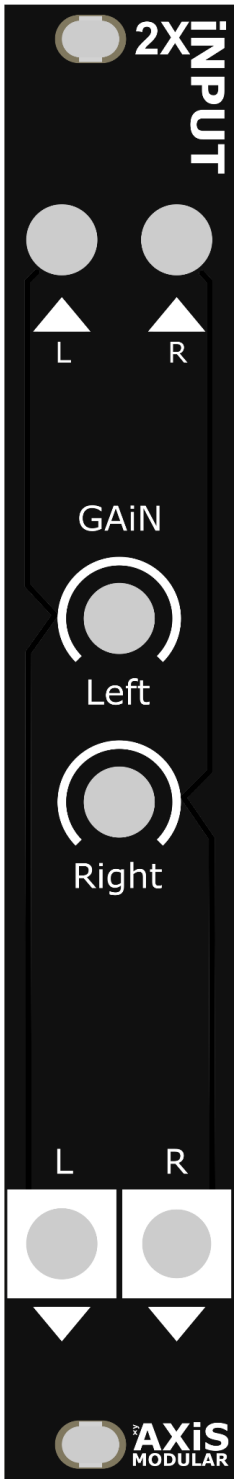
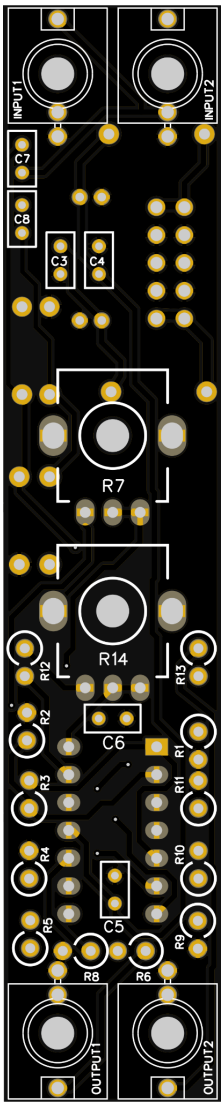
AXiS MODULAR 2X iNPUT V1.1

Manual and Build Guide





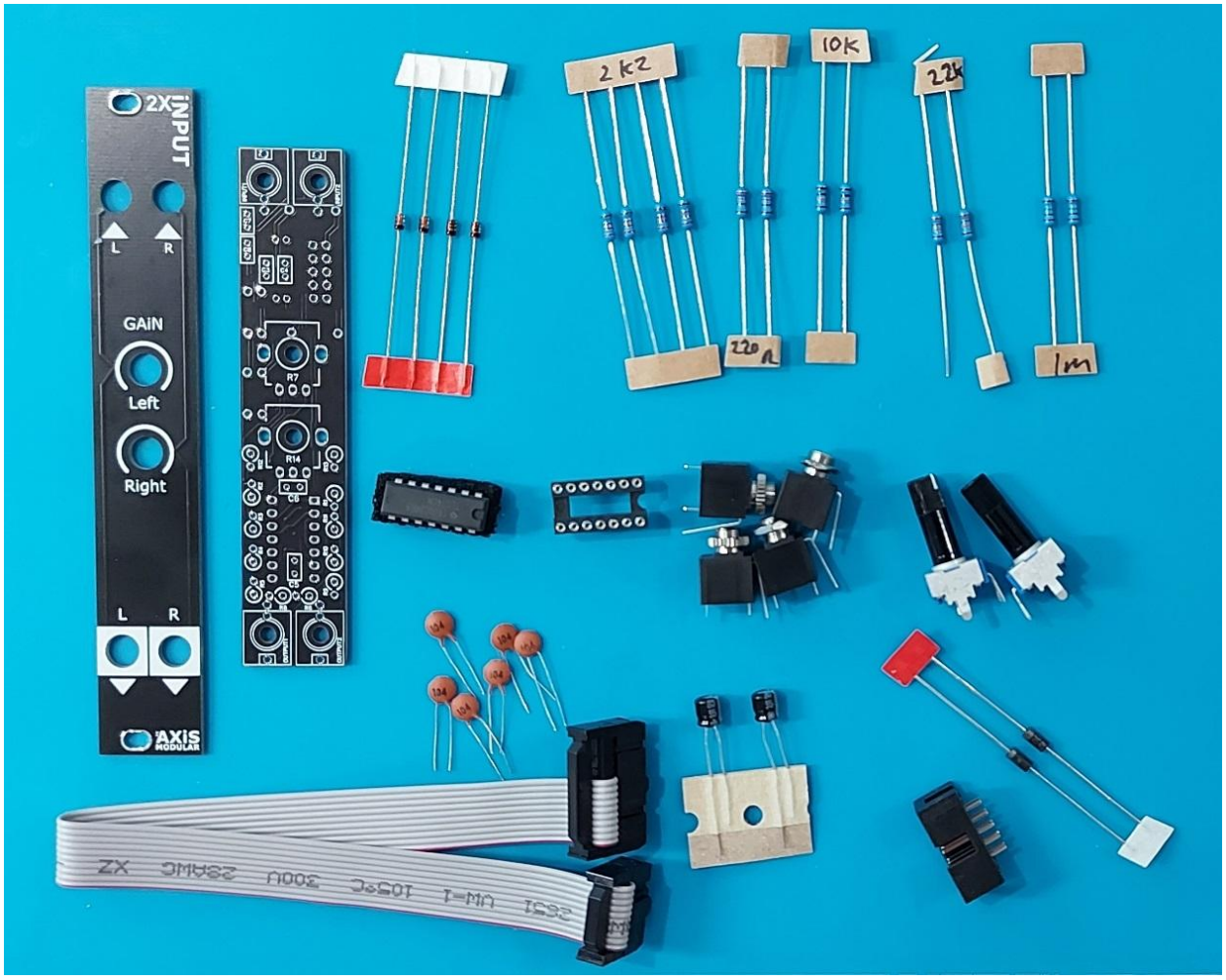
Hello fellow DIYer!

