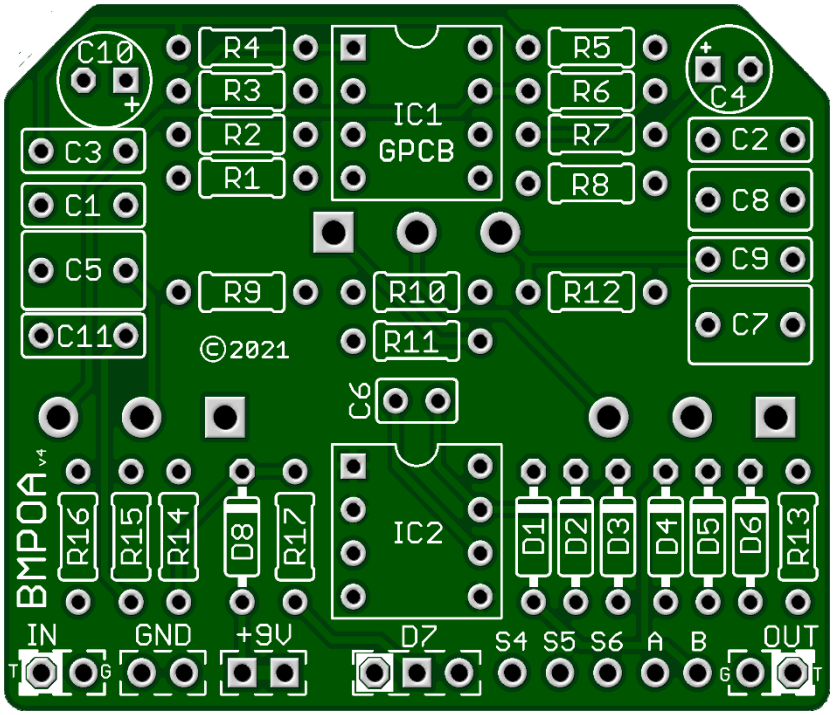
BMP Opamp v4 2021

The Opamp version of the Big Muff was made famous by many guitarists and featured on countless recordings, among them Siamese Dream by Smashing Pumpkins. The circuit relies on op-amps rather than transistors and three gain stages rather than four, to create its signature sound. It's a sound that's been described by noted Big Muff collector and historian, Kit Rae, as: "a huge, crushing Big Muff sound with more crunch… great for grungy, wall-of-sound distortion, heavy rhythm playing and heavy leads."



Board Dimensions (W x H) 1.95" x 1.62"

Part	Value
R1	1M
R2	47k
R3	330k
R4	10k
R5	47k
R6	330k
R7	33k
R8	1k
R9	5k6
R10	330k
R11	10k
R12	10k

Part	Value
R13	220k
R14	100R
R15	220k
R16	220k
R17	1k8
C1	100n
C2	10n
C3	4n7
C4	10u
C5	470n
C6	150p
C7	470n

