SPACKLER

FX TYPE: Boost

Based on the Demeter® Fat Control™

Enclosure Size: 1590A

“Softie” compatibility: none

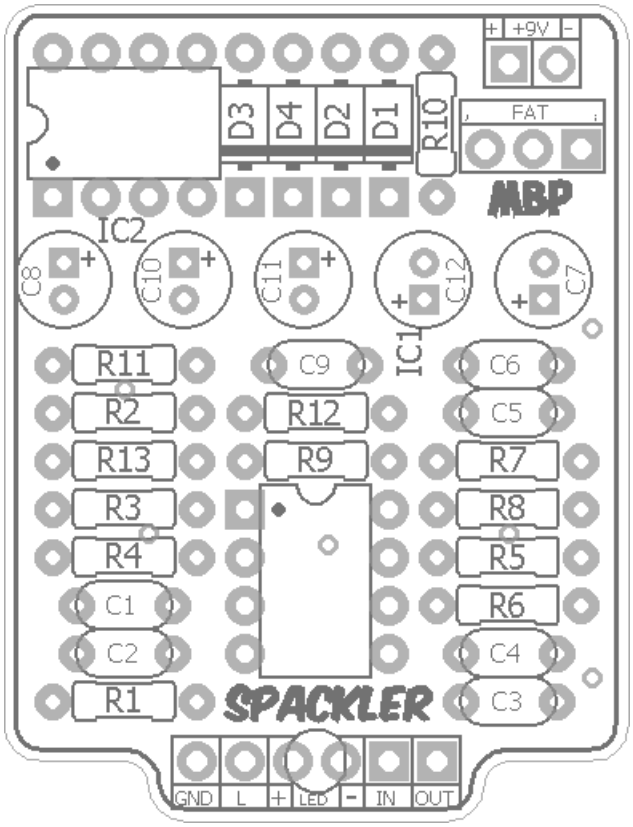
Overview

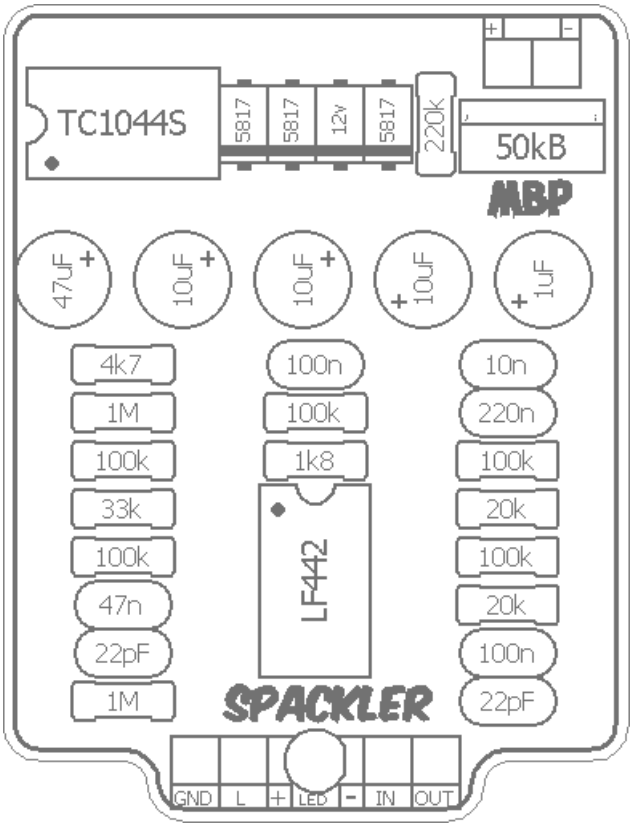
The Spackler is a modified version of the Demeter® Fat Control™. The effect is a mid-range boost that will push the front end of an amplifier while boosting the lower-mid frequency range resulting in what some might call added “warmth” and “depth” to a guitar signal. The Spackler works well as a stand-alone effect, or before another effect like a dirt box.

