

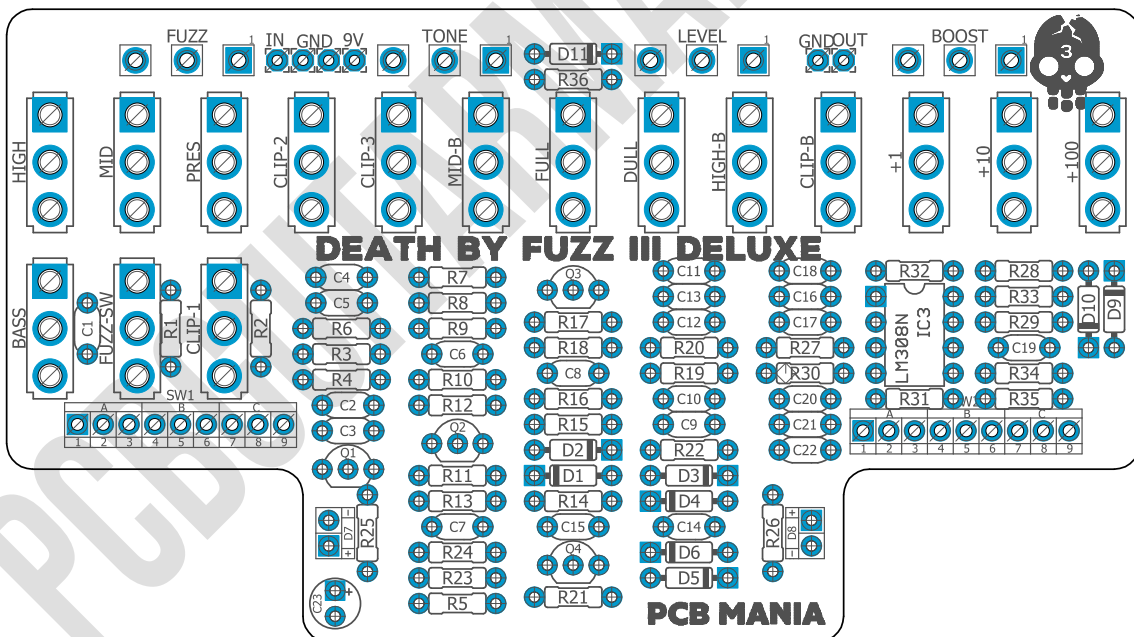
# Death By Fuzz III

<b>Based on:</b> Death by Audio's Super Fuzz War	<b>Amount of parts:</b> High, total 94 components	<b>Enclosure type:</b> 1590bb
<b>Effect type:</b> Silicon Fuzz + Dirty boost	<b>Technology:</b> Silicon transistors + Op Amp	<b>Get your board at:</b> <a href="#">Death by Fuzz III</a>
<b>Build difficult:</b> Intermediate	<b>Power consumption:</b> 9V	<b>Get your kit at:</b> <a href="#">Das Musikding (Europe)</a>

## Project overview:

13 switches, 2 effects, 1 FUZZ. I'm talking about the Death by Fuzz III deluxe. This monster is based on the super limited-edition Death by audio Super Fuzz War but replacing the internal dip switches for external toggles that enable each individual control.

Death by Fuzz III Deluxe wages total war on the very concept of what a fuzz pedal should be. This behemoth of destruction has a topology that could fit in the description MUFF + Rat (as a dirty boost) but modded excessively to cause a total Death by Fuzz effect (deluxe) on you!



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## Introduction

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Give me liberty or give me Death By Fuzz 3 Deluxe!

This must be the first time in history when the 'liberty' in that sentence doesn't sound that appealing in comparison. Death By Fuzz 3 Deluxe, just like the previous versions of this face-melting fuzz machine, is not to be taken lightly. The third version is based on a limited edition, but with a twist - all the internal DIP switches were taken outside the box, so you can think outside the box when meticulously shaping your lethal tone. This model also offers an option to call backup in the form of a booster with its own external toggles. Let's have a near-death experience!

Death By Fuzz 3 Deluxe comes equipped with 4 potentiometers - FUZZ, TONE, LEVEL and BOOST. FUZZ is the control over how many sonic devastations you want to inflict - clockwise brings annihilation, while by turning the knob counter-clockwise, you show some mercy. With TONE, you can shape the character of the fuzz - heavy as a tank, or thin as a blade - your pick. LEVEL and BOOST are the volume controls - LEVEL covers the fuzz section, while BOOST is responsible for the booster loudness. Now for the switches - the 16(!) switches included in this monster cover all the needs that you might have (and even some that you never thought of!). There're clipping selectors, in case you'd want to spice things up by trying a different clipping diode. There's an additional EQ section. There're extra decibels for the boost. You name it, we have it.

