Spendor BC III loudspeaker

Can these 'big and bluff-looking boxes' deliver the magical midrange and sweet highs now synonymous with the Spendor sound? We evaluate a heavyweight classic

Review: **Steve Harris** Lab: **Keith Howard**

High up on the list of anyone's all-time great hi-fi components is the Spendor BC I, which with our rather rose-tinted hindsight seems to epitomise an era when the BBC was the great source of loudspeaker wisdom. Later came the little LS3/5A, which was the BBC's own design, contracted out to licensee builders. But the BC I of 1969 was the creation of a remarkable engineer who'd came up with his own loudspeaker while working at the BBC, and then, in the most gentlemanly fashion possible, commercialised it. Spencer Hughes went on to sell many pairs of his Spendor speakers to the BBC, while simultaneously paying the BBC a royalty in recognition of the work he'd done on the design while still employed there.

Much rarer as well as much bigger is the BC III (later written BC3), launched in 1973. Spendor's ads described it as 'An extension and refinement of the BC I and BC II', while even the staid, classically-biased Thomas Heinitz, the doyen of hi-fi dealer/consultants in those days, could not resist using the headline 'Hey, big Spendor'.

Like the BC I, the III is rooted in Spencer Hughes' work at the the corporation. In the mid-1960s, Hughes was part of what now seems a legendary BBC research team, working under both D E L Shorter and H D Harwood. When a decision was taken to investigate the possibilities of plastic speaker cones, Hughes did most of the actual laboratory investigation and the development work on the BBC LS5/5 monitor, the first BBC design to use a Bextrene plastic cone.

'With that experience,' Spencer Hughes wrote later, 'I decided that it should be possible to make a loudspeaker from scratch in the home environment. With the aid of our electric fire, a compressor working in reverse and an old iron bedstead, the first vacuum former was built. Bins full of malformed cones were produced before any measure of success was achieved and the first 8in unit was produced.'

> 'Pepper's sax, by itself on the left, had real presence, attack and force'

PRO DESIGN FIRST

Initially, Hughes used just his 8in Bextrene main unit and a Celestion HF1300 tweeter. When the Coles/STC 4001G supertweeter was added, the BC I became at least nominally a three-way rather than a two-way speaker. This meant that it was deemed a professional rather than a consumer product, and so was exempt from purchase tax. Hughes would admit that the addition was made 'for purchase tax reasons', but also said that it improved the overall dispersion characteristics and, in TV broadcast monitoring, made it easier to detect any 625 line breakthrough in the audio.

LEFT: Spendor's BC III on its trolley stand flanked by the BC I (also on a dedicated trolley) and the BC II, with an original SA1 bookshelf speaker in front

In its original form, the 8in bass/mid driver was responsible for the fabled midrange quality of the speaker, but unfortunately the milky-white surround material turned out to be unstable and had to be changed. Also, to meet the need for a speaker that could handle a bit more power, Spendor introduced a version of the bass/mid unit that had a bigger voice-coil, of 40mm diameter instead of 25mm. This gave the otherwise identical BC II a cleaner, more articulate low end, even though audiophiles tended to go for the BC I due to its more fluid-sounding midrange.

In 1973, Spendor launched the BC III. While the 8in driver, with 40mm voice-coil, now worked in its own sealed chamber as a midrange unit, the 12in bass unit was reflex-loaded by a carefully designed port. The crossover point was 700Hz. The 12in unit was mounted on the back of the baffle, and the cutout given straight sides to provide a degree of slot loading, controlling the dispersion and hence improving the integration with the midrange.

CELESTION UP TOP

This was an idea that had been used when the BBC team first sought to build more powerful speakers by using a 12in unit crossing over directly to a tweeter. The BBC LS5/5 had used the slot-loading technique in a more extreme form.

For the upper registers, the BC III still used the Celestion HF1300 as the main high-frequency unit, with a Celestion HF2000 replacing the Coles super-tweeter found on the BC I.

Massive by the standards of the day, the BC III measured 800x394x384mm (hwd) and weighed 34kg. Trolley stands brought the speakers up to their optimum height while allowing them to be moved around easily, and a locking XLR connector was used instead of the usual 'domestic' 4mm sockets.

Philip Swift, who has headed Spendor ever since he bought the company in 2001, actually owned the very first pair of BC IIIs. He'd first met Spencer Hughes even before the BC I became a commercial product, and spent many hours talking to him about his speaker designs.

