Aussie Storm

Based on:
SoloDallas Storm & JFET Marshall Super Lead

Effect type:
Classic preamp overdrive

Build difficult:
Advanced

Number of parts:
High, total 124 components

Technology:
Opamp + JFET J201 cascade

Power consumption:
9V

Enclosure type:
1590bb

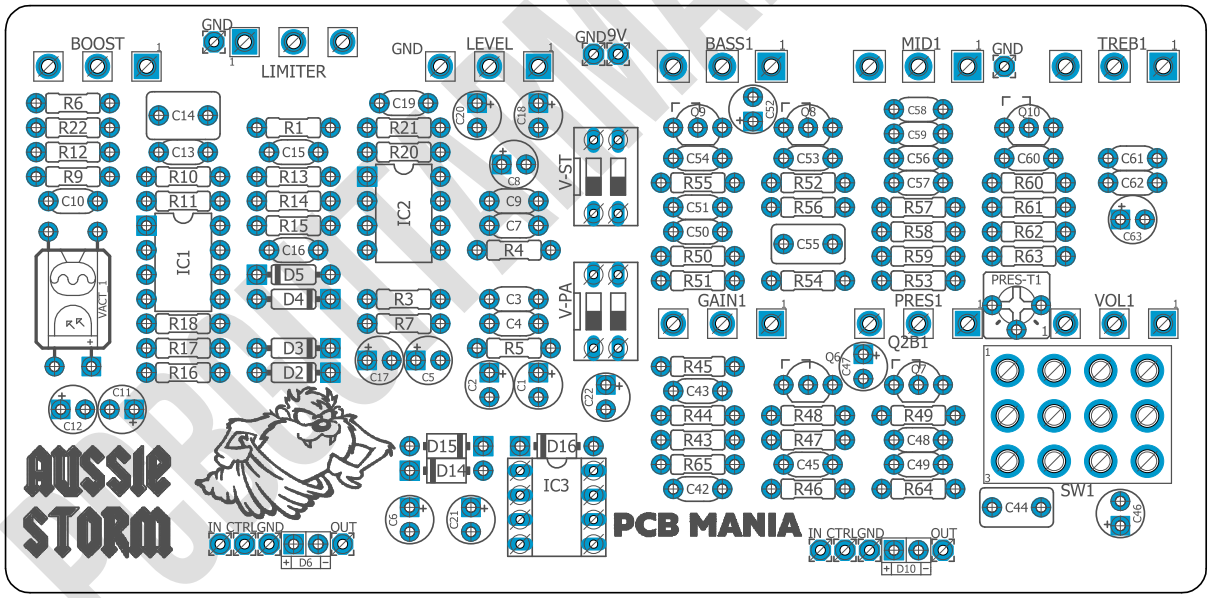
Get your board at:
Aussie Storm

Get your kit at:
Das Musikding (Europe)

Project overview:

In this PCB Guitar Mania original design, we merged the best of the SoloDallas Storm and a JFET Marshall Super Lead to bring back the purest sound of Classic Rock.

We are humbly proud of what this versatile preamp can do, emulating to perfection the iconic sound of Angus Young from AC/DC. Rock is not dead, and Aussie Storm is here to prove it!



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Introduction

Aussie Storm is not only a unique design but a customizable build; choose the options that suit you:

On the preamp section, you can select either an external potentiometer o an internal trimpot for presence control. CHOOSE ONLY ONE OF THEM.

You can replace the Vactrol from the solo Dallas Storm with a Photo resistor; pick from the two options.

It features an internal charge pump to drive either circuit on 9v or 18v; remember never to dial both dipswitches ON. That might end up damaging components.

In addition the preamp section includes a toggle to switch between super lead and super bass modes for more versatility.

Are you set to rock? Because Aussie Storm is ready!

Controls

Potentiometers

- Boost
- Gain1
- Level1
- Limiter
- Pres1
- Vol1
- Bass1
- Mids1
- Treb!

