



## CB1 (EXH LPB2 Replica) Modifications

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### Volume Potentiometer Location

The volume control on this and many other boosters can be on the circuit input or on the output. The original units have the volume on the output. Most stompboxes have the volume on the output, most amps have volume on the input. There are trade-offs between choosing to put the volume on the input or the output.

#### Volume on Output

Pros: Noise level of the circuit (some hiss from the transistor) is controlled by the volume. At low volume boost the background hiss is also lower.

Cons: The circuit always takes the full force of gain from the input

#### Volume on Input

Pros: Input level into the circuit is controlled by the volume

Cons: Noise level of the circuit (some hiss from the transistor) can be heard full force even when volume is low.

Since the LPB is known to distort badly with high-gain pickup guitars pushing it and since the hiss noise level is very low, modifying to put the volume pot on the input is a good choice. Our tests have concluded that with the volume on input, it will handle guitars with humbucker pickups without the ugly distortion and it has a much more crisp, clean sound, even with single coil guitars. This is a highly recommended modification.

### Transistor Selection

The schematic link shows the transistor (Q1) as 2N5133 and notes that a BC239 was also used. My (JD's) original LPB1, purchased in the mid '70's has a 2N5088 transistor in it. We recommend using a 2N5089 or 2N5088, since they are low noise and readily available.

### Gain Changing Modifications

The LPB is a simple version of a "Common Emitter Amplifier". The overall gain characteristics of this circuit can be tweaked by changing the value of the four resistors connecting to the transistor. Rather than repeat lengthy discourse on how to do this, you can learn more about this by an internet search on Common Emitter Amplifiers. We will suggest that the gain on this circuit is about as high as you would want to go and if it doesn't provide enough loudness, you should probably consider other circuit options for boost or pre-amping. For those of you who haven't heard an LPB1 or LPB2 booster, it is a **LOUD** booster! Providing as much volume (or more) as the MXR MicoAmp or Dan Armstong Red Ranger or any other booster we have



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used.

## Tone Changing Modifications

This layout can be used to create a "Screaming Bird" by simply substituting the 0.1uF capacitors with 0.002uF capacitors. We've never heard any thing good said about The Screaming Bird or Screaming Tree. As Art Thompson says, the Screaming Tree "Should have been called The Screaming Audience"! The old Screaming Bird/Tree treble boosters are pretty harsh to most ears. Capacitors with values between 0.047<sub>u</sub>F and 0.0047<sub>u</sub>F would work well for milder treble boost. Brian Tremblay reported that 0.01<sub>u</sub>F caps worked well for a treble boost without being too ear piercing.

*Want to contribute? If you are happy to share your modification information with other builders, contact us at [info@generalguitargadgets.com](mailto:info@generalguitargadgets.com). If the modifications pass our review we will add it to this file for all to enjoy!*