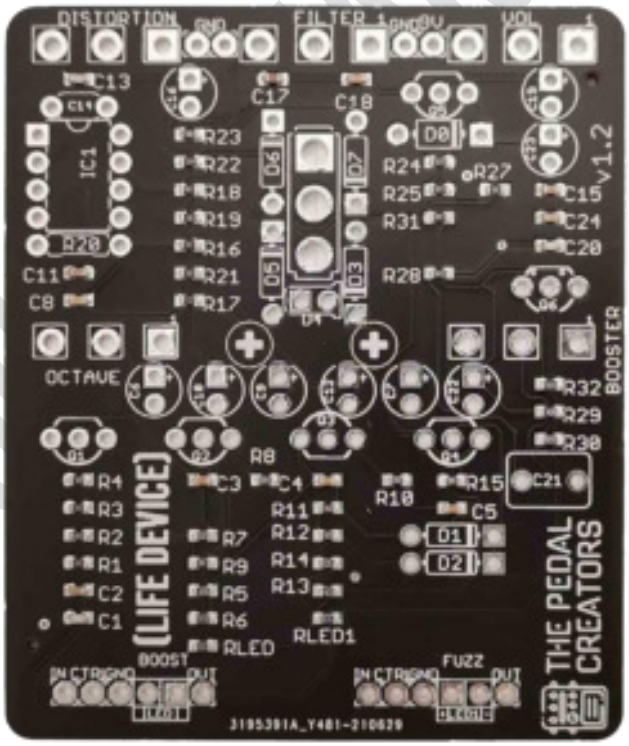
Life Device SMD

Based on:
EQD Life pedal
Effect type:
Ultimate DOOM machine
Build difficult:
Intermediate

Amount of parts:
Medium, total 35 components
Technology:
Octaver + Rat+Booster
Power consumption:
9V (DO NOT TRY HIGHER VOLTAGES)

Enclosure type:
125b
Get your board at:
Life Device SMD
Get your kit at:
Das Musikding (Europe)

Project overview:
What happens when you mix a Rat with an Octaver and a Booster? TOTAL DOOM. That is the secret behind EQD hyped Life Pedal, that one that was sold out after a few hours of being released. But you don't have to wait any longer for long waiting lists or pay a huge ton of money to DOOM your tone; now you can build it your own with our PCBs!



About The Pedal Creators

Everyone can build excellent boutique guitar **pedals**.
Everything **we do** is to make that **experience** more accessible and **user-friendlier.**
The **Pedal Creators** series are the **best and easiest to build PCB**s ever. Including most **resistors** and **capacitors** already **soldered** on board as SMD components, leaving the key values for you to **experiment** and craft **your own tone**.
Now you can **build** a pedal you are **proud** of in **less than an hour** without any previous experience.
What are you waiting for to **become a Pedal Creator?**

The Pedal creators - key features:

- **Easy to build,** no previous experience required. It's like Lego for musicians.
- **Fast assembly** finish a pedal in less than an hour. Play your favorite record and enjoy the ride along.
- **100% mistake-proof**. Even my grandma can build one while she cooks.
- **Build** your own boutique pedal. Experiment with different values and make the **pedal you always dreamed of.**
- Easy to scale. **Turn your passion into a money-making machine**.

Index

Introduction

Hyped hyped hyped for a reason is the EQD life pedal ™ that takes the concept of good old Rat ™ pedal to the next level by adding a Green ringer octave circuit In front and a clean boost after. That gives you the ultimate doom machine that's just out of stock within hours whenever EQD does a new run. So we thought we help you out by giving you a DIY board. Honestly, we are a little late with our design. To make a difference to all the other guys offering boards, we made our take as small and pedalboard-friendly as possible and designed it to fit in a 125B with two footswitches and a toggle for clipping option.

If you receive v1.2, you can skip this part. For the guys who receive one of the boards from the giveaway, the toggle to switch the octave on and off (DPDT) is too close to the clipping toggle (SPDT). You either place one of the switches somewhere on the side of the enclosure and run wires or jumper the octave switch that's not added to the final version anymore because you have the potentiometer as well; that makes that toggle a little pointless anyways. To jumper it, you run two wires both from the middle pad to the pad towards the side of the footswitches (bottom), as shown in the picture. Please don't get confused; in the picture, I also added a single jumper for the clipping option because I didn't want to have the toggle out of the center.

All this has been corrected for the final 1.2 version.

Controls

- Volume
- Gain
- Octave
- Filter
- Booster
- Diode Switch

Bill of materials

Resistors	
Part	**Value**
R20	1k

Capacitors	
Part	**Value**
C14*	30pf
C21	1u

Electrolytics Capacitors	
Part	**Value**
C6	1u
C7	1u
C9	2u2
C10	4u7
C12	10u
C16	4u7
C19	1u
C22	10u
C23	100u

Potentiometers	
Part	**Value**
OCTAVE	50k B
BOOSTER	100K A
DISTORTION	100k A
FILTER	100k A
AMPLITUDE	100k A

IC	
Part	**Value**
IC1	LM308N

Transistors	
Part	**Value**
Q1	2N5457
Q2	2N5089
Q3	2N3906
Q4	2N5089
Q5	2N5457
Q6	BS170

Switches	
Part	**Value**
SW1	SPDT ON/OFF/ON

Diods	
Part	**Value**
D0	1n5817
D1	Germanium
D2	Germanium
D3	1N4148
D4	3mm Red LED
D5	1N4148
D6	1N4148
D7	1N4148
LED	3mm Red LED
LED1	3mm Red LED

