Sonus Faber
Amati anniversario
LOUDSPEAKER

John Atkinson

Sonus Faber Amati anniversario loudspeakers

DESCRIPTION Three-way, four-driver, floorstanding, reflex-loaded dynamic loudspeaker. Drive-units: 1" (25mm) silk ring-radiator tweeter, 6" (150mm) copolymer-cone midrange unit, two 8.5" (220mm) aluminum-magnesium–cone woofers. Crossover frequencies: 350Hz, 4kHz. Frequency range: 24Hz–30kHz. Sensitivity: 92dB/2.83V/m. Nominal impedance: 4 ohms. Power handling: 30–300W without clipping.
DIMENSIONS 47" (1194mm) H by 11" (280mm) W by 24" (610mm) D. Weight: 177 lbs (80.5kg).
FINISHES Violin-red or graphite-gray piano gloss.
SERIAL NUMBER OF UNITS REVIEWED 003 (both).
PRICE $27,500/pair. Approximate number of dealers: 21.
MANUFACTURER Sonus Faber, 36057 Arcugnano (Vi), Italy. Tel: (39) 444-288788. Fax: (39) 444-288722. Web: www.sonusfaber.com. US distributor: Sumiko, 2431 Fifth Street, Berkeley, CA 94710. Tel: (510) 843-4500. Fax: (510) 843-7120. Web: www.sumikoaudio.net.

Back in the day, one of the first reviews to be posted in our free online archives at www.stereophile.com was Michael Fremer's June 1999 report on the Sonus Faber Amati Homage loudspeaker. The Amati was the second in the Italian manufacturer's top range, the Homage line, which is dedicated to the master makers of stringed instruments of 17th-century Cremona. The first was the Guarneri Homage (reviewed by Martin Colloms in July 1994), while the third was the Stradivari Homage (reviewed by MF in January 2005). Mikey was so impressed by the Amati that he purchased the review samples and used them as his reference for almost three years.

My own experience of Sonus Faber designs had been limited to less expensive models: the Concerto Grand Piano, which MF reported on in May 1998 and which I had used for a while in *Stereophile*'s Santa Fe listening room; and the Cremona, which I reviewed in March 2004[1] and had been almost equally positive about. So when I saw, at the 2005 CEDIA Expo, that the Amati Homage had been updated

1 The reviews are posted on www.stereophile.com: Guarneri (/standloudspeakers/487), Amati (/floorloudspeakers/139), Stradivari (/floorloudspeakers/105sonus), Concerto Grand Piano (/floorloudspeakers/269), and Cremona (/floorloudspeakers/304sonus).

and relaunched in an anniversario edition, to celebrate the 500th anniversary of the birth of Andrea Amati, I thought it high time I took a crack at reviewing an Homage.

THE **AMATI'S** LUTE-PROFILED CABINET IS **CONSTRUCTED** FROM HORIZONTAL LAYERS OF MAPLE OF **VARYING** THICKNESSES.

Anniversario

Like Sonus Faber's other Homage designs, the Amati's lute-profiled cabinet is constructed from horizontal layers of maple of varying thicknesses, joined with a polymer glue that provides internal damping and reinforced with internal ribs. The result is said to have maximal rigidity to control panel and air-space resonances; finished in seven layers of high-gloss lacquer, with a baffle covered in black leather and a piano-gloss black rear panel; it also makes for a delicious 177-lb piece of eye candy, especially with Sonus Faber's traditional vertical-string grille in place.

The four drive-units are mounted vertically in-line on the front baffle. Whereas the original Amati Homage used a 28mm soft-dome tweeter, the anniversario tweeter is a version of ScanSpeak's 1" (25mm) ring-radiator design, this using a silk diaphragm and fitted with a dual-cardioid rear chamber to eliminate reflections and resonances. Covering the range above 4kHz, it crosses over below that frequency to a 6"

MEASUREMENTS

Like its predecessor, the Amati anniversario was significantly more sensitive than average, at an estimated 91.2dB(B)/2.83V/m, within experimental error of the specification. However, the speaker demands quite a lot of current from the amplifier, with an impedance that remains below 6 ohms for almost all the audioband and drops to 3 ohms for much of the midrange (fig.1). There is also a combination of 3.8 ohms magnitude and –50° at 68Hz, a frequency where music can have considerable bass energy. This phase angle at higher frequencies is otherwise quite low, but this speaker still needs to be partnered with an amplifier unfazed by high current.

