

WOLFshirt2020

FX TYPE: Octave Fuzz

Based on the Foxx® Tone Machine™

Enclosure Size: 1590B, 1590B2, 125B

"Softie" compatibility: Softie1&2

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Overview

I've said more than once that the Foxx Tone Machine is my favorite fuzz/octave pedal. I think I've said the same thing about the Tychobrahe Octavia. I've come to accept that both statements are true :)

If the Octavia (mbp Retrograde) is the classic, Hendrix style oct-up fuzz, then the Tone Machine (Wolfshirt) is its unruly cousin; the one that has a few too many at family gatherings and then proceeds to mortify everyone. The fuzz is thicker and the octave up is more prominent. Basically, a bit of a face melter.

As with all analog octave up generators, the Wolfshirt is monophonic. It doesn't do chords well at all with all kinds of odd harmonics taking over. But, for lead and single note playing it cuts through exceedingly well. The Wolfshirt also includes a switch to defeat the octave up for fuzz only and replaces the coupling electrolytic caps in the audio path with 1uF film caps. For mojo.

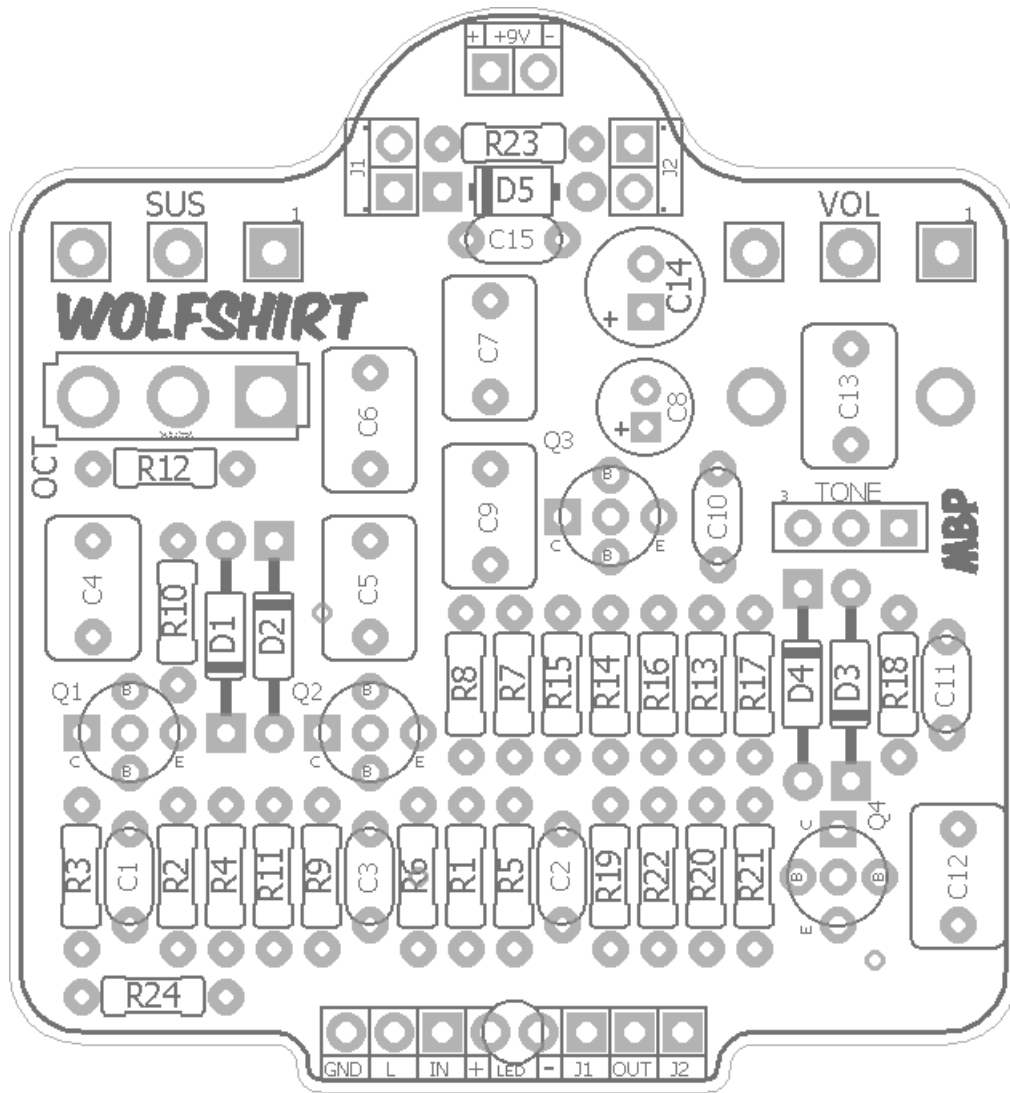
<http://www.effectsdatabase.com/model/foxx/tonemachine#info>

