

Small & Mighty

ACOUSTIC ENERGY
AE1 MKIII SE (£2500)

To celebrate the AE1's 20th birthday, just 250 numbered pairs are being made of this very Special Edition

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HIGHLY
COMMENDED



Has it really been more than 20 years since Acoustic Energy bridged the worlds of professional studio monitoring and domestic audio? Back in '88, the former regarded the latter in the way that, say, Labour regards fiscal responsibility. AE was having none of it, and produced a classy, compact two-way monitor of true studio merit, sort of a UK answer to Wilson's WATT.

Given its diminutive stature, most noteworthy was the AE1's prodigious bass. Rear-ported and boasting a still-radical metal mid/bass driver, it begged to be positioned away from walls on solid 24in stands. It was, as hindsight allows us to judge, a robust alternative to the LS3/5A for those who equate SPLs and bass extension with absolute merit. But it was also detailed and refined, if far less romantic than its BBC-sanctioned rival. To use the parlance of a headbanger, the AE1 simply rocked – and quickly garnered a cult following.

Marking the original AE1's anniversary, this constantly evolving speaker is being issued in a strictly limited quantity of 250 numbered pairs, with a range of finishes including 'bespoke', just in case you want them to match your Bugatti Veyron. Mere mortals can order hand-finished piano black lacquer or real wood cherry veneer for £2500 per pair, or pearl white and bespoke finishes for £3250.

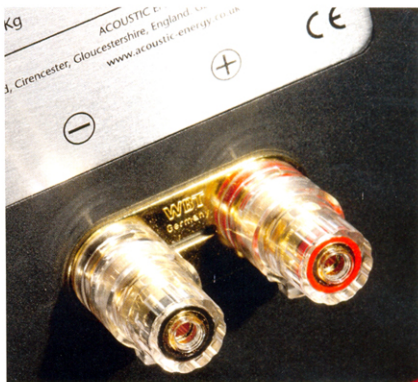
BELT AND BRACES

Its heavily-braced 18mm MDF enclosure measures only 295x180x255mm (HxWxD). Imparting further solidity is an inner lining of 4mm steel plate, applied with a specially manufactured damping glue; AE has always championed stiff, well-damped enclosures, again recalling the era in which they first appeared. For historical perspective, the period was noteworthy for its obsession with speaker enclosure integrity. Solutions to resonance problems included such extremes as the aforementioned WATs, which were impossibly dense and heavy, with Celestion's lightweight, Aerolam SL600s at the other end of the design spectrum. The AE1 represented not compromise, but balance.

Finished in silver on the review pair, and complementing perfectly the gloss red enclosure, is a 12mm thick baffle milled from a solid aluminium block. The driver apertures are smoothly curved to prevent any interruptions with the dispersion of the 38mm ring radiator tweeter, said to be good to 40kHz, and the

LIMITING THE NUMBERS

Dubbed the AE1 MkIII SE in its limited edition form, this speaker is a perfect example of a luxury marketing technique that the audio industry has only employed sporadically. While 'LE' status might not influence performance, it always adds immeasurably to perceived value – something luxury hi-fi has lacked for 20 years. Full marks to AE, then, for joining Sonus Faber, Dali, B&W and others who have realised this need not be the reserve of exotic cars and watches...



ABOVE: Internally the MkIII SE features a redesigned crossover, while the rear sports a pair of gold-plated WBT binding posts

110mm 'pure piston' aluminium cone mid/woofer. The latter uses the company's trademark spun-alloy cone, with twin neodymium magnets and a 32mm voice coil, mounted in a rigid die-cast magnesium alloy chassis.

Inside the AE1 SE is a completely redesigned crossover, AE having reduced the number of components from thirteen to six. The roster of components attests to the no-compromise nature of this deluxe iteration of the AE1, a mix of ferrite-core and air-core inductors, Welwyn wire-wound resistors and polypropylene film capacitors. All internal wiring is PTFE-coated multi-strand silver cable, with the back bearing a single pair of gold-plated WBT binding posts.

Let nothing suggest that this is a simple two-way you can just whack onto a pair of stands and drive with whatever is to hand. Impedance is rated at 8ohm, but

AUDIO FILE

Luxury limited edition of a classic two-way compact speaker

Price:
£2,500-£3,250 depending on finish

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'One suspects these mini marvels will handle whatever you care to feed them.'

the speaker is '1980s hungry' with a sensitivity rating of only 87dB from 1W [see Lab Report, p67], and it deserves stands that will exploit the benefits of its acoustically dead enclosure. I dug out my treasured Foundation stands, with Blu Tack in-between the base of the speakers and the top of the stands, connected to a range of amps with Y'er cable. These included Quad II-eighty and Trilogy 990, which barely made the AE1's whisper; Krell's S300i or the McIntosh MC2200 are the minimum I'd recommend. One suspects these mini marvels will handle whatever you care to feed them.

LOOK AT 'EM GO...

Interestingly, every visitor during the listening tests commented on the same phenomenon: the visibly and – for the uninitiated – mildly disconcerting travel of the woofer at even soft levels. As the AE1s are grille-less, you need to learn to live with this, but many would just say that it attests to the unlikelihood of blowing the woofers easily. At no point did I detect any strain, and there was never a hint of the dreaded LS3/5A 'thwack' – the LS3/5A's equivalent of a death rattle.

