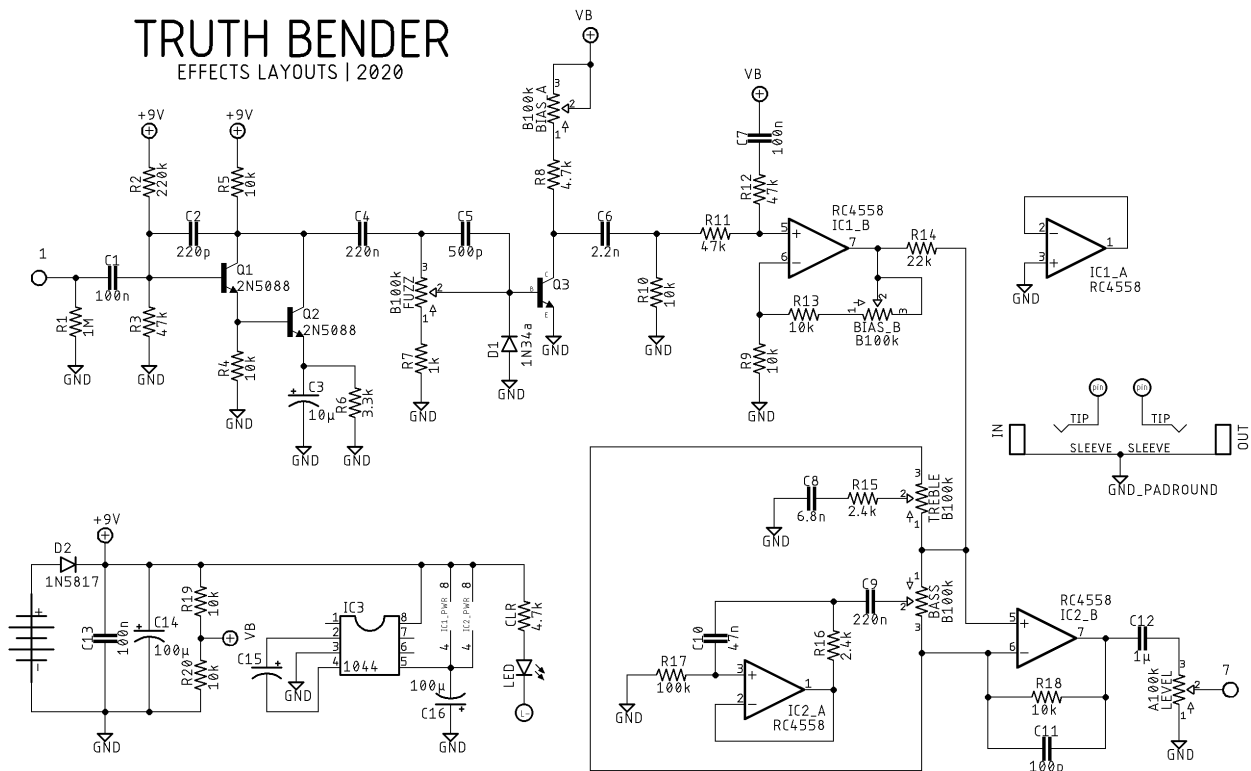


# TRUTH BENDER

## DESCRIPTION

Do you love an old school Tone Bender but wish you had better tone control over it? And also wish you had a way to make it more splatty? Then the TRUTH BENDER is probably right up your alley. Inspired by the Keeley Electronics Fuzz Bender, the TRUTH BENDER is a silicon/germanium hybrid fuzz (based on the classic Tone Bender Mk III) with the addition of a gyrator-based tone controls for bass and treble, along with a unique bias control to degrade the fuzz tone even further.