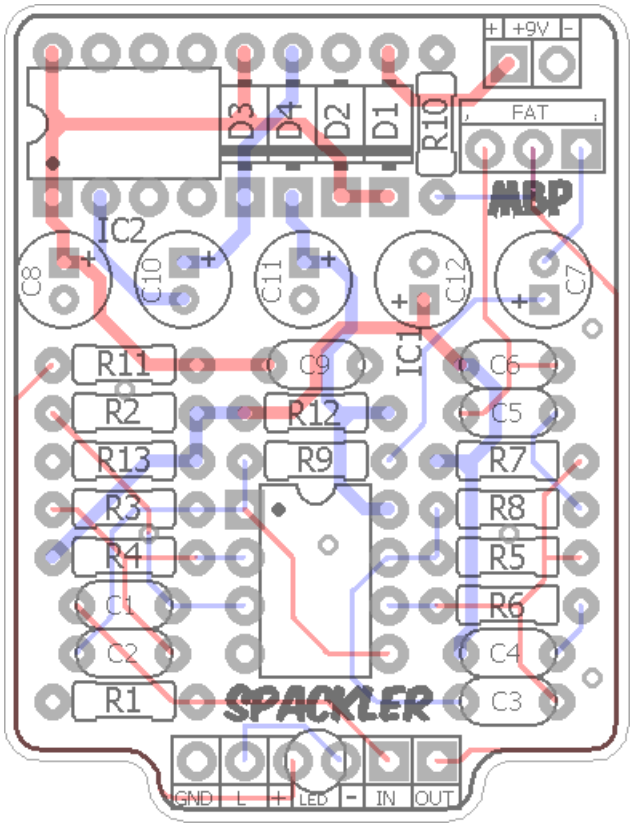
This version of the Spackler adds a charge pump for 18v operation. While this does not add much in the way of extra boost, it does add a little extra “girth” to the lower frequencies, I found.

Controls

- **BOOST:** From flat (CCW) to boost (CW). Unity is a little less than halfway up the control.


+9V
FAT
D3
D4
D2
D1
R10
MBP
IC2
C8
C10
C11
C12
C7
IC1
R11
C9
C6
R2
R12
C5
R13
R9
R7
R3
R8
R4
R5
C1
R6
C2
C4
R1
SPACKLER
C3
GND
L
LED
IN
OUT


TC1044S
5817
5817
12v
5817
220k
50kB
MBP
47uF
10uF
10uF
10uF
1uF
4k7
1M
100k
33k
100k
47n
22pF
1M
100n
100k
1k8
LF442
10n
220n
100k
20k
100k
20k
100n
22pF
SPACKLER
GND
L
+
LED
-
IN
OUT


+9V
FAT
D3
D4
D2
D1
R10
IC2
C8
C10
C11
C12
C7
IC1
R11
C9
C6
R2
R12
C5
R13
R9
R7
R3
R8
R4
R5
C1
R6
C2
C4
R1
SPACKLER
C3
GND
L
LED
IN
OUT

Resistors		Caps		Diodes	
R1	1M	C1	47n	D1	1N5817
R2	1M	C2	22pF	D2	12v Zener
R3	33k	C3	22pF	D3	1N5817
R4	100k	C4	100n	D4	1N5817
R5	100k	C5	220n	IC	
R6	20k	C6	10n	IC1	LF442
R7	100k	C7	1uF	IC2	TC1044SCPA
R8	20k	C8	47uF	Pot	
R9	1k8	C9	100n	FAT	50kB
R10	220k	C10	10uF		
R11	4k7	C11	10uF		
R12	100k	C12	10uF		
R13	100k				

Value	QTY	Type	Rating
1k8	1	Metal / Carbon Film	1/4W
4k7	1	Metal / Carbon Film	1/4W
20k	2	Metal / Carbon Film	1/4W
33k	1	Metal / Carbon Film	1/4W
100k	5	Metal / Carbon Film	1/4W
220k	1	Metal / Carbon Film	1/4W
1M	2	Metal / Carbon Film	1/4W
22pF	2	Ceramic / MLCC	25v min.
10n	1	Film	25v min.
47n	1	Film	25v min.
100n	2	Film	25v min.
220n	1	Film	25v min.
1uF	1	Low-Profile Electrolytic	25v min.
10uF	3	Low-Profile Electrolytic	25v min.
47uF	1	Low-Profile Electrolytic	25v min.
1N5817	3		
12v	1	Zener	
LF442	1		
TC1044SCPA	1		
50kB	1	9mm, 12mm or 16mm	

Low-Profile Electrolytic:
http://smallbear-electronics.mybigcommerce.com/electrolytic-radial-low-profile-16v-1-f-100-f/

