

WETBAR

FX TYPE: Overdrive

Based on the Ibanez® MF-5™

Enclosure Size: 125B

Softie compatibility: Softie3

© 2021 [madbeanpedals](http://madbeanpedals.com)



Overview

The Ibanez “SoundTank” series from the 1990’s is generally overlooked and often maligned by the guitar community. And, it’s probably not totally undeserved. The form factor is great, but they look terrible and cheap even though they were marketed as being able to survive an apocalypse.

The MF-5 (Modern Fusion) overdrive is from the SoundTank series. It’s a puzzler since (IMO) it is neither modern sounding or remotely “fusion-y”. As designed, it’s simply okay and kind of straddles the line between overdrive and distortion. Very bass heavy and not hugely inspiring. Basically, it’s not going to be anyone’s favorite dirt pedal.

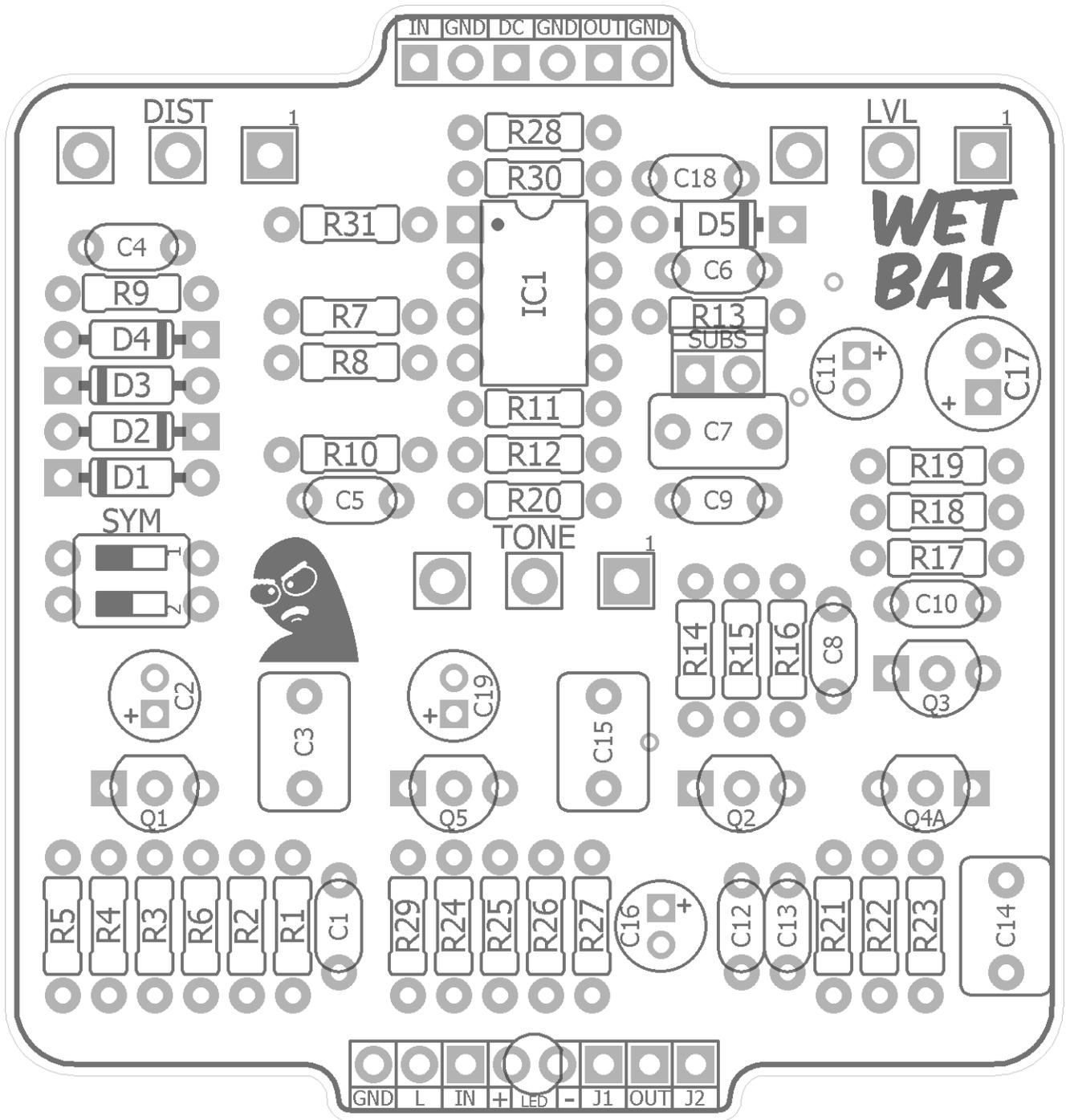
However, with just a few sensible mods the MF-5 turns into a very serviceable OD and even pretty good sounding. The **Wet Bar** project is geared towards those who fall into the DIY “BUILD ALL THE THINGS” crowd: it’s got the complete MF-5 in it, plus the mods I think make it a whole lot better!