Thank you for purchasing the iNPUT DIY kit. This module is part of my 2X range of DIY Eurorack modules and once built, allows you to boost two separate external audio input levels from mic/line or other audio sources up to eurorack levels. You can either run one device from its stereo output(using a stereo to 3.5mm splitter cable or the SPLiT module) or two separate mono sources.

This is an ideal intermediate DIY soldering project for you and it has been designed carefully so that it should be easy to build first time. It is recommended that you have some soldering experience however, if this is your first time soldering please check out this useful guide here.

By undertaking the construction and soldering yourself you agree that it is your responsibility to complete the final build safely and confidently.
This kit is sold exclusively through Thonk and you can find full terms and conditions here.

Bill Of Materials

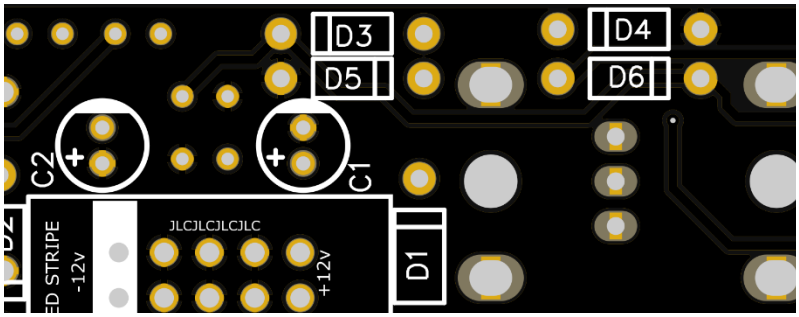


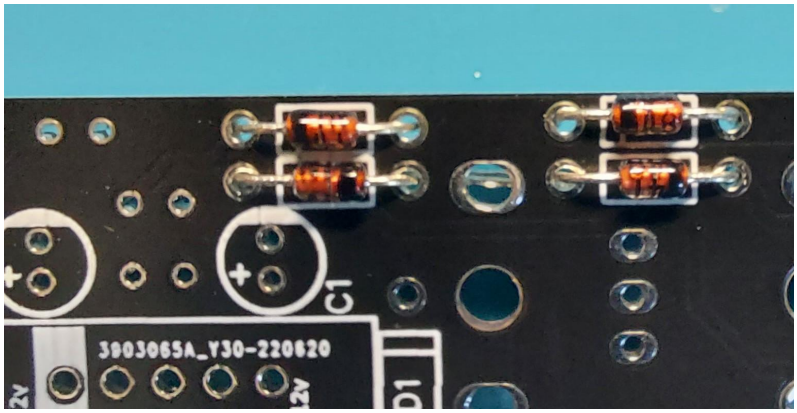
PART (In build order)	DESIGNATOR	QTY	
Diode 1N4148	D3, D4, D5, D6	4	
100nf ceramic capacitor	C3,C4,C5,C6,C7,C8	6	
14 Pin IC Socket		1	
Thonkiconn Mono 3.5mm Audio Jacks And nuts. 2 knurled and 2 hex (knurled=input Hex=output)	INPUT1, INPUT2 OUTPUT, OUTPUT2	4	
1m	R1,R8	2	
10k	R2,R9	2	
22k	R3,R10	2	
2.2k	R4,R5,R11,R12	4	
220r	R6,R13	2	
Eurorack 10 pin Power Headers	P1	1	
Diode 1N4001	D1,D2	2	
10uF Electrolytic capacitor	C1,C2	2	
B50K - Song Huei TALL Trimmer Potentiometer	R7, R14	2	
TL074	U1	1	
TESTED POWER CABLE		1	

