

Sonus Faber Stradivari

Part 1: Sonus Faber's
homage to the greatest
violin maker is a true labour
of love. Our technical review
is by **Martin Colloms**



Sonus Faber Stradivari

PRICE £21,950/pair

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Sonus Faber's founder and chief engineer Franco Serblin has, in recent years, focused nearly all his energy into the design of the Stradivari, as befits a commitment to the company's top of the line and, theoretically, final and ultimate model in its Homage series. He aimed to compromise nothing so far as loudness, bandwidth or sensitivity are concerned. Likewise, low distortion plus a smooth frequency response and high power handling were promised.

There is more.

The musical heritage represented by Stradivari string instruments is unparalleled. You just have to wonder how well this new loudspeaker will sound when reproducing classical string orchestras!

Of broad and impressive frontal aspect, the speaker is similar in size to the big Quad or a Martin Logan CLS. However, you'd be unlikely to want to hide it away, what with that superb cabinet-grade, high-gloss finish to admire. The review pair came in a subtle Cremona 'red' though modern environments might do justice to the alternative, which has an elegant graphite tinted veneer. The piano black hardwood sides have a blended curvature reminiscent of a double bass, which is not dissimilar in size to the speaker.

Designed to tilt back by about 10°, the speaker is bolted to a thick steel floor-plate threaded for customised floor spikes that are taller at the front to provide the required tilt factor and which reset the centre of gravity for the speaker. The spikes have felt protected steel couplers for use on hardwood floors. Correctly tilted, the drivers fall into their proper alignments and spacing to the listener and the featured '2 pi' baffle is thus set fully square.

Once fully assembled this heavy speaker – it weighs 75kg – becomes highly stable. Connection is via heavy duty gold-plated WBT terminals in solid copper alloy. It is fully finished in a flawless lacquer on all surfaces.

Boasting a wide 25Hz to 35kHz bandwidth, the Stradivari claims a high 92dB/W/m sensitivity and a 300W power capacity. High sound levels should be possible and the speaker will be capable of driving larger rooms. The wide baffle suggests that the speaker will throw more sound a distance than narrower designs. The unusual grille, which may be left in place, is well spaced from the drivers. It comprises a vertical array of tensioned elastic threads and, in my view, is a key feature of the speaker's appearance. However, the Stradivari also looks fully finished with the grille detached, so take your pick.

So, we have a vertical array of four custom-built drivers. Twin 260mm-frame bass units by SEAS operate in parallel and are loaded by a rear-mounted double-flared high power port, 15cm long and 8.5cm in diameter, tuned to a low 27.5Hz. The bass drivers have new generation open-spoke diecast frames, with aluminium magnesium alloy cones. Edge reinforced and surface-layer damped, they operate as pure pistons in this design. A 50mm open pole, centre phase plugs, copper-plated poles and ironwork help to minimise eddy currents and together provide an exceptionally free-moving, long-throw excursion. The motor's dynamic behaviour has been optimised using the very latest analysis methods.

For the midrange Franco Serblin worked with Audio Technology of Denmark on a special 'C Quenze' driver built on a 150mm chassis, fitted with a highly powerful 50mm pole motor. This polymer cone has a shallow central dome, while its overall profile confers low time delay. When the speaker enclosure is aligned correctly relative to the listener, mid and treble drivers are closely phase aligned.

A special reinforcing/damping additive is used for the midrange. Instead of the usual chalk or mica fill, diatomaceous earth (DE) is employed. This is a highly porous high silica product made up of the fossils of micro organisms such as marine diatoms. This material has surprising properties that see it used as a food supplement and a natural insecticide. Used here it



Straight from the box this speaker sounds sweet and pure

Technology

Described as virtual 2-pi, the Stradivari's form seeks to approximate to that theoretical perfect plane where there can be no cabinet reflections and drive units can operate to their practical limit. While the enclosure size would have to approach practical infinity for this to be true in the bass, for shorter sound wavelengths of the more critical mid and treble this desirable condition has been closely approached.

The 'baffle' presented by the Stradivari gives the mid and treble drivers a fine acoustic platform from which to establish smooth primary outputs, the moderate curvature helping to launch near-plane wave fronts from the surface cleanly. The tonal quality may differ from narrower-fronted designs since the baffle element will tend to direct available acoustic power more to the front and there will be less upper range dispersed into the room acoustic. Perhaps the sound will be richer.

