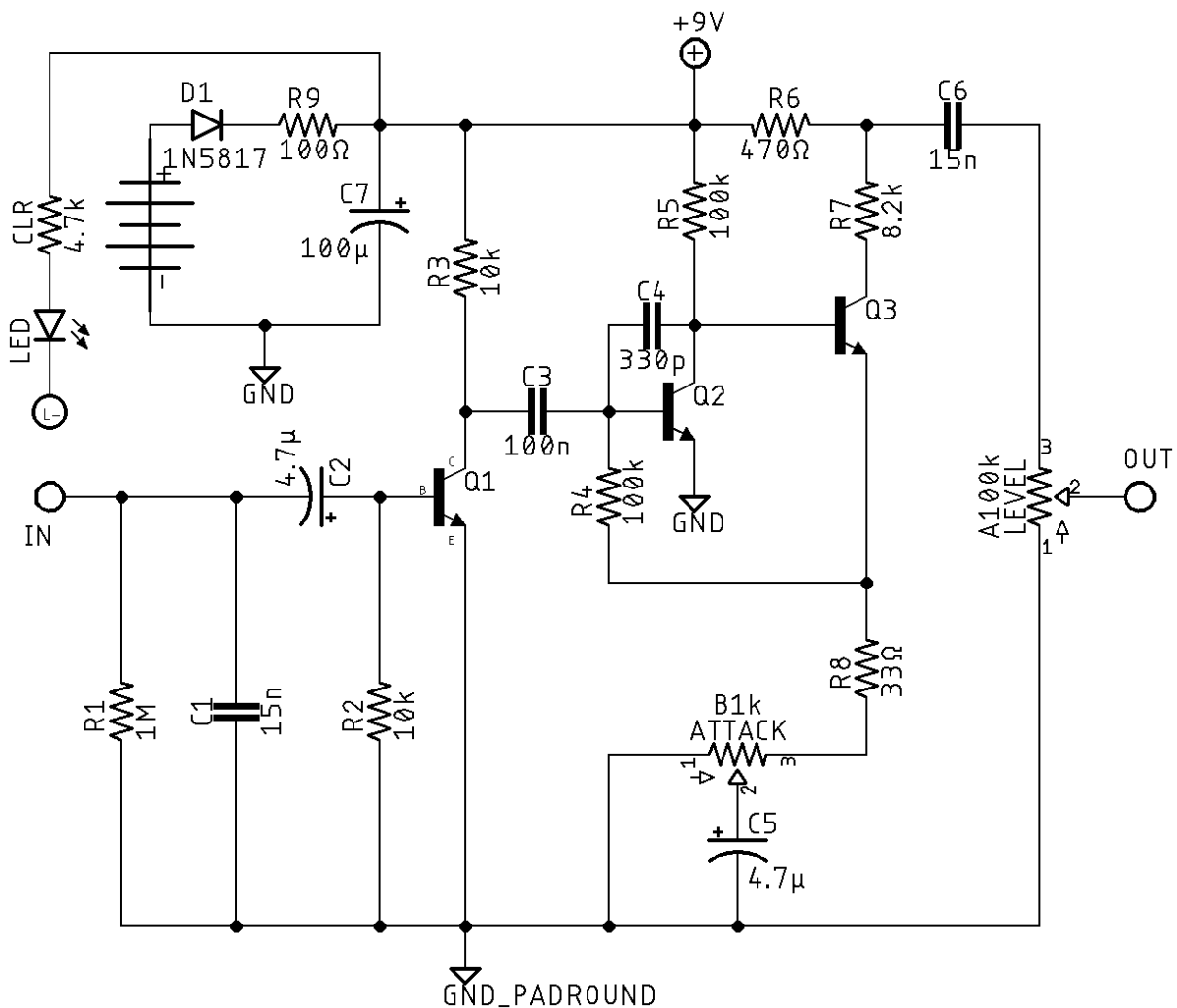


Hybrender

DESCRIPTION

The HYBRENDER is a hybrid silicon/germanium Tone Bender style fuzz. As you may or may not know, two thirds of Mk II Tone Bender has the same topology as the Fuzz Face. The other third is an input stage amplifying signal before the fuzz stage. Fuzz Faces have long gotten the NPN silicon treatment and I wanted to do something similar with the standard Mk II, but preferred the input stage with a germanium transistor and thus the HYBRENDER was born. It gives you more stability with the silicon fuzz section but retains some of the sweetness germanium transistors give in these old school circuits. Plus it's small and fits nicely in a 1590A.

