

- 8HP Eurorack Module
- Designed in E.U.



Shakmat Battering Ram Building Guide

Thank You for purchasing a Shakmat DIY Kit!

We spare no effort in our packaging process to prevent any mistakes or missing parts. In this document as well, we tried our best to describe the assembly process in the most practical and comprehensive way. Therefore, we strongly advised you to follow the steps as described in this guide.

If by any misfortune, there is a missing or damaged part in your kit, please contact us at shakmat.com/support.

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Content

Pack 1

3x 14 pin female headers
3x 14 pin male headers
1x 2x8 pin power header
1x Tactile switch
4x Metal potentiometers
1x Plastic potentiometer
8x Jack mono

Pack 2

3x Green LEDs
4x Amber LED push buttons
1x White LED push button
1x Green LED push button
1x Green/Red LED push button
8x Jack nuts
4x Metal potentiometer nuts
2x M3 metal screws
1x Tactile switch cap

Pack 3

1x Top PCB
1x Bottom PCB
1x Front panel

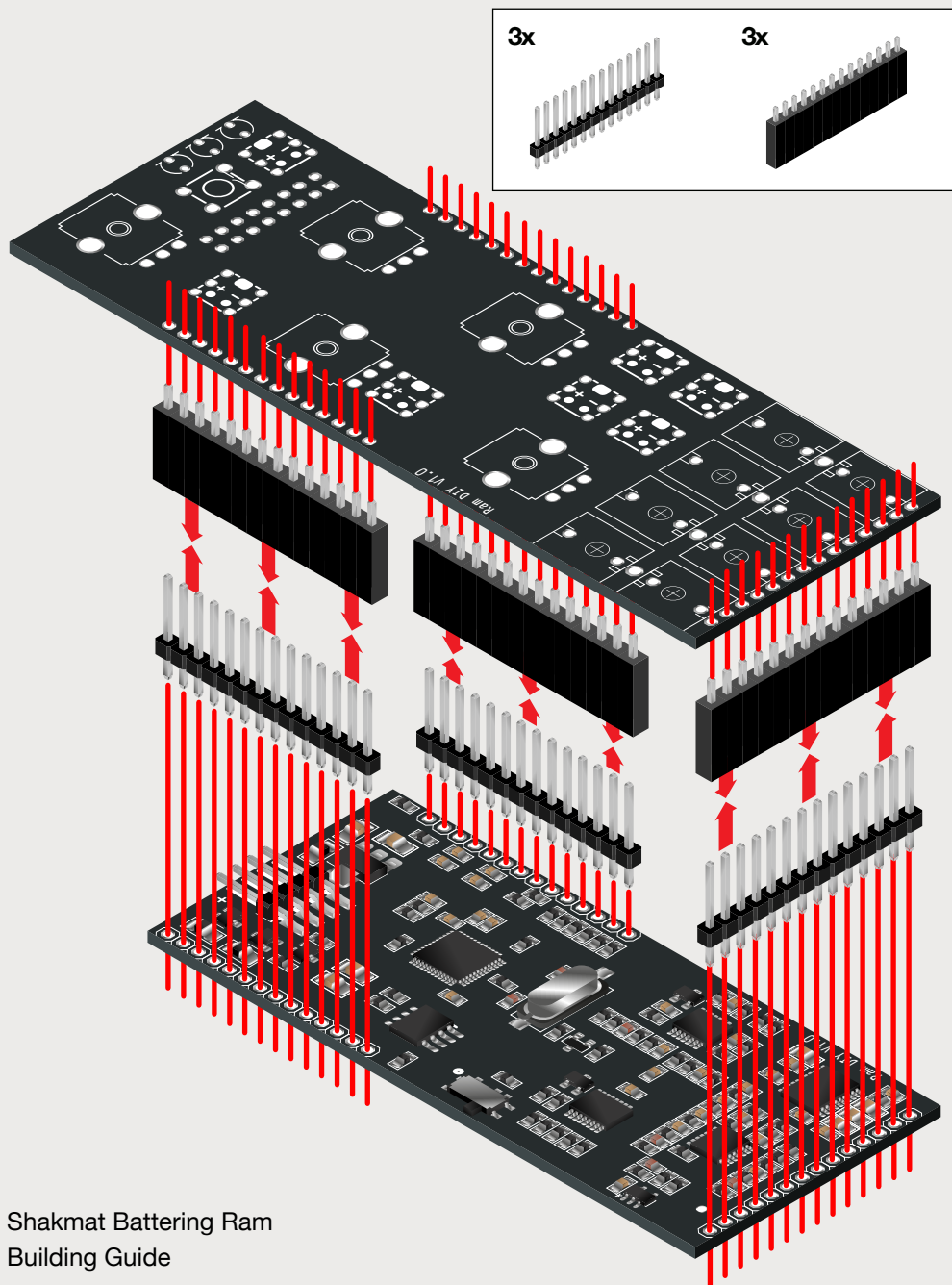
Loose parts

1x 16x16 power cable
4x Potentiometer caps
1x User manual

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Assemble three pairs of headers
with the two PCBs

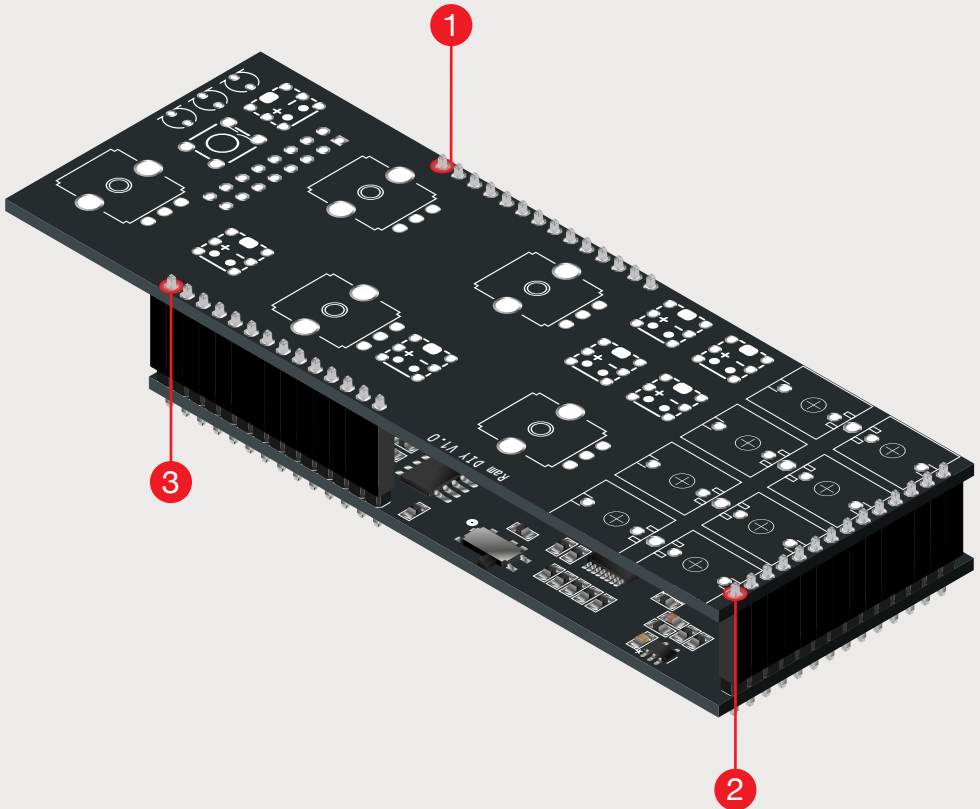
01



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Solder one point
of each header

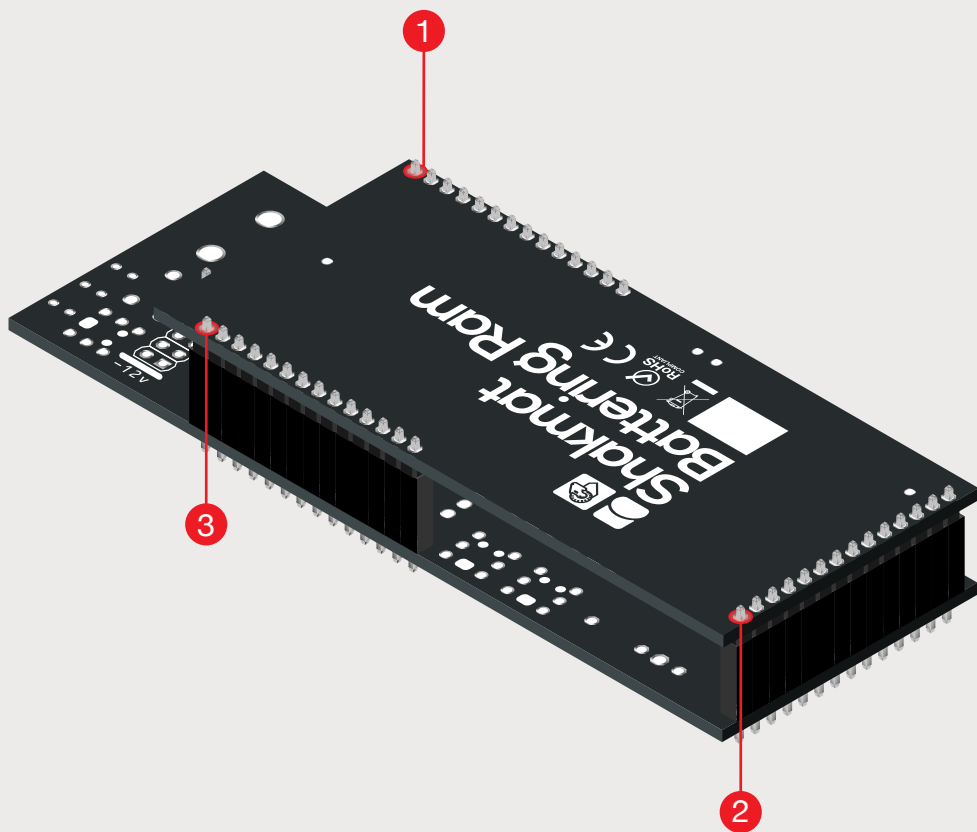
02



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Flip the PCBs
check their parallelism
Solder one point of each header

