

VIOLENZZ

FX TYPE: Fuzz

Based on the Dunlop® EJF1™

Enclosure Size: 1590A

"Softie" compatibility: none

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Overview

The **Violennz** is closely based on the Dunlop® Eric Johnson Signature Fuzz Face™ (EJF1). It's a silicon transistor fuzz and mostly a tweaked Fuzz Face. But, tweaked in such a way as to get to that highly compressed fuzz sound for which EJ is so famous.

The Violennz has a couple mods to the stock design. In the EJF1, the fuzz bypass cap is 15uF. This value is less common in low profile electrolytic caps (which are required for all the mbp 1590A builds) so a 10uF and 4u7 are used in parallel to approximate the same value. Additionally, a bass contour pot has been added for those who like fuzz but not the over the top bass that often goes with it. Lastly, an optional pulldown resistor has been added (not used in stock unit).

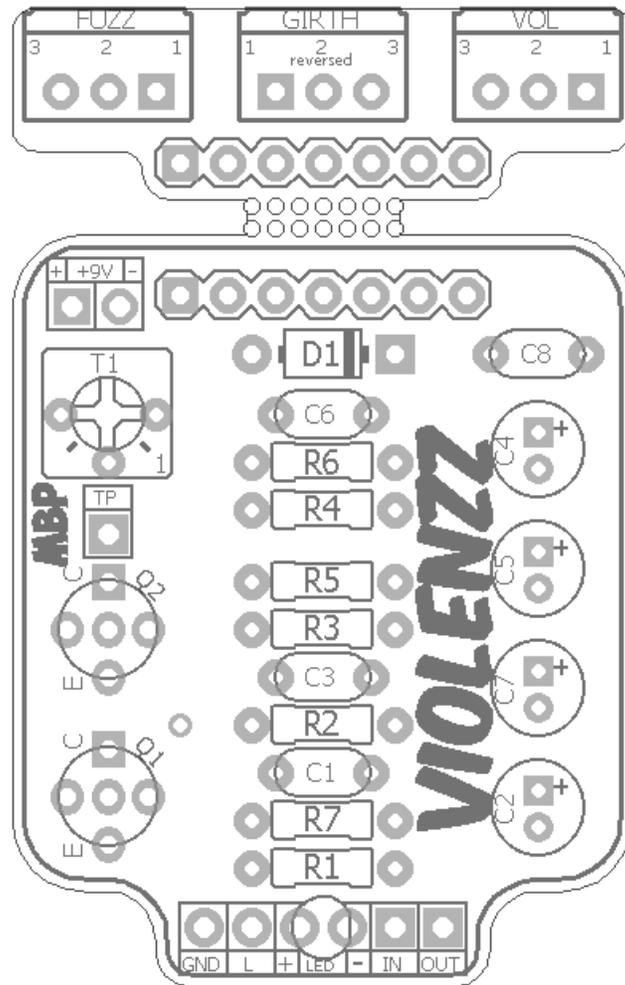
There are some notes on parts and values which you should have a look at, too!

Controls

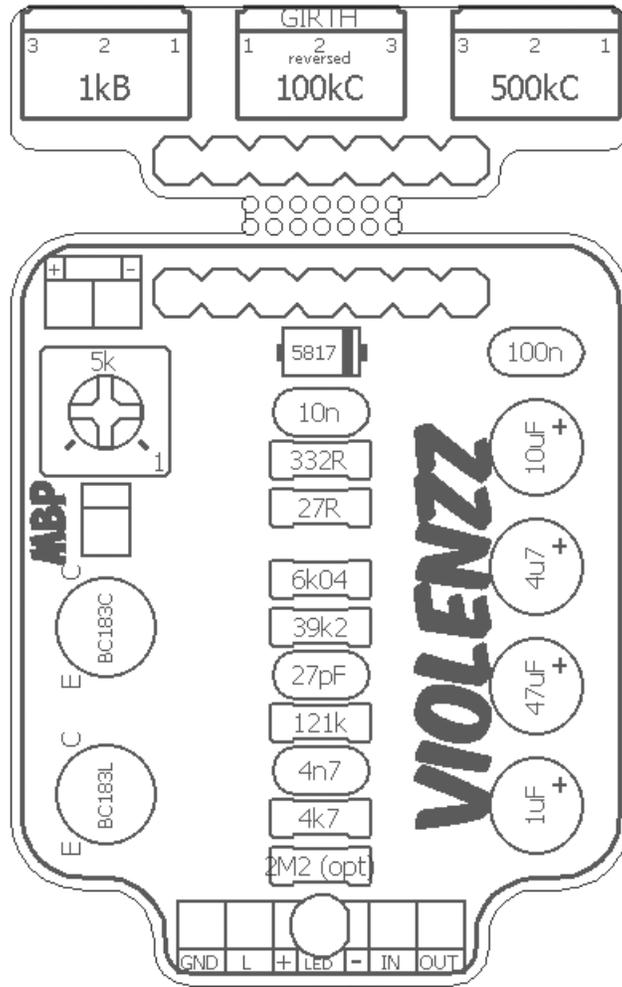
- **VOL** - Total Output.
- **GIRTH** - CCW: greatly reduced bass, CW: stock setting.
- **FUZZ** - Fuzz level. As with all Fuzz Face variants, the most useful settings are in the last 1/3rd of the fuzz pot (where the fuzz is highest). Rolling off the volume on your guitar will yield another tonal variety, too. EJ does this constantly in his playing!
- **T1** - This trimmer is used to set the bias voltage on the Q2 collector.

