

# Quad ERA-1

Eighty-two years after its founding and 61 years after the ESL-57, Quad delivers its first headphone, the ERA-1, and it's a planar design... but not an electrostatic!

Review: **Ken Kessler** Lab: **Keith Howard**

**F**or Quad devotees, the ERA-1 headphone has been a long time coming. One suspects that the company – like B&W, KEF and so many other traditional British brands – saw the writing on the wall. And what did this say? 'Headphones are now the only growth area in audio.' Disagree or concur, that's the reality check in the post-iPod era, and Quad has wisely chosen to deliver a model costing £599.

## HOMAGE TO THE 'STATICS

Arriving with a planar driver to preclude having a cone in each earpiece, the ERA-1 pays homage to the speaker that put the brand on the map, despite not being an actual electrostatic *à la* Stax. This, however, is reasonable because it makes the ERA-1 able to work off just about any headphone socket, while obviating the need for an energiser and keeping the costs down – a crucial element of the ERA-1's positioning.

Quad enthusiasts will see that the ERA-1 is just right for the company's usual value sector, which has always been 'sensible mid-to-upper', rather than 'screaming high-end'. High pricing was anathema to founder Peter Walker [see p28], and it remains so in the 21st century. For those lucky enough to consider break-the-bank models, there are other suppliers who will gladly serve up headphones with eye-watering stickers.

Instead, Quad's debut model could easily fill the gap created by Oppo's surprising decision to abandon audio product manufacture. Quad's opportunity is, however, as much by accident as design, because the ERA-1 was conceived long before Oppo's recent departure, a move that took the much-loved PM-1, 2 and 3 with it [HFN Jul '14, Feb '15 and Jul '15]. This does blow a

big hole in the £500-£1000 market. That said, there's still no real shortage of superb headphones in this heavily-contested segment, and the Law of Diminishing Returns is positively Draconian in this arena – you can buy excellent headphones for £99 that will satisfy 99% of the populace.

The higher-priced models survive because what matters for many, alongside sound quality, is credibility, and who has longevity to better Quad's? Nobody – that's who. And although Quad and, before it, KEF, Focal and even B&W are *arrivistes* compared to the likes of Beyerdynamic, AKG, *et al*, the mainly-speaker brands bring to the table audio credibility and stellar reputations.

At first glance, the ERA-1 is less reminiscent of the extremely 'lozenge-shaped' cans from Oppo and KEF, being more Audeze-like, if not quite truly circular – it's an inbetween shape that ensures a good fit around the ear. The weight wasn't specified in the preliminary literature I had, but they seemed lighter than my reference Audeze LCD-X [HFN Sept '14].

## COMFY CUSHIONS

As with any headphone purchase, you have to try before you buy, so let's deal with comfort and get it out of the way. If sound is subjective, then headphone comfort is

even more so, as it's a physical condition about which you can change nothing. Yes, the ERA-1 gives you a choice of real sheepskin cushions with a smooth surface, and a synthetic, suede-like alternative, but everyone is different, so perspiration, earache and other considerations are down to the individual.

I found ERA-1's comfort – for my own requirements – to be above average. Another concern is for eyeglasses wearers such as I am: neither on-ear nor over-

ear headphones will ever manage to avoid some pressure on the sidepieces, cutting into one's head after a given passage of time, so consider that, too, when trying out any headphones. These were

tight enough to cause alarm about the headband pressure.

In addition to the two sets of cushions, the massive, lavish case (too big for hand-luggage, should you wish to travel with these) also contains a 2.15m Y-cable terminating in a 3.5mm stereo plug, with screw-on ¼in adapter. The Y-cable also connects to each cup with a 3.5mm plug, so aftermarket cables can be fitted easily if you are of that persuasion. For the review, I listened only with the supplied cable.

Because the ERA-1s are so bulky, I chose not to test them in-flight, on my way back from the Munich High End Show – hand-luggage-weight-and-size being a challenge of modern life. Instead, I waited until I got home and used them with the Quad PA-One headphone amplifier [HFN Feb '15], for which they were no doubt designed to work with optimally, the

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**RIGHT:** The ERA-1 comes in a massive protective case, with detachable Y-cable, 3.5mm-to-¼in adapter and both smooth leather and suede cushions



**LEFT:** Seen here with better-sealing synthetic suede cushions, but they do collect more dust and fluff than the smooth sheepskin alternative; see text for discussion of comfort matters

Focal Clear [HFN Mar '18] – though this is purely subjective and a difference not felt to be debilitating.

If anything, and without wishing to incur the wrath of KH, I was delighted to discover that the ERA-1 could blow my head off with whatever limited power was available from either the Huawei Mate 9 phone or the Pioneer XDP-100R player [HFN Aug '16]. The egregious, hyperbolic description and the ensuing embarrassment aside, Quad needn't worry about the usefulness of the ERA-1 in a modern context: a Beyer DT-48 it ain't.

