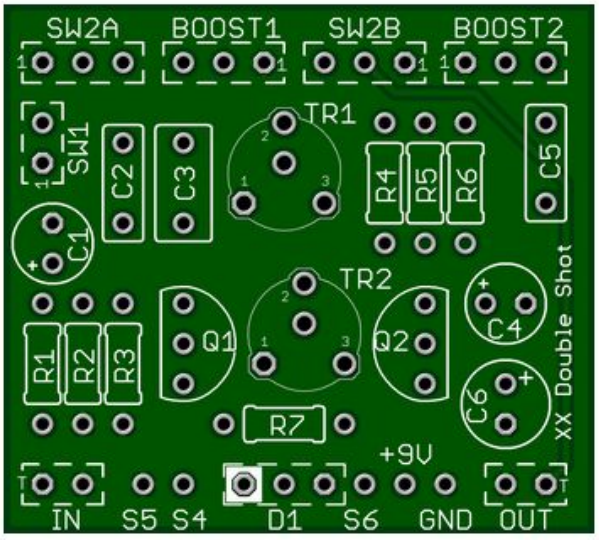
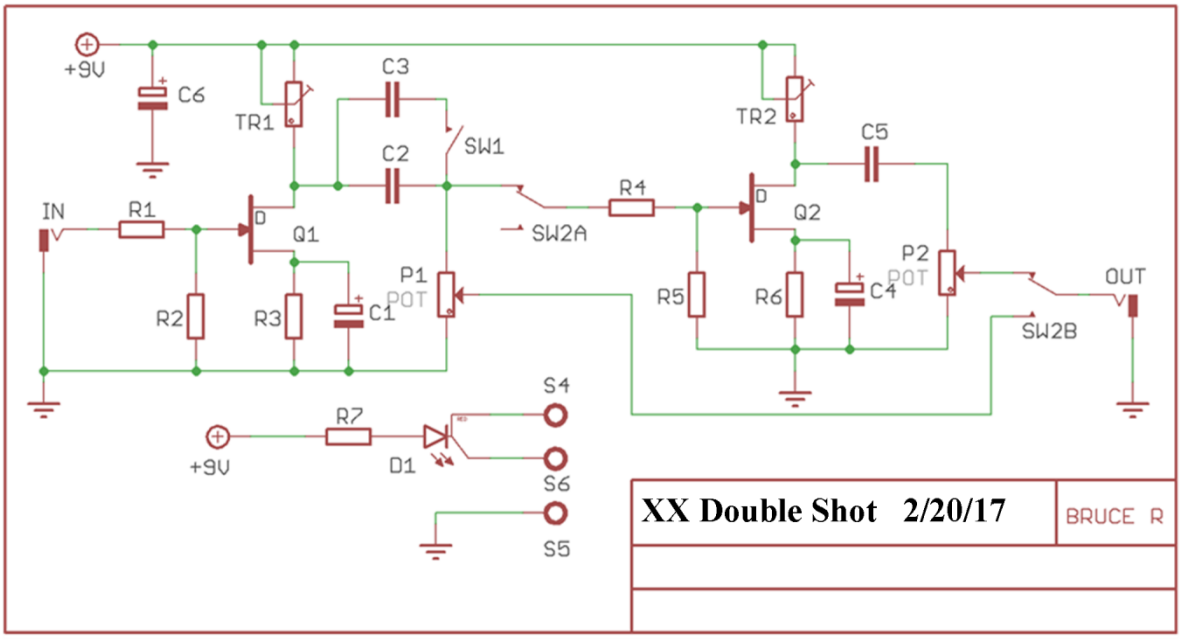
XX Double Shot – Dual Boost

When one boost is not enough the XX Double Shot will expand your sonic palette allowing you to fully explore two unique boost tones separately or in tandem. Achieve chimey cleans to powerful chunky chords. Hot tube saturation with a slight compression. More versatile than any Super Duper™ could hope to be. Includes separate Volume Controls for each channel.