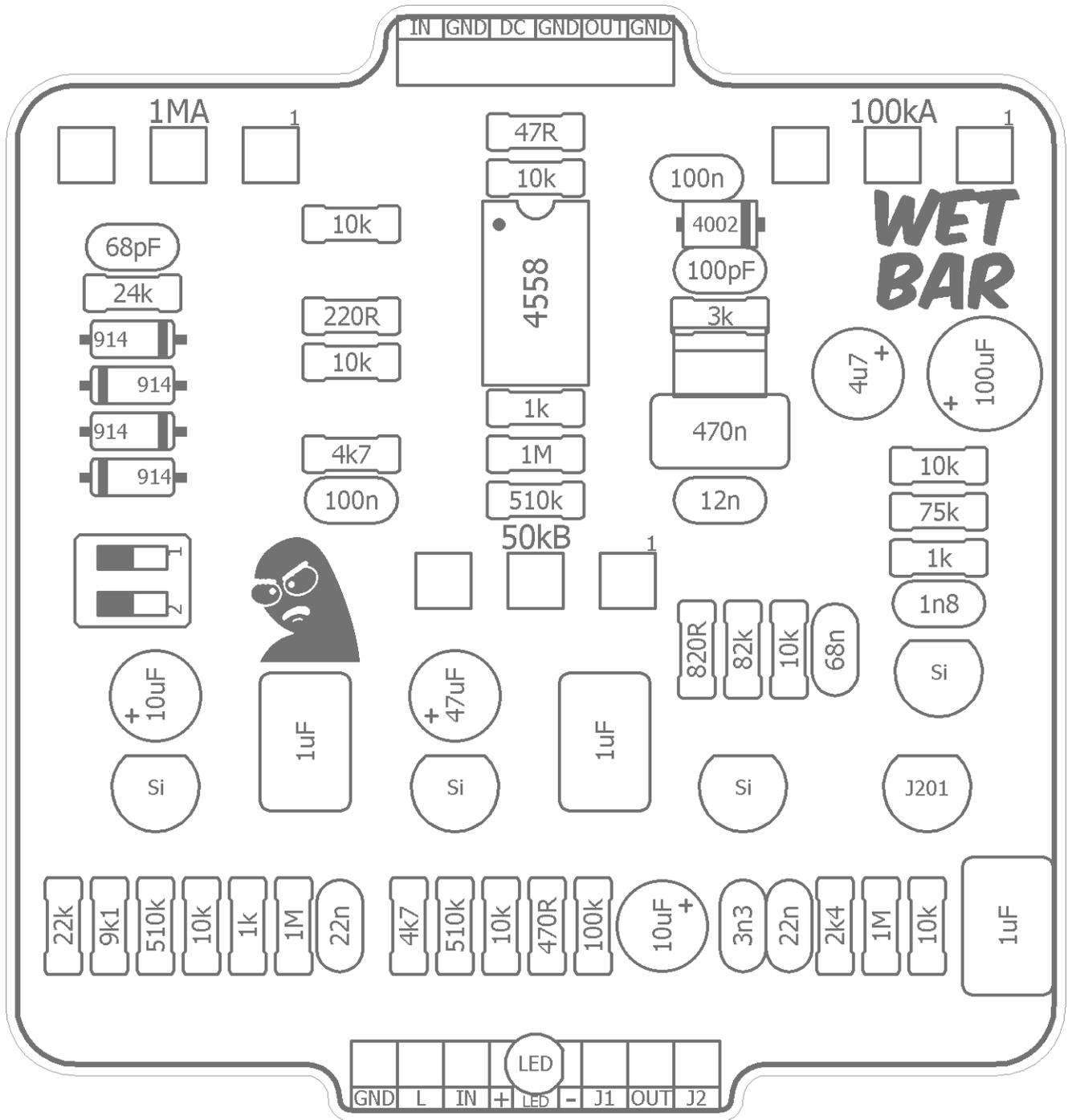
Controls

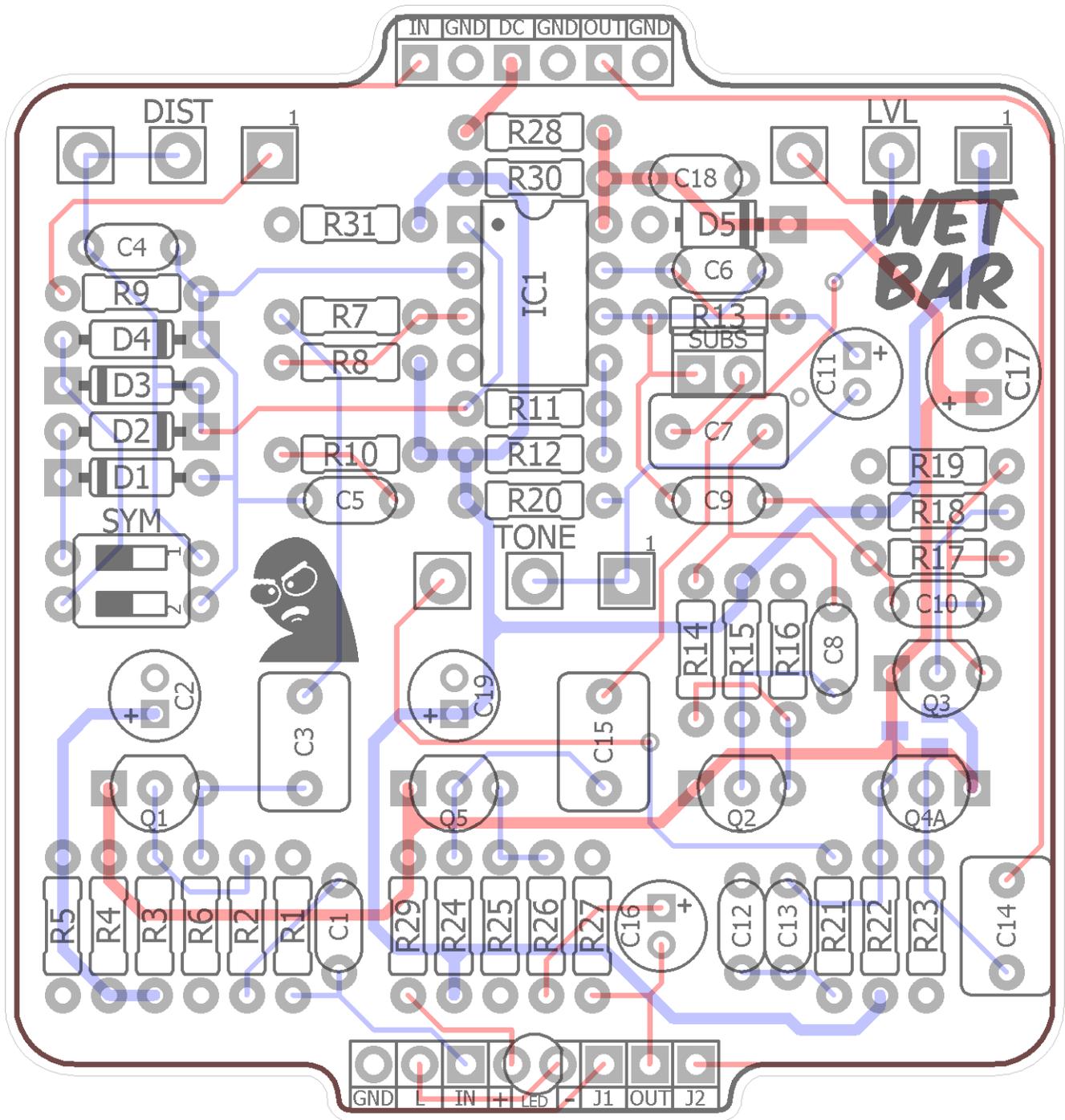
- **LVL, TONE, DIST** - As is typical with overdrives.
- **SUBS** - This switch allows you to disable the low frequency gyrator. In the UP position it’s the stock MF-5. In the DOWN position, the gyrator is lifted and makes the overdrive much more neutral on the low end.
- **DIP** - This 2 position DIP switch allows you to configure different clipping settings. When both positions are set to OFF you have one pair of back to back diodes for clipping (stock setting). Setting either the top or bottom position to ON gives asymmetrical clipping. Setting both positions to ON results in symmetrical clipping, but with less compression and more volume. Each setting sounds different but not so much that it needs to be an external switch. Simply experiment and find your favorite setup, set and forget.

