

# Crimson Device

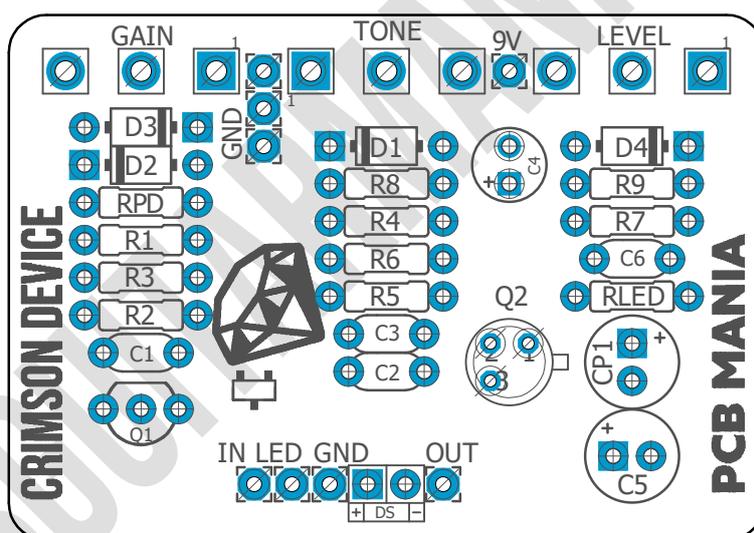
**Based on:**  
Earthquaker Devices Crimson  
Drive  
**Effect type:**  
Germanium Overdrive  
**Build difficult:**  
Low

**Number of parts:**  
Low, total 28 components  
**Technology:**  
JFET + Germanium transistor  
**Power consumption:**  
9V

**Enclosure type:**  
125b  
**Get your board at:**  
[Crimson Device](#)  
**Get your kit at:**  
[Das Musikding \(Europe\)](#)

## Project overview:

Germanium overdrive that goes from a gritty treble boost, reminiscent of the Rangemaster, to a rattling overdriven sound reminiscent of a vintage Plexi turned to 11.



# 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

---

One of the things that got many of us into this amazing adventure of pedal building is for sure the possibility to get in our hands many of those pedals that are almost impossible to obtain, like the legendary Klon or the KOT, and it's a long waiting list. Among these, we can include the Crimson Device, a rare germanium overdrive inspired by an original creation by EQD currently discontinued.

This circuit's anatomy is pretty simple; it starts with a JFET buffer that goes into a germanium transistor, two hard clipping germanium diodes, and a straightforward filter that reminds me of the one present in Proco's Rat. The result of this combination is an open-sounding overdrive full of harmonics and raw grit that goes from raspy Rangemaster tone in the lower gain settings to the grit of a vintage Plexi when the Drive knob is maxed out.

This device works equally, with both humbuckers and single coils cutting through the densest mixes.

## Controls

---

### *Potentiometers*

- GAIN
- TONE
- LEVEL

# Bill of materials

---

Resistors	
Part	Value
R1	10K
R2	1M
R3	1M
R4	15K
R5	470K
R6	68K
R7	2K2
R8	15K
R9	1K
RLED	4K7
RPD	2M2

Capacitors	
Part	Value
C1	100n
C2	100n
C3	100p
C6	3n3

Electrolytic Capacitors	
Part	Value
C4	1u
C5	100u
CP1	100u

Potentiometers	
Part	Value
GAIN	250K B
LEVEL	100K B
TONE	25K B

Transistors	
Part	Value
Q1	J201
Q2	OC139

Diodes	
Part	Value
D1	1n34A
D2	1n34A
D3	1N4001
D4	1n5817
LED	3mm LED

Switches	
Part	Value
-	3PDT Stomp foot

Jacks	
Part	Value
-	DC Jack
-	Audio Jack
-	Audio Jack

# Shopping list

---

Resistors		
Qty	Value	Parts
1	10K	R1
2	15K	R4, R8
1	1K	R9
2	1M	R2, R3
1	2K2	R7
1	2M2	RPD
1	470K	R5
1	4K7	RLED
1	68K	R6

