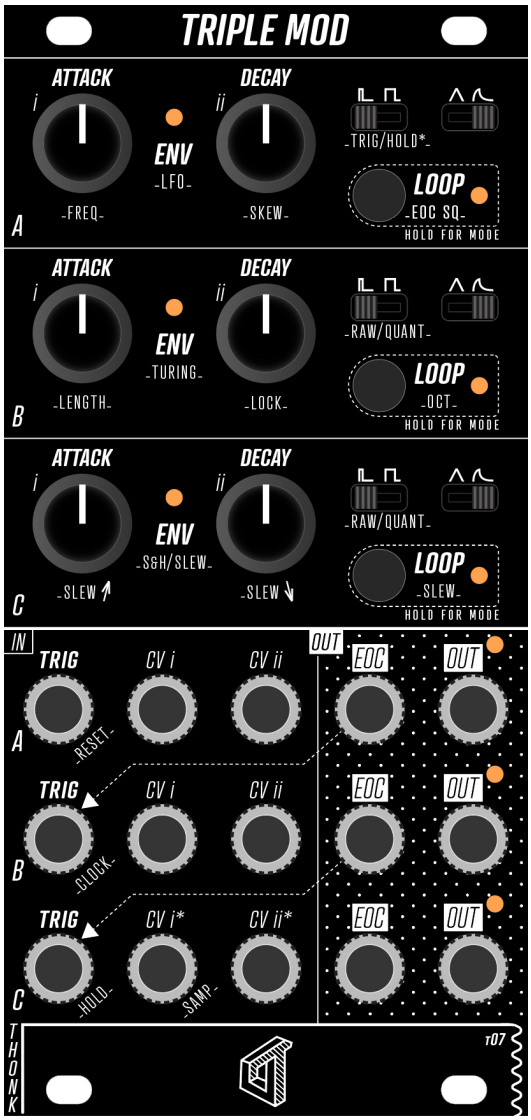


THONK SYNTH τ07 TRIPLE MOD

TRIPLE MODULATION SOURCE

Eurorack DIY Kit
Build Instructions

OVERVIEW

For the most recent version of this document please visit

https://www.thonk.co.uk/shop/thonk-synth-t07-triple-mod-kit/

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.

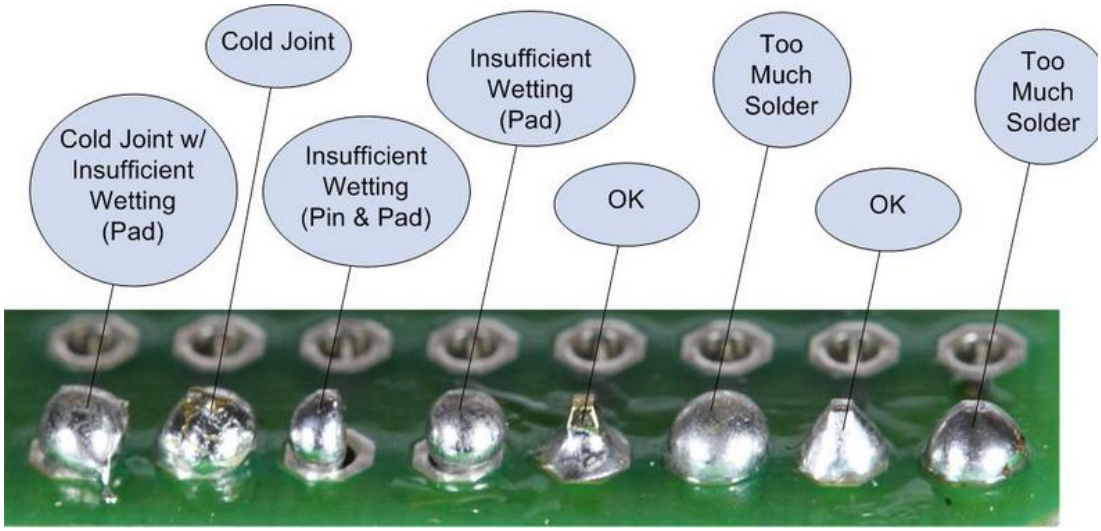
TOOLS REQUIRED

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.

