VOSTOK PATH

FOUR CHANNEL MORPHING ROUTER

Eurorack DIY Kit
Build Instructions

OVERVIEW

For the most recent version of this document please visit
https://www.thonk.co.uk/shop/vostok-path-kit/

This document has hi-res images. ZOOM IN for a closer look

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http://www.thonk.co.uk/faq/

DIY INSTRUCTIONS

This document gives detailed instructions that assume you have purchased a complete kit from www.thonk.co.uk. It also assumes no previous knowledge of electronics. To learn to solder try https://youtu.be/lpkkfK937mU and the **Adafruit guide to excellent soldering** – http://bit.ly/1l77tF4

Watch and understand that whole YouTube video! If you're not achieving the results shown in the video then you need to buy new tools or seek advice. **You will not end up with a working module otherwise.**

TOOLS REQUIRED

Soldering iron, masking tape, and diagonal cutters AKA snips AKA side-cutters. A Digital Multimeter is always helpful for checking for bad solder joints and continuity. Thonk sell a range of inexpensive tools here -
http://bit.ly/1jxqF3n

SOLDER JOINTS

Your solder joints should look like those shown as 'OK' below, they should have that neat conical shape on BOTH sides of the PCB. If they don't look the same on both sides then stop! Work out why from the soldering guides linked and don't continue until you are getting those results.

This isn't just OCD talking, you are very likely to end up with a destroyed, damaged or defective unit if you're not hitting that standard.
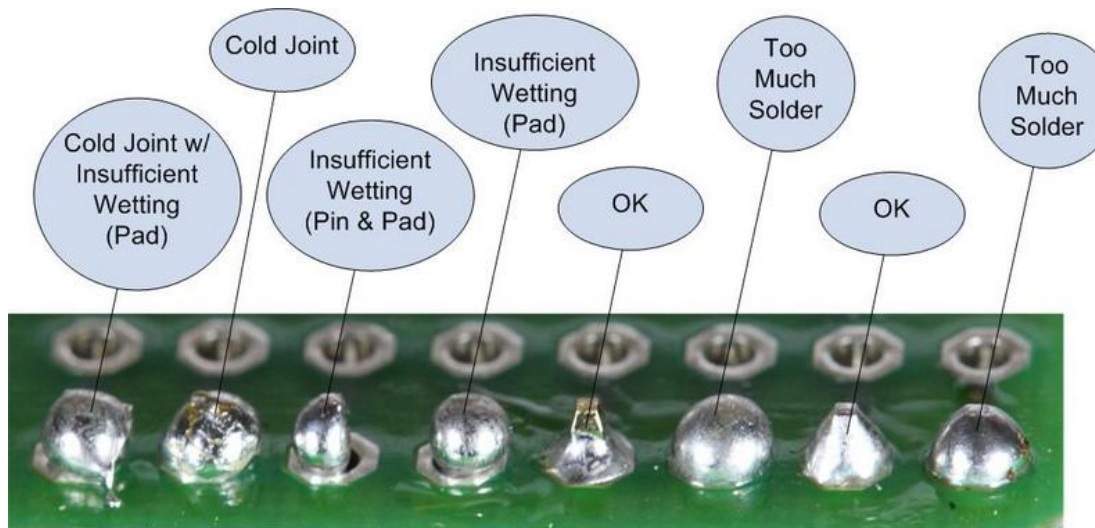
This photo is from the **Adafruit guide to excellent soldering** - and is reproduced under an Attribution-Sharealike creative commons license - http://creativecommons.org/licenses/by-sa/3.0/

PATH BUILD INSTRUCTIONS

1.

PLEASE NOTE

Follow these instructions carefully and take good care and attention while building your kit. The tightness of PCB layout and a larger than normal ground plane means you'll need to be **accurate with your solder iron placement and extra careful how you feed in your solder**. We recommend using solder that you're familiar with and that will flow easily. If you create any solder bridges, they could potentially be very hard to remove.