The traces in the impedance graph are free from the small discontinuities that would imply the presence of panel resonances, though there is a peculiar bump in the magnitude trace between 100Hz and 150Hz. Listening to the cabinet walls with a stethoscope while I played the half-step–spaced toneburst track on my *Editor's Choice* CD (Stereophile STPH016-2), I could hear some low-level problems both around the C above middle C (512Hz) and an octave higher. Fig.2 is a cumulative spectral-decay plot calculated from the output of an accelerometer fastened to the sidewall of the speaker 12" from the top. A single mode can be seen at 1050Hz, a frequency where it will be unlikely to have audible consequences. However, I could hear a whistle in this same frequency region emanating from the upper port. The cabinet walls were otherwise well behaved, though a similar plot calculated from the accelerometer's output when it was fastened to the top panel found a low-level ridge of delayed energy at 121Hz (not shown).

The saddle at 28Hz in fig.1 suggests that this is the tuning frequency of the lower of the two ports on the rear of the cabinet, which loads the two woofers. However, while

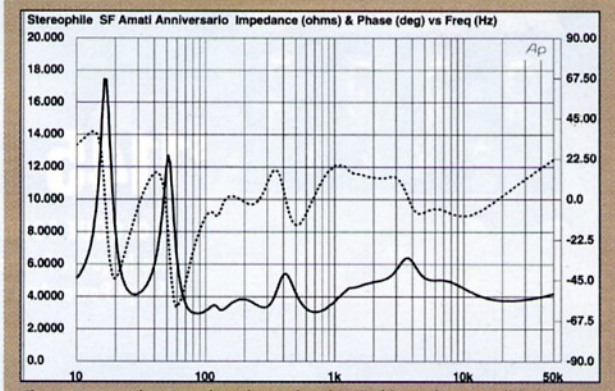

Fig.1 Sonus Faber Amati anniversario, electrical impedance (solid) and phase (dashed). (2 ohms/vertical div.)

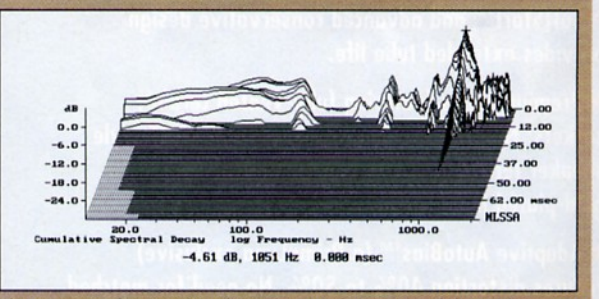

Fig.2 Sonus Faber Amati anniversario, cumulative spectral-decay plot calculated from the output of an accelerometer fastened to the cabinet's side panel 12" from the top (MLS driving voltage to speaker, 7.55V; measurement bandwidth, 2kHz).

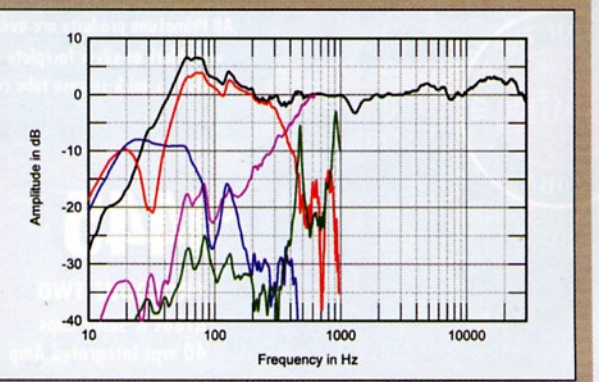

Fig.3 Sonus Faber Amati anniversario, anechoic response on listening axis at 50" without grille, averaged across 30° horizontal window and corrected for microphone response, with the nearfield responses of the midrange unit (magenta), woofers (red), lower port (blue), upper port (green), and their complex sum (black).

polymer-cone midrange unit. Constructed on a "skeletal" diecast chassis and mounted in its own subchamber decoupled from the main enclosure, this uses a voice-coil wound on a Kapton former with a Faraday ring on the pole-piece to reduce distortion. All moving elements are said to be vented "for resonance-free response." Twin 8.5" woofers take over below 350Hz, these each using an aluminum-magnesium–alloy cone fitted with a distinctive-looking ventilated phase plug. (The original Amati had pulp-cone woofers.)

