

# Chopper Party

## Based on:

Helicopter Party – Hoof + Grand  
Orbiter + Hummingbird

## Effect type:

Phaser, tremolo, Muff type fuzz

## Build difficult:

Advanced

## Number of parts:

High, total 159 components

## Technology:

Jfet Buffer + pickup simulator in  
front of a fuzz Silicon Fuzz face +  
Controlled transconductance  
amplifiers + Germanium – Silicon  
hybrid transistors

## Power consumption:

9V

## Enclosure type:

1590dd

## Get your board at:

[Chopper Party](#)

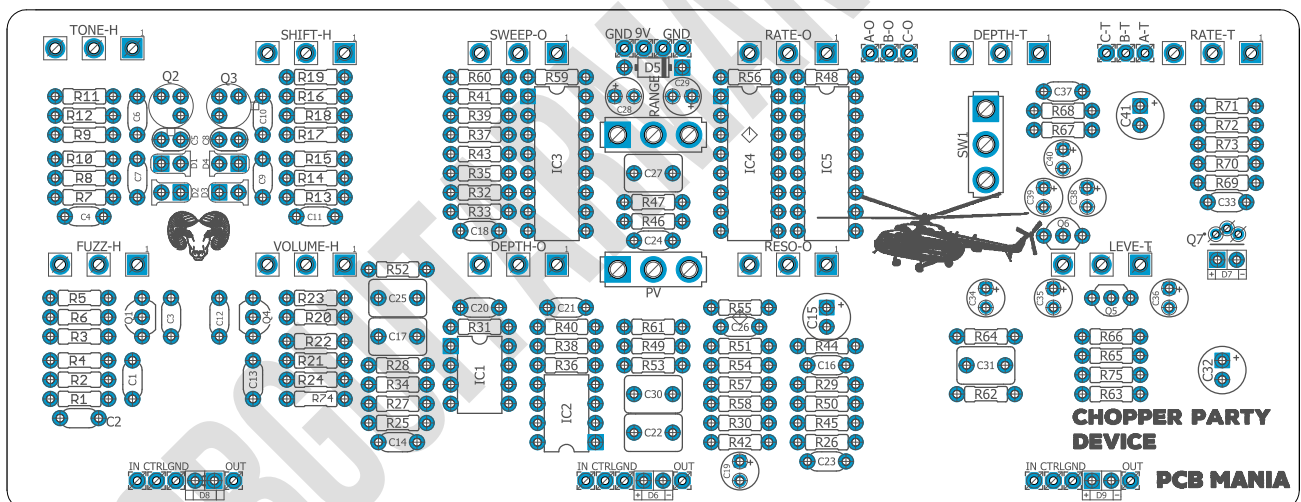
## Get your kit at:

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

## Project overview:

Looking for a distinctive and creative multi-effects pedal? Look no further than the Chopper Party Device!

This board is based on the custom-made EarthQuaker Devices Helicopter Party, a one-of-a-kind EQD creation named after the band Party of Helicopters.



# Index

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- |                                   |  |
|-----------------------------------|--|
| 1. Project overview               | 5. Schematic                               |
| 2. Index, Introduction & Controls | 6. Components, Build Notes, Wiring Diagram |
| 3. Bills of Materials, BOM        | 7. Drill Template, Licensing and Usage     |
| 4. Shopping Lists                 |  |

## Introduction

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This is one special day for you; you just ran into a pedal that is as cool as impossible to find, and believe me, it's extremely cool! You are in the presence of a unique board that features a chain of [Hoof](#), [Grand Orbiter](#), and [Hummingbird](#) pedals, with expression inputs for both Hummingbird rate and Grand Orbiter rate.

Whether you're playing a gig or just jamming in your basement, this Chopper Party Device is sure to deliver a fantastic sound. It allows you to create cool effects on the fly, combining the acclaimed muff-inspired fuzzes tones of the [Hoof](#), the outer space sounding of the [Grand Orbiter](#), and the choppy, sawtooth vintage tremolo of the [Hummingbird](#) board in the most amazing ways. Can you imagine that? Just connect the cables and start playing!