BUILD PROCESS

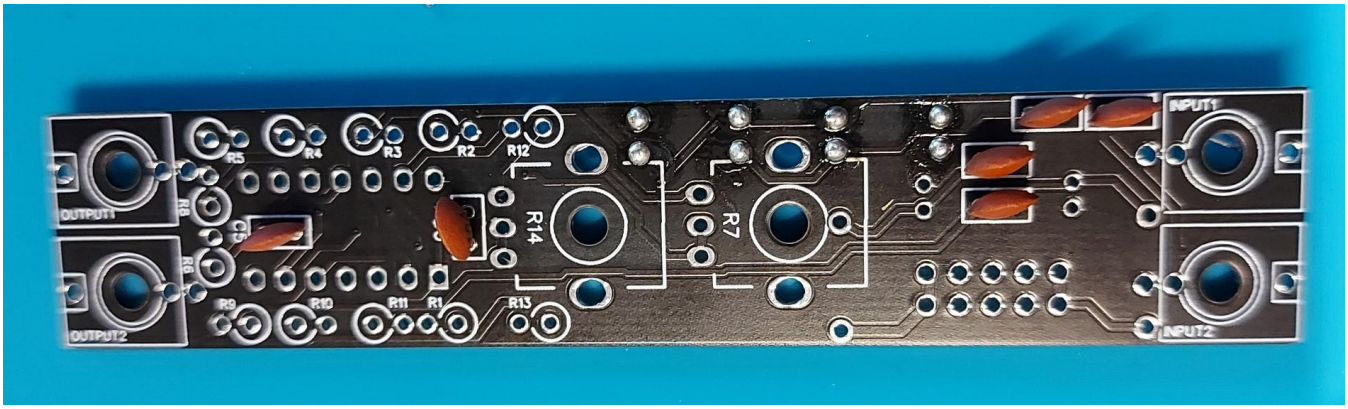
Please read and follow this guide carefully. To make everything fit on one PCB components go on both sides of the board and will make the build difficult if an error is made.

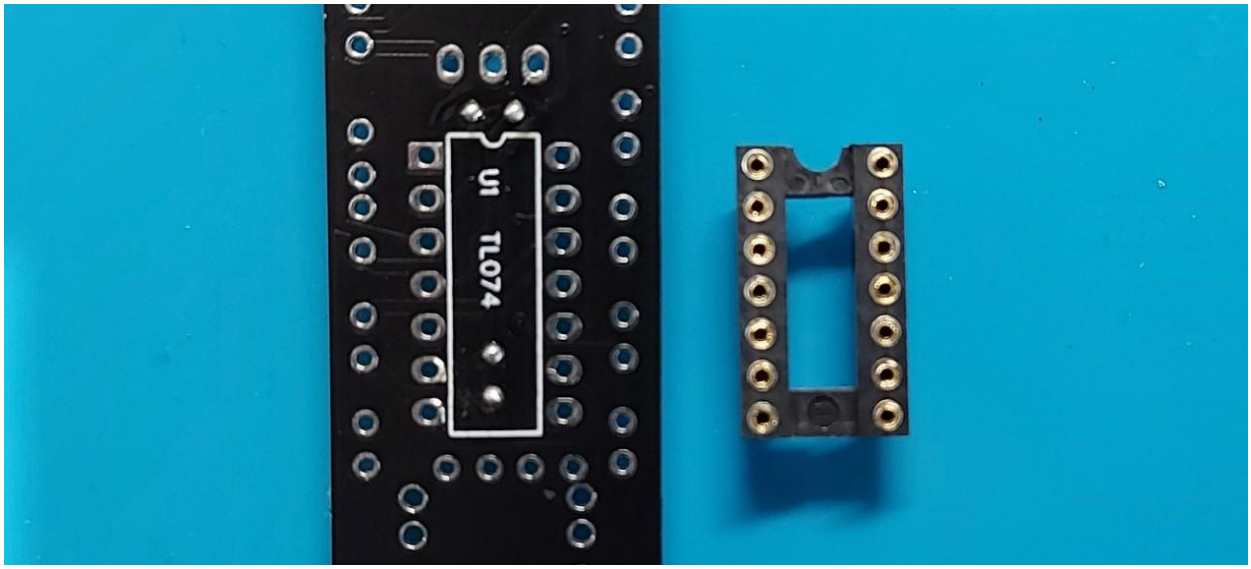
Firstly solder the 4 1N4148 Diodes (D3, D4, D5, D6) in place making sure to match up the silkscreen with the line on the component itself.





