

Hello!

This guide is for building the u3A module from Transient Modules.

Even if you're an experienced DIYer, please read **ALL** the steps thoroughly before starting, as some of them are crucial and others not so obvious.

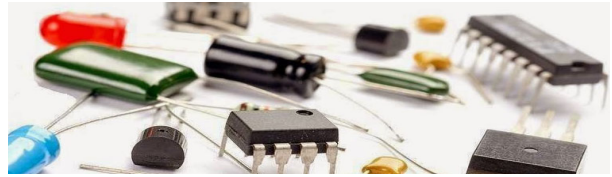
The u3A kit consists of two boards and all the parts comes in one bag.

See the lists below to identify each one of them easily before start building.

<b>Resistors:</b>	<b>Qty</b>
Resistor 10K	17
Resistor 1K5	3
Resistor 1K	3
<b>Capacitors:</b>	
100nF	9
10uF	2
<b>Headers:</b>	
8 pin header male	2
8 pin header female	2
Power header	1
<b>Spacers:</b>	
10mm	1
11mm	1
<b>Diodes:</b>	
1N4007	2

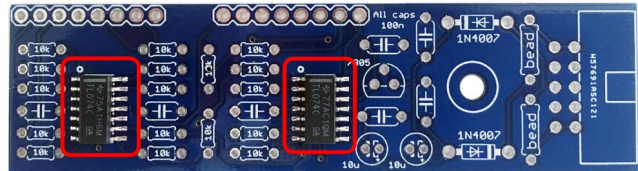
<b>Regulators:</b>	<b>Qty</b>
7805	1
<b>Others:</b>	
TL074 (SMD)	3
100KB pots	3
LEDs bicolor	3
Jack socket	6
Knurled nuts	6
Ferrite beads	2
Panel	1
Bottom PCB	1
Top PCB	1
Ribbon cable	1
<b>Screws:</b>	
Silver screws	4
Black screws	2
Philips 2mm	1
Hexag 2mm	1

1. Empty the bag into a bowl or container. This makes it much easier to pick the parts as you need them and you're a lot less likely to lose anything.



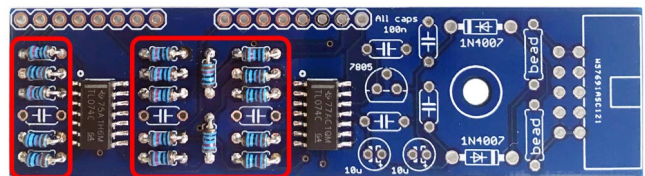
2. Let's start with the SMD parts! Solder the 2x **TL074** ICs. Position them with **the line on the top face** of the TL074 at the same end as **the circle (pin1)** in the **silkscreen**, as shown in the image.

*TIP for SMD soldering:* <http://bit.ly/2pPBRyx>



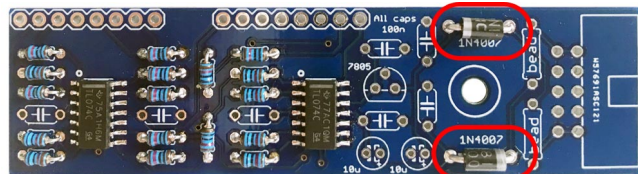
3. Solder the 17x **10K** resistors.

*Colour code: brown, black, black, red, brown.*

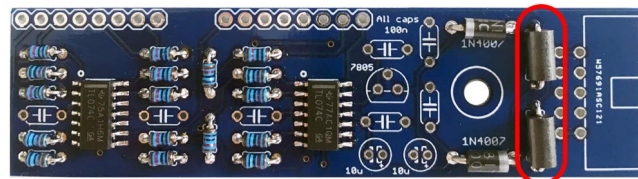


4. Solder the 2x **1N4007** diodes.

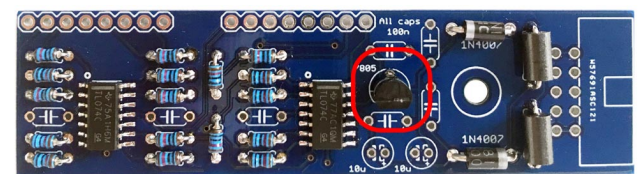
**NOTE!** Orientation is **vital**. The gray line on the diode (cathode) must match the silkscreen, as shown in the picture.



5. Solder the 2x **ferrite beads**.

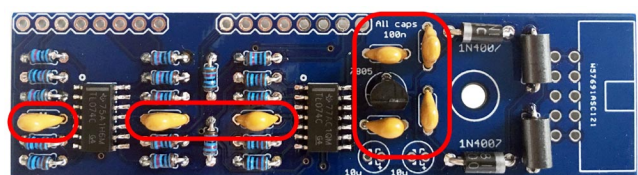


6. Solder the **7805** regulator. Labelled 7805.



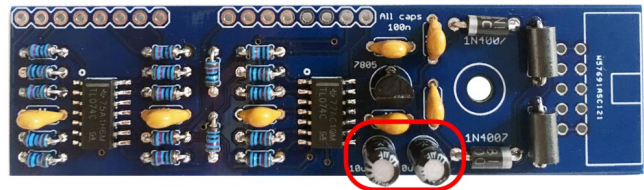
7. Solder the 7x **100nF** capacitors, labelled 104.

