

Cabulator

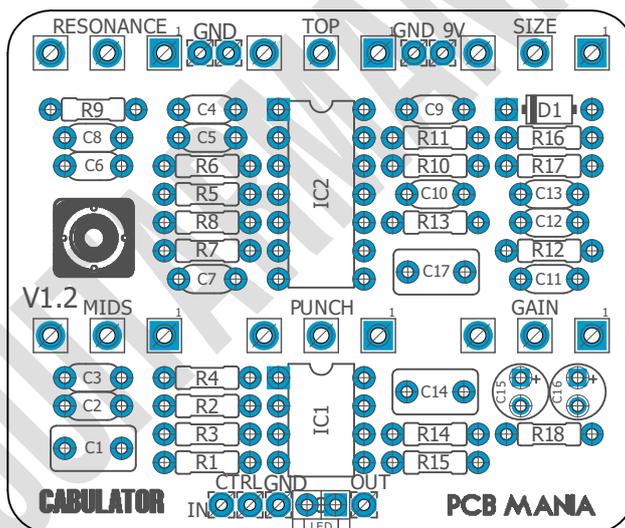
Based on:
DSM Omnicab sim
Effect type:
Cab simulator
Build difficult:
Average

Amount of parts:
Average, total 44 components
Technology:
Dual OpAmp – Quad OpAmp
Power consumption:
9V

Enclosure type:
125b
Get your board at:
[Cabulator](#)
Get your kit at:
[Das Musikding \(Europe\)](#)

Project overview:

Based on DSM Omnicab sim. This device let the musician to define his own sound and getting an accurate Cab reproduction of it when recording and playing live gigs. This version doesn't feature balanced output. Suitable for direct recording into your audio interface, supports both bass and guitar.



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Introduction

Cabulator allows the user to dial their own cabinet response settings, this approach in contrast with default cabinet simulators gives access to tweaking parameters such as size, gain, Mids, punch and more!

Controls

- Tunable high frequency response emulates the steep low pass filter that different speakers produce.
- Tunable Low frequency response that controls the low end roll off typical of speaker of various sizes.
- Tunable low frequency resonance lets you dial the resonance of the low end roll off point, reproducing the effect of closed or open back cabinets, and anything in between.
- Mid control lets you dial “modern” or “vintage” responses.
- Punch control boosts the 800 Hz band, that lets you cut through the mix with warmth.

Bill of materials

Resistors	
Part	Value
R1	1M
R2	1M
R3	10k
R4	1k
R5	22k
R6	10k
R7	4k7
R8	10k
R9	1k
R10	4k7
R11	100k
R12	15k
R13	10k
R14	10k
R15	100k
R16	33k
R17	33k
R18	2K7

Capacitors	
Part	Value
C1	470n
C2	100n
C3	100n
C4	470p
C5	4n7
C6	8n2
C7	1n
C8	10n
C9	47n
C10	47n

C11	5n6
C12	18n
C13	3n3
C14	470n
C17	470n

Electrolytics Capacitors	
Part	Value
C15	100u
C16	22u

Potentiometers	
Part	Value
GAIN	a100k
MIDS	a10k
PUNCH	b100k
RESONANCE	b100k
SIZE	a500k
TOP	b100k

IC	
Part	Value
IC1	TL072
IC2	TL074

Diodes	
Part	Value
D1	1N5817

Shopping list

Resistors		
Qty	Value	Parts
2	100k	R11, R15
5	10k	R3, R6, R8, R13, R14
1	15k	R12
2	1M	R1, R2
2	1k	R4, R9
1	22k	R5
1	2K7	R18
2	33k	R16, R17
2	4k7	R7, R10

Capacitors		
Qty	Value	Parts
2	100n	C2, C3
1	10n	C8
1	18n	C12
1	1n	C7
1	3n3	C13
3	470n	C1, C14, C17
1	470p	C4
2	47n	C9, C10
1	4n7	C5
1	5n6	C11
1	8n2	C6

