

# Astell&Kern KANN Alpha

The third portable player in A&K's 'alloy brick' KANN series boasts extended battery life, a higher powered headphone amplifier and compatibility with Bluetooth 5.0  
 Review: **Ed Selley** Lab: **Paul Miller**

With modern smartphones able to offer high-resolution audio playback, the market for dedicated portable audio players is now fairly niche. One of the biggest fish in this relatively small pond is Astell&Kern, which offers an extensive range of models priced between £625 and £3400. These are divided into four lines – KANN, A&norma, A&futura and A&ultima – with the £1099 KANN Alpha being the latest addition to the KANN series and slotting in between the existing KANN and KANN Cube players on price.

These ranges are not hierarchical and the KANN series overlaps with the A&norma and A&futura models. This is because the KANN players have a different design brief which shapes both their appearance and specification. Astell&Kern views the KANN models as portable headphone amplifiers, able to partner with the headphones its more conventionally shaped models might struggle with. This means that the KANN players are somewhat more portly than similarly-priced models in its other ranges.

## GAIN, SET AND MATCH

This extra capacity means more space for amplification with a view to meeting a 'drive anything, anywhere' mission brief. Astell&Kern claims the KANN Alpha can deliver 6Vrms via its single-ended output and 12Vrms via balanced [see PM's Lab Report, p75] which should be sufficient to give the user pretty much a free choice when it comes to partnering headphones.

In order to make using the KANN Alpha more practical with relatively sensitive partnering equipment, there are three selectable gain settings. The lowest of these drops peak output to 2Vrms and 4Vrms respectively, and the intermediate one to 4Vrms and 8Vrms. This should avoid the undesirable 'hair trigger' effect of using sensitive headphones with relatively

**RIGHT:** Powered by a Quad-Core CPU, and supporting Bluetooth 5.0 with Qualcomm aptX HD processing, the KANN Alpha hosts a pair of ESS9068AS DACs with three custom digital filters

powerful amplification. All three gain settings can be switched to a fixed line out if the KANN Alpha is being used with a device having its own volume control.

Decoding is taken care of via a pair of ESS ES9068AS DACs with support for PCM up to 384kHz and DSD to 11.2MHz. This is the same duo that forms one side of the recently-tested A&futura SE200 player [HFN Feb '21] but here there is no additional DAC option from AKM, or indeed anyone else. This means a reduced number of outputs on the chassis, but only to three from the four of the SE200, rather than the expected two.

This is because the KANN Alpha is the first Astell&Kern player to feature a 4.4mm Pentacon connection in addition to the company's preferred balanced option of a 2.5mm four-pole socket and 3.5mm single-ended connection. Charging and data transfer is via a single USB-C socket, which also supports OTG functionality. Meanwhile, battery life is said to be around 14.5 hours depending on pattern of use, and this feels achievable in practice.

The other new fitment doesn't involve cables at all. Astell&Kern has been including Bluetooth on its players for

some time but the KANN Alpha is the first to feature Bluetooth 5.0. When it comes to sound quality, there is no difference over the preceding versions because performance is still determined largely by the extended codecs that are supported.

## SIZE MATTERS

Where Bluetooth 5.0 comes into its own is the significant improvement in efficiency it affords, which means compatible devices should enjoy longer batter life. Thanks to aptX HD and LDAC support, the KANN Alpha should also be able to send a 44.1kHz/16-bit file to suitable partnering equipment without significant compression.

Nevertheless, not everything about the player feels quite so well thought through. Internal memory is fixed at 64GB, which frankly feels somewhat parsimonious. This can be expanded via a microSD card, with cards up to 1TB supported, but these, of course, will need to be budgeted for in addition to the player itself.

I also found the size of the KANN Alpha's screen problematic [see boxout, p73] while the control interface threw up its own issues. At its heart, the interface used by all

*'It has a mix of scale, realism and sweetness that's effortless'*



Astell&Kern products is a modified Android platform, but rather than allow apps to be installed via Google Play, they must be loaded via APK and transferred over USB – a process that was not always seamless under test. Meanwhile, the embedded Tidal app ceased functioning during review due to a login problem, although Astell&Kern says this is a temporary issue and would be fixed, around our publication date, via a firmware update for the player.

Finally, there is the matter of the KANN Alpha's size. It is actually smaller than the KANN Cube and, at 68x117mm, the frontal area isn't terribly large either. The depth of 25mm is more of an issue though. My clothes feature fairly large pockets but this player is still a challenging device to carry around. I do like the styling, though, which is less ornate than some of the company's more expensive models and all the better for it. The build quality is also extremely good, with the metalwork being finished to a very high standard and the volume control and small selection of hard buttons also feeling very solid.

## OUT OF THE GATE

Whatever my reservations about some aspects of the KANN Alpha's features and functions, its sound was a different matter. Beyond its basic ability to go loud, the player leverages its power to deliver a muscular and potent presentation that feels effortlessly dynamic. With Peter Gabriel's third eponymous solo studio album [Charisma PGLP3X; 96kHz/24-bit WAV], the KANN Alpha succeeded in handling the gated drumming on 'No Self Control' without any sense of congestion.



