

THONK SYNTH τ11 MX4

FOUR CHANNEL UTILITY MIXER

Eurorack DIY Kit Build Instructions

OVERVIEW

For the most recent version of this document please visit

https://www.thonk.co.uk/mx4

This document should be used in conjunction with the relevant user manual.

All Thonk kits are sold under our standard Terms and Conditions - 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 http://youtu.be/I_NU2ruzyc4 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.

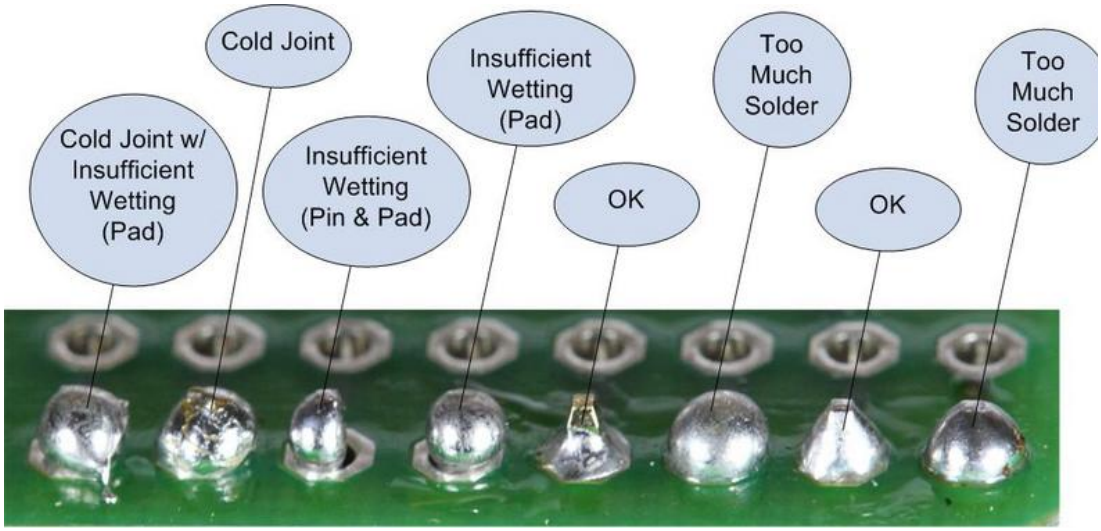
TOOLS REQUIRED

Soldering iron 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.

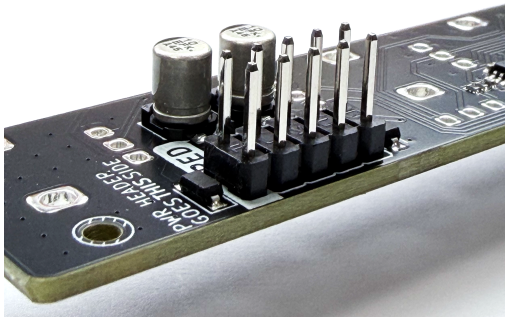


This photo is from the **Adafruit guide to excellent soldering** and is reproduced under an Attribution-Sharealike creative commons license - http://creativecommons.org/licenses/by-sa/3.0/

