



KEF REFERENCE 3

LOUDSPEAKERS

Reviewer Edgar Kramer

The Kent Engineering & Foundry... it sounds so robustly mechanical that you might expect it to be churning out bogies for railway carriages or girders for suspension bridges. But no – this company, more commonly known by its acronym KEF, manufactures products that are capable of the most delicate treatment of sonic signals known to humankind. The Foundry was founded in 1961 by legendary engineer Raymond Cooke who, after spending influential years working alongside Wharfedale founder Gilbert Briggs, had decided to go it alone after that company was sold to the Rank Organisation in 1959. And the impetus to form the new company was most likely a cross-industry piece of thinking, after he saw an early plastic cup and realised that the moulding method had potential applications in loudspeaker cone prototyping and manufacture.

The rest is, as they say, history – 55 years of loudspeaker development and success, throughout which time certain things have remained as constants. As it likes to say, KEF has never been a “me too” company, continuing that early focus on R&D, the development of new ideas and in-house drivers, to deliver decades of thoroughly-engineered designs including many industry firsts, high among which must rank the





△ KEF'S REFERENCE SERIES HAS ALWAYS BEEN 'THE REFERENCE', BUT THE COMPANY HAS PUSHED INTO NEW TERRITORY WITH CONCEPTS LIKE THE BLADE AND (ABOVE) THE MUON.



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creation of the Uni-Q driver. The patent for this time-aligned 'tweeter within a midrange driver' concept was filed in 1988 and issued in 1991 to Laurie Fincham, KEF's technical and organisational talent for so many of its key years.

And the company's flagship use of this concept is the enduring Reference series – predating Uni-Q indeed, given the first of the breed was the Model 104 back in 1974. Until the recent advent of Muon (pictured left) and Blade concepts, and the odd commemorative model such as the Maidstone, the Reference series has always represented... well, the reference.

Last year KEF announced a new Reference line that benefits from the latest implementation of that proprietary Uni-Q coincident driver technology. The new products include a large standmount, two floorstanders, two centre-channel speakers and a subwoofer. Here we review the KEF Reference 3, the smaller of the two floorstanders – but by no means a small speaker! It weighs in at a substantial 51kg, and stands 1.2 metres high, 47cm deep and 35cm wide.

REVEALING THE REFERENCE

The Reference 3s are delivered well-packed in high-grade cardboard boxes with the speakers themselves wrapped in a protective white cotton sleeve. The shapely solid metal plinths require assembly to the speakers' bottom panel via short hex-head bolts, and they feature welded cones to serve as receptacles for nicely-machined stainless steel spikes. Two very convenient touches: the plinths feature an integral spirit level and a system for conveniently adjusting the spikes' penetration and levelling from above, via machined and anodised aluminium turning discs. Metal floor protectors are also provided. KEF provides two sets of port inserts allowing basic matching to room bass characteristics (more on this later).

No grilles are included. Why not? Because it would be sinful to cover the gorgeous frontal aesthetic with a strip of black cloth, that's why... The baffles are gloriously finished in brushed aluminium, with the 'Tangerine' waveguide of the Uni-Q unit creating its own focal point, visual as well as acoustic. Indeed the entire presentation is first class, especially with our review pair clad in the extra-cost pair-matched gloss rosewood finish. You can go for other variations – special 'Kent Engineering and Foundry Editions' are available in gloss white with 'Blue Ice' Uni-Q drivers, or gloss black with 'copper' Uni-Q drivers. Yet even the standard cabinet finishes, which we have since seen when reviewing the Reference 1, are spectacularly well applied and built. Optional or standard, you'll own a beautifully-designed and finished pair of loudspeakers.



▷ EXPLODED DIAGRAM OF THE LATEST UNI-Q 'POINT SOURCE' DRIVER ARRAY, COMBINING A 25MM VENTED ALUMINIUM DOME USED WITHIN A 125MM ALUMINIUM-CONED MIDRANGE DRIVER.



The Reference 3 is a three-way design with twin rear ports. It features the latest Uni-Q 'point source' driver array, combining a 25mm vented aluminium dome with that Tangerine wave-guide mechanism used coincidentally within the acoustic centre of a 125mm aluminium-coned midrange driver. Bass duties are provided via twin 165mm aluminium-coned woofers featuring massive vented magnet systems and high-temperature aluminium wire voice-coils for high power-handling. As per tradition, all the drivers are built in-house by KEF.

The crossover points are specified as 350Hz and 2.8kHz, while the crossover itself features high-quality components. The drivers are flawlessly mounted (no ugly screws or bolts showing) in a thick aluminium and resin sandwich baffle that is decoupled from the enclosure via high-loss pads.

KEF specifies a frequency response from 43Hz to 35kHz \pm 3dB, but says the speaker can deliver frequencies as low as 28Hz in a 'typical in-room' situation. Sensitivity is quoted as being 87.5dB SPL, the nominal impedance quoted as being 8 ohms with a 3.3-ohm minimum. The basic instruction manual includes a production certificate which guarantees Reference series speakers are quality inspected individually and pair-tested to ensure the frequency responses of the two speakers match within a tolerance of 0.5dB. The certificate also features a frequency response graph and the assurance that the speakers have been hand-built and tested by a master technician – in the case of our review pair it was Graham Humphries of Maidstone, Kent. Thanks Graham!