Terms of Use: You are free to use purchased **WetBar** circuit boards for both DIY and small commercial operations. You may not offer **WetBar** PCBs for resale or as part of a “kit” in a commercial fashion. Peer to peer re-sale is fine, though.

Technical assistance for your build(s) is available via the [madbeanpedals forum](http://madbeanpedals.com). Please go there rather than emailing me for assistance on [builds](#). This is because (1) I’m not always available to respond via email in a timely and continuous manner, and (2) posting technical problems and solutions in the forum creates a record from which other members may benefit.







Resistors		Caps		Diodes	
R1	1M	C1	22n	D1	1n914
R2	1k	C2	10uF	D2	1n914
R3	510k	C3	1uF	D3	1n914
R4	9k1	C4	68pF	D4	1n914
R5	22k	C5	100n	D5	1n4002
R6	10k	C6	100pF	Transistors	
R7	220R	C7	470n	Q1	Si
R8	10k	C8	68n	Q2	Si
R9	24k	C9	12n	Q3	Si
R10	4k7	C10	1n8	Q4	J201
R11	1k	C11	4u7	Q5	Si
R12	1M	C12	3n3	ICs	
R13	3k	C13	22n	IC1	4558
R14	820R	C14	1uF	Switches	
R15	82k	C15	1uF	SUBS	SPDT
R16	10k	C16	10uF	SYM	DIP
R17	1k	C17	100uF	Pots	
R18	75k	C18	100n	TONE	50kB
R19	10k	C19	47uF	LVL	100kA
R20	510k			DIST	1MA
R21	2k4				
R22	1M				
R23	10k				
R24	510k				
R25	10k				
R26	470R				
R27	100k				
R28	47R				
R29	4k7				
R30	10k				
R31	10k				

Value	QTY	Type	Rating
47R	1	Metal / Carbon Film	1/4W
220R	1	Metal / Carbon Film	1/4W
470R	1	Metal / Carbon Film	1/4W
820R	1	Metal / Carbon Film	1/4W
1k	3	Metal / Carbon Film	1/4W
2k4	1	Metal / Carbon Film	1/4W
3k	1	Metal / Carbon Film	1/4W
4k7	2	Metal / Carbon Film	1/4W
9k1	1	Metal / Carbon Film	1/4W
10k	8	Metal / Carbon Film	1/4W
22k	1	Metal / Carbon Film	1/4W
24k	1	Metal / Carbon Film	1/4W
75k	1	Metal / Carbon Film	1/4W
82k	1	Metal / Carbon Film	1/4W
100k	1	Metal / Carbon Film	1/4W
510k	3	Metal / Carbon Film	1/4W
1M	3	Metal / Carbon Film	1/4W
68pF	1	Ceramic / MLCC	16v min.
100pF	1	Ceramic / MLCC	16v min.
1n8	1	Film	16v min.
3n3	1	Film	16v min.
12n	1	Film	16v min.
22n	2	Film	16v min.
68n	1	Film	16v min.
100n	2	Film	16v min.
470n	1	Film	16v min.
1uF	3	Film	16v min.
4u7	1	Electrolytic	16v min.
10uF	2	Electrolytic	16v min.
47uF	1	Electrolytic	16v min.
100uF	1	Electrolytic	16v min.
1n914	4		
1n4002	1		
NPN	4	2n3904, 2n5088	
J201	1	through-hole or surface mount	
4558	1		
SPDT	1	On/On, Solder Lug	mini
DIP	1	2-pos. Dip Switch	
50kB	1	PCB Right Angle	16mm
100kA	1	PCB Right Angle	16mm
1MA	1	PCB Right Angle	16mm