## SCHEMATIC



## BOM

### Resistors

R1	1M
R2	220k
R3	47k
R4	10k
R5	10k
R6	3.3k
R7	1k
R8	4.7k
R9	10k
R10	10k
R11	47k
R12	47k
R13	10k
R14	22k
R15	2.4k
R16	2.4k
R17	100k
R18	10k
R19	10k
R20	10k
CLR	4.7k

### Capacitors

C1	100n
C2	220p
C3	10 $\mu$
C4	220n
C5	500p
C6	2.2n
C7	100n
C8	6.8n
C9	220n
C10	47n

C11	100p
C12	1 $\mu$
C13	100n
C14	100 $\mu$
C15	10 $\mu$
C16	100 $\mu$

### Semiconductors

D1	1N34A
D2	1N5817
IC1	RC4558
IC2	RC4558
IC3	MAX1044
LED	3 or 5mm LED
Q1	NPN low to medium hFE silicon
Q2	NPN low to medium hFE silicon
Q3	NPN Germanium

### Electromechanical

Bass	B100k
Bias	B100k dual-gang
Fuzz	B100k
Level	A100k
Treble	B100k

### Notes

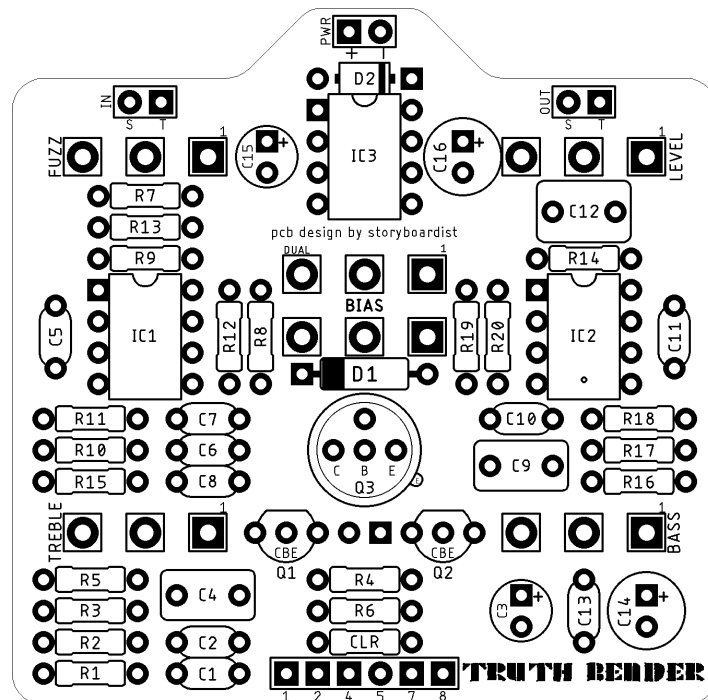
TL072 or similar dual opamps can be used for IC1 and 2. In my prototype I tested both 2N5088 and 2N5550 transistors for Q1 and 2. I preferred the lower gain 5550s. Sockets are your friends here. Depending on your charge pump (IC3) you may need to wire a jumper from pin 1 to 8.

