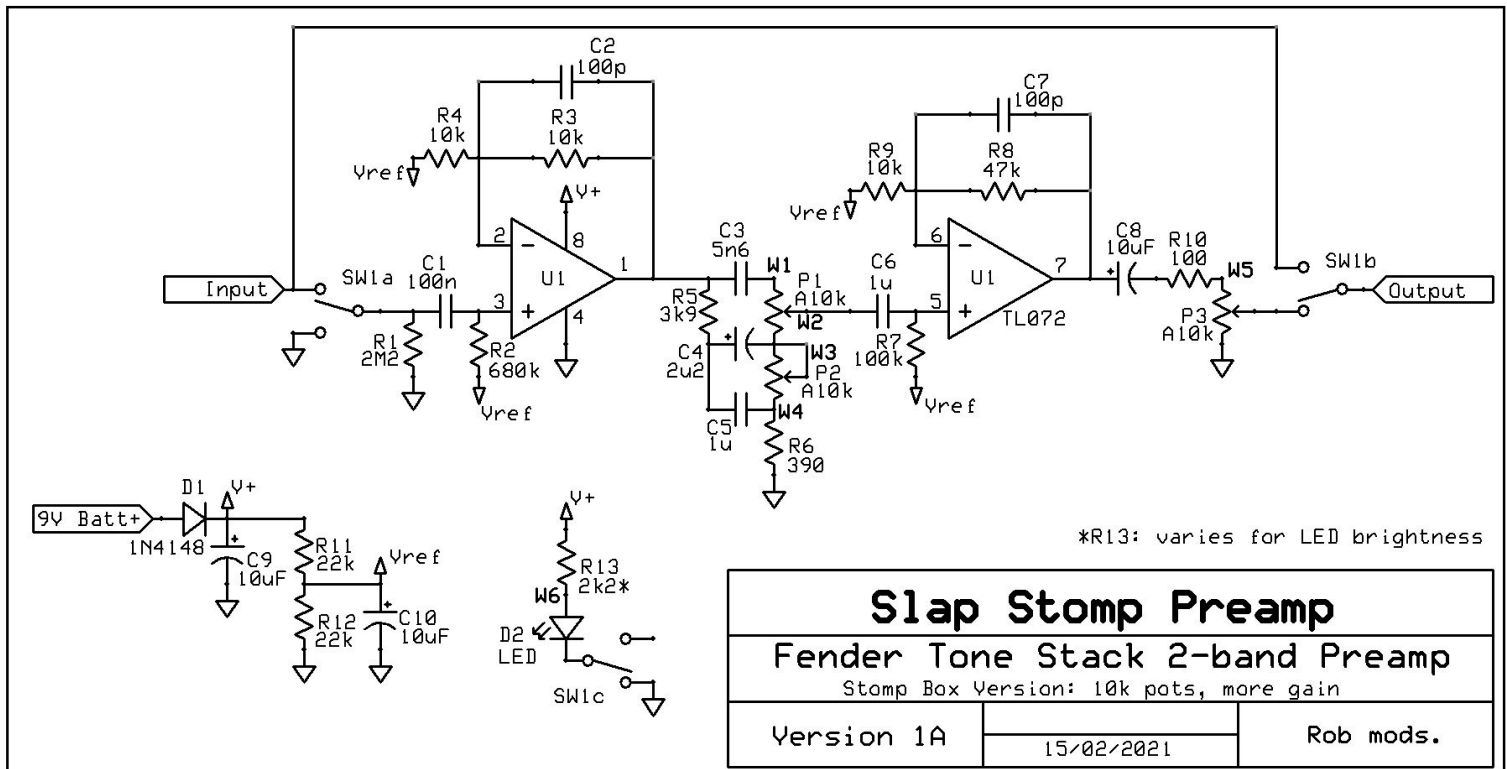
