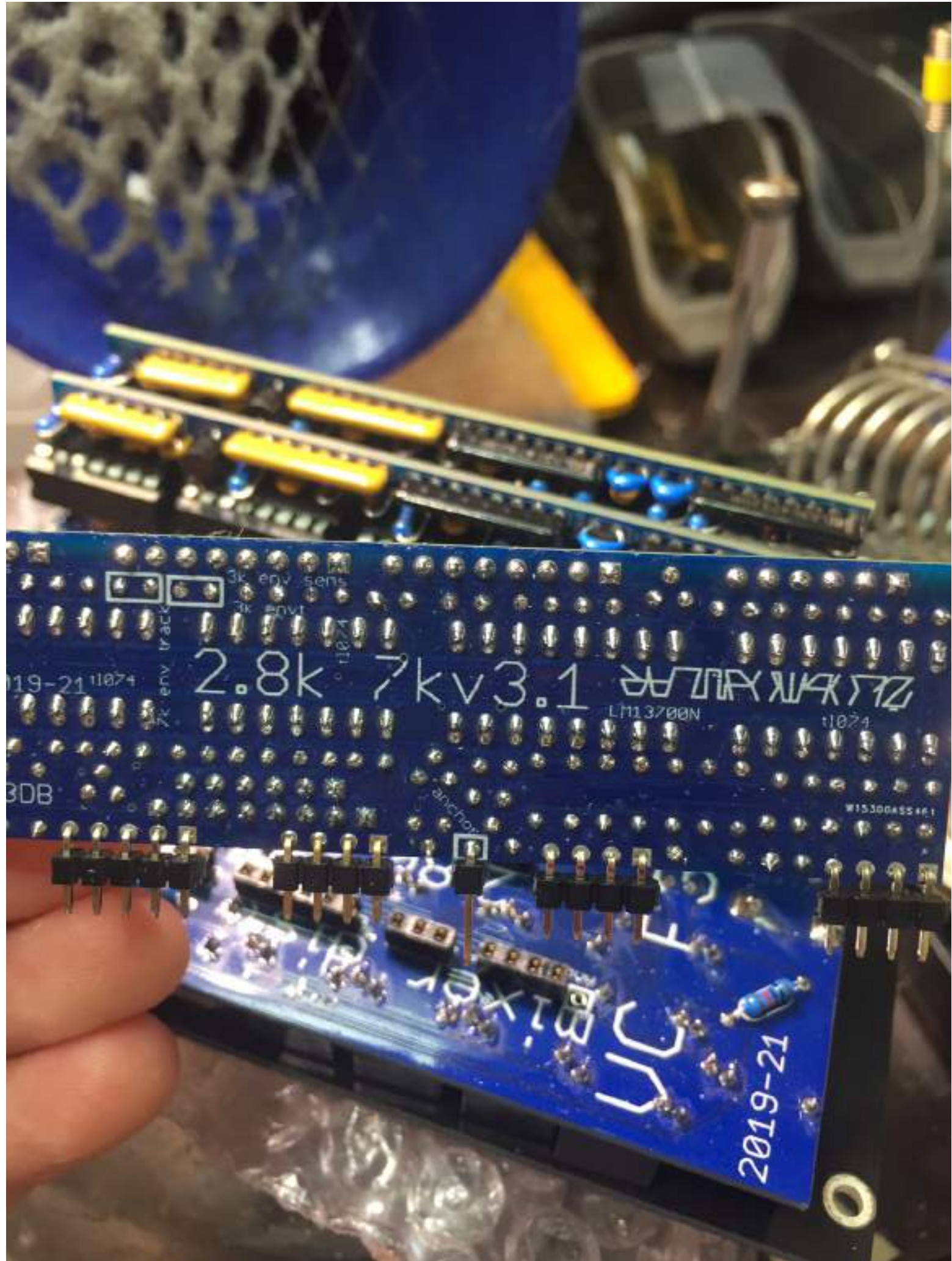
**THEN GENTLY LOOSEN
THE BOTTOM**

**GENTLY INSERT PCB AND MAKE
SURE 1 PIN MALE FITS INTO
TOP PCB TOO**



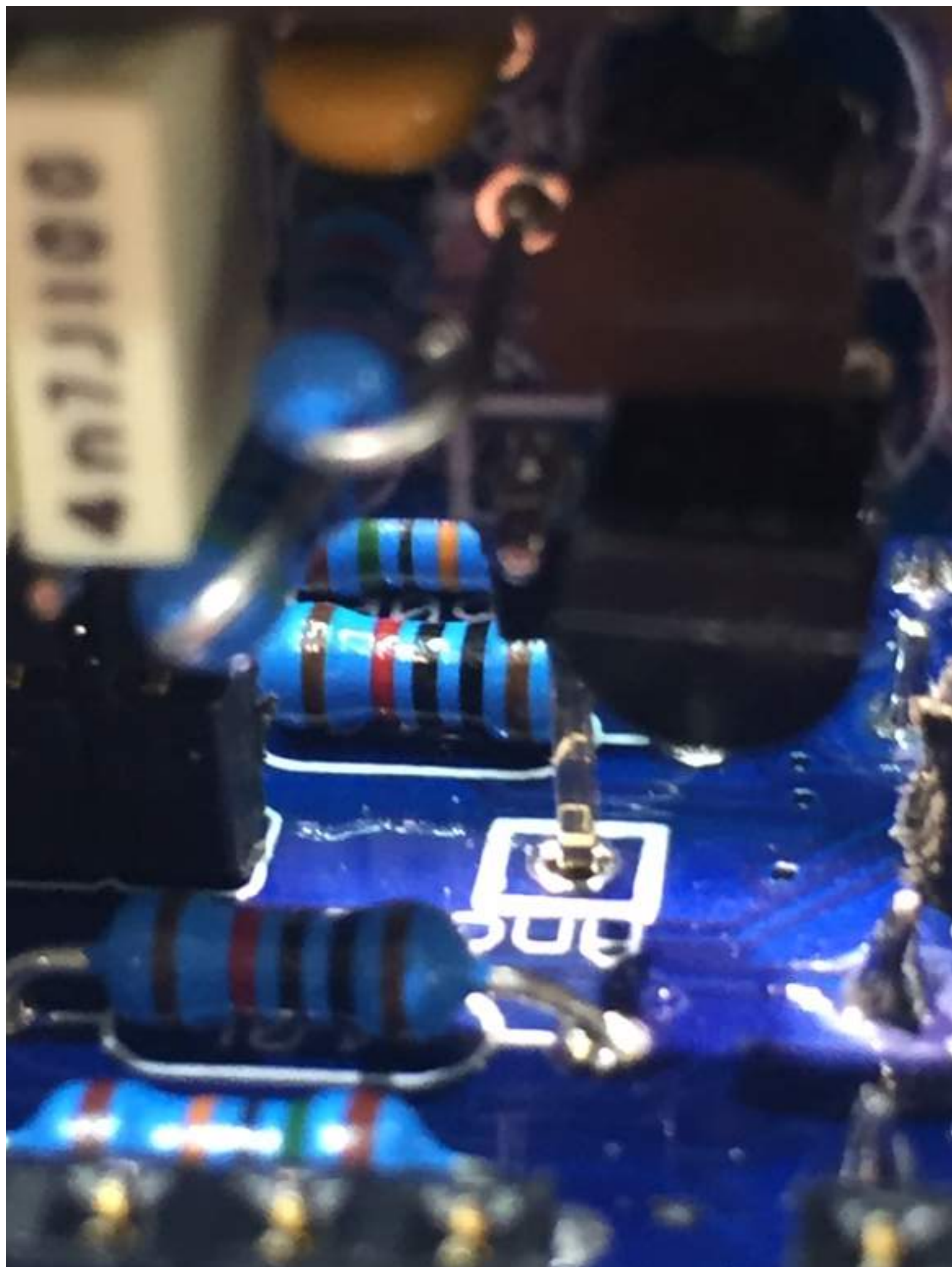
DO NOT SOLDER YET



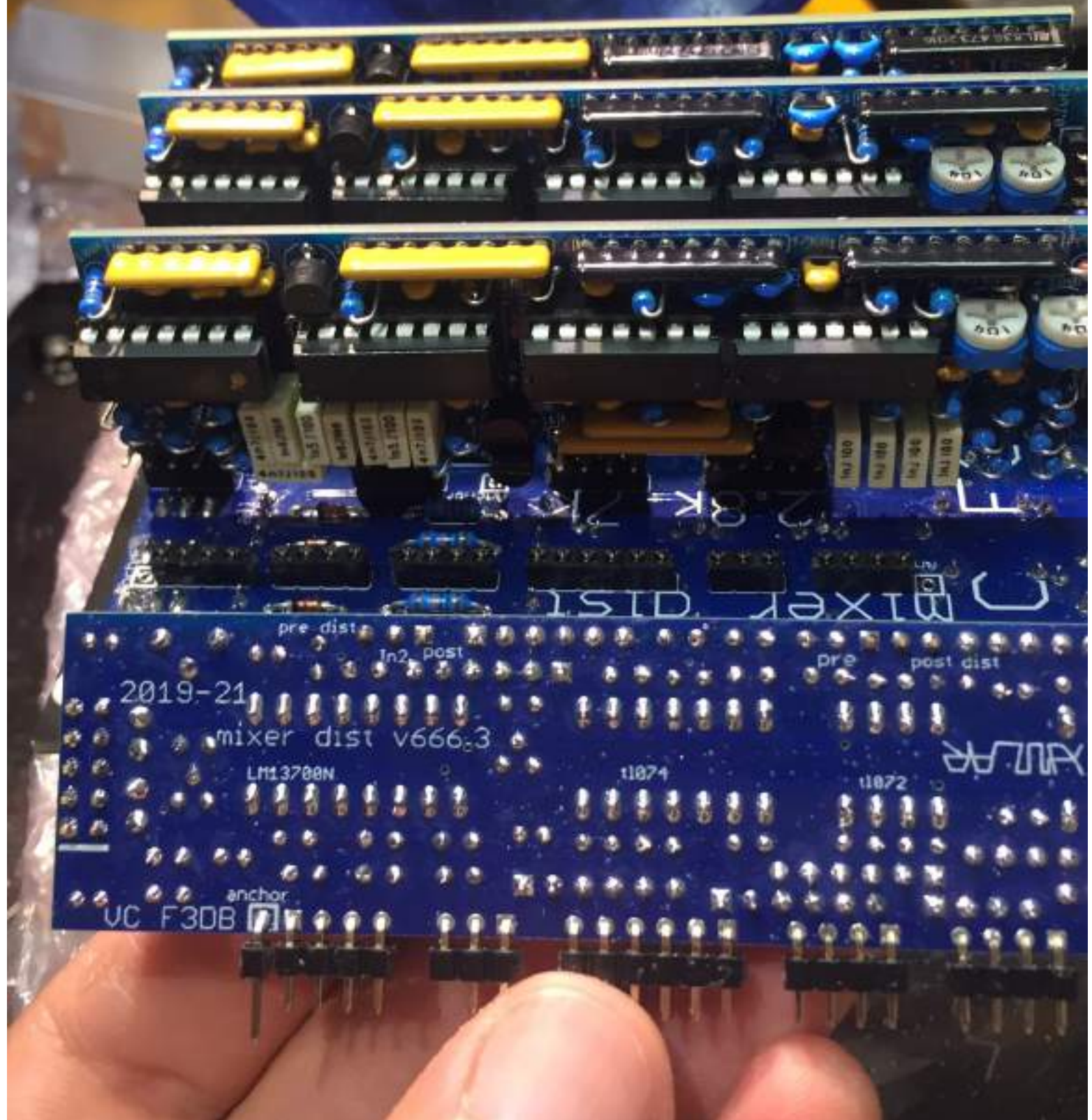


**FOLLOW THE SAME PROCEDURE
AS THE OTHER 2 PCBS. BE
GENTLE AND DONT SOLDER YET**





NOW THE MIXER/DISTORTION



**MAKE SURE ALL PINS ARE
INSERTED AND THE PCB IS
SITTING FLUSH. YOU CAN SEE
BETTER HERE THAT THE MALE
PINS ONLY GO IN SO FAR. SO
DONT FORCE THEM TOO FAR,
THE BLACK PLASTIC PARTS
WILL NOT BE FLUSH.**

