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

Shakmat Battering Ram Building Guide

- www.shakmat.com

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.

- Shakmat Battering Ram
- Building Guide

Content

Pack 1

3x 14 pin female headers
3x 14 pin male headers
1x 2x8 pin power header
1x Tactile switch
4x Metal potentimeters
1x Plastic potentimeter
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

- Shakmat Battering Ram
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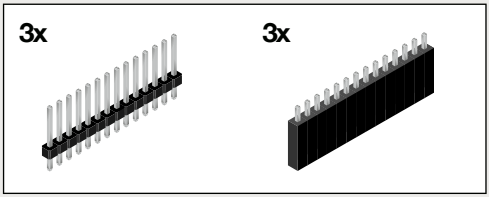
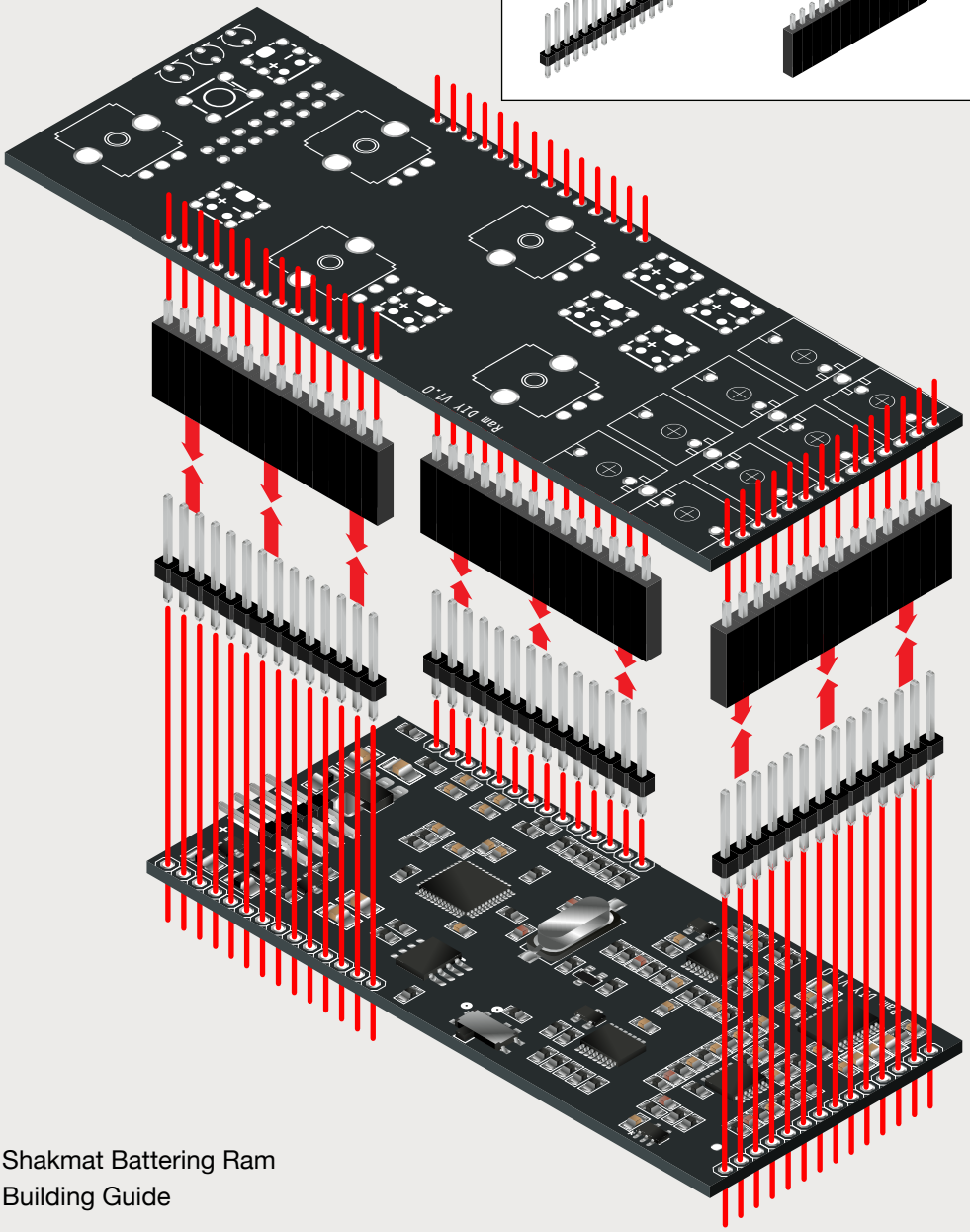
01

Assemble three pairs of headers with the two PCBs

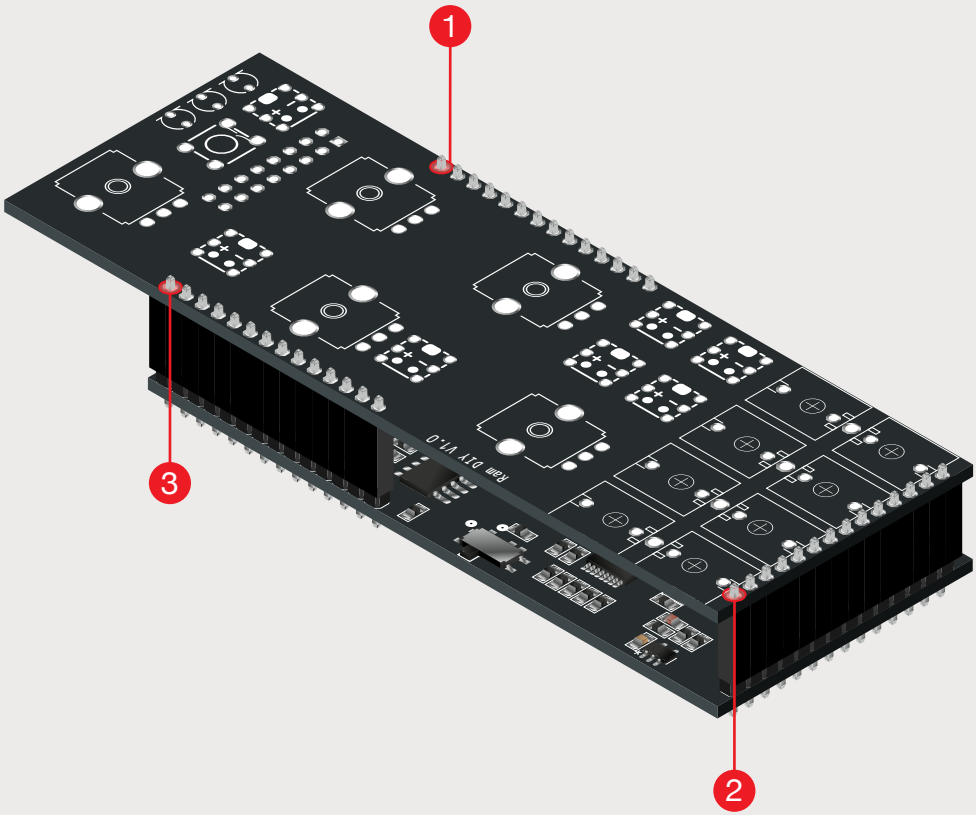




- Shakmat Battering Ram
- Building Guide

Solder one point
of each header

02



- Shakmat Battering Ram
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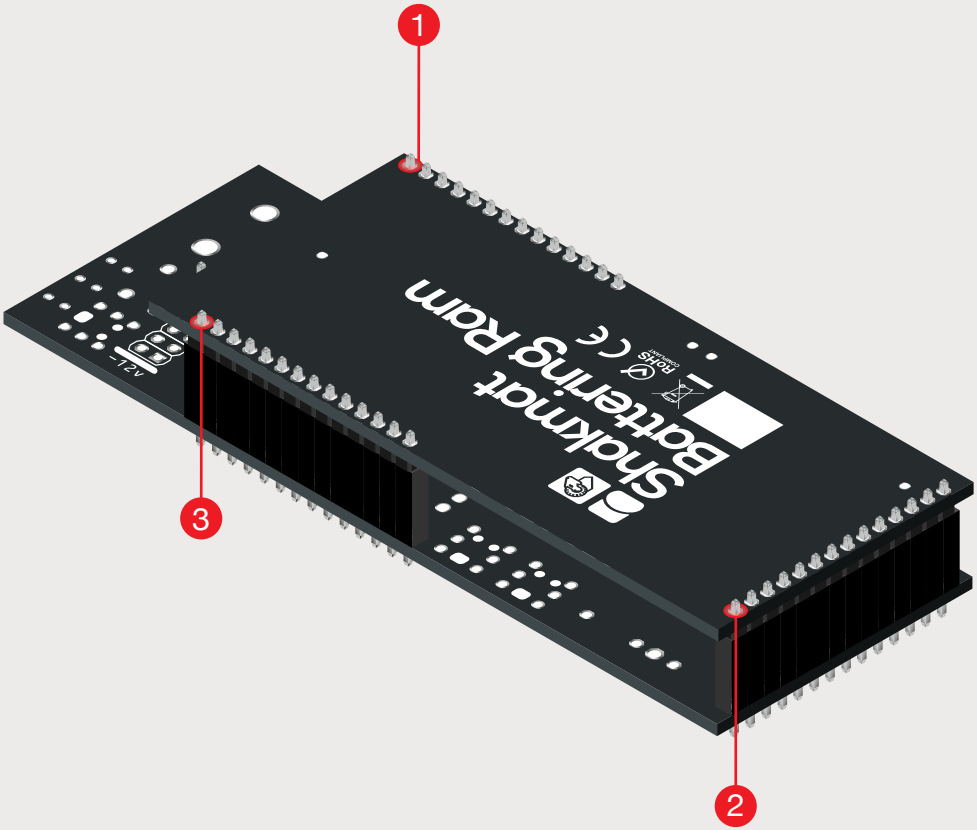
Flip the PCBs
check their parallelism
Solder one point of each header

03



- Shakmat Battering Ram
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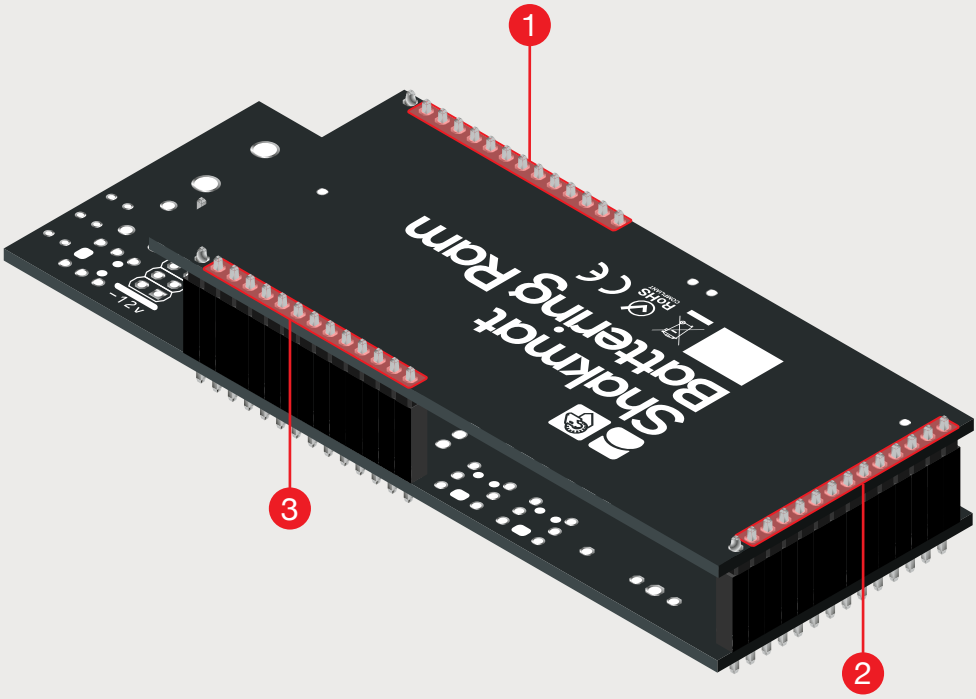
Solder the remaining points of each header