WHEREAS THE **EARLIER** AMATI USED FIRST-ORDER **CROSSOVER** FILTERS, THE ANNIVERSARIO'S **FILTERS** ARE MORE COMPLEX.

Whereas the earlier Amati used first-order crossover filters, the anniversario's filters are more complex. Internal wiring is specified as using pairs of silver-palladium ribbon conductors, and electrical connection is via a single pair of binding posts at the base of the cabinet rear, beneath the lower of the two rounded rectangular ports. Black metal bottom plates can be fitted with spikes of differing lengths to

measurements, *continued*

the woofers have a notch at this frequency that is slightly wider than usual (the red trace to the left of fig.3 shows the sum of the woofer outputs), the port's response (fig.3, blue trace) has a wider-than-expected bandpass and is too low in level to fully extend the speaker's LF response, at least under anechoic conditions. Suspiciously, the response of this port has a peak at 120Hz, which coincides both with a discontinuity in the woofer's output and with the impedance anomaly noted earlier. The black trace below 300Hz in this graph is the complex sum of all the low-frequency outputs. The midbass peak will be partly due to the nearfield measurement technique, which assumes a 2pi acoustic environment. Anechoically, the speaker's low end will extend to 35Hz or so before rolling off with rather a slower slope than a typical reflex design.

The green trace in fig.3 shows the response of the upper port, scaled, like all these nearfield responses, in the ratio of the square root of the radiating area. It doesn't appear to do much at all at low frequencies. However, it has two large peaks present in its midrange output, obviously the source of the whistling I heard. Fortunately, the port faces away from the listener, reducing the audibility of these resonant modes. I suspect that this behavior has something to do with the hardness I thought I heard at high levels. The port, of course, can be blocked, but there is still something amiss in the cabinet's internal construction.

The magenta trace in fig.3 shows the nearfield response of the midrange unit, which crosses over to the woofers at 350Hz—higher in frequency than in the original Amati. Other than a small notch at 1.2kHz and a *very* slight rising trend through the treble, the farfield response, averaged across a 30° horizontal angle on the listening axis (fig.3, black trace above 300Hz), is commendably flat. The responses in fig.3 were taken with the grille off. Fig.4 shows the effect on that response of the grille. The grille introduces the expected comb filtering due to the reflections of the sound from the vertical fibers, but the amplitude of the resultant peaks and dips remains between moderate ±1.5dB limits.

A flat on-axis response cannot guarantee a speaker's balance being perceived as flat without taking into account its radiation pattern. The Amati's horizontal dis-

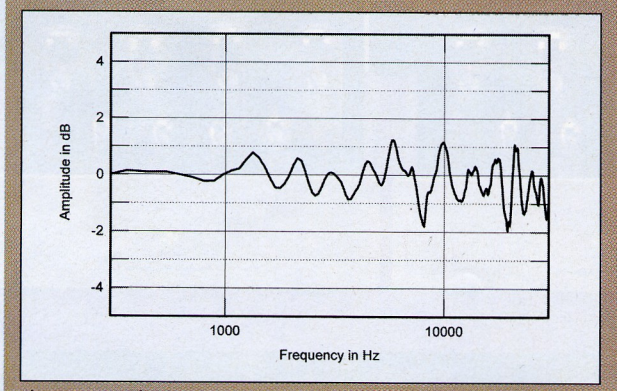

Fig.4 Sonus Faber Amati anniversario, effect of grille on listening-axis response (2dB/vertical div.).

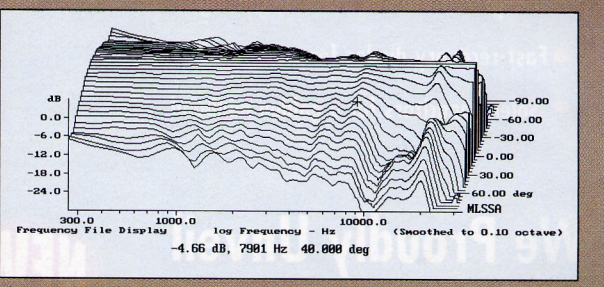

Fig.5 Sonus Faber Amati anniversario, lateral response family at 50", normalized to response on listening axis, from back to front: differences in response 90–5° off axis, reference response, differences in response 5–90° off axis.

