Hello!

This guide is for building the 7J 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 the build as some of them may not be so obvious.

The 7J kit consists of two boards and all the parts come in one paper bag.

See the parts list below to identify each one of them easily.

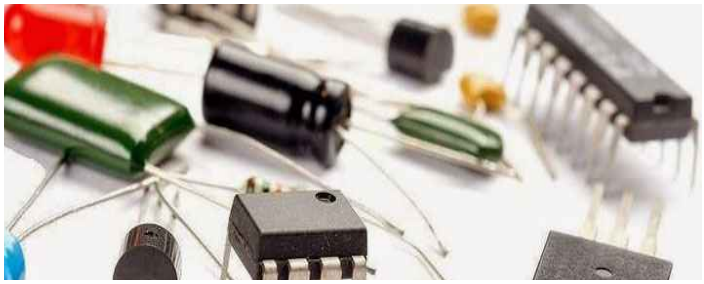
Part	Qty
Resistors:	
100K	15
10K	1
1K	6
1M	1
470K	1
4K7	1
Capacitors:	
100nF	14
22pF	2
10uF electrolytic	2
47nF	1
Diodes:	
1N4007	2
1N4148	1
Sockets:	
IC - 8 pin DIP	5
Jack mono	5

Part	Qty
Headers:	
10 pin header female	2
10 pin header male	2
Power header	1
LEDs:	
Bi-color LEDs	3
ICs:	
TL072	5
Spacers:	
11mm spacer	1
Screws:	
M3 silver screw	2
M3 black screw	2
M2.5 silver screw	4
Switches:	
SPDT slide switch	2

Part	Qty
Regulators:	
7805	1
7905	1
Button:	
Pushbutton	1
Pushbutton cap	1
Potentiometers:	
100KB	4
Others:	
Knurled nuts	5
Ferrite bead	2
Joystick	1
Panel	1
Bottom PCB	1
Top PCB	1
Ribbon Cable	1

ʕ•ᴥ•ʔ

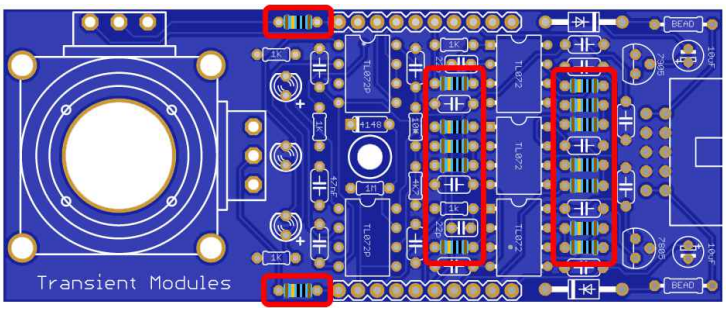
1. Let's begin with the bottom PCB. Start by emptying the bag of parts into a **bowl** or **container**.
This makes it much easier to pick them as you need them and you're a lot less likely to lose anything.



2. Solder the 14x **100K** resistors.

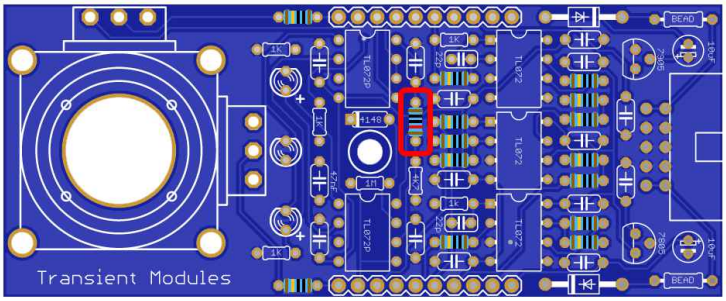
Color code:

The remaining one will be used later!



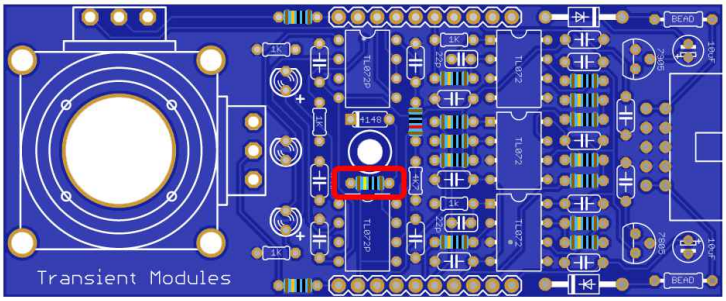
3. Solder the 1x **10K** resistor.

