

Fuzz Blaster

Based on:
DBA Supersonic Fuzz gun

Effect type:
Self-oscillating Fuzz

Build difficult:
Average

Amount of parts:
Low, total 29 components

Technology:
Silicon transistors

Power consumption:
9V(2mA)

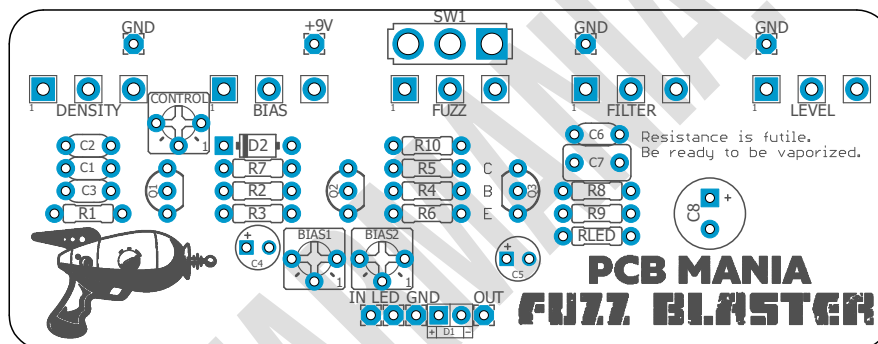
Enclosure type:
1590bb

Get your board at:
[Fuzz Blaster](#)

Get your kit at:
[Das Musikding \(Europe\)](#)

Project overview:

Self-oscillating crazy fuzz, featuring gate control mod to make it more controllable. If you feel the Fuzz factory wasn't crazy enough this pedal is a must for you!



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Introduction

The Guys from DBA nailed a total unique and crazy pedal once again with the Supersonic Fuzz gun. This circuit presents a set of 5 knobs and a toggle totally interactive in between them that will divided the crowd in between those who love it and the ones that hate it, but will definitely provoke you to take a side on this, same as happens with the classic Fuzz Factory.

If we compare it with the Zvex circuit, I'd say the Fuzz blaster is even more unpredictable yet more flexible, that's why we decided to add the Control trimpot to tame down the madness of the self-oscillation mode, or at least to give you a chance of controlling it.

Controls

- Bias: Biases the output transistor to change the overall sound structure.
- Density: Increases the Q range input into the fuzz while also adjusting the oscillation frequency in Osc. mode.
- Fuzz: Increases the intensity of the output.
- Filter: Sweeps the high frequencies of the output.
- Level: Master output volume.
- Gate/Oscillation Toggle: In Gate mode, the fuzz tone is more standard and gated. In Oscillation mode, the signal self-oscillates for noisemaking and bizarre fuzz tones.
- Control trimpot: REPLACES R7** allowing you extra control on the oscillation mode.

Bill of materials

Resistors	
Part	Value
R1	1M
R2	910K
R3	180K*
R4	910K
R5	910K
R6	180K*
R7	10K**
R8	910K
R9	4M7
R10	750R
RLED	4K7

Capacitors	
Part	Value
C1	10n
C2	100n
C3	470p
C6	100n
C7	330n

Electrolytics Capacitors	
Part	Value
C4	4.7u
C5	4.7u

Potentiometers	
Part	Value
BIAS	B50K
DENSITY	B100K
FILTER	B10K
FUZZ	B10K
LEVEL	A100K

Trim pots*	
Part	Value
BIAS1	200k*
BIAS2	200k*
CONTROL	10k**

Transistors	
Part	Value
Q1	2N5089
Q2	2N5089
Q3	BC517***

Switches	
Part	Value
SW1	SPDT ON-ON

Diodes	
Part	Value
D1	LEDSTATUS-LED
D2	1n5817

Shopping list

Resistors		
Qty	Value	Parts
1	10K	R7**
2	180K	R3, R6*
1	1M	R1
1	4K7	RLED
1	4M7	R9
1	750R	R10
4	910K	R2, R4, R5, R8

Capacitors		
Qty	Value	Parts
2	100n	C2, C6
1	10n	C1
1	330n	C7
1	470p	C3

Electrolytics Capacitors		
Qty	Value	Parts
2	4.7u	C4, C5

Potentiometers		
Qty	Value	Parts
1	A100K	LEVEL
1	B100K	DENSITY
2	B10K	FILTER, FUZZ
1	B50K	BIAS

Trim pots		
Qty	Value	Parts
2	200K	BIAS1, BIAS2*
1	10K	CONTROL**

Transistors		
Qty	Value	Parts
2	2N5089	Q1, Q2
1	BC517	Q3***

Switches		
Qty	Value	Parts
1	SPDT ON-ON	SW1

Diodes		
Qty	Value	Parts
1	1n5817	D2
1	LEDSTATUS-LED	D1

Components Recommendations

As many people like to experiment some pedals with higher voltage, always ensure the max tolerance of your **electrolytic capacitors** is over 25v.

This board has been tested using Film box capacitors for most of the values over 1nf, and ceramics discs for the ones 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 exclusively regarding this project. It doesn't include all the hardware like the 3PDT bypass switch, audio/dc jacks, enclosure, etc.

