

Reprinted from August 2007

Sonus Faber Guarneri memento

LOUDSPEAKER

Michael Fremer



Sonus Faber Guarneri memento loudspeakers.

DESCRIPTION Two-way, stand-mounted, reflex-loaded loudspeaker. Drive-units: 1" (25mm) ring-radiator tweeter with dual toroidal waveguide, 6" (150mm) polypropylene-cone woofer. Crossover frequency: 2.5kHz. Crossover slopes: 6dB/octave. Frequency range: 39Hz–30kHz. Sensitivity: 88dB SPL (2.83V at 1m). Nominal impedance: 4 ohms. Power handling: 30–200W without clipping.

DIMENSIONS Speaker: 15" (380mm) H by 8.25" (210mm) W by 15.25" (390mm) D. Weight: 93.75 lbs (42.6kg). Column stand: 48.5" (1230mm) H by 12" (305mm) W by 15.75" (390mm) D. Weight: not specified.

FINISHES Red Violin Piano Gloss, Graphite.

SERIAL NUMBER OF UNITS

REVIEWED 029.

PRICE \$15,000/pair, including Column stands. Approximate number of dealers: 30.

MANUFACTURER Sonus Faber, 36057 Arcugnano (Vi), Italy. Tel: (39) 444-288788. Fax: (39) 444-288722. Web: www.sonusfaber.com. US distributor: Sumiko Audio, 2431 Fifth Street, Berkeley, CA 94710. Tel: (510) 843-4500. Fax: (510) 843-7120. Web: www.sumikoaudio.net.

Audiophile eyes usually roll when a manufacturer describes a loudspeaker as a “genuine musical instrument.” Musical instruments have specific characteristics of pitch and timbre. Ideally, a loudspeaker should be a portal to the music; the speaker itself should be neutral in pitch and timbre—in other words, the opposite of a musical instrument. That the *sound* produced should be “musical” is a different argument.

When, in 1994, Sonus Faber introduced the limited-edition Guarneri Homage loudspeaker,¹ to celebrate the 250th anniversary of the death of master violin maker Giuseppe Guarneri (del Gesù), the company embraced the musical-instrument analogy in the process of designing the speaker. Even the design of the enclosure relied more on techniques used to build musical instruments in the 18th century than on science-based, 21st-century loudspeaker technology.

While other manufacturers have since imitated the Guarneri’s lute-like contours, which in 1994 were unique (Sonus Faber has apparently chosen not to enforce the patent it holds on the shape), none that I know of has attempted to duplicate its expensive, time-consuming, old-world process of construction.

¹ Reviewed by Martin Colloms for *Stereophile* in July 1994, see www.stereophile.com/standloudspeakers/487.

—John Atkinson

The Guarneri's cabinet consists of 21 staves of thick, solid, hand-selected maple, separated by thin wooden strips, dyed aniline black, that are aged for two years before being kiln-dried. The wood is then shaped, assembled by hand, and glued, using heat and pressure techniques similar to those used for centuries in the making of violins. The cabinet's inner walls are lined as needed with copper sheeting (lead used to be in there as well, but use of the toxic heavy metal is no longer permitted), to distribute and damp resonances and produce cabinet-to-cabinet uniformity.

After being sealed with albumin, the speaker's exterior is dyed with a natural reddish or graphite stain before being painstakingly varnished with a blend of natural organic substances, including Venetian larch turpentine, linseed oil, propolis, wine alcohol, gamboges, copal gum, and oliban. The finish is then sanded multiple times, like a fine violin, to a rich, deep gloss in yet another time-consuming process that only a few artisans are capable of performing. Again as with a fine stringed instrument, the finish is claimed to

have a "profound" effect on the sound.

Add the curvaceous rear piece of aniline-dyed limewood, containing the port and speaker terminals; the sculpted, leather-clad baffle, itself a major construction job; and Sonus Faber's once-unique, now oft-copied "string" grille—and you'd better believe that the Guarneri Homage created quite a stir in 1994, even before anyone had actually listened to it. The speaker is still one of the most beautiful looking, gracefully shaped, and solid loudspeaker cabinets ever constructed.

