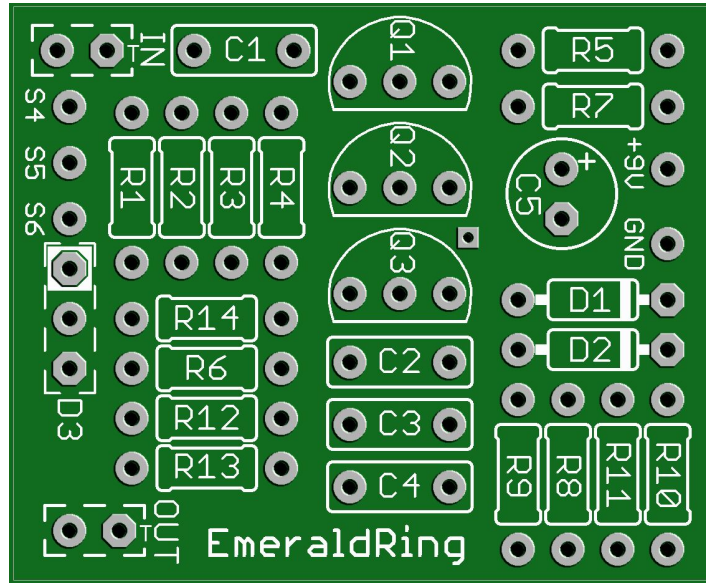


# GuitarPCB.com

Emerald Ring is designed to be an easy add-on, to just about any Fuzz, or Gain circuit you wish to add an Octave tone to. By driving the Emerald Ring with a Fuzz Face [nice tonal variety] or other, such as Angry Red Camel, Sriracha Fuzz, Emexar (Dist+) to result in much stronger octave/harmonics and less gating splatter.



Board Dimensions (W x H) 1.15" x 1.40" or 29 x 36 mm.

## PARTS LIST

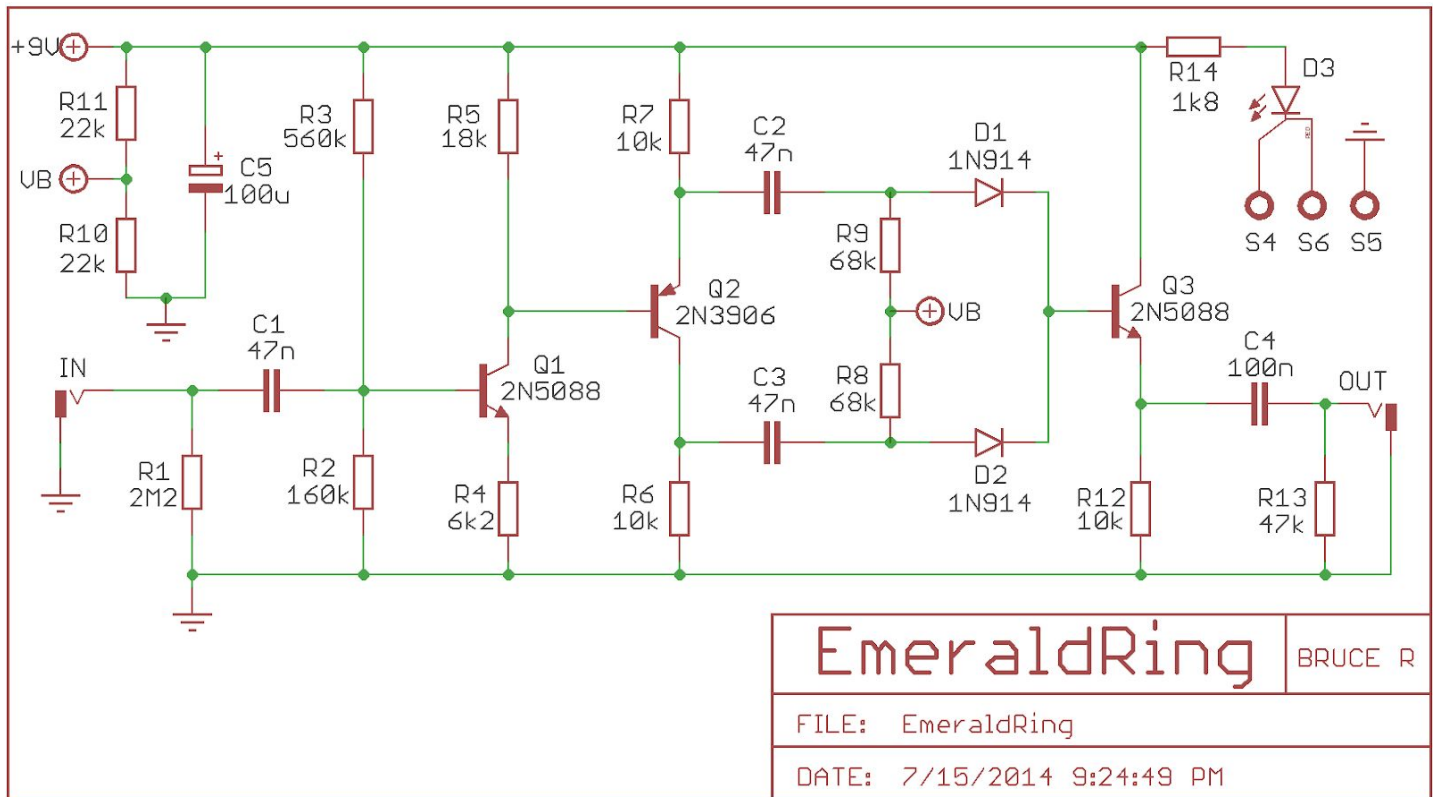
Part	Value
R1	2M2
R2	160k
R3	560k
R4	6k2
R5	18k
R6	*10k
R7	*10k
R8	*68k
R9	*68k
R10	*22k
R11	*22k
R12	10k
R13	47k
R14	1k8