2.

There are two PCBs in this build, but they may arrive joined together as shown. If they are joined, then gently separate them by twisting off the connecting strips and edges with a pair of pliers.

Front PCB

Back PCB
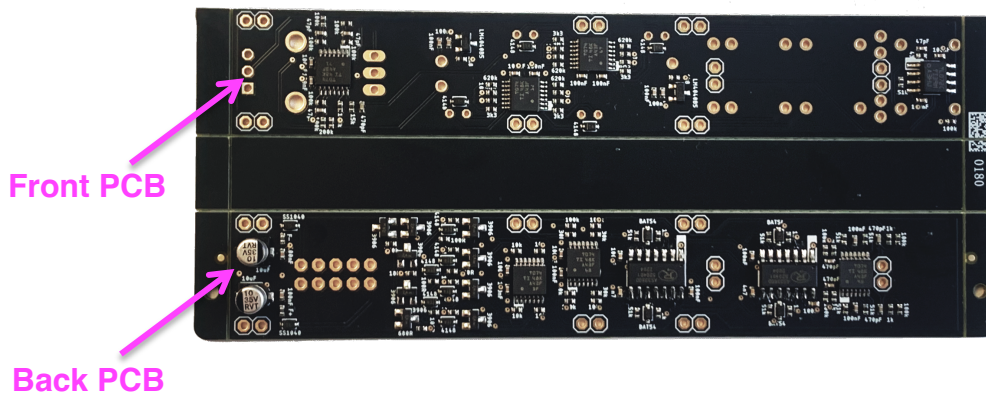
3.

Locate the four white LEDs and place them on the front PCB as shown. The LEDs sit on the underlined opposite side of the PCB to the SMD pre-soldered parts.

Note: orientation is vital! The short leg of the LED must follow the point of the arrow and be placed into the pad next to the bold white line on the PCB silkscreen.

Note: Be very careful with your soldering iron placement as there are SMD parts placed close to the LED solder pads.

The LEDs should sit completely flush to the PCB. Solder one leg first and check the LED body is flat against the PCB. If it's not sitting totally flush, then reflow the solder joint while pushing the LED body down against the PCB.
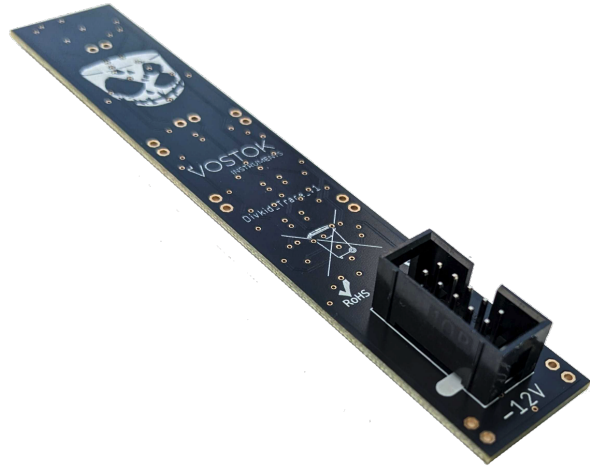

