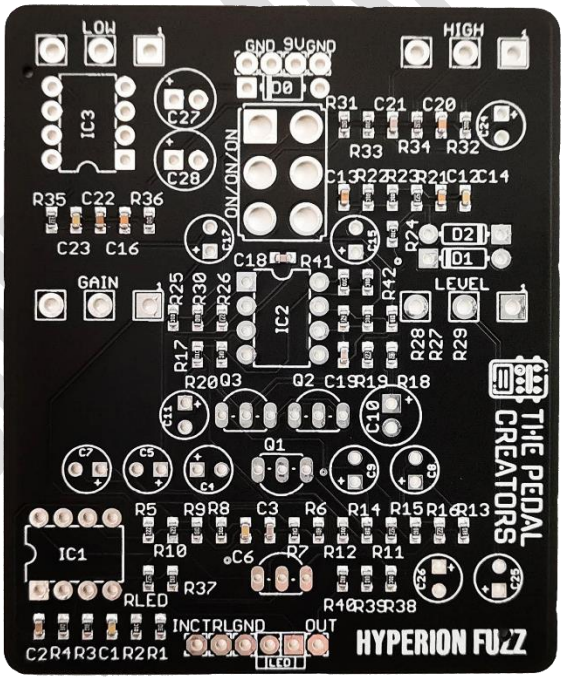
Hyperion Fuzz SMD

Based on:
Boss Hyper Fuzz FZ-2
Effect type:
2 Fuzzes – 1 Boost
Build difficult:
Easy

Amount of parts:
Low, total 3026 components
Technology:
Jfet Buffer + pickup simulator in front of a fuzz Silicon Fuzz face
Power consumption:
9V(22mA)

Enclosure type:
125b TIGHT FIT!
Get your board at:
Hyperion Fuzz SMD
Get your kit at:
Das Musikding (Europe)

Project overview:
Two fuzzes, one Boost, one box! The Hyperion fuzz is really a wonder on its design and sound, packed and with lots of gain. Although when we grab this schematic we were attempting to make a Boss FZ-2 inspired fuzz, after building it and testing we realized in fact it wasn't a direct clone of that legendary fuzz, yet we were blown away by the tone and features of this mysterious circuit.



About The Pedal Creators

Everyone can build excellent boutique guitar **pedals**.
Everything **we do** is to make that **experience** more accessible and **user-friendlier.**
The **Pedal Creators** series are the **best and easiest to build PCB**s ever. Including most **resistors** and **capacitors** already **soldered** on board as SMD components, leaving the key values for you to **experiment** and craft **your own tone**.
Now you can **build** a pedal you are **proud** of in **less than an hour** without any previous experience.
What are you waiting for to **become a Pedal Creator?**

The Pedal creators - key features:

- **Easy to build,** no previous experience required. It's like Lego for musicians.
- **Fast assembly** finish a pedal in less than an hour. Play your favorite record and enjoy the ride along.
- **100% mistake-proof**. Even my grandma can build one while she cooks.
- **Build** your own boutique pedal. Experiment with different values and make the **pedal you always dreamed of.**
- Easy to scale. **Turn your passion into a money-making machine**.

Index

Introduction

While devolving the Hyperion Fuzz we figured out that it's not what we thought it would be. Basically, we were going for a straight clone of the Boss Hyper Fuzz ™ and what we had when verifying the boards was an amazing sounding pedal… but it did sound different… very Good, packed with gain and tonal settings but different. So, we did some more research and figured out that the schematic we were using was something different. We weren't able to figure out if it's someone's creation or if it's based on something. But its schematic is definitely not even close to the FZ-2.

This model requires a DPDT ON/ON/ON SWITCH* in order to have the 3 modes fully functioning.

If you are experienced and want to experiment, you can replace it with a 3p4t Rotary switch. Of course, this would require you to box the pedal in a bigger enclosure with a different layout of pots.

It might not be a bad idea to make a new version in the future featuring this mod, and maybe some tweaks on the EQ section, like adding mids control…

Controls

- Gain
- Level
- High
- Low
- Mode toggle (Fuzz I, Fuzz II, Boost)

Bill of materials

Electrolytics Capacitors	
Part	**Value**
C4	2u2
C5	10u
C7	10u
C8	1u
C9	1u
C10	47u
C11	1u
C15	1u
C17	1u
C24	10u
C25	1u
C26	10u
C27	100u
C28	47u

Potentiometers	
Part	**Value**
GAIN	A50K
HIGH	B50K
LEVEL	A50K
LOW	B50K

IC	
Part	**Value**
IC1	TL072
IC2	JRC4558
IC3	JRC4558

Transistors	
Part	**Value**
Q1	BC549C
Q2	BC549C
Q3	BC549C
Q4	BC549C

Diodes	
Part	**Value**
D0	1N5817
D1	1N914
D2	1N914
LED	3mm Red led

Switches	
DPDT	**ON-ON-ON***

Shopping list

Electrolytics Capacitors		
Qty	Value	Parts
1	100u	C27
4	10u	C5, C7, C24, C26
6	1u	C8, C9, C11, C15, C17, C25
1	2u2	C4
2	47u	C10, C28

Potentiometers		
Qty	**Value**	**Parts**
2	A50K	GAIN, LEVEL
2	B50K	HIGH, LOW

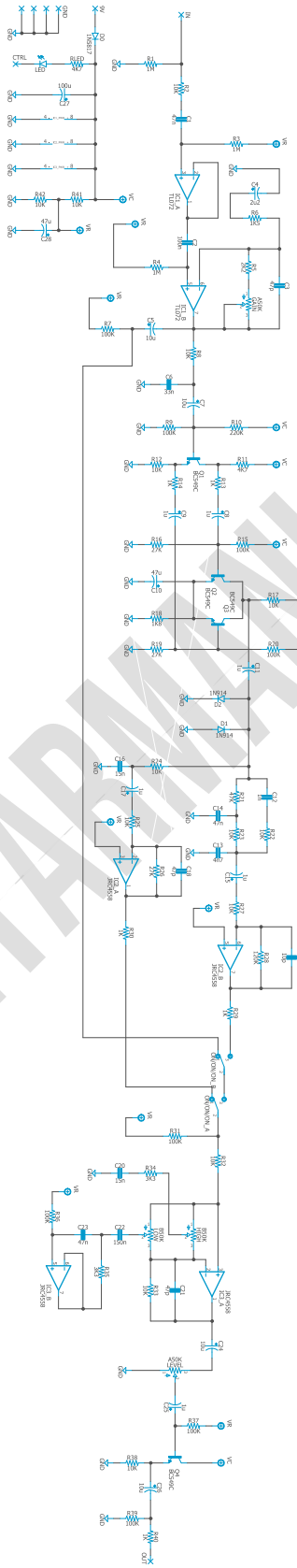
IC		
Qty	**Value**	**Parts**
2	JRC4558	IC2, IC3
1	TL072	IC1

Transistors		
Qty	**Value**	**Parts**
4	BC549C	Q1, Q2, Q3, Q4

Switches		
Qty	**Value**	**Parts**
1	**DPDT ON/ON/ON SWITCH***	MODE SWITCH

Diodes		
Qty	**Value**	**Parts**
1	1N5817	D0
2	1N914	D1, D2
1	3mm 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. Electrolytic capacitors (always check the polarity)
2. Transistors
3. Wires
4. Potentiometers and switches
5. 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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