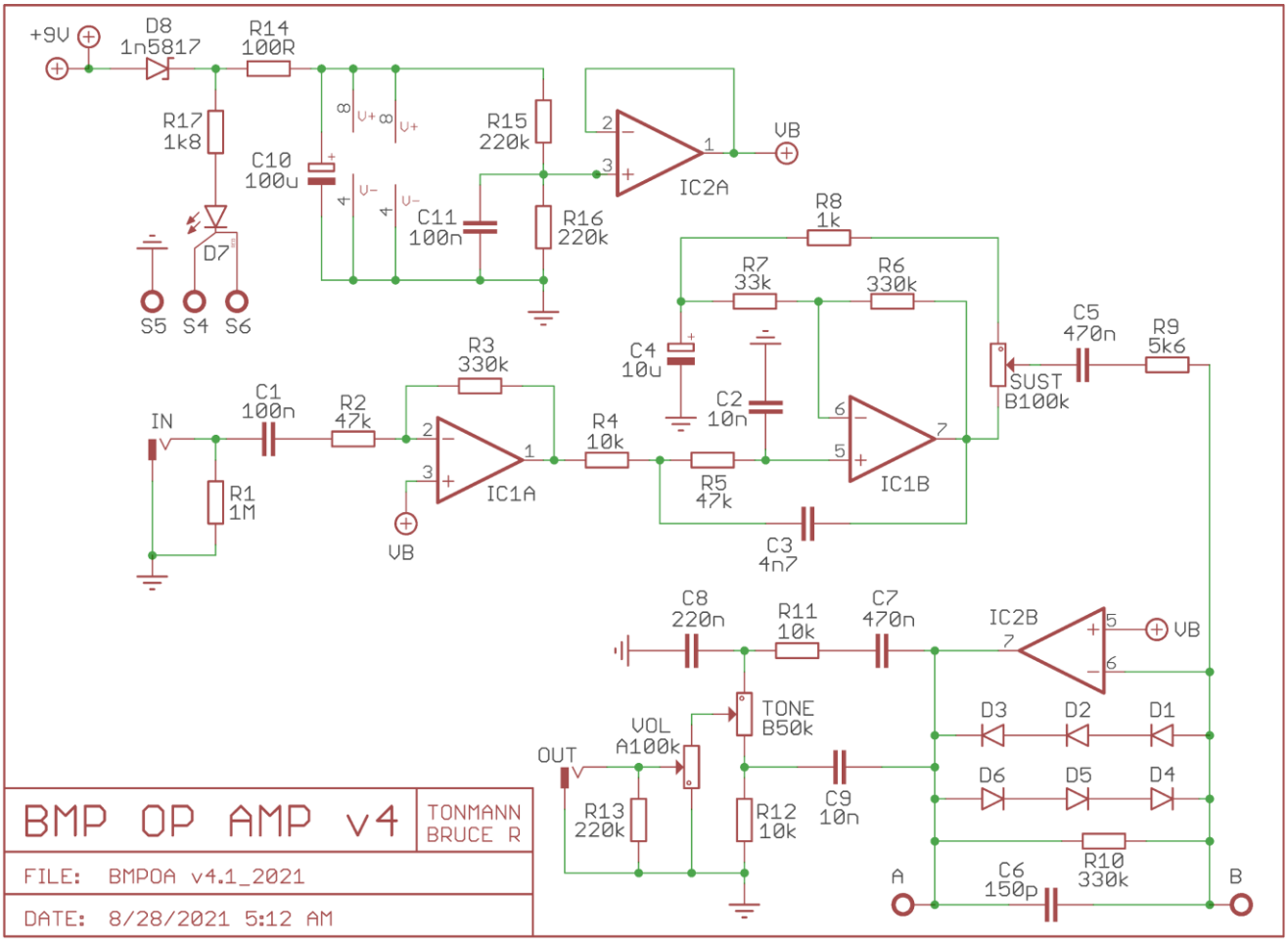
Part	Value
C8	220n
C9	10n
C10	100u
C11	100n
D1-D6	1n914
D7	*Status LED
D8	1N5817
IC1, IC2	RC4558
SUST	B100k
TONE	B50k
VOL	A100k

STATUS LED

***D7** is a Status LED that can be either a Bi-Color Common Anode or a Standard On/Off LED. (See Tip Sheet)

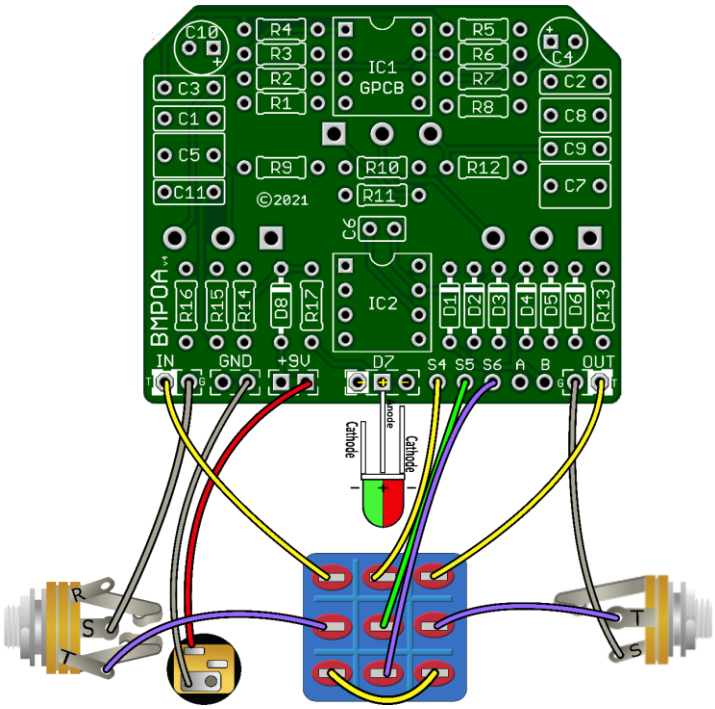
New in this GuitarPCB 2021 version release:

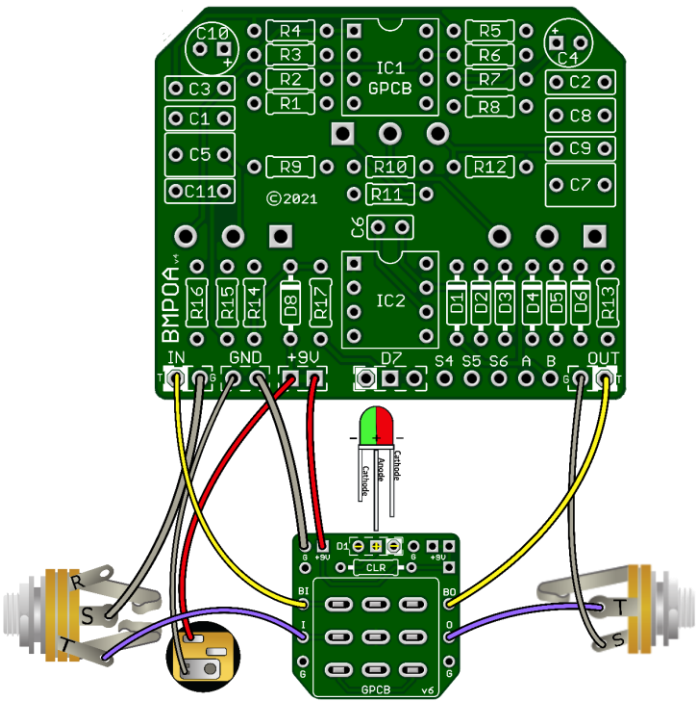
- Added 1N5817 circuit protection diode. (If you have v3 2021 there is no 1N5817 Diode, all else is the same)
- Added all on-board potentiometers. Larger off-board wiring pads.
- Added extra +9v and Ground pads for "Combo Builds" allowing easy wiring options and connectivity.
- A/B pads to allow you to inject your own clipping configuration daughter board like our Roto-Tone.

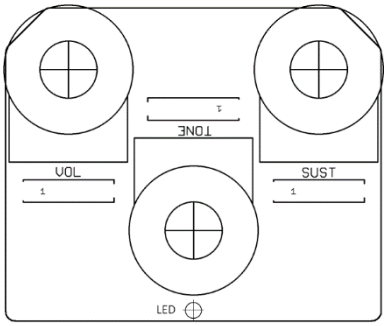


Build Notes:

- A/B Pads are for injecting your own clipping configuration whether it be Vero-board or our Roto-Tone Deluxe. Feel free to try any clipping configuration you like.
- Bass Mod: Change C1 from 100n to 470n. This will allow all Bass frequencies through.
- Add more tonal complexity by allowing some clean signal through using our Buff n' Blend circuit.