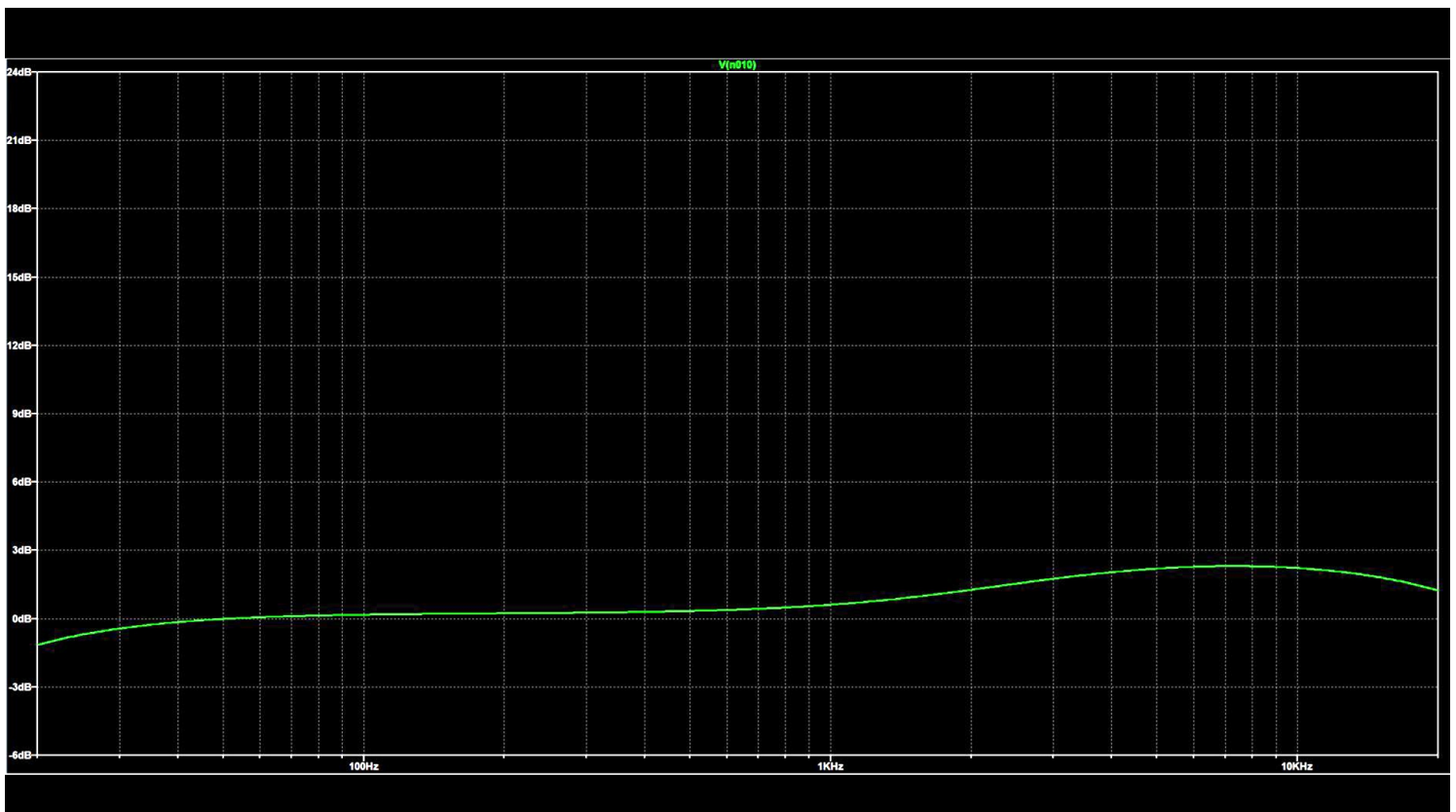


