

TV Channel

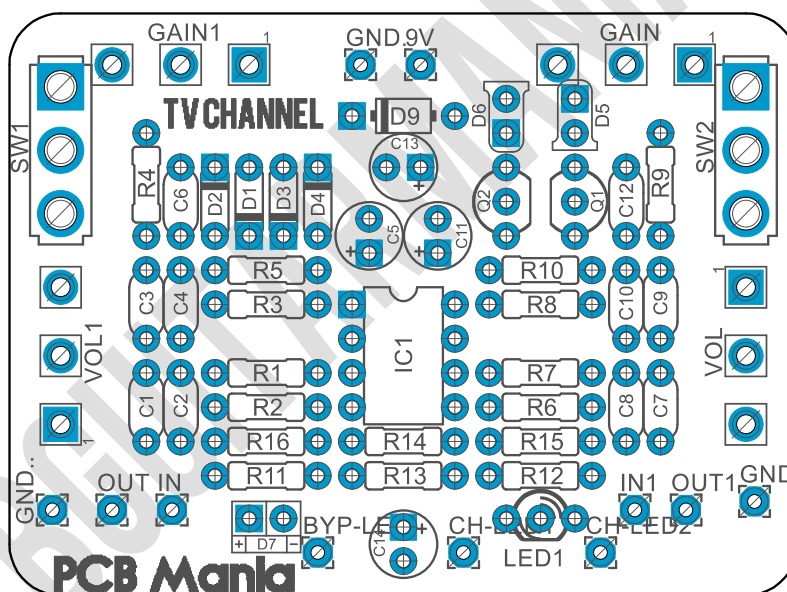
Based on:
EQD Grey Channel
Effect type:
Dual Channel Overdrive
Build difficult:
Medium

Amount of parts:
Average, total 39 components
Technology:
LM1458 Dual OpAmp
Power consumption:
14mA (9v)

Enclosure type:
1590BB
Get your board at:
[Tv Channel Dual overdrive](#)
Get your kit at:
[Das Musikding \(Europe\)](#)

Project overview:

The TV Channel is based around a classic hard-clipping overdrive, the DOD 250/Distortion +, the people from EQD took the base of this classic drive, and took it one step further adding, making it double, and adding 3 clipping options per channel.



Real measures are:

58.42mm width x 43.18mm height

2.3" width x 1.7" height

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Introduction

This circuit has been developed by the people from Earthquaker inspired on one of the most classic and iconic overdrives, the DOD 250/Distortion+.

The concept of the TV Channel is simple, yet effective. Consist on two DOD250 circuits placed on the same board, each with 3 different clipping options, and a toggle to select which one to activate.

On the Channel “ONE” you are able to choose in between the “Silicon” mode will be bright/loud/fuzzy and has a natural tube type break up. “Germanium” mode is a little looser with more lows and warmth and less output.

On Channel “TWO” LED” mode is the loudest, cleanest and most touch sensitive/least compressed. “Mosfet” mode is the most compressed with a tighter crunch; the biggest heshher of the group.

Controls

Green Controls

Gain: Adjusts the drive, dirtier clockwise, cleaner counterclockwise

Green: Sets the output level when the green LED is lit.

Toggle: Silicon clipping, No clipping, Germanium Clipping

Red Controls

Gain: Adjusts the drive, dirtier clockwise, cleaner counterclockwise

Red: Sets the output level when the red LED is lit.

Toggle: LED clipping, “No clipping, Mosfet Clipping

Foot-switches

Channel Switch: Selects between Red and Green channels

Activate Switch: Turns the effect on and off

Bill of materials

Resistors

R1	10K
R2	470K
R3	1M
R4	47K
R5	10K
R6	10K
R7	470K
R8	1M
R9	47K
R10	10K
R11	4k7
R12	4k7
R13	20k
R14	20k
R15	1m
R16	1m

Switches

SW1	ON-OFF-ON
SW2	ON-OFF-ON

Pots

VOL	A- 100K
VOL1	A- 100K
GAIN	B- 1M
GAIN1	B- 1M

Capacitors

C1	2.2nf
C2	10nf
C3	47nf
C4	25pf
C5	22uf electrolytic
C6	2.2nf
C7	2.2nf
C8	10nf
C9	47nf
C10	25pf
C11	22uf electrolytic
C12	2.2nf
C13	100uf electrolytic
C14	10uf electrolytic

