

## Krell Phantom III Preamplifier with DAC Module

By: Brian Kahn, August 5, 2013

In today's music-server-driven world, the trend in audiophile preamps is to merge the digital-to-analog converter (DAC) with the traditional stereo preamp, which makes for a somewhat new form factor that music lovers, audio nuts and gear-heads are rejoicing over.



Krell's Phantom Series of preamplifiers now replaces the Evolution Series, which was Krell's top offering. The Phantom line is significant to Krell fans and audiophiles, as it's the first line of preamps designed since the departure of Krell's founder.

The Krell Phantom III reviewed here is the least expensive preamplifier in the Phantom line, but it is certainly not an entry-level product - far from it. The Phantom III has much of the technology featured in its more expensive siblings, but possesses a different feature set. Notably, the Phantom III is the first Krell preamplifier to come equipped with a headphone output and optional DAC module. Our review sample came equipped with **the optional DAC** module and retails for \$7,000 (non-DAC-equipped models are \$5,500).

The design philosophy of the flagship Krell Phantom preamplifier continues with the Phantom III. Like its big brothers, the Phantom III line-level preamplifier is a fully balanced, dual monaural design with separate power-supply regulation and circuit boards for each channel. The circuit boards utilize surface-mount technology with proprietary multiple-output current mirrors that offer higher open-loop linearity than traditional designs do. The circuitry also features a higher-than-normal bandwidth design (700 kHz), which is said to push signal artifacts well beyond the range of human hearing. The design uses no negative feedback. Krell's Current Mode design utilizes current rather than voltage to transmit the signal, which is said to be better-suited to taking advantage of the higher-than-normal circuit bandwidth, as well being more immune to signal distortion than traditional voltage-based circuits are. Krell believes the sonic benefits to the current-based system are well worth the increased cost that comes with the nearly threefold increase in parts count and increased engineering burden.

The volume control is via a balanced resistor ladder to minimize the impact on bandwidth and transient response of the circuitry I described above, regardless of the volume setting. The headphone output is Krell's first. The circuitry for this is identical to the main circuitry in an attempt to provide headphone listening with the same performance as speaker playback. **Headphones** are booming like no other specialty audio/video product category, so many people will appreciate this design addition.

All of the circuitry described above is powered by an oversized power supply that features a 95VA transformer and 40,000  $\mu$ F of capacitance. Despite the size of the power supply, the Phantom III has a new, eco-friendly standby mode that reduces power consumption to two watts. Since the introduction of Krell's "e" series products, the company has pushed to make Krell products draw less power when in standby or running idle.

In addition to the headphone output, the optional digital module is another Krell preamplifier first. The optional DAC module has AES/EBU, coaxial and optical digital inputs that accept LPCM signals up to 24-bit/192-kHz. All digital signals are fed to an ESS Sabre ES 9018 DAC. Some of you will recognize this as the

same DAC being used by Oppo, McIntosh and many others. Krell states that its implementation of this popular DAC is different than that of other manufacturers because the resulting analog signal is kept in its native current (rather than voltage) domain. The signal is then sent to Krell's Current Mode, the discrete, balanced analog circuitry described above. Those who might think that Krell just stuck in the DAC chip from a \$500 Oppo Digital Blu-ray player would be very much mistaken.



All of these audiophile goodies come neatly packaged in a nicely finished chassis that shares the current industrial-themed Krell aesthetic. However, the Phantom III does not include the polished and curved faceplate insert that's featured on its big brothers, as well as the Evolution and Foundation Series products. A relatively short height of 3.8 inches allows the Phantom III to be placed in nearly any shelf space that can accommodate its 18.25-inch depth. Despite its relatively compact size, the Phantom III weighs in at a solid 23 pounds; I suspect much of that is due to the hefty power supply. Audio inputs include three pairs of single-ended inputs and two pairs of balanced inputs; outputs include one pair of each, plus the aforementioned 0.25-inch headphone jack. Control and trigger connections are also provided for integration and automation.

