

# Black Mystic

## Based on:

Black Arts Toneworks Quantum Mystic

## Effect type:

Saturated overdrive/distortion

## Build difficult:

Intermediate

## Amount of parts:

Average, total 47 components

## Technology:

OP Amps

## Power consumption:

9V

## Enclosure type:

125b

## Get your board at:

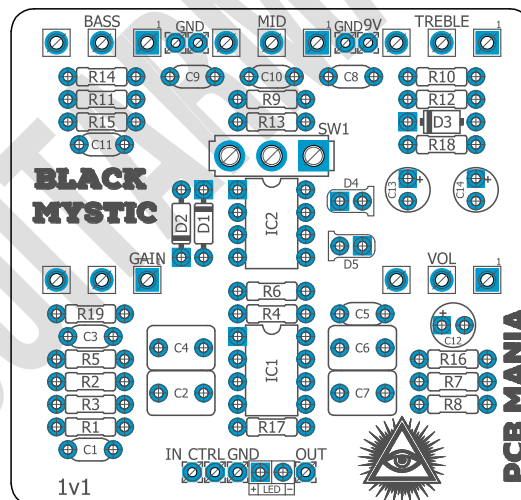
[Black Mystic](#)

## Get your kit at:

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

## Project overview:

A versatile overdrive/distortion pedal inspired by The Quantum Mystic from Black Arts Toneworks that has, in turn, roots on DOD 250's classic circuit. Play everything with it: blues, classic rock, dream pop, total doom annihilation, and furthermore!



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## Introduction

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Black Mystic is an opamp-based distortion/OD featuring a 3 band active EQ and germanium clipping. If you are a stoner (and or a) doom player, this versatile pedal is for you.

Heavily inspired by the legendary DOD Overdrive Preamp 250 pedal. The Black Mystic will give you that old-school-like sound thanks to the active Eq ability to cut frequencies. Also, use the EQ to boost the final gain stage to go into modern, heavily saturated, distorted tones. You can dial back the distortion, increase the volume, and use the active EQ to find transparent boost tones.

There are plenty of features to find and hours to devote to this multifaceted pedal!

This board includes an additional toggle to experiment with different diode sets.

## Controls

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- Bass
- Gain
- Mid
- Treble
- Vol

# Bill of material

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Resistors	
Part	Value
R1	1m
R2	10k
R3	1m
R4	1m
R5	4k7
R6	10k
R7	47k
R8	1m
R9	3k5
R10	6k2
R11	5k6
R12	6k2
R13	3k6
R14	5k6
R15	5k6
R16	1m
R17	4k7
R18	1m
R19	1m

Capacitors	
Part	Value
C1	1n
C2	1u
C3	47n
C4	1u
C5	47n
C6	1u
C7	1u
C8	6n8
C9	39n
C10	10n
C11	10n

Electrolytics Capacitors	
Part	Value
C12	10u
C13	100u
C14	10u

Potentiometers	
Part	Value
BASS	100k B
GAIN	500k C
MID	250k B
TREBLE	500k A
VOL	100k A

Trim pots	
Part	Value
IC1	TL072
IC2	TL072

Transistors	
Part	Value
SW1	SPDT ON/OFF/ON

Diodes	
Part	Value
D1	Germanium
D2	Germanium
D3	3mm red LED
D4	3mm red LED
D5	1n5817
LED	3mm red LED

# Shopping list

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Resistors		
Qty	Value	Parts
2	10k	R2, R6
7	1m	R1, R3, R4, R8, R16, R18, R19
1	3k5	R9
1	3k6	R13
1	47k	R7
2	4k7	R5, R17
3	5k6	R11, R14, R15
2	6k2	R10, R12

Capacitors		
Qty	Value	Parts
2	10n	C10, C11
1	1n	C1
4	1u	C2, C4, C6, C7
1	39n	C9
2	47n	C3, C5
1	6n8	C8

