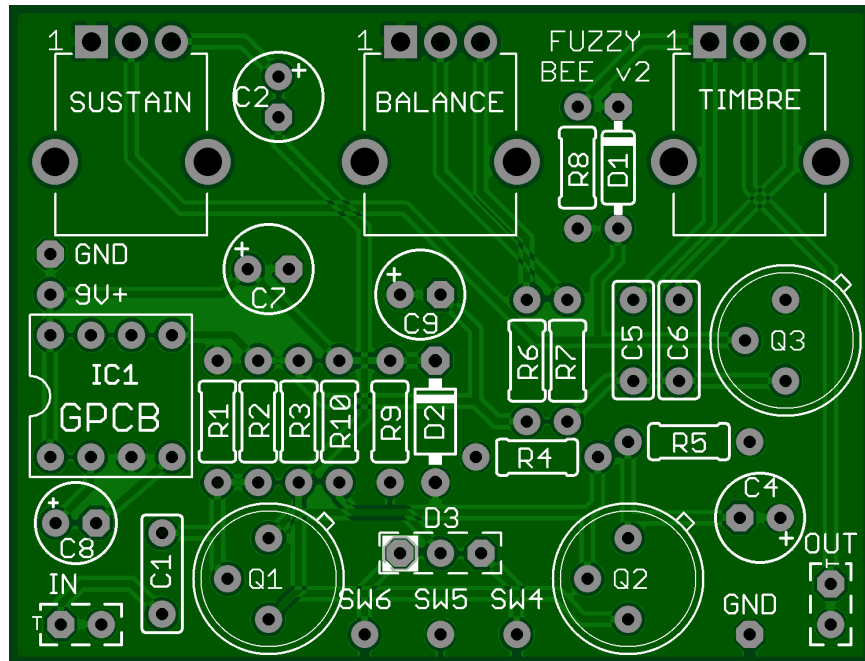




Fuzzy Bee v2 (Pump'd Up Edition) Build Instructions

Board Dimensions (W x H) 2.13" x 1.67" i.e.: 54.0mm x 42.4mm. This design will fit into a 1290NS/1590B size enclosure or larger. We recommend a 125B enclosure or larger for beginners. This board allows you to make a modernized version of the Buzzaround™ fuzz pedal and includes a charge pump so that you can use PNP transistors and still share a power supply with other circuits or pedals.

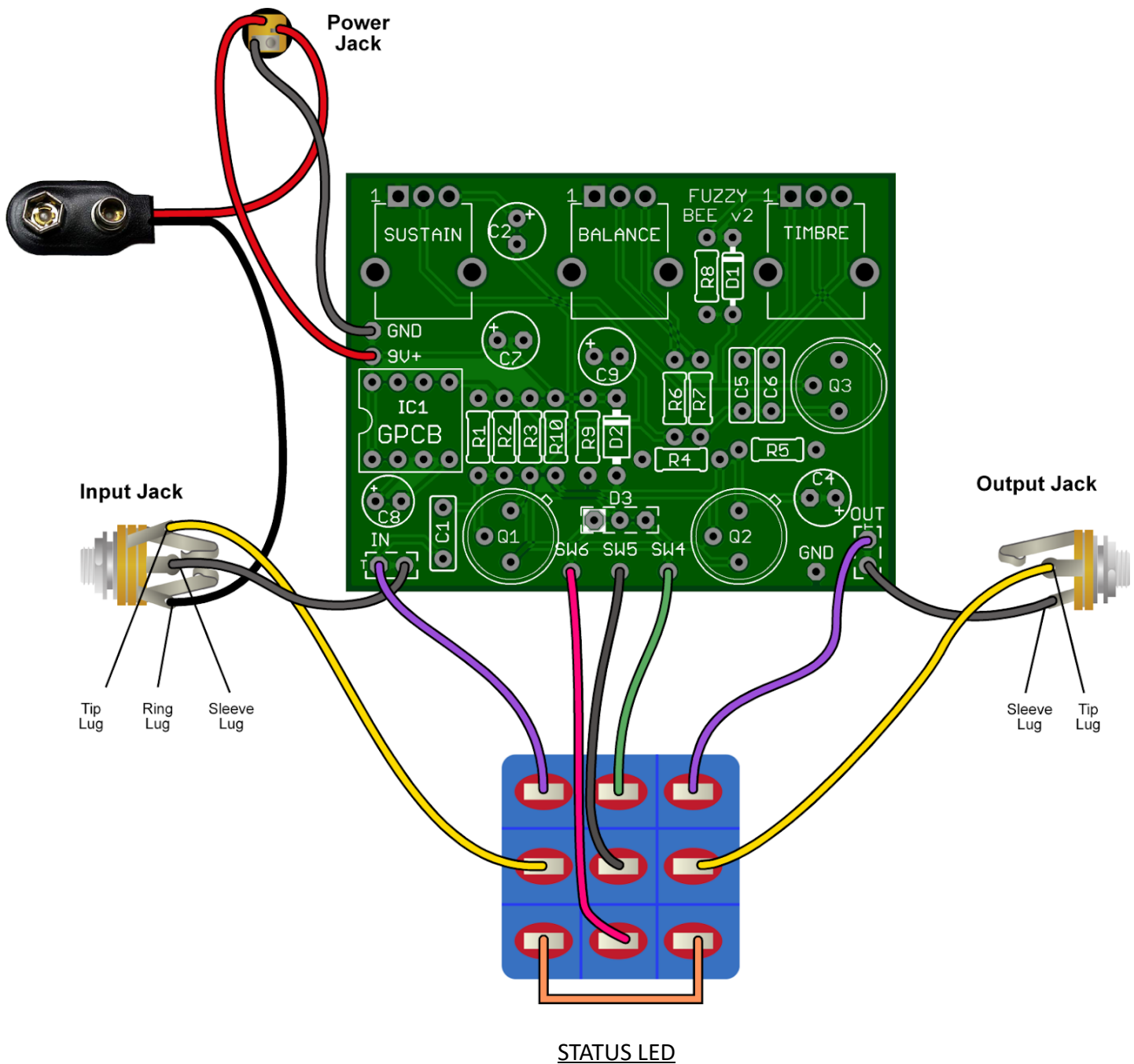
This board has 9mm PCB-mounted potentiometers, which mount to the under-side of the board. Later in this document, a drilling template will be provided to assist you in drilling your enclosure accurately. If your holes are a little off, and the pots do not fit, please enlarge the holes with a file or a larger drill bit. Absolutely do not force the pots into the holes, or you may break the circuit board. You may also use wired pots and arrange the knobs in your enclosure to suit your personal preferences.



