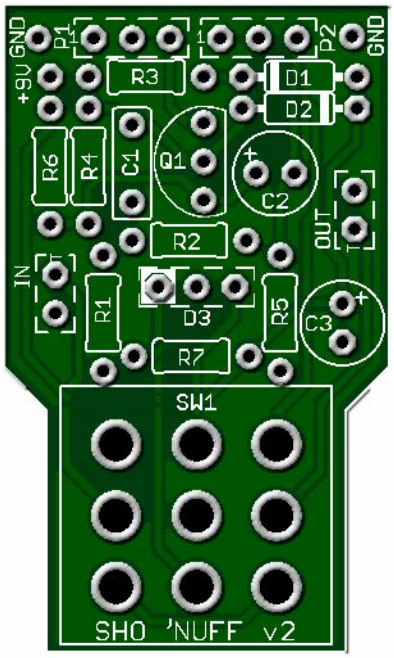
SHO' Nuff v2

Build either the classic one version or the more functional and modern two knob version so you have an actual Volume control. This project is built with an added noise filter circuit and Pull-down resistor. It does nothing to change the actual Tone and eliminates Pop and Hiss from playing at loud volumes with the Circuit.

You can also add a Master Volume Control. I find this to be very handy for Cranking the Crackle knob without breaking an eardrum! The circuit can be built anyway you like!

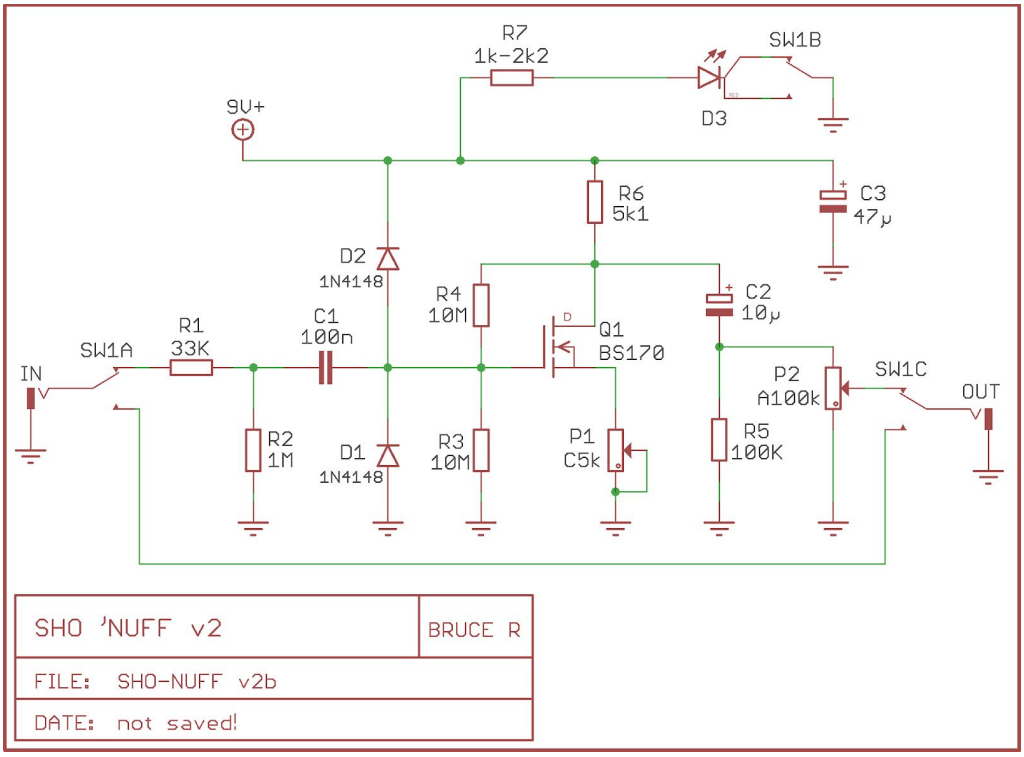
This board fits into a 1590A or larger enclosure and includes on-board 3PDT foot switch. The boards are double sided through hole so you can mount components on either side allowing you to easily make build choices to fit in the enclosure you pick. For example if you need to populate with a taller standing capacitor you can mount it on the underside of the board (minding any orientation) so that you have room to screw the base on.