SCHEMATIC



BOM

Resistors

R1	1M
R2	10k
R3	10k
R4	100k
R5	100k
R6	470Ω
R7	8.2k
R8	33Ω
R9	100Ω
CLR	4.7k

Capacitors

C1	15n
C2	4.7μ
C3	100n
C4	330p
C5	4.7μ
C6	15n
C7	100μ

Semiconductors

D1	1N5817
Q1	NPN Germanium
Q2	NPN Silicon
Q3	NPN Silicon

Electromechanical

Attack	B1k
Level	A100k

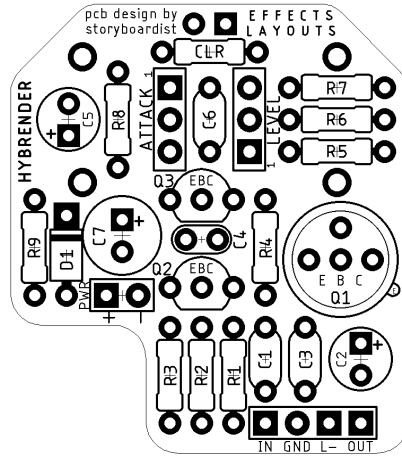
Notes

There's a good bit of room for experimentation with the transistors. In my prototype I used a MP38A with an hFE of around 100. For Q2-3 I used 2N2222As, both around 200 hFE. Other transistors I'd try are any low gain germanium for Q1, and 2N2369 or 2N5550 for Q2-3. Also dependent on the transistors may be the resistor values for R5-7, so some sockets might be in order there.

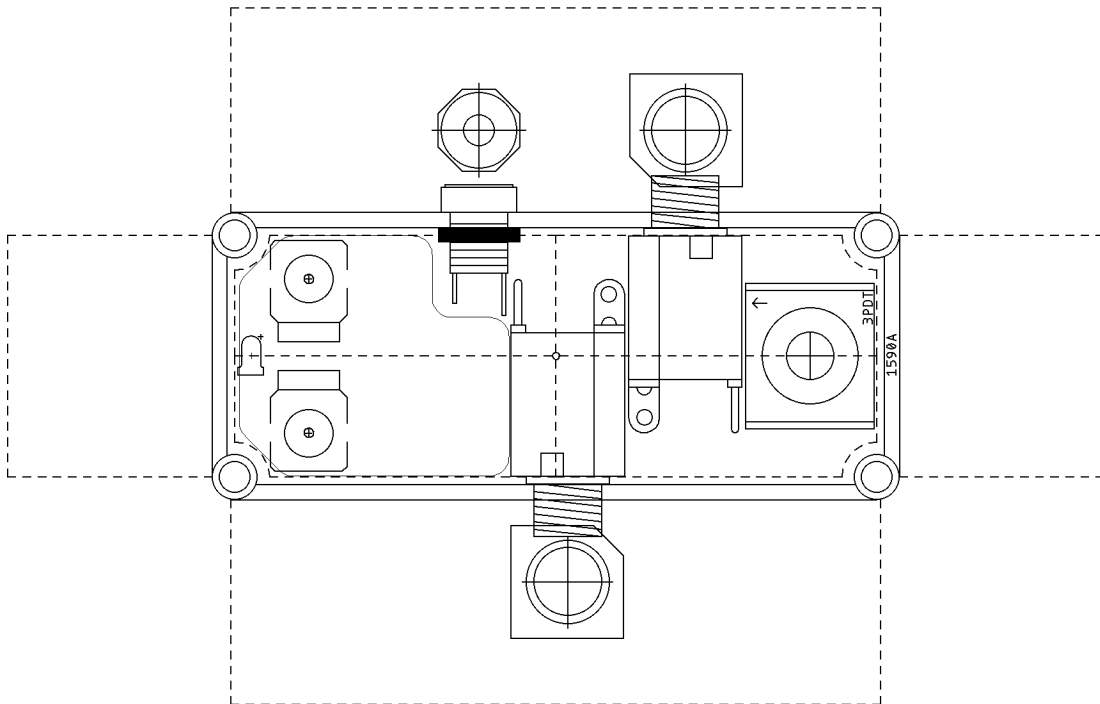
SHOPPING LIST

Value	Type (suggested)	Quantity
33Ω	¼ watt metal or carbon film	1
100Ω	¼ watt metal or carbon film	1
470Ω	¼ watt metal or carbon film	1
4.7k	¼ watt metal or carbon film	1
8.2k	¼ watt metal or carbon film	1
10k	¼ watt metal or carbon film	2
100k	¼ watt metal or carbon film	2
1M	¼ watt metal or carbon film	1
330p	Ceramic	1
15n	Film	2
100n	Film	1
4.7μ	Electrolytic (25v+)	2
100μ	Electrolytic (25v+)	1
1N5817	Schottky rectifier diode	1
NPN Germanium	BJT	1
NPN Silicon	BJT	2
A100k	9mm board mounted pot	1
B1k	9mm board mounted pot	1

LAYOUT



DRILL TEMPLATE (1590A)



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