Capacitors		
Qty	Value	Parts
2	100n	C1, C2
1	100p	C3
1	3n3	C6

Electrolytic Capacitors		
Qty	Value	Parts
2	100u	C5, CP1
1	1u	C4

Potentiometers		
Qty	Value	Parts
1	100K B	LEVEL

1	250K B	GAIN
1	25K B	TONE

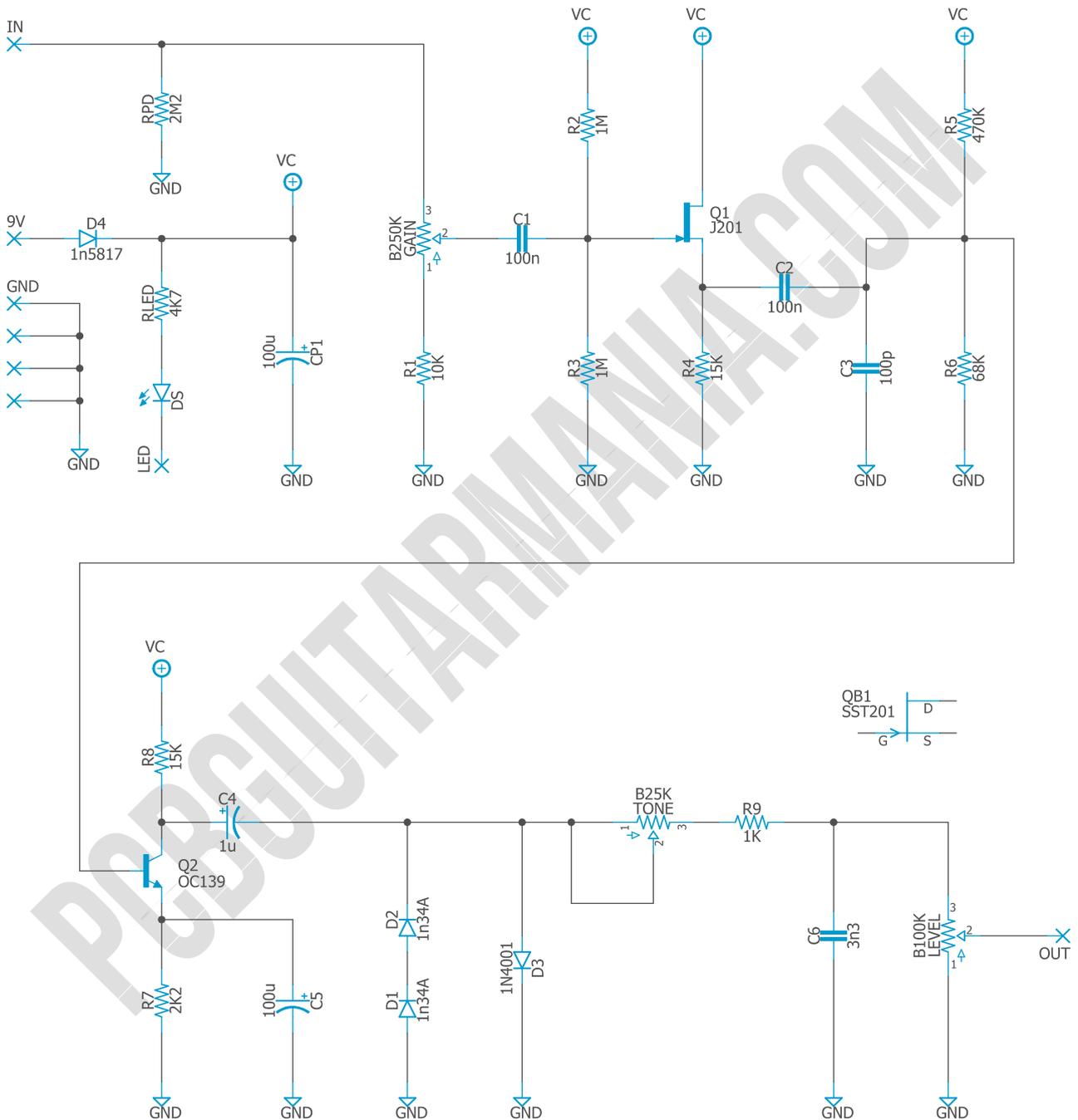
Transistors		
Qty	Value	Parts
1	J201	Q1
1	OC139	Q2
1	SST201	QB1

Diodes		
Qty	Value	Parts
1	1N4001	D3
2	1n34A	D1, D2
1	1n5817	D4
1	3mm LED	DS

Switches		
Qty	Value	Parts
1	3PDT Stomp foot	-

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

# 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; 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!

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!