*There are 2 capacitors that have a more narrow space between legs than the others. Those are for the top board!*



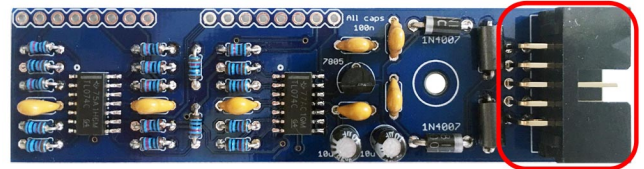
8. Solder the 2x **10uF** electrolytic capacitors.

**NOTE!** *Orientation is vital.* The long leg should be positioned in the pad marked with the + symbol.



9. Solder the **power header**.

**NOTE!** This part is placed at the top of the PCB and soldered from the bottom, as shown on the image.



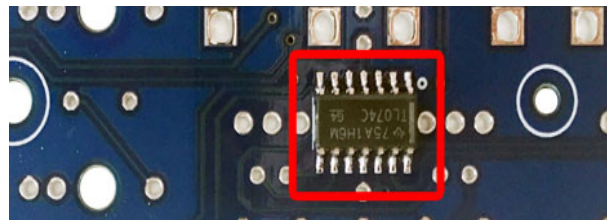
10. Solder the 2x **8 pin female header**.

**NOTE!** This part is placed at the top of the PCB and soldered from the bottom, as shown on the image.

!! Bottom PCB is now finished !!

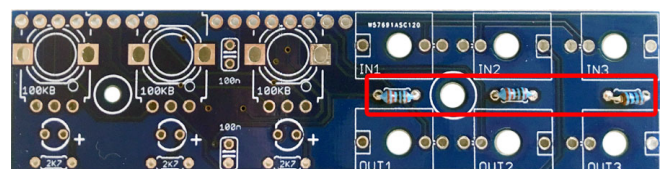


11. Now the top PCB! Start with the SMD parts again. Solder the 1x **TL074**. Position it with **the line** on the top face of the TL074 at the same end as **the circle (pin1)** in the silkscreen, as shown in the image.



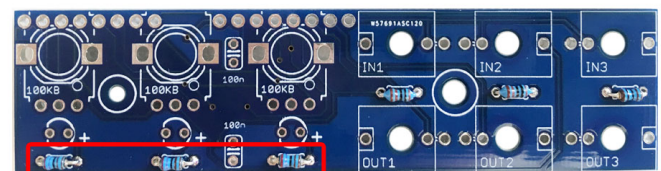
12. Solder the 3x **1K** resistors.

Colour code: brown, black, black, brown, brown.



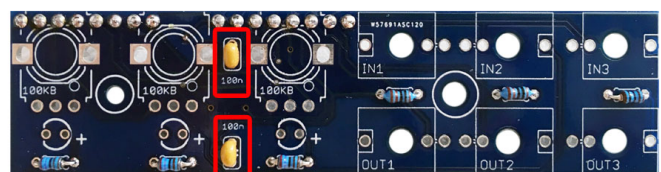
13. Solder the 3x **2K7** resistors.

Colour code: red, purple, black, brown, brown.

