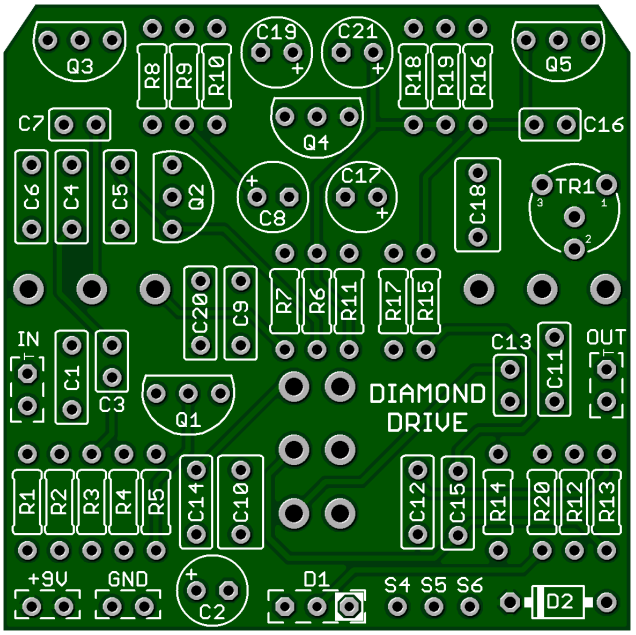
Diamond Drive by GuitarPCB

Even from a Marshall amp you can emulate the famous tones from those other British valve masters. Listen to the razor sharp articulate tones that evolve into creamy, crunchy cutting overdrive as you crank the gain and dig in. This diamond really cuts through the mix!



Part	Value
R1	1M
R2	47k
R3	470k
R4	470k
R5	1k
R6	470k
R7	100k
R8	470k
R9	1k
R10	1k
R11	470k
R12	220k
R13	220k

Part	Value
R14	22k
R15	33k
R16	1M
R17	1k
R18	10k
R19	10k
R20	1k8
TR1	10k
TREB	B1M
VOL	A100k
*DRIVE	A100K
BASS	B1M

Part	Value
C1	100n
C2	10uF
C3	330p
C4	10n
C5	1n
C6	1n
C7	680p
C8	22uF
C9	100n
C10	100n
C11	1n5
C12	15n
C13	330p

Part	Value
C14	3n3
C15	22n
C16	680p
C17	22uF
C18	100n
C19	22uF
C20	100n
C21	22uF
D1	C.A.-LED
D2	1n4001
Q1 - Q4	**J113**
Q5	**J113**

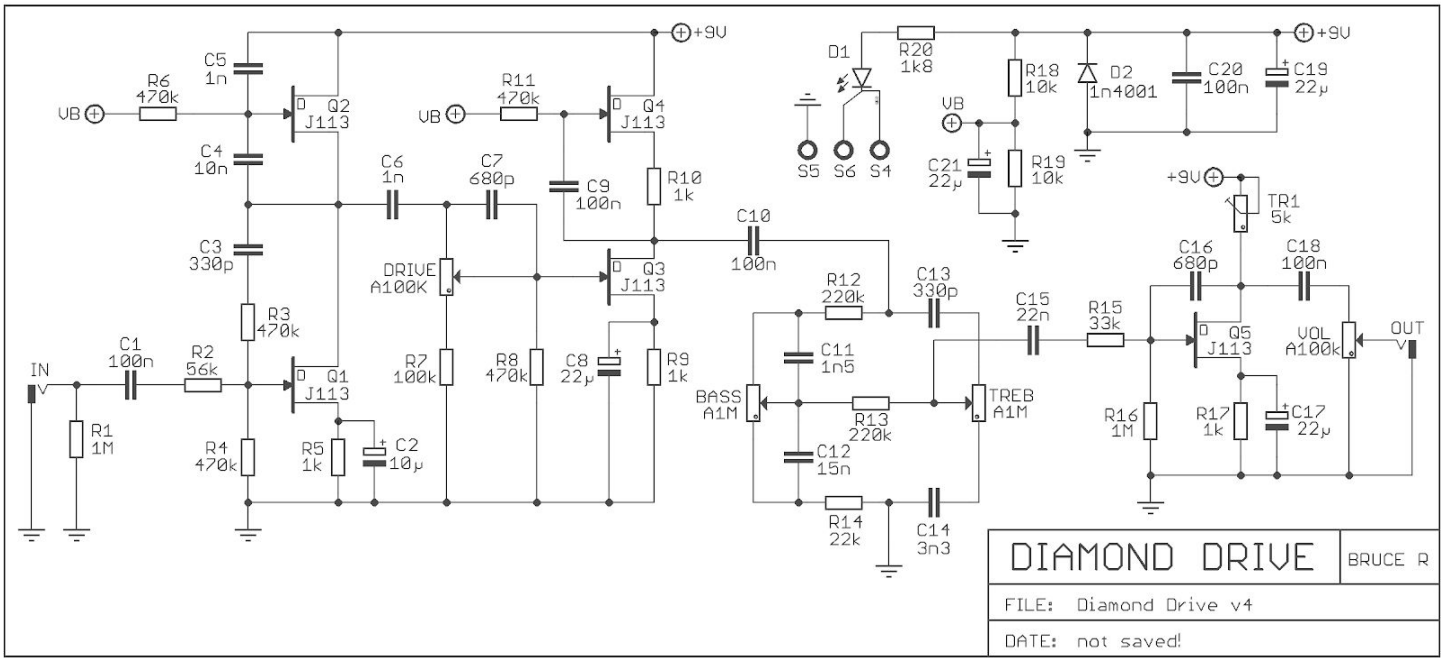
Build Notes:

Biasing TR1: When biasing the Drain voltage it should always be about half of the supply voltage which is why you often see 4.5 – 5v bias voltages keeping in mind that nobody gets exactly 9 volts.

Transistors: The most important part of your build is the J113 transistor we have chosen to achieve that bell like tone. You may try others (minding orientation). We like the J113 available in our **SHOP**

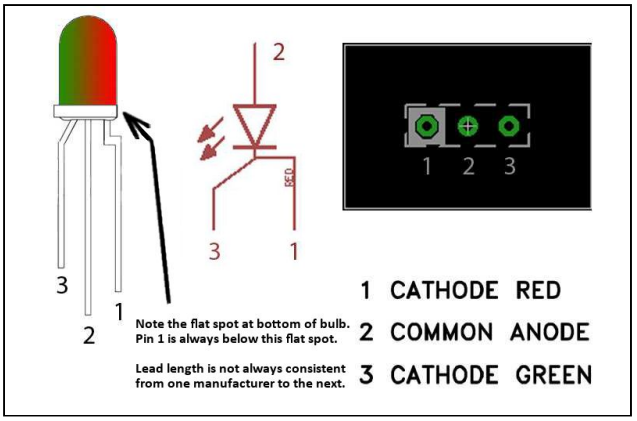
Drive Potentiometer: If you build this circuit wanting to achieve the most Distortion like Brian May you may use an A500K LOG Drive pot. Additionally try our P.U.R.P. Rangemaster Plus in tandem.

R20 - ***1k8** is a value of resistance for a bright Status LED C.L.R. (Current Limiting Resistor). If you prefer a dimmer LED you may choose anything from 1k8 to 4k7 and in between safely.



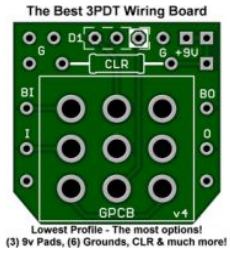
STATUS LED

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 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 R20. *R20 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.