04



- Shakmat Battering Ram
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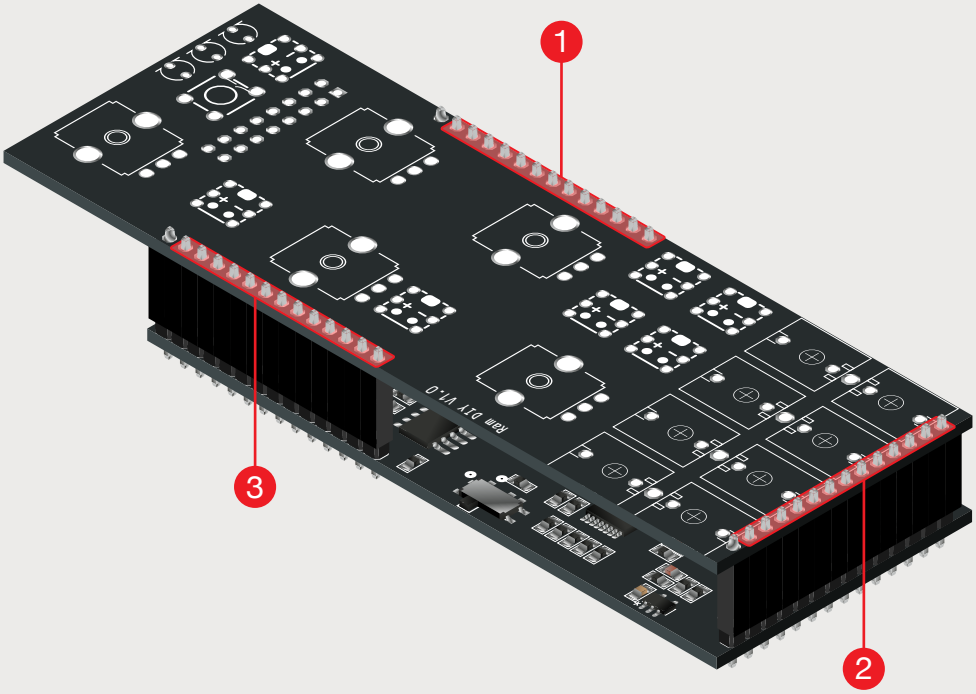
Flip the PCBs
check their parallelism
Solder the remaining points of each header

05



- Shakmat Battering Ram
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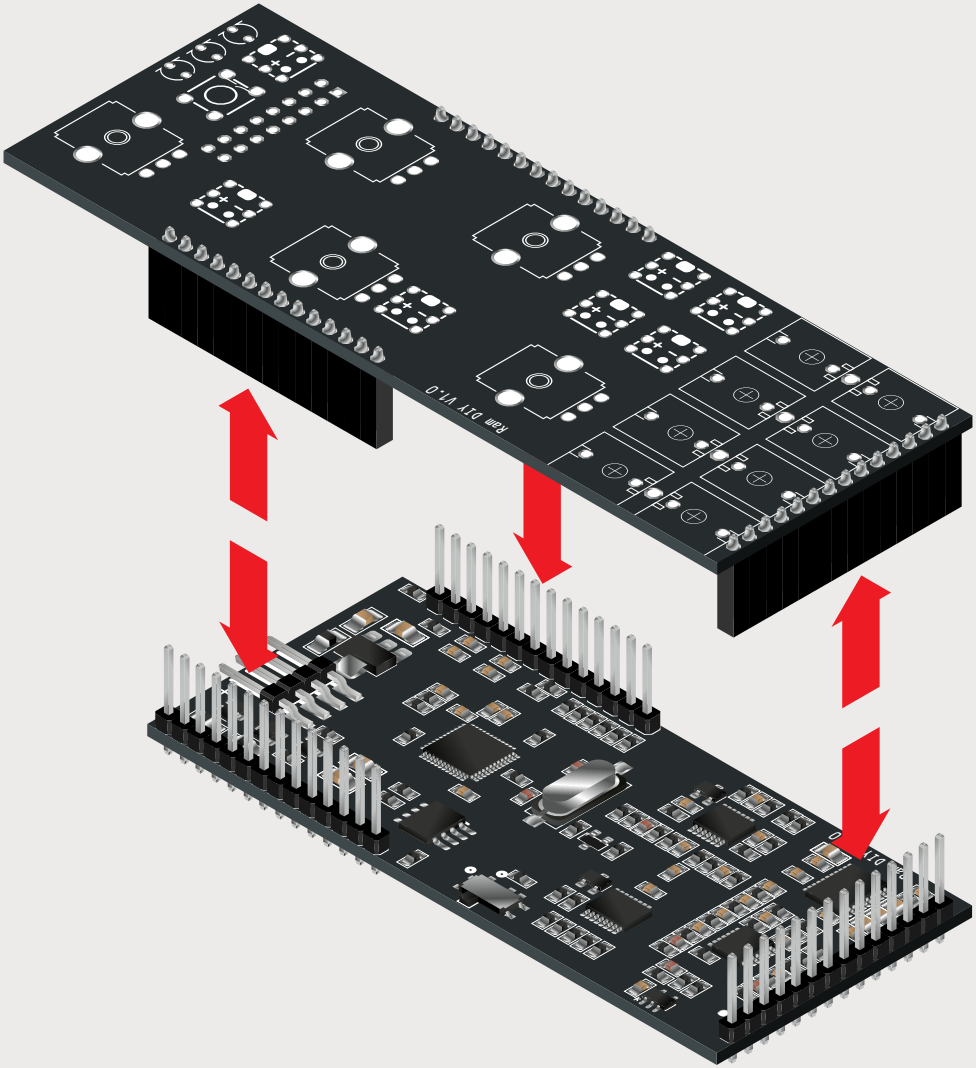
Separate the two PCBs
Reserve the bottom PCB

06



- Shakmat Battering Ram
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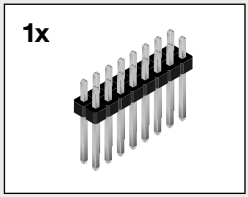
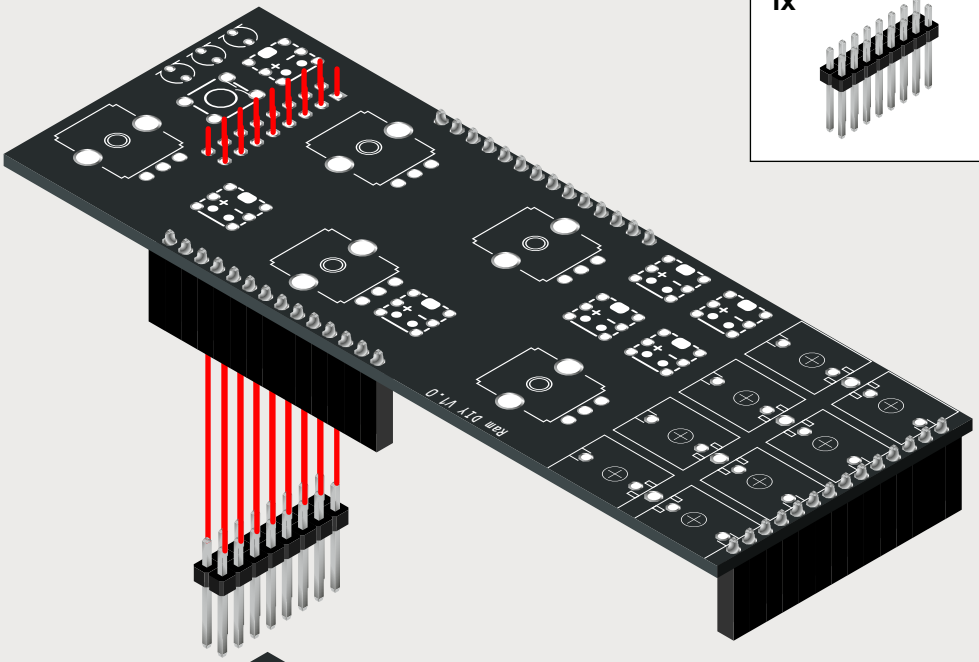
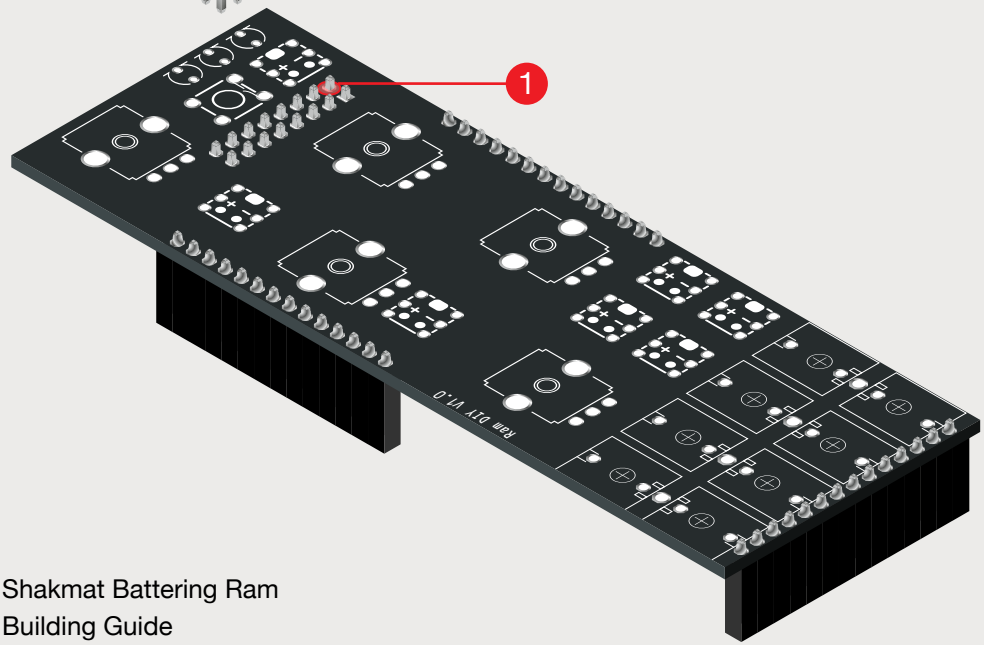
Place the power header
Solder one point

