

# Exotic Preamp

## Based on:

Xotic BB Preamp

## Effect type:

TS type Overdrive

## Build difficult:

Intermediate

## Number of parts:

Average, total 56 components

## Technology:

Dual OpAmp + Baxandall EQ

## Power consumption:

9V(9mA)

## Enclosure type:

125b

## Get your board at:

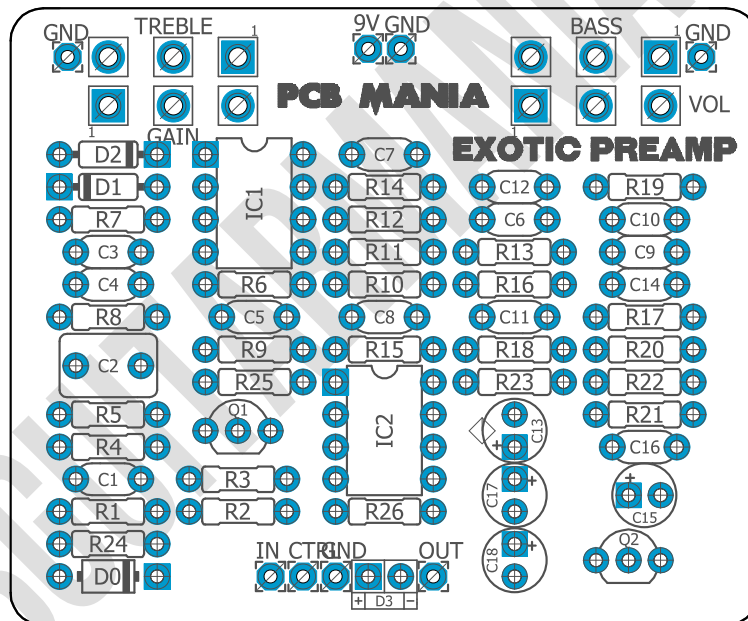
[Exotic Preamp](#)

## Get your kit at:

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

## Project overview:

Overdrive with roots on the classic TS808 featuring a Baxandall active Bass and Treble control to cut and boost the frequencies you need. This bad boy delivers around 30db boost and it's for sure one of the gainiest TS inspired pedals out there.



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## Introduction

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From the three Xotic™ Preamp pedals, the BB has the most amount of Gain and the biggest amount of Volume push. So it can deliver quite a lot of clean Boost (around 30db) to drive your amp harder by itself. That's why we proudly choose this one for our first take on these classic designs.

These Series are Stompboxes that have been out there for a decade now and still can be spot on so many Pedalboards. A reason for this is its active Bass and Treble EQ, which allows you to cut and boost frequencies. Another reason is that the BB in the Name stands for Blues Braker; just by the name itself, you could hear some creamy lead tones in your head. Didn't you? Is there more to say? Happy building!

## Controls

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### *Potentiometers*

- Bass
- Gain
- Treble
- Vol

# Bill of materials

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Resistors	
Part	Value
R1	2m2
R2	1k
R3	470k
R4	10k
R5	10k
R6	1k
R7	10k
R8	4k7
R9	10k
R10	1k
R11	19k
R12	1k
R13	220r
R14	10k
R15	47k
R16	10k
R17	33k
R18	4k7
R19	4k7
R20	470k
R21	10k
R22	47r
R23	100k
R24	10k
R25	10k
R26	4k7

Capacitors	
Part	Value
C1	22n
C2	1u
C3	47p
C4	47n
C5	220n
C6	220n
C7	100n
C8	150p
C9	33n
C10	33n
C11	4n7
C12	4n7
C14	100n
C16	100n

Electrolytics Capacitors	
Part	Value
C13	10u
C15	10u
C17	100u
C18	47u

Potentiometers	
Part	Value
BASS*	50k B

GAIN	1m B
TREBLE	50k B
VOL	100k A

Trim pots	
Part	Value
IC1	TL072
IC2	TL072

Transistors	
Part	Value
Q1	2N5088
Q2	2N5088

Diodes	
Part	Value
D0	1n5817
D1	1n914
D2	1n914
D3	3mm red LED

# Shopping list

Resistors		
Qty	Value	Parts
1	100k	R23
9	10k	R4, R5, R7, R9, R14, R16, R21, R24, R25
1	19k	R11
4	1k	R2, R6, R10, R12
1	220r	R13
1	2m2	R1
1	33k	R17
2	470k	R3, R20
1	47k	R15
1	47r	R22
4	4k7	R8, R18, R19, R26

Capacitors		
Qty	Value	Parts
3	100n	C7, C14, C16
1	150p	C8
1	1u	C2
2	220n	C5, C6
1	22n	C1
2	33n	C9, C10
1	47n	C4
1	47p	C3
2	4n7	C11, C12

Electrolytics Capacitors		
Qty	Value	Parts
1	100u	C17
2	10u	C13, C15
1	47u	C18

Potentiometers		
Qty	Value	Parts
1	100k A	VOL

1	1m B	GAIN
2	50k B	BASS*, TREBLE

IC		
Qty	Value	Parts
2	TL072	IC1, IC2

Transistors		
Qty	Value	Parts
2	2N5088	Q1, Q2

Switches		
Qty	Value	Parts
1	3PDT Stomp foot	-

Diodes		
Qty	Value	Parts
1	1n5817	D0
2	1n914	D1, D2
1	3mm red LED	D3

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

# Components Recommendations

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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.