Electrolytics Capacitors		
Qty	Value	Parts
1	100u	C13
2	10u	C12, C14

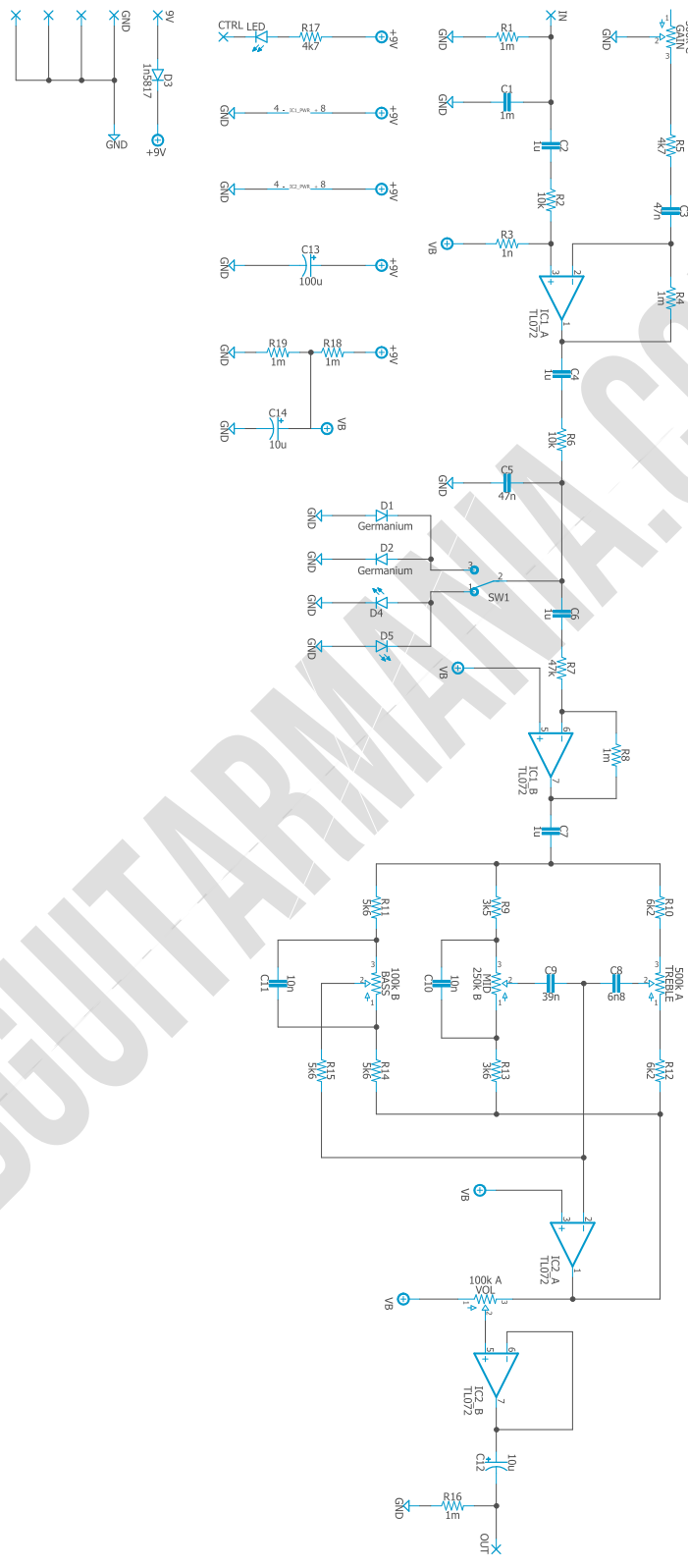
Potentiometers		
Qty	Value	Parts
1	100k A	VOL
1	100k B	BASS
1	250k B	MID
1	500k A	TREBLE
1	500k C	GAIN

IC		
Qty	Value	Parts
2	TL072	IC1, IC2

Switches		
Qty	Value	Parts
1	SPDT ON/OFF/ON	SW1

Diodes		
Qty	Value	Parts
1	1n5817	D3
2	Germanium	D4, D5
3	3mm red LED	D1, D2, LED

# Schematic



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# Components Recommendations

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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

## Wiring Diagram

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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

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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

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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.

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