

Bass Capsule

Based on:

Darkglass Tone Capsule

Effect type:

Preamp

Build difficult:

Easy

Number of parts:

Average, total 44 components

Technology:

High-speed Op-Amp

Power consumption:

9V

Enclosure type:

125b

Get your board at:

[Bass Capsule](#)

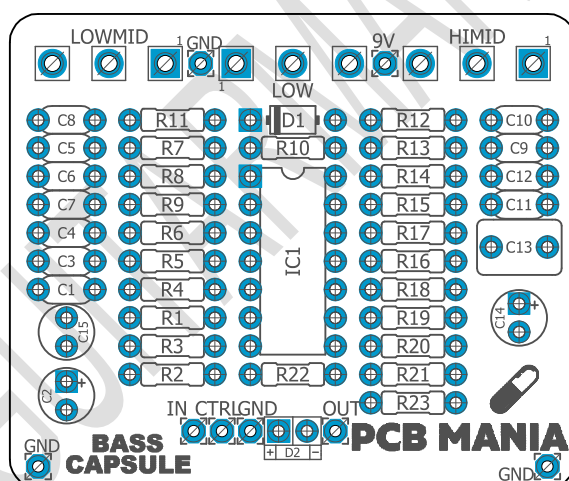
Get your kit at:

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

Project overview:

Check the latest onboard preamplifier from the house of Dark Glass, now in the form of a pedal!

The original Tone Capsule Bass is an active circuit that usually goes installed inside the bass and is a new, uncommon take on its type. Instead of the typical Bass / Mids / Treble, it features Low, Mid, and again Mid for entirely new possibilities.



Index

- | | |
|-----------------------------------|--|
| 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

Hey there! I'm so excited to share our new Bass Capsule with you. This board is like a little piece of magic, taking the revolutionary Darkglass Tone Capsule Bass Preamp and putting all its tonal possibilities and flexibility into a compact, easy-to-assemble PCB.

Our innovative preamp is designed to keep your instrument sounding just as amazing as it always has, but with added options for you to explore and create your own unique sound. Say goodbye to boring traditional Bass-Mid-Treble controls and hello to the exciting world of the Bass Capsule with its Low, Mid, and Mid controls. Plus, the second mid-control can be adjusted to deliver a higher-end spectrum, giving you the clarity and definition of a traditional Treble control without any harshness or noise.

I was hooked from the moment I tried it and I know you will be too. I can't wait for you to experience this unique preamp for yourself!

Controls

Potentiometers

- HiMID
- Low
- LowMID

Bill of materials

Resistors	
Part	Value
R1	1K
R2	4k7
R3	1M
R4	1M
R5	22K
R6	22K
R7	8K2
R8	8K2
R9	1K5
R10	1M
R11	8K2
R12	100K
R13	1K
R14	1K
R15	100K
R16	1K
R17	100K
R18	100K
R19	1K
R20	1K
R21	100K
R22	10K
R23	10K

Capacitors	
Part	Value
C1	100n
C3	22n
C4	22n
C5	56n
C6	56n
C7	100pf
C8	Jumper
C9	100n
C10	10n
C11	15n

C12	1n5
C13	1u5

Electrolytics Capacitors	
Part	Value
C2	10u
C14	10u
C15	10u (bipolar)

Potentiometers	
Part	Value
HIMID	B50K**
LOW	B50K**
LOWMID	B50K**

ICs	
Part	Value
IC1	MC33179P*

Diodes	
Part	Value
D1	1n5817
D2	3mm red LED

Shopping list

Resistors		
Qty	Value	Parts
5	100K	R12, R15, R17, R18, R21
2	10K	R22, R23
6	1K	R1, R13, R14, R16, R19, R20
1	1K5	R9
3	1M	R3, R4, R10
2	22K	R5, R6
1	4k7	R2
3	8K2	R7, R8, R11

Capacitors		
Qty	Value	Parts
2	100n	C1, C9
1	100pf	C7
1	10n	C10
1	15n	C11
1	1n5	C12
1	1u5	C13
2	22n	C3, C4
2	56n	C5, C6
1	Jumper	C8

Electrolytics Capacitors		
Qty	Value	Parts
2	10u	C2, C14

1	10u (bipolar)	C15
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Potentiometers		
Qty	Value	Parts
3	B50K**	HIMID, LOW, LOWMID