**LEFT:** The 4.1in (720x1280px) touchscreen is set into a laser-cut alloy case with high-gloss ceramic cover. Knurled volume knob is illuminated according to sample rate and LPCM/DSD file type. Internal storage of 64GB is included

Within this responsive and expansive presentation, the player also demonstrated a commendable balance between tonal accuracy and sweetness. A FLAC rip of Depeche Mode's *Violator* [Mute CD Stumm 64] demonstrated this to excellent effect as the slightly glossy production was handled unobtrusively to ensure 'Waiting For The Night' sounded appropriately intimate and rich. Dave Gahan's vocals are the centre of attention here, but this wasn't achieved at the expense of the supporting instrumentation. In particular, the pared-back synths behind him enjoyed an effortless presence.

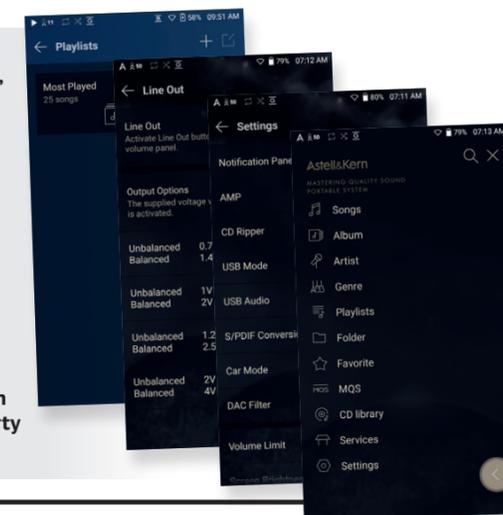
## DROP POINT

In keeping with a number of Astell&Kern products I've reviewed in recent years, the KANN Alpha consistently benefits from the use of its balanced headphone connection. Sennheiser's IE900 in-ear headphones were used for a chunk of the listening and, as these come supplied with 2.5mm, 3.5mm and 4.4mm detachable cables, this allowed for fairly simple testing across the player's three outputs. I wouldn't be so bold as to make any performance call between the 2.5mm and 4.4mm options, but the latter certainly inspires more confidence as a connection

## ALPHA CLASS

The KANN Alpha shares its software with the rest of the Astell&Kern family, processing being handled by a Quad-Core CPU that appears to be both fast and stable in use. Options for customising the player's performance are extensive, with filter and EQ adjustments available for wired playback as well as the ability to specify a preferred Bluetooth codec and how information is displayed on the screen. There are some nice touches too. Switch between the gain settings and the volume automatically cuts to prevent damage to your hearing – not to mention your headphones.

On the downside, the business of installing apps via APK [Android Application Package] can be fiddly. If you have music tagged and edited on an SD card though, the browsing experience is a relatively good one. The biggest problem with the interface, however, is not the software but the screen. The KANN Alpha has a significantly smaller screen than the last Astell&Kern player we tested (the A&futura SE200) and using the on-screen keyboard can be frustrating. Some users may gravitate to using a third-party app on a smartphone if the experience is preferable.

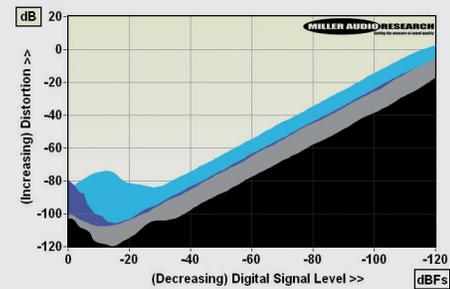


# LAB REPORT

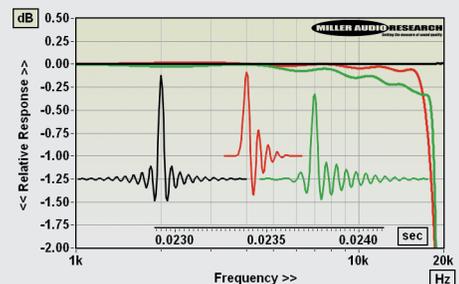
## ASTELL&KERN KANN ALPHA

As we discovered when testing the A&Futura SE200 [HFN Feb '21], there are gaps in Astell&Kern's published specification. For example, the quoted 'Low', 'Mid' and 'High' unbalanced AMP settings of 2V, 4V and 6V are met at 2.14V, 4.22V and 6.25V but these values are achieved into a high 47kohm load ('unloaded' in the context of a headphone). In practice the KANN Alpha clips at 35mW/32ohm (or 1.06V) in the 'Low' mode and 85mW/32ohm (or 1.65V) in either the 'Mid' or 'High' modes. These correspond to volume settings of '138' and '127' with a peak level (0dBfs) digital input, so the dial should be used between 139-150 (Low) and 128-150 (Mid or High) with caution, not least for fear of generating potentially harmful in-ear SPLs. For the very lowest impedance 'phones the Alpha offers 22mW/8ohm at 1% THD.

