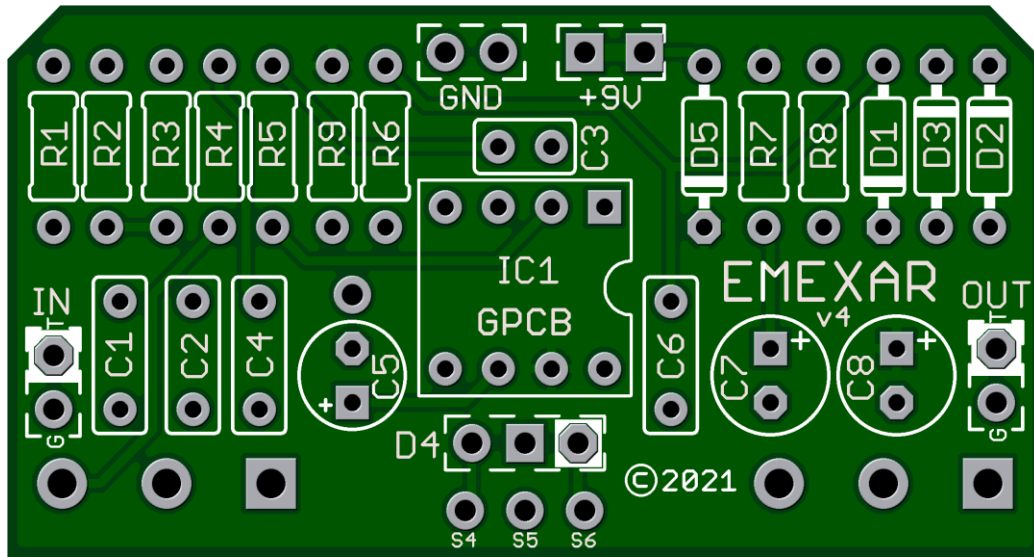


Emexar v4 2021

Emexar is based on the MXR Distortion+ or DOD250. Build either of these circuits stock, or Mod them to suit your needs. These also work great for Bass guitar! Add a Tone TwEQ and make it BADASS.



Board Dimensions (W x H) 1.95 x 1.03 inches

Part	MXR Value	DOD Value
R1	1M	2M2
R2	10k	—
R3	1M	470k
R4	4k7	—
R5	1M	—
R6	10k	—
R7	1M	—
R8	1M	—
R9	1k8	—

Part	MXR Value	DOD Value
C1	1n	Empty
C2	10n	—
C3	10p	—
C4	47n	—
C5	1u	4u7
C5 XPAD	Extra Pad	
C6	1n	—
C7	1u	—
C8	4u7	—

Part	MXR Value	DOD Value
D1-D2	1N34A	1N4148
D3	Jumper	—
D4	Status Led	—
D5	1N5817	—
VOL	A100k	—
GAIN	C500k	—
IC1	LM741	—