Short leg to white line
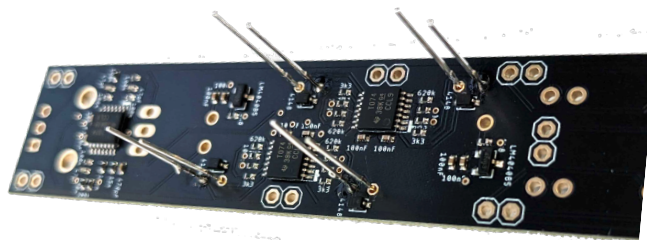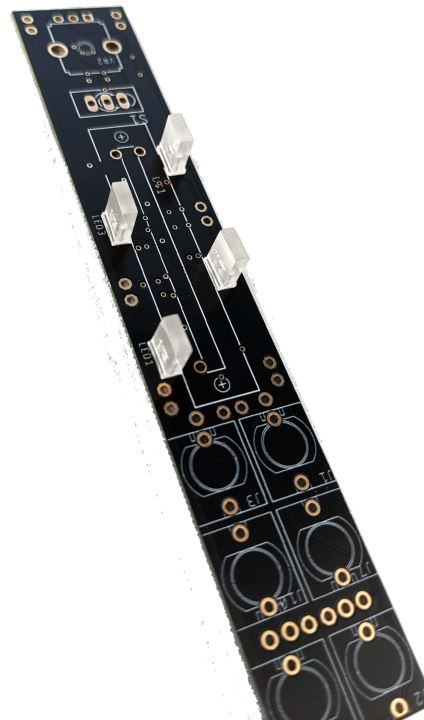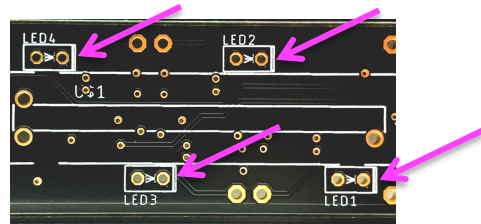
4.

Trim the LED legs down to small points before progressing to the next step
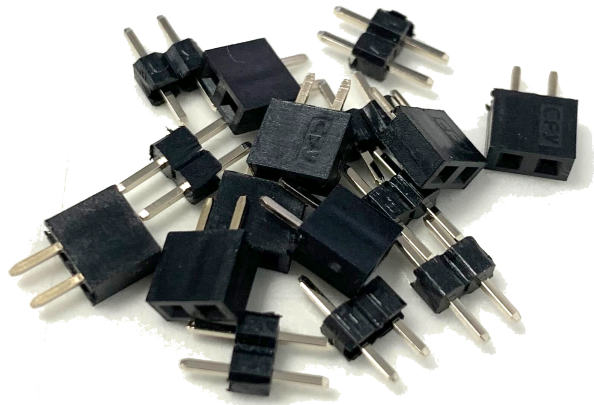
5.

Putting the front PCB aside, locate the ten pin shrouded box header. This is placed on the rear of the back PCB as pictured.

Ensure it is soldered flush to the surface, first soldering one pin so you can reflow and adjust if necessary, before soldering all remaining pins.

6.

Next locate the eight sockets and eight pin headers from the small hardware bag.

The sockets are placed on the back PCB on the same side as the SMD pre-soldered components. **Don't solder them yet!**
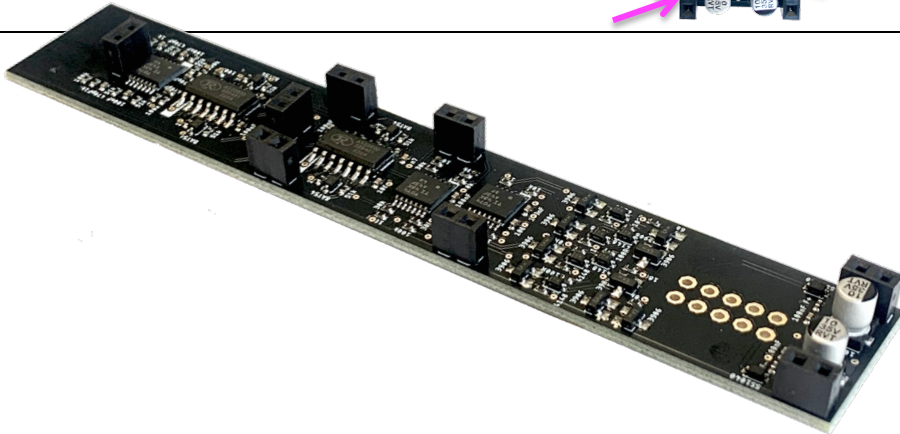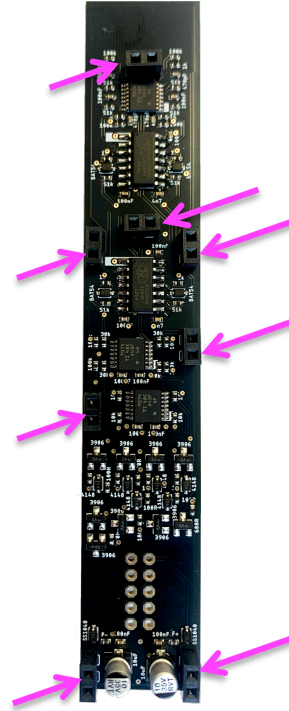
7.

