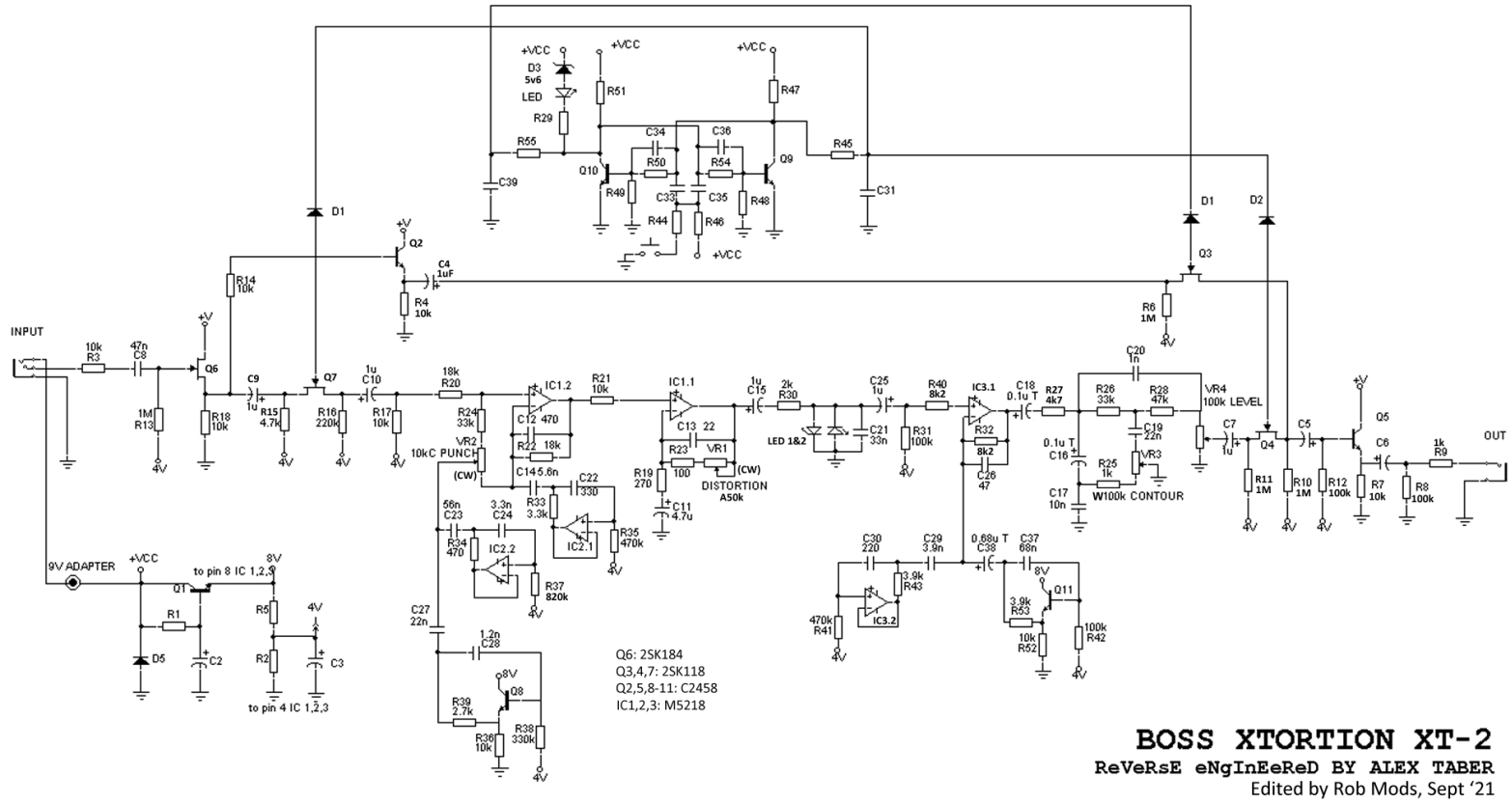
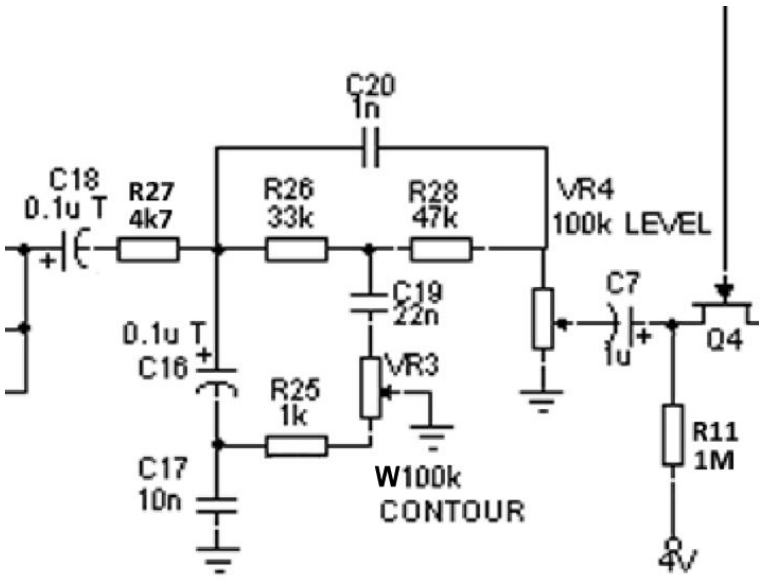
Boss XT-2 Xtortion Pedal Mods
(Sept 2021)