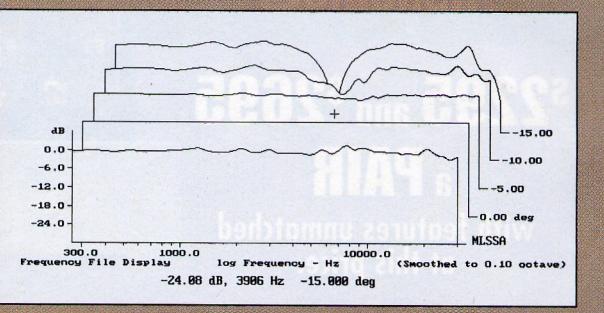

Fig.6 Sonus Faber Amati anniversario, vertical response family at 50", normalized to response on listening axis, from back to front: differences in response 15–5° above axis, reference response, difference in response 5° below axis.

allow the speaker to be raked back.

The original Amati was moderately expensive, at $20,000/pair; the anniversario edition costs $27,500/pair, a modest rise in price considering the intervening seven years of inflation and the devaluation of the US dollar against the euro.

Sound quality

As he had when I reviewed the Sonus Faber Cremona, Sumiko's John Hunter set up the Amati anniversarios in my listening room. Finding the approximately optimal placement didn't take long, but then followed a couple of hours of fine-tuning of both rake-back angle and speaker positions. For the former, John adjusted the speaker's front and rear spikes to slope the top of the enclosure back by 4", so that my ears were level with the top of the midrange unit. (Sitting above that axis made the upper mids sound a little "shouty.") In terms of speaker placement, it took final movements of as little as half an inch to bring the stereo image into focus and best manage the transition between the mid- and upper bass. Once John had left, I did some experimentation of my own, but ended up with the speakers back where he'd left them.

I began my auditioning with the speakers' elegant-looking grilles left off, but ultimately preferred the sound with

persion is shown in fig.5. Other than a slight off-axis flare in the bottom octave of the tweeter's passband, it is impressively wide and uniform. As usual, the tweeter gets directional above 10kHz, but not quite to the extent that I've found with other speakers using versions of this ring-radiator unit. In the vertical plane (fig.6), a deep suckout at 3.9kHz develops immediately above the tweeter axis (third trace from the top), this presumably the crossover frequency between the midrange unit and the tweeter. The Amati's response doesn't change by much below the tweeter axis, confirming that raking the baffle back is the right setup strategy.

The proof of a speaker's measured behavior, of course, is in the listening room. Fig.7 shows the Amati's spatially averaged response at my listening position. The graph meets superbly flat ±1.2dB limits between the 500Hz and 10kHz ⅓-octave bands, and the bass is extended and even. The middle of the midrange is suppressed a little, however, presumably due to the interactions between the drive-units and the room boundaries; this, together with the extended high frequencies, is probably why I felt the Amati's balance was on the forward side in my room. In a larger room, or one with more sound-damping treatment, the speaker's balance will be nigh on neutral.

Turning to the time domain, the Sonus Faber's step response on the listening axis (fig.8) indicates that all its drive-units are connected in positive acoustic polarity, this confirmed by examining the step responses of the individual drivers (not shown). Ignore the bump at the 7ms mark in this graph, which is due to the reflection of the speaker's sound from the floor between it and the microphone; I could not lift the 177-lb Amati onto my usual high stand for the acoustic measurements. I windowed out this reflection to produce both the response curves and the speaker's cumulative-spectral-decay plot (fig.9). This is superbly clean, with just a small amount of delayed energy coinciding with the slight notch at 1.2kHz in the on-axis response. No wonder I felt the speaker's upper frequencies sounded so grain-free and natural.

Other than that lively upper port, the Sonus Faber Amati anniversario gets a clean bill of health, measurement-wise.

—John Atkinson

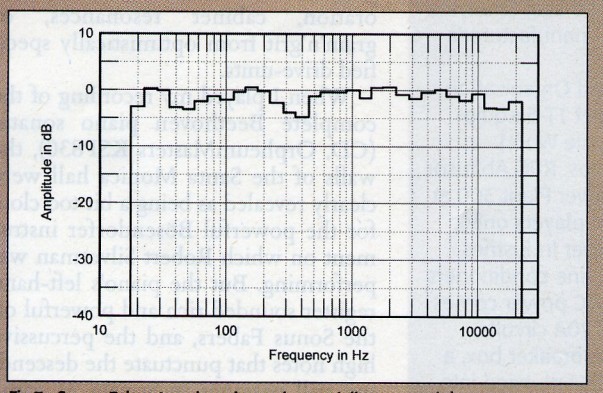

Fig.7 Sonus Faber Amati anniversario, spatially averaged, ⅓-octave response in JA's listening room.