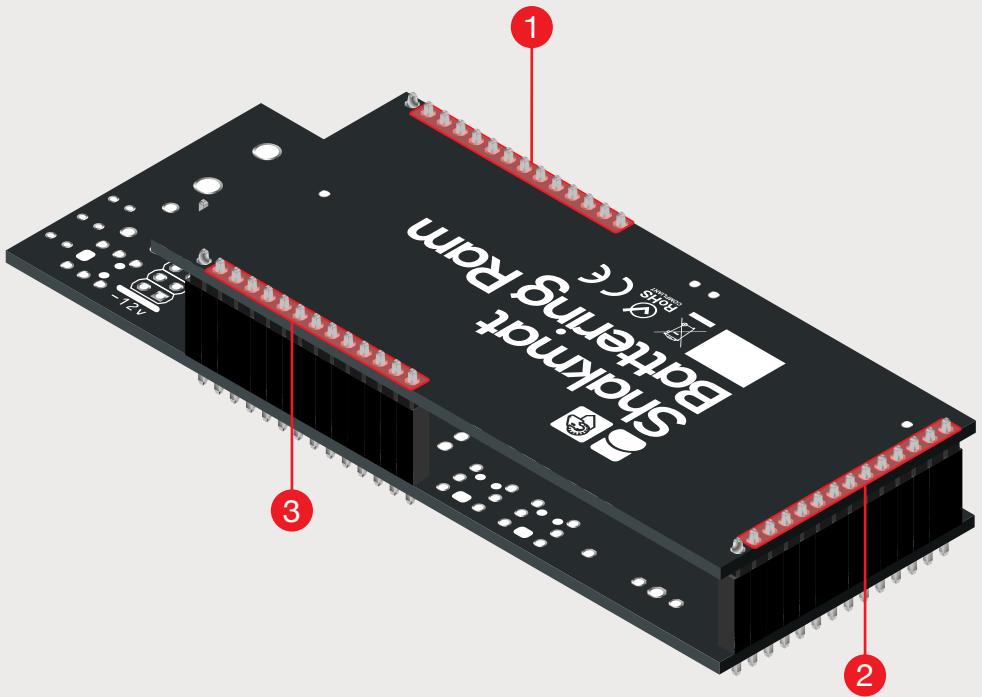
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Solder the remaining
points of each header

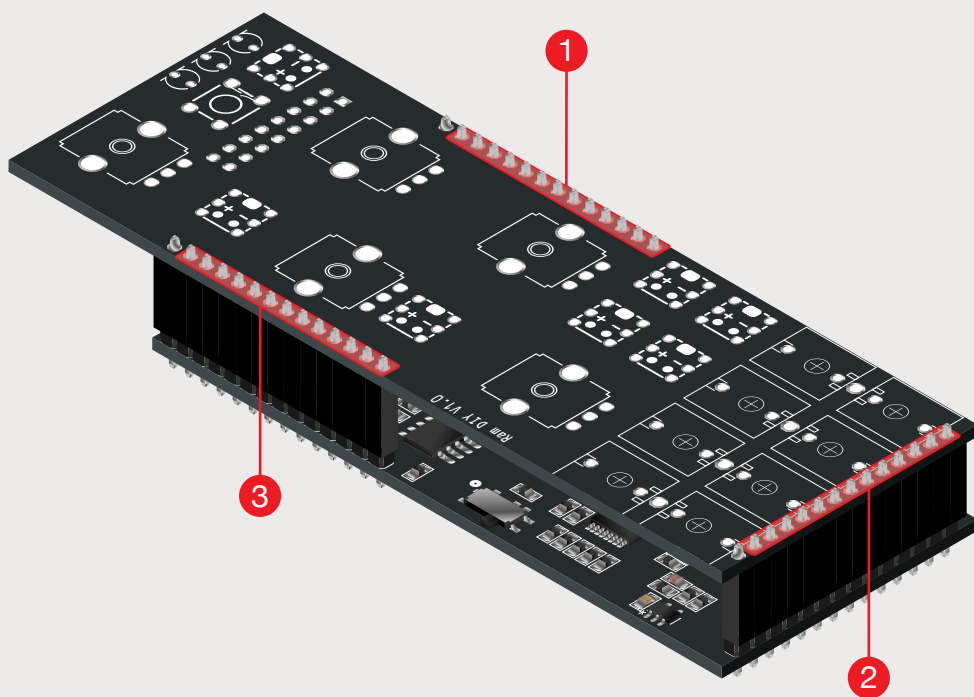
04



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Flip the PCBs
check their parallelism
Solder the remaining points of each header

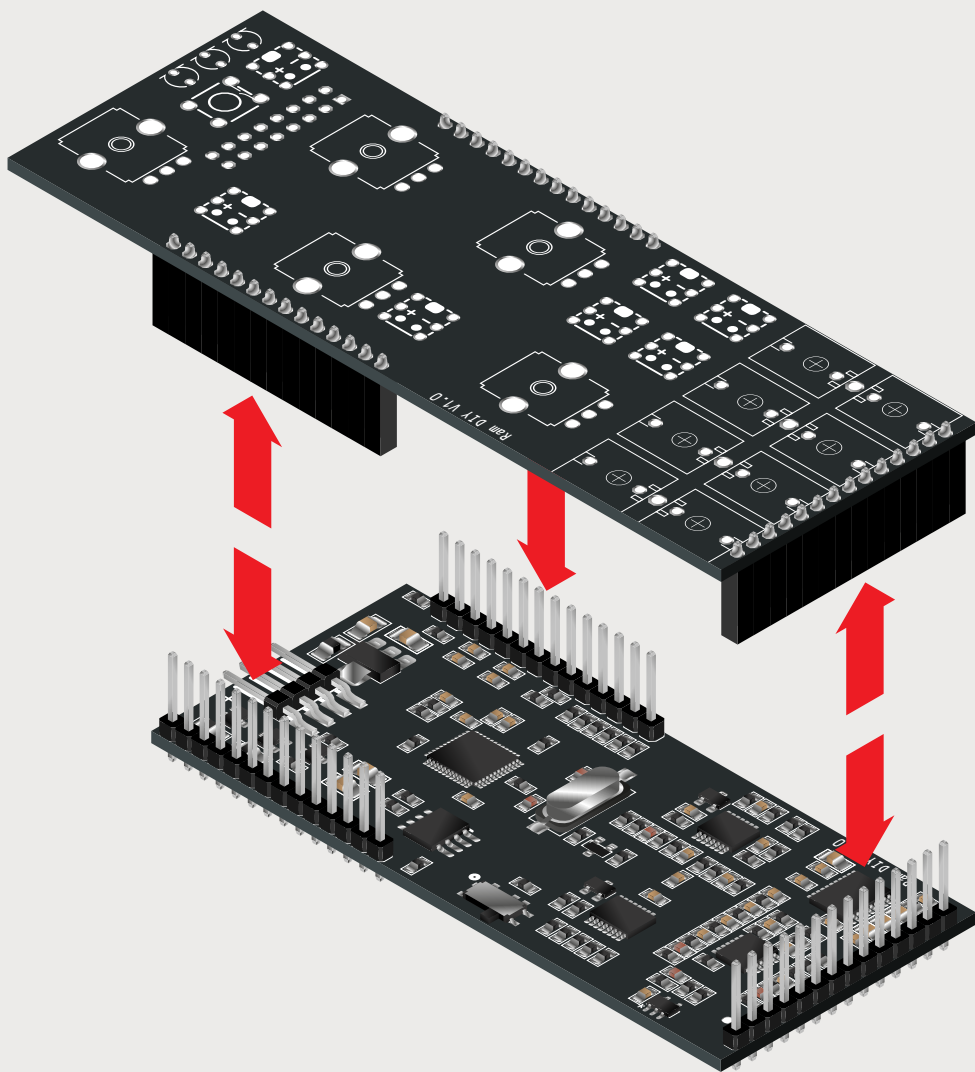
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Separate the two PCBs
Reserve the bottom PCB

06

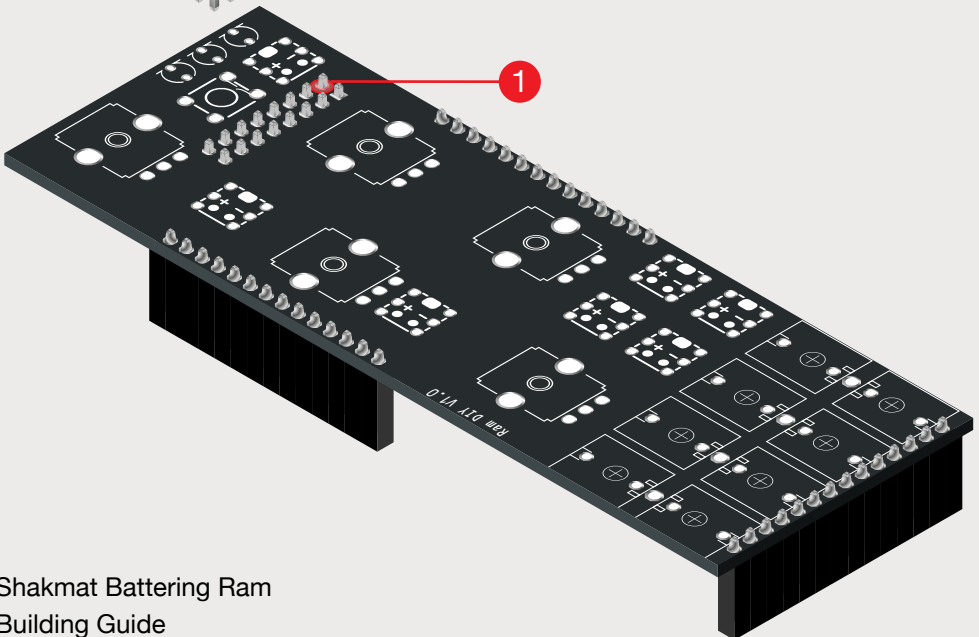
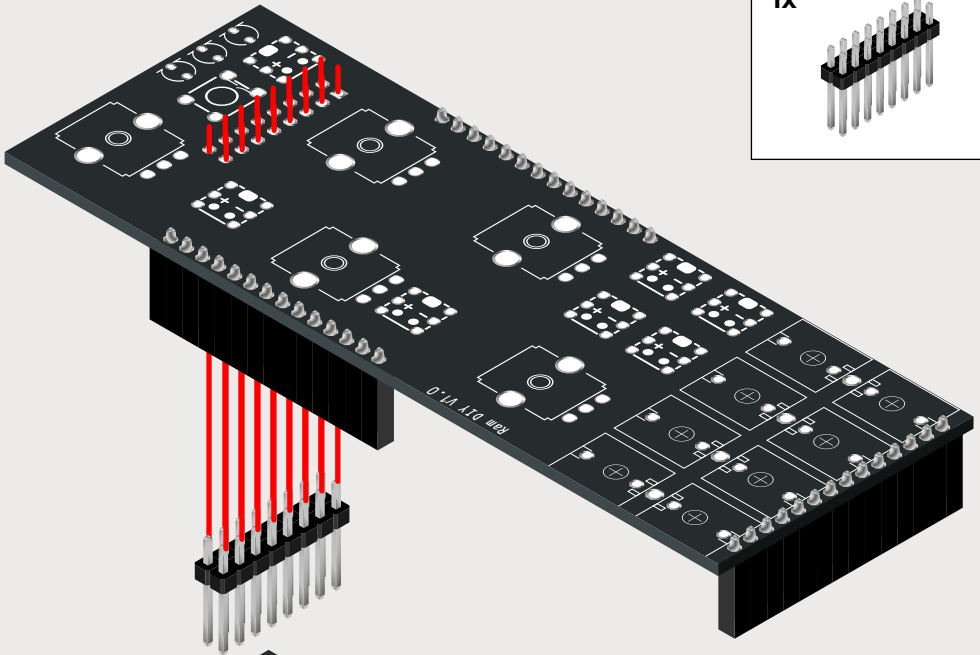
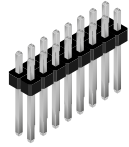


