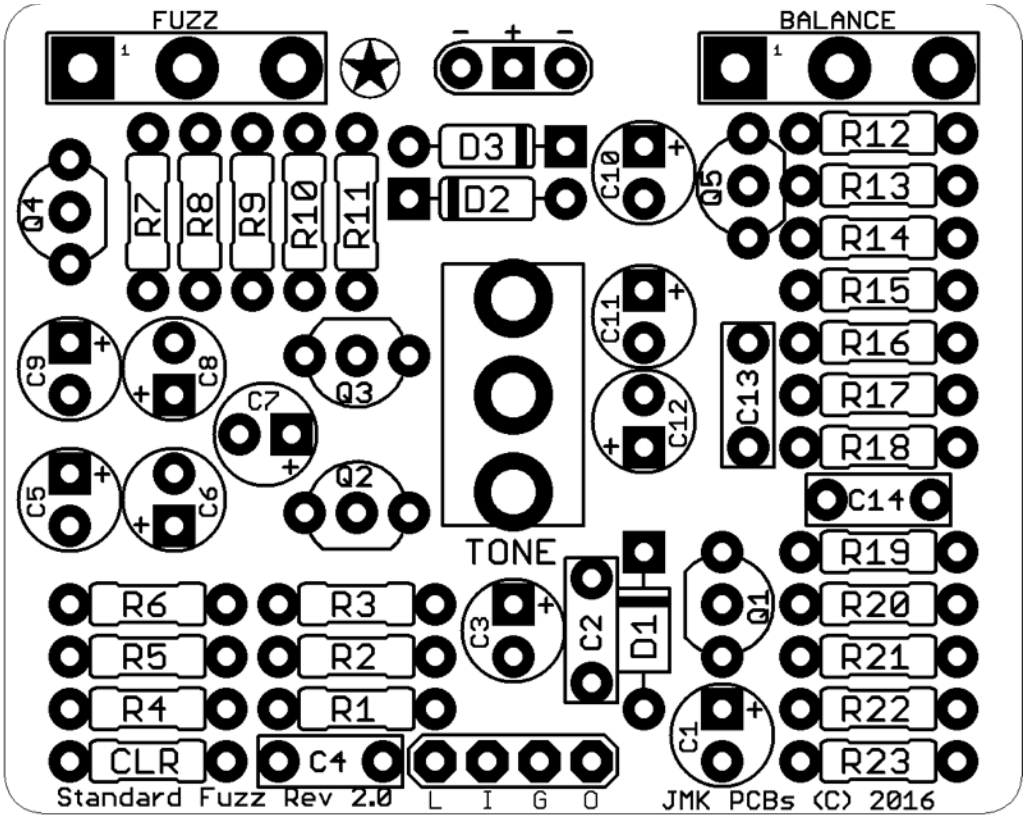
JMK PCBS PRESENTS...

