Odd Caveman

Based on:
Oddfellow Caveman Drive

Amount of parts:
Average, total 39 components

Enclosure type:
125b

Effect type:
Transparent overdrive

Technology:
Dual op amp

Get your board at:
Odd Caveman

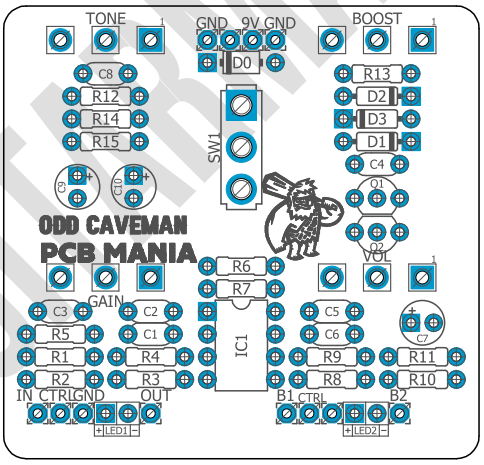
Build difficult:
Intermediate

Power consumption:
9V

Get your kit at:
Das Musikding (Europe)

Project overview:

Inspired by the latest version of the Caveman™ Drive, the Odd Caveman is a transparent overdrive with an incredibly diverse spectrum of sounds!



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Introduction

The Odd Caveman nails every sound from screaming distortion to smooth, overdrive with no volume loss by simply lowering your guitar's volume knob. It´s so intuitive and straightforward that even a caveman could make it sound great!

This board feels and reacts like a cranked tube amp delivering that sweet organic sound. It has great dynamic and transparency and is ready to assist you in any style you want to play.

Controls

- Boost
- Gain
- Tone
- Vol
- Clipping toggle
- Boost Footswitch

Bill of materials

Resistors	
Part	**Value**
R1	10k
R2	1m
R3	270k
R4	18k
R5	2k2
R6	10k
R7	10k
R8	150k
R9	150k
R10	13k
R11	20k
R12	20k
R13	20k
R14	10k
R15	10k

Capacitors	
Part	**Value**
C1	22n
C2	220p
C3	68n
C4	1n
C5	220p
C6	100n
C8	47n

Electrolytics Capacitors	
Part	**Value**
C7	10u
C9	47u
C10	47u

Potentiometers	
Part	**Value**
BOOST	100k
GAIN	1m A
TONE	10k A
VOL	500k B

IC	
Part	**Value**
IC1	TL082

Transistors	
Part	**Value**
Q1	2n7000
Q2	2n7000

Switches	
Part	**Value**
SW1	SPDT ON/OFF/ON
Boost Switch*	3PDT footswitch

Diods	
Part	**Value**
D0	1n5817
D1	1N5817
D2	custom
D3	custom
LED1	3mm red LED
LED2	3mm red LED

Shopping list

Resistors		
Qty	**Value**	**Parts**
5	10k	R1, R6, R7, R14, R15
1	13k	R10
2	150k	R8, R9
1	18k	R4
1	1m	R2
3	20k	R11, R12, R13
1	270k	R3
1	2k2	R5

Capacitors		
Qty	**Value**	**Parts**
1	100n	C6
1	1n	C4
2	220p	C2, C5
1	22n	C1
1	47n	C8
1	68n	C3

Electrolytics Capacitors		
Qty	**Value**	**Parts**
1	10u	C7
2	47u	C9, C10

Potentiometers		
Qty	**Value**	**Parts**
1	100k	BOOST
1	10k A	TONE
1	1m A	GAIN
1	500k B	VOL

