

Eagle Claw

Based on:

EQD Talons

Effect type:

High Gain Overdrive

Build difficult:

Intermediate

Amount of parts:

Average, total 42 components

Technology:

Dual Op amp + active EQ section

Power consumption:

9V-18v (9mA)

Enclosure type:

125b

Get your board at:

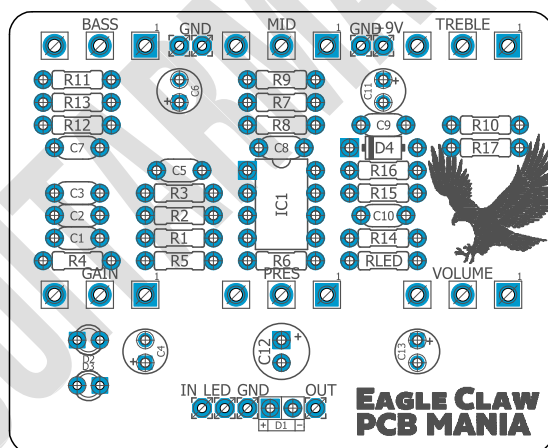
[Eagle Claw](#)

Get your kit at:

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

Project overview:

Inspired by EQD Talons circuit, is a really powerful and versatile high gain drive that doesn't need to emulate the sound of any era nor any particular amp to shine with its own color of aggression. It's one of those multipurpose tools that you can use in any situation, whether you need a transparent boost or a high saturated drive. Also, to add more versatility, this pedal features a 3 band active eq section and a presence control that allows you to sculpt your tone at any need!



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

Here comes the Eagle Claw and does exactly what the name promises. It will snatch you from behind and lift you to the Rock heaven. This thing got you covered from mild drive with a well thought and tweakable 3 band EQ to meaty rock rhythms and singing leads. It pairs best with your single coil-equipped guitars. But don't underestimate this circuit just because I said single coils.

There is plenty of anger in this six-knob drive that even gives you a presence control to round that package off.

Controls

- Level: Master volume control. There is a lot of level on tap; please adjust accordingly.
- Gain: Preamp volume control. Controls the amount of dirt available, from clean to heavy crunch.
- Presence: Adjusts the top end and upper mids to control the amount of "sizzle" in the dirt. Turn clockwise for a brighter tone, counterclockwise to mellow it out.
- Bass: Noon is flat, boost is clockwise from noon, cut is counterclockwise from noon.
- Mids: Noon is flat, boost is clockwise from noon, cut is counterclockwise from noon.
- Treble: Noon is flat, boost is clockwise from noon, cut is counterclockwise from noon.

Bill of materials

Resistors	
Part	Value
R1	3M3
R2	1K
R3	220K
R4	4K7
R5	1K
R6	1K
R7	3K3
R8	3K3
R9	2K2
R10	2K2
R11	10K
R12	10K
R13	10K
R14	1K
R15	1K
R16	10K
R17	10K
RLED	4K7

Capacitors	
Part	Value
C1	100p
C2	100n
C3	100p
C5	3n3
C7	47n
C8	22n
C9	4n7

C10	4n7
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Electrolytics Capacitors	
Part	Value
C4	1u
C6	1u
C11	2u2
C12	100u
C13	10u

Potentiometers	
Part	Value
BASS	B50K
GAIN	A500K
MID	B50K
PRES	B5K
TREBLE	B100K
VOLUME	A100K

Trimpots	
Part	Value
IC1	TL072

Diodes	
Part	Value
D1	LED (your choice)
D2	LED.RED
D3	LED.RED
D4	1N5817

Shopping list

Resistors		
Qty	Value	Parts
5	10K	R11, R12, R13, R16, R17
5	1K	R2, R5, R6, R14, R15
1	220K	R3
2	2K2	R9, R10
2	3K3	R7, R8
1	3M3	R1
2	4K7	R4, RLED

Capacitors		
Qty	Value	Parts
1	100n	C2
2	100p	C1, C3
1	22n	C8
1	3n3	C5
1	47n	C7
2	4n7	C9, C10

