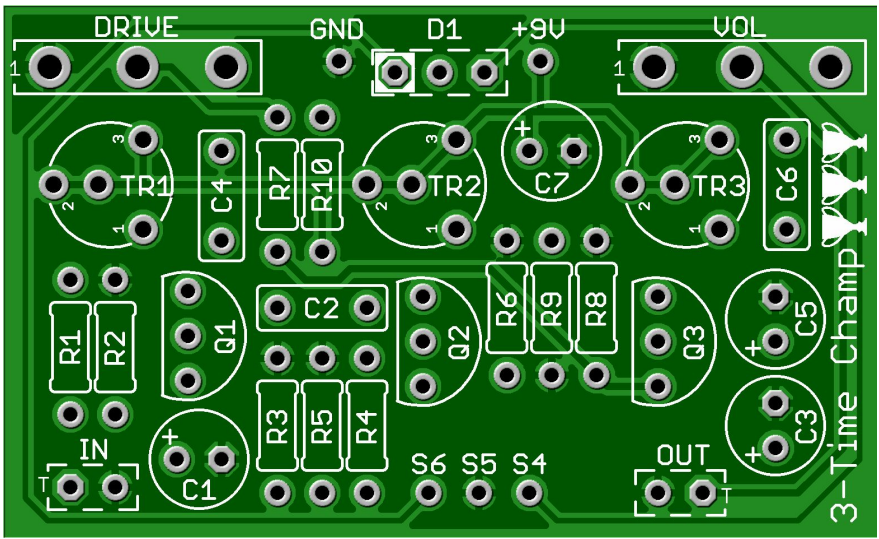
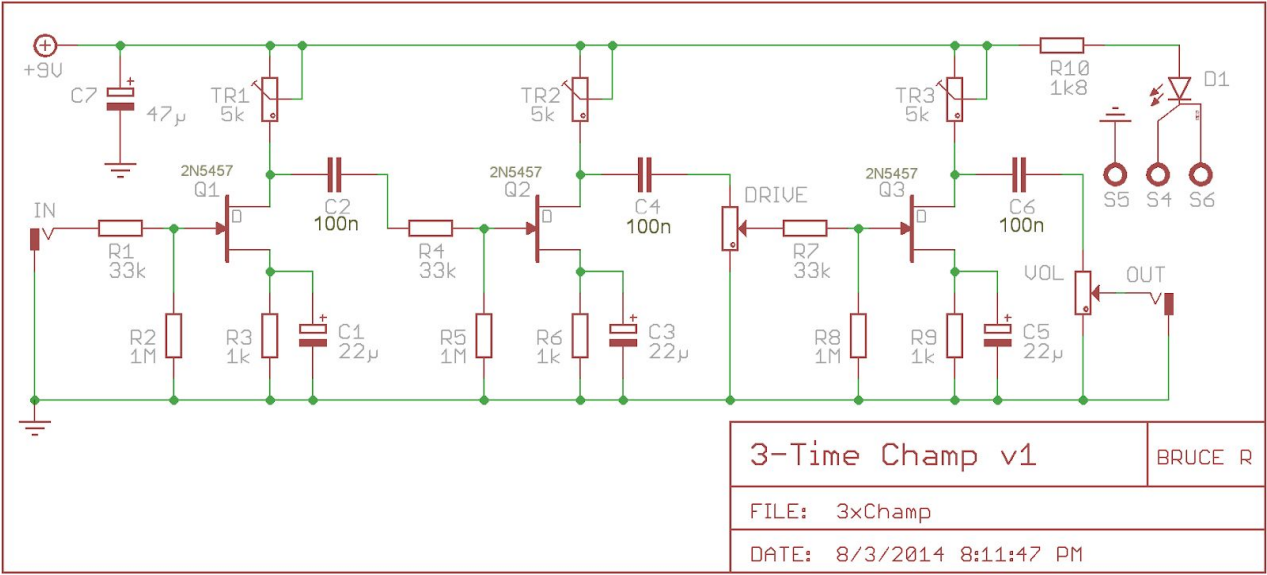


Three Time Champ

Go from clean Boost to Powerful Overdrive! Stack it for some heavy Distortion!
The idea for this project is to stack 3 Gain Stages with the right combination of FETs, biased to perfection yielding you a big Champ™ style tone out of your amp without needing to crank the amp.
Board Dimensions (W x H) 1.95" x 1.19" ca. 49.5mm x 30.2mm



SCHEMATIC



PARTS LIST

Part	Value
R1	33k
R2	1M
R3	1k
R4	68k
R5	1M
R6	1k

Part	Value
R7	68k
R8	1M
R9	1k
R10	1k8
C1	22µ
C2	100n

Part	Value
C3	22µ
C4	100n
C5	22µ
C6	100n
C7	47µ
*Q1-Q2	2N5457

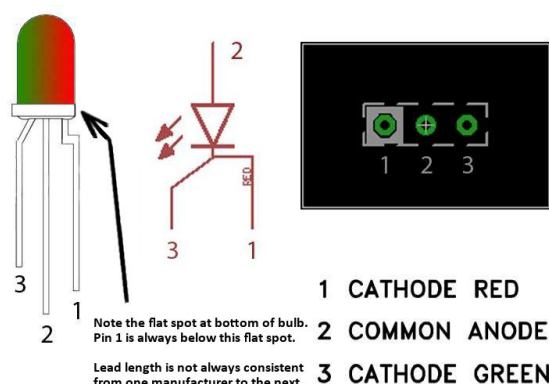
Part	Value
Q3	2N5457
DRIVE	100k Lin
VOL	100k Log
TR1 – TR3	10k*
D1	Bi-color CA LED

* see text

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:

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 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 R8. R8 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.

