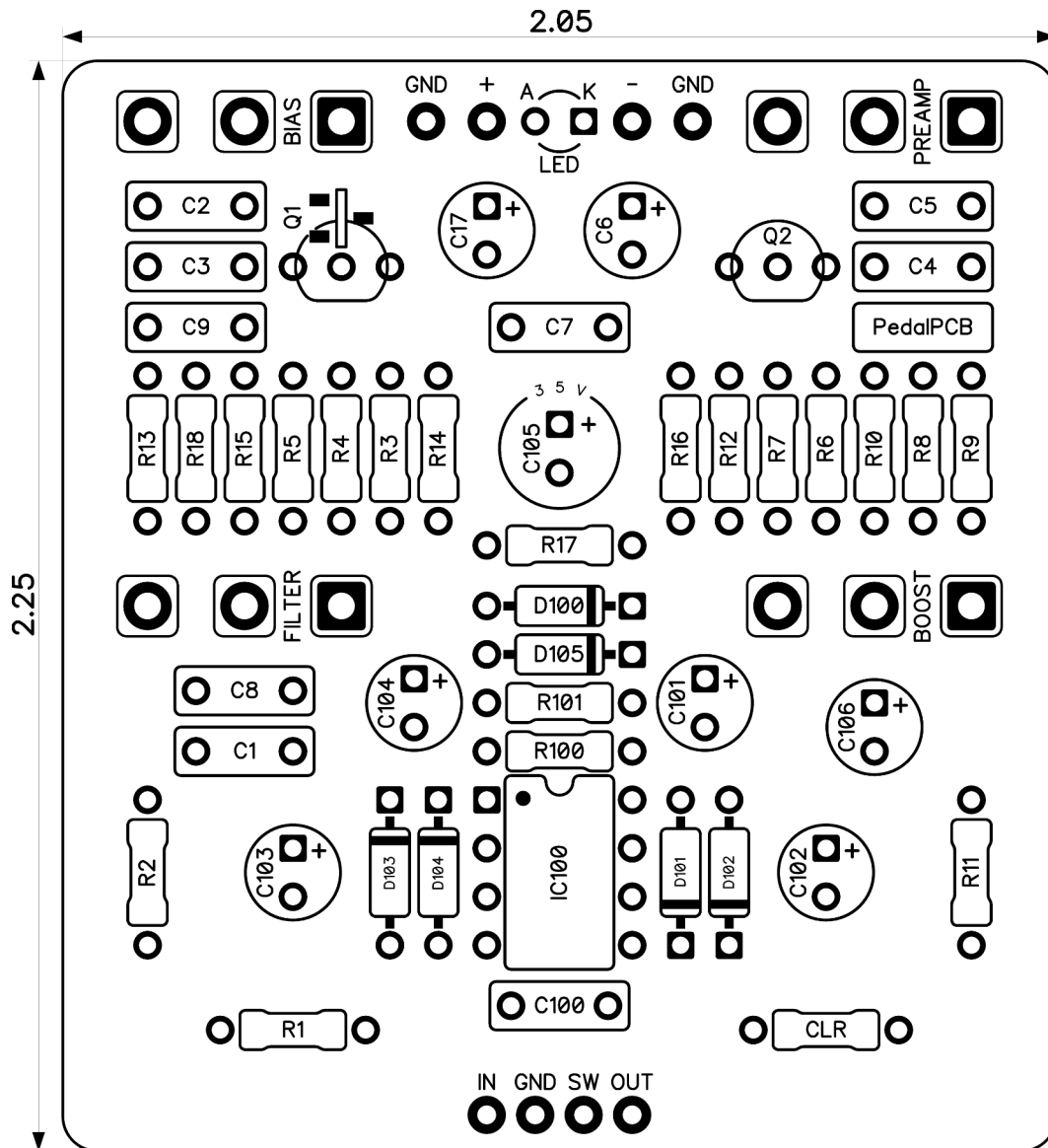


PedalPCB

Eschaton Preamp

Revised 4/12/24



CONTROLS AND FEATURES

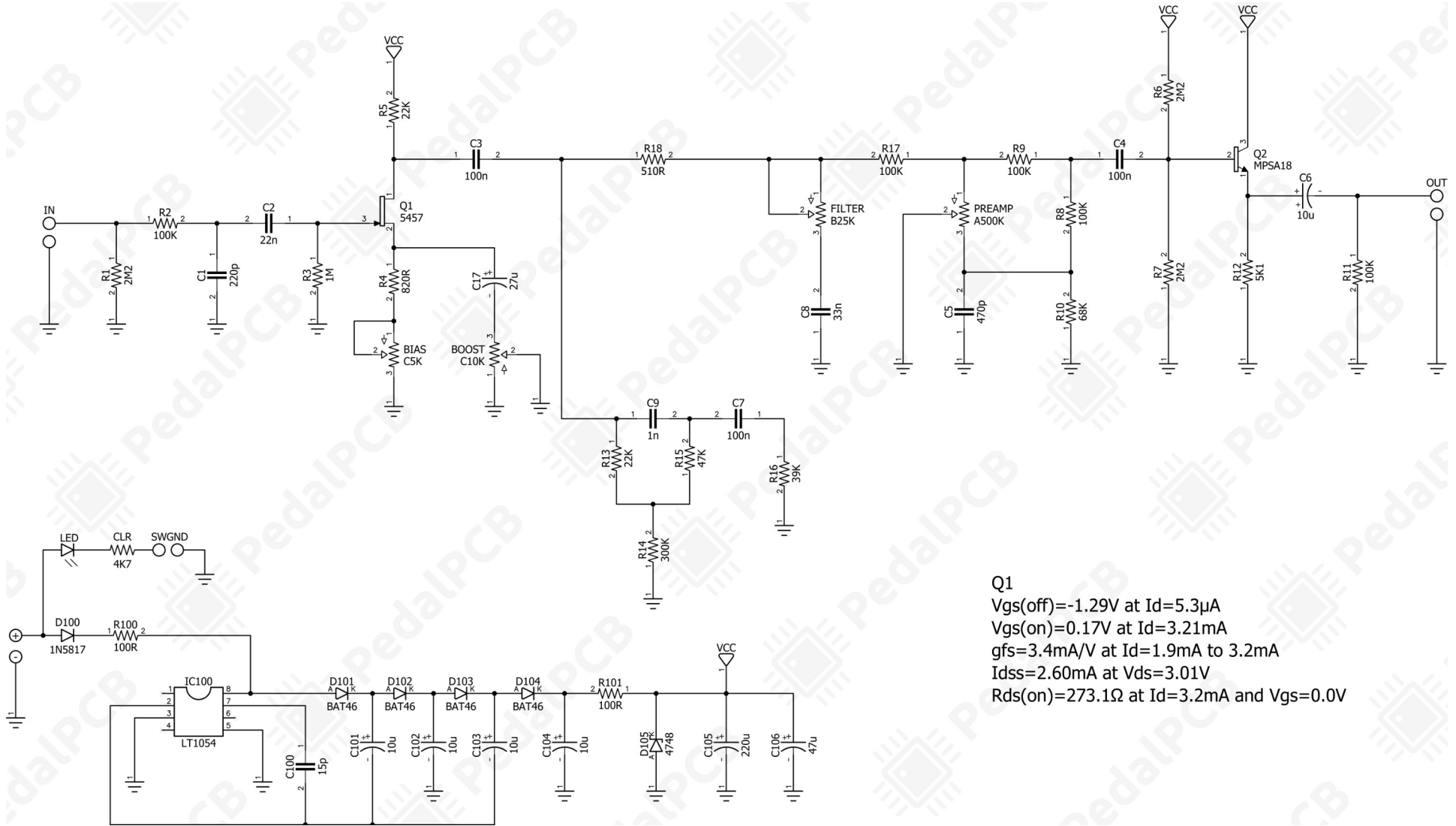
- Preamp
- Bias
- Boost
- Filter

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LOCATION	VALUE	TYPE	NOTES
R1	2M2	Resistor, 1/4W	
R2	100K	Resistor, 1/4W	
R3	1M	Resistor, 1/4W	
R4	820R	Resistor, 1/4W	
R5	22K	Resistor, 1/4W	
R6	2M2	Resistor, 1/4W	
R7	2M2	Resistor, 1/4W	
R8	100K	Resistor, 1/4W	
R9	100K	Resistor, 1/4W	
R10	68K	Resistor, 1/4W	
R11	100K	Resistor, 1/4W	
R12	5K1	Resistor, 1/4W	
R13	22K	Resistor, 1/4W	
R14	300K	Resistor, 1/4W	
R15	47K	Resistor, 1/4W	
R16	39K	Resistor, 1/4W	
R17	100K	Resistor, 1/4W	
R18	510R	Resistor, 1/4W	
R100	100R	Resistor, 1/4W	
R101	100R	Resistor, 1/4W	
CLR	4K7	Resistor, 1/4W	* LED current limiting resistor
C1	220p	Ceramic capacitor	
C2	22n	Film capacitor, 7.2 x 5.0mm	
C3	100n	Film capacitor, 7.2 x 2.5mm	
C4	100n	Film capacitor, 7.2 x 2.5mm	
C5	470p	Ceramic capacitor	
C6	10u	Electrolytic capacitor, 5mm	⚡ 35V minimum