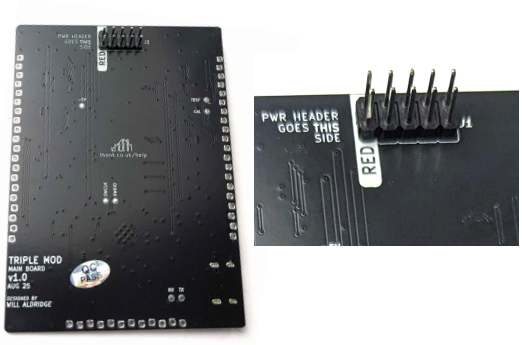


This photo is from the **Adafruit guide to excellent soldering** and is reproduced under an Attribution-Sharealike creative commons license - http://creativecommons.org/licenses/by-sa/3.0/

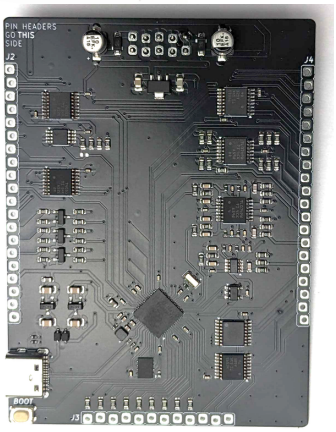
BUILD INSTRUCTIONS

1.

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

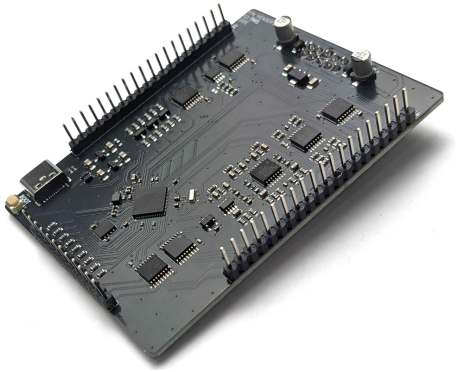


The header should stay firmly in place but you can check that this is soldered flush to the board by first soldering one joint and reflowing and adjusting where necessary.



2.

Continuing with the main board, take the single 1x12 pin header and two 1x20 pin headers.

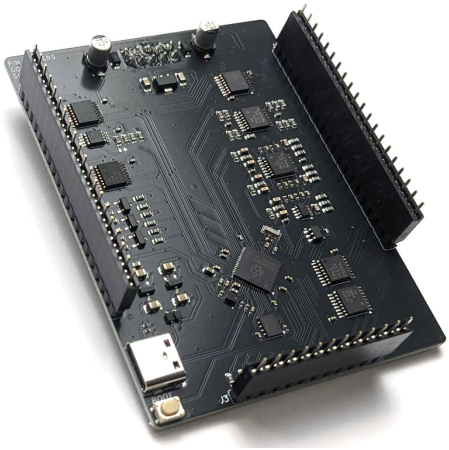


Place these headers on the opposite side of the board to the power header and on the same side as the pre soldered components as pictured.

Solder all three of these headers ensuring they stay flush to the board.

3.

Take single 1x12 and two 1x20 pin sockets and insert them onto the pin headers from step 4 as pictured



4.

Next take the control board and place it together with the main board inserting the pins from the socket headers into the pads on the control board.

DON'T SOLDER YET

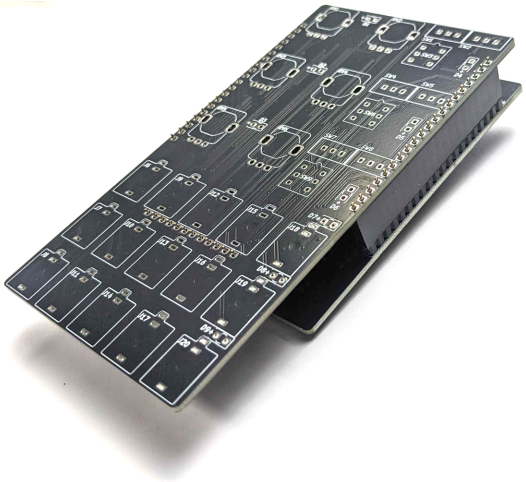
Ensure the boards are the correct way round as pictured with the power header facing the rear of the module and with the text on both PCB's facing the same direction as pictured.