Board Dimensions (W x H): 1" x 1.72" i.e.: 25.4mm x 44mm

Part	Value
R1	33k
R2	1M
R3	10M
R4	10M
R5	100K
R6	5k1
R7	3k3
D1	1N4148
D2	1N4148

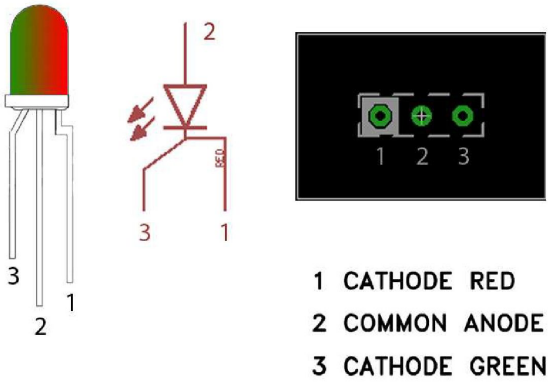
Part	Value
C1	100n
C2	10u
C3	47u
D3	Bi-Color LED C.A.
P1-Crackle	C5k
P2-Volume	A100k
Q1	BS170
SW1	3PDT



Mod: If you do not wish to install the Volume Pot (P2) simply Jumper pads 2-3 together on the main board.

STATUS LED

D3 is a common anode bi-color LED. The diagram at right shows the pin-out, schematic symbol and pad connection for a common anode LED. The pin-out for the bi-color LED is as follows: When connected correctly the LED will light red when power is applied and the circuit is in bypass mode. The LED will light green when in effects mode.



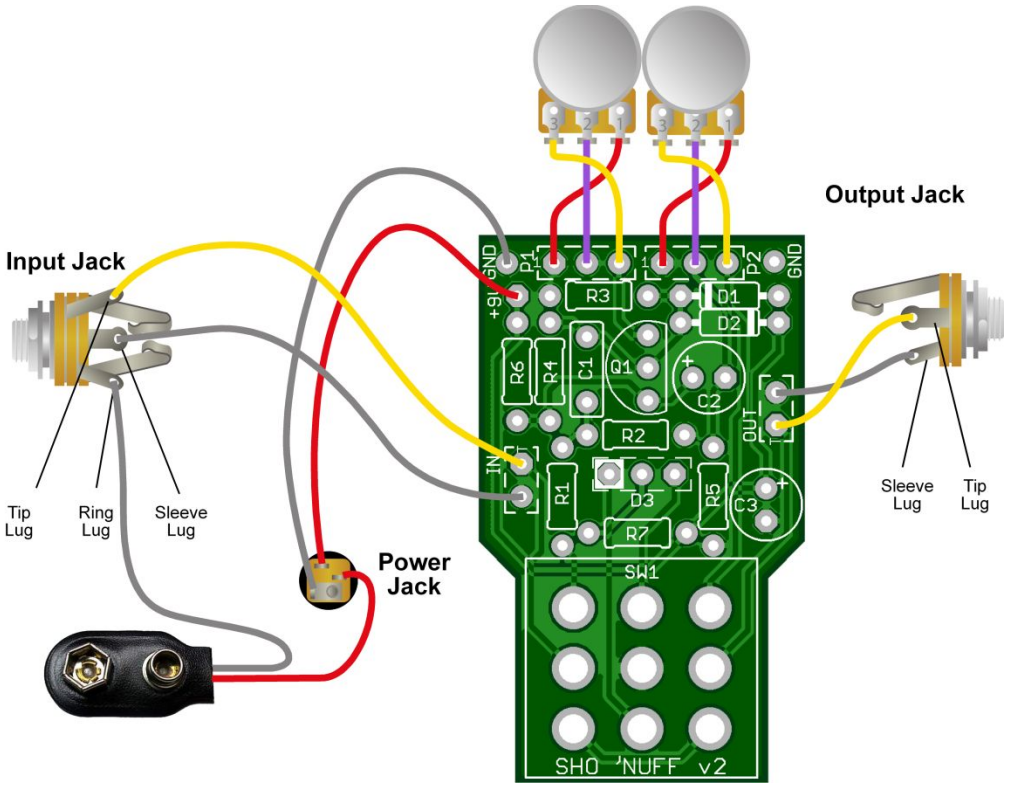
Currently, Red/Green LED's are available for a reasonable price at GuitarPCB.com. Other bi-color common anode LED's are available on the market, and other colors may be offered in the GuitarPCB.com PCB Shop at a future date.