But there's functionality behind all that beauty. The cabinet's nonparallel walls are said to inhibit the generation of unwanted standing waves, and to help "guide" the backwave to the port. More important, the original Guarneri Homage, fitted with a custom-designed 6" ScanSpeak woofer and custom Dynaudio Esotar tweeter, received rave reviews across the board for both its measured and its *musical* performance. But its high price (\$9400/pair) and limited availability put it in the hands of only a lucky few around the world.

The Guarneri memento

Sonus Faber designer Franco Serblin followed the Guarneri Homage with the Amati Homage and then the spectacular Stradivari Homage, which he hoped would be—and many consider to be—his crowning loudspeaker achievement. Based on his experience designing the Stradivari, Serblin followed up with a much-improved (particularly in its bass performance) version of the Amati, the anniversario.² Now comes the "refreshed" Guarneri, which uses two new custom drivers: a 1" ScanSpeak ring-radiator tweeter, crossed over at 2.5kHz to a 6" Audio Technology polypropylene-cone woofer.

It's important to remember that while a drive-unit's façade may look familiar, what's behind it is usually custom-tailored to the end-user's needs. Like the resemblances between an airport rental version of a well-known automobile and the top-of-the-line edition, the similarities can be little more than superficial.

On the other hand, while the Guarneri memento's cabinet looks spectacular, it's still a

MEASUREMENTS

The Sonus Faber Guarneri memento's voltage sensitivity was a little below average, at an estimated 86dB(B)/2.83V/m. However, its plot of impedance magnitude and electrical phase against frequency (fig.1) indicates that it is not too demanding an amplifier load, though a minimum value of 4.35 ohms at 197Hz and a combination of 5.7 ohms and -38° phase at 124Hz suggest that tube amplifiers be used from their 4 ohm taps.

Though difficult to see at the scale this graph is printed in the magazine, the very slight discontinuities in the traces just below 500Hz and just above 1kHz suggest the presence of some kind of resonant problem at these frequencies. I did find a

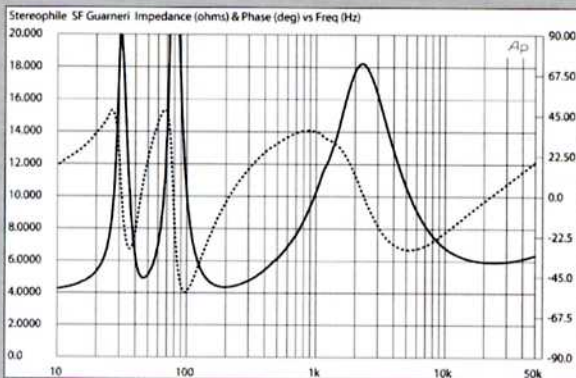


Fig.1 Sonus Faber Guarneri memento, electrical impedance (solid) and phase (dashed). (2 ohms/vertical div.)

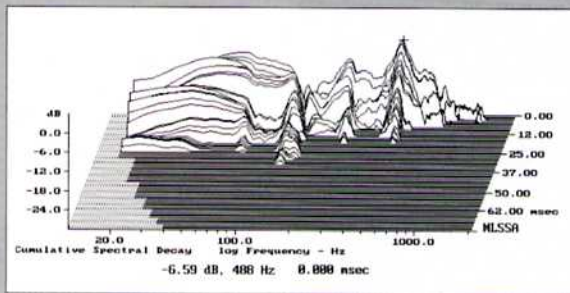


Fig.2 Sonus Faber Guarneri memento, cumulative spectral-decay plot calculated from the output of an accelerometer fastened to the center of the cabinet's side panel (MLS driving voltage to speaker, 7.55V; measurement bandwidth, 2kHz).