### **The Hookup**

Integrating the Phantom III into my stereo systems was quite simple. I tried the Krell in different systems, mated with amplifiers from McIntosh, Krell and Halcro. All line-level connections were made with balanced cables. The Krell's depth made placement in shallow racks difficult, but I had no problems setting the Phantom III up in my Billy Bags racks. The relatively short height of the unit allowed it to fit into even the shortest rack spaces. While ventilation is always important, I never found the Phantom III to get especially warm during long listening sessions.

I used power conditioning by Richard Gray in one system and the Tributaries T200 in the other. I tried both Transparent Ultra MM2 cables and Kimber Select cables, as both are revealing and have worked well with a myriad of components that have crossed my threshold. Sources included the McIntosh MCD500, Oppo BDP-95, and PS Audio PerfectWave DAC MKII (review forthcoming).

The Phantom III was a plug-and-play operation. Beyond connecting a few cables, no other setup was required to start my listening. However, those who so desire can customize the default settings for input name, trim levels, balance, triggers, etc.

### **Performance**

I started my listening with Adele's "Turning Tables" from her album 21 (Columbia). With the Phantom III, I immediately noticed more definition in the strings than with my tubed McIntosh C500 preamp, but also a touch more forwardness in the vocals. Adele sounded more realistic on the Krell and, in some ways, more glamorized with tubes. I am not sure the latter approach sounds better, as I want to hear what the master tape sounds like - what the session sounded like - and the Krell Phantom III took me right there.

Staying with female vocals to see if this was limited to the Adele recording, I played a couple of tracks off of the Scala & Kolacny Brothers' self-titled album (Atco), as I have been listening to this CD a lot lately. The cover of Radiohead's "Creep" came across as more defined with the Krell than the McIntosh. The lower piano notes, in particular, were better defined and had more weight with the Krell in the loop. While the soundstage was similar in size with both preamplifiers, the definition of the individual voices and



their spacing was easier to discern with the Krell. As with the Adele album, the choir on the Scala and Kolacny had a slightly more forward, less veiled vocal character.

As this was the first Krell preamplifier with a DAC module or headphone output, I wanted to spend some time evaluating those features as well. I played some discs through my Oppo BDP-95 and compared the analog outputs from the player with the coaxial output using the Krell's DAC. What made this comparison even more interesting for me was that both the Oppo and Krell use the same ESS Sabre 9018 DAC. With Jeff Buckley's "Hallelujah" from his album *Live at Sin-e* (Sony), I heard greater pitch definition using the Krell's DAC as opposed to the Oppo's.

The Krell's DAC provided a more coherent and integrated picture from top to bottom. In comparison, the Oppo was inconsistent through the frequency range, which made for a less natural presentation. My impressions remained unchanged when I listened to Bucky Pizzarelli's "Dinah" from the album *Swing Live* (Chesky). The music simply sounded more realistic when I used the Krell's DAC, and the overall presentation was better balanced, less congested and more natural-sounding.

I then compared the Krell's DAC with my reference DAC, the PS Audio PerfectWave MK II (review posting soon). The two were more similar than were the Krell and the Oppo, especially with high-resolution digital files. "Bacchanale" from Saint-Saens' *Samson and Delilah* on the *Exotic Dances* from the Opera disc (Reference Recordings, HRx) has been getting a lot of play at my house lately, as it is one of those rare pieces that's enjoyable to listen to while providing a good evaluation of your playback system. Lesser components tend to muddle the details of the string and wind instruments, which detracts from the realism. I am happy to say that both the Krell and the PS Audio did well here. While the PS Audio held a slight lead in the resolution department, the Krell lived up to its family reputation by reproducing the visceral slam of the drums with a touch more weight. The standalone PS Audio DAC has its advantages, but the convenience of having a DAC built into your stereo preamp is quite compelling. If you're looking for a standalone DAC, then you could get the Phantom III without the internal DAC module. Most won't, though, as the internal Krell DAC is that good.