07







- Shakmat Battering Ram
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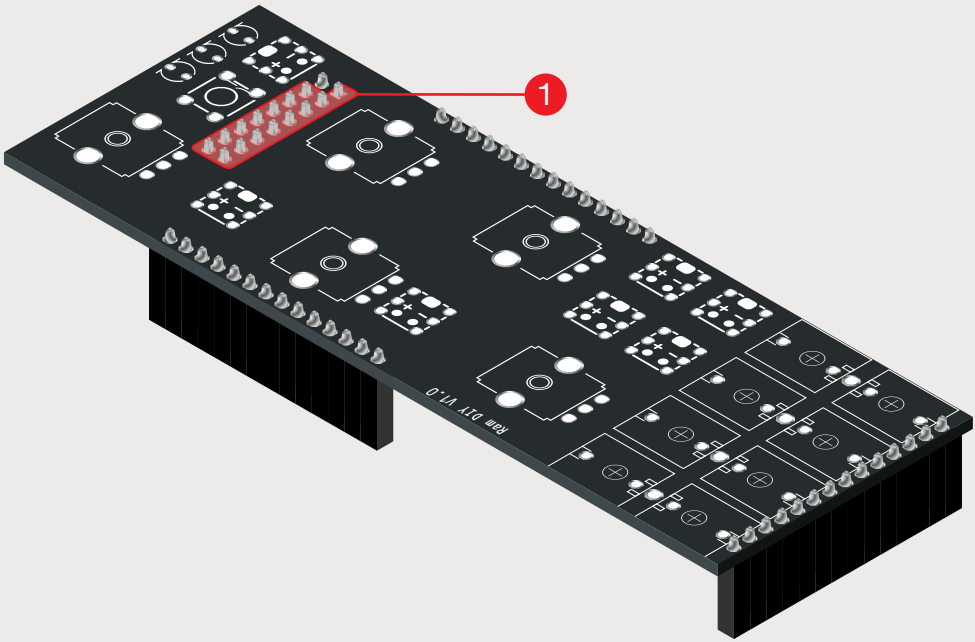
Chech header & PCB parralelism
Solder remaining points

08



- Shakmat Battering Ram
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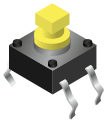
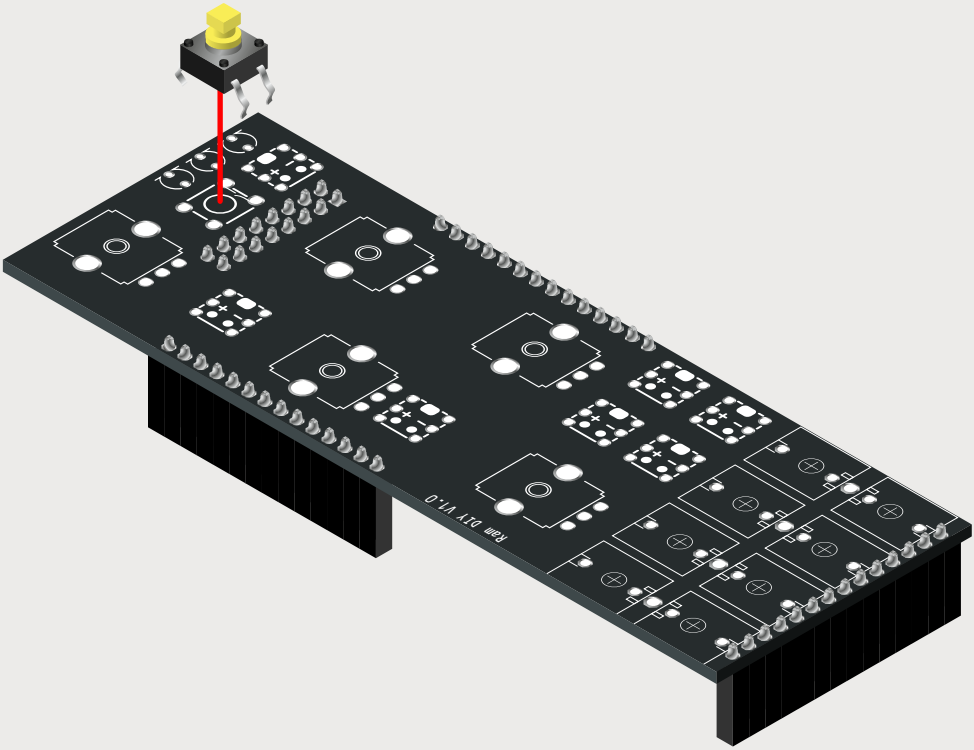
Place the tacticle switch
Do not solder yet

09

1x





- Shakmat Battering Ram
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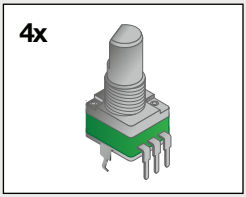
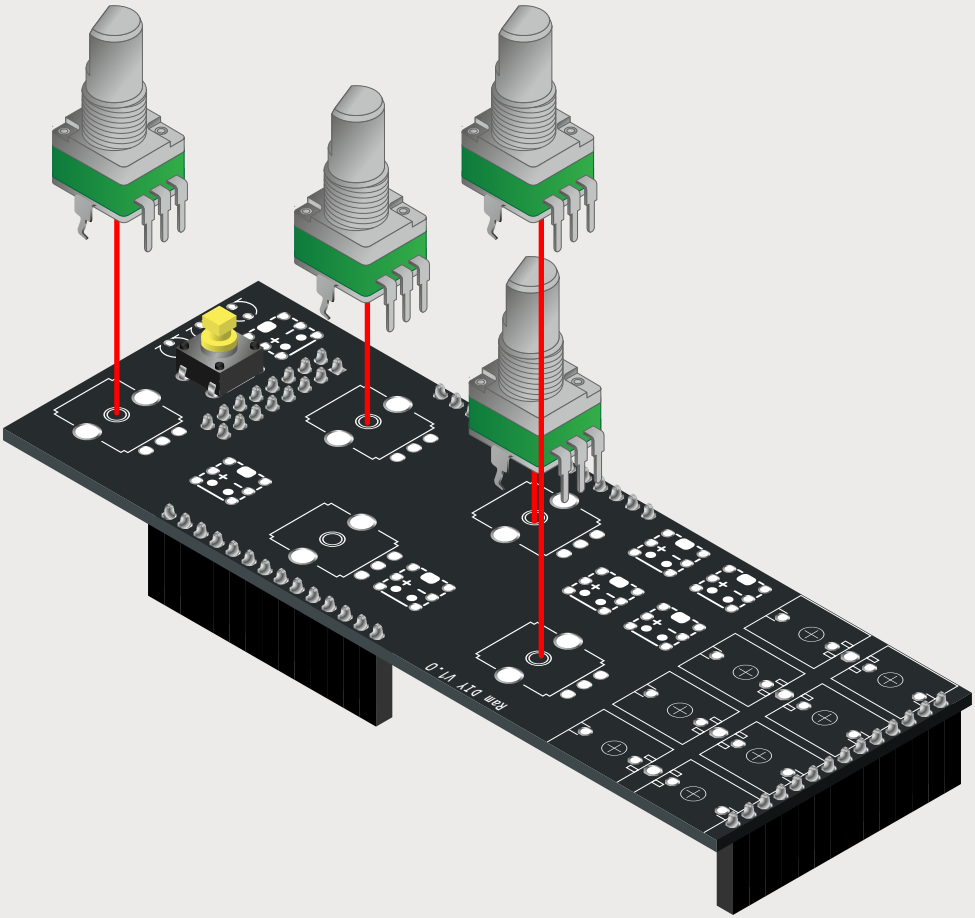
Place the four metal potentiometers
Do not solder yet

10





- Shakmat Battering Ram
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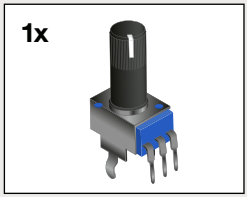
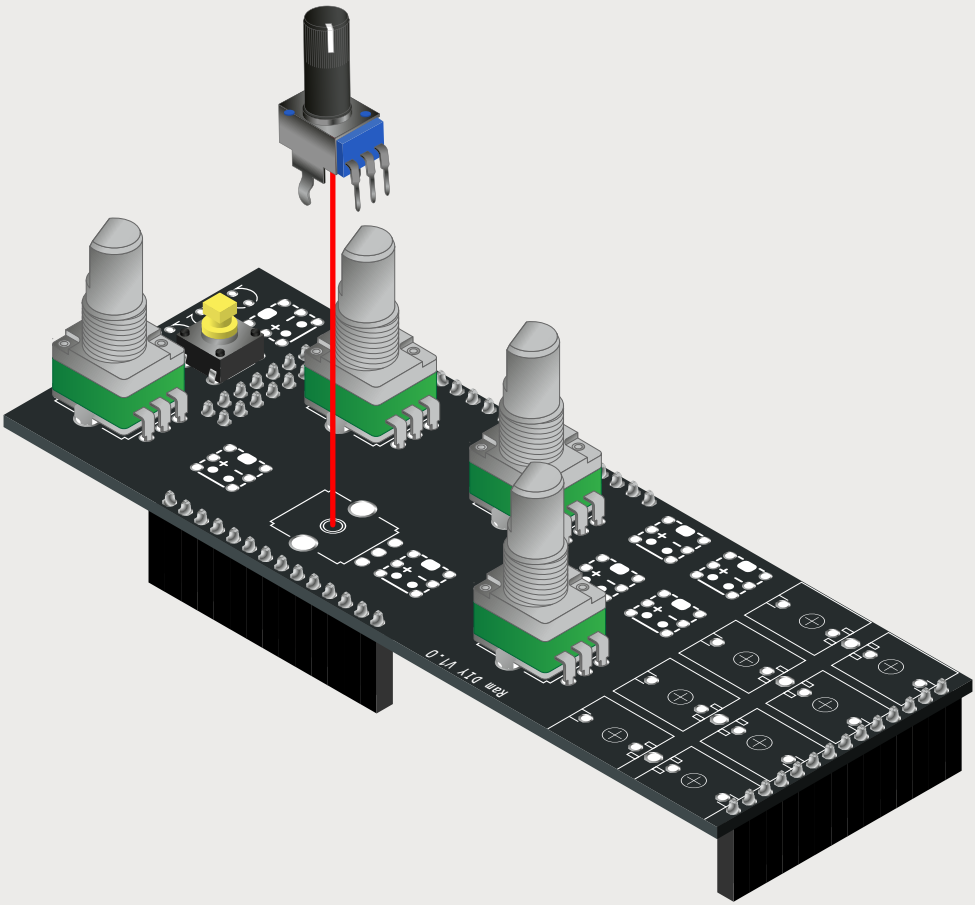
Place the plastic potentiometer
Do not solder yet