BUILD NOTES

The three trim pots (TR1 – TR3) are used to set the bias voltages at the drains of Q1 – Q3 initially to 5V. Google "Transistor Datasheet" for the orientation of Drain Leg.

The drain pin for each JFET is the top pad 2N5457 or MPF102), looking at the diagram above, for each JFET. Please see our mandatory build guides, main page, for help regarding biasing, or using a DMM.

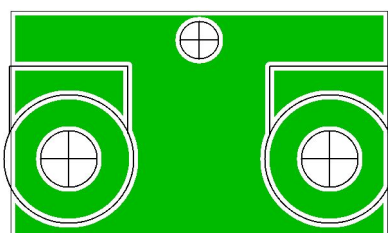
*Although 5k Ω trim pots are good for J113, 10k Ω trimmer pots should be used especially if choosing a J201.

Although it is recommended to bias each JFET to 5V, there is nothing to stop you from experimenting with different bias voltage; suggestions are to bias Q1 and Q2 both to a slightly higher voltage (same bias voltage for both) leave Q3 at 5V. It is extremely important to buy genuine transistors from GuitarPCB or Small Bear etc.

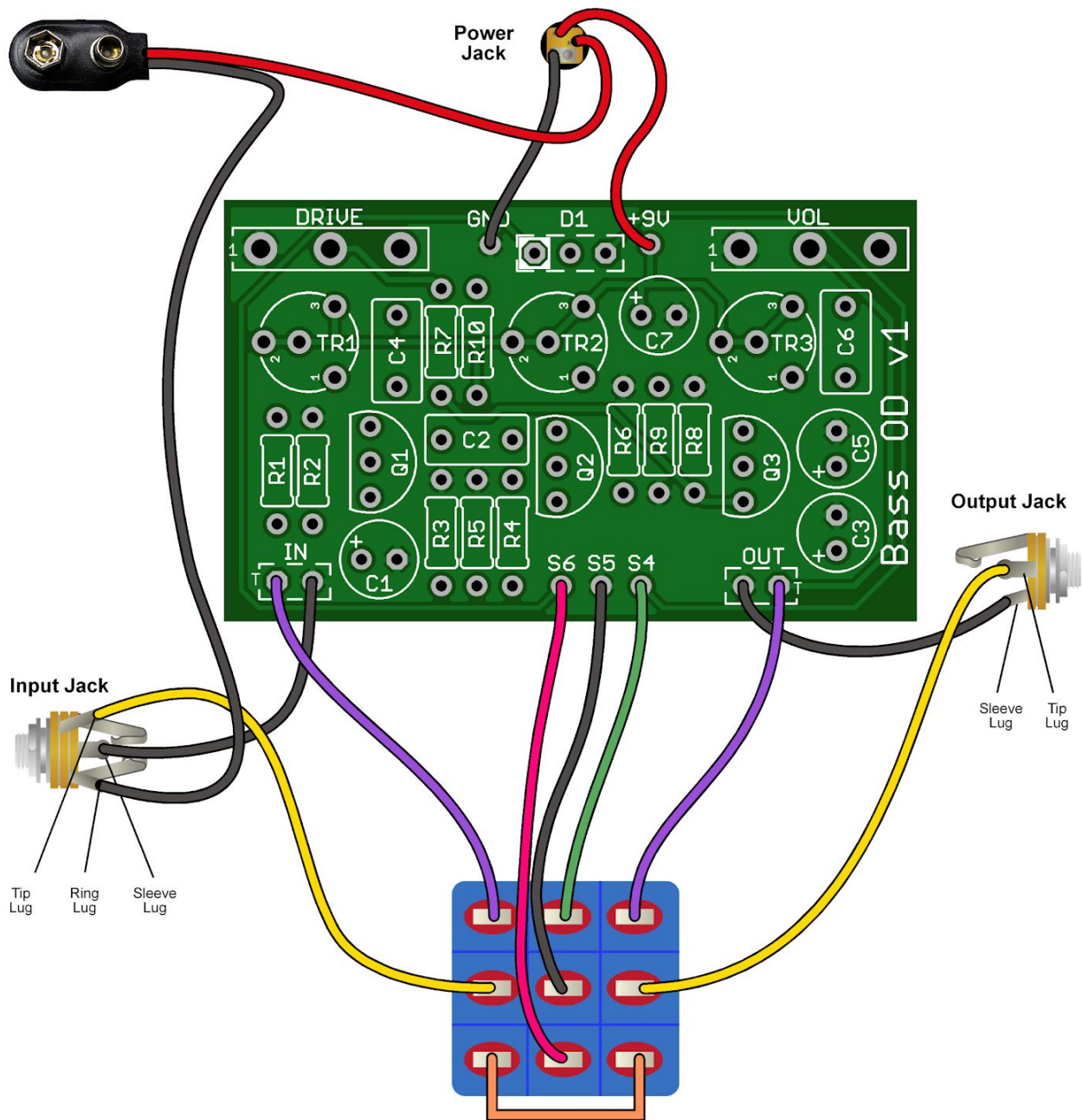
*If you want a cleaner sounding drive try using an J113 at Q1 and Q2, however for a slightly dirtier sound we recommend the use of a 2N5457 at Q1, Q2 and Q3. This falls under "Socket and See". **Always use sockets.**

DRILL TEMPLATE

You may use the template below to assist with your drilling for the LED and pots. Make sure that the black outline of the PCB on your printout matches the dimensions of the PCB. PCB Dimensions are 1.95" x 1.19" ca. 49.5mm x 30.2mm. Make sure you select "Actual Size" in the print window when printing from Acrobat Reader.



WIRING DIAGRAM



[Soldering Tutorial on Youtube](#)

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