

# RIPJAW

## FX TYPE: Distortion

Based on the Marshall® The Shredmaster™

Enclosure Size: 1590B

"Softie" compatibility: none

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## Overview

The Shredmaster™ was Marshall's expansion of The Guv'nor into high-gain territory. It was released in the early 90's and discontinued shortly after. The Shredmaster was just recently re-issued. The **Ripjaw** shrinks the project down into an easily built 1590B enclosure.

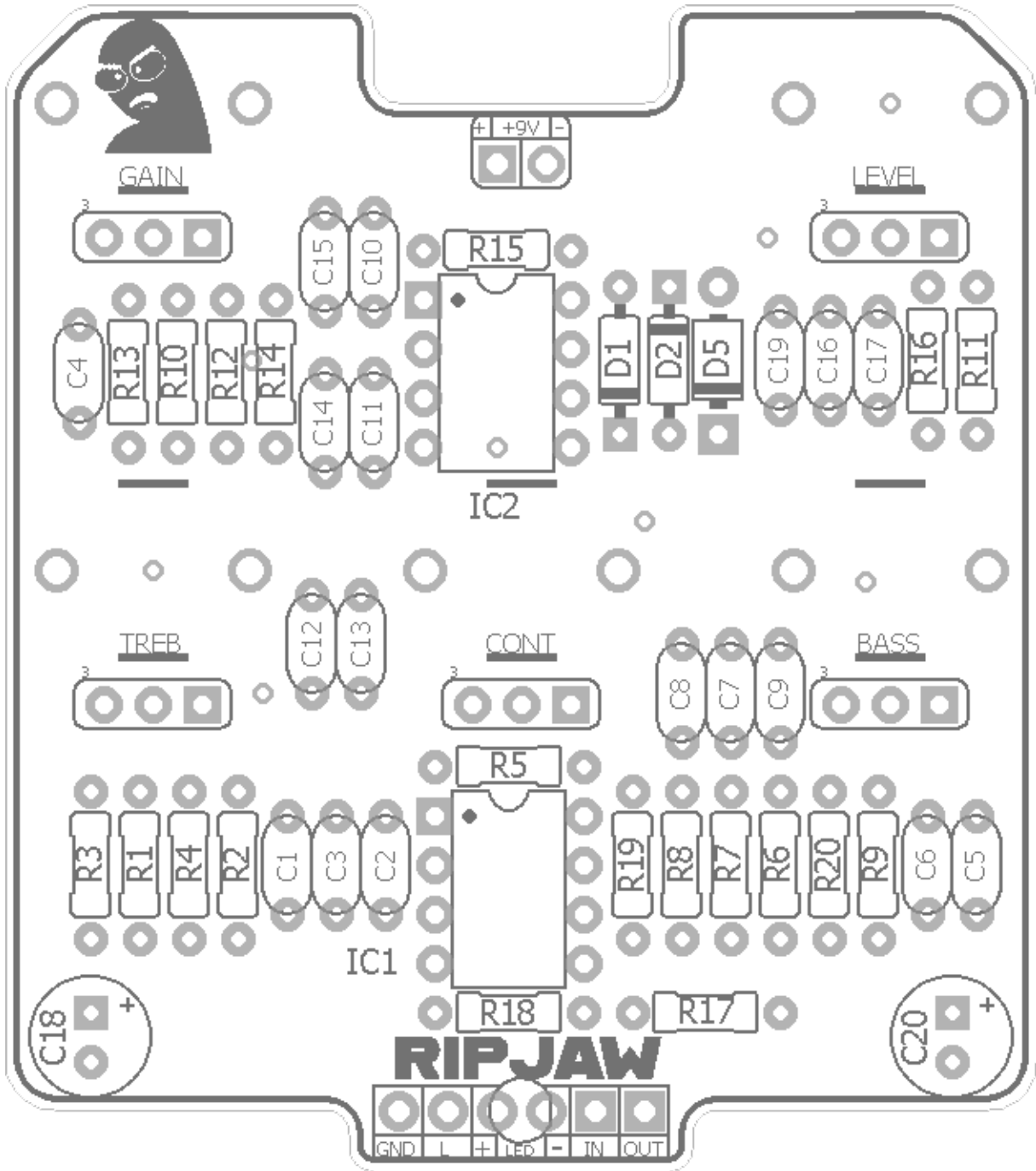
## Controls

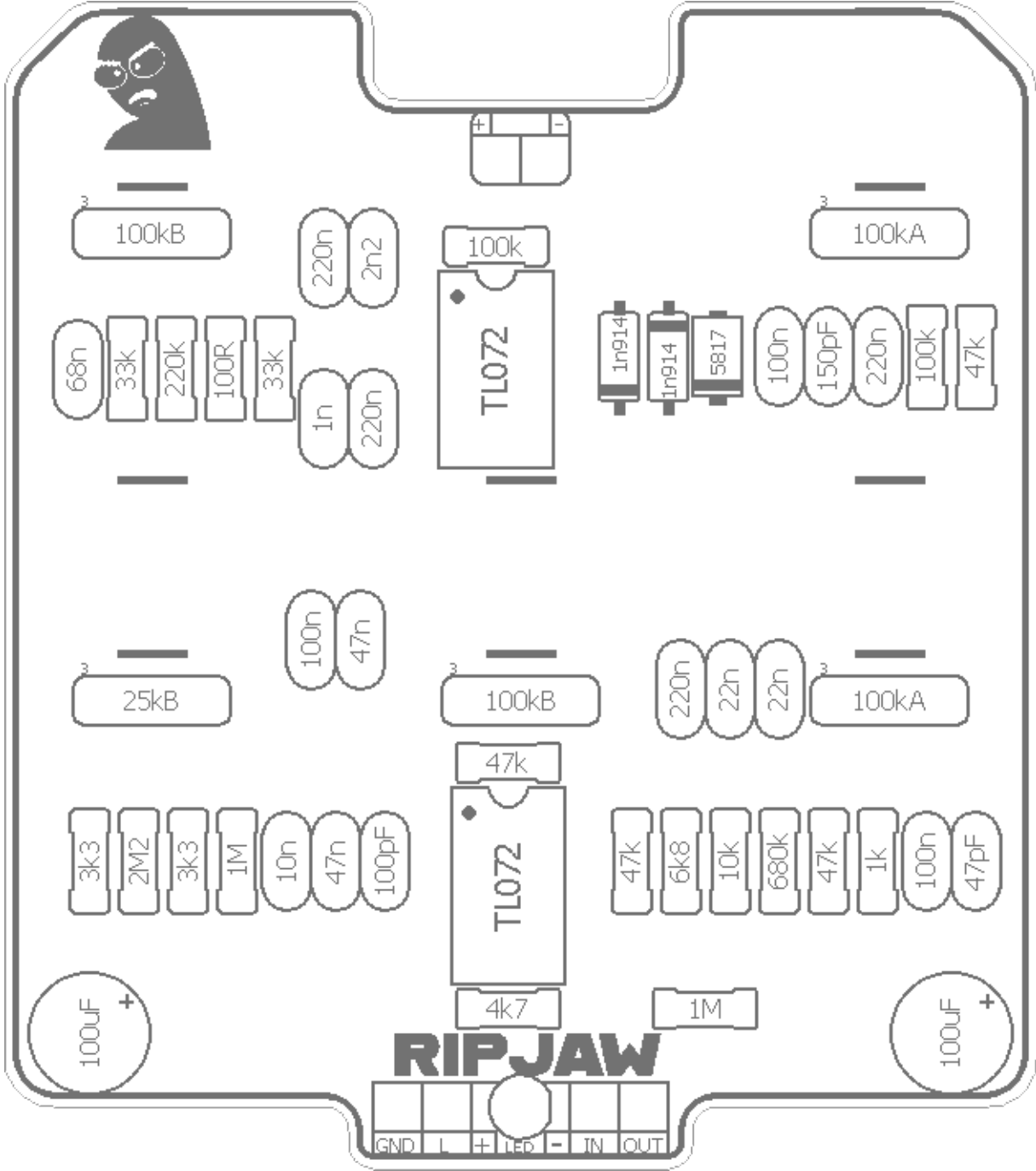
**VOL, GAIN, BASS, TREB** - Standard controls.

