

# Falcon Acoustics LS3/5a

An audio fantasy realised: the return of a bona fide, BBC-approved LS3/5a to match the original – Falcon Acoustics applies provenance and purism to the project  
 Review: **Ken Kessler** Lab: **Keith Howard**

**H**anding me a pair of 'new' LS3/5as always elicits mixed feelings. Part of me wants the speaker back in production so badly that I tend to go soft on the latest contender. My dark side says it's impossible without KEF drivers, but that was to overlook Falcon Acoustics' pedigree. This brand offers kits and drivers plus the reincarnated LS3/5a we have here, selling for £2350-£2500 per pair depending on finish. It also has a secret weapon in its gene pool: Malcolm Jones.

We know the LS3/5a became extinct around the turn of the century, when KEF ceased making the B110 mid/bass unit and T27 tweeter that BBC-licensed manufacturers were obliged to use [see boxout, p69]. 'Facsimile' versions emerged to quench the thirst, using other drivers optimistically 'voiced' as best as possible to sound like the genuine article.

## SINCERE FLATTERY

Many came close, while other small two-ways with near-identical dimensions (*not* dubbed 'LS3/5a') attempted to recreate the LS3/5a sound while attending to its two worst limitations: maximum SPLs and bass extension. That said, they were different, with their own charms, but were no more like period LS3/5as than the current Fiat 500 is like its ancestor.

Unlike the rest of the post-2000 wannabees, the Falcon Acoustics model

bears what are effectively 'reborn' drive units, because the company's lineage boasts a direct line to the original speaker. Here's where Falcon rewrites LS3/5a history, and as a result, surpasses other attempts at reviving this much-loved speaker.

Its founder, Malcolm Jones, started Falcon Acoustics Ltd in 1972, while still at KEF. He departed KEF in 1974, having just completed work on the milestone Reference Series 104, among other projects, to work full time at Falcon, serving as MD until 2009. His successor and current MD is Jerry Bloomfield.

Malcolm remains the single most important survivor of KEF's birth period because he was its first employee, having been hired by founder Raymond Cooke in 1961. In his capacity as Senior Development Engineer, Malcolm did most of the design and development of the B139, B200, B110, T15 and T27 drive units, and the systems that used them. As LS3/5a lovers know, the B110 and T27 formed the core of the speaker.

Having had my hands on over 50 pairs of assorted LS3/5as and would-be models, I must admit to a frisson of temporal displacement when I opened the box. Had it not been for the badge, I could have been whisked back to circa 1980, but with two exceptions and a third caveat: the sleek multi-way terminals and its superior standard of finish.

As for the caveat, Falcon has effectively eliminated comparison with LS3/5as made after the change to the spec in the late '80s. At the end of that decade,

**'Bam! – and Macca's bass issued with real impact'**

to improve consistency, the speaker's crossover and woofer were changed, the impedance dropped from 15 to 11ohm,

and bi-wiring capability added. Falcon has returned to the 15ohm, single-wire form of the original here – something which every LS3/5a purist will applaud [see KH's Lab Report, p71].

**RIGHT:** The Baltic Birch ply cabinet hosts a Falcon Acoustics branded 138mm B110 mid/bass driver and 19mm T27 soft-dome tweeter with a BBC specification FL6/23 crossover network

Arriving in a fine cherry finish, the review pair adheres to all of the original LS3/5a criteria. The grille is Tygan mesh while the drive units are the Falcon-made B110 and T27. As Malcolm developed them in the first place, as specified in the original 15ohm LS3/5a version designed by the BBC, I defy *anyone* to challenge their absolute legitimacy.

As watchmakers would say, these are true 'manufacture' speakers, meaning that the essential elements are made in-house. Both drive units are truly identical to the original LS3/5a drivers and the crossover matches the 15ohm BBC-specification

FL6/23 filter, with the preferred transformer-style network.

Measuring the familiar 305x190x165mm (hwd) and weighing 5.35kgs each, the Falcon LS3/5as feature cabinets made of selected grade Baltic Birch ply with beech battens, internally damped, and offered in cherry or walnut as standard, with rosewood, burr walnut and yew as luxury options. These, too, are British-made to the BBC specification.

Falcon Acoustics' BBC-licensed LS3/5as are sold in matched pairs, and are supplied with an instruction manual, an individually-numbered Certificate of Authenticity and five-year guarantee. I hope the latter will be rarely needed, for LS3/5as, despite limited power handling and the existence of irresponsible head-bangers, are hard to blow up... though it's not impossible.

**BLAST FROM... THE PRESENT**  
 Who knew what to expect? With both legacy 15ohm Rogers and 11ohm Spondors against which to compare these, I was immediately disoriented by a particularly uncanny, immediate sensation.

## LICENSED TO THRILL

As with any government commission, tenders are offered to various suppliers to ensure good value for the taxpayer's purse. Multiple sources are preferred not just for fairness, but also because they ensure supplies should a manufacturer fail. For BBC requirements, dealing with the audio industry, such a contingency is obviously wise! Over the years, 11 brands were licensed to supply LS3/5as, limited to three at any given time. Predominantly, they included Rogers and Spondor, with Chartwell, Audiomaster and others also licensed. The speaker was devised to suit the BBC's need for a portable, nearfield monitor, and all suppliers were charged with delivering the small two-way system tested against a reference pair. Allowing for minor component variations over the life of the LS3/5a, the specification called for the KEF B110 mid/bass driver with doped Bextrene cone and a neoprene surround. Treble was covered by the KEF T27, a 19mm Mylar dome tweeter with a perforated protective grille. The enclosure had an internal volume of approximately 5 litres and was made from 12mm birch plywood, strengthened with beech braces, and heavily damped.

It was something I'd only ever experienced once before in my entire half-century as an audiophile, when I heard a pair of expertly-modified Quad ESLs (now there's another classic begging for rebirth) which delivered far more bass and far more level than any stock pair could withstand.

As with that venerable but equally bass- and level-limited, disarmingly-fragile speaker, the trick for Falcon was to achieve the same results with the LS3/5a, while preserving the original's virtues. It had to accomplish this with no changes whatsoever to tonal balance, timbre or voicing. Enhancements were never a specified goal, and at no point did I ever hear Malcolm or Jerry claim that this back-from-the-dead speaker would go louder or deeper – only that it would replicate precisely those original LS3/5as.

Without sight of KH's measurements, I realise that I am opening myself up for accusations of senility, but I swear on my Garrott Decca that these go louder and deeper than the originals, without any change in character.

There, I've said it, though this might follow me to the grave. I can try to put it down to the newness of the components compared to my aged Rogers and Spondors. One might cite possible improvements in the quality of the crossover components (particularly the inductors), the fresh magnets or the benefits of Jones' decades of experience. And surely it is feasible that the Falcon Acoustics T27 and B110 are better than those made by KEF back in the day? If not, then I have let wishful thinking colour my assessment of a speaker I have dreamed about for many a year.

It started with The Beatles' *Sgt Pepper's Lonely Hearts Club Band* [Capitol L2653; 7½ips ¼-track open-reel tape] played on an Otari MX5050. It took a while to readjust to listening to mini-monitors, because my regular system includes Wilson Yvette floorstanders [HFN Feb '17] capable of low frequencies no LS3/5a could ever hope to match. But – bam! – McCartney's bass on 'With A Little Help From My Friends' issued from the LS3/5a with enough impact to belie the 70Hz factory rating.

## PINT-SIZED PERFECTION

Was the circa-125Hz 'bump' still fooling me into thinking this tiny box could deliver mass? I was feeding it lots of KT150-derived watts from my Audio Research REF75SE power amp and yet there was no clipping of the woofer, nor was there a dearth of level. The only time I heard the same from its elder relatives was having them stacked, on a Rogers AB1 subwoofer.

But that is not why one buys LS3/5as. They are purchased by those who want two things above all others when space is limited: peerless reproduction of vocals and the kind of imaging that makes speakers seem to disappear. These are the *raisons* ➞



## LOUDSPEAKER



d'être of the speaker – not for the BBC, but for consumers who fell in love with them 40 years ago. These remain the speaker's dominant virtues, regardless of my possibly-delusional belief that they go louder and deeper than the originals.

Disc after disc surprised me, with the ultra-funky, supremely rhythmic, eponymous debut from Little Feat [Mobile Fidelity MFSL 1-299, Limited Edition 180g LP] delivering more shocks than I recalled. But it wasn't the more raucous material that impressed, for I was bowled over instead by the early, less-familiar version of the band's lean, plaintive classic, 'Willin'. The acoustic guitar opening the track, swiftly joined here by Ry Cooder's sublime bottleneck action, each flanking the vocals, was heavenly.

### IN THE AIR TONIGHT

Atmospheric? You bet. This elegy of a truck driver, standing right there, every nuance heard with utter clarity, drawing you in with its transparency, its patent lack of artifice. While still savouring it, my Koetsu Black Urushi moving-coil then slid into 'Hamburger Midnight' and these LS3/5as declared, 'Yeah, we can handle percussion, too.'

**LEFT:** Couldn't be simpler – the sealed 5-litre cabinet fitted with single sets of 4mm speaker cable binding posts. Every speaker is individually serial-numbered

*Bringing It All Back Home* [Mobile Fidelity MFSL 2-380 45rpm LP] was next, folkie Dylan from over a half-century ago, visceral, palpable. Twanging, jangling, just one acoustic guitar, one electric, and then the wheeze of the harmonica. What was most surprising was the way this little speaker maintained at least 80% of the dimensional scale delivered by the much larger Yvettes.

### NOTORIOUS

*Poco's Head Over Heels* [Geffen Records Japan;

UICY-78823 SHM-CD] opens with the staggering *a cappella* 'Keep On Tryin'', a song notorious for sibilance. The SHM-CD is the least aggravating version I've ever heard, and Falcon's LS3/5a spread it across the room, with no ssss-ing to ruin the moment.

It was luscious on every level. It had no right to be so, from a box this small. Paraphrasing what I said years ago, before PC prevented such analogies, and sanitising it for 2018, I still maintain that listening to an LS3/5a is like having a petite lover when Amazons are the norm.

### HI-FI NEWS VERDICT

With well-worn LS3/5as costing £500-£1200 and cult variants fetching £5k+, Falcon's fee for a brand new pair – better-built than the originals! – is arguably a bargain. Put into context, at today's price norms, you once again have the privilege of being able to buy virgin pairs of the best-sounding mini-monitor ever made. My faith in the LS3/5a is vindicated, and my 40-year love affair remains undimmed.

Sound Quality: 88%

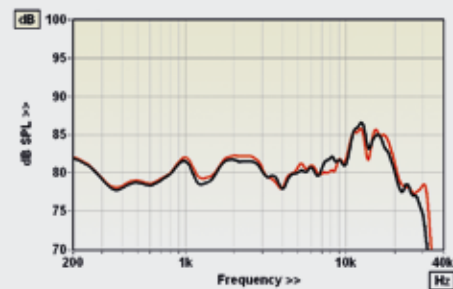


## LAB REPORT

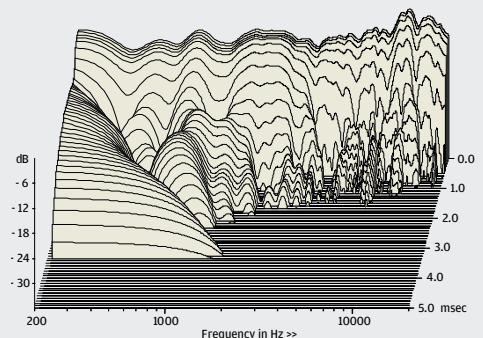
### FALCON ACOUSTICS LS3/5A

Given its compact dimensions and 15ohm nominal impedance, you'd expect Falcon Acoustics' LS3/5a to be insensitive and it is. The specification is 83dB, which accords well with our simple FFT average of 82.8dB but not with the more representative pink noise and 'music' figures of 81.2dB and 80.8dB which indicate that 81dB is a more realistic figure. This would nonetheless be impressive for a 15ohm speaker of this size – but the LS3/5A is not a genuine 15ohm design. Its minimum modulus of 7.3ohm indicates an 8ohm nominal figure and large impedance phase angles drop the minimum EPDR (equivalent peak dissipation resistance) down to 3.6ohm at 120Hz. This adds up to a speaker that is still easy to drive compared to most modern designs, just not quite as easy as the 15ohm specification might suggest.

Forward frequency responses [Graph 1, below] were measured at 1m on the tweeter axis, with the grilles in place because the front baffle has a lip around the edge that's exposed with the grille removed. The overall trend is flat to around 10kHz, above which output is raised by about 4dB. This increases the response errors to  $\pm 4.4$ dB and  $\pm 3.9$ dB, respectively, and pair matching over the same 200Hz–20kHz frequency range is disappointing at  $\pm 1.7$ dB, although up to 7kHz it's much tighter at  $\pm 0.8$ dB. The apparent rise in output at low frequency is not an anomaly: diffraction-corrected nearfield measurement showed the output to climb below 400Hz to a peak of about 5dB at 140Hz. Below this it falls away at 12dB per octave, as expected of a closed-box design, to reveal a high 70Hz bass extension ( $-6$ dB re. 200Hz). The CSD waterfall [Graph 2] shows a number of treble resonances, but most of them at low level. KH



ABOVE: Response is generally flat up to 10kHz but shows a boost in high treble and mid-bass frequencies



ABOVE: Small cabinet is almost necessarily well-damped while driver modes are negligible in impact

### HI-FI NEWS SPECIFICATIONS

Sensitivity (SPL/1m/2.83Vrms – Mean/IEC/Music)	82.8dB/81.2dB/80.8dB
Impedance modulus min/max (20Hz–20kHz)	7.3ohm @ 167Hz 105ohm @ 75Hz
Impedance phase min/max (20Hz–20kHz)	$-64^\circ$ @ 88Hz $60^\circ$ @ 61Hz
Pair matching/Response Error (200Hz–20kHz)	$\pm 1.7$ dB / $\pm 4.4$ dB/ $\pm 3.9$ dB
LF/HF extension ( $-6$ dB ref 200Hz/10kHz)	70Hz / 27.3kHz/30.6kHz
THD 100Hz/1kHz/10kHz (for 90dB SPL/1m)	6.6% / 1.4% / 0.3%
Dimensions (HWD) / Weight (Each)	305x190x165mm/5.4kg