

# AKG K-1000 dynamic earspeakers

## World's best dynamic headphones?

[http://www.6moons.com/audioreviews/akg/k1000\\_1.html](http://www.6moons.com/audioreviews/akg/k1000_1.html)

Live long enough in America. You'll risk terminal immunity to hyperbole. For example, cross the remote Sonoran desert and stop at any crummy no-man's diner for some greasy chow. You're liable to order the *World's Best* chili con carne with corn bread. Or, drive through Northern California and its *Garlic Capital of the World*. Going an illegal 70mph, you probably missed this wonder because it took all of 10 seconds to pass through. So much for absolutes.

But boy do the AKG K-1000s ever compel the *question* of World' Best. You wonder whether, for anything approaching sane dough versus fanatical excess, something better exists, somewhere, somehow. No credible reviewer should pretend to know for sure. Still, with the wooden Sony MDR-R10 discontinued and the Grado RS-1 and Sennheiser HD-600 in-house for direct comparison -- generally regarded as the two best currently available dynamic headphones in the money-matters arena -- I could make a reasonably educated guess.

## How trustworthy are memories?

I first chanced upon the AKGs during the Tigris' ascendancy at Mesa Engineering. I needed to demonstrate the integrated's tubular headphone output with some world-class cans at CES. I wanted something to attract showgoers already on looks and rarity. The K-1000s fit the bill to a dime.

Darn, I shoulda read the specs before ordering up though. At 74dB/mW free field sensitivity, the K-1000s need *far* more juice than regular headphone sockets provide. They are fitted with a 4-pin XLR connected tail that terminates in four high-level amplifier leads. This scheme didn't gel with my -- carefully -- hatched plans.

And while I *drooled* over the sound via the amp's speaker terminals, disconnecting the speaker leads each time I wanted to demonstrate headphones was out. Hence CES came and went and the AKGs returned to their maker. I stuck with my wooden Grados and loved them faithfully ever since. Still, I never forgot the K-1000's phenomenal performance. Nor their \$1,200 sticker shock.

Years passed. My hair turned gray. My hearing declined. I grabbed the only job left under these desperate circumstances - audio reviewing. More years passed. All my sane friends left. I turned lonely (loony?) and relocated to 6moons.

Then headphone maniac Tyll Hertsens of HeadRoom promised to enter my crater-ridden but rarefied low-G domicile. He suggested a Maxed-Out Home amp and Senn 600s for the occasion. A quick perusal of his site and -- Eureka! -- I ran into my old flame, the K-1000s. Priced at 529 smackers? A flummoxed call confirmed that this wasn't a typo or short-term inventory dump. It's a new, radical and standing arrangement with the supplier. *Not* what passage of time and inflation usually implies.

Aural fantasies of past lusty transgressions die hard. Could he include a pair with his shipment? Affirmative. Would the past-meets-now encounter equalize expectations? \$529 puts the K-1000s center of the range between the Senn's \$449 and Grado's \$695. It would make for a reasonably balanced peaches vs. peaches comparison (hey, none of these are garden-variety apples or oranges - by a long shot).

To level the playing field, I asked HeadRoom to fabricate a replacement tail for the AKGs with a standard 1/4" plug. I had been promised a review Portal Audio Panache Integrated whose headphone socket -- with the Ks' 120 ohm impedance -- is said to output approximately 8 watts. I had already driven the Ks speaker-level on my 6wpc Art Audio PX-25. Its optional attenuator cranked open less than half gave me all the loudness I could stomach. This suggested that despite very low sensitivity -- and Tyll's skepticism that even 8 watts would be sufficient -- *perhaps* less power was required than seemed mandatory.

Being a good sport, Tyll sent out the adapter tail. The Panache hadn't arrived yet so I plugged the new tail's 1/4" jack into Tyll's Maxed-Out Home. I fully expected a load of hot air and not much else. Wrong! Granted, I had to open the attenuator to between 4 and 6 o'clock, i.e. run the amp nearly or all the way open. But even on classical CDs with extreme dynamic range -- i.e. mid-levels recorded abnormally low -- I never was deaf enough to require or want volume levels in excess of what the Maxed-Out's times six voltage gain could deliver.



To boot, I had the PX-25 and 120/360wpc Bel Canto eVo 200.4 to ascertain by comparison whether added power delivery impacted dynamics, resolution, frequency extremes and intelligibility. I was all set to use the AKGs in a variety of contexts. Afterwards, I could do an even-steven comparo between three headphones driven from the same set of electronics despite a potential handicap for the Ks.