Diodes

D1	1N4148
D2	1N4148
D3	1N34A
D4	1N34A
D5	3mm red led
D6	3mm red led
D7	3mm Led
D9	1n5817
LED1	Dual Led Common Anode

Semi Conductors

IC1	LM1458
Q1	2n7000
Q2	2n7000

Shopping list

Resistors

Quantity	Value	Position
4	10K	R1, R5, R6, R10
2	470K	R2, R7
2	47K	R4, R9
2	4k7	R11, R12
2	20k	R13, R14
4	1M	R3, R8, R15, R16

Capacitors

Quantity	Value	Position
4	2.2nf	C1, C6, C7, C12
2	25pf	C4, C10
2	47nf	C3, C9
2	10nf	C2, C8
2	22uf	C5, C11
1	100uf	C13
1	10uf	C14

Potentiometers

Quantity	Value	Position
2	A- 100K	VOL, VOL1
2	B- 1M	GAIN, GAIN1

Semi-conductors

Quantity	Value	Position
1	lm1458	IC1
2	2n7000	Q1, Q2

Diodes

Quantity	Value	Position
2	1N34A	D3, D4
2	1N4148	D1, D2
1	1n5817	D9
2	3mm red led	D5, D6
1	3mm Led	D7
1	Led dual common Anode	LED1

Switches

Quantity	Value	Position
2	ON-OFF-ON SPDT	

Components Recommendations

Always ensure the tolerance of your **electrolytic capacitors**** is over 25v at least.

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 1% tolerance.

Q1 and Q2 could be replaced by a BS170, in stead of the 2N700, just reverse it the 180 degrees to the silkscreen.

All the pots are Alpha 16mm. Replace the 1m B gain pot for a 500k B if you want less gain and more of the original feeling of the DOD 250.

Increase the value of the input capacitor to 22n (C2, C8) for extra bass response.

The BOM and Shopping list are exclusively regarding this project. It doesn't include the hardware like the 3PDT bypass switch, audio/dc jacks, enclosure, etc.