Solder the 6 x 100nf ceramic capacitors(marked 104) next. This is important as one of them is placed where the IC holder goes and needs to be done first.





Now solder the 14 Pin IC holder. I suggest holding this part to the board using tape and soldering one corner first so you can adjust its position if needed.

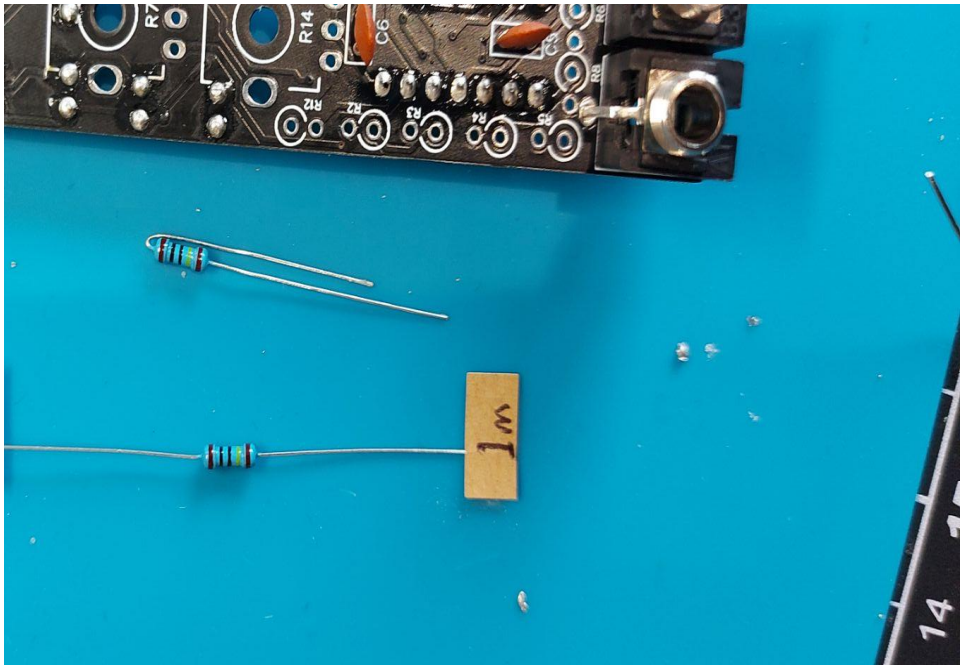
Watch the orientation here and make sure the notch matches up to the silkscreen image.

Place all jacks on the PCB, two at the top(INPUT1/INPUT2) and the other jacks at the bottom(OUTPUT1 and OUTPUT2). Make sure they are on the silkscreen side.
REPLACE IMAGE

Place the panel on and add the nuts to hold everything in place. Now turn over the PCB/panel carefully without knocking the jacks and panel off and solder in one leg on each jack. Check they are aligned, if not you can melt the solder on the one leg and readjust before soldering all legs.

