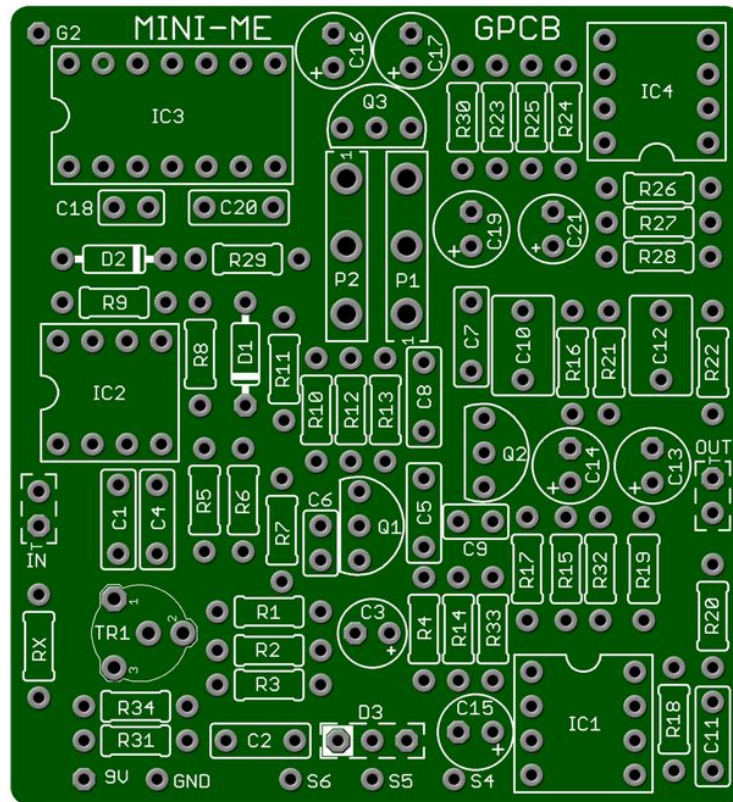


## Mini-Me Chorus Build Instructions

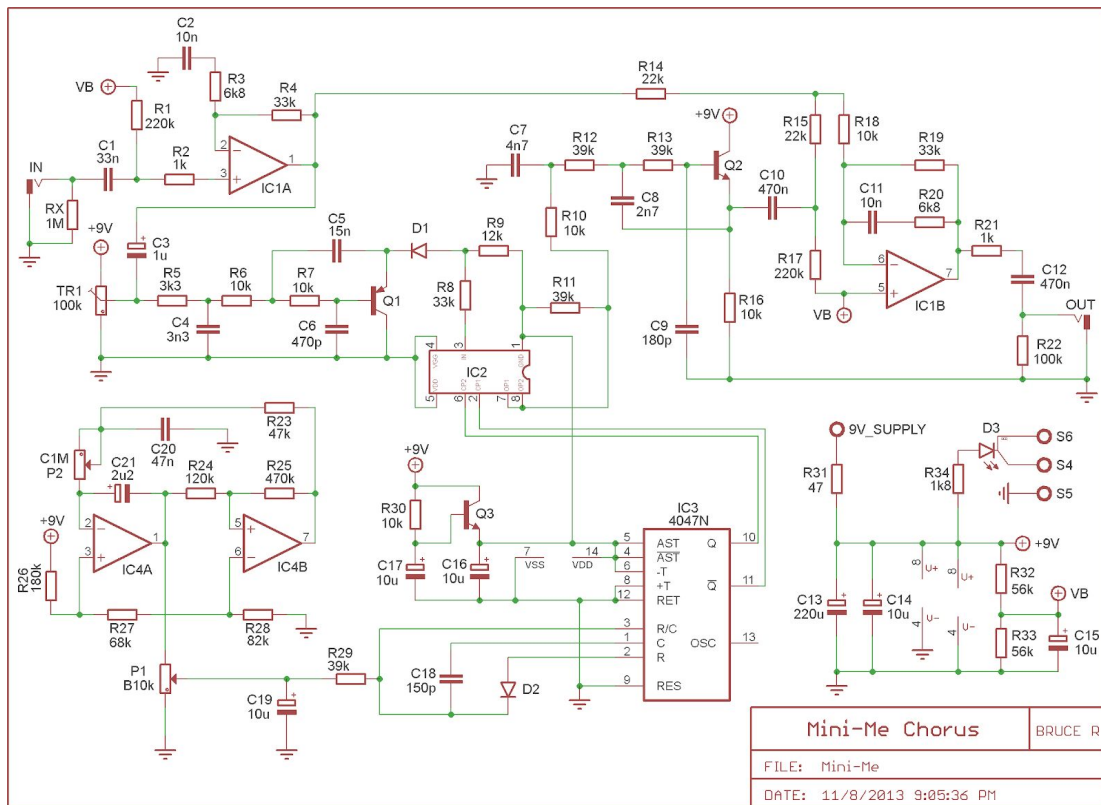
This compares to the popular Small Clone™ chorus, but includes modifications. The major difference between this circuit and the commercial pedal on which this is based is the addition of a depth knob, which provides more flexibility than the original commercial pedal, which only had a depth selector switch. Even better the circuit is isolated into two parts, each separately grounded for the sole purpose of noise free operation compared to similar offerings. This requires you to connect both ground pads labeled: GND and G2.