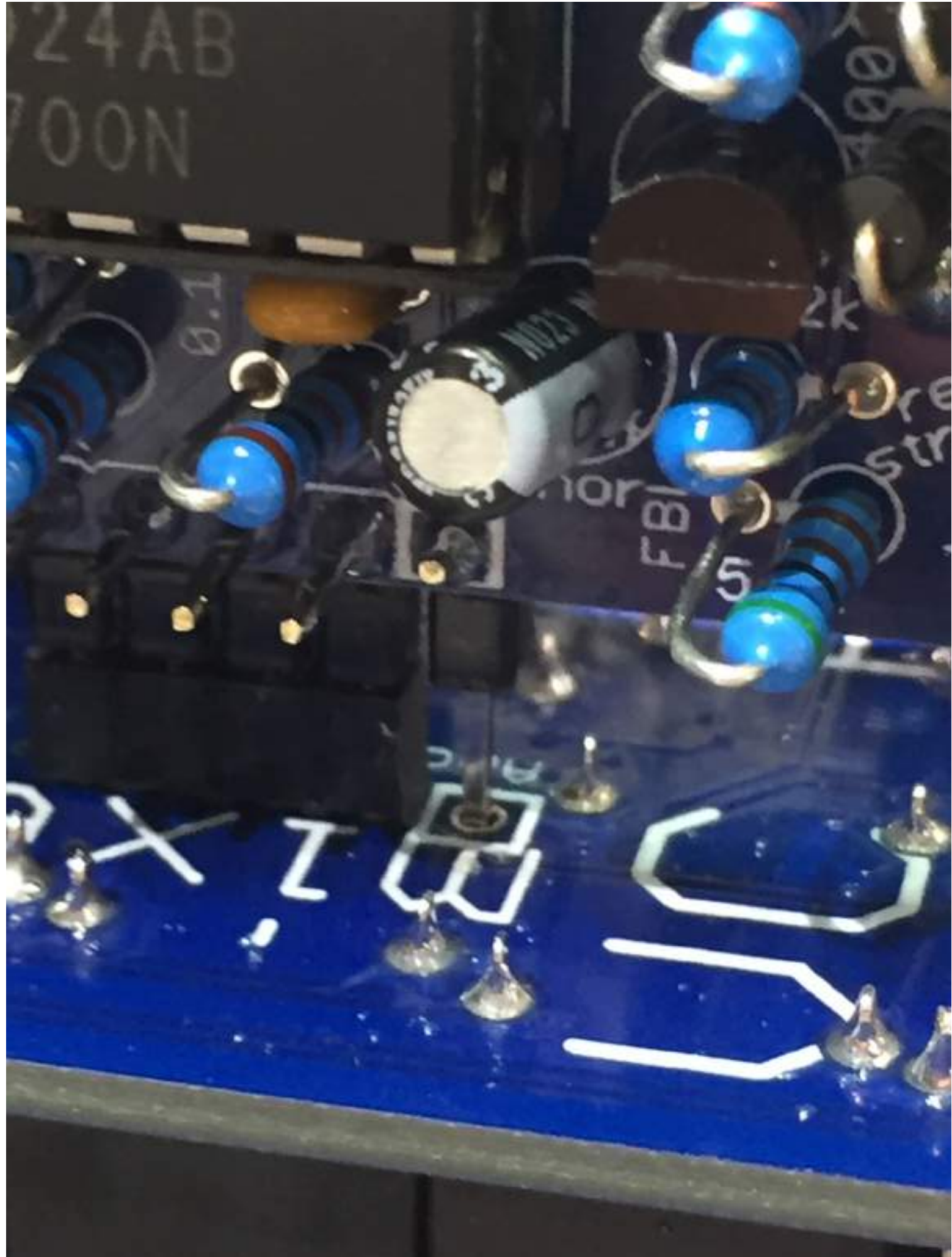


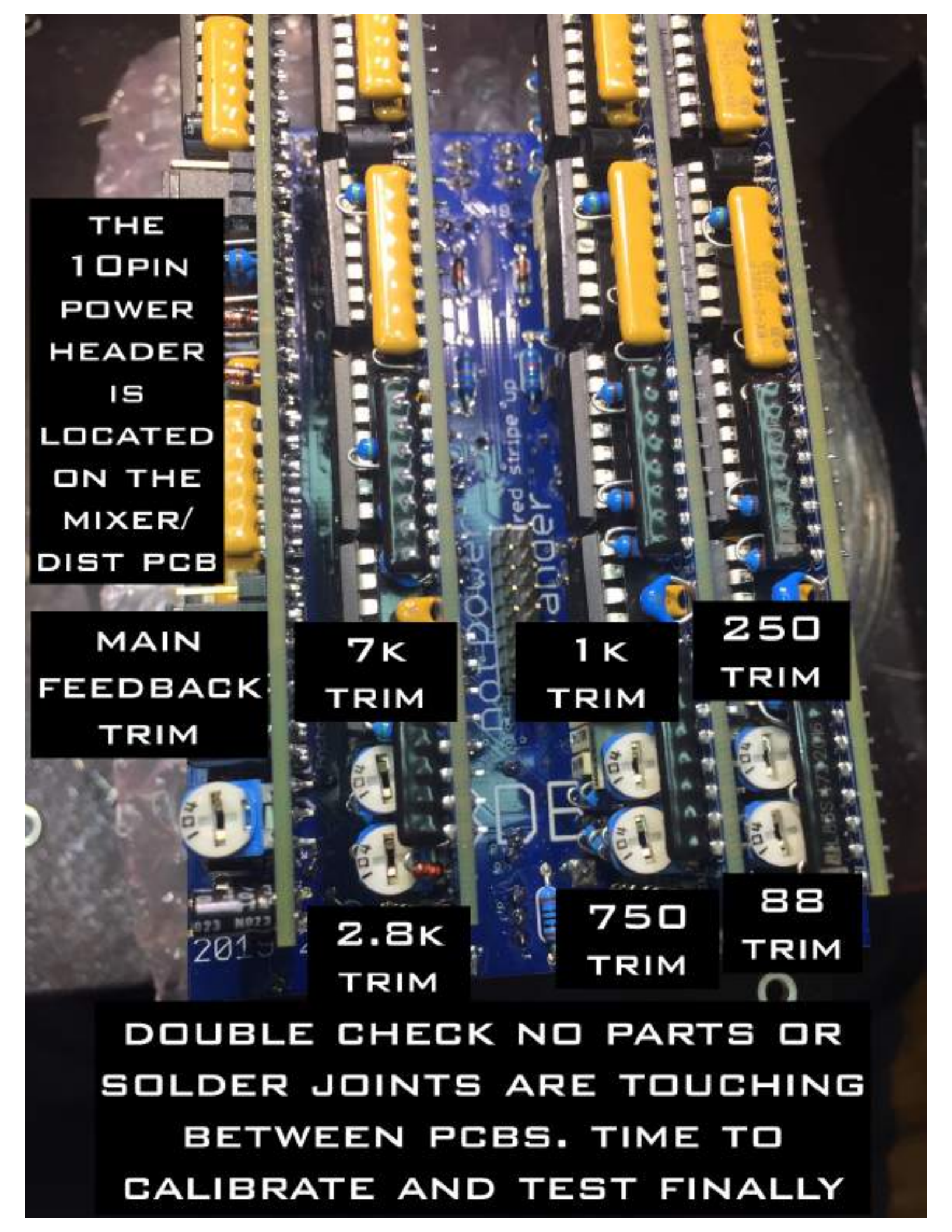
18MDSCH E
TL074CN

10p

ne

10p





THE
10PIN
POWER
HEADER
IS
LOCATED
ON THE
MIXER/
DIST PCB

MAIN
FEEDBACK
TRIM

7K
TRIM

1K
TRIM

250
TRIM

2.8K
TRIM

750
TRIM

88
TRIM

DOUBLE CHECK NO PARTS OR
SOLDER JOINTS ARE TOUCHING
BETWEEN PCBS. TIME TO
CALIBRATE AND TEST FINALLY

VC F³DB

CLIP

CLIP

CLIP

CLIP

CLIP

CLIP

MUTE

88

FOR CALIBRATION PUT ALL CLIP SWITCHES IN THE OFF(DOWN) POSITION AND MUTE SWITCHES IN ON(UP) POSITION. HARD TO SEE WITHOUT A KNOB YET. BUT MAKE SURE THE FEEDBACK POT IS TURNED ALL THE WAY COUNTER CLOCKWISE.

INSERT A LOWER FREQUENCY(AROUND 88HZ) SQAURE OR SAW WAVE TO THE IN II AND USE THE INDIVIDUAL OUT. THE SLIDER SHOULD BE ALL THE WAY DOWN. THE OUT SHOULD GO INTO A MIXER AND SHOULD BE TURNED UP LOUD TO HEAR FOR BLEED.

