

Tesla Fuzz

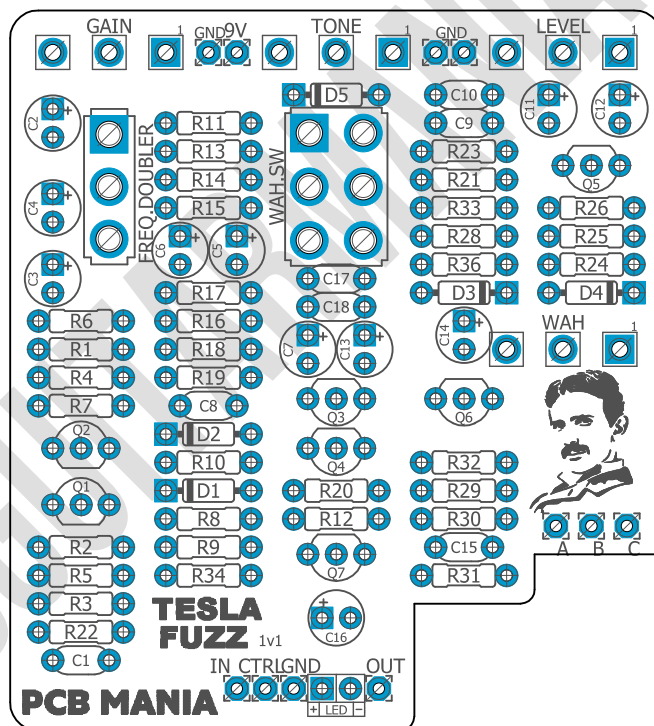
Based on:
Tesla AYZ-025
Effect type:
Fuzz-Wah
Build difficult:
Advanced

Number of parts:
High, 71 components
Technology:
Silicon NPN transistors
Power consumption:
9V

Enclosure type:
125b
Get your board at:
[Tesla Fuzz](#)
Get your kit at:
[Das Musikding \(Europe\)](#)

Project overview:

Based on the exotic Tesla AYZ 025, a unique Fuzz-Wah pedal produced in the Soviet Czech Republic in the late '70s and 80s. This pedal is only accessible as a DIY Guitar Mania project!



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Introduction

Introducing the Tesla Fuzz! This very rare and exotic Wah+Fuzz pedal is a must-have for any guitar player looking to add unique flavor to their sound. Made in the early 1980s in Czechoslovakia, this pedal is unlike any other on the market today.

With separate switches for frequency divider and wah and knobs for gain and tone for the fuzz, the possibilities are boundless. You can use Wah by plugging an expression pedal or as a filter using the Wah potentiometer and switch.

It is very suitable as a signal processor for guitars, synths, loops, or any type of sonic experimentation. So do not miss your chance to get your hands on this one-of-a-kind board, only available in our store!

Controls

Potentiometers

- Gain
- Level
- Tone
- Wah

Switches

- `FREQ.DOUBLER`
- `WAH.SW`

Bill of materials

Resistors	
Part	Value
R1	47k
R2	1k
R3	47k
R4	120k
R5	56k
R6	4k7
R7	4k7
R8	100k
R9	100k
R10	100k
R11	10k
R12	6k8
R13	220r
R14	10k
R15	680k
R16	330k
R17	180k
R18	39k
R19	27k
R20	6k8
R21	22k
R22	1m
R23	4k7
R24	100k
R25	100k
R26	10k
R28	100k
R29	330k
R30	180k
R31	39k

R32	27k
R33	100k
R34	6k8
R36	1k

Capacitors	
Part	Value
C1	47n
C8	47p
C9	47n
C10	3n3
C15	220p
C17	10n
C18	10n

Electrolytic Capacitors	
Part	Value
C2	4u7
C3	4u7
C4	4u7
C5	4u7
C6	4u7
C7	4u7
C11	4u7
C12	4u7
C13	4u7
C14	4u7
C16	4u7

Potentiometers	
Part	Value

GAIN	A50k
LEVEL	A50k
TONE	A50k
WAH	B25k

Transistors	
Part	Value
Q1	2N5089
Q2	2N5089
Q3	2N5089
Q4	2N5089
Q5	2N5089
Q6	2N5089
Q7	2N5089

Switches	
Part	Value
FREQ.DOUBLER	SPDT On/On
WAH.SW	DPDT On/On

Diodes	
Part	Value
D1	1N4148
D2	1N4148
D3	1N4148
D4	1N4148
D5	1n5817
LED	3mm red LED

Shopping list

Resistors		
Qty	Value	Parts
7	100k	R8, R9, R10, R28, R33, R24, R25
3	10k	R11, R14, R26
1	120k	R4
2	180k	R17, R30
2	1k	R2, R36
1	1m	R22
1	220r	R13
1	22k	R21
2	27k	R19, R32
2	330k	R16, R29
2	39k	R18, R31
2	47k	R1, R3
3	4k7	R6, R7, R23
1	56k	R5
1	680k	R15
3	6k8	R12, R20, R34

