

Hyperion Fuzz

Based on:

READ INTRO Boss Hyper Fuzz FZ-2 High, total 87 components

Effect type:

2 Fuzzes – 1 Boost

Build difficult:

Advanced

Amount of parts:

Technology:

Silicon transistors + Dual OpAmps

Power consumption:

9V

Enclosure type:

125b TIGHT FIT!

Get your board at:

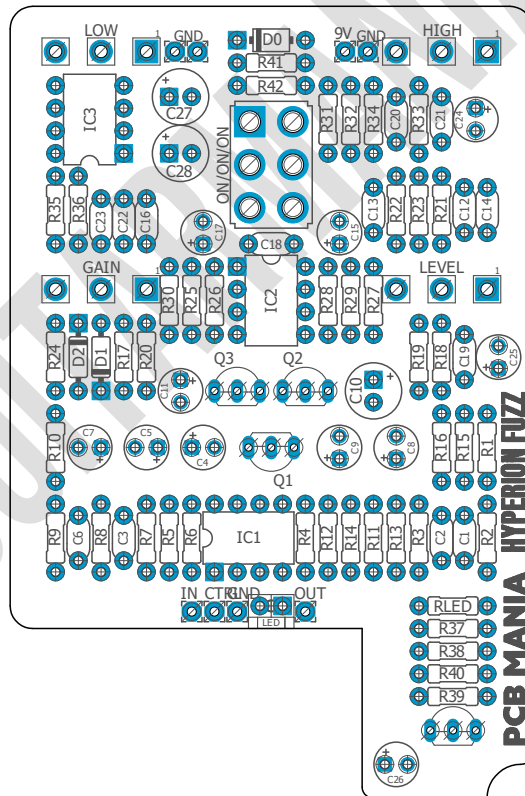
[Hyperion Fuzz](#)

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.



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Introduction

Soooo... 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 own 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 feel like experiment you can try to 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

Resistors	
Part	Value
R1	1M
R2	10K
R3	1M
R4	1M
R5	2K2
R6	1K5
R7	100K
R8	10K
R9	100K
R10	220K
R11	4K7
R12	10K
R13	1K
R14	1K
R15	100K
R16	27K
R17	10K
R18	1K8
R19	27K
R20	100K
R21	47K
R22	10K
R23	10K
R24	10K
R25	10K
R26	27K
R27	10K
R28	120K
R29	1K
R30	1K
R31	100K
R32	10K
R33	10K
R34	3K3
R35	3K3
R36	100K
R37	100K

R38	10K
R39	100K
R40	1K
R41	10K
R42	10K
RLED	4K7

Capacitors	
Part	Value
C1	47n
C2	100n
C3	47p
C6	33n
C12	1n
C13	4n7
C14	47n
C16	15n
C18	47p
C19	10p
C20	15n
C21	47p
C22	150n
C23	47n

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

Resistors

Qty	Value	Parts
8	100K	R7, R9, R15, R20, R31, R36, R37, R39
14	10K	R2, R8, R12, R17, R22, R23, R24, R25, R27, R32, R33, R38, R41, R42
1	120K	R28
5	1K	R13, R14, R29, R30, R40
1	1K5	R6
1	1K8	R18
3	1M	R1, R3, R4
1	220K	R10
3	27K	R16, R19, R26
1	2K2	R5
2	3K3	R34, R35
1	47K	R21
2	4K7	R11, RLED

Capacitors

Qty	Value	Parts
1	100n	C2
1	10p	C19
1	150n	C22
2	15n	C16, C20
1	1n	C12
1	33n	C6
3	47n	C1, C14, C23
3	47p	C3, C18, C21
1	4n7	C13

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

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.

DPDT ON/ON/ON SWITCH* Make sure to use the correct DPDT ON/ON/ON for the right functionality of this pedal.

If you are experienced and feel like experiment you can try to 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...

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

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 125b 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.

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