

# Review: High-res music player ups the ante

December 19 2012, by Ron Harris

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In this Monday, Dec. 17, 2012 photo, the Astell & Kern AK100, is displayed for a photographer in Atlanta. The Astell & Kern AK100 is a portable music player retailing for \$699 and is capable of playing 24-bit, audiophile-quality digital music files. (AP Photo/John Bazemore)

It's hard to make headlines with a portable music player these days. It's old hat by now to carry around thousands of songs in your hip pocket, whether on an iPod or a smartphone.

But there's been a price for portability. You are listening to your favorite [music](#) delivered only after a host of technology has diminished the resolution of the audio, by necessity, so that it can exist in a small digital file and make its way to your ears. It sounds fine, but the makers of a new portable [music player](#) are betting there are still some people out there who want even better quality.

Astell & Kern's new [portable music](#) player, the AK100, delivers. About half the size of a pack of cigarettes, the AK100 boasts the ability to play music files with more than six times the information on your standard CD, and several times beyond that of a popular but lowly MP3 file. At \$699, it's also nearly five times the price of an iPod Nano.

The AK100's magic rests primarily in its Wolfson 24-bit DAC, or digital-to-analog-convertor, which is a small piece of technology that converts the binary code of a digital music file into an analog signal your ears can hear. It just does it better than anything else in your briefcase or pocket.

MP3 files and a related format called AAC are the most common in digital music players such as the iPod. But converting your CDs to these formats or buying your music through iTunes results in a library of music with moderate sound quality. The sound is good, but music would sound better if it weren't so digitally compressed after it's mastered in the studio. These formats are often described as lossy, because you lose some data in the compression process.

By contrast, the higher-quality, FLAC format used in the AK100 is lossless, meaning no shortcuts are taken for the sake of file size. Files of this type can't be purchased over the counter or ripped from your

existing CDs. The high-definition albums have been mastered to perfection and are sold online through retailers such as HDtracks.com.

For perspective, CDs contain only 16-bit resolution after the re-mastering process, and MP3 files are several rungs down the quality ladder. Why is that so-called bit-depth important? Because it helps determine how much actual information is contained in the recording. There is a lot more data to define the sound in a 24-bit mastered audio file than a 16-bit standard CD file.

And given the right speakers or headphones, you'll hear that difference.

The AK100 sounds better than anything I've ever listened to while walking around in public. It was truly that impressive. I tried the AK100 with a variety of stylish headphones in the \$100 to \$400 range.

When paired with high-quality, reference-grade studio headphones from Shure, John Coltrane never sounded so sweet. It's one thing to listen to jazz in your car or on your phone and hear the magical cadence of a solid quartet. It's quite another to hear the very breaths as a master musician attacks a reed instrument. There is nuance to be appreciated in a finely recorded jazz session, and the AK100 is able to replicate those important relationships between signal and silence.

The same songs played on several other digital devices failed to deliver anywhere near the same audio experience, even when using the same headphones. The AK100 delivers the type of quality typically reserved for custom listening rooms filled with high-end audio components and expensive speakers.

Other genres also benefited from the 24-bit recordings that the AK100 can play. The rich guitar work on Led Zeppelin's "Ramble On" gave way to Robert Plant's crystal clear vocals. When John Bonham's drums take

full stage, it's like thunder rolling in from the distance and finally crashing before you.

Even listening to Simon & Garfunkel perform "Cecelia" in 24-bit clarity is an eye-opener. A pleasing song with a peppy gallop suddenly became a true force, with the echo and sizzle of percussion instruments building to a fine frenzy that I could, at last, discern in detail.

There were only a couple of hiccups in my experience with the AK100.

Several of the Pat Metheny Group songs took a lot longer to load and play than all the others, which started instantly. I don't know the reason for the delay, but it was frustrating.

Also, the on-screen equalizer is a bit confusing. There are dots to drag, and on-screen dials with frequency numbers to spin. A simpler design to access those adjustments, which are important, might have helped.

The physical design of the device is very polished and professional. It has a black metal finish with a nicely knurled volume knob along the right side. The screen offers touch control for basic playback and music library duties. Three buttons along the left side allow you to play, pause and advance tracks forward and backward without relying on the touch screen.

The high-definition audio world made possible by this product won't be for everyone. Beyond its own hefty price tag, the audiophile-grade album downloads are also more expensive than their iTunes counterparts. For instance, Green Day's "21st Century Breakdown" costs \$17.98 for the full 24-bit album download at HDtracks.com. The same album costs \$11.99 at iTunes.

In addition, you won't find as robust a selection at online high-definition

audio retailers as you would on iTunes. Songs must be specially mastered in the studio to deliver the true 24-bit sound experience. There is a nice range of music from classical to heavy metal, but it remains a fraction of what is available at lower quality from other outlets.

Those highest-quality audio files take up more storage space as well. Your typical MP3 file weighs in at about four megabytes for a four-minute song. The same song in a lossless format for the AK100 takes up about 200 megabytes.

The AK100 comes with 32 gigabytes of storage built in. That's enough room for roughly 160 four-minute songs if each of them is encoded at the highest quality the AK100 can play. By contrast, a 16-gigabyte iPod Nano can hold roughly 4,000 songs in MP3. The AK100's memory can be expanded to 96 gigabytes with additional memory cards, but you'll have to be judicious about it when filling it up with audio of this quality.

The AK100 does play the lesser-quality formats, including MP3, OGG and WAV. If you only fill it up with standard MP3s, it will hold thousands of songs, like most traditional digital music players.

The AK100 player also has built-in Bluetooth technology, allowing it to stream audio wirelessly to connected devices such as Bluetooth-enabled speakers. It worked fine, but the high-definition audio fidelity is better experienced with proper headphones.

With the AK100, you won't be able to view photos or video or make phone calls, as the iPod Touch offers. The AK100 does one thing—play music—and does it really well.

Is the difference worth it? For some, maybe. Others won't care about that difference, can't hear it, or would decide it's not worth the additional cost it even if they can hear it.

But for those who truly appreciate a good recording, and would like to hear something as close to the original as possible, the Astell & Kern player is a refreshing device they'll likely embrace.

**More information:** About the AK100:

The \$699 portable music device from iRiver's Astell & Kern can play high-quality audio files, producing better sound than iPods and other digital music players. It comes with 32 gigabytes of storage, enough for about 160 songs at highest quality. The memory can be expanded to 96 gigabytes.

Supported audio formats are WAV, FLAC, WMA, MP3, OGG and APE.

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