In the early 1970s, Swift shared a flat with two fellow Imperial College graduates, Derek Scotland, with whom he would later go on to found Audiolab, and the late Nigel Rowell. All three were then involved with the original Audio T shop in Oxford Street, but at the flat, he says: 'We had a beautiful big room with a bay window, lovely acoustics, velvet curtains – and a pair of Spendor BC IIIs.'

ABOVE: Shot of the rear of the BC III baffle showing drivers and board-mounted crossover

One of Spendor's great strengths was stereo imaging, and, as Philip Swift points out, this was something that the BBC had a real requirement for.

'These were the early days of FM stereo broadcasting, and the early days of colour TV which eventually became stereo. And it's quite an inappropriate assumption that so many people make, that a narrow baffle gives you a better stereo image.

'It's true that a point source would be ideal. But a narrow loudspeaker is nowhere near a point source. And a wide speaker, as near as you can get to being an infinite baffle, ensures that the drive units don't "see" the edges of the baffle and that can have a significant advantage for the imaging of the loudspeaker.

'As soon as you narrow it down, you have to take account of the edge effects, and many loudspeaker designers don't do that. And that superficially sharpened stereo image is actually brought about by phase inconsistencies created between the main output from the driver and the diffraction effects of the cabinet. But you are no longer listening to a sound ⇨

LEFT: Spendor's fabric grille cloth is stretched onto a wooden frame and located in place via screwheads protruding from the baffle of this early BC III (provided by Pete Thomas of PMC)

where the performers, the voices and the instruments are just seamlessly hanging in space as ideally they should be.

'And the Spendor loudspeaker took account of all of these things. Even the shapes of the cutouts in the baffle were designed to minimise interactions.

'All of that research at the BBC really set the scene for understanding how a loudspeaker works.'

STEVE LISTENS

It was almost with trepidation that I set up the BC IIIs on their rolling stands. Would these big and bluff-looking boxes really have the old Spendor magic I remembered from the BC Is? What would the bass be like, from that big reflex cabinet? Well, I needn't have worried.

I put on *Art Pepper Meets The Rhythm Section* [Contemporary 0025218633826 from 1988]. Pepper's sax, by itself on the left, had real presence with attack and force, while Red Garland's piano seemed strongly characterised and well located in space. Similarly I was able to get a strong sense of Philly Joe's drums existing as a whole kit.

There was a feeling of real body and purpose to the snare and tom-tom sounds. You wouldn't say the cymbals had an obvious zing or sting but the brushed cymbal had a fine delicacy. The bass did not seem very weighty or deep but had a natural and effortless quality, Chambers' bowed bass solo on 'Red Pepper Blues' sounding convincingly buzzy and tactile.

RIGHT: Grille removed shows (top to bottom) Celestion Type HF 2000 and Type HF 1300 HF units above 8in Spendor midrange and 12in Spendor bass drivers with their plastic cones

Meanwhile, Rebecca Pigeon's *The Raven* [Chesky SACD 329] came over with a beautifully relaxed presentation. It seemed easy for the ear to seize on the details that help make these tracks memorable, like the insistent tom-tom in 'The Witch,' the 'air' round the voice in 'The Raven,' or the crunchy piano sound and deeply-nested strings in the rideout on 'Grandmother'.

You might think it's a waste to have two great stereo speakers and then listen in mono, but it can be instructive. I put on 'I'm Glad There Is You' from *Sarah Vaughan With Clifford Brown* [Emarcy 814 641-2] from 1954 and sat transfixed as the Spendors brought out the singer's wonderful sound, range, power and control. Sarah singing 'Jim' with a trumpet solo by Clifford Brown is about as good as it gets.

> 'Adele's power and projection was as gripping as ever'

