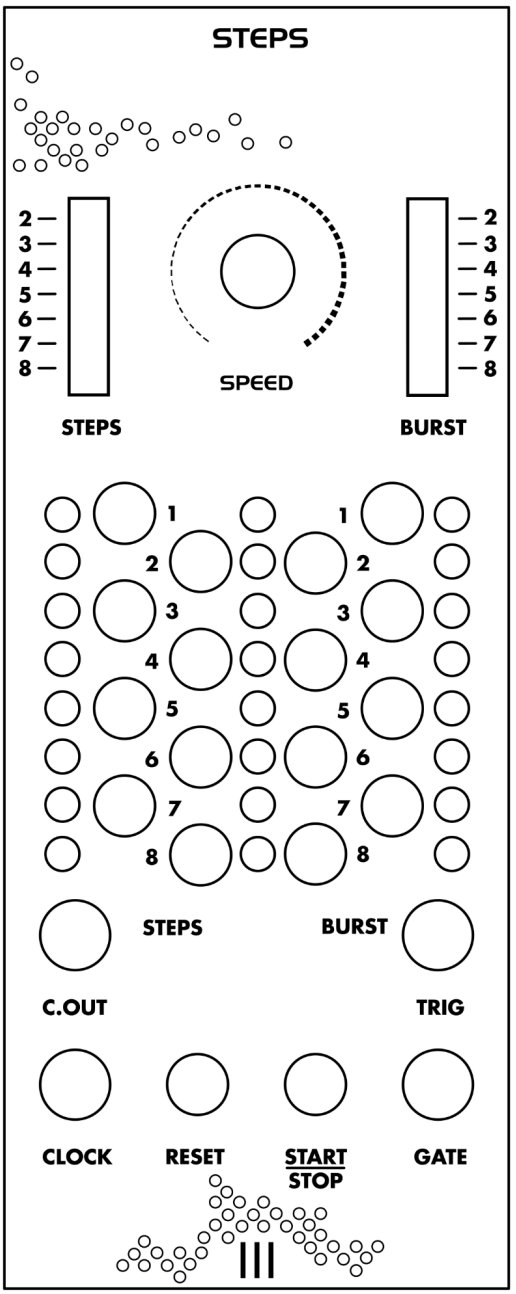
Tre Modular - Steps
DIY Assembly Guide v2.0



Thank you for choosing Tre Modular.

In this guide, we will walk you through the process of assembling your very own Tre Modular - Steps module.

Before You Begin:

This guide assumes a basic soldering proficiency, so if you're new to the craft, consider practicing on a spare PCB to build confidence.

Always adhere to proper soldering techniques, work in a well-ventilated space, and handle electronic components with care to ensure the longevity and optimal performance of your Steps.

Ensure you have all the necessary components listed in the Bill of Materials. Familiarize yourself with the provided component list, and if any questions arise, don't hesitate to ask at support@tremodular.com .

BOM (Bill of materials):

Capacitors:
100p(101) - - |Bx1
2n2 (Film) - - |Bx1
33n (Film) - - |Bx1
100n (104) - Ax4|Bx6
2.2uf (Electrolytic) - - |Bx1
1uf (Film) - Ax1| -
10uf (Electrolytic) - Ax2| -

Diodes:
1N4148 - Ax9|Bx7
5v1 Zener - - |Bx4
1N5819 - Ax2| -
LED - Ax24| -

Resistors:
1K - - |Bx10
10K - Ax3|Bx2
15K - - |Bx2
39K - Ax1| -
47K - - |Bx1
100K - Ax6|Bx14
270K - Ax3| -
1M5 - - |Bx2