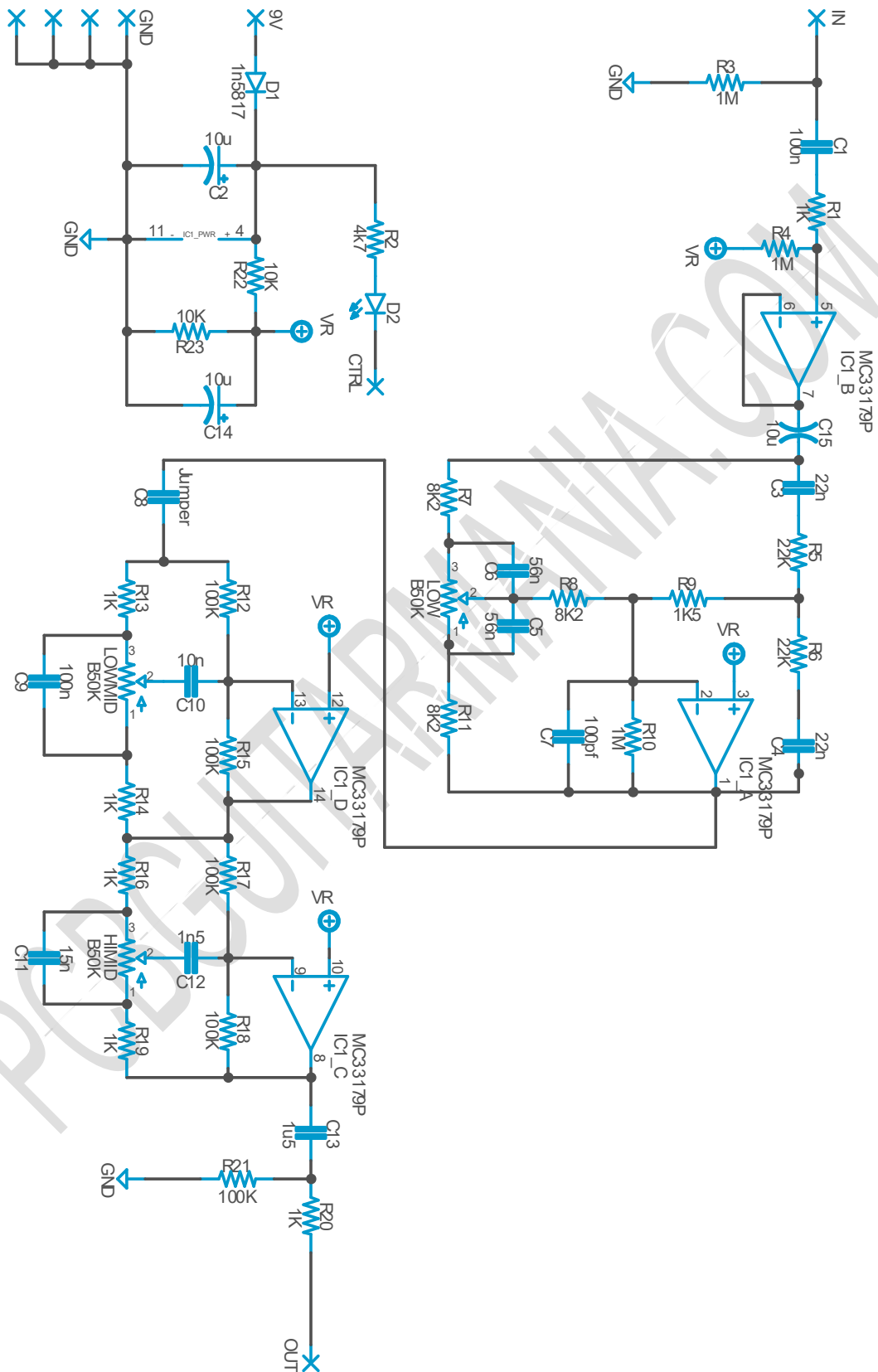
IC		
Qty	Value	Parts
1	MC33179P*	IC1

Switches		
Qty	Value	Parts
1	3PDT Stomp foot	-

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

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

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

MC33179P*

If you need to replace the MC33179P op-amp, you can use the TL074 op-amp as a substitute. The original MC33179P has lower power consumption which was chosen to prolong the battery life.

B50K**

If you're building the onboard version, we recommend using pots with centre detent for optimal performance. [The P-DUP-B50K-ohm linear taper potentiometer with a round shaft and solder lugs from Tayda Electronics is a great choice.](#)

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!