Board Dimensions (W x H) 1.48” x 1.33” ca. 37.5 mm x 33.7 mm

R1	33k	C1	22µ	16V	Q1	J113	P1	VOL 1	100k Log
R2	1M	C2	22n	63V	Q2	2N5457	P2	VOL 2	100k Log
R3	1k	C3	220n	63V					
R4	33k	C4	22µ	16V	TR1	5k	D1	Common Anode Bi-color LED	
R5	1M	C5	22n	63V	TR2	5k			
R6	1k	C6	47µ	16V			SW1	SPST	
R7	*2k2						SW2	*DPDT ON-ON Foot Switch	



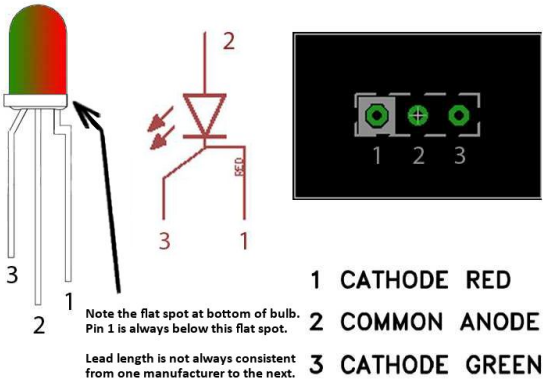
*__DPDT Foot switch__ allows for easy switching between Boost Modes. This can also be done via a DPDT Toggle switch as well. I prefer the foot switch; just allow room for two foot switches on your enclosure.

***Very important to achieve a successful build! You will need a DMM (Digital Multimeter) – See Crash Course #1**

TR1 and TR2 are initially set so that the voltages at the Drain of Q1 (top pad) and the Drain of Q2 (bottom pad) read between 4.5 and 5 volts. When SW2 is in the Down position the first stage (Q1) is fed to the output; TR1 can then be adjusted to taste. After adjusting TR1, SW2 is switched to the up position which connects the output of the first stage (Q1) to the input of the second stage (Q2) which is then fed to the output; TR2 can now be adjusted to taste.
Set meter to DC Voltage and place black probe on any ground and Red probe to the Drain. Adjust with trimmer.

STATUS LED

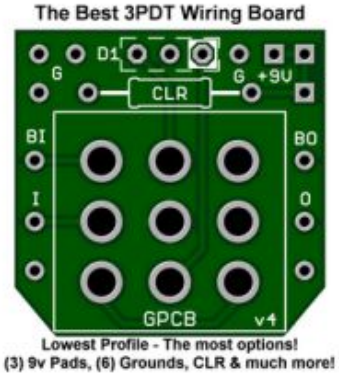
D1 is a common anode bi-color LED. The diagram at right shows the pin-out, schematic symbol and pad connection for a common anode LED. The pin-out for the bi-color LED is typically (but not always) as follows:



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 R7. *R7 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.