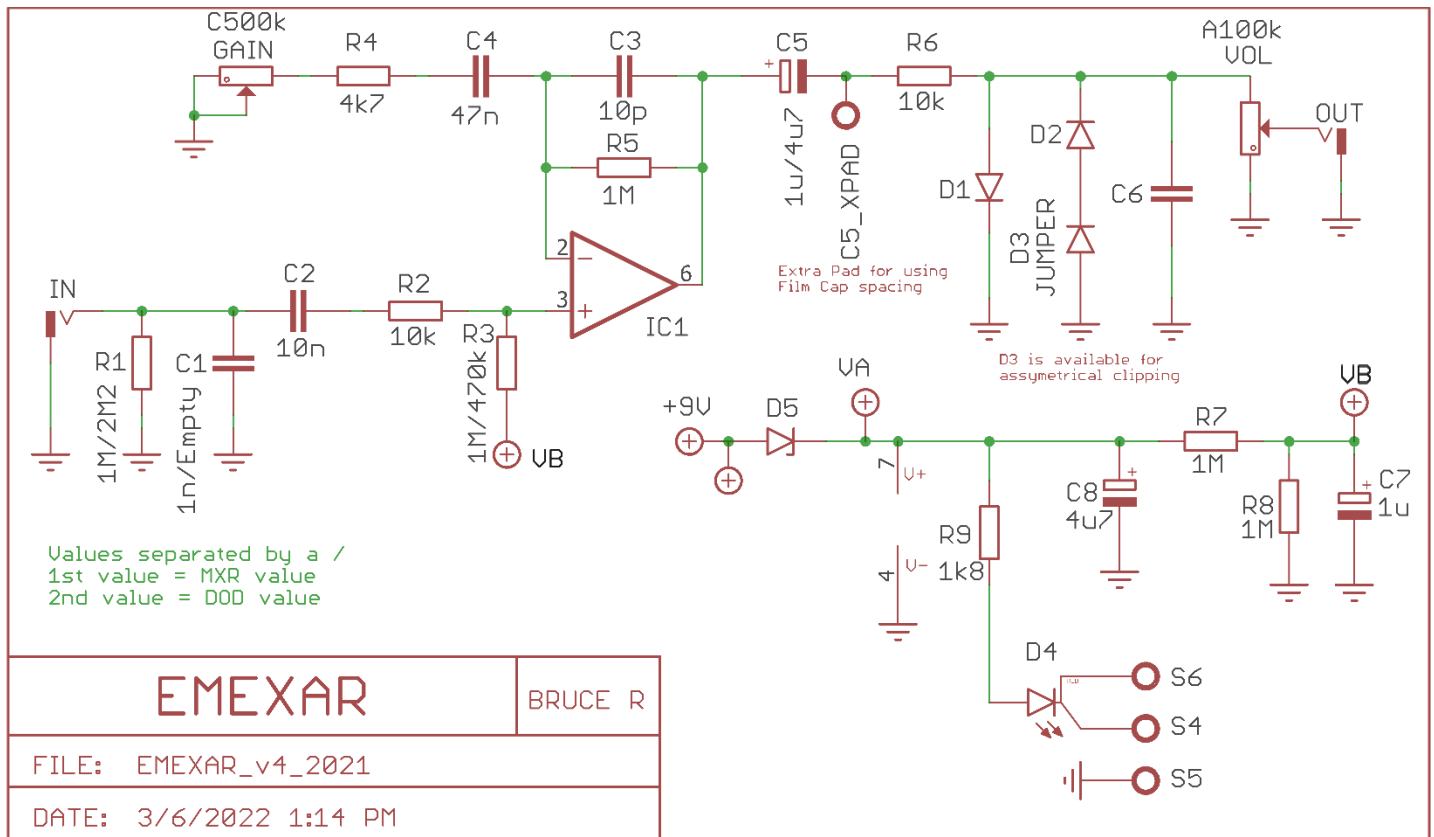
STATUS LED

*D4 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.
- Larger off-board wiring pads.
- Added extra +9v and Ground pads for “Combo Builds” allowing for easy wiring options.
- Two distinct versions available (Distortion + or DOD250). Easy to follow instructions.