Here is my edited schematic. I didn't bother with the bypass switching components since this part of the circuit is a standard Boss design.

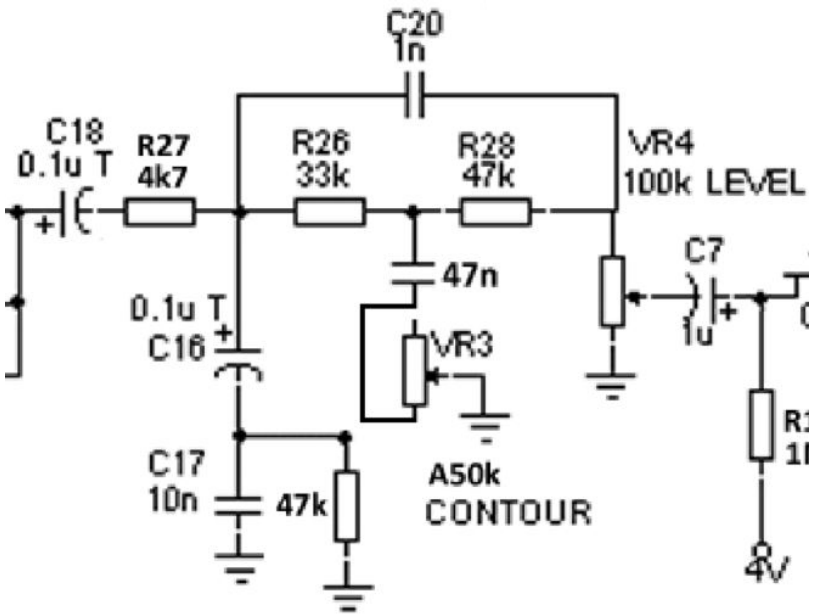


The mod I presented on the Rob Mods episode, makes the contour control a simple mid-cut. It is a very simple mod and is fairly effective, however I may put an active filter in its place at some stage for a higher Q (narrower frequency band) response.