Place all eight sockets as shown.

Hold something flat over the sockets and then flip the PCB over to solder.
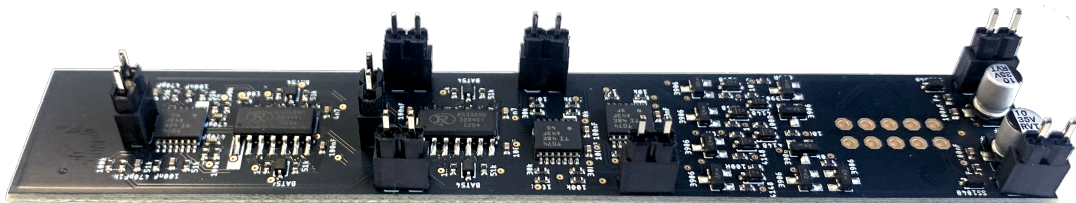
Note: the sockets must sit completely flush to the PCB - Solder just one pin first before making sure the part is flush and reflowing and adjusting if required.

Then proceed to solder the remaining joints for all sockets.

8.

Now locate the eight small pin headers and insert them all into the sockets as shown:
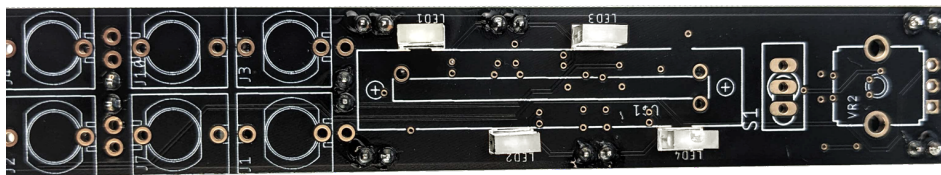
9.

Place the front PCB onto the pin headers to sandwich the PCBs together. You might need to wiggle the PCB slightly to ease the headers through their holes. Using pliers or a screwdriver can also be helpful to gently nudge the 2 pin headers to line up properly.

Once the headers are all aligned then go ahead and solder them onto the front PCB.
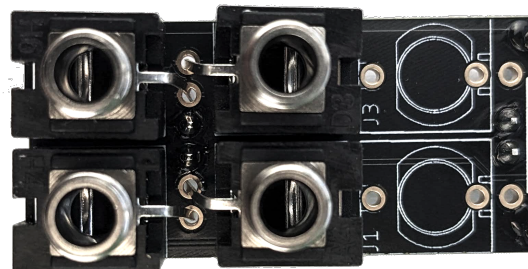

10.

Now it's time to move onto the remaining parts on the front PCB, so separate the PCBs from each other again and locate the green metal pot, red slide switch, the slider and six Thonkiconn jacks.

Remove the nuts from the jacks and place all the parts as shown.

DON'T SOLDER YET.

Note that four of the Thonkiconn jacks have offset ground pads and should be placed as pictured.

11.

Now place the front panel over
the components, and then secure
it in place by screwing all nuts
onto the jacks and the black nut
onto the pot.

12.

Solder the red slide switch first - soldering just one pin on each side, then check that the switch alignment looks good from the front, with the switch able to slide freely.
Note: go slowly and carefully!
Be precise with your soldering iron placement, some areas are quite tight with a lot of close and delicate SMD parts that need to be avoided.

