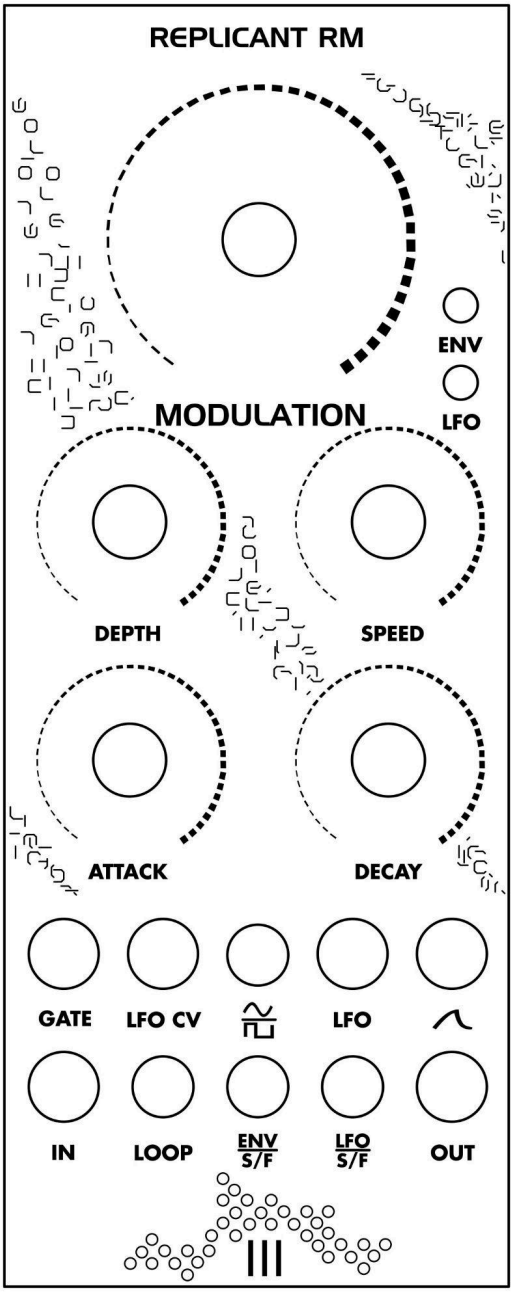
Tre Modular - Replicant RM DIY Assembly Guide v1.4



Thank you for choosing Tre Modular.

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

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:
10n (Film) - x1
100n (Film) - x1
100n (104) - x8
1uf (Electrolytic) - x1
10uf (Electrolytic) - x5
100uf (Electrolytic) - x2

Diodes:
1N5819 - x2
1N4148 - x7
LED - x2

Resistors:
100r - x1
220r - x3
390r - x1
470r - x2
820r - x1
1K - x18
3K - x3
3K9 - x1
4K7 - x2
5K6 - x2
10K - x16
24K - x3
33K - x2
47K - x1
68K - x2
75K - x1
100K - x10
200K - x1
270K - x2
330K - x2
1M - x1