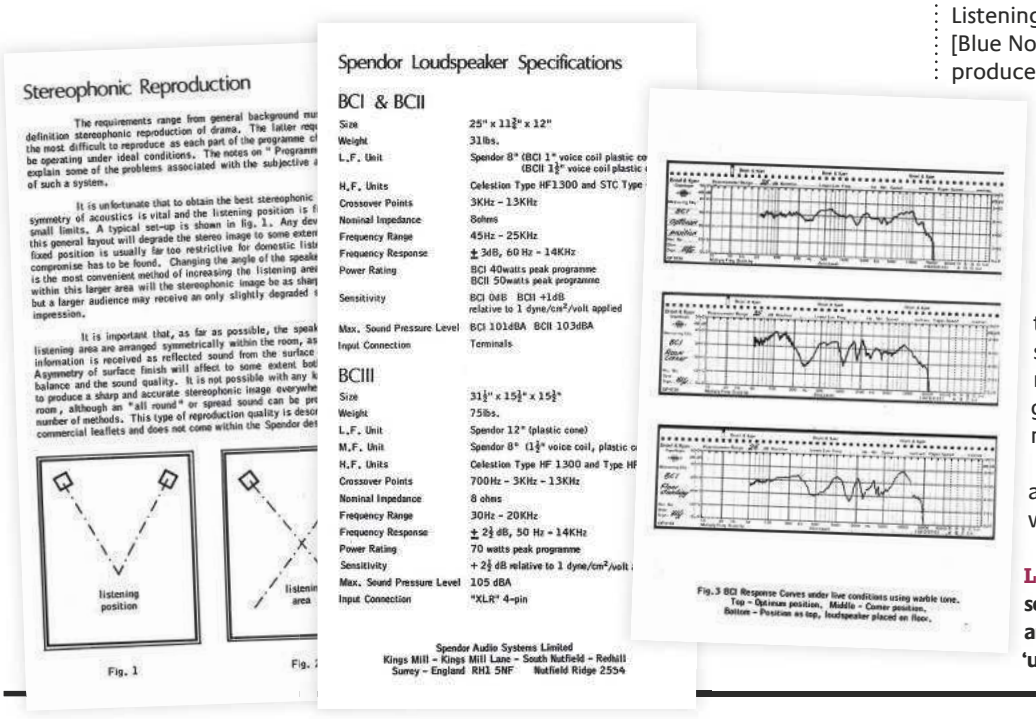
Mono recordings can have front-to-back depth, and this one certainly did. There was no need to ponder the old issue of how wide a mono image should appear, because the Spendors looked after this automatically, with voices and instruments simply coming out the right size. They were also almost unexpectedly revealing in a monitoring sense. I found myself wondering how Mercury had allowed the fingering sounds that come through from Herbie Mann's flute, and some other strange noises.

After this I put on Karajan conducting the Philharmonia in Berlioz, starting with *Le Carnaval Romain* overture [EMI Karajan Edition, 7243 5 66598 2 7]. It seemed as if the Spendors were doing their best to give a pleasing balance and a convincing soundstage, but felt obliged to reveal, politely enough, that the sound was really a bit on the thin and scrawny side.

STABLE SOUND

Listening to Duke Ellington's *Money Jungle* [Blue Note CDP 7 46398 2], the BC III produced a fine, stable and listenable sound, Ellington's piano firmly centred and sounding slightly smoothed out rather than brittle and punchy. On the opening 'Very Special', Roach's drumming had a lively tactile quality, though Mingus's bass sometimes just seemed to be rumbling away on the left, the string noises seemingly separated from the sound of the note. Many modern speakers could give the troublesome instrument more definition and focus here.

When it came to the atmospheric 'Fleurette Africaine', where Mingus produces a fluttering ⇨



LEFT: Original owner's manual offers setup advice, details the BC III's specs, and sets out response curves measured 'under live conditions using warble tone'

RIGHT: Philip Swift, owner of Spendor for the past decade, seen here with a pair of modern-day Spendor D7s

effect running up and down the bass, the BC III seemed to do more or less everything right and the track became sumptuous and inviting.

Moving on to 1970s rock with Dylan's epochal *Blood On The Tracks* [Columbia 512350 6], it seemed that the big Spendors let you feel the impact of Dylan's lyrics thanks to a combination of real clarity and smoothness, and kept him right where he should be in front of urbanely-presented backing instruments. The speakers could reveal those tiny but pregnant pauses in his delivery, and made the swooping declamation of 'Idiot Wind' totally absorbing.

A LITTLE SWEETNESS

Finally, it was intriguing to listen to Adele on a pair of speakers built before she was born. Right from the start of 'Rolling In The Deep' [*21*, XLCD 520] the singer's power and projection was as gripping as ever, but with all of that big space and even a little sweetness in the production, while the sledgehammer beat of bass was fairly well padded. The real strings on 'Turning Tables' sounded a bit too synth-like, but ultimately the BC III could, as the song says, have had it all.

If the BC III didn't set the hi-fi world on fire the way the BC I had done, that must have been mainly just because it was big and expensive, at around £400 a pair in the mid-1970s, but also because it did not have quite such a beguiling midrange quality. It always had the reputation of being hard to drive, but perhaps that just illustrates the belief of PMC's Peter Thomas – who lent us his mint-condition BC IIIs for this review – that a lot of the reported failings of big '70s speakers were mainly due to the inadequacies of contemporary amplifiers.