Voltage regulator:
LM78L05 - x1

Buttons:
Button (momentary) - x1
Button (locking) - x17

Potentiometers:
B1M - x1

Switches:
7 Position Slide Switch - x2

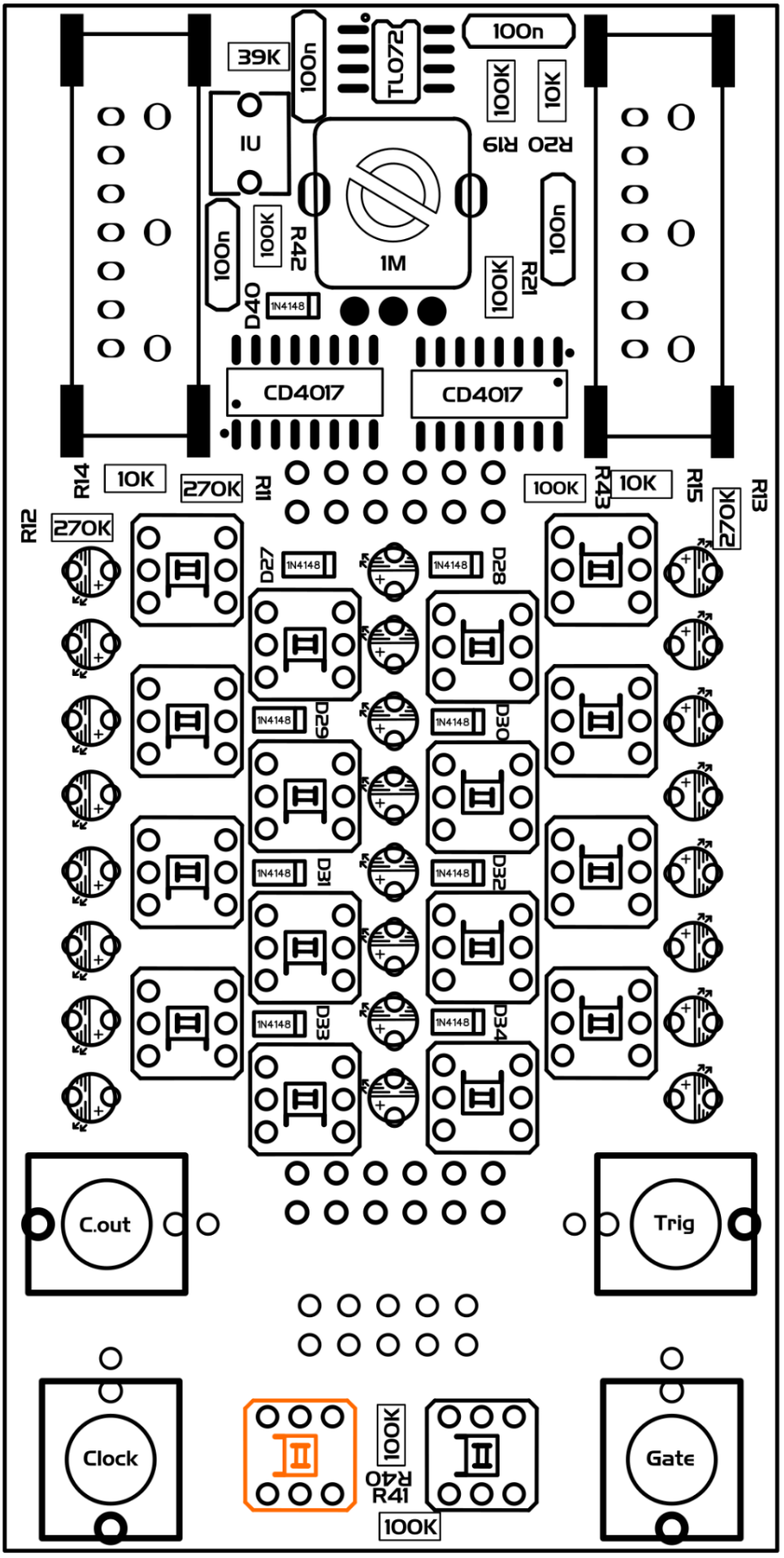
Connectors:
IDC-2.54-2X5P - x1
2.54-2X6P (Female)- x2
2.54-2X6P (Male)- x2

Jack sockets:
Mono Switched x4

* A - Appendages board
** B - Brains board.

