Super Angry Carlos

Based on:
JHS Angry Charlie V3

Number of parts:
Average, total 49 components

Enclosure type:
125b

Effect type:
Distortion - Overdrive

Technology:
Op Amp

Get your board at:
Super Angry Carlos

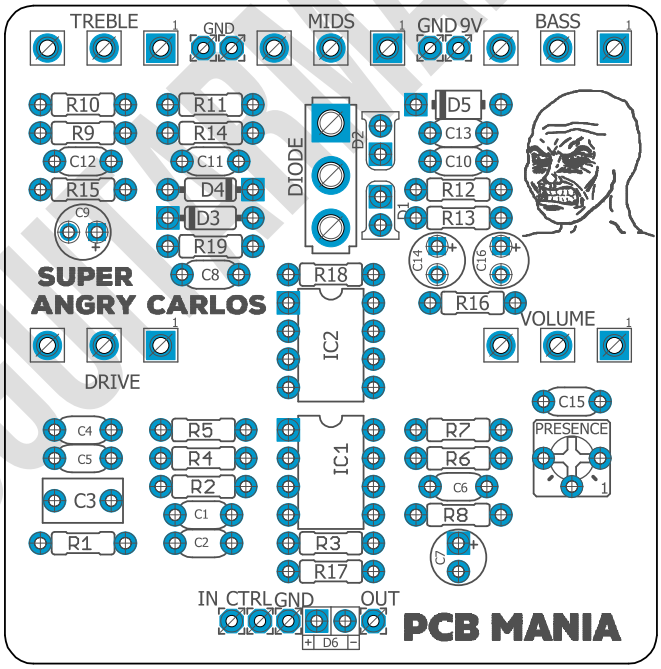
Build difficult:
Intermediate

Power consumption:
9V

Get your kit at:
Das Musikding (Europe)

Project overview:

Super Angry Carlos is what happens when Carlos gets even angrier. With an additional 3-band tone stack, this version nails those warm yet flaming tones and endless sustain that we all want.
Build one of the more aggressive British amp-in-a-box pedals out there and get all those high-gain overdrive/distortions enraged British-flavored sounds!



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Introduction

You can make this pedal sound bluesy and vintage; just turn the drive control down and get surprised by the result!
Go from bluesy Hendrix-like breakup to high-gain Brit tones by just changing the Drive knob parameters. Drive and Volume control interact the same as a master volume amp head. You can back off your guitar's volume to control your gain levels without losing clarity.

Controls

Potentiometers

- Treble
- MIDs
- Bass
- Drive
- Volume

Switches

- Diodes

Bill of materials

Resistors	
Part	**Value**
R1	1m
R2	1k
R3	1m
R4	1k
R5	1k
R6	10k
R7	1m
R8	470r
R9	3K3
R10	10K
R11	3K3
R12	10K
R13	10K
R14	3K3
R15	3K3
R16	1K
R17	10K
R18	10K
R19	10K

Capacitors	
Part	**Value**
C1	22n
C2	1n
C3	220n
C4	100p
C5	100n
C6	100p
C8	3n3
C10	47n
C11	4n7
C12	4n7
C13	4n7
C15	47n

Electrolytics Capacitors	
Part	**Value**
C7	2u2
C9	1u
C14	2u2
C16	10u

Potentiometers	
Part	**Value**
BASS	50K B
DRIVE	100K B
MIDS	50K B
TREBLE	100K B
VOLUME	50K B
PRESENCE	5K B

Switches	
Part	**Value**
Diodes	SPDT On-Off-On

IC	
Part	**Value**
IC1	LM833
IC2	TL072

Diodes	
Part	**Value**
D1	3mm red LED
D2	3mm red LED
D3	Your choice
D4	Your choice
D5	1N5817
D6	3mm red LED

Shopping list

Resistors		
Qty	**Value**	**Parts**
3	1m	R1. R3, R7
1	470r	R8
7	10K	R7, R10, R12, R13, R17, R18, R19
4	1K	R2, R4, R5, R16
4	3K3	R9, R11, R14, R15

Capacitors		
Qty	**Value**	**Parts**
1	22n	C1
1	1n	C2
1	220n	C3
2	100p	C4, C6
1	100n	C5
1	3n3	C8
2	47n	C10, C15
3	4n7	C11, C12, C13

Electrolytics Capacitors		
Qty	**Value**	**Parts**
1	10u	C16
1	1u	C9
2	2u2	C7, C14