Color code:



4. Solder the 1x **1M** resistor.

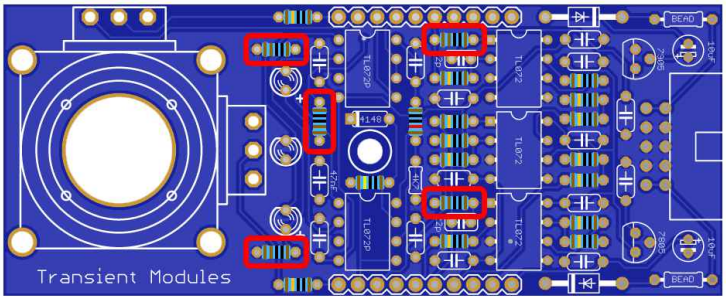
Color code:



5. Solder the 5x **1K** resistors.

Color code:

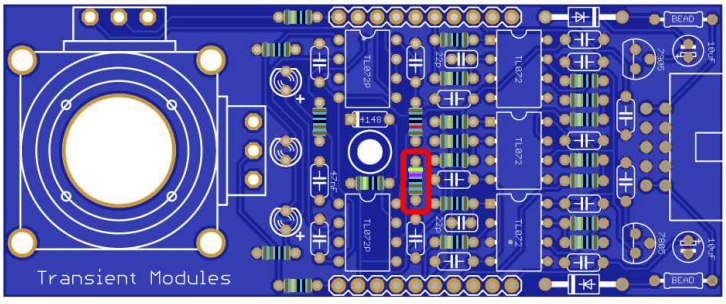
The remaining one will be used later!

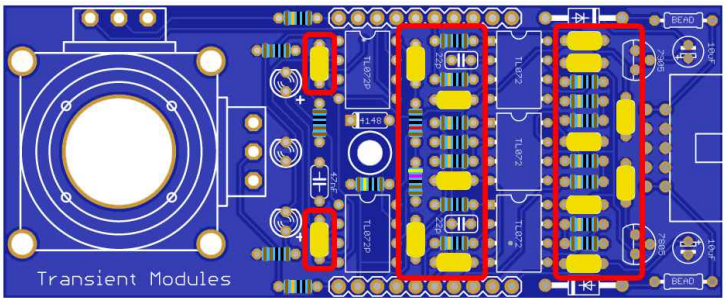
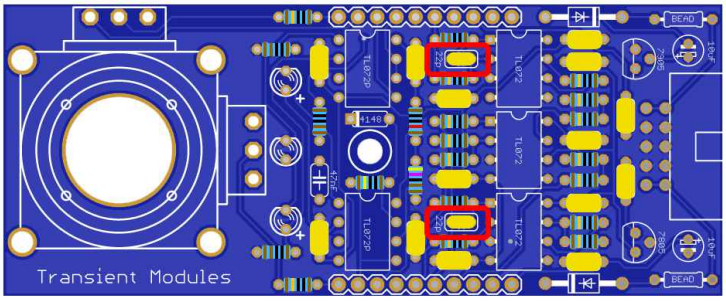
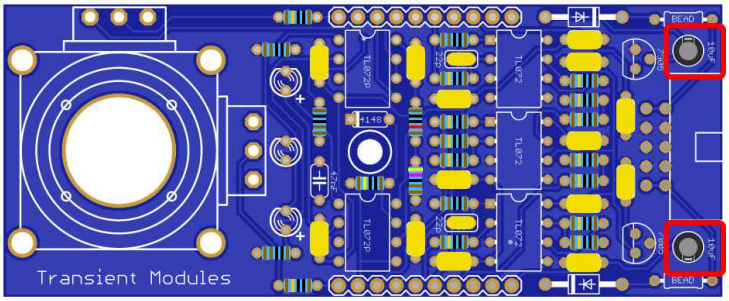
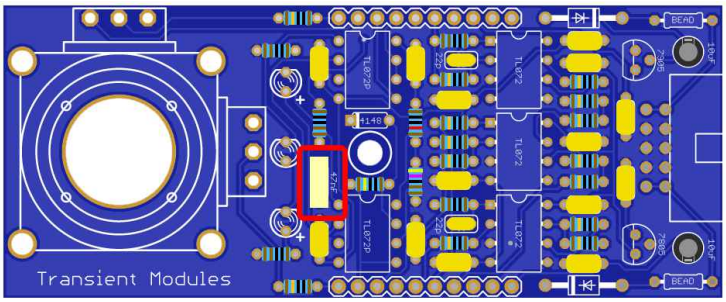
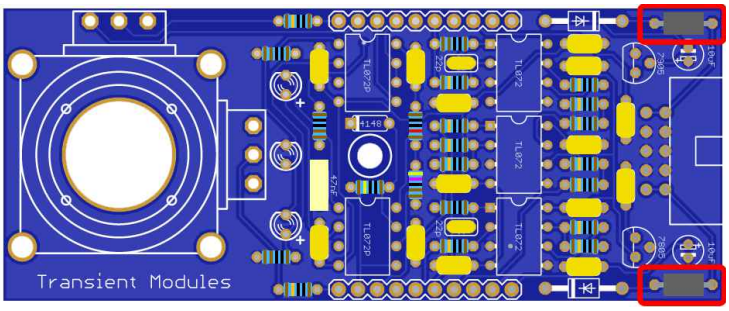
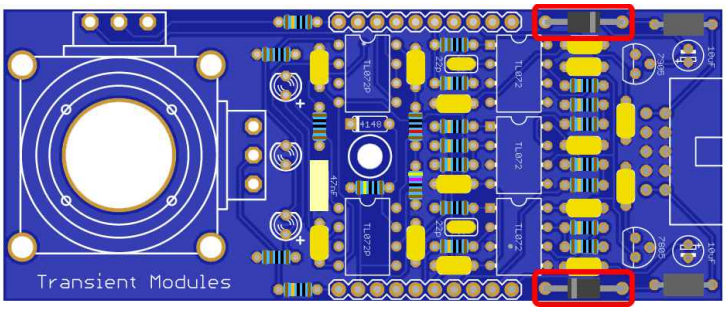


