

Hot Waffle

Based on:

Crowther Audio Hot Cake 03

Effect type:

Overdrive

Build difficult:

Beginner

Amount of parts:

Low, total 25 components

Technology:

Simple OpAmp

Power consumption:

9V

Enclosure type:

1590b

Get your board at:

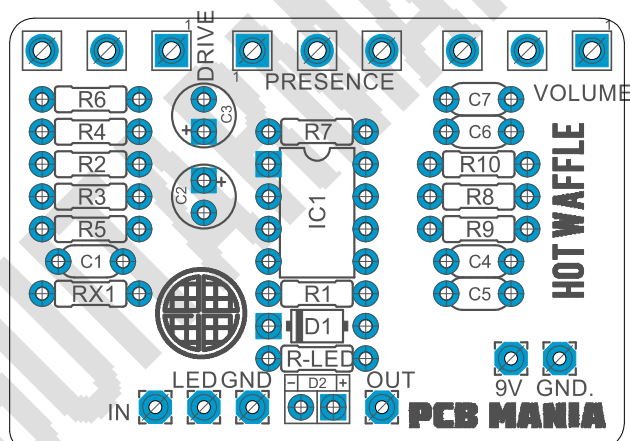
[Hot Waffle](#)

Get your kit at:

[Das Musikding \(Europe\)](#)

Project overview:

Based on Crowther Audio hotcake™ Designed following the schematic of the 2003 version for a more glassier Fenderish character.



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Introduction

There is a reason why the Crowther Audio hotcake™ is around for more than 40 years (first build in 1976) . The original pedal was designed to leave the undistorted component of the guitar sound unchanged, while providing a nice fat mid-gain distortion sound without resorting to a treble cut circuit which will also affect the guitar tonality. Meaning, if you like the sound of your amplifier but want to push it harder, this will be the perfect project for you.

We recommend putting this particular build in front of your guitar amp, not in the effects loop.

Based on 2003 version for a more glassier Fenderish character.

Controls

- Drive
- Volume
- Presence

Bill of materials

Resistors	
Part	Value
R-LED	4k7
R1	220r
R2	82k
R3	1m
R4	100k
R5	10k
R6	220r
R7	100k
R8	10k
R9	10k
R10	1k
RX1	1m

Potentiometers	
Part	Value
PRESENCE	50K B
DRIVE	50K C
VOLUME	50K A

Semiconductors	
Part	Value
IC1	LM741
D1	1N5238 8V7 Zener
D2	3mm LED

Capacitors	
Part	Value
C1	10n
C2	10uf Electrolytic
C3	10uf Electrolytic
C4	500pf
C5	22n
C6	82n
C7	56n

Shopping list

Resistors		
Qty	Value	Parts
2	220r	R1, R6
1	1k	R10
1	82k	R2
2	1m	R3, RX1
2	100k	R4, R7
3	10k	R5, R8, R9
1	4k7	R-LED

Capacitors		
Qty	Value	Parts
1	10n	C1
2	10uf electro	C2, C3
1	500pf	C4
1	22n	C5
1	82n	C6
1	56n	C7

Semiconductors		
Qty	Value	Parts
1	1N5238 8V7 Zener	D1
1	3mm LED	D2
1	LM741	IC1

Pots		
Qty	Value	Parts
1	50K C	DRIVE
1	50K A	VOLUME
1	50K B	PRESENCE

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.

Build Notes

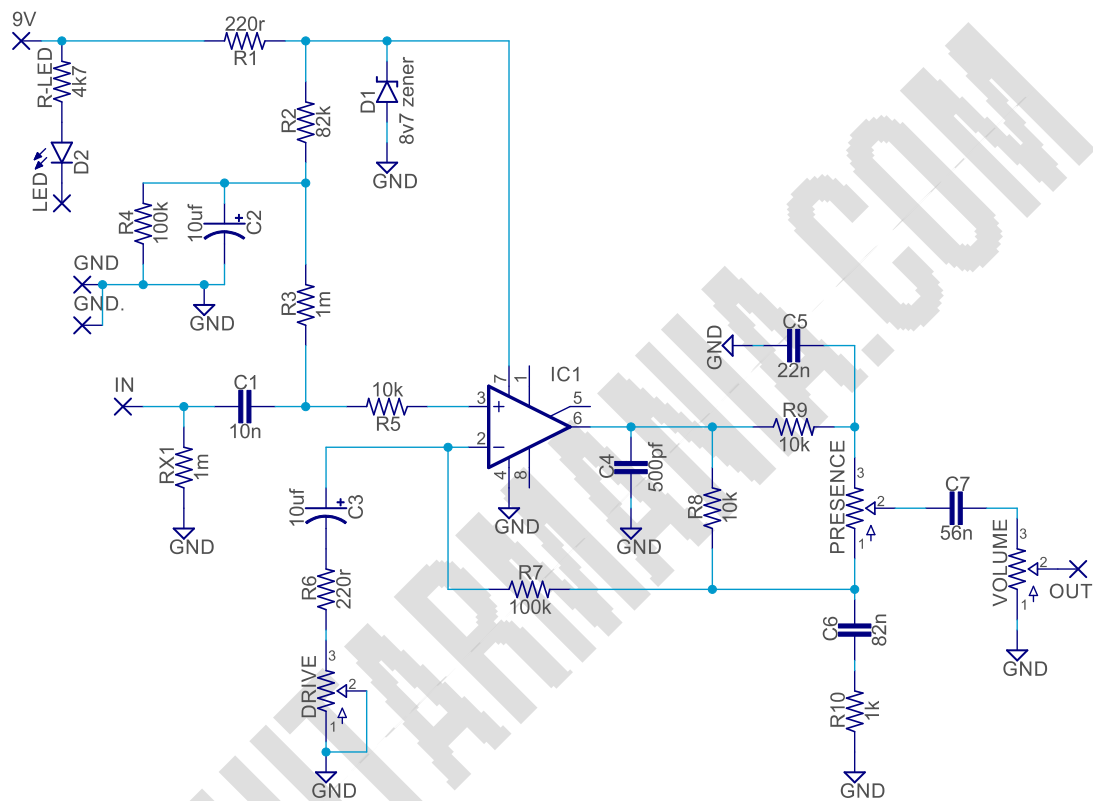
If this is one of your first projects I recommend you to take a look on our [Pedal Building Guide](#)

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

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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.

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 1590b 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.

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