Electrolytics Capacitors		
Qty	Value	Parts
1	100u	C12

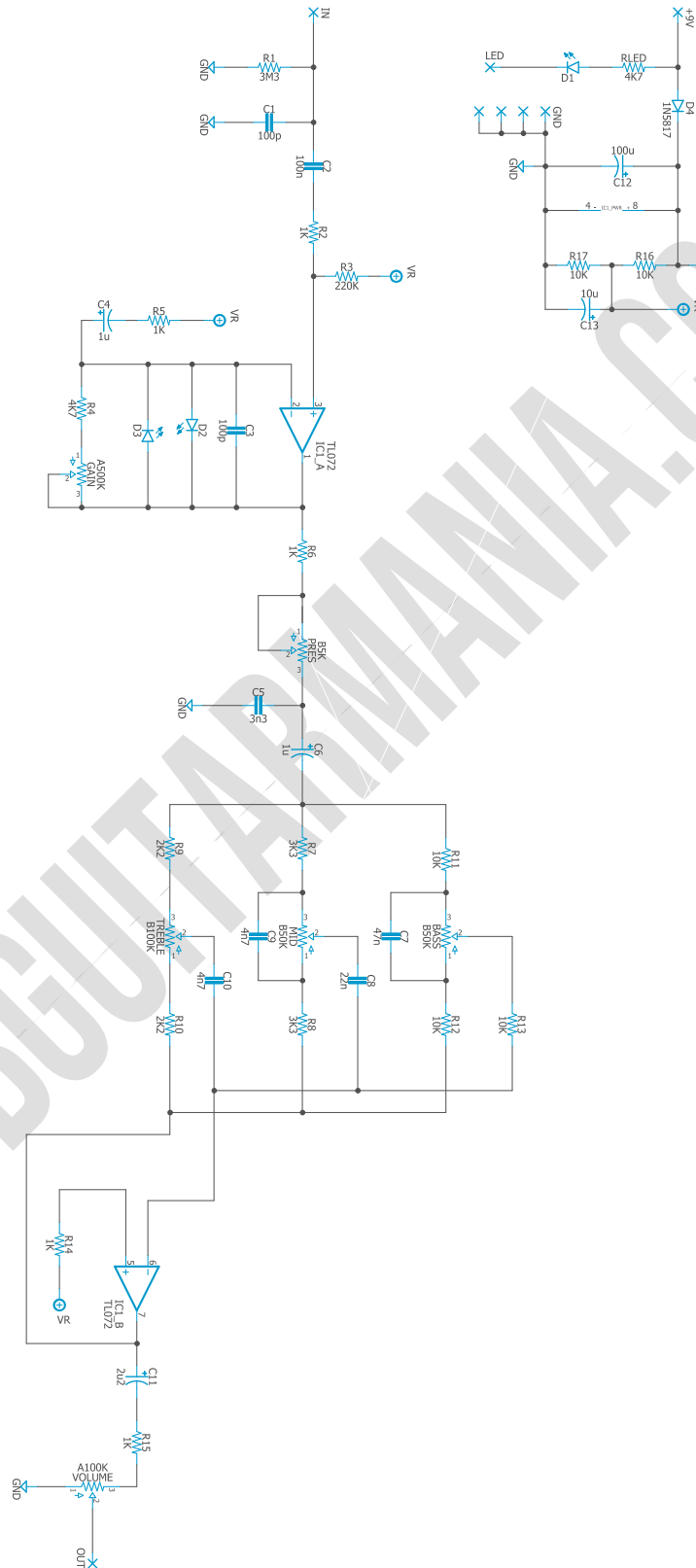
1	10u	C13
2	1u	C4, C6
1	2u2	C11

Potentiometers		
Qty	Value	Parts
1	A100K	VOLUME
1	A500K	GAIN
1	B100K	TREBLE
2	B50K	BASS, MID
1	B5K	PRES

IC		
Qty	Value	Parts
1	TL072	IC1

Diodes		
Qty	Value	Parts
1	1N5817	D4
2	LED.RED	D2, D3
1	LED (your choice)	D1

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.

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