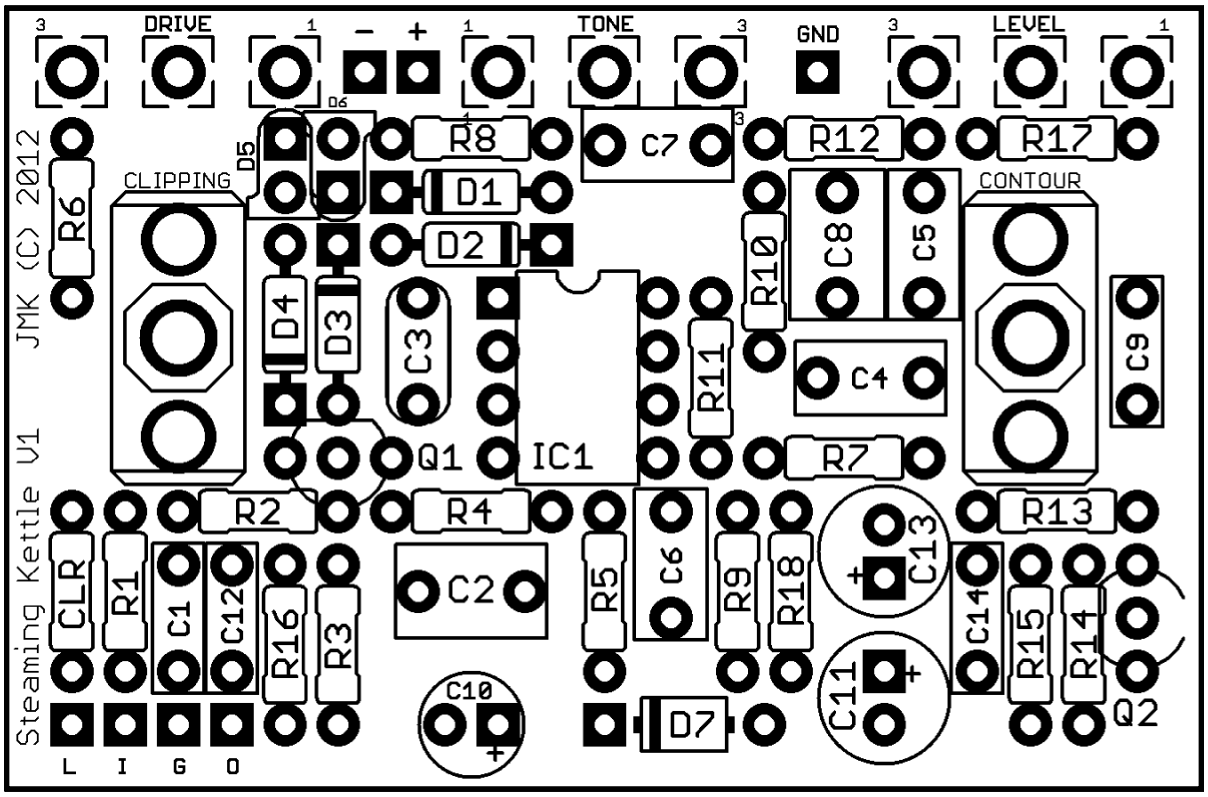
JMK PCBS PRESENTS...

