Lamb of DOD

Based on:
DOD FX-86 Death Metal

Number of parts:
High, total 88 components

Enclosure type:
125b

Effect type:
Distortion

Technology:
Op Amps and JFET

Get your board at:
Lamb of DOD

Build difficult:
Advanced

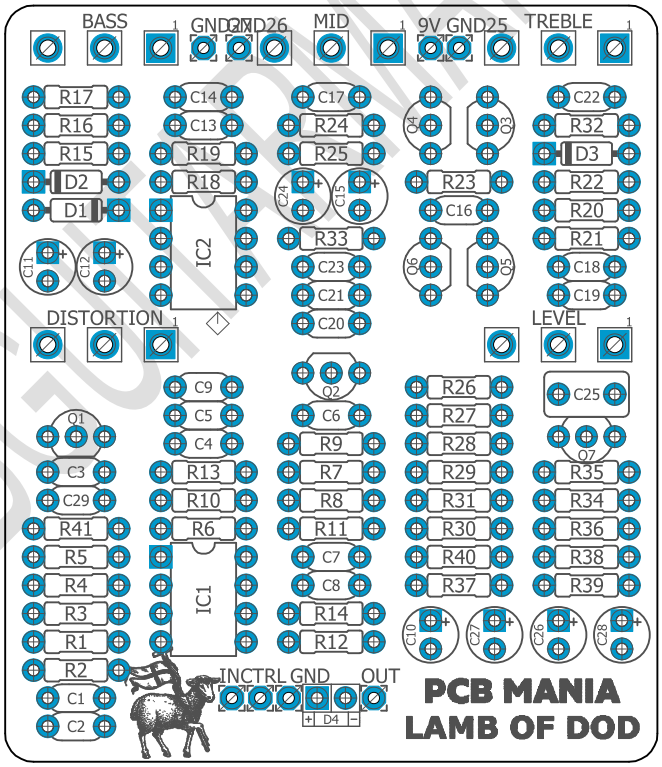
Power consumption:
9V

Get your kit at:
Das Musikding (Europe)

Project overview:

Check out our killer pedal, inspired by the FX-86 Death Metal. It's the must-have weapon for all you metalheads out there. This bad boy will give you a raw, savage tone that'll blow your socks off! Seriously, you probably won't find anything lower or more distorted than this.

In our version, we've added a much-needed distortion potentiometer for you to dial the perfect level of face-melting madness. And we've thrown in a couple of values for you to play around with too, just to keep things interesting.



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Introduction

Prepare to bow down before the almighty Lamb of DOD, the metal pedal to end all metal pedals! It's here to obliterate feeble tones and unleash a storm of sonic chaos and distortion upon the world! This pedal cranks up the distortion to unnatural levels, yet miraculously, your solos slice through with mind-blowing clarity.

This PCB is a real come true for all metal lovers out there. Our version adds some improvements over the original FX-86 Death Metal to make it the ultimate board: crafted with Low/Mid/Hi EQ and Level knobs from the original plus our added Distortion control, this updated FX86B achieves that buzz saw distortion sound popularized by bands like Burzum and Abbath.

If you feel like experimenting, this build allows some mods to change the flavor of your tone in the direction of other DOD pedals, such as the FX-70C Corrosion and the FX69 GRUNG.

Controls

Potentiometers

- Bass
- Mid
- Treble
- Distortion
- Level

Bill of materials

Resistors	
Part	**Value**
R1	2m2
R2	10k
R3	1m
R4	82k
R5	10k
R6	220k
R7	2k
R8	10k
R9	47k
R10	10k
R11	10k
R12	100k
R13	1k
R14	470r
R15	2k
R16	47k
R17	100k
R18	3k3
R19	22k
R20	470k
R21	330r
R22	10k
R23	47k
R24	1k
R25	10k
R26	100k
R27	1k
R28	10k
R29	100k
R30	2k
R31	10k
R32	2k
R33	22k
R34	100k
R35	10k
R36	100k
R37	100r
R38	10k
R39	10k
R40	4k7
R41	4k7

Capacitors	
Part	**Value**
C1	47n
C2	120p
C3	47n
C4	100p
C5	27n
C6	220p
C7*	47n
C8	33n
C9	1n
C13	47p
C14	15n
C16	47n
C17	1n
C18	470n
C19	47n
C20	1n8
C21	68n
C22*	8n2
C23	47p
C25	220n
C29	15n

Electrolytics Capacitors	
Part	**Value**
C10	10u
C11	10u
C12	1u
C15	2u2
C24	10u
C26	10u
C27	100u
C28	100u

Potentiometers	
Part	**Value**
BASS	100K A
DISTORTION	100K A
LEVEL	100K A
MID	100K A
TREBLE	100K A

IC	
Part	**Value**
IC1	4558
IC2	4558

Transistors	
Part	**Value**
Q1	2N5457
Q2	2N5088
Q3	2N5088
Q4	2N5088
Q5	2N5088
Q6	2N5088
Q7	2N5088

Diodes	
Part	**Value**
D1	1n4148
D2	1n4148
D3	1n5817
D4	3mm red LED

Shopping list

Resistors		
Qty	**Value**	**Parts**
6	100k	R12, R17, R26, R29, R34, R36
1	100r	R37
12	10k	R2, R5, R8, R10, R11, R22, R25, R28, R31, R35, R38, R39
3	1k	R13, R24, R27
1	1m	R3
1	220k	R6
2	22k	R19, R33
4	2k	R7, R15, R30, R32
1	2m2	R1
1	330r	R21
1	3k3	R18
1	470k	R20
1	470r	R14
3	47k	R9, R16, R23
2	4k7	R40, R41
1	82k	R4