Shopping list

Resistors		
Qty	Value	Parts
1	1k	R20

Capacitors		
Qty	Value	Parts
1	1u	C21
1	30pf	C14*

Electrolytics Capacitors		
Qty	Value	Parts
1	100u	C23
2	10u	C12, C22
3	1u	C6, C7, C19
2	4u7	C10, C16
1	2u2	C9

Potentiometers		
Qty	Value	Parts
1	50k B	OCTAVE
4	100K A	BOOSTER, DISTORTION, FILTER, AMPLITUDE

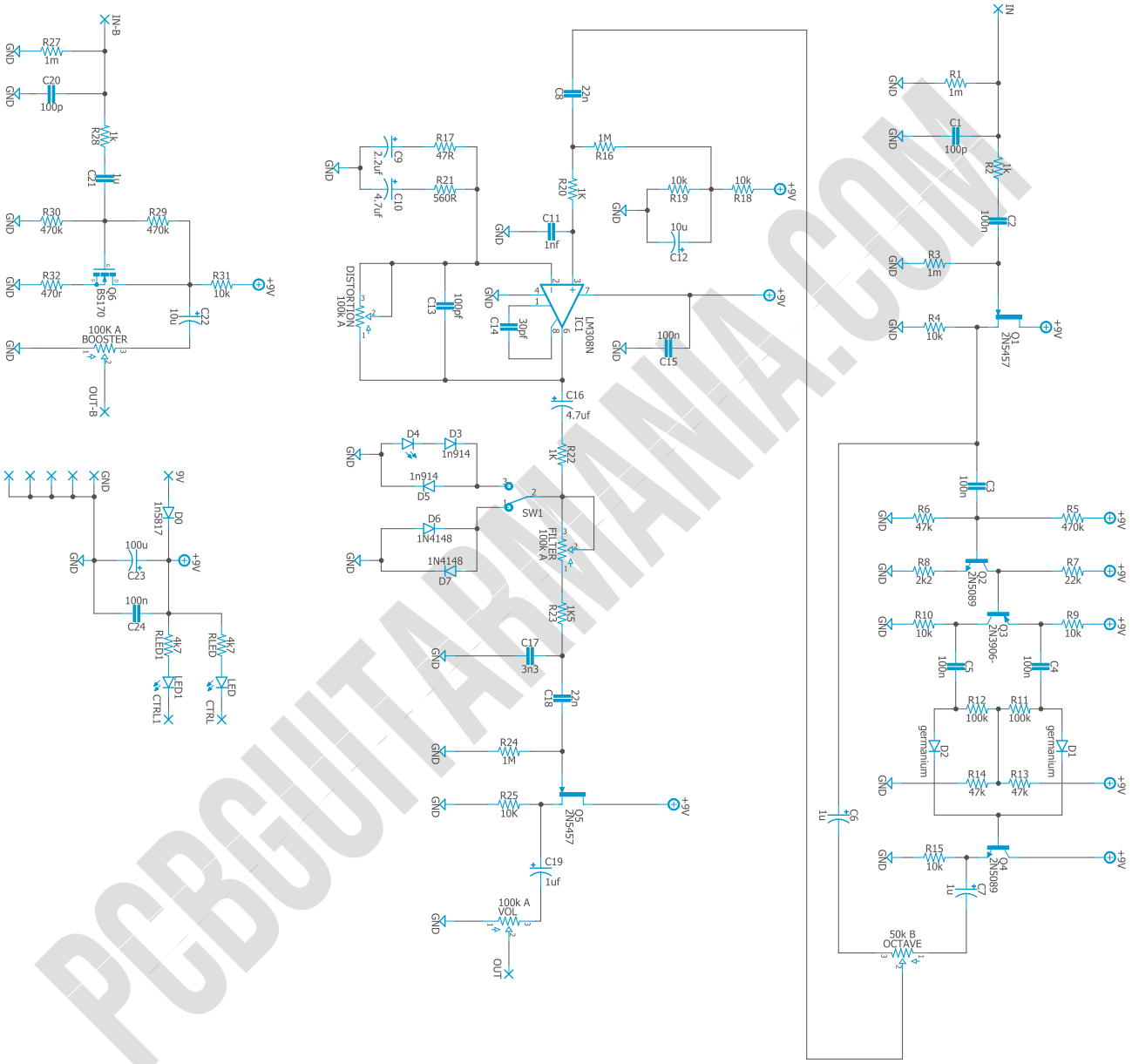
IC		
Qty	Value	Parts
1	LM308N	IC1

Transistors		
Qty	Value	Parts
1	2N3906-	Q3
2	2N5089	Q2, Q4
2	2N5457	Q1, Q5
1	BS170	Q6

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

Diods		
Qty	Value	Parts
1	1n5817	D0
4	1n4148	D3, D5, D6, D7
2	Germanium	D1, D2
3	3mm Red LED	D4, LED, LED1

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

Alternatives ICs and Substitutions

IC1: OP07CP, LM741 (leave C14 unpopulated)

PF5102: 2N5457

2N5089: 2N5088

C14*

This value is optional, place it only when using the LM308 chip to compensate for its performance. When using an alternative type like OP07CP and LM741, it is not necessary to compensate for anything because it is already internally compounded.

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!

All of our projects have been tested following this same guide on their standard configurations. Although, not all of the variations and mods have necessarily been tested. 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!