HARD
GAIN

SOFT
GAIN FB

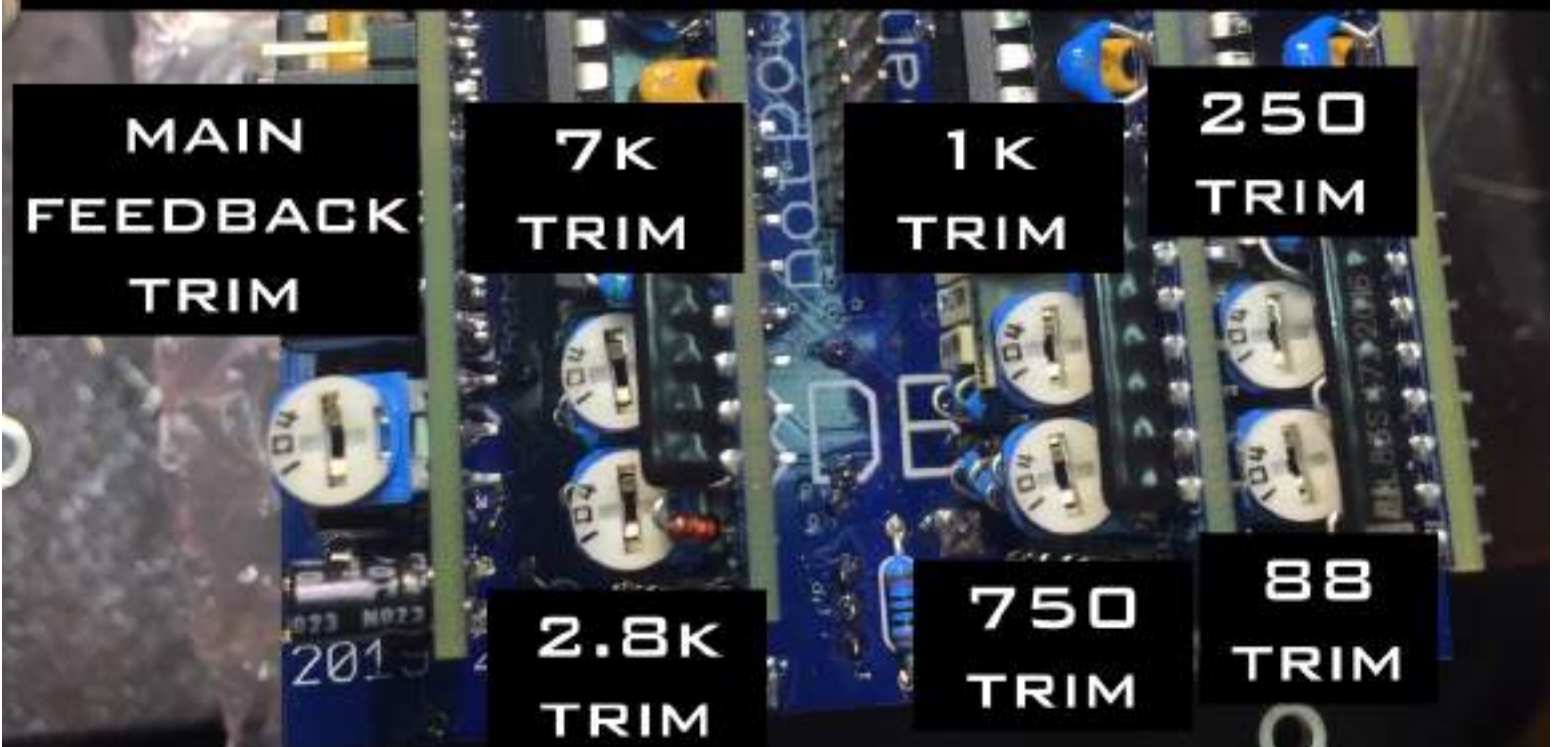
FB
FEED
BACK

SUM

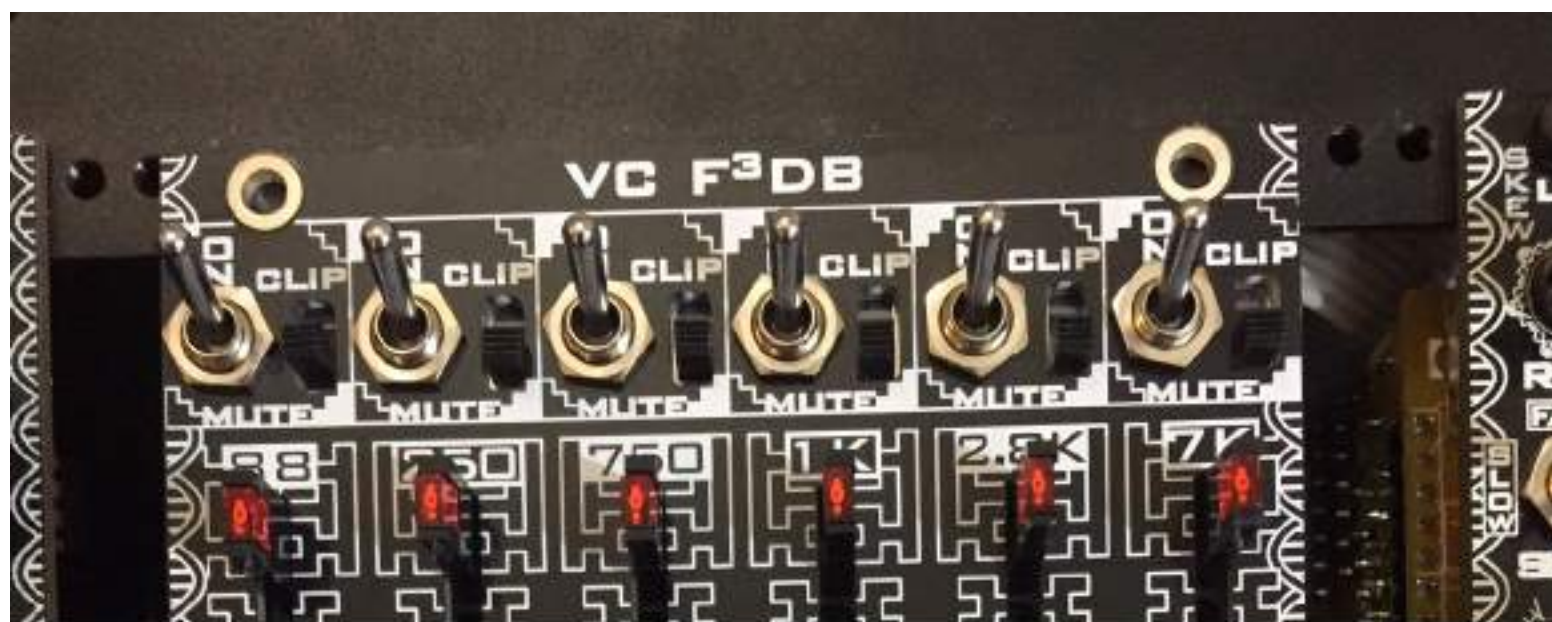
OUT

ZLXNULAR

IF YOU HEAR ANY FREQUENCY COMING THROUGH THE VCA WITH THE SLIDER DOWN(OFF) YOU NEED TO TURN THE TRIM VERY VERY SLIGHTLY TO THE LEFT(COUNTER CLOCKWISE) UNTIL THE BLEED IS GONE. YOU HAVE TO BE CAREFUL WHEN TRIMMING AND THE MODULE IS ON TO NOT TOUCH YOUR SCREWDRIVER TO PARTS NEARBY LIKE THE DIODES OR RESISTORS IN FRONT OF THE TRIMS. THIS PICTURE IS AN EXAMPLE OF A CALIBRATED MODULE. EACH MODULE AND TRIM WILL BE DIFFERENT BUT THEY WILL TYPICALLY LOOK LIKE BELOW.



THEN REPEAT WITH THE REST OF THE BANDS. YOU CAN ALSO TEST WITH THE CLIP SWITCH ON AS THE GAIN WILL BE DIFFERENT. WHEN TESTING THE OTHER BANDS YOU WILL NEED TO INCREASE THE FREQUENCY OF YOUR OSCILLATOR TO ADJUST FOR BLEED. LIKE FOR THE 7K BAND THE OSCILLATOR SHOULD BE AROUND 7K HZ.

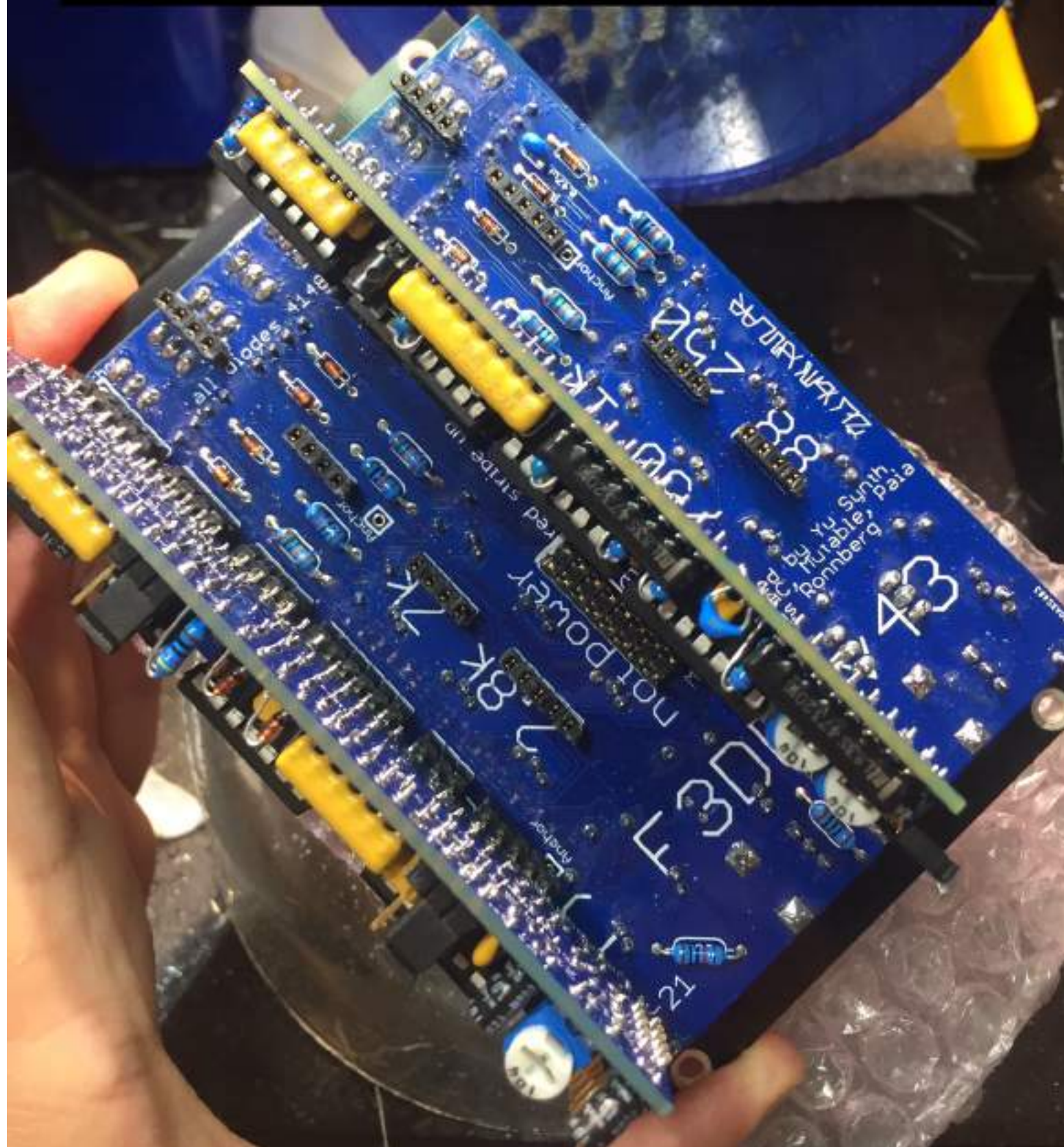


NOW TO TRIM THE FEEDBACK

PUT ALL SLIDERS UP(OPEN) AND ALL MUTE SWITCHES ON AND COME OUT OF THE SUM OUTPUT. YOU DONT NEED AN INPUT. MAKE SURE THE GFB SWITCH IS OFF(DOWN) SO THERES NO EXTRA OSCILLATION. TURN THE FEEDBACK POT ALL THE WAY COUNTER CLOCKWISE AND GAIN POT CLOCKWISE. LISTEN IF YOU HEAR ANY OSCILLATION, IF YOU DO TURN THE FEEDBACK TRIM VERY VERY SLIGHTLY TO THE LEFT.

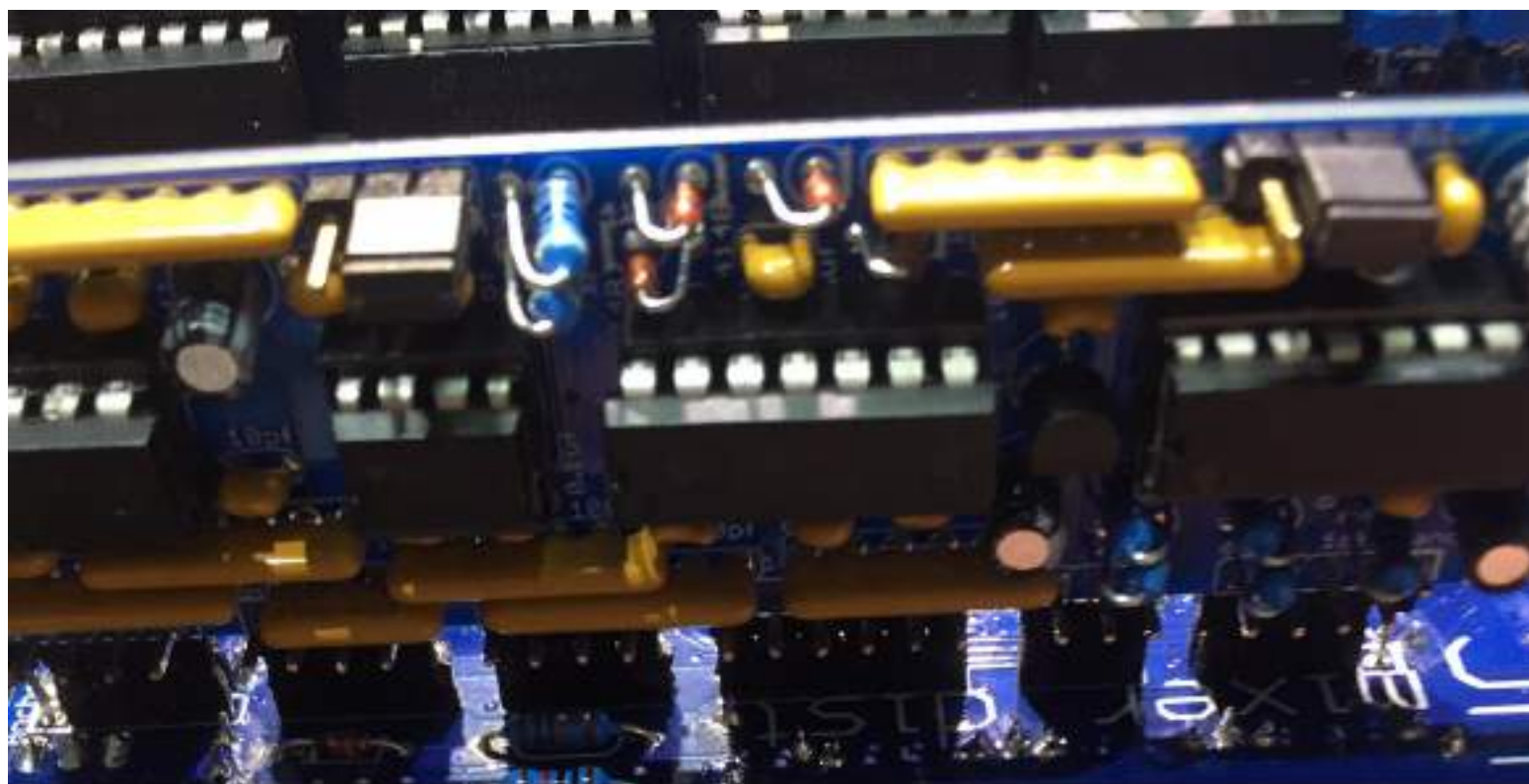


NOW CAREFULLY AND GENTLY REMOVE
THE 88/250 AND 2.8K/7K PCBS. LEAVE
THE 750/1K AND MIXER DIST PCBS IN
THEIR SOCKETS.