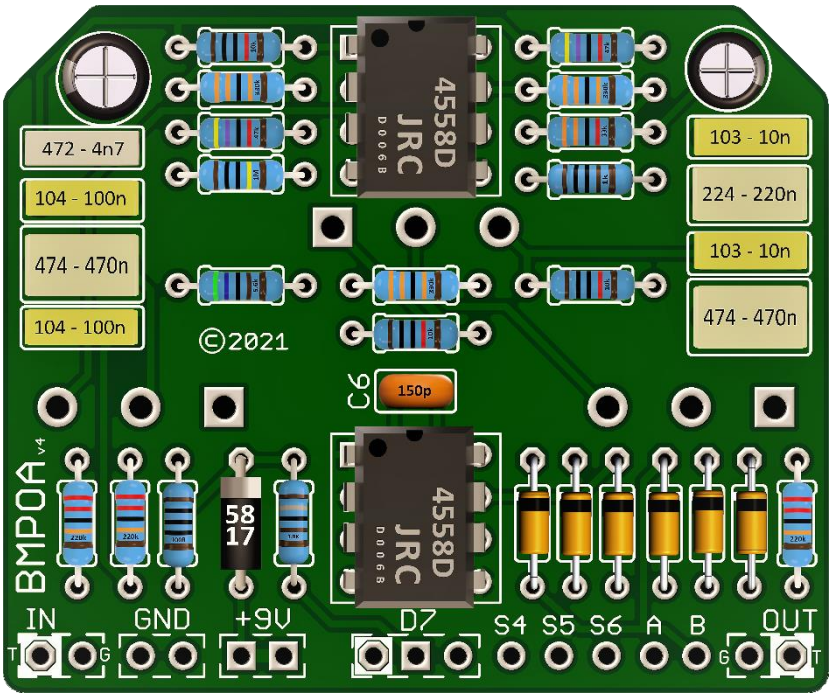






Drill Tips: Measure your components before selecting a drill bit. We recommend drilling the pot holes, mounting the pots in the enclosure, and then soldering the pots to the board. This approach should resolve the issue of the pots not fitting through the holes after soldering. We also recommend you make the holes for the pots a little larger than the threads in case you decide to remove the board and put it back in during the build, to avoid problems. Use this guide at your own risk. Make sure page scaling is turned off when you print this PDF, or the image above may be smaller than expected. Verify everything before drilling.

Populated Board Image for Troubleshooting

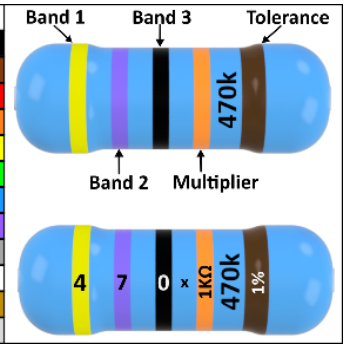


For more build guides and tutorials please visit the Guides Page at GuitarPCB.com
For specific build support please visit our dedicated Support Forum
Soldering Tutorial on YouTube

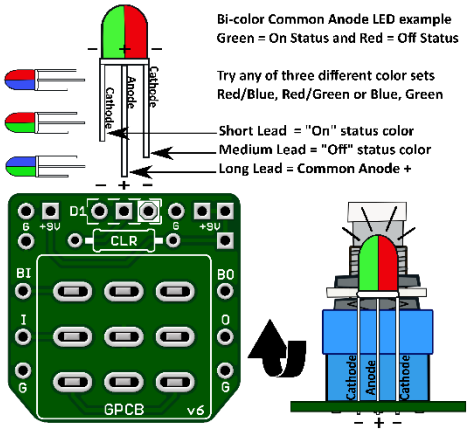
Need Kits - Check out our authorized worldwide distributors:

- **USA – Check out PedalPartsAndKits for all your GuitarPCB kit needs in the USA.**
- **Europe – Das Musikding Order either boards or kits direct from Europe.**
- **PedalPartsAustralia - Order either boards or kits direct from Australia**

COLOR	1st Band	2nd Band	3rd Band	Multiplier	Tolerance
BLACK	0	0	0	1Ω	
BROWN	1	1	1	10Ω	±1%
RED	2	2	2	100Ω	±2%
ORANGE	3	3	3	1KΩ	
YELLOW	4	4	4	10KΩ	
GREEN	5	5	5	100KΩ	±0.5%
BLUE	6	6	6	1MΩ	±0.25%
VIOLET	7	7	7	10MΩ	±0.10%
GREY	8	8	8	100MΩ	±0.05%
WHITE	9	9	9	1GΩ	
GOLD				0.1Ω	±5%
SILVER				0.01Ω	±10%



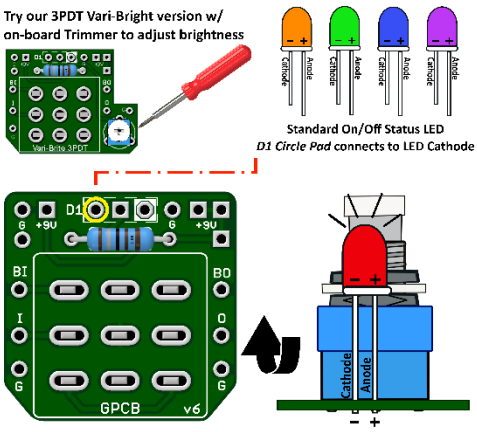
GuitarPCB Tip Sheet



Bi-color Common Anode LED example
Green = On Status and Red = Off Status

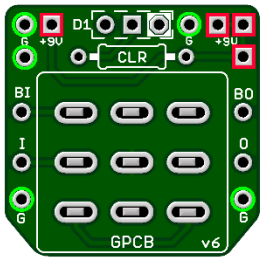
Try any of three different color sets
Red/Blue, Red/Green or Blue, Green