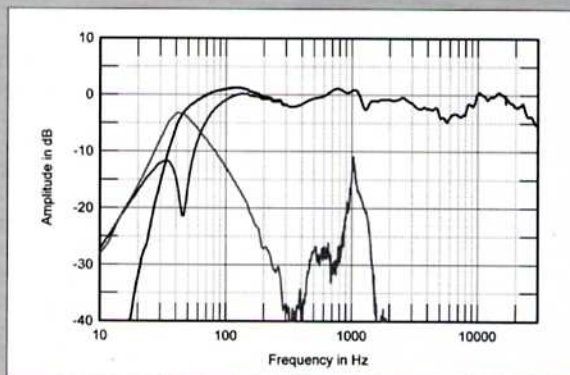


Fig.3 Sonus Faber Guarneri memento, anechoic response on tweeter axis at 50" without grille, averaged across 30° horizontal window and corrected for microphone response, with the nearfield responses of the port and woofer plotted below 900Hz and 300Hz, respectively, and the complex sum of the nearfield responses plotted below 300Hz.

6" woofer and a familiar ScanSpeak ring-radiator tweeter in a box. A pair of these small speakers will set you back \$15,000. The price includes the shapely Column stands to which the speakers are bolted, with stone wedge bases from a quarry near the Sonus Faber factory in Arcugnano, Italy.

Setup

Patrick Butler of Sumiko Audio, Sonus Faber's US distributor, paid me a visit to set up the Guarneris on their Column stands using the company's tried-and-true series of recordings, which includes Jennifer Warnes' "Ballad of the Runaway Horse," from Rob Wassermans' *Duets* CD. Squeezing every drop of performance—especially in terms of bass—from a small design such as the Guarneri memento requires skill, experience, and patience, something Sumiko insists that all its dealers possess before they can be

2 I reviewed the Amati anniversario for *Stereophile* in May 2006, see www.stereophile.com/floorloudspeakers/506sf.

—John Atkinson

awarded a Sonus Faber franchise. I left the room. When I returned, the Guarneris were sitting close to where virtually every other speaker has sounded best in my room.

The speaker's high-frequency performance was beyond reproach as long as I sat below the level of the tweeter and used the provided Columns, which angle the front baffles back. When I stood up, there was an obvious HF suckout.

A special loudspeaker, or an overpriced "lifestyle" looker?

Any successful loudspeaker design is a careful blend of science and art. Measurements taken under anechoic and quasi-anechoic conditions don't necessarily translate well into actual listening rooms. Nonetheless, such measurements are important—a lumpy response curve measured under controlled conditions is rarely flattened out by a typical living room.

Experienced speaker designers working from exemplary measurements made under controlled conditions can usually allow for low-frequency "room bump," off-axis absorp-

tive energy loss (or additive reflective gain), and other predictable conditions typically found in the imperfect listening rooms of most audio enthusiasts, in the full knowledge that the speaker's anechoic and quasi-anechoic measurements will then no longer be accurate. And while the intelligent use of computers has made the measuring of speakers far more sophisticated and accurate, measurements still don't reflect all of the information your brain receives and processes while you're listening to music.

When you read about a "no-compromise" speaker design, rest assured that you're reading advertising copy and little more. Even in the absence of constraints of budget or size, every speaker design represents a series of technical and artistic compromises—and the smaller the speaker, the more compromises must be made, and the greater the reliance on the *art* of design. No matter how much science and money are thrown at a speaker prototype, the laws of physics will prevail: producing a truly deep, powerful, and *tuneful* low-frequency response requires the pressur-

mild panel resonance at 490Hz on the speaker's curved sides (fig.2); this is high enough in frequency and low enough in level that it should have no audible consequences.

Turning to the Guarneri's acoustic behavior, the port's nearfield response (fig.3, red trace) does show a sharp peak just above 1kHz. This was faintly audible with pink noise, but the fact that the port faces away from the listener will mitigate the problem. The woofer's minimum-motion notch, where the back pressure from the reflex-port resonance holds the cone still, occurs at 46Hz (fig.3, blue trace)—the frequency of the "saddle" between the twin peaks in the impedance-magnitude

