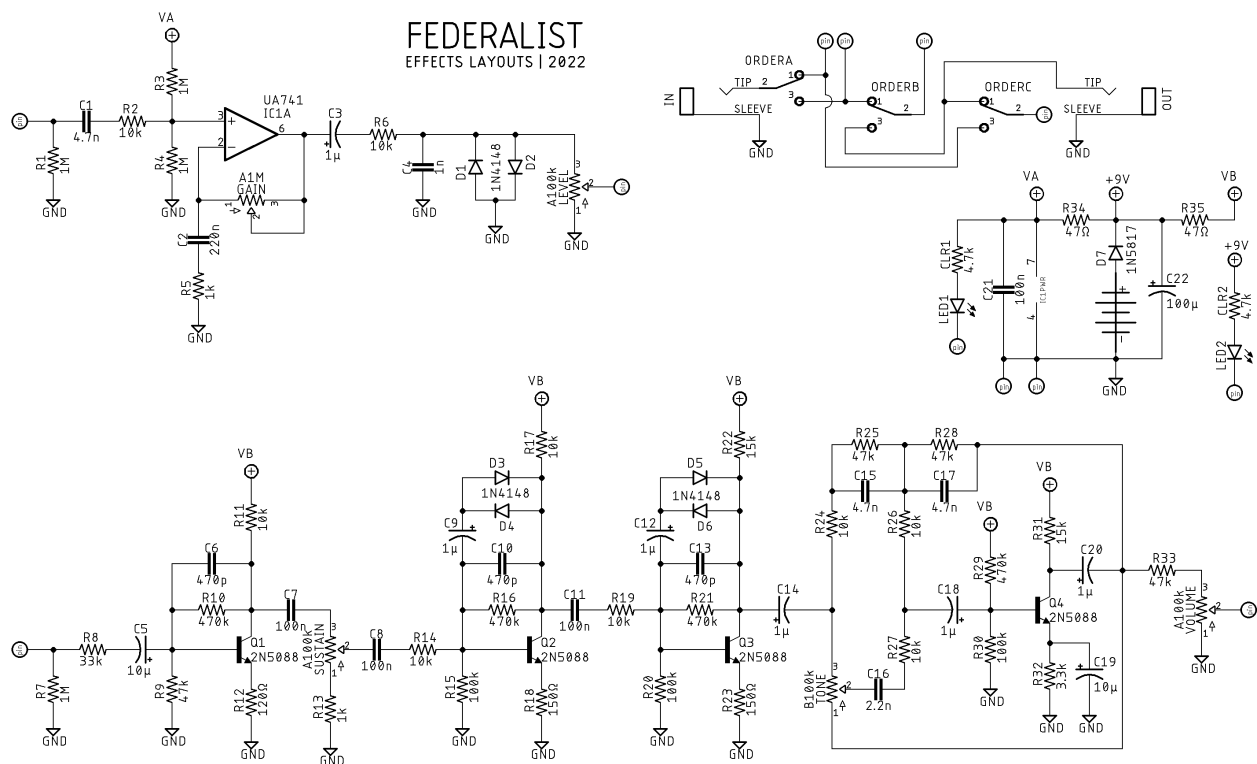


FEDERALIST

DESCRIPTION

This 2-in-1 is inspired by two 70s classics, the MXR Distortion + and the EHX Big Muff. But this isn't just two clones in one box—these are my own takes on these classic circuits. The Distortion side utilizes a better gain control configuration than the original and a slightly simplified power section. The Muff side is fairly close to Ram's Head, but with a highly modified tone stack, ala the Ibanez OD-850/Maxon D&S OD-801. It covers a pretty wide range of dirt in a pretty small package.

SCHEMATIC



BOM

Resistors

R1	1M
R2	10k
R3	1M
R4	1M
R5	1k
R6	10k
R7	1M
R8	33k
R9	47k
R10	470k
R11	10k
R12	120Ω
R13	1k
R14	10k
R15	100k
R16	470k
R17	10k
R18	150Ω
R19	10k
R20	100k
R21	470k
R22	15k
R23	150Ω
R24	10k
R25	47k
R26	10k
R27	10k
R28	47k
R29	470k
R30	100k
R31	15k
R32	3.3k
R33	47k
R34	47Ω
R35	47Ω
CLR1	4.7k
CLR2	4.7k

Capacitors

C1	4.7n
C2	220n
C3	1μ

C4	1n
C5	10μ
C6	470p
C7	100n
C8	100n
C9	1μ
C10	470p
C11	100n
C12	1μ
C13	470p
C14	1μ
C15	4.7n
C16	2.2n
C17	4.7n
C18	1μ
C19	10μ
C20	100n
C21	100μ