The other new-to-Krell feature that I wanted to check out was the headphone output. I used a pair of old Grado RS-1s, Westone 4R earphones (review forthcoming) and Monster Turbine Pro Copper to do my listening. While the Monster headphones are pretty good, the more revealing (and more expensive) Westone 4Rs and Grado RS-1s were really able to take advantage of the Krell's headphone circuitry. My listening impressions with the headphones indicate that the headphone output is indeed a sonic match for the main outputs. The sound quality of the headphone circuit is on par with some of the standalone headphone amplifiers and much better than the commonly found afterthought headphone outputs on so many products. A pair of the new **Sennheiser** HD700 over-the-ear headphones did not arrive in time for the review, but I am looking forward to listening to them through the Phantom III and will post a comment with an update.

### **The Downside**

The Phantom III is an excellent preamplifier, but it lacks some options that are important to a number of audiophiles. In comparison to some preamplifiers, the Phantom III has limited connections and a smaller feature set. I would have liked to see USB and network connections for the DAC (although Krell's new pending Connect streamer can act as the digital hub). On the analog side of things, CAST connectors and auxiliary outputs for bi-amping or subwoofers would be a nice touch. The lack of CAST connections (Krell's proprietary current-mode interconnect system) will impact those listeners who intend to use the preamplifier with other CAST-equipped Krell products, but will be of no consequence to anyone else.

Although expensive to license, a simple HDMI switching board would allow for a video monitor for people looking to build a new-school audiophile system or for those trying to control devices like the Apple TV, Roku 3, and far beyond.

The addition of some level of EQ would have been a welcome feature on the Krell Phantom III, as others in this price class have it. Some audiophiles cling to the idea that any equalization is "bad," but that notion is being dispelled by those in the know. Every room is different and often imperfect; allowing even a basic tool to help tune your room can really help.

### **Competition and Comparison**

The Krell Phantom III has some stiff competition in the marketplace. There are several DAC-equipped preamplifiers in the mid four-figure range. The Classe CP-800 (\$5,000), Audio Research DSPRe (\$7,495) and McIntosh C50 (\$6,500) come to mind. If you are running a system with only digital sources, the PS Audio PerfectWave DAC (\$4,800 with network bridge) is another alternative. The Classe CP-800 is a much more feature-rich unit with more inputs and outputs, notably USB inputs and subwoofer outputs. It also has equalization and bass-management features. What the Krell does that the Classe does not is keep analog inputs in the analog domain, whereas the Classe digitizes incoming analog signals to utilize all of its features. The Audio Research DSPRe has more inputs, including USB, and has a selectable digital filter for its DAC. The McIntosh C50 is also well-endowed with features, including USB and phono inputs, as well as equalization.

### **Conclusion**

The Phantom III is Krell's first entry into the world of DAC-equipped preamplifiers, a market segment that is growing in popularity. The modular design of the Krell is a smart way to help consumers protect their investments over time. While the analog portion of the preamplifier is not likely to be outdated or rendered obsolete, DACs continue to make large improvements on a regular basis. With the Krell, you could replace the DAC module with a newer, more advanced design when that time comes without having to replace the entire preamplifier.



The sound quality of the Phantom III is extremely good and on par with the best of the best from the top audiophile companies. During my time with the Krell, I played a variety of Top 40 CDs, acoustic audiophile tracks and a few HDTracks downloads to see how the Krell did with a wider variety of music genres and formats. Without exception, the Phantom III was extremely detailed and portrayed holographic soundstages with well-defined positions of instruments and vocals within. Bass reproduction was powerful, deep and taut, living up to the long-standing Krell reputation. The Phantom III is a revealing preamplifier on all types of material. In reviews of stereo components, one often hears phrases like "musical," "true to the music" and "true to the recording." The Krell Phantom III is a true-to-the-recording type of product; it doesn't add anything and doesn't take anything away from the signal it is fed. If you feed the Phantom III good-quality recordings, you are going to get great sound. On the other hand, bad recordings will not be romanticized; any harshness or imperfections will be heard.

The Krell Phantom III serves well as both a preamplifier and DAC. Having both capabilities in one component is an added benefit, as it takes less space and saves on the cost of a pair of interconnects. Sometimes the risk in combining multiple products into one component is that one product won't match the level of the other. With the Krell Phantom III, you've got nothing to worry about, as this is one hell of a DAC and preamp combination with room for potential networking and upgrades in the future.