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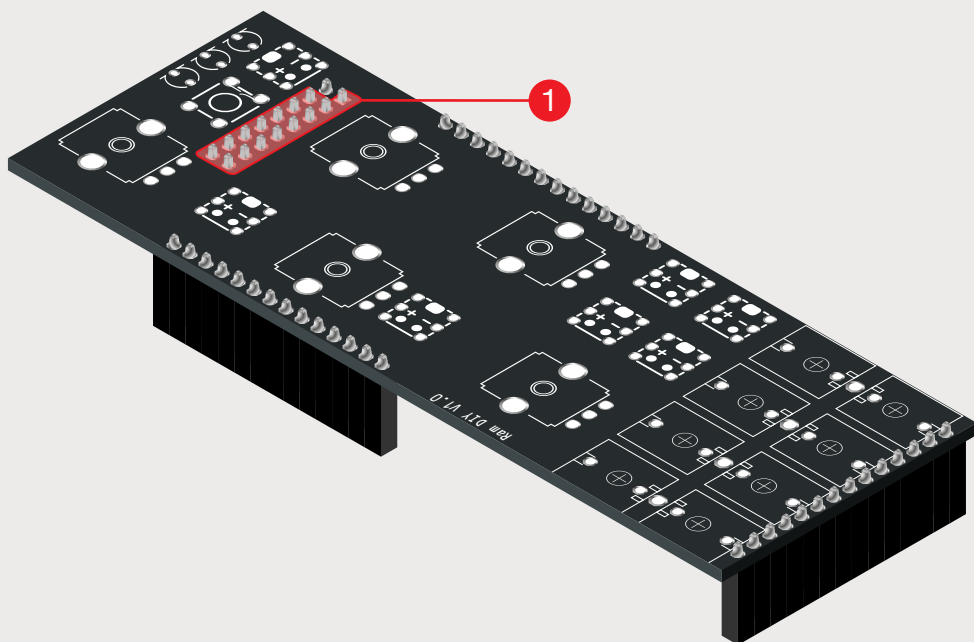
Place the power header
Solder one point

07

1x



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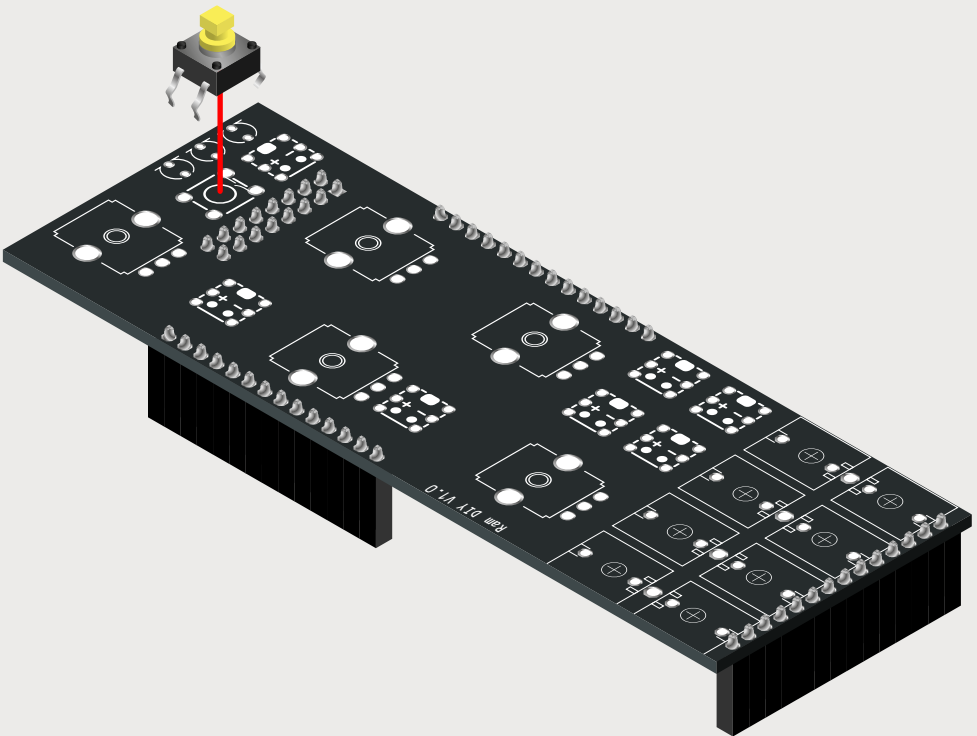
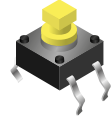


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Place the tacticle switch
Do not solder yet

09

1x

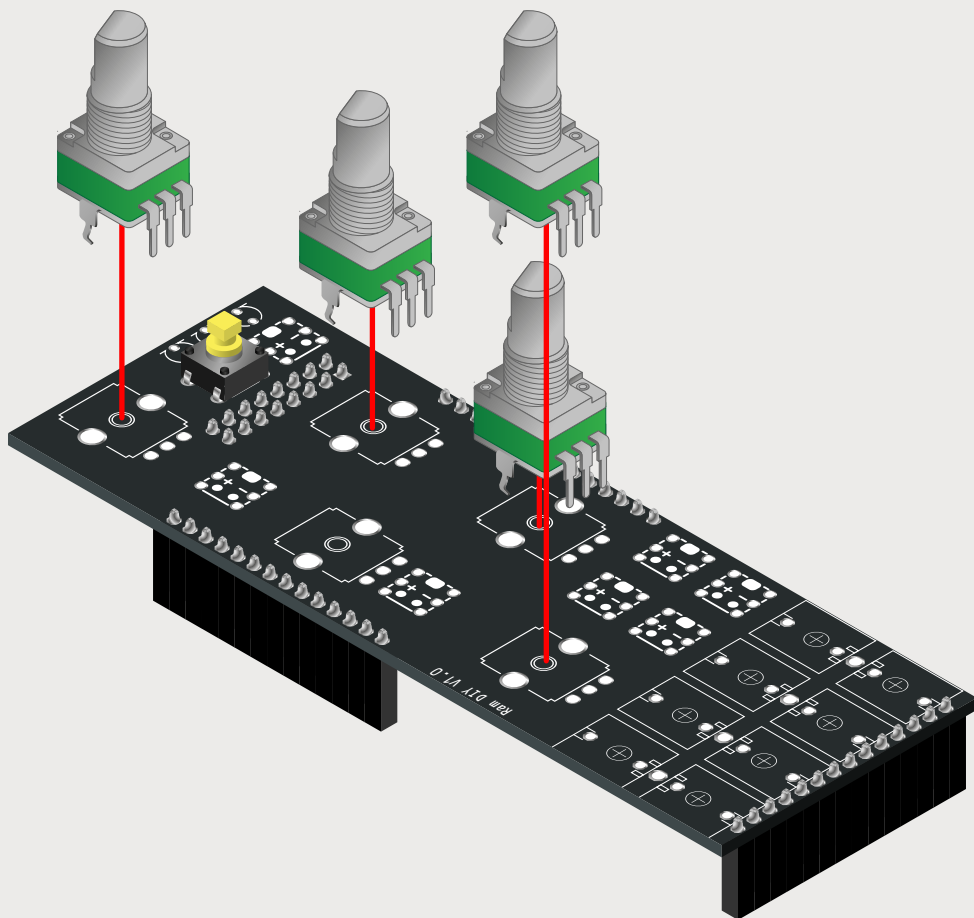
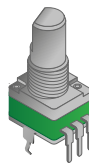


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Place the four metal potentiometers
Do not solder yet

10

4x

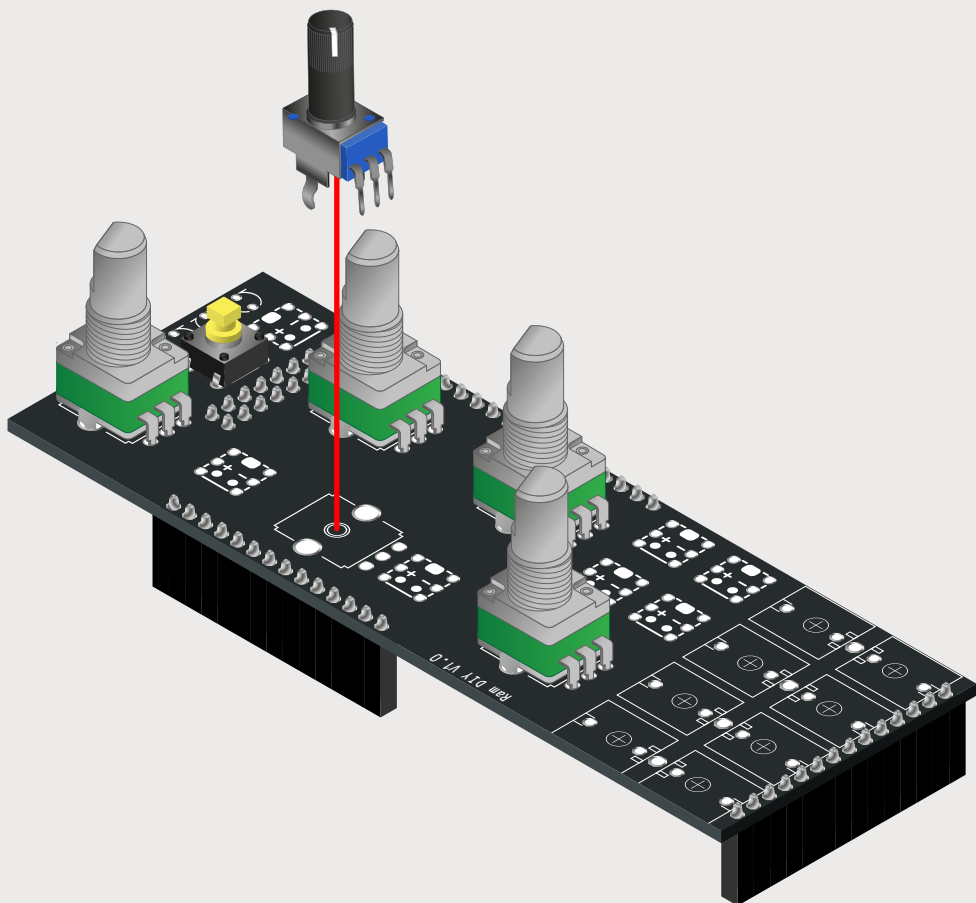


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Place the plastic potentiometer
Do not solder yet

11

1x

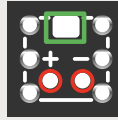


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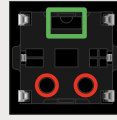
Place the green LED push button
Pay attention to the orientation, do not solder yet

12

Three holes on the PCB have to match the three bulges on the base of the component as shown here:

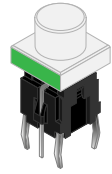


PCB
holes

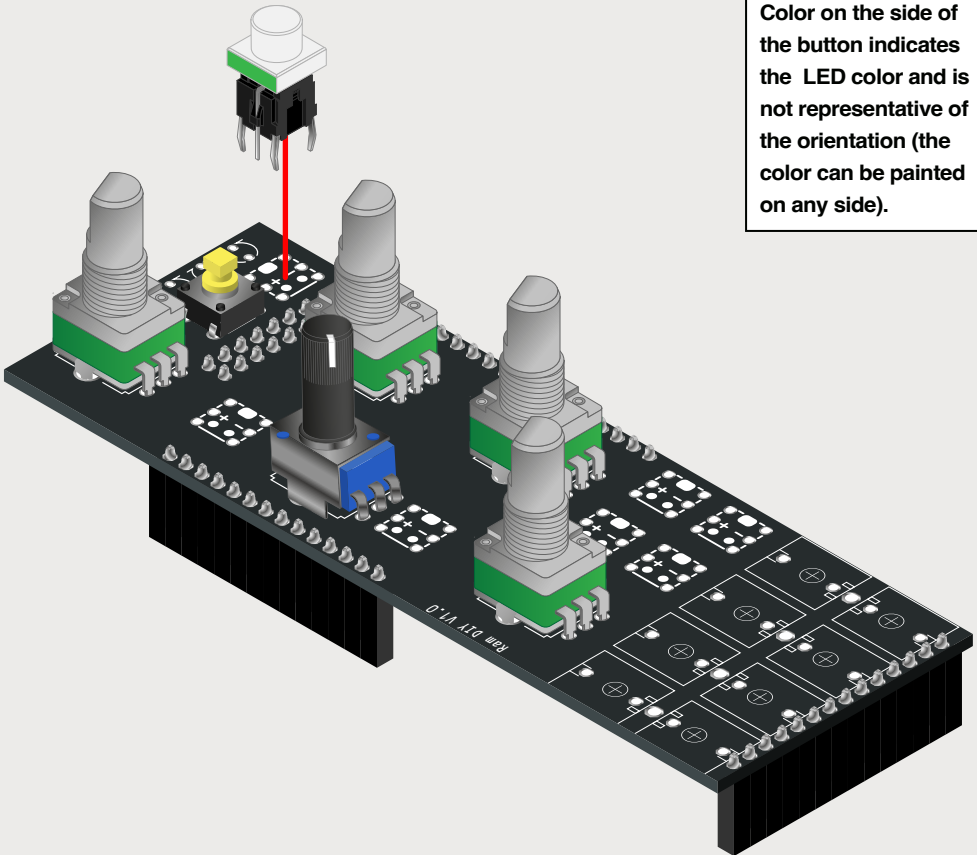


Component
base

1x



Color on the side of the button indicates the LED color and is not representative of the orientation (the color can be painted on any side).

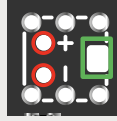


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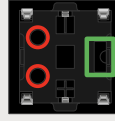
Place the green/red LED push button
Pay attention to the orientation, do not solder yet

13

Three holes on the PCB have to match the three bulges on the base of the component as shown here:

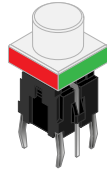


PCB
holes

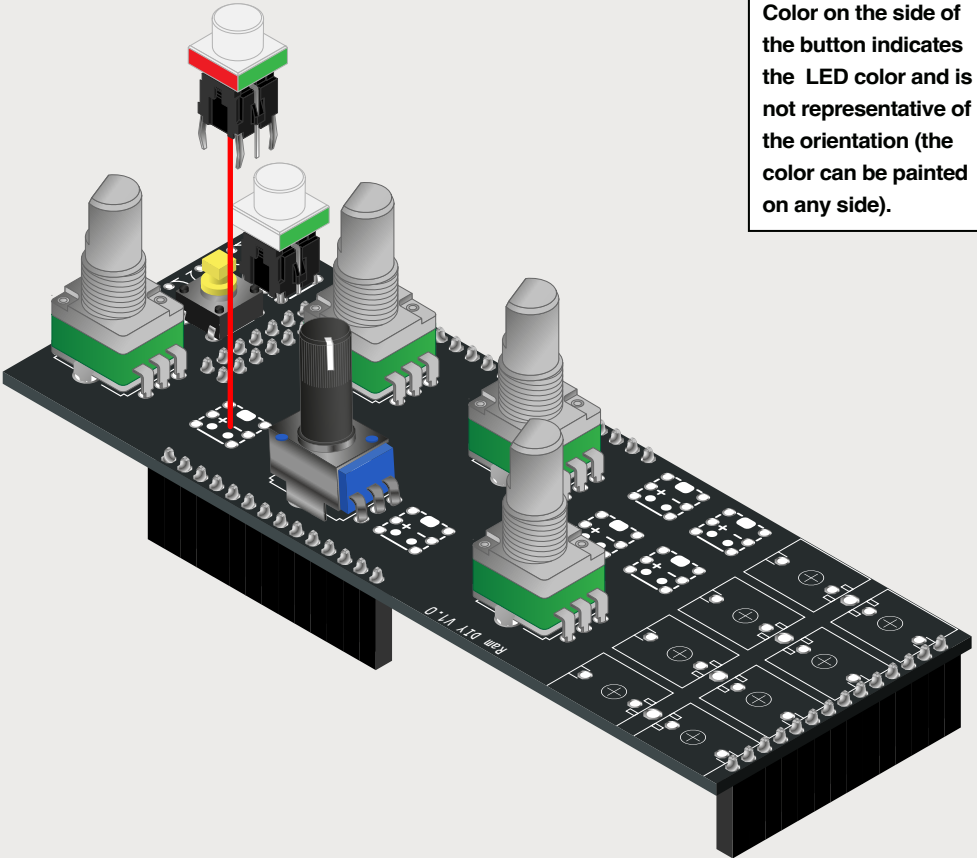


Component
base

1x



Color on the side of the button indicates the LED color and is not representative of the orientation (the color can be painted on any side).

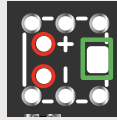


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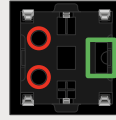
Place the white LED push button
Pay attention to the orientation, do not solder yet

14

Three holes on the PCB have to match the three bulges on the base of the component as shown here:

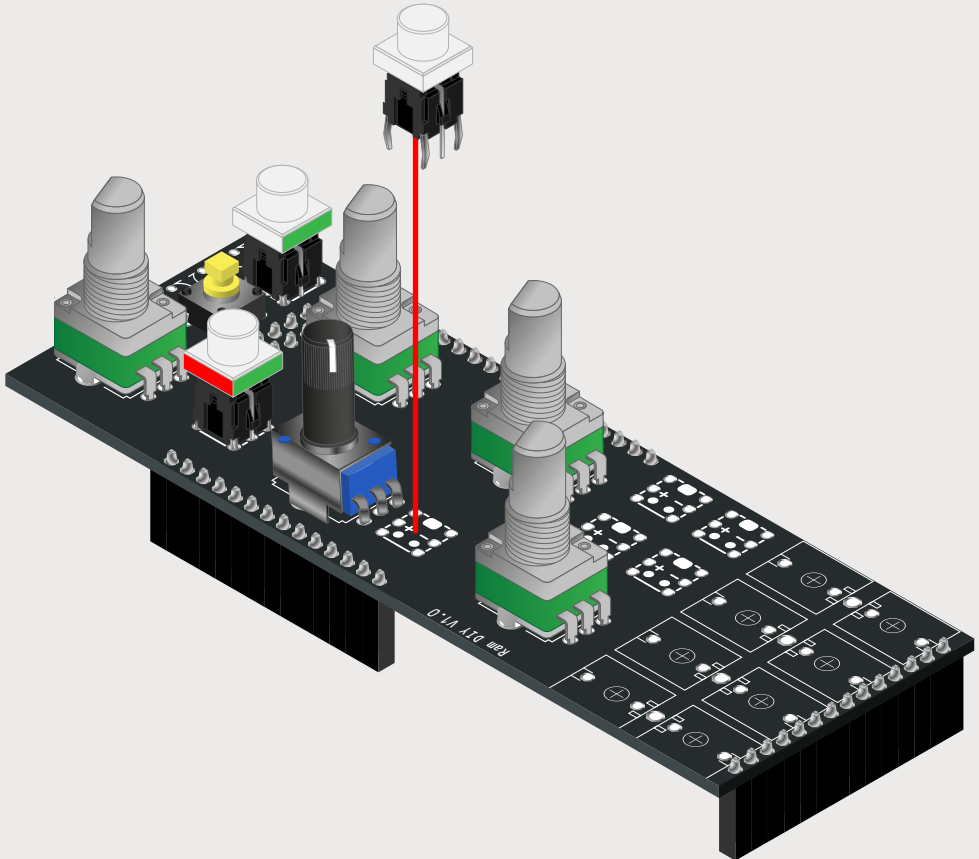
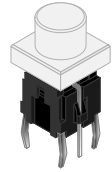


PCB
holes



Component
base

1x

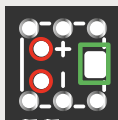


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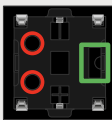
Place the four alber LED push buttons
Pay attention to the orientation, do not solder yet

15

Three holes on the PCB have to match the three bulges on the base of the component as shown here:

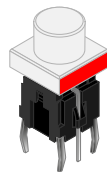


PCB
holes

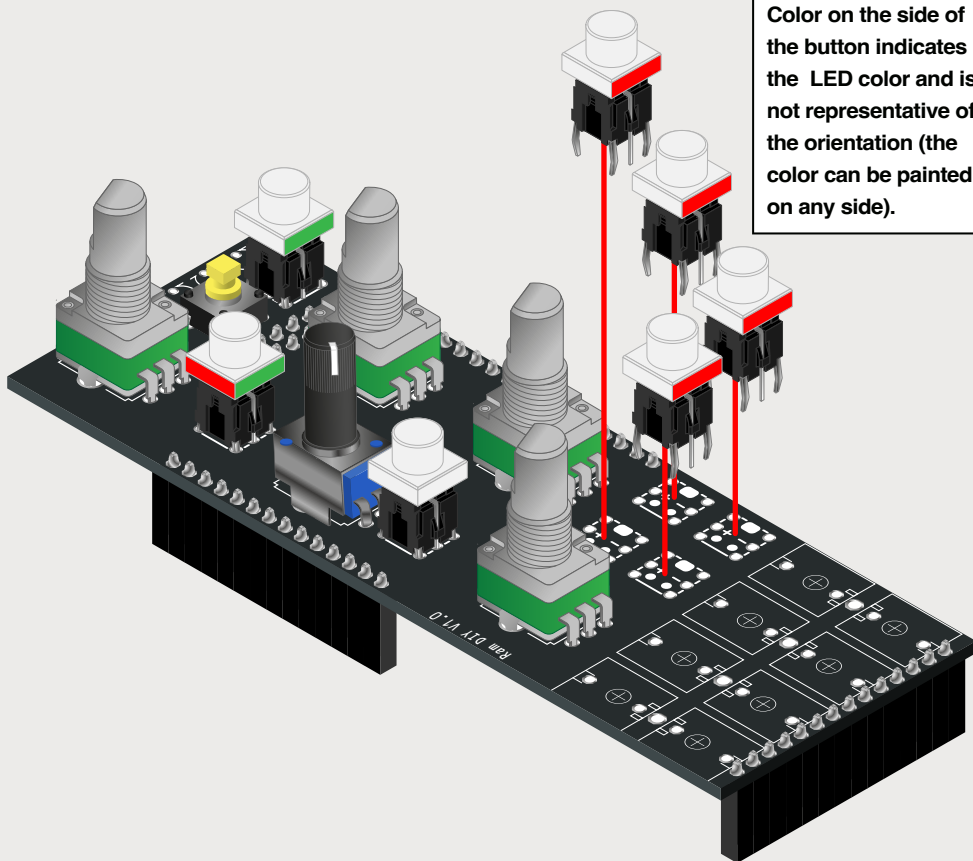


Component
base

4x



Color on the side of the button indicates the LED color and is not representative of the orientation (the color can be painted on any side).