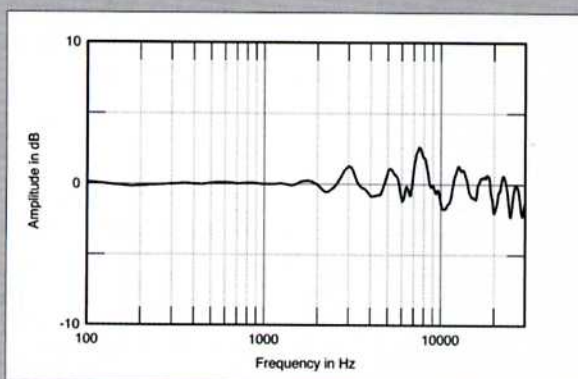


Fig.4 Sonus Faber Guarneri memento, effect of grille on HF-axis response (5dB/vertical div.).

trace—but the port's output actually peaks a little lower in frequency. The upper-bass boost in the summed output of the port and woofer (fig.3, black trace), which results from the nearfield-measurement protocol, is relatively mild, suggesting that the Sonus Faber actually offers an anechoically flat response in the bass, with a -6dB point around 40Hz.

Higher in frequency in fig.3, the upper midrange is balanced a little forward compared with the regions above and below it, with a slight discontinuity apparent around 1.2kHz. This doesn't quite coincide with the frequency of the port resonance, so it may well be unrelated to it. The mid-treble is a little recessed, but not to the extent Keith

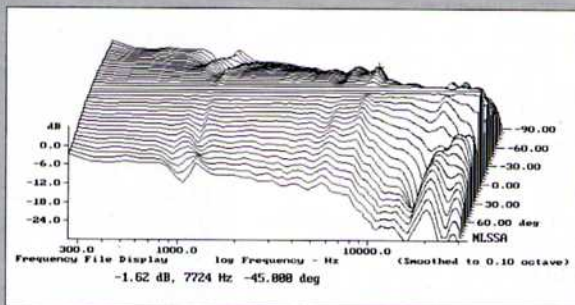


Fig.5 Sonus Faber Guarneri memento, lateral response family at 50°, normalized to response on tweeter axis, from back to front: differences in response 90°-5° off axis, reference response, differences in response 5°-90° off axis.

ization and movement of large volumes of air, and that has long required relatively large drivers and enclosures—though a generation or three of long-excursion woofers coupled with high-wattage amplifiers has changed things somewhat.

So it's easy to understand audiophiles' skepticism about spending \$15,000 on a small, two-way speaker sitting atop a passive stand that, for the same money, could instead have been the large, ported woofer enclosure of a nearly full-range three-way system. In fact, the Guarneri memento's footprint and height (with Column stand) is close to that of the superbly measuring Focal Electra 1037 Be, which has a 1" tweeter, a 6" midrange, and three 7" woofers (see my review in the July issue). The Focal goes lower, plays louder, and is a full 5dB more sensitive, yet costs \$4000/pair less than the Guarneri: \$10,995.

Listening

I haven't heard the original Guarneri Homage, so I'm not in a position to compare, but it's no overstatement to write that, in my

IF YOUR **MUSICAL** MENU INCLUDES SOME ROCK, THE GUARNERI MEMENTOS, **UNLIKELY** AS IT MIGHT SEEM, WILL BOTH WHET AND SATISFY YOUR **APPETITE**.

more than two months of listening, the Guarneri memento never produced a sour note, and never failed to astonish and surprise me by producing (among other things) remarkably deep, powerful, well-textured, and nimble bass free of midbass bloat and overhang—at least down to just below 40Hz, which is deep enough for most of the range of both acoustic and electric bass.

Acoustic Sounds' recent 45rpm reissue of *The Wes Montgomery Trio* (2 LPs, Riverside RLP/AJAZ 1156) features Montgomery and a rhythm section of Melvin Rhyne on organ and Paul Parker on drums. The organ pro-

vides the bass line, and when it went low, the Guarneri memento followed it down, pressurizing my room without bloat or exaggeration. I didn't hear the speaker straining to produce the impression of "bass," as some small overachievers do. Instead, I could have sworn there was a subwoofer somewhere in the room.

