

ADL

Soundstage (USA) – ADL A1 & EH008



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Alpha Design Labs EH008 Earphones and A1 USB DAC-Headphone Amplifier

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Now that we're almost half a decade into the revolution in portable hi-fi, with enough headphone and earphone models out there to saturate if not drown demand, I didn't expect to be so taken with an earphones-and-amp-DAC package. But after a month with Alpha Design Labs' EH008 'phones (\$239 USD) and matching A1 portable USB amplifier (\$599), I continue to be surprised by just how much performance can be had for under \$1000.

ADL, for short

Alpha Design Labs (ADL) is a subsidiary of well-known Japanese manufacturer Furutech. While ADL already has to its name several headphone models and a standalone DAC, the EH008 represents a new foray, into earphones. Unlike the single-dynamic-driver or multiple-armature designs available from other manufacturers, each side of the EH008s has *two* dynamic drivers: an 8mm midrange-bass driver directly behind a 5.8mm treble driver. Each is Alpha-Cryo treated in what ADL says is a two-stage process. First, all metal parts are frozen to temperatures below -328°F (-200°C) with liquid nitrogen and liquid helium. ADL claims that this binds together the components' individual molecules more tightly, the overall structure thus becoming more stable in a way that relieves internal stresses. This purportedly improves electrical conductivity and, in turn, power and signal transfer.

The little EH008s have a claimed impedance of 19 ohms at 1kHz, a sensitivity of about 100dB, and a frequency response of 20Hz-20kHz (no ± 3 dB tolerance listed). Specs aside, they're visually striking, with an outer housing of carbon fiber with an

attractive weave -- this not only looks terrific, it has strong vibration-damping properties, says ADL. The end plates -- the little discs visible when the 'phones are inserted in the ears -- are made of diamond-cut aluminum, further adding to the high-end appearance. Also present is a uniquely contoured "outer seal ring" to (shocker) better seal off the ear canal from exterior sounds. The thin, super-flexible cord, just over 4' long, is terminated with an angled 3.5mm miniplug plated with 24K gold. The EH008s come packaged in an attractive leather-like case with three sets of rubber earpieces. While I've never been particularly fond of these, having always favored foam eartips with in-ear 'phones, I found they offered both solid comfort and good sound isolation. Unfortunately, no inline microphone or audio-control module for use with smartphones is offered.

ADL's A1 USB DAC and headphone amplifier is a clever bit of kit. Roughly wallet-sized at 4.6"L x 2.66"W x 0.65"H, it's certainly portable, if not quite as slim as a modern smartphone. Then again, it packs a lot of functionality, so the lack of convenient diminutiveness is quickly forgotten. The amp section is a Texas Instruments TPA6130A2, for which is claimed a signal/noise ratio of 98dB and power output of 300mW into 16 ohms. A volume control is built directly into the circuit.

Unlike its Apple iDevice-focused cousin, [ADL's X1 headphone amplifier](#) (\$479), which uses an ESS Sabre 9023 DAC chipset, the A1 has a 24-bit/192kHz Cirrus Logic CS4392K chip. This offers a slightly higher dynamic range of 114dB, compared to the X1's 112dB. It also allows the A1 to offer full DSD playback, including DSD64 and DSD128, via its asynchronous USB Mini-B input. Other connections include a USB Type A socket for Android devices, an optical input that accepts signals of up to 24/192 resolution (including 88.2kHz), two 3.5mm analog inputs, and a combined 3.5mm optical/analog output that can output signals of up to 24/192.

At only 5.9 ounces (150gm), the A1 is quite light but doesn't feel at all inexpensive. Its built-in lithium-ion battery is good for up to 7.5 hours of use, and is rechargeable via the Mini-B USB input. When the A1 is clicked on with the small volume control, a tiny green LED lights up on the front panel (the narrowest edge). This glows red when the A1 is off, but plugged in and charging via USB, and goes dark when the A1 is both unplugged and turned off. An orange glow indicates a low battery charge. On the top panel, a neat lighting system highlights the incoming sample rate, from 44.1kHz all the way up to DSD128 (or 5.6M, as it's labeled). On the bottom panel is a switch to choose among USB, optical, and Android line in (USB Type A).