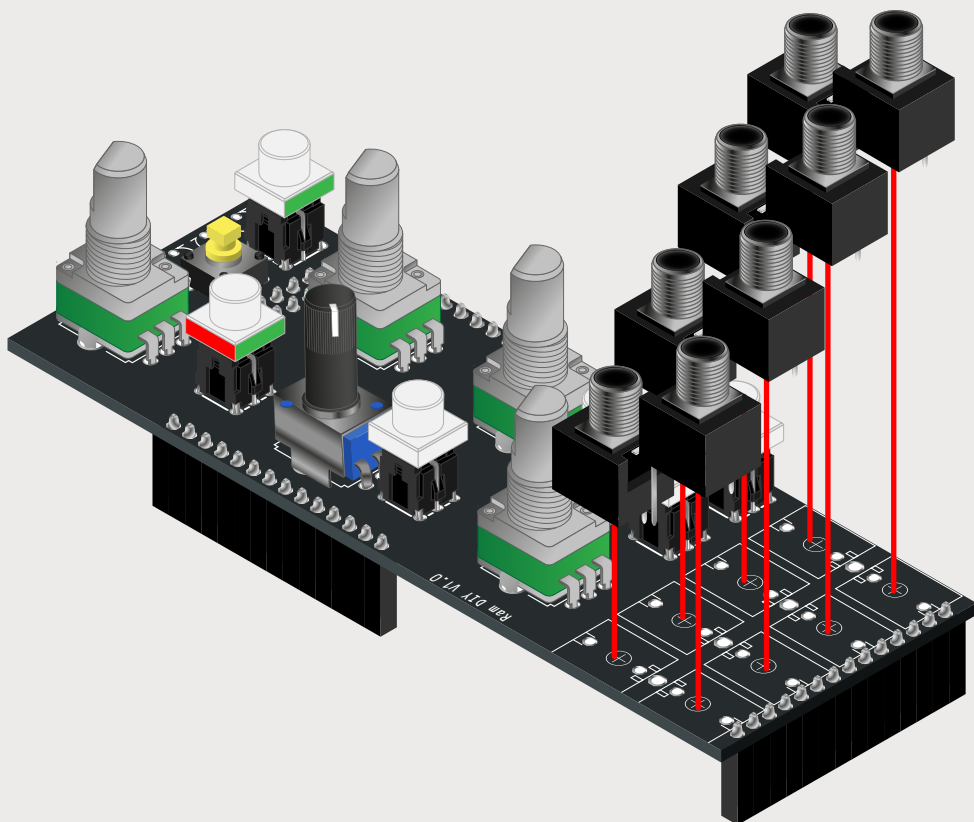


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Place 8 jack connectors
The grounding pin of the two rows share a hole
on the PCB, do not solder yet

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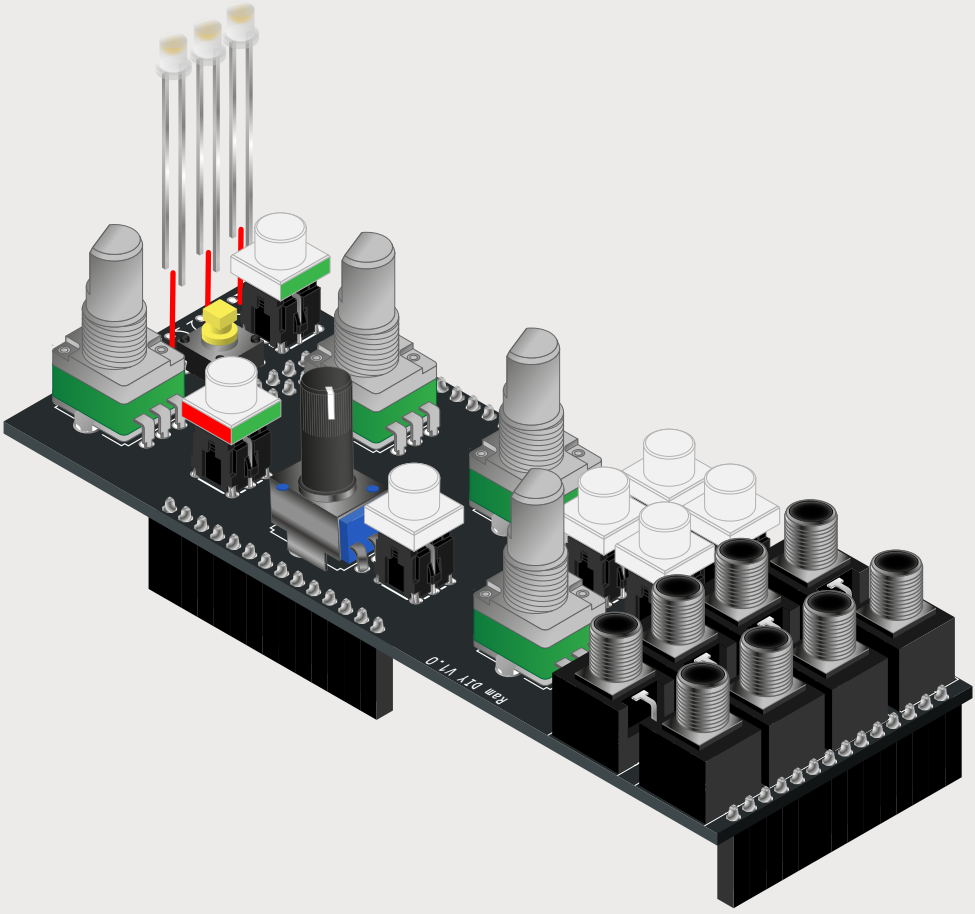
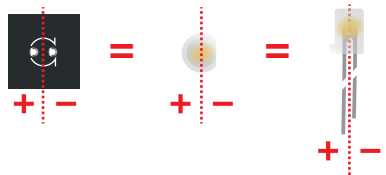
8x



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Place three green LEDs
Pay attention to the orientation, do not solder yet

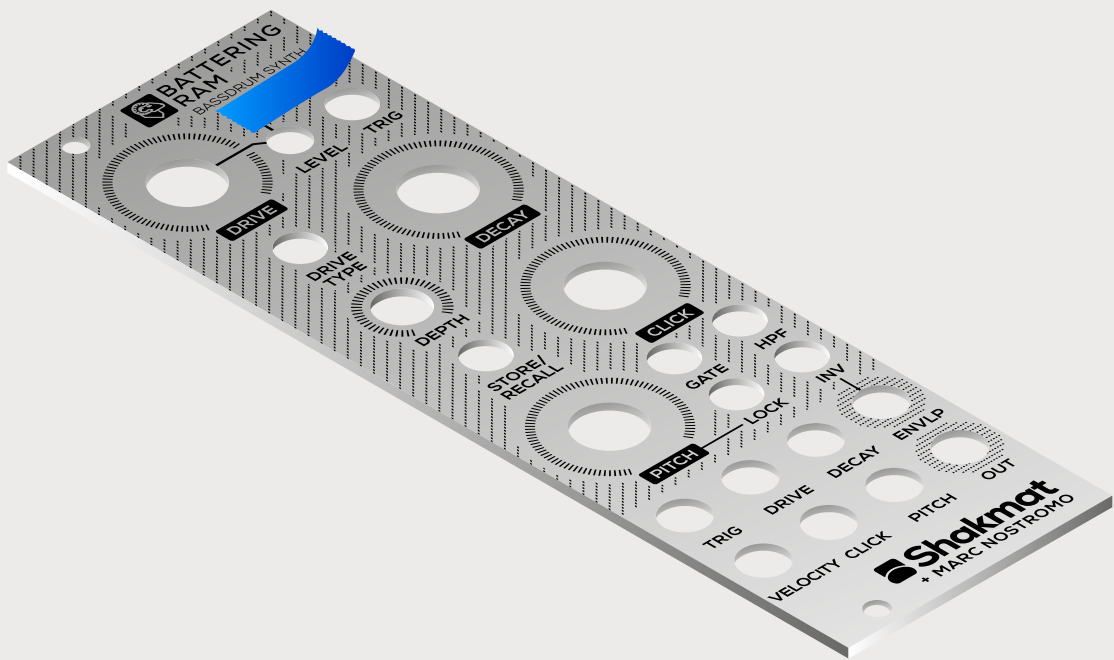
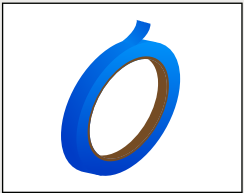
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Stick a light paper or plastic over
the three LED holes of the front panel.

