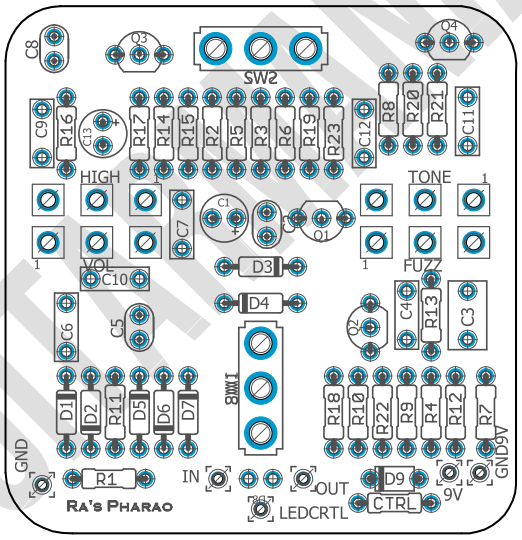
Ra´s Pharao

Based on:
Pharaoh Fuzz by Black arts toneworks
Effect type:
Versatile Doom Fuzz
Build difficult:
Intermediate

Amount of parts:
Average, total 56 components
Technology:
Silicon transistors NPN
Power consumption:
9V

Enclosure type:
125b
Get your board at:
Ra´s Pharao
Get your kit at:
Das Musikding (Europe)

Project overview:
The Ra's Pharaoh has roots in the all-time classic big muff Pharaoh Fuzz by Black arts toneworks, with some interesting modifications to produce the thickest, warm, doomy sounds.



Index

Introduction

If you love your guitar and amp's tone, this is your pedal. Wake up this ancient absolute monarch and feel the power of his classic fuzz with some unique twists.

Not for nothing, the Pharaoh Fuzz, in which it is inspired, gained a vast following among stoner rock and doom metal players. Your needs for heavy riffing' will be satisfied with the strength of the Ra's Pharaoh. But that's not all; this pedal is highly versatile and offers a wide array of fuzz tones. The controls let you rule the fuzz to the exact Muffy you need, whether heavy and aggressive or fatter and more relaxed.

It comes in a tight design, ready to fit in a 125B Enclosure with pots and switches on board. This board is ready to be wired as True Bypass. The diode switch chooses between the silicon diodes for a raspy distorted sound, diodes out for more volume /headroom, and minor clipping. Asymmetrical germanium clipping diodes give a warm, tubey old-school sound. The H/L switch select in between to different input-gain presets.

Maybe this pharaoh has been waiting asleep for a long time, but once you wake him up, his fuzz will be ready to conquer once more.

Controls

- TONE
- VOL
- DIST
- HIGH

Bill of materials

Resistors	
Part	**Value**
R1	2M
R2	39K
R3	390K
R4	470K
R5	100K
R6	1K
R7	10K
R8	1K
R9	6K2
R10	100K
R11	470K
R12	10K
R13	100r
R14	6K2
R15	100K
R16	100r
R17	470K
R18	10K
R19	470K
R20	100K
R21	2K2
R22	10K
R23	470K
CTRL	2k2-4k7

Potentiometers	
TONE	250KB
VOL	100K B (linear) or 100K A (log)
DIST	100K B (linear) or 100K A (log)
HIGH	25K B

Swithces	
SW1	DPDT ON-OFF-ON
SW2	SPDT ON-ON

Capacitors	
C1	10uf Tantalum
C2	470p
C3	470n
C4	470n
C5	470p
C6	470n
C7	470n
C8	470p
C9	470n
C10	10n
C11	22n
C12	470n
C13	10uf Tantalum

Diodes	
D1	1N4148
D2	1N4148
D3	1n4001
D4	1n4001
D5	1n34A
D6	1n34A
D7	1n34A
D8	LED3MM
D9	1n4001

Transistors	
Q1	MPSA18
Q2	2N5089
Q3	2N5089
Q4	2N5089

Shopping list

Resistors		
Qty	**Value**	**Parts**
5	470K	R4, R11, R17, R19, R23
4	100K	R5, R10, R15, R20
2	1K	R6, R8
2	100r	R13, R16
4	10K	R7, R12, R18, R22
2	2K2	R21
1	2M	R1
1	390K	R3
1	39K	R2
2	6K2	R9, R14

Capacitors		
Qty	**Value**	**Parts**
6	470n	C3, C4, C6, C7, C9, C12
3	470p	C2, C5, C8
1	22n	C11
1	10n	C10
2	10uf Tantalum	C1, C13