IMPORTANT NOTES

- For the transistors, we recommend GuitarPCB.com matched PNP Tone Bender sets. If you acquire a Tone Bender set elsewhere, please make sure they are PNP, not NPN, and have low leakage (<.3mA).
- The board is printed showing the correct orientation for a vintage 2n404, 2n1305, 2n1307, etc. If you use a different transistor, it is **critical** that you check your transistor's datasheet and verify the pin orientation.
- Any charge pump that adheres to the 7660S or 1044 pinout may be used, as long as it has a frequency boost for pin 1. If you use an older 7660 (no S), you will likely hear noise in the circuit from the charge pump.
- The board mounted 9mm pots are available at various sources. The model required for this project in the Bill of Materials is the Small Bear Electronics part number. At some suppliers, an additional "1" may appear within the part number, e.g.: RD901F-40-15R1-5k (where 5k is the value). If you do not want to use board-mounted pots, you don't have to. You can wire regular 16mm pots to the pads provided, for example, but the drilling template in these instructions won't work with larger pots.

WIRING DIAGRAM

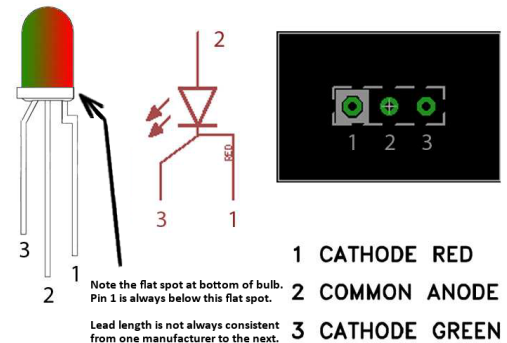


D3 is a common anode bi-color LED. The diagram at right shows the pin-out, schematic symbol and pad connection for a common anode LED. The pin-out for the bi-color LED is typically (but not always) as follows:

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 pad to show the circuit in effects mode. If you use a 3PDT wiring board that includes an LED, omit LED D3 and resistor R10 and install an LED and Current-Limiting Resistor on the 3PDT board instead.

