

Sheepylove DS78R Build Doc

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It's woolly, it's greasy, it's Sheepylove.

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Sounds like a ProCo Rat

The ProCo Rat was developed in the basement of ProCo Sound's facility in Kalamazoo, Michigan, and introduced commercially in 1978-1979. ProCo was primarily a sound reinforcement company making cables and audio equipment when engineers Scott Burnham and Steve Kiraly began modifying existing distortion pedals. Burnham eventually designed the Rat circuit from scratch, creating something unique.

The pedal filled a sonic gap between warm overdrive and chaotic fuzz, offering aggressive, cutting distortion with exceptional versatility. Its op-amp-based circuit with diode clipping produced a distinctive character that could range from light grit to saturated, violin-like sustain.

The Rat's significance lies in its flexibility and distinctive voice—it became one of the most cloned and modified distortion circuits in pedal history, cementing its status as a true classic that remains relevant nearly 50 years later.

Build notes

The original used an LM308 but these are becoming unobtainium, and modern releases use the OP07. Other single op-amps can add different flavours, TL071 for example. Experiment if you like that kinda thing, or just use an OP07 like I do.

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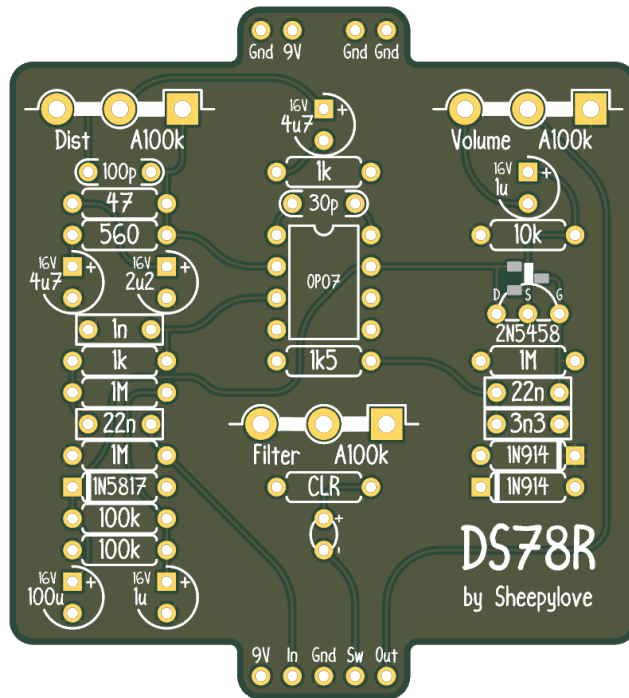
Bill of Materials

Reference	Value	Quantity	Notes
C1	100u	1	
C2,C12	1u	2	
C3,C11	22n	2	
C4	1n	1	
C5	30p	1	Compensation cap. Omit for OP07
C6	100p	1	
C7	2u2	1	
C8,C9	4u7	2	
C10	3n3	1	
D1	1N5817	1	
D2	LED	1	
D3,D4	1N914	2	
POT1-POT3	A100k	3	
Q1	2N5458	1	MMBF5457 is an alternative.
R1	CLR	1	
R2,R5,R11	1M	3	
R3,R4	100k	2	
R6,R9	1k	2	
R7	47	1	
R8	560	1	
R10	1k5	1	
R12	10k	1	
U1	OP07	1	Original uses LM308