Part	Value
C1	47n
C2	*47n
C3	*47n
C4	100n
C5	100u
D1	**1N914
D2	**1N914
D3	BiColor CA LED
Q1	2N5088
Q2	2N3906
Q3	2N5088

\*Values should be precisely matched using a Digital Multimeter, in particular Capacitors, Use 1% Resistors for a closer tolerance match. Capacitors have a wider tolerance, typically 5% to 20%.

\*\* Silicon or germanium diodes will produce different sounds, with different circuits. Socket and See! If you have a DMM or circuit, capable of matching the forward voltage, it is preferable to do so.

## SCHEMATIC



## STATUS LED

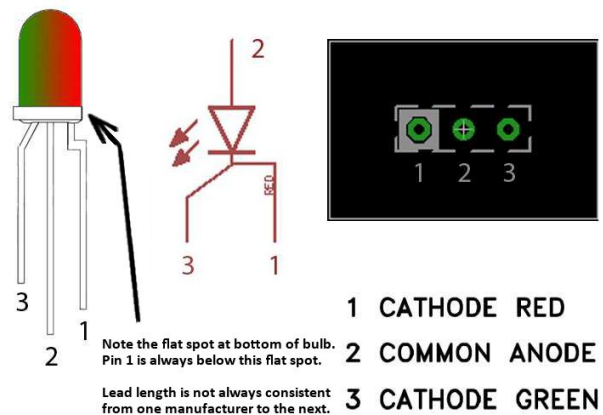
D3 is a common anode bi-color LED. The diagram at right shows the pin-out, schematic symbol and pad connection for a common anode LED. The pin-out for the bi-color LED is typically (but not always) as follows:

1st Color Cathode	Is on the "flat" side of the LED (see graphic); 90 degree bend in the lead
Common Anode	Middle lead
2nd Color Cathode	45 degree bend in the lead

The lead 1 pad on the circuit board is marked with a white box.