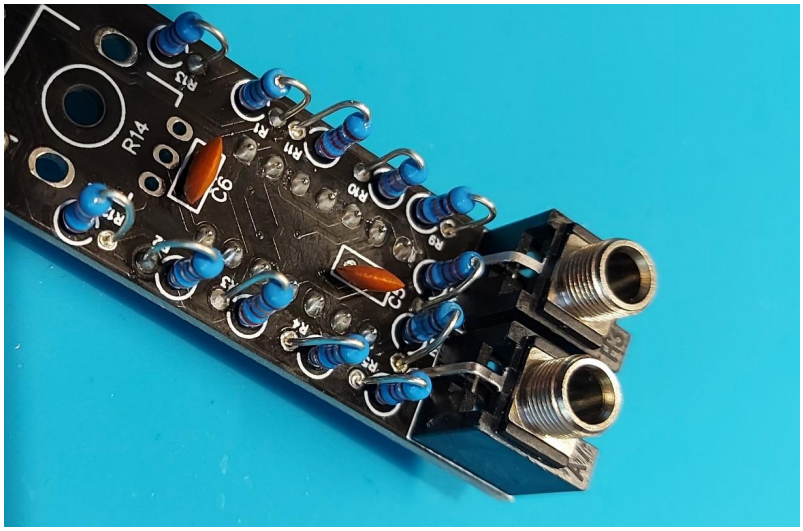
Now trim the socket legs, this is especially important around where the 4001 diode D2 will go. Next remove the panel.

Now for the standing resistors. Starting with R1 and R8(1m) Carefully bend one leg down in line with the resistor's body.

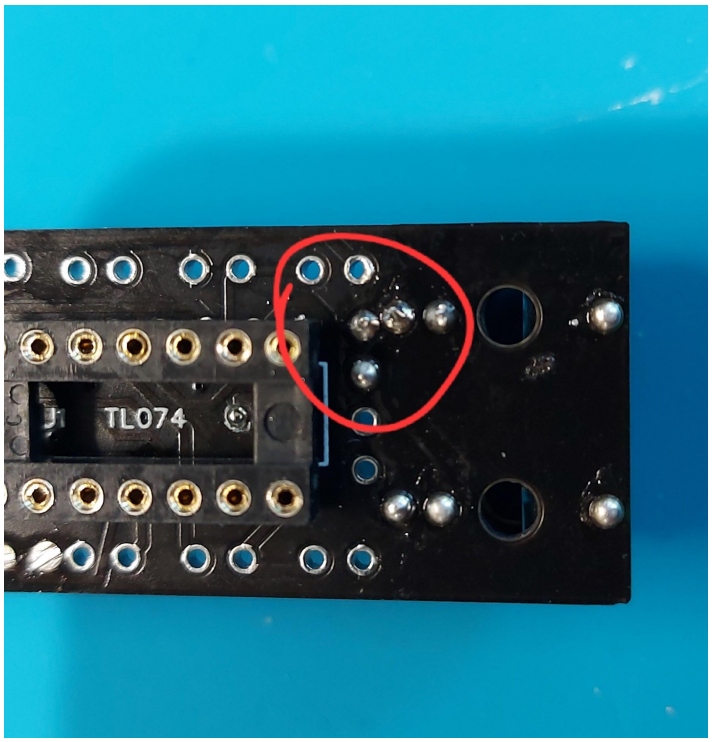


Place the side with the unbent resistor leg first into the PCB matching up with the silkscreen whilst guiding the other leg into the other hole. Bend the legs behind on the PCB and turn over. Solder 1 leg, adjust if needed then solder the second leg on each resistor.

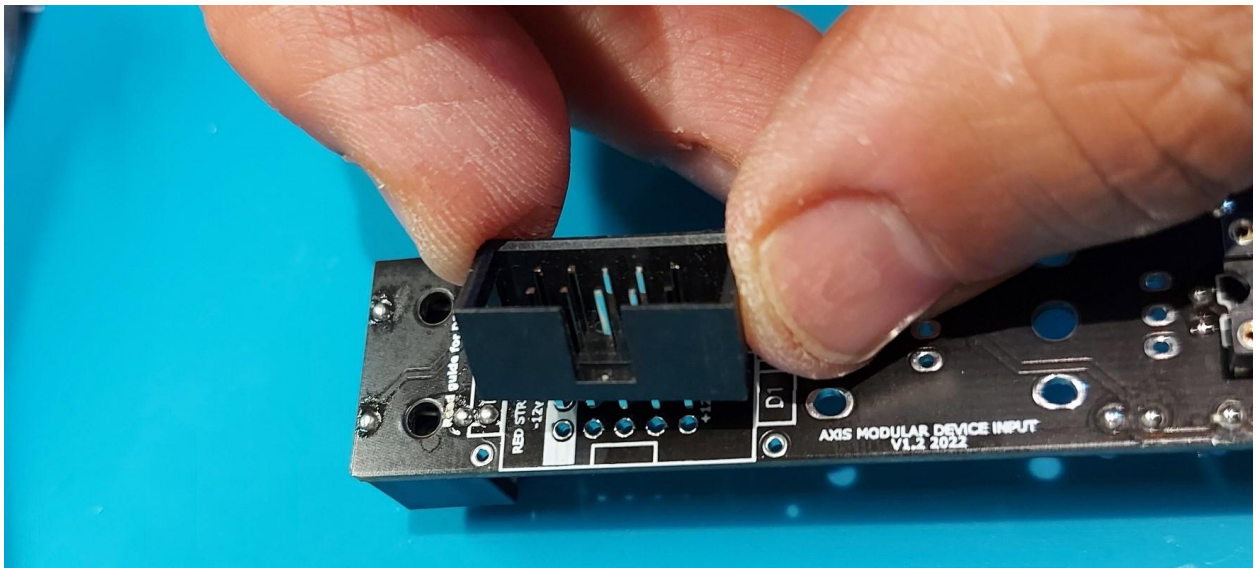
Carry on with all other resistors still taking care with placement and make sure that they sit up nicely.