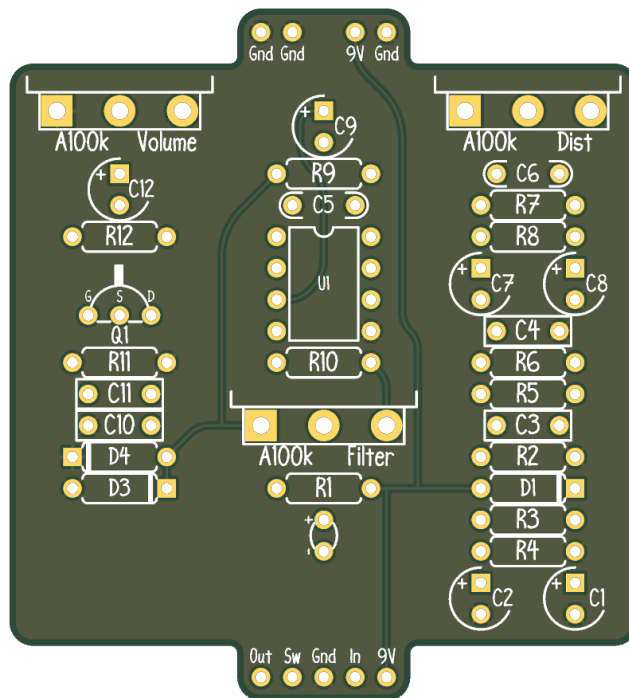
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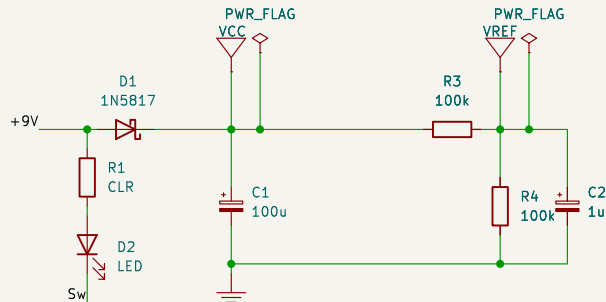
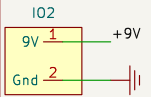
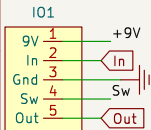
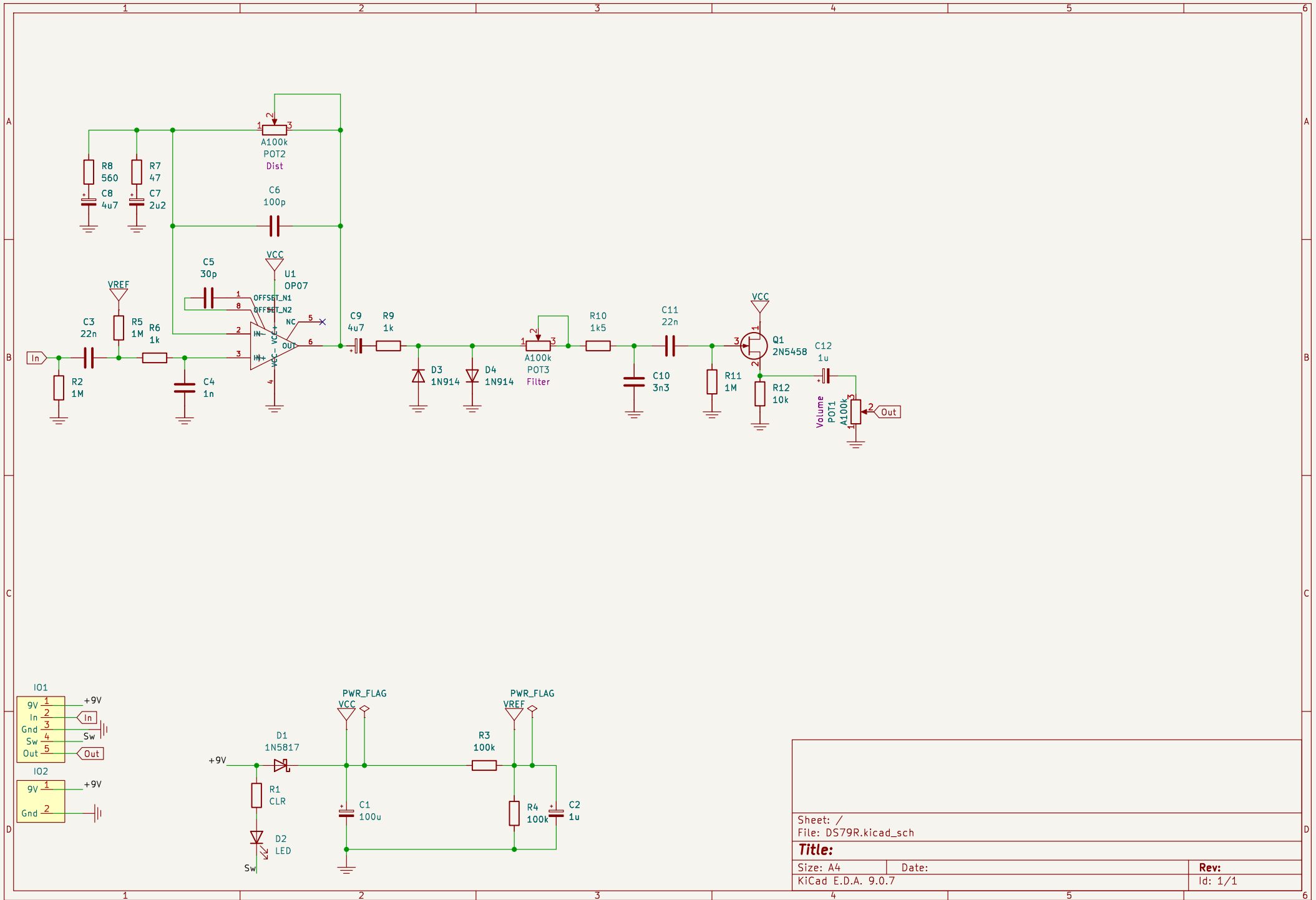
Top View



Bottom View



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