## Controls

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### Potentiometers

- Depth-O
- Depth-T
- Fuzz-H
- Level-T
- Rate-O
- Rate.T
- Reso-O
- Shift-H

- Sweep-O
- Tone-H
- Volume-H

### Switches

- SW1
- Range
- SW1
- PV

# Bill of materials

Resistors	
Part	Value
R1	1m
R2	39k
R3	100k
R4	470k
R5	15k
R6	100r
R7	2k2
R8	8k2
R9	100k
R10	470k
R11	15k
R12	100r
R13	8k2
R14	100k
R15	470k
R16	15k
R17	100r
R18	39k
R19	2k2
R20	390k
R21	100k
R22	10k
R23	2k2
R24	10r
R25	1m
R26	RLED
R27	1M
R28	10K
R29	56K
R30	56K
R31	27K
R32	1K2
R33	27K
R34	10K
R35	10K
R36	10K

R37	27K
R38	10K
R39	1K2
R40	470R
R41	27K
R42	100K
R43	10K
R44	220K
R45	100K
R46	27K
R47	1K2
R48	150K
R49	27K
R50	10K
R51	10K
R52	8K2
R53	27K
R54	1K2
R55	27K
R56	4K7
R57	27K
R58	10K
R59	4K7
R60	470K
R61	27K
R62	2M2
R63	470R
R64	47K
R65	22K
R66	12K
R67	47K
R68	220K
R69	27K
R70	100R
R71	470R
R72	2K2
R73	2K2
R74	4k7

R75	4K7
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Capacitors	
Part	Value
C1	100n
C2	470p
C3	100n
C4	100n
C5	470p
C6	100n
C7	100n
C8	470p
C9	100n
C10	6n8
C11	6n8
C12	100n
C13	100n
C14	100n
C16	100n
C17	1u
C18	2n2
C20	100p
C21	2n2
C22	1u
C23	47n
C24	2n2
C25	1u
C26	2n2
C27	1u
C30	1u
C31	1u
C33	100n
C37	220n

Electrolytic Capacitors	
Part	Value
C15	100u

C19	10u
C28	1u
C29	4u7
C32	100u
C34	1u
C35	4u7
C36	2u2
C38	1u
C39	2u2
C40	10u
C41	100u

Potentiometers	
Part	Value
DEPTH-O	25k B
DEPTH-T	B50K
FUZZ-H	50K B
LEVE-T	B100K
RATE-O	C1M
RATE-T	B100K
RESO-O	C1M
SHIFT-H	25K B
SWEEP-O	B50K
TONE-H	100K B

VOLUME-H	1M A
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IC	
Part	Value
IC1	TL072
IC2	TL072
IC3	LM13700N
IC4	LM13700N
IC5	LM13700N

Transistors	
Part	Value
Q1	2N3904
Q2	2N1308
Q3	2N1308
Q4	2N3904
Q5	PF5102
Q6	2N5089
Q7	2N6027

Switches	
Part	Value
SW1	On-Off-On

Range	SPDT On-Off-On
PV	SPDT On-On
-	3PDT Stomp foot
-	3PDT Stomp foot
-	3PDT Stomp foot

Diodes	
Part	Value
D1	3mm red led
D2	3mm red led
D3	3mm red led
D4	3mm red led
D5	1N5817
D6	3mm red LED
D7	LED.1
D8	3mm red led
D9	3mm red led

Jacks	
Part	Value
-	DC JACK
-	AUDIO JACK
-	AUDIO JACK

# Shopping list

Resistors		
Qty	Value	Parts
6	100K	R3, R9, R14, R21, R42, R45
4	100r	R6, R12, R17, R70
10	10K	R22, R28, R34, R35, R36, R38, R43, R50, R51, R58
1	12K	R66
1	150K	R48
4	1K2	R32, R39, R47, R54
3	1m	R1, R25, R27
2	220K	R44, R68
1	22K	R65
11	27K	R31, R33, R37, R41, R46, R49, R53, R55, R57, R61, R69
5	2K2	R7, R19, R23, R72, R73
1	2M2	R62
4	470K	R4, R10, R15, R60
3	470R	R40, R63, R71
2	47K	R64, R67
3	4K7	R56, R59, R75
2	56K	R29, R30
3	8K2	R8, R13, R52
1	RLED	R26
3	15k	R5, R11, R16
2	39k	R2, R18
1	390k	R20
1	10r	R24

Capacitors		
Qty	Value	Parts
11	100n	C1, C3, C4, C6, C7, C9, C12, C13, C14, C16, C33
1	100p	C20
6	1u	C17, C22, C25, C27, C30, C31
1	220n	C37

4	2n2	C18, C21, C24, C26
3	470p	C2, C5, C8
1	47n	C23
2	6n8	C10, C11

Electrolytic Capacitors		
Qty	Value	Parts
3	100u	C15, C32, C41
2	10u	C19, C40
3	1u	C28, C34, C38
2	2u2	C36, C39
2	4u7	C29, C35

Potentiometers		
Qty	Value	Parts
3	100K B	TONE-H, LEVE-T, RATE-T
1	1M A	VOLUME-H
2	25K B	SHIFT-H, DEPTH-O
3	50K B	FUZZ-H, DEPTH-T, SWEEP-O
2	C1M	RATE-O, RESO-O
1	25k B	DEPTH-O
2	B50K	DEPTH-T, SWEEP-O