Comfort, use, practicality

I don't think there's such a thing as a pair of in-ear monitors (IEMs) that fit *perfectly*, and while the ADL EH008s fit quite well in my ears, I quickly ditched the outer seal rings' silicone covers. I'd worn them an entire day or two while traveling abroad, and had to keep refitting the silicone because I prefer a deeper fit in my ear canals. While the outer seal ring does seem to provide more sound isolation, its sharp edges made inserting and removing the EH008s occasionally a bit painful. Once in place, however, they offered very good sound isolation, and were consistently comfortable over long listening sessions. They saw plenty of use with both my Apple iPhone 6 and MacBook Pro laptop, and always worked without a problem.



I primarily used the A1 for long stints with my laptop as I worked. While the amp is certainly portable enough, I'm not convinced that many folks will walk around with their pockets stuffed with a wallet, keys, smartphone, connecting cable, *and* an A1. The Android-friendly design is somewhat less than ideal for Apple iDevice users -- for example, there was no way to feed a digital signal directly to the A1 from my iPhone. Running a supershort stereo miniplug cable from my phone's headphone jack into the A1's analog input worked fine, though that entails digital conversion and amplification by the phone, before the A1 does its own processing and amplification. Apple fans should check out ADL's X1, which offers much of the same functionality. However, I could *definitely* see the A1 as a permanent laptop companion, especially for travelers -- I wound up using the little guy for almost all of a transatlantic flight. Offering plenty of input options, DSD playback, and genuine portability due to its lithium-ion battery, the A1 is a pretty impressive package.

Sound

While I've heard many headphones that offer neutral and linear sound, I have yet to hear one that gets *all* the fundamentals right. I think in the sub-\$500 category, however, the EH008 came mighty close. Tonally, the EH008s were nearly perfect, with a sound that was highly resolving yet quite smooth. Their midrange had a bell-like clarity but never grated -- I can't imagine anyone with a pair of EH008s ever developing listening fatigue. More impressive, the ADLs had a strong treble response and a wide, spacious sound, something you don't often get with the cerebral sound IEMs tend to have.

Indeed, Ravel's *Boléro*, performed by the Berlin Philharmonic conducted by Herbert von Karajan (16-bit/44.1kHz AIFF, Deutsche Grammophon), sounded expansive through the EH008s. The massed strings were properly lithe, with loads of texture, and individual plucks of cellos were easily discernible, while the violins didn't sound at all abbreviated when played higher in their range. This relative linearity was refreshing in comparison to other IEMs, which can sound a bit dark or closed in. The flitting high-frequency transients in *Dance of the Firebird*, from Stravinsky's *The Firebird*, as performed by Pierre Boulez and the Chicago Symphony (16/44.1 AIFF, Deutsche Grammophon), demonstrated how smooth *and* quick the EH008s were in the treble. The piccolos danced about with ease, without ever sounding edgy or harsh. Attacks and decays were rapid but organic -- it just sounded *right*.



So, too, with the EH008s' midrange. Guest singer Mark Lanegan's gravelly voice in "The Lonely Night," from Moby's *Innocents* (16/44.1 ALAC, Mute), was thoroughly articulate, nearly every contour of his vocal cords seeming audible. His falsetto, palpable and prominent but never too forward, allowed Moby's atmospheric synths to establish a grand backdrop

for this album's best track. The EH008s offered Lanegan terrific dimensionality -- a quality many earphones can't quite match. With "Midnight," from Coldplay's *Ghost Stories* (16/44.1 ALAC, Parlophone/Atlantic), I could hear Chris Martin's post-conscious-uncoupling voice with superb detail. The ADLs just nailed Martin's high-pitched melody, getting the tonality of his voice spot on while unraveling tons of microscopic detail.

But it was right about here that the EH008s' faithfulness to the fundamentals went a little off the rails. It turns out these 'phones have a B.A. from -- and have possibly done graduate work at -- the Beats by Dr. Dre School of Pronounced Upper Bass. With singer-songwriters and many instrumental pieces, listeners would never suspect that the ADLs were anything other than honest, neutral, faithful transducers. From the first note of pop music, however, and especially electronic pieces, ample amounts of upper bass are made available to the listener. I've heard tight, hyper-controlled bass from other IEMs, and the deep but punchy bass that really anchors the music that calls for it.