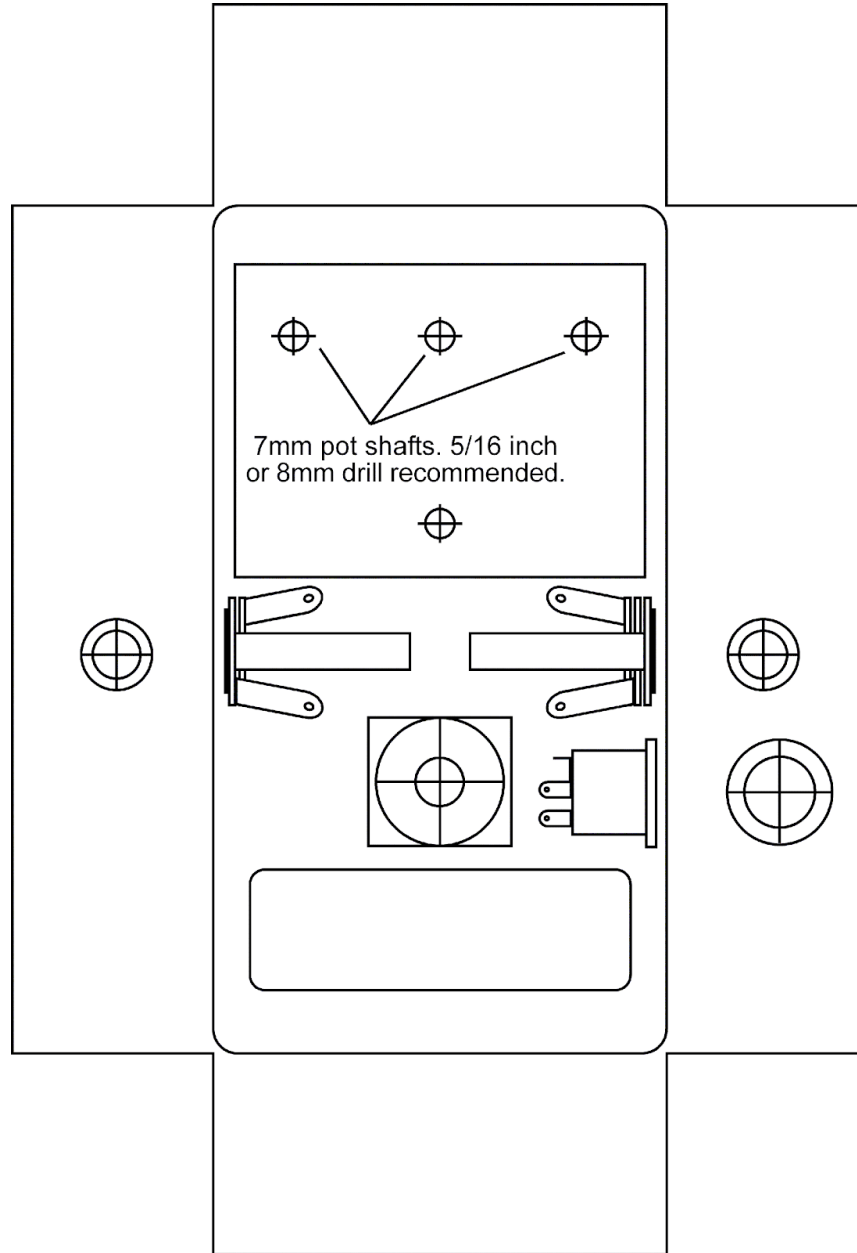


PART LIST

Part	Value	Comments
R1	100k	1/4 W
R2	470k	1/4 W
R3	10k	1/4 W
R4	10k	1/4 W
R5	3k3	1/4 W
R6	27k or 24k	1/4 W
R7	15k	1/4 W
R8	10k	1/4 W
R9	1M	1/4 W
R10	1k8	1/4 W
BALANCE	B5k	Alpha RD901F-40-15R-5k at Small Bear
SUSTAIN	B100k	Alpha RD901F-40-15R-100k at Small Bear
TIMBRE	B100k	Alpha RD901F-40-15R-100k at Small Bear
D3	Bi-Color CA LED	Common Anode (see text)
IC1	7660S, *1044*	Any charge pump with frequency boost for pin 1
D1	1n34a	Germanium Diode
D2	1n4001	General Purpose Diode
C1	100n	Box Capacitor, 16+V
C2	4μ7	Electrolytic Capacitor, 16+V
C4	4μ7	Electrolytic Capacitor, 16+V
C5	1n	Box Capacitor, 16+V
C6	100n	Box Capacitor, 16+V
C7	47μ	Electrolytic Capacitor, 16+V
C8	10μ	Electrolytic Capacitor, 16+V
C9	47μ	Electrolytic Capacitor, 16+V
Q1	PNP Ge*	See Text
Q2	PNP Ge*	See Text
Q3	PNP Ge*	See Text

DRILLING TEMPLATE

When printed, this should be (W x H): 4 $\frac{7}{16}$ " x 6 $\frac{1}{2}$ " or 113mm x 165mm.



This drawing provides an example guide for drilling a 1290NS/1590B enclosure and assumes you are using the board-mounted pots (see parts list for model). Hole diameters are not exact in this image, so please measure your components before selecting a drill bit. Locations are approximate, and may need to be adjusted for different styles/models/brands of components, so verify before using.

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