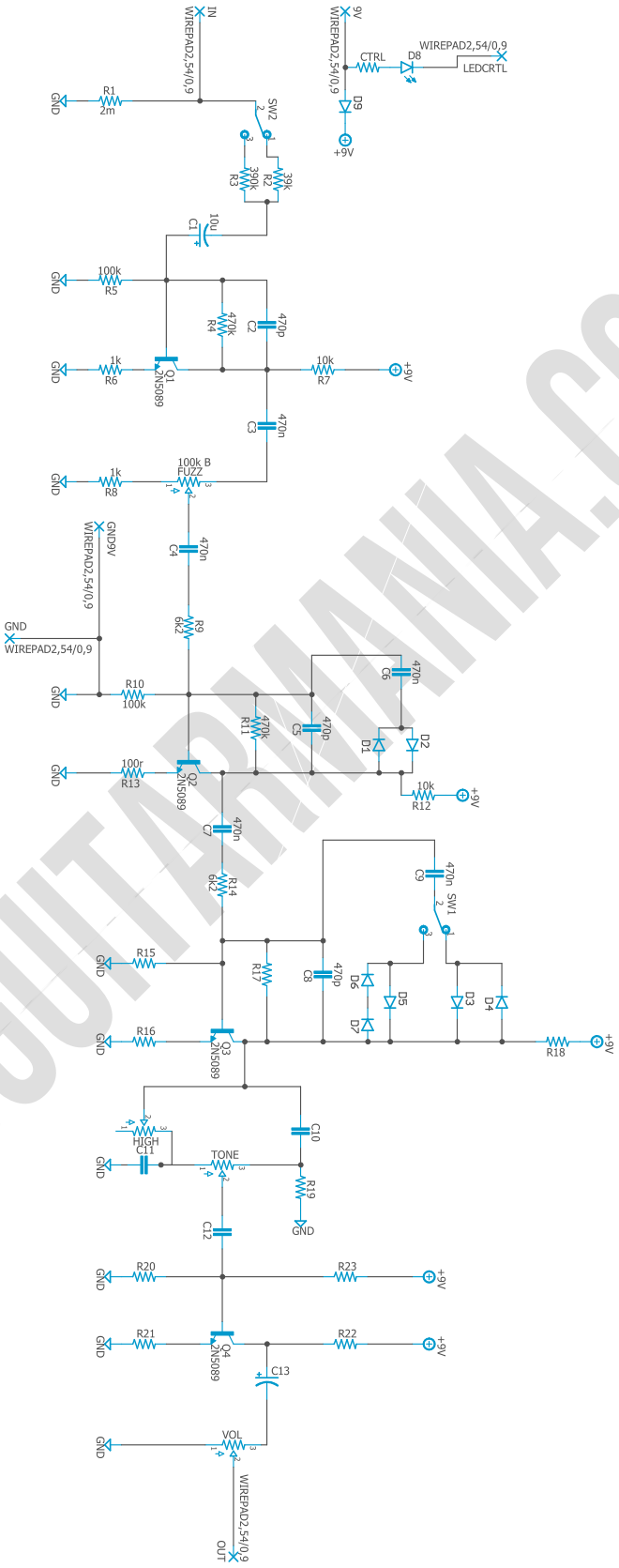
Potentiometers		
Qty	**Value**	**Parts**
1	250KB	TONE
2	100K B (linear) or 100K A (log)	DIST, VOL
1	25KB	HIGH

Diodes		
Qty	**Value**	**Parts**
2	1N4148	D1, D2
3	1n4001	D3, D4, D9
3	1n34A	D5, D6, D7
1	LED3MM	D8

Transistors		
Qty	**Value**	**Parts**
1	MPSA18	Q1
3	2N5089	Q2, Q3, Q4

Switches		
Qty	**Value**	**Parts**
1	Spdt	SW2
1	Dpdt on-off-on	SW1

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

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.

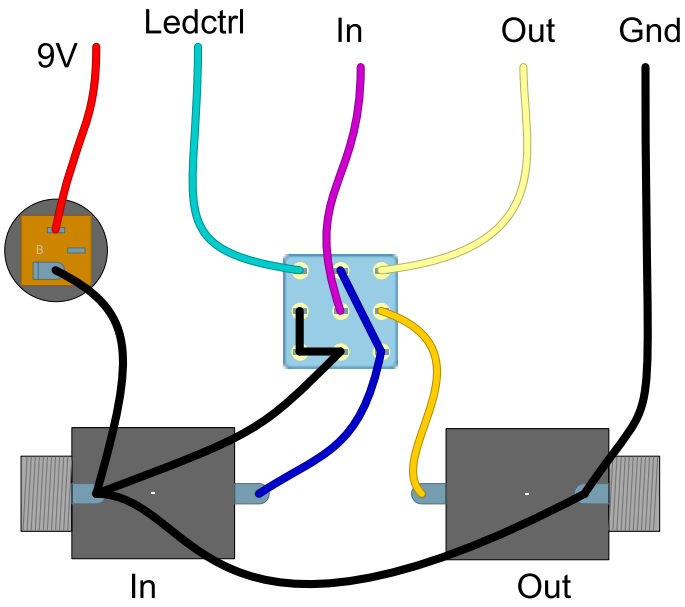
This board has been designed to match our EZ 3PDT PCB; check it here to access our Pedal Wiring Guide.

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.

Off Board Wiring



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!