BUILD INSTRUCTIONS

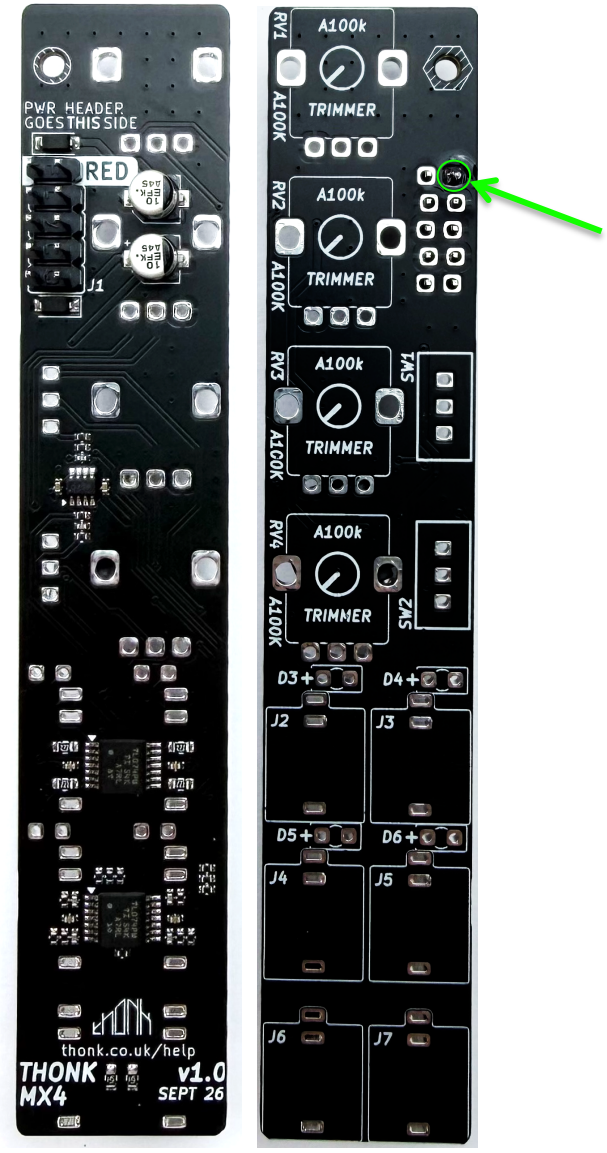
1.

First take the PCB and solder the 2x5 power header to the rear of the board (the side without the pre-populated SMD components).



The header should stay firmly in place, but you can check that this is soldered flush to the board by first soldering one joint and reflowing and adjusting where necessary.

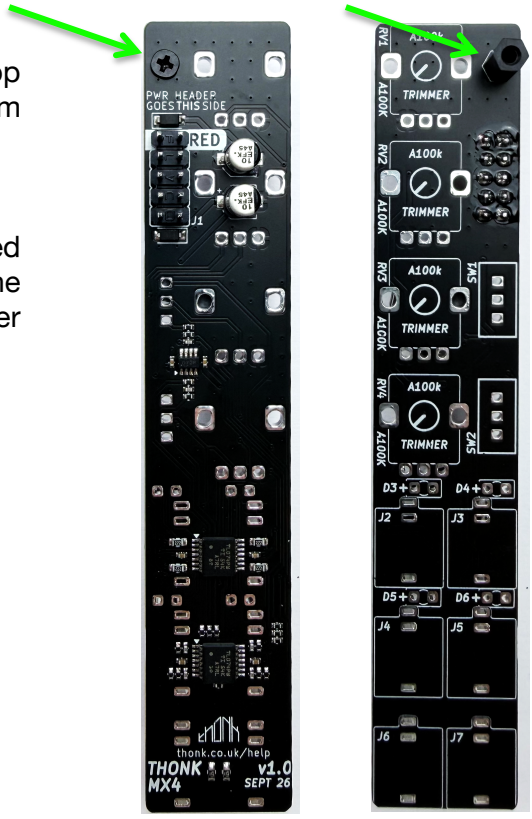
Check the header is seated firmly and flush against the PCB as pictured before proceeding.



2.

Next take one of the smaller flat-top screws and place through the bottom of the PCB as shown.

Flip the board and secure the provided nylon standoff onto the screw on the opposite side of the PCB to the power header.



3.

Locate the four green trimmer pots and place into the positions shown on the PCB.

Each trimmer pot should click firmly into position.

DON'T SOLDER YET

Resume soldering at step 7.



4.

Remove the nuts from the six jacks and place all the jacks into the positions shown.

Ensure all the longer ground pins are inserted into the correct pads at the top of each jack footprint.

DON'T SOLDER YET

Resume soldering at step 7.

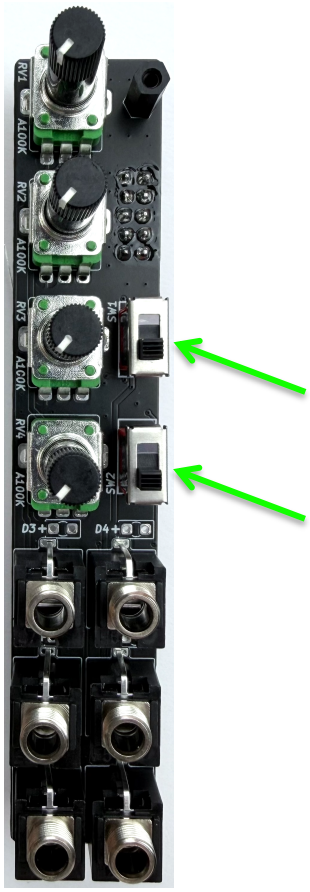


5.