MPF102 (Sub for J201):

<https://stompboxparts.com/semiconductors/mpf102-jfet-nos-fairchild/>

MMBFJ201 (surface mount version):

<https://www.mouser.com/ProductDetail/512-MMBFJ201>

Mini SPDT (On/On):

<https://lovemyswitches.com/taiway-sub-mini-spdt-on-on-switch-pcb-mount-long-shaft/>

SPDT (On/On):

<https://lovemyswitches.com/spdt-on-on-switch-solder-lug-short-shaft/>

2-pos. Dip Switch:

<https://stompboxparts.com/switches/dip-switch-2-position/>

<https://www.taydaelectronics.com/electromechanical/switches-key-pad/dip-switch/dip-switch-2-positions-gold-plated-contacts-top-actuated.html>

16mm Pots:

<https://stompboxparts.com/pots/16mm-potentiometer-smooth-shaft-short-pcb-leg/>

<https://lovemyswitches.com/16mm-potentiometers-1-4-smooth-shaft-right-angle-pcb-mount/>

Low Profile DC Jack:

<https://stompboxparts.com/power-connections/dc-power-jack-2-1mm-low-profile/>

<https://lovemyswitches.com/thinline-lumberg-dc-power-jack-2-1mm/>

Mono 1/4" jacks:

<https://stompboxparts.com/audio-jacks/>

<https://lovemyswitches.com/categories/1-4-jacks-and-cables/mono-jacks.html>

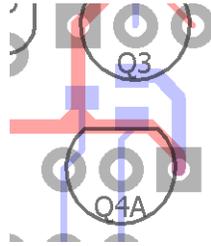
My preferred 3PDT switch:

<https://lovemyswitches.com/pro-3pdt-latched-foot-switch-solder-lugs-feather-soft-click/>

Stompboxparts "Essentials" kit:

<https://stompboxparts.com/jacks/the-essentials-hardware-pack/>

- The WetBar requires one JFET (Q4). As with all my recent designs, I've included the option of using either a through-hole or surface mount part. In this case, however, the surface mount part is on the *bottom* of the PCB.

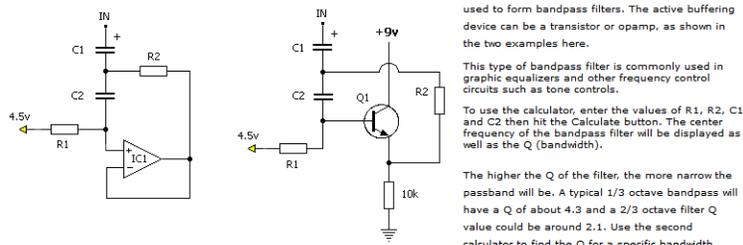


- You can use just about any type of NPN Bi-Polar for the other transistors. The 2n3904 or 2n5088 are fine here.
- The SUBS switch is listed as a sub-mini type but you should be able to fit a regular sized SPDT in the same drill spot indicated on the Drill Template page. It's just a matter of your preference.
- I've listed a few alternate values on the schematic which I preferred in my build. The first is to change the Tone pot from 50kB to 25kB. The stock value has more range than necessary, IMO, and reducing it by half made the full range more usable.
- The second suggestion is to mod the mid-frequency gyrator slightly. As is, it emphasizes the 4kHz range. IMO, pushing the 2-3kHz range in some overdrives produces some added harmonic content that allows the guitar cut through a mix. So, I altered to cap values to push it further down in that range. Or, use the calculator to tweak to your own taste.

