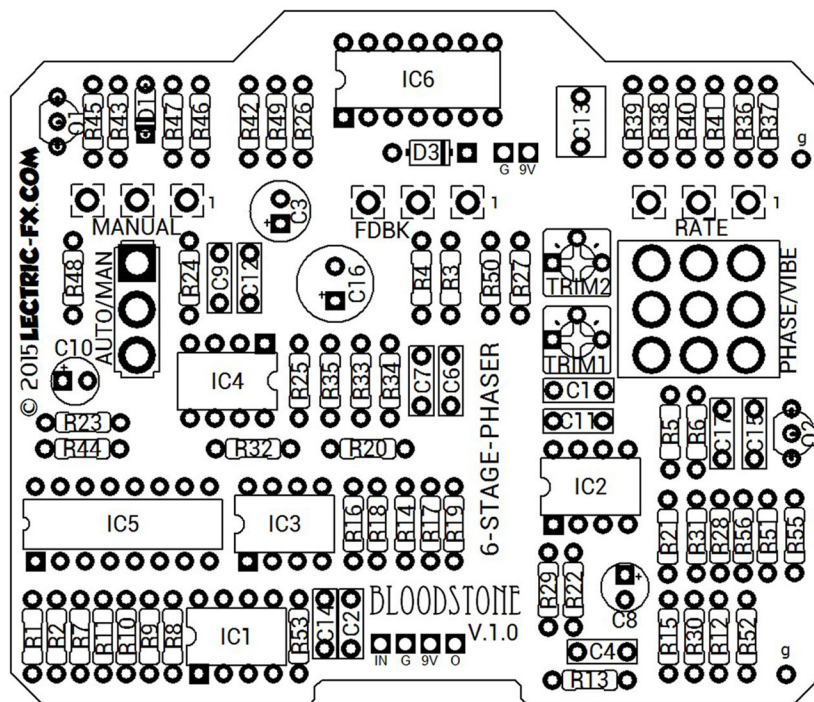


BLOODSTONE V.1.0

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6-Stage Phase Shifter with Vibrato



The Bloodstone project is based on the vintage model EHX Bad Stone™ Phaser. It includes true bypass switching, an auto/manual switch and of course the phase/vibrato switch of the old unit. We have added a clean boost on the output along with 2 individual internal trimmers so the volume of each mode (Phaser/Vibrato) can be tailored to preference.

So just build it, set & forget your 2 volume trimmers, and start playing. There is nothing to bias, and no JFETs to match.

PLEASE take special care when soldering in the 3pdt Phase/Vibrato switch. It can very easily be installed incorrectly, and it can be difficult to de-solder without damaging the pcb. Both switches should toggle in the same direction, up & down. That means the lugs on each should be going in the same direction.

IC5 is a CD4009UBE. It is said that CD4049UBE (unbuffered) can also be used, but your sweep may stay in the lower frequencies for a bit longer. I assume it could be used in a pinch.

CONTROLS:

RATE: Controls the speed of the modulation/sweep.

FEEDBACK: Changes the amount of effected signal from output fed back through the input. At the highest settings it can even sound a bit "peaky" or "edgy".

MANUAL: This control is activated when the SPDT switch is flipped up to manual mode. It allows you to manually control the sweep.

AUTO/MANUAL SWITCH: Toggles from automatic sweep to manual sweep.

PHASE/VIBE (OR "COLOR") SWITCH: Toggles from Phase Shifter to Vibrato mode.