11





- Shakmat Battering Ram
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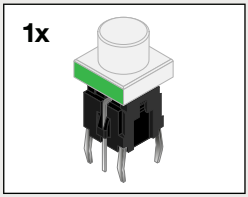
Place the green LED push button

Pay attention to the orientation, do not solder yet

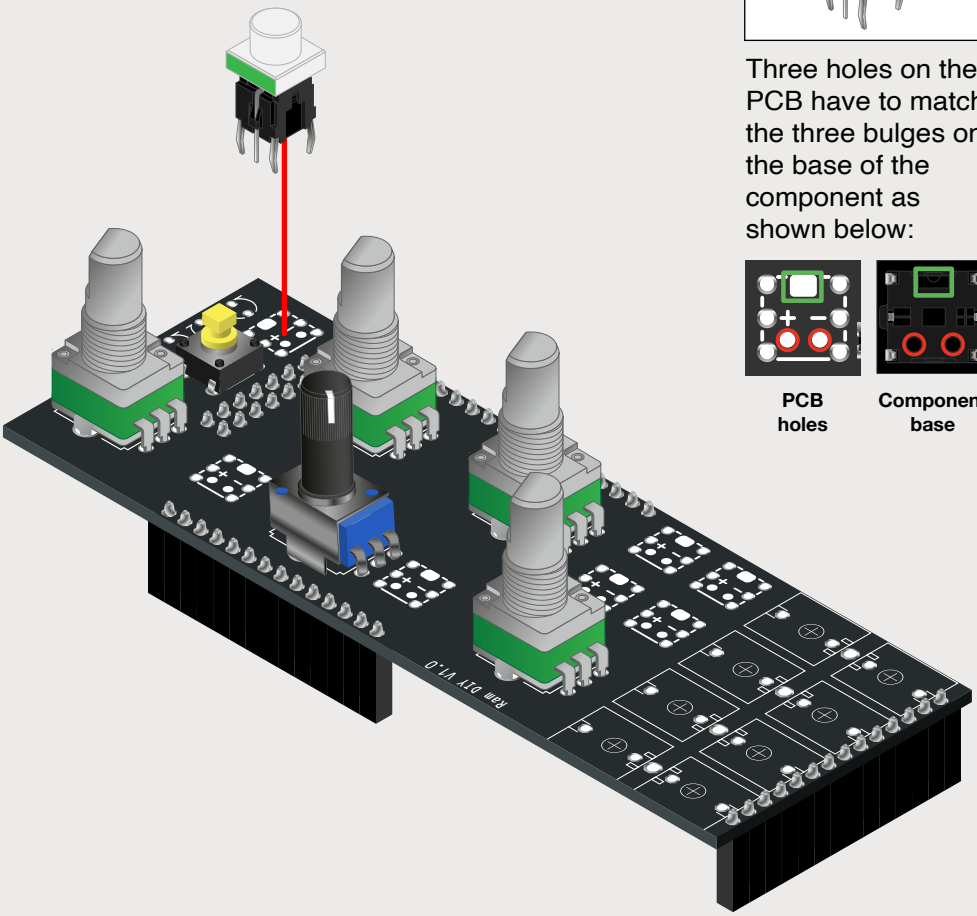
12



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

PCB holes

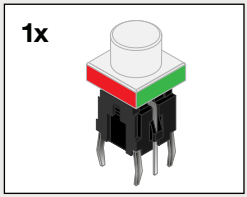
Component base



- Shakmat Battering Ram
- Building Guide

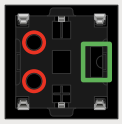
Place the green/red LED push button
Pay attention to the orientation, do not solder yet

13

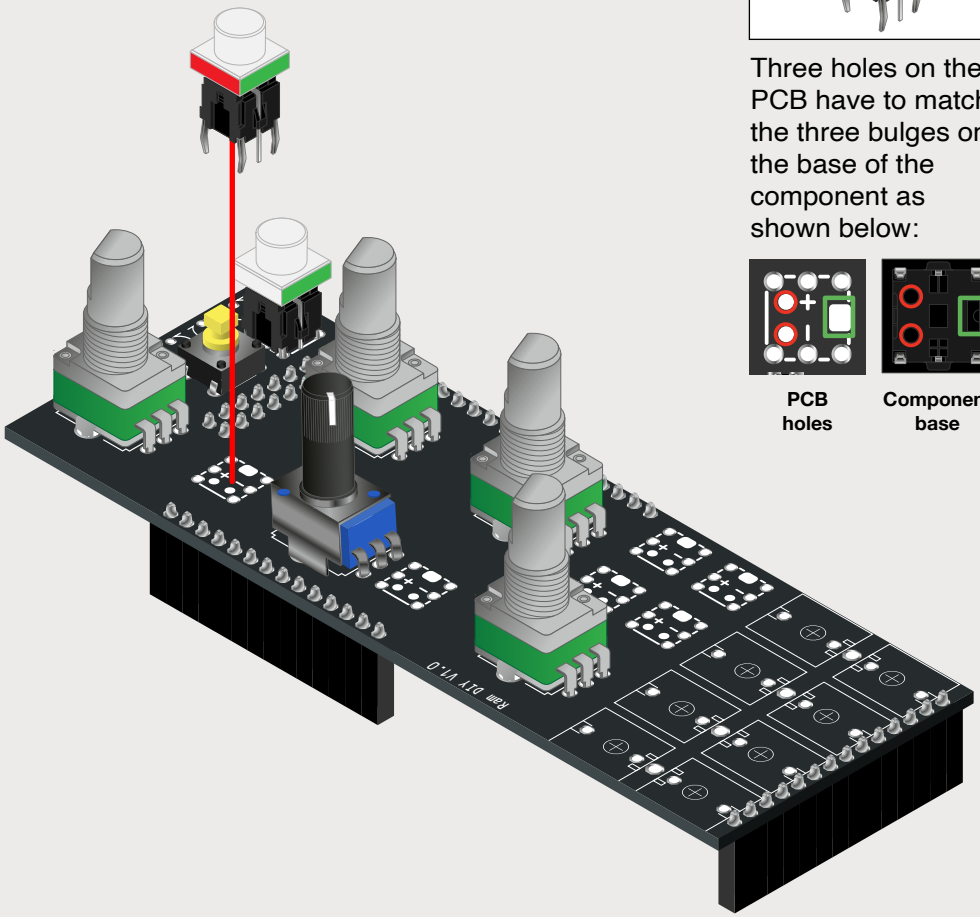


Three holes on the PCB have to match the three bulges on the base of the component as shown below:

PCB holes



Component base



- Shakmat Battering Ram
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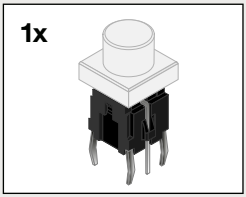
Place the white LED push button

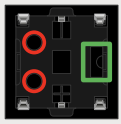
Pay attention to the orientation, do not solder yet

14

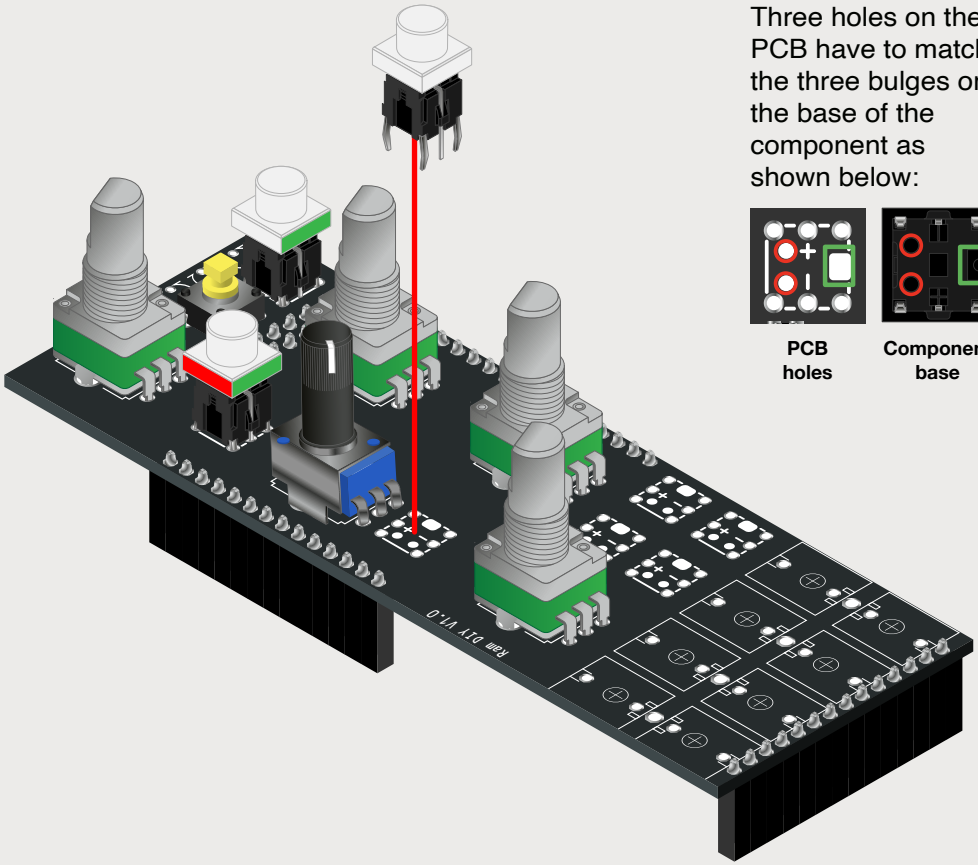


Three holes on the PCB have to match the three bulges on the base of the component as shown below:

PCB holes



Component base



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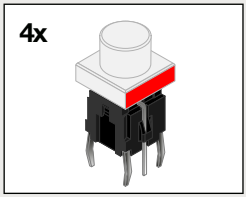
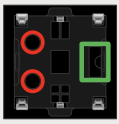
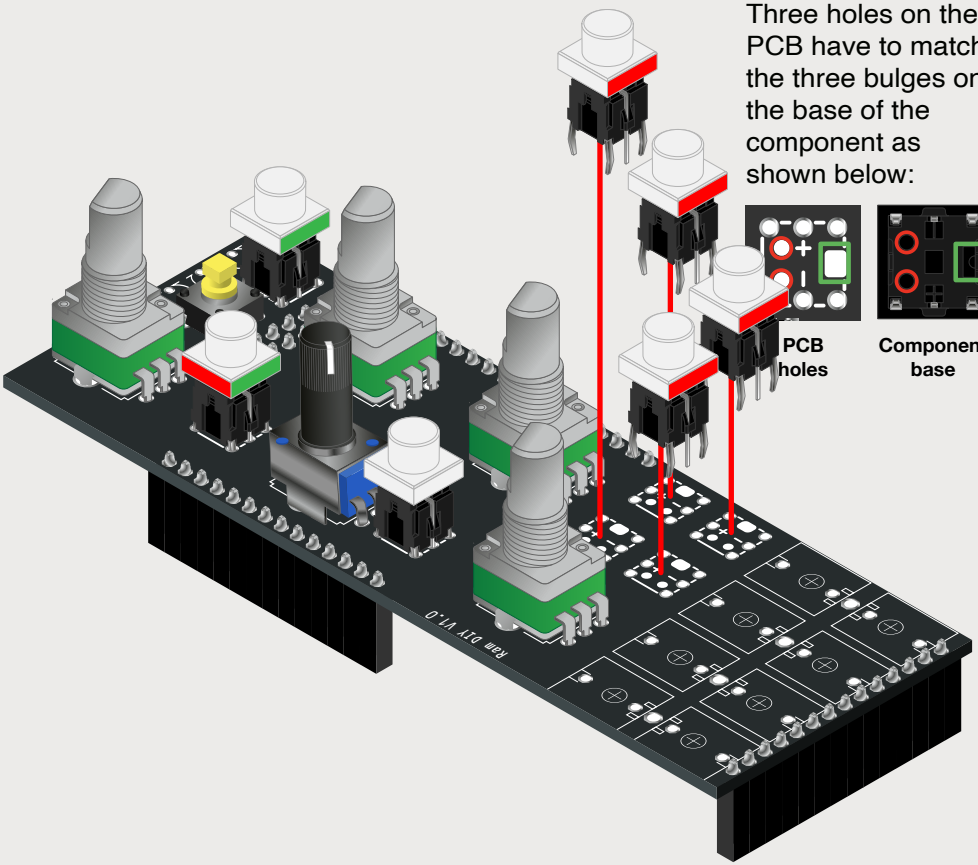
Place the four alber LED push buttons
Pay attention to the orientation, do not solder yet

15



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





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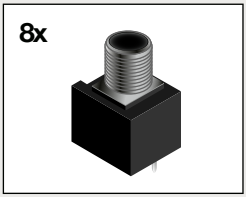
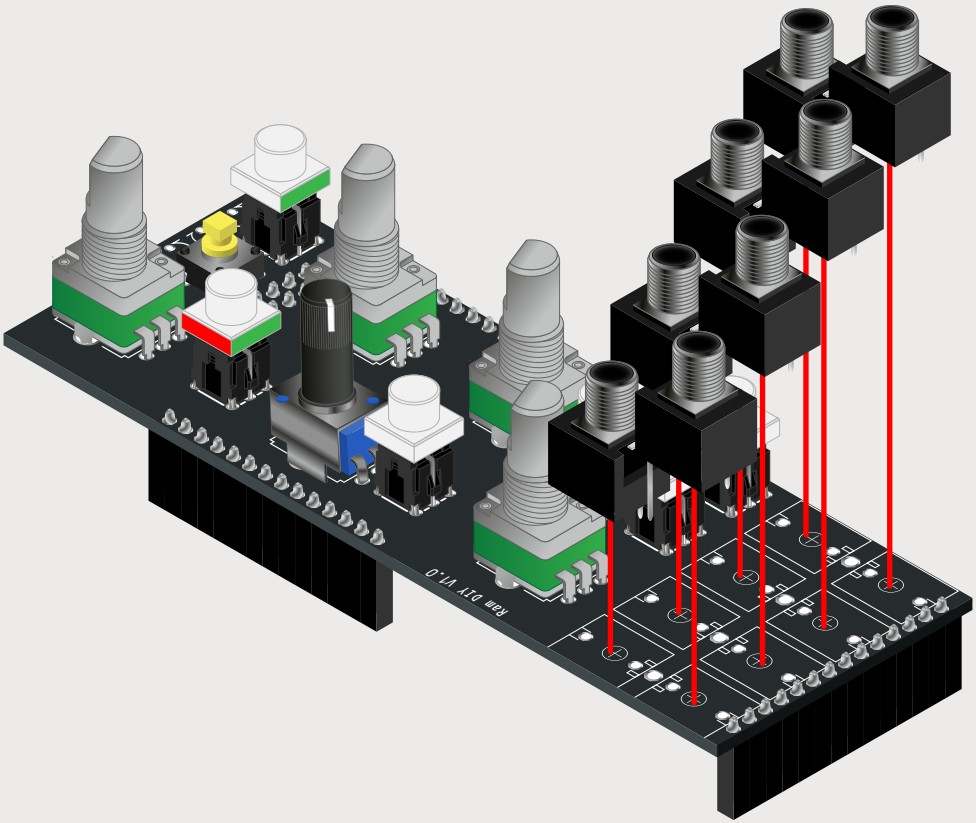
Place 8 jack connectors

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

16





- Shakmat Battering Ram
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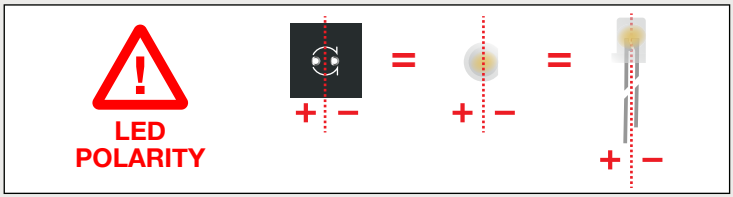
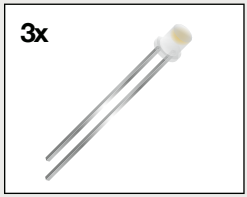
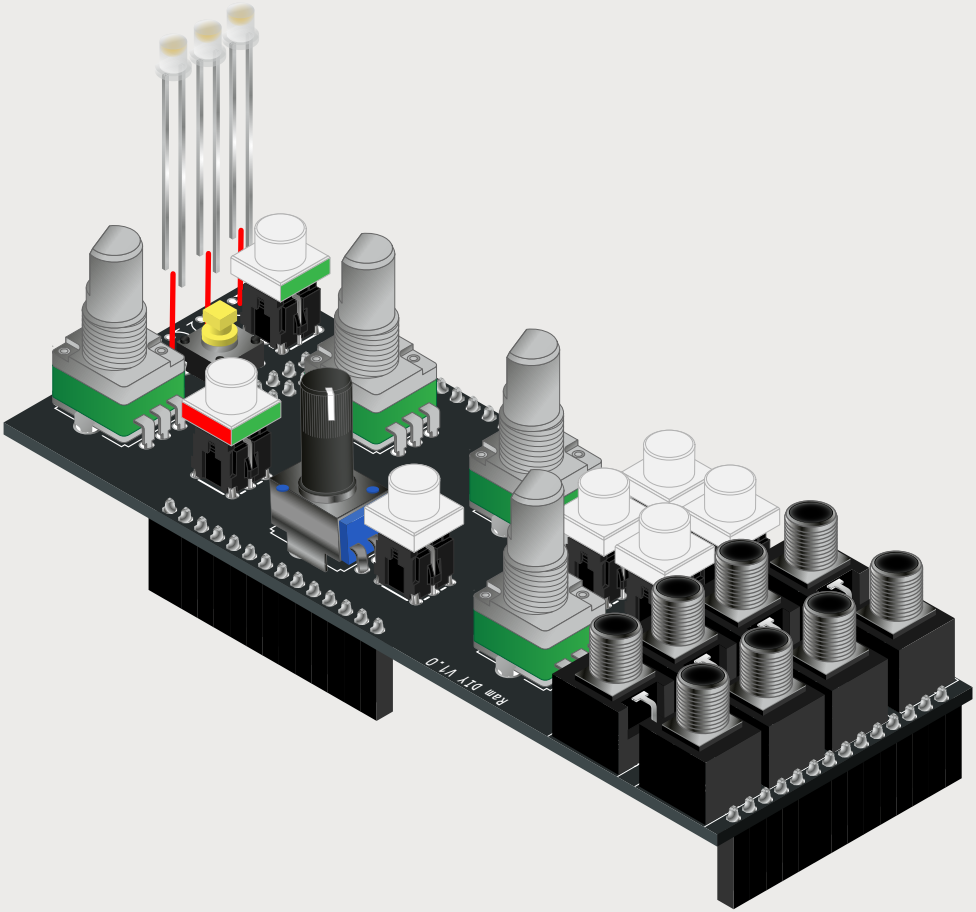
Place three green LEDs

Pay attention to the orientation, do not solder yet

17







- Shakmat Battering Ram
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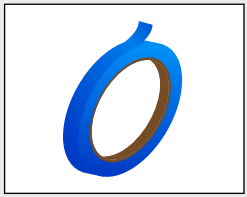
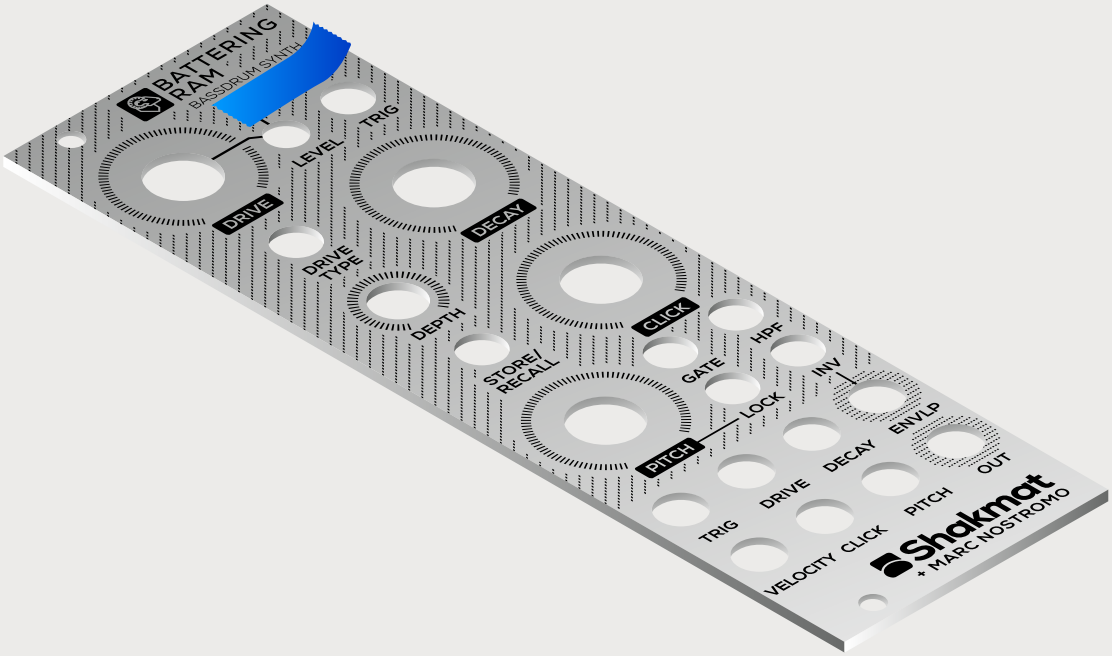
Stick a light paper or plastic over
the three LED holes of the front panel.

