

Hello!

This guide is for building the 2M module from Transient Modules.

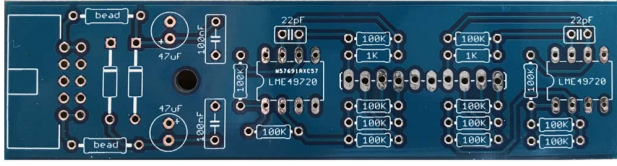



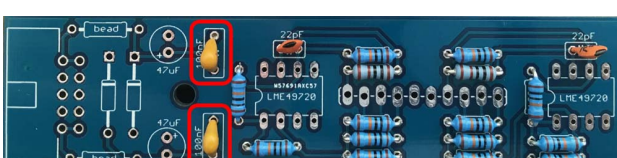


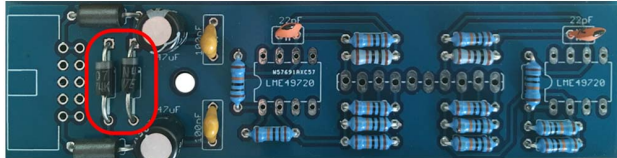
It is good to have basic soldering skills and to be able to identify electronic components before starting this kit. In case you're an experienced DIYer, please read all the steps thoroughly before starting as some of them are not so obvious.

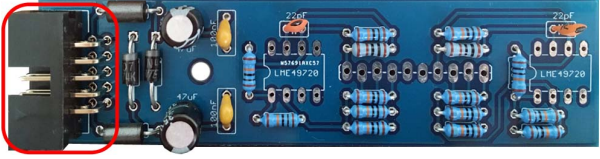




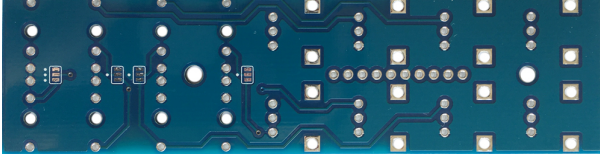
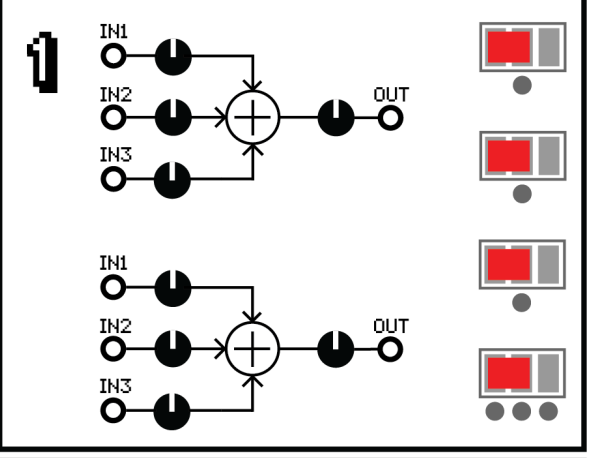
The 2M kit consists of two boards and all the parts comes in only two bags separated.

See the parts list below to identify each one of them easily before start building:

Part	Qty
<b>Resistors:</b>	
Resistor 100K	13
Resistor 1K	2
<b>Capacitors:</b>	
22pF	2
100nF	2
47uF electrolytic	2
<b>Diodes:</b>	
1N4007	2
<b>Screws:</b>	
M2 hexagonal screw	1
M2 phillips screw	1
M3 silver screw	2
M3 black screw	2
<b>Potentiometers:</b>	
100KA	6
100KB	2

Part	Qty
<b>Headers:</b>	
10 pin header female	1
10 pin header male	1
Power connector	1
<b>Spacers:</b>	
10mm spacer	1
11mm spacer	1
<b>Sockets:</b>	
8 pin DIP sockets	2
Jacks sockets	8
<b>Various:</b>	
LME49720	2
Ferrites	2
Knurled nuts	8
Panel	1
Bottom PCB	1
Top PCB	1
Ribbon cable	1

