

Grumpy Capuchin

Based on:
DigiTech Bad Monkey
Effect type:
Overdrive
Build difficult:
Moderate

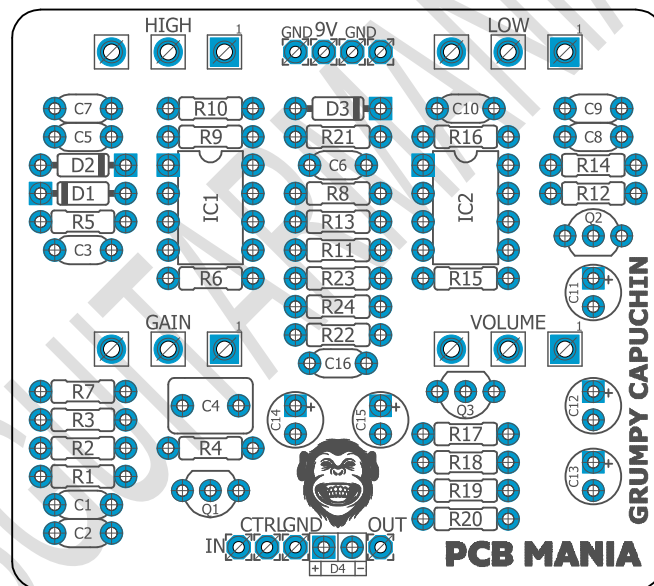
Number of parts:
Average, total 53 components
Technology:
Dual Op Amp
Power consumption:
9V

Enclosure type:
125b
Get your board at:
[Grumpy Capuchin](#)
Get your kit at:
[Das Musikding \(Europe\)](#)

Project overview:

We proudly announce our newest PCB inspired by that Digitech pedal you never cared about!

Renamed by you guys as Grumpy Capuchin, this Bad Monkey Overdrive-inspired pedal is ready to jam.



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Introduction

Nobody was paying too much attention to the Bad Monkey Overdrive, a Chinese-made DigiTech pedal from the early 2000s. It was one of those overdrives that go under the radar that, at the time, you could easily buy it used for \$60 or less.

That changed when Josh Scott uploaded a video in early 2023 showing that this two-decade-old pedal could sound just as good as the mythical Klon Centaur and similar circuits valued over three and even four figures.

As soon as the JHS video hit the scene, the Bad Monkey went from zero to hero. Suddenly, everyone wanted a piece of this discontinued pedal, and the asking prices went bonkers. Some folks had the audacity to slap price tags of 600, 700, and even over a grand on these pedals. Madness!

We think Scott had a message to deliver, loud and clear. Forget the hype and trust your own ears and instincts when it comes to pedals. At the end of the day, it's all about what brings you joy while jamming. Isn't that the whole point, anyway? That's why we bring you a DIY version of this Bad boy, which is a great pedal, after all. This Grumpy Capuchin is primed and ready to jam!

Controls

Potentiometers

- GAIN
- HIGH
- LOW
- VOLUME

Bill of materials

Resistors	
Part	Value
R1	1m
R2	1k
R3	1m
R4	10k
R5	1k
R6	10k
R7	100k
R8	1k
R9	5k
R10	100k
R11	5k
R12	10k
R13	22k
R14	1k
R15	100k
R16	22k
R17	100k
R18	10k
R19	100k
R20	100r
R21	10r
R22	4k7
R23	27k
R24	27k

Capacitors	
Part	Value
C1	120p
C2	47n
C3	220n
C4	470n
C5	220p
C6	47n
C7	47n
C8	47n
C9	470n

C10	47p
C16	100n

Electrolytics Capacitors	
Part	Value
C11	10u
C12**	1u flipped 180 degrees
C13	10u
C14	100u
C15	100u

Potentiometers	
Part	Value
GAIN	100K B
HIGH	100k B
LOW	100k B
VOLUME	100k A

Trim pots	
Part	Value
IC1	4558
IC2	4558

Transistors	
Part	Value
Q1	J201
Q2*	2N3904 flipped 180 degrees
Q3	2N3904

Diodes	
Part	Value
D1	4148
D2	4148
D3	1n5817
D4	3mm red LED

Shopping list

Resistors		
Qty	Value	Parts
5	100k	R7, R10, R15, R17, R19
1	100r	R20
4	10k	R4, R6, R12, R18
1	10r	R21
4	1k	R2, R5, R8, R14
2	1m	R1, R3
2	22k	R13, R16
2	27k	R23, R24
1	4k7	R22
2	5k	R9, R11

Capacitors		
Qty	Value	Parts
1	100n	C16
1	120p	C1
1	220n	C3
2	470n	C4, C9
1	47p	C10
4	47n	C2, C6, C7, C8
2	220p	C5

Electrolytics Capacitors		
Qty	Value	Parts
2	100u	C14, C15
2	10u	C11, C13
1	1u	C12**

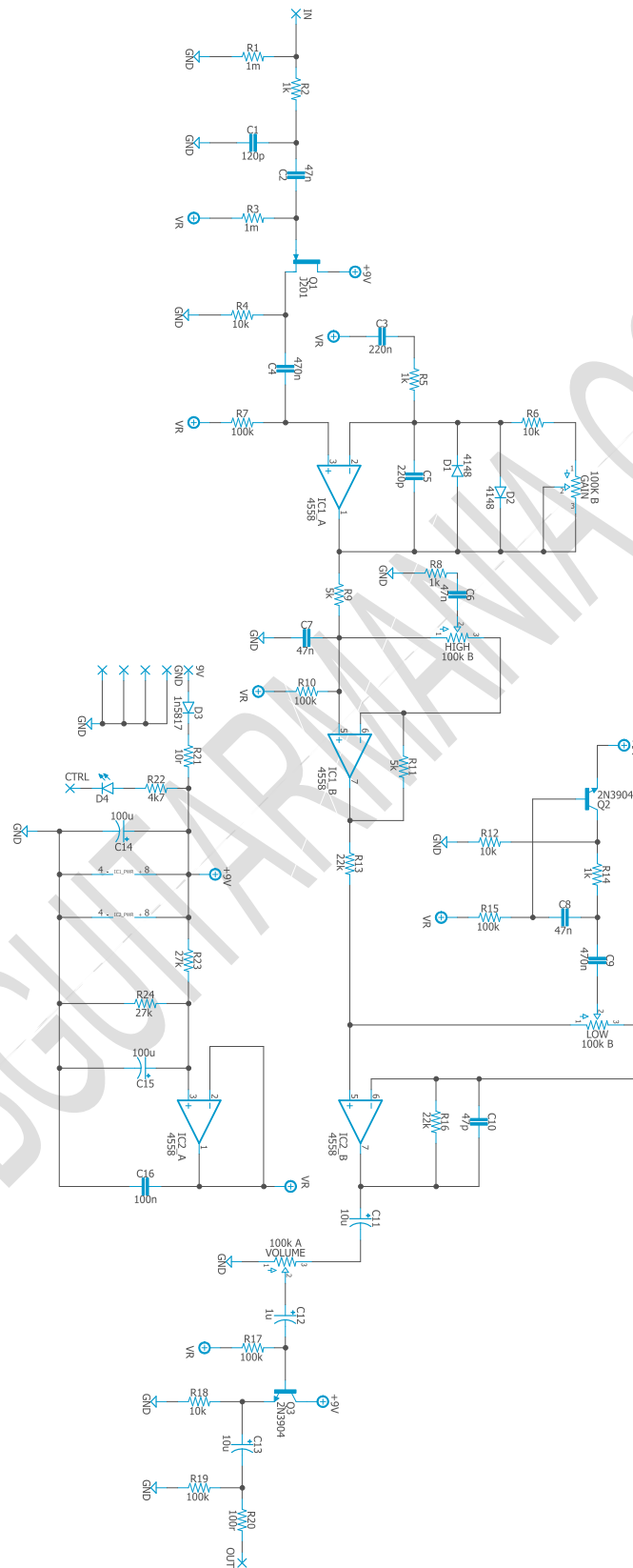
Potentiometers		
Qty	Value	Parts
3	100K B	GAIN, HIGH, LOW
1	100K A	VOLUME

IC		
Qty	Value	Parts
2	4558	IC1, IC2

Transistors		
Qty	Value	Parts
2	2N3904	Q2*, Q3
1	J201	Q1

Diodes		
Qty	Value	Parts
1	1n5817	D3
1	3mm red LED	D4
2	4148	D1, D2

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

Q2*

In the first version of this board, place Q2 flipped 180 degrees to ensure its proper functioning. This has been solved from 1v1 onwards.

C12**

Place C12 flipped 180 degrees to ensure its proper functioning. This has been solved from 1v1 onwards.

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.

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