# Rob Mods Fender Tonestack “Boost Only” Preamp (March 2021)

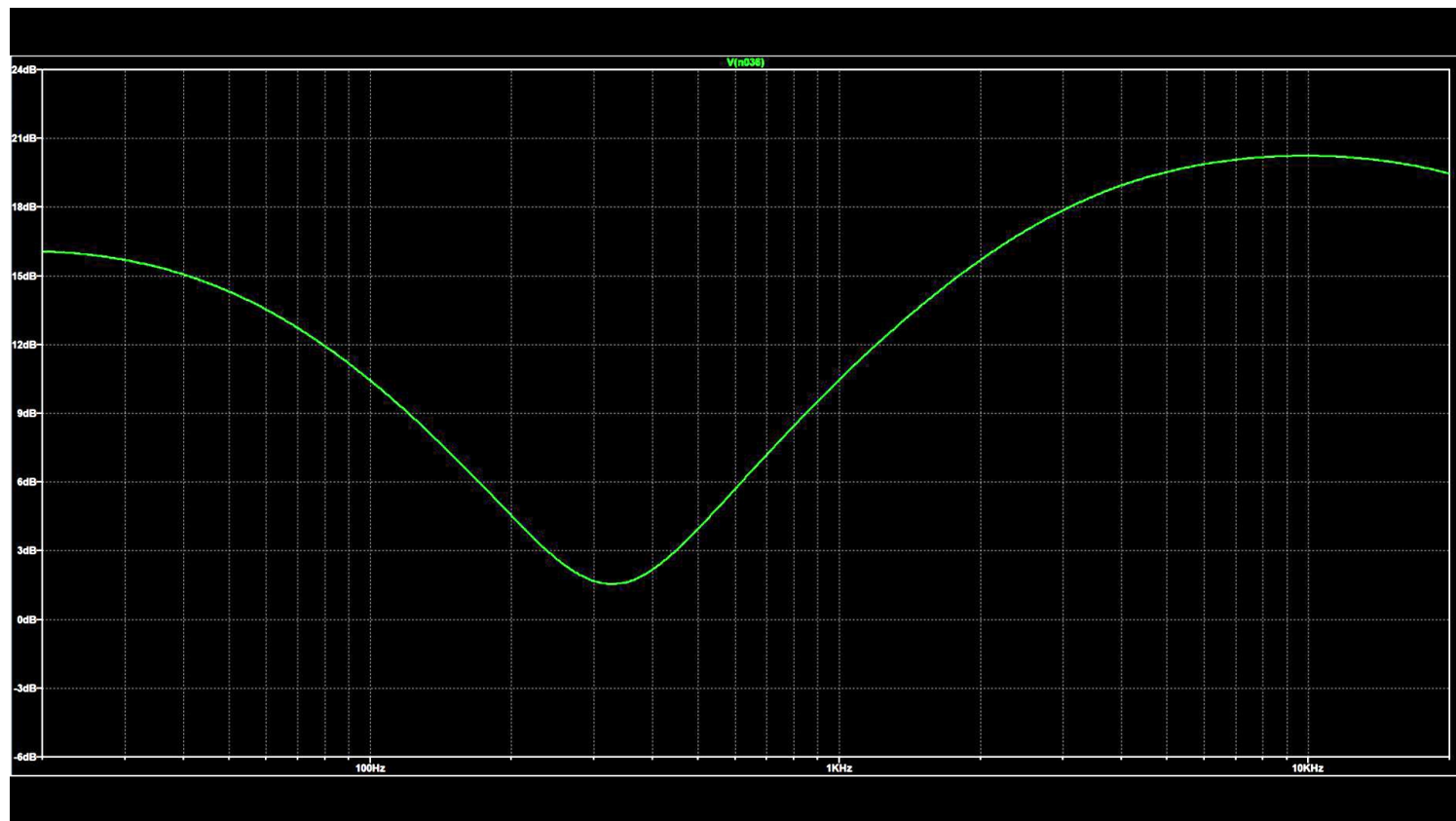
Here's a simple bass preamp based on a Fender tone stack filter.



The first opamp has a gain of 6dB, and the second (gain recovery) opamp has 15dB. This way, with the treble and bass controls on zero and the volume fully clockwise, the pedal has close to a flat response and negligible additional overall gain.