12v Zener:
http://smallbear-electronics.mybigcommerce.com/diode-zener-1n4742a/

12mm Pots:
http://smallbear-electronics.mybigcommerce.com/alpha-single-gang-12mm-solder-terms/

16mm Pots:
http://smallbear-electronics.mybigcommerce.com/alpha-single-gang-16mm-solder-terms-linear-audio-taper/

TC1044SPCA:
http://smallbear-electronics.mybigcommerce.com/ic-tc1044scpa/

The LF442 is pretty hard to come by these days. If you can find one, by all means use it. You can use an LM1458 as a sub (the LF442 is basically a low current version of the LM1458):
http://smallbear-electronics.mybigcommerce.com/ic-mc1458p-ti/

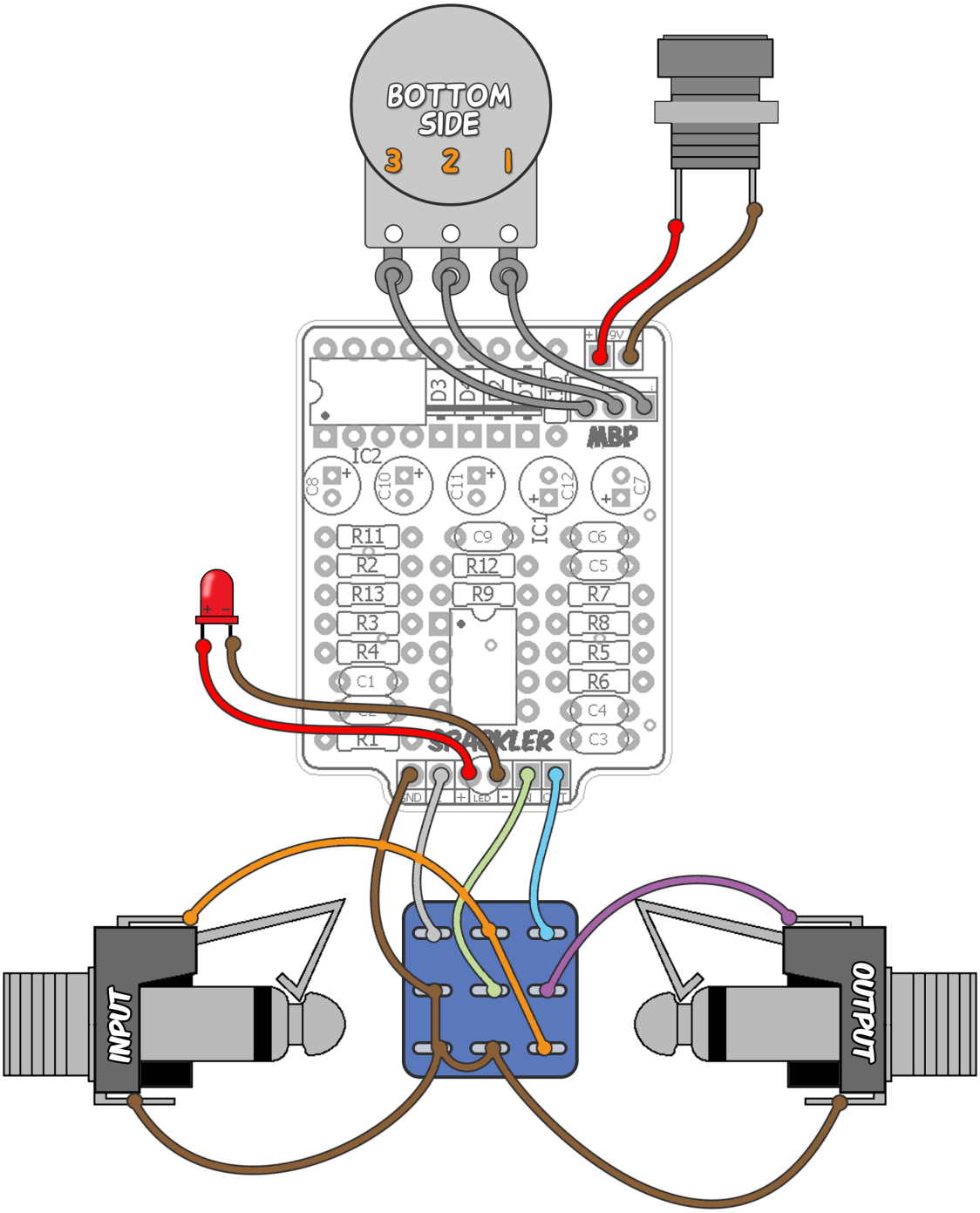
Or, if you have money to burn you can go high-end with an OPA2134 or 2604!
http://smallbear-electronics.mybigcommerce.com/ic-opa2134pa/
http://smallbear-electronics.mybigcommerce.com/ic-opa2604ap/

Other (less expensive) dual-op amps can be used, as well: TL072, etc.

