



## KEF Reference 207/2 loudspeaker

By John Atkinson • February, 2008

After reviewing a long series of minimonitors, I am now working on what may well be an equally varied selection of large floorstanding loudspeakers. This trend began with [my review](#) of the Sonus Faber Cremona Elipsa in the December 2007 issue, and continues this month with the Series 2 version of the KEF Reference 207, until recently the flagship model from this English manufacturer (footnote 1). I [reviewed](#) the original Reference 207 in February 2003, and was very impressed by what I heard.





"Midrange to die for!" I concluded in that review, deciding that the big, beautiful-looking KEF was a speaker I could live with for a long time, though I did note that my ultimate preference back then would have been for the slightly less expensive [Wilson Audio Sophia](#) or [Revel Ultima Studio](#), due to a residual hardness in the 207's mid-treble. "On recordings that themselves sound hard," I wrote, "such as the DVD-A of Yes's *Magnification* (Rhino R9 78250), the KEF was unforgiving," though I did hold open the possibility that the speaker was merely revealing problems with the recordings.

There the matter lay until I saw a new version of the 207 on silent display at the 2007 Consumer Electronics Show. Other than the deletion of the small pod on top that had housed a supertweeter, it looked identical to the original. But when I spoke with Dr. Andrew Watson, head of KEF's engineering team, it emerged that the coaxial two-way Uni-Q unit, which covers the range from the lower midrange up, had been completely redesigned. Such was the improvement, he explained, that the supertweeter was no longer needed to cover the range above 15kHz. The price was planned to be \$20,000/pair, compared with the original version's \$15,000/pair. Considering the decline in value of the US dollar against the pound sterling in the intervening years, the increase doesn't seem inappropriate.

I finally got to hear the new Reference 207/2 at Home Entertainment 2007 last May. Driven by Chord digital source and amplification components, it produced an enormous, full-range sweep of sound that, even at high levels in the fairly small hotel suite, was not even slightly fatiguing. I asked for a pair for review.

### **The Reference 207/2**

Other than the absence of the supertweeter pod, the 207/2 looks identical to its predecessor. A gloss-finished, cast-aluminum pod that carries the new Uni-Q drive-unit is mounted atop a wood-veneered cabinet with an elliptical plan section and complex internal bracing to minimize cabinet resonances. This handsome speaker manages to conceal its considerable bulk.

As before, a 10" pulp-cone lower-midrange driver, mounted in its own subenclosure, covers the one and a half octaves where instruments and voices have their fundamental energy (120–350Hz). It hands over below 120Hz to a pair of 10" fiber-reinforced paper-cone woofers, these individually reflex-loaded with two large, flared ports each more than 4" in diameter. One port is at the base of the front baffle; the other is on top, firing upward behind the Uni-Q pod. (With a radiating diameter so much smaller than the wavelengths of the sound it produces, the port is omnidirectional—it doesn't matter which way it points.) The lower-midrange unit has a stationary, chromium-plated phase plug on the end of its pole-piece; the woofers have conventional dustcaps. All three lower-frequency units use a pair of shorting Faraday rings on their voice-coil formers to reduce magnetically induced distortion; the woofers use a long coil mounted in a short gap to give constant drive force regardless of cone position, while the lower-midrange unit, with its reduced need for large cone excursions, has a short-coil/long-gap motor.

KEF introduced the Uni-Q driver in 1987. A tweeter powered by a powerful neodymium magnet is mounted on the front of the midrange unit's pole-piece, the polypropylene copolymer midrange cone forming a waveguide for the high frequencies. The acoustic centers of the two individual drive-units can thus be time-aligned, and the dual driver's dispersion remains constant with frequency in both the vertical and horizontal planes. However, reflections of the tweeter's output from the termination of the midrange cone can adversely affect its response. I understand that the new Uni-Q drive-unit results from work by Mark Dodd, GPaoustics' head of research. Dodd found that the way to minimize the production of these reflections was to arrange the shapes of the tweeter dome and midrange cone so that the edge of the propagating high-frequency wavefront is always at right angles to the cone profile at the point of contact with the cone (footnote 2). "As long as this perpendicularity is maintained, the wavefront will continue to propagate without

generating unwanted reflections, and thus produce a clean, undisturbed tweeter output," reported Paul Messenger in his "Industry Update" item on Dodd's work in the February 2007 *Stereophile* (pp.23–25). The new 1" titanium-dome tweeter in the 207/2 uses a vented pole-piece and is said to operate pistonically to a much higher frequency than in the original 207, eliminating the need for a separate supertweeter.

As in the 207, the 207/2's crossover features symmetrical 24dB/octave slopes, and electrical connection is via three pairs of plastic-covered binding posts at the speaker's rear. Short heavy-gauge jumpers, terminated with a spade at one end and a 4mm plug at the other, are supplied; I used them for all my auditioning. Two shorting plugs are also supplied; these are used to fine-tune the speaker's bass and treble balances by plugging in none, one, two, or all three into three sockets above the binding posts. By removing the plug from the bass socket, the low-frequency level can be shelved down by a couple of dB, to compensate for boundary loading if the speakers must be used close to walls. I auditioned the 207/2s with the shorting plugs set for free-space operation; *ie*, maximum bass. Even so, the speakers didn't boom. The other two sockets/plugs allow the entire treble region to be adjusted up by 0.75dB, or down by 0.75dB or 1.5dB. I did most of my listening (and all the measuring) with the treble set to flat, which worked best with rock recordings, but found that raising the treble by 0.75dB added some air to the sound of naturally miked classical recordings. I used the speakers without their grilles, but found very little difference with them on.

### **Sonics**

With speakers as physically large and imposing as the Reference 207/2s, placement possibilities are of necessity restricted. I started off with the 207/2s in the positions where the Sonus Faber Cremona Elipsas had worked best, but ended up with the big KEFs a little closer to the sidewalls, almost exactly where I'd placed the original 207s. This gave the best balance between bass extension and definition. (I used the speakers on their smooth-faced feet rather than spikes, to make adjustment easier.) The speaker's tweeter is a high 43" from the floor, but I found that vertical listening axis was not critical—the 207/2's balance with pink noise didn't appreciably change over a wide range of ear heights. (When I sit in my listening chair, my ears are 37" from the floor.) With the earlier version, I found that I had to sit more upright than usual to get the full measure of the extreme highs.

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Footnote 1: Yes, KEF has been owned for the past 15 years by Hong Kong-based Gold Peak, but to the Chinese company's credit, they have retained the ethos and quality of the brand founded more than 45 years ago by the late Raymond Cooke.

Footnote 2: Mark Dodd, "Optimum Diaphragm and Waveguide Geometry for Coincident Source Drive Units," presented at the 121st Audio Engineering Society Convention in San Francisco, October 2006.

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With big speakers, it's fair to demand big-hearted bass, and the KEFs weren't lacking in this regard. The low-frequency warble tones on *Editor's Choice* (CD, *Stereophile* STPH016-2) were reproduced in full measure down to the 25Hz 1/3-octave band, and there was still some useful output at 20Hz. The half-step-spaced tonebursts on this CD were reproduced evenly, with minimal spurious tones but with good rather than great leading-edge definition in the crossover region between the woofers and the lower-midrange unit.

On organ recordings the 207/2s effortlessly loaded up the room at low frequencies. It had been a long time since I'd played the 1983 Telarc CD of Michael Murray performing Bach on the organs at Los Angeles's First Congregational Church (CD-80088). This CD begins with the over-familiar Toccata and Fugue in D Minor (which is not by Bach, nor was it written for the organ, nor was it

originally in D minor). But while the KEFs handled this warhorse in a most satisfying manner, it wasn't for that work that I'd bought this disc. Musicologists dismiss Bach's Prelude and Fugue in D Major, BWV 532, as an early work with naïve subjects and countersubjects that comprise simple scale passages. But there's something about this work that I find irresistible. The fugue ends with a thunderous ascending passage on the pedals. Even though the balance of this recording is quite dry, lesser full-range speakers than the KEFs tend to blur the individual notes in this passage overmuch. By contrast, the 207/2's woofers kept control of the music while still allowing the full weight of the 16' pipes to be heard.

My longtime favorite recording of Vaughan Williams' *A Sea Symphony* was recorded in London's Royal Albert Hall with the BBC Symphony Orchestra conducted by Leonard Slatkin (CD, BBC Music Vol.12 No.12). The organ underpinning of the mysterious hymnal opening of the fourth movement purred into the room, while the massive climax a third of the way in—where the basses, reinforced by the organ, move stepwise downward while the *three* choirs sing their hearts out before the entrance of the soprano and baritone soloists—almost burst the walls of my room.

While the 207/2 had no discernible character in the midrange, there was something magic going on, almost as if the sound *glowed*—as if neutrality were a positive attribute rather than an absence of negatives. A recently acquired Japanese SACD of Beethoven overtures (Sony TDGD90013) with Sir Colin Davis conducting the Bavarian Radio Orchestra, released by TEAC to celebrate the 20th anniversary of its Esoteric division, sounded glorious. The violins in *Egmont* were as silky-smooth as they are in real life, without being artificially mellow, and the cellos and double basses had the right balance of guttiness and weight. The image of the orchestra was solid and stable. More important, this was the first work I ever played as a young violinist in my school orchestra, and I never thought I would enjoy hearing it again. Yet with the KEFs, I found myself hearing into the overfamiliar notes as though they were new.

Naturally recorded piano was also favored by the Reference 207/2s. The next Stereophile CD release (STPH019-2) will be a reissue of Robert Silverman performing the two Rachmaninoff sonatas, recorded in analog in 1980 and originally released in 1999 as OrpheumMasters KSP802. Sonata 1 in d, Op.28, is a massive, Faustian work 40 minutes long. Playing back the 16-bit WAV master files via WiFi from my [Slim Devices Transporter](#), I heard a remarkably even-handed quality in the way the KEFs presented the sound of the Steinway.

Recorded piano is particularly revealing of speaker problems at the top of the midrange, where some notes in the right-hand register will jump forward when they coincide with a cone-breakup mode or a problem in cone/surround termination. There was virtually none of that with the Reference 207/2s compared with the earlier version. In fact, though this recording is drier than my own recordings of Bob Silverman—listen to his performance of Liszt's *Liebestraum* on [Editor's Choice](#), for example, where I deliberately captured more of the delicious acoustic of Albuquerque's First United Methodist Church—it sounded remarkably real. Still, at a realistic playback level, the tape hiss on the Rachmaninoff was more audible than I would have wished. And again, the combination of bass weight and control allowed the lower-frequency notes to speak with authority.

The KEFs offered a broad, deep, stable picture of the soundstage. The offstage choir in *A Sea Symphony* hung luminously in space at the back of the soundstage. When I played a DVD-A I had burned of the 24-bit/88.2kHz masters of Attention Screen's [Live at Merkin Hall](#) (CD, Stereophile STPH018-2), my re-creation of the band's onstage layout was presented unambiguously bare, the picture of each instrument stably placed in space. The effect was similar with Alison Krauss and Robert Plant's *Raising Sand* (CD, Rounder 11661 9075-2), where producer T Bone Burnett went for a dark-sounding balance reminiscent of Daniel Lanois's work with Emmylou Harris. The mix on this album may be dark, but played back through speakers as revealing as the KEFs, it wasn't opaque.

I don't often make special mention of a speaker's dynamic capabilities in my reviews, because my relatively small room (about 24' by 15' with a 7' ceiling) tends to overload before the speakers themselves max out. But the Reference 207/2s were so free from grain and compression that I tended to play my music much louder than usual. They also responded well to very high power. I

began the review with the 300W (into 4 ohms) [Mark Levinson No.33H](#) monoblocks, and then moved on, first to the 300W into 4 ohms [Boulder 860](#), then to the 1000W/4 ohms [Parasound Halo JC 1](#) monos. Toward the end of the review period I borrowed a pair of [Musical Fidelity 550k Supercharger](#) monoblocks, which my measurements last September had indicated would deliver 850W into 4 ohms before clipping. The Levinsons and Parasounds take a balanced input; for the Musical Fidelity, which has only a single-ended line input, I used the same Ayre balanced cables but with XLR-RCA adapters on each end, to minimize the variables.

Oh my. The MF-KEF combination worked a treat. There was as much slam as with the Parasounds, but the highs were a tad smoother, a touch silkier. Just before embarking on this review, I received the finished pressings of my [latest recording](#) of Minnesotan male-voice choir Cantus. Tautologically titled *Cantus* (CD, Cantus CTS-1207), this isn't organized around a theme, like my six earlier CDs of the ensemble, but is a collection of popular encores, one of which, "Mogamigawa funa uta," is an arrangement of a Japanese folk song. There are foot stomps at the beginning and near the end, and in the mixing, to create a bigger sound, I cheated a little: I layered on top of one another three different takes of the nine singers stamping their feet. Through the KEFs driven by the Musical Fidelitys, it sounded as if I'd layered *six* takes—an awesome *thump* pressurized my room. Yet the combination didn't smear the low-level subtleties of the scoring of Morten Lauridsen's gloriously tonal "Ave dulcissima Maria," on the same CD.

Returning to Attention Screen's *Live at Merkin Hall*: "Blizzard Limbs" starts with drummer Mark Flynn riffing on kick drum, hi-hat, and snare—the Supercharger-driven KEFs simultaneously maximized the impact of his playing and reproduced the subtle details of the acoustic. There are three beats on the snare drum at 3:45 in this track that use up all 16 bits of the CD's dynamic range. The Reference 207/2s both reproduced the impact of those snare strokes without compression, and preserved how they lit up the recording venue's acoustic.

Yet this ability to pump power into the room wasn't achieved at the expense of low-level detail, or by emphasizing brashness over subtlety. Soon after the massive climax in the final movement of *A Sea Symphony* mentioned earlier, the solo voices are accompanied by a solo violin leading a woodwind choir. The delicacy with which this tender passage was presented by the big KEFs driven by the Superchargers rivaled what I hear from the best minimonitors—the [Harbeth HL-P3ES2](#), for example.

## Summing Up

While spaces remain in my heart for the [Sonus Faber Amati homage](#), the [mbl 111B](#), the [Dynaudio Confidence C4](#), the original [Revel Ultima Studio](#), and the [Wilson Audio Sophia](#), I must say that the Series 2 revision of KEF's Reference 207, the 207/2, is overall the best-sounding full-range speaker I have used in my current listening room. To all intents and purposes, it is without flaw. The lows are extended and well defined, the midrange is pure, the treble is free of grain and naturally balanced, the dynamics are awesome, and the stereo imaging is accurate and stable. The 207/2 simply defines neutrality, but without losing sight of the musical message. \$20,000 is still a lot of money, but for a pair of speakers of this caliber, it's tempting to declare the big KEF a bargain, considering that you can pay five times as much for speakers that sound only as good.

### KEF Reference 207/2 loudspeaker:

#### Specifications

#### Sidebar 1: Specifications

**Description:** Four-way, reflex-loaded, magnetically shielded, floorstanding loudspeaker. Drive-units: coincident (Uni-Q) 1" (25mm) titanium-dome tweeter and 6.5" (165mm) polypropylene copolymer-cone upper-midrange unit; 10" (250mm) paper-cone lower-midrange unit; two 10" (250mm) fiber-reinforced paper-cone woofers. Crossover frequencies: 120Hz, 350Hz, 2.3kHz; 24dB/octave acoustic slopes. Frequency response: 40Hz–60kHz,  $\pm 3$ dB, 15° off horizontal axis. Bass extension: 26Hz,  $-6$ dB. Sensitivity: 91dB/2.83V/m. Nominal impedance: 8 ohms (3 ohms minimum). Recommended power: 50–400Wpc. Maximum output level: 117dB.

**Dimensions:** 48.3" (1226mm) H by 15.7" (400mm) W by 27" (685mm) D. Weight: 145 lbs (66kg).

**Finishes:** High-Gloss American Walnut, High-Gloss Cherry, Satin Sycamore veneers; Piano Black.

**Serial Numbers Of Units Reviewed:** 5064761 & 2.

**Price:** \$20,000/pair. Approximate number of dealers: 27.

**Manufacturer:** KEF Audio (UK), Eccleston Road, Tovil, Maidstone, Kent ME15 6QP, England, UK.

Web: [www.kef.com](http://www.kef.com).