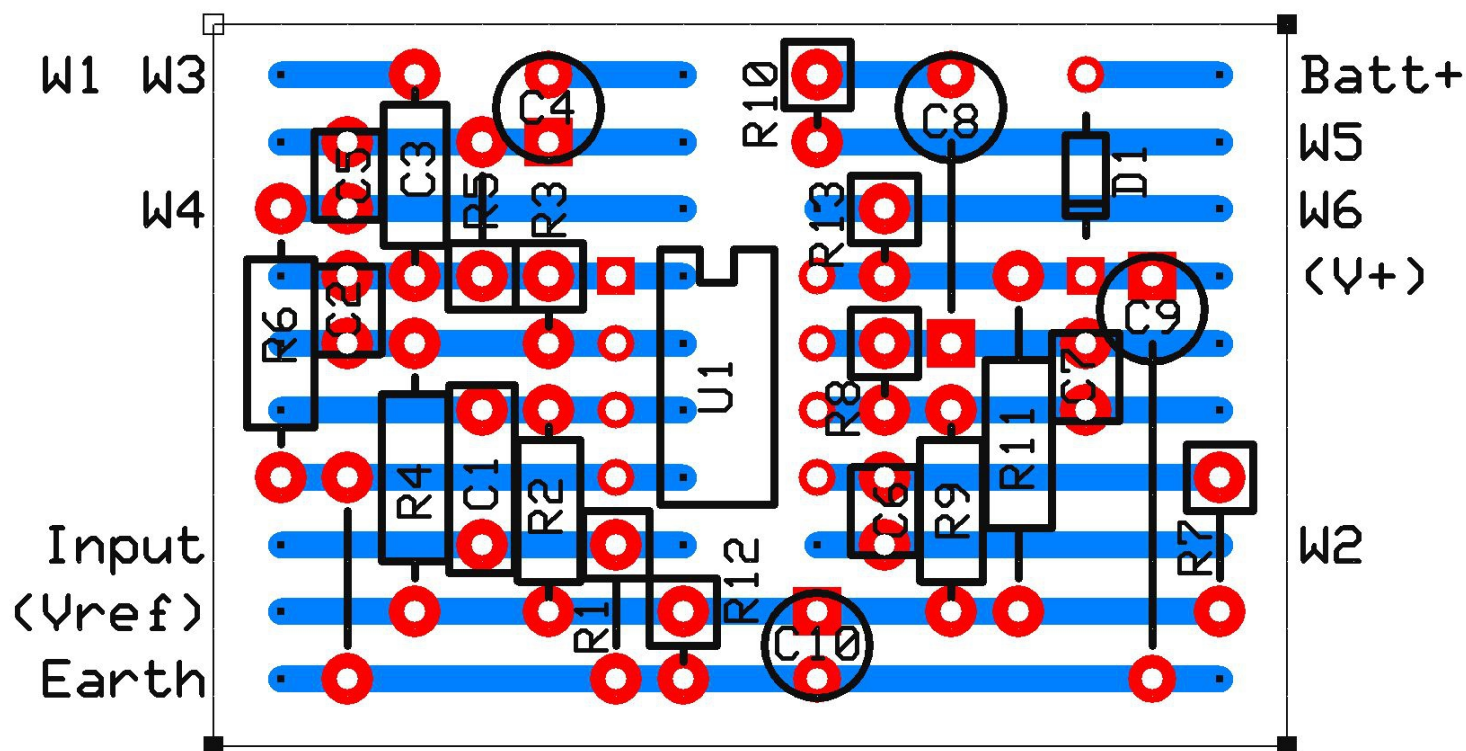


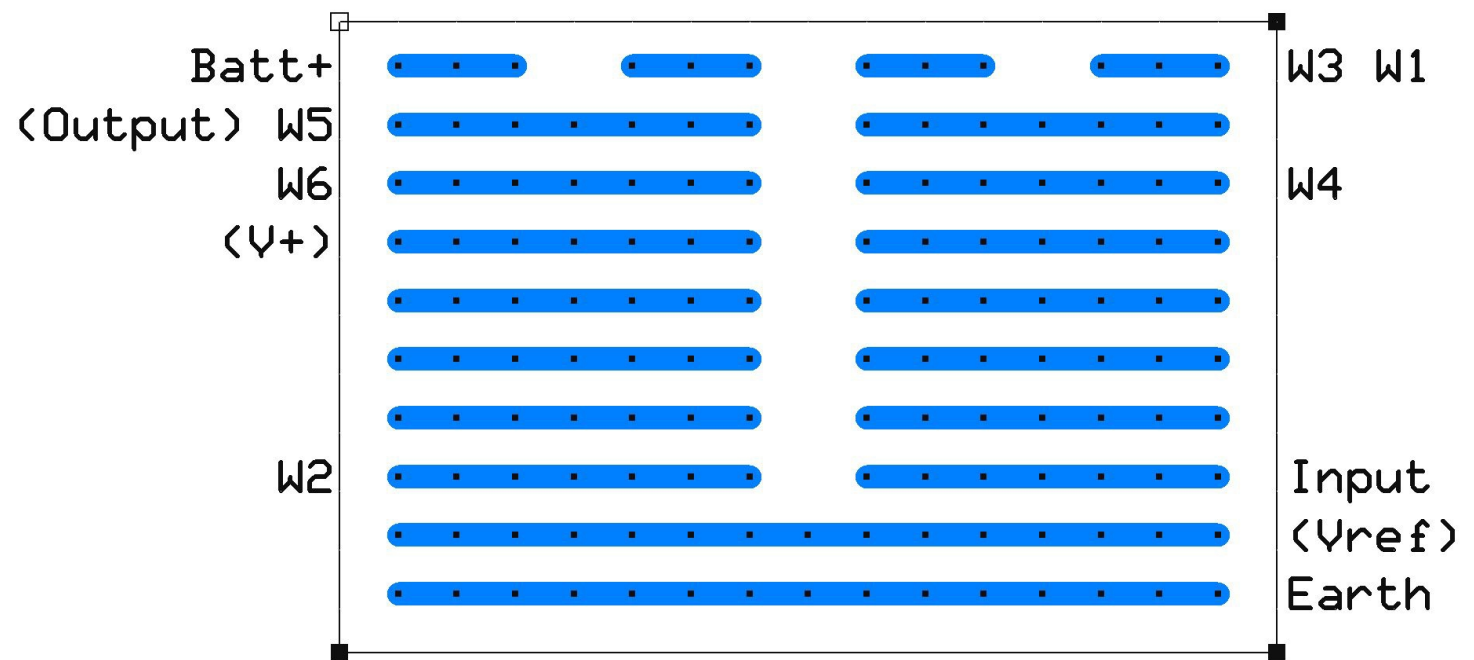
With the bass and treble turned up fully, there's around 16dB of bass boost and 20dB of treble boost.