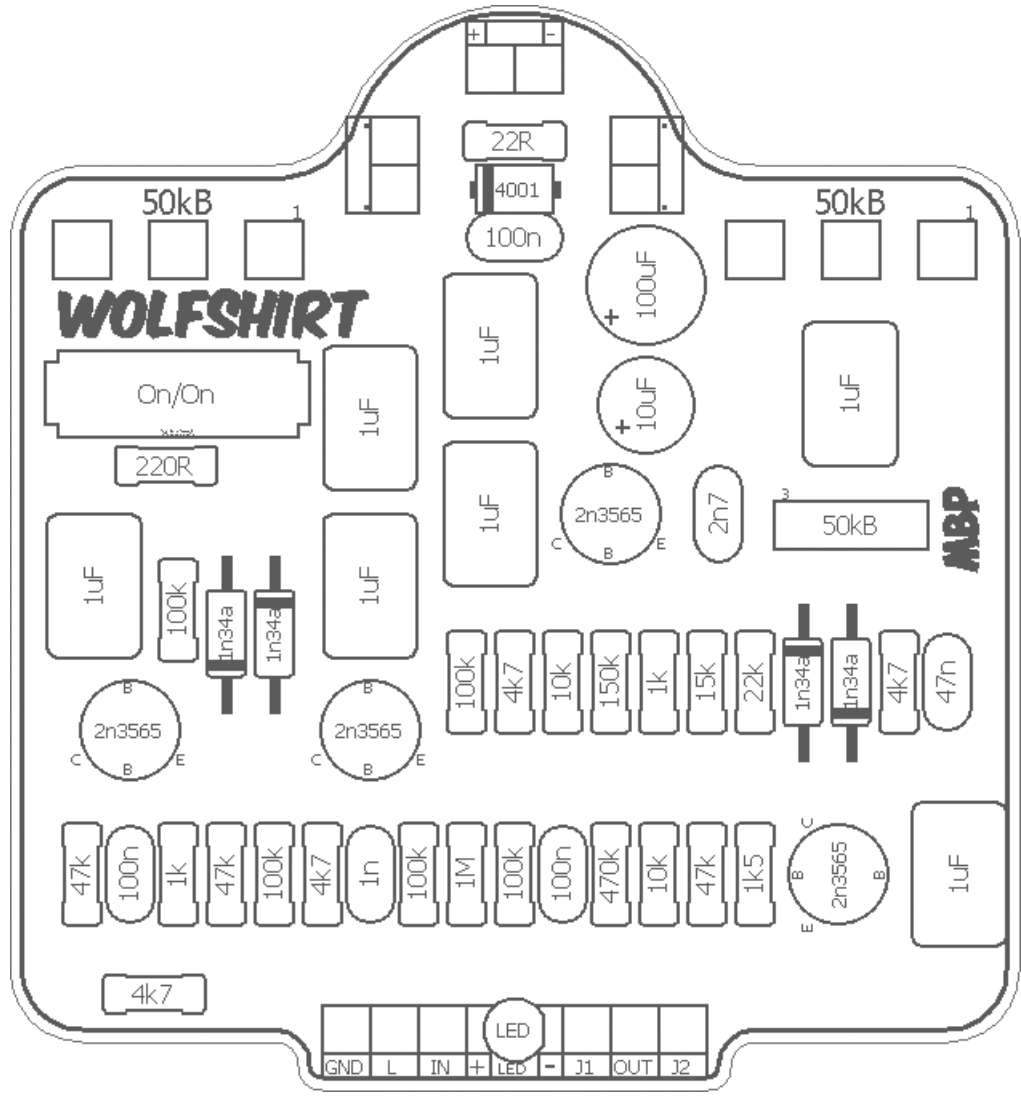
Controls

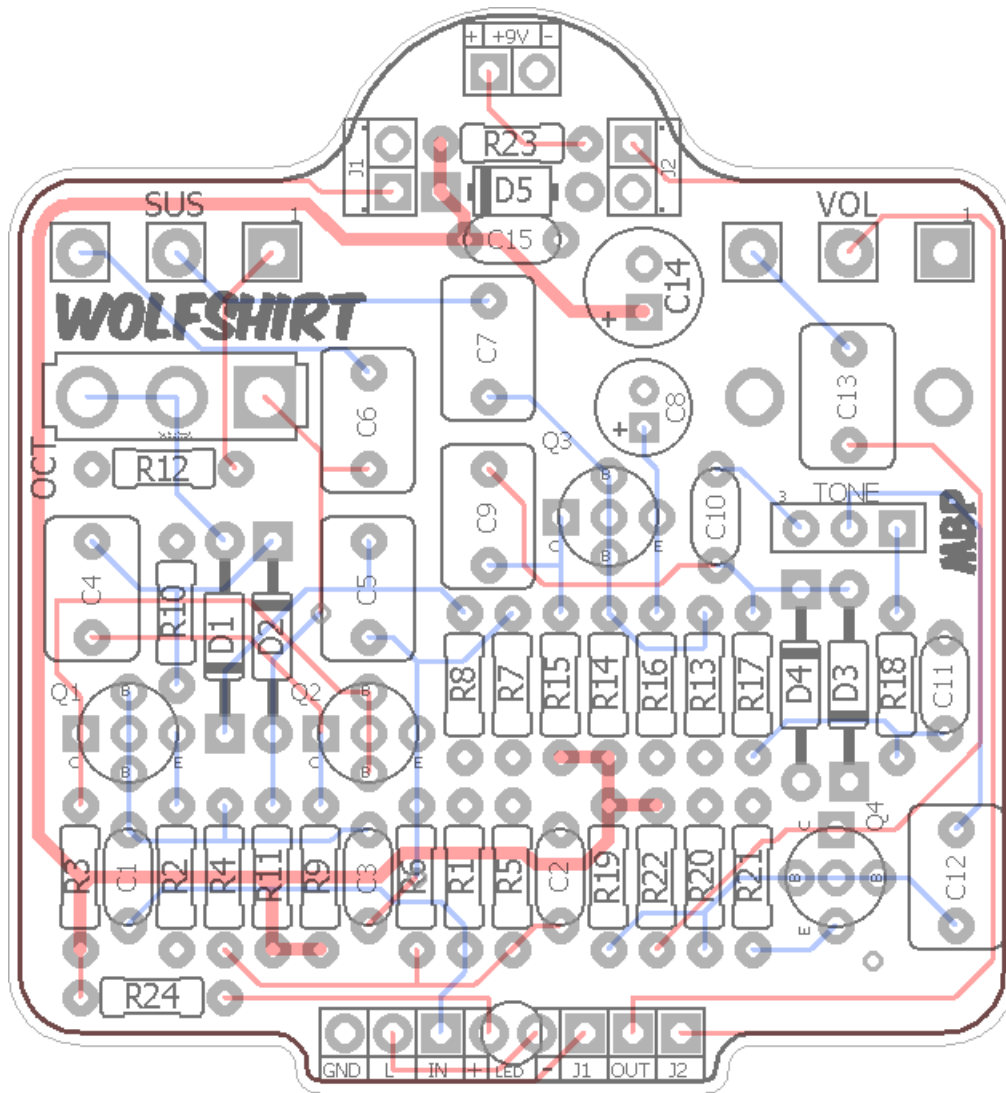
- **VOL:** Total output.
- **SUS:** Fuzz amount.
- **TONE:** Low pass filter.
- **OCT :** Left: fuzz only. Right: fuzz + octave.