Control of cabinet edge reflections and unwanted diffraction effects due to size is an issue every speaker designer has to deal with and the typically effective approach narrows the enclosure with increasing frequency, that is, from the bass driver section to the treble. This may be seen in the tapered forms of the Wilson WATT and Avalon models. The sculpted forms of the B&W 800 series also aim for this.



A single set of binding posts means bi-wiring is not an option, but proprietary internal wiring of silver feeds all drivers

extends both bandwidth and improves sonic clarity while maintaining the desirable energy-termination characteristics of polypropylene co-polymer.

Designed for minimum acoustical resonance, this driver enjoys a very open frame construction. A hollow centre pole, skeletal suspension support and a resonance-isolated midrange chamber, mechanically decoupled from the enclosure proper, all help to minimise stored energy and aid transparency. This mid chamber has a damped reflex loading via a rear port.

Detailed development is also evident in Sonus Faber's version of the famed 33mm silk diaphragm ring-radiator tweeter, sourced from ScanSpeak. The central phase connector has been optimised in conjunction with a new diffraction-controlled double toroid profile for the faceplate. Rearwards-directed energy is controlled by a chamber that is shaped as a double cardioid, carved from a wood block to inhibit self-resonance and provide the lowest possible coloration signature from this well-regarded tweeter.

The crossover is potted in inert resin to avoid stray vibrations affecting the performance: here Franco Serblin has put his particular experience in metallurgy to work, developing a unique low-resistance ribbon-type cable for all internal wiring. He has used a proprietary silver-based alloy, Teflon insulated, formed as a twisted pair. Amplifier connections cater only for single rather than bi or tri-wiring.

The amazing enclosure is a multiple component construction, being a combination of almost inert solid hardwood sides and layered, circumferentially braced MDF shells, bonded with interfaces, that are designed



Distinctive grilles and a cabinet finished in a high gloss make the Stradivari an eye-catching design

You just have to wonder how well this loudspeaker will sound when reproducing classical strings!

to strengthen the assembly and dissipate coloration, including stored energy. Sonus Faber has long used curved enclosure forms and these, in general, do have a more natural, lower coloration aural signature.

SOUND QUALITY

Straight from the box this speaker shows quality, sounding sweet and pure. Once the cabinets are aligned correctly the axial sound is found to be very well-balanced, extremely smooth, articulate, open, detailed and finely resolved. Cellos have proper scale – this instrument is often emasculated to the apparent size of a viola through other speakers – and the human voice is also accurately proportioned.

It is appropriate that the design should sound exceptional with orchestral strings. String bands positively hum with verve and energy, their different

sizes and characters expressed in a manner that's both revealing and satisfying. This is a class act, and once accomplished it seems that reproducing the rest of the orchestra is a breeze. There is a kind of inner glow, a reverberant richness to live music that this speaker conveys more than most.

The speaker also has very natural expression: soft to hard, subtle to forceful, whisper quiet to a roar – all are well-judged and are determined by the source material. It does not sound loud, it does not need to be played loud, yet you can play it virtually as loud as you like.

This certainly contrasts with some recent statement loudspeakers, which seem to require hard driving before the music really comes to life. These may be balanced at high sound levels while here it is clear that despite the excellent available dynamic range, the Stradivari is correctly balanced at wholly natural sound levels, which of course is particularly important when it comes to acoustic music.

Meanwhile, bass goes deep, is very tuneful, and has a free quality that is both attractive and convincing, particularly on bass percussion. While not quite as rhythmic as an Avalon Eidolon, for example, the wider bandwidth and greater dynamic range of the Stradivari helps balance the score. Compared with, say, a Wilson System 7, micro dynamics are a tad muted, but the overall transparency and micro resolution of the Sonus Faber works in its favour.

As for stereo imaging, this is a little different to that conveyed by the Stradivari's narrow-front rivals. On first hearing it is neither as sharp nor as closely defined, but this impression is soon dissipated as the ear adjusts. You hear big soundstages with natural height, excellent depth and perspective and good localisation. The result is a presentation more akin to that one would experience in a concert hall.