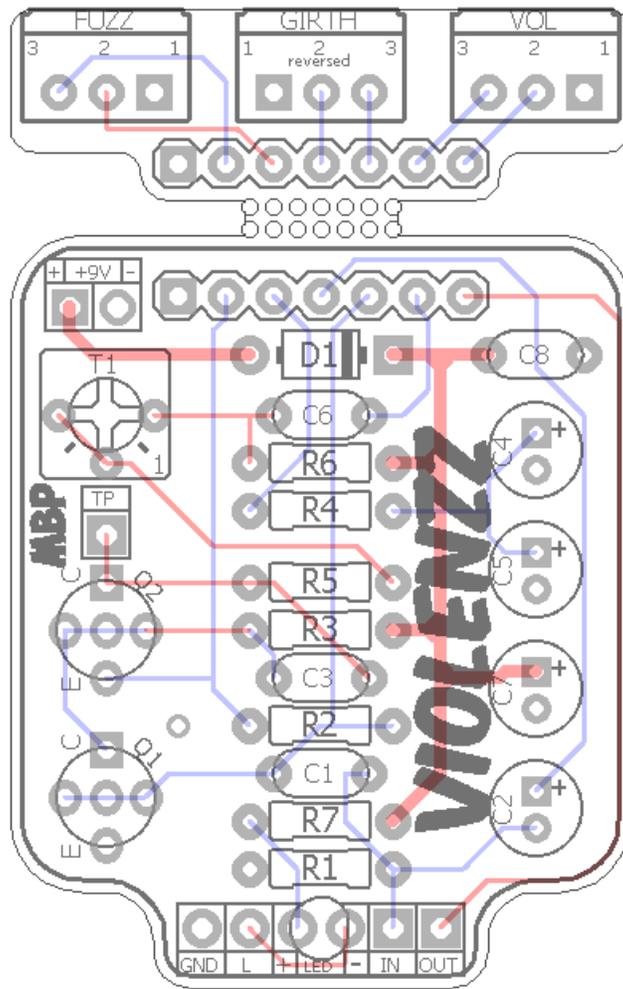
Terms of Use: You are free to use purchased **Violennz** circuit boards for both DIY and small commercial operations. You may not offer **Violennz** PCBs for resale or as part of a "kit" in a commercial fashion. Peer to peer re-sale is fine, though.

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.



Don't forget to break apart the two PCBs before you start building!





Resistors		Caps		Diodes	
R1	2M2	C1	4n7	D1	1N5817
R2	121k	C2	1uF	Transistors	
R3	39k2	C3	27pF	Q1	BC183L
R4	27R	C4	10uF	Q2	BC183C
R5	6k04	C5	4u7	Trimmers	
R6	332R	C6	10n	T1	5k
R7	4k7	C7	47uF	Pots	
		C8	100n	FUZZ	1kB
				GIRTH	100kC
				VOL	500kC

Value	QTY	Type	Rating
27R	1	Metal / Carbon Film	1/4W
332R	1	Metal / Carbon Film	1/4W
4k7	1	Metal / Carbon Film	1/4W
6k04	1	Metal / Carbon Film	1/4W
39k2	1	Metal / Carbon Film	1/4W
121k	1	Metal / Carbon Film	1/4W
2M2	1	Metal / Carbon Film	1/4W
27pF	1	Ceramic / MLCC	16v. Min.
4n7	1	Film	16v. Min.
10n	1	Film	16v. Min.
100n	1	Film	16v. Min.
1uF	1	Electrolytic	16v. Min.
4u7	1	Electrolytic	16v. Min.
10uF	1	Electrolytic	16v. Min.
47uF	1	Electrolytic	16v. Min.
1N5817	1		
BC183L	1		
BC183C	1		
5k	1	Bourns 3362p	
1kB	1	PCB Mount	9mm
100kC	1	PCB Mount	9mm
500kC	1	PCB Mount	9mm

Low profile Electrolytic caps (required):

<http://smallbear-electronics.mybigcommerce.com/electrolytic-radial-low-profile-16v-1-f-100-f/>

Bourns 3362p:

<https://www.mouser.com/ProductDetail/652-3362P-1-502LF>

<https://www.taydaelectronics.com/potentiometer-variable-resistors/cermet-potentiometers/3362p/5k-ohm-trimmer-potentiometer-cermet-1-turn-3362p.html>

9mm PC Mount pots:

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

The resistor selection in this circuit is unusual. My guess is that the values were chosen as the closest approximation to actual measured values in one of EJ's original Fuzz Faces. Don't feel like you have to use the exact values in the schematic. It's perfectly fine to use the next closest (and standard) value.