However much one may approach the latest AE1s for their retro value, performance-wise they have ☺



ABOVE: The AE1's reflex port vents at the rear of the cabinet, requiring positioning away from a rear wall

evolved as much as the current Mini has from Sir Alec Issigonis' 1959 original. Aside from sensitivity considered low by today's norms, and the delivery of the bass and sound pressure level that made the first AE1 so noteworthy, the new version is devoid of the aggression that – for me – marked the original design.

MEMORY LANE

20 years is a long time, but I have no doubts when recalling the first AE1s that they were too 'studio-esque' for my tastes. That cut-glass, in-your-face edginess has all but vanished, while at the same time none of the strengths have been compromised. However impressed I am by the way the latest LS3/5A seems to go a shade louder and deeper than the KEF-driver'd original, there's an inescapable sensation that they're not indestructible. Conversely, the AE1 MkIII SE never forgets that many studio denizens are old rockers, so they appear to have the indestructibility of a Toyota pick-up truck.

What makes them worth every penny are the deceptively copious bass and imaging to rank with even the blessed Guarneri. The drums panning across the soundstage, on Santana's 'Evil Ways' courtesy of Sundazed's new 180g pressing, showed the mettle of the AE1: no matter how far apart I positioned them, there was never a 'hole in the middle', while the body possessed by the bass begged for a dose of Kodo drummers at full tilt. The sound was rich and deep, like a well-aged Barolo, and this character also applied to voices. With 250 pairs allocated for the whole world, methinks they'll vanish pretty quickly. ☺

ACOUSTIC ENERGY AE1 MKIII SE / £2500

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LAB
RESULTS



Mounted into a machined 12mm alloy baffle, a 38mm ring-radiator tweeter takes the HF arm of this mini monitor out to beyond 40kHz

Small but substantially built, the AE1 MkIII SE's cabinet features braced panel walls made of an 18mm MDF/4mm steel sandwich, bonded together with a glue that adds further dampening to any internal resonances

This is a sophisticated bass/mid driver that combines a spun-alloy cone with a rigid, die-cast magnesium alloy basket. The motor assembly comprises twin neodymium-ferrite magnets with a 32mm voice coil driving the cone

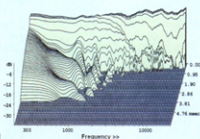
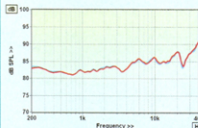
HI-FI NEWS LAB REPORT

Acoustic Energy's claimed 87dB sensitivity for the AE1 MkIII SE is significantly optimistic according to our measurements, which recorded 83.7dB, 200Hz-20kHz, for a pink noise input, reducing slightly to 83.5dB for music-shaped pink noise. Given the SE's compact size, its impressive -6dB bass extension of 44Hz (re. 200Hz) and the fact that it does not present a low impedance, this is an altogether more realistic figure.

A minimum impedance modulus of 5.1ohm at 212Hz is strictly a little low to justify a nominal impedance rating of 8ohm, but that's a minor quibble. Impedance phase angles are high, as a result of which the EDPR (equivalent peak dissipation resistance) drops to a minimum of 2.5ohm at 130Hz, but even so this is a relatively easy speaker to drive – many loudspeakers that we measure present a more challenging amplifier load.

On-axis frequency response slopes gently down to about 750Hz before beginning a slow but inexorable rise towards higher frequencies [see graph, below left]. Nonetheless the frequency response errors (200Hz-20kHz) are reasonable at ± 3.3 dB and ± 3.4 dB, and the pair matching error, at just ± 0.5 dB over the same frequency range, is exceptionally low, suggesting very careful selection of the drive units.

Distortion at 10kHz at 90dB SPL is on the high side at 1.8% because of the small-diameter bass/mid driver but reduces to a fine 0.1% at 1kHz. The cumulative spectral decay waterfall fall [see graph, below right] indicates a very fast initial energy decay for both drivers and a complete lack of in-band tweeter resonance. Breakup modes associated with Acoustic Energy's spun aluminium cone of the bass/mid driver are also well controlled. KH



ABOVE LEFT: The response shows excellent matching between left and right samples with a 'brightened' HF character; ABOVE RIGHT: A clean 'waterfall' showing a quick energy decay and limited driver/cabinet resonances

HI-FI NEWS SPECIFICATIONS

Sensitivity (SPL at 1m for 2.83Vrms – Mean/IEC/Music)	85.1dB / 83.7dB / 83.5dB
Impedance modulus min/max (20Hz-20kHz)	5.1ohm @ 212Hz 52.7ohm @ 92Hz
Impedance phase min/max (20Hz-20kHz)	-60° @ 106Hz 51° @ 80Hz
Pair matching (200Hz-20kHz)	± 0.5 dB
LF/HF extension (-6dB ref 200Hz/10kHz)	44Hz / >40kHz/>40kHz
THD 100Hz/1kHz/10kHz (for 90dB SPL at 1m)	1.8% / 0.1% / 0.2%

HI-FI NEWS VERDICT

Like its grandpa, the AE1 Mk III SE delivers far more bass and level than any sane person would anticipate from so small a box. An alternative to a less-gainily £2-£3k floorstander, its spectacular imaging and small size are truly seductive. With its lavish finishes and rarity value, it enters another realm as well: that of exclusive watches and collectable pens.

