

GOD CITY INSTRUMENTS – Stockwell V1.1 Build guide

The God City Instruments (GCI) Stockwell is an active mid-range EQ Wien bridge topology inspired by the Boss MT-2's mid control and provides approximately 15db of boost or cut sweepable between 200 Hz and 8 kHz. Use it before a dirt circuit to affect its timbre, clarity, and harmonic content or after a dirt circuit to provide a wide range of equalization possibilities with just two simple controls. It can be built as a stand-alone pedal or used as a mod to add EQ control to another circuit.

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/>

For your convenience, complete parts kits including everything you need except the PCB can be purchased through Small Bear Electronics. Be wary that they may need to make substitutions for work-alike components which may or may not influence the tone of the pedal. Be aware that transistors may have been substituted for work-alikes with different pinouts.

<http://smallbear-electronics.mybigcommerce.com/kit-stockwell-v1-1-pcb-not-included/>

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!

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	Substitute	Substitution Notes
C1	1u	Film cap		
C2	0.1u	Film cap	22n-0.22u	Input cap
C3	1u	Film cap		
C4	1u	Film cap		
C5	100p	Ceramic cap		
C6	0.22u	Film cap		
C7	0.1u	Film cap		
C8	0.1u	Film cap		
C9	100u	Electrolytic cap		
C10	100u	Electrolytic cap		
D1	1n5818	Schottky diode	1n5817, 1n4001, bat41	Any suitable protection diode for 9v
LED	L1	3mm LED		
R1	150k	1/4 watt resistor	100k-1M	Bigger increases input gain. Should be equal or greater than R2.
R2	100k	1/4 watt resistor	100k-470k	Sets input impedance and gain, along with R1
R3	2.2M	1/4 watt resistor	1M	Pull down resistor
R4	100k	1/4 watt resistor		
R5	1k	1/4 watt resistor		
R6	10k	1/4 watt resistor		
R7	10k	1/4 watt resistor		
R8	1M	1/4 watt resistor		
R9	100R	1/4 watt resistor		
R10	100R	1/4 watt resistor		
R11	4.7k	1/4 watt resistor		
R12	4.7k	1/4 watt resistor		
R13	1k	1/4 watt resistor		
R14	1k	1/4 watt resistor		
CLR	4.7k	1/4 watt resistor	1k-10k	Current limiting resistor for LED.
IC1	TL071P	OP AMP		
IC2	TL072	Dual OP AMP	TLE2072, LM833, NE5532, etc	Any pin-compatible dual op amp.
FREQ	B10K	16mm dual pot		
MID	B10K	16mm potentiometer		
S	PAD	Send to PCB		
L+	PAD	LED+		
L-	PAD	LED-		
R	PAD	Return from PCB		
V	PAD	9v in		
G	PAD	Ground		