Here are my suggestions:

332R - 330R

6k04 - 6k or 6k2

39k2 - 39k

121k -120k

The transistors may be a bit hard to come by so you will likely need to sub a different pair. The BC183C has a typical Hfe of 500-600 and the BC183L of 250-300. While the actual transistor type is probably not that important here the relative gains are. You want Q1 to be about half the gain of Q2. Use the ranges listed above as a guide.

For my build, I happen to have a few BC183C so I used that for Q2. For Q1, I used a BC550. It has the same pinout (EBC) and I measured its Hfe at about 260. I measured a few BC550B and they were pretty consistently around 250, BTW. A BC549C might be a good compliment in Q2 if using the BC550B for Q1.

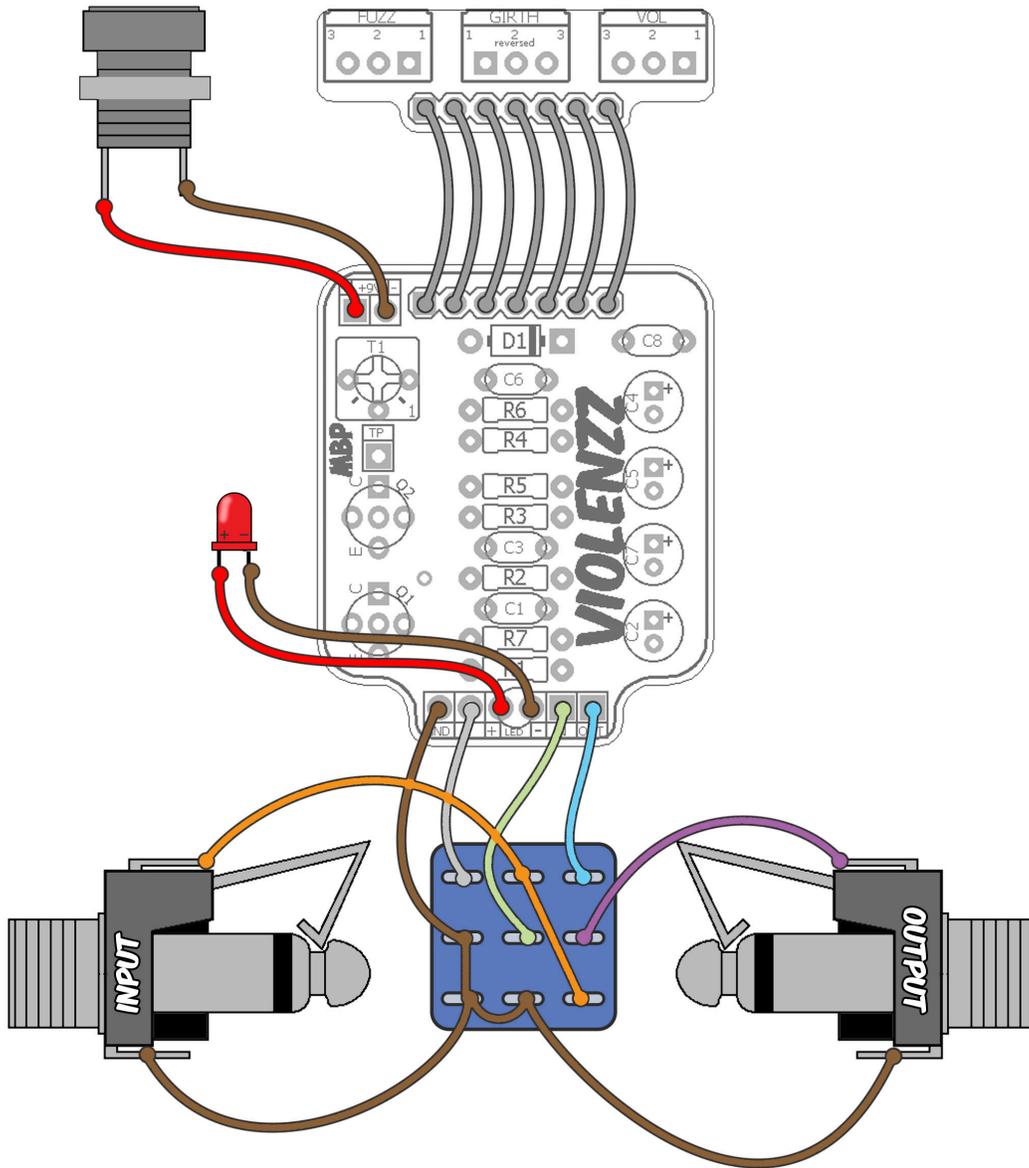
In any case, I've used a multi-pin part for both transistors on the PCB to accommodate an assortment. Just be sure to pay attention to pinouts.