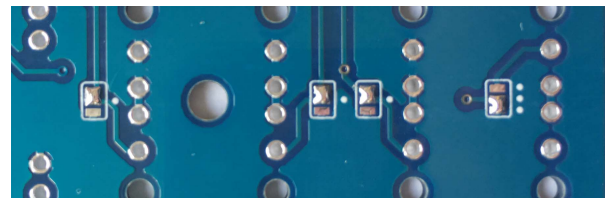
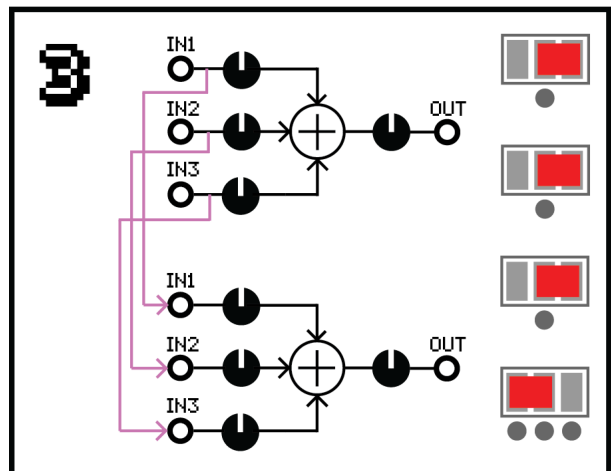
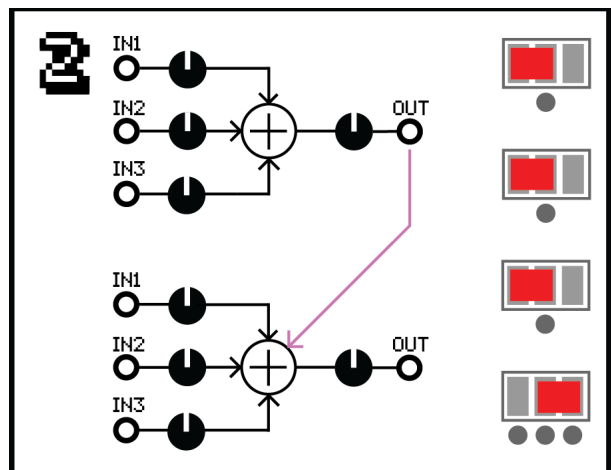
<p>1. Let's begin with the back PCB. Start by emptying the bag into a bowl or container. This makes it much easier to pick parts as you need them and you're a lot less likely to lose anything.</p>	
<p>2. Solder the resistors labelled as <b>100K</b>, there are 13 of them.</p> <p>Colour code: brown, black, black, orange, brown.</p>	
<p>3. Solder the two <b>1K</b> resistors.</p> <p>Colour code: brown, black, black, brown, brown.</p>	
<p>4. Solder the two <b>22pF</b> capacitors (labelled 221).</p>	
<p>5. Solder the two <b>100nF</b> capacitors (labelled 104).</p>	
<p>6. Solder the two <b>47uF</b> electrolytic capacitors labelled 47uF.</p> <p><b>NOTE!</b> Orientation is vital. The longer lead on the part should be positioned in the pad marked with the plus/positive symbol.</p>	
<p>7. Solder the two ferrite beads.</p>	
<p>8. Solder the two 1N4007 diodes.</p> <p><b>NOTE!</b> Orientation is <b>vital</b>. The gray ring on the diode must match the silkscreen.</p>	

<p>9. Next solder the <b>power header</b>.</p>	
<p>10. Place the <b>10 pin female header</b> and solder it ensuring it is 90° to the PCB.</p>	
<p>11. Solder the two <b>IC Sockets</b>. Make sure the <b>notches</b> in the sockets match the silkscreen.</p>	
<p>12. Next take the two LME49720 ICs and position with the <b>notch on the top face at the same end as the notch in the socket and silkscreen.</b></p> <p><b>NOTE!</b> You will need to bend the pins on the IC inwards slightly so they are at 90 degrees to the body of the IC. They will come slightly splayed out.</p>	 
<p>13. Front PCB now. Empty the bag of potentiometers, jacks and nuts into a bowl or container.</p>	
<p>14. Some users asked for different types of normalization between the mixers. There are 3 possible configurations depending on how the jumper pads are soldered:</p> <p>1. No normalization. The two mixers are independent.</p>	

2. When no cable is connected at the output jack of the mixer on the left, its output is summed to the inputs of the mixer on the right. This normalization may be useful if you want to mix 6 drum sounds to one output. Note that the normalization is made after the output potentiometer, so there is a 'submix' control between the two mixers.

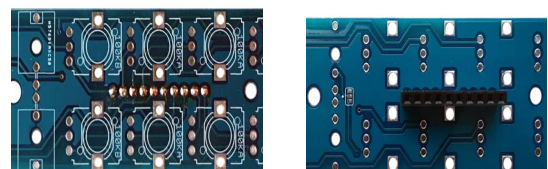
3. The inputs of the mixer on the left are normalled to the inputs of the mixer on the right. This setting is useful when the mixer is used for obtaining a L/R signal. This way is possible to patch 3 mono signals and obtain a (even panned) L/R signal at the output.