The Stradivari also conveys much of the natural presence and air in a recording – a classical BBC monitor quality also found in the Quad ESL models – combined with a level of articulation and inner balance that helps it dig deep into source material. Genuinely transparent, it provides a rewarding richness of detail at both low and high sound levels

The system

Sources used were the Linn LP12 Armageddon/Naim ARO/Audio Note AN 10 II for vinyl, and for CD the Naim CDS3, Marantz CD-7 and Krell KP525sc. Pre-amplifiers included the Conrad-Johnson ART, XTC Pre II and Audio Synthesis Passion passive controller. Power amplifiers used included the Krell FPB 700cx, Naim 250 (original series) and Oreille P100 Evo. Cables were by Transparent (XL series) and Cardas (Golden Cross), and equipment supports were Finite Elemente Pagode. Loud speakers used for comparison included the Avalon Eidolon, Quad ESL63, Wilson Audio System 7 and the BBC LS3/5A (15 ohm model).

without any sense of false perspective or imbalance. The breadth, weight and power of classical orchestras is remarkably well described.

Colorations are wholly minor. Depending on the room acoustic, the presentation can be slightly bright, yet the treble is undoubtedly excellent with a finely-judged sense of openness and air and no grain or roughness present. Enclosure and driver colorations compare with the best in this class. No reproduced sound need be singled out, so uniform is the quality on offer, but in particular both voice and brass instruments are handled equally well.

CONCLUSION

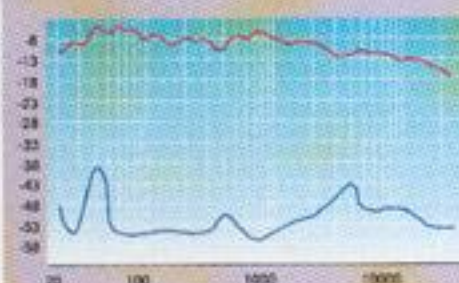
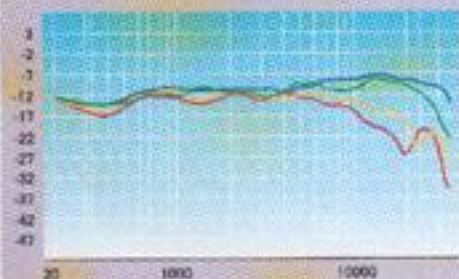
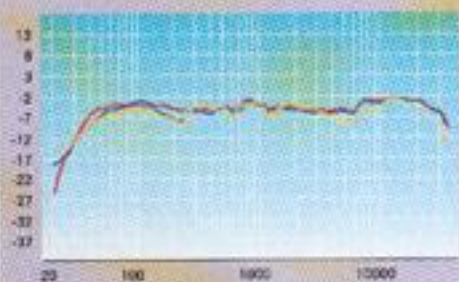
All the effort has paid off. The Stradivari is one of the world's great loudspeakers. Providing the adverse rating for amplifier load factor is dealt with by good and careful system matching then the very high musical potential of this elegant sounding, highly sophisticated design will be realised.

With extended, free and fluid bass complemented by a linear, smooth and naturally balanced midrange, the output continues to a sparkling, delicate, airy and

extended treble. Resolution and transparency are consistently very high over the whole range. The speaker also conveys a sense of scale and natural dynamic range that is rare in the business. While it is decently fast and well timed for rock it is with classical material that it excels. Indeed, I have rarely heard such a convincing representation of a full orchestra – an inspiring achievement. Here the Stradivari transcends the machinery of audio and manages to convey the soul of performances. In this respect the arduous test that Franco Serblin set for himself has been passed successfully. String orchestras really do sound as if they are almost live.

This thoroughly capable loudspeaker system does all that you could wish for at the price and yet expresses some special extra quality that you might well imagine to stem directly from that unique Italian musical instrument making tradition that was Stradivari. It looks the money too. The Sonus Faber Stradivari speaker is warmly welcomed to the world audio market and comes with a wholehearted recommendation. ■

LAB REPORT



The lab measurements revealed a superbly uniform mid-treble, devoid of usual cabinet edge diffraction anomalies. The aurally dominant central region, at least 400Hz to 4kHz, met unprecedentedly narrow ± 0.75 dB amplitude limits, within the stated tolerance for a precision microphone!

The low-frequency range was flat to at least 40Hz extending to 30Hz, -6dB, under pseudo-anechoic measurement and to a seriously low 25Hz under normal room loading. The treble response is weighted by design to have a slight rise on axis at higher frequencies to balance the natural off-axis fall in energy from all drivers of this size [Fig 1]. Extended, really smooth treble is available from this customised driver, at least to 40kHz, -6dB by my measurement.