## SHOPPING LIST

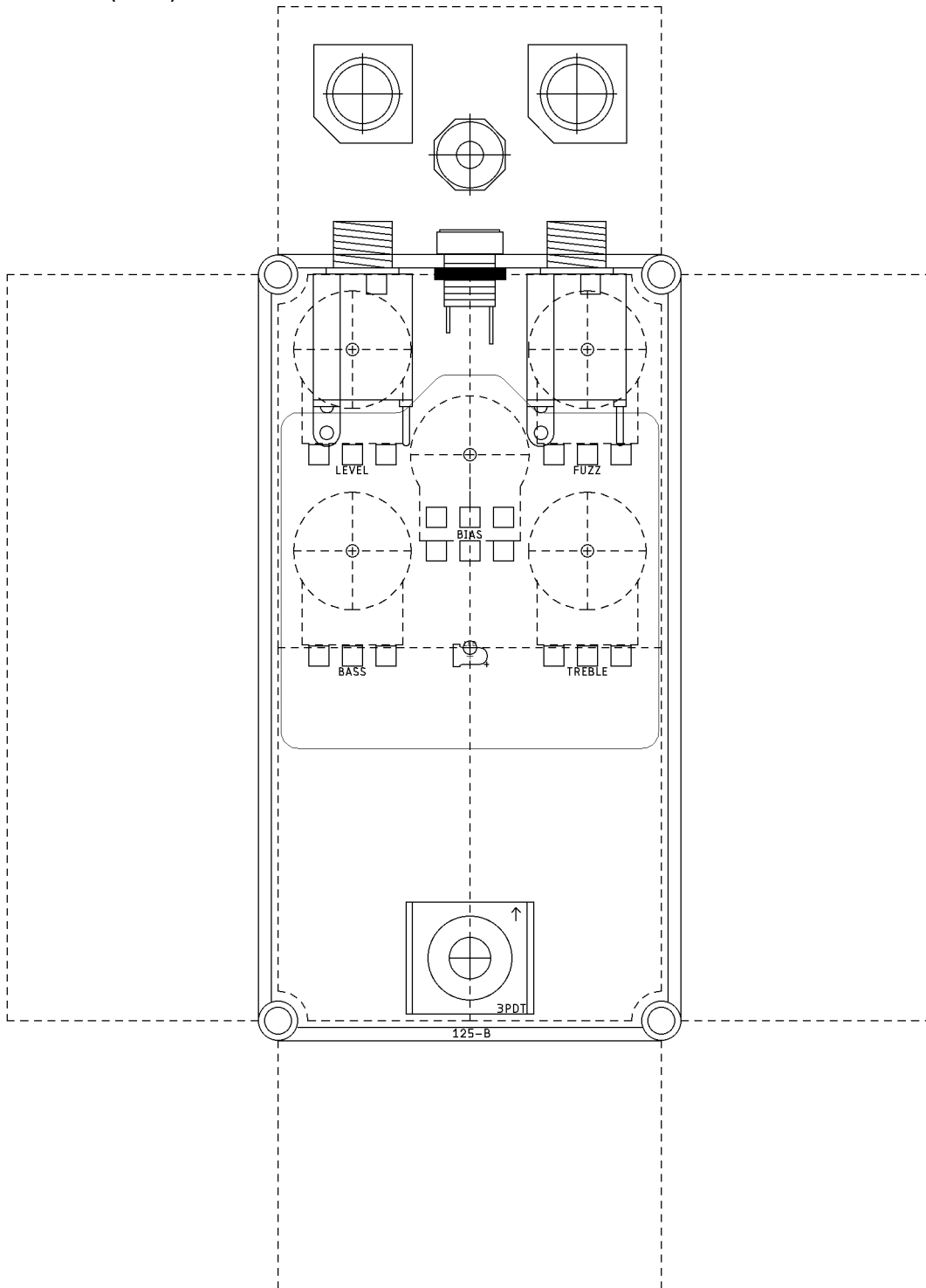
Part	Type (suggested)	Quantity
1k	¼ watt metal or carbon film	1
2.4k	¼ watt metal or carbon film	2
3.3k	¼ watt metal or carbon film	1
4.7k	¼ watt metal or carbon film	2
10k	¼ watt metal or carbon film	8

22k	¼ watt metal or carbon film	1
47k	¼ watt metal or carbon film	3
100k	¼ watt metal or carbon film	1
220k	¼ watt metal or carbon film	1
1M	¼ watt metal or carbon film	1
100p	Ceramic	1
220p	Ceramic	1
500p	Ceramic	1
6.8n	Film	1
47n	Film	1
100n	Film	3
220n	Film	2
1µ	Film	1
10µ	Electrolytic (35v+)	2
100µ	Electrolytic (35v+)	2
1N34a	Germanium	1
1N5817	Schottky rectifier diode	1
RC4558	Dual op-amp	2
MAX1044	Charge pump	1
LED	3 or 5mm	1
NPN silicon	BJT	2
NPN germanium	BJT	1
A100k	16mm right angle PC mount	1
B100k	16mm right angle PC mount	3
B100k	16mm right angle PC mount dual-gang	1

**LAYOUT**



# DRILL TEMPLATE (125B)



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Not for non-peer to peer resale.