This is why this type of preamp is often called “boost only”.

Here's a stripboard layout for the project.





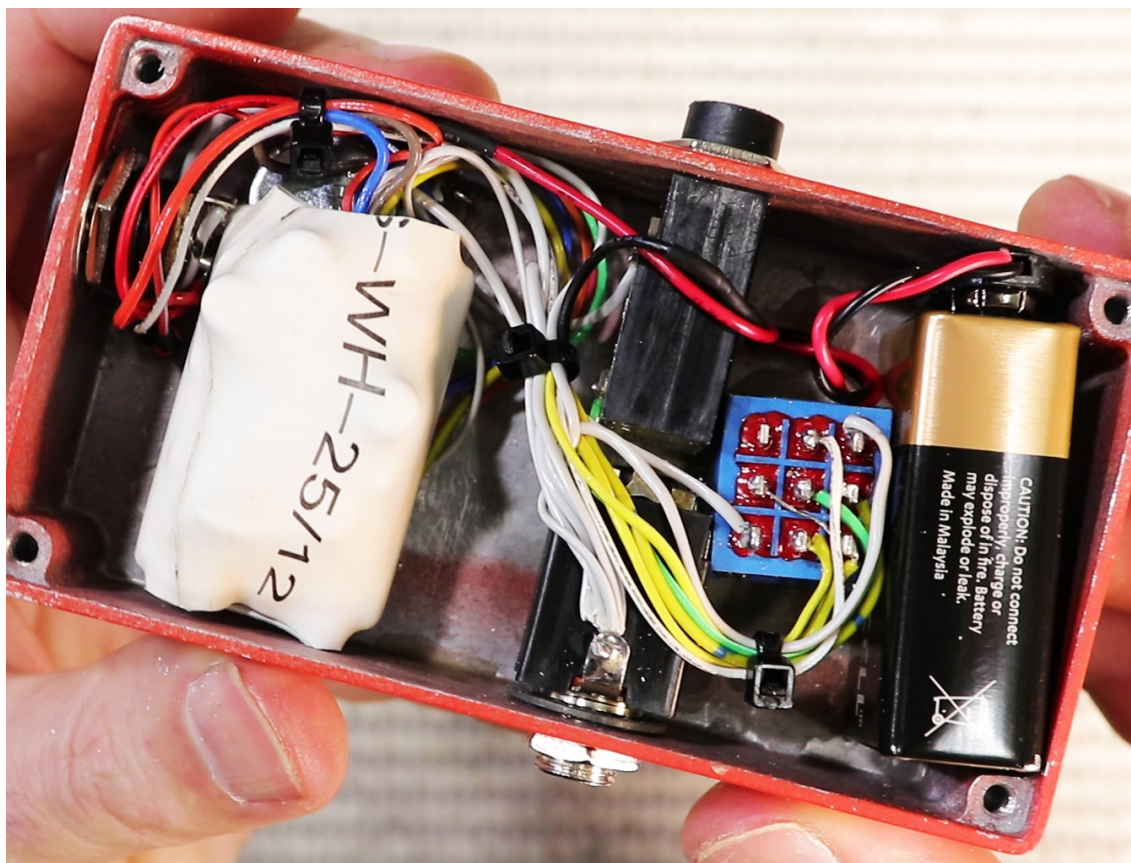
C5 and C6 (1uF) should be monolithic type capacitors. R13 (LED resistor) should be chosen to suit the brightness of your LED. C2 and C7 (100p) will need one leg bent in to fit adjacent tracks. There is a space to one side of both to accommodate them. I used a TL072 as I also installed a battery snap and this draws moderately low current. For the lower battery drain, a TL062 or LF442 could be used, but at the expense of noise performance.