NOW WE ARE GOING TO ADD ADHESIVE STRIPS TO REINFORCE THE FEMALE/MALE HEADERS HOLDING THE PCB CARDS IN. TO SOME PEOPLE THESE MIGHT BE OPTIONAL SINCE THE PCBs WILL BE SOLDERED IN AND THE FEMALE SOCKETS ARE HIGH QUALITY. BUT I ADD THEM TO RELIEVE SOME STRESS ON THOSE 1 PIN SOLDERED MALE HEADERS.

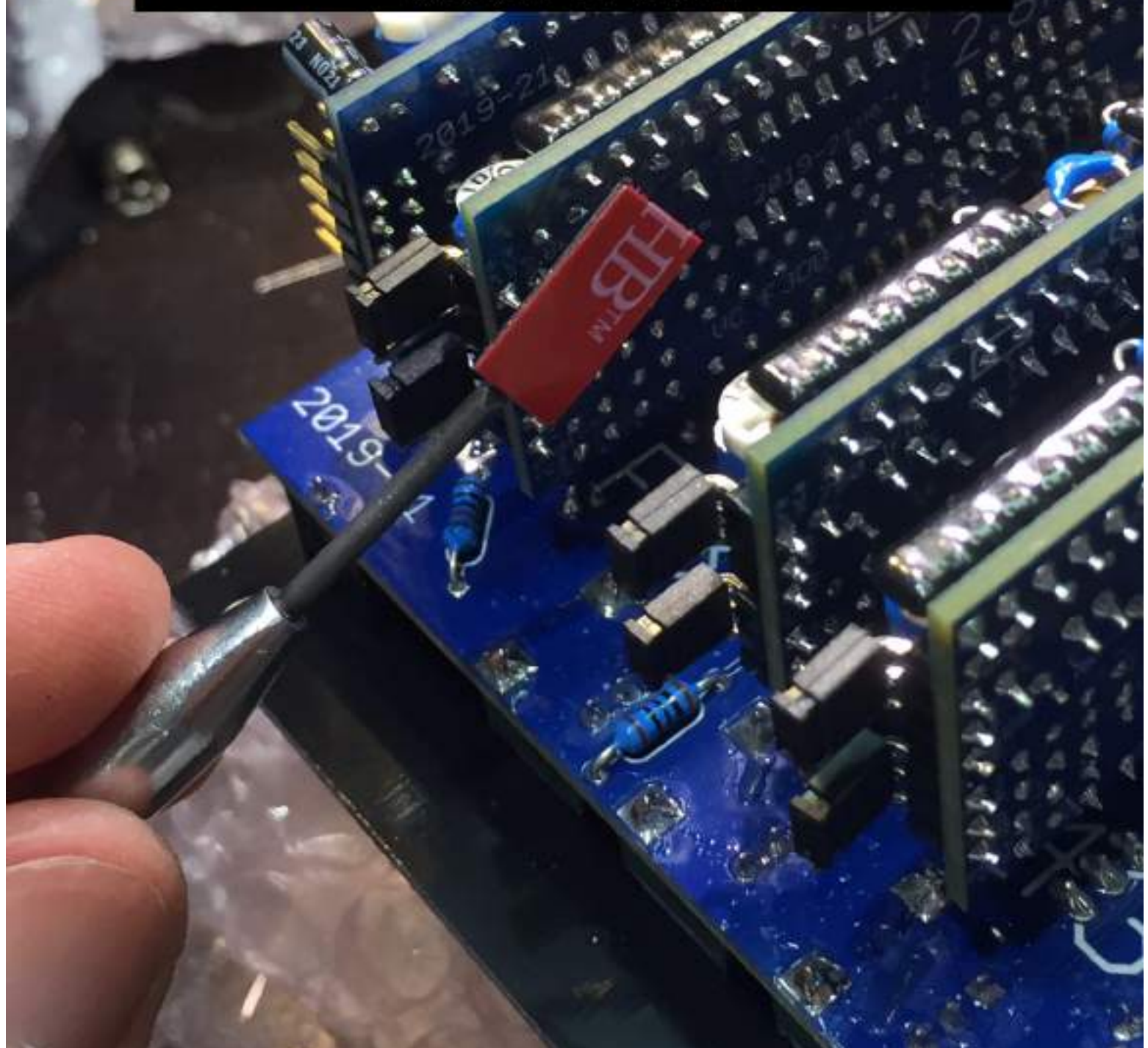




DOUBLE CHECK THE HEADERS ARE STILL SITTING PROPERLY AND FLUSHLY IN THE SOCKETS. NOW CUT A 5PIN LONG PIECE OF THE ADHESIVE STRIP. WHICH ONES YOU DO ARE KIND OF OPTIONAL ALTHOUGH I DONT PROVIDE ENOUGH IN THE KITS TO COVER ALL THE HEADERS. ONLY ENOUGH FOR THE ONES PICTURED. TRY NOT TO TOUCH THE BLACK STICKY PART TOO MUCH WHILE APPLYING

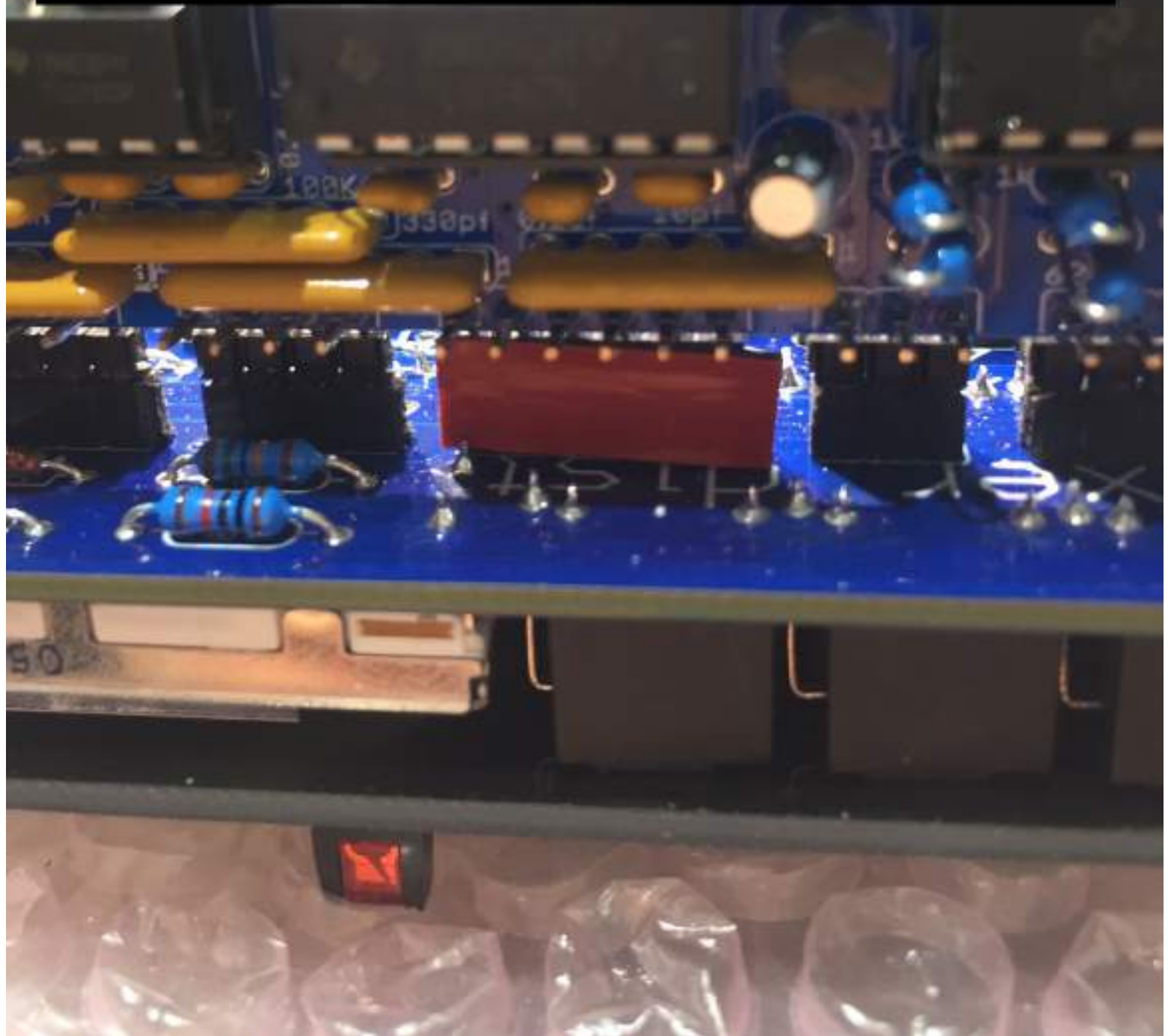


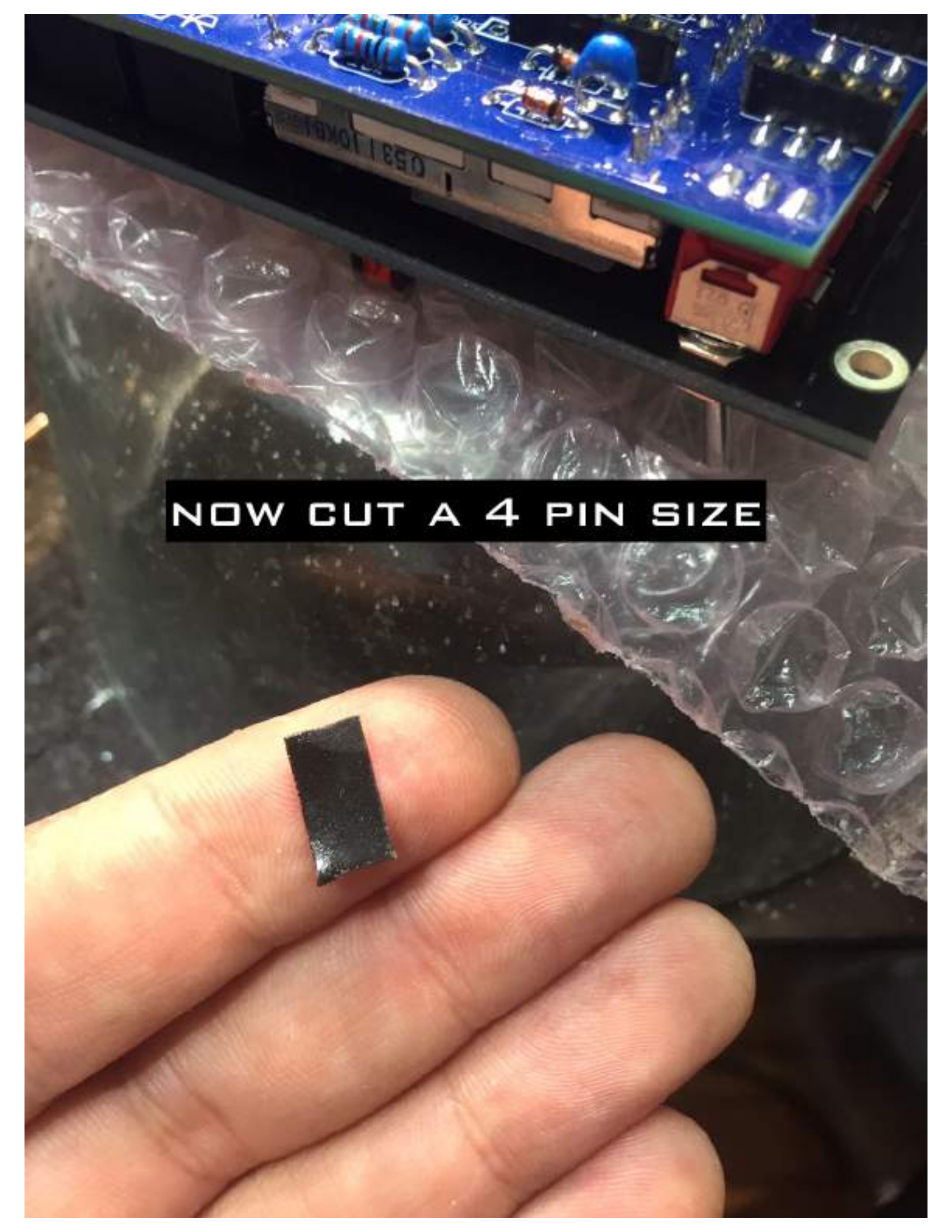
DONT GET CONFUSED, THIS IS FROM
LATER IN THE DOCS. BUT IT'S JUST
TO SHOW YOU CAN PUT THE CORNER
OF THE STRIP ON A SCREWDRIVER TO
HELP APPLY THE STRIPS IN HARD TO
REACH SPOTS.