Original Circuit:

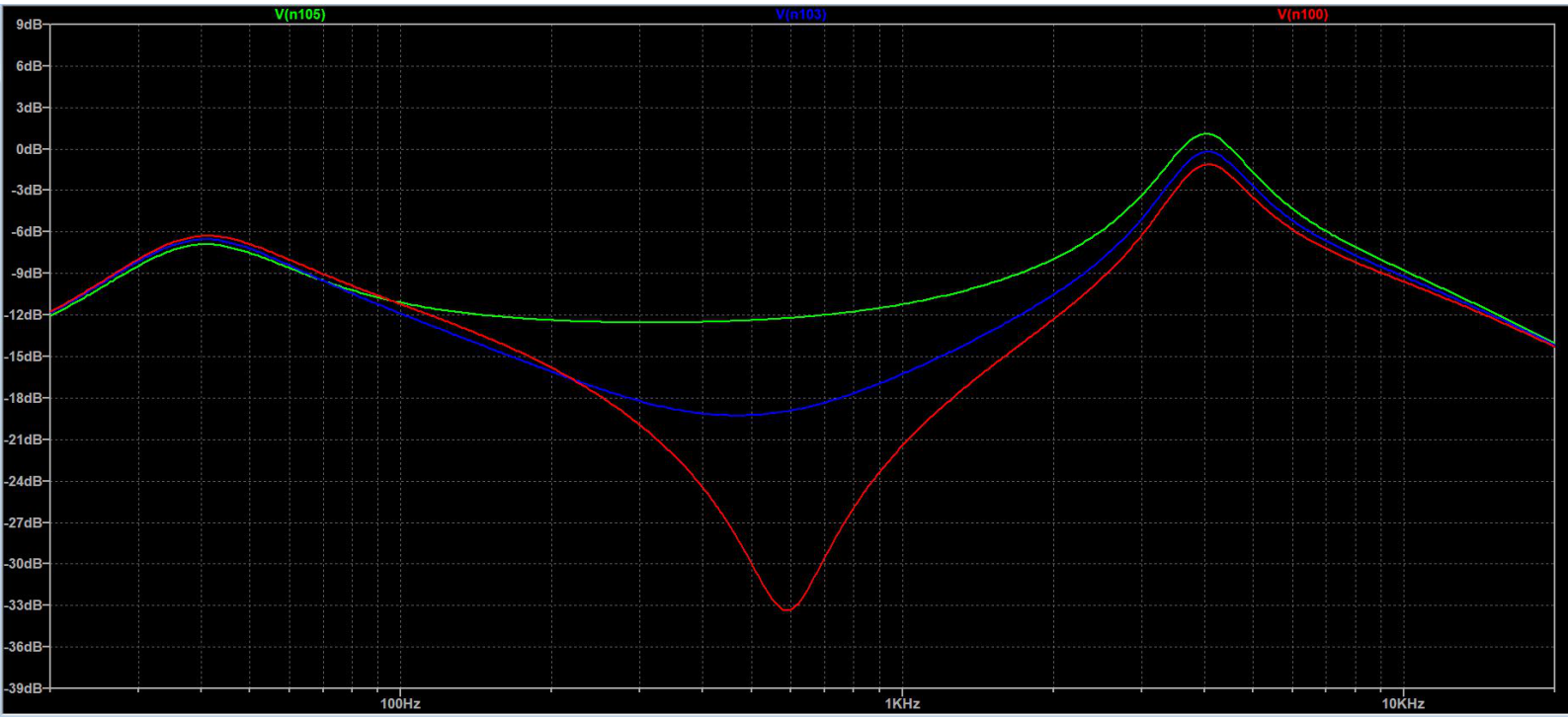


After Modding:



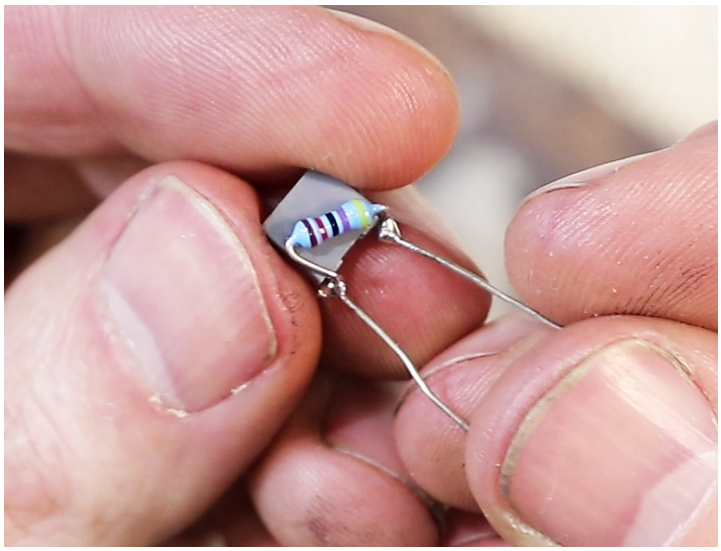
- R25 (1k) is removed
- 47k added in parallel with C17
- Contour pot replaced with A50k (10mm mini pot)
- C19 (22n) removed
- 47n cap installed between R26/R28 and anti-clockwise pot lug

This changes the contour pot into a 600hz mid cut control. (Fully clockwise is flat.) Unlike the original control, there is no treble cut when it is turned down.

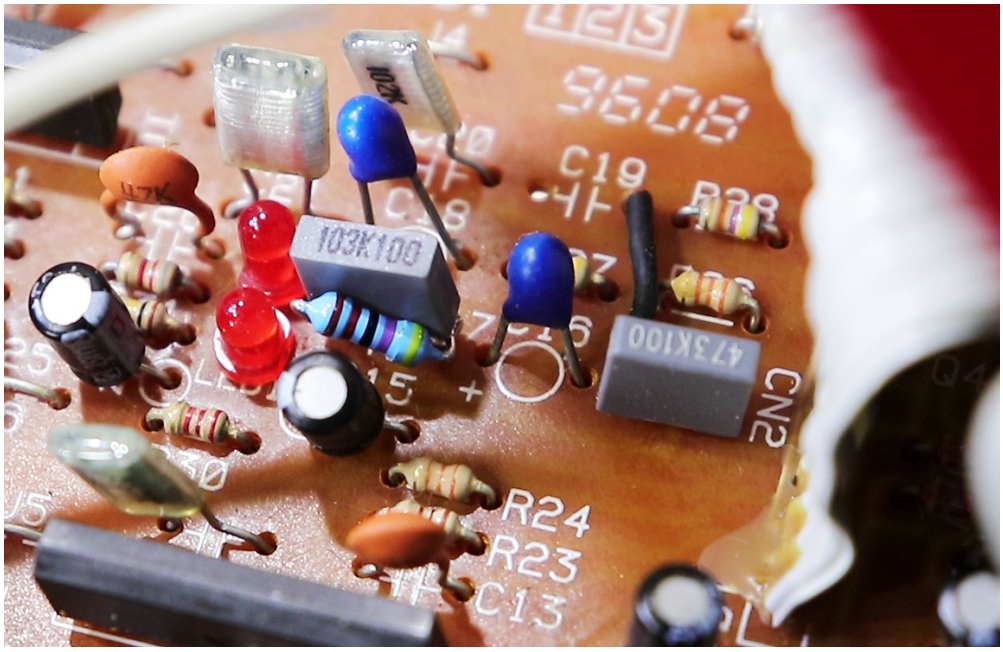


Green trace: Clockwise
Blue trace: 12 0'Clock
Red trace: Anti-clockwise.
The treble and bass peaks are from the previous “fixed tone boost” post-distortion filters.

The original 10n C17 was removed and the 47k resistor was soldered in parallel directly to a new 10n MKT capacitor.



Then both parts were soldered in the original location.

