

EGGSPLODER

FX TYPE: Fuzz

Based on the Ampeg® Scrambler™

Enclosure Size: 1590B

Softie compatibility: Softie3

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Overview

2021 turned into a year of me finally building some classic effects I had overlooked for a long time. I was familiar with the Scrambler, of course, but all the demos I had heard left me pretty unimpressed. But, then one day I decided to breadboard the circuit and wow! After about 10 minutes I was in love. It's got a certain rawness to it that's unique. And, the octave up it can produce is very sweet and pronounced. It sounds great on both bass and guitar. The Balance control is especially good for bass as it allows you to mix in some clean with the fuzz.

The **Eggsplooder** has got all the Scrambler elements plus a little bit more. An output gain stage has been added to allow for a decent amount of boost, if desired. An alternative "Splode" mode is also included. This subs a Darlington for Q2 but connected in reverse. It was a complete breadboard accident on my part but I thought it sounded very cool. It nearly breaks the fuzz but not quite. It's the sonic equivalent of adding eggs into a pan filled with hot bacon grease.

Controls

- **VOL** - Effect output level.
- **BAL** - Sets the blend between clean and fuzz. Very useful for bass!
- **TEXTR** - When turned up, this does truly add more "texture" to the fuzz. It also introduces an octave up. This is a typical oct up sound where it is most effective on the 12th fret and up and esp. with the guitar/bass tone knob rolled down.
- **SPLODE** - Up position: normal. Down position: Splode Mode. The Splode mode is basically barely controlled chaos. It will produce sub-octaves and gated sounds. A brain fryer.

Very special thanks to Dan from Blammo Electronics. While I was investigating my project I came across his Skrambler pedal. I emailed him with a couple questions and he was very kind to give me detailed answers and his time. Check out his site and the Skrambler pedal here: <https://www.blammoelectronics.com/>

Terms of Use: You are free to use purchased **Eggsplooder** circuit boards for both DIY and small commercial operations. You may not offer **Eggsplooder** 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](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	1k	C1	10n	D1 - D5	1n914
R2	1M	C2	1uF	D6	1n4001
R3	1M	C3	1uF	Transistors	
R4	1M	C4	125uF	Q1	MPSA14
R5	4k7	C5	1uF	Q2	2N5088
R6	2k2	C6	1uF	Q3	MPSA14
R7	470k	C7	1uF	Q4	MPSA14
R8	4k7	C8	100n	Q5	2N5088
R9	220R	C9	1uF	EGG	MPSA14
R10	8k2	C10	100uF	Switches	
R11	220k	C11	100n	SPLODE	On/On
R12	220k	Pots			
R13	4k7			TEXTR	10kB
R14	1k			BAL	50kB
R15	47k			VOL	100kA
R16	47k				
R17	4k7				
R18	470k				
R19	100k				
R20	10k				
R21	2k7				
R22	100k				
R23	1k				
R24	100R				
R25	4k7				

Value	QTY	Type	Rating
100R	1	Metal / Carbon Film	1/4W
220R	1	Metal / Carbon Film	1/4W
1k	3	Metal / Carbon Film	1/4W
2k2	1	Metal / Carbon Film	1/4W
2k7	1	Metal / Carbon Film	1/4W
4k7	5	Metal / Carbon Film	1/4W
8k2	1	Metal / Carbon Film	1/4W
10k	1	Metal / Carbon Film	1/4W
47k	2	Metal / Carbon Film	1/4W
100k	2	Metal / Carbon Film	1/4W
220k	2	Metal / Carbon Film	1/4W
470k	2	Metal / Carbon Film	1/4W
1M	3	Metal / Carbon Film	1/4W
10n	1	Film	16v min.
100n	2	Film	16v min.
1uF	6	Film	16v min.
100uF	1	Electrolytic	16v min.
125uF	1	120uF included w/ purchase	16v min.
1n914	5	or, 1N456	
1n4001	1		
MPSA14	4	or, MPSA13, 2N5306	
2N5088	2	or, BC549B, BC169B	
DPDT	1	On/On Pin Mount	
10kB	1	PCB Right Angle	16mm
50kB	1	PCB Right Angle	16mm
100kA	1	PCB Right Angle	16mm

125uF is hard to find but I did find 120uF caps on Mouser and I am including one with each PCB. There's probably no tonal difference than using a plain old 100uF but the 120uF are inexpensive. Consider it "value added" content!