Short Lead = "On" status color
Medium Lead = "Off" status color
Long Lead = Common Anode +

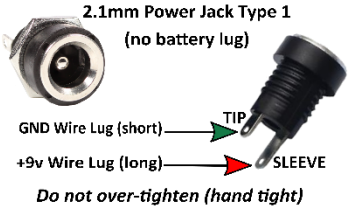


Try our 3PDT Vari-Bright version w/
on-board Trimmer to adjust brightness

Standard On/Off Status LED
D1 Circle Pad connects to LED Cathode



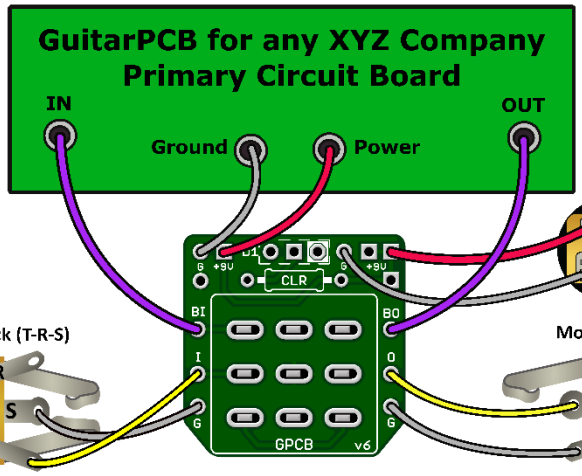
Green = Ground Pads (5)
Red = + 9v Power Pads (4)
D1 = LED Pads
CLR = Current Limiting Resistor
BI = From Main Board IN
BO = From Main Board OUT
I = To Jack Tip IN
O = To Jack Tip OUT

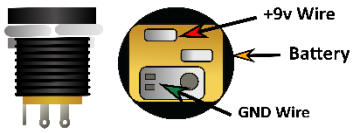


2.1mm Power Jack Type 1
(no battery lug)

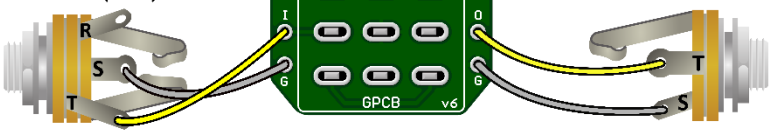
GND Wire Lug (short)
+9v Wire Lug (long)

Do not over-tighten (hand tight)





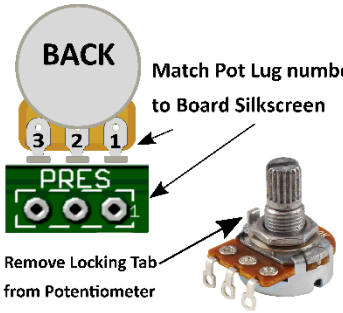
2.1mm Power Jack Type 2



T = Tip
R = Ring
S = Sleeve

T = Tip
S = Sleeve

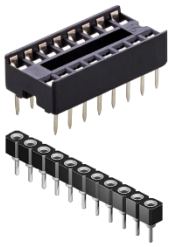
Multiple +9v and Ground Pads are convenient hookup points for additional circuits within the same enclosure. This also allows for diverse wiring schemes to suit indiviual needs.

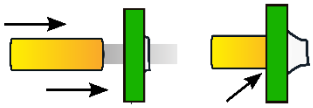


Match Pot Lug number
to Board Silkscreen

Remove Locking Tab
from Potentiometer

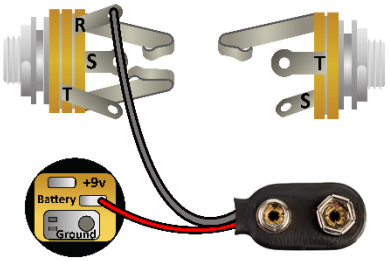
Sockets make troubleshooting easier





When soldering wire to a PCB
push the protective PVC jacket
flush with the board and pad.

Main Board IN/OUT Pads



Input/Output Jack Wiring

T = Tip | R = Ring | S = Sleeve

A Stereo Jack is only needed if using a Battery. Otherwise use a Mono Jack
Battery Strap RED wire is connected to Power Jack
Battery Strap Black wire is connected to RING (stereo jack)
If wiring an LED to our 3PDT Wiring Board then S4, S5 & S6 are not needed