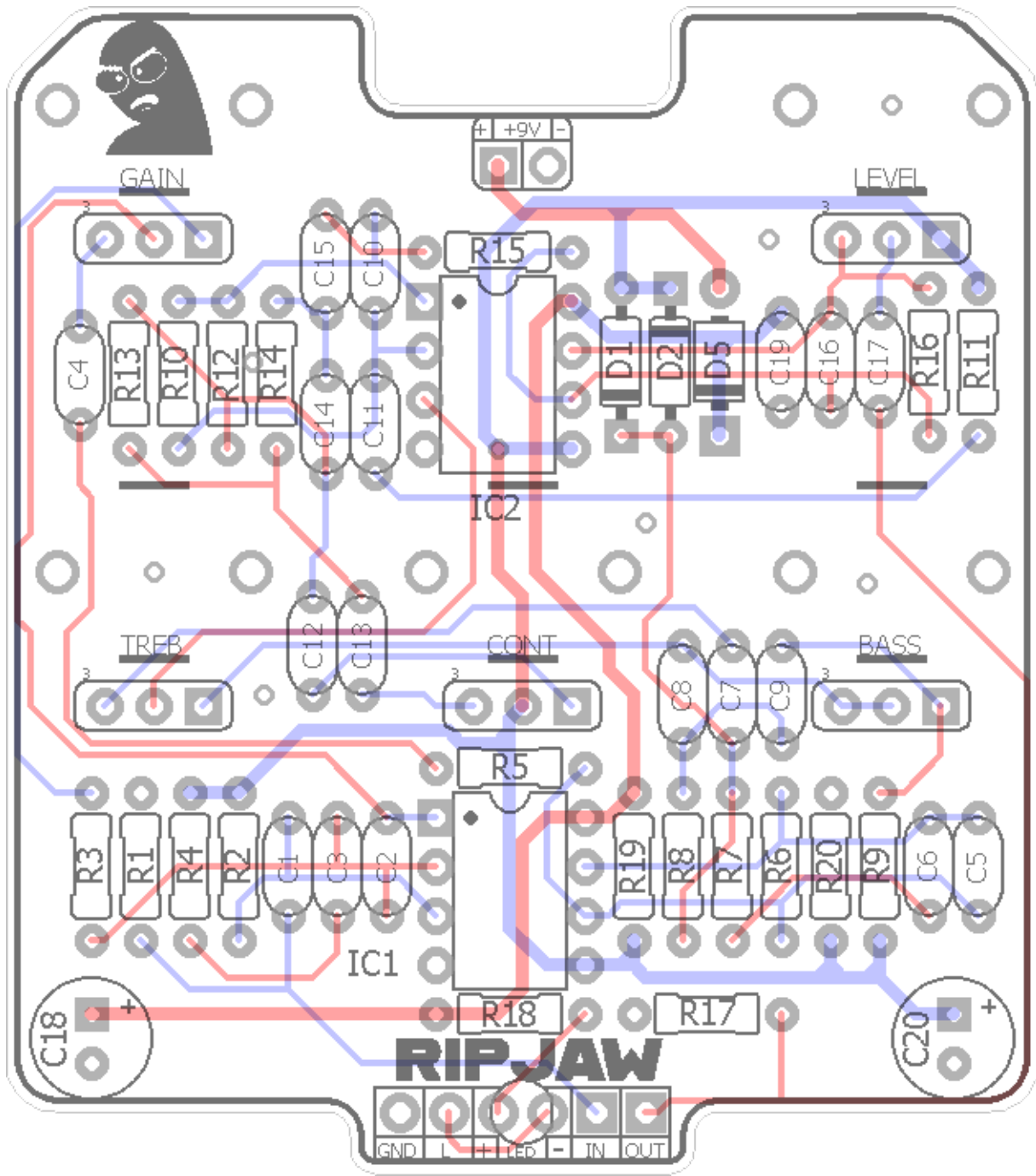
**CONT** - The Contour control ranges mids-focused (CCW) to very highly mids-scooped (CW).