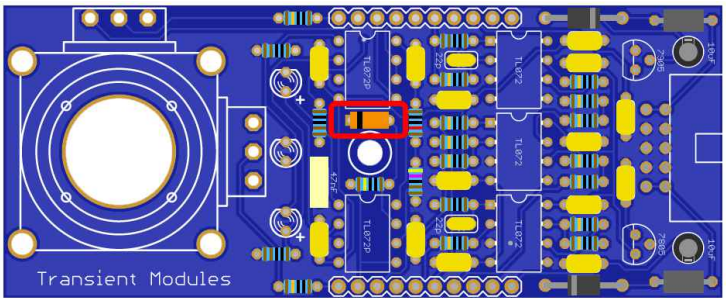
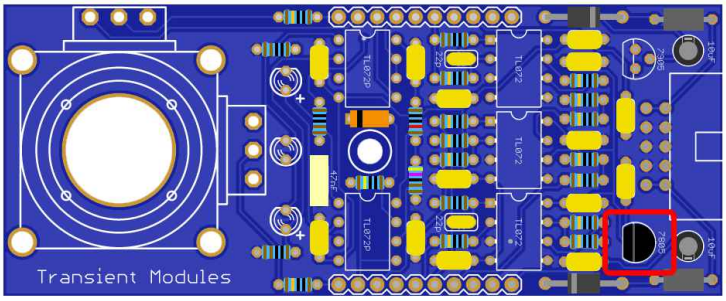
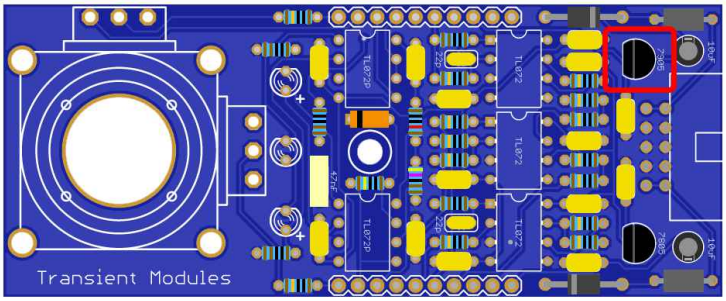
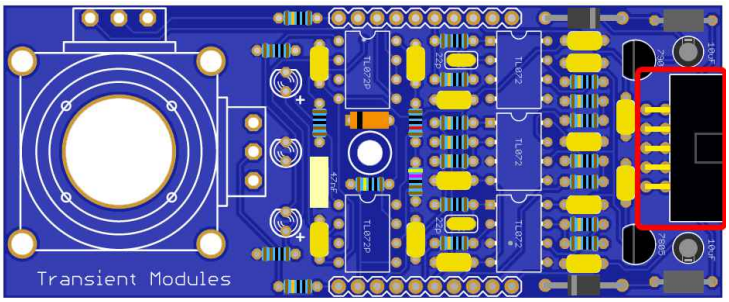
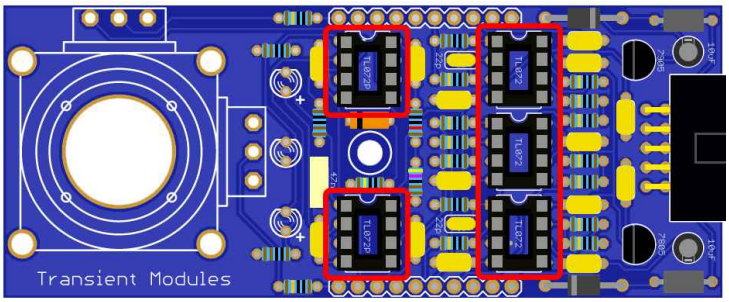
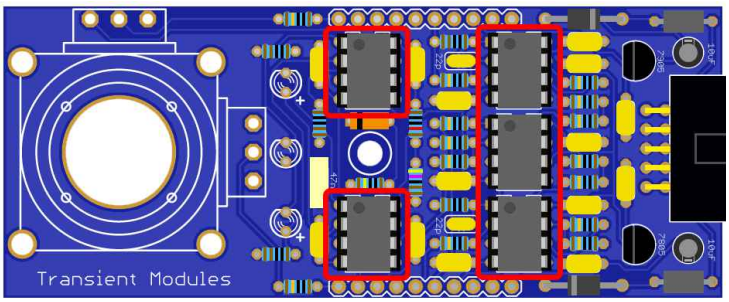
6. Solder the 1x **4K7** resistor.