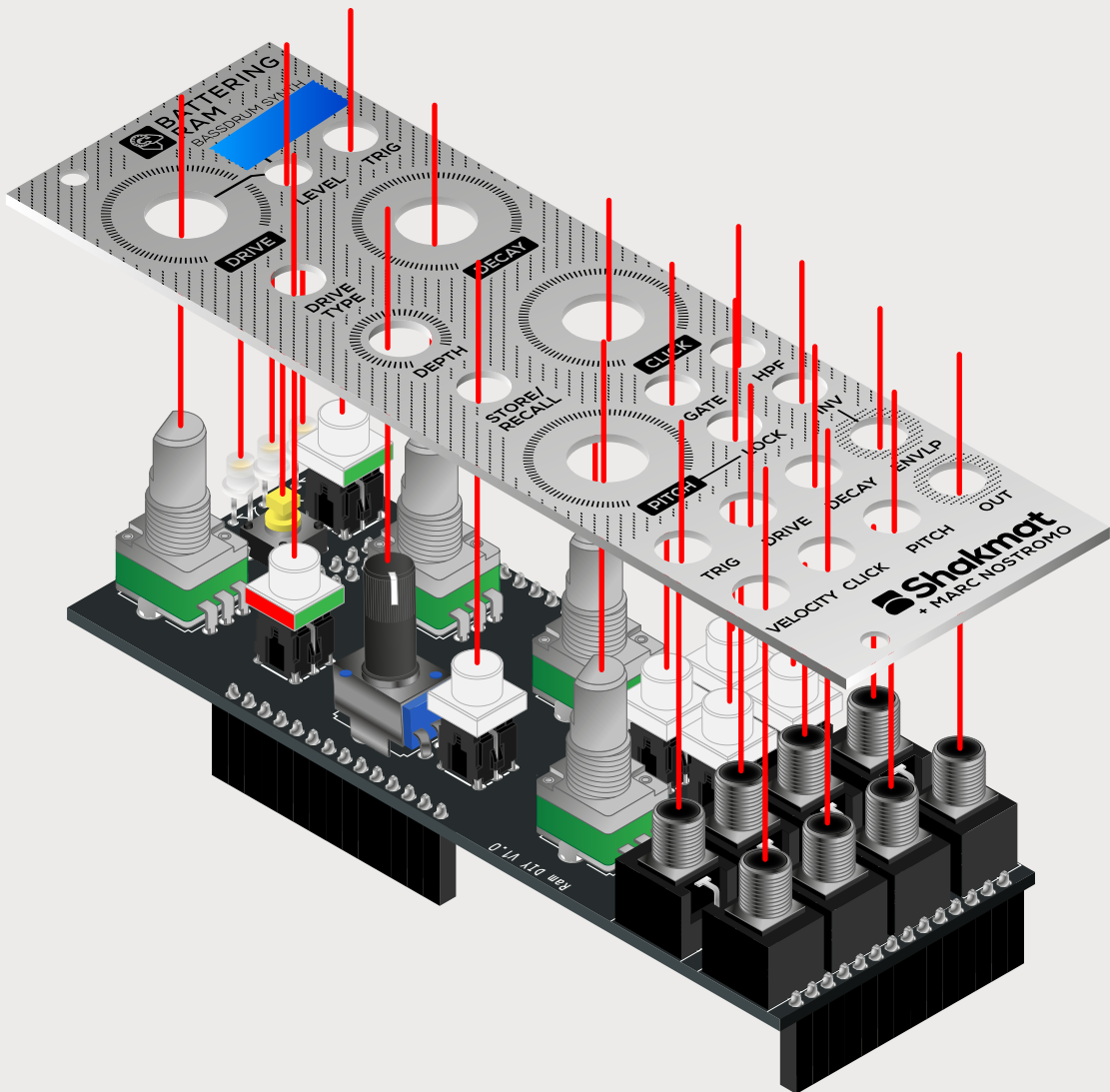
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Place the front panel
on the populated PCB

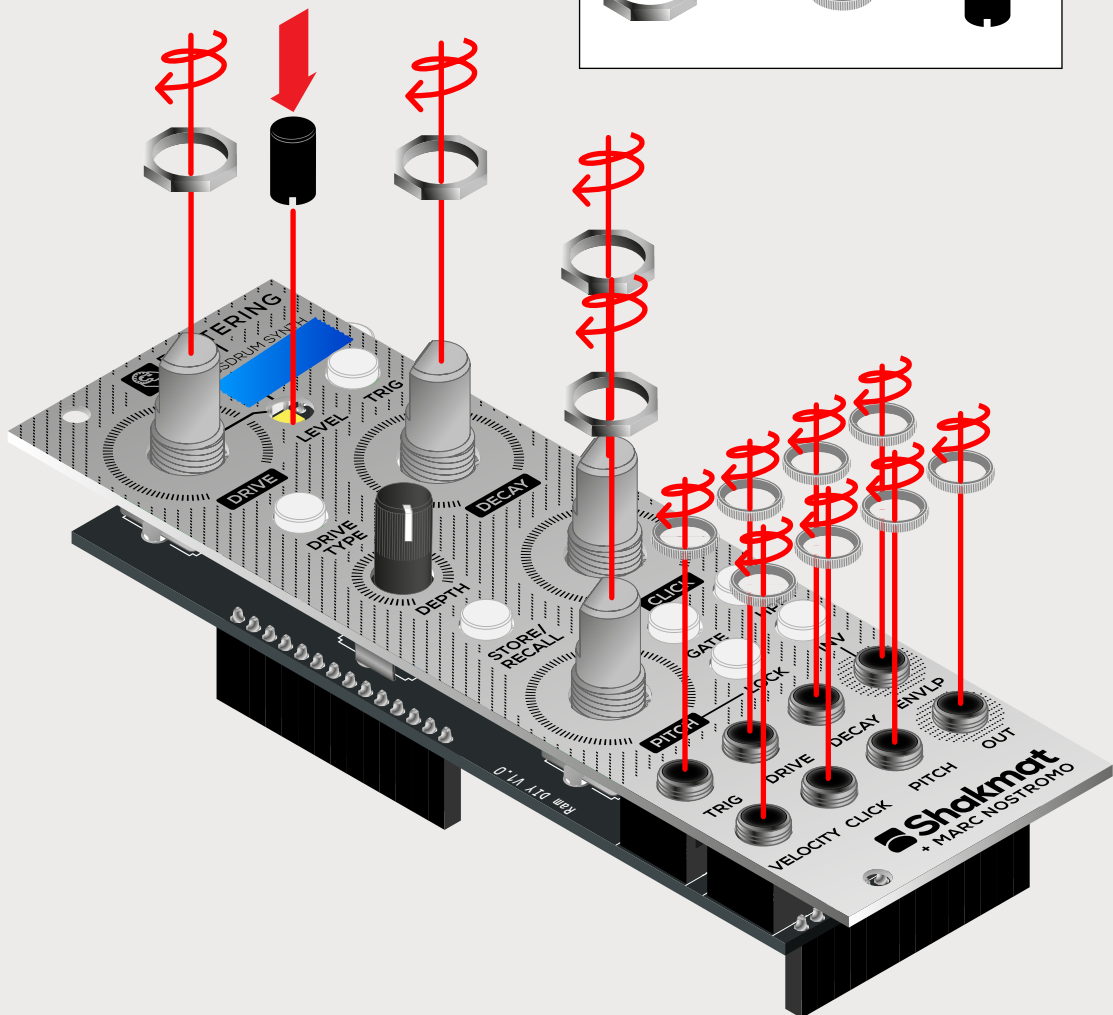
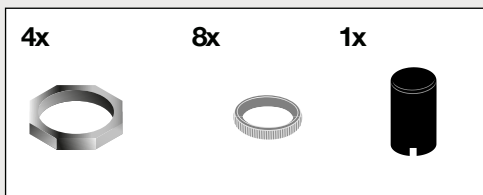
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Tighten four hexagonal nuts and eight knurled nuts
Push down the tactile switch cap

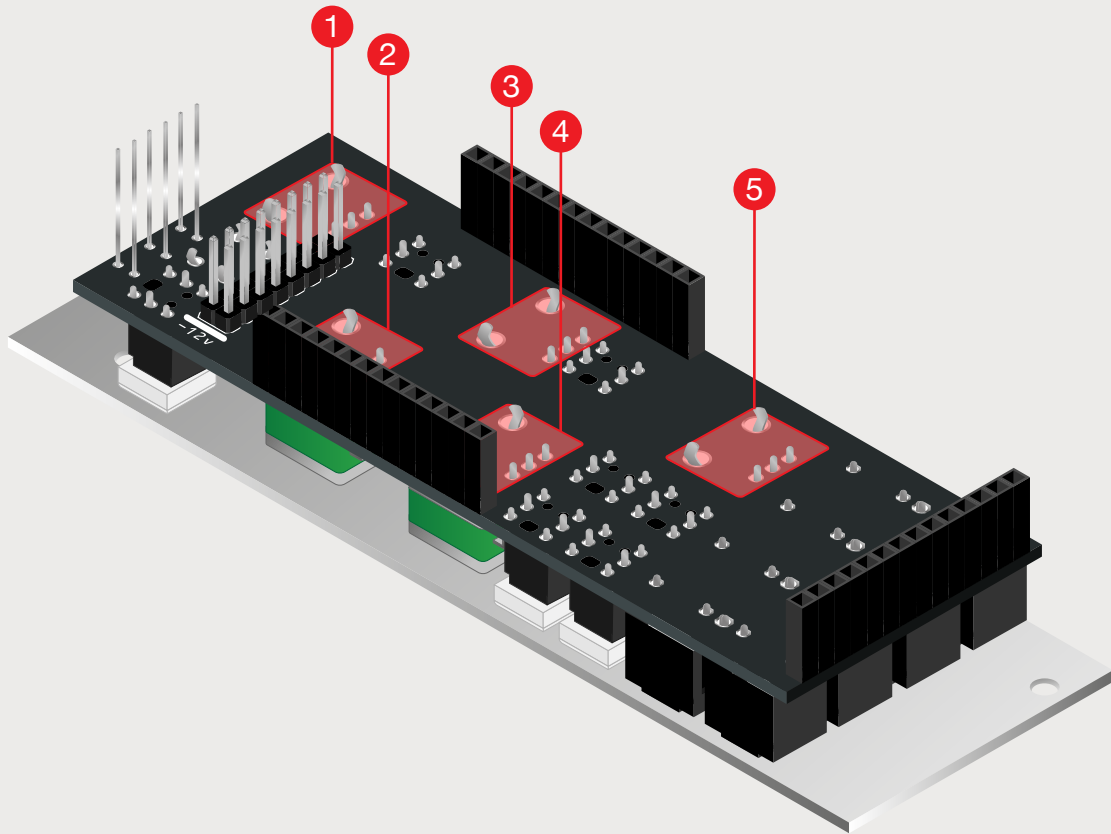
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Flip the module, check that every potentiometer is well-sited through the PCB, then solder

