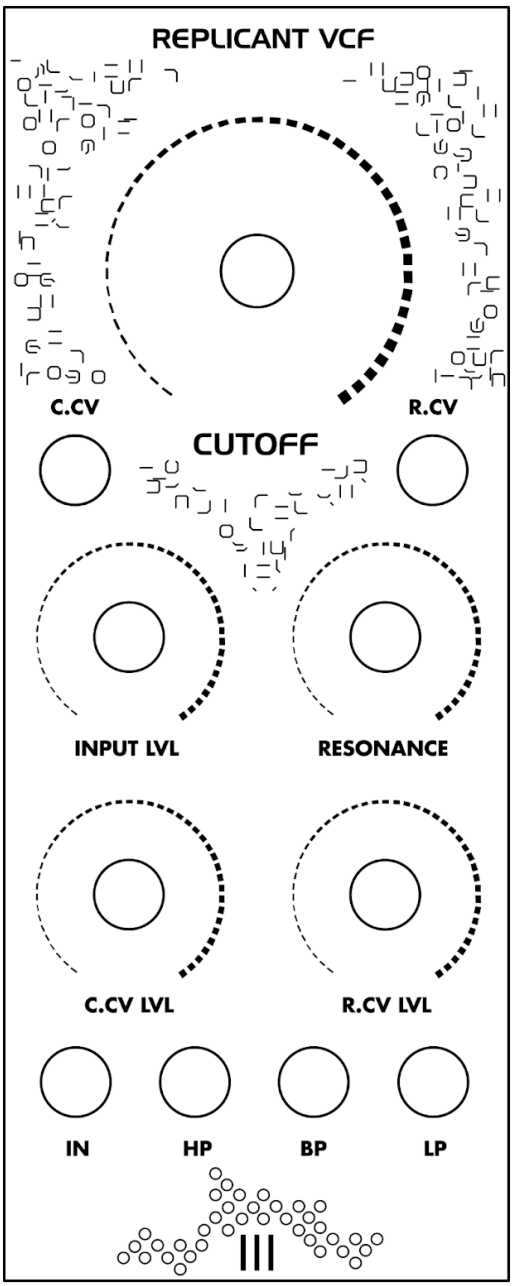
Tre Modular - Replicant VCF DIY Assembly Guide v3.4



Thank you for choosing Tre Modular.

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

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:
100pf (101) - x2
180pf (181) - x1
560pf (561) - x3
1.5nF (film) - x2
100n (104) - x8
1uF (film) - x1
10uf (electrolytic) - x2

Diodes:
1N4148 - x1
1N5819 - x2

Transistors:
2N3904 - x1

Resistors:
510r - x3
1K - x3
2k2 - x1
3K - x3
5k6 - x1
10K - x3
11K - x2
15K - x1
20K - x1
22K - x1
24K - x1
30K - x3
33K - x3
47K - x2
100K - x4
150K - x1
1M5 - x1