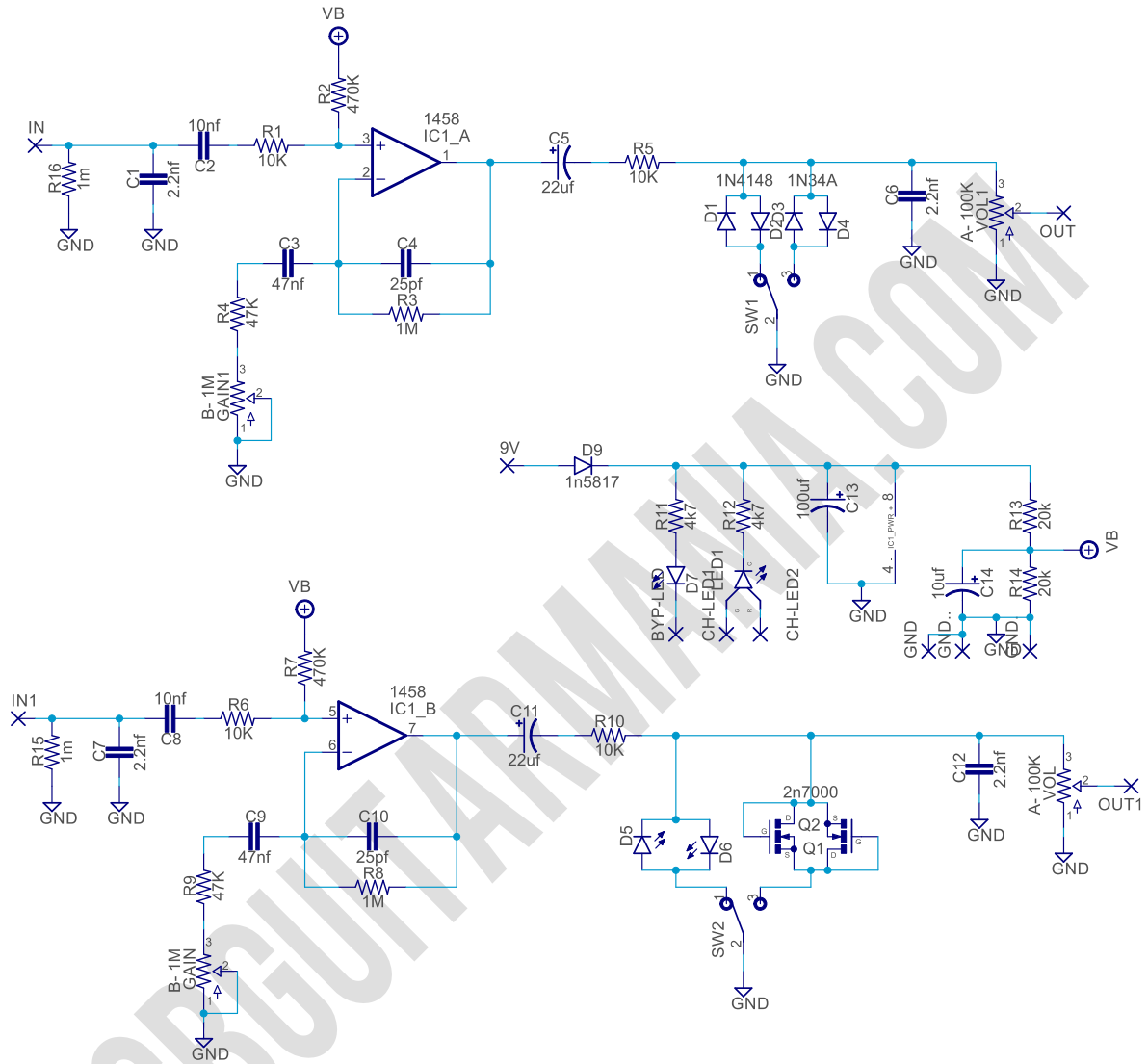
Build Notes

If this is one of your first projects I recommend you to take a look on our [Pedal Building Guide](#)

For a successful and tidy build it's recommended the following order:

1. SMD Transistors
2. Resistors & diodes
3. Capacitors, starting with the smaller ones and the ceramic ones.
4. Electrolytic capacitors (always check the polarity)
5. Transistors
6. Wires
7. Potentiometers and switches
8. Off board wiring

Schematic

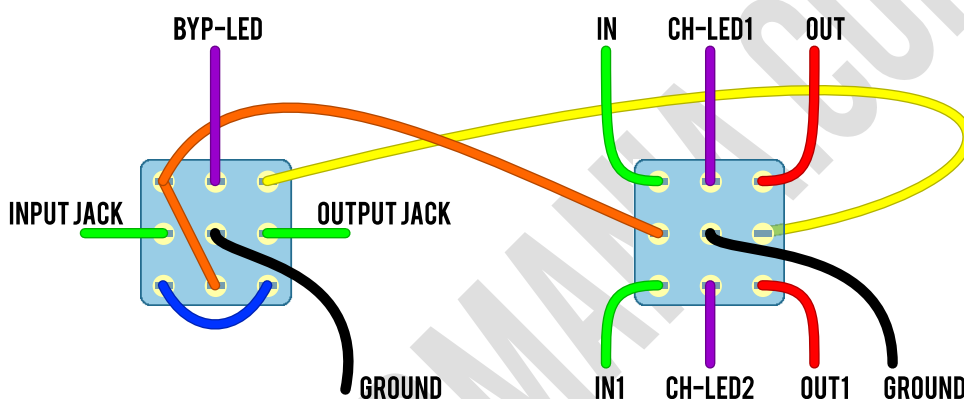


Wiring Diagram

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.

You can take a look on the following diagram to understand the general connections. For further information check our [Pedal Wiring guide](#).



Drill Template

This Project has been planned to fit into a 1590bb enclosure type (122x67x35mm approx.)

Check the Attached “Drilling templates” to drill the box properly. The files are on Scale 1:1, ready to print in a 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 Grup](#) 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 our 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 its 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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