Legend:

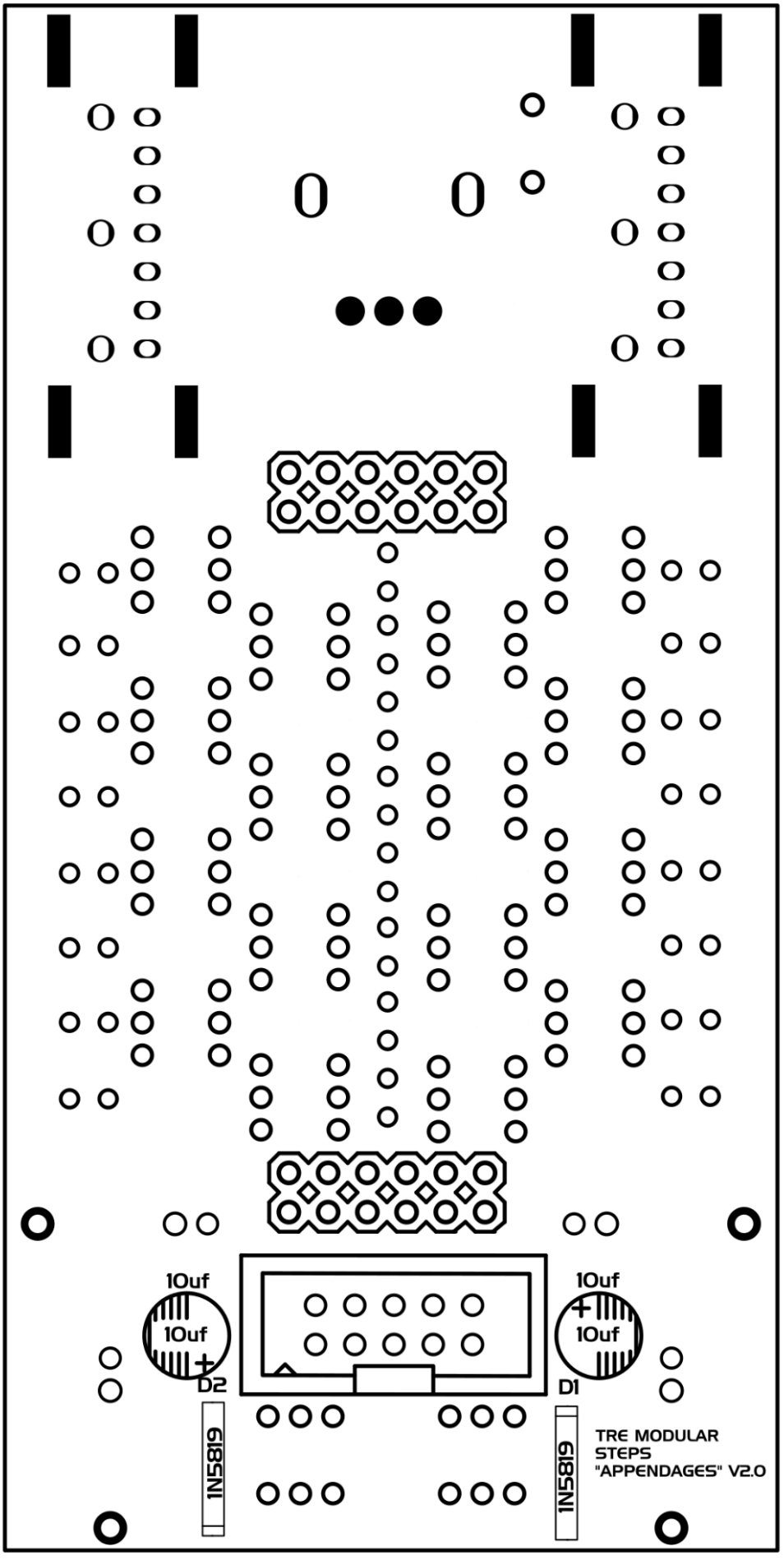
Appendages Front:



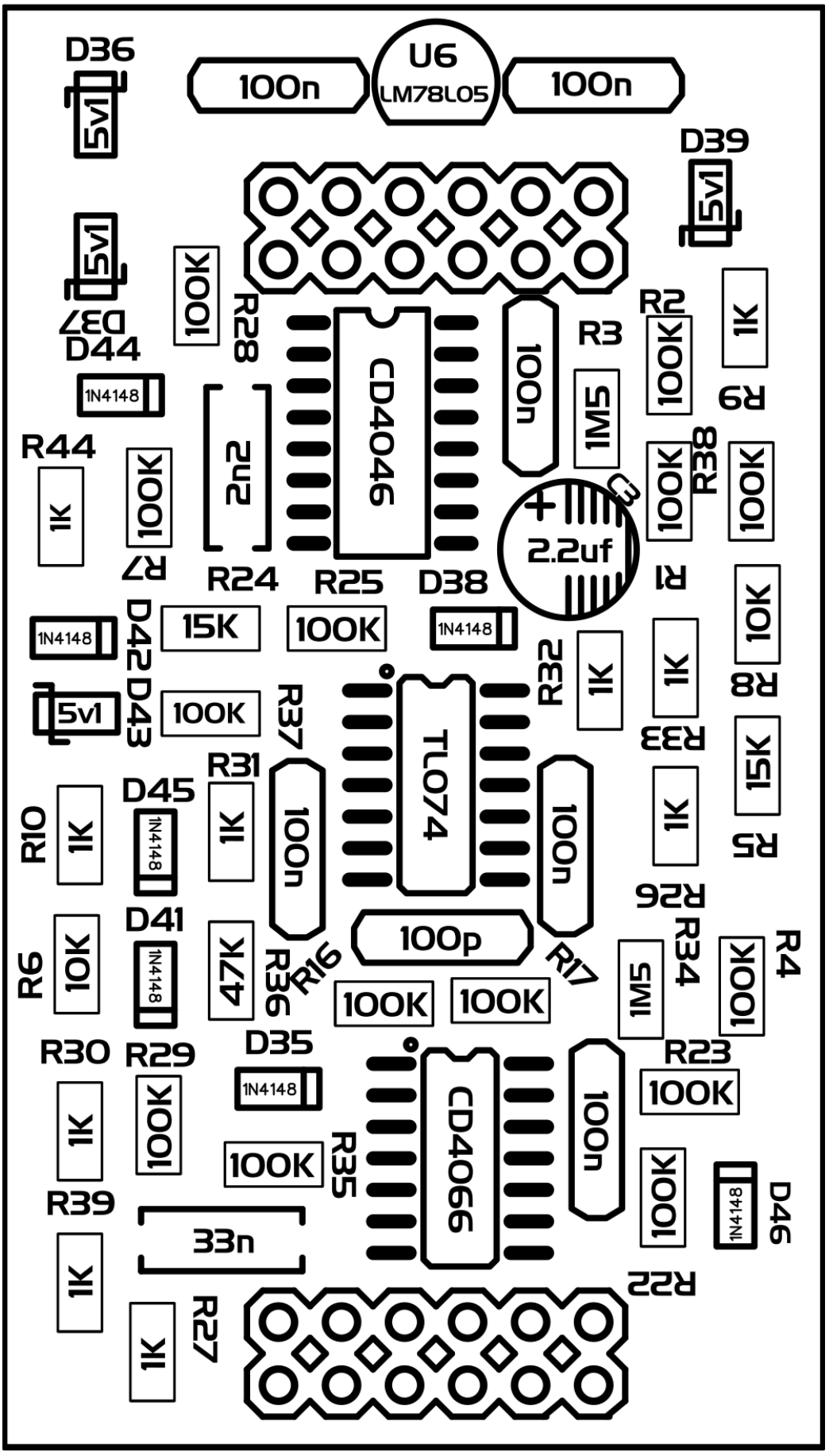
*Button marked in orange is momentary and the rest of them are latching. See under step 2C.