The enclosure was sanded, drilled, primed, then painted red. A waterslide decal was used for the design and labelling. Then I used several coats of satin clear spray paint.

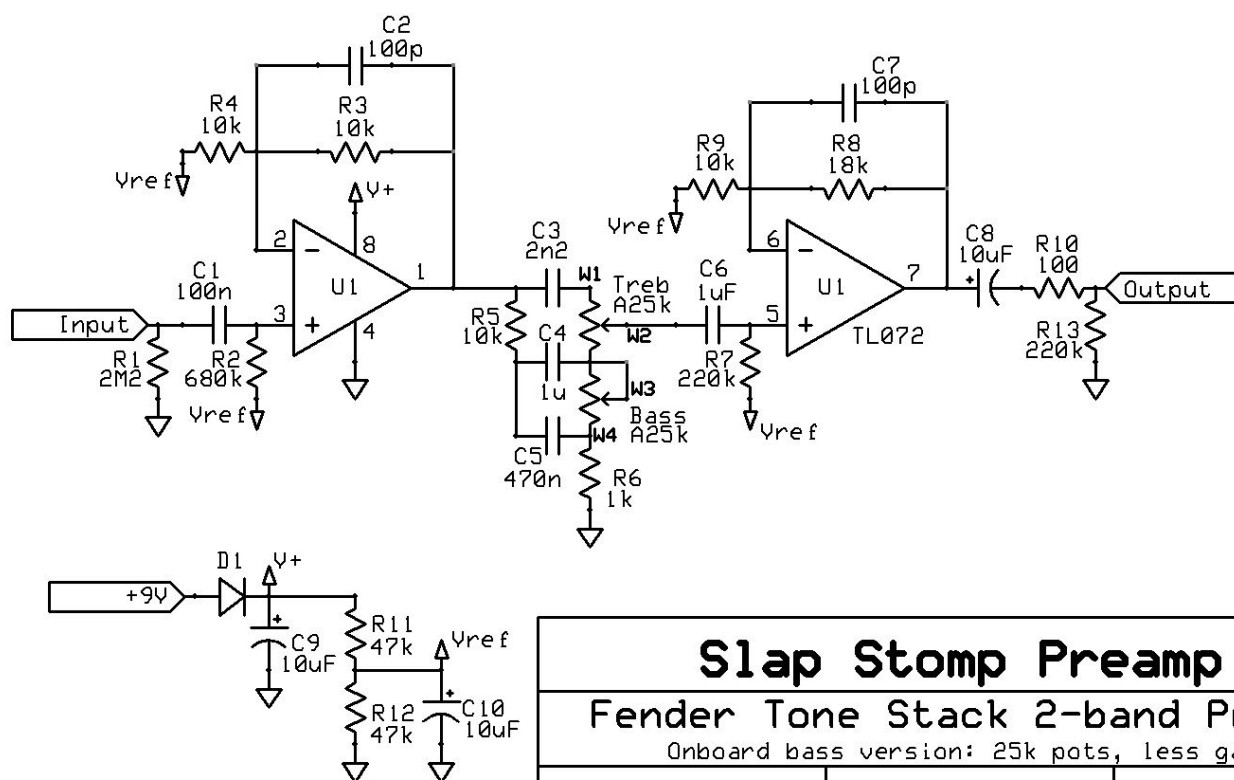




The circuit board was covered in a length of heatshrink and fastened with double-sided tape to the back of the pots.