Color code:

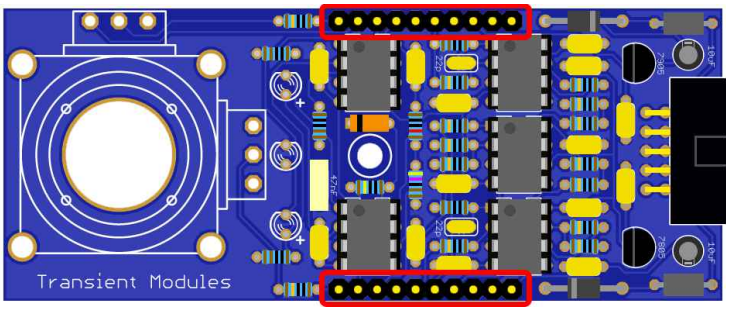
Make sure it is 4K7 and not 470K (used later).



7. Solder the 14x **100nF** capacitors (labelled 104).	
8. Solder the 2x **22pF** capacitors (labelled 220).	
9. Solder the 2x **10uF** electrolytic capacitors (labelled 10uF). ***NOTE!*** *The long leg goes in the pad marked with the + symbol.*	
10. Solder the **47nF** capacitor (labelled 47n).	
11. Solder the two **ferrite beads**.	
12. Solder the two **1N4007** diodes. ***NOTE!*** *The gray ring on the diode must match the line on the silkscreen.*	

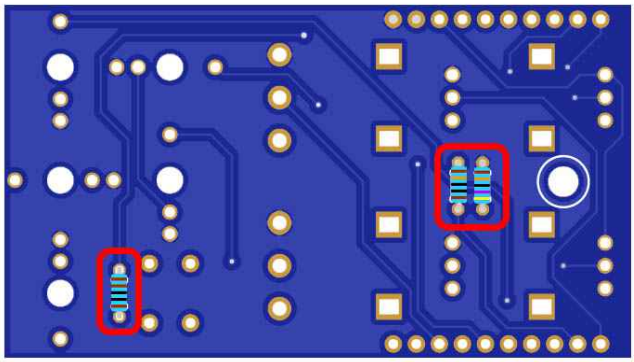
13. Solder the **1N4148** diode. ***NOTE!*** *The black ring on the diode must match the line on the silkscreen.*	
14. Solder the **7805** regulator. ***NOTE!*** *Check this part number **twice.** 7805 is very similar to 7905 and swapping these two can cause a mess.*	
15. Solder the **7905** regulator.	
16. Solder the **power header.**	
17. Solder the 5x **IC Sockets**. Make sure the **notches** in the sockets match the silkscreen**.**	
18. Take the 5x **TL072** and place them with the circle on the top face at the same end as the notch in the socket. ***NOTE!*** *The pins on the ICs need to be bent inwards slightly, they will come slightly splayed out.*	