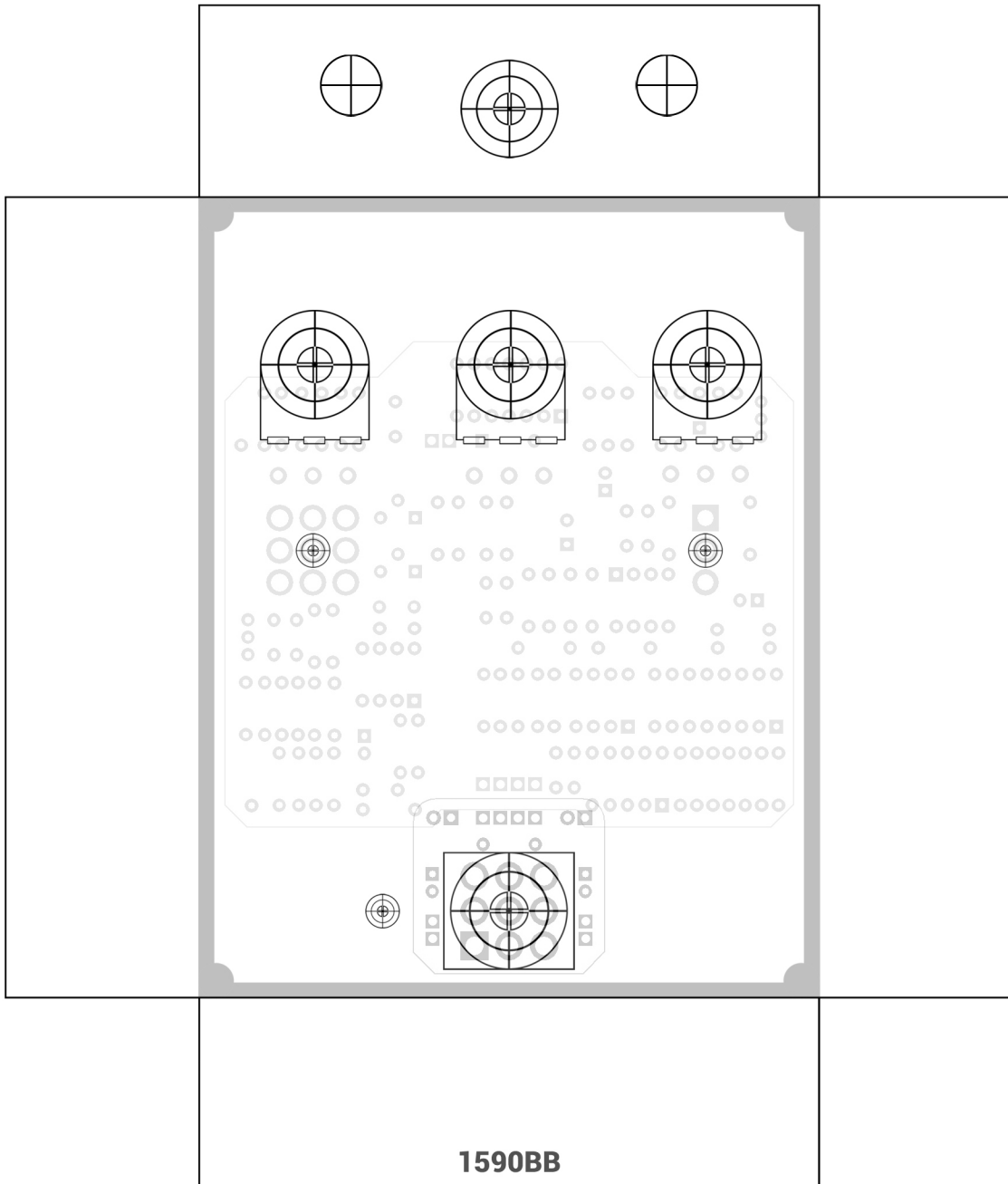
BILL OF MATERIALS

Part #	Value	Part #	Value	Count	Value	Count	Value
R1	150R	C1	47n	1	47R	7	47n
R2	4k7	C2	100n	1	82R	1	10n
R3	10k	C3	100u	1	150R	3	100n
R4	82R	C4	47n	1	330R	1	1u
R5	4k7	C6	47n	1	390R	1	1u Non-Polar
R6	330R	C7	47n	1	470R	1	10u
R7	100k	C8	10u	2	510R	1	100u
R8	4k7	C9	47n	2	1k	1	470u
R9	2k2	C10	1u	2	2k2		
R10	4k7	C11	47n	1	2k7		
R11	510R	C12	47n	1	3k3		
R12	4k7	C13	1u	16	4k7		
R13	4k7	C14	100n	2	6k8		
R14	4k7	C15	10n	6	10k		
R15	27k	C16	470u	1	15k		
R16	27k	C17	100n	11	27k		
R17	27k	D1	1n914	4	100k		
R18	4k7	D3	1N5817	1	1M		
R19	4k7			1	2M2		
R20	4k7	Q1	2N5088				
R21	3k3	Q2	2N5088				
R22	510R						
R23	27k	IC1	JRC4558				
R24	27k	IC2	JRC4558				
R25	10k	IC3	JRC4558				
R26	10k	IC4	JRC4558				
R27	1k	IC5	CD4009UBE				
R28	4k7	IC6	LM324				
R29	470R						
R30	4k7	AUTO/MAN	SPDT toggle				
R31	1k	COLOR	3PDT toggle				
R32	4k7						
R33	4k7	RATE	1MC				
R34	4k7	FDBK	100KB				
R35	4k7	MANUAL	100KB				
R36	27k						
R37	27k	TRIM1	100k				
R38	470R	TRIM2	100k				
R39	10k						
R40	2k7						
R41	27k						
R42	27k						
R43	6k8						
R44	6k8						
R45	10k						
R46	15k						
R47	100k						
R48	27k						
R49	100k						
R50	47R						
R51	100k						
R52	1M						
R53	2M2						
R55	10k						
R56	390R						

A second reminder! Be sure to solder your 3pdt COLOR switch in correctly!

Top Mount Drill Suggestion

Untested. No, seriously. *Untested.*



Side Mount Drill Suggestion

Untested. No, seriously. *Untested.*