18





- Shakmat Battering Ram
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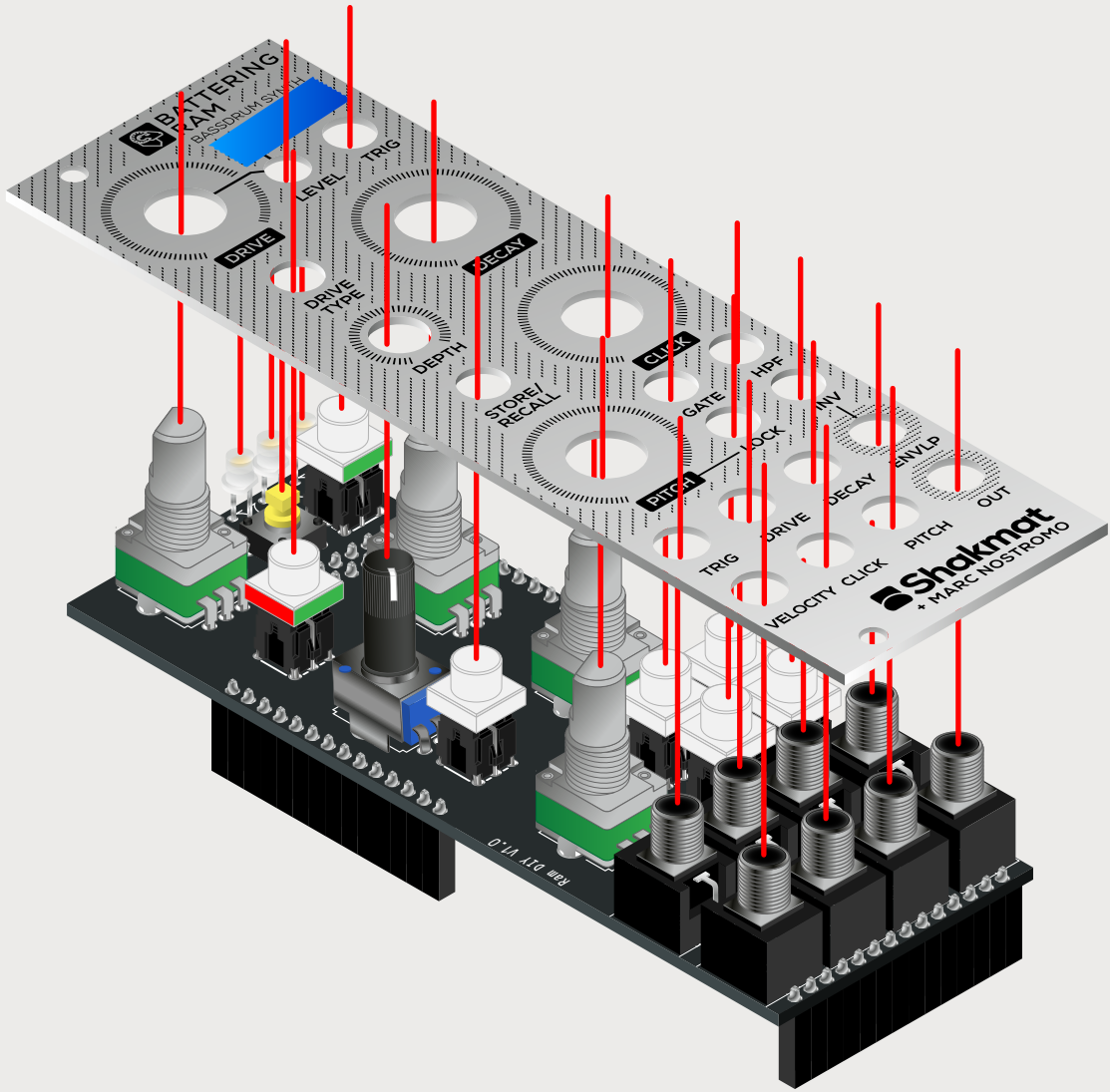
Place the front panel
on the populated PCB

19



- Shakmat Battering Ram
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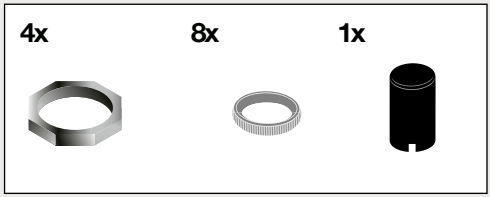
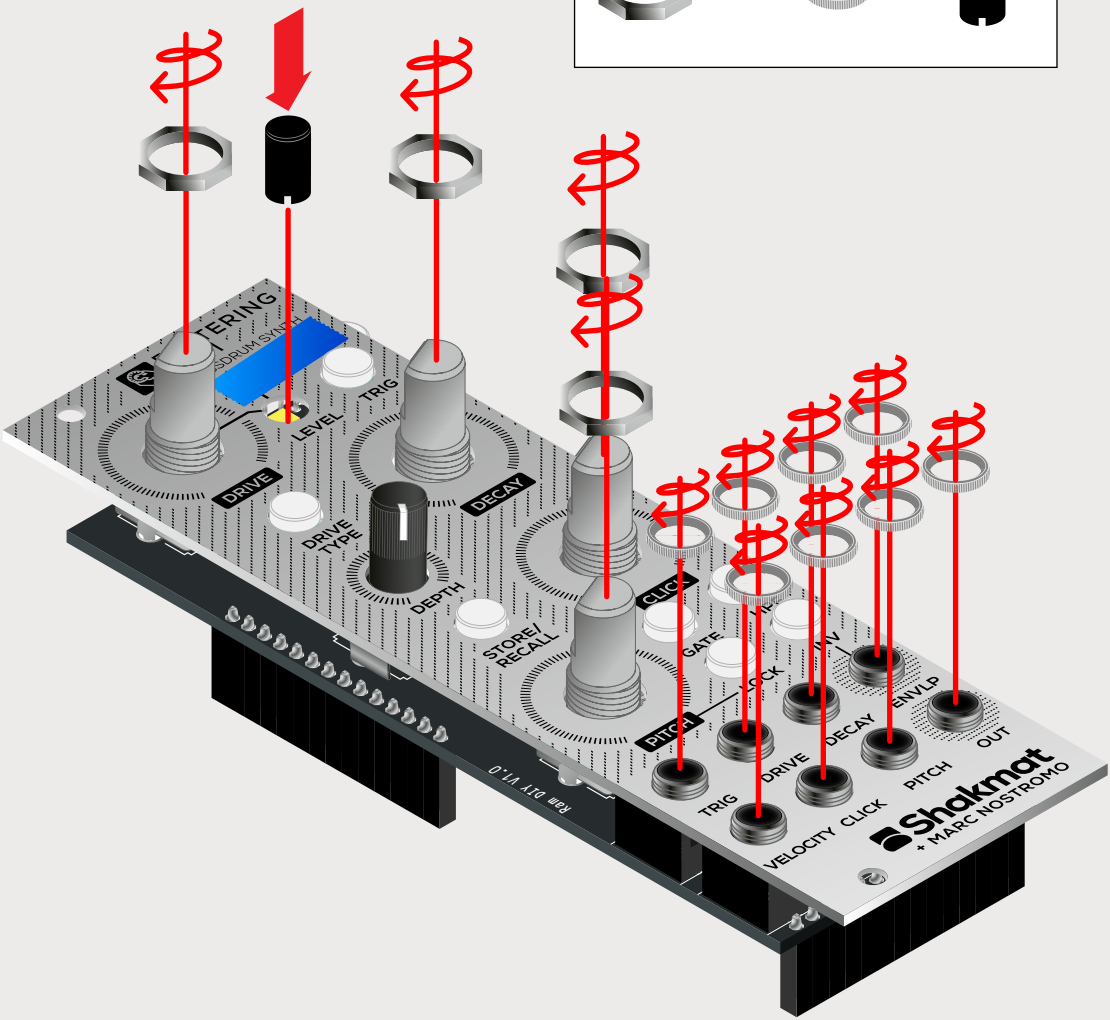
Tighten four hexagonal nuts and eight knurled nuts
Push down the tactile switch cap

20





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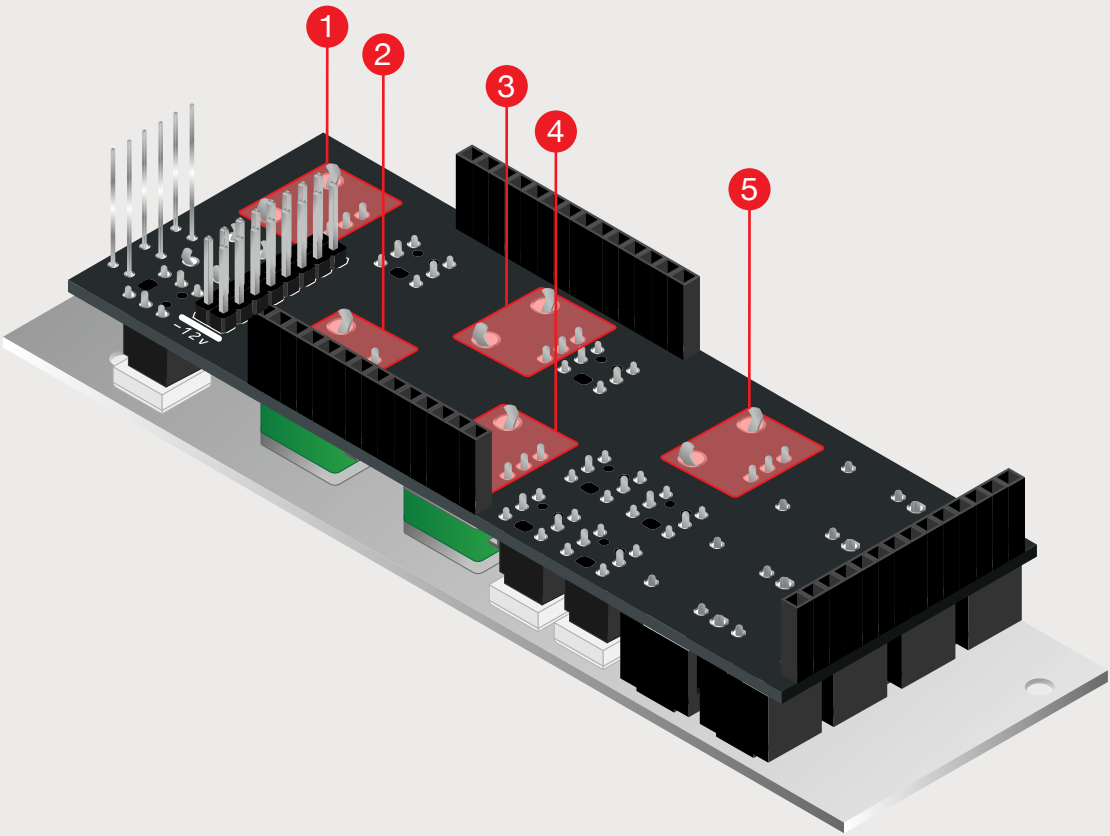
Flip the module, check that every potentiometer is well-sited through the PCB, then solder

