We designed the THD Reactive Rectifier™ for use in our THD amplifiers. Since introducing them, we have received countless requests, so we now offer it for installation in other amps as well.

**What's a Rectifier?**
Every musical instrument amplifier has a rectifier. The rectifier converts the high-voltage alternating current stepped-up by the amp's power transformer into the direct current required by the amp's internal circuitry. Originally, all amplifiers used rectifier tubes. They gave amps a warm tone, but rectifier tubes are fragile and not very reliable. Many of the tubes are difficult to find, including the popular 5AR4 (or GZ34) used in the Fender Bassman, Tweed Twin, and Super Reverb, and the Marshall JTM 45. So most manufacturers switched to solid state rectifiers, but this resulted in a colder, harder sound. These days, most tube amps have solid state rectifiers. Just because the amp is driven by tubes doesn't mean the rectifier is a tube as well.

**What's a Reactive Rectifier?**
For our THD amplifiers, we wanted the reliability of a solid state rectifier with the warmth of a tube, so we created the THD Reactive Rectifier™. Solid state rectifiers provide a uniform voltage drop, usually one to two volts, regardless of the load. The Reactive Rectifier™ “reacts” to the current load, providing the “sag” that made tube amps famous. As an example, in a Marshall JCM 800 50 watt amplifier, a solid state rectifier will always reduce the high voltage by 1.8 volts. A THD Reactive Rectifier™ will reduce the voltage by 10 to 15 volts at low volume levels (depending upon how the amp is biased) and up to 70 volts at maximum volume levels. A THD Reactive Rectifier™ drops the voltage in exactly the same way as a tube rectifier does. It sounds like a tube rectifier, while sturdily surviving the punishment of a rock and roll environment.

**How will it improve my sound?**
Most amplifiers with solid-state rectifiers tend to sound cold and a bit hard, especially when played clean or on the edge of distortion. The Reactive Rectifier™ adds warmth, smoothness and “bounce” to tube amplifiers with solid state rectifiers. It is the sort of change that the player “feels” as much as “hears”. The Reactive Rectifier™ alters the “Dynamic Response” of the amplifier as well as the sound. An experienced technician can even install a switch to let you change from the stock solid-state rectifier to the Reactive Rectifier™ at will. Installing a THD Reactive Rectifier™ does not change the signal path of the amplifier in any way.

**How Do I Get One?**
The THD Reactive Rectifier can be easily installed by any qualified technician. The unit comes with detailed instructions, and we are always available to answer any questions. Just visit your local THD dealer, have your tech call, or order one directly from the factory.