With all the options available in this circuit, there is no chance that you won't find a tone for yourself here. If you ever thought that nothing more can be done with a Muff design, think again, because this machine breaks all the rules!

## Controls

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### Potentiometers

- BOOST
- FUZZ
- LEVEL
- TONE

### Switches

- SW1
- SW2
- CLIP-1
- CLIP-2
- CLIP-3

- CLIP-B
- DULL
- FULL
- FUZZ-SW
- HIGH
- HIGH-B
- MID

- MID-B
- PRES
- +1
- +10
- +100

# Bill of materials

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Resistors	
Part	Value
R1	1m
R2	1k5
R3	100k
R4	470k
R5	390r
R6	15k
R7	1k
R8	8k2
R9	100k
R10	470k
R11	100r
R12	15k
R13	8k2
R14	43k
R15	100k
R16	470k
R17	390r
R18	15k
R19	33k
R20	6k8
R21	100k
R22	430k
R23	2k2
R24	10k
R25	3k3
R26	3k3
R27	100k
R28	470k
R29	10k
R30	2m7
R31	750k
R32	330k
R33	3k6
R34	3k6
R35	3k6
R36	100r

Capacitors	
Part	Value
C1	470n
C2	100n
C3	470p
C4	100n
C5	100n
C6	470p
C7	100n
C8	100n
C9	1n2
C10	100n
C11	6n8
C12	1n
C13	680p
C14	100n
C15	100n
C16	10n
C17	820p
C18	470n
C19	100n
C20	100n
C21	1n
C22	100p

Electrolytics Capacitors	
Part	Value
C23	100u

Potentiometers	
Part	Value
BOOST	100k A
FUZZ	100k B
LEVEL	100k A
TONE	100k B

IC
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Part	Value
IC3	LM308N*

Transistors	
Part	Value
Q1	2N5088
Q2	2N5088
Q3	2N5088
Q4	2N5088

Switches	
Part	Value
SW1	3pdt footswitch
SW2	3pdt footswitch
BASS	SPDT On/On
CLIP-1	SPDT On/On
CLIP-2	SPDT On/On
CLIP-3	SPDT On/On
CLIP-B	SPDT On/On
DULL	SPDT On/On
FULL	SPDT On/On
FUZZ-SW	SPDT On/On
HIGH	SPDT On/On
HIGH-B	SPDT On/On
MID	SPDT On/On
MID-B	SPDT On/On
PRES	SPDT On/On
+1	SPDT On/On
+10	SPDT On/On
+100	SPDT On/On

Part	Value
D1	1n5227b
D2	1n5227b
D3	1n5227b
D4	1n5227b
D5	1n5227b
D6	1n5227b
D7	3mm red LED
D8	3mm red LED
D9	1n4002
D10	1n4002
D11	1n5817

## Diodes

# Shopping list

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Resistors		
Qty	Value	Parts
5	100k	R3, R9, R27, R15, R21
2	100r	R11, R36
2	10k	R24, R29
3	15k	R6, R12, R18
1	1k	R7
1	1k5	R2
1	1m	R1
1	2k2	R23
1	2m7	R30
1	330k	R32
1	33k	R19
2	390r	R5, R17
2	3k3	R25, R26
3	3k6	R33, R34, R35
1	430k	R22
1	43k	R14
4	470k	R4, R10, R16, R28
1	6k8	R20
1	750k	R31
2	8k2	R8, R13

Capacitors		
Qty	Value	Parts
10	100n	C2, C4, C5, C7, C8, C10, C14, C15, C19, C20
1	100p	C22
1	10n	C16
2	1n	C12, C21
1	1n2	C9
2	470n	C1, C18
2	470p	C3, C6
1	680p	C13
1	6n8	C11
1	820p	C17