Transistors:
2N3906 - x1
2N3904 - x3

Buttons:
Button (locking) - x4

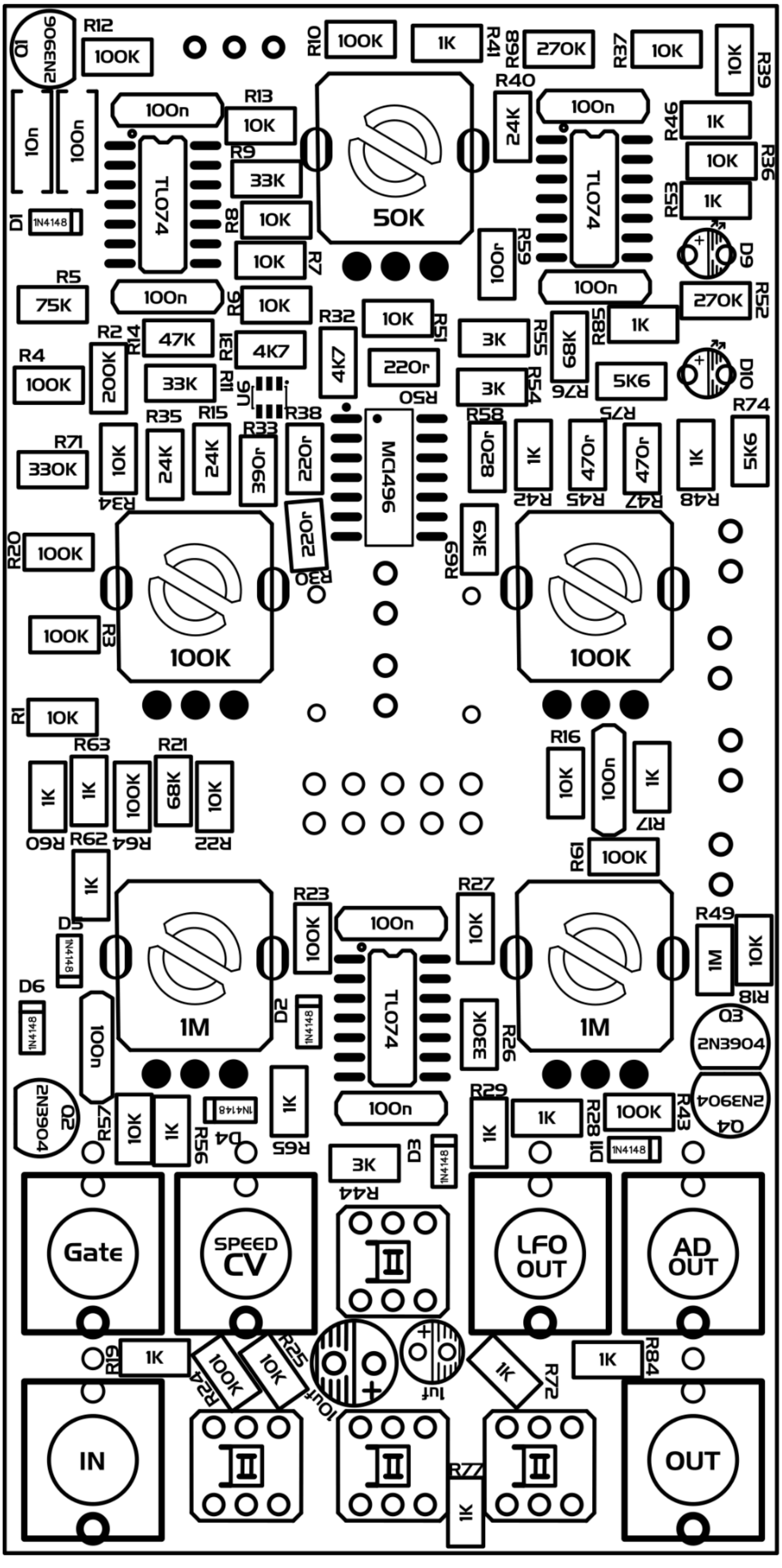
Potentiometers:
B50K - x1
B100K - x2
B1M - x2
10K (Trimpot) - x1

Connectors:
IDC-2.54-2X5P - x1

Jack sockets:
Mono Switched x6

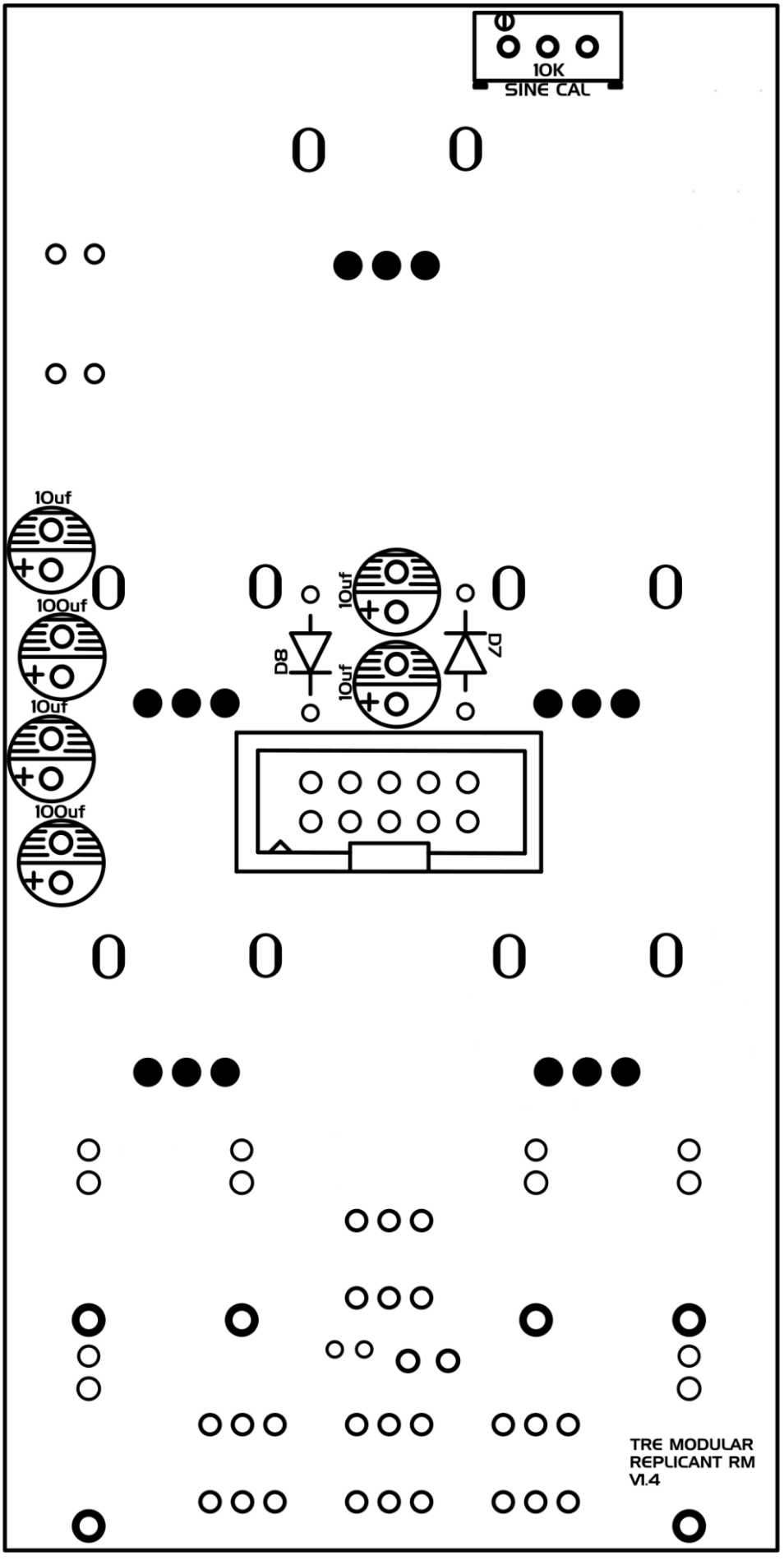
Legend:

Front:



*Buttons must be placed in specific orientation. See “Button orientation” section under step 9.

Back:


10K
SINE CAL
10uf
100uf
10uf
100uf
10uf
D8
D7
TRE MODULAR
REPLICANT RM
V1.4

Assembly Guide:

Step 1: Identify and Sort Components

Organize the components into groups based on their types.

Step 2: Transistors

Place and solder 2N3904 transistors in their designated locations.

Place and solder 2N3906 transistor in its designated location.

Step 3: Diodes (Front)

Insert and solder 1N4148 diodes according to the legend.

1N4148 diodes are placed vertically.

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 4: Capacitors (Front)

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

Soldering 10Uf (x1) electrolytic capacitor onto the designated position on the PCB according to legend.

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

Ensure the electrolytic capacitors are oriented correctly, paying attention to their polarity.

Solder film capacitors onto their designated positions on the PCB according to legend.

Step 5: 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 6: Diodes (Back)

Insert and solder 1N5819 diodes according to the legend.

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

Step 7: Capacitors (Back)

Solder 10Uf (x4) capacitors onto the designated positions on the PCB according to legend.

Solder 100Uf capacitors onto the designated positions on the PCB according to legend.

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

Step 8: 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.

Step 9: Potentiometers, Jack Sockets and buttons.

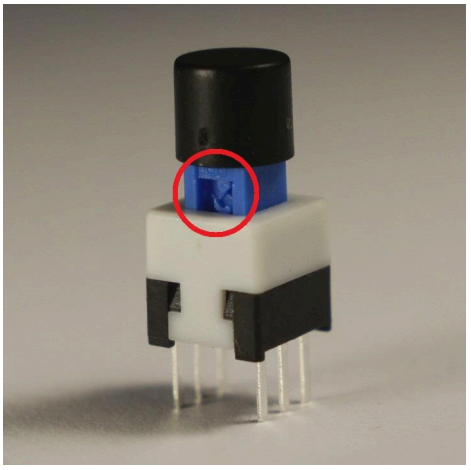
Insert all potentiometers, Jack sockets and buttons into their positions on the PCB.

Pay attention to orientation of buttons. Notch in the button's shaft indicates the orientation of the button according to legend.

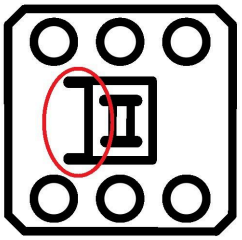
Put on the front panel and fasten it. Ensure everything is aligned properly and then solder everything in place.

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.->



Step 10: 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 11: Calibration

There are two ways to calibrate Replicant RM. One using an oscilloscope and second using your ears.

To calibrate using an oscilloscope. Select the Sine mode. Connect the oscillator output to the oscilloscope and adjust the “SINE CAL” trimpot until you see a sine wave on your oscilloscope.

To calibrate using your ears. Select the Sine mode. Connect oscillator output to your setups audio output, adjust the speed knob so that the oscillator is in audio range, adjust “SINE CAL” trimpot until you are satisfied with the results.

Step 12: 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!