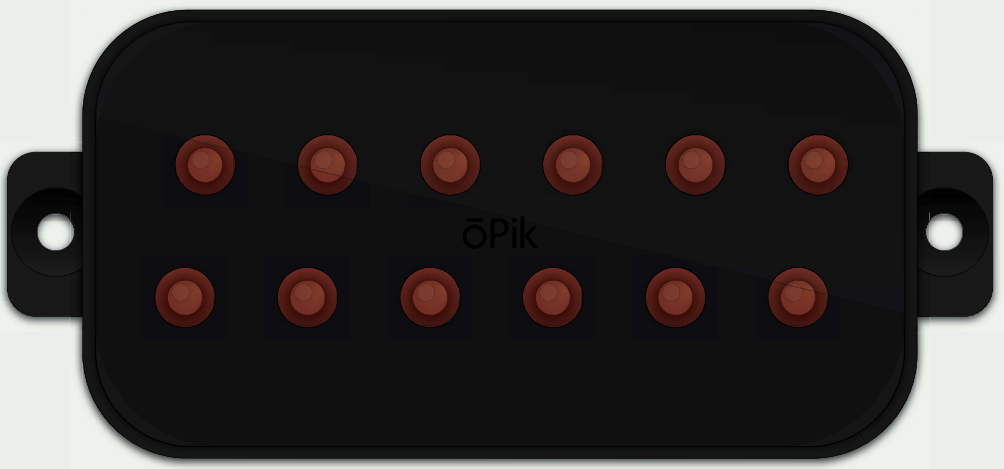
ōPik



THE OPIK

A REAL ANALOG PICKUP

By: **Dr. W. S. Haddad**

We get a lot of great questions about our optical pickup, the oPik, many of which are about things like latency, tracking, response to string bending, and MIDI. So, to help answer these questions, and give a better understanding of our technology, I want to clarify one of the most important things about the oPik : it is a true, analog pickup!

Although the physics by which the oPik works is different from traditional magnetic pickups, in many ways it works in much the same way. Both magnetic pickups, and the oPik are analog transducers that directly convert the motion of the string into an analog voltage that goes into an amplifier to produce sound. It is the motion of the string itself that creates the signal, so the tone you hear is caused by the actual waveform of the string vibration.

The entire audio portion of the oPik is true analog—not digital. In other words, the oPik does not do is detect the string being played and the frequency of the note, and then convert this to a digital signal for triggering a sampled sound. Because the oPik is a true analog transducer, there is no latency of the sort you get with MIDI converter pickups. In fact, because of the way the oPik works, it tracks your playing better and faster than magnetic pickups. Several musicians that have tried out the oPik have told us how impressed they were by its super-fast response.

The oPik is the first programmable instrument pickup, so you'll have unprecedented control of your tone and guitar setup through our mobile app. However, only the control of the oPik settings is digital. The original analog signal, and all of the audio electronics are all analog. Because the oPik has active electronics, and sensors for each string, we can add things like MIDI conversion to future models of the oPik. But even if we do, the pure analog audio signal will always be available.

The oPik was designed to be a drop-in replacement for a standard magnetic humbucker. That means much more than just how it fits into your guitar. It also means that it must wire in to the existing electronics, produce a compa-

rable (or better) voltage signal, and work with other magnetic pickups in the guitar. It also means that it must play like a magnetic pickup—so it responds to all playing techniques, including string bending, use of various picking techniques and slides, palm muting, and anything else you already do with your magnetic pickups.

I'll be writing more of these brief technical notes on the oPik, so please check out our website for more like this one that may help answer your questions. Also check our website for video demos of the oPik by many excellent guitarists. These show all sorts of playing styles, techniques and effects being used, so you can see how the oPik works under different conditions. We'll be posting more soon!