Dwarf Destroyer

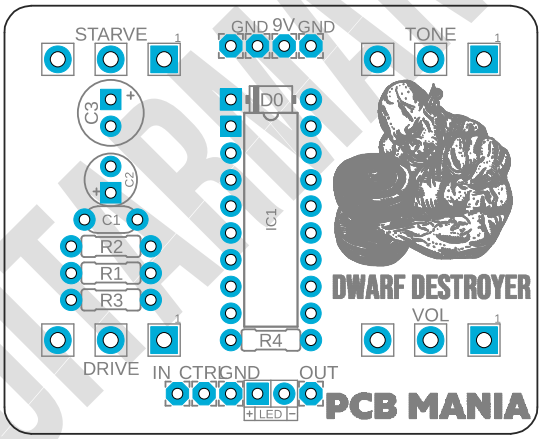
Based on:
Dwarfcraft Great Destroyer
Effect type:
Extreme fuzz
Build difficult:
Easy

Amount of parts:
Low, total 14 components
Technology:
CMOS CD4049UBE
Power consumption:
9V

Enclosure type:
125b
Get your board at:
Dwarf Destroyer
Get your kit at:
Das Musikding (Europe)

Project overview:

Inspired by Dwarfcraft's Great Destroyer. It is unpredictable and loud as hell, screaming feedback and a chip that can get starved until it starts stuttering.



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Introduction

Dwarf Destroyer is prepared for battle, and once your signal goes through this beast of a pedal, you will also be ready. This creature will train the wave to become a fuzzy, sputtering sound ready to bent on tonal destruction.
Armed with copious gain, massive output, and a diabolical palette of tonal variations, those waves will annihilate anything in their path. Because when it comes to fuzz domination, the Dwarf Destroyer is the vanquisher; perhaps only equaled in combat by his eternal adversary, the Dwarf Master and its unconventional relative, the Android Dwarf.

Try this pedal with your guitar or bass and raise an army of fuzz tones, stuttering tremolos, shrieking oscillations, and a myriad of sounds-yet-unheard.
This super simple build with four knobs will make your neighbors hate you and leave your bandmates with a dropped jaw.

What are you waiting for? There is a charge to be made, and with the Dwarf Destroyer by your side, chances are in your favor. Let the battle begin!

Controls

- DRIVE
- STARVE
- TONE
- VOL

Bill of materials

Resistors	
Part	**Value**
R1	1m
R2	3k3
R3	22k
R4	4k7

Capacitors	
Part	**Value**
C1*	1u (Tantalum)

Electrolytics Capacitors	
Part	**Value**
C2	1u
C3	100u

Potentiometers	
Part	**Value**
DRIVE	1m A
STARVE	2k B
TONE	5k B
VOL	100k A

Trimpots	
Part	**Value**
IC1	CD4049UBE

Diods	
Part	**Value**
D0	1n5817
LED	3mm Red LED

Shopping list

Resistors		
Qty	**Value**	**Parts**
1	1m	R1
1	22k	R3
1	3k3	R2
1	4k7	R4

Capacitors		
Qty	**Value**	**Parts**
1	1u	**C1***

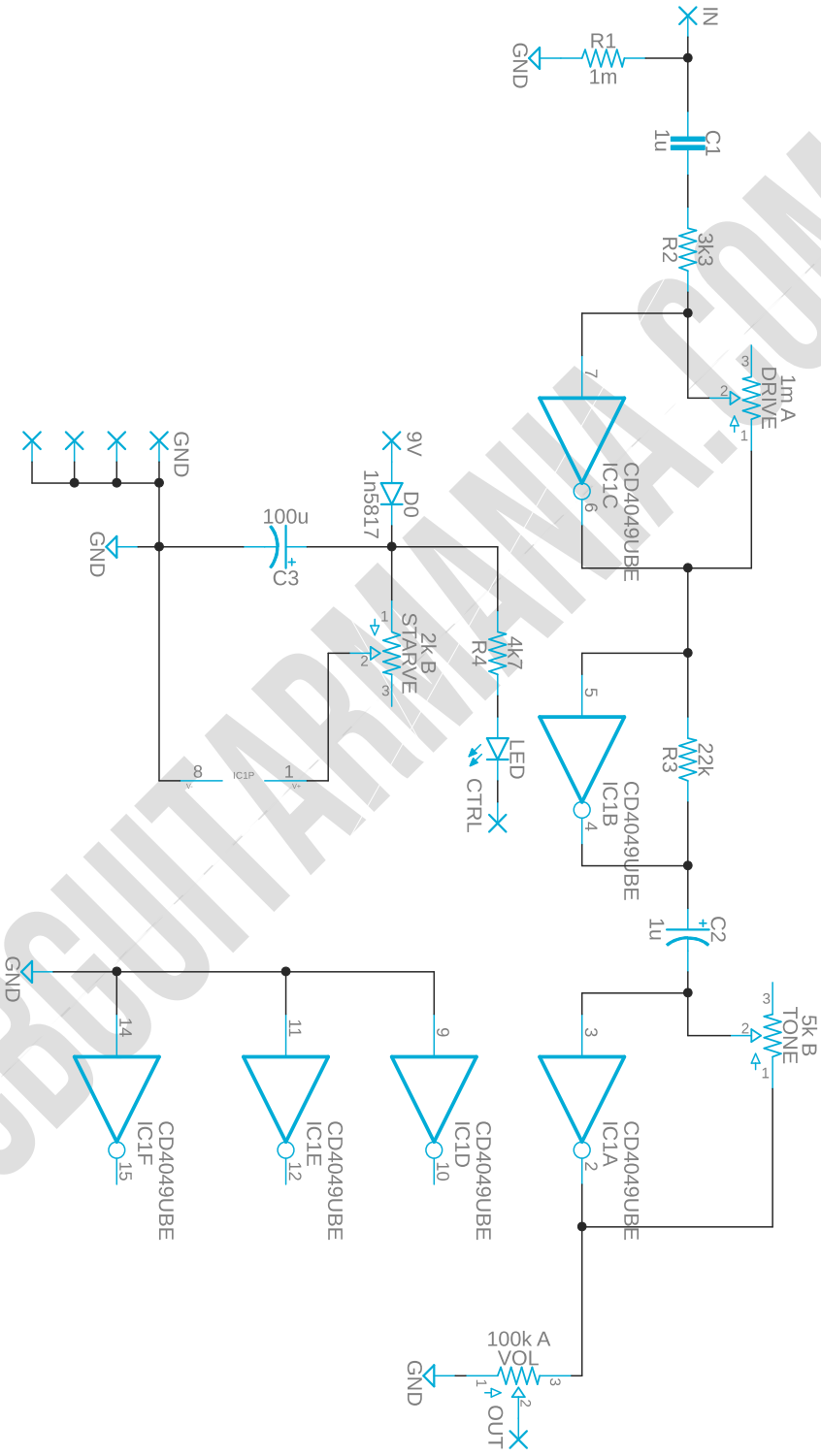
Electrolytics Capacitors		
Qty	**Value**	**Parts**
1	1u	C2
1	100u	C3

Potentiometers		
Qty	**Value**	**Parts**
1	100k A	VOL
1	1m A	DRIVE
1	2k B	STARVE
1	5k B	TONE

IC		
Qty	**Value**	**Parts**
1	CD4049UBE	IC1

Diods		
Qty	**Value**	**Parts**
1	1n5817	D0
1	3mm Red LED	LED

Schematic



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.

C1* we recommend using a tantalum capacitor for this position to match the silkscreen space better than its enormous box film alternative.

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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