PF5102\* is a JFET that shares the same pinout and functionality as a 2n5457 or J201. Either of them could work for as a replacement.

2n3904\*\* On the original EQD unit this transistor is actually a 2n497. The footprint of this layout has been optimized for the more common 2N3904. Other Low-medium gain NPN silicons will work just fine. 2N2222A, 2N2369, 2N5550, just take in mind the pinout of each of the compared to the one on the layout.

## Build Notes

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

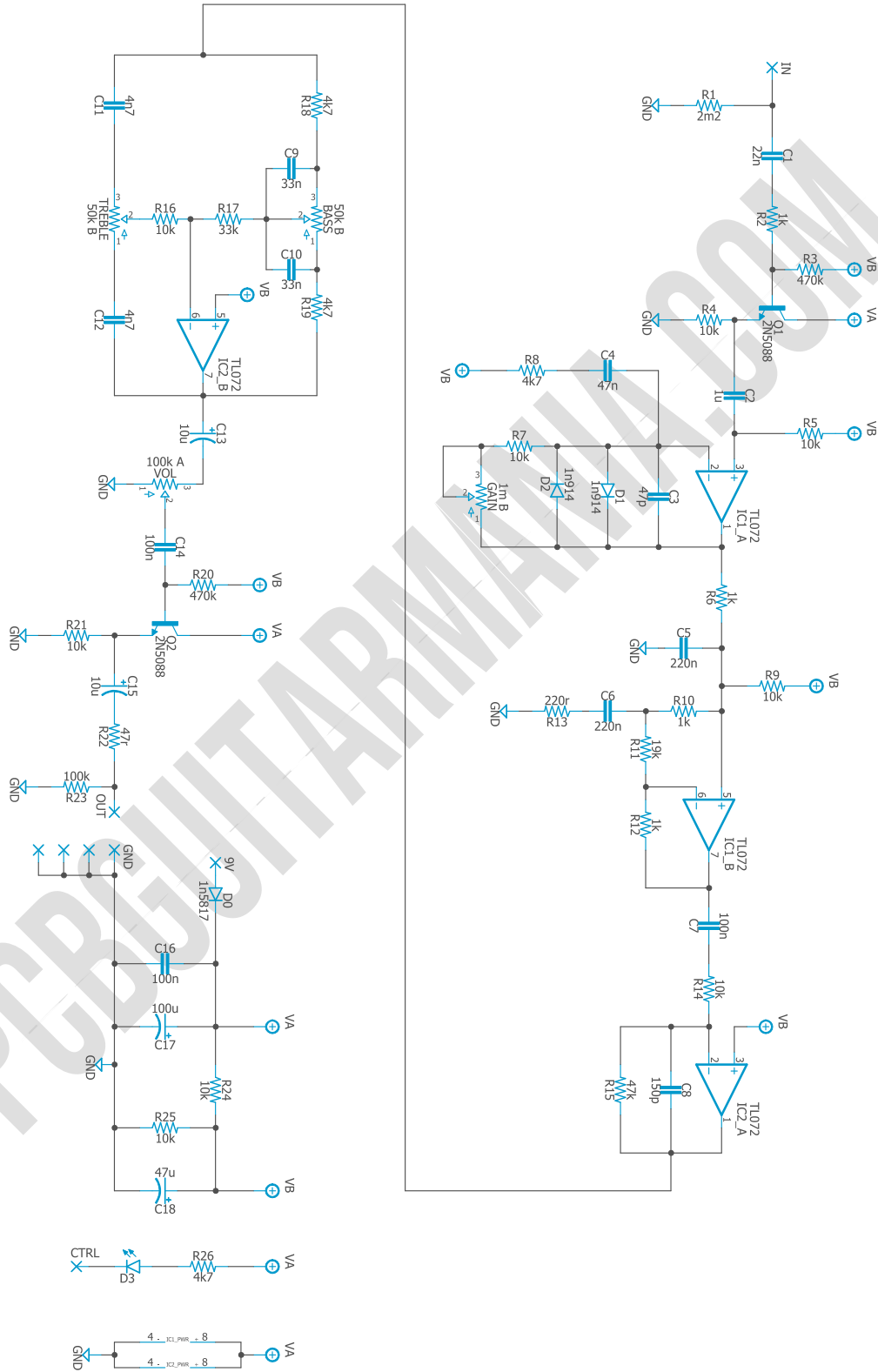
For a successful and tidy build, it's recommended the following order:

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

### **BASS\***

If you have the first version of this board, you will need to reverse the potentiometer's legs 1 and 3, respectively, to make it work properly. This issue has been fixed in the following versions.

# Schematic



## 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 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

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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!