### Ear speakers, *not* headphones

Even beyond the famed Stax electrostats that pioneered the term, the K-1000s are earspeakers, not headphones. The wire-mesh protected transducer panels are 2.5" wide x 4.25" high x 1" thick. They're hinge-mounted to the front of the crossbraces that hold the contact pads and connect the two red metal frames on each side. The rear contact pad is mounted to a slider that allows width adjustment for the most comfortable head fitting.

Because the transducers are of the open-air design and not clamped to or sealed around the ear, the *only* points of physical contact are your temples right above the ears, and the self-adjusting head band across the skull. The pivot for each speaker is upfront. Once you release the lock, each panel can be rotated outwards to either parallel your ears -- which in front are closer to the skull but splay outwards toward the back -- or create additional airspace such that each ear perceives yet further cross-channel data. Think of speakers-en-miniature floating in front of your ears like the Jecklin Floats of yore - but now toe-in's adjustable just like with "real" speakers.

Why did AKG's engineers bother? Because they wanted to enhance binaural hearing qualities. Just as with conventional speakers, this natural process of human hearing (duplicated in our binocular vision) relies on each ear receiving the same two channel information.

This parallax delivery is time-delayed due to the closer ear receiving the information first. The time arrival differential is what the brain processes to allocate the diverse apparent sound sources their specific positions within a three-dimensional sound stage.

When listening to normally encoded material, conventional headphones impose an unnaturally hard left/right/center-of-the-head effect. Each ear only processes single-channel data. The right ear does not hear what the left one hears, nor vice versa.



HeadRoom's well-known but proprietary crossfeed algorithm addresses this dilemma in the electronic, AKG's engineers in the acoustical domain. The penalties for eschewing electronic compensation is sound leakage (since this couldn't be a sealed design - if total privacy is a must, forget it); and low sensitivity because the free-air driver deals with far greater air mass than is trapped within your ear canal by conventional ear-hugging approaches. We'll soon get to the very real *advantages* of AKG's crafty acoustical solution.

But first, a few final specs: Weight is <10 oz or 270 grams; total length of the very flexible wire lead (the captured plus the XLR-connected half with the binding posts pigtails) is a generous 13 feet; rated impedance is 120 ohms; frequency response (as per a graph in the five-lingual manual) is 50Hz to 20KHz essentially flat within an enviably tight -2dB overall window, and -4dB @ 40Hz, -8dB @ 30Hz, and -20dB @ 20Hz.

As common sense predicts and these measurement confirm, free-air dispersion causes more rapid rolloff in the bottom octave than equivalent sealed designs. Another unusual element is the "ventilated linear dynamic" radial NdFe magnet yoke engineered for "minimum aspect ration and maximum flux density". The size of the dome driver appears to be 1 inch, with a composite

diaphragm of elastic intermediate layers finished with a 16th century violin varnish to suppress ultrasonic ringing.

Fit'n'finish and wear comfort are of the highest pedigree - think famed Teutonic luxury cars. No undue pressure exertion onto the head. Precision-engineered hardware tolerances. Zero chintz in sight. Shipped in a wooden box with serial number, comprehensive owner's manual and clear hookup instructions. In short, what you'd expect in a \$1,200 headphone system.

At \$529 however, it makes the now-closely priced HD-600 Sennheiser's marbled hard-plastic construction a bit less, ahem, classy. Admittedly, that's a "superficial" appearance comment, to be filed in the pride-of-ownership lower drawer. But for some, it might belong into one of the upper drawers when it comes to spending serious bread on headphones - more on that later.

Make no mistake then - even before being hooked up, the K-1000s already strike one as veritable class acts, samples of superior engineering with bespoke attention to every conceivable detail. All of which amounts to naught if the ears didn't pleasurably curl up. Not to worry ...

### Setup

I connected the HeadRoom amp to the tape-outs of my Bel Canto PRe1. Then I wired the speaker lead tail of the AKGs to the Art Audio PX-25. By muting the PRe1, I could cut signal to the tube amp when unplugging the AKG's captive tail from its other half - most SET output transformers smoke under signal without driving a load. No need to risk frying my reference amp. However, the PRe1's tape-outs would still pass signal. By simply hitting mute and swapping leads, I could toggle to the Maxed-Out Home and sample the K-1000s to compare against the tube feed, then adjust volume and compare to the Sennheisers and Grados.