Bias trimpots – R3, R6*: The stock unit has present 180k resistors in charge of limiting the current Q1 and Q2 receive. However you can replace them for the 200k trimpots on each. This will allow you to choose how much voltage will go into each transistor. Don't worry you cant fry them! **Just remember to choose either the trimpots or the resistors, but never both!**

Control trimpot – R7**: Here you can choose to use whether R7-10k as the stock unit, or to place an internal 10k trimpot that will give you a better control on how the oscillation switch responds. Like with the Bias trimpots **remember to choose either the trimpot or the resistors, but never both!**

Q3*** The original unit here presents a 2n5306 transistors, however this one might be hard to source, that's why we have experimented with many replacements coming with BC517 as a clear winner. If you want to use a 2N5306 you must flip the transistor 180 degrees. We have included the pinout reference on the board if you feel like experimenting with some others NPN transistors on it.

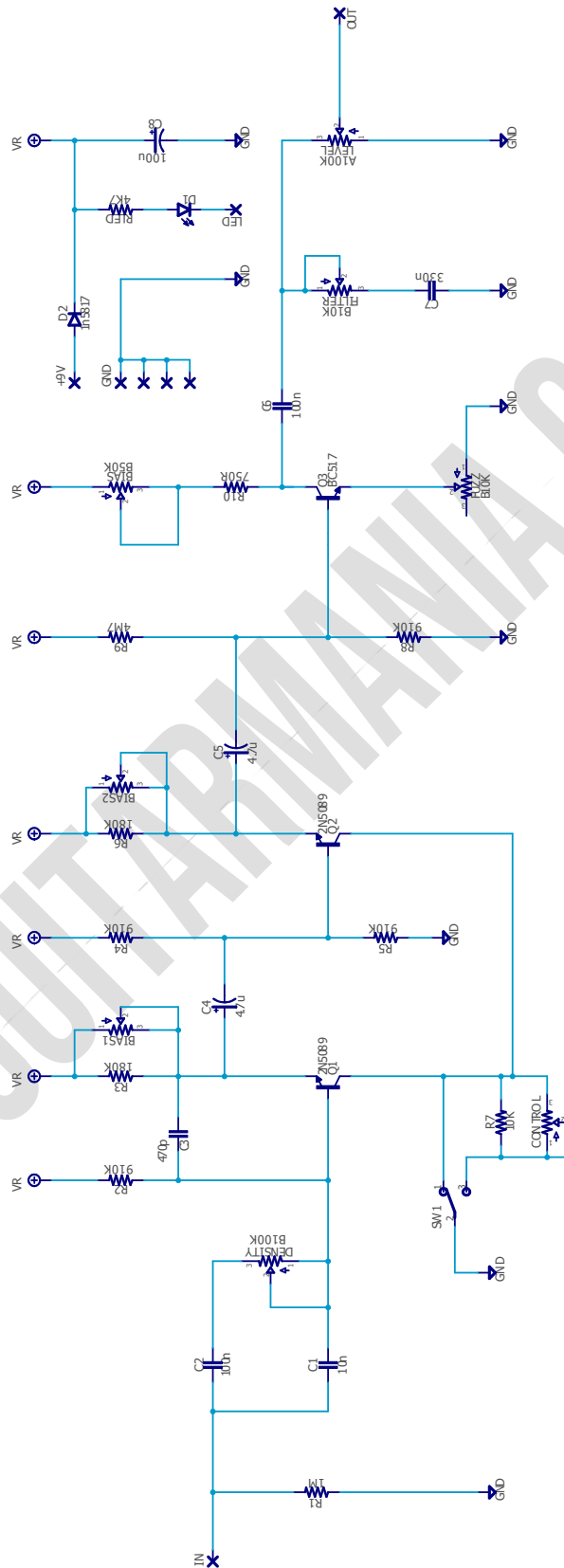
Build Notes

If this is one of your first projects I recommend you to take a look on 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

Schematic



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 control slug of your 3PDT.

This board has been designed to match our EZ 3PDT PCB check it [here](#) to access to 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 in an A4 page.

Licensing and Usage

We really appreciate your trust and support buying this PCB, as well as your will to dive into the DIY electronics world. That’s why for us is really important that you can make this project work properly and to enjoy not only the building process, but also to experiment and play with it on your rig.

We try to reply to every question we receive on our email or in our social media, but we try to encourage all our customers to join our [PCB Guitar Mania – Builders Group](#) on Facebook, in order to post all your doubts, issues, suggestions or request, as well to share your builds and have some feedback from us and other fellow builders!

All of our projects have been tested following this same guide on their standard configurations. Although, not all of the variations and mods have necessarily been tested. These are suggestions based on the schematic analysis, and on the experiences and opinions of others. Feel free to share with us your opinions and suggestions regarding the mods your own personal experimentation.

These boards may be used for commercial endeavors in any quantity unless specifically noted. No attribution is necessary, though accreditation or a link back is always greatly 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 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 silk screen, 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 own designs, with your brand and logo we could certainly reach an agreement.

Follow us on [Instagram](#) and [Facebook](#) to stay in tune with the latest projects!