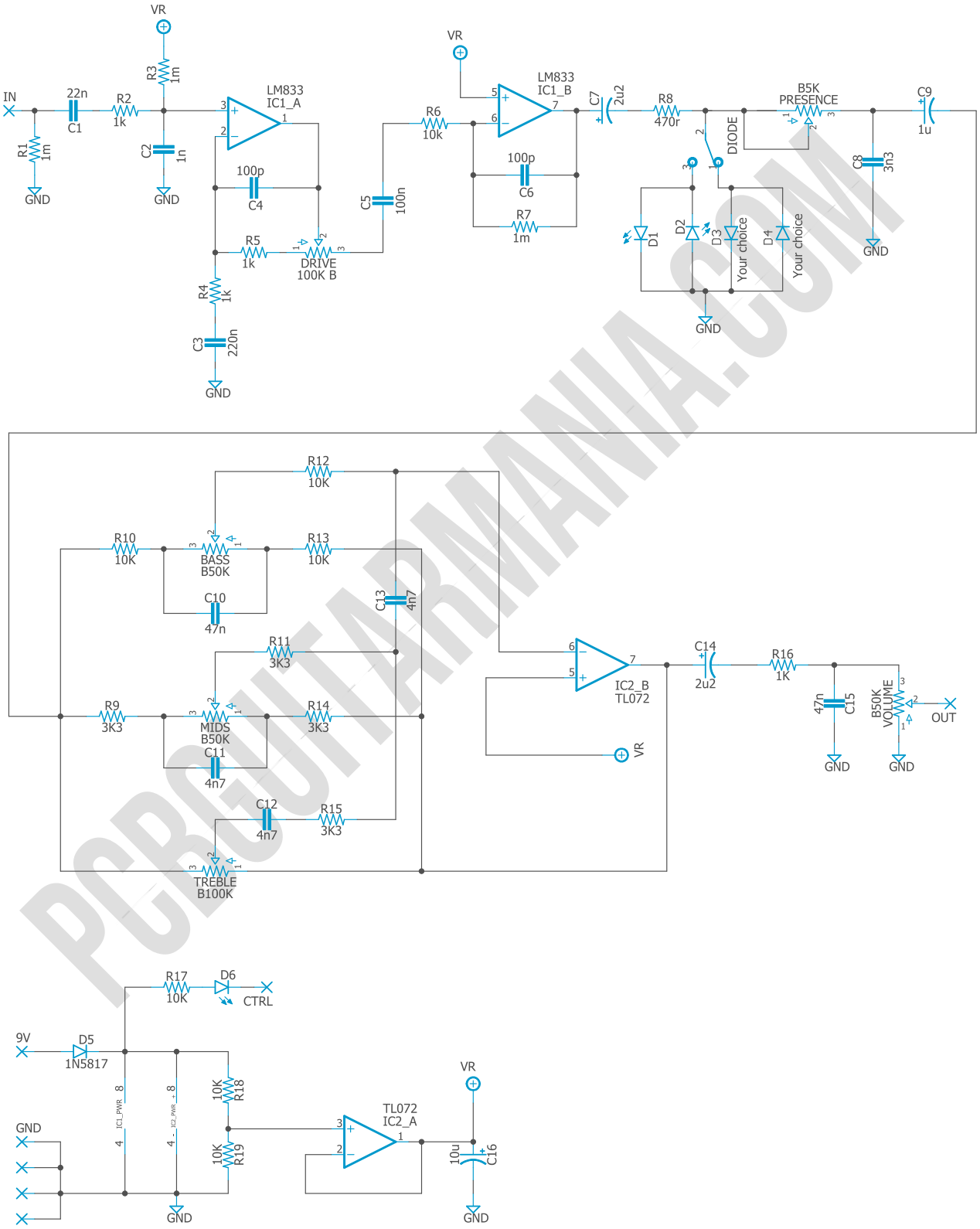
Potentiometers		
Qty	**Value**	**Parts**
1	100K B	DRIVE
1	100K B	TREBLE
3	50K B	BASS, MIDS, VOLUME
1	5K B	PRESENCE

Switches		
Qty	**Value**	**Parts**
1	SPDT On-Off-On	Diodes

IC		
Qty	**Value**	**Parts**
1	LM833	IC1
1	TL072	IC2

Diodes		
Qty	**Value**	**Parts**
3	3mm red LED	D1, D2, D6
1	Your choice	D3, D4
1	1N5817	D5

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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