- To set the bias of Q2, use your multimeter with the red lead touching the TP pad on the Violenzz PCB and black lead to ground. Adjust the trimpot until you read about 3v. This is the typical setting on the EJF1 from the info I've been able to find. Feel free to try higher and lower bias points for your particular transistors.

Thoughts:

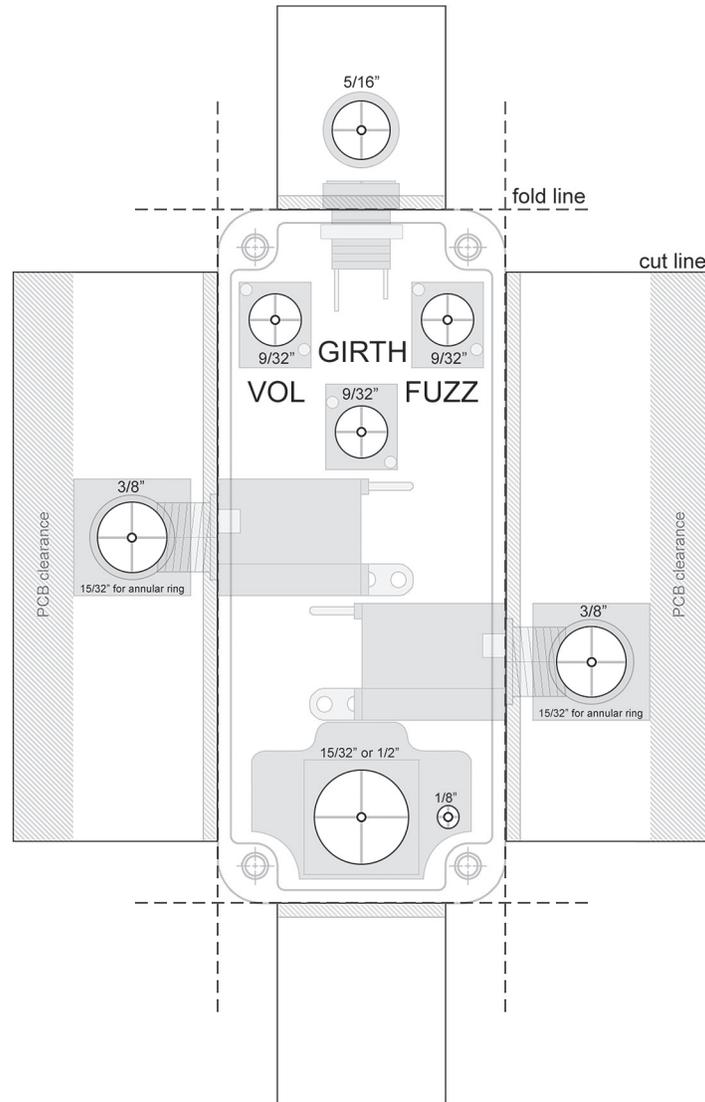
The two things that contribute the most (IMO) in differentiating the EJF1 from any other Fuzz Face is the lower bias voltage setting on Q2 and slightly higher voltage feedback resistor on Q1 base. Together these form a more compressed fuzz that produces a saggy feel in the note articulation. This is at least one component of that EJ "violin" like tone he's known for (the other being his incredible dynamics and attack in picking).

So, you aren't going to find Eric Johnson in a box here, but the Violenzz will push you in that direction. And, it's just a solid fuzz even if you are not into that particular style of playing.



The VOL and FUZZ go on the top side of the daughter board. The Girth pot should be soldered to the bottom side to form the typical triangle knob configuration.

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



- This template will work for either mono enclosed jacks or the “Lumberg” style.
- It uses the “Thinline” style DC Jack.
- It also shows the 3PDT02 bypass PCB but this is not required. If you are wiring straight to a 3PDT you can use the same LED location on the right side or choose a different spot.

Q1	DC
C	1.28
B	0.58
E	0

Q2	DC
C	2.96
B	1.28
E	0.68

- 9.42vDC One Spot
- Current Draw: 1mA



