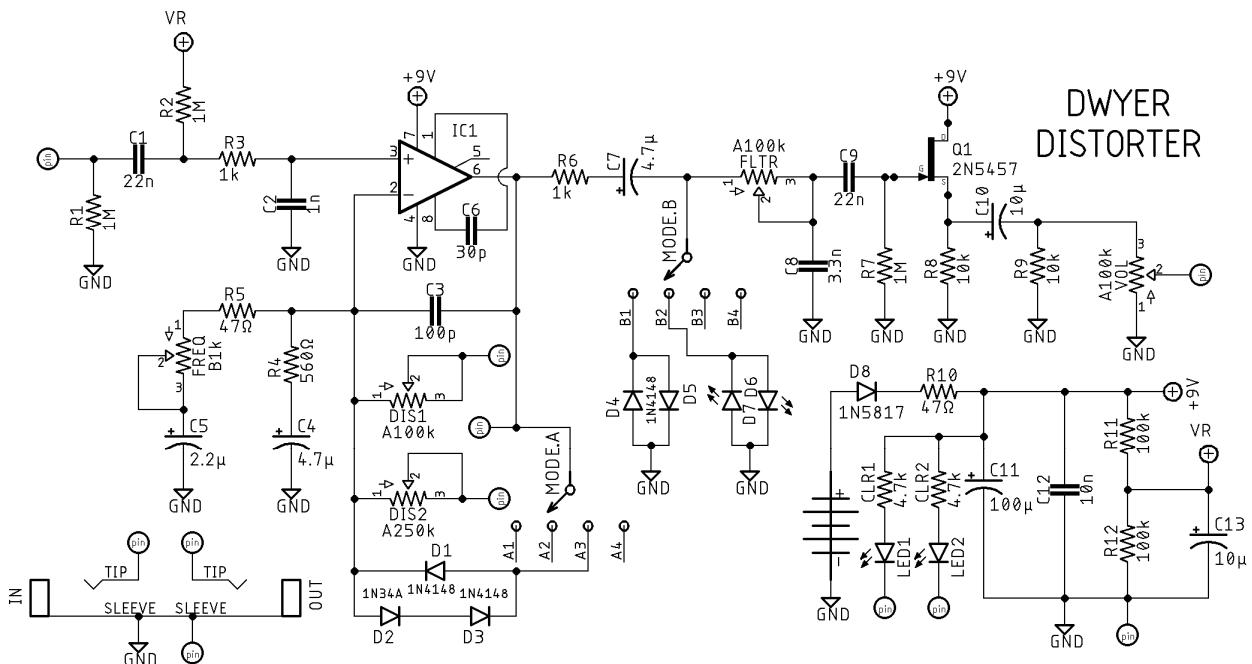


Dwyer Distorter

DESCRIPTION

The DWYER DISTORTER is a tricked-out RAT circuit, with selectable gain pots via the boost footswitch, the classic Ruetz Mod, and a rotary switch for 4-different clipping modes: classic (2, 1N4148s), turbo (2, red LEDs), soft (asymmetrical silicon/germanium diodes in the feedback loop), and lift (no diodes). This gives you multiple configurations and tonal opportunities to achieve classic distortion bliss. There is included the option to use either a through-hole TO-92 or a surface mounted package for the JFET output buffer. It's designed to fit in a 125B enclosure with top mounted jacks.

SCHEMATIC



BOM

Resistors

R1	1M
R2	1M
R3	1k
R4	560Ω
R5	47Ω
R6	1k
R7	1M
R8	10k
R9	10k
R10	47Ω
R11	100k
R12	100k
CLR1	4.7k
CLR2	4.7k

Capacitors

C1	22n
C2	1n
C3	100p
C4	4.7μ
C5	2.2μ
C6	30p
C7	4.7μ
C8	3.3n
C9	22n
C10	10μ
C11	100μ
C12	10n
C13	10μ