Terms of Use: You are free to use purchased **Wolfshirt2020** circuit boards for both DIY and small commercial operations. You may not offer **Wolfshirt2020** 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/forum). 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	100n	D1 - D4	1n34a
R2	1k	C2	100n	D5	1N4001
R3	47k	C3	1n	Transistors	
R4	47k	C4	1uF	Q1 - Q4	2n3565
R5	100k	C5	1uF	Switches	
R6	100k	C6	1uF	OCT	On/On
R7	4k7	C7	1uF	Pots	
R8	100k	C8	10uF	SUS	50kB
R9	4k7	C9	1uF	TONE	50kB
R10	100k	C10	2n7	VOL	50kB
R11	100k	C11	47n		
R12	220R	C12	1uF		
R13	15k	C13	1uF		
R14	150k	C14	100uF		
R15	10k	C15	100n		
R16	1k				
R17	22k				
R18	4k7				
R19	470k				
R20	47k				
R21	1k5				
R22	10k				
R23	22R				
R24	4k7				

Value	QTY	Type	Rating
22R	1	Carbon / Metal Film	1/4W
220R	1	Carbon / Metal Film	1/4W
1k	2	Carbon / Metal Film	1/4W
1k5	1	Carbon / Metal Film	1/4W
4k7	4	Carbon / Metal Film	1/4W
10k	2	Carbon / Metal Film	1/4W
15k	1	Carbon / Metal Film	1/4W
22k	1	Carbon / Metal Film	1/4W
47k	3	Carbon / Metal Film	1/4W
100k	5	Carbon / Metal Film	1/4W
150k	1	Carbon / Metal Film	1/4W
470k	1	Carbon / Metal Film	1/4W
1M	1	Carbon / Metal Film	1/4W
1n	1	Film	16v min.
2n7	1	Film	16v min.
47n	1	Film	16v min.
100n	3	Film	16v min.
1uF	7	Film	16v min.
10uF	1	Electrolytic	16v min.
100uF	1	Electrolytic	16v min.
1n34a	4	or, BAT46	
1N4001	1		
2n3565	4		
On/On	1	PCB Solder Lugs	
50kB	1	PCB Right Angle	9mm
50kB	2	PCB Right Angle	16mm

2n3565

<http://smallbear-electronics.mybigcommerce.com/transistor-2n3565/>

1n34a:

<http://smallbear-electronics.mybigcommerce.com/diode-nos-germanium/>

BAT46 (1n34a alternative):

<http://smallbear-electronics.mybigcommerce.com/diode-schottky-bat46/>

SPDT (On/On):

<http://smallbear-electronics.mybigcommerce.com/spdt-on-on-short-lever/>

16mm Right Angle Pots (50k Ω):

<http://smallbear-electronics.mybigcommerce.com/alpha-single-gang-16mm-right-angle-pc-mount/>

9mm Plastic Shaft (50k Ω):

<http://smallbear-electronics.mybigcommerce.com/alpha-single-gang-9mm-right-angle-pc-mount-w-knurled-plastic-shaft/>

Thinline DC Jack:

<http://smallbear-electronics.mybigcommerce.com/dc-power-jack-all-plastic-unswitched-2-1-mm/>

Enclosed Mono:

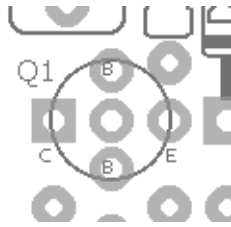
<http://smallbear-electronics.mybigcommerce.com/1-4-in-mono-enclosed-jack/>

<http://smallbear-electronics.mybigcommerce.com/1-4-in-mono-enclosed-switchcraft-111x/>

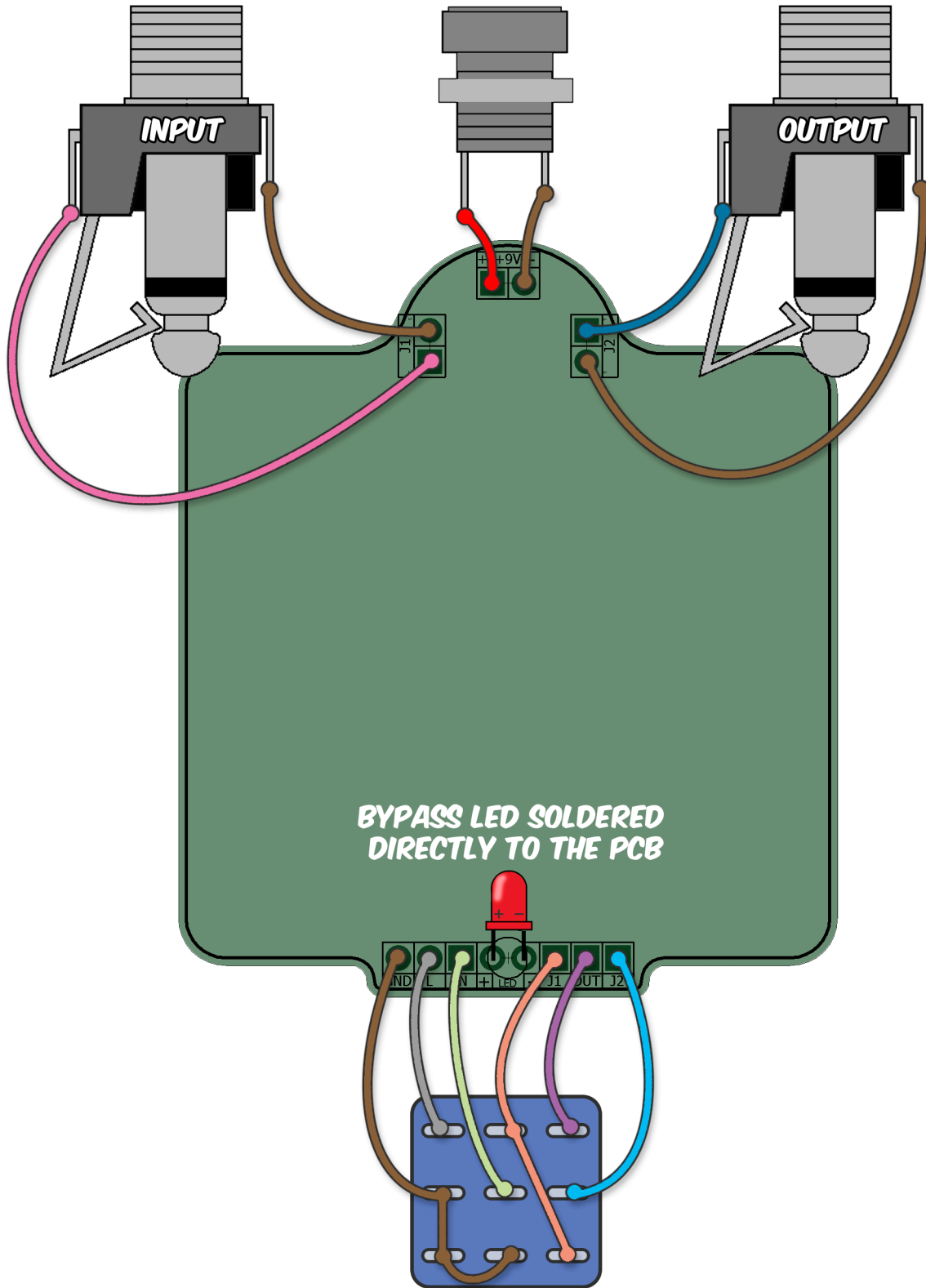
Lumberg Mono:

<http://smallbear-electronics.mybigcommerce.com/lumberg-1-4-compact-shrouded-mono-jack/>

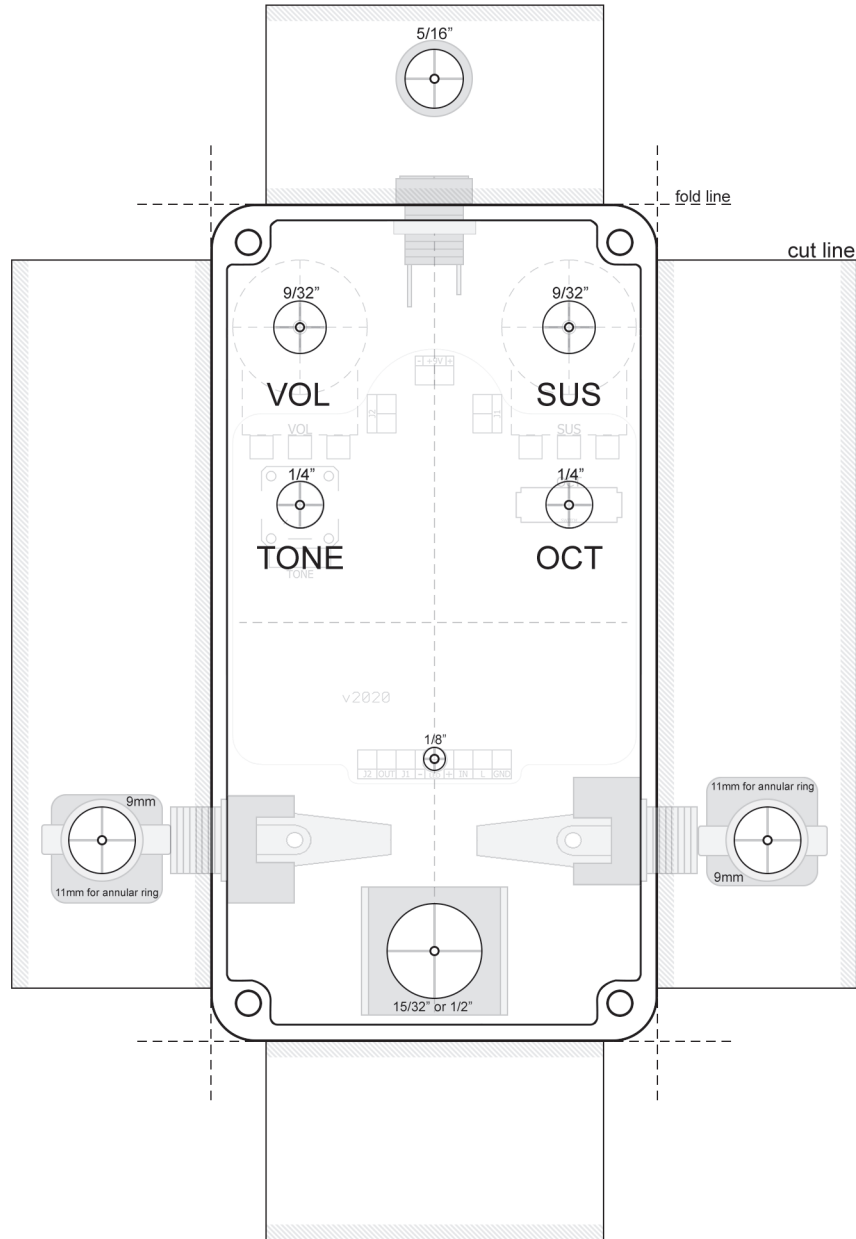
- While I do recommend sticking with the stock 2n3565 transistors for this build I used a transistor package that allows for different pinouts.



For the 2n3565, the flattened side of the transistor is the emitter.

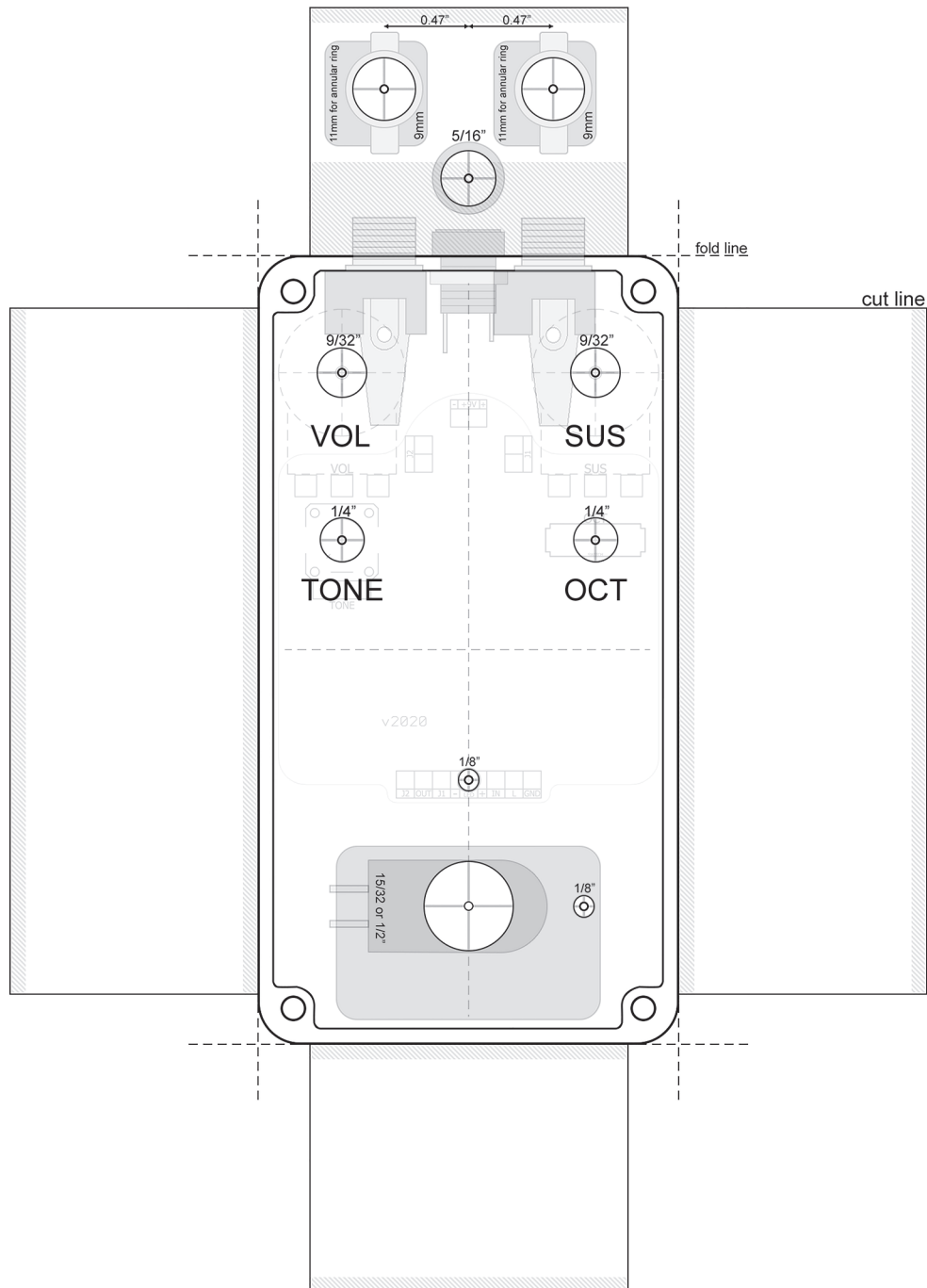


Note: Drill Guides are approximate and may require tweaking depending on the types of jacks, switches and pots you use.



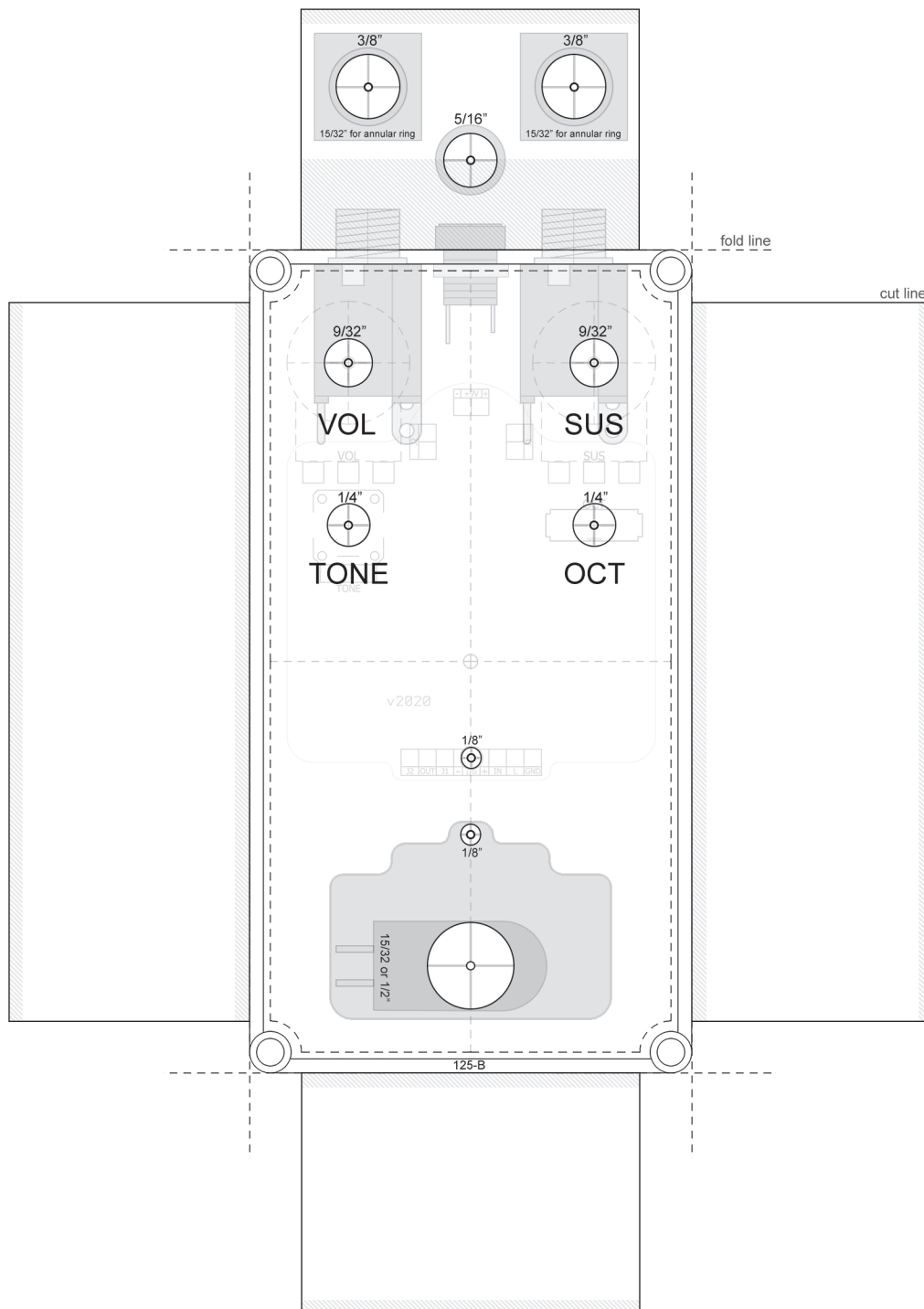
- This is a tight fit, but should work if you use the Lumberg style 1/4" jacks.
- I don't recommend using any of the mbp 3pdt boards for this enclosure.

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



- Shown with Softie 2 relay bypass. If you are using one of the mbp 3pdt bypass boards, or just a 3pdt switch on its own, move the drill spot for the switch a bit lower so you can fit everything properly. Drill only one LED spot!
- Lumberg style jacks are used here but other styles may fit using the same drill locations.

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



- Shown with Softie 1 relay bypass. Use the same drill spot for 3PDT switch or move to your desired location. Drill only one LED spot!
- Enclosed top jacks are used here, but you should also be able to fit open-frame metal jacks or the Lumberg style.
- You could also use side jacks but you'll need to move the Softie1 drill spot down. If you use side jacks with a regular 3pdt instead of the Softie simply pick your drill spots for the jacks.

Q1	2n3565	Q2	2n3565	Q3	2n3565	Q4	2n3565
C	2.24	C	7.72	C	7.17	C	8.02
B	0.75	B	2.24	B	0.84	B	0.81
E	151mV	E	1.61	E	221mV	E	202mV

- 9.42vDC One Spot
- Current Draw ~ 3mA