Board Dimensions (W x H) 2.08 x 2.32 inches, i.e.: 54 x 59mm. We recommend a 125B enclosure or larger for beginners.

### IMPORTANT NOTES

- **This board has 2 separate ground planes** to prevent audible clock noise. **Both ground planes need to be connected**, preferably to the main source ground (especially for G2). Please make sure that pads GND and G2 are both grounded.
- The MN3007 IC is no longer produced. eBay has many international sellers of these chips also. There has been some debate over whether these IC's are "genuine Motorola" or knock-offs. We recommend you purchase from Small Bear USA and remind you that if you purchase from eBay, proceed (at your own risk) with caution as they are now heavily counterfeited.. GuitarPCB.com does not endorse any eBay or Asian sellers or make any guarantee that you'll get working IC's from them.
- Please note that the CoolAudio 3207 IC has slightly different voltage requirements and is incompatible with this board.
- This board has 16mm PCB-mounted potentiometers, which mount to the underside of the board. We highly recommend that you mount the pots in your drilled enclosure, and then fit the board onto the pots, and solder them together. Absolutely do not solder the pots to the board and then force the pots into the holes, or you may break the circuit board. If you prefer, you may also use wired pots and arrange them knobs in your enclosure to suit your personal preferences.
- The trimmer potentiometer is for biasing the output of IC1A and should be adjusted by ear until the chorus effect is most pronounced. On our builds, this was a little to the left of center.



## PART LIST

Part	Value
D1	1n914
D2	1n914
Rx	1M
R1	220k
R2	1k
R3	6k8
R4	33k
R5	3k3
R6	10k
R7	10k
R8	33k
R9	12k
R10	10k
R11	39k
R12	39k
R13	39k
R14	22k
R15	22k
R16	10k
R17	220k
R18	10k
R19	33k
R20	6k8

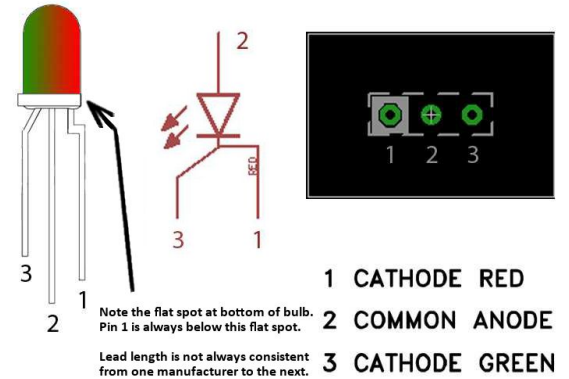
Part	Value
R21	1k
R22	100k
R23	47k
R24	120k
R25	470k
R26	180k
R27	68k
R28	82k
R29	39k
R30	10k
R31	47 ohm
R32	56k
R33	56k
R34	1k8 (CLR)
IC1	4558
IC2	MN3007
IC3	CD4047
IC4	LM358N
Q1	2N5087
Q2	2N5088
Q3	2N5088
C1	33n
C2	10n

Part	Value
C3	1u
C4	3n3
C5	15n
C6	470p
C7	4n7
C8	2n7
C9	180p
C10	470n
C11	10n
C12	470n
C13	220u
C14	10u
C15	10u
C16	10u
C17	10u
C18	150p
C19	10u
C20	47n
C21	2u2
P1	DEPTH: B10k
P2	RATE: C1M
TR1	100k (see text)
D3	Bi-Color CA LED (see text)