C7	100n	Film capacitor, 7.2 x 5.0mm	
C8	33n	Film capacitor, 7.2 x 5.0mm	
C9	1n	Film capacitor, 7.2 x 5.0mm	
C17	27u	Electrolytic capacitor, 5mm	
C100	15p	Ceramic capacitor	
C101	10u	Electrolytic capacitor, 5mm	⚡ 35V minimum
C102	10u	Electrolytic capacitor, 5mm	⚡ 35V minimum
C103	10u	Electrolytic capacitor, 5mm	⚡ 35V minimum
C104	10u	Electrolytic capacitor, 5mm	⚡ 35V minimum
C105	220u	Electrolytic capacitor, 5mm	⚡ 35V minimum
C106	47u	Electrolytic capacitor, 5mm	⚡ 35V minimum
D100	1N5817	Schottky diode, DO-41	
D101	BAT46	Schottky diode, DO-35	
D102	BAT46	Schottky diode, DO-35	
D103	BAT46	Schottky diode, DO-35	
D104	BAT46	Schottky diode, DO-35	
D105	1N4748A	Zener diode 1W, 22V	
Q1	2N5457	JFET transistor, N-channel	* Parameters on page 3
Q2	MPSA18	BJT transistor, NPN TO-92	
IC100	LT1054	Charge pump IC, DIP8	* Substitution not recommended
PREAMP	A500K	16mm right-angle PCB mount pot	
BIAS	C5K	16mm right-angle PCB mount pot	
BOOST	C10K	16mm right-angle PCB mount pot	
FILTER	B25K	16mm right-angle PCB mount pot	