APPLY THE STRIP OVER WHERE THE MALE AND FEMALE HEADERS MEET AND GENTLY SMOOTH WITH A SCREWDRIVER. OF COURSE YOU CAN USE THE MODULE RIGHT AFTER APPLYING, BUT IT WOULDN'T HELP THE STRIPS TO CURE IF THEY ARE SHAKEN AROUND A LOT OR EXPOSED TO A LOT HEAT.

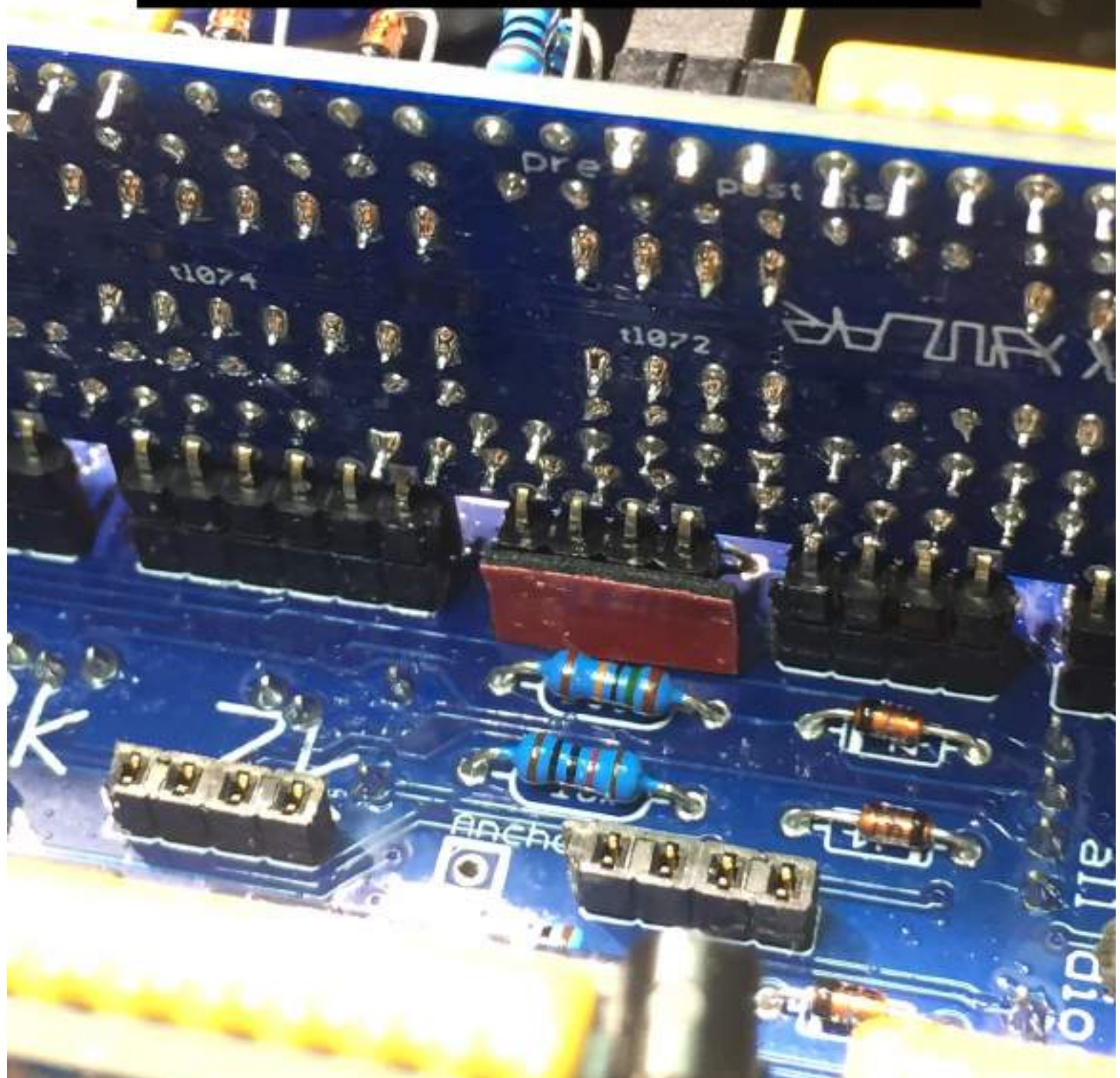
50% STRENGTH OF BOND IN 20 MINUTES,
90% STRENGTH OF BOND IN 24 HOURS AND
100% STRENGTH OF BOND AFTER 72 HOURS