*Example of how must look the smd jumper soldered pads. (Normalization 3 on the image)*

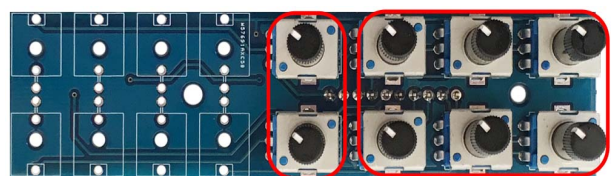


15. Solder the **10 pin female header** ensuring it's 90° to the PCB.

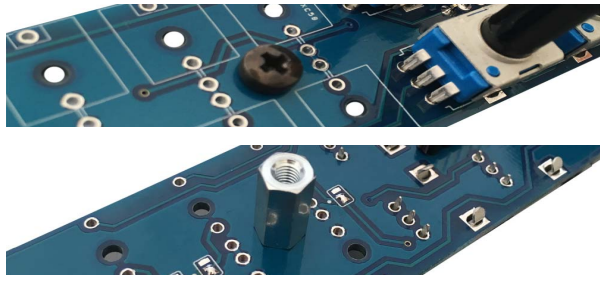

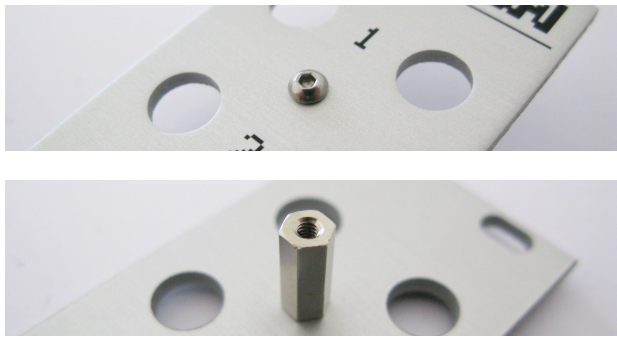
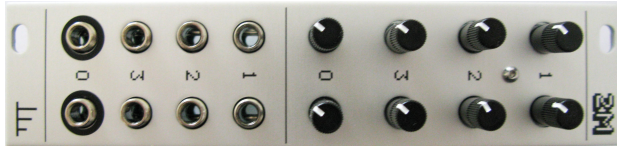
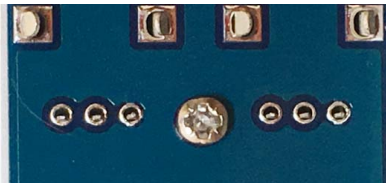
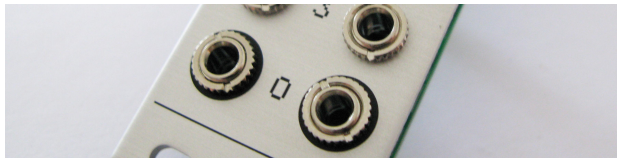
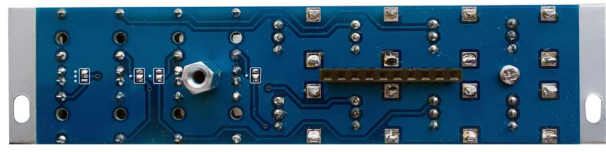
**NOTE!** This part is placed at the bottom of the PCB and soldered from the top, as shown on the image.





16. Next, place the **2x 100KB** potentiometers (labelled B104) and the **6x 100KA** potentiometers (labelled A104) into their position but **DO NOT SOLDER** yet. Make sure they're 90° to the PCB and fully inserted.





<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 eight jacks into their position but <b>DO NOT SOLDER</b> yet.</p>	
<p>19. Use your hands to screw the 10mm spacer to the panel using the <b>hexagonal</b> M2 screw (the one which is slightly tiny).</p>	
<p>20. Place the front panel moving a little the parts if necessary.</p>	
<p>21. The spacer in the panel must match the hole in the PCB. Join both using the <b>phillips</b> M2 screw.</p>	
<p>22. Place the 8 jack nuts and make sure that the 2 nuts in the bottom are centered with the silkscreen in the panel.</p>	
<p>23. Now you can solder all the potentiometers and jack sockets.</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.</p> <p>And...</p> <p>: )      Module finished!      : )</p> <p>Check that all the inputs and both outputs are working correctly, as well as the normalization between the mixers in case you did it.</p>	

Something is not working as it should? \*

Did you like the build manual? \*

Had problems during the build process? \*

Do you have any suggestions to make the build process better? \*

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: We hope you had some fun while building it,  
congratulations, patch wisely and enjoy the module!