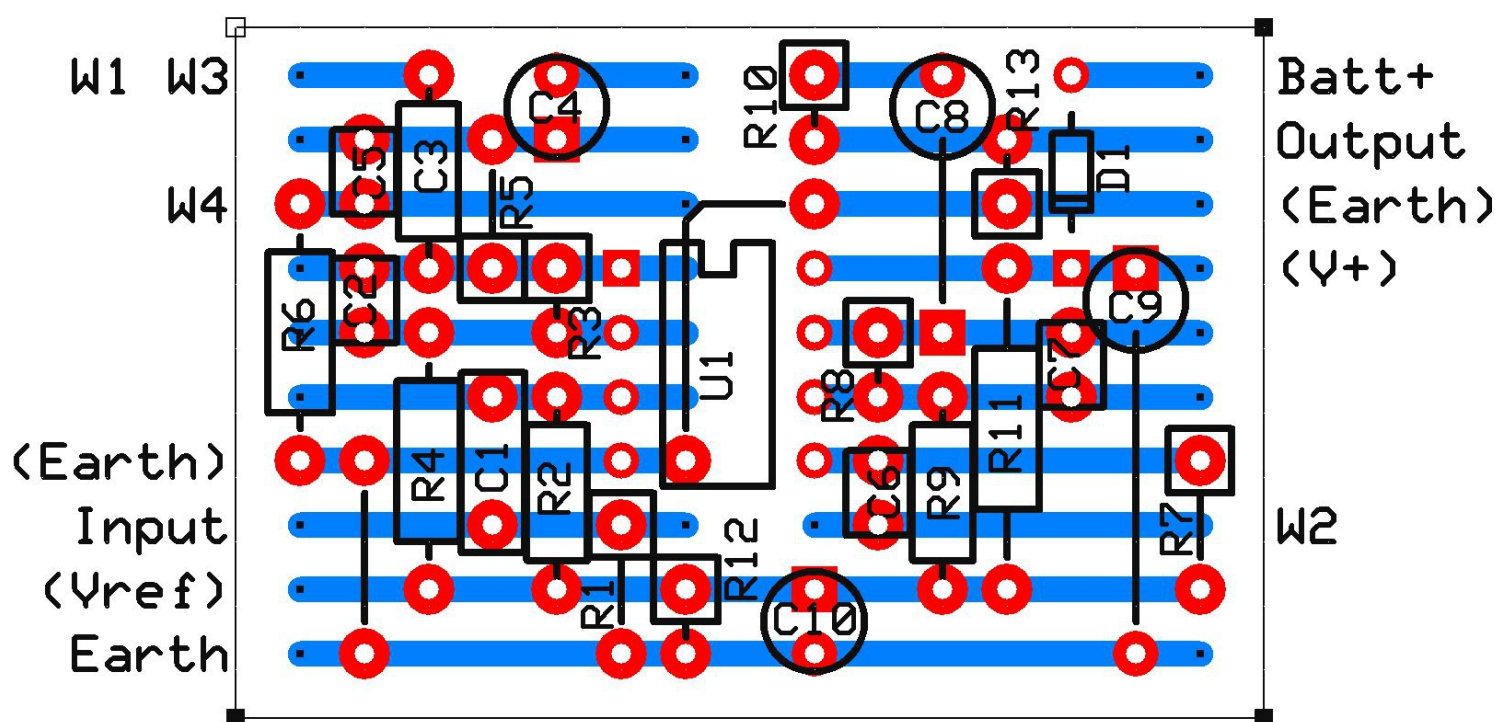
For use as an onboard bass preamp, I made a few changes.



The gain of the second opamp has been reduced to 9dB. With a typical bass guitar installation, there is no output volume control. The volume control is normally a 250k or 500k pot between the pickups and the input of the preamp. This is so the preamp can be bypassed for “passive” operation, and the bass still has its (high impedance) volume control. With less gain, it means you can have the treble and bass controls in the middle of their sweeps and not experience a big difference in volume between the active and passive settings.

I've also scaled the tone stack to work with 25k pots. There is much more options for guitar orientated pots (push-pull, dual concentric, long thread etc) in this value.