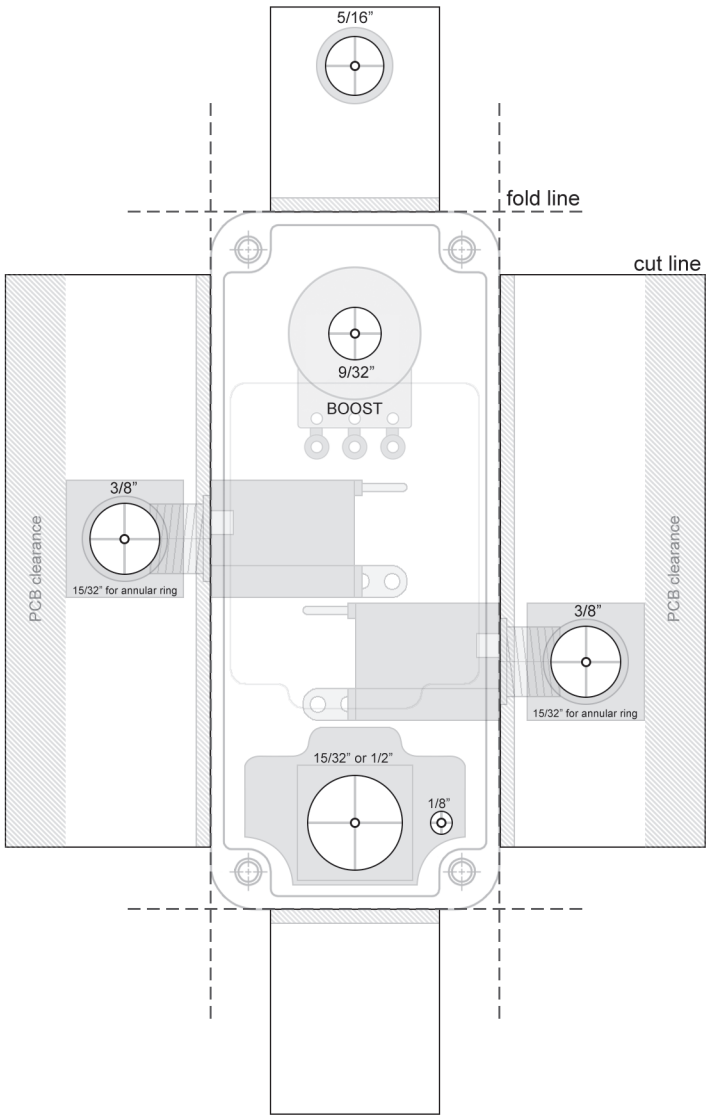
Thinline DC Jack:
http://smallbear-electronics.mybigcommerce.com/dc-power-jack-all-plastic-unswitched-2-1-mm/

Enclosed Mono:
http://smallbear-electronics.mybigcommerce.com/1-4-in-mono-enclosed-jack/
http://smallbear-electronics.mybigcommerce.com/1-4-in-mono-enclosed-switchcraft-111x/

- none


BOTTOM SIDE
3 2 1
INPUT
OUTPUT
MBP
IC2
IC1
R11
R2
R13
R3
R4
C1
R1
C9
R12
R9
C6
C5
R7
R8
R5
R6
C4
C3
C8
C10
C11
C12
C7
D3
9V

Note: *Drill Guides are approximate and may require tweaking depending on the types of jacks, switches and pots you use.*

