In celebrating its 50th anniversary, KEF has produced a mini monitor reflecting its audio engineering heritage and with details trickled down from its Blade flagship.

Review: John Bamford
Lab: Keith Howard

While KEF - together with Celestion - has been owned by the Hong Kong-based Gold Peak multinational group since 1993, and today has a massive manufacturing plant in southern China, GP Acoustics is rightly proud of the brand's British heritage. It maintains UK roots with offices based in Tovil, Maidstone - on the site of the original Kent Engineering Foundry where the late Raymond Cooke first started his KEF Electronics company.

KEF was founded in the autumn of 1961. So this diminutive LS50 'bookshelf' proudly sports 50th Anniversary Model legends on its baffle and rear panel. Handsomely finished in piano gloss black, and with KEF's logo mark etched subtly into the top of the cabinet, it's a compact mini monitor measuring around 300mm in height. The enclosure is reflex loaded, a flared elliptical port venting at the rear. Befitting its price the enclosure is sturdily constructed with constrained layer damping between its walls, internal cross-brace and front baffle. The baffle is curved both to minimise diffraction and further increase the rigidity of the structure.

BBC CONNECTION

It was, of course, in 1966 that KEF introduced the world's first commercially available drive unit that featured a cone formed of Bextrene: its famous B110 driver. Along with the company's T27 tweeter the B110 was to be employed by the BBC in the LS3/5 Monitor, a small speaker just 12in high that was used in outside broadcast vehicles. Subsequently the speaker was refined to become the BBC LS3/5a, manufactured under licence and made available to consumers worldwide (see boxout, opposite page).

In employing 'LS' nomenclature in this Anniversary Model it's clear that KEF is keen to remind consumers of the important role it played in early audio engineering and the emerging development of hi-fi sound reproduction, implying that the LS50 is an LS3/5a for the 21st century. Other than the fact that it's a very compact monitor, however, the LS50 bears about as much resemblance to its suggested forebear as does today's BMW-era Mini to Sir Alec Issigonis's iconic design introduced in 1959 by the British Motor Corporation.

'POINT SOURCE'

To casual viewers the LS50 will look like a minimalist, single-driver loudspeaker. Of course, audiophiles will appreciate that this single driver is one of KEF's two-way Uni-Q coincident arrays with its tweeter mounted at the acoustic centre of the mid/woofer's voice coil - pioneered in the 1980s to provide a nominally ideal point source. This latest iteration, coloured rose gold for this sumptuous LS50, features a 130mm (5.25in) midrange cone formed of a magnesium/aluminium alloy with a ribbed long-throw surround that KEF dubs 'Z-Flex'. It crosses over at 2.2kHz to its 25mm vented aluminium dome tweeter.

In today's Uni-Q design the tweeter sports a 'tangerine' waveguide to maximise dispersion. Thanks to modern computer-aided design methods employed by KEF for ambitious projects such as its £20k Blade floorstander, the LS50 includes some patent-pending design innovation. For example, while there might be little new in flaring a port at both ends to avoid 'chuffing', the fact that the port's tube is formed of closed-cell foam and is actually flexible and porous is indeed novel. KEF says it aids clarity by allowing midrange frequencies to escape into the cabinet and prevents longitudinal resonances causing midband coloration.

A two-way such as this, with a single Uni-Q driver, makes for an ideal front-centre speaker - the 'dialogue channel' in an AV system - something that was not lost on KEF in the early 1990s when it introduced Reference Series centre speakers.

RIGHT: Rose gold coloured 130mm Uni-Q coincident array with 25mm tweeter mounted at the centre
at videophiles with LaserDisc-driven multichannel systems. Being so ultra-compact, five or more LS50s would make for an ideal surround sound set-up in many homes. What’s the betting that a cost-down ‘non-Anniversary’ LS50 is already on the CAD screens of KEF’s design team?

MINI MARVELS
KEF recommends placement on 45-60cm tall stands, positioned a metre from side walls to enjoy the speakers’ ability to create wide, out-of-the-box images, and around 50cm from a rear wall.

I listened to the LS50s in their au naturel state in my larger-than-average listening room, although a foam bung is provided to modify the port’s output if ideal placement is constrained by room layout/dimensions. Actually, it’s a bung within a bung: you can ‘half restrict’ the ports or fully block them. There are no protective grilles provided with these Anniversary Model LS50s, by the way.

I had in residence a pair of Track Audio’s exquisitely-made speaker supports that proved a lovely match with the LS50s – albeit more costly that the speakers themselves! Given that I sit around five metres away from compact standmounters in my 7m-long listening room, the LS50s made surprisingly easy work of loading the room. And they sounded substantially larger than I expected.

It’s something of a cliché, I know, but the thought ‘Where is all that bass information and weight coming from?’ crossed my mind time and time again as I put them through their paces.

With Madonna’s grandiose ‘Frozen’ from 1998’s Ray Of Light album [Maverick/ Warner 9362-46847-2] the sound was easy-on-the-ear and commendably luxurious, notwithstanding the ‘electronic edge’ of the recording created by William Orbit and Patrick Leonard. The LS50 created a wonderfully wide, deep and ‘open’ image of a musical event that never really happened (Orbit worked with samples, synthesizer sounds and Pro Tools rather than live musicians...) and the speaker allowed explicit details of myriad sound-effects to cut easily through the mix. The presentation was all-embracing – and amazingly rich and full-bodied.

There are thunderous, air-moving bass effects in ‘Frozen’ that can create mayhem when played through huge floorstanders or subwoofers. A mini monitor won’t rattle the rafters, of course. Nonetheless, the little LS50 more than hinted at the scale of the track, serving up a cavernous soundstage. The bass end was terrific. It was vivid and concise, reasonably punchy when the occasion demanded, and remarkably weighty considering the LS50’s size.

This speaker’s ability to showcase transparently the superiority of hi-res sources compared with ‘standard’ CD resolution 16-bit/44.1kHz files was...
RIGHT: At the rear is just one set of high quality input terminals for single wiring. Put fingers gently inside the port and you'll feel a flexible tube more than evident when I played the often-mentioned recording by Channel Classics of the Budapest Festival Orchestra performing Stravinsky's Firebird Suite (our June classical album choice). 'Test' samples at 44.1, 96 and 192kHz can be downloaded at no cost from www.channelclassics.com.

Where with 44.1kHz playback the sound was clearly good enough to show that this is a splendid recording, balanced to sound open and spacious while possessing sufficient 'oomph' to make the sound appear large-scale (never ceasing to cause visitors to remark, 'Wow – this little speaker has amazing bass capability...') the marked improvement when playing the 96kHz version of the piece was as clear as night and day. The orchestra sounded less 'tight' and constricted, the image scale increased in width and depth, and the strings and percussion became smoother, more liquid, without the sound appearing to lose leading-edge 'bite'.

MIDBAND SUPERIORITY

Truly surprising was the improvement observed when 'upgrading' to the 192kHz version of the track. Via my monolithic Townshend Audio Sir Galahad speakers the difference between the 96 and 192kHz files is subtle at best, while the improvement in tonal colour was more readily obvious via the diminutive KEF – testament to the LS50's fabulous midband clarity. Perhaps I should describe the difference between the two source files as more 'vital' via the LS50, in that it appeared to further open up the image and highlight this baby monitor's ability to sound wa-ay bigger than it is. With top-drawer recordings it truly can sing.

I can't criticise the voicing of the LS50. Roger Water's 1992 epic Amused To Death [Columbia 468761-2] sounded nothing short of sublime on this KEF miniature, with the album's intimately recorded vocals and space-creating sound effects melding to deliver a deliciously inviting three-dimensional 'audio atmosphere'.

It is possible to push the speaker beyond its comfort zone, of course. During the cataclysmically dynamic crescendos of 'It's A Miracle', late on in the album (this was around 95dB at the listening seat), I detected the LS50 introducing a hardening to Waters' tortured declarations and valedictions, which he howls at the top of his voice.

Public address it will not do. But the LS50 did prove capable of shocking me with its ability to let rip up to a point, all the while sounding fresh, open and very, very refined.

HI-FI NEWS VERDICT

This is a cracking little speaker of which KEF's design engineers must be most proud. Sweetly voiced yet highly revealing of source quality, it surprises and delights in equal measure. And boy does it sound big, defying its compact dimensions. It deserves to be a runaway success for KEF worldwide, especially if the company follows up with a cheaper, less elaborately-finished version for a wider market.

Sound Quality: 86%

KEF LS50 (£800)

KEF claims 85dB sensitivity for the LS50, only about 1dB optimistic according to our measurements which finds the pink noise figure, averaged for the review pair, at 84.1dB (200Hz-20kHz). This performance requires that the LS50 be a 4ohm design, with a minimum measured modulus of 3.8ohm. KEF inexplicably accords the LS50 an 8ohm nominal rating while claiming a minimum modulus of 3.2ohm – but at least our results show that minimum figure to be conservative.

Impedance phase angles are quite large, as a result of which the EPDR (equivalent peak dissipation resistance) falls to a minimum of 1.9ohm at 25Hz, with a similar dip at 132Hz.

The payoff for the LS50's below average sensitivity and moderately testing load comes in the form of good bass extension for so small a cabinet, our diffraction-corrected near-field measurement recording 42Hz (-6dB re. 200Hz). In the manner of the new Q Series, this roll-off is rapid when it comes, so transient capability may have been compromised to achieve this. The near-field testing confirmed that KEF's clever flexible reflex tube justifies the claims made for it by doing a good job of preventing unwanted midrange output from the port. The on-axis frequency response [Graph 1, below] isn't flat but follows a mostly flat trend, within error limits of ±3.6dB and ±3.5dB respectively, 200Hz-20kHz. Pair matching, over the same frequency range, was in the very top drawer at ±0.6dB.

The cumulative spectral decay waterfall [Graph 2] shows fast initial decay and implies the low cabinet output you'd expect of the LS50's exacting construction, although some low-level upper-midrange/treble hash is still visible.

Above: On-axis response shows a flat trend with fine pair matching. Uni-Q notch is pushed out to 30kHz

Above: Solid cabinet construction ensures low coloration, while Uni-Q resonances are well controlled.

HI-FI NEWS SPECIFICATIONS

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<thead>
<tr>
<th>Specification</th>
<th>LS50 data</th>
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<tr>
<td>Frequency @ 200Hz, 20kHz</td>
<td>85dB</td>
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<tr>
<td>Impedance modulus</td>
<td>3.8ohm at 195Hz, 35.5ohm at 90Hz</td>
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<tr>
<td>Impedance phase</td>
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<td>Pair matching</td>
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<td>LF/HF extension</td>
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<td>THD 100Hz/1kHz/1kHz for 90dB SPL at 1m</td>
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<td>Dimensions (HxWxD)</td>
<td>302x200x278mm</td>
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