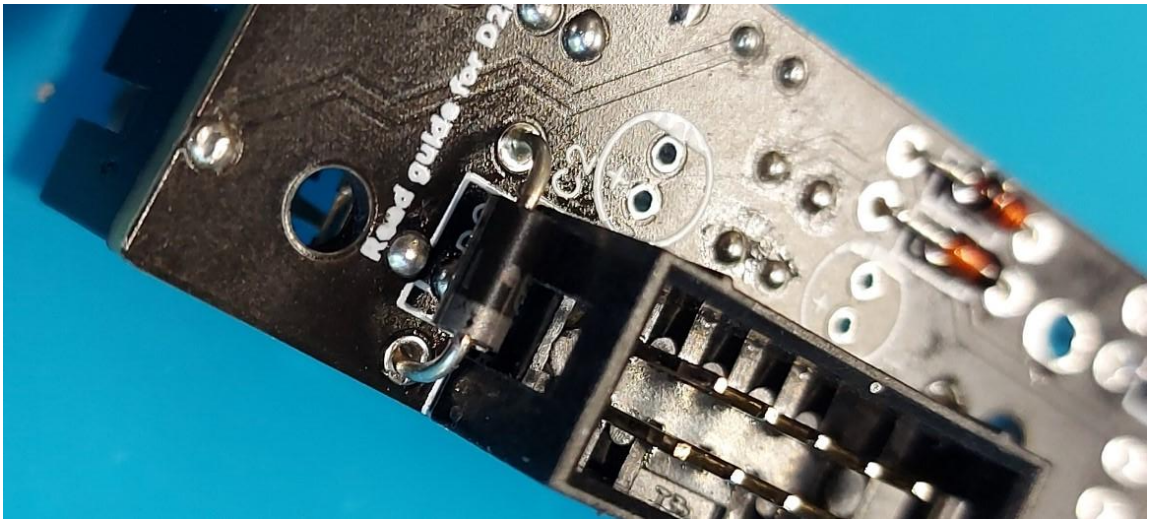
Also please note that one of R6's legs is very close to the ground pin on the socket, don't worry if you accidentally bridge it there as they are both ground connections.



Next solder the power header making sure to match up the notch with the silkscreen on the PCB.



Solder the 2 1N4001 Diodes (D1,D2) matching up the lines with the silkscreen. Note: Before soldering D2 make sure the legs of the jack socket are trimmed as flush to the board as much as possible. Also try to leave a small gap between the component and the solder pad.



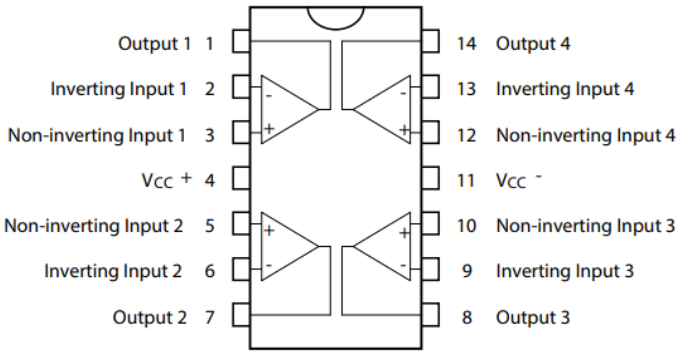
Once D1 and D2 are soldered make sure D1’s joints where you have soldered are trimmed as close to the board as possible(ready for fitting potentiometer later).