MPSA14:

<https://www.mouser.com/ProductDetail/610-MPSA14>

2N5306:

<https://www.mouser.com/ProductDetail/610-2N5306>

2N5088

<https://www.mouser.com/ProductDetail/610-2N5088>

<https://stompboxparts.com/semiconductors/2n5088-npn-transistor/>

BC549B:

<https://www.mouser.com/ProductDetail/821-BC549B-A1>

<https://stompboxparts.com/semiconductors/bc549b-npn-transistor/>

1N456:

<https://www.mouser.com/ProductDetail/512-1N456A>

DPDT:

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

<https://stompboxparts.com/switches/dpdt-toggle-switch-on-on-solder-lug-short-bat-1/>

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/>

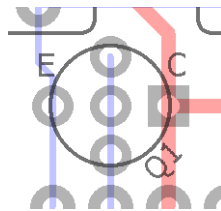
Stompboxparts "Essentials" kit:

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

You can build the Eggspoder with the transistors I specified (MPSA14, 2N5088) or stick with the original spec'd ones (2N5306, BC169B). Same goes for the diodes (1n914 vs. 1N456). The BC169B may be hard to get but all the others are readily available. I listed a BC549B as a sub for the BC169B in the Shopping List links.

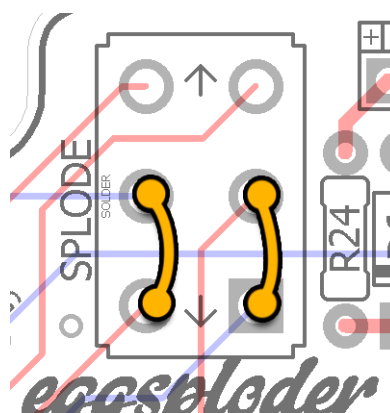
I compared both sets of transistors and diodes while working on this project and thought the MPSA14, 2n5088 and 1n914 gave the effect just a bit more edge and character. YMMV.

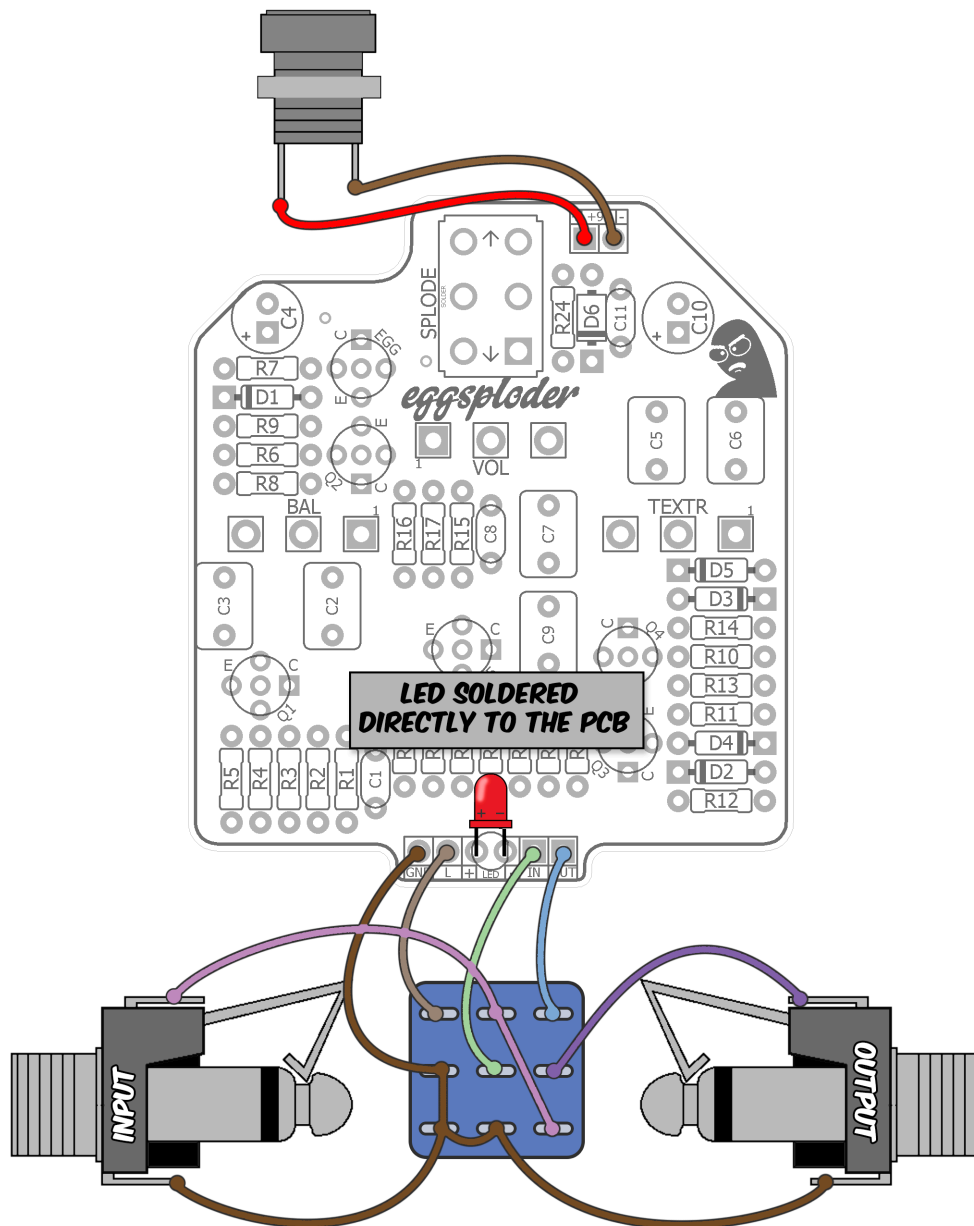
I've used a multi-pin transistor layout for the entire PCB so any number of NPN and Darlington combos can be used. But, be mindful of transistor pinouts. The board is laid in a C-B-E configuration (the same as a 2N5088 and MPSA14). The 2N5306 linked on the Shopping List was tested and they have a B-C-E pinout. So, those transistors would need their leads twisted around a bit to fit the pin configuration on the Eggsploder PCB.