Semiconductors

D1	1N4148
D2	1N34A
D3	1N4148
D4	1N4148
D5	1N4148

SHOPPING LIST

Value	Type (suggested)	Quantity
47Ω	½ watt metal or carbon film	2
560Ω	½ watt metal or carbon film	1
1k	½ watt metal or carbon film	2

D6	Red 3mm LED
D7	Red 3mm LED
D8	1N5817
IC1	LM308
LED1	3 or 5mm LED
LED2	3 or 5mm LED
Q1	2N5457 or MMBF5457 (SMD)

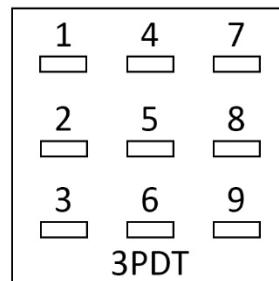
Electromechanical

Distortion 1	A100k
Distortion 2	A250k
Filter	A100k
Frequency	B1k
Mode	2P4T rotary switch
Volume	A100k
Activate footswitch	3PDT
Boost footswitch	DPDT

Notes:

Alternatives to the LM308 include OP07, LM301, CA3130EZ.

Footswitch lug numbering:

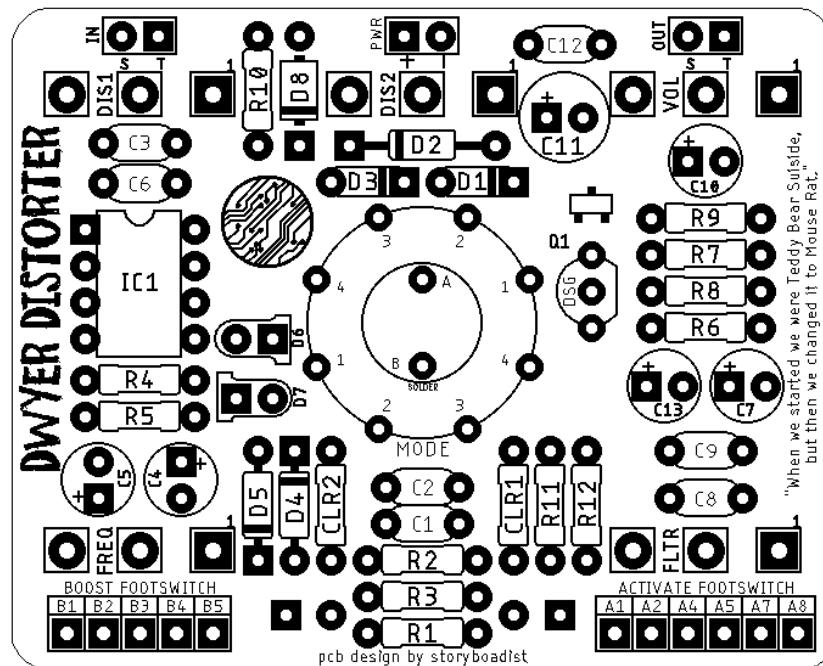


For DPDT ignore the 3rd column (lugs 7-9)

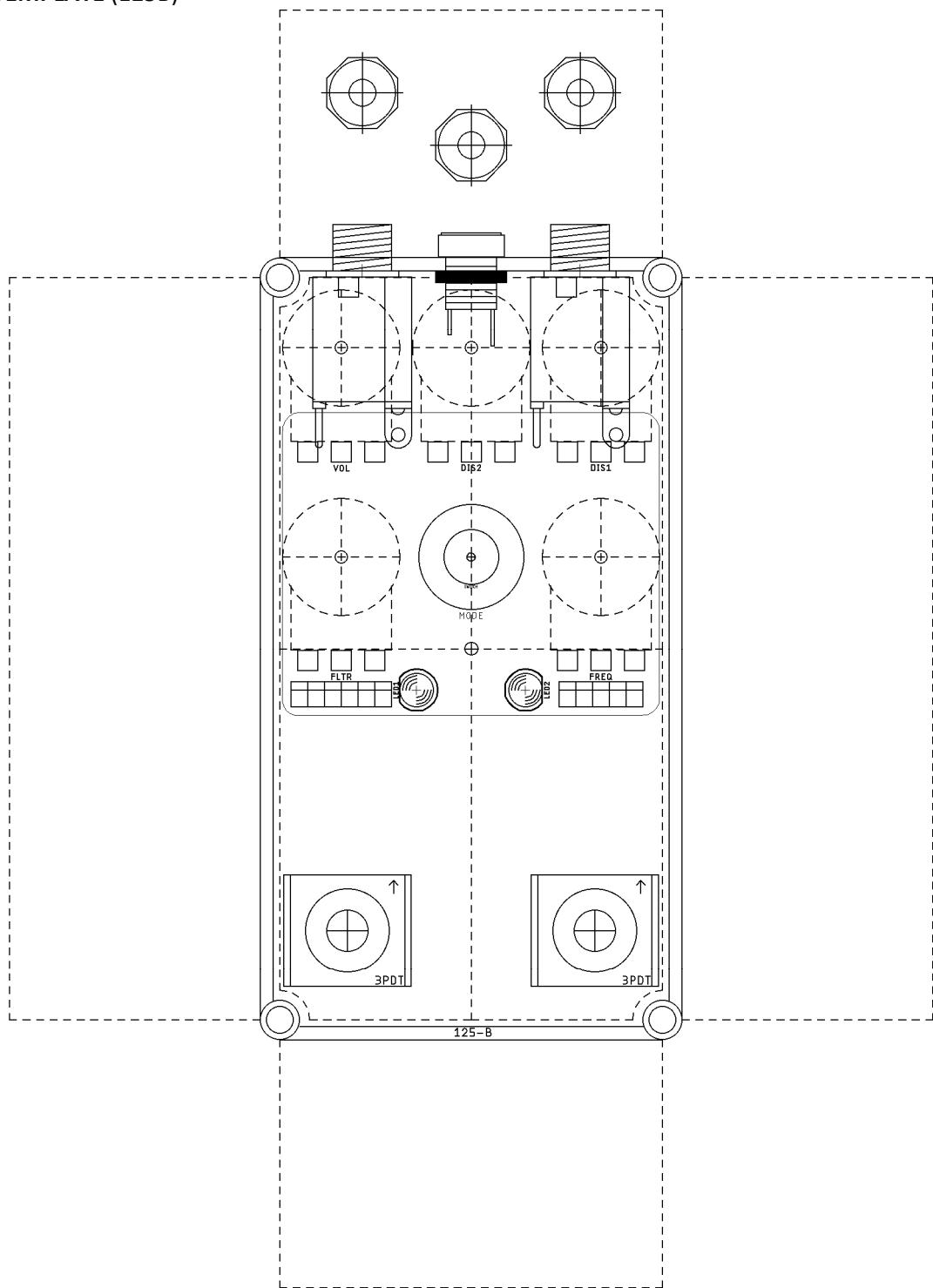
4.7k	1/4 watt metal or carbon film	2
10k	1/4 watt metal or carbon film	2
100k	1/4 watt metal or carbon film	2
1M	1/4 watt metal or carbon film	3
30p	Ceramic	1
1n	Film	1
3.3n	Film	1
10n	Ceramic	1
22n	Film	2
2.2μ	Electrolytic (35v or higher)	1
4.7μ	Electrolytic (35v or higher)	2
10μ	Electrolytic (35v or higher)	2
100μ	Electrolytic (35v or higher)	1
1N34A	Germanium switching signal diode	1
1N4148	Silicon switching signal diode	4
1N5817	Schottky rectifier diode	1
Red 3mm LED		2
3 or 5mm LED		2
2N5457*	Through-hole JFET	1
MMBF5457*	SMD JFET	1
LM308	Opamp	1
2P4T switch	Mini rotary PC mount	1
A100k	16mm right angle PC mount	3
A250k	16mm right angle PC mount	1
B1k	16mm right angle PC mount	1

*No need to purchase/populate both the SMD and through hole JFET. Pick one or the other.

LAYOUT



DRILL TEMPLATE (125B)



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For DIY and small commercial applications.
Not for non-peer to peer resale.