Solder the 2 x 10uf electrolytic capacitors C1 and C2. Match the orientation to the silkscreen. The long leg is positive and short leg negative(which is also the stripe printed on the component).

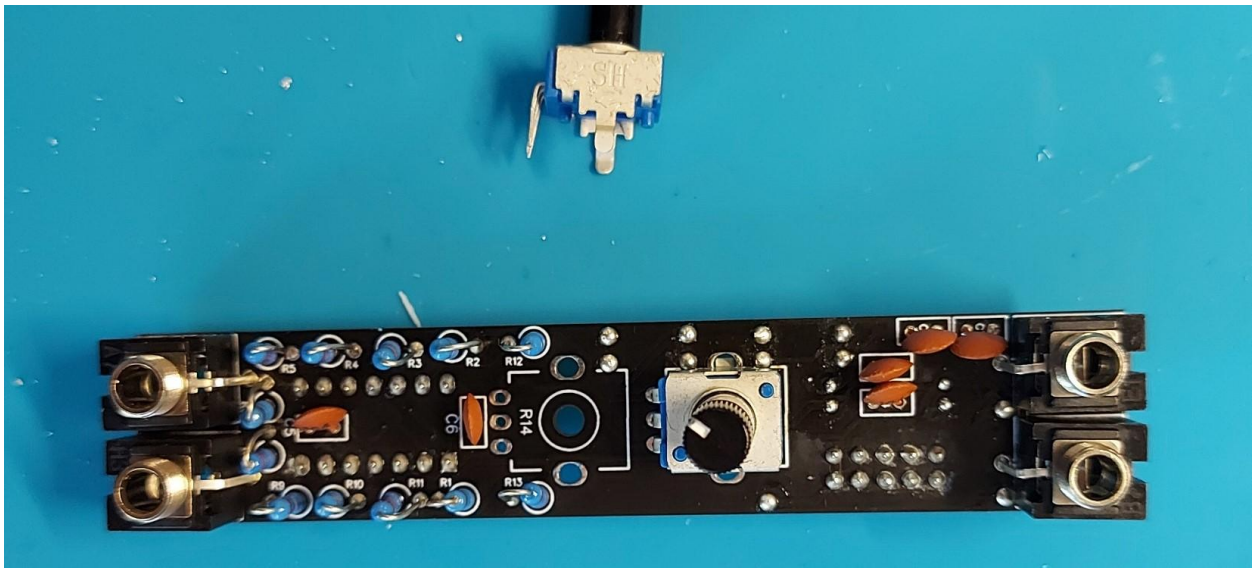
Take a break, put the kettle on.

Now is a good time to check your good work, do a visual check, do a reflow of any suspect joins etc and use a digital multimeter(DMM) and check for shorts especially around the power header.

Now is a good time to power up the module and do a further test on the IC holder with your DMM(put the black lead on any ground point, a good place is a mono jack socket leg and red on either where pin 4 and 11 would be). This test will show you if power is going to get to the IC properly see pictured diagram. Although the TL074 isn't in place you can see that Pin 4 on the IC socket and pin 11 should give you +12v and -12v respectively.



Place the 2 x 50k potentiometers(R7, R14), fix the panel back on and solder one of the pins of each pot. Make sure they turn and are sitting nice and straight and finish soldering them in. Fold the potentiometer legs down and solder(if desired for better mechanical stability).
Note: If R7 isn't standing straight(even after previously cutting D1's leg flush) you can cut the little plastic nodule away from the potentiometer).



Lastly, give everything a double check and clean the sticky solder flux away from the board. There are plenty of guides online on how to achieve this.

Now to plug the TL074 into the IC socket. First check to see if the Chip will already fit. I should have done this for you already using my IC leg bender tool. If I haven't or you are replacing the IC for any reason then you will need to bend the legs yourself into place before inserting. You can again use a special tool for this(recommended) or bend the legs on each side by using a flat hard surface and a little bit of pressure to bend them in place. Do the last method at your own risk. Watch out for the orientation, make sure the notch goes as shown in the image below.

I recommend you check the module is fully functional before adding it to your Eurorack case.

You should now have a cool way to get any line level source/guitar or microphones into the world of Eurorack.

Enjoy!