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. **If you wish to use a standard LED, connect the anode to the middle pad and the cathode to the right (non-white) pad to show the circuit in effects mode.** If you use a 3PDT wiring board that includes an LED, you can omit this LED and R14. R14 is the LED's Current Limiting Resistor (CLR). If you use a different LED, you may want to change this value to adjust LED brightness

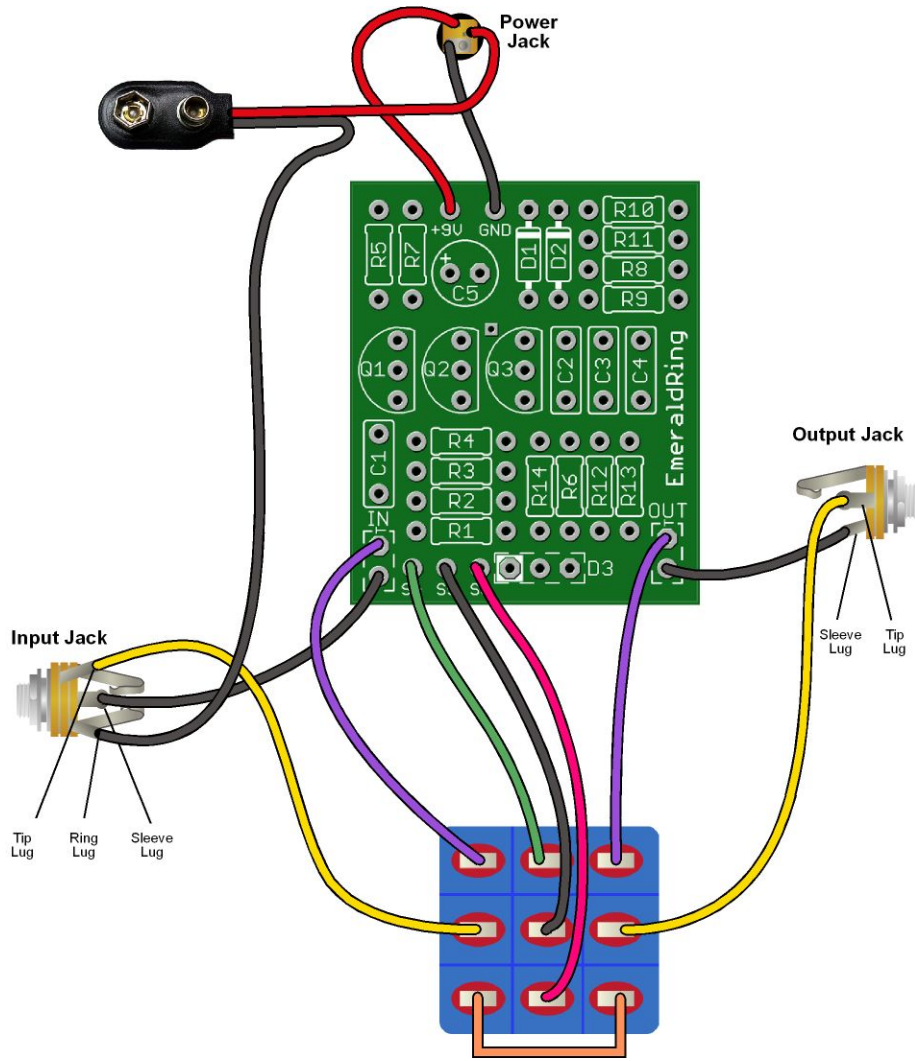
## IMPORTANT NOTES



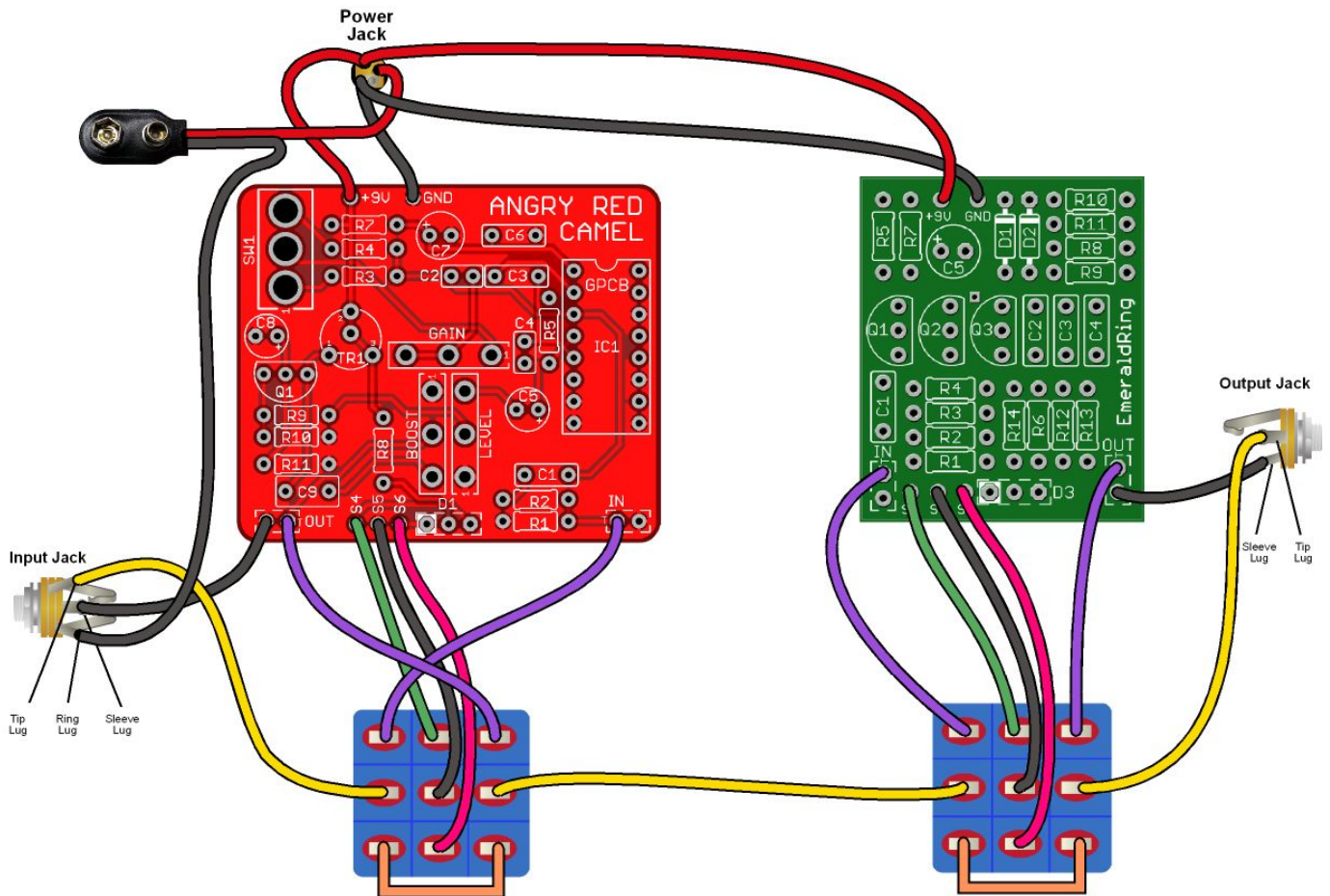
- Emerald Ring is designed to be an easy add-on, to just about any Fuzz, or Gain circuit you wish to add an Octave tone to. By driving the Emerald Ring with a Fuzz Face [nice tonal variety] or other, such as Emexar 2 (Dist+), result in much stronger octave/harmonics and less gating splatter.
- FX gurus will remember at some point Way Huge marketed a couple of octave effects: the Purple Platypus™ and the Piercing Moose™. Now you may build a similar project and save the \$500+ price tag on eBay. Also trying different diodes, such as Germanium, you may also achieve other wonderful tones as used by the Foxx Tone Machine, Superfuzz, Kay, and others.
- The Emerald Ring works extremely well with Fuzz Face, Tonebender, Big Muff, Emexar 2, and other Fuzz/Gain circuits. The sky's the limit where creativity is concerned. Just drive the Emerald Ring, in series with your favorite circuit, for an always on application.
- For my Demo, I have the Angry Red Camel first in line from the guitar input, then from the output of that to the input of the Emerald Ring. The Output of the Emerald Ring is then wired to the Output Jack.
- A Mod option is to wire up (2) of my 3PDT Wiring Boards to the Inputs and Outputs for each circuit. Then wire connect the first 3PDT to the input of the second 3PDT (controlling the Emerald Ring circuit) then through to the output jack. Experiment with clipping diodes to create similarly sounding projects such as the Foxx Tone Machine or Fender Blender™. Silicon or Germanium diodes yield different results.

