

Sabbatical Drive

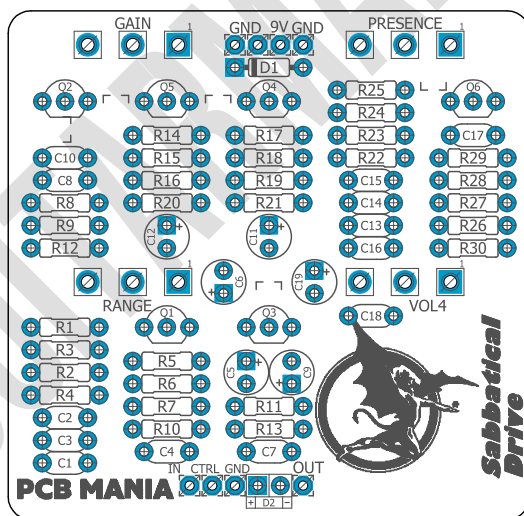
Based on:
Catalinbread Sabbra Cadabra
Effect type:
Distortion/booster
Build difficult:
Intermediate

Amount of parts:
Average, total 61 components
Technology:
JFET transistors
Power consumption:
9V

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

Project overview:

Inspired by Catalinbread's Sabbra Cadabra, it features a two-circuit combination between a custom-tuned Rangemaster-based booster and the preamp section of the Tony Iommi's Laney Supergroup. The outcome is a machine that delivers the greatest doom riffs; it's like having Black Sabbath inside a box.



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Introduction

Sabbatical Drive delivers one of the most influential tones in the pantheon of rock by capturing the soul of the famous Tony Iommi's Laney Supergroup amplifiers pushed by the Dallas Rangemaster treble booster. All of this is possible by changing the original tubes with modern JFET transistors.

The outside controls give you everything you need to dial in classic riffs or today's doom. Its Volume 4, Presence and Gain controls will allow you to shape the dark tone of the Sabbatical. But the Range knob is the one that provides the most incredible diversity in tone: with it, you can mod the treble-boost section of the circuit, ending up anywhere from dedicated treble boost to full-range boost. This will grant you all the versatility you need, allowing you to access a high range of sounds to explore. Besides that, consider the effects your guitar's onboard controls will have on the sound, providing even more realm for a creative approach.

Controls

- Gain
- Presence
- Range
- Vol4

Bill of materials

Resistors	
Part	Value
R1	1m
R2	220k
R3	68k
R4	10k
R5	4k7
R6	47r
R7	1m
R8	1m
R9	1m
R10	33k
R11	750k
R12	1k
R13	1k5
R14	47k
R15	470k
R16	470k
R17	1m
R18	1m
R19	1k
R20	820r
R21	100k
R22	56k
R23	220k
R24	33k
R25	22k
R26	1k
R27	2m2

R28	2m2
R29	4k7
R30	4k7

Capacitors	
Part	Value
C1	68n
C2	4n7
C3	47p
C4	100n
C7	100u
C8	22n
C10	47p
C13	270p
C14	22n
C15	22n
C16	22n
C17	220n
C18	10n

Electrolytics Capacitors	
Part	Value
C5	47u
C6	2u2
C9	22u
C11	2u2
C12	2u2

C19	100u
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Potentiometers	
Part	Value
GAIN	1m A
PRESENCE	10k B
RANGE	500k C
VOL4	250k B

Transistors	
Part	Value
Q1	BC184
Q2	MPF4393*
Q3	MPF4393*
Q4	MPF4393*
Q5	MPF4393*
Q6	MPF4393*

Diodes	
Part	Value
D1	1n5817
D2	LED.1
LED	3mm red LED

Shopping list

Resistors		
Qty	Value	Parts
1	100k	R21
1	10k	R4
3	1k	R12, R19, R26
1	1k5	R13
6	1m	R1, R7, R8, R9, R17, R18
2	220k	R2, R23
1	22k	R25
2	2m2	R27, R28
2	33k	R10, R24
2	470k	R15, R16
1	47k	R14
1	47r	R6
3	4k7	R5, R29, R30
1	56k	R22
1	68k	R3
1	750k	R11
1	820r	R20