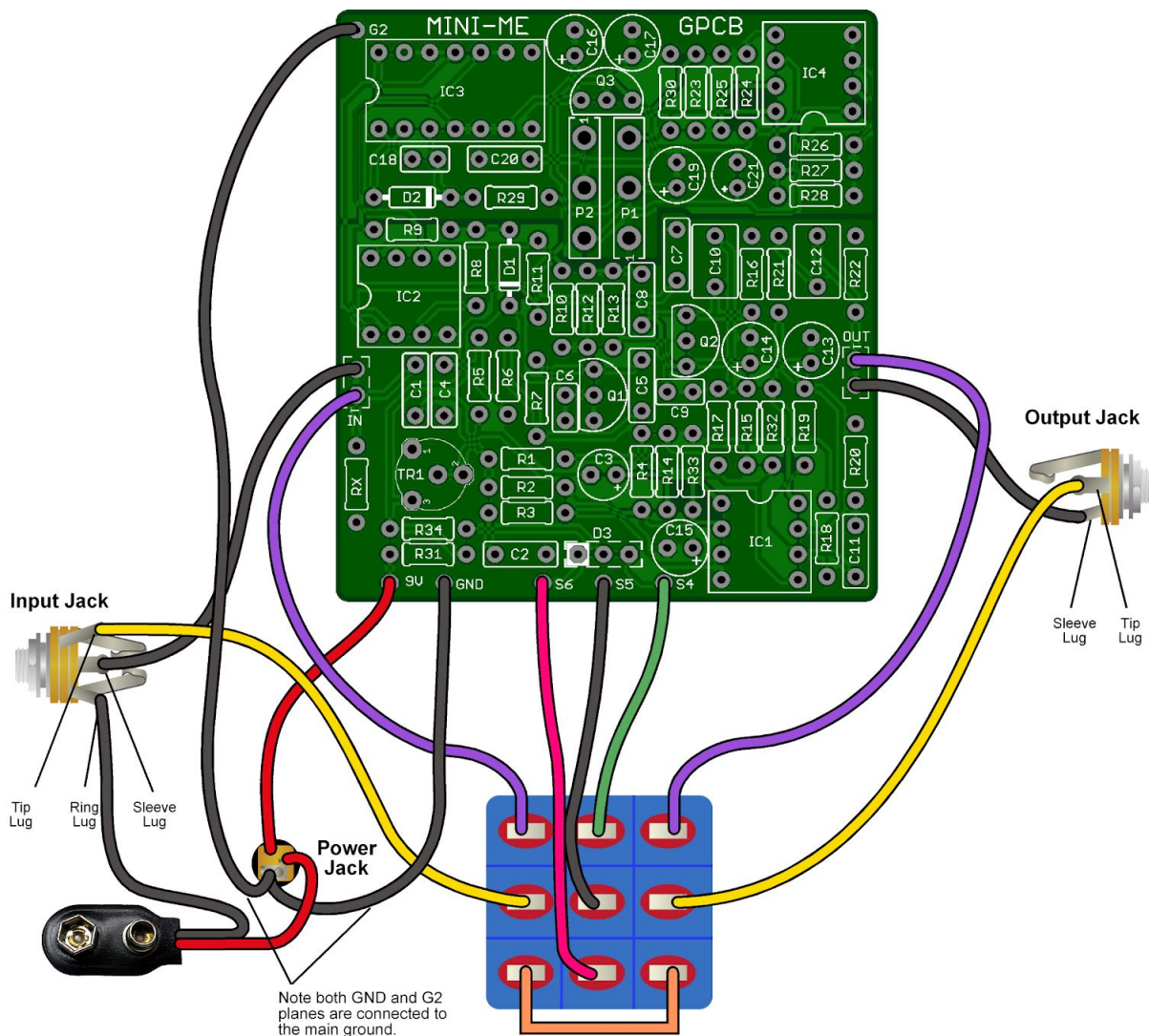
## STATUS LED

D3 is a common anode bi-color LED. The diagram at right shows the pin-out, schematic symbol and pad connection for a common anode LED. The pin-out for the bi-color LED is typically (but not always) as follows: The lead 1 pad on the circuit board is marked with a white box.

When connected correctly, the LED will light red when power is applied and the circuit is in bypass mode. The LED will light green when in effects mode. **If you wish to use a standard LED, connect the anode to the middle pad and the cathode to the right (non-white) pad to show the circuit in effects mode.** If you use a 3PDT wiring board that includes an LED, you can omit this LED and R34, R34 is the LED's CLR.