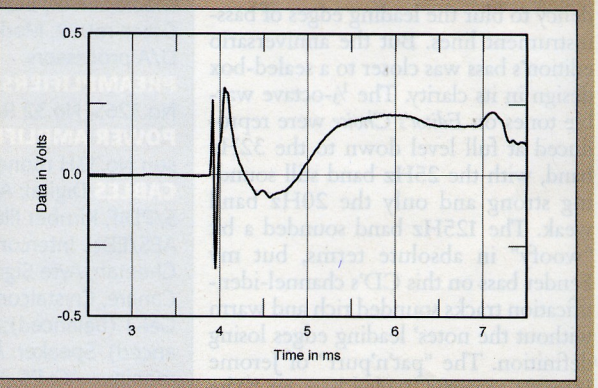

Fig.8 Sonus Faber Amati anniversario, step response on listening axis at 50" (5ms time window, 30kHz bandwidth).

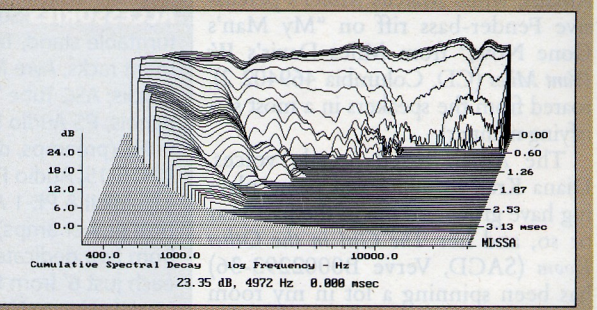

Fig.9 Sonus Faber Amati anniversario, cumulative spectral-decay plot at 50" (0.15ms risetime).

them on; this way, while there was a little less top-octave air, the upper mids sounded very slightly less forward. Even so, though the Amati didn't sound bright per se, the speaker's high frequencies were *not* reticent or mellow. My room is not particularly absorptive at high frequencies, the sidewalls and the wall behind me being more dispersive to give a sound that is live rather than dead. Under those conditions, the Amatis gave a full measure of treble.

It was a treble, however, that was impressively clean and grain-free. Billy Drummond's collection of Zildjian cymbals on Duke Ellington's "The Mooche," from *Editor's Choice* (CD, Stereophile STPH016-2), were well-differentiated and sounded like real cymbals instead of the textured white noise they can turn into with lesser tweeters. Through the Amatis, the violin sound on the new SACD of Tchaikovsky's Symphony 6, "Pathétique," from Daniel Gatti and the Royal Philharmonic (Harmonia Mundi HMU 807394), was the best—*ie*, the most natural—I have heard from the medium.

The treble was also well-balanced by low frequencies that were both extended and tight. I had always thought the original Amati's bass was on the overcooked side, with too much of a tendency to blur the leading edges of bass-instrument lines. But the anniversario edition's bass was closer to a sealed-box design in its clarity. The ⅓-octave warble tones on *Editor's Choice* were reproduced at full level down to the 32Hz band, with the 25Hz band still sounding strong and only the 20Hz band weak. The 125Hz band sounded a bit "woofy" in absolute terms, but my Fender bass on this CD's channel-identification tracks sounded rich and warm without the notes' leading edges losing definition. The "pat'n'purr" of Jerome Harris's acoustic Taylor bass on "The Mooche" was spot on through the Amatis, while Marcus Miller's percussive Fender-bass riff on "My Man's Gone Now," from Miles Davis's *We Want Miles* (CD, Columbia 469402 2), roared from the speakers in a most satisfying manner!

The Amati loved female voices. Diana Krall's singing and piano playing have grown on me in the past year or so, and her *The Girl in the Other Room* (SACD, Verve B0002293-36) has been spinning a lot in my room these past few weeks. That husky edge to her throaty delivery wasn't thrust unnaturally forward in the soundstage, but was properly integrated in space with the body of her tone. The double bass on this album was also rich and round-toned. However, perhaps there was a bit *too* much of a good thing going on with female voice—occasionally, I thought I heard a slight emphasis on high notes. And when I walked behind the speakers while listening to male spoken voice, such as the introduction to the channel ID tracks on *Editor's Choice*, I could hear a fluty coloration coming from the upper port.