**Buttons must be placed in specific orientation. See “Button orientation” section under step 2C.

Appendages Back:



Brains:


U6
LM78L05
100n
100n
D36
5v1
D39
5v1
D37
5v1
D44
1N4148
R44
1K
R7
100K
R28
100K
2n2
CD4046
100n
R3
1M5
R2
100K
R9
1K
R38
100K
100K
C3
2.2uf
R1
R24
15K
R25
100K
D38
1N4148
D42
1N4148
D43
5v1
100K
R37
100n
R31
1K
D45
1N4148
R10
1K
R6
10K
D41
1N4148
47K
R36
R16
100K
R30
1K
R29
100K
D35
1N4148
100K
R35
R39
1K
33n
1K
R27
TL074
R32
1K
100n
100p
R17
100K
R34
1M5
R4
100K
R33
1K
R26
R8
10K
15K
R5
R23
100K
CD4066
100n
100K
D46
1N4148
R22

Assembly Guide:

Identify and Sort Components

Organize the components into groups based on their types: resistors, capacitors, transistors, diodes, potentiometers, connectors, switches and jack sockets.

Appendages:

Step A1: Diodes (Front)

Insert and solder 1N4148 diodes according to the legend.

1N4148 diodes are placed vertically.

The body of the 1N4148 diode should rest on the triangle part of the diode symbol.

Ensure correct orientation, referring to the diode's polarity.

For easier soldering, when 1N4148 diode is placed on the PCB, bend the leg closest to the diode’s body to keep it in place, and then solder the other leg. Once this is done, straighten the bent leg and proceed with soldering it in place.

Step A2: Capacitors(Ceramic)

Start with soldering 100n ceramic capacitors onto their designated positions on the PCB according to legend.

Step A3: Resistors

Resistors are placed vertically.

Refer to the legend for resistor placement.

Start with the lowest resistance value and continue soldering resistors in ascending order, referring to the BOM and legend for values and placement.

For easier soldering, when a resistor is placed on the PCB, bend the leg closest to the resistor’s body to keep it in place, and then solder the other leg. Once this is done, straighten the bent leg and proceed with soldering it in place.

Step A4: Capacitors(Film)

Solder 1uf film capacitor onto the designated position on the PCB according to legend.

Step A5: Diodes (Back)

Insert and solder 1N5819 diodes according to the legend.

Ensure correct orientation, referring to the diode's polarity.

Step A6: Capacitors (Back)

Solder 10Uf capacitors onto the designated positions on the PCB according to legend.

Ensure the capacitor is oriented correctly, paying attention to its polarity.

Step A7: Power Connector (Back)

Solder the IDC connector (Power connector) into its designated spot. Start by soldering one pin and reflow the solder if the connector is not aligned. If everything is aligned, proceed to soldering the rest of the pins.

Brains:

Step B1: Diodes

Insert and solder 1N4148 and 5v1 diodes according to the legend.

1N4148 and 5v1 diodes are placed vertically.

Bodies of diodes should rest on the triangle part of the diode symbol.

Ensure correct orientation, referring to the diode's polarity.

For easier soldering, when the diode is placed on the PCB, bend the leg closest to the diode’s body to keep it in place, and then solder the other leg. Once this is done, straighten the bent leg and proceed with soldering it in place.

Step B2: Voltage regulator

Place and solder LM78L05 voltage regulator in its designated location.

Step B3: Capacitors

Start with soldering 100n and 100p ceramic capacitors onto their designated positions on the PCB according to legend.

Solder 2n2 and 33n film capacitors onto their designated positions on the PCB according to legend.

Step B4: Resistors

Resistors are placed vertically.

Refer to the legend for resistor placement.

Start with the lowest resistance value and continue soldering resistors in ascending order, referring to the BOM and legend for values and placement.

For easier soldering, when a resistor is placed on the PCB, bend the leg closest to the resistor’s body to keep it in place, and then solder the other leg. Once this is done, straighten the bent leg and proceed with soldering it in place.

Step 1C: 12 pin Connectors

Place 12 pin female connectors on their designated spot on the Appendages board.

Place 12 pin male connectors on their designated spot on the Brains board.