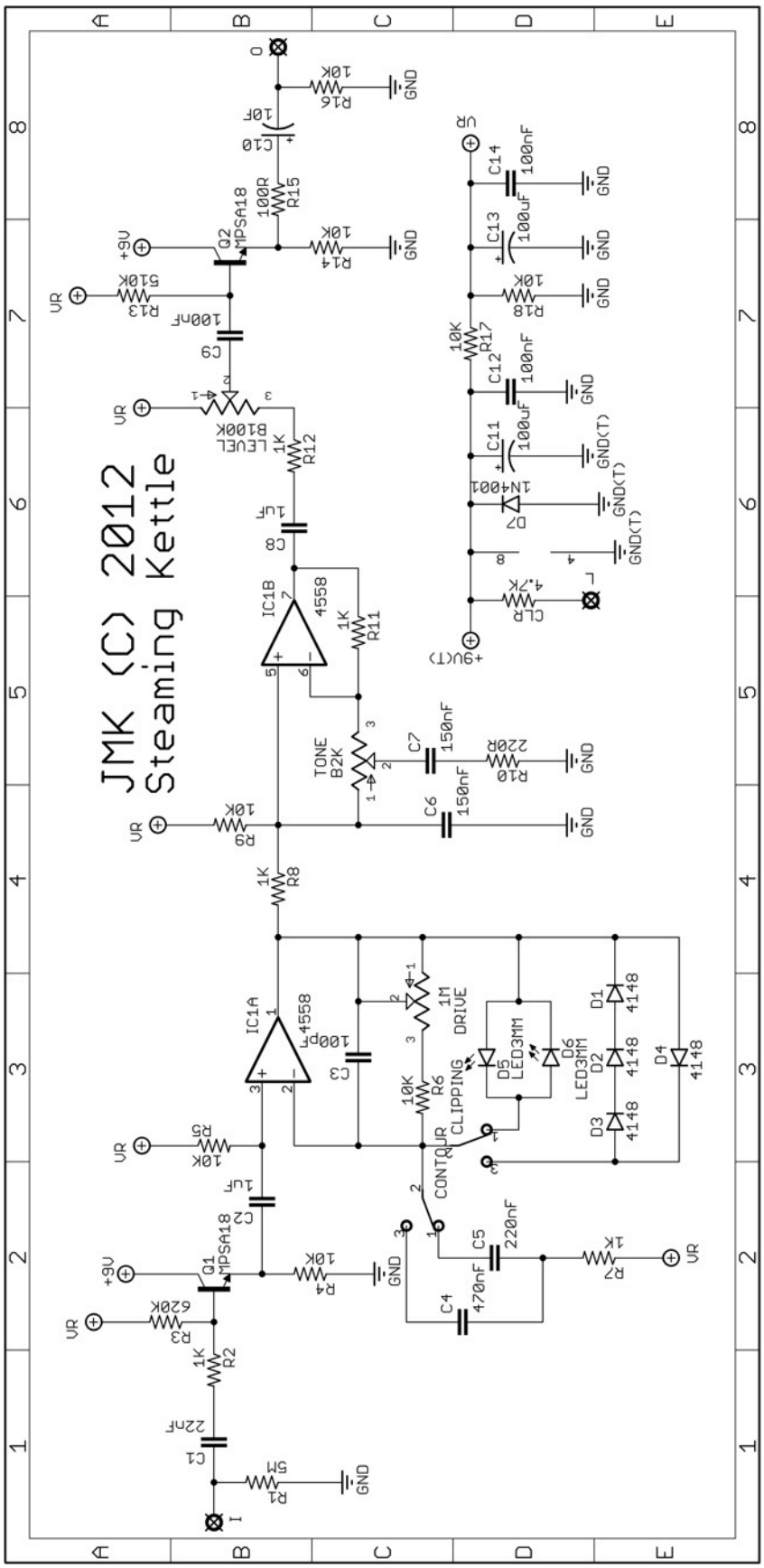
STEAMING KETTLE

PCB AND SCHEMATIC ARTWORK (C) 2012 JMK PEDALS

VERSION 1.1: 01/8/2013



Resistors				Capactitors				IC	
R1	4.7M	R11	1K	C1	22nF	C8	1uF	IC1	JRC4558
R2	1K	R12	1K	C2	1uF	C9	100nF	Potentiometers	
R3	620K	R13	510K	C3	100pF	C10	10uF*	DRIVE	A1M
R4	10K	R14	10K	C4	470nF	C11	100uF*	TONE	B2K
R5	10K	R15	100R	C5	220nF	C12	100nF	LEVEL	B100K
R6	10K	R16	10K	C6	150nF	C13	100uF*	Diodes	
R7	1K	R17	10K	C7	150nF	C14	100nF	D1-4	1N4148
R8	1K	R18	10K					D5, D6	3mm LEDs
R9	10K	CLR	4.7K	Transistors				D7	1N4001
R10	220R			Q1, Q2		MPSA18			



Build Notes

• The Steaming Kettle is a Rockbox Boiling Point clone, though the truth is that a Boiling Point is simply a clone of the classic Son-of-Screamer circuit, which is essentially a modified Tube Screamer circuit.

• The modifications applied to the Steaming Kettle make for an excellent Tube Screamer variation, and this PCB allows for a faithful replication of both the classic Tube Screamer circuit as well as the heavily modified version. If you'd like to build a fairly typical Tube Screamer, either the TS-9 or TS-808 circuit, you can compare the schematic of the version you'd like to build to the Steaming Kettle's schematic, and make the adjustments necessary. Consider socketing what seems to be the important parts and trying different values.

• Hooking up the PCB is pretty simple, but to clarify: L = the connection for the + end of an LED; I = PCB Input; G = Ground for the Switch; O = PCB Output; + = 9V input; - = Ground for DC Jack; GND = Extra Ground for 1/4" Jack

• **There is an error with V1 Steaming Kettle PCBs! The Drive pot is wired incorrectly. To correctly wire your Drive pot, wire lug 1 of your pot to pad 3 of the PCB, and wire lug 3 of the pot to pad 1 of the PCB.** This will mean you will not be able to use a PCB mount pot as expected unless you are willing to accept the reverse travel of the pot.

• Like with most overdrives, the IC is an integral part of the sound. Pretty much any Dual Op Amp can be used, but keep in mind that the pinout of the IC needs to be considered when installing. **We highly recommend socketing your IC and transistors!** Socketing allows you to switch your parts easily if you have installed them backwards, and also allows you to swap out and try other transistors to see which you like the best. Options to try for the IC include, but is not limited to: JRC4559, JRC4580, TL072, TL082, NE5532, LM1458, OPA2134, OP275, and TL2272.

• The clipping diode choices do not need to be 3mm LEDs and 1N4148s, though they are the stock types found in the Boiling Point. Consider trying many other types of diodes in those spots, including but not limited to: 1N34a, 1N270, 1N60, 1N914, BAT41, 1N4001, various LED colours and sizes, 2N7000 transistors arranged as diodes, and anything else you know that can be used as a clipping diode.

• The mods that are applied to this PCB include two toggle switches, each expected to be SPDT ON-ON types:

- The "Clipping" switch switches between a pair of LEDs and a set of diodes in the stock setup, however, you can use a ON-OFF-ON type for a third option of no clipping in the middle.
- The "Contour" switch chooses between C4 and C5 and affects the tone of the circuit. Consider socketing C4 and C5 and trying values as low as 100nF for C5 and as high as 1uF for C4.

True Bypass Wiring Diagram