**Terms of Use:** You are free to use purchased **Ripjaw** circuit boards for both DIY and small commercial operations. You may not offer **Ripjaw** 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	2M2	C1	10n	D1	1n914
R2	1M	C2	100pF	D2	1n914
R3	3k3	C3	47n	D5	1n5817
R4	3k3	C4	68n	ICs	
R5	47k	C5	47pF	IC1	TL072
R6	680k	C6	100n	IC2	TL072
R7	10k	C7	22n	Pots	
R8	6k8	C8	220n	TREB	25kB
R9	1k	C9	22n	BASS	100kA
R10	220k	C10	2n2	LEVEL	100kA
R11	47k	C11	220n	GAIN	100kB
R12	100R	C12	100n	CONT	100kB
R13	33k	C13	47n		
R14	33k	C14	1n		
R15	100k	C15	220n		
R16	100k	C16	150pF		
R17	1M	C17	220n		
R18	4k7	C18	100uF		
R19	47k	C19	100n		
R20	47k	C20	100uF		

Value	QTY	Type	Rating
100R	1	Metal / Carbon Film	1/4W
1k	1	Metal / Carbon Film	1/4W
3k3	2	Metal / Carbon Film	1/4W
4k7	1	Metal / Carbon Film	1/4W
6k8	1	Metal / Carbon Film	1/4W
10k	1	Metal / Carbon Film	1/4W
33k	2	Metal / Carbon Film	1/4W
47k	4	Metal / Carbon Film	1/4W
100k	2	Metal / Carbon Film	1/4W
220k	1	Metal / Carbon Film	1/4W
680k	1	Metal / Carbon Film	1/4W
1M	2	Metal / Carbon Film	1/4W
2M2	1	Metal / Carbon Film	1/4W
47pF	1	Ceramic	16v min.
100pF	1	Ceramic	16v min.
150pF	1	Ceramic	16v min.
1n	1	Film	16v min.
2n2	1	Film	16v min.
10n	1	Film	16v min.
22n	2	Film	16v min.
47n	2	Film	16v min.
68n	1	Film	16v min.
100n	3	Film	16v min.
220n	4	Film	16v min.
100uF	2	Electrolytic	16v min.
1n914	2		
1n5817	1		
TL072	2		
25kB	1	PCB Right Angle, Metal Shaft	9mm
100kA	2	PCB Right Angle, Metal Shaft	9mm
100kB	2	PCB Right Angle, Metal Shaft	9mm

### 9mm Right Angle Pots:

1. <https://smallbear-electronics.mybigcommerce.com/alpha-single-gang-9mm-right-angle-pc-mount/>
2. <https://stompboxparts.com/pots/9mm-potentiometer/>
3. <https://www.taydaelectronics.com/catalogsearch/result/?q=9mm+potentiometer>

### DC Jacks:

1. <https://smallbear-electronics.mybigcommerce.com/2-1-mm-all-plastic-round/>
2. <https://stompboxparts.com/power-connections/dc-power-jack-2-1mm-low-profile/>
3. <https://lovemyswitches.com/thinline-lumberg-dc-power-jack-2-1mm/>

### 1/4" jacks:

1. <https://smallbear-electronics.mybigcommerce.com/1-4-in-mono-nys229/>
2. <https://smallbear-electronics.mybigcommerce.com/1-4-in-mono-switchcraft-11/>
3. <https://lovemyswitches.com/1-4-mono-jack-lumberg-klbm-3/>
4. <https://lovemyswitches.com/1-4-mono-jack-neutrik-rean-nys229/>