The ES9068AS DACs are new to this A&K model and power a fabulous performance that includes a very wide 117dB A-wtd S/N ratio, low levels of correlated jitter (typically ~50psec with all sample rates up to 192kHz) and vanishingly low distortion that falls to 0.0002-0.0005% (re. 0dBV, 20Hz-20kHz), increasing only over the top 25dB of its dynamic range under load (0.001-0.008% at 10mW/32ohm) [see Graph 1, below]. Importantly, the output impedance is a very low sub-1ohm from 20Hz-20kHz, ensuring that the KANN Alpha/headphone system response is not influenced by low and variable in-ear/on-ear loads. With its default linear phase filter, the response is a ruler flat  $\pm 0.01$ dB (20Hz-20kHz), dipping to just  $-0.6$ dB/45kHz with 96kHz media. The minimum phase filter cuts above 18kHz to reach  $-5.0$ dB/20kHz and the hybrid filter is steeper still at  $-12$ dB/20kHz [see Graph 2, below]. PM



ABOVE: THD vs. digital signal level at 1kHz (black, unloaded; grey, into 32ohm) and 20kHz (blue, unloaded; cyan, into 32ohm where 0dBfs = 85mW)



ABOVE: Impulse and HF responses for Linear/Fast (black), Minimum/Slow (red) and Hybrid (green) filters

## HI-FI NEWS SPECIFICATIONS

Maximum output (<1% THD into 47kohm)	6250mV (single-ended)
Maximum power output (<1% THD)	85mW/32ohm (single-ended)
Output impedance (20Hz-20kHz)	730-1140mohm (single-ended)
A-wtd S/N ratio (re. 10mW/0dBfs)	105.5dB / 117.0dB
Distortion (20Hz-20kHz, re. 10mW/0dBV)	0.001-0.008/0.0002-0.0005%
Frequency resp. (20Hz-20kHz/45kHz)	+0.00dB to +0.0dB/-0.45dB
Digital jitter (48kHz / 96kHz)	55psec / 50psec
Battery	5600mAh/3.8V Li-Polymer
Dimensions (WHD) / Weight	68.3x117x25 / 316g

**RIGHT:** Underside of the Alpha hosts a USB-C port for computer connection/charging and a microSD slot for external cards up to 1TB. Top surface carries a 3.5mm/optical output plus balanced 4.4mm and 2.5mm sockets for headphone/line out



to use day to day. However, both sounded more spacious and three-dimensional than via the 3.5mm socket.

The sensitive IE900 showed the benefits of the player's lower gain modes too. It's perfectly possible to use these headphones in the higher gain setting, but switching to the lowest mode brings an appreciable drop to the perceived noise at idle.

### SIMPLY JOYOUS

With an SACD rip of Dead Can Dance's *Toward The Within* [4AD SAD 2712], in this case as 88.2kHz PCM, the lower gain setting resulted in the opening of 'Rakim' rising imperiously from total silence where, with the higher gain modes, there was a slight but perceivable level of background hiss. Beyond the technical attributes, the combination of KANN Alpha and IE900 is simply joyous. When Lisa Gerrard's spine-tingling performance begins, she is utterly captivating in her presence and immediacy.

None of these qualities are lost using the Kann Alpha via its line out. Using a 4.4mm-to-XLR interconnect and running the KANN Alpha into a Chord Electronics CPM2800 MkII integrated amp showed it to be a capable source in its own right.

A saving grace of the Astell&Kern software is the Connect option that allows the players to access external UPnP libraries and be controlled as renderers via third-party apps such as MConnect. This permits control at a distance and simpler access to both Tidal and Qobuz.

Used in this fashion, the gorgeous *Blue Heron Suite* [Rounder Records 1166101275] by Sarah Jarosz plays to the KANN Alpha's effortless mix of scale, realism and sweetness. For simplicity of control alone, I'd hesitate to recommend using the

Astell&Kern player permanently in this fashion but its performance will certainly keep similarly-priced full-sized rivals on their toes.

Finally, that new Bluetooth implementation is a good one too. You might question its utility on a device where so much effort has gone into the wired output, but the performance via a pair of Bowers & Wilkins PI7 True Wireless earphones wasn't simply 'good for wireless', but proved to be a genuinely enjoyable listen in its own right.

Listening to the same Jarosz piece used with the line outs, the slow-building 'Interlude 1' saw the KANN Alpha ensure that the PI7 was sent a stable and high quality signal with which to work its magic, ensuring the partnered acoustic and electric guitars had a relationship with one another that was easy to define. While the presentation was not as spacious as via the line outs, it never felt congested or compressed.

### HI-FI NEWS VERDICT

Being a portable player that isn't that portable, the KANN Alpha is truly a niche product. Additionally, some aspects of the control interface and app support are a little complex to use. Viewed as a compact, mobile headphone amplifier though, the excellent sonic performance, impressive connectivity and superb build quality will make it a very compelling choice for many headphone users.

Sound Quality: 83%

