

# Rock Box

## Based on:

Zvex's Box of Rock

## Effect type:

Overdrive

## Build difficult:

Intermediate

## Amount of parts:

Average, total 46 components

## Technology:

Mosfet transistors

## Power consumption:

9V

## Enclosure type:

1590bb

## Get your board at:

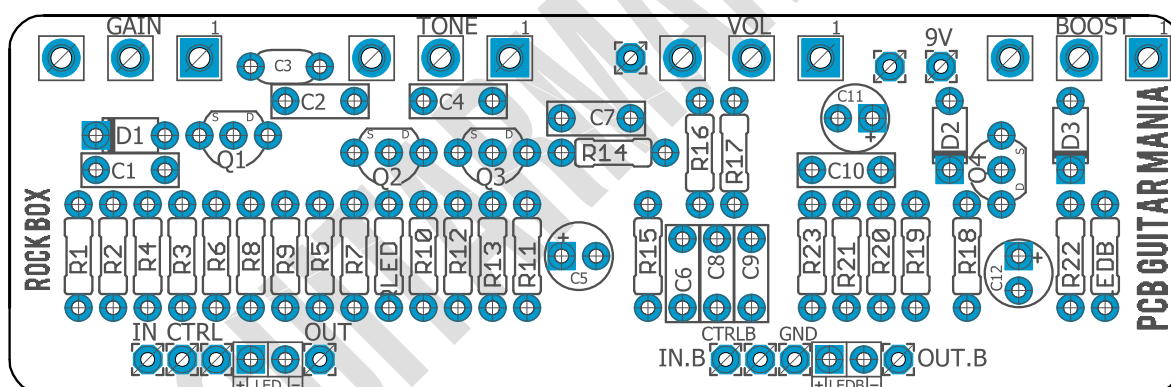
[Rock Box](#)

## Get your kit at:

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

## Project overview:

Inspired by Zvex's Box of Rock, a pedal that resembles the "British setting" sound of a classic Marshall JTM 45 non-master-volume amplifier.



# Index

---

- |                                   |                         |
|-----------------------------------|-------------------------|
| 1. Project overview               | 6. Build Notes          |
| 2. Index, Introduction & Controls | 7. Schematic            |
| 3. Bills of Materials, BOM        | 8. Wiring Diagram       |
| 4. Shopping Lists                 | 9. Drill Template       |
| 5. Components Recommendations     | 10. Licensing and Usage |

## Introduction

---

The Rock Box is a circuit specially designed to simulate the "everything on 10" sound of a classic non-master-volume amplifier. You can try it in many different amplifiers with spectacular results, but we recommend you give it a shot through a Marshall if you have the chance. By using your guitar's volume control, you can adjust the exact amount of distortion you need, from a massive amount down to a pristine sound.

In this simple-to-build board, all the components are pretty easy to get. Just take special note of the "C" type potentiometers, anti-logarithmic audio type. It also comes ready to be wired as True Bypass, in a tight design to fit in a 1590B Enclosure with pots and Booster on board.

This tinny box is ready to knock your audience with the most powerful Rock sound waves!

## Controls

---

### *Potentiometers*

- Gain
- Tone
- Vol
- Boost

# Bill of materials

Resistors	
Part	Value
R1	1m
R2	1m
R3	5k1
R4	1m
R5	470k
R6	1m
R7	1m
R8	5k1
R9	180r
R10	1m
R11	1m
R12	5k1
R13	330r
R14	47k
R15	82k
R16	10k
R17	10k
R18	1m
R19	1m
R20	5k1
R21	47k
R22	82r
R23	1m
RLED	4k7
RLEDB	4k7

Capacitors	
Part	Value
C1	100n
C2	22n
C3	470pf
C4	22n
C6	22n
C7	100n

C8	2n
C9	2n
C10	100n

Electrolytic Capacitors	
Part	Value
C5	1uf
C11	10uf
C12	47uf

Potentiometers	
Part	Value
GAIN	5k C*
TONE	100k B
VOL	100k B
BOOST	5k C*

Transistors	
Part	Value
Q1	BS170
Q2	BS170
Q3	BS170
Q4	BS170

Diodes	
Part	Value
D1	9v1 Zener
D2	9v1 Zener
D3	1N4001
LED	3mm red led
LEDB	3mm red led

