Podcaster

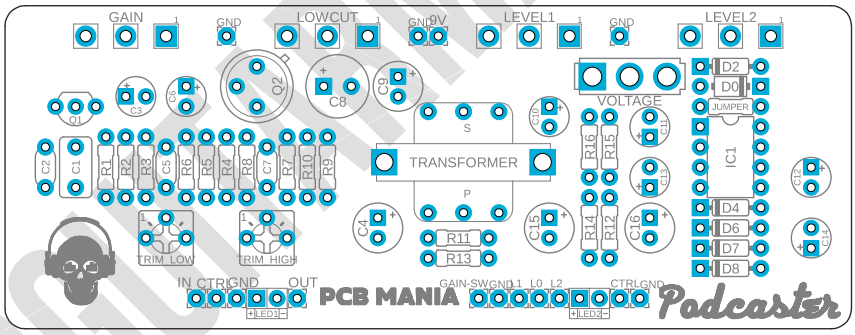
Based on:
Hudson dual Broadcast ™
Effect type:
Germanium Pre-amplifier
Build difficult:
Average

Amount of parts:
Average, total 53 components
Technology:
Germanium + Transformer
Power consumption:
9V

Enclosure type:
1590bb
Get your board at:
Podcaster
Get your kit at:
Das Musikding (Europe)

Project overview:

Inspired by Hudson Dual Broadcast. This germanium Fuzz/pre-amplifier has roots in the classic broadcast consoles of the 1960s.



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Introduction

The Podcaster is a pretty unique circuit, one of those very few fuzzes we can't tag as 'Big muff,' 'Tone Bender,' 'Fuzz Face.' This original Fuzz Preamp is a transformer-coupled, discrete Class-A germanium pre-amplifier based on the classic broadcast consoles of the 1960s. If you are looking for some Fresh sounding fuzz, this pedal is for you!

It cleans up nicely with the volume knob of your guitar and shines the best with your neck pickup, delivering dynamic compression and subtle thickening of the mid-range.

Are you looking for more headroom? No worries, the Podcaster has an internal charge pump that allows you via toggle to run on 9v or 24v with your standard power supply.

Want more gain and an extra channel? This circuit has a second footswitch to give you an additional channel with more gain and volume control.

Bear in mind this project requires a taller 1590BB enclosure (43mm) since the transformer is quite big. Some stores call them 'tall,' some 1590BBM, but double-check because it will not fit in your stands sized enclosure.

The transformer might need some slight bend on its leg. The footprint on the PCB turned out to be a little wide.

We used a test this circuit with some alternative Russian germanium PNP transistors with an HFE of 90 in our build.

Controls

- GAIN
- LEVEL1
- LEVEL2
- LOWCUT

Bill of materials

Resistors	
Part	**Value**
JUMPER	-
R1	1m
R2	220k
R3	5k6
R4	68r
R5	5k6
R6	5k6
R7	5k6
R8	4k7
R9	15k
R10	33k
R11	4k7
R12	10r
R13	4k7
R14	1k
R15	33k
R16	56k

Capacitors	
Part	**Value**
C1	330n
C2	330p
C5	1n
C7	330n

Electrolytics Capacitors	
Part	**Value**
C3	10u
C4	100u
C6	100u
C8	330u
C9	100u
C10	47u
C11	10u
C12	10u
C13	10u
C14	10u
C15	120u
C16	120u

Potentiometers	
Part	**Value**
GAIN	250k A
LEVEL1	25k B
LEVEL2	25k B
LOWCUT	10k A

Trimpots	
Part	**Value**
TRIM_HIGH	1k
TRIM_LOW	1k

IC	
Part	**Value**
IC1	LT1054

Transistors	
Part	**Value**
Q1	BC549C
Q2	OC71

Transformers	
Part	**Value**
T1	TY141P

Switches	
Part	**Value**
VOLTAGE	SPDT ON/ON

Footswitches	
Part	**Value**
BYPASS	3PDT
GAIN	3PDT

Diods	
Part	**Value**
D0	1n5817
D2	15v
D4	1n5817
D6	1n5817
D7	1n5817
D8	1n5817
LED 1	3mm Red LED
LED 2	3mm Red LED