Switches

- SW1
- V-ST
- V-PA

Bill of materials

Resistors	
Part	**Value**
R1	10r
R3	10k
R4	10k
R5	4k7
R6	2k
R7	10r
R9	2k
R10	1m
R11	15k
R12	10k
R13	2k
R14	8k2
R15	2k
R16	2k
R17	2k
R18	10k
R20	10r
R21	10r
R22	1m
R43	470K
R44	33k
R45	820r
R46	1m
R47	1K
R48	1M
R49	1M
R50	470k
R51	47k
R52	1K
R53	1M
R54	1M
R55	470k
R56	560r
R57	100k
R58	56k
R59	33k
R60	1k
R61	2m2
R62	2m2
R63	4k7
R64	Led
R65	1M

Capacitors	
Part	**Value**
C3	100n
C4	100n
C7	100n
C9	100n
C10	120p
C13	120p
C14	1u
C15	1n
C16	100n
C19	100n
C42	220n
C43	1n
C44	680n
C45	2n2
C48	220p
C49	22n
C50	47p
C51	470p
C53	470p
C54	470p
C55	680n
C56	270p
C57	470p
C58	22n
C59	22n
C60	22n
C61	220n
C62	100n

Electrolytics Capacitors	
Part	**Value**
C1	10u

C2	10u
C5	10u
C6	10u
C8	10u
C11	1u
C12	10u
C17	10u
C18	10u
C20	10u
C21	10u
C22	10u
C46	22u
C47	2.2u
C52	2.2u
C63	47u

Potentiometers	
Part	**Value**
BOOST	100K B
GAIN1	1M A
LEVEL	1K B
LIMITER	100K A
PRES1**	10K B
VOL1	250K B
BASS1	1M A
MIDS1	25K B
TREB1	250K B

Trimpots	
Part	**Value**
PRES-T1**	10K

IC	
Part	**Value**
IC1	RC4558P
IC2	LM386N-1
IC3	1044sca

Transistors	
Part	**Value**
Q6	J201
Q7	J201
Q8	J201
Q9	J201
Q10	J201

Switches	
Part	**Value**
SW1	4PDT On-On
V-ST	4PDT On-On
V-PA	4PDT On-On
3PDT Stomp foot	-
3PDT Stomp foot	-

Vactrol	
Part	**Value**
Vactrol*	NSL-32

Diodes	
Part	**Value**
D2	BAT42
D3	BAT42
D4	BAT42
D5	BAT42
D6	3mm red LED
D10	3mm LED
D14	1n5817
D15	1n5817
D16	1n5817

Shopping list

Resistors		
Qty	**Value**	**Parts**
1	100k	R57
4	10k	R3, R4, R12, R18
4	10r	R1, R7, R20, R21
1	15k	R11, R60
2	1K	R47, R52
8	1m	R10, R22, R46, R48, R49, R53, R54, R65
6	2k	R6, R9, R13, R15, R16, R17
2	2m2	R61, R62
2	33k	R44, R59
3	470k	R43, R50, R55
1	47k	R51
2	4k7	R5, R63
1	560r	R56
1	56k	R58
1	820r	R45
1	8k2	R14
1	Led	R64

Capacitors		
Qty	**Value**	**Parts**
7	100n	C3, C4, C7, C9, C16, C19, C62
2	120p	C10, C13
2	1n	C15, C43
1	1u	C14
2	220n	C42, C61
1	220p	C48
4	22n	C49, C58, C59, C60
1	270p	C56
1	2n2	C45
4	470p	C51, C53, C54, C57
1	47p	C50
2	680n	C44, C55

Electrolytics Capacitors		
Qty	**Value**	**Parts**
11	10u	C1, C2, C5, C6, C8, C12, C17, C18, C20, C21, C22
1	1u	C11
2	2u2u	C47, C52
1	22u	C46
1	47u	C63

Potentiometers		
Qty	**Value**	**Parts**
1	100K A	LIMITER
1	100K B	BOOST
1	10K B	**PRES1****
1	1K B	LEVEL
2	1M A	GAIN1, BASS1
2	250K B	VOL1, TREB1
1	25K B	MIDS1