5.

Solder one point on each socket header.

Check the headers are flush to the board and the boards are level with each other.

Reflow and adjust if necessary before soldering all remaining points

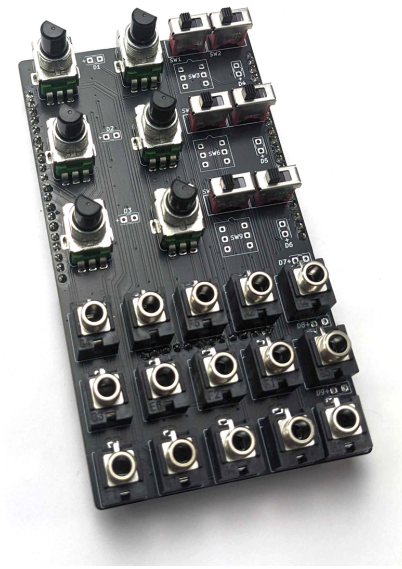


6.

Carefully detach the two boards and place the following control board components onto the board - 6x pots, 6x red switches, 15x Thonkiconn jacks.

DON'T SOLDER YET

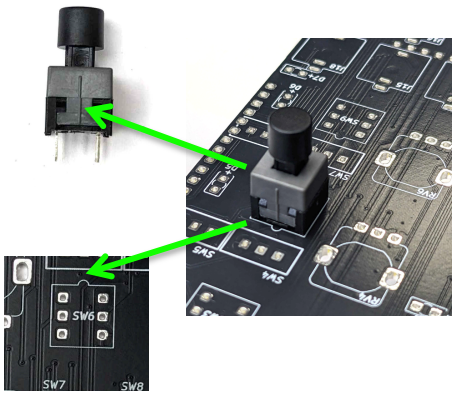
Resume soldering at step 13



7.

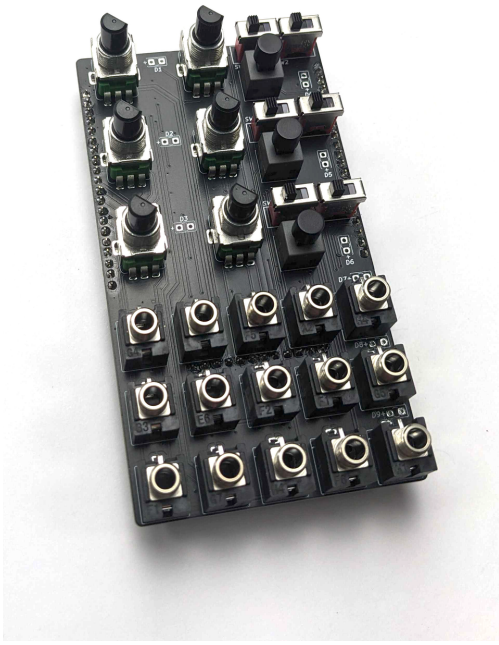
Place the 3x black momentary switches onto the board paying close attention to the polarity.

CHECK ORIENTATION – This component is polarized and must be placed as pictured with the notch on the switch body lining up with the PCB footprint.



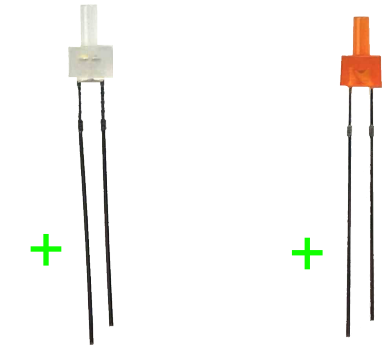
DON'T SOLDER YET

Resume soldering at step 13

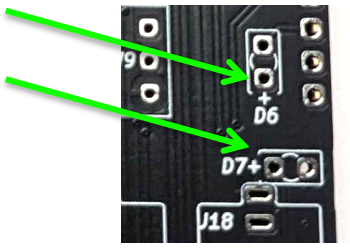


8.