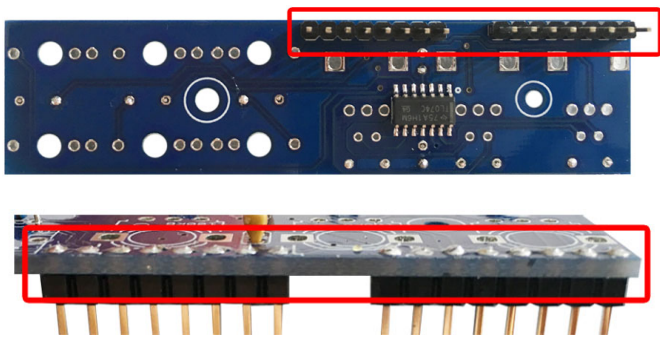

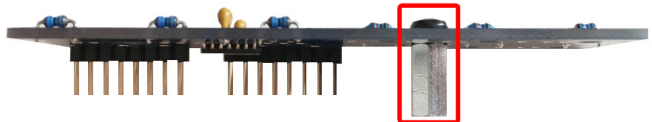
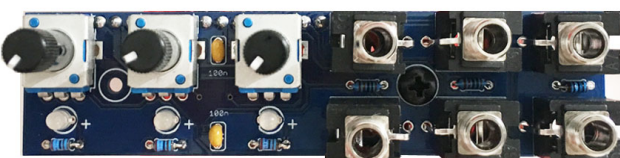
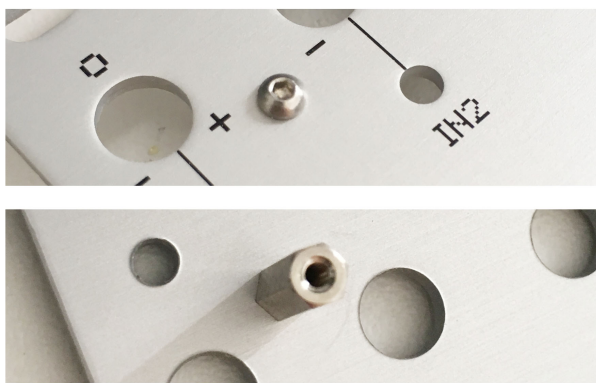
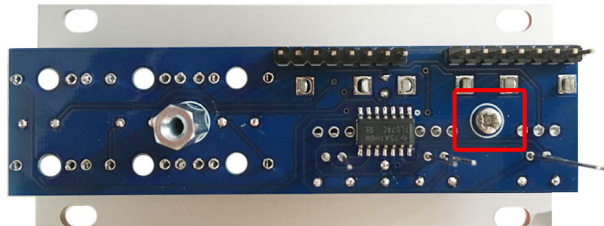


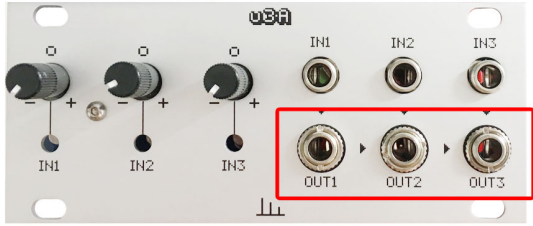
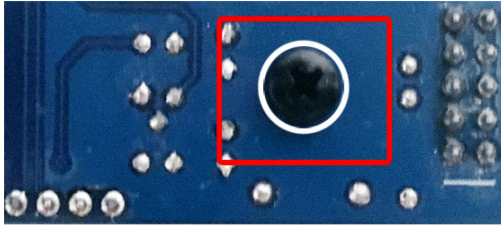

14. Solder the 2x **100nF** capacitors, labelled 104.

**NOTE!** The footprint on the PCB for these capacitors is smaller than the space between their legs. Use pliers to straighten the bent legs on the capacitors so they fit in the holes.





<p>15. Solder the <b>10 pin male header</b> ensuring it's 90° to the PCB.</p> <p><b>NOTE!</b> This part is placed at the bottom of the PCB and soldered from the top, as shown on the image.</p> <p><b>NOTE!</b> Since the potentiometers are positioned above the headers, cut the pins of the headers on the top side, so there is a bit more of space between them.</p>	
<p>16. Cut the blue little leg on the 3 potentiometers to make a bit more of space between them and the headers as well.</p>	
<p>17. Screw the <b>11mm</b> spacer (the one which is slightly bigger) using one M3 black screw as shown.</p>	
<p>18. Place the <b>6x jack sockets</b>, the <b>3x 100KB</b> potentiometers and the <b>3x leds</b> into their position but <b>DO NOT SOLDER</b> anything yet.</p> <p><b>NOTE! Orientation is vital.</b> The long leg of the leds should be positioned in the pad marked with the + symbol.</p>	
<p>19. Use your hands to screw the 10mm spacer to the panel using the <b>hexagonal</b> M2 screw (the one of the two which is more tiny).</p>	
<p>20. Place the front panel moving a little the parts if necessary. The spacer in the panel should match the hole in the PCB. Join both using the <b>phillips</b> M2 screw.</p>	

<p>22. Place the 6x <b>jack nuts</b> and make sure that the 3 nuts in the bottom are centered with the silkscreen in the panel. Also make sure the 3 LEDs are positioned through the holes in the panel.</p> <p><b>Now you can solder all the jack sockets, potentiometers and leds.</b></p>	
<p>24. Join the front PCB and the back PCB using the pin headers and ensuring the 3mm hole match the spacer. Screw both boards with the last M3 black screw.</p>	
<p>25. Connect the ribbon cable. The red stripe on the cable must line up with the white line on the module's power connector. And...</p> <p>: )      Module finished!      : )</p> <p>No calibration is needed for this module. Check that all the inputs, outputs, offsets and mixings work correctly!</p>	

Something is not working as it should? \*

Did you like the build manual? \*

Had problems during the build process? \*

Are you missing any part? \*

Were you soldering slightly drunk and did a mess? \*

\* Based in real e-mails.

Then, write us to: [contact@transientmodules.com](mailto:contact@transientmodules.com)

If everything went fine: congratulations and enjoy the module!