# Shopping list

Resistors		
Qty	Value	Parts
2	10k	R16, R17
1	180r	R9
10	1m	R1, R2, R4, R6, R7, R10, R11, R18, R19, R23
1	330r	R13
1	470k	R5
4	5k1	R3, R8, R12, R20
1	82k	R15
1	82r	R22
2	47k	R14, R21

Capacitors		
Qty	Value	Parts
1	470pf	C3
3	22n	C2, C4, C6
2	2n	C8, C9
3	100n	C1, C7, C10

Electrolytic Capacitors		
Qty	Value	Parts
1	47uf	C12
1	10uf	C11
1	1uf	C5

Potentiometers		
Qty	Value	Parts
2	5k C*	GAIN. BOOST
2	100k B	TONE, VOL

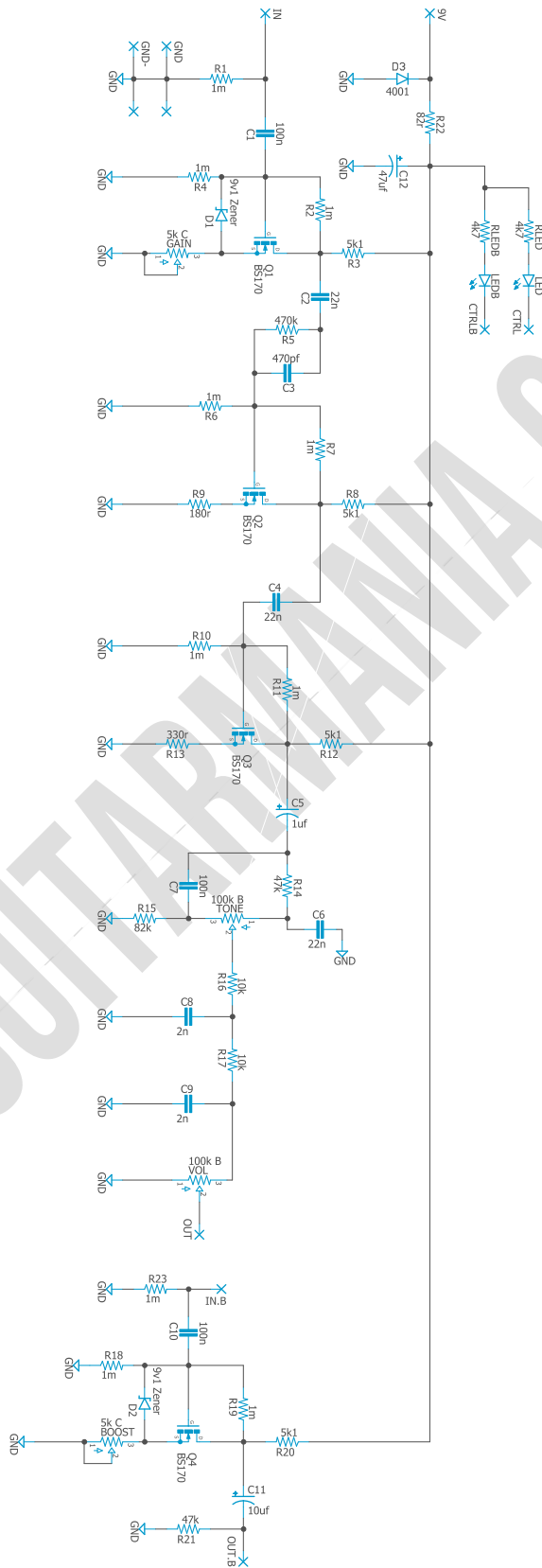
Semiconductors		
Qty	Value	Parts
4	BS170	Q1, Q2, Q3, Q4

Diodes		
Qty	Value	Parts
2	9v1 Zener	D1, D2
1	1n4001	D3
2	3mm red led	LED, LEDB

Switches		
Qty	Value	Parts
2	3PDT Stomp foot	-

Jacks		
Qty	Value	Parts
1	DC Jack	-
2	Audio Jacks	-

# 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.

**5k C\*:** All the components are pretty easy to get. Just take special note on the “C” type potentiometers, anti-logarithmic audio type.