Next place the two red slide switches into the positions on the edge of the PCB.

DON'T SOLDER YET

Resume soldering at step 7.



6.

Place the panel over the PCB assembly and secure with the remaining small flat-top screw and two of the jack nuts.

Ensure the panel is secure and all the placed components are sitting flush.

Be careful not to overtighten any of the screws/nuts.

DON'T SOLDER YET

Resume soldering at step 7.



7.

Proceed to first solder just one pin of each component as shown in the photo.

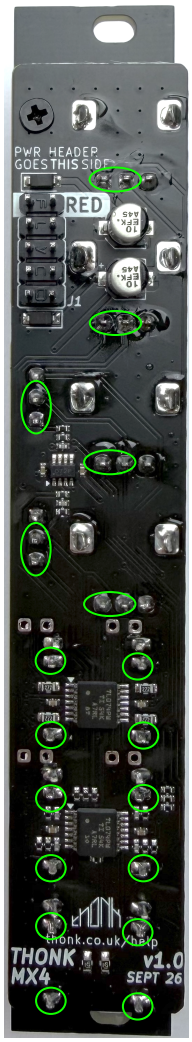
Take extra care with the placement of your soldering iron around the pre-populated SMD components.

Check once more that all panel components are sitting flush and level between the PCB and Panel and that all pots and switches are functioning as expected.



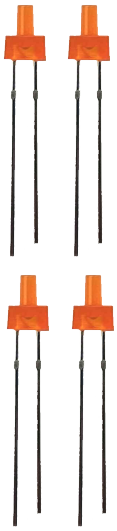
8.

Proceed to solder the remaining points being sure to take extra care around the pre-populated SMD components.



9.

Remove the panel once more setting aside the nuts and screw before locating the four orange LEDs from your bag of components.



DON'T SOLDER YET

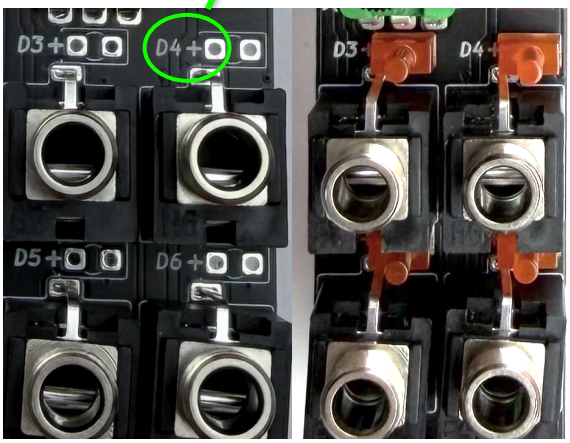
Resume soldering at step 14.

10.

Place the LEDs into the positions shown above the top two rows of jacks.



CHECK ORIENTATION – these components are polarised and must be placed as pictured with the long leg inserted into the pad marked with '+'.



DON'T SOLDER YET

Resume soldering at step 14.

11.

Secure the panel once more this time with the screw and all six jack nuts.

DON'T SOLDER YET

Resume soldering at step 14.



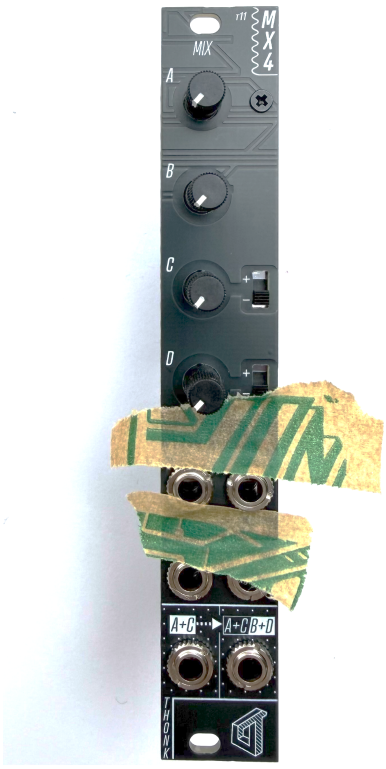
12.