Eschaton Preamp

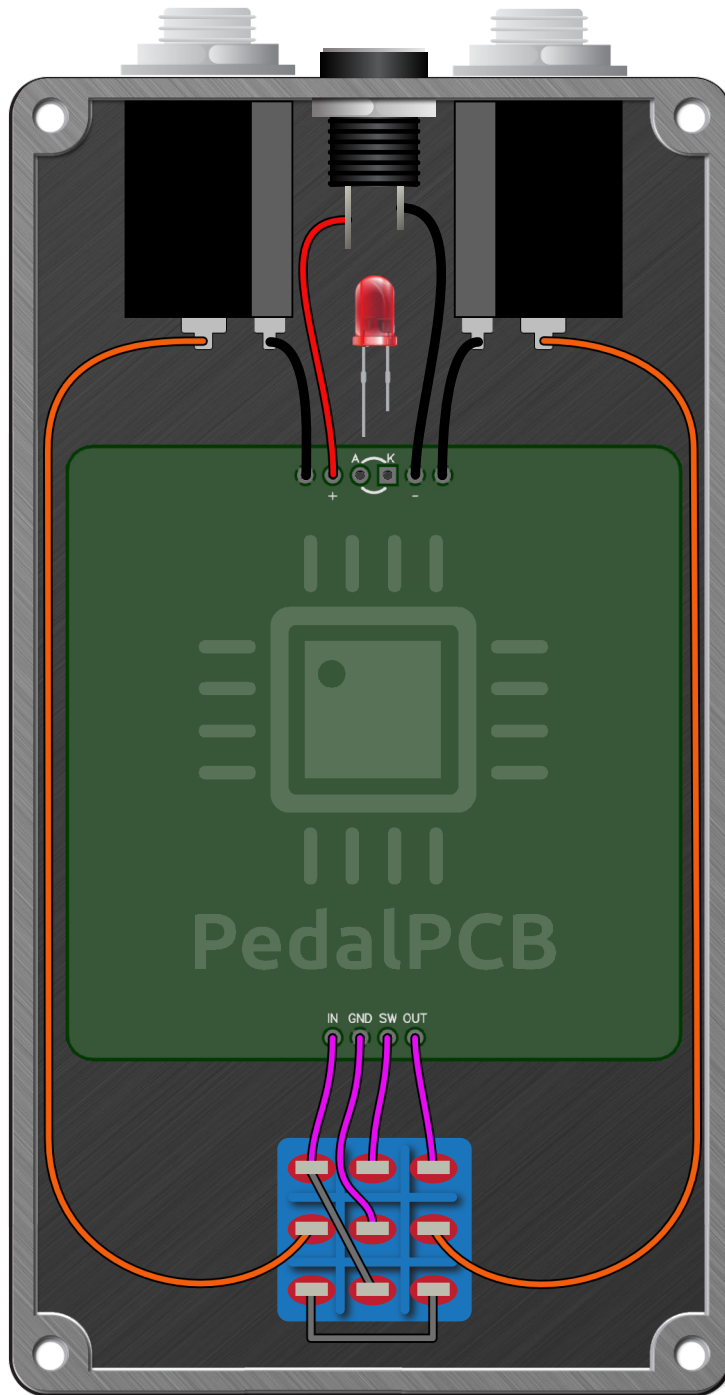
Schematic Diagram



Q1
 $V_{gs(off)} = -1.29V$ at $I_d = 5.3\mu A$
 $V_{gs(on)} = 0.17V$ at $I_d = 3.21mA$
 $g_{fs} = 3.4mA/V$ at $I_d = 1.9mA$ to $3.2mA$
 $I_{dss} = 2.60mA$ at $V_{ds} = 3.01V$
 $R_{ds(on)} = 273.1\Omega$ at $I_d = 3.2mA$ and $V_{gs} = 0.0V$

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Wiring Diagram



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Drill Template
125B Enclosure