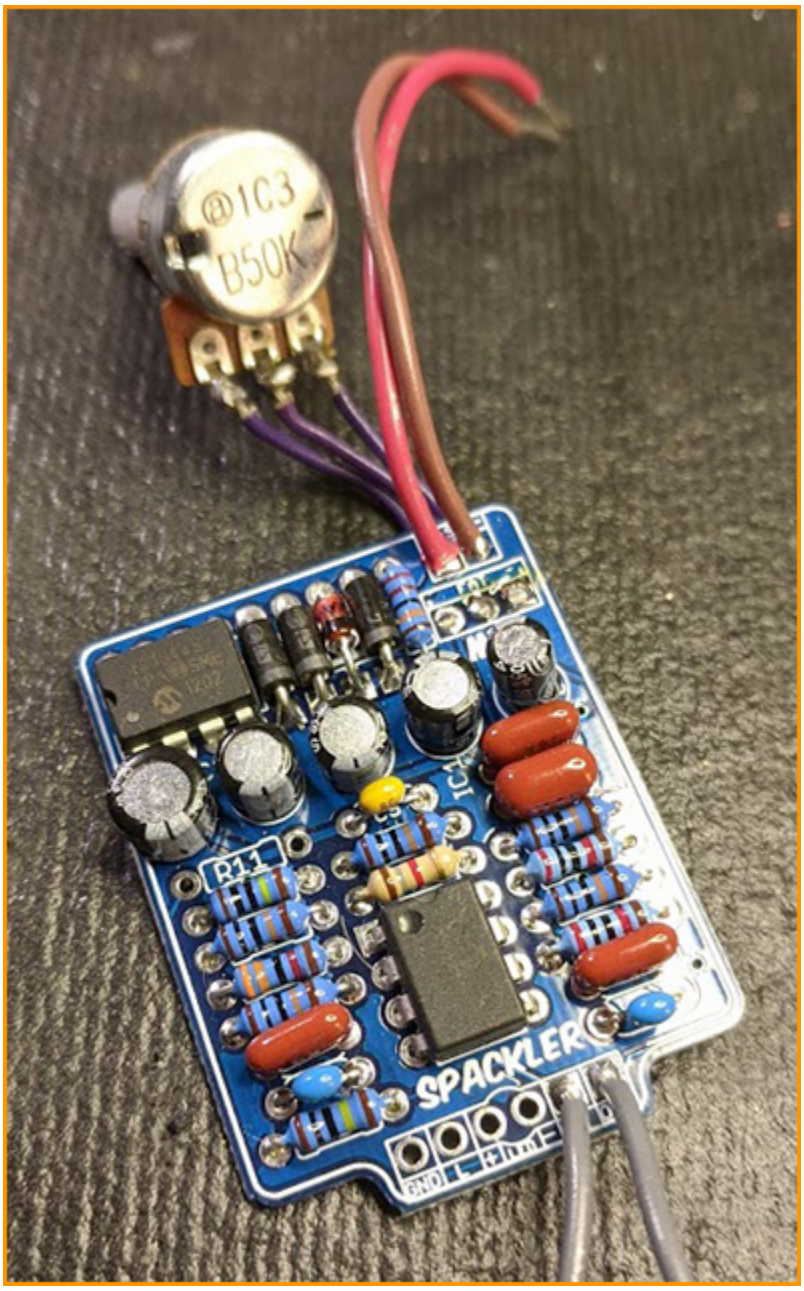


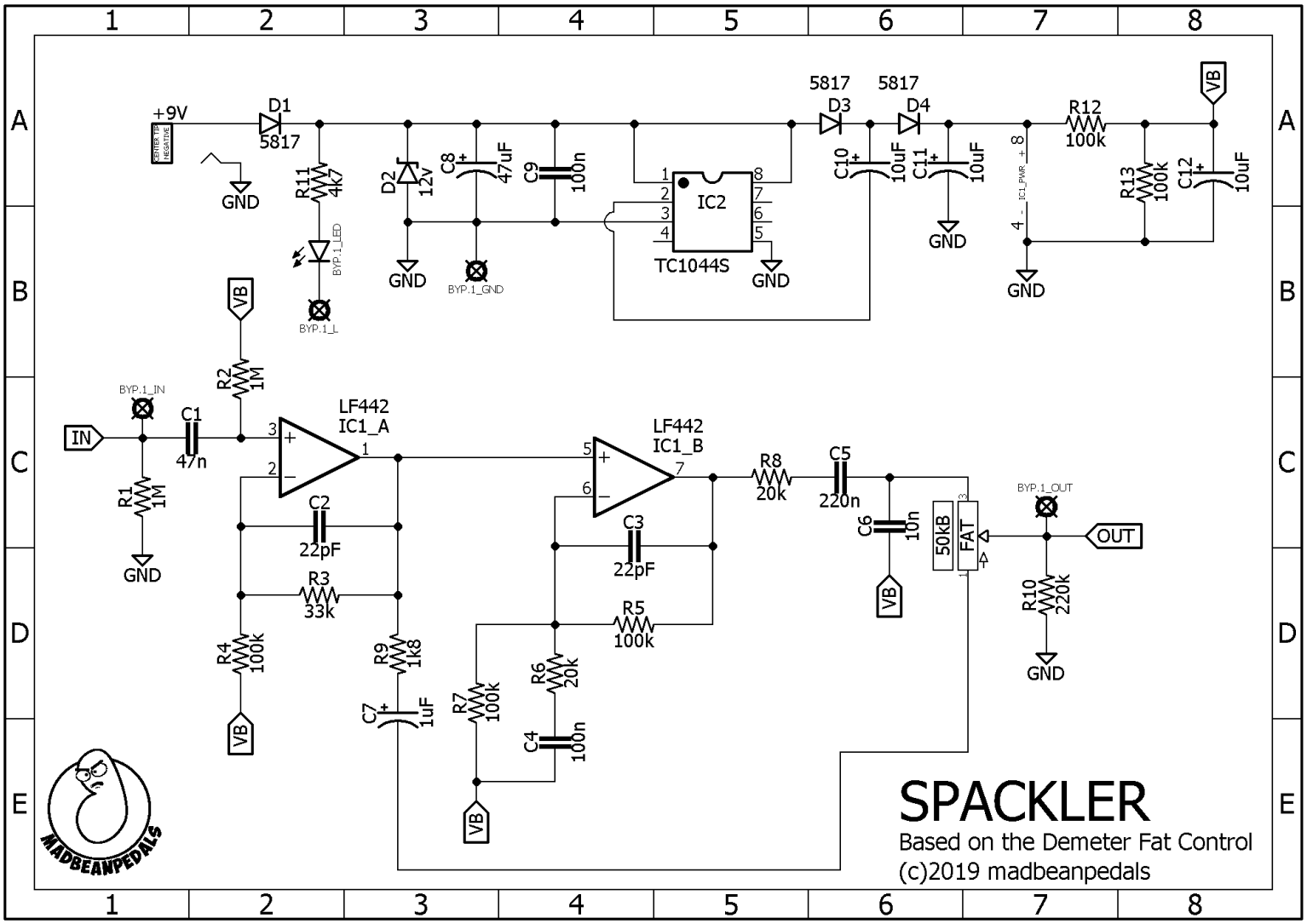
- This template will work for either mono enclosed jacks or the “Lumberg” style.
- You should use the “Thinline” style DC jack for this build.
- It also shows the 3PDT02 bypass PCB but this is not required. If you are wiring straight to a 3PDT you can use the same LED location on the right side or choose a different spot.

IC1	DC
1	8.94
2	8.96
3	7.36
4	0
5	8.94
6	8.96
7	8.96
8	17.98

IC2	DC
1	9.17
2	4.68
3	0
4	ignore
5	0
6	4.55
7	5.8
8	9.17

- 9.42vDC One Spot
- Current Draw ~ 2mA


@1C3
B50K
SPACKLER


+9V
D1
5817
GND
R11
4k7
BYP.1_LED
BYP.1_L
D2
12V
C8
47uF
C9
100n
GND
BYP.1_GND
IC2
TC1044S
GND
5817
D3
5817
D4
C10
10uF
C11
10uF
GND
IC1_PWR
R12
100k
R13
100k
C12
10uF
GND
VB
VB
R2
1M
BYP.1_IN
IN
C1
47n
R1
1M
GND
LF442
IC1_A
C2
22pF
R3
33k
R4
100k
R9
1k8
C7
1uF
VB
LF442
IC1_B
C3
22pF
R5
100k
R7
100k
R6
20k
C4
100n
VB
R8
20k
C5
220n
C6
10n
VB
50kB
FAT
BYP.1_OUT
OUT
R10
220k
GND
MADBEANPEDALS
SPACKLER
Based on the Demeter Fat Control
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