Capacitors		
Qty	Value	Parts
1	100n	C4
1	100u	C7
1	10n	C18
1	220n	C17
4	22n	C8, C14, C15, C16
1	270p	C13
2	47p	C3, C10
1	4n7	C2

1	68n	C1
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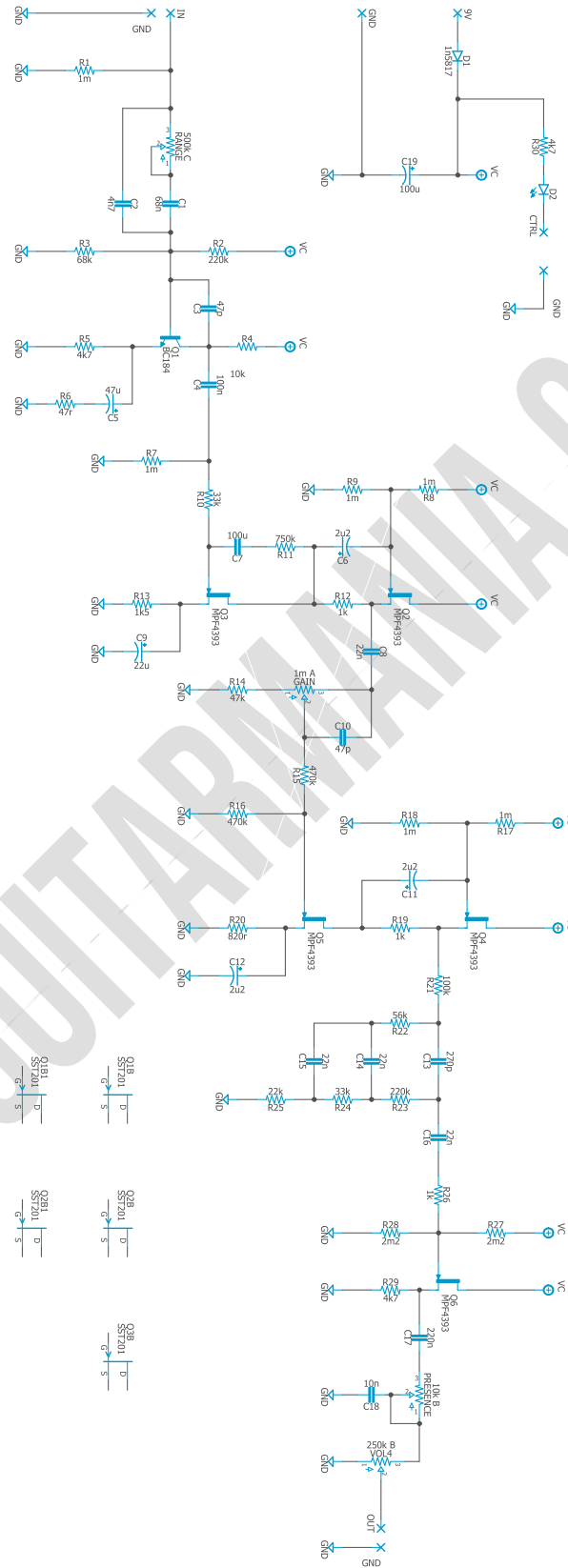
Electrolytics Capacitors		
Qty	Value	Parts
1	100u	C19
1	22u	C9
3	2u2	C6, C11, C12
1	47u	C5

Potentiometers		
Qty	Value	Parts
1	10k B	PRESENCE
1	1m A	GAIN
1	250k B	VOL4
1	500k C	RANGE

Transistors		
Qty	Value	Parts
1	BC184	Q1
5	MPF4393*	Q2, Q3, Q4, Q5, Q6

Diodes		
Qty	Value	Parts
1	1n5817	D1
1	LED.1	D2
1	3mm red LED	LED

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.

MPF4393*

True hole MPF4393 transistors are difficult to find; you can set the SST201 SMD version instead.

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.

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!