Capacitors		
Qty	Value	Parts
2	10n	C17, C18
1	220p	C15
1	3n3	C10
2	47n	C1, C9
1	47p	C8

Electrolytic Capacitors		
Qty	Value	Parts
11	4u7	C2, C3, C4, C5, C6, C7, C11, C12, C13, C14, C16

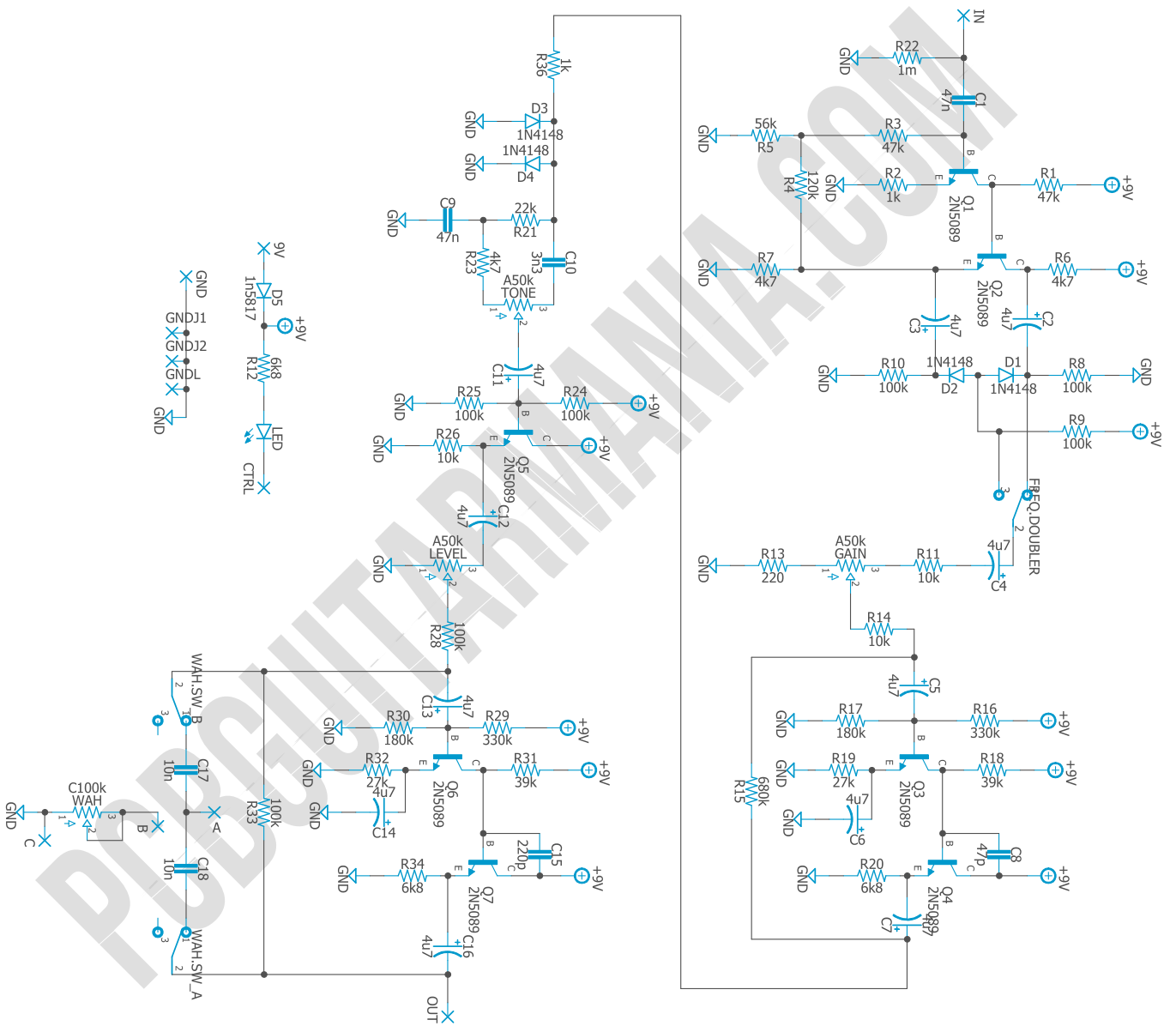
Potentiometers		
Qty	Value	Parts
3	A50k	GAIN, LEVEL, TONE
1	B25k	WAH

Transistors		
Qty	Value	Parts
7	2N5089	Q1, Q2, Q3, Q4, Q5, Q6, Q7

Switches		
Qty	Value	Parts
1	SPDT On/On	FREQ.DOUBLER
1	DPDT On/On	WAH.SW
1	3PDT Stomp foot	-

Diodes		
Qty	Value	Parts
4	1N4148	D1, D2, D3, D4
1	1n5817	D5
1	3mm red LED	LED

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

Expression pedal Jack:

Connect Pad A to tip, pad B to ring and pad C to ground of the jack. If the expression pedal is not used, place a jump between A and B.

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.

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