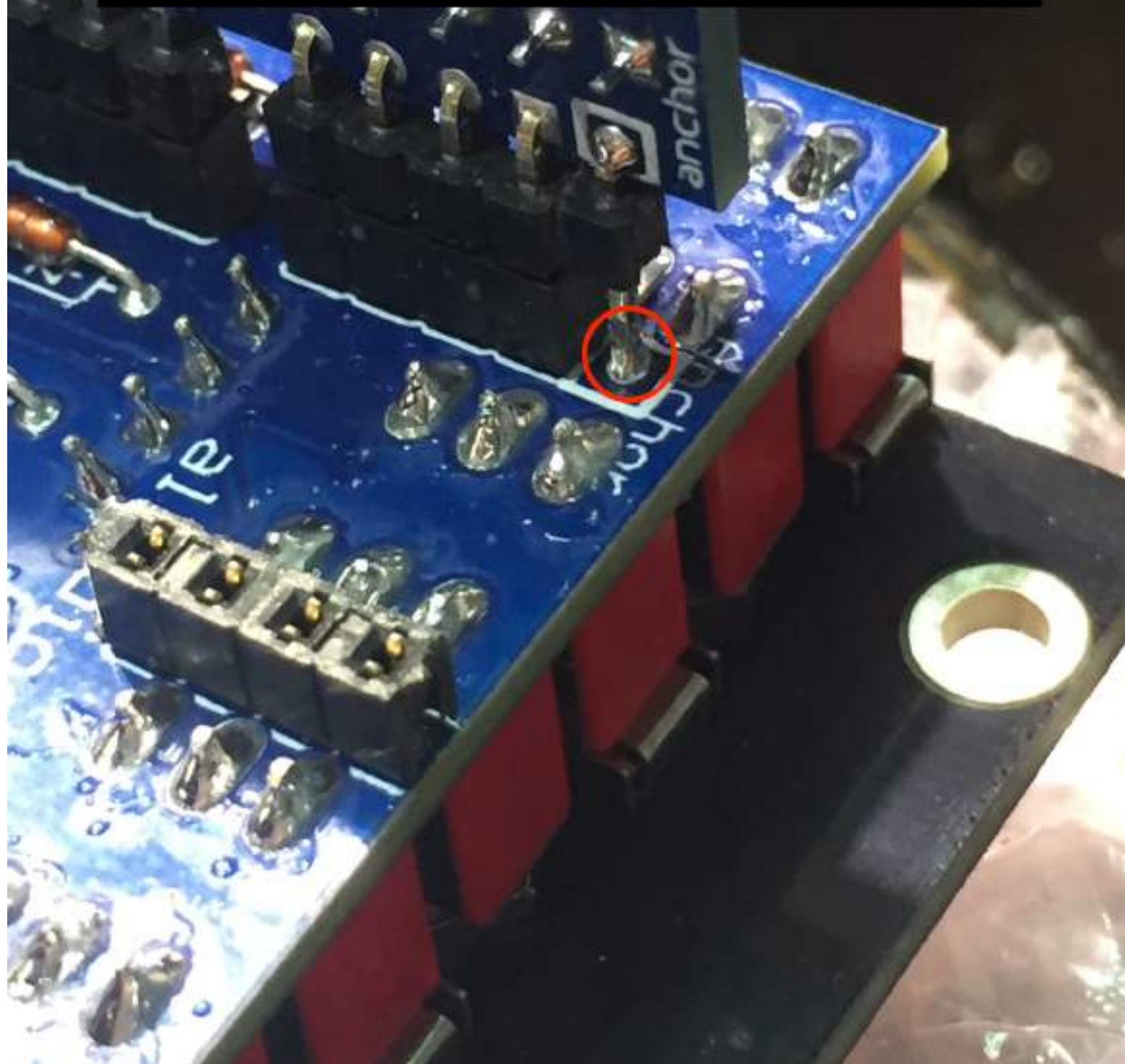


NOW CUT A 4 PIN SIZE

PLACE ON THE OPPOSITE
SIDE OF THE PCB ON THE
4 PIN HEADER. SMOOTH
WITH SCREWDRIVER

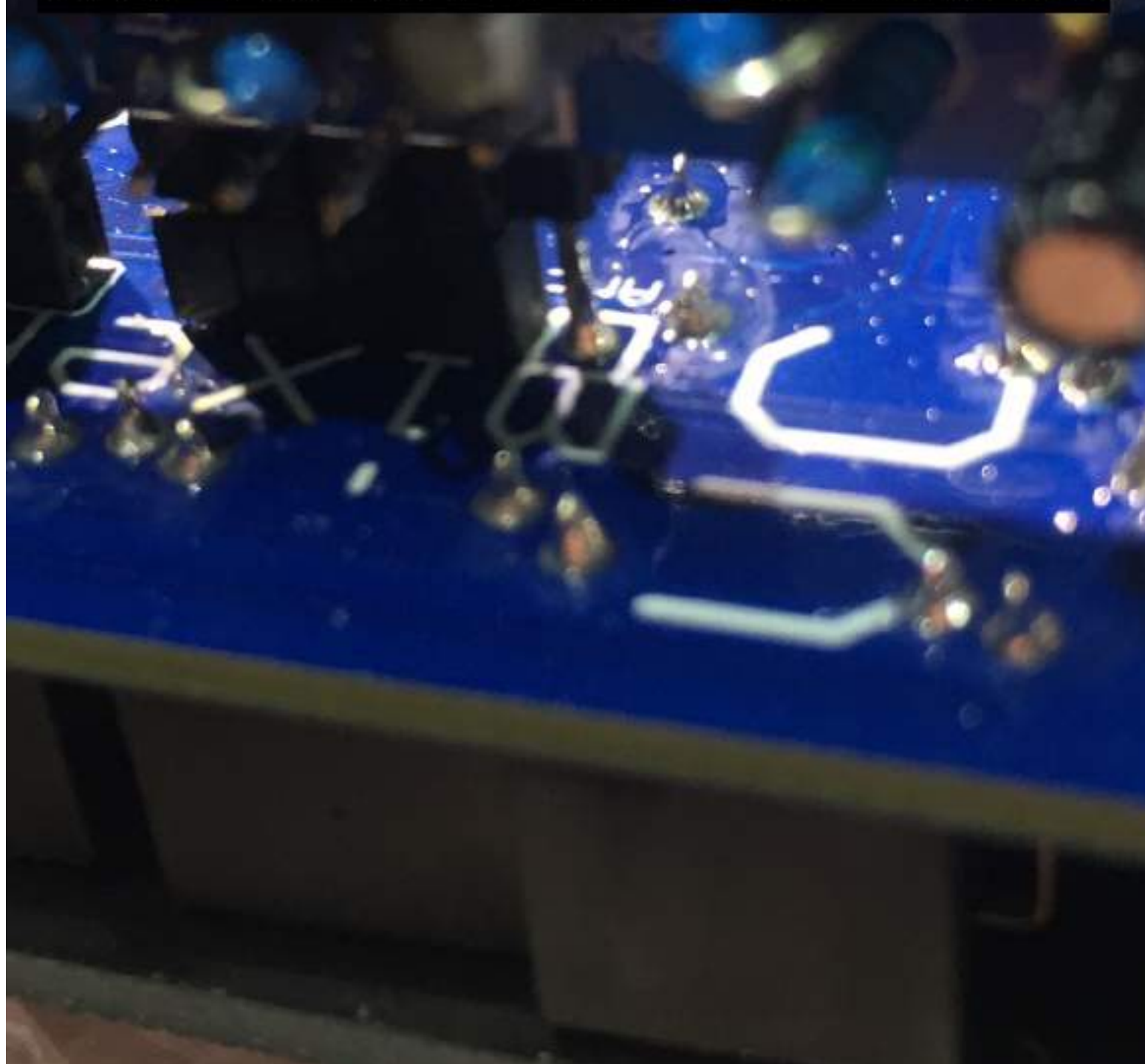


**NOW SOLDER THE TOP MALE
HEADER. PUT A GOOD
AMOUNT OF SOLDER BUT
DONT MAKE IT BLOBBY**



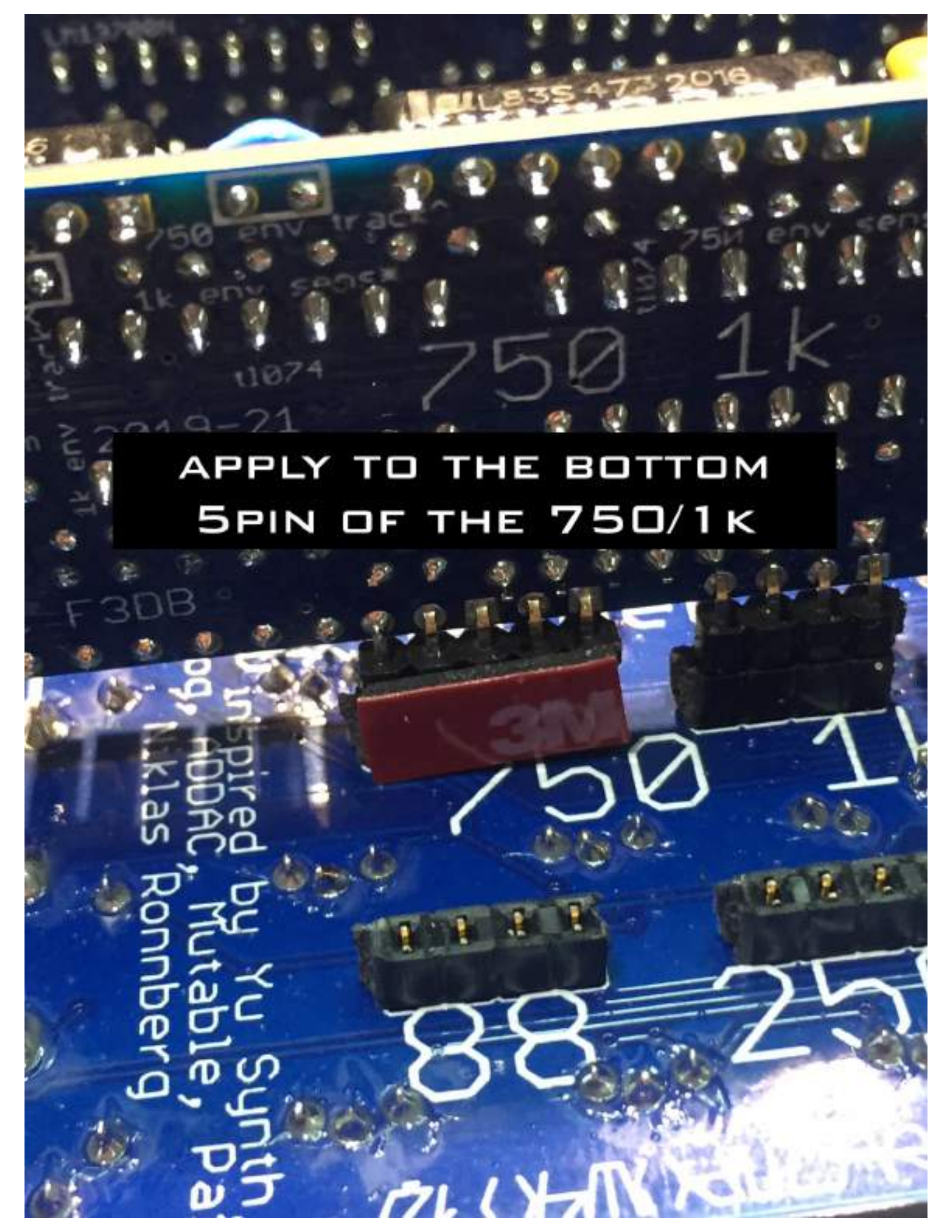


NOW THE BOTTOM 1 PIN HEADER

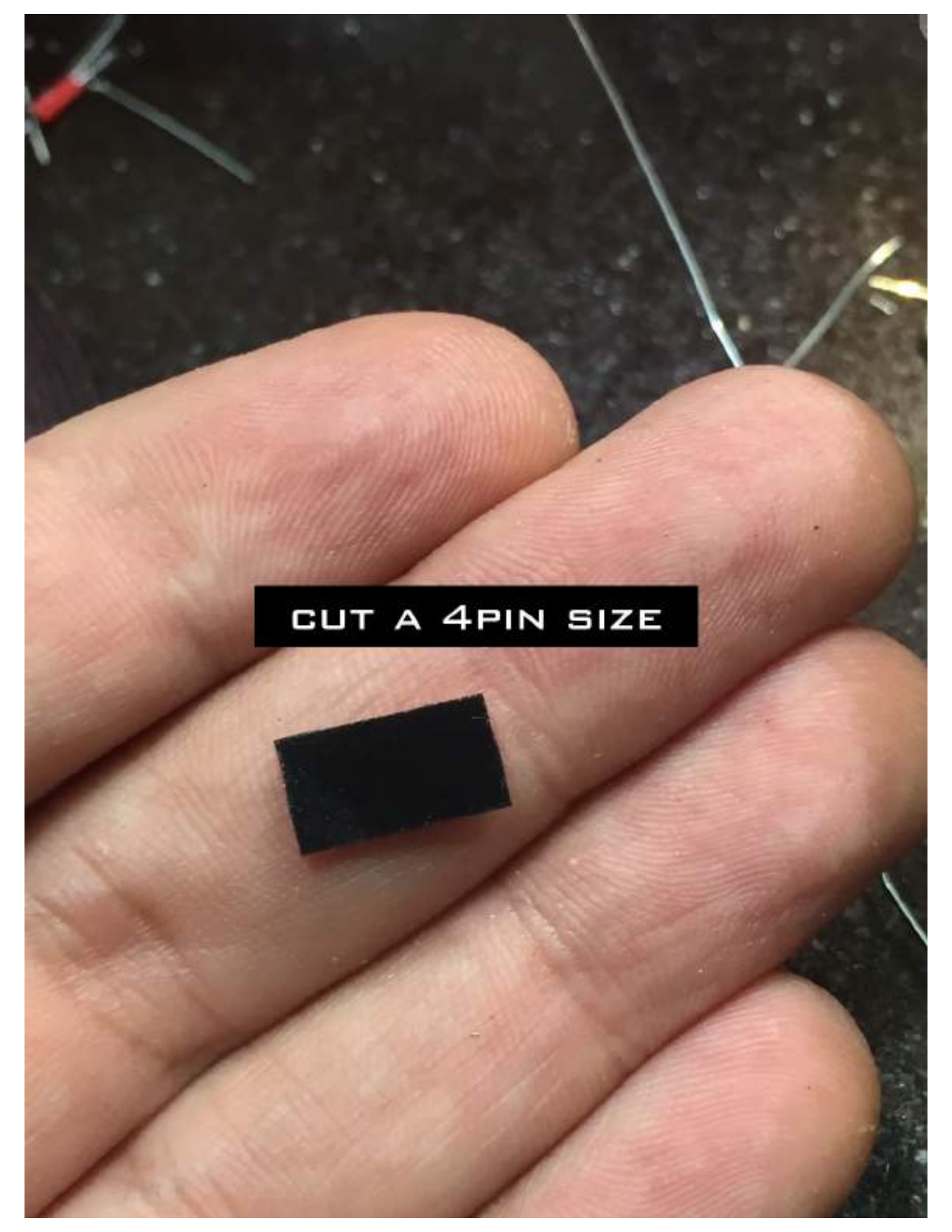


CUT ANOTHER 5PIN SIZE

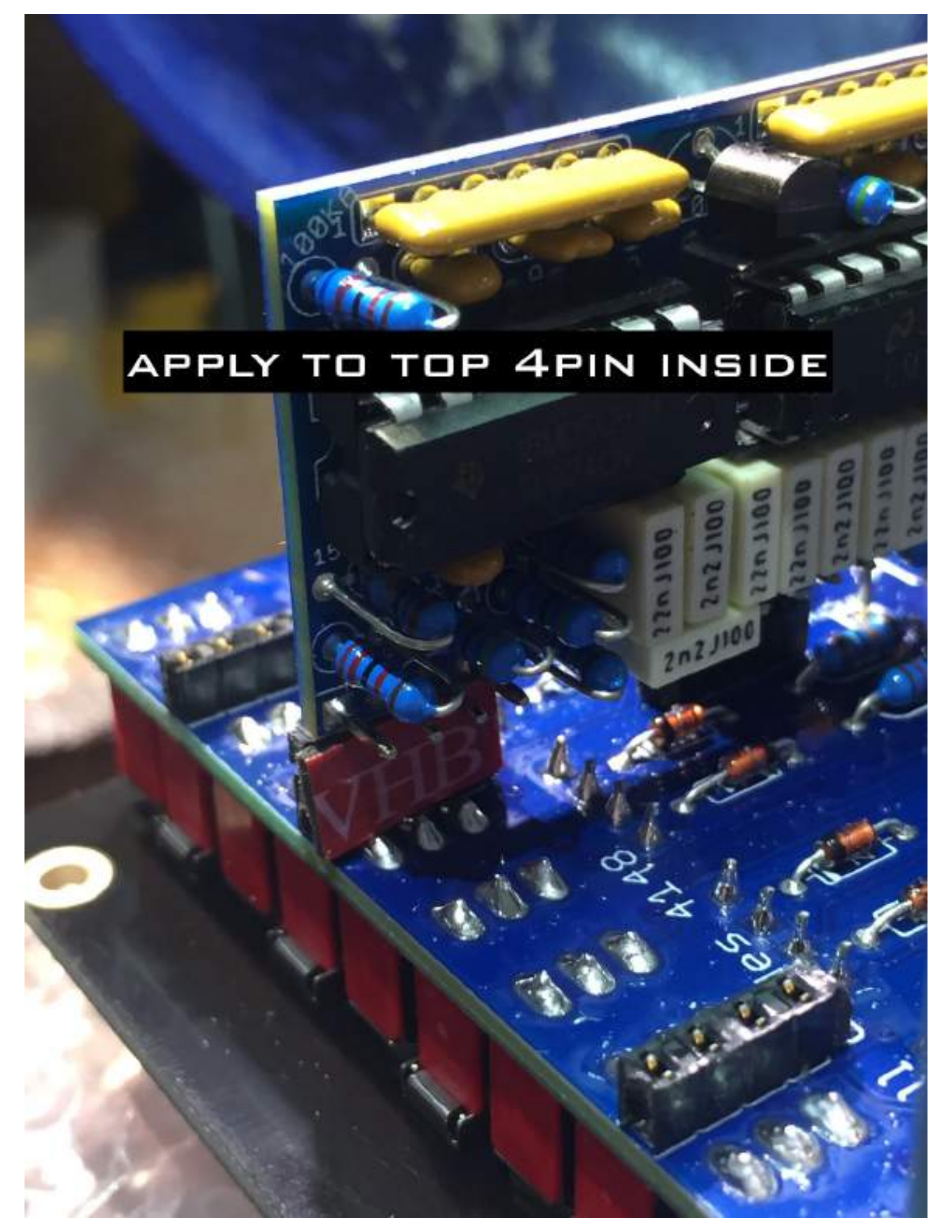




**APPLY TO THE BOTTOM
5PIN OF THE 750/1K**

A close-up photograph of a person's hand holding a small, black, rectangular piece of material. The hand is positioned with the palm facing up, and the fingers are slightly spread. The black piece is resting on the middle finger. In the background, there is a dark, textured surface, possibly a workbench, with some thin, metallic wires or needles visible. A text overlay in a black box with white capital letters reads "CUT A 4PIN SIZE".