You may also decide to use a single-color standard LED. If you choose to do this instead of a bi-color LED, connect the Anode to pad 2, and the cathode to pin 3 (non white) pad. The LED will light when the pedal is on, and will be off when the pedal is in bypass mode. The Current- Limiting Resistor (R7) may need to be adjusted to accommodate different LED's to adjust the LED brightness. For the GuitarPCB.com Red/Green common anode LED's, the suggested range is 1k (bright) to 2k2 (dim). For standard single-color red, green or yellow LED's, 2k2 – 4k7 is the appropriate range.

If you decide to use a bi-color LED, you need to be aware of potential issues if using a metallic LED bezel. These bezels come with 2-lead LED plugs, which not work well for 3-lead LEDs. We recommend the following potential solutions:

1) Do not use a bezel. You can drill a 3mm or 5mm hole (depending on the size of your LED) in your enclosure, and then use epoxy or hot-glue gun to secure the LED in the interior of the pedal if the leads are not securing the LED.
2) Use a plastic bezel with 3 lead Bi-color LEDs. Since plastic is non-conductive it will not short with a metal bezel.
3) Insulate the bi-color LED leads. This is quite easy. Just take some ~18-22 gauge wire, strip off a piece of insulation, and slip it onto the 2 outside LED leads that may short against the LED bezel.

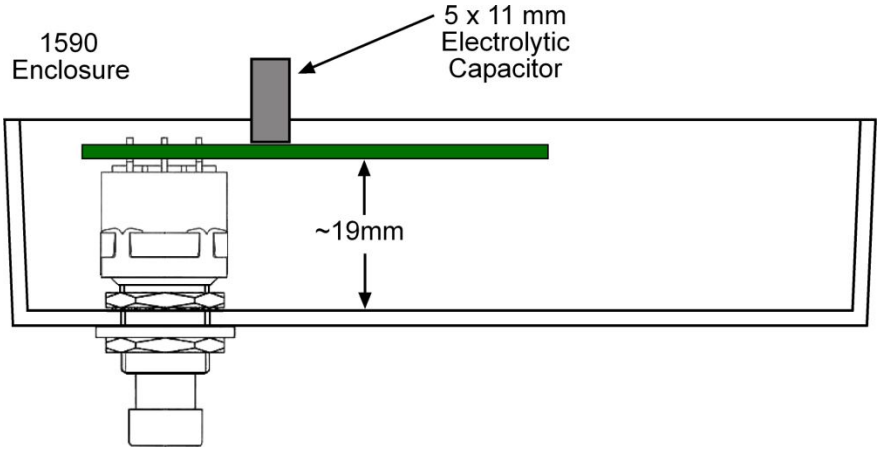
Wiring Diagram



Enclosure Warning

If you use a 1590A, 1590B, 1290NS or any other shallow enclosure, **you must plan carefully.** You may need to mount the 3PDT switch on the same side as the components, so that when you insert the populated board into the enclosure, you are looking at the back of the board, not the component side. Otherwise, you may end up with a problem with components sticking too high out of the enclosure so the back will not screw on **(see problem in picture example below)**.

We suggest mounting short items (resistors and diodes) on the top of the board, and put the 3PDT switch and all taller components (Electrolytic and Film capacitors) on the underside, however **pin orientation is critical** on components like transistors, diodes and polarized caps. **Be sure to drill your enclosure so that other components such as audio jacks and pots do not interfere with board components.** Plan carefully, or use a 125B or other deeper enclosure!



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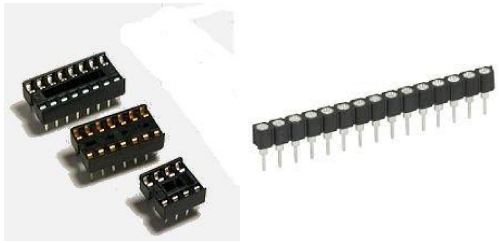
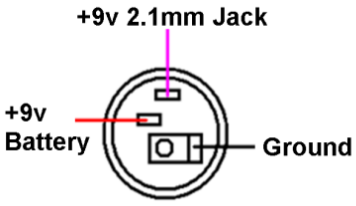
IC's and transistors are easily damaged by heat from soldering and should never be directly soldered to the PCB.

For transistors, diodes, and LED's, use SIP (Single inline package) sockets. You simply cut the number of sockets required with an Exacto / Stanley knife or by gripping and rocking with pliers. This allows for easy changes and troubleshooting.





[Soldering Tutorial on Youtube]

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If they do not have a KIT listed send them a note asking if they can help you out.