### BREATHTAKING SPEED

My immediate impressions came from mono recordings, dead centre and not requiring any thoughts beyond actual sound quality. Spatial concerns would wait. I turned to the CD of Sam The Sham & The Pharaohs' *The MGM Singles* [Sundazed SC11219] for the honking sax, Sam's nasal twang and incessant, smacking percussion. Instantly apparent was breathtaking speed, crisp transients being part-and-parcel of the appeal of a fast planar membrane. And, no, I am not touching any of that driver-lighter-than-air nonsense.

I should mention at this point that I concentrated on usage with the Luxman P-750u because of its greater flexibility. The sound via Quad's own PA-One was admittedly warmer thanks to its all-tube nature, and marginally less-analytical, so the Luxman P-750u probably proved more accurate for (and more capable of) highlighting differences between the headphones on test.

Unfortunately, it also showed how important it is to audition headphones via the headphone amp through which they will be used. The Quad PA-One softened the sound of the ERA-1 – favourably, I might add – while it had a mildly deleterious effect on the Audeze LCD-X, which sounded cleaner and more precise via the Luxman P-750u. That said, the P-750u, being less-coloured and more revealing, remained the default device for the listening sessions.

On 'Li'l Red Riding Hood', the tambourine that provides an almost martial pace throughout the song should sparkle – this varied according to both headphone amp and chosen headphone. (Note to the more critical HFN reader: I wouldn't be surprised if it's not actually a tambourine, but one of those cymbals with a sizzler.) ↪

Musical Fidelity M1-SDAC [HFN Dec '13] on my desk and the new Luxman P-750u headphone amp [review next month].

### QUAD ON THE BRAIN

It came to my attention that Quad's copywriters were a bit purple with their prose, and that my colleague, the usually-dour KH, was rolling about on the floor, in near-hysterics at their gaffes. Exaggeration

is normal in commerce, but claims in the brochure defied the laws of physics, biology and other sciences [see Lab Report, p63]. For my part, I simply addressed the challenge of sensitivity versus impedance by swapping headphones with the level untouched, from Audeze to Quad to Master & Dynamic to Focal. Repeatedly, I found the ERA-1 to be less sensitive than my Audeze and M&D, but close to the

### FOIL'S WAR

Quad has said little about the construction of the ERA-1, so I took a peek inside. The motor comprises what looks to be a single-sided isodynamic diaphragm with seven plated neodymium bar magnets arrayed in opposition either side (neodymium has to be plated to prevent corrosion). Each facing pair will have like poles facing the diaphragm, with the next pair along having the same arrangement but using the opposite pole. This creates a squashed magnetic field which between each pair of magnets is roughly coplanar with the translucent plastic diaphragm. Exactly what plastic Quad uses hasn't been stated but, as you'd expect, the sinuous planar 'voice coil' appears to be of aluminium. Four tracks run parallel to each other, having seven folds that create eight straight sections of track in the gaps either side of the seven magnet pairs. Unlike most isodynamic tweeters, there is no fibrous damping in contact with the diaphragm to quell resonances, but fine fibre meshes on the outside faces of both magnet arrays provide acoustic resistance. KH

# HEADPHONES

# LAB REPORT

## QUAD ERA-1



**ABOVE:** Over-ear design with a reasonable amount of adjustability ensures a good fit, although this is not the sort of headphone to entirely seal out all external noises

Consistently vivid, regardless of headphone amp, the ERA-1 had the requisite amount of splash and effervescence for this instrument. It was more than enough of an indication of sonic authenticity to tell me that this headphone is clean and transparent, varying in behaviour according to source – as it should be.

I can, however, imagine this aspect of the performance being judged according to some tastes as fitting in the centre-to-bright quadrant of a Venn diagram. Then reality bites: if such spatially-defined observations weren't so patently preposterous when discussing sound that's *inside* the head, rather than sound placed in front of the listener, the phenomenon could be described as 'forward'.

### DECEPTIVE FULLNESS

That, though, would be to imply that the positioning was skewed to the front of the head. It isn't. By 'forward' I mean 'slightly emphasised presence'. This was not the case with the LCD-X or the Master & Dynamic MH-40s. This is probably more important to listeners using sources of lesser quality than a full-blown hi-fi system and a dedicated headphone amp – by which I mean music via smartphone. Which adds another caveat: when shopping for cans, if you intend to use them on the go as well as in the home, make sure that you also hear them via your portable source.