## 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

**5k C\***

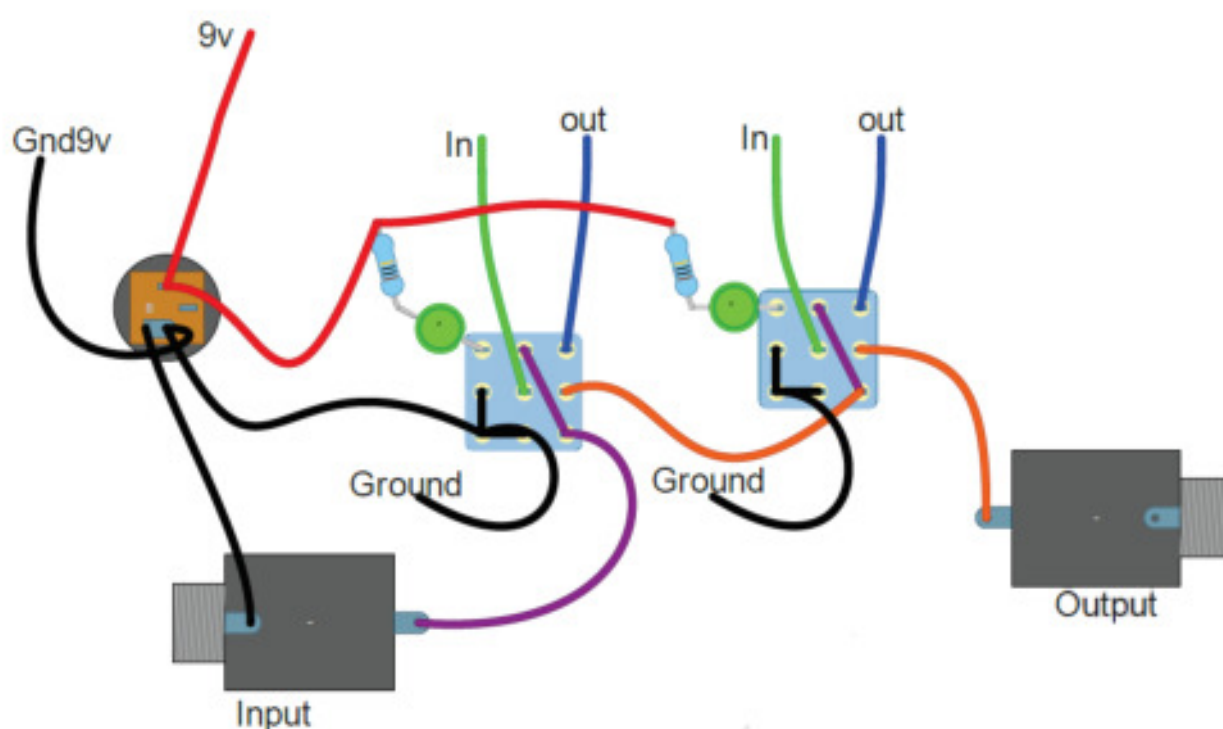
All the components are pretty easy to get. Just take special note on the “C” type potentiometers, anti-logarithmic audio type.

## 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.

This board has been designed to match our EZ 3PDT PCB; check it [here](#) to access our [Pedal Wiring Guide](#).



stors for the leds must be sold according to how much do you want to experiment with the order of the leds works as a volume booster

The Zvex version the Booster goes first to give you extra grit and power on your drive. The booster is a simple but effective SHO.

# Drill Template

---

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.

## 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.

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