

GOD CITY INSTRUMENTS – BLM V1.1 Build guide

The God City Instruments BLM is a NPN fuzz based loosely on Tone Bender and Rangemaster circuits. It is sold as a fund raiser for organizations working towards racial justice.

This pedal is an easy build, but this guide is intended for people who have some experience building pedals. Component sourcing, component identification, assembly techniques, wiring stomp switches, etc. is not covered. The GCI Brutalist Jr. assembly guide has helpful information for less experienced builders. That guide can be found here:

<http://www.kurtballou.com/brutalistjr/>

A complete parts kit is not available at this time, but check this Google sheet for ordering information from many parts used in this PCB. It lists one possible brand and supplier for all parts commonly used by GCI, but many other brands and suppliers will work just as well.

docs.google.com/spreadsheets/d/1gRTF1VFbeBc9FX1ohjrtKPWfhw_TVHnxki03l3m7lcU/edit?pli=1#gid=27209130

Available separately is the GCI 3PDT utility PCB for PCB pin 3PDT footswitches. This PCB makes footswitch wiring quick and easy. Not compatible with solder lug style switches.

Don't forget to connect the ground pad of the PCB to the ground lug of the input, output, and DC power jacks! And the long leg of the status LED should go through the square pad.

Due to the scope of this project, technical support is not available. However, consider joining the GCI DIY PCB Builders group on Facebook to get advice from and share your work with other builders. We require that all group members agree to the rules before being accepted into the group.

<https://www.facebook.com/groups/2454786551255317/>

Component values for the PCB as well as some alternate values are listed below. This is a BOM for the PCB only. Resistors and diodes are 6.3mm leg spacing, film and ceramic capacitors are 5.08mm leg spacing, and electrolytic capacitors are 2.54mm leg spacing. I/O jacks, DC jack, switch, enclosure, and knobs are not listed. The schematic and a drill template for a 125B (1590N1) sized enclosure are also attached.

Part	Value	Description	Subsitute	Substitution Notes
C1	100p	MLCC	none-220p	Smoothes gain from Q1, Q2.
C2	1n	Film cap	680p-2.2n	Bright side of range control.
C3	22n	Film cap	10n-47n	Dark side of range control.
C4	2.2n	Film cap	1n-4.7n	Treble bypass. Makes tone brighter at low gain.
C5	0.22u	Film cap		
C6	1u	Film cap		
C7	10u	Electrolytic Cap	1u-47uf	Bypass cap. Increases gain of Q2
C8	47u	Electrolytic Cap	22u-100uF	Power filter
D1	1n34a	Germanium diode	germanium	bias diode
D2	5817	Schottky diode	1n5818, 1n4001	Any suitable polarity protection diode
LED	L1	3mm LED		
Q1	2n2222a	TO-18 transistor	2n708, 2n4401, 2n1306, BC108	HFE of 80-250 works well.
Q2	2n2222a	TO-18 transistor	2n708, 2n4401, 2n1306, BC108	HFE of 80-250 works well.
Q3	2n5088	TO-92 transistor	2n3904, 2n4401	HFE of over 250 works well.
CLR	4.7k	1/4 watt resistor	1k-10k	Current limiting resistor
R1	68k	1/4 watt resistor		
R2	330k	1/4 watt resistor		
R3	10M	1/4 watt resistor		
R4	10k	1/4 watt resistor		
R5	10k	1/4 watt resistor		
R6	10k	1/4 watt resistor		
R7	33k	1/4 watt resistor		
R8	470k	1/4 watt resistor		
R9	27k	1/4 watt resistor		
R10	3.3k	1/4 watt resistor		
FUZZ	A100k	POT16MM		
RANGE	C500k	POT16MM		
LEVEL	A100k	POT16MM		
S	PAD	send to PCB		
L+	PAD	LED+		
L-	PAD	LED-		
R	PAD	return from PCB		
V	PAD	9V input		
G	PAD	ground		

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 BLACK LIVES MATTER V1.1
 Kurt Ballou 2020



