
Boost-EQ

Clean boost / parametric EQ guitar effect pedal

User Manual

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INTRODUCTION

Thanks for purchasing a Diamond Boost-EQ combination clean boost / parametric EQ. The Boost-EQ combines a very transparent discrete clean boost circuit with a unique selectable parametric EQ combination of a 'tilt' EQ and midrange boost/cut filter.

Remember to protect your hearing and wear appropriate hearing protection when playing loud...

DESIGN BACKGROUND

The concept for the Boost-EQ began with a customer request for a 'compressionless' Diamond Compressor - i.e. a clean boost circuit coupled with the Compressor's tilt EQ. A custom pedal was built and shipped that added a 'pull' function on the Compressor's COMP control to remove the opto compression element from the circuit, using the Compressor's remaining make-up gain section as a boost circuit. This was then followed by the tilt EQ as usual in the Compressor chain. The next step in the Boost-EQ evolution was the decision to take the J-Drive MK3 clean boost circuit and couple that directly with the tilt EQ. This became the first officially announced Boost-EQ (it had a large paddle 'EQ defeat' switch where the middle knob usually goes) and was shown at summer NAMM 2007. The pedal worked really well, but it was decided that a little something extra was needed, so an additional midrange boost/cut filter was added to the EQ chain, centered at the fulcrum of the tilt EQ 'seesaw', to give a very unique parametric filter combination. This became the official production Boost-EQ design.



FEATURES

- discrete clean boost circuit with JFET input buffering and bipolar drive
- premium audio components, including 2% polypropylene capacitors, 1% metal film resistors, Vishay transistors, and a Burr Brown OPA2134 opamp
- post-boost 'tilt' EQ provides a very musical tailoring of frequency response - seamlessly transition from a darker jazz voicing to a brighter jangle, with flat frequency response at the center detent position.
- midrange boost/cut filter placed at the fulcrum of the tilt EQ for a unique parametric EQ response
- EQ section can be removed from the signal path via toggle switch
- dual AC capacitive coupling paths for improved transient response
- true bypass signal path

- battery or standard negative tip regulated 9V DC adapter operation (can be operated at up to 18 V DC negative tip for additional headroom)
- genuine Hammond cast aluminum 4.7 x 3.7 x 1.1 inch case

CONTROLS

The Boost-EQ is a very simple pedal - a clean boost with a simple gain control, and a two-control parametric EQ section that can be toggled on or off.

GAIN

This controls the gain level of the discrete boost section. Gain ranges from about -6 dB (about half the input signal level) in the counterclockwise position to approximately 15 dB of gain (about 5.5 times the input signal level) in the fully clockwise position. At the noon position on the dial, the clean boost provides about 9 dB of gain (about 3 times the input signal level). The clean boost section has been designed to stay 'clean' for most gain and guitar combinations, with additional distortion usually occurring naturally in the front end of a tube amp due to the increased input levels.

TILT

This control provides a complete spectral tilt of the pedal's frequency response pivoted around a fixed point in the upper midrange - think of it as a 'seesaw' frequency response that can be tilted in either direction. Center detent is flat - moving to the left darkens the overall frequency response, moving to the right brightens the overall frequency response.

MIDS

This control provides a +/- 10 dB boost/cut in the upper midrange frequencies, centered at the 'fulcrum' of the tilt EQ.

There are many different and interesting combinations of the tilt EQ and midrange control – take time to experiment with the many tonal possibilities of the Boost-EQ.

SWITCHES

EQ ON/OFF

This toggle inserts or removes the parametric EQ section (tilt EQ and midrange boost/cut) from the signal path.

ON/OFF

This switches the entire effect circuit between bypass and in-circuit operation, with a green LED indicating that the effect is on.

POWERING

BATTERY

The Boost-EQ comes standard with a 9V battery, and with its approximate 13 mA of current draw, can operate for 25 hours or more from a standard alkaline cell.

Changing the 9V battery first requires the removal of the four back corner screws of the pedal. The battery clip is attached to the inside of the back plate – gently pull the back plate off so as not to strain the connecting wires between the battery clip and the main circuit board. After replacing the battery, carefully place any slack in the connecting wires into the box cavity, and replace the back plate with the four screws, taking care not to pinch the connecting wires.

Note: the LED's are not accurate indicators of battery strength, so if the battery has not been changed for a while and the clean boost or overdrive either sounds 'different' or doesn't work at all, try swapping out for a new battery.

9V ADAPTER

Any standard regulated 9V DC negative pin AC adapter for effect pedals can be used to power the Boost-EQ. The insertion of the AC adapter plug automatically removes the internal battery from the circuit, but if you're planning to permanently power using an external adapter, it is recommended that the battery be removed. For additional headroom with high input level sources, an 18V negative regulated adapter can also be used to power the Boost-EQ.

PRESETS

The Boost-EQ's combination of gain and EQ controls gives many tonal possibilities. As a starting point, here are a few of our favorite presets:

CLEAN AS A WHISTLE

Gain: 1 o'clock

Tilt: n/a

Midrange: n/a

EQ: OFF

MID ENGINE DRIVE

Gain: 12 o'clock

Tilt: 11 o'clock

Midrange: 3 o'clock

EQ: ON

HELLO, OPERATOR

Gain: 10 o'clock

Tilt: 4 o'clock

Midrange: 3 o'clock

EQ: ON