GS1-M Build Guide

Audio/CV Mutli-mode mixer

V1.0.0 February 2023

The GS1-M is a switchable averaging or summing mixer.

Typically, with audio signals, you want to provide a unity gain style mixer, i.e. the signals are mixed, or as we call it here, averaged, while maintaining a common gain across all signals. So you keep the same volume essentially. Sometimes you may want to boost the signal and sum the gain.

The mixer provides both, via the switch at the top.

Most of the time, when mixing CV signals you want them to add up, i.e. if you wanted to shift the octave of a V/Oct CV signal, you could add 1v or 2v etc and provide the octave shift. Here you want to sum the input signals, and so the mixer can do that as well.

You can of course use the summing or averaging mode with either CV or Audio, or both.

A simple 6hp utility module with 4 inputs and one gain adjustable output.

Contact info geosync.synth@gmail.com

!!! Important Notes !!!

Note on electrolytics. As this is a simple 1 board PCB design, and due to limited space, the electrolytics in the power rails **MUST be low profile**. See the BOM for a suggested part – anything <10mm high will be fine.

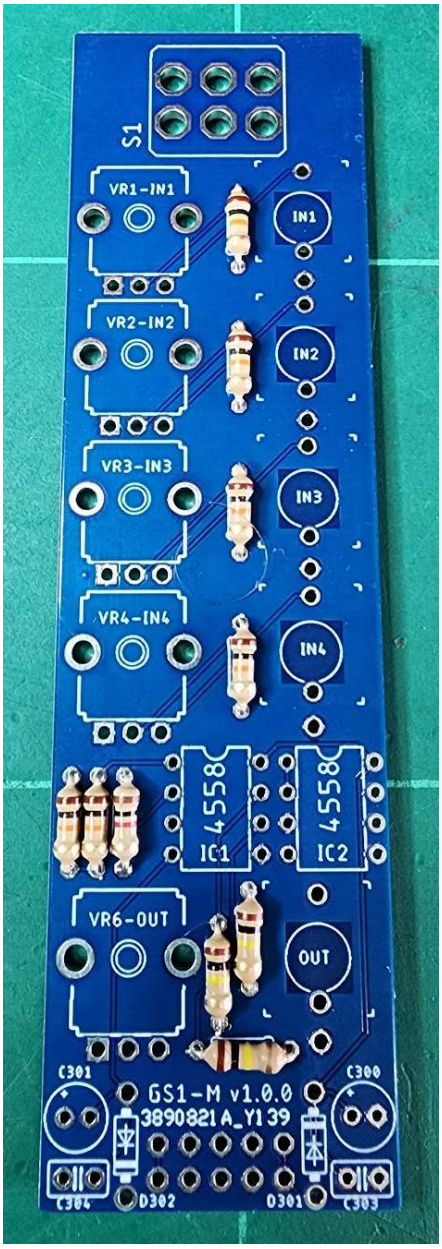
Enjoy!

Mixer Board

Follow the normal low to high building rules.

1. Solder all the resistors.

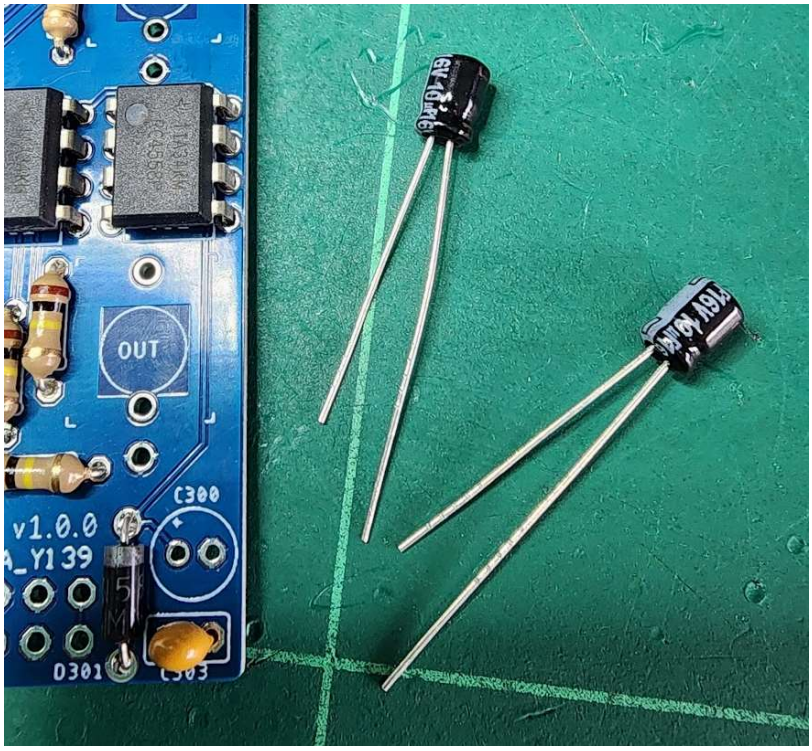
   The board should look something like this;