Shopping list

Resistors		
Qty	**Value**	**Parts**
1	-	JUMPER
1	10r	R12
1	15k	R9
1	1k	R14
1	1m	R1
1	220k	R2
2	33k	R10, R15
3	4k7	R8, R11, R13
1	56k	R16
4	5k6	R3, R5, R6, R7
1	68r	R4

Capacitors		
Qty	**Value**	**Parts**
1	1n	C5
2	330n	C1, C7
1	330p	C2

Electrolytics Capacitors		
Qty	**Value**	**Parts**
3	100u	C4, C6, C9
5	10u	C3, C11, C12, C13, C14
2	120u	C15, C16
1	47u	C10
1	330u	C8

Potentiometers		
Qty	**Value**	**Parts**
1	10k A	LOWCUT
1	250k A	GAIN
2	25k B	LEVEL1, LEVEL2

Trimpots		
Qty	**Value**	**Parts**
2	1k	TRIM_HIGH, TRIM_LOW

IC		
Qty	**Value**	**Parts**
1	LT1054	IC1

Transistors		
Qty	**Value**	**Parts**
1	BC549C	Q1
1	OC71	Q2

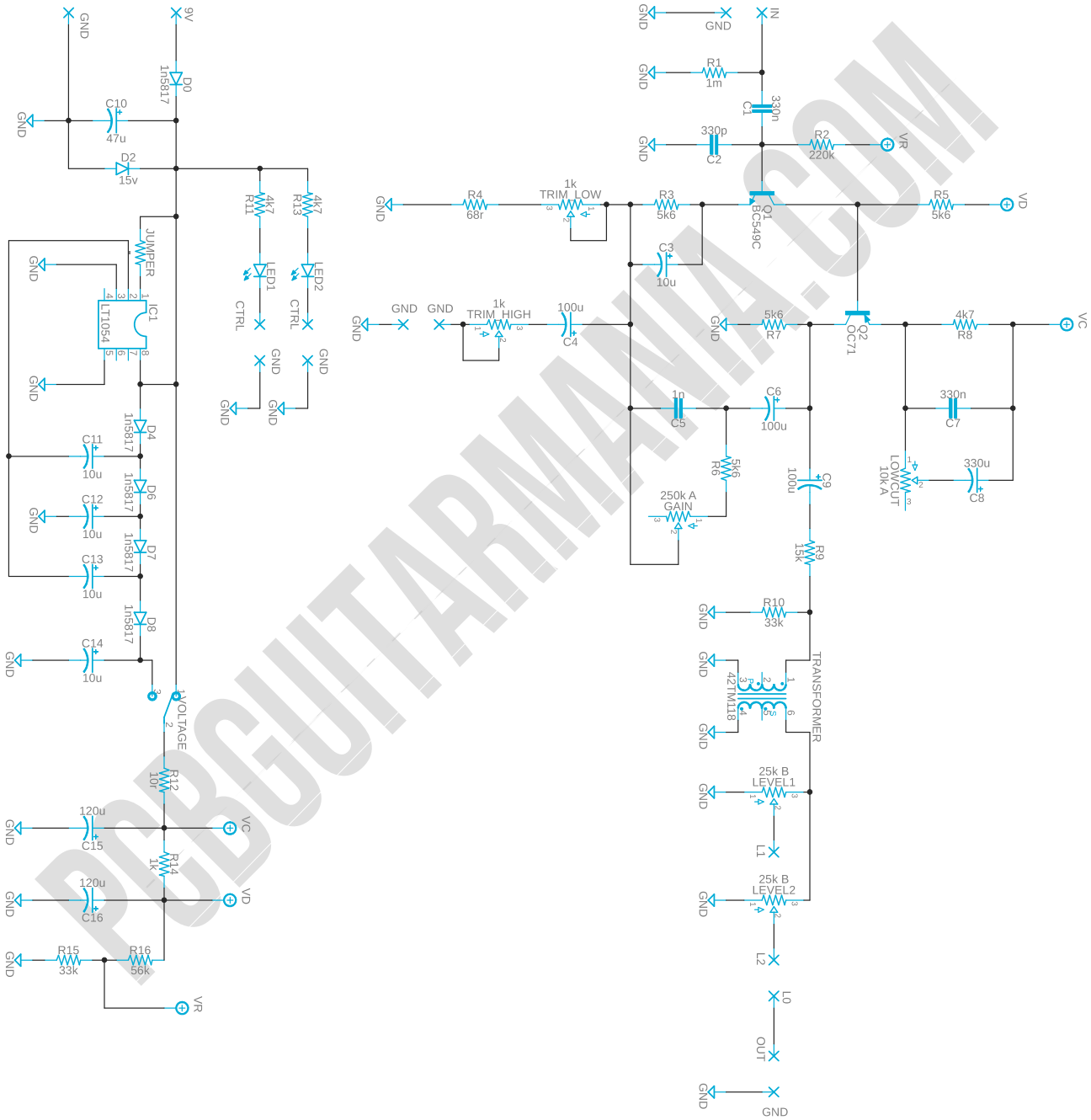
Transformers		
Qty	**Value**	**Parts**
1	TY141P	T1