The claim for high sensitivity is fully met. I recorded 92.5dB for an 8 ohm watt although impedance is below what I regard as ideal. The amp loading falls to 2.5 ohms at 720Hz, placing heavy demands on the speaker cable and power amp, especially when the speaker is played at volume. A power amp greater than 50W/8 ohms is essential, ideally with a 4 ohm capability.

The high sensitivity helps offset the adverse amplifier loading though I would have preferred 85dB/W, true 6-8 ohm spec,

more tolerant of a wider spectrum of amplifiers.

Occasional current clipping in tube amplifiers often passes unnoticed so their use should not be ruled out. With the right amp sound levels of 113dB are possible and few wide-band speakers play as loud as this! With the carefully blended crossover signals and low-diffraction baffle, off-axis frequency responses were excellent. Output decays smoothly laterally and very good control is shown vertically over a $\pm 15^\circ$ window, perfectly balanced in phase and delay [Fig 2].

Fig 3 shows the spatial response in the listening area for a 64-spectrum coverage. Great smoothness and uniformity is shown, with an extended low-frequency range.

No significant upper resonances were seen for either port. The crossover points were essentially 400Hz and 3kHz and low distortion was found over the frequency range. There is nothing to limit the power handling apart from thermal considerations and common sense.

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Part 2: long-time Sonus Faber devotee
Ken Kessler lives with the Stradivari

Watching a kettle boil, waiting for a cheque to arrive, counting the minutes until *The Return Of The King* appears on the screen at the local Odeon – not truly comparable with the 10-year-long vigil for the Stradivari Homage, but you get the drift. Yet our impatience can't even begin to mirror the anxiety of Franco Serblin, capo of Sonus Faber and the designer responsible for the three models in the Homage series.

It was 10 years ago that the Guarneri revolutionised the shape and sound of the compact high-end speaker. It remains in the catalogue to this day and is one of the best-selling high-end speakers of all time. Five years later, its floorstanding sister, the Amati, arrived. While a sublime speaker, too, it didn't rock the industry to its foundations as did the Guarneri. After all, it simply looked like a Guarneri that had been extended downwards – hardly a radical fashion statement. And the sound? Though categorically providing more bass and sounding truly wonderful, it didn't represent a Great Leap Forward either.

Fans knew, though, that Serblin was saving something special for the final model that he would offer in tribute to Cremona's greatest violin makers. What

speaker using violin-making techniques, like staves of solid wood and 'mystical' lacquers, 'conventional'. Yet Serblin was deliberate in his decision not to dabble with freakish technologies, materials or tweaks. Rather, he limited the 'newness' to the speaker's shape and to a quartet of drivers made to his specification, which included near-impossible standards of tuning and construction.

In all the years I've known Franco, I have never seen him so sapped, so drained – nor so relieved. My Italian is too poor to appreciate all that he said, but there's reason to believe that this is his final no-compromise design. He never said a word about retirement homes or sailing off into the sunset, but he did describe the Stradivari as, 'The ultimate statement of what Sonus Faber means. I have stayed faithful to the original concept, that this is my homage to the greats of Cremona.'

Of course, he could easily be like another famous Italian who'd threaten to retire and then stage an awe-inspiring comeback: Frank Sinatra. On the other hand, I can say after living with the Stradivari, that he has nothing left to prove because the Stradivari isn't simply

The second shock was hearing the best vocal reproduction I've ever savoured

we couldn't imagine is what would be the non-sequitur that would represent Serblin's life-work. A subwoofer system? Towers? Dipole arrays? This was, after all, the man who gave us the Snail and the Extrema, the man who re-wrote the book as far as speaker styling was concerned, who single-handedly proved that high-end speakers don't have to look like crap. And that means most of them.

How wrong we were. Instead, the Strad features drivers in a vertical array, two rear ports – Franco even dispensed with biwiring. On paper, the Stradivari was almost conventional... if you can call a

the best-looking speaker I've ever seen, bar none. It's one of the best performers I've ever heard, regardless of price.

Let's dispense with the looks in one paragraph. A friend's wife, who detests hi-fi more than any human being I've ever met in my 51 years on this planet, took one look and said, 'I could live with those. They're sexy.' Hearing that remark is tantamount to seeing Chrissie Hynde eating at McDonald's.

It's been years since I used a dynamic speaker that was more than twice as wide as it was deep, and that was the box-like Goodmans Eleganza of 1963. It was an



early attempt at making a large speaker shallow enough to wall- or shelf-mount, while retaining enough enclosure volume to allow it to load a massive woofer.