SCHEMATIC

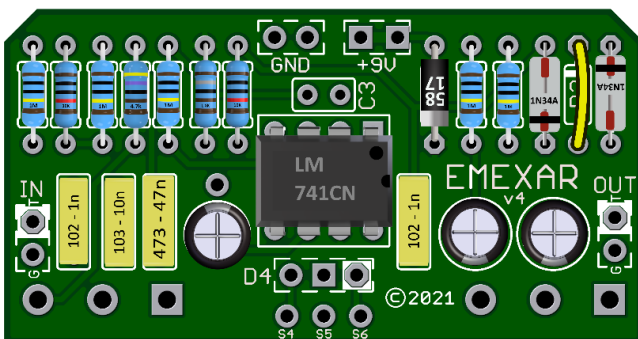


Build Notes

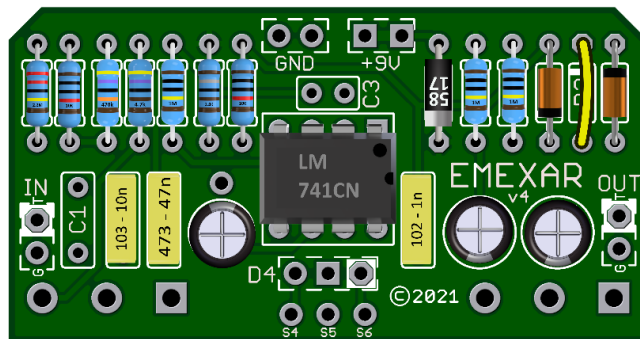
- If you are making a Distortion+™ work-alike, for component C5, you may use an electrolytic capacitor, or a poly film box capacitor using the bottom C5 pad, and the extra pad above C5.
- C1 which is marked empty on the schematic for the DOD250 build is simply left unpopulated.
- D3 is purposefully has a jumper in both builds. It is there for trying different clipping options. For example, populating D1 and D2 with Germanium and Silicon in series will produce a unique tone with more available volume or gain. Try adding a Diode at D3 for asymmetrical clipping. Adding an LED at D3 will produce a fatter crunch.
- Bass Mod: Change two capacitors to open up the bass response. Change C2 and C4 to anything between 100nF and 220nF.
- Super Bass Mod: Use our Buff N Blend circuit on your 3PDT foot switch to Blend in additional clean Bass response.
- Micro Amp Mod: Page 4
- For tonal superiority incorporate our Toner TwEQ 3 Band Active EQ to further enhance the EQ and Boost of this classic.

Note: Mods are not included with kits. Please discuss with Kit reps.