Electrolytics Capacitors		
Qty	Value	Parts
1	100u	C23

Potentiometers		
Qty	Value	Parts
2	100k A	BOOST, LEVEL
2	100k B	FUZZ, TONE

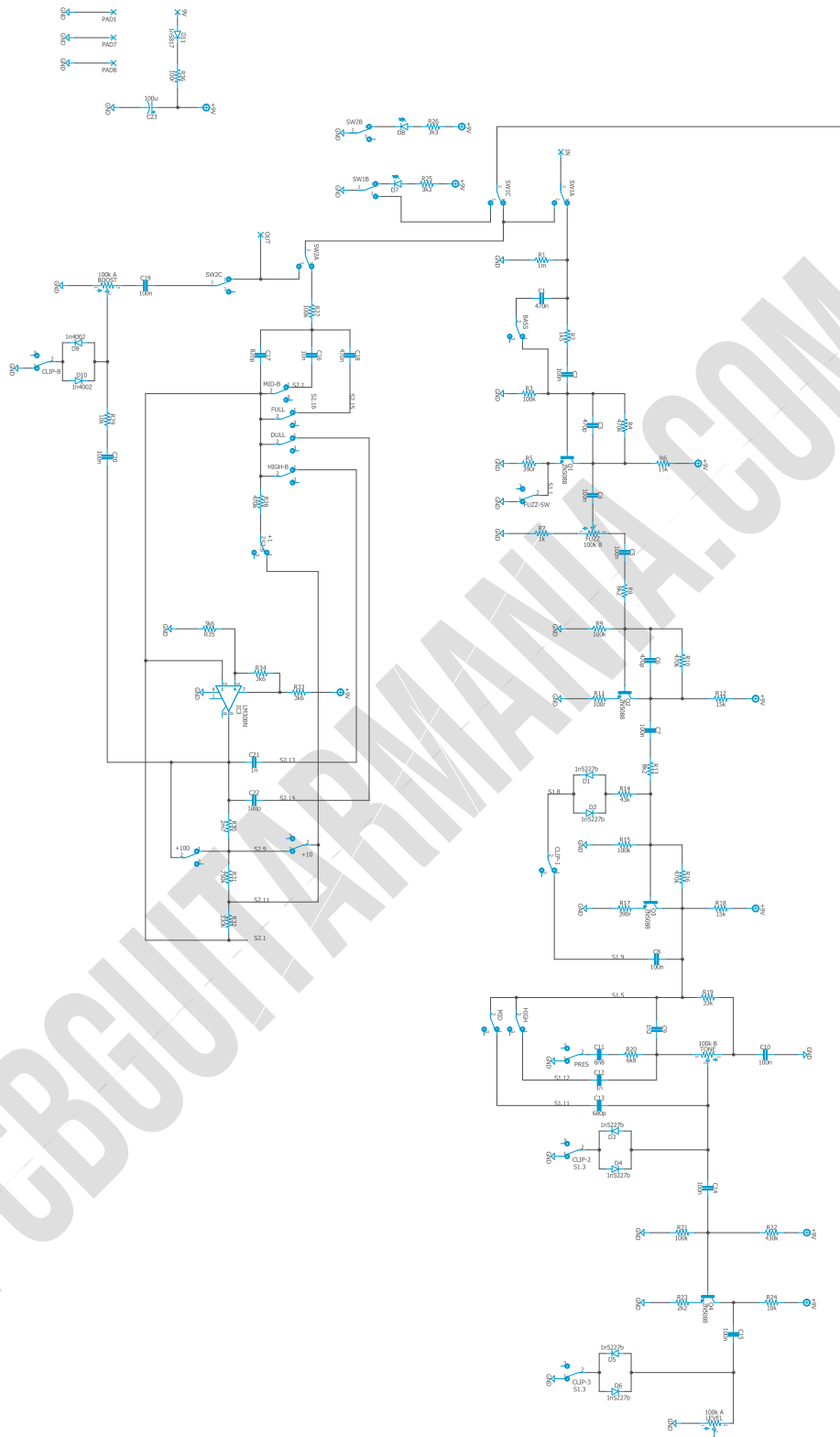
IC		
Qty	Value	Parts
1	LM308N*	IC3

Transistors		
Qty	Value	Parts
4	2N5088	Q1, Q2, Q3, Q4

Switches		
Qty	Value	Parts
2	3pdt footswitch	SW1, SW2
16	SPDT On/On	BASS, CLIP-1, CLIP-2, CLIP-3, CLIP-B, DULL, FULL, FUZZ-SW, HIGH, HIGH-B, MID, MID-B, PRES. +1, +10, +100

Diodes		
Qty	Value	Parts
2	1n4002	D9, D10
6	1n5227b	D1, D2, D3, D4, D5, D6
1	1n5817	D11
2	3mm red LED	D7, D8

## 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

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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:

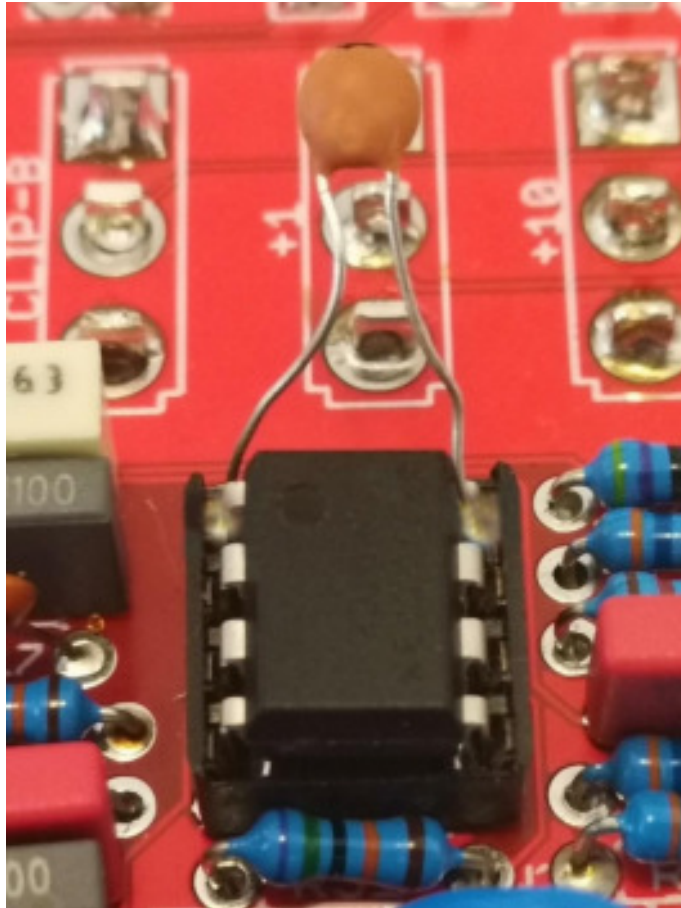
1. Resistors & diodes
2. Capacitors, starting with the smaller ones and the ceramic ones.
3. Electrolytic capacitors (always check the polarity)
4. Transistors
5. Wires
6. Potentiometers and switches
7. Off-board wiring

### LM308N\*

This chip is hard to find and expensive, as an alternative you can choose any of the values below. Some of the options need a compensation capacitor for optimal performance.

In the first edition of the board you have to mount the capacitor over the IC, connected to pin1 and pin8 on each end. This detail has been solved on version 1v1 with own dedicated footprint.

Alternative ICs	
Model	Comp Capacitor
OP07	None
5534	22pF
LM741	None
TL071	None
TL070	180pF
LM308	30pF
LM301	30pF-100pF (approximately)
CA3140	30pF-100pF (approximately)



## Drill Template

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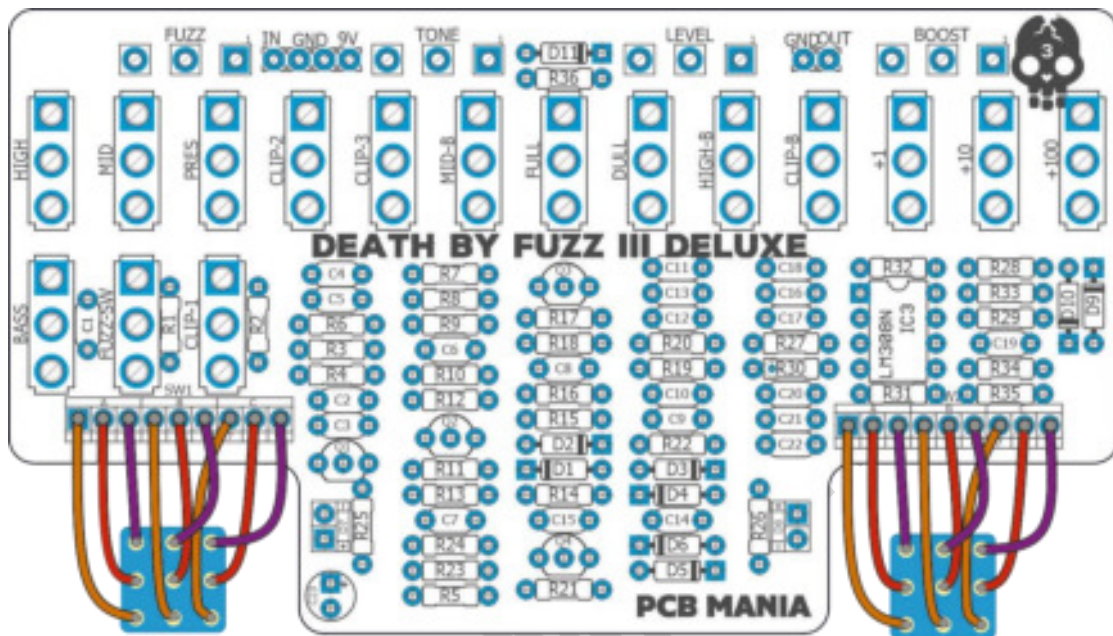
This Project has been planned to fit into a 1590bb enclosure type.

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



# Wiring Diagram

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## Licensing and Usage

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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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