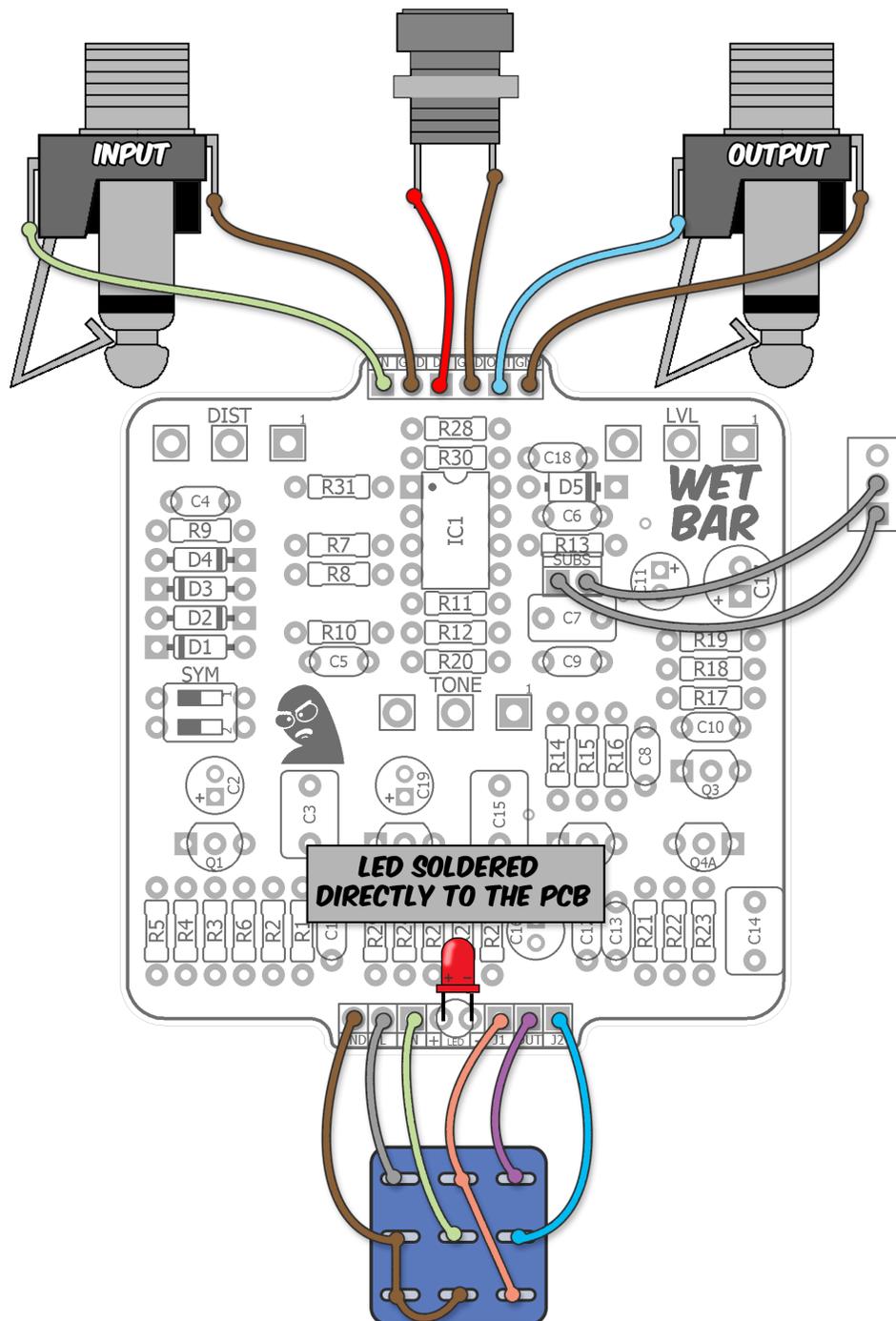
C9: Change from 12n to 18n
 C10: Change from 1n8 to 2n2.

Using the gyrator calculator from the muzique.com site I screen capped the results.