19. Place the 2x **10 pin male header** and solder both ensuring they are 90° to the PCB.

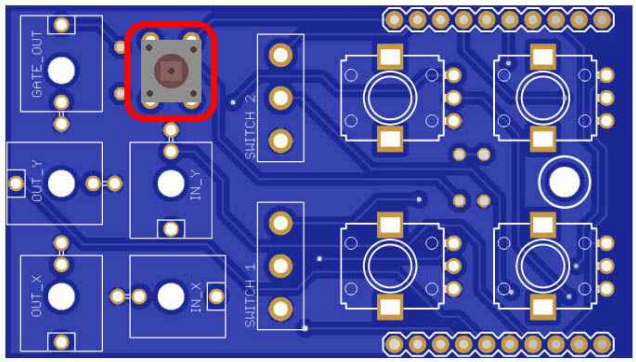


20. Now the top board. Solder the 3 remaining resistors: **1K**, **470K**, **100K**.

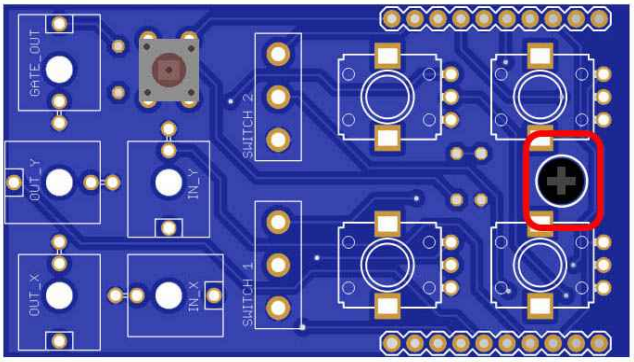
<u>470K Colour code:</u>



21. Solder the **pushbutton** and place the **round black cap** on it.

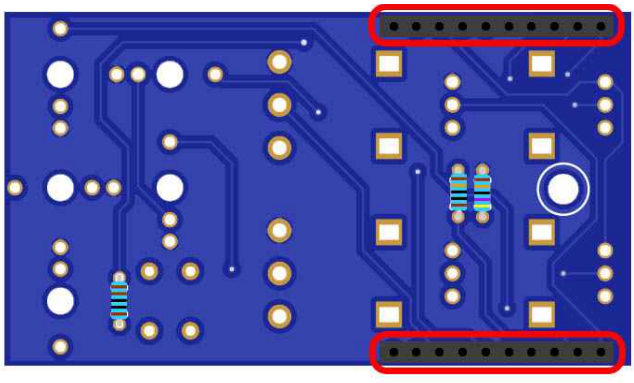


22. Screw the **11mm spacer**, using a **M3 black screw**. The screw goes in the top side of the PCB.



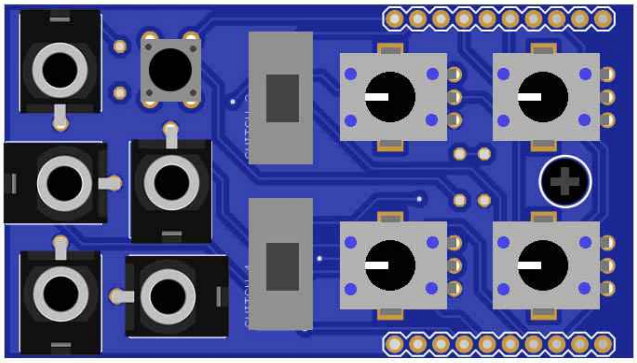
23. Solder the 2x **10 pin female header** ensuring they're both 90° to the PCB.