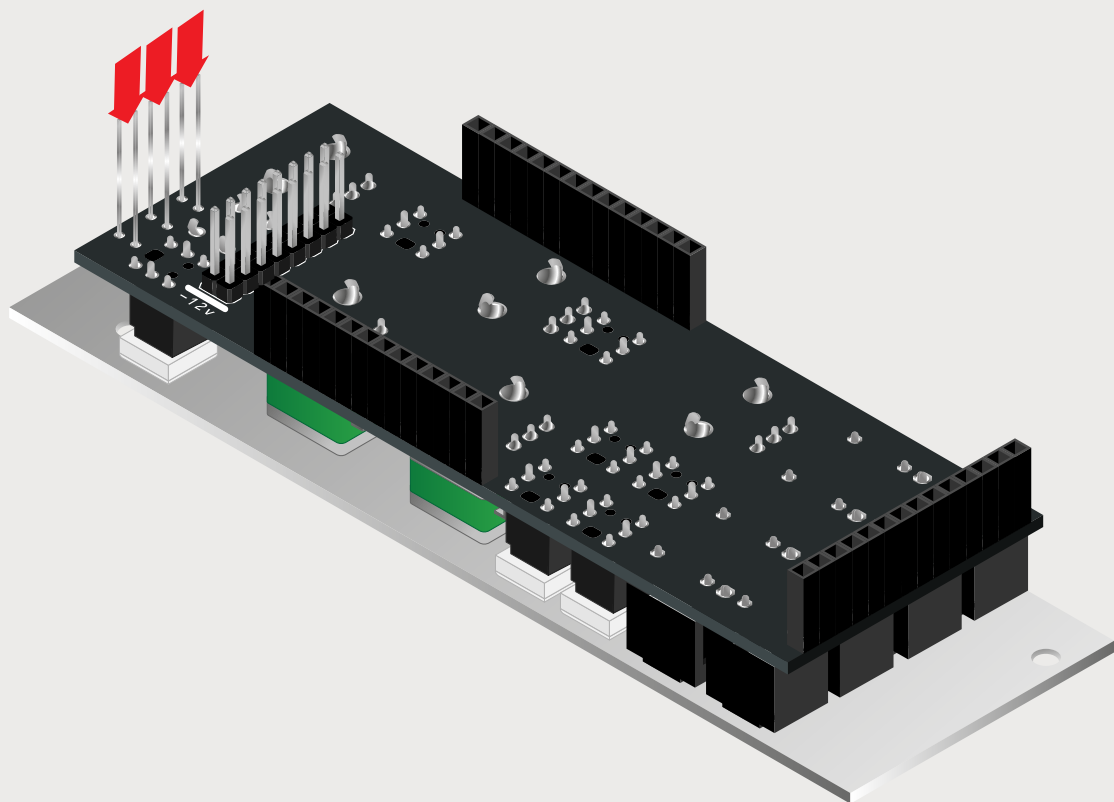
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Push each LED through the front panel
until it sticks to the tape

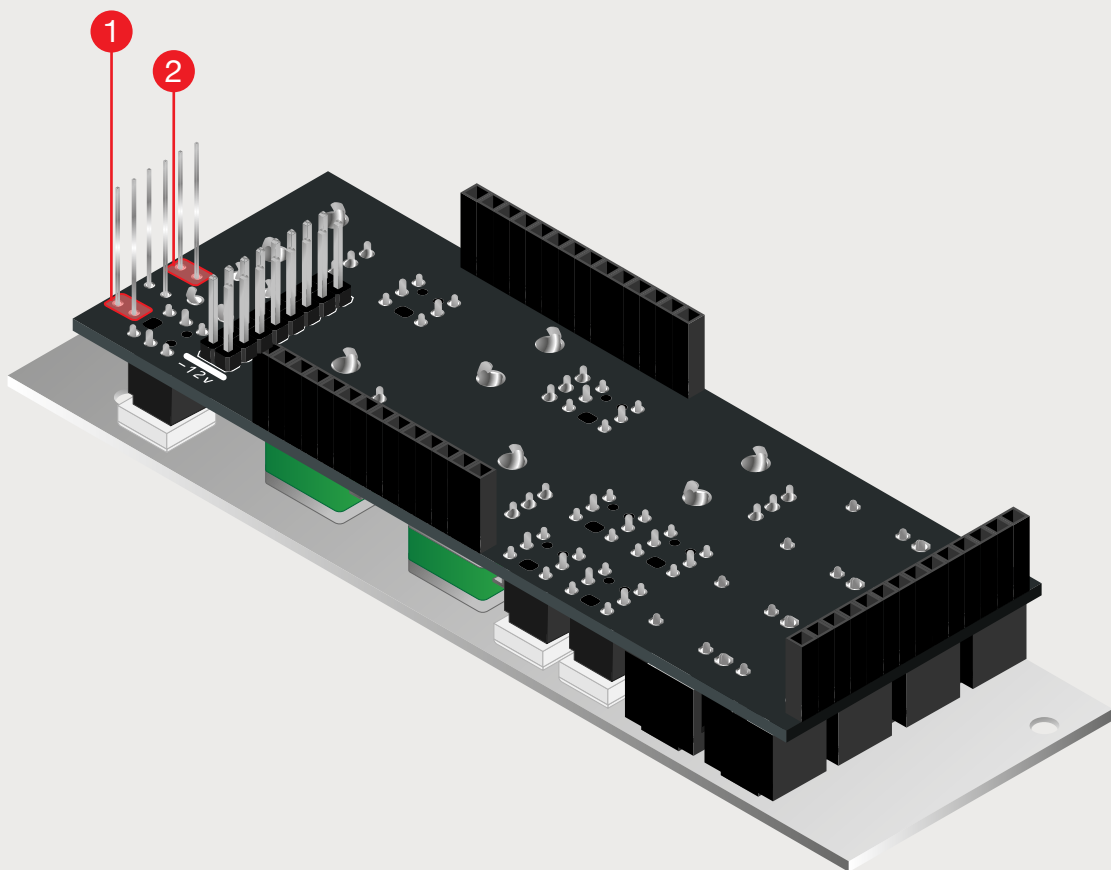
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Solder the two outer LEDs,
then cut off the excess legs

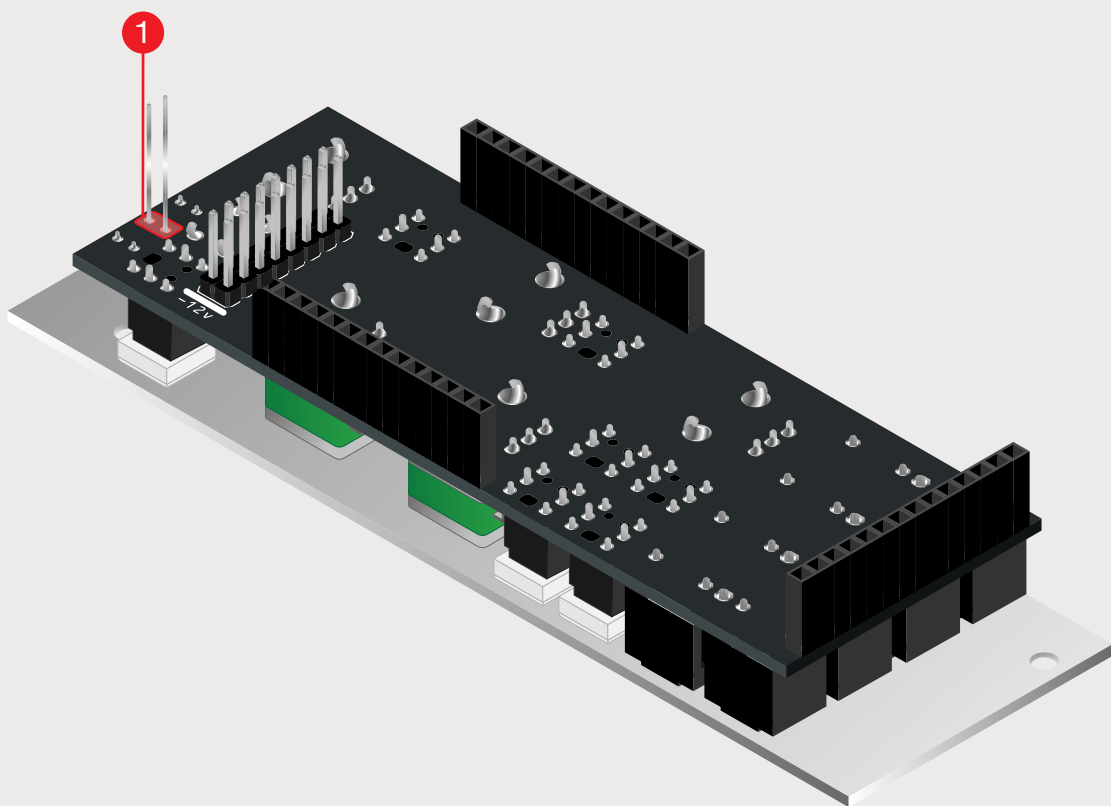
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Solder the last LED,
then cut off the excess leg

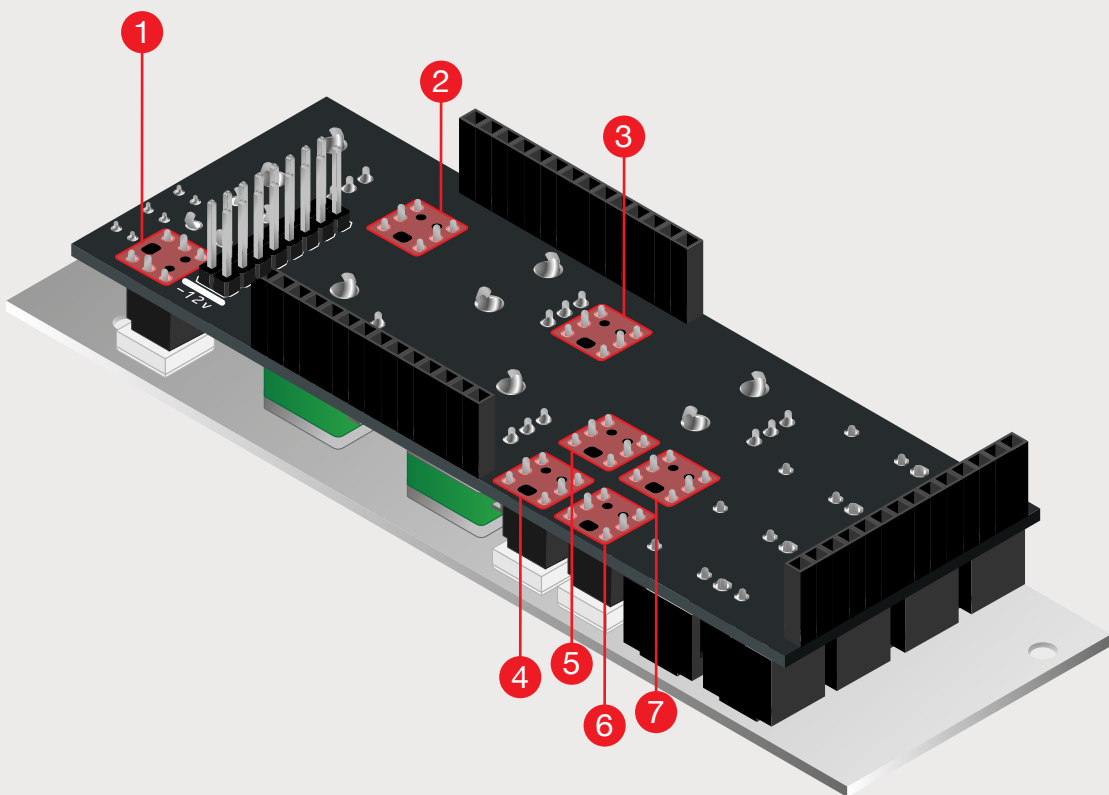
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Check that the seven LED push buttons are correctly oriented, well-sited through the PCB, and click consistently, then solder