Bandpass EQ

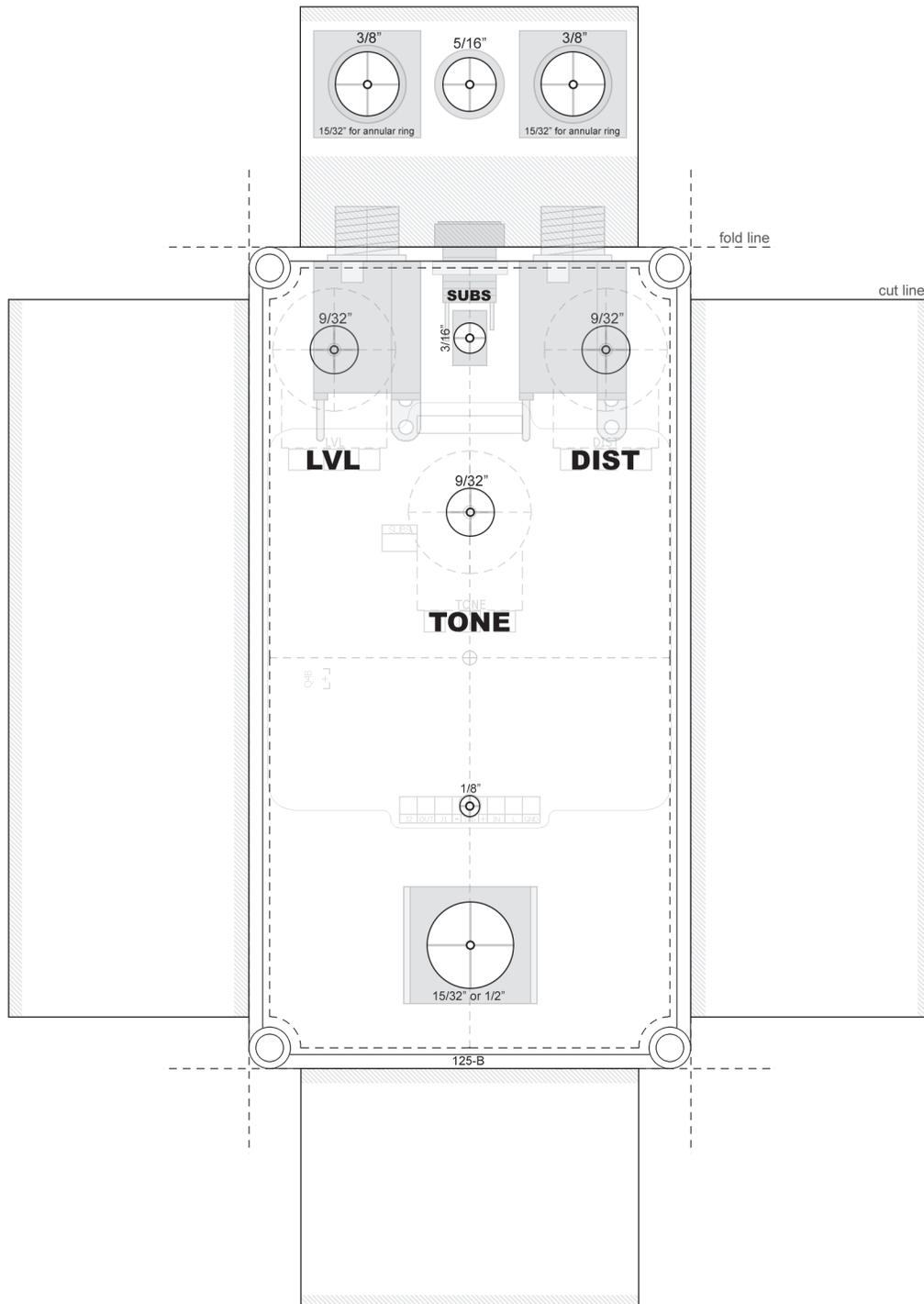


R1 (ohms)	R2 (ohms)	C1 (uF)	C2 (uF)	Freq (Hz)	Q
75000	1000	.012	.0018	3956.24	3.35
<input type="button" value="Calculate"/>					
R1 (ohms)	R2 (ohms)	C1 (uF)	C2 (uF)	Freq (Hz)	Q
75000	1000	.018	.0022	2921.88	3.03
<input type="button" value="Calculate"/>					