Once the panel is secured use small strips of masking tape or similar to hold the LEDs flush against the panel.

Check the tops of all four LEDs stay flush to the top of the panel before proceeding.

DON'T SOLDER YET

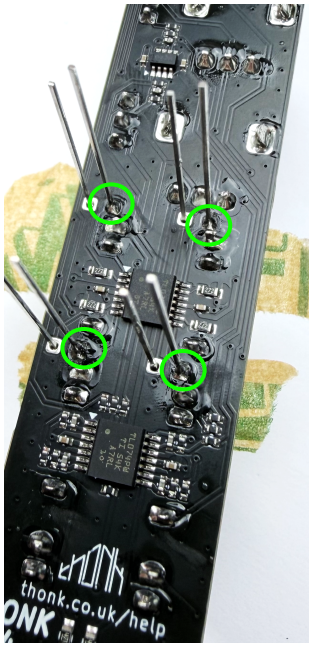
Resume soldering at step 14.



13.

First solder just one pin of each LED before double checking all four LEDs are sitting flush to the panel as pictured.

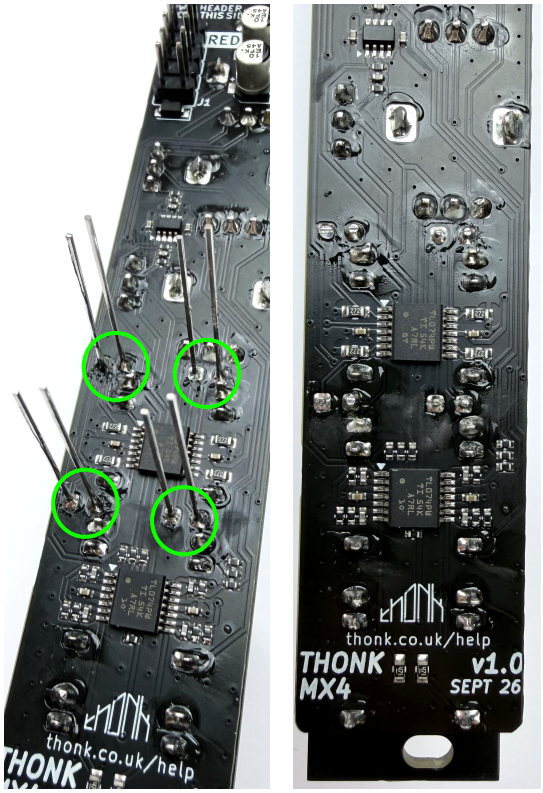
Reflow and adjust if necessary, before soldering the remaining four pins





14.

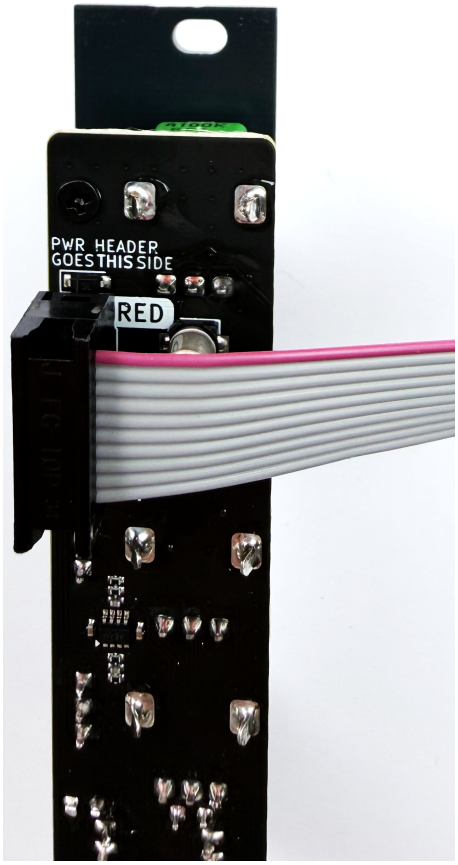
Using side cutters clip the eight LED legs so the solder points are small peaks like other components.



15.

Flip the module over and finally attach the power cable.

Be sure to follow the polarity by lining the red stripe on the cable up with the text on the PCB. Picture shown for reference.



Your Thonk Synth MX4 is now complete.

Find the manual and other product info on the Thonk website through the link below.

https://www.thonk.co.uk/mx4