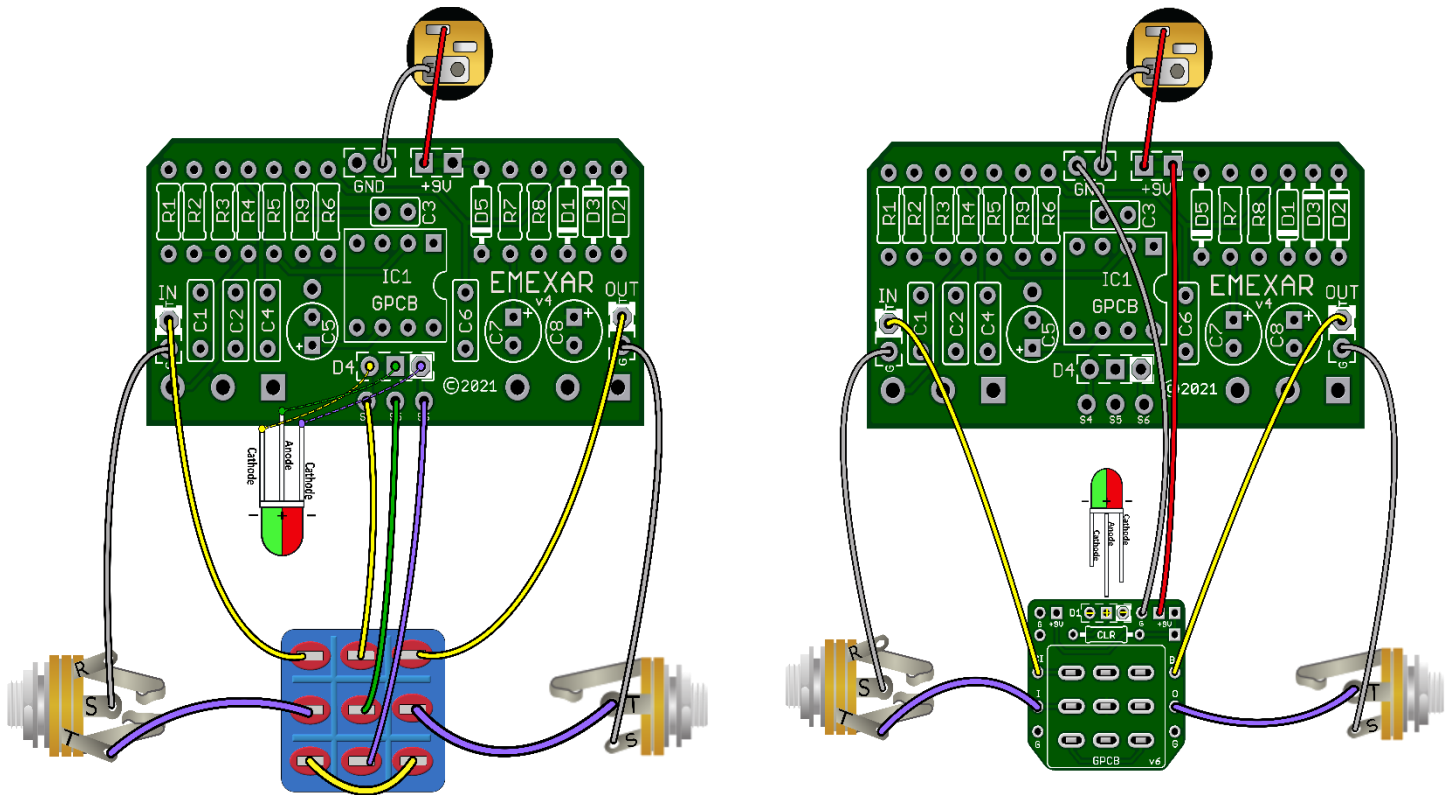
Distortion +



DOD 250



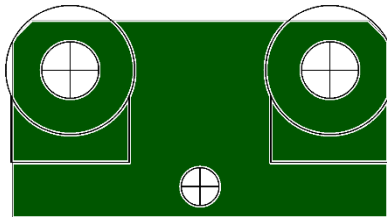
Wiring Diagram



If you are using our 3PDT board, you should omit wires and parts from S4, S5 & S6, D4 and R9 (CLR). The CLR and LED will be populated on the 3PDT board instead.

DRILLING GUIDANCE FOR POTS and LED

We suggest you print this and use as a template for drilling your enclosure. When printed, the green border of the board should measure 1.95 x 1.03 inches



Hole diameters are not exact in this image, so please 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. Be sure to make sure page scaling is turned off when you print this PDF, or the image above may be smaller than expected.

Need Kits - Check out our authorized worldwide distributors:

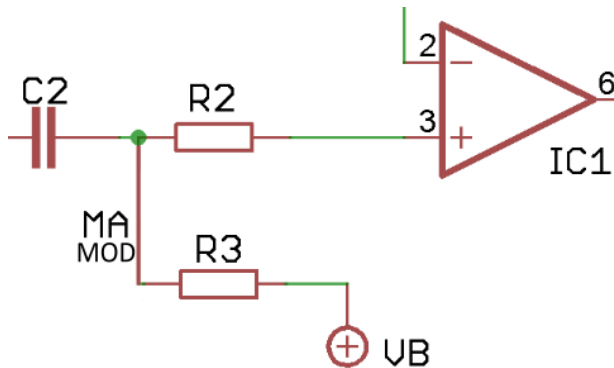
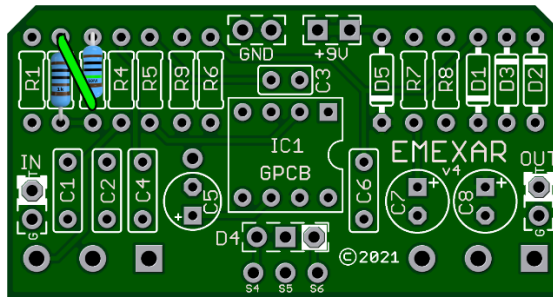
- **USA** – Check out [PedalPartsAndKits](#) for all your GuitarPCB kit needs in the USA.
- **Europe** – [Das Musikding](#) Order either boards or kits direct from Europe.
- [PedalPartsAustralia](#) - Order either boards or kits direct from Australia

Micro Amp Mod:

Use the Micro Amp values.

Populate R2 and R3, but do not place the bottom R3 lead into the pad. Instead, fold it back and solder it to the top lead of R2, and clip off the extra. This is a simple procedure to use since v4 does not include the extra MA pad on v3.