13.

Proceed by next soldering the slider into place – first soldering one pin on each end of the slider and checking that the slider moves smoothly not scraping against the panel. Reflow the solder joints and adjust as necessary before soldering all remaining points on the slider.

14.

Now it's time to solder the remaining solder joints for the pot and jacks.
Again - be careful and accurate with your soldering iron placement, rotate the PCB around to give yourself the best angle.
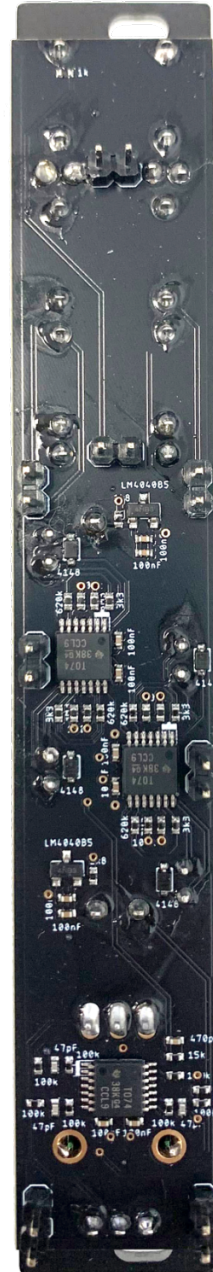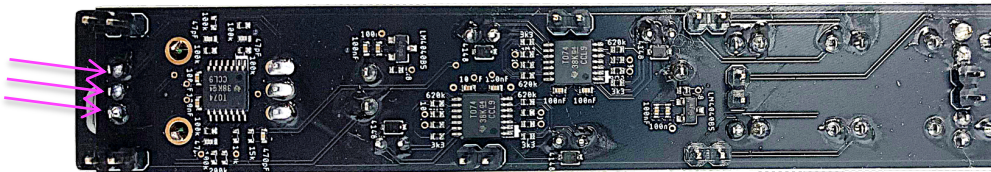
15.

Before placing the boards back together it is advised to trim the three solder joints of the green alpha pot so they are almost flush to the surface of the PCB.
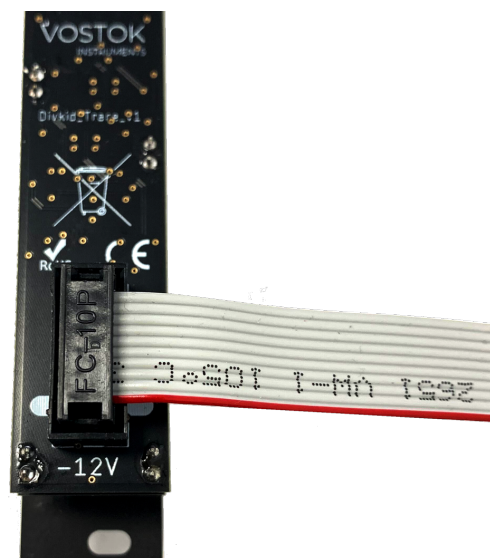
This is to prevent contact between the pot and components on the back PCB that will sit underneath.

The points to trim are marked on the picture below.

16.

Now you can connect the PCBs again and place the knob on to the pot. Finally attach the power cable with red stripe facing the -12V.

17.

The build is done!

Follow the link below to find the user manual and further product info.

https://www.thonk.co.uk/shop/vostok-path-kit/

OPTIONAL FINAL STEP

The PCB's are secured together via small two pin headers and sockets only. Due to this it is possible that the boards could come apart when pulling on the power cable or moving the module around the case.

If you feel it is necessary to secure the boards further, then placing hot glue on the headers as pictured is a possible solution.

Note this is an optional adjustment to your build if you feel the extra stability between the two PCB's is necessary – and should only be done AFTER the module has been fully built and tested.