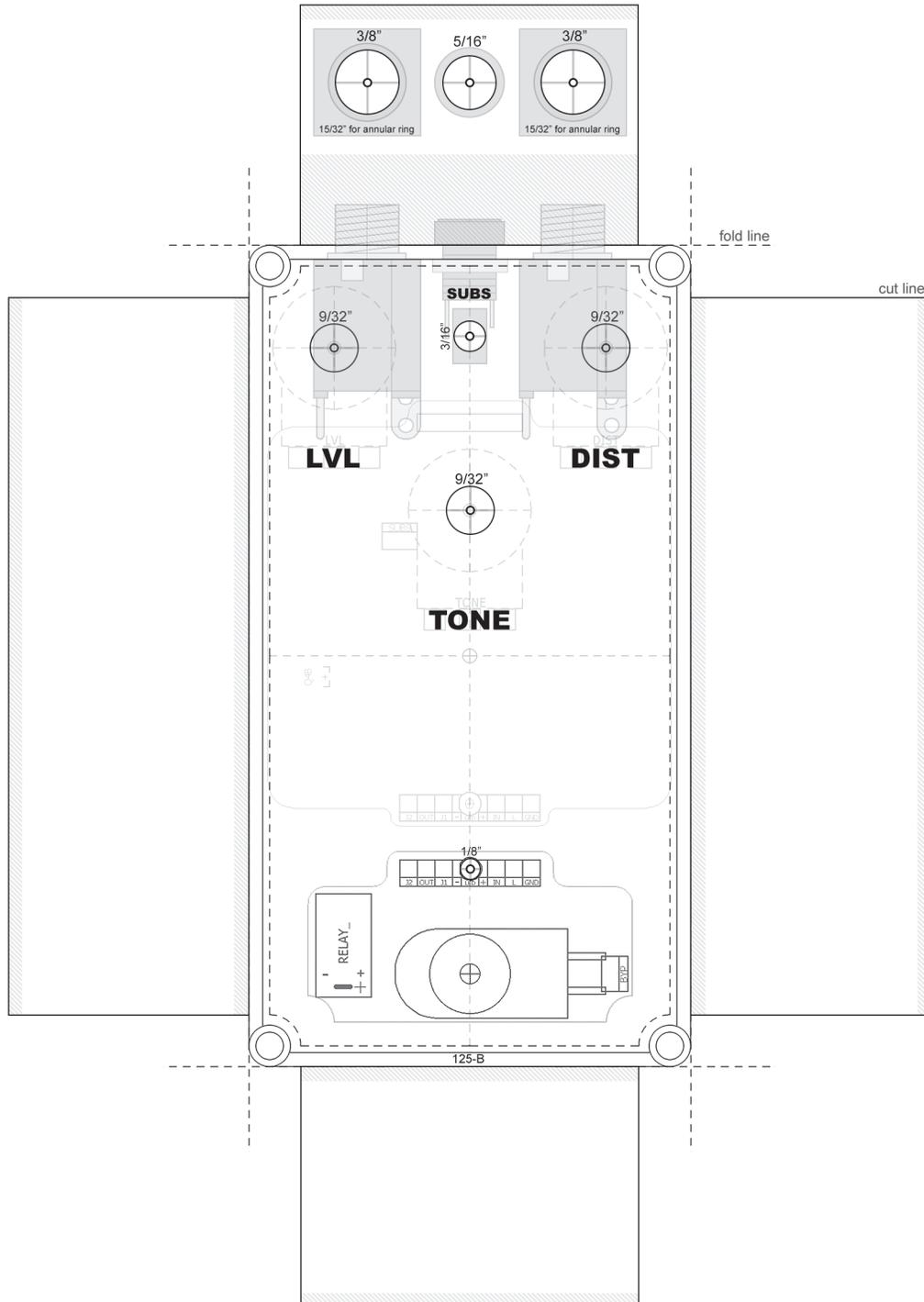
3PDT bypass wiring. If you want to use the Softie3 relay bypass instead (sold separately) please refer to that project documentation for wiring instructions.

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



Use this drill template for regular 3PDT bypass. The toggle switch is shown as sub-mini but a regular sized SPDT should also fit.

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



Use this drill template for Softie3 relay bypass (sold separately). Note the different LED location, too.

Q1	Si	Q4	J201	IC1	4558
C	9.21	D	9.21	1	4.74
B	4.97	S	4.64	2	4.56
E	4.49	G	4.14	3	4.56
Q2	Si	Q5	Si	4	0
C	9.21	C	9.21	5	4.74
B	4.38	B	3.53	6	4.74
E	3.75	E	3	7	4.74
Q3	Si			8	9.21
C	9.21				
B	4.39				
E	3.77				

- 9.5vDC One Spot
- Current Draw: 6mA