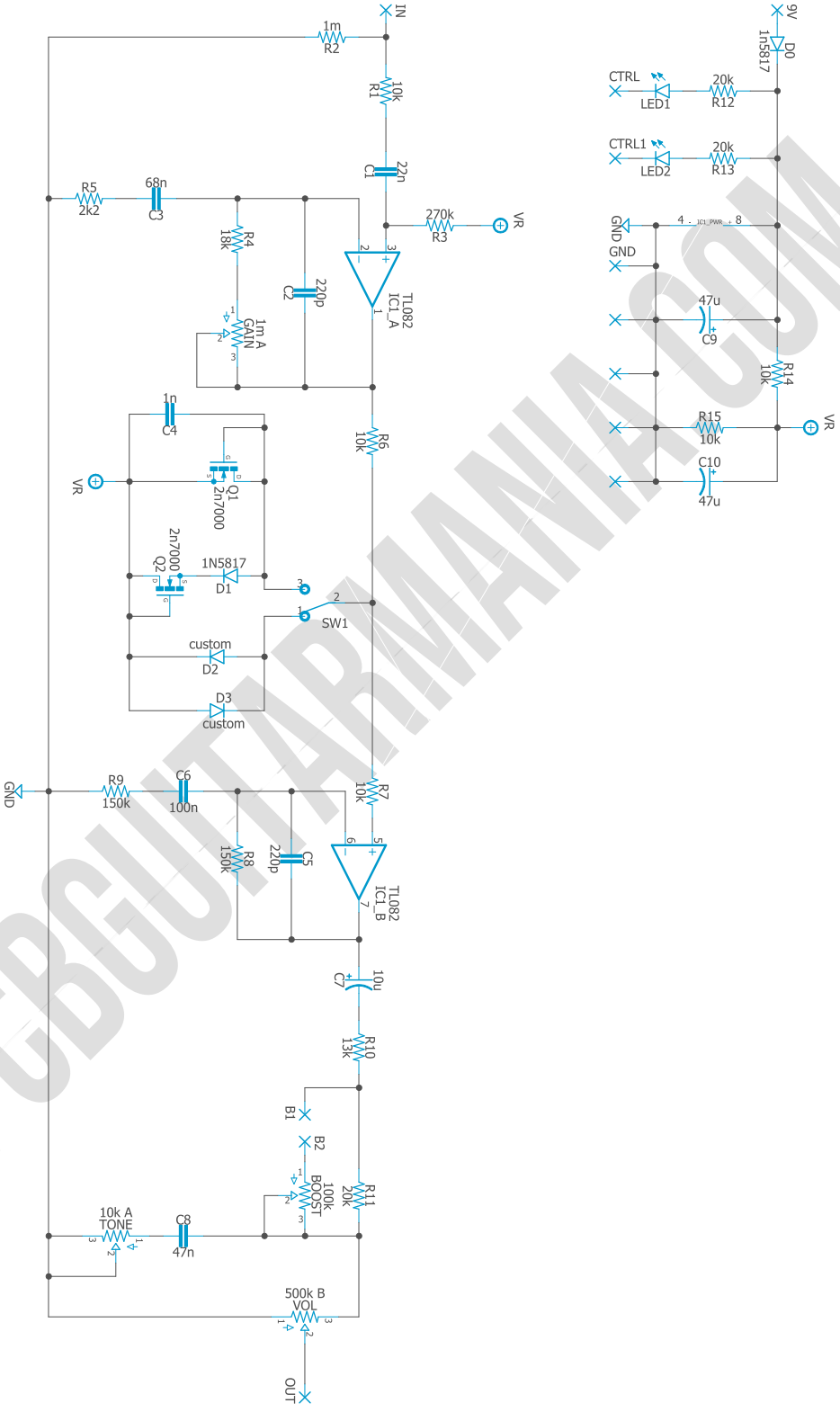
IC		
Qty	**Value**	**Parts**
1	TL082	IC1

Transistors		
Qty	**Value**	**Parts**
2	2n7000	Q1, Q2

Switches		
Qty	**Value**	**Parts**
1	SPDT ON/OFF/ON	SW1
1	**3PDT footswitch***	Boost Switch

Diods		
Qty	**Value**	**Parts**
1	1N5817	D1
1	1n5817	D0
2	3mm red LED	LED1, LED2
2	custom	D2, D3

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.

3PDT BOOST FOOTSWITCH* This circuit uses only two poles of the switch, meaning you can either use a 3pdt footswitch as stated or a DPDT following the same wiring pattern.

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:

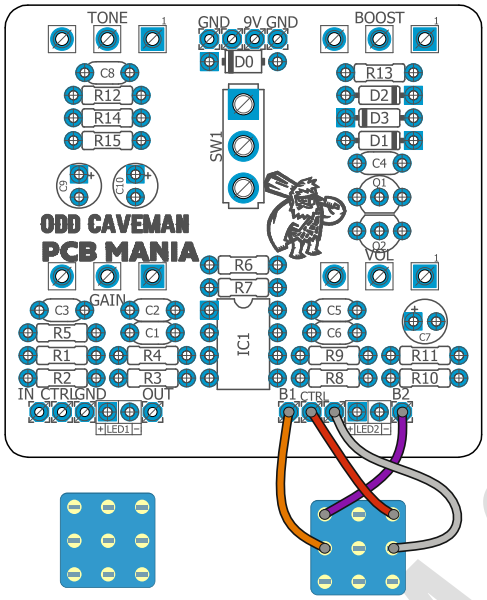
1. Resistors & diodes
2. Capacitors, starting with the smaller ones and the ceramic ones.
3. Electrolytic capacitors (always check the polarity)
4. Transistors
5. Wires
6. Potentiometers and switches
7. Off-board wiring

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.



Always place the 3PDT like this!

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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