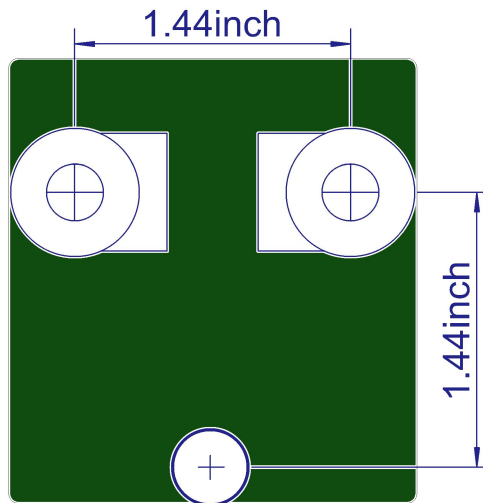


## WIRING DIAGRAM



## DRILLING GUIDANCE FOR POTS and LED

When printed, the border of the board should measure 2.08 x 2.32 inches, i.e.: 54 x 59mm.



Note: Only Drill the LED hole shown above if you plan to use the status LED on the Mini-Me circuit board!

This drawing shows the spacing between centers of the pots, and the distance of the LED pads from the center of the pots. 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.

For troubleshooting purposes we have provided proper voltages below of a working circuit as well as the audio path in the schematic

Source: 9.13v

IC1 – 4558 (pins)

1- 4.40	8- 8.75
2- 4.40	7- 4.39
3- 4.29	6- 4.40
4- 0.00	5- 4.38

IC2 – MN3007 (pins)

1- 8.11	8- 4.40
2- 4.04	7- 4.40
3- 4.33	6- 4.03
4- 0.00	5- 0.00

IC3 – CD4047BE

1- 8.09	14- 8.11
2- 0.09	13- 7.97
3- 7.25	12- 0.00
4- 8.25	11- 4.10
5- 8.25	10- 4.09
6- 8.25	9- 0.00
7- 0.00	8- 0.00

IC4 – LM358P (pins)

1- 2.62*	8- 8.75
2- 4.03	7- 2.62*
3- 3.80	6- 2.18
4- 0.00	5- 2.62*

\*voltage swings up then down-oscillates

Source: 9.13v

Q1 – 2N5087(PNP)

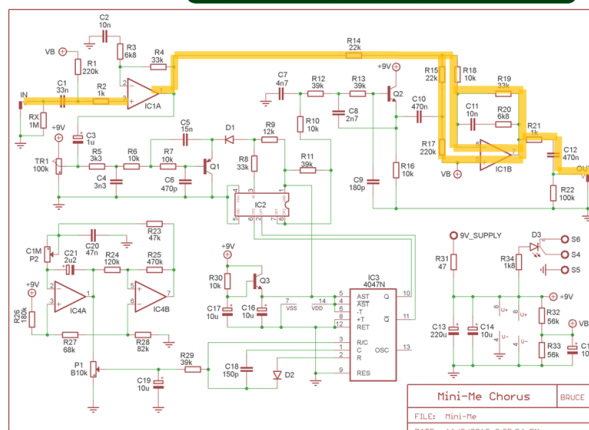
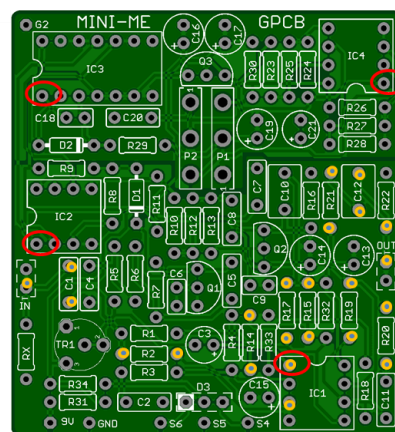
E- 3.60	
B- 3.10	
C- 0.00	

Q2 – 2N5088(NPN)

E- 3.66	
B- 4.23	
C- 8.65	

Q3 – 2N5088(NPN)

E- 8.08	
B- 8.70	
C- 8.76	

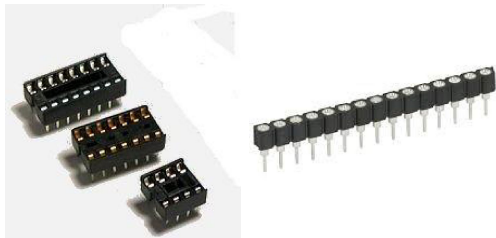


**GUITAR PCB**  
**MINI-ME CHORUS**





**IC's and transistors are easily damaged by heat from soldering and should never be directly soldered to the PCB.** For transistors, diodes, and LED's, use SIP (Single inline package) sockets. You simply cut the number of sockets required with an Exacto / Stanley knife or by gripping and rocking with pliers. This allows for easy changes and troubleshooting.



### [Soldering Tutorial on Youtube](#)

**Need a kit? 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**

**If they do not have a KIT listed send them a note asking if they can help you out.**



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