Op-2 Comp

By *Lightning Boy Audio*

User's Guide (2016)

Congratulations on your purchase of this exquisite piece of hand crafted vacuum tube technology from Lightning Boy Audio! Please read this guide carefully before using your new compressor pedal.

GETTING STARTED:
Aside from the obvious, all you'll need to get your Op-2 Comp working is a suitable power supply. For reference, Op-2 Comp requires 12v DC at 400mA (minimum amperage required for normal operation). The tip/center is wired negative, which is standard for most guitar FX pedals on the market. A well-regulated power supply is required to minimize noise. It may be possible to run other pedals off the same power supply if your power supply has enough current. Doing so is not recommended unless your power supply has isolated power outputs for multiple pedals. The pedal is designed to handle as much as 12.6v DC without detriment. Exceeding this amount will void the warranty and will reduce the lifespan of the vacuum tubes. Exceeding 16v will cause catastrophic failure of the pedal. If you purchased a 12V power supply from us, there is a polarity reversal adapter included. The power supply we are selling for the Op-2 Comp has a positive center polarity, which is the opposite of what the pedal requires. The polarity reversal adapter must be attached to the power supply before powering up the pedal.

Powering up: The pedal will turn on as soon as a powered up power supply is connected. The vacuum tubes need to warm up before they will transmit any signal. It may take about 15 seconds before you hear anything. When you can hear audio and the pedal is engaged, it may take an additional 15 seconds for the pedal to sound correct. After at least a few minutes of operation the pedal will be sounding its best. To ensure long life of the vacuum tubes it is advised to turn off or unplug your power supply when not in use.

Controls: The **active/bypass stomp switch** is true bypass. When the tube backlights glow blue the pedal is activated. When the tube backlights turn off, the pedal is bypassed. Next, there are two controls for the compression. The **compression knob** is simple to understand. Turning this knob up will give you more compression. When the knob is fully counter clockwise it is at its most minimal setting. Even at its lowest setting, Op-2 Comp is still compressing the signal, although to a very minor degree. The other control is the **"Knee" switch**. This toggles between a soft knee compression slope in the downward position (towards the foot switch) and hard knee compression slope in the upward position. The sonic effects of each can be more easily heard with the compression knob turned all the way up. Basically, hard knee is a more aggressive/snappy sounding compression and soft knee is a more musical/smooth sound. The **volume knob** should be pretty self-explanatory. It can take you from zero to a significant boost. Finally, there is a toggle switch located to the left of the vacuum tubes. This is the **"Turbo" switch**. When on, the pedal will have more "tube tone" and more volume. Technically speaking, it increases the THD of the pedal, modifies the frequency response very slightly, and boosts the volume. With the control off, the pedal is cleaner sounding and more articulate. Turbo could prove useful if you're searching for warmer, thicker sound. Choose it's off position if you want the pedal to play a more transparent role in your overall tone.

Tubes: Op-2 Comp requires two 12AU7 type vacuum tubes, which are supplied with the pedal. We typically use military or computer grade vacuum tubes in this pedal because we have found them to perform better than standard 12AU7 tubes. The pedal ships with a pair of NOS (new-old-stock) tubes, which have been meticulously selected for low noise and high gain. Other styles of tubes, such as the 12AX7, will not work properly in this circuit. Op-2 Comp has been specifically designed around the 12AU7. Tube rolling (swapping tubes for different brands) is not recommended. It will be very difficult to remove the stock tubes because of the intense gripping strength of the high

quality tube sockets used in the pedal. Taking tubes out and putting in new tubes requires delicate care to not damage the internal wiring. If a tube replacement is needed it is recommended that you return the pedal to Lightning Boy Audio for servicing. If you want to perform this work on your own or by a tech please follow the succeeding guidelines. If you damage the pedal performing this work, you will in effect void the warranty of the pedal.

Replacing vacuum tubes: This is not recommended. If you must, the first step is to make sure the pedal is unplugged. Remove tube dampers if installed. Then, get a firm grip on the tube to be replaced. Pull with force while slightly wiggling the tube back and forth. DO NOT get wild with the wiggle. You do not want to damage the internal wiring. By taking off the back cover you will see what you're up against. Take your time. It can take several minutes to unseat the tube. To install the new tube you will now need to remove the back cover. Place a finger on the back of the tube socket, directly on the LED backlight to provide support. Inserting the new tube will require some strength to overcome the tight socket. Be VERY CAREFUL to make sure the pins are lined up with the socket. After you have seated the tube on the socket, you can peek through underneath from the backside to confirm the tube is fully seated on the socket. Replace the cover, plug in, rock!

Op-2 Comp quick start settings guide:

- **Super clean, ultra transparent compression**(good for rhythm guitar and bass): Set turbo to "Off," set knee to "Soft," set compression to minimum (still slightly compressing even at minimum), adjust volume to match pedal volume when bypassed.
- **Maximum spank** (good for chicken picking and slap bass): turbo on or off. Knee set to hard. Compression turned all the way up. Volume set to match bypassed volume.
- **A good normal every day setting** (great for guitar and bass): Turbo ON, soft knee, Compression at 1:00, volume between 2-3:00.
- **Clean boost**: Turbo OFF, knee soft, compression down all the way, volume up all the way.
- **Warm boost**: Turbo ON, knee soft, compression down all the way, volume up all the way.
- **Sasquashed** (great for screaming leads): Turbo ON, knee hard, compression up all the way, volume up all the way.

TROUBLE SHOOTING:

- Pedal LED's flashing, thumping sound, does not power up. Solution – use a different power adapter. Some adapters will not function properly because of the Op-2 Comp's onboard power filter section. So far, this has only been found to occur with a very small number of low quality power adapters.
- Pedal does not work. Did you see a puff of smoke when you plugged it in? Maybe smell burning electronics? This can only happen one way. You used a power adapter with the wrong polarity. Solution – send it back to LBA for repair and buy the power adapter we sell for the pedal.

For tube replacements and/or servicing please contact lightning boy audio by email at sales@lightningboyaudio.com or by phone at 716-472-6739.
More information about the Op-2 Comp can be found on its product page at www.lightningboyaudio.com.