Addicted to BBC2's *The Bridge*, I adore the theme music: the Choir Of Young Believers' 'Hollow Talk' [*This Is For The White In Your Eyes*;

Sony CD 04297 90892]. If you've only heard it on TV, you won't know about the explosive, percussive segment that kicks in after three minutes, in contrast to the music over the show's credits.

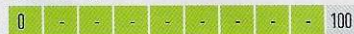
There is much to be learned by listening just to that opening section, which consists of a delicate, lone vocal and piano, reeking with dark atmosphere. Subtly, sneakily, instruments are added, and this – despite its initial minimalism and leanness – occupies the head with a fullness one would be more likely to equate with a massive orchestra.

Via the Quad ERA-1, levels build with the performance, but, should you not be swept away in the moment, the transparency allows you to wrest yourself from the wash of sound to focus on specific elements within it, and with great precision. That, put simply, is a sign of headphones that I feel would qualify as 'of monitoring standards'. ☺

### HI-FI NEWS VERDICT

What a marvellous first effort! Even allowing for the review pair – collected off the stand at Munich – being among the first off the line, this is a superbly-conceived and nicely-finished product, undeniably a bargain at the price. It's easy to drive, free of fatigue inducement (both audible and physical), so Quad can be proud. No, it isn't the dream fulfilment of 'a pair of ESL-57s for the ears', but it's mighty close.

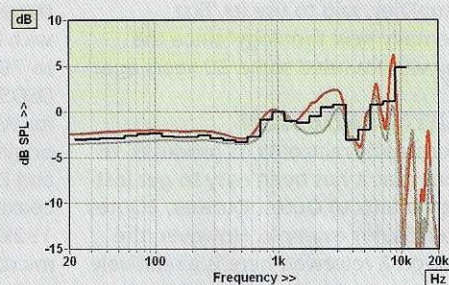
Sound Quality: 84%



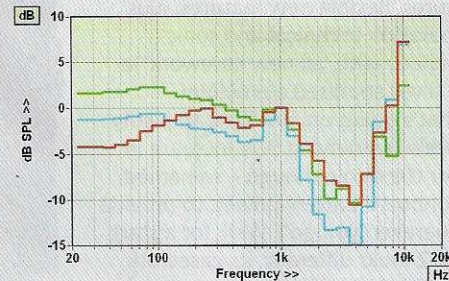
It's not often that reading headphone promotional literature makes me laugh out loud. But Quad's twin proclamations that in the ERA-1 it has combined high sensitivity with low impedance and created a diaphragm lighter than the air it displaces both caused me amusement. High sensitivity with high impedance would have been an achievement; high sensitivity with low impedance anybody can do. And a planar magnetic plastic/metal diaphragm with a density of less than 1.2kg/m<sup>3</sup>?! That's credible only if you don't understand the difference between solids and gases... In fact – particularly in the context of planar magnetic headphones – the ERA-1 has good rather than exceptional sensitivity but requires lower impedance to achieve it than competitors have needed.

Quad claims a sensitivity of 92dB SPL for 1mW at 1kHz, which for the nominal impedance of 20ohm corresponds to a low-ish voltage sensitivity of 108dB per volt (albeit with ±3dB tolerance specified). In fact the ERA-1 achieves much better than that: we recorded 114.5dB for 1V at 1kHz, averaged for the two capsules. Compare this with the 115.2dB we measured from the Audeze EL-8 open-back [*HFN* Oct '15]. But the Audeze achieved this with an impedance of about 31ohm – about 50% higher – so Quad has yet to match the current sensitivity of the best planar magnetics we've measured thus far.

The uncorrected frequency responses [Graph 1, below] are essentially flat below 700Hz, above which output shelves up by about 2dB and becomes more uneven but without the clear peak we'd expect to see at 3kHz for a flat perceived response. This is reflected in the corrected responses [Graph 2], all of which show a deep hole in the lower treble. While this is not exacerbated by excessive bass output, it suggests that the ERA-1 will follow other planar magnetics in having an essentially warm tonal balance. KH



**ABOVE:** Unequalised responses (L/R, grey/red; averaged 3rd-octave, black) indicate a flat bass trend but a depleted presence/lower treble [see below]



**ABOVE:** Third-octave freq. resp. (red = Harman corrected; cyan = FF corrected; green = DF corrected)

### HI-FI NEWS SPECIFICATIONS

Sensitivity (SPL at 1kHz for 1Vrms input)	114.5dB
Impedance modulus min/max (20Hz-20kHz)	20.0ohm @ 8.2kHz 20.4ohm @ 838Hz
Capsule matching (40Hz-10kHz)	±3.9dB
LF extension (-6dB ref. 200Hz)	<12Hz
Distortion 100Hz/1kHz (for 90dB SPL)	1.5% / <0.1%
Weight (inc cable and 0.25in adapter)	472g