Capacitors		
Qty	**Value**	**Parts**
1	100p	C4
1	120p	C2
2	15n	C14, C29
2	1n	C9, C17
1	1n8	C20
1	220n	C25
1	220p	C6
1	27n	C5
1	33n	C8
1	470n	C18
5	47n	C1, C3, C16, C19, **C7***
2	47p	C13, C23
1	68n	C21
1	8n2	**C22***

Electrolytics Capacitors		
Qty	**Value**	**Parts**
2	100u	C27, C28
4	10u	C10, C11, C24, C26
1	1u	C12
1	2u2	C15

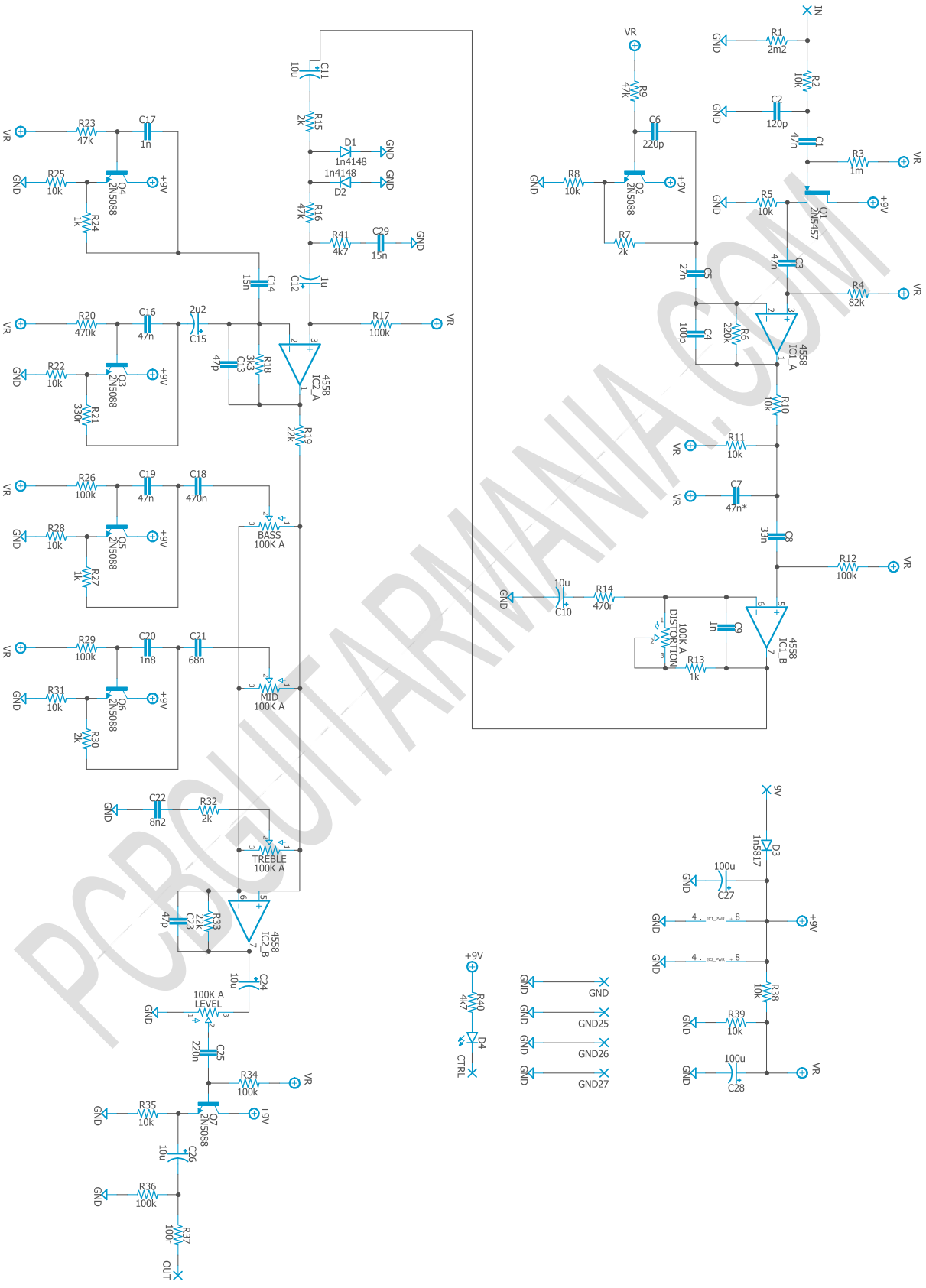
Potentiometers		
Qty	**Value**	**Parts**
5	100K A	BASS, DISTORTION, LEVEL, MID, TREBLE

IC		
Qty	**Value**	**Parts**
2	4558	IC1, IC2

Transistors		
Qty	**Value**	**Parts**
6	2N5088	Q2, Q3, Q4, Q5, Q6, Q7
1	2N5457	Q1

Diodes		
Qty	**Value**	**Parts**
2	1n4148	D1, D2
1	1n5817	D3
1	3mm red LED	D4

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.

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

C7*

Increase for more BASS.

C22*

Increase to lower "Scream" frequencies.

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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