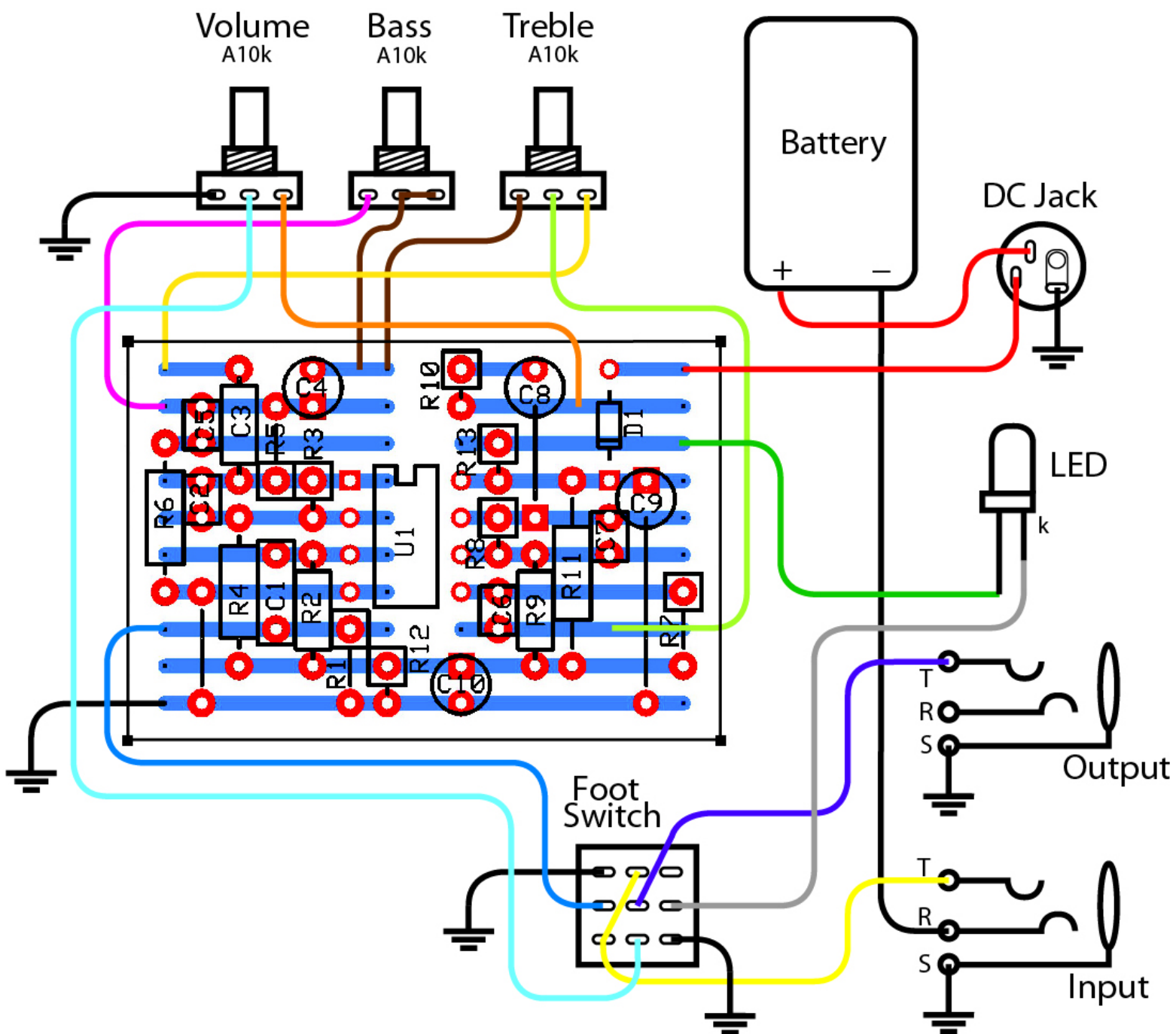
I've also deleted the led and its resistor, plus placed a resistor across the output to stop the coupling cap causing the bypass switch to pop.



By installing the bent jumper from pin 4 of the IC, the new output resistor (R13) can be earthed via the track vacated by the led resistor. The jumper goes under the IC socket, so install it first.

As with the Project Berocca preamp and active blend control, the board can be covered in a length of heatshrink, then fixed with double sided tape inside the bass.

## Stompbox Wiring Diagram:



## Typical Onboard Bass Wiring Diagram:

