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LOUDSPEAKER

KEF LS60 Wireless

Boasting wireless connectivity with high-res digital sources, the LS60 W combines style with substance and great sound
 Review: **Jamie Biesemans** Lab: **Paul Miller**

In the decade since the launch of the LS50, in celebration of KEF's 50th birthday [HFN Jul '12], there have been rumours about a floorstander to complement the popular bookshelf model. But whatever these wishful thinkers had in mind, I'm pretty sure it wasn't as outlandish as the LS60 Wireless. As the name indicates, it's both a nod to the 60th anniversary of the brand and its technical evolution by incorporating active electronics – DSP, DAC and amplification – and streaming.

The result is a pair of matched speakers that connect with each other, wirelessly (up to 96kHz/24-bit) or wired (up to 192kHz). No further kit is required, just a power outlet per speaker. But don't wander off muttering 'this isn't real hi-fi'. Sure enough, at £5999 the LS60 Wireless isn't 'entry level', but it might still be the most accessible or realistic way to get something akin to a KEF Blade [HFN May '22] parked in your living room.

'Its full-bodied mid is ideal for crunchy guitar playing'

SLIM AND SONIC

Facing the super-slim, but not super-light 32kg LS60 Wireless, it's hard not to be impressed. At barely 13cm broad, it's remarkable that KEF has managed to fit a 100mm Uni-Q driver into the baffle. The 109cm height certainly makes for unusual proportions for a loudspeaker, but visually this 'way of the monolith' does work – even if you add in the broader plinth which is necessary to keep the LS60 Wireless stable.

Three colour finishes are offered, including the Royal Blue with gold-coloured Uni-Q pictured here, but it's the small footprint that's the real design statement. Of course, while this brings more flexibility as to where you might choose to place the LS60 Wireless, the presence of side-firing woofers also means you should be mindful of adjacent walls – and although there's some mitigation for this in the speakers' accompanying app, there's no global 'room correction' on offer.

Impressive as the LS60 Wireless looks, it's in the technology where KEF has moved the goalposts out of the football field and into the car park. The Maidstone-based company has

leveraged a number of its proven concepts, including the 12th-generation coaxial, time-aligned Uni-Q driver with rear output-absorbing metamaterial disc [HFN Jun '21], and, from the Blade flagship, pairs of force-cancelling woofers to complete this Single Apparent Source (SAS) design.

However, as the LS60 Wireless is a lot smaller, KEF couldn't use the Blade's passive bass drivers. Instead, it incorporates the Uni-Core array first seen in the EISA Award-winning active KC62 subwoofer, where two long-throw woofers are planted back-to-back and use differently sized, overlapping voice coils to keep the unit compact. The LS60 Wireless contains two such arrays, for a total of four 135mm drivers. The entire three-way ensemble is then governed by phase-corrected crossovers in DSP and three amplifiers.

Notably, KEF selected 500W and 100W Class D modules for the bass and midrange sections, respectively, but a 'traditional' 100W-rated Class A/B amp for the tweeter.

STREAMER'S DREAM

When it comes to connections and streaming, the LS60 Wireless takes its cues from the LS50 Wireless II. This includes an HDMI ARC input, next to optical and coaxial digital inputs, plus an analogue RCA input to connect any legacy line source (including a turntable and phono preamp). With the addition of KEF's second-generation W2 streaming platform, driven by the KEF Connect app [see boxout, p51], the platform extends to Chromecast, AirPlay 2 and Roon compatibility, Spotify Connect, UPnP, and Bluetooth. All told, you're set to stream music in just about any way you could wish.

Now, if you are wondering if KEF might be contemplating a passive version of the LS60 then, well, don't bother. KEF's VP of

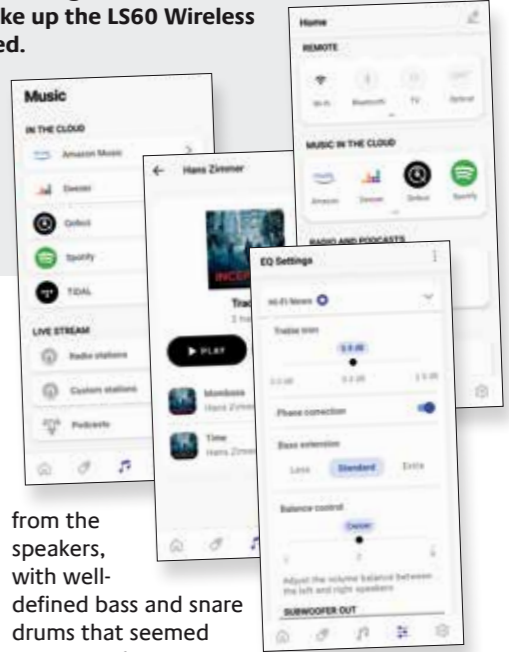
RIGHT: Available in Royal Blue, Mineral White and Titanium Grey, the LS60 Wireless hosts KEF's 12-generation Uni-Q driver (with 19mm tweeter coincident with a surrounding 100mm alloy-coned midrange), plus two pairs of its Uni-Core driver arrays, first used in the KC62 subwoofer



KEF CONNECT APP

KEF Connect replaces the KEF Control and Stream apps built for the LS50 Wireless [HFN Oct '17] and LSX. Introduced for the LS50 Wireless II, it can also control the new LSX II and benefits from a slicker interface. After connecting to your network it quickly detects the LS60 Wireless via Bluetooth and lets you configure the system in a few easy steps. You'll need to keep the Connect app to hand as your 'remote control', particularly if you are keen to tweak settings using the 'easy' and 'expert' room eq options or access the in-app music services, including Amazon, Deezer, Qobuz and Tidal. If you prefer, you can stream directly from Spotify or use Chromecast or AirPlay to play music from the services' dedicated apps. Playing from your NAS via wired UPnP or listening to streaming radio is also possible. Equally handy is the ability to wake up the LS60 Wireless when an analogue or digital signal is sensed.

Although you can control multiple speakers via KEF Connect, currently there's no real multiroom functionality built-in. This is possible, however, via AirPlay 2 or Chromecast, but the latter requires some additional configuration via the Google Home app.



Technology, Jack Oclew-Brown, is adamant it won't happen. The only way the slim design of the LS60 Wireless can function is through DSP control and the active Uni-Core force-cancelling woofers – the same just can't be done passively, we're told. 'In terms of both absolute performance and flexibility, active has a significant advantage.'

READY TO ROCK

Even though these are reasonably heavy loudspeakers, installing the LS60 Wireless proved to be refreshingly easy – in part thanks to some nifty packaging, but mainly because of the well-designed app. After setting the duo up in my room it took only a few minutes to start listening.

Curious about the LS60 Wireless's low-end performance, and whether the single-apparent-source concept could work with slender units like these, I selected a wide-ranging playlist consisting of dynamic, rocking content. I ended up listening back-to-back to The Killers' moving portrayal of American Midwestern life on *Pressure Machine* [Island Records], and the rousing *Fear Of The Dawn* album [Third Man Records] that Jack White released earlier this year. Normally I would use Roon for this, but as the LS60 Wireless's certification was not ready at the time, I streamed the 96kHz/24-bit FLAC files via the 'universal' Bubble UPnP app.

Rock 'n' roll proved to be not a bad genre for these speakers, as it encouraged them to show off an ability to render bass drums with punch and present a full-bodied midrange ideal for crunchy, overdriven guitars. White's opening track, 'Taking Me Back', impressed with the feeling of control

from the speakers, with well-defined bass and snare drums that seemed to stop and start on a dime. And when the track shifted into a higher gear, there was no hesitation on the part of the LS60 Wireless to follow suit.

The Killers' 'In The Car Outside' and 'Quiet Town' have a slightly cleaner sound that didn't stress the system's four Uni-Core woofers, but it did allow me to appreciate the speakers' coherence, presenting a broad soundstage that highlighted, especially, the vocals of singer Brandon Flowers.

Be warned, though. It's tempting to keep turning up the volume, because these DSP-controlled speakers keep the performance balanced and safe. Is there a hint of compression when you hit stratospheric volumes? Possibly, although at that point rattling furniture and angry neighbours are likely to be more immediate concerns.

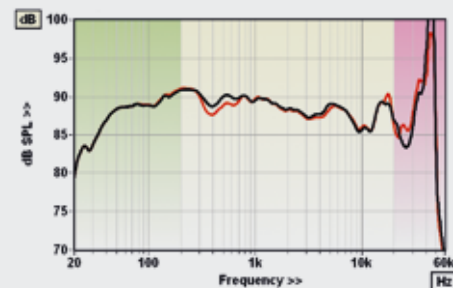
A STAR IS BORN

The LS60 Wireless's HDMI ARC connection makes it ready for TV sound, where its ability to put out a massive but controlled low-end and roll along with deliberately dynamic content (there's a lot of explosions and gunshots on telly these days) turned out to be a boon. Additionally, even a ↻

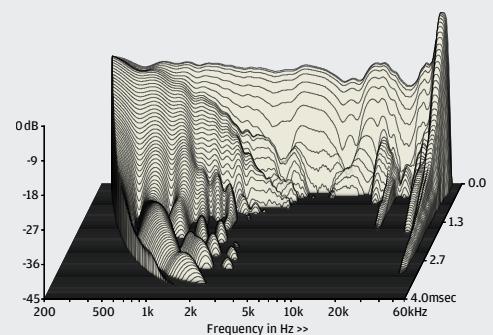
KEF LS60 WIRELESS

With its line/digital inputs and fully integrated Class AB and Class D amplifiers, KEF's LS60 Wireless has no meaningful 'sensitivity' that might be compared with a standard passive loudspeaker. Neither does it have any meaningful 'impedance' – the internal amplifiers are certainly driving a reactive load (the Uni-Q and bass units) but are direct-coupled – there is no passive crossover here – and cannot be swapped out for amplifiers of the user's own choosing. The forward responses plotted here [with all eq. adjustments defeated, see Graph 1 below] are only arbitrarily referenced to 90dB SPL/1kHz but show a strong upper bass and gently declining mid/presence. The 4.5dB kick upwards between 12kHz-18kHz is largely responsible for the ± 2.5 dB and ± 2.3 dB response errors, but pair matching is a tight 0.9dB from 800Hz-16kHz. The sharp breakup of the Uni-Q dome – just inside the 96kHz sampling bandwidth – at 44.8kHz (+4dB more vigorous in one speaker, and ~14dB higher than the mean midband level) is revealed here in addition to some mild response ripples between 500Hz-1.5kHz. Both are visible in the CSD waterfall [see Graph 2], revealing the associated resonances, but the band from 2-20kHz is evidently very clean indeed, courtesy of MAT.

The venting up via the plinth and out from the rear of the connection panel is for cooling purposes only, not for bass loading or tuning. In fact the two pairs of 135mm 'Uni-Core Force Cancelling' woofers work into a sealed enclosure, offering a 30Hz-380Hz bandwidth (-6dB) and a combined, diffraction-corrected bass extension of 34Hz. This is better (lower) than might be achieved from a purely passive loudspeaker of similar complement and dimensions, but that's just one advantage of KEF's actively-driven, DSP-governed bass tuning. Through-speaker latency is ~15msec while harmonic distortion is a reasonably uniform 0.3-0.5% (100Hz-10kHz re. 96dB SPL) – another benefit of this sophisticated digital/active configuration. PM



ABOVE: Response including nearfield summed drivers [green shaded area], freefield corrected to 1m [yellow], ultrasonic [pink]. Left, black; right, red



ABOVE: Dome resonance at 45kHz and woofer modes up to 2kHz but the MAT absorber 'cleans up' above

LEFT: To cool the electronics, air is drawn up around the plinth and exits behind the connection panel. The latter hosts Toslink/coaxial digital inputs, HDMI eARC, wired and wireless Ethernet (also for connection between the speakers) and analogue/line-level ins on RCAs

piece. The sense of depth, especially when the French Horns resound, could almost have convinced me I was present in the Philharmoniker concert hall, where the recording was made – if I wasn't watching it on the screen in front of me. I guess that's one of the shortfalls of live concert films...

LIGHT TOUCH, DEEP BASS

More refined, low-key songs from The Killers' *Pressure Machine*, such as 'West Hills' and 'Runaway Horses', featuring singer/songwriter Phoebe Bridgers, display another side to the LS60 Wireless. Although the speakers tend towards the neutral KEF 'sound', eschewing any treble lift that will cause your ears to prick, they do present music in a naturalistic fashion and with a light touch, which means you get the feeling that what you're listening to is close to what the artist intended.

With, for example, KEF's passive LS50 Meta [HFN Jun '21], this is one of the key reasons why it's important to match the speakers with complementary electronics. Of course, there's no such worry with the LS60 Wireless and its built-in and entirely complementary electronics. And the success of this holistic approach is revealed in the speakers' mix of subtle detail and deep, tight, glorious bass. ⚡

HI-FI NEWS VERDICT

It's hard to fault the LS60 Wireless, outside of its absence of any room correction platform. KEF's slim speaker really does perform like a compact version of the Blade(s), without the hassle of hunting for matching sources or amplification. The modern looks and integrated approach might put off traditional hi-fi buffs, but the LS60 Wireless is true high fidelity for people who just want to enjoy their music.

Sound Quality: 86%



music-minded diet can benefit from Blu-ray – John Williams' *The Berlin Concert* [Deutsche Grammophon 000289486 17 135] lets you enjoy the audience reaction – missing on the other media versions – when 'The Imperial March' from *Star Wars: The Empire Strikes Back* starts up.

And boy, does it get going. KEF's active pairing demonstrates its acumen here, both in the threatening opening parts and the slow build-up in the middle of the