Connect both boards together, make sure that everything is aligned and solder 12 pin connectors in place.

Step 2C: Potentiometers, Jack Sockets, buttons and LED`s.

Insert potentiometer, Jack sockets, buttons, switches and LED`s into their positions on the PCB.

Ensure correct orientation of LED`s, referring to the LED's polarity.

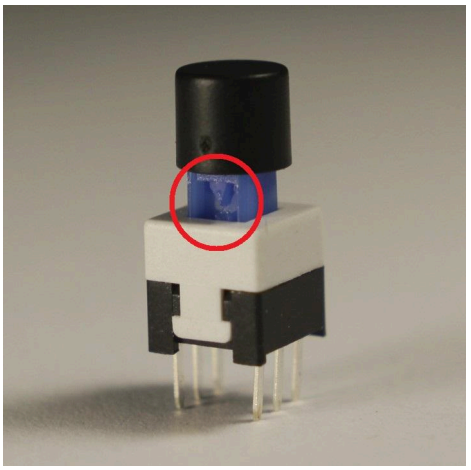
Pay attention to orientation of buttons. Notch in the button's shaft indicates the orientation of the button according to legend. See “Button orientation” below.

One of the buttons is momentary. It is marked in legend in orange color.

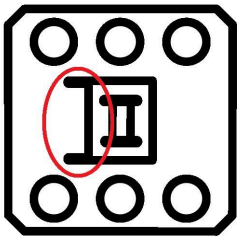
Put on the front panel and fasten it. Ensure everything is aligned properly and then solder everything in place.

Button orientation:

Look for a notch on the button's shaft marked in this picture. ->



This notch should be oriented facing notch symbol on the legend marked in this picture.->

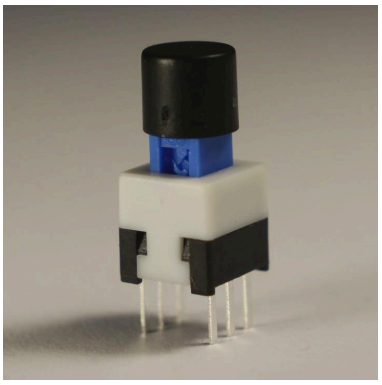


Button identification.

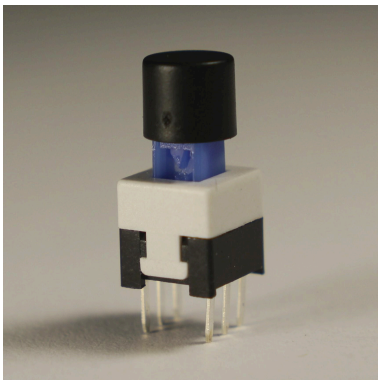
The first and most obvious way of identifying each of the button types is by pushing them and seeing if it latches or not.

The second method of identifying both types of buttons is by looking at the color of the shaft.

Latching —>

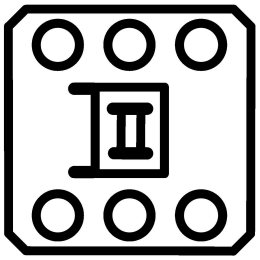


Momentary —>

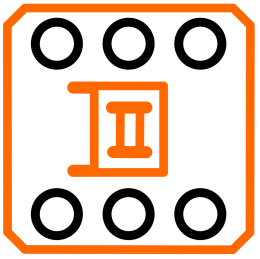


In legend the momentary button is marked in orange opposed to latching buttons that are in black.

Latching —>



Momentary —>



Step 10C: Final Inspection

Double-check your work against the BOM and legend.

Visually inspect your solder joints for bridges or cold joints.

Ensure all components are securely attached to the PCB.

Step 11C: Installation

Power off your Eurorack system.

Connect the power cable, ensuring correct polarity.

Power on your Eurorack system.

If the module is working as it should. Insert the module into an available slot in your rack and secure it in place.

Enjoy!

Additional Information:

For any additional questions or support, please contact Tre Modular at support@tremodular.com .

Happy patching!