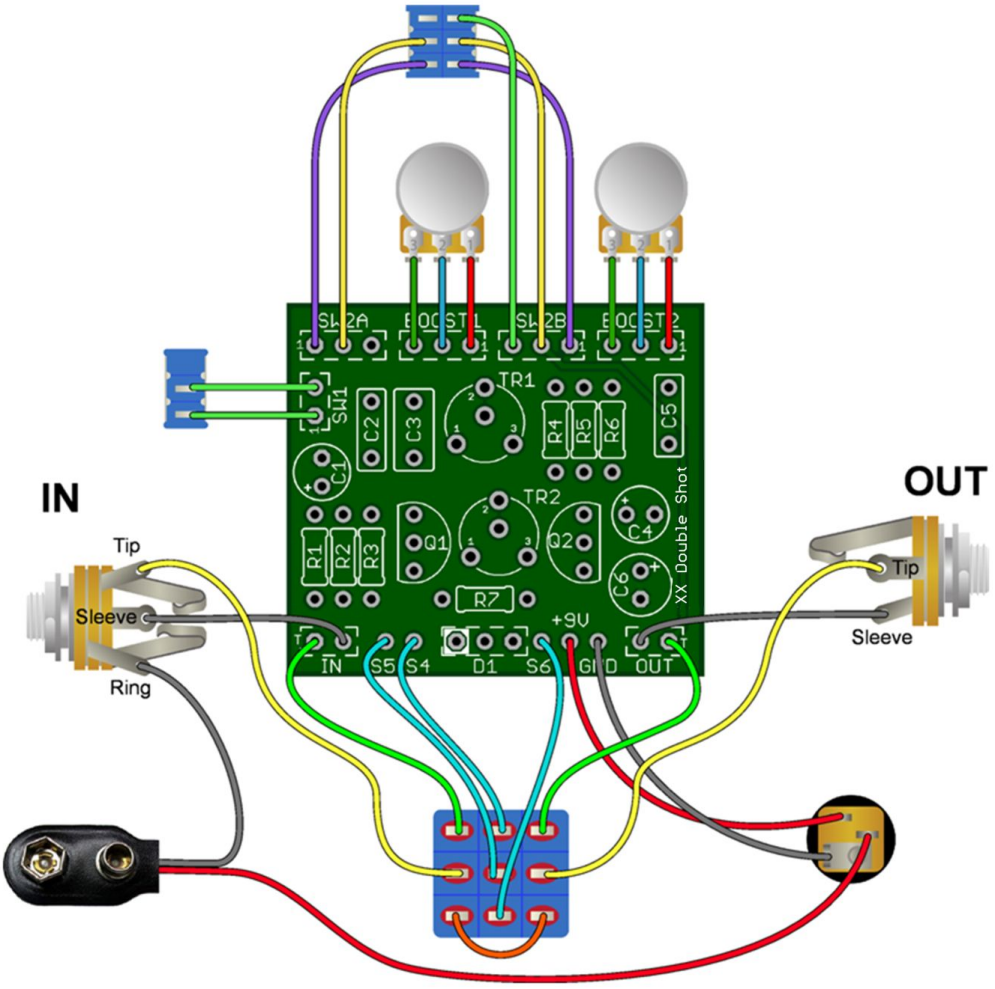
If you are using one of GuitarPCB's handy 3PDT wiring boards, pads S4, S5, S6 and D1 would be ignored and R7 would not be installed. See wiring guide below for reference.



3PDT Wiring Boards, 5k Trimmers, J113's and 2N5457's are usually available in our Shop

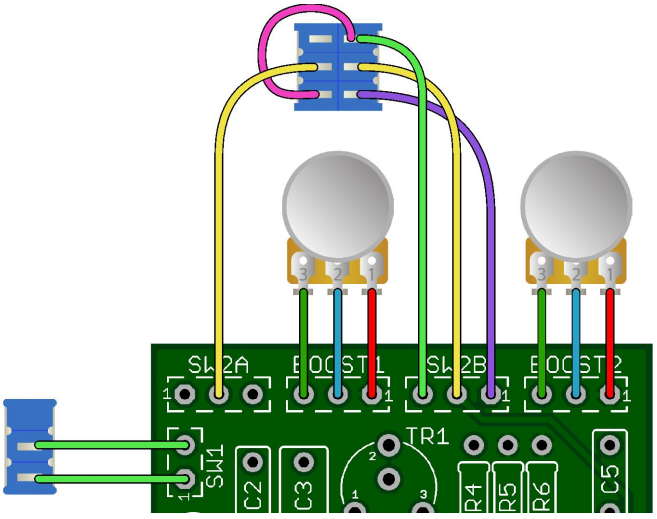
Wiring Diagram 1:

The DPDT switch below is shown as a toggle switch which can also be a foot switch. When Boost 2 is engaged, Boost 1 output is fed to Boost 2 at 100% volume level.



Wiring Diagram 2 w/ Alternate DPDT:

Boost 2 is fed by the output of Boost 1 with the adjusted volume from the J113 stage.



Choose a wiring scheme that suits your needs, from above.

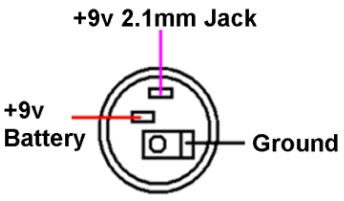
- **Wiring Diagram 1 - When Boost 2 (the 2n5457) is engaged, Boost 1 (the J113) output is fed to the Boost 2 at 100% volume level.**
- **Wiring Diagram 2 - Boost 2 is fed by the output of Boost 1 with the adjusted volume from the J113 stage. *Please Note the DPDT switch is preferably a foot switch as opposed to a toggle.**

MOD: Use (2) 2N5457 JFETs for more dirt or even J201s. J201s will require a jumper in place of bias resistor.

Other important notes:

- Socket your Transistors – You may wish to change components later and makes troubleshooting a lot easier.

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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