Switches		
Qty	**Value**	**Parts**
1	SPDT ON/ON	VOLTAGE

Footswitches		
Qty	**Value**	**Parts**
2	3PDT	BYPASS, GAIN

Diods		
Qty	**Value**	**Parts**
1	15v	D2
5	1n5817	D0, D4, D6, D7, D8
2	3mm Red LED	LED1, LED2

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:

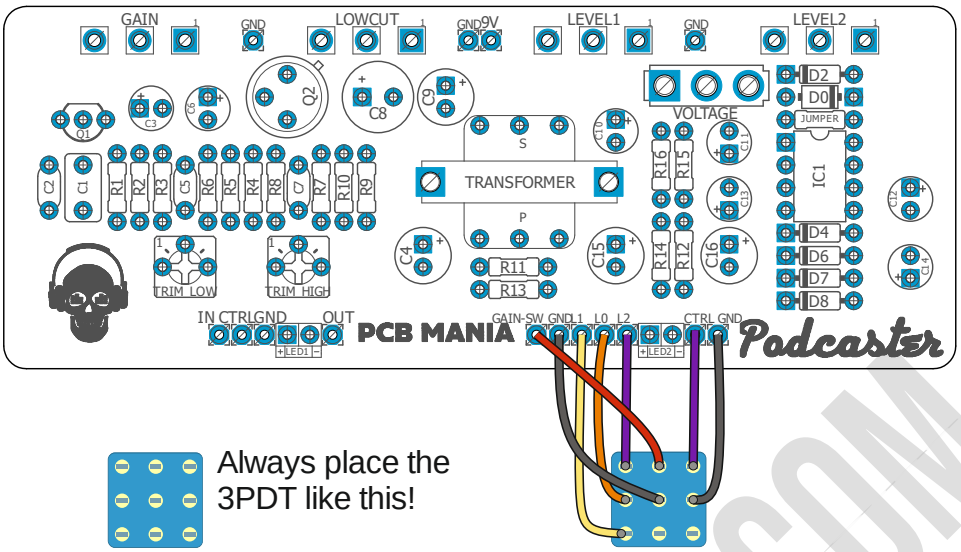
1. Resistors & diodes
2. Capacitors, starting with the smaller ones and the ceramic ones.
3. Electrolytic capacitors (always check the polarity)
4. Transistors
5. Wires
6. Potentiometers and switches
7. Off-board wiring

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.



Always place the 3PDT like this!

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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