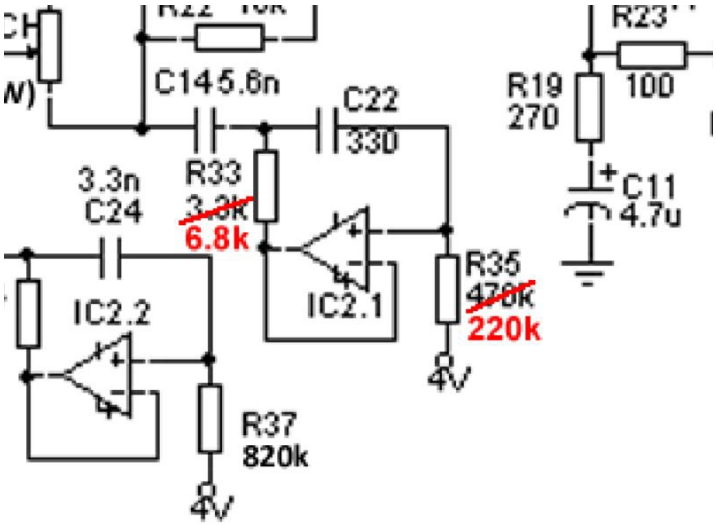


One leg of the 47n cap that replaced C19 is soldered to the pad vacated by R25 that runs to the ribbon cable. The other leg was covered with a 12mm length of heatshrink and bent across the board back to its original pad.

