

Ease of build	Medium
-partcount	Medium
-density	High
Parts sourcing	Easy
Enclosure fitting	Easy
Debugging level	Easy

# 3-band parametric EQ V1.0

## Version with trimpots

## Overview

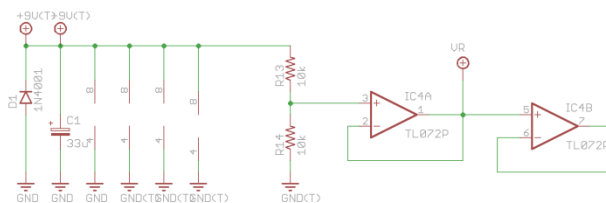
This implementation of the 3-band parametric EQ is of the set-and-forget type. Once you have set the frequency and Q with the trimpots you forget it and only use it as is – the ideal addition to a specific pedal or sound-setup.

## General

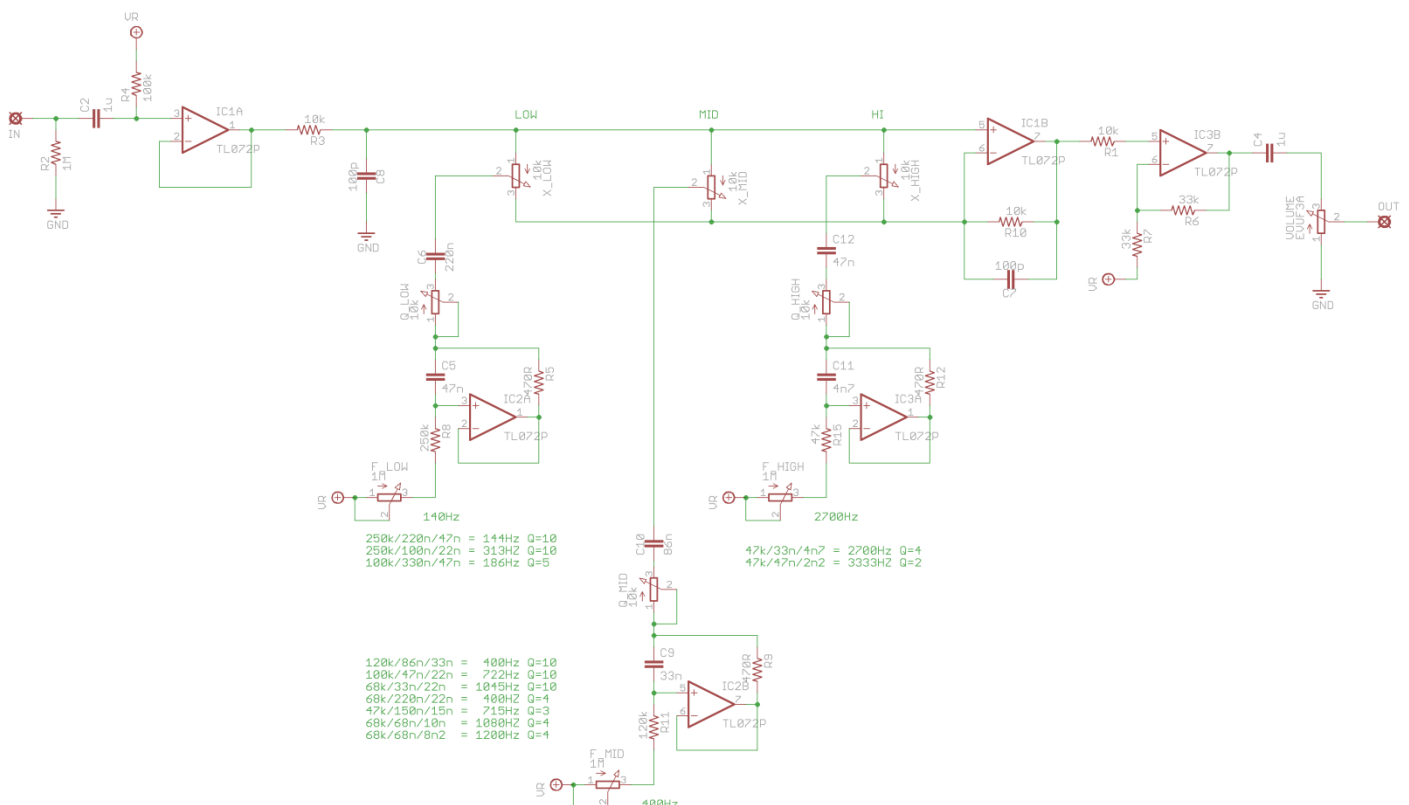
It uses OpAmps as gyrators. There are already several frequencies calculated and they show on the schematic.

Additionally you can use Jack Ormans online calculator to find the correct parts values if you need a special frequency or Q. Please visit <http://www.muzique.com/lab/gyrator.htm> to find out more about it.

## Schematic



3-Band Parametric \_ EQ V1  
Full Control  
(c) 01/2016 TH custom effects



## Bill of materials

	Parts	Qty	Value	Description
<b>Resistors</b>	R1, R3, R10, R13, R14	5	10k	
	R2	1	1M	
	R4	1	330k	
	R5, R9, R12	3	470R	
	R6	1	68k	
	R7	1	33k	
	R8	1	100k*	
	R11, R15	2	47k*	
<b>Capacitors</b>	C1	1	47u-100uF	polarized electro 5-8mm Ø / 8mm
	C2, C4	2	1uF	MLCC
	C3	1	10uF	polarized electro 5mm Ø / 8mm
	C5	1	47n*	box film
	C6	1	330n*	box film
	C7, C8	2	100p	ceram
	C9	1	15n*	box film
	C10	1	150n*	box film
	C11	1	4n7*	box film
	C12	1	33n*	box film
<b>Diodes</b>	D1	1	1N4001	
<b>Pots</b>	Bass, Mid, High	3	10k lin	9mm Alpha
	Volume	1	100k lin	9mm Alpha
	Q	3	5k/10k	Trimpot ACP 6mm / or Piher
	Freq	3	1M	Trimpot ACP 6mm / or Piher
<b>ICs</b>	IC1-IC4	2	TL072(IP)	Or better

## Variations

Here you find different values for different frequency spots. Please note that a Q of 10 defines small bandwidth (1/4 octave) and Q of 3 is about one Octave

### Bass (R8 / C6 / C5)

250k/220n/47n = 144Hz Q=10  
 250k/100n/22n = 313HZ Q=10  
 100k/330n/47n = 186Hz Q=5

### Highs (R15/ C11/ C12)

47k/33n/4n7 = 2700Hz Q=4  
 47k/47n/2n2 = 3333HZ Q=2

### Mids (R11/ C9/ C10)

120k/86n/33n = 400Hz Q=10  
 100k/47n/22n = 722Hz Q=10  
 68k/33n/22n = 1045Hz Q=10  
 68k/220n/22n = 400HZ Q=4  
 47k/150n/15n = 715Hz Q=3  
 68k/68n/10n = 1080HZ Q=4  
 68k/68n/8n2 = 1200Hz Q=4



## Enclosure

This PCB does not fit a 1590B enclosure upright!. You may use it upright in a 125B or a 1590BB.

If you bend the pots in a special way or you stick them trough the side you can use it laying down in a 1590B. (pictures to follow)

## Finally

The 3-band parametric EQ is a great tool for any purpose that needs manipulation of a specific frequency range in your signal. Be it a bass boost or taming high frequencies.

## Disclaimer & License

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