For Sonus Faber, compactness was not a motivation. As the technical papers that accompany the speaker attest, Serblin was more interested in exploring the concept of a baffle as an infinite plane. In doing so, Serblin has produced a shape at 53.5in tall and 26in wide but only 12in deep that's more in keeping with a Quad 989 – a true electrostatic non-hybrid panel – than a box containing dynamic drivers. What's so eerie is that the Stradivari sounds like a dipole panel, too.

Only with bass.

Now please note that although my comments are likely to be appended to Martin Collom's review as a glorified footnote, we have not 'collaborated' on this review and I've no idea if Martin will agree with what I am about to write or not.

When you see a specification of 4 ohms and 92dB/1W/1m, you have every right to expect a speaker that will be easy to drive. However... if that specification describes a huge floorstander rather than a cheapo two-way or a horn-loaded system, the odds are that it's wishful thinking hiding something nasty that will eat your amplifier, like a vicious impedance dip at a key frequency. Not so the Stradivari. Although I used it for most of its stay with



Clockwise from far left: KK pays homage; Franco Serblin (right) with Ricardo Franassovici of Absolute Sounds; that ribbed grille; Franco tweaks the electronics; workers at Sonus Faber's Italian factory; the Snail. All photos by José Vitor Henriquez see www.hificlube.net



the 2x100W McIntosh all-valve MC2102 power amplifier, I also hooked up an assortment of 'baby' amplifiers and had no trouble whatsoever in driving it to high levels. So shock No 1 was finding that this speaker does not require the sort of amplification that's delivered by fork-lift.

Shock No 2 was hearing the best vocal reproduction I've ever savoured, bettering in detail, warmth and clarity the BBC LS3/5A, ribbons and ESLs – even Stax headphones. I'm currently reassessing my stance on modern vocalists, having heard Rod Stewart's and Cyndi Lauper's recent releases covering standards, in which both prove that they have the chops to stand alongside the greats of the 1950s. Both releases – Lauper's *At Last!* and Stewart's *Great American Songbook Vol 2* – are beautifully recorded, as if to capture the sound of 1950s Capitol LPs, and the vocals are so delicately handled that they approach test-disc standards.

Through the Strad, the sound is so dazzlingly life-like that I experienced more of those deceptive in-the-room frissons in the passage of one CD than in a month of normal listening. Lauper's rebirth reveals her to possess incredible vocal power; the Stradivari coped with the dynamic swing with a fluidity that I hadn't heard since the days of the Apogee Scintilla driven by true Class-A Krells. What was also evident was a continuity between the drivers, attesting to a sublimely-tuned crossover that gave the speaker an of-a-whole sound previously familiar only to Quad ESLs owners.



Which brings us to Shock No 3. The lower octaves were not just the smoothest, but the best controlled and least colored I've experienced in my 12x18ft listening bunker. The extension exceeds that of any speaker I've had in the room and the slam and snap are devoid of any overhang. This was independent of music type, which is as it should be. Whether it was the big-band gentility of those standards albums or the kick-ass thump of Living Color's latest offering, the Strads took both in their stride. But it was the bass of the big band surrogates that was to lay the foundation for Shock No 4.

In completing its masquerade as a dynamic speaker with panel virtues, the sense of scale and sheer mass that emerges from the Strads is without equal. Serblin's work with an 'infinite plane as baffle' has resulted in a box-type speaker that can vanish as convincingly as any panel I've tried. But unlike the vast majority of panels – Alastair Robertson-Aikman's Quads are an exception – the

Strads have all the punch and slam (as well as safe SPL capability) that can only come from big, dynamic woofers.

So what do we have here? First there's the clarity, transparency, openness and soundstaging of an ESL. Then there's the dynamics, power and bass control of a Wilson. We have a soundstage to rival the finest point sources. We have vocals that massacre even the BBC LS3/5A. We have playback levels that will even satisfy a nu-metal moron. But above all, we have the elegance, finesse and grace that have signified every top-end Sonus Faber model for 20 years.

Oh, and we have looks to die for, a new style that you can bet will be ripped off by the pirates in time for CES 2005.

I wrote the above before learning the price, which I assumed would be in the £25,000-£30,000 bracket having been told that Americans will pay \$39,000 per pair. I have since learned that the price will be 'circa £20,000'. Between you and me? You can add another zero. ■