

SUBDECAY

VARIAC

OVERDRIVE



USER GUIDE

VERSION 1.00A

Introduction:

Rock guitar tone has long been defined by overdriven tube amplifiers. In the early days those sounds were primarily power tubes, the output transformer and speakers being pushed until they had nothing left to give. Evolution of amplifier design introduced more preamp distortion and more midrange and treble gain keep the sound focused.

We set out to capture the tones of AC/DC, early Van Halen, Judas Priest, GnR and Tom Morello and even some of those 80's hair sounds (aquanet and pointy neon guitars not included). We carefully listened to some of our favorite rock and old school metal. We tested and analyzed individual tube circuits at high voltage to figure out what they were really doing. We studied the topology of the amps those artists actually used, especially variations of *Marshall's 1987 and 1959 based circuits.

More than another amp in a box, the Variac Overdrive places an entire era of rock sound right under your foot. So turn it up and get ready to ROCK!

What does the Variac Overdrive do?

The Variac Overdrive emulates both a hot-rod tube preamp and a power amp with two phase inverter options. Chords sound huge. Leads sing with clarity. It brings pinch harmonics out with ease. The Variac Overdrive is an expressive drive pedal with the articulation and touch sensitivity of a tube amplifier. The controls are all interactive along with "hidden" controls like the power supply. Dynamics, and headroom are all affected by the power supply. Powering from 7.5 to 18 VDC opens up even more possibilities.

Preamp- controls the preamp gain

Pentodes- controls the power amp gain

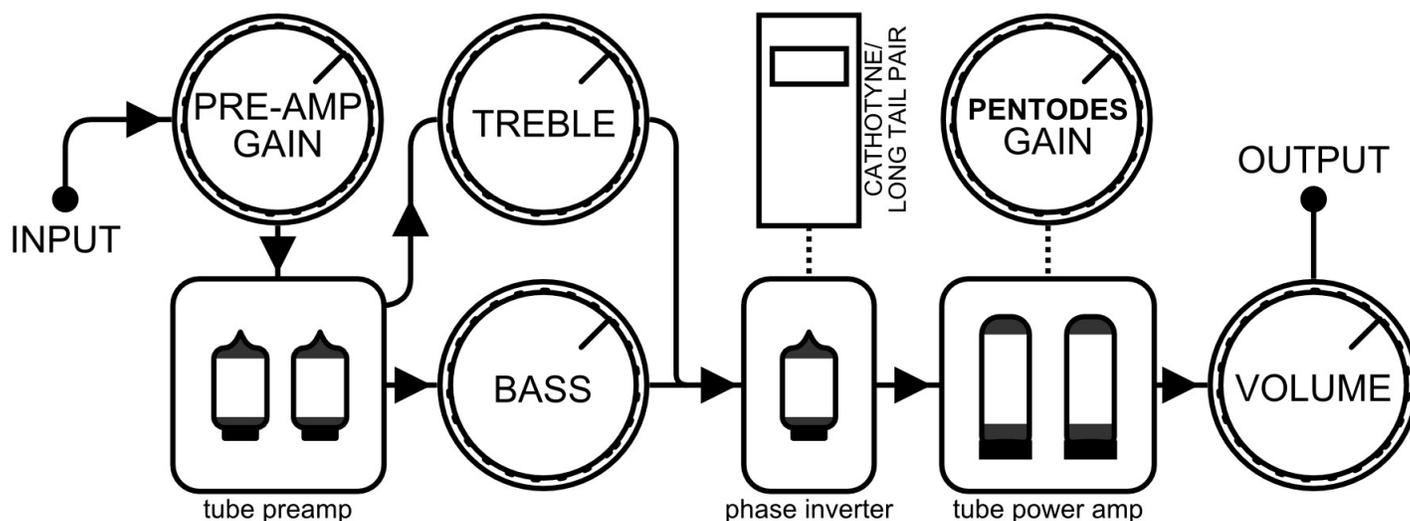
Tone Stack- The treble and bass knobs control the frequency response. The tone stack is situated between the preamp and pentodes gain.

Cathodyne / LTP switch- Two common tube amp phase inverters. Cathodyne setting has more bass and a looser response. LTP (long tail pair) for tightening up the low end and a more focused sound.

Volume- makes the effect louder... (or quieter if you are in to that kind of thing.)

Check the last page of this user guide for more information on the control matrix.

Simplified circuit architecture:



Specifications:

Input impedance: 500K

Output impedance: Less than 5K

Power by battery or DC adapter. (see back for more details)

Operation and care:

All the regular stuff here. Don't leave it out in the rain or put it in an oven. If you want to clean it use a towel, don't put it in the washing machine. Send it back to us if it stops working.

Warranty:

Subdecay Studios offers a 3 year limited warranty from the purchase date to the original purchaser. This warranty does not cover polar bear attacks, willful destruction, using your pedal as a hammer, or the neglect of the user.

It does not cover the finish, paint or any external superficial damage. Any unauthorized repairs or modifications voids the warranty.

--CONTROLS--

- Treble-** Controls treble content. Similar to the treble control in many tube amplifiers. Highly interactive with the pentodes and pre-amp controls
- Phase inverter switch-** Select between cathodyne and LTP (long tail pair.) Cathodyne has loose dynamics with more bass response and works well with smaller amps. LTP is tighter and more focused. Set to LTP for larger amps.
- Bass-** Controls the bass content. Similar to the bass control found in many tube amplifiers. Highly interactive with the pentodes and pre-amp controls. Typically you will not want to run the bass, preamp and pentodes all at maximum, but we make pedals, not rules.
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- Pentodes-** Controls the gain the power amp gain. Use more pentodes gain for open vintage sounds.
- VOLUME-** Makes it louder... or quieter if you are in to that kind of thing.
- Pre-amp-** Controls the gain to a simulated hot-rodded tube preamp. The preamp is situated before the tone stack. Use more preamp gain for more modern sounds.

OUTPUT

- DC input-** Powered by a dedicated Class II regulated power supply with a negative center 2.1mm barrel plug. Current draw under normal operation at 9VDC is less than 10mA. Designed to operate at from 7.5 volts to 18 volts. (labeled as 9-18VDC to avoid confusion.) If using a "daisy chain" power supply all other units on the power supply MUST be negative ground.
Powering this pedal above 20VDC may cause permanent damage so just dont do it.

INPUT

- This is an awkward left over space. We're pretty sure you never RTFM anyway. Right?

LED INDICATOR

BYPASS SWITCH

LIGHTNING BOLT
Because lightning is freaking awesome.

PLAY IT LOUD. Part of guitar tone is simply turning up and letting it interact with volume in the room. The Variac is designed to react like an amp when it's loud. It's a great pedal for practicing without waking the neighbors, but do yourself a favor and turn it up whenever you can.

For a more information on using your Variac overdrive please visit <http://www.subdecay.com/variac-overdrive>

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