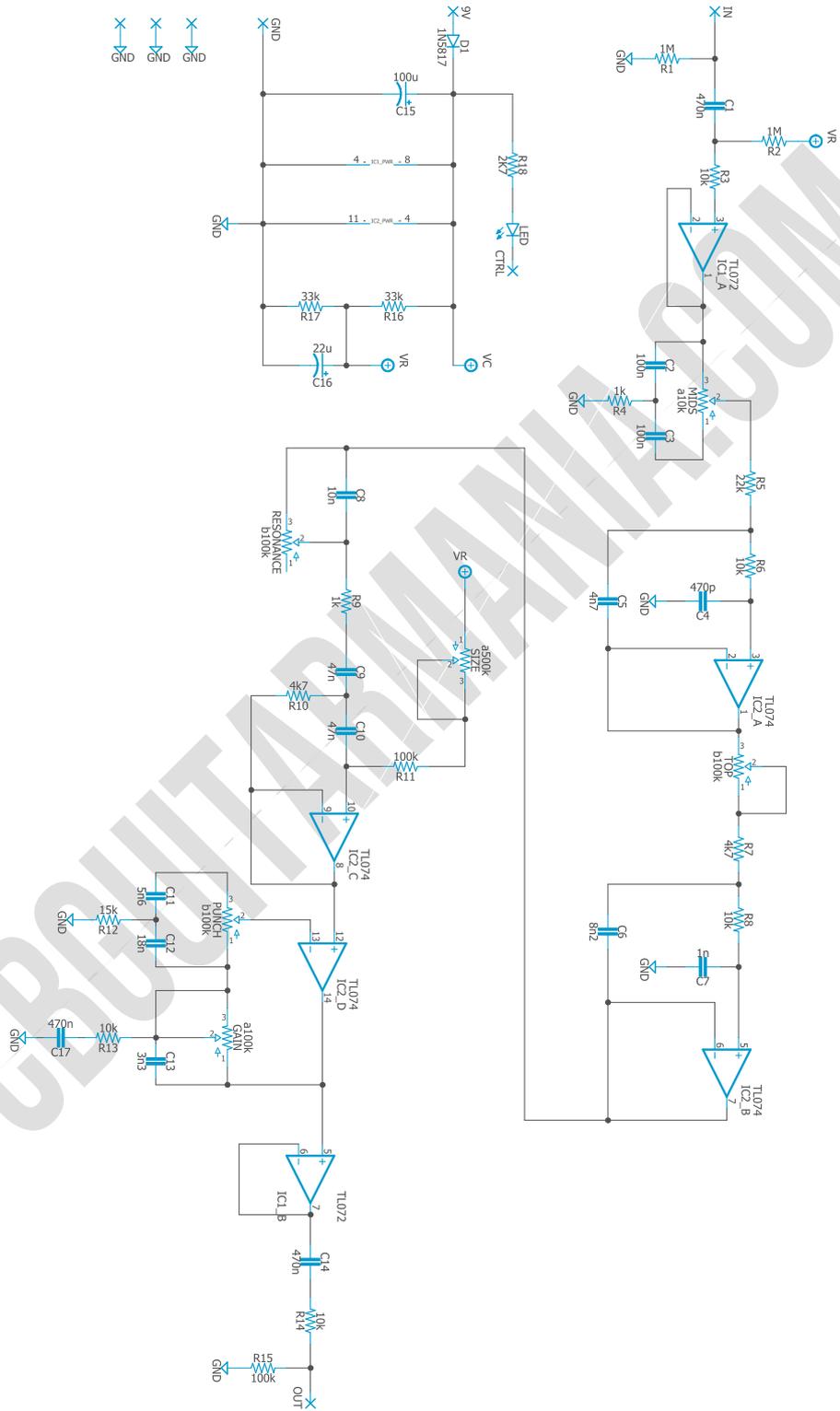
Electrolytics Capacitors		
Qty	Value	Parts
1	100u	C15
1	22u	C16

Potentiometers		
Qty	Value	Parts
1	a100k	GAIN
1	a10k	MIDS
1	a500k	SIZE
3	b100k	PUNCH, RESONANCE, TOP

IC		
Qty	Value	Parts
1	TL072	IC1
1	TL074	IC2

Diodes		
Qty	Value	Parts
1	1N5817	D1

Schematic



Components Recommendations

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

This board has been tested using Film box capacitors for most of the values over 1nf, and ceramics discs for the ones 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 exclusively 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 on 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 control slug of your 3PDT.

This board has been designed to match our EZ 3PDT PCB check it [here](#) to access to 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 in an A4 page.

Licensing and Usage

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

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

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

These boards may be used for commercial endeavors in any quantity unless specifically noted. No attribution is necessary, though accreditation or a link back is always greatly 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 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 silk screen, 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 own designs, with your brand and logo we could certainly reach an agreement.

Follow us on [Instagram](#) and [Facebook](#) to stay in tune with the latest projects!