

# THD<sup>®</sup>

# Hot Plate<sup>®</sup> Power Attenuator

## What is the THD Hot Plate?

It's a power attenuator that lets you play your amp with full output distortion at quiet volumes. Do you love the sound of your amp wide open, but don't want to be deaf in years? The THD Hot Plate is what you need.

## What is a power attenuator?

A power attenuator is a device placed between the amp's speaker output and the speaker cabinet. It permits the amp to be turned up most or all the way while absorbing the majority of the power generated by the amplifier and turning this power into heat. It passes a small part of the power to the speaker.

## Why do I want one?

Our customers use attenuators because their amps sound good at high volumes, especially with full distortion, but in rehearsal, small clubs, or at home, they can't turn the amp up. Hot Plates are also used in recording studios for better separation between the instruments, and for use when the speakers sound best at low levels, or when they can't safely handle the amplifier's full power output. The Hot Plate also makes a perfect dummy load for driving effects or for use on the test bench.

In the late 1970s, we needed a good attenuator for our in-house testing of THD amplifiers. Our amps are always tested at a wide range of volumes and tones, from clean and pure to serious distortion, and we were tired of our ears hurting. We tried all the attenuators on the market, but they muffled the sound and made even THD amps sound dull. Now our design engineers and quality control testers don't have to worry as much about hearing loss, and neither do you.

## How does a Hot Plate work?

A THD Hot Plate is a tuned network of capacitors, resistors and inductors which adjusts the overall EQ as the volume is turned down to compensate for the human ear's frequency response. Your ear perceives sounds differently at different volumes: the louder the sound, the more sensitive your ears are to highs and lows. As the volume drops, your ear becomes more sensitive to the mid range, and less so for highs and lows. The Hot Plate compensates for this, working like the "Loudness" switch on a hi-fi. The THD Hot Plate is the only attenuator that is frequency compensated.

## How do I use it?

The THD Hot Plate is designed for use strictly with vacuum tube guitar amplifiers, and each version is optimized for a specific impedance (2, 2.7, 4, 8, or 16 ohms). These inductive loads are frequency compensated, which means they will give you the best possible sound for a given impedance speaker and amplifier combination.

To use one: connect the speaker output of the amp into the input of the Hot Plate, then connect the speaker cabinet to one of the two speaker outputs of the Hot Plate (it does not matter which one). The amp thinks the Hot Plate is a speaker, so the sound stays true even when you turn the volume down. An important feature is that the Hot Plate presents the amplifier with a constant impedance, regardless of the amount of attenuation the Hot Plate is set to.

## Built in Noise Reduction

The THD Hot Plate is the only attenuator on the market with built in noise reduction to reduce the hiss and hum between notes. We've designed a passive, single ended noise reduction system which provides approximately 10 dB of broad band noise reduction without gating or pumping, and without affecting the tone of the amp. A by product of the noise reduction circuit is that it generates light as you play. The harder you play, the brighter it glows.

## Tone Controls

The Hot Plate is also the only attenuator with Bright and Deep switches for tailoring your sound. The Bright switch gives you two different high frequency levels so you can compensate for an overly bright, or dull speaker cabinet. The Deep switch offers two distinct bass settings to help you fill out the bottom end, or reduce the bass in a cabinet with too much low end.

## Adjustable Line Out

THD Hot Plates also feature a Line Out, which is adjustable by its own volume control giving it a wide range of applications. At higher settings, it can provide enough signal to drive the input of a separate power amp for slaving. The middle range of settings is useful for most rack mount effects. And turned most of the way down, the Hot Plate's Line Out will drive the instrument input of another guitar amplifier for extra power and volume.



## Will it hurt my amp?

The THD Hot Plate will not damage your amplifier. When you play continuously at full output, you cause your tubes to age more quickly than they would at lower volumes. Using a Hot Plate will maintain the life of your tubes at exactly the same rate, no more or less, as when you play straight through the speaker.

Using a Hot Plate will also not hurt your amp's transformer any more than playing through a speaker, as long as the impedances are matched (i.e. 8 ohm setting on the amp, 8 ohm speakers and an 8 ohm attenuator). If you are using a well-made amp, then the transformer should last indefinitely, regardless of whether you are driving a speaker or attenuator. If you are using an inferior amp and the transformer blows, it would have done this whether you play through a speaker or an attenuator. The Hot Plate puts the same load on the transformer as a speaker (which is why it makes such a good dummy load).

## How do I get one?

First, figure out the impedance of your amp (call us or the amp's manufacturer if you're not sure). Then call your local music store. If they do not sell them, call your closest THD dealer (there is a list of THD dealers around the world at [www.thdelectronics.com/dealers](http://www.thdelectronics.com/dealers)), or contact us here at the factory ([info@thdelectronics.com](mailto:info@thdelectronics.com)). We will be happy to answer any questions you might have on any of our products.

## Features:

Output distortion at low volumes • Better control over your final sound • Optimized for specific impedances • Only frequency-compensated attenuator • Only attenuator with noise reduction built in • Only attenuator with tone controls • Adjustable line out