Semiconductors

D1	1N4148
D2	1N4148
D3	1N4148
D4	1N4148
D5	1N4148
D6	1N4148
D7	1N5817
IC1	UA741
LED1	3 or 5mm
LED2	3 or 5mm
Q1	2N3904
Q2	2N3904
Q3	2N3904
Q4	2N3904

Electromechanical

Gain	A1M
Level	A100k
Order	3PDT toggle
Sustain	A100k
Tone	B100k
Volume	A100k

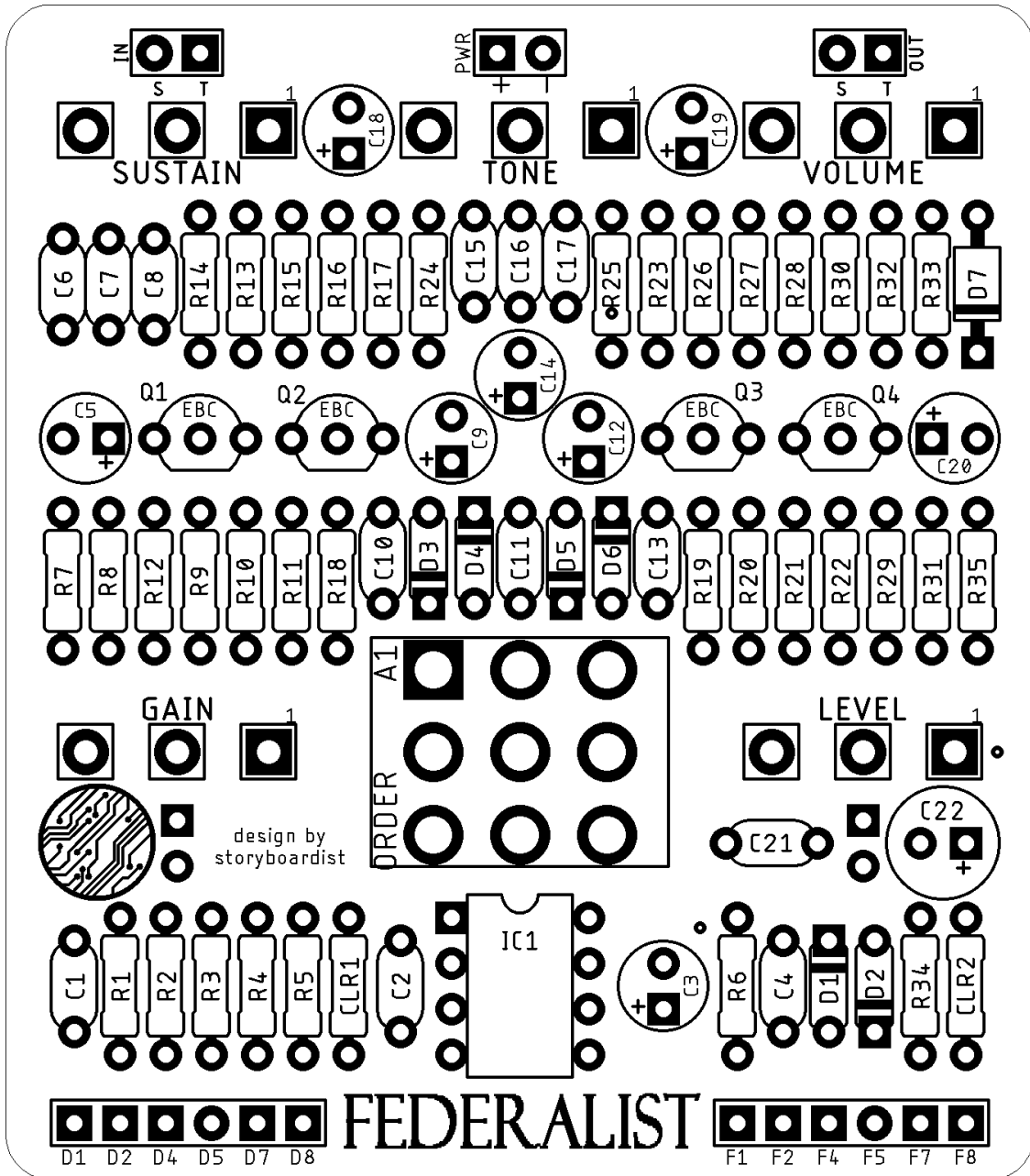
Notes

IC1 can be any other single op amp, TL061/71/81, NE5534, etc. For Q1-4 I personally prefer lower hFE transistors. 2N2222A are good subs for 2N3904s, but higher hFE BJTs work just as well. Use what you prefer.

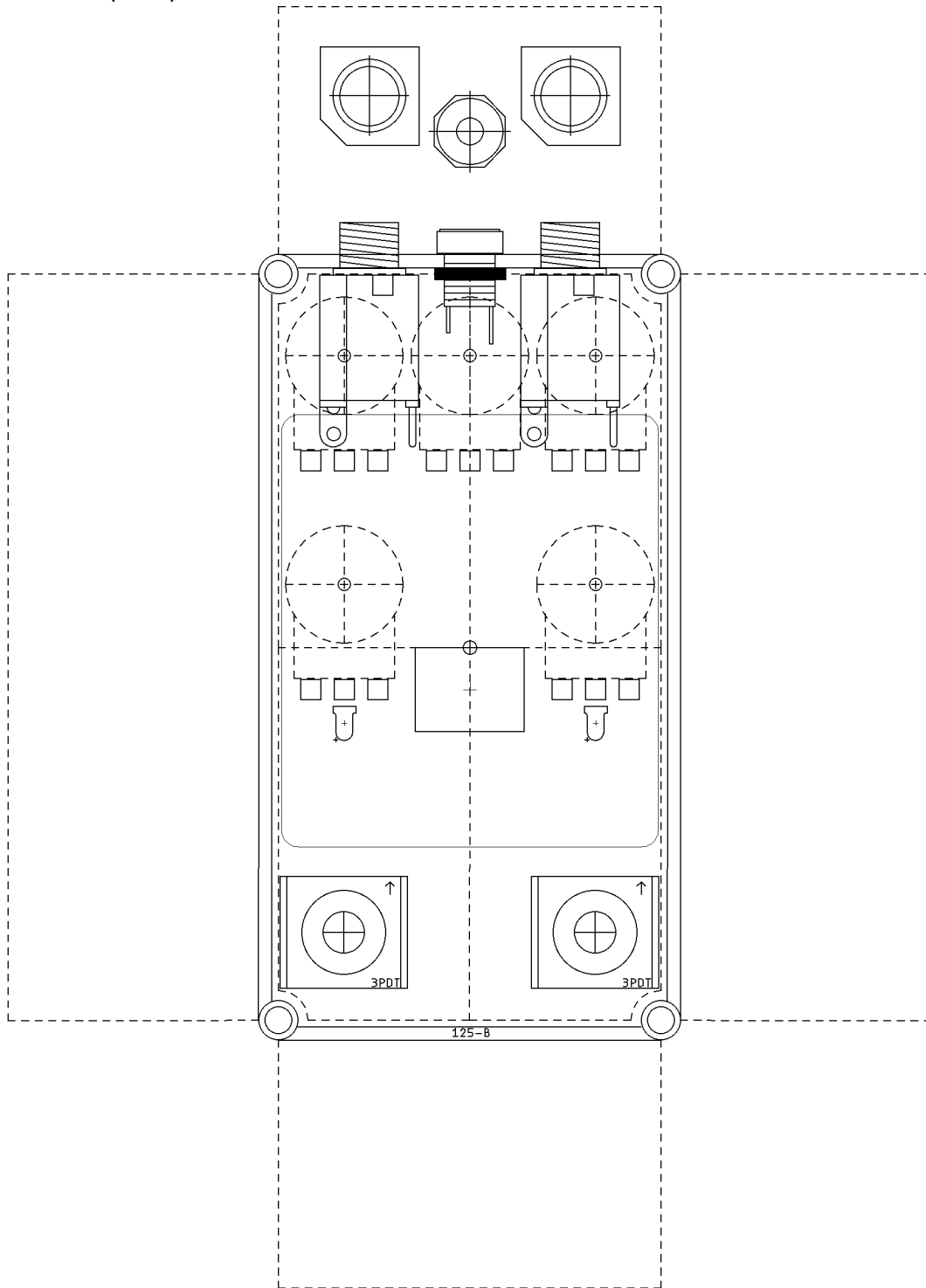
SHOPPING LIST

Value	Type (suggested)	Quantity
47Ω	¼ watt metal or carbon film	2
120Ω	¼ watt metal or carbon film	1
150Ω	¼ watt metal or carbon film	2
1k	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	9
15k	¼ watt metal or carbon film	2
33k	¼ watt metal or carbon film	1
47k	¼ watt metal or carbon film	4
100k	¼ watt metal or carbon film	3
470k	¼ watt metal or carbon film	4
1M	¼ watt metal or carbon film	4
470p	Ceramic	3
1n	Film	1
2.2n	Film	1
4.7n	Film	3
100n	Film	4
220n	Film	1
1μ	Electrolytic (25v+)	5
10μ	Electrolytic (25v+)	2
100μ	Electrolytic (25v+)	1
1N4148	Silicon switching diode	6
1N5817	Schottky rectifier diode	1
2N3904	BJT	4
LED	3 or 5mm	2
UA741	Single op amp	1
3PDT	3PDT toggle	1
A100k	16mm right angle PC mount	3
A1M	16mm right angle PC mount	1
B100k	16mm right angle PC mount	1

LAYOUT



DRILL TEMPLATE (125B)



EFFECTS LAYOUTS © 2022
For DIY and small commercial applications.
Not for non-peer to peer resale.