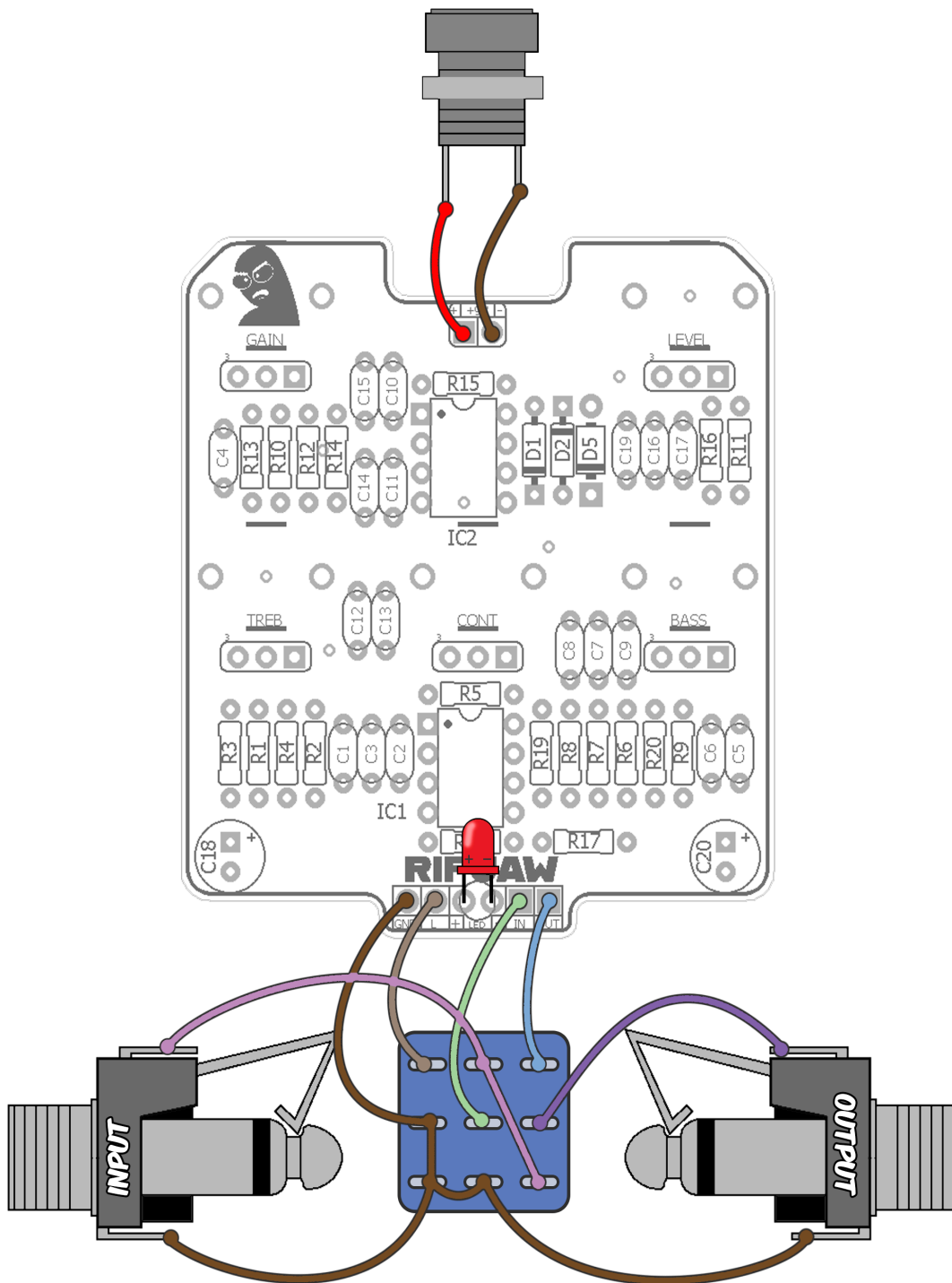
### My preferred 3PDT switch:

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

I found two issues with the Shredmaster™ which I've addressed with the Ripjaw project.

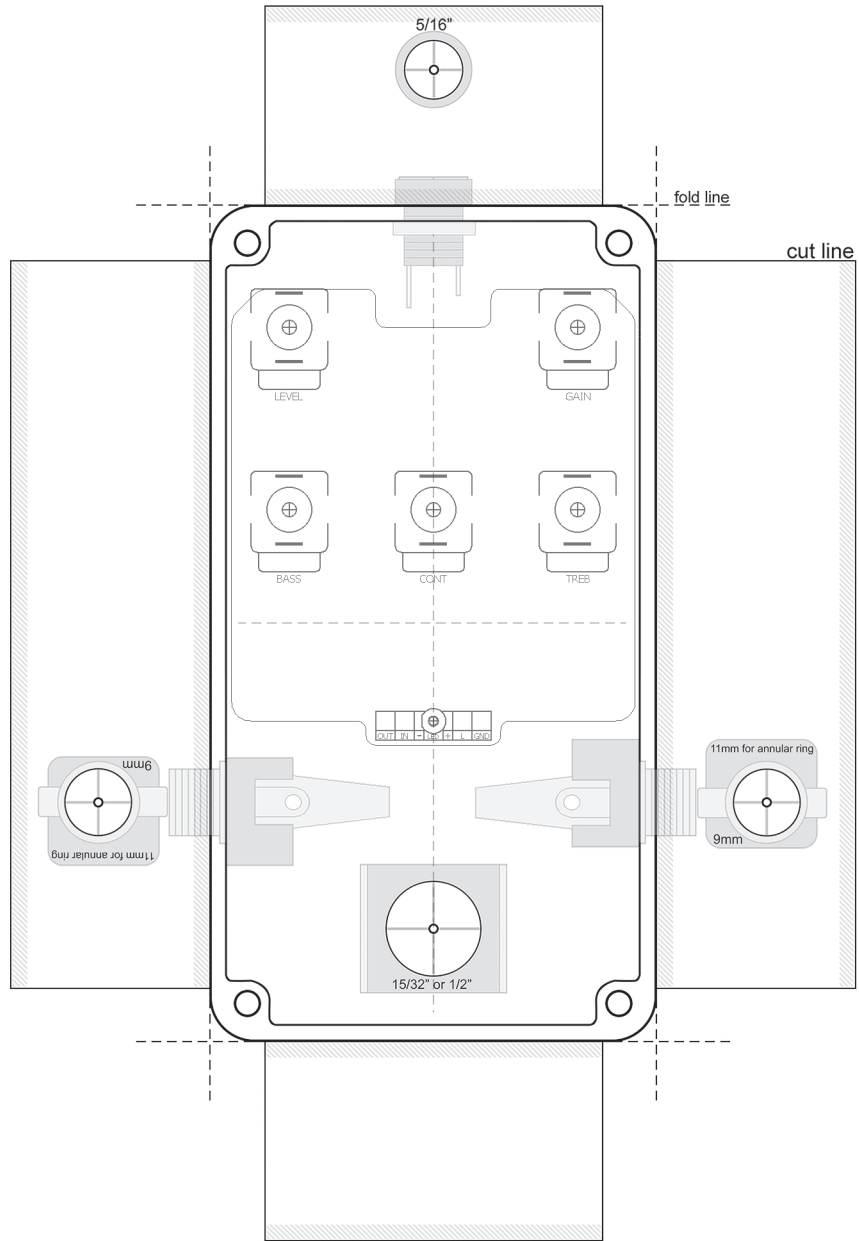
1. Oscillation occurs when the Contour control is fully CCW (high mids setting) and the Gain control maxed. This can be dialed out by turning both controls up/down (resp.) around a quarter turn. It seems to be the result of too much gain across the multiple IC stages rather than a fault of the control design. Possibly it could be from shrinking the layout down to a 1590B. The oscillation was eliminated by changing R5 from 10k (stock) to 47k. Luckily, this doesn't really seem to impact the total usable distortion produced by the circuit so there's not really a trade-off here.
  2. The stock circuit is fairly dark even with the Treble control at max. More-so when the Contour control is turned up to scoop the mids. Changing C16 from 1n stock to 150pF gives more top end back to the circuit without getting shrill. This change makes the tone shaping much more balanced across the three tone controls, IMO.
- Ceramic caps are preferable for pF values in high gain circuits (as opposed to MLCC) but this is not a strict requirement.





The bypass LED is soldered directly to the PCB.

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



IC1	TL072	IC2	TL072
1	4.55	1	4.65
2	4.54	2	4.65
3	4.21	3	4.64
4	0	4	0
5	4.65	5	4.63
6	4.65	6	4.65
7	4.46	7	4.68
8	9.26	8	9.26

9.5v One Spot  
 Current Draw: ~7mA