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



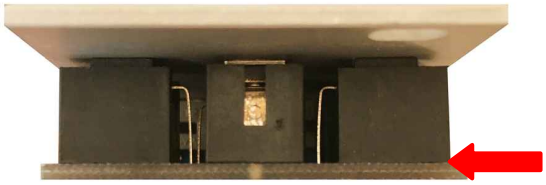
24. Place the 4x **100KB** pots making sure they're **fully inserted**. Also place the 5x **jack sockets** and the 2x **switches**.

!! DON'T SOLDER ANYTHING YET !!



25. Place the **front panel** (moving a little the parts if necessary) and the 5x **jack nuts,** making sure that the ones corresponding to the outputs are centered with the black circles on the panel.

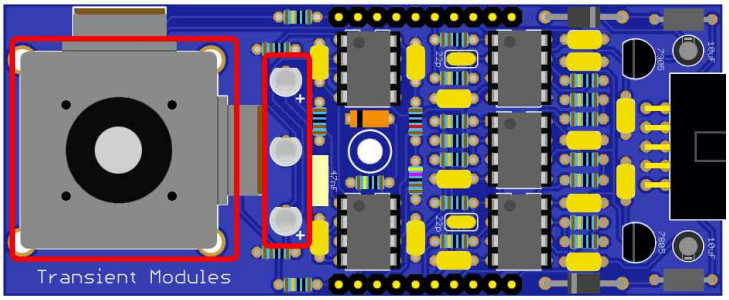
26. Before soldering, check that all the nuts are tight and that the PCB is completely attached to the jack sockets. If so, now you can solder all the parts on the top board.



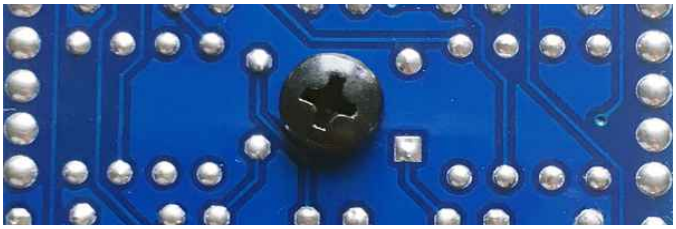
27. Back to the bottom PCB. Place the joystick and the **3x LEDs.**

NOTE! *The long leg of the LEDs must be positioned in the pad marked with the '+' symbol EXCEPT for the* ***middle*** *LED. Place the long leg of that LED in either the 'G' or 'R' labelled pads to choose which color will be used for the gate monitoring (green or red).*

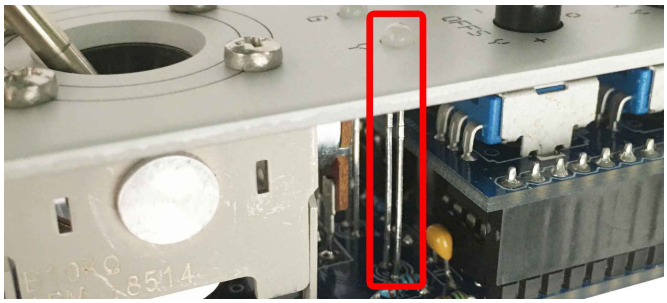
!! DO NOT SOLDER ANYTHING YET !!



28. Carefully, join both PCBs using the pin headers and screw both boards together using the remaining **M3 black screw** (the joystick goes through the big hole in the panel in this step).



29. Place the 4x M2.5 screws on the joystick. Make sure they're tight but don't take the risk of scratching the panel trying to apply more force than necessary.

30. Place the **LEDs** through their respective holes on the panel. Now you can solder the **LEDs** and the **joysick**. ***TIP!*** *Before soldering, if everything has been properly assembled with the correct height and angles, the joystick legs should slightly get inside the pads but not poke across the other side of the board (second photo).*	 
31. And... Module finished! :) Connect the ribbon cable. The red stripe must line up with the line indication on the back of the module. Set the IN potentiometers at maximum position and offset at 12 o'clock. Check one by one that all inputs and outputs work properly as well as the offset controls, gate button and the range switches.	

Something is not working as it should? *

Did you like the build manual? *

You had problems during the build process or have an idea that could improve it? *

Are you missing any part? *

Were you soldering slightly drunk and made a mess? *

* Based on real e-mails.

Then, write to us at: contact@transientmodules.com

If everything went fine: congratulations and enjoy the module!