The Reference 3 enclosures feel substantial. Care has been taken to produce a constrained-

layer-damped cabinet that is stiff, well-braced, and which should provide a platform for the high-tech drivers to perform at their best.

Once unpacked, all that is required is the attachment of the metal base, then the speakers can be positioned and levelled. I also liked the superb easy-to-tighten custom binding posts and the simple twist arrangement for switching between single- and bi-wired configurations.

PORTS OF CALL

As mentioned previously, KEF includes a choice of soft foam slide-in/slide-out port inserts (first seen in the LS50 monitor) which provide different low-frequency roll-off characteristics for basic bass tuning. A simple twist-to-lock/unlock ring provides access to either a short ivory-coloured foam port insert (for use when the speakers are positioned away from walls) or a longer black-coloured port (for near-solid-wall placement). My own listening room is remarkably neutral and features an acoustically near-invisible rear wall so I chose the short port inserts. Kudos to KEF for providing some form of tuning system, rudimentary though it may be.

Ergo the Reference 3's lower frequencies, both in terms of power and depth, were quite spectacular considering the modestly-sized twin bass drivers. There was power, punch and speed akin to sealed box/infinite baffle designs. You know, that bounce... that defined leading edge that, once heard, you become addicted to. And the quoted in-room response of 28Hz is not at all far-fetched; the Reference 3s dip low with ample amplitude.

My usual suspects in the bass-testing department provided a thrilling ride into



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SPECIFICATIONS

KEF REFERENCE 3

SPEAKER TYPE:

Three-way bass reflex

DRIVE UNITS: Uni-Q – 25mm vented aluminium dome + 125mm aluminium midrange; 2 x 165mm aluminium bass driver

CROSSOVER FREQUENCIES: 350Hz, 2.8kHz

NOMINAL IMPEDANCE: 8 ohms

WEIGHT: 51.3kg

DIMENSIONS: 1155 x 205 x 470mm, 1202 x 349 x 470mm with plinth

WARRANTY: Five years

PRICE: \$27,499 (optional finishes available)

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realistic bass and power from a relatively compact floorstanding speaker. Acoustic bass in particular sounded tonally correct and with an accurate balance of bloom and solidity, while electric bass had the kind of speed (or bop) that propelled the music along, maintaining its rhythmic integrity. These woofers may be relatively small but they're powerful high-output, low-distortion drivers.

At the other end of the scale, the Uni-Q drivers' high frequencies are a model of refinement and subtlety. Some audiophiles may prefer a more overt or forward treble, but this reviewer (in the context of the reference system) found the high frequencies to be spectacularly delicate, natural and rich in timbral textures. The KEF tweeter implementation integrates seamlessly with its midrange partner, itself a stunning performer with all-manner of vocals, be they male or female.

Soundstaging is of the utmost importance to some music-lovers, while others value dynamic expression and tonal accuracy above all else. All, of course, are important. Having said that, the Reference 3s threw one of the widest and deepest

soundstages I have experienced in my room, and didn't require a 'head-in-a-vice' sweet-spot position to achieve this. Classical and jazz recordings – Harry Belafonte's *Live at Carnegie Hall*, or Ani DiFranco's *Living in Clip* – were reproduced with extraordinary largesse in all dimensions, a panoramic soundfield. Images were precisely placed in a sonic environment of exceptional width and revelatory depth far beyond the front wall. Combine that with another of the Reference 3s' strengths, that of significant dynamic prowess, and you have a speaker that gets you closer to the music... real music.

Yes, the KEF Reference 3s scale the dynamic paradigm to an enormous extent. Once again, I'd accredit that to the superb drivers, solid enclosure and transparent crossover working in unison, allowing the transmission of maximum information from the given input signal. There is merciless separation and detail retrieval; these speakers are true to the source, and will not paint with syrup and molasses, nor detract from the revelatory truth. If the recording is romantically warm, or conversely frightfully compressed, the Reference 3s will, given neutral electronics, faithfully relate the undistorted message. Which is exactly as it should be.

CONCLUSION

KEF's Reference 3s were among the most satisfying speakers I've had the pleasure of reviewing for quite some time. Within the context of my reference system, they shone as outstanding transducers, excelling in some of the most important aspects of music reproduction such as dynamic extension, bass power, soundfield reproduction and tonal accuracy.

And the Reference 3 speakers stand as a succinct example of the modern speaker designers' art, a statement reflecting the power of engineering across all facets of loudspeaker design, from the in-house built drivers to the solid and beautifully-proportioned enclosure, transparent crossover, and on to the acceptability and pride possible in a product of such form and flawless finish. Ever still, KEF the company is a foundry for exceptional engineering. ■



◀ KEF'S CURRENT REFERENCE SERIES COMPRISES A LARGE STAND-MOUNT, TWO FLOORSTANDERS (THE '3' IS THE SMALLER OF THE TWO), TWO CENTRE SPEAKERS AND A SUBWOOFER.