21



- Shakmat Battering Ram
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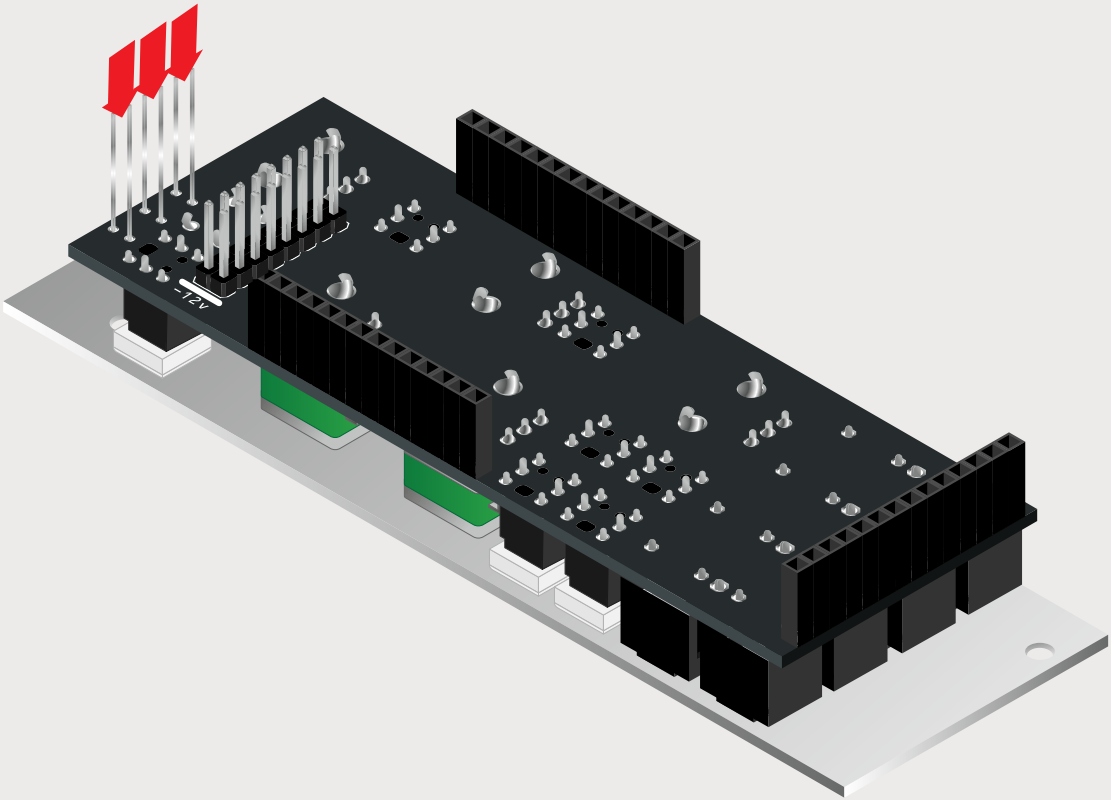
Push each LED through the front panel
until it sticks to the tape

22



- Shakmat Battering Ram
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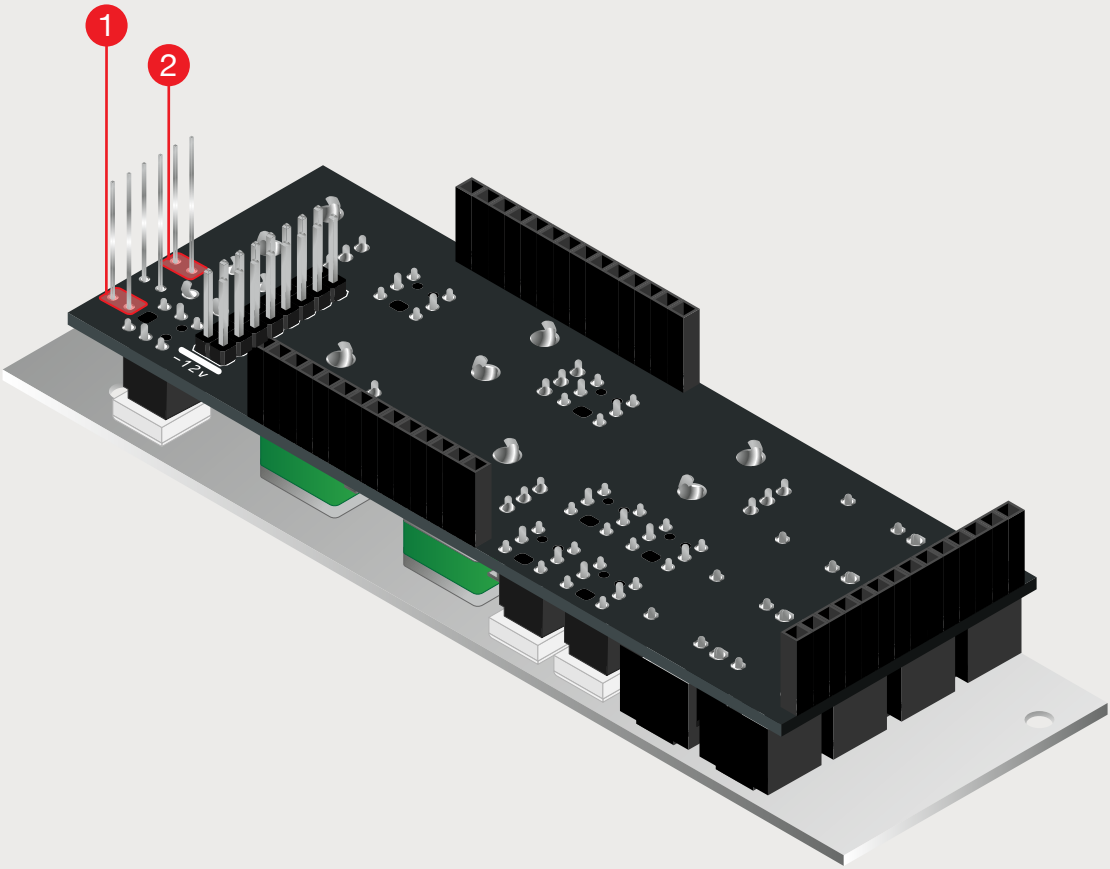
Solder the two outer LEDs, then cut off the excess legs

23



- Shakmat Battering Ram
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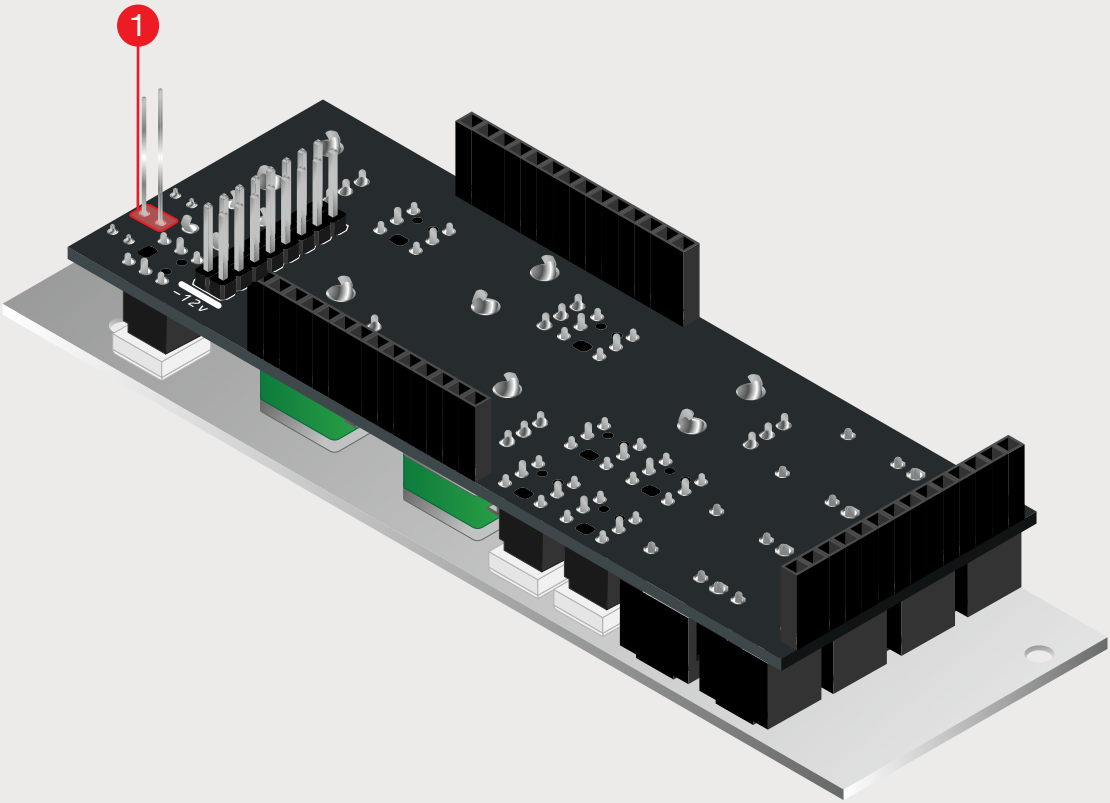
Solder the last LED,
then cut off the excess leg

