

Benzin EQ

Based on:

Diezel VH4

Effect type:

Pedal Development

Tool Eq Add-on

Build difficult:

Easy

Amount of parts:

Low, total 34 components

Technology:

Op Amps JFET

Power consumption:

9V

Enclosure type:

125b

Get your board at:

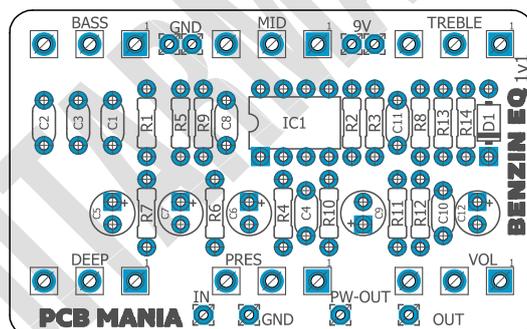
[Benzin EQ](#)

Get your kit at:

[Das Musikding \(Europe\)](#)

Project overview:

Based on the tone control of the Diezel VH4, this will make tweakholics, and high fans fall in love as equal!



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Introduction

At first, it might look pretty similar to the Amp Tone stack + Gain recovery, as the first section looks pretty similar. Both start with the 3 band Amp tone stack and the Gain recovery stage. However, the first difference is the Presence control, located after the gain recovery stage and bounded with the Deep Control. This design also includes the possibility of having two simultaneous outputs as the Active EQ, featuring the same type of power output and tame output.

Important! You should be able to read schematics to fully understand how and where to add these EQs in the best possible way.

Controls

- Bass
- Deep
- Mid
- Pres
- Treble
- Vol

Bill of materials

Resistors	
Part	Value
R1	39k
R2	jumper
R3	510k
R4	10k
R5	4k7
R6	1k
R7	100r
R8	56k
R9	47r
R10	1k
R11	47k
R12	100k
R13	56k
R14	56k

Capacitors	
Part	Value
C1	560p
C2	22n
C3	22n
C4	1n
C8	330n
C10	2n2
C11	330n

Electrolytics Capacitors	
Part	Value
C5	10u
C6	1u
C7	2u2
C9	10u
C12	47u

Potentiometers	
Part	Value
BASS	1M A
DEEP	25K C
MID	25K B
PRES	25K C
TREBLE	250K B
VOL	10K A

IC	
Part	Value
IC1	TL072CP

Diodes	
Part	Value
D1	1N5817

Shopping list

Resistors		
Qty	Value	Parts
1	100k	R12
1	100r	R7
1	10k	R4
2	1k	R6, R10
1	39k	R1
1	47k	R11
1	47r	R9
1	4k7	R5
1	510k	R3
3	56k	R8, R13, R14
1	jumper	R2

Capacitors		
Qty	Value	Parts
1	1n	C4
2	22n	C2, C3
1	2n2	C10
2	330n	C8, C11
1	560p	C1

Electrolytics Capacitors		
Qty	Value	Parts
2	10u	C5, C9
1	1u	C6
1	2u2	C7
1	47u	C12

Potentiometers		
Qty	Value	Parts
1	10K A	VOL
1	1M A	BASS
1	250K B	TREBLE
1	25K B	MID
2	25K C	DEEP, PRES

IC		
Qty	Value	Parts
1	TL072CP	IC1

Diodes		
Qty	Value	Parts
1	1N5817	D1

Components Recommendations

As many people like to experiment with some pedals with higher voltage, always ensure your **electrolytic capacitors'** max tolerance is over 25v.

This board has been tested using Film box capacitors for most of the values over 1nf and ceramics discs for those under 1nf. However, high-quality components such as Wima's Capacitors and Panasonic's electrolytics can deliver a better performance.

All the resistors used for testing this project are 1/4W Metal Film.

The BOM and Shopping list are exclusive regarding this project. It doesn't include all the hardware like the 3PDT bypass switch, audio/dc jacks, enclosure, etc.

Build Notes

If this is one of your first projects, I recommend you to take a look at our [Pedal Building Guide](#).

For a successful and tidy build, it's recommended the following order:

1. Resistors & diodes
2. Capacitors, starting with the smaller ones and the ceramic ones.
3. Electrolytic capacitors (always check the polarity)
4. Transistors
5. Wires
6. Potentiometers and switches
7. Off-board wiring

Wiring Diagram

All our projects include a free 3PDT Board to make the wiring easier and tidier. Also, all of our PCBs feature the status LED on board.

The pad named "Ctrl" or "LED" is the one that controls the status of the led; wire it to the "LED" pad on the 3PDT board or in the control slug of your 3PDT.

This board has been designed to match our EZ 3PDT PCB; check it [here](#) to access our [Pedal Wiring Guide](#).

Drill Template

This Project has been planned to fit into a 125b enclosure type.

Check the Attached “Drilling templates” to drill the box properly. The files are on Scale 1:1, ready to print on an A4 page.

Licensing and Usage

We really appreciate your trust and support in buying this PCB, as well as your will to dive into the DIY electronics world. For us, that's why you can make this project work properly and enjoy not only the building process but also experiment and play with it on your rig.

We try to reply to every question we receive on our email or our social media. Still, we try to encourage all our customers to join our [PCB Guitar Mania - Builders Group](#) on Facebook to post all your doubts, issues, suggestions, or requests, share your builds, and have some feedback from other fellow builders and us!

We tested all our projects following this same guide on their standard configurations. Although, not all of the variations and mods have necessarily been checked. These are suggestions based on the schematic analysis and the experiences and opinions of others. Feel free to share with us your views and recommendations regarding the mods your personal experimentation.

These boards may be used for commercial endeavors in any quantity unless expressly noted. No attribution is necessary, though accreditation or a link back is always much appreciated.

If you are a builder planning to make your own run of pedals, we also offer the service of custom-made boards with your brand and logo, design according to your specifications.

The only usage restrictions are that, first, you cannot resell the PCB as part of a kit without prior arrangement with us, and second, you cannot scratch off the silkscreen or other way of trying to hide our logos and the source of the PCBs. Like it's written above, if you want to have your designs with your brand and logo, we could undoubtedly reach an agreement.

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