The Max really came to life when I bypassed the attenuator of the Birdland Audio Odeon-AG DAC for its undiluted full bore 2.7V RMS output (7.68V peak-to-peak). When not used amplifier-direct but into a preamp, the manufacturer recommends the Odeon's 3 o'clock attenuator setting. It gives a slightly lower-than CD standard 1.5V RMS output and optimizes impedance for preamp connection. Though the Max retained sufficient output in this mode, the sound became somewhat thin. Feeding it a stronger signal -- and reducing *its* attenuator setting instead -- significantly fleshed out the music.

The biggest difference between either hookup? Via the Max, things sounded zippier, brighter, with a mild prominence in the upper midrange and sharper, more highlighted outlines 'round performers. With edgier material, this could turn slightly aggressive. The PX-25 packed harmonic meat on those bleached bones. The presentation became far more relaxed and full-bodied. Any

former tendencies for some potential stridency sneaking in were abolished.

### **I need six ears!**

Did the AKGs favor tubes as a matter of tonal synergy? Did the Max not possess enough raw drive and thus somehow skew tonal balance? Did it curtail extension at the extremes to emphasize the upper midrange for this whitish leanness?

Yes and no. Substituting the Bel Canto eVo opened up extension in either direction. More drive, more linearity. But by comparison to the PX-25, it still sounded a mite like hornspeakers driven by regular solid-state: Very dynamic, very fast, but somewhat upfront. Eventually, it could get just a bit relentless.

My Avantgarde DUOs absolutely thrive on tubes, and, truth be told, so do the AKGs - at least with the immediate solid-state on hand. With the PX-25, I cherished bona fide Avantgarde performance sans massive horns.

There was their raw sense of startling immediacy as though sounds coupled to the air more directly than via conventional schemes; the superior speed and startling dynamic swings; phenomenal openness; and palpable image density that filled out sonic outlines with bursting color and vibrancy.



**AKGs plugged into PX-25 speaker-level; separate feed into Maxed-Out Home;  
second 1/4" input for either Sennheiser  
SD-600 or Grado RS-1**

### **Upset?**

Everything I love about my DUOs was now accessible in headphone format. However - the

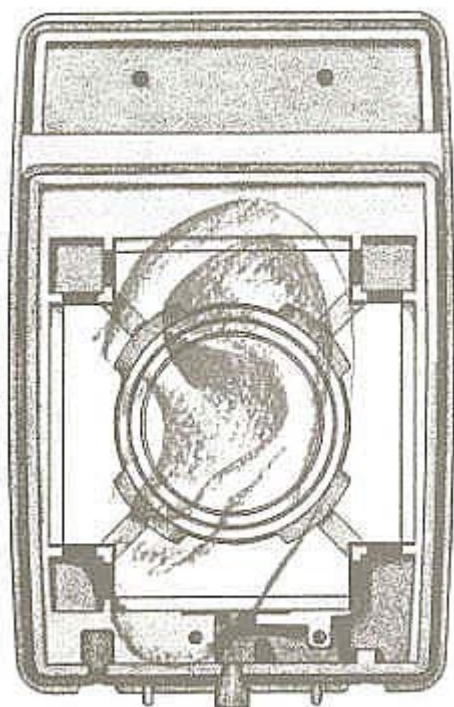
AKGs were far more intolerant of lesser sources. And compared to the comfort food demeanor of the Yankee Grados that embrace even modest sources without losing their charm, the German super cans were veritable prima donna prissies. They *insisted* on fancy Haute Cuisine dining, considered the Marantz CDR-630 a major step-up from the Denon but really only got it on hot'n'heavy with the Birdland DAC. (That explains why I'm finally addressing my front-end weakness. I just purchased a Cairn Fog CD v2.0 24/192 uni-boxer affair. I prefer less rather than more boxes. Review to follow.)

Superior headphones are sometimes -- and astutely -- called musical microscopes. They take the room out of the equation, avoid multi-driver dispersion mismatches and suffer zero crossover losses. They zoom into what's there without dilution or buffering. They are inherently far higher resolution conduits than loudspeakers. And the AKGs are Zeiss optics ruthless truth-tellers. This makes them far more critical than the Grados and Sennheisers. While they have the potential to go places the others cannot, they'll only take you there when ancillaries are up to snuff.