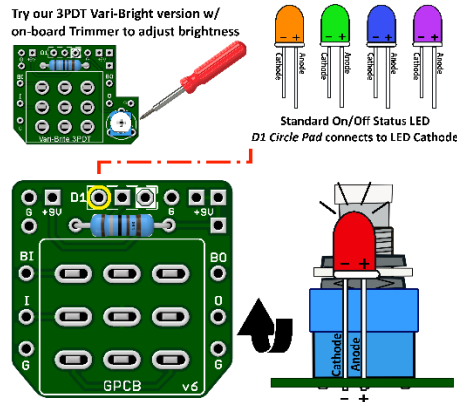
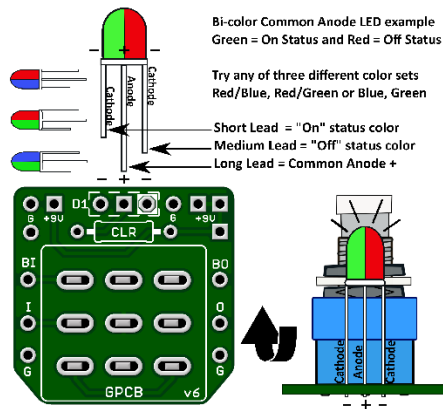
MicroAmp™	
Part	Value
R1	10M
R2	1k
R3	10M
R4	2k7
R5	56k
R6	470R
R7	100k
R8	100k
R9 (CLR)	1k8 – 4k7
R10	1N4001
D1	Nothing
D2	Nothing
D3	Nothing
D4	Bi-color CA LED
C1	Nothing
C2	100n
C3	47p
C4	*4u7
C5	15u
C6	Nothing
C7	1u
C8	Nothing
GAIN	C500k
VOL	*10k fixed resistor



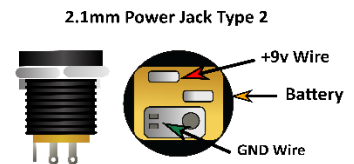
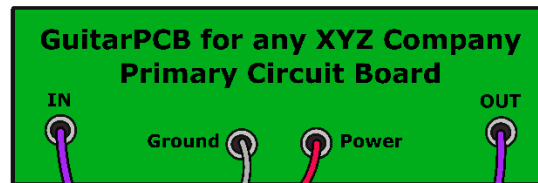
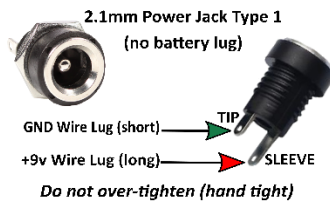
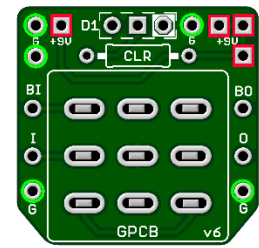
*The MicroAmp™ has a single Level control. Use a fixed 10k resistor soldered between "Volume" pads 1 and 2, and a jumper between pads 2 and 3.



GuitarPCB Tip Sheet

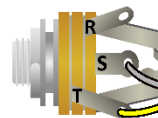


- Green = Ground Pads (5)
- Red = +9v Power Pads (4)
- D1 = LED Pads
- CLR = Current Limiting Resistor
- BI = From Main Board IN
- BO = From Main Board OUT
- I = To Jack Tip IN
- O = To Jack Tip OUT

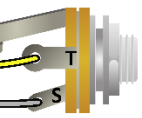


T = Tip
R = Ring
S = Sleeve

Stereo Jack (T-R-S)

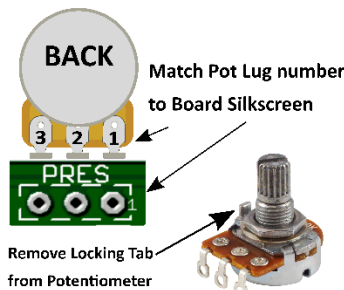


Mono Jack (T-S)

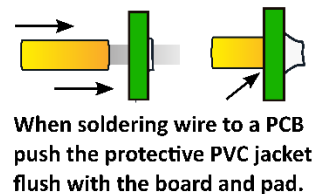
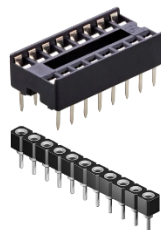


T = Tip
S = Sleeve

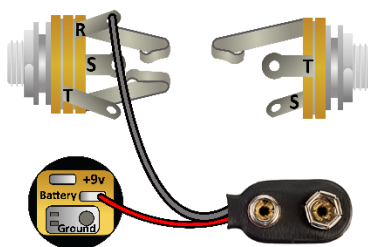
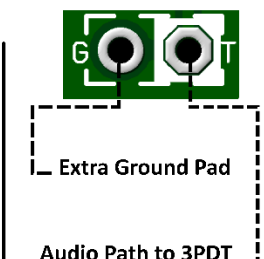
Multiple +9v and Ground Pads are convenient hookup points for additional circuits within the same enclosure. This also allows for diverse wiring schemes to suit individual needs.



Sockets make troubleshooting easier



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



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