CUT A 4PIN SIZE



APPLY TO TOP 4PIN INSIDE

2016

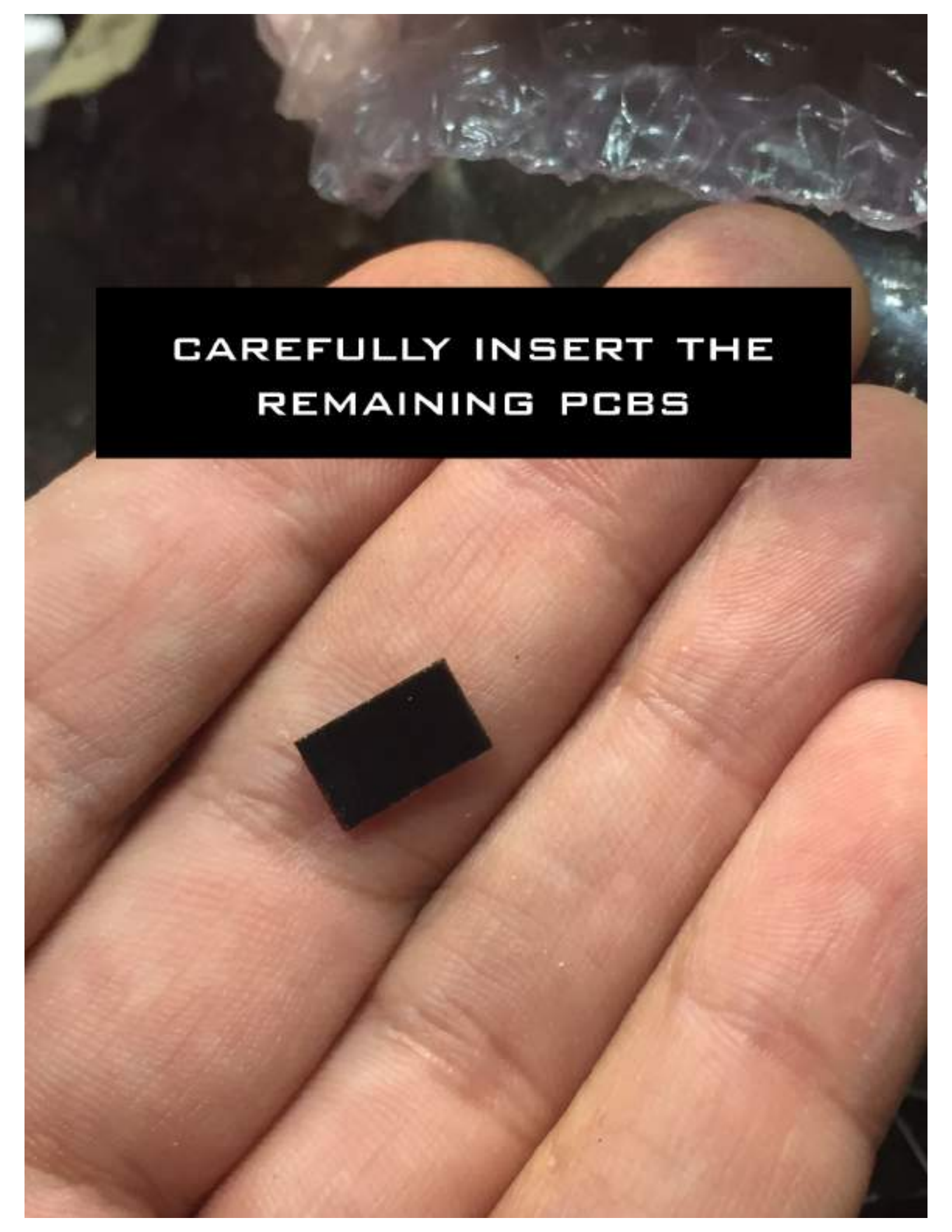
75m env sens*

1k v3.2

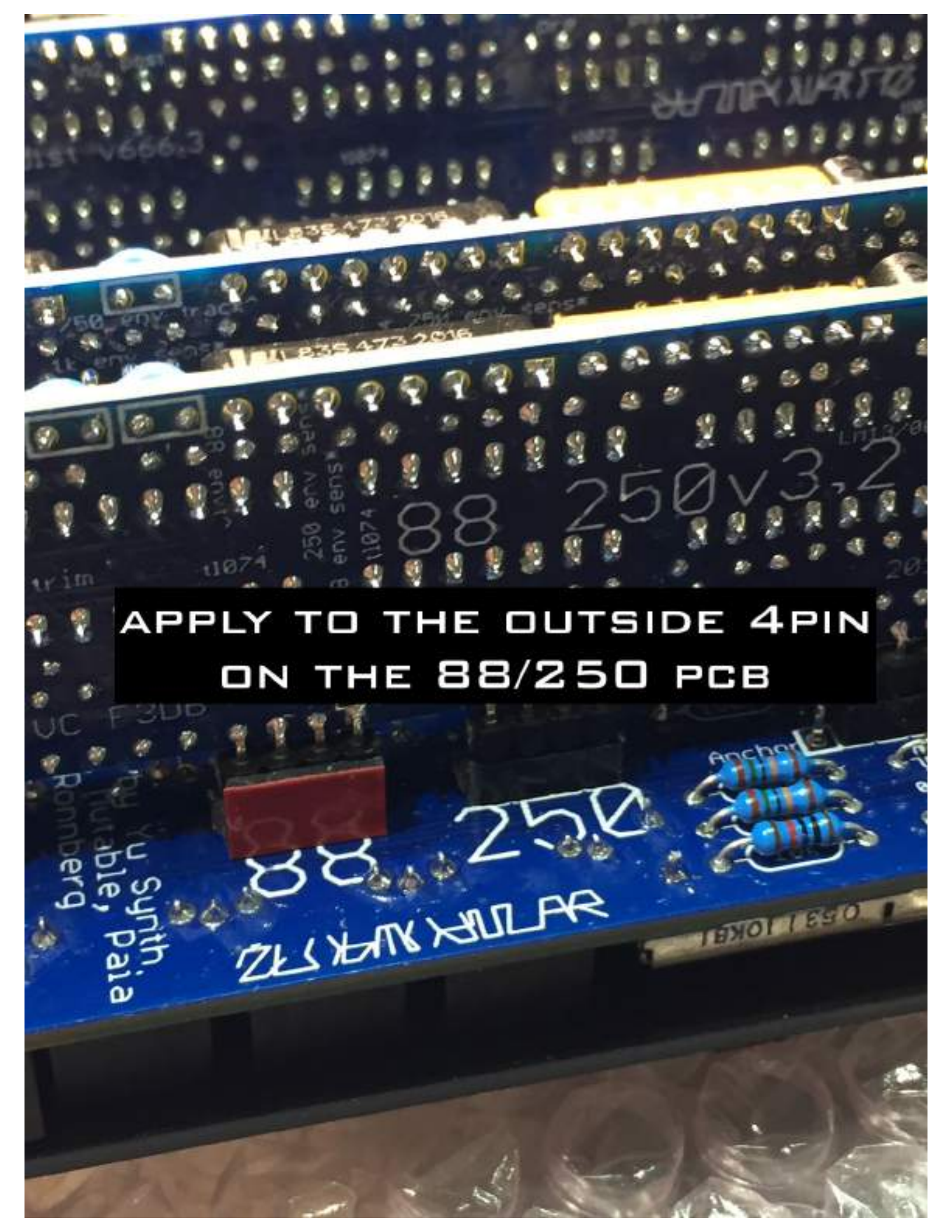
LM137

SOLDER THE 1 PIN MALE HEADER

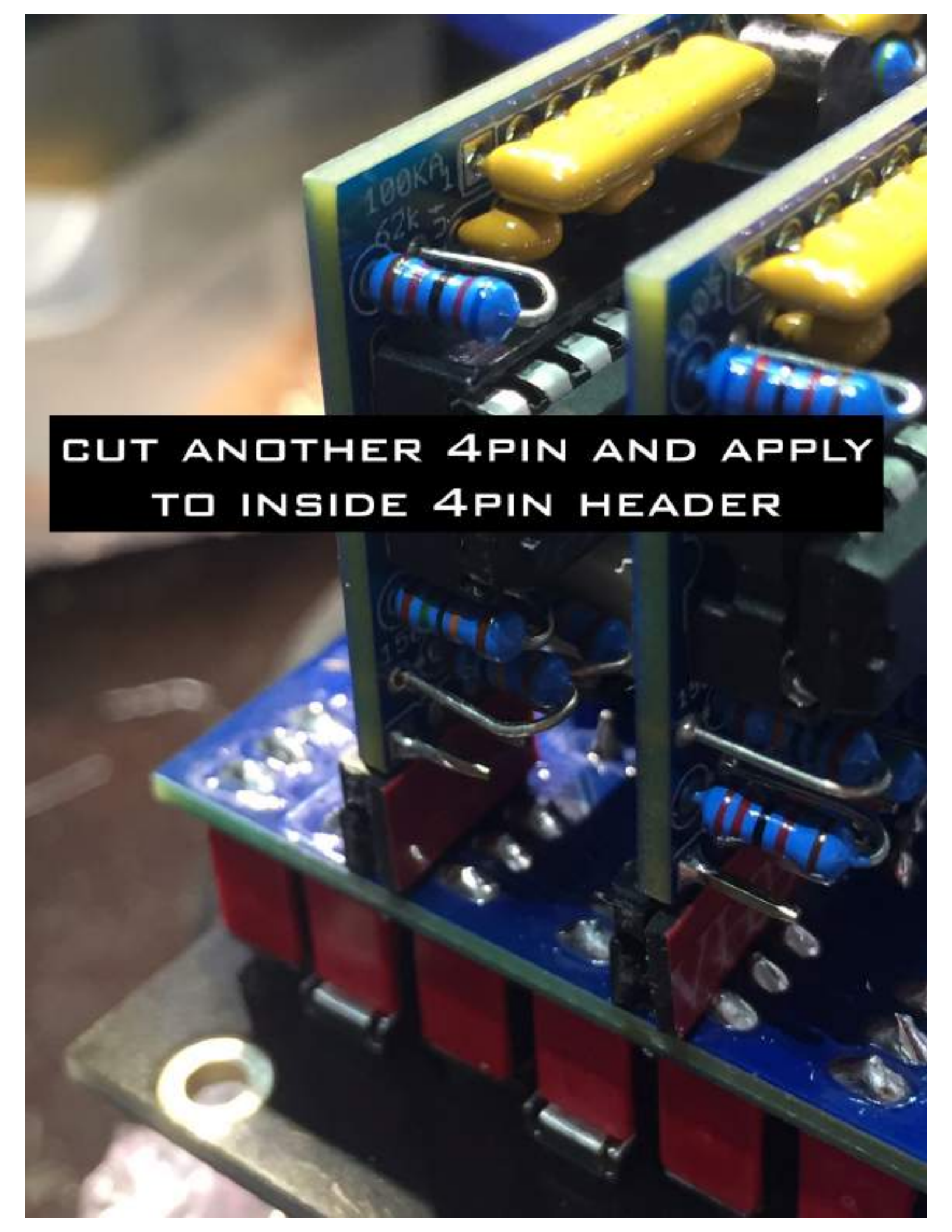


A close-up photograph of a person's hand holding a small, black, rectangular printed circuit board (PCB) component. The component is resting on the palm of the hand. In the background, there is a piece of clear bubble wrap. A black rectangular box with white text is overlaid on the upper part of the image.