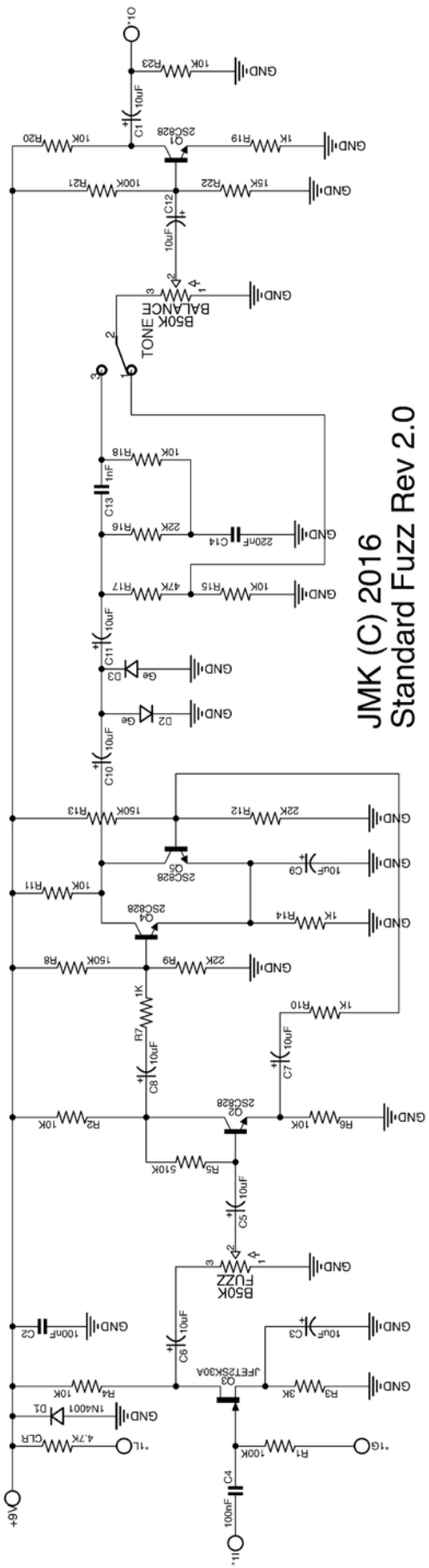
STANDARD FUZZ

PCB AND SCHEMATIC ARTWORK (C) 2016 JMK PCBS

VERSION 2.0: 11/19/2016



Resistors						Capacitors				Transistors	
R1	100K	R9	22K	R17	47K	C1	10u	C8	10u	Q1	2SK30A
R2	10K	R10	1K	R18	10K	C2	100n	C9	10u	Q2-Q5	2SC828
R3	3K	R11	10K	R19	1K	C3	10u	C10	10u	**Potentiometers**	
R4	10K	R12	22K	R20	10K	C4	100n	C11	10u	FUZZ	B50K
R5	510K	R13	150K	R21	100K	C5	10u	C12	10iu	BALANCE	B50K
R6	10K	R14	1K	R22	15K	C6	10u	C13	1n	**Diodes**	
R7	1K	R15	10K	R23	10K	C7	10u	C14	220n	D1	1n4001
R8	150K	R16	22K	CLR	4.7K					D2, D3	Ge
										Switches	
										TONE	SPDT



Build Notes

- The Standard Fuzz is a clone of the (in?)famous Ibanez™ pedal of the same name.
- Hooking up the PCB is pretty simple, but to clarify: L = the connection for the + end of an LED (CLR is R24); I = PCB Input; G = Ground for the Switch; O = PCB Output; + = 9V input; - = Ground for DC Jack; and there is an extra ground for an input jack
- It should be noted that there are several odd parts in the BOM for this project. Below are some common substitutes for these parts. You can find precise parts if you would like, ebay is a good source for the transistors as an example.

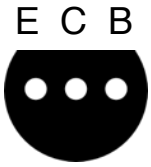
Part Number	Original Value	Common Substitute
Q1	2SK30A	2N5457
Q2-Q5	2SC828	2N3904
D1, D2	Unknown	1N34a

- Like with all Fuzz Pedals, the transistors matter for the right sound. In this case, the called for transistors are pretty much the same *sonically* to the common substitutes suggested below, however, the **pinouts are different**. This is why **we highly recommend socketing your transistors!** Socketing allows you to switch your transistors easily if you have installed them backwards, and also allows you to swap the pins if needed. See the diagrams below for the **typical** pinouts of these transistors.

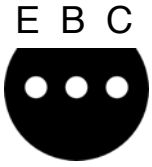
2SK30A

2N5457

2SC828



2N3904



- GAIN RANGES MATTER. The HFE ranges of the 2SC828 are quite a bit lower than typical NPN transistors. For example, it was some suggest that a 2N5088 would be fine for this circuit, but it's typical gain range is too high so it isn't actually a good choice, but the 3904 is better. Measure your transistors for an **HFE of 150 or lower**.
- The tone switch is classically installed as a foot switch. However, we have made this into a toggle switch for convenience, allowing you to easily fit this effect in a 125B (recommended) and potentially a smaller enclosure as well.
- If you find your pedal noisy, try using shielded wire on the output (and input) of the PCB. In particular, playing with the location of these wires in your enclosure may help.

True Bypass Wiring Diagram