

# Reaper Device

---

**Based on:**  
EQD Tone Reaper  
**Effect type:**  
Fuzz  
**Build difficult:**  
Intermediate

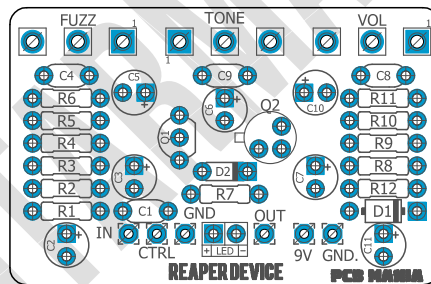
**Amount of parts:**  
Average, total 45 components  
**Technology:**  
Germanium – Silicon hybrid transistors  
**Power consumption:**  
2mA (9v)

**Enclosure type:**  
1590b  
**Get your board at:**  
[Reaper Device](#)  
**Get your kit at:**  
[Das Musikding \(Europe\)](#)

---

## Project overview:

Inspired by the legendary EQD Tone Reaper a 3-knob tone bender with a hybrid silicon-germanium circuit that allows you to dial an array of tones from every bender version. It is also great for anyone looking for a high gain style grind tone at its higher fuzz settings.



# Index

---

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

## Introduction

---

The Reaper Device is a vintage-style fuzz device with a unique design in which the tone control has been modified into a BMP tone stack in addition to the pair of germanium transistors simplified into a single high gain silicon transistor MPSA18.

This silicon/germanium hybrid is ready to deliver an array of tones from every bender era with careful tweaking of the tone and fuzz controls. From light and spitty to a growling crunch, all with a midrange punch to make it scratch and kick through any mix. You will also get those higher gain Randy Rhodes style grind at its higher fuzz settings.

## Controls

---

- Tone: Treble to the left, Bass to the right.
- Fuzz: Controls the sustain and nature.
- Level: Controls the output.

# Bill of materials

---

Resistors	
Part	Value
R1	1m
R2	47k
R3	330r
R4	470k
R5	10k
R6	10k
R7	1k
R8	1k
R9	10k
R10	33k
R11	33k
R12	4k7

Potentiometers	
Part	Value
TONE	100k B
VOL	100k A
FUZZ	250k B

Capacitors	
Part	Value
C1	100pf
C2	1uf
C3	10uf
C4	47pf
C5	1uf
C6	1uf
C7	22uf
C8	10n

C9	470pf
C10	1uf
C11	100uf

Diodes	
Part	Value
D1	1n4001
D2	1N4148
LED	3mm red Led

Transistor	
Part	Value
Q1	2N5088
Q2	AC176 (100 - 120 HFE)

# Shopping list

---

Resistors		
Qty	Value	Device
3	10k	R5, R6, R9
1	330r	R3
2	33k	R10, R11
1	470k	R4
1	47k	R2
1	4k7	R12
2	1k	R7, R8
1	1m	R1

Capacitors		
Qty	Value	Device
1	10n	C8
1	10uf	C3
1	100pf	C1
1	100uf	C11
4	1uf	C2, C5, C6, C10
1	22uf	C7
1	470pf	C9

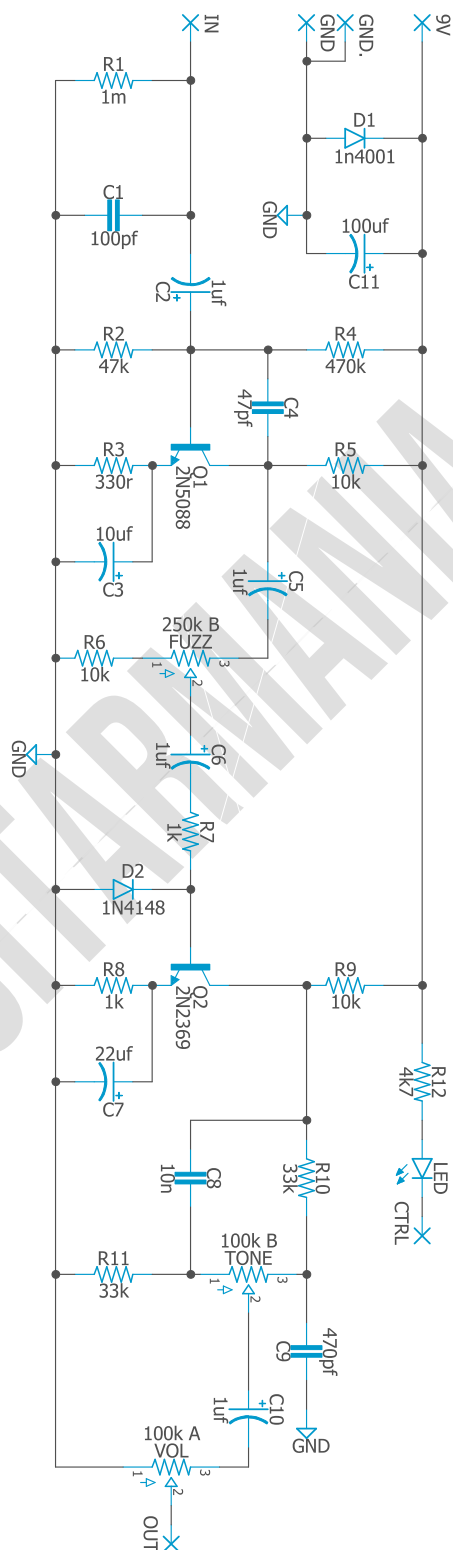
1	47pf	C4
---	------	----

Transistors		
Qty	Value	Device
1	AC176	Q2
1	2N5088	Q1

Potentiometers		
Qty	Value	Device
1	100k A	VOL
1	100k B	TONE
1	250k B	FUZZ

Diodes		
Qty	Value	Device
1	1N4148	D2
1	1n4001	D1
1	3mm LED	LED

# 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

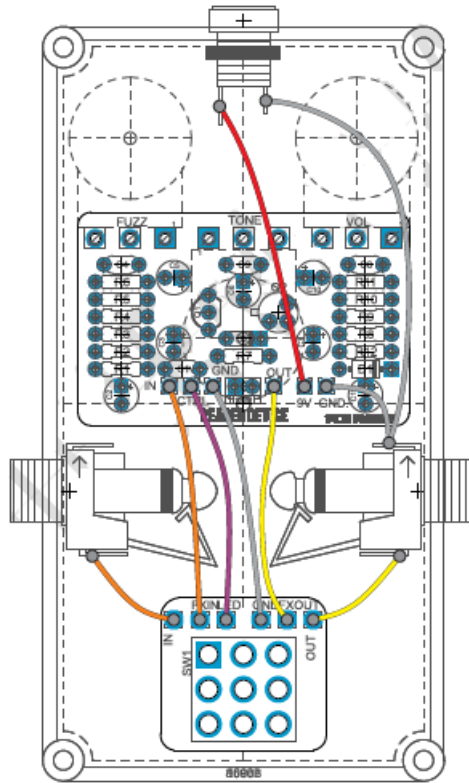
## Wiring Diagram

---

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; You can take a look on the following diagram to understand the general connections. For further information check 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.

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

PCBGUITARMANIA.COM