



# 4TRG

## Build Guide

PCB V1.1 Jun 2024



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## Introduction

The PCB has all SMD Parts pre-soldered, which lowers Part count and makes it easy to DIY. Just be careful while soldering to not touch the SMD parts with the Solder Iron.

If you have experience in building DIY modules, the build is very straightforward and you can finish it in under one hour.

This Kit is also a good choice for beginners, as it requires minimal soldering of only Jacks, Potentiometers, LEDs and a pin header.

## Tools Required

Soldering iron (+wire)  
side-cutter  
Philips head screwdriver  
Digital Multimeter

**Useful but not necessary:**

Nut wrench / driver M8,  
Helping (third) hand / PCB holder  
Oscilloscope

## BUILD GUIDE

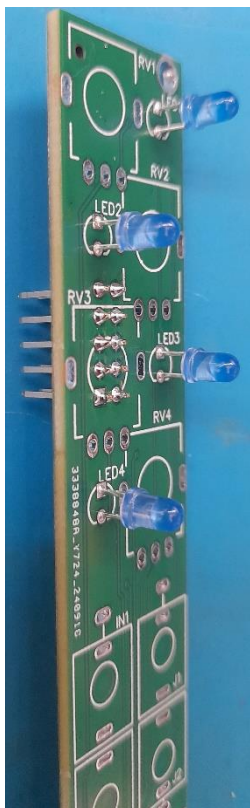
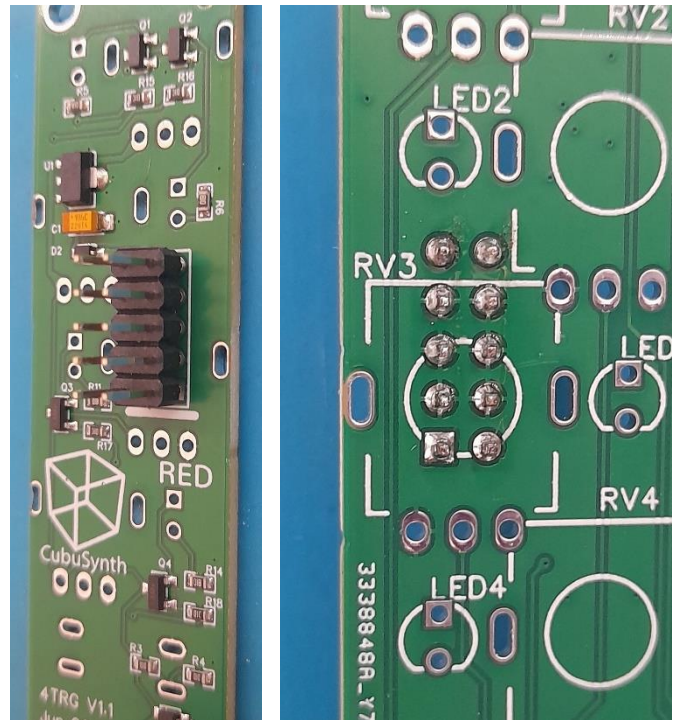
### STEP 1 Power Header

Place the 10-Pin Power Header on the PCB

Solder only one pin first and check placement.  
If needed, heat the solder pad again while pushing the Power header against the PCB.

Then solder the remaining Pins.

The ground pins (6 middle Pins) might need a bit more Heat or time to achieve a proper solder connection.



### STEP 2 LEDs

First, bend the Solder legs of the LEDs like shown in the picture.  
Place the LEDs in their spot, mind orientation.  
The longer leg goes in the squared hole.

Make sure they don't stand off the PCB more than 10mm!

You can start by only solder one leg and adjust alignment before soldering the second one.  
Then cut off the Solder legs.



**STEP 3**  
**M3 Standoff**

Screw in the standoff on the side with the LEDs soldered.



**STEP 4**  
**(Controls)**

B100k Tall Trimmer x4  
PJ-301M Jack (Thonkiconn) x8

Place the Potentiometers and Jacks as marked on the PCB but don't solder yet. Make sure the Tall Trimmer Potentiometers are Properly in place, they should "click" into position.

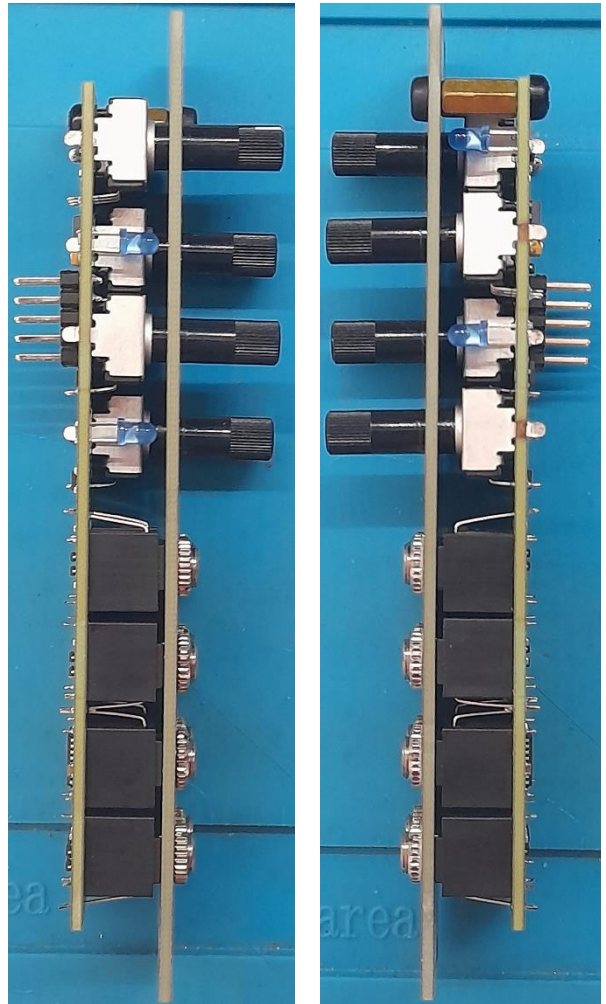
When everything is in place, take the front panel and put it on top, so all controls go into each corresponding hole of the panel. Secure the panel with the M3 screw to the Standoff and put all the nuts on the Jacks and tighten with your hands. Make sure that the Jacks don't rotate and show out the side of the PCBs.

Then carefully flip the board around and solder everything.

## STEP 5 final check

Check your soldering. If you see shorts or bad soldering, fix it up. Then check the power pins for shorts with your multimeter.

When everything looks fine, you can install the module in your Rack. Make sure to correctly connect the Power Header with the Red stripe facing down.



If you have trouble with your build, you can contact us at:

[cubusynth@gmail.com](mailto:cubusynth@gmail.com)

For better support, please include pictures of your soldered board, front+back.

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