Place the 6x clear bi colour LED's into the positions marked D1, D2, D3, D4, D5, D6 on the top half of the board.



Place the 3x orange LED's into positions marked D7, D8, D9 on the bottom half of the board



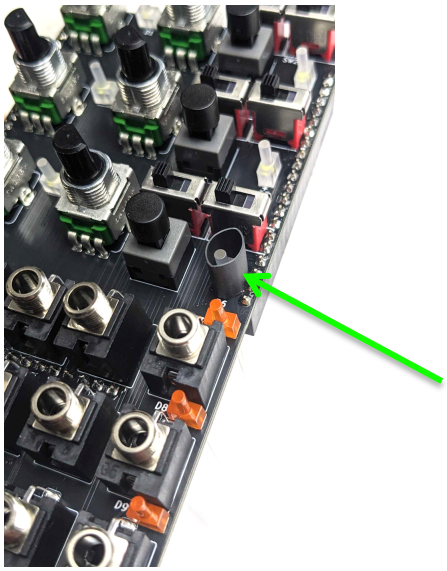
CHECK ORIENTATION – these components are polarized and must be placed as pictured with the long leg inserted into the pad marked with '+'.

DON'T SOLDER YET

Resume soldering at step 13

9.

Next take the black LED baffle heatshrink tube and place it over the bottom right hand side bi-colour LED marked D6.



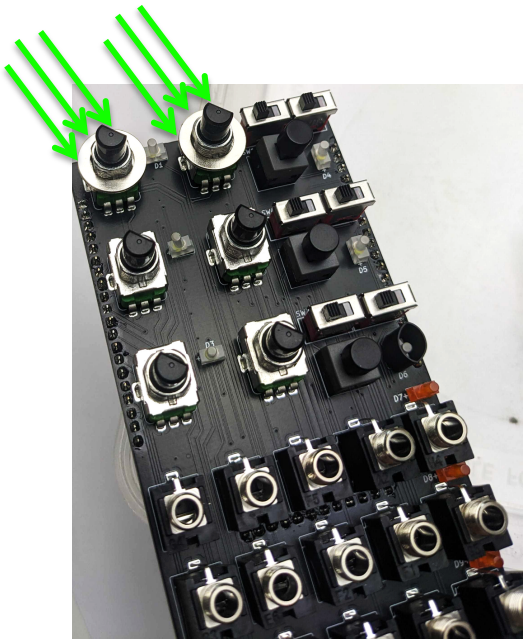
This is used to reduce bleed from the orange LED underneath.

DON'T SOLDER YET

Resume soldering at step 13

10.

Place three of the provided silver washers onto each of the two green pots as shown.



These will keep the components level between the panel and PCB.

DON'T SOLDER YET

Resume soldering at step 13

11.

Place the panel over the components making sure all the jacks, switches and pots are lined up and through the holes in the panel.

Secure the panel to the PCB with the 2x black pot nuts and 15x jack nuts. Tighten firmly to hold all components in place but don't overtighten.

Note: only screw black pot nuts on the two pots with the washers underneath until after soldering.

DON'T SOLDER YET

Resume soldering at step 13

12.

Push the 9x LED's through the holes so the tops of the LED's are flush with the panel.

Use small strips of masking tape or similar to keep the LED's flush with the panel whilst soldering

DON'T SOLDER YET

Resume soldering at step 13

13.

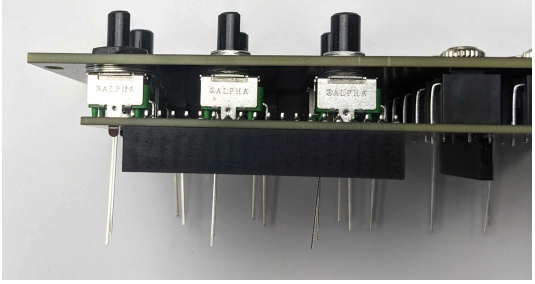
Flip the Panel and PCB assembly and rest the module on a piece of foam or rolled up bubble packaging putting pressure to hold the black switch buttons against the board.

First solder one pin on each of the black button switches.

Check theses buttons are sitting flat against the board. Reflow the pin whilst pushing against the button if necessary to keep it the base of the button flat against the board.