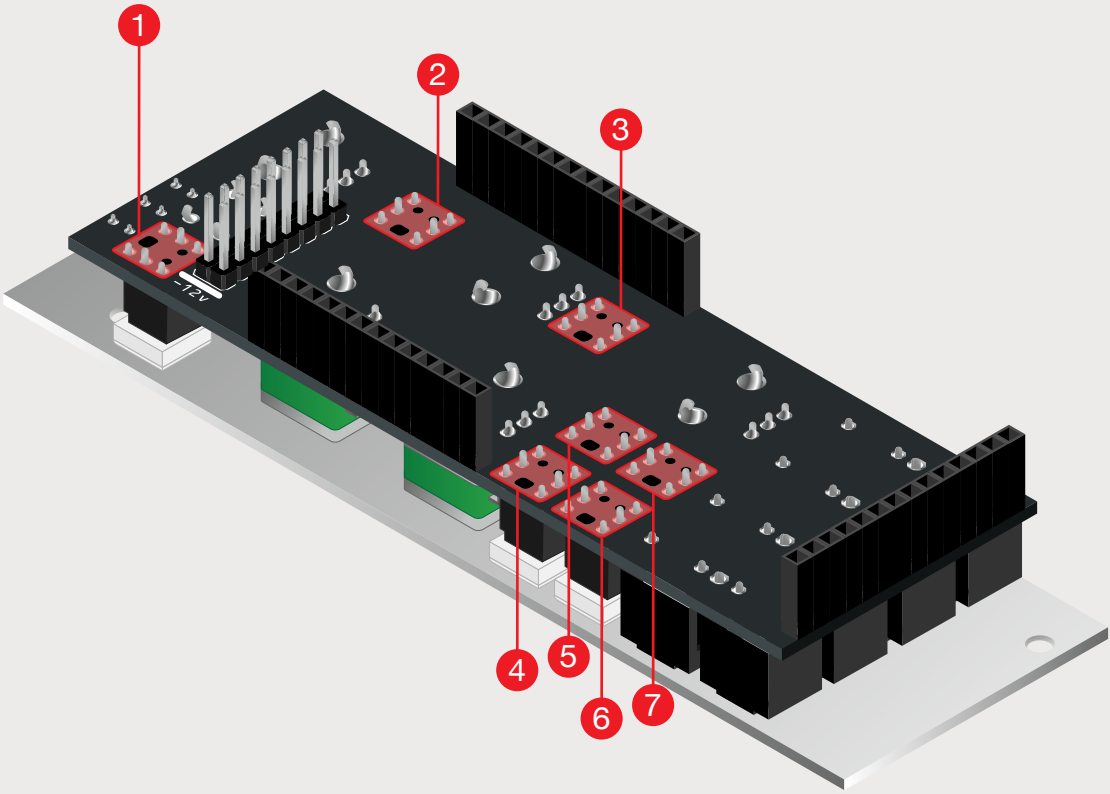
24



- Shakmat Battering Ram
- Building Guide

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

25



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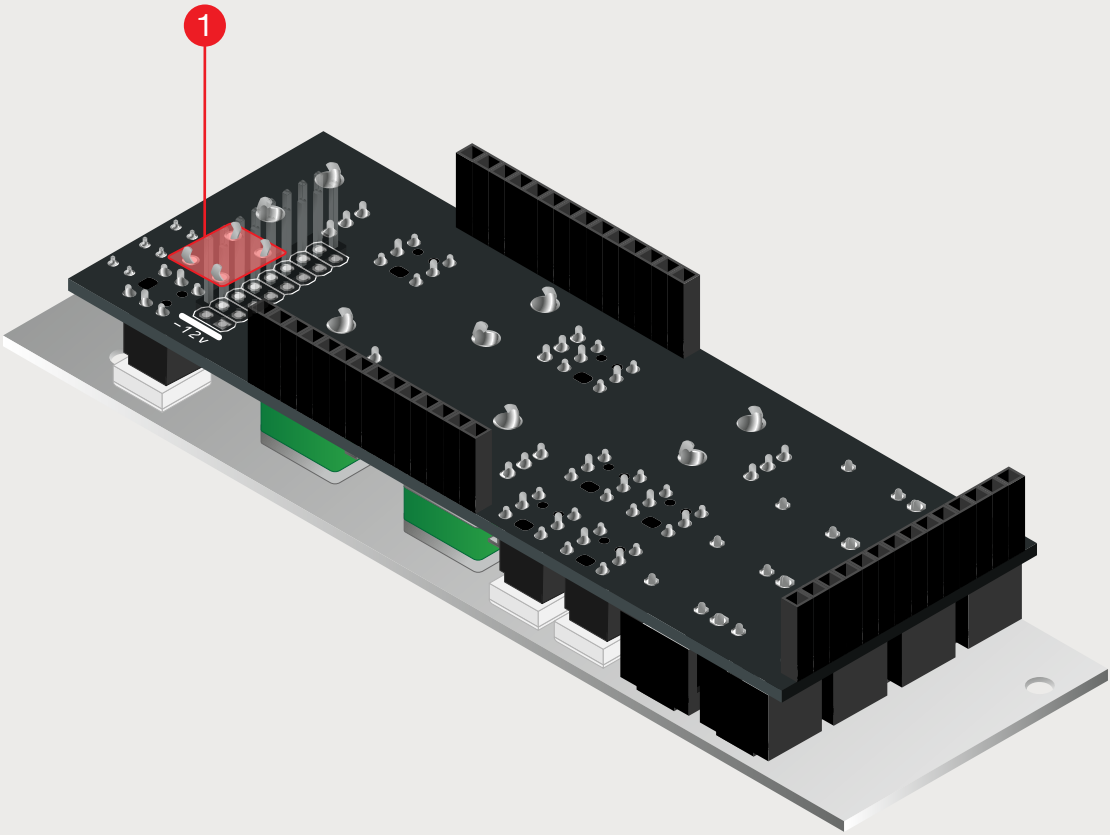
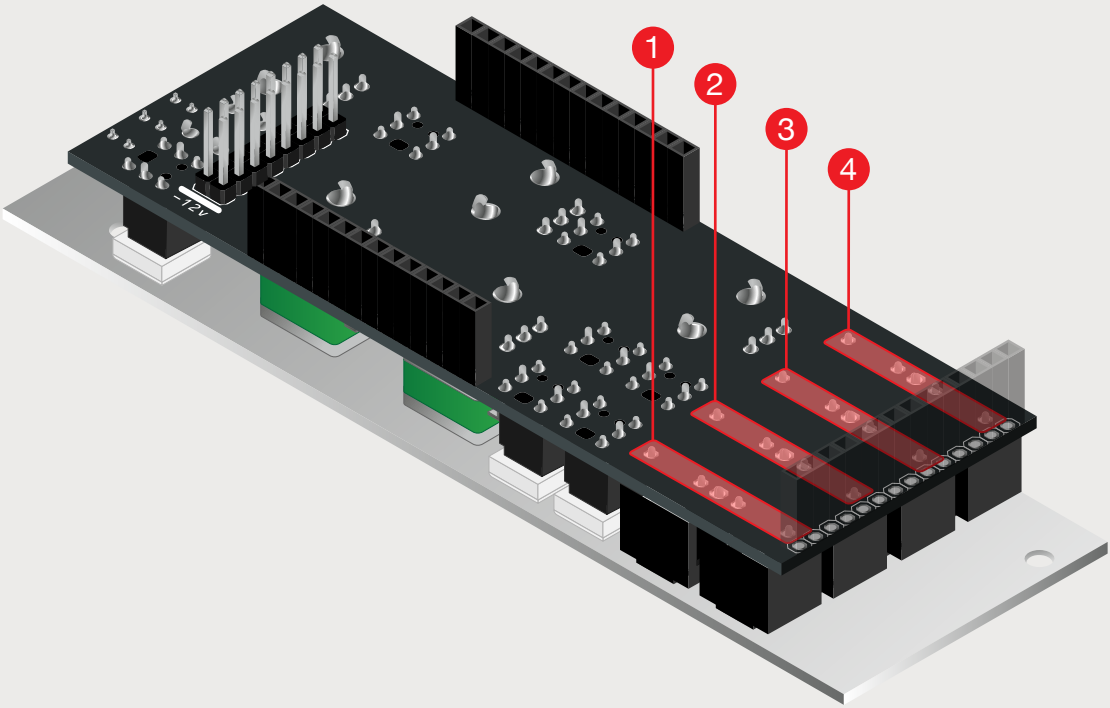
Check that the tactile switch
is correctly mounted through the PCB
and clicks consistently, then solder

26



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

27



- Shakmat Battering Ram
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Assemble the two PCBs
back together and you're done!

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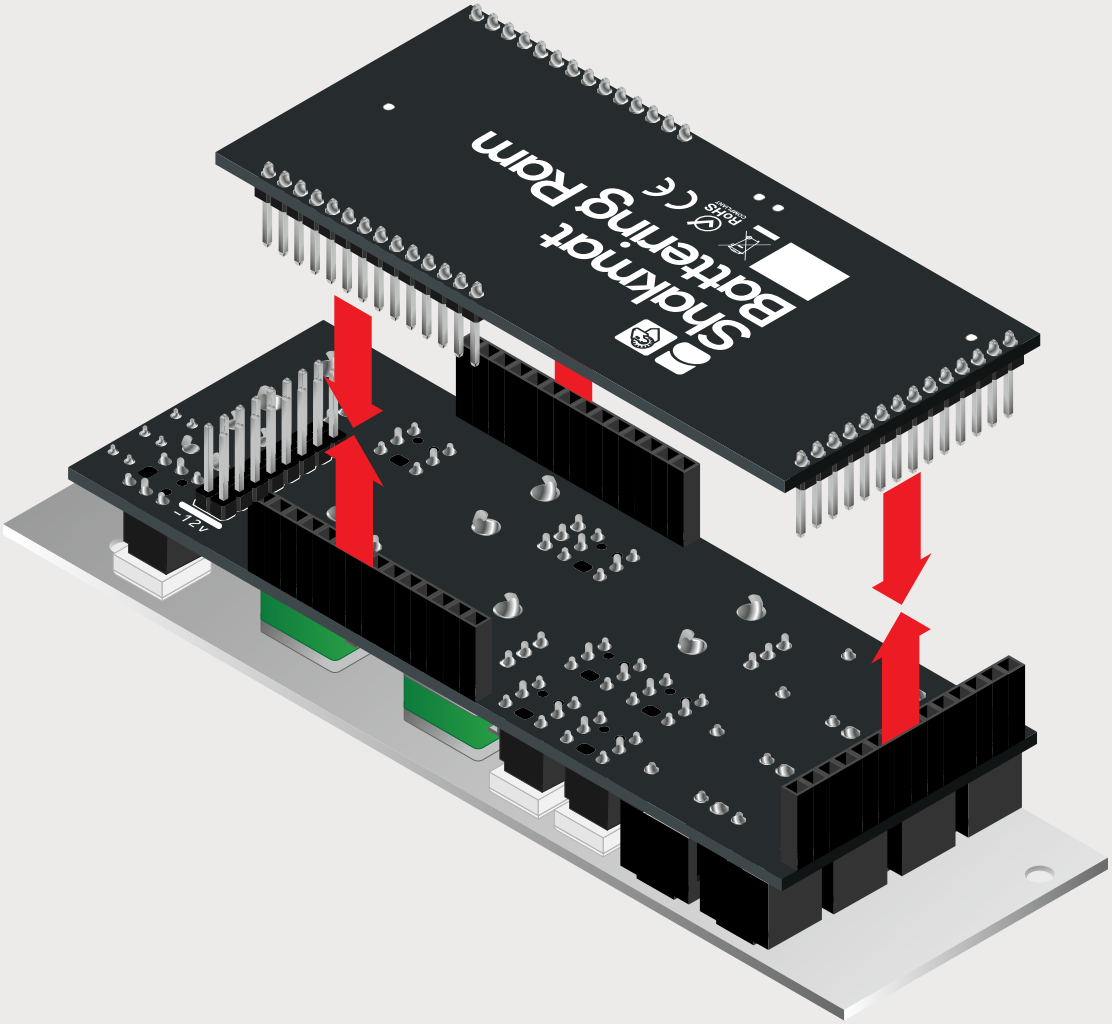

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FIRST START-UP ROUTINE

This routine erases all EEPROM, then goes to calibration

Power up the module

— Wait until all 4 amber LED push buttons are lit
— Power down the module and wait for 2 seconds

Power up the module again

— Wait until Lock & Inv LED push buttons are lit
— Press the Inv LED push buttons to enter calibration procedure
— Wait until Gate LED push buttons is blinking
— Make sure no patch cable is inserted
— Press Gate LED push button to launch the 0v calibration
— Wait until HPF LED push button is blinking
— Insert 2v into Pitch CV input and press HPF LED push button
— Wait until HPF LED push button blinks again
— Insert 4v into Pitch CV input and press HPF LED push button
— Wait until Lock LED push button is blinking
— Patch the Decay CV input to Envelope CV input
— Press the Lock LED push button
— Wait until the process is complete