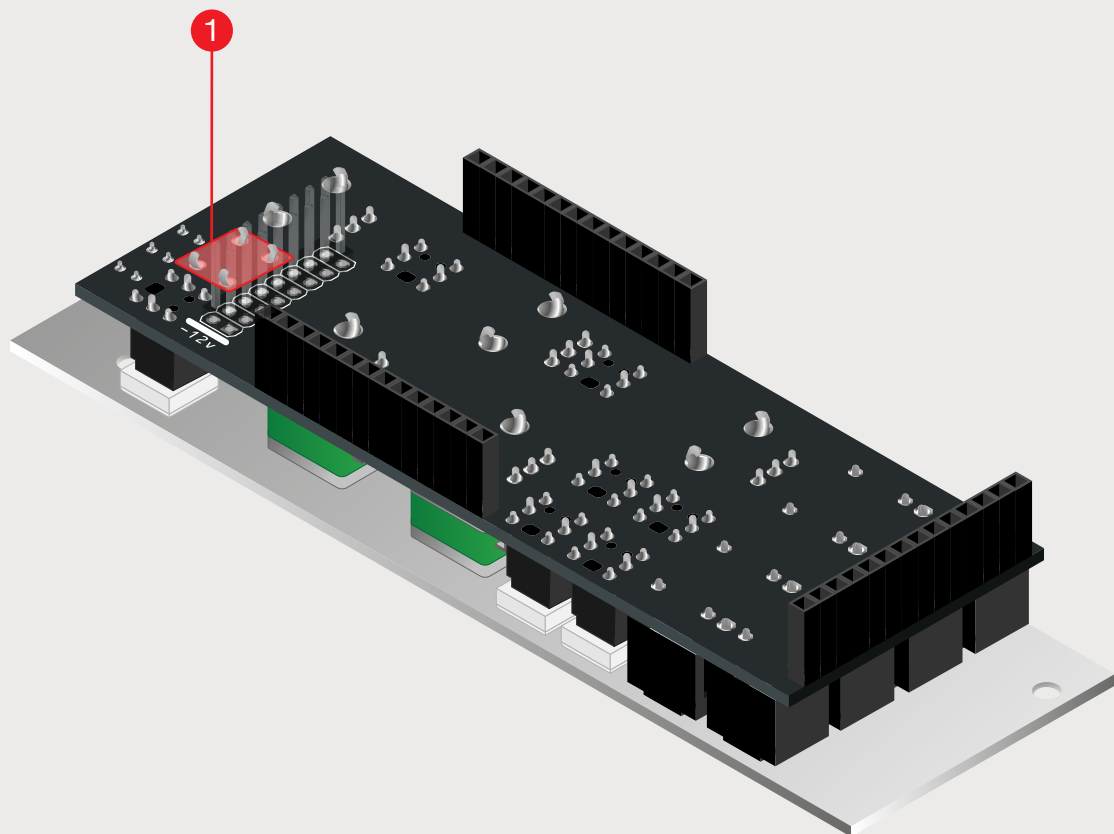
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Check that the tactile switch
is correctly mounted through the PCB
and clicks consistently, then solder

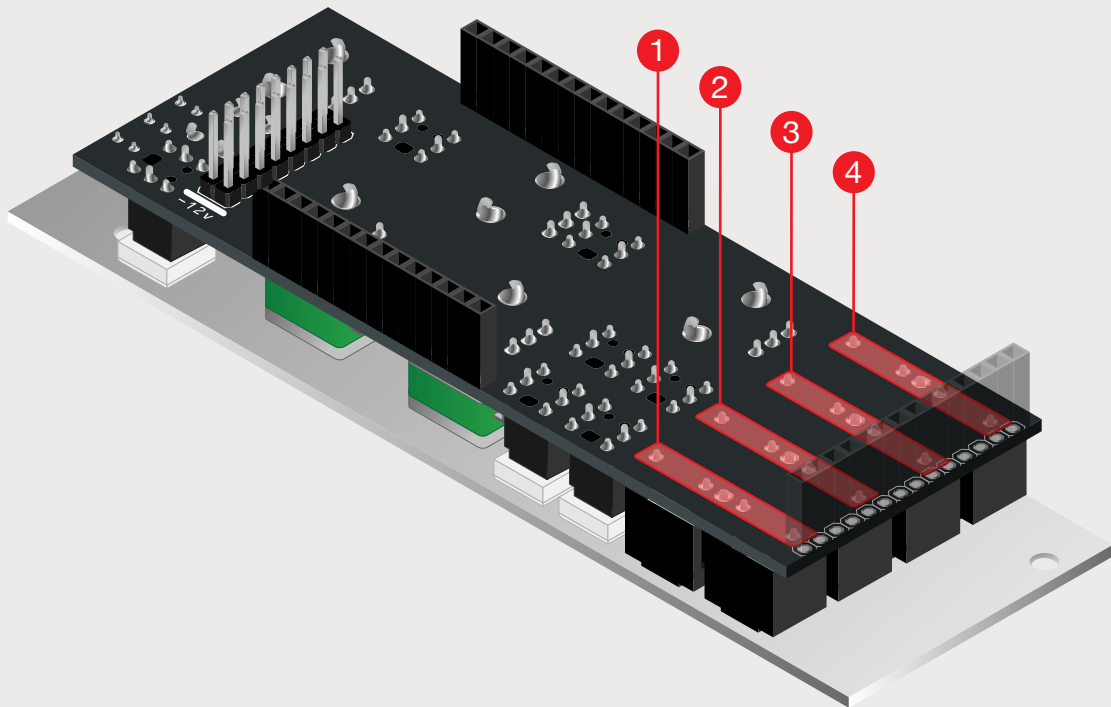
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Check that the jack connectors
are well-sited through the PCB,
then solder them column by column

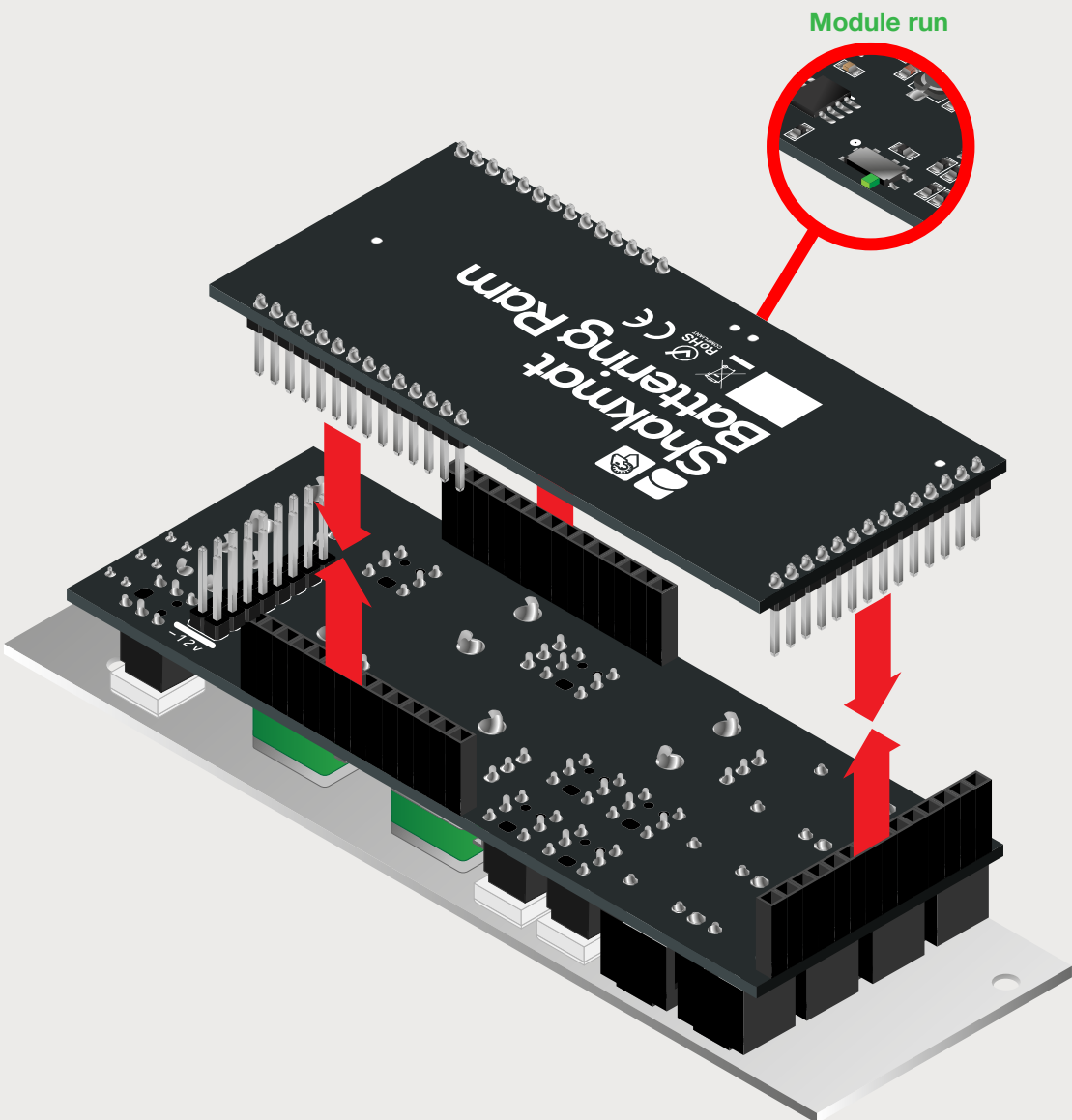
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Check that the switch on the bottom PCB is down.
Assemble the two PCBs together.

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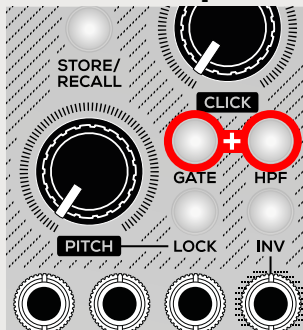


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Turn all potentiometers to zero



Power on while holding GATE & HPF pressed



Wait until the three green LEDs are on, then, for DRIVE to turn on



Turn the Ram off, then on
The three level green LED should be in 101 state



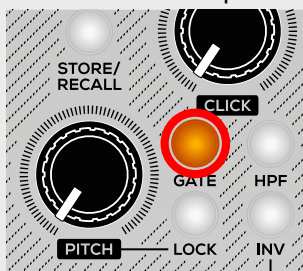
Wait until LOCK & INV blink

Abort or proceed the calibration with LOCK (no) or INV (yes)



Wait until GATE blinks, press it

This will calibrate the 0v.
No cable should be patched.



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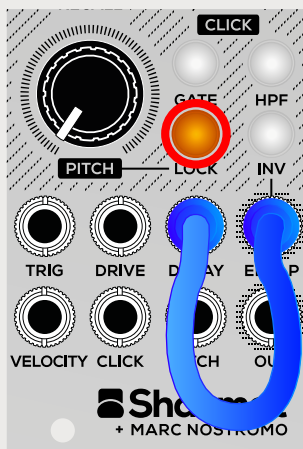
**Wait until HPF blinks,
patch +2v in PITCH
and press HPF**



**HPF now blinks faster,
patch +4v in PITCH
and press HPF**



**LOCK is now blinking, patch DECAY to ENVLP
and press LOCK. Wait until no button is blinking.
Turn on then off the module, one last time.**



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