Super Secret Splode Mode

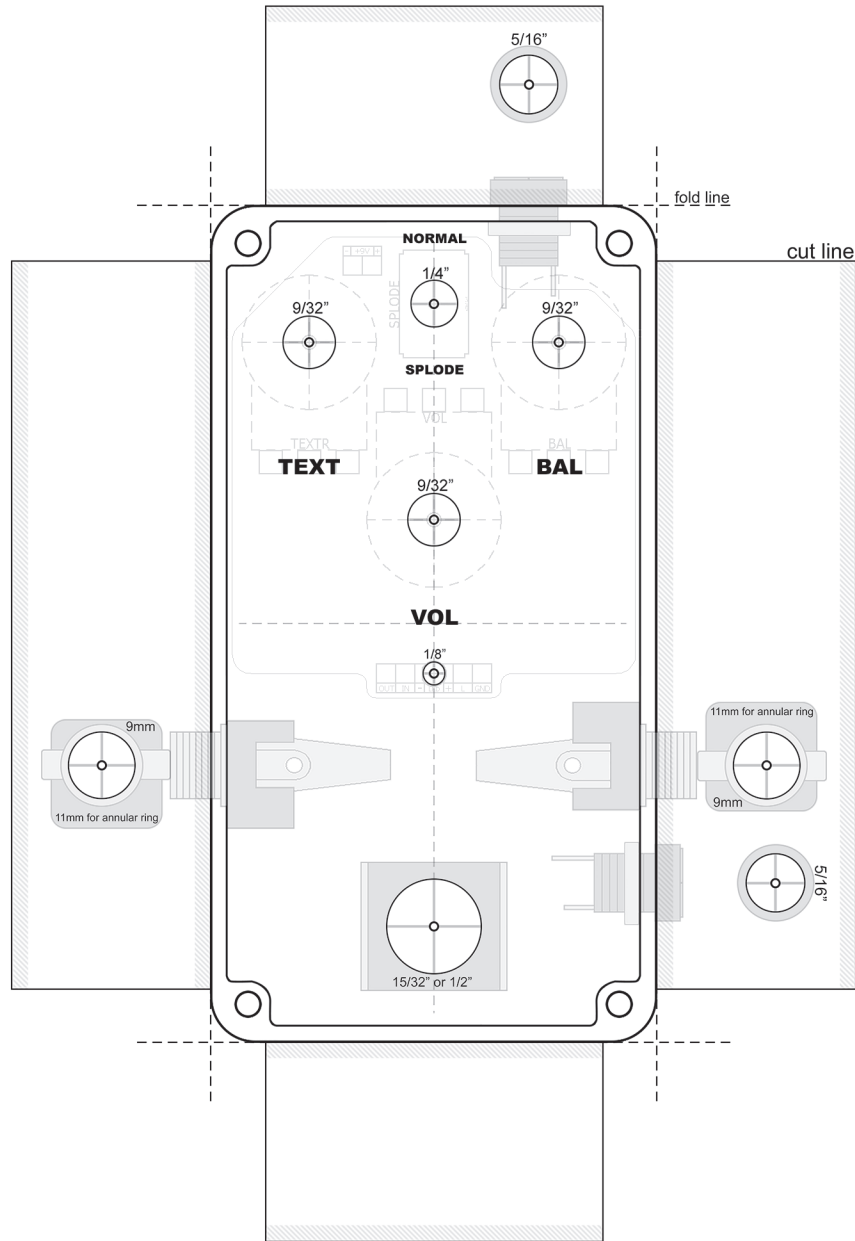
If you like the “Splode” effect there’s an additional mode for you to try. You can leave Q2 in circuit when switching in the Egg transistor. This puts both transistors in parallel but with opposing connections. This mode has about 20% more sizzle. It’s very easy to do - simply solder in two leads, one each for the middle and lower pins of the Splode switch. This leaves Q2 collector and emitter always connected. You can even preview it without soldering - just wrap some bare leads around the exposed switch pins to test it out.





