

TURNABOUT

FX TYPE: Distortion

Based on the JHS® @™

Enclosure Size: 1590B, 1590B2, 125B

"Softie" compatibility: Softie1&2

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Overview

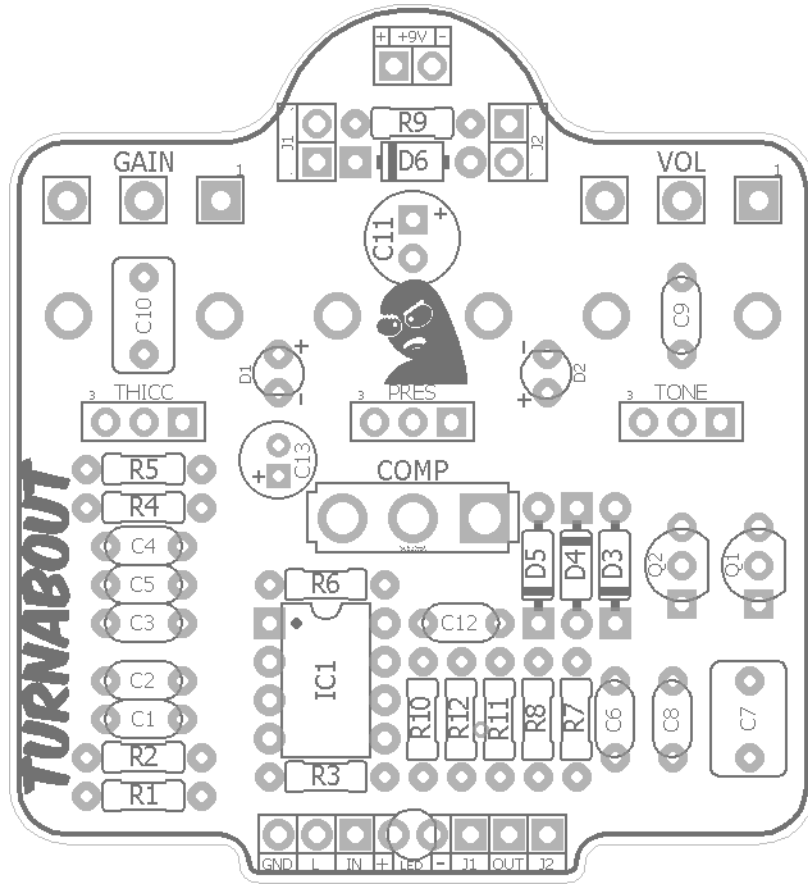
The Turnabout is a variation of the Andy Timmons pedal produced by JHS®, which is in turn pretty much a clone of the MI Audio Crunchbox. It produces thick, meaty distortion to emulate cranked 4x12 type tones. The Turnabout offers two additions: an asymmetrical clipping option and a thickness control to dial in the low end.

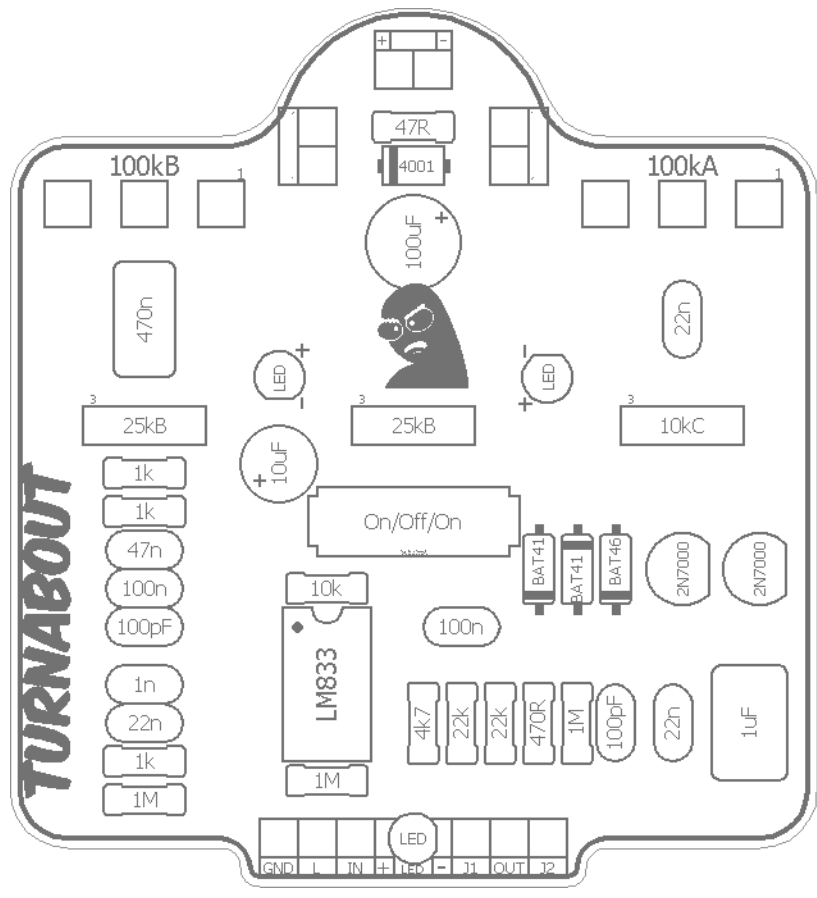
Controls

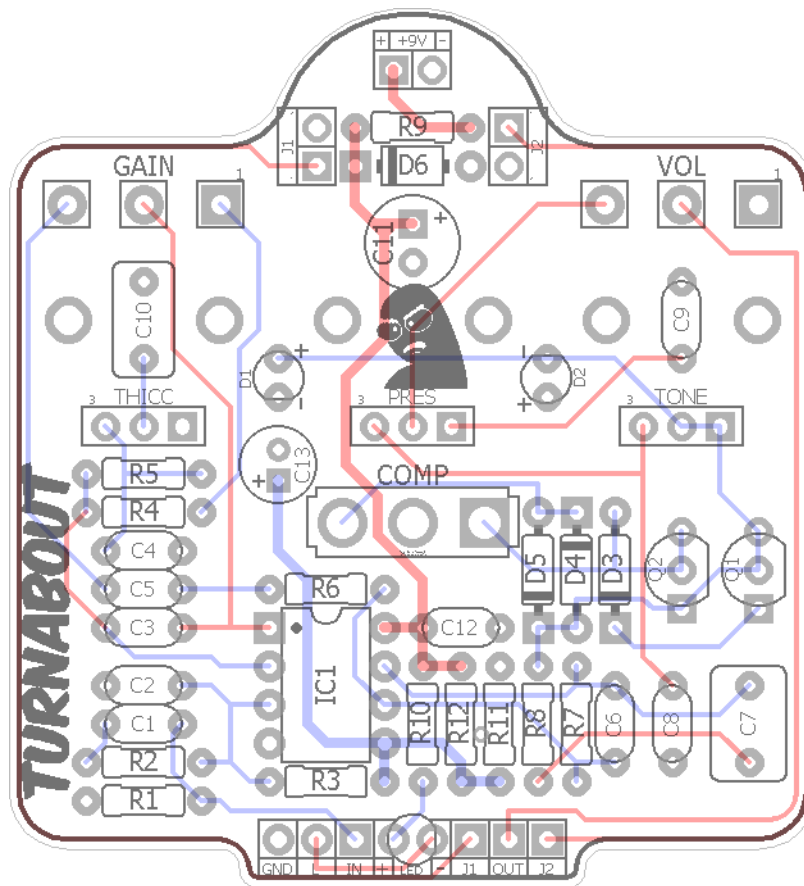
- **VOL:** Total output.
- **GAIN:** From medium to high gain distortion. The gain control is interactive with the Thicc control.
- **TONE:** Low pass filter.
- **PRES:** The Presence control is interactive with the Tone control. Higher values increase the overall presence which in turn pushes the tone control into a brighter range.
- **THICC:** Controls the amount of low end sent to the clipping stage.
- **COMP:** LED, Schottky and asymmetrical clipping. LED is the loudest (stock to the CrunchBox), Schottky is the most compressed and the asymmetrical mosfet clipping is in-between.

Terms of Use: You are free to use purchased **Turnabout** circuit boards for both DIY and small commercial operations. You may not offer **Turnabout** 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](#). 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, D2	LED
R2	1k	C2	1n	D3	BAT46
R3	1M	C3	100pF	D4, D5	BAT41
R4	1k	C4	47n	D6	1N4001
R5	1k	C5	100n	Transistors	
R6	10k	C6	100pF	Q1, Q2	2N7000
R7	1M	C7	1uF	IC	
R8	470R	C8	22n	IC1	LM833
R9	47R	C9	22n	Switch	
R10	4k7	C10	470n	COMP	On/Off/On
R11	22k	C11	100uF	Pots	
R12	22k	C12	100n	TONE	10kC
		C13	10uF	PRES	25kB
				THICC	25kB
				VOL	100kA
				GAIN	100kB

Value	QTY	Type	Rating
47R	1	Metal Film	1/4W
470R	1	Metal Film	1/4W
1k	3	Metal Film	1/4W
4k7	1	Metal Film	1/4W
10k	1	Metal Film	1/4W
22k	2	Metal Film	1/4W
1M	3	Metal Film	1/4W
100pF	2	Ceramic / MLCC / Mica	16v min.
1n	1	Film	16v min.
22n	3	Film	16v min.
47n	1	Film	16v min.
100n	2	Film	16v min.
470n	1	Film	16v min.
1uF	1	Film	16v min.
10uF	1	Electrolytic	
100uF	1	Electrolytic	
LED	2	RED, Diffused	5mm
BAT46	1		
BAT41	2		
1N4001	1		
2N7000	2		
LM833	1		
SPDT	1	On/Off/On, Solder Lug	
10kC	1	PCB Mount, Plastic Shaft	9mm
25kB	2	PCB Mount, Plastic Shaft	9mm
100kA	1	PCB Mount, Right Angle	16mm
100kB	1	PCB Mount, Right Angle	16mm

LM833N:

<https://www.mouser.com/ProductDetail/926-LM833N-NOPB>

The LM833N should be available at smallbear, as well.

BAT46:

<https://www.mouser.com/ProductDetail/511-BAT46>

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

BAT41:

<https://www.mouser.com/ProductDetail/511-BAT41>

<http://smallbear-electronics.mybigcommerce.com/diode-schottky-bat41/>

2n7000:

<https://www.mouser.com/ProductDetail/512-2N7000>

<http://smallbear-electronics.mybigcommerce.com/transistor-fet-2n7000/>

SPDT (On/Off/On):

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

9mm Plastic Shaft Pots (10kC, 25kC):

<http://smallbear-electronics.mybigcommerce.com/alpha-single-gang-9mm-pc-mount/>

The 10kC plastic shaft pots are very difficult to find right now. Suggest subbing in a linear pot (B taper).

16mm Right Angle Pots (100kA, 100kC):

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

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/>

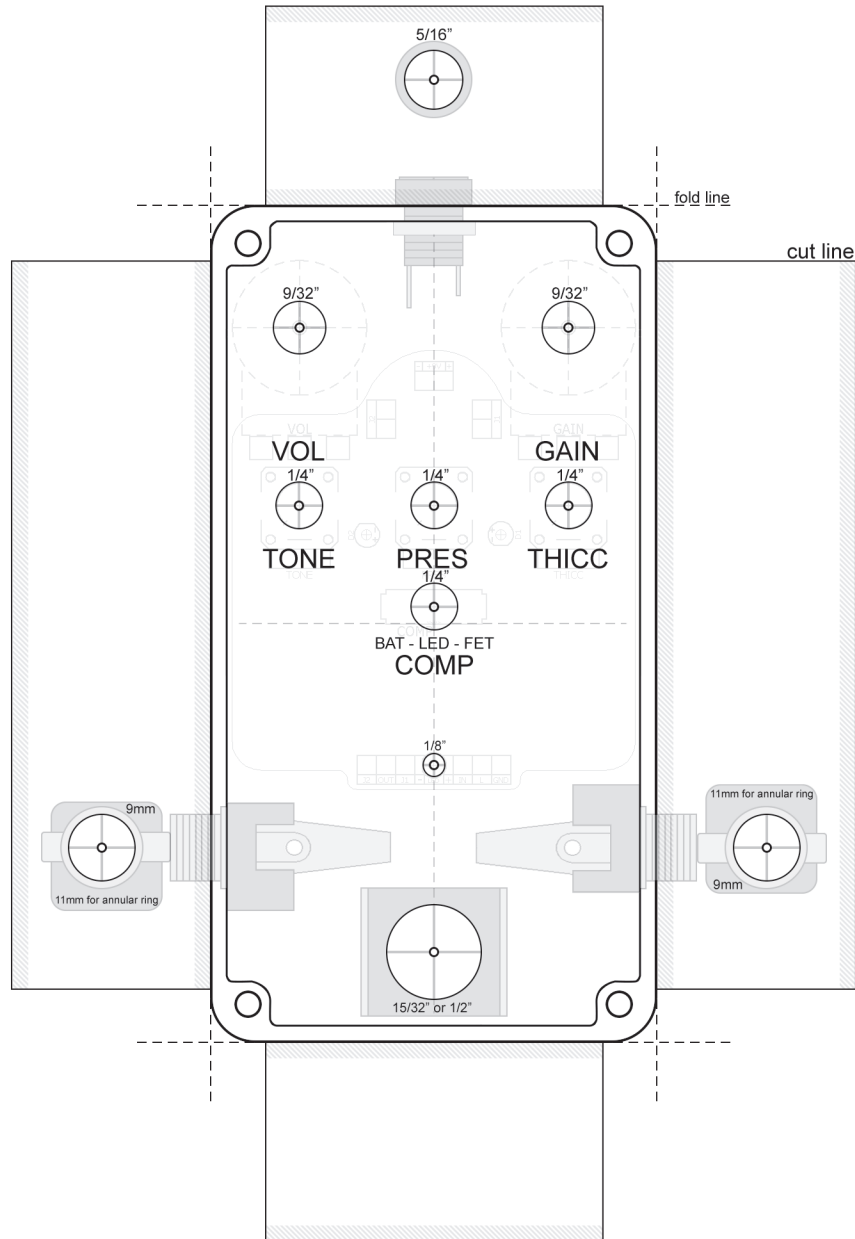
<http://smallbear-electronics.mybigcommerce.com/1-4-in-mono-enclosed-switchcraft-111x/>

Lumberg Mono:

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

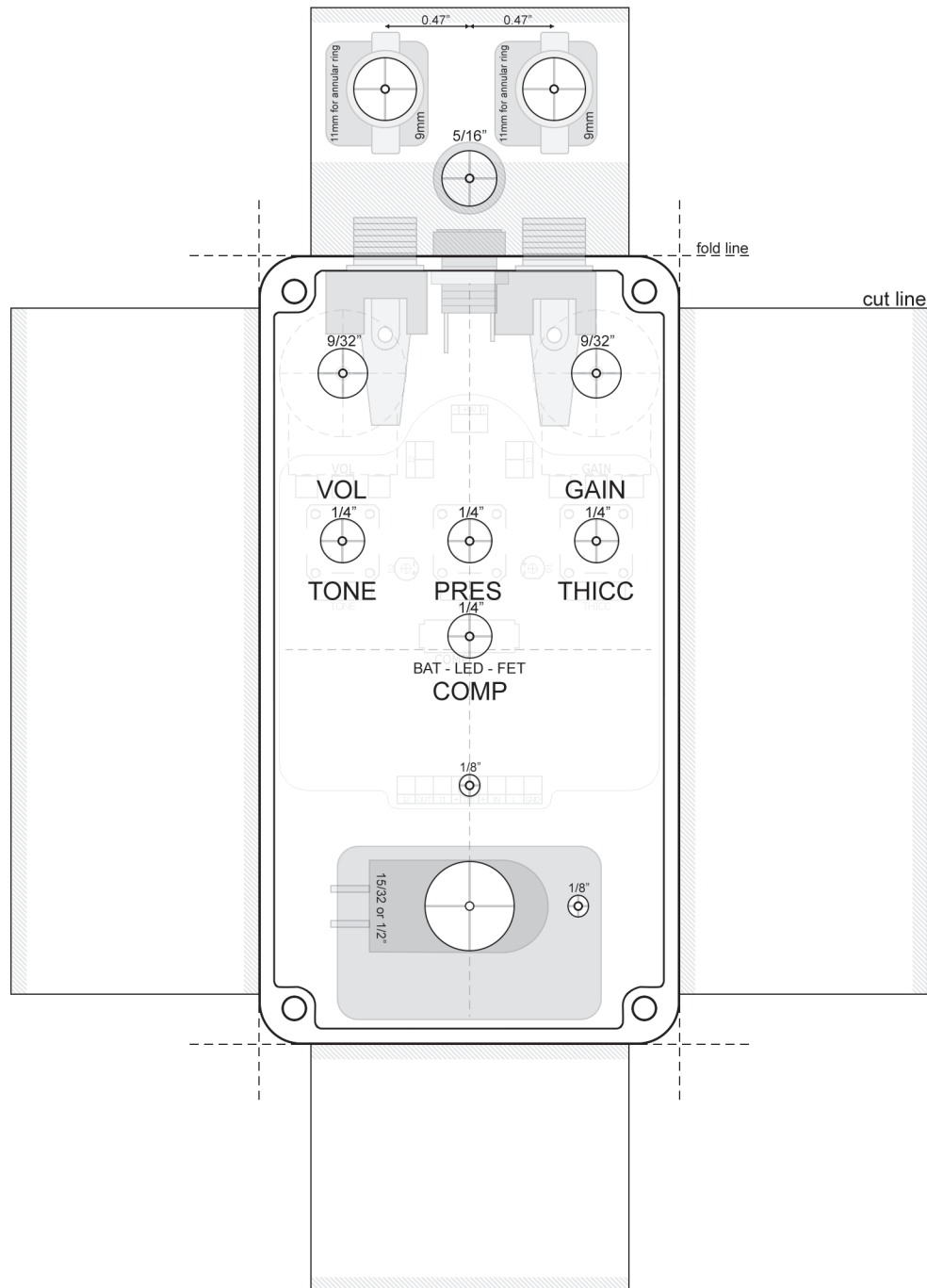
- To understand the best way to use the Tone and Pres controls think of it this way: the Presence control is what you use to set the maximum range of the Tone control. It's what you will change first when plugging in different guitars or to different amps. Then the Tone control is used continuously to set the amount of filtering you want for a particular sound. Darker amps and guitars with humbuckers will generally have a higher Pres setting than say, a Vox amp or Tele style guitar (unless you really WANT to punish everyone around you!)
- The Thicc control lets you dial out some of the bass in the stock @ pedal as well as put in a little extra if you like. At lower Thicc settings, the maximum amount of distortion will also be reduced. So, in general, when you want to get the lowest gain amount possible out of the Turnabout you are going to turn down the Thicc and Gain controls and set the Comp switch for the least amount of compression (the LEDs). The Thicc control also lets you shovel some mud out of neck pickups, too.
- The clipping LEDs will light up when they are selected so if you like blinky lights you can mount one or both externally.

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



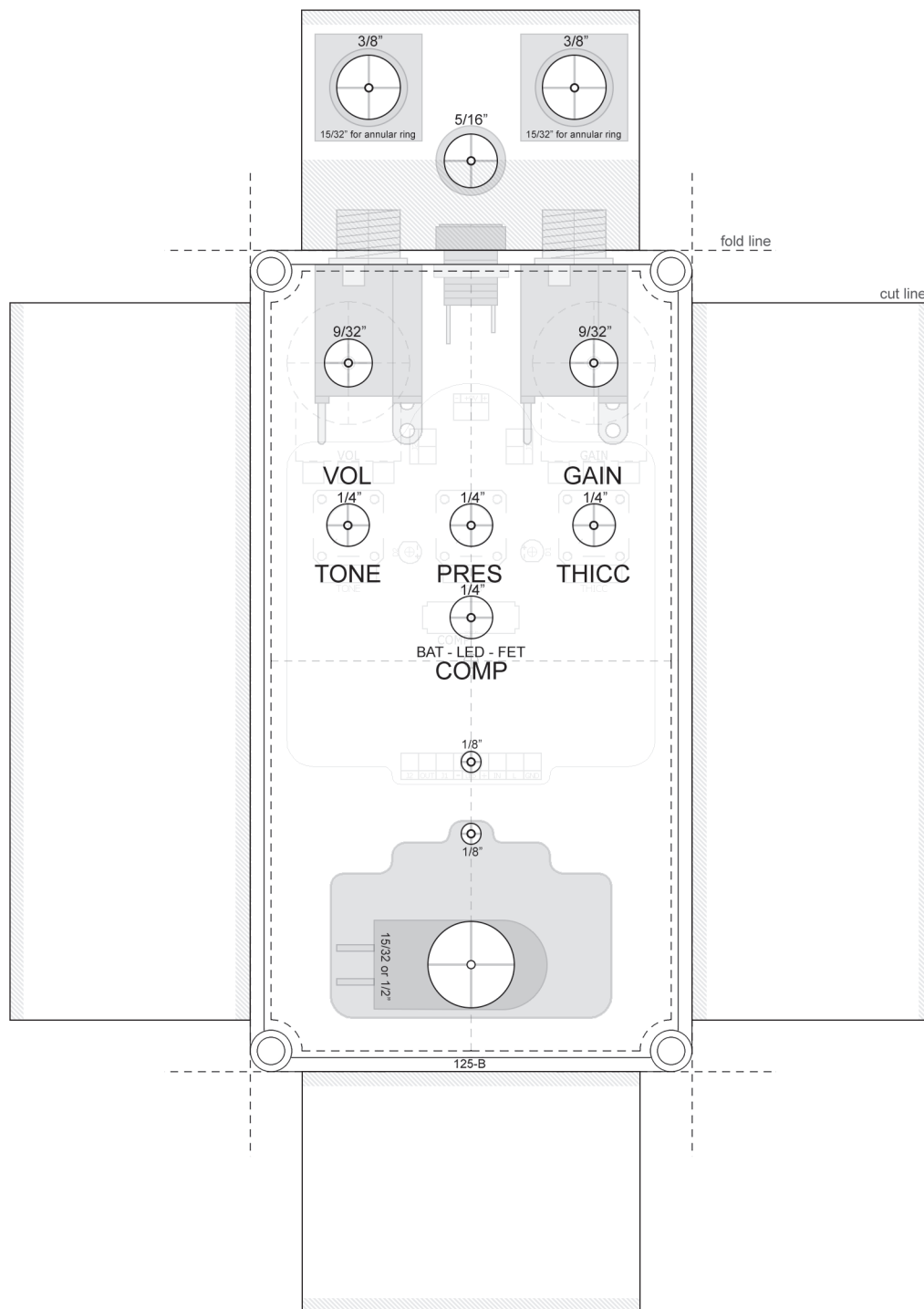
- This is a tight fit, but should work if you use the Lumberg or open-frame style 1/4" jacks.
- I don't recommend using any of the mbp 3pdt boards for this enclosure.

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.

IC1	LM833
1	4.74
2	4.76
3	4.35
4	0
5	4.55
6	4.55
7	4.32
8	9.12

- 9.42vDC One Spot
- Current Draw ~ 6mA