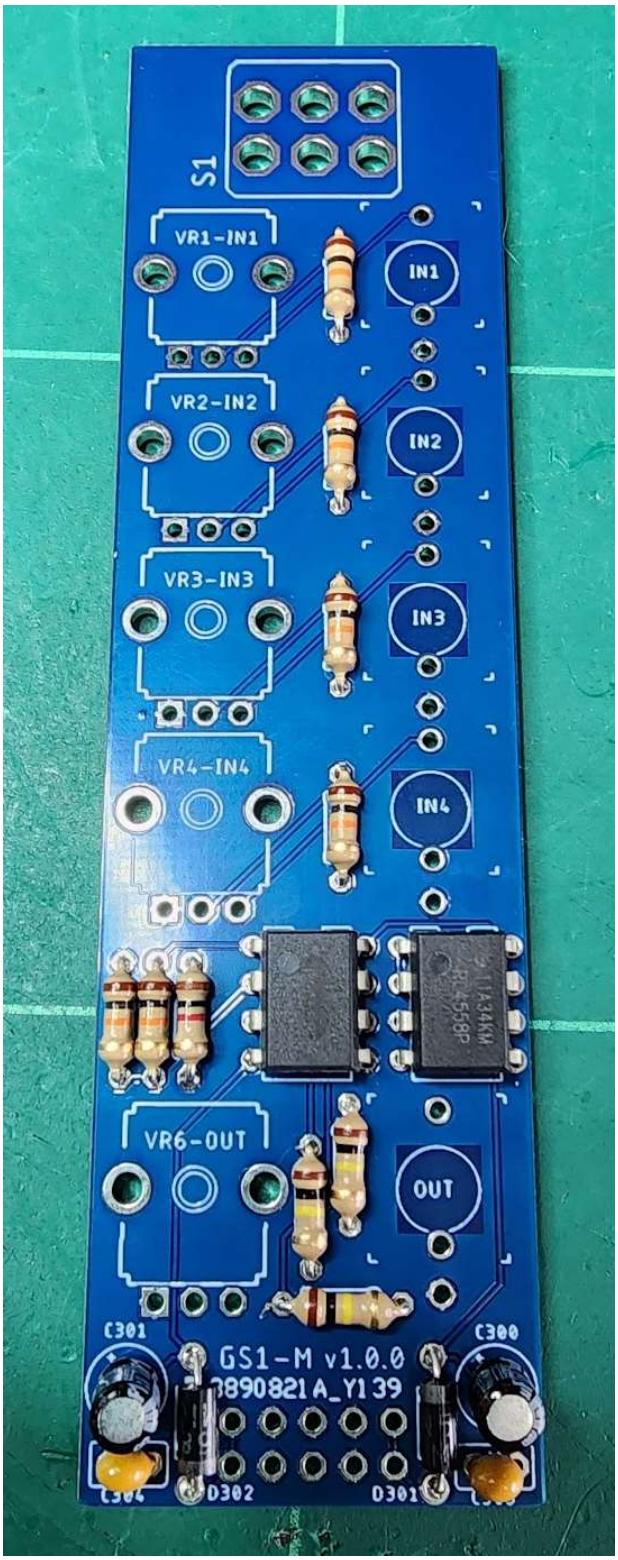


2. Solder the two 1N5817 diodes.
3. I like to add the IC next.
4. Next comes the capacitors, again my routine is usually;

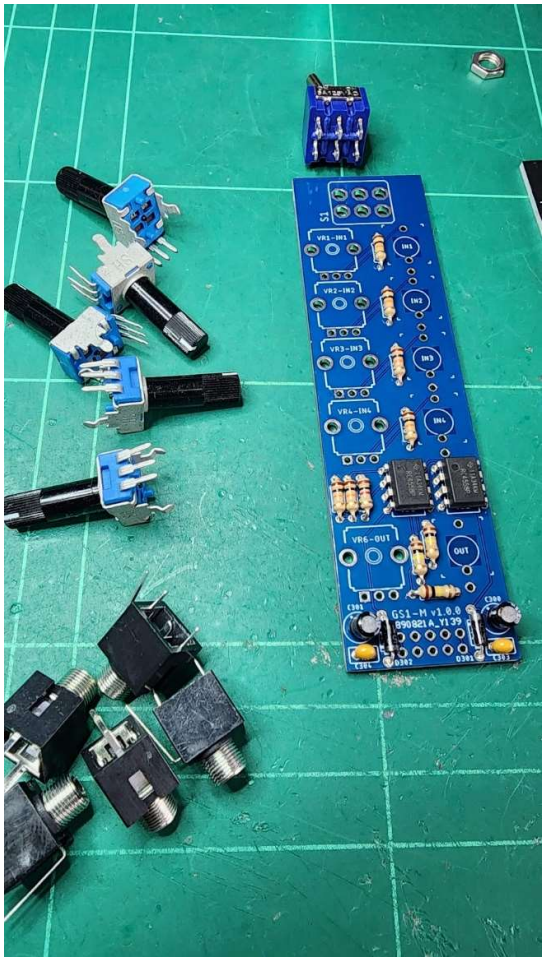
    a. MLCC small ceramics
    b. Finally, the electrolytics.

    Make sure they are low profile, similar to those shown here.




S1
VR1-IN1
IN1
VR2-IN2
IN2
VR3-IN3
IN3
VR4-IN4
IN4
VR6-OUT
OUT
C301
C300
GS1-M v1.0.0
D302
D301

5. Add the 10 pin euro power header **on the rear of the board.**
6. Now add all the jacks, pots and the switch, but don't solder yet.
7. Place the panel over the pots, switch and jacks and make sure everything lines up. Only attach the jack nuts and screw them tight so the panel is flush with those and is parallel to the PCB. Gently screw on the switch nut but don't over tighten as you may make the panel squint! When happy its all square, finish up by soldering all the hardware in place.



Calibration

No calibration is necessary.