The Amati's grille consists of fine, vertical, silk-wrapped cords.

Stereo imaging was superbly stable and well defined. Images hung in space, in the main solidly locked in position. The only exception was in the low treble, where central images widened a bit. Even so, throughout my auditioning of the Amatis, the thing that most impressed me was how much the speakers managed to "disappear." Whatever recording I played, there was never any sense of sound being localized at the speaker positions. Instead, the space between and behind them took on the character of the recorded soundstage. You might ask, isn't that what stereo loudspeakers are supposed to do? Yes, of course it is. But there is too often something that gets in the way of the necessary suspension of disbelief, whether it be coloration, cabinet resonances, or grain'n'grit from optimistically specified drive-units.

When I played my recording of the complete Beethoven piano sonatas (CD, OrpheumMasters KSP830), the walls of the Santa Monica hall were clearly revealed as being a bit too close for the powerful Bösendorfer instrument on which Robert Silverman was performing. But the piano's left-hand register sounded rich and powerful on the Sonus Fabers, and the percussive high notes that punctuate the descending trill passages in Sonata 31 came across as pinpoint flashes of light.

ASSOCIATED EQUIPMENT

DIGITAL SOURCES Ayre C5-xe universal player; Cary CD 306, dCS P8i SACD players; Olive Symphony media server; Benchmark DAC 1, Grace m902, Mark Levinson No.30.6 D/A processors.
PREAMPLIFIERS Mark Levinson No.326S, No.32 Reference.
POWER AMPLIFIERS Mark Levinson No.33H monoblocks.
CABLES Digital: AudioQuest SVD-4 S/PDIF, Kimber Illuminations Orchid AES/EBU. Interconnect: AudioQuest Cheetah, Ayre Signature Series, Canare, Crystalconnect, Madrigal CZ Gel-1 (balanced); DiMarzio (unbalanced). Speaker: AudioQuest Kilimanjaro. AC: PS Audio Lab, Shunyata Python Helix Alpha, manufacturer's own.
ACCESSORIES Sound Organisation turntable stand, Target TT-5 equipment racks, Ayre Myrtle Wood Blocks; ASC Tube Traps, RPG Abffusor panels; PS Audio Power Plant 300 at 90Hz (preamps, disc players only), APC S-15, Audio Power Industries 116 Mk.II & PE-1 AC line conditioners (not power amps); AC power comes from two dedicated 20A circuits, each just 6' from the breaker box, a Mark Levinson No.33H plugged into each.

—John Atkinson

Playing the session recordings of the forthcoming *There Lies the Home* CD, from male-voice choir Cantus (to be released this summer), which I began to edit and mix at the end of the review period, I could also easily discern the superbly supportive acoustic of Sioux Falls' Washington Pavilion around and behind the baritone soloist in "Drake's Drum," from Sir Charles Stanford's *Songs of the Sea*. In turn, the singer was unambiguously positioned in front of the piano, which again sounded powerful without boom or blur. The Amati anniversarios opened onto the recording venue a clean, uncolored, undistorted window.

I was finishing the editing of the 24-bit master of Robert Silverman's *Diabelli Variations* CD (see the feature elsewhere in this issue) while I had the Amati Homage anniversarios in house. Yes, the speaker's extended bass was very revealing of the occasional low-frequency noise, such as distant thunder or the thump of a door slamming. But it also accurately reproduced the piano's powerful left-hand register. The big sweep of sound produced by the Amatis brought out the dynamics of Bob's playing, their uncolored midrange and grain-free highs laid bare the subtle interplay between the overtones as the Steinway's notes decayed, and their excellent stereo imaging easily portrayed the relationship between the instrument and the somewhat anonymous acoustic of Weber State University's Austad Auditorium. When a speaker allows the musical values within the recording to emerge unscathed, as the Amati anniversario did, it's about as good as reproduced sound can get.

Summing up

Yes, it's expensive. Yes, it comes under strong competition from Wilson Audio's WATT/Puppy 7 and Peak Consult's Empress in the same price region, not to mention the B&W 802D that Kal Rubinson reviewed last December and the Genesis 5.2 that I reviewed in February, both of which are priced significantly lower. But the Sonus Faber Amati Homage anniversario sounds simply superb, and is finished to an equally superb standard. Not only did I enjoy the insight into my music the Amati offered during the two months I spent with it, it was also gorgeous to look at. For me, a loudspeaker doesn't get much better than this.