Trimpots		
Qty	**Value**	**Parts**
1	10K	**PRES-T1****

IC		
Qty	**Value**	**Parts**
1	1044sca	IC3
1	LM386N-1	IC2
1	RC4558P	IC1

Transistors		
Qty	**Value**	**Parts**
5	J201	Q6, Q7, Q8, Q9, Q10

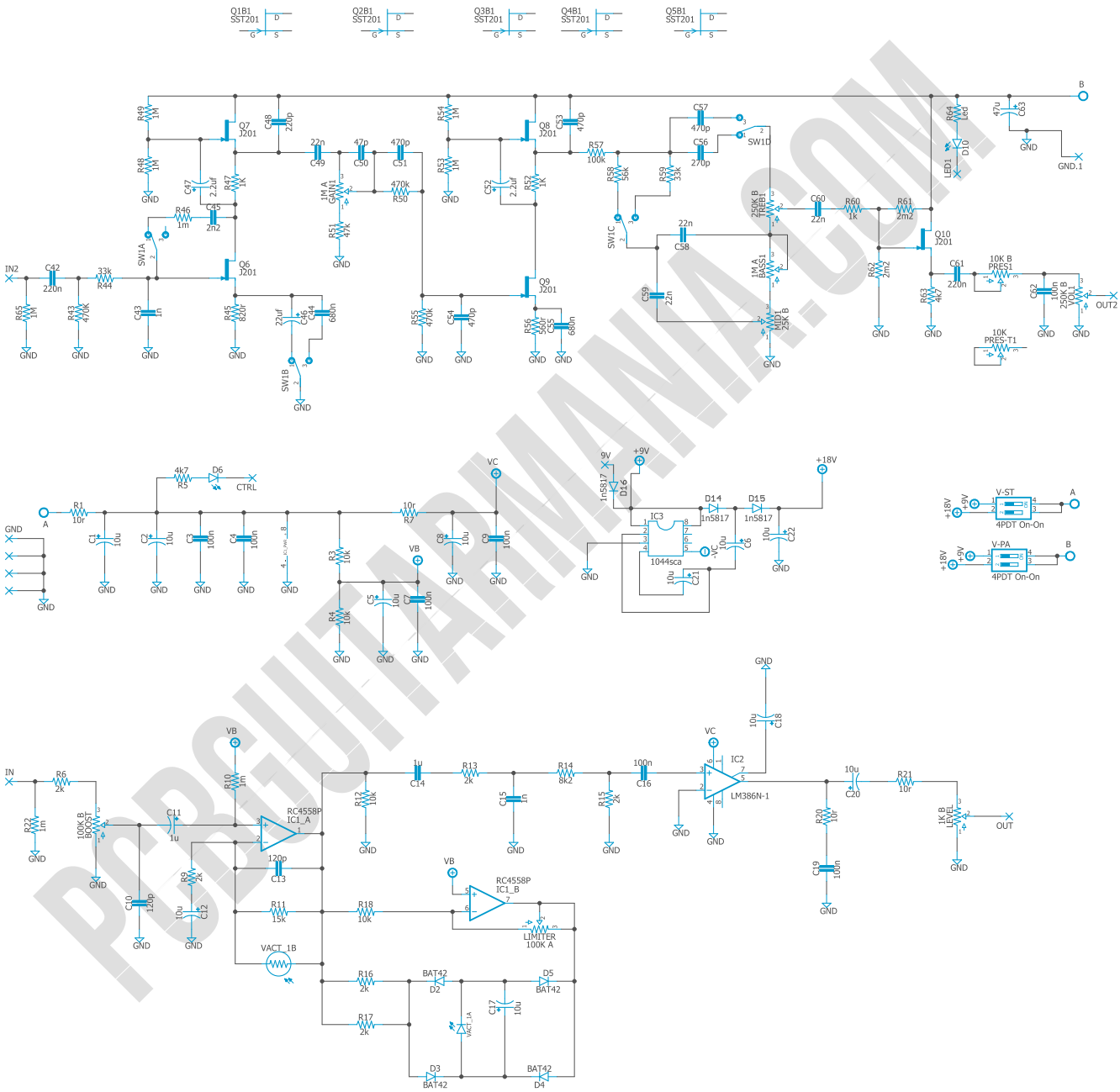
Switches		
Qty	**Value**	**Parts**
3	4PDT On-On	SW1, V-ST, V-PA
2	3PDT Stomp foot	-

Vactrol		
Qty	**Value**	**Parts**
1	NSL-32	**Vactrol***

Diodes		
Qty	**Value**	**Parts**
3	1n5817	D14, D15, D16
1	3mm LED	D10
1	3mm Red LED	D6
4	BAT42	D2, D3, D4, D5

Jacks		
Qty	**Value**	**Parts**
1	DC Jacks	-
2	Audio Jacks	-

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

VACTROL*
For this part you can choose either of the two options:

- Silonex NSL-32
- Photo resistor (500k dark resistance) + clear green LED 5mm

PRES-T1**

For Presence, choose either the trimpot or the potentiometer, but not both at the same time.

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 1590bb 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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