Uno Fuzz

Based on:
Univox Super-Fuzz

Effect type:
The classic grizzly octa fuzz

Build difficult:
Intermediate

Amount of parts:
Average, total 60 components

Technology:
NPN Silicon Transistors

Power consumption:
9V

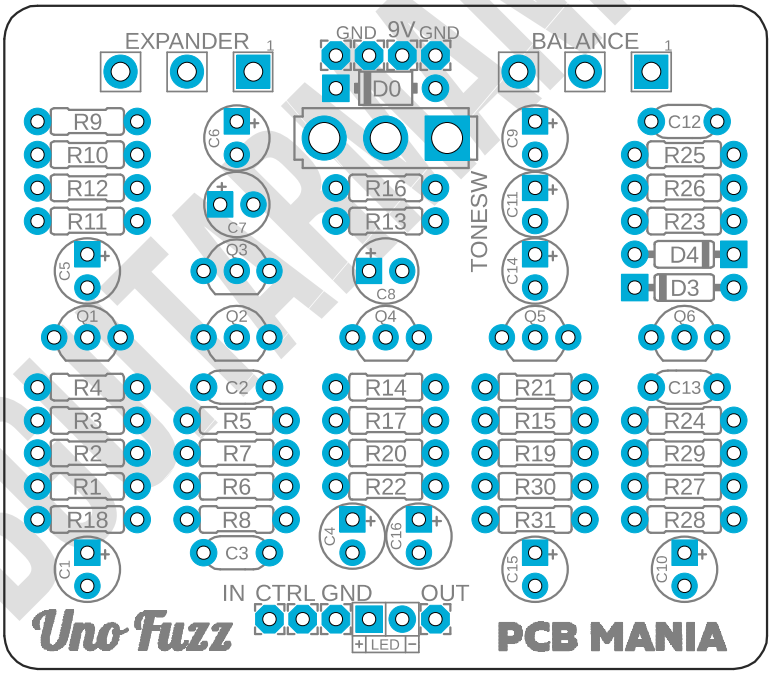
Enclosure type:
125b

Get your board at:
Uno Fuzz

Get your kit at:
Das Musikding (Europe)

Project overview:

If you could only take one fuzz pedal to a deserted island, this is the one you should choose. Inspired by the legendary Univox Super Fuzz, one of the most important circuits ever made. It set the bar for what a grizzly fuzz should sound like and has inspired countless pedals since then.



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Introduction

The Uno Fuzz is the modern equivalent of one of the most worshiped pedals out there. Those crazy loud and heavy waves are the reason why so many consider Univox Super-Fuzz the ultimate fuzz and a legend in its own right.

The history of this pedal is complex and exciting. It has its origins in the 60's Japan when the country was booming in an economic miracle. Many guitar companies like Teisco, Aria, Guyatone appeared at that time thanks to the manufacturing growth. Japan started exporting affordable instruments, many of them based on their American counterparts.

This is the context in which the first Super Fuzz made its apparition. The circuit was combined with a multi-effects unit that looked like an amp, the Honey Psychedelic Machine that mixed a tremolo, a vibe, and a fuzz. Later, because of its potential, they decided to manufacture the effect separately. The rest is well-known history; the circuit kept popping up in many brands throughout the decade.

When something keeps emerging like that, it's generally because it has something good to offer: delivering an octave fuzz that turns any note or chord into a thick and searing texture, playing a high octave up alongside the distorted note, this is an effect that demands your attention. Nothing is more primal than plugging your guitar into a vintage fuzz circuit; it is raw, untamed, and so pure that it pushes the boundaries of what your instrument can accomplish. Get ready to immerse yourself into sixty years of beautifully broken sound.

Controls

- Balance
- Expander

Bill of materials

Resistors	
Part	**Value**
R1	22k
R2	100k
R3	100k
R4	1k8
R5	47k
R6	470k
R7	10k
R8	47k
R9	220k
R10	10k
R11	150k
R12	10k
R13	470r
R14	470r
R15	100k
R16	22k
R17	1k8
R18	1m
R19	22k
R20	100k
R21	10k
R22	4k7
R23	47k
R24	22k
R25	10k
R26	10k
R27	15k
R28	1k
R29	100k
R30	10k
R31	100k

Capacitors	
Part	**Value**
C2	1n
C3	100n
C12	1n
C13	100n

Electrolytics Capacitors	
Part	**Value**
C1	10u
C4	10u
C5	10u
C6	10u
C7	10u
C8	10u
C9	10u
C10	10u
C11	10u
C14	10u
C15	10u
C16	10u

Potentiometers	
Part	**Value**
BALANCE	50k B
EXPANDER	50k B

Transistors	
Part	**Value**
Q1	2sc828
Q2	2sc828
Q3	2sc828
Q4	2sc828
Q5	2sc828
Q6	2sc828

Switches	
Part	**Value**
TONESW	SPDT (On / On)