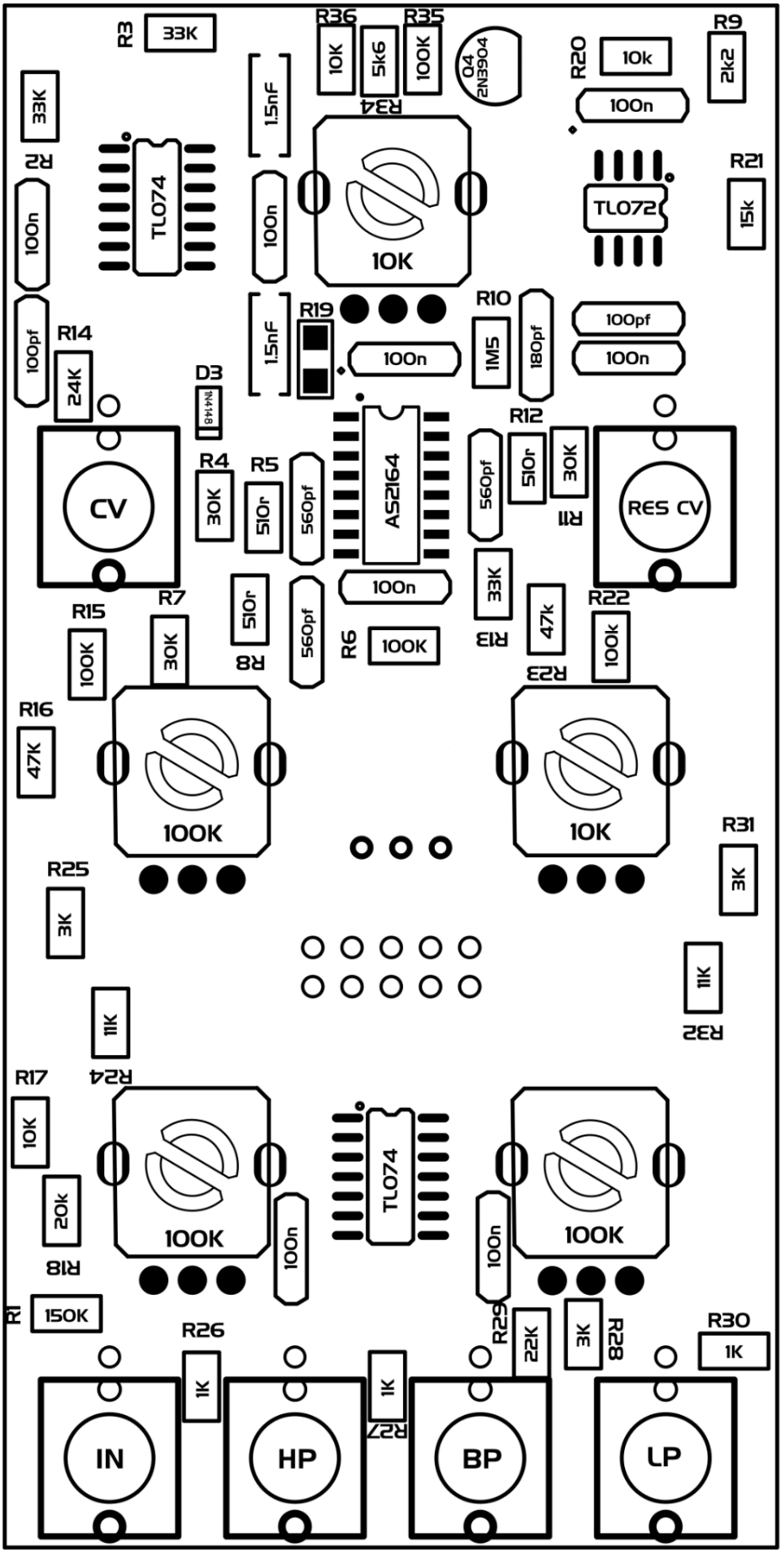
Potentiometers:
B10K - x2
B100K - x3
100K Trimpot x1