But through the EH008s, modern Top 40 hits -- the ones that make frequent use of those faux deep-bass lines that make even garbage car stereos supply the *whomp* that recording engineers think most people want to hear -- just sounded overwrought. Pulsing bass lines were substantial to the point of coloring the rest of the music with excess bass energy. Fed this kind of material, the ADLs devolved from hugely accomplished minimonitors for your ears to a sat-sub system with the bass knob set several notches too high. With "Safe and Sound," from Capital Cities' *In a Tidal Wave of Mystery* (256kbps AAC, Capitol/Universal), the track's already considerable bass line begins to encroach on the catchy vocals of this Los Angeles duo -- even the trumpet solo, which has found its way into national car commercials, was a bit overshadowed.

This bass behavior seemed to be frequency dependent. On the whole, the EH008s sounded nearly full-range, with a wealth of resolution easily audible down to all but the very lowest registers, and with low-frequency information doled out in responsibly ample portions. Depending on the recording, the ADLs could sound nearly flawless -- or as if I'd given a big boost to everything from 100Hz down.

Comparisons

Their midbass behavior aside, the ADL EH008s generally outperformed my \$260-more-expensive reference IEMs, Shure's SE535 (\$499), of which I have the Japanese-market LTD-J model. Switching from the ADLs to the Shures left me with a more disconnected and slightly hollow midrange that was almost woolly by comparison -- not a subtle difference. The Shures' treble response sounded rolled off compared to the ADLs' seemingly flat extension. The EH008s also had a more immediate and palpable sound, a reach-out-and-touch-it realism that diminished quite a bit when I switched to the SE535s. While I ultimately found the Shures' bass more linear, and the earphones themselves more comfortable over the long term, the ADLs were the easy sonic and financial choice.

A fairer comparison, with KEF's M200 earphones (\$199), was more difficult. The KEFs have a lively, incisive sound. They don't have quite the ADL's smooth refinement throughout the audioband, and their prominent presence region seems to give the midrange a bit of a sparkling quality. Like the ADLs, the KEFs have abundant bass, but whereas the KEFs' bass is taut, fast, and impactful, the ADLs brought a surfeit of weight and volume to the low frequencies. I also found the M200s less comfortable to wear, but this was offset by the inclusion on their cord of an inline mike and audio controls.

The A1

As for the A1, whose sound quality I have yet to address . . . it's terrific. Across the board, I found the A1 to be a chameleon, bringing noticeable increases in dynamics, resolution, air, slam, and midrange purity, all without veering from dead neutral. I partnered it with several types of earphones and headphones, and the A1 remained unflappable. It worked superbly as a desktop partner for my MacBook Pro, handling high-resolution (including DSD) files with aplomb. On the few occasions I used it with my iPhone 6, the A1 brought noticeable improvements to the phone's sound -- although its impact was not as profound with an analog input as when I fed it a digital signal.



The only comparable product I had on hand was Hegel Music Systems' Super headphone amp-DAC (\$299). At half the A1's price, the Super offers a high proportion of the ADL's quality: excellent detail retrieval; a clean, smooth, involving sound; and a smaller, classier-looking case. Then again, the Super is a much more limited device: its only input is a Mini-B USB port that accepts signals up to 24/96 but not 88.2kHz, and it has only a 3.5mm headphone output. It also has a personality: a forward, ultraclean sound with a hint of liveliness in the presence region. The A1's far greater flexibility -- it can be used with mobile devices, has multiple inputs, a volume control, a sample-rate indicator, and DSD capability -- makes it almost future-proof. It's also better equipped to resolve low-level detail, and can play 88.2kHz recordings without complaint.

Conclusions

ADL has two terrific products here. I feel fortunate to have been able to spend time with both of them. The A1 headphone amplifier-DAC is pretty much faultless in terms of sound quality; add in its flexibility and DSD capabilities, and I could happily live with one for a long while. While the partnering EH008 earphones were in some ways even more impressive, with a silken yet detailed midrange, soaring highs, and surprising transparency for such a modest price, their supple yet overripe midbass may not be everyone's cup of tea. As a sub-\$1000 tandem, however, these Alpha Design Labs products do an *awful* lot not just right, but superbly well.

. . . Hans Wetzel

hansw@soundstagenetwork.com

Associated Equipment

- **Earphones** -- KEF M200, Shure SE535LTD-J
- **Headphones** -- NAD HP50, Oppo PM-2
- **Headphone amplifier-DAC** --Hegel Music Systems Super
- **Sources** -- iPhone 6, Apple MacBook Pro

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