Diods	
Part	**Value**
D0	1n5817
D3	oa90
D4	oa90
LED	3mm Red LED

Shopping list

Resistors		
Qty	**Value**	**Parts**
6	100k	R2, R3, R15, R20, R29, R31
7	10k	R7, R10, R12, R21, R25, R26, R30
1	150k	R11
1	15k	R27
1	1k	R28
2	1k8	R4, R17
1	1m	R18
1	220k	R9
4	22k	R1, R16, R19, R24
1	470k	R6
2	470r	R13, R14
3	47k	R5, R8, R23
1	4k7	R22

Capacitors		
Qty	**Value**	**Parts**
2	100n	C3, C13
2	1n	C2, C12

Electrolytics Capacitors		
Qty	**Value**	**Parts**
12	10u	C1, C4, C5, C6, C7, C8, C9, C10, C11, C14, C15, C16

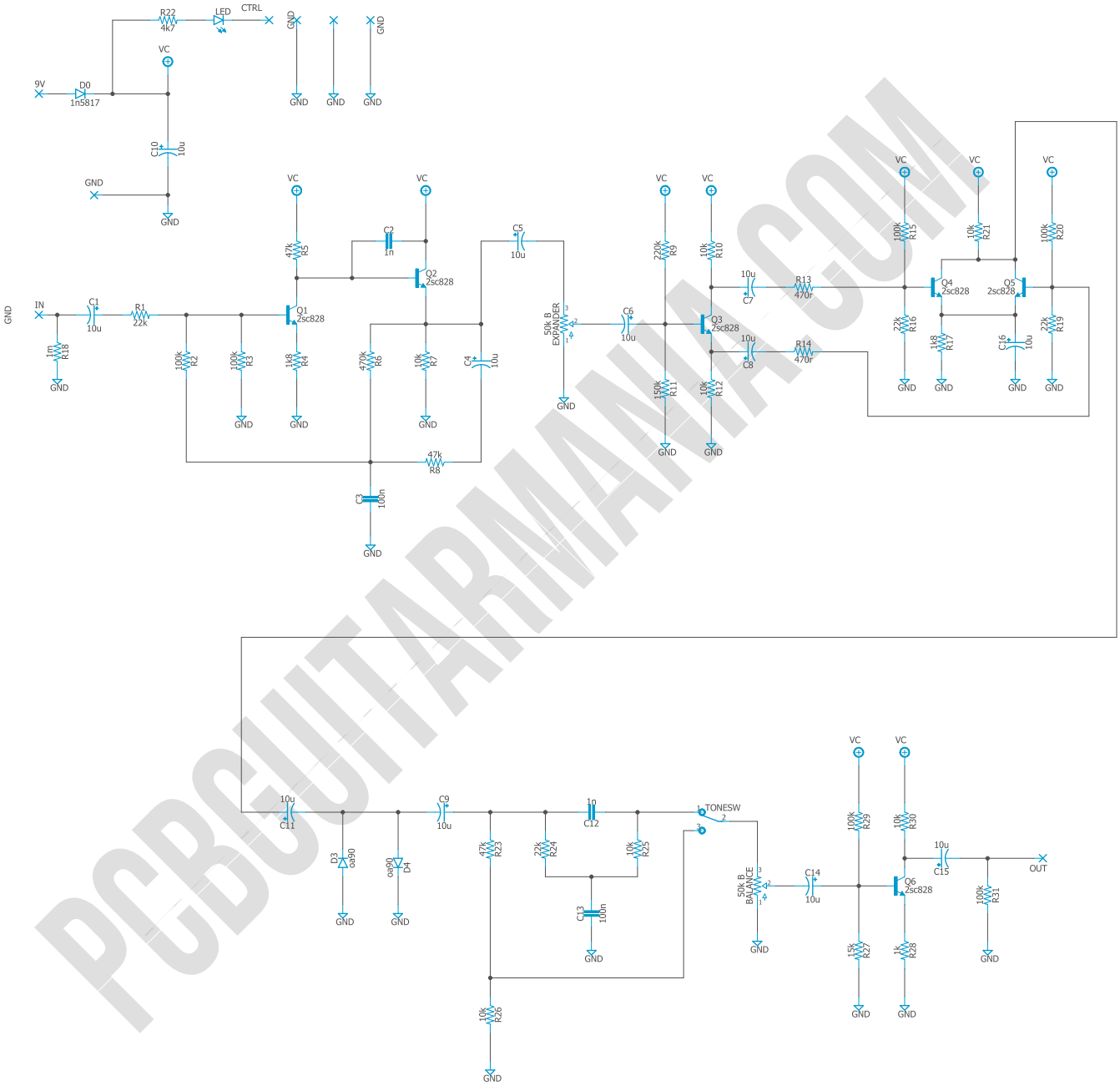
Potentiometers		
Qty	**Value**	**Parts**
2	50k B	BALANCE, EXPANDER

Transistors		
Qty	**Value**	**Parts**
6	2sc828	Q1, Q2, Q3, Q4, Q5, Q6

Switches		
Qty	**Value**	**Parts**
1	SPDT (On/On)	TONESW

Diods		
Qty	**Value**	**Parts**
1	1n5817	D0
2	oa90	D3, D4
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

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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