14.

Repeat the above step for each of the pots ensuring that they are sitting flat against the base of the board.

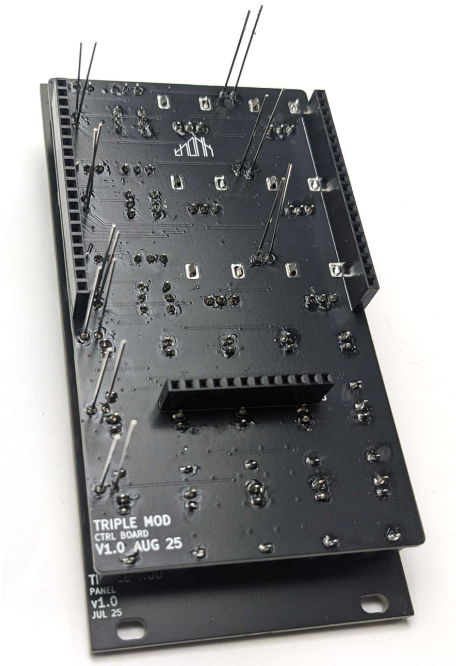


15.

Continue to solder the remaining points for all panel components.

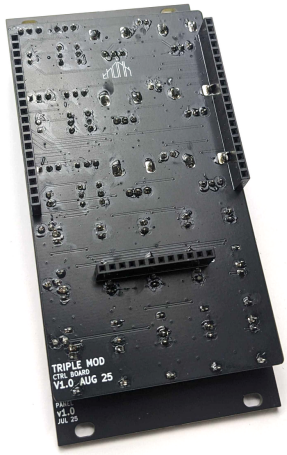
There should be 120 points remaining to solder.

Work slowly and precisely taking care with your soldering iron around the headers already populated on the board.



15.

Once all joints are soldered, clip the legs of the LED's so they are left as small solder peaks like the other components.



16.

With soldering now complete replace the main board onto the back of the control board securing the headers together once more.

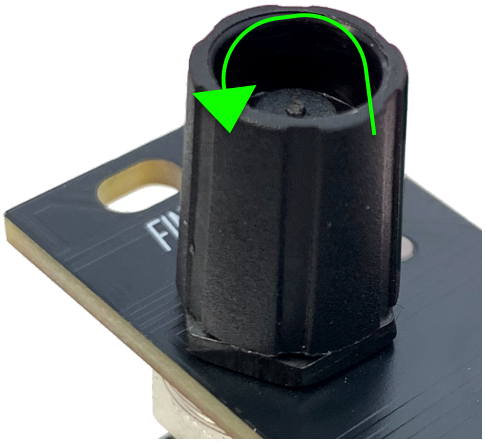
17.

Secure the remaining 4x pot nuts.

Tighten firmly to but don't overtighten.

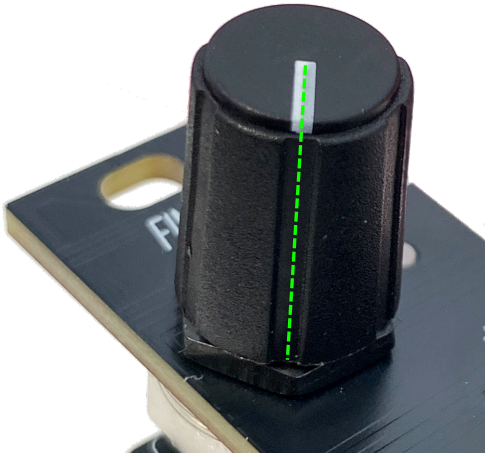
18.

For the next step secure the remaining 4x pot nuts before finding the six knobs and knob caps which come as separate pieces.



First place each knob onto the pots, with the pot turned fully counter clockwise.

This is your 'zero' point for the knob.



From here you can clip on the cap – lining up the pointer and indent on the knob at the zero point.

19.

Finally attach the power cable to the rear of the module.

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

20.

Your Thonk Synth Triple Mod is now complete.

Find the manual and other product info on the Thonk website.

https://www.thonk.co.uk/shop/thonk-synth-t07-triple-mod-kit/