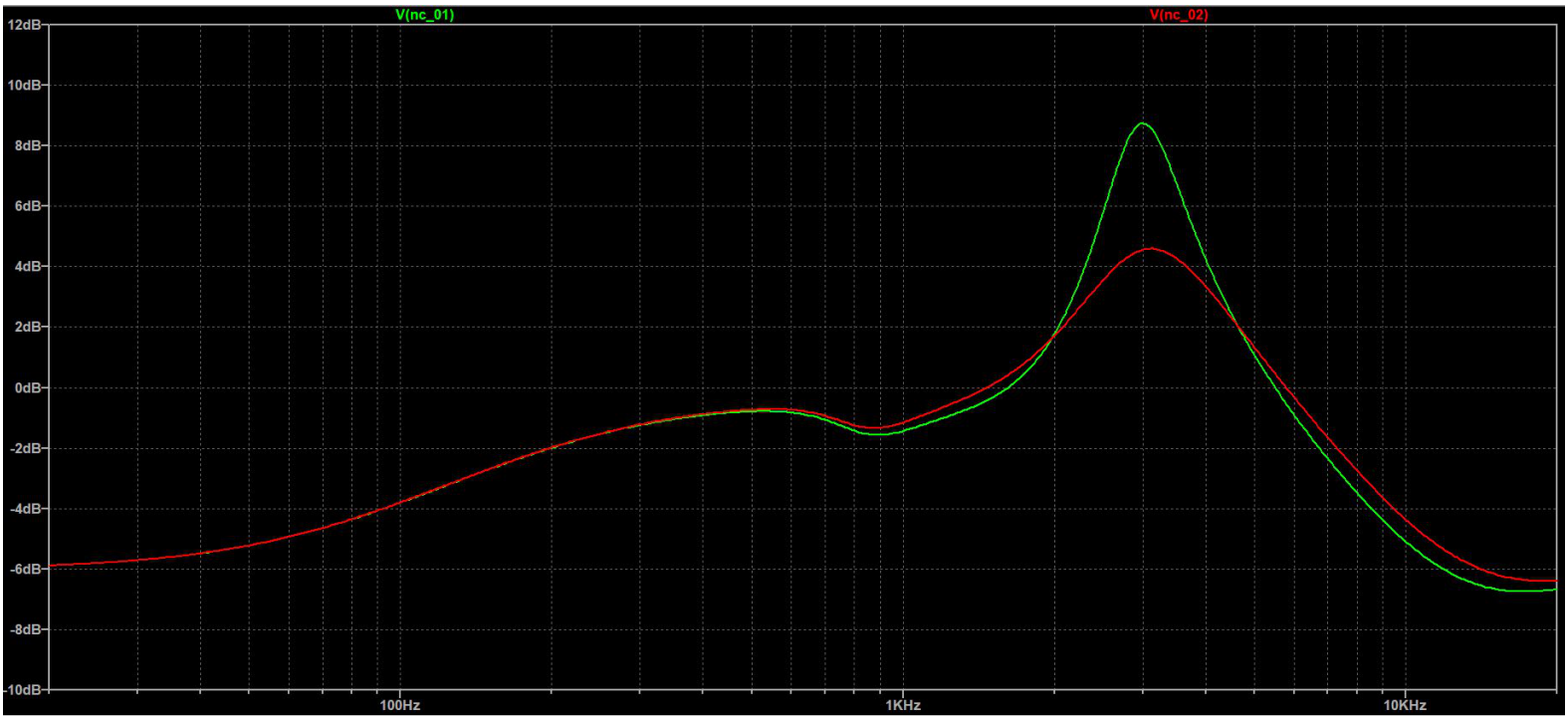
More Tone Tweaks

I also came up with three simple mods that let you tweak the overall voicing of the pedal. They are meant to be subtle but audible. I'm not trying to radically change the sound of the XT-2 with these mods. They are independent mods. You can do just one, two, or all three. I may make a video about these in the future.

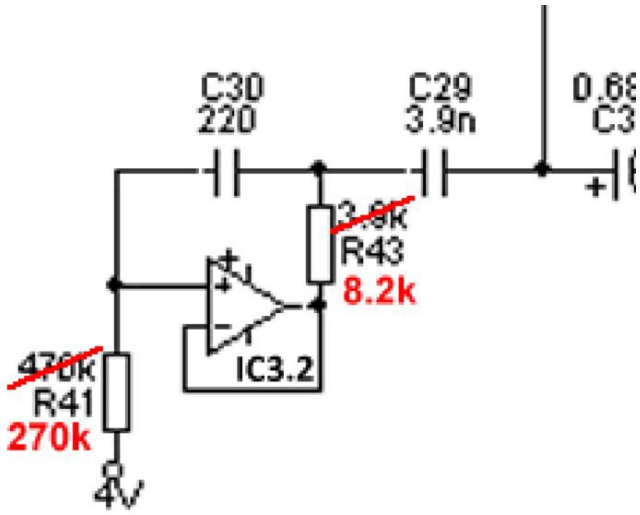
1: Pre-distortion treble cut.



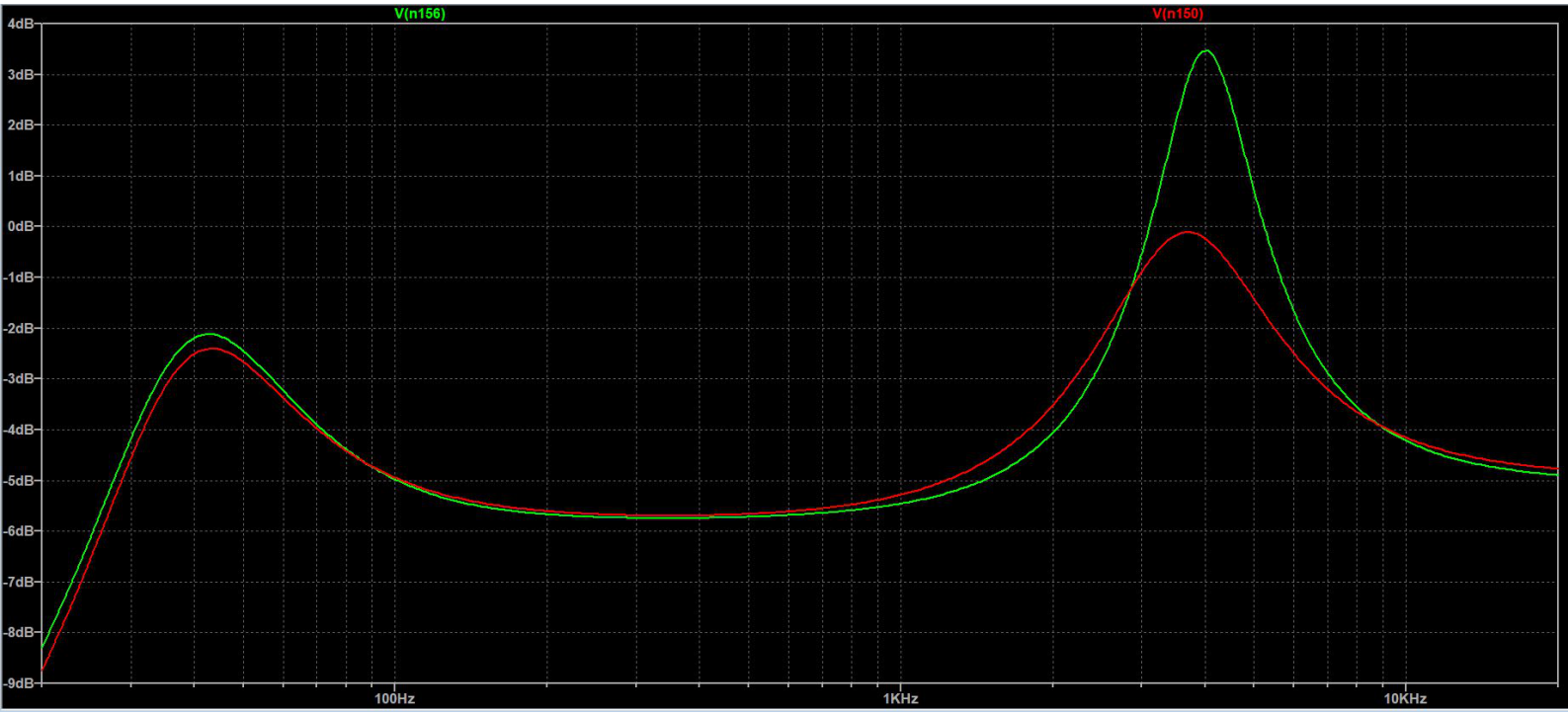
The pedal has a fixed treble boost at 3khz with the band pass filter around IC2.1. Taming this peak reduces the "scratchiness" of the distortion a little. Increasing R33 to 6k8, and reducing R35 to 220k reduces the Q factor of the filter but keeps its centre frequency the same. This reduces the peak by around 4dB.



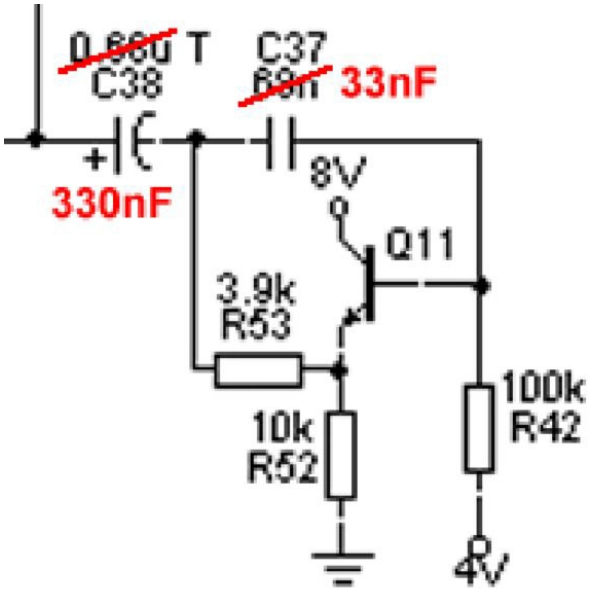
2: Post-distortion treble cut:



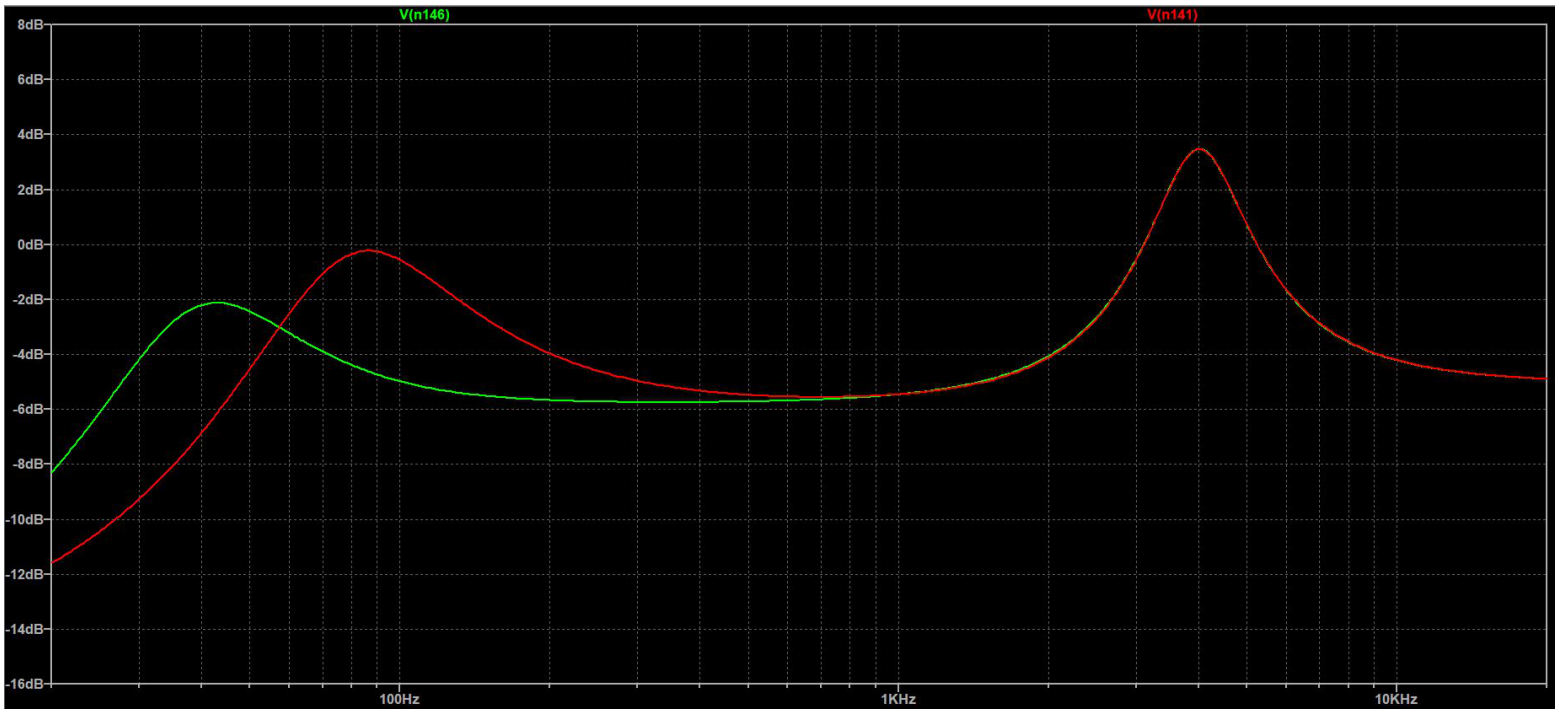
The pedal has a fixed treble boost at 4khz after the distortion section. Increasing R43 to 8k2 and decreasing R41 to 270k reduces the Q factor of the band pass filter built around IC3.2. This subtly lowers the peak by around 3.5dB.



Post-distortion Bass Boost:



After the distortion section, the pedal has a fixed bass boost at 40hz. Reducing the value of both caps, C38 and C37 to 330n and 33n respectively, raises the frequency of this by just over an octave. This brings it more into the guitar (and typical guitar speaker) range.



Rob Mods, Sept 2021.