**CAREFULLY INSERT THE
REMAINING PCBS**



**APPLY TO THE OUTSIDE 4PIN
ON THE 88/250 PCB**

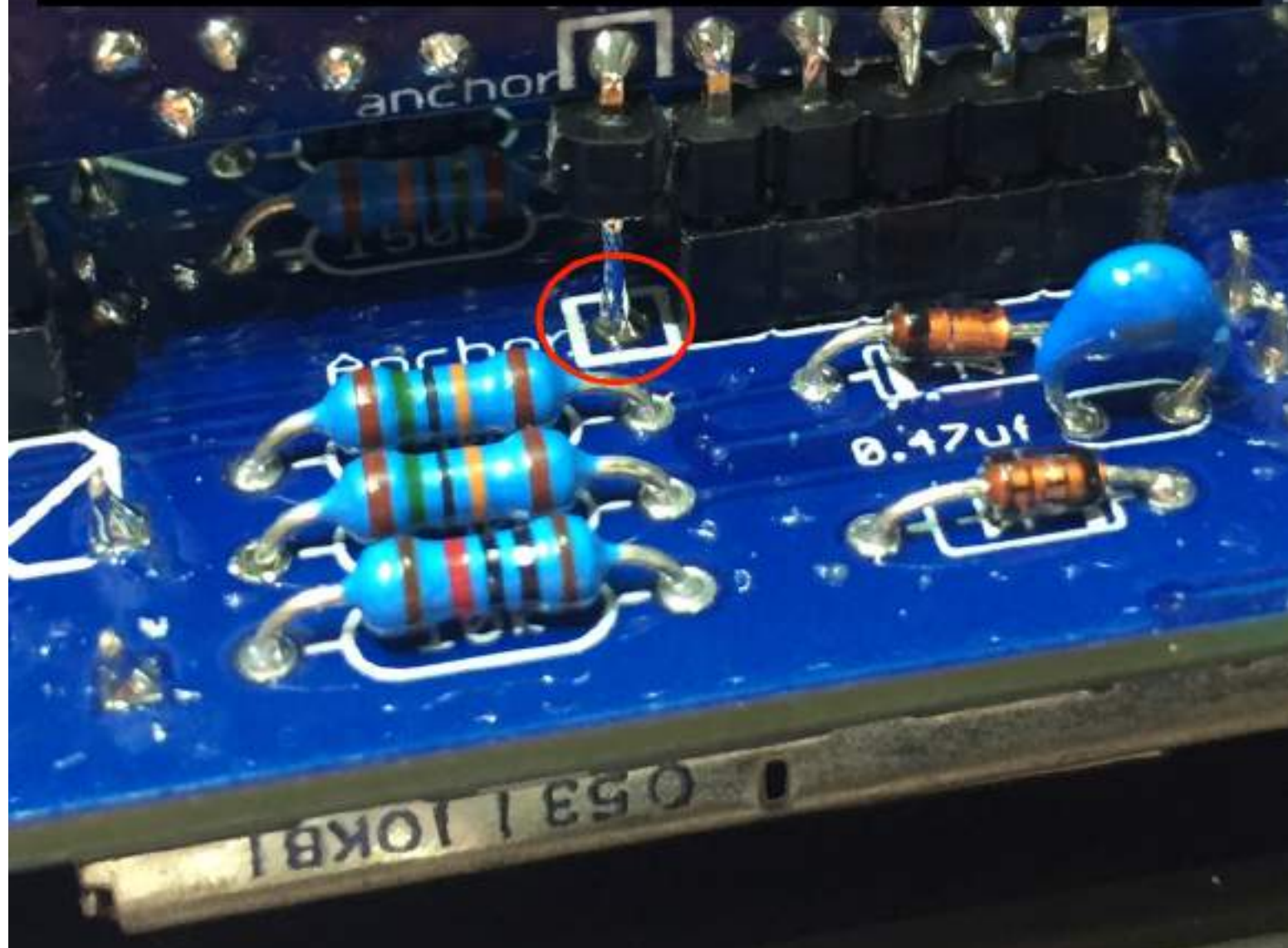


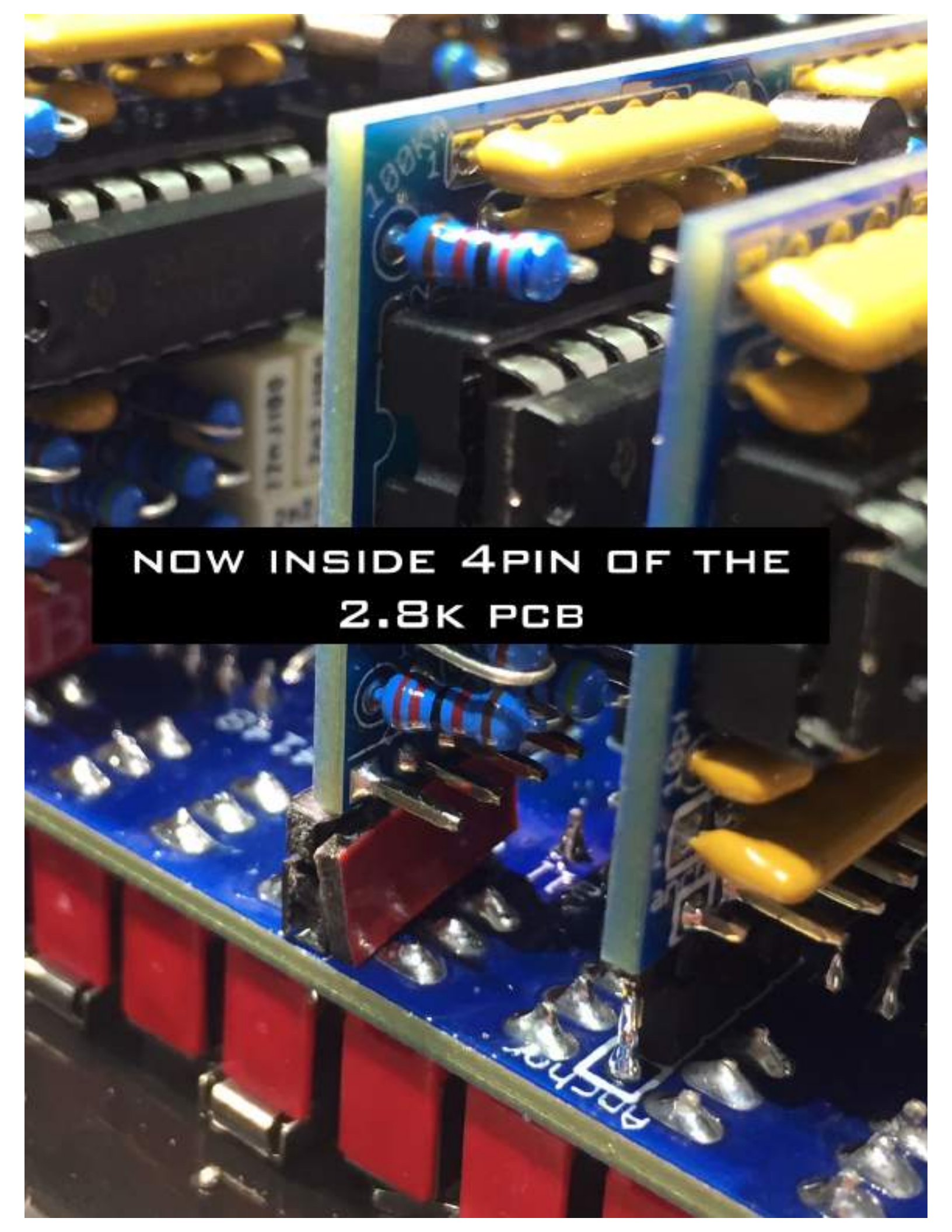
**CUT ANOTHER 4PIN AND APPLY
TO INSIDE 4PIN HEADER**



2019-21

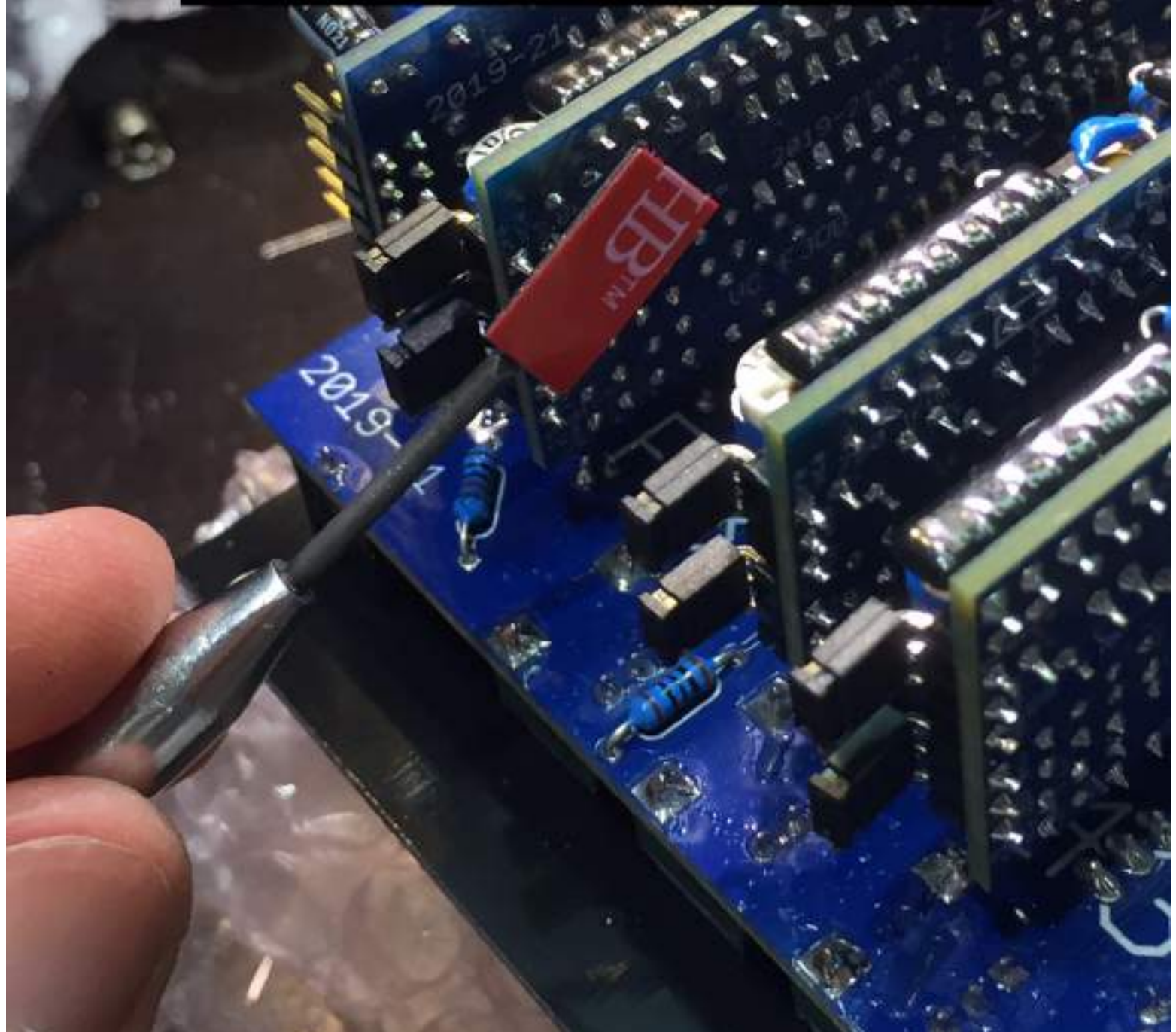
SOLDER THE 1 PIN MALE HEADER





**NOW INSIDE 4PIN OF THE
2.8K PCB**

HELPS TO USE A
SCREWDRIVER FOR THIS
PART REACHING TO THE
BOTTOM OUTSIDE 5PIN
ON THE 2.8K PCB



THIS PART IS TRICKY SINCE YOU HAVE TO REACH YOUR IRON BETWEEN THE PCBS TO GET THE MALE HEADER. BE CAREFUL NOT TO BURN ANYTHING ON THE ADJACENT PCB. OF COURSE THE LAST JOINT OF THE ENTIRE BUILD IS DIFFICULT. ALTHOUGH YOU DIDNT HAVE TO TECHNICALLY SOLDER THE BOARDS IN THE ORDER I WENT. ANYWAYS, CONGRATULATIONS YOU HAVE CONQUERED THE F3DB!