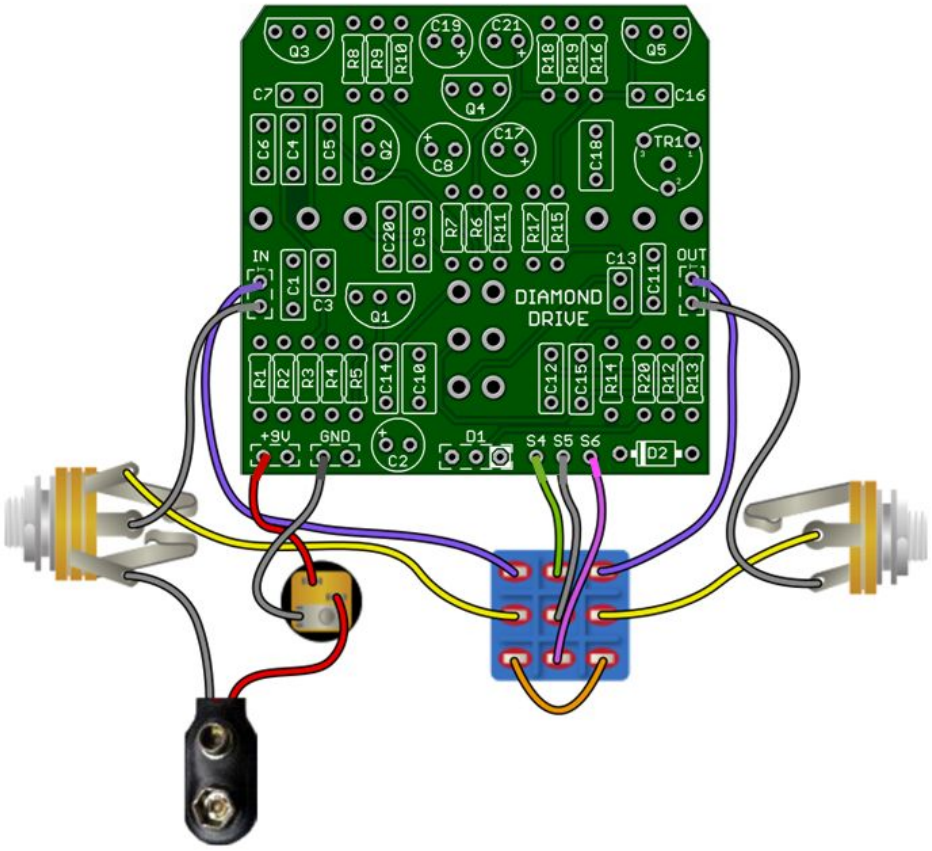


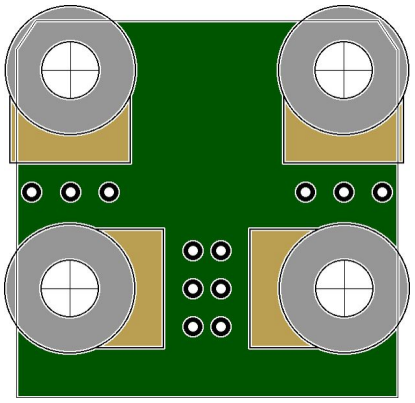
This board uses 16mm Right-Angle PC-Mount potentiometers. In the USA from Small Bear Internationally check with Das Musikding in Europe or PedalPartsAustralia.

If you are using one of GuitarPCB's handy [3PDT wiring boards], pads S4, S5, S6 and D1 would be ignored and R20 would not be installed. See wiring guide below for reference.



WIRING

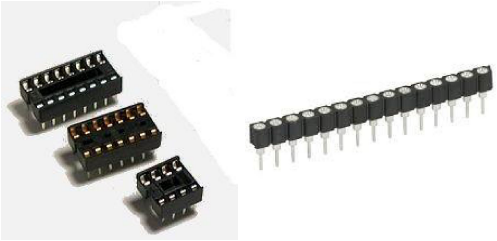


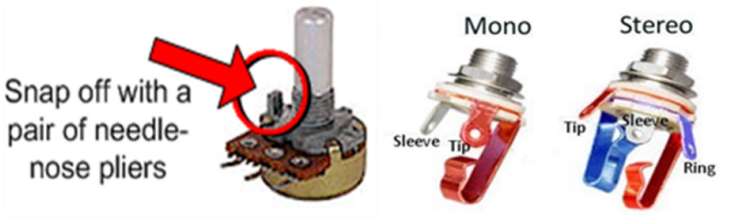


Drilling Template: Make sure it prints out to size with your board.
Drill at your own risk. We suggest enclosure mounting before soldering in potentiometers.

Additional Build Advice and Guide Links:

IC's 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

Need a kit? Check out our authorized worldwide distributors:

USA – Check out PedalPartsAndKits for all your GuitarPCB kit needs in the USA.

Europe – Das Musikding Order either boards or kits direct from Europe.

PedalPartsAustralia - Order either boards or kits direct from Australia

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