Three-way, dual-concentric floorstanding loudspeaker
Made by: GP Acoustics (UK) Ltd, Maidstone, Kent
Supplied by: GP Acoustics (UK) Ltd
Telephone: 01622 672 261
Web: www.kef.com
Price: £3999

KEF R11

The flagship of KEF's new R-series combines the 12th generation of Uni-Q with 'aluminium skinned' woofers

Review: **James Parker** Lab: **Keith Howard**

Inspired by KEF's flagship Reference range, its recently updated and more affordable R series was heralded by the standmount R3 [*HFN* Dec '18] – a speaker that caused sufficient stir here at *HFN* that we were keen to explore what its tallest floorstander, the R11, had to offer. And here it is, selling for a surprisingly modest £3999 a pair, and looking impressive in a choice of three finishes – black gloss, white gloss or walnut.

As with the R3 speakers, the R11 takes the whole idea of a choice of finishes further than most, for rather than adopting a 'one size fits all' approach, in which only the colour of the main woodwork changes, KEF colour-keys both the grilles and the drivers to suit each cabinet. This aesthetic works very well to shrink the apparent size of the speakers because they're certainly not small, at a smidge under 1.3m tall and just over 31cm wide in fighting trim, while the unashamedly rectangular boxes forgo any clever shaping to make them more 'interesting'. However the clever use of colour, and the acoustic design of the speakers, makes them remarkably room-friendly. Even these, the largest speakers in the range, won't dominate quite modest spaces.

> 'The drama they generate will grab you in an instant'

THE BIG FOUR

The configuration here echoes that of the R3, which has a dedicated 16.5cm bass driver backing up the latest generation of the company's celebrated Uni-Q coaxial driver array. This places a 25mm vented aluminium dome tweeter at the centre of a 12.5cm midrange cone. But where the R3 uses a single bass unit, the R11 deploys no fewer than four – two above the Uni-Q and two below – which does have the effect of mounting the treble/mid driver somewhat low for such a lofty speaker.

Agreed, this is better than having the treble source way above the seated listener's ears, which might encourage you to crane your head to discover how the balance changes with height, and it seems the design of the Uni-Q driver lends it suitable dispersion for this low-slung position. Certainly there's never any sense of trying to 'listen through the bass' to hear the detail, despite the substantial radiating area in action below 400Hz.

Yes, like the R3 – and in fact in common with all the R Series speakers – the R11 sets its crossover points at 2.9kHz (between the two drivers within the Uni-Q) and 400Hz, demonstrating just how much of the audio band the company's coaxial driver covers, and indeed how dedicated to a single task is that quartet of drivers. And, as we'll discover when it comes to listening, that simplicity of purpose pays dividends in the sheer musical involvement these speakers deliver.

The 12th-generation Uni-Q driver here is, as KEF's Head of Acoustics Jack Oclee-Brown explains [see Interview sidebar, p35], a long way from the original version launched more than 30 years ago. This driver ensemble is now the mainstay of the company's speaker range all the way from the LS50 [*HFN* Jul '12] – which just uses a single Uni-Q driver and has since spawned the LS50 Wireless [*HFN* Oct '17] and LSX active 'system in a speaker' designs – to the Reference line, Blade Two [*HFN* Jul '15] and the huge Muon [*HFN* May '08].

The original R series was first introduced in 2011 to fit in between the company's Q series and the Reference range, and despite superficial similarities this new collection is nothing short of a complete ground-up rethink, with no fewer than 1043 components being changed, says KEF. Indeed, thanks to the trickle-down of technology, the new R design puts more distance between it and the Q-series, while

RIGHT: Echoing the design of KEF's Reference 5 model [*HFN* Oct '14], the R11 combines four 165mm bass drivers, positioned above and below the latest Uni-Q driver array (125mm midrange/25mm aluminium domed tweeter)

HOMAGE TO THE B139

Hi-fi enthusiasts of a certain age (we weren't 'audiophiles' then) always recall KEF's B139 bass unit. For two reasons, principally: first, it wasn't round – often carelessly called elliptical, the diaphragm was actually shaped like an athletics track, with two straight and two semi-circular edges. Second, because it had a flat diaphragm behind which was a tapered foamed plastic structure, to which thin skins were applied, which joined it to the voice coil. It was an early example of a sandwich diaphragm which, because of its flat front surface, avoided the diffraction effects caused by the cavity of a large conventional cone. The bass drivers in today's KEF R Series may be circular, have a dished diaphragm and not use plastic foam but they are nonetheless spiritual successors to the B139. Connection of the front face of the diaphragm to the voice coil is by a paper cone structure behind, but the dishing of the surface is shallow enough to avoid cavity effects while increasing stiffness. Attaching the rear cone at a modal circle further enhances diaphragm resonance performance. KH

moving its performance closer to that of the Reference models. This includes the use of the company's Shadow Flare surround on the Uni-Q driver, designed to extend the unit's waveguide effect, improving dispersion and 'microdynamics' such as the strike of finger on string.

PIN-UP GRILLES

The new bass unit [see KH's boxout, above] uses an unusual construction comprising an aluminium skin over a paper cone and, like the Uni-Q, this is anodised in a range of colours to match the cabinet choices. Asked whether this also represents an acoustic enhancement, Oclee-Brown is entirely candid – 'The anodised coating is extremely thin and we don't see any measured or audible change to the drivers,' he says, 'so we've allowed our design team to have free rein over the colours'.

The effect is striking – the black speakers come with black drivers [pictured here], white ones with silver-grey, and walnut with a light copper colour [see front cover], giving the speakers a fully 'of a piece' look. Such colour flexibility should come as no surprise to those familiar with other KEF products, which has seen anodised drivers in everything from the little LS50 speakers to the Blade, and in the Reference series Kent Engineering and Foundry Editions. However, in these R models the impression is subtler, though still eye-catching.

The same is true of the grilles, with their microperforations over each driver. Oclee-Brown explained that the frame of the grille has the most effect on the sound of a speaker, scattering and reflecting the output of the drivers. As a result, the new design not only has a lower profile, but is also more open in front of the drivers. As he puts it, 'It looks much more interesting, and has around half the acoustic effect of a normal grille'.

So, a lot of innovation even in what looks like a very conventional speaker. The enclosure has also been substantially enhanced with a combination of internal bracing, which also divides up the space into separate compartments for each driver section, plus constrained layer damping in the form of a lossy material within the joints. And the rear-venting ports – one each for the upper and lower bass sections – are KEF's usual flexible type, shaped to reduce turbulence and resonances within the tube. Two-part foam bungs, which can be used as an outer ring or with the centre also filled, are supplied to tailor the bass according to the R11's in-room response.

Finally the speakers are stabilised with a set of four outrigger feet, with spikes and floor-cups provided, and can be switched between single- and bi-wired connection using screw-switches on the terminal panel. These are much more convenient than those jumper plates you always seem to have lost when you need them, or having to make up wire links.

SIMPLY IRRESISTIBLE

Set up in PM's spacious listening room on the end of a system comprising a Melco N1ZS20/2 server [*HFN* Jun '17], dCS Vivaldi One player [*HFN* Feb '18] and Constellation Taurus Stereo power amp [*HFN* Dec '17], the R11s distinguished themselves by needing a lot less toe-in than many loudspeakers. This is something noted before with Uni-Q designs, although the speakers did benefit from a bit of breathing space to the rear and sides. This allowed the best bass definition without recourse to the foam bungs, which proved fairly extreme in their effect on the low-end and are best avoided if possible.

Set-up done, this proved one of the simplest, and most pleasurable, reviewing exercises I have done of late. I really liked ⇢

RIGHT: The R11's cabinet bracing is not rigid but connected with a highly lossy material that converts panel resonances into heat. Note the separate chambers for upper/lower bass drivers and novel ports with their flexible walls

the KEF R3s, despite their slightly odd 'big bookshelf' dimensions, and the R11s have the same sound, but on a much grander scale, and are really rather spectacular. Add in the fact that both PM and I thought they were somewhat more expensive, with the result that the true price came as a very pleasant surprise, and you can say that we were both decidedly impressed.

The location of that Uni-Q driver seems to play a major part in creating both the very euphonious balance of the speakers and their attention-grabbing imaging, so there's never any feeling of drivers 'handing over' to each other. Instead, there's an effortless sense of the sound coming from a single point, or rather a broad, deep soundstage between the cabinets. Only with the speakers playing at a very low level is there any feeling of 'left and right' – wind them up to normal comfortable listening settings (peaking at about 100dB according to my iPhone meter) and the sound fuses into a solid, substantial picture.

THRILL OF IT ALL

With the Barenboim/Staatskapelle Berlin recording of Elgar's First Symphony [Decca 478 9353; 96kHz/24-bit], the R11s deliver a sound that's both mature and rich, while at the same time airy and free-breathing, with a real impression of the orchestra before the listener. But above all that, what these speakers do is create an almost ridiculously easy listening experience. Whether I concentrated hard or just sat back and relaxed, the sound was equally impressive, and it's amazing how quickly I could accept what the R11s were doing as the norm, dial them out, and just get on with enjoying the music.

Switch pace to a track like Joe Stilgoe's 'Mr Spiggott' [*I Like This One*; Candid CCD 79851, 96kHz/24-bit], and the delight is in the way the R11s extract so much from this simple piano jazz. It's also impossible not to appreciate how slickly they control and track every change of rhythm and time signature, and the vivacity with which they deliver the timbres of the instruments.

This same easy detail is much in evidence with the opening of The Who's 'Behind Blue Eyes' [from Polydor UIGY-9596; DSD64]. Roger Daltrey's slightly ethereal vocals are well imaged, along with the acoustic guitar, while John Entwistle's bass grumbles down in the mix with fine clarity. Then, as the track builds, the R11s' speed and definition allows Keith Moon's usual hell-for-leather drumming to crash out, along with those signature power chords. It's an exciting listen, and shows a pair of speakers can have fine control without robbing the music of any of its life.

The same characteristics, perhaps surprisingly, were much in evidence with the Rachel Podger/Academy of Ancient Music recording of Bach's Double Violin Concerto [from Harmonia Mundi France HMU 807155; DSD64]. Here the R11s delivered a sound packed with vitality, and with an appropriately 'boxy' sound to the solo instruments, and that attention-grabbing sense of rosin biting on string.

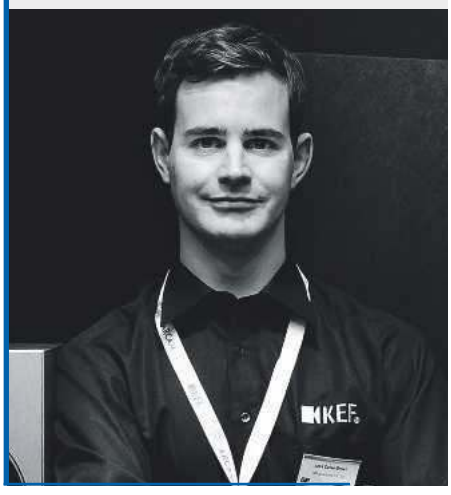
Change to a big orchestral work, such as Bernstein conducting the overture ⇨

JACK OCLEE-BROWN

While the coincident mid/treble drivers at the heart of the R11 may look familiar, KEF's Head of Acoustics, Jack Oclee-Brown says that 'The Uni-Q drivers we manufacture today are quite different from the original, developed by KEF's founder, Laurie Fincham, in 1988. That initial idea was a stroke of genius as it solves two of the fundamental issues of multi-way loudspeakers (matching driver directivity and lobing/interference at crossover), but it's a tricky configuration because in the space normally occupied by just one driver we have two.

'The early versions of Uni-Q were wonderful in some aspects but had some deficiencies because of the close location of the two drivers. In the 30 years since that initial version was introduced we've spent plenty of time understanding exactly how we have to design a Uni-Q to work optimally. In a sense we've built up a set of recipes for dealing with each of the problems. Nowadays our Uni-Qs deliver performance that's a match for the best conventional drivers out there.'

Ask him if this is as far as Uni-Q can go, and he says not: 'We are still looking for performance gains, and I'm confident that our R&D team will come up with some further improvements in the coming years. Materials continue to evolve – I'm sure that all other manufacturers are looking for possibilities in this area too – but the subtle geometry of the parts can have a surprisingly big effect, particularly with a highly optimised assembly'.



LEFT: Location of both reflex ports has been precisely calculated to minimise *midrange* coloration. The dual 4mm cable connections will accommodate single or bi-wiring via an inbuilt 'switch'

from his opera 'Candide' [*Bernstein Conducts Bernstein*; Sony Classical SS 89043, DSD64], and the R11s show all their abilities in one 4m 16s track. The opening is explosive and hard-charging, with a great impression of ordered chaos in both the writing and the sound. These speakers swiftly relax into the fluid, romantic middle section, then gather up the power for the closing, charging to the finish with especially notable punch in the percussion. It's a compact, total thrill-ride – on some speakers it can sound rather thin and brash, but via the R11s, with their solid low-end power, it just sounds big and exciting.

That's also true in the way the R11s handle piano which, with its combination of potential delicacy in the right hand and room-shaking ability in the left, is always a stern test of any speaker. Play Stephen Hough's recording of Rachmaninov's First Piano Concerto, with the Dallas Symphony Orchestra under Andrew Litton [Hyperion SACDA67501/2] and the power of the musical forces, and drama they generate, grabs you in an instant. Yet it's just as easy to appreciate the balance and definition, and the superb soundstage image the speakers are casting, with the piano full-bodied before the orchestra.

REAL SWING

Their ability with piano is also much in evidence with 'Rockin' In Riddim' from Monty Alexander's 2002 Telarc set [*My America*; SACD-63552]. Here the band slams in after the tiniest of piano figures, then settles into the familiar Ellington with piano and organ set against a growly bass-line and hard-pushing percussion. The R11s place every musician in a 'look, you can point at him' fashion, yet offset this technical ability with a real swing and sense of impetus, such that one is again taking their abilities as read, and just getting into the music. And that, folks, is just how it should be.

HI-FI NEWS VERDICT

I'd only a faint memory of the 'new KEF R-series' press release from last autumn, so had forgotten the R11s were just under £4k. They certainly sound a whole lot more, delivering a sound combining maturity and ease of listening with massive low-end punch when required, great imaging and fine detail. Choose one of the striking finishes to match your room, and just enjoy: this is high-end audio made easy.

Sound Quality: 87%

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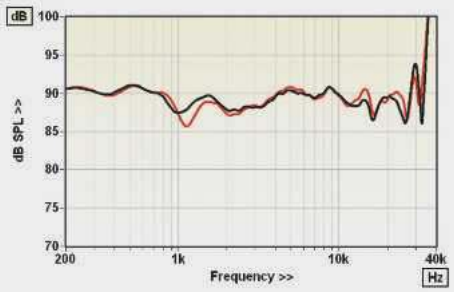
LAB REPORT

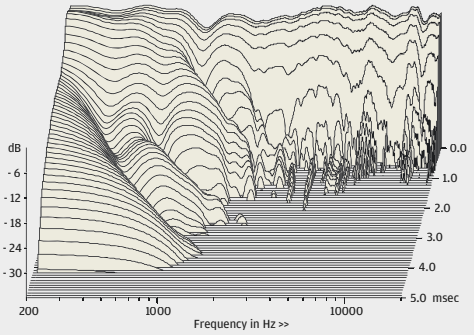
KEF R11

KEF's claim of 90dB sensitivity for the R11 is just confirmed by our measured pink noise figure of 89.5dB, although our 'music' result is a little lower at 89.2dB. This is achieved, gratifyingly, without making the R11 difficult to drive. Although KEF specifies a nominal 8ohm impedance, which doesn't square with its quoted 3.2ohm minimum, the R11 nevertheless exercises unusually tight control over its impedance phase angles. In concert with our measured minimum impedance of 3.5ohm – a little higher than KEF specifies – this results in a minimum EPDR (equivalent peak dissipation resistance) of 2.2ohm at a high 7.2kHz, about half an ohm higher than we typically measure from competitors. Other dips to 2.3ohm at 1kHz and 2.4ohm at 82Hz complicate the picture but this clearly isn't a design where impedance is considered to be the amplifier designer's problem.

Forward frequency responses for the review pair, measured at 1m on the tweeter axis, indicate a trend that's admirably flat but for a suckout between 900Hz and 3kHz. This is common to both speakers but more prominent in one of them [see Graph 1, below]. Even so, the response errors of ±2.3dB and ±2.7dB, respectively, are good results although the pair matching error over the same 200Hz-20kHz frequency range is high at ±1.9dB. This is sufficiently out of line with other KEF speakers we've measured in recent years that we suspect one speaker of this well-run-in demo pair [red trace, Graph 1] may be out of spec. Otherwise, bass extension – determined by diffraction-corrected nearfield measurement – is par for the course at 51Hz (–6dB re. 200Hz) while only some very low-level treble resonances mar what otherwise is a clean CSD waterfall [see Graph 2, below]. **KH**



ABOVE: Flat forward response albeit with a dip from 900Hz-3kHz. One sample [red] has a deeper suckout



ABOVE: Cabinet and, in particular, driver resonances are very well controlled, leaving only minor treble modes

HI-FI NEWS SPECIFICATIONS

Sensitivity (SPL/1m/2.83V – Mean/IEC/Music)	89.2dB / 89.5dB / 89.2dB
Impedance modulus: minimum & maximum (20Hz–20kHz)	3.5ohm @ 17.3kHz 12.9ohm @ 2.4kHz
Impedance phase: minimum & maximum (20Hz–20kHz)	–35° @ 4.5kHz 35° @ 1.5kHz
Pair matching/Resp. error (200Hz–20kHz)	±1.9dB / ±2.3dB/±2.7dB
LF/HF extension (–6dB ref 200Hz/10kHz)	51Hz / >40kHz/>40kHz
THD 100Hz/1kHz/10kHz (for 90dB SPL/1m)	0.3% / 0.1% / 0.1%
Dimensions (HWD) / **Weight** (each)	1249x200x360mm / 38kg