## **WIRING DIAGRAMS**

If you are building the Emerald Ring in its own enclosure, use this wiring diagram

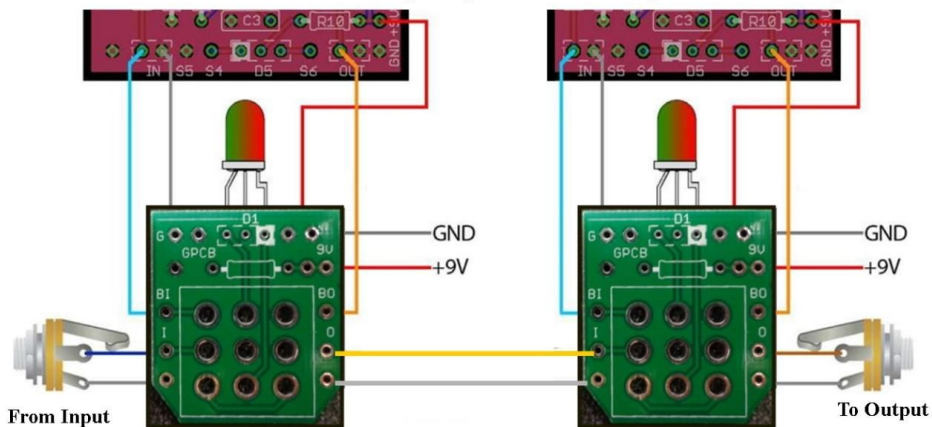


To combine an overdrive or distortion circuit with the Emerald Ring in the same enclosure, use this wiring diagram.



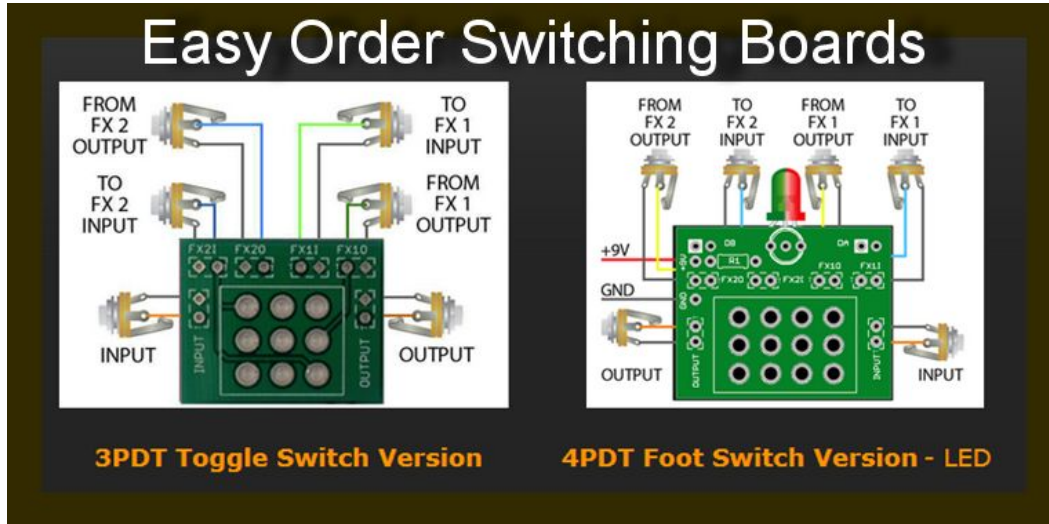
You may also consider using a [3PDT Wiring Board](#) option, for a neat install, with on-board BiColor LED.

Gut Shot View - Installation perspective. Using 3PDT Wiring Boards!



You may use the diagram above to wire as many circuits as you like .  
 This would be called wiring in series. Just go from Jack, to wiring board, to next circuit, to next circuit, etc., to Jack. That's all there is to it.  
 Remember that circuit placement should be considered, when doing this.

You may also want to try our Easy Order Switching Boards, for switching the order of circuits, on the fly.



[Soldering Tutorial on Youtube](#)

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