Before I sketch out the sonic bliss that follows when you kowtow to these demands, I must stress that the AKG K-1000s are, single-mindedly, ultra performance devices. They don't suffer casual fools lightly. Unless you treat them with the same respect you accord your dialed-to-the-max main rig, you're better off with the Sennheisers or Grados. The Senns up the ante in the resolution and honesty department over the Grados and, for "normal" applications, are a far saner recommendation than catering to these high maintenance babes.

However. For those intent on scaling the tallest peaks, the AKGs are rare and reliable Sherpas. They image far more like real speakers, except in reverse - the soundstage wraps around your medulla oblongata rather than the forebrain. Stage depth is a function of how far behind your head sounds originate This reads weird only on paper. Once you inhale the pure air, spaciousness and freedom from typical headcase confines, it's hard to go back. Even acoustic solo instruments now stretch out in space rather than being locked dead center in the middle of your skull. The ability to listen into the faintest of details, masked by most speakers and heightened by good headphones, now operates on a higher plateau - magnification squared.

This overall rez effect of speed, subtlety, cubits of air and fine inner detail is similar to Stax electrostats. But here it's ballsier and more gripping, intense in a look-how-many-stars way that night time visitors to the high desert sanctuary of Taos always express. Like the Avantgardes, this kind of intensity (not a tonal forwardness but simple multiplicity of powerful sensory stimuli) isn't for the faint-of-heart who want to drift off. It's for the thrill seekers, the adrenaline junkies of sound orgies.



In this drawing from the owner's manual, you can appreciate the intricate super structure that positions the transducer center of the frame, and also make out the radial magnet sections that power it.

### Sweaty ears, space & matters of perspective

Take my old standby for superior female vocals, "Round Midnight" on Carmen Lundy's XRCD release *Self Portrait* [0005-2, 1996]. The Grados sounded wonderfully liquid in the mids but lacked some of the high frequency shimmer that the Sennheisers bestowed on the sea of violins. This created a texturally drier but timbrally warmer sound - an apparent contradiction only if you don't refer to dryness as a textural phenomenon.

Tonally, the Sennheisers were much closer to the AKGs than the Grados. However, their presentation of texture differed in similar fashion to how the 600s added air over the Grados. Now the Sennheisers stood in for the RS-1s and the K-1000s pulled ahead. The sense of airiness and bloom via their open-air design was in a different league. More importantly, their sense of realism when compared to a first-rate speaker setup was far superior. The Grados and Senns create an artificial intimacy that lets you hear all the right *sounds*, but still remains divorced from the acute realization of space, venue and perspective.





By comparison, the intimacy of the AKGs seems the real deal. When you think about the binaural hearing principles they exploit, this makes perfect sense (and goes *far* beyond HeadRoom's electronic crossfeed). There could also be an added psycho/physical factor at work. The Sennheisers create a little cave that seals *around* your ear. The Grados rest *on* your ear. The AKGs let your ears breathe freely. These differences operate already in the tactile sensation of physical contact. Personally, I prefer the Grado "touch" over the Sennheisers'. The latter make my ears sweat - literally.

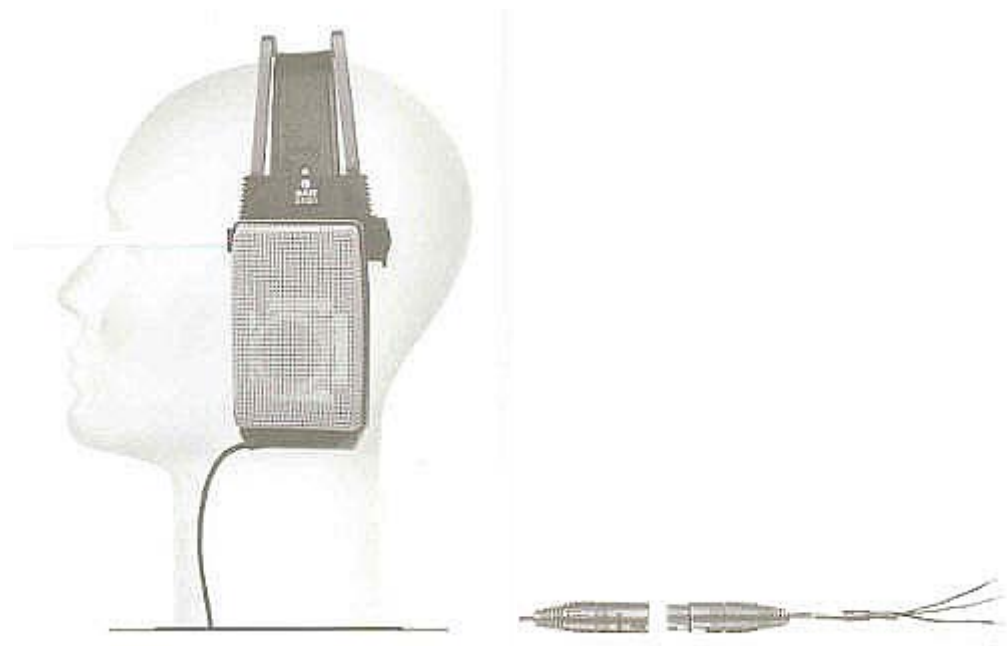
Such impressions are hard to separate from raw sonics. Together they form a set of sensory inputs that combine into the total experience. And while I appreciate the 600s' superior fidelity in terms of frequency response, I prefer wearing and listening to the Grados. (Incidentally, a friend of mine just sent her personal Grado RA-1 wood-body battery-powered amplifier to throw into the ring of my current headphone/headphone amp survey - more to follow shortly.)