Despite its heritage in the making of violins, the Guarneri memento could rock very well. From its opening deep drone, Peter Gabriel's "Red Rain," from Classic Records' reissue on 200gm vinyl of *So* (no catalog number on record or jacket), recorded in ana-

Howard found in his measurements accompanying the review of this speaker in the March 2007 issue of British magazine *Hi-Fi News* (p.42). Overall, the Guarneri memento's top-octave response is smooth and extended. Fig.3 was taken with the grille removed; adding the grille produced the expected comb-filtering in the treble (fig.4), though this was modest in extent and will probably not be audible.

The Sonus Faber's lateral dispersion was wide and even up to 8kHz (fig.5), something that generally correlates with stable, accurate stereo imaging. But the ring-radiator tweeter's output falls quite rapidly to the side in the top audio octave and above, which will give a rather mellow balance in

large rooms (though of course a small speaker such as the Guarneri is unlikely to be used in such a room). In the vertical plane (fig.6), a large cross-over suckout develops above the tweeter axis, as Michael mentions. Sit below the tweeter, however—as most listeners will when the Guarneri is used on its dedicated stand, which places the tweeter 43.5" from the floor and tilts the speaker back a little—and the lack of energy in the mid-treble fills in.

In Michael's room, the spatially averaged response taken in a grid centered on the position of the listener's head (fig.7) does indeed demonstrate superbly smooth behavior in the midrange

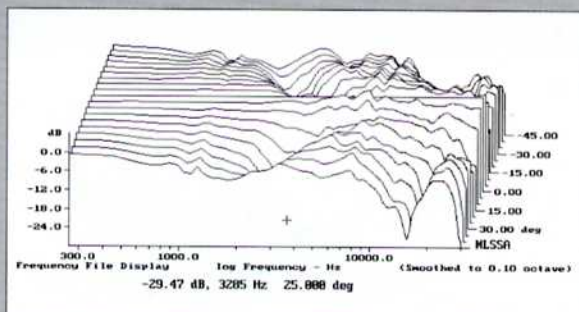


Fig.6 Sonus Faber Guarneri memento, vertical response family at 50", normalized to response on tweeter axis, from back to front: differences in response 45–5° above axis, reference response, differences in response 5–45° below axis.

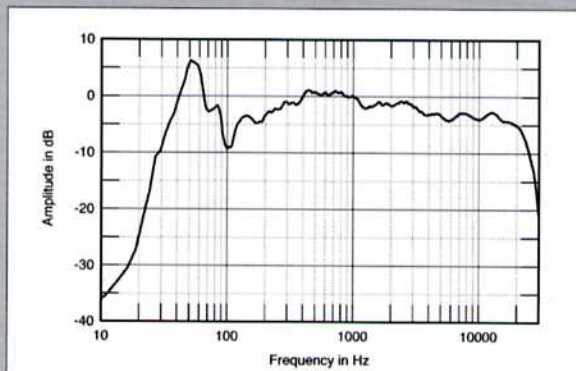


Fig.7 Sonus Faber Guarneri memento, spatially averaged, 1/6-octave response in MF's listening room.

log and mastered from the original analog tape (despite claims to the contrary by some), demonstrated the memento's unexpected bass power and grip. When the drums throbbed, the memento responded with surprising urgency.

While the pair of mementos couldn't produce ear-damaging SPLs, they did play remarkably loud without congestion, or noisy complaints from their ports. I clocked 95dB on an SPL meter with Nirvana's "Smells Like Teen Spirit," from *Nevermind* (LP), and was more than satisfied with the volume level, and especially the clarity and absence of distortion or compression.

When I turned the volume up to rock-concert levels, the Guarneri mementos protested with mild compression and a trace of distortion. But when I hit their loudness sweet spot, these little guys unleashed credible kick and snare drums while outlining the details of the splash cymbal with almost alarming precision, free of grain and glare.

This is not to suggest that hard rockers will be drawn to this speaker, or that Sonus Faber

designed them with rock in mind. Just know that, if your musical menu includes some rock, the Guarneri mementos, unlikely as it might seem, will both whet and satisfy your appetite—just as they delivered symphonic music with satisfying scale, as long as I didn't expect the full weight of orchestral dynamics, or the spatial presentation that only a pair of large, full-range speakers can provide.

However, what the Guarneri memento couldn't deliver at the frequency and dynamic extremes