Connectors:
IDC-2.54-2X5P - x1

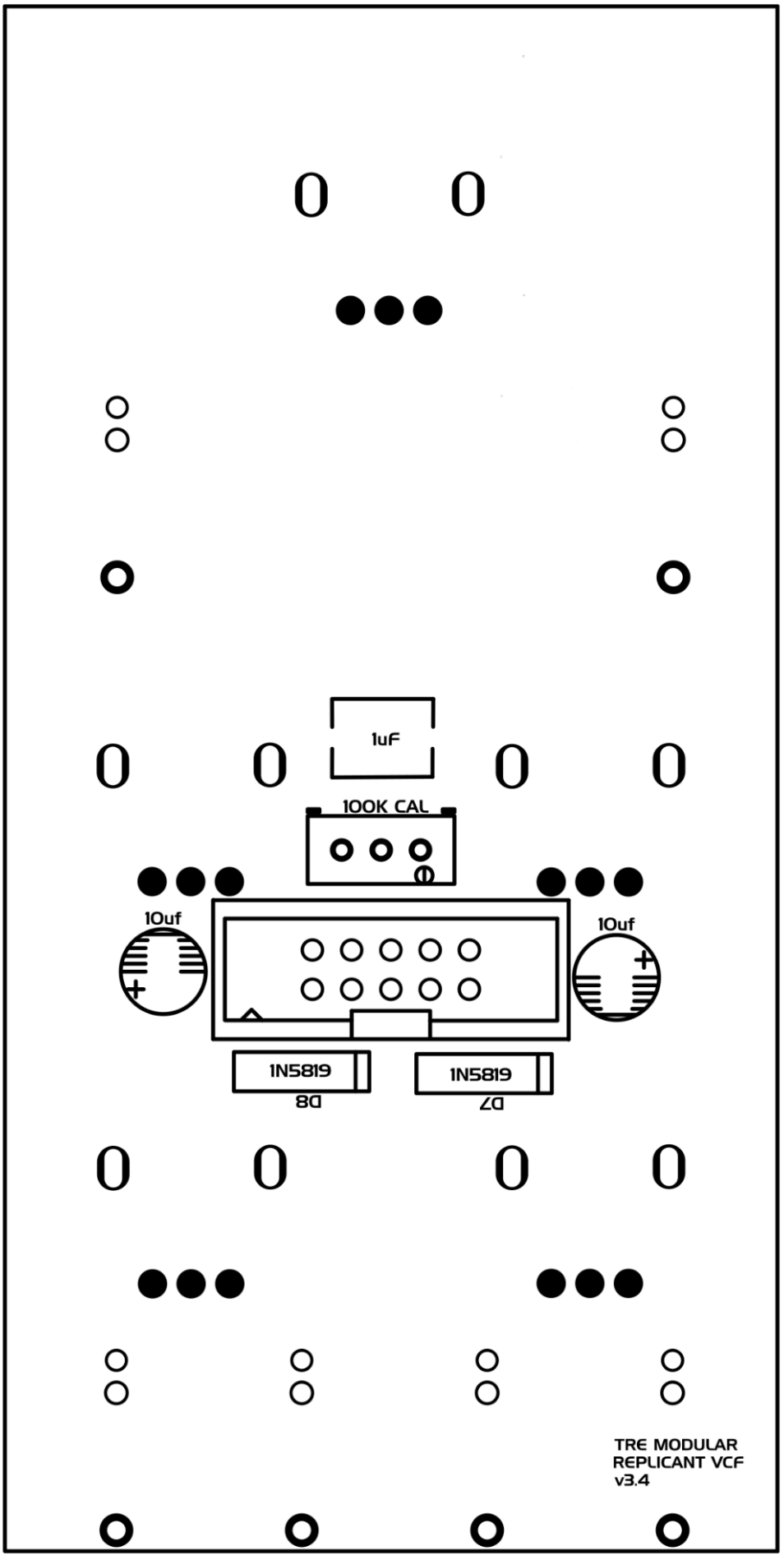
Jack sockets:
Mono Switched x6

Legend:

Front:



Back:


1uF
100K CAL
10uf
10uf
1N5819
D8
1N5819
D7
TRE MODULAR
REPLICANT VCF
v3.4

Assembly Guide:

Step 1: Identify and Sort Components

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

Step 2: Transistor

Place and solder the 2N3904 transistor in its designated location.

Step 3: Diode (Front)

Diode is placed vertically.

Insert and solder 1N4148 diode according to the legend.

Body of the diode should rest on the triangle part of the diode symbol.

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

Step 4: Capacitors (Front)

Solder the capacitors onto the 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: Trimpot (Back)

Solder the Trimpot into its designated spot. Start by soldering one pin and reflow the solder if it is not aligned. If everything is aligned, proceed to soldering the rest of the pins.

Step 8: Capacitors (Back)

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

Ensure correct orientation of 10uf electrolytic capacitors, referring to the capacitors polarity.

Step 9: 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 10: Potentiometers and Jack Sockets

Insert all potentiometers and Jack sockets into their positions on the PCB. Put on the front panel and fasten it. Ensure they align properly and then solder everything in place.

Step 11: 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 12: Installation and Tuning

Power off your Eurorack system.

Connect the module’s power cable, ensuring correct polarity.

Power on your Eurorack system.

Connect an audio signal to the filter’s input.

Patch the high-pass output to your sound system.

Turn the frequency knob fully clockwise.

Adjust the calibration trimpot until the high-pass output becomes silent.

Patch the low-pass output and verify that the filter responds correctly.

Make any final adjustments until you are satisfied with the filter’s behavior.

Insert the module into an available slot and secure it in place.

Enjoy!

Additional Information:

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

Happy patching!