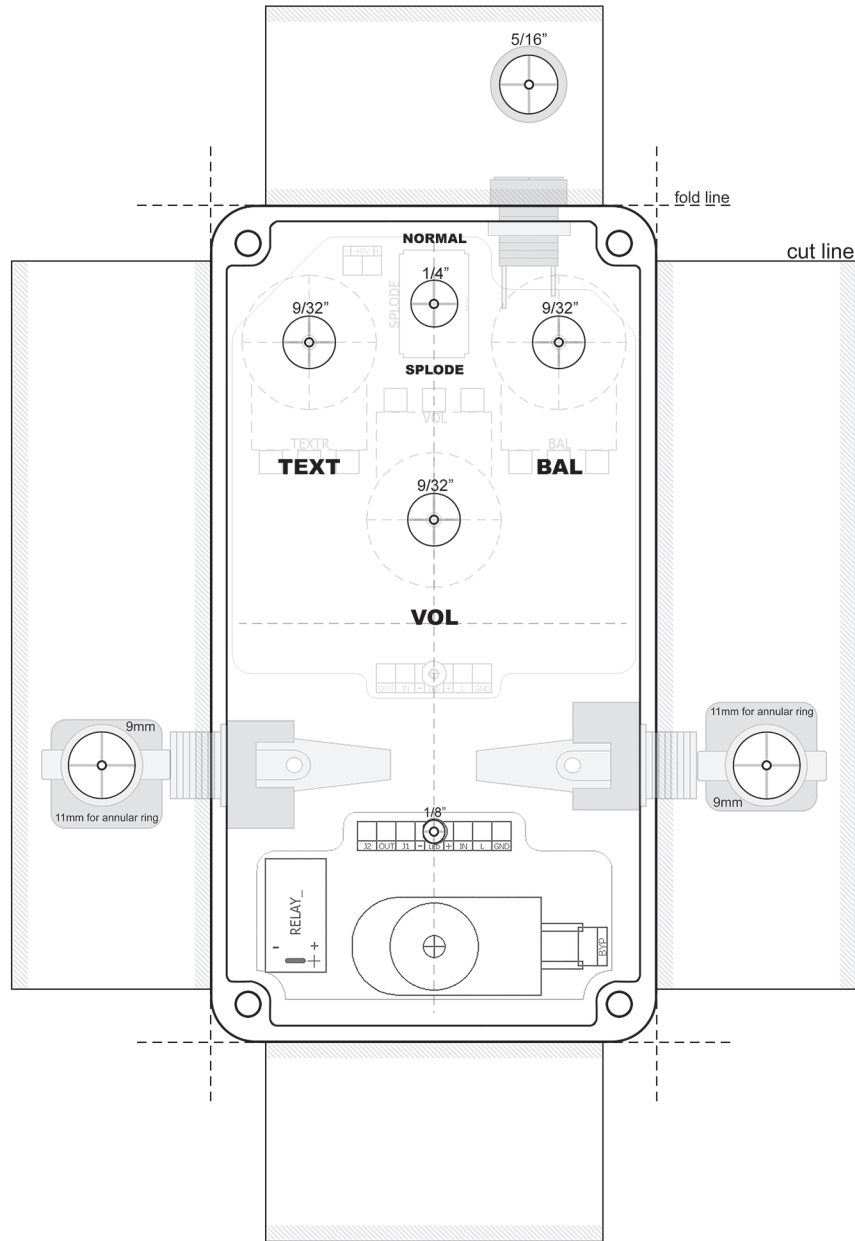
3PDT bypass wiring. If you want to use the Softie3 relay bypass instead (sold separately) please refer to that project documentation for wiring instructions.

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. There are two locations for the DC jack depending on your preference. Be sure to only drill for one!

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). When using the Softie3, the DC jack needs to be at the top. Note the different LED location, too.

Q1 MPSA14		Q4 MPSA14	
C	9.18	C	8.99
B	4.25	B	4.46
E	3.3	E	3.53
Q2 2N5088		Q5 2N5088	
C	2.28	C	5.58
B	0.93	B	1.54
E	324mV	E	0.97
Q3 MPSA14		EGG MPSA14	
C	9.18	C	109mV
B	4.6	B	0.64
E	3.53	E	6.94

- 9.5vDC One Spot
- Current Draw: ~3mA

Measurement Conditions

- Knobs set to 50%
- For the Q2 measurement, the Splode switch is set to Normal. For the Egg measurement, the switch is set to Splode.