On this Lundy and subsequent other tracks, the Grados conveyed more weight and body in the bass than the Senns, quite possibly as a function of their downshifted tonal balance. Consequently, they could be accused of sounding slightly romantic, whereas the Sennheisers strike me as the ideal recording monitor. Bass heft via the AKGs is somewhat adjustable - angle the dynamic panels outwards farther to create more spaciousness and a bigger soundstage. Swivel them in closer to emphasize foundation weight.

The quality of bass, compared especially to the Grados, recalls sealed versus vented alignments - very precise, tight, nimble and fast, but with a bit less weight and mass than the RS-1s that are slightly on the fat/warm end of the spectrum. Slap bass lines snap harder with the AKGs' leaner demeanor while Reggae beats whomp with a heavier punching bag clobber on the Grados.

By settling on enough physical distance to insert my index finger between the ears and the panels' free rear edges, I obtained the most pleasing balance for my personal tastes - between ambient cues and airiness on one hand, and bass slam, HF shimmer and robustness (or image density) on the other. And once I had this aspect licked, there was no going back.

True, the K's benefited from \$5K worth of world-class SET amplification. But that's part of their twisted appeal. Being ear-speakers with high-level connections, they'll feed on the choicest signal delivery you care to send their way. Of course I'll be the first to admit that \$500 (\$1,200) phones driven by \$5,000 amplifiers are an off-kilter proposition. This merely reflects what I had in-house at the time.



**The 4-pin XLR juncture with speaker level leads**

Hence I'm presently looking into the Antique Sound Lab offering to dig up something more appropriately priced, say up to \$1,500. True, that's still a \$2,000 package for the 'phones and amplification, but it'd be a true SOTA rig, with the kind of superior sonics regular speaker systems would easily charge you five to ten times for - *if* the rooms cooperated. And granted, as good as the AKGs are at creating a three-dimensional soundstage, it's *not* the same as via standard speakers. But then everything else about the AKGs is far more advanced than most room-compromised speaker setups.

So you see where I'm going. Apply the same stringent quality standards to private listening via 'phones as you do to your beloved main rig -- and granted, not everybody takes headphone listening remotely that serious -- and the AKG K-1000s are true cutting-edge stuff. For now, I'd

go with tubes, but likely that comment should be expanded. Perhaps the forthcoming 47Lab Shigaraki op amp integrated, or the Portal Audio Panache? An older Pass Labs Aleph 3 or used Volksamp?

*...True cutting-edge stuff...*

Does that now make these earspeakers the world's best dynamic headphones? I wouldn't know. What I do know is that they get my qualified nomination for said title - if such a thing existed. And qualified -- in brief recap -- by the need for superior ancillaries and a dedicated amplifier that, unless you don't mind swapping leads or a switch box, will most likely not ever also drive speakers.

**Where's that leave us?**

If I can find a suitably affordable amp or preamp with copasetic headphone capabilities that mimics the phenomenal Art Audio PX-25 hookup, I will have to send Tyll over at HeadRoom a check for these super cans and make an official package recommendation: For the truly dedicated headphone fanatic wanting a top-level rig that, while dear, won't be *insanely* expensive. I'll report on hits and misses of this hunt in the saga's next chapter. Stay tuned.



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