As for serviceability, Philip Swift says, 'We get very few requests for BC III servicing but sometimes we can rebuild a bass driver, because interestingly enough it's not a million miles removed from the bass driver we're making today for the current SP100R2. It's still a 12in Bextrene cone unit.'

There are more than a few people scattered around the world now who still own BC IIIs and say they would never, never part with them. After listening, I can hear why.

ABOVE: Rear panel of our early BC III example, with its 3-pin XLR connector

HI-FI NEWS VERDICT

With bass that's beautifully even, if neither deep nor powerful by today's standards, the BC III can't quite dispel the old view that it's a classical rather than a rock speaker. Its subtly warm mid might not quite match the magic of an early BC I, yet it still sounds effortless and revealing, voices and instruments appearing believably in a natural and inviting soundstage. An enduringly well-balanced classic.

Sound Quality: 80%

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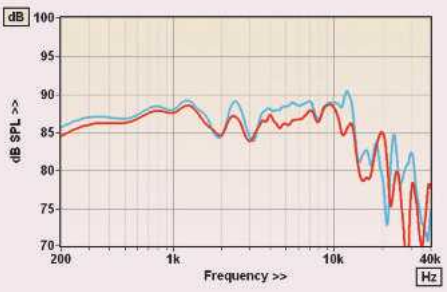
LAB REPORT

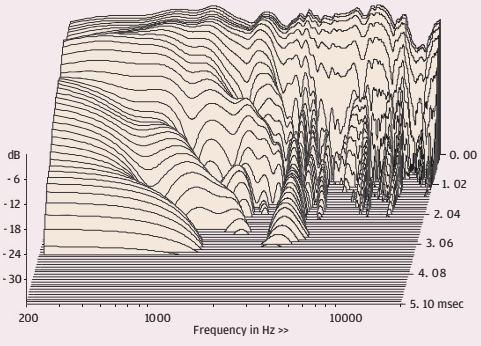
SPENDOR BC III *(Vintage)*

You know you are measuring a loudspeaker from a different era when its sensitivity is specified as +2.5dB reference 1dyne/cm² per volt. This is equivalent to 85.5dB re. 2.83V, on which basis Spendor was, as befits its reputation, being conservative given that I recorded a pink noise figure of 87.0dB from the immaculate review pair. Further surprise awaited when I checked the impedance. I recall the BC III having a reputation for being tough to drive but that was decades ago, before speaker makers took to giving amplifier designers sleepless nights on a routine basis. Its minimum modulus of 3.7ohm wasn't so surprising, and occurs at a high 20kHz where the energy in most music is significantly reduced. But a minimum EPDR (equivalent peak dissipation resistance) of 1.4ohm at the same frequency was an eye-opener, even though the dip to 1.8ohm at 996Hz is probably more relevant. Certainly the BC III will have made amplifiers of the time sit up and take notice.

The on-axis frequency response trend is flat until the 13kHz crossover to the supertweeter, where the output drops [Graph 1, below]. This increases the response errors, 300Hz to 20kHz, to a mediocre ±5.0dB and ±5.7dB respectively, but to 10kHz they are held to about ±2.5dB – remarkable for a speaker of this vintage. Pair matching error up to 20kHz is poor at ±5.5dB but again reduces below 10kHz to what, for the time, was a commendable ±1.6dB. Near-field bass measurements couldn't be made because the BC III grille is difficult to remove but the impedance versus frequency graph shows that the port resonance occurs at about 34Hz. The cumulative spectral decay waterfall [Graph 2] is pretty impressive too. **KH**



ABOVE: On-axis response is flat until crossover to the supertweeter at 13kHz, after which output drops



ABOVE: Cumulative spectral analysis shows a driver resonance at ~4kHz but the cabinet is well controlled

HI-FI NEWS SPECIFICATIONS

Sensitivity (SPL/1m/2.83Vrms – Mean/IEC/Music)	86.4dB/87.0dB/87.2dB
Impedance modulus min/max (20Hz–20kHz)	3.7ohm @ 20kHz 65ohm @ 20Hz
Impedance phase min/max (20Hz–20kHz)	–59° @ 802Hz 1° @ 44Hz
Pair matching (300Hz–20kHz)	±5.5dB
LF/HF extension (–6dB ref 200Hz/10kHz)	See text / 14.1kHz/14.5kHz
THD 100Hz/1kHz/10kHz (for 90dB SPL/1m)	0.5% / 0.4% / <0.1%
Dimensions (HWD)	801x394x384mm