

Dual Filter Voicing Unit

has two powerful bandpass filters combined with a preamplifier. These three sources are merged together with a mixer. If a TL074 or 4136 quadruple OP-amps is used I've experienced that you get a low-noise circuit not only for guitar, but also for (electret) microphone, while the preamp boosts the signal several times.

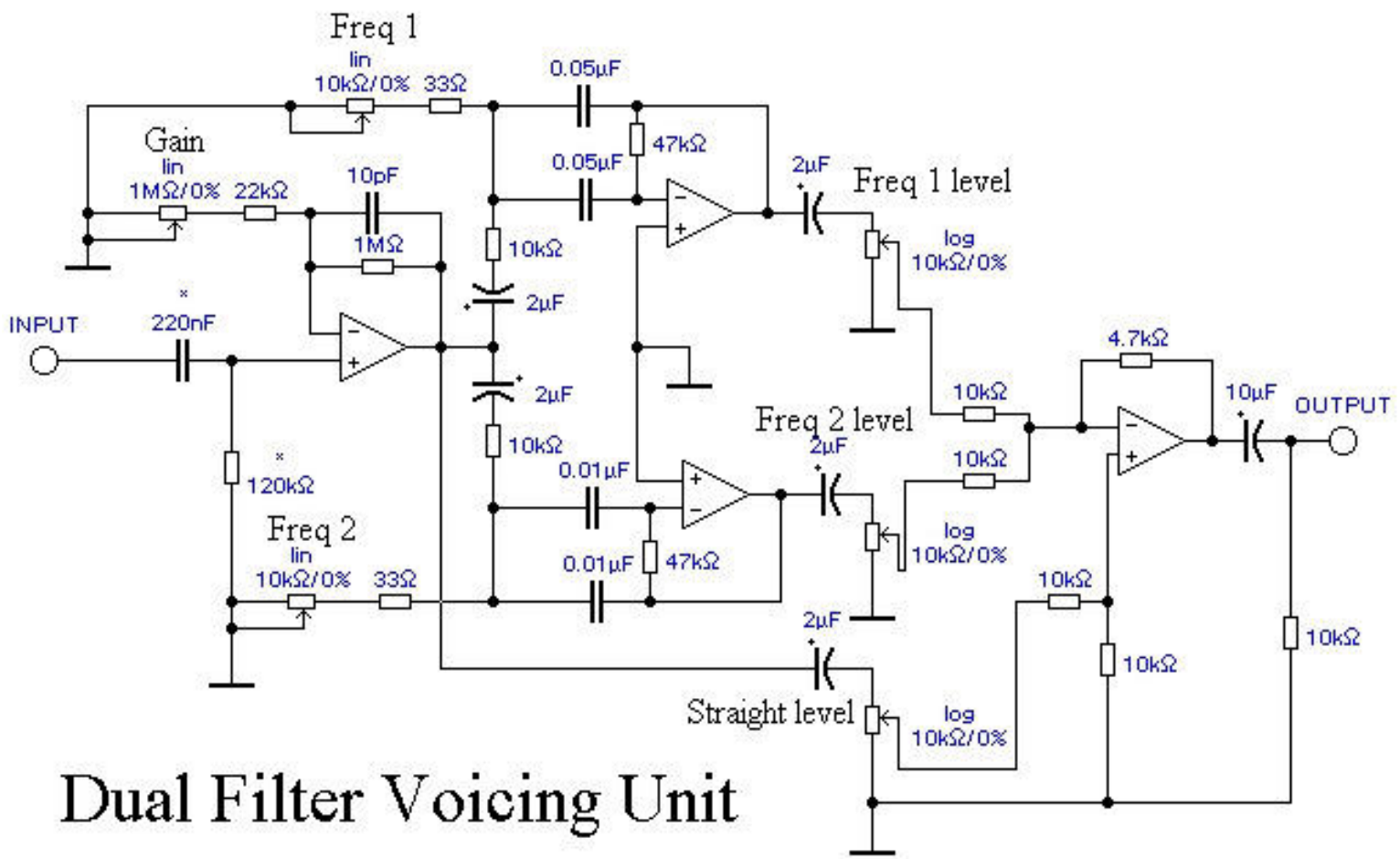
Filter 1 frequency range: $\pm 3\text{dB}$, 250-2500Hz, $\pm 1.5\text{dB}$, 250-1500Hz

Filter 2 frequency range: $\pm 1\text{dB}$, 1200Hz-12kHz

If you need higher input impedance: change the resistor signed (*) to 470k or 1M, and the capacitor (*) to 47n. For the cleanest possible sound, use ± 15 to $\pm 18\text{V}$.

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(At first, please read the information for the original schematic.)

With the switches (S1 and S2) activated you'll change the tune of the filters two octaves down (the values of the capacitors are quadrupled). While S1 controls Filter 1 and S2 controls Filter 2 you can change the frequencies separately.

The 47kohm resistors in the feedback chains of the filter OP-amps settles the bandwidth (Q), and could be changed to 100kohm or so.

To get a higher output from the filters, I've changed both 10kohm resistors in the mixer to the half value, 4.7kohm.

If you activate the switches you will get these specifications:

Filter 1 frequency range: +-3dB, 62.5-625Hz
 +-1.5dB, 62.5-375Hz

Filter 2 frequency range: +-1dB, 300-3000Hz

Modified Dual Filter Voicing Unit