IC		
Qty	Value	Parts
3	LM13700N	IC3, IC4, IC5
2	TL072	IC1, IC2

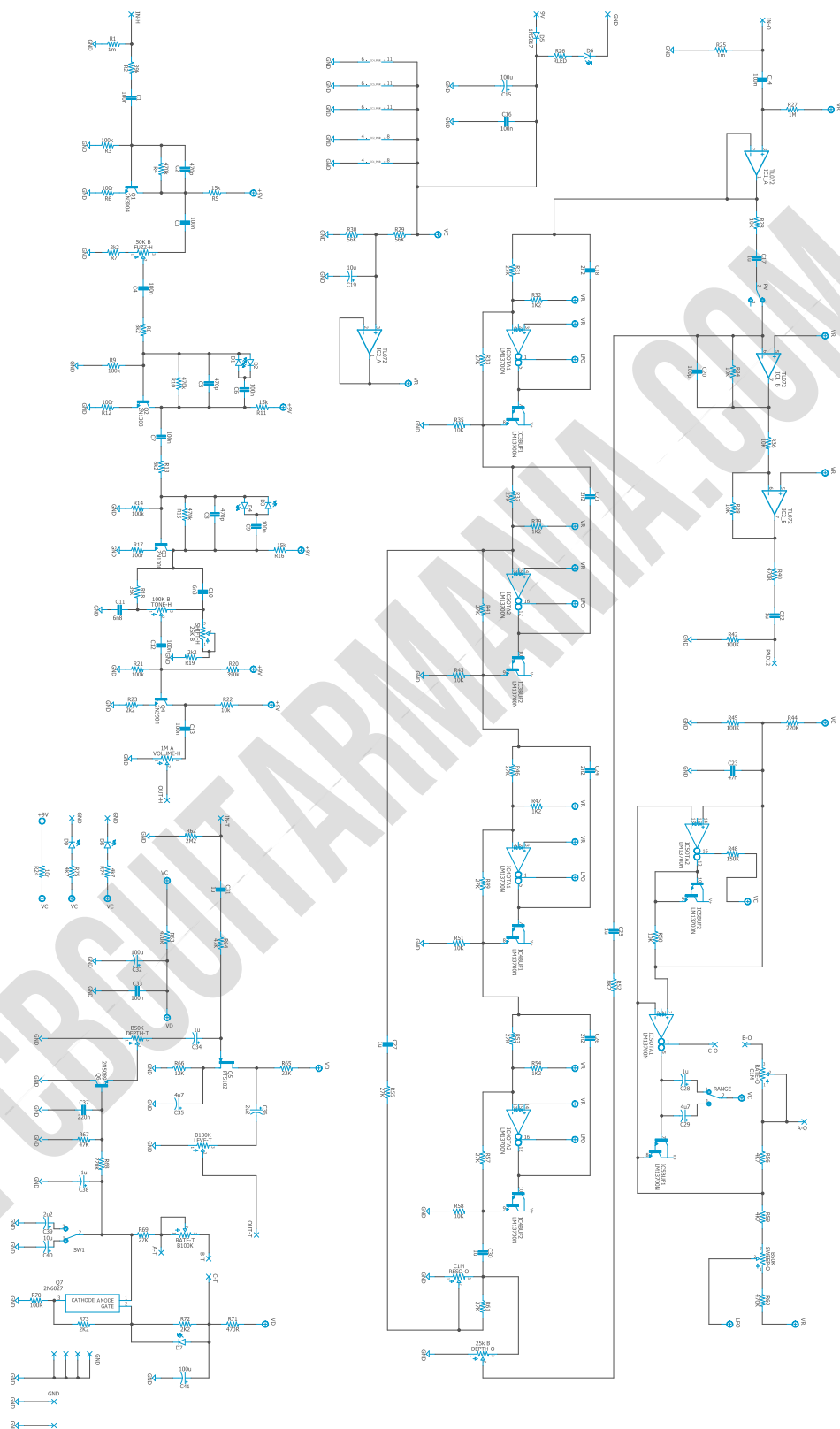
Transistors		
Qty	Value	Parts
2	2N1308	Q2, Q3
2	2N3904	Q1, Q4
1	2N5089	Q6
1	2N6027	Q7
1	PF5102	Q5

Switches		
Qty	Value	Parts
2	SPDT On-Off-On	Range, SW1
1	SPDT On-On	PV
3	3PDT Stomp foot	-

Diodes		
Qty	Value	Parts
1	1N5817	D5
1	3mm red LED	D6
1	3mm red led	D8
6	3mm red led	D1, D2, D3, D4, D7, D9

Jacks		
Qty	Value	Parts
1	DC JACK	-
2	AUDIO JACK	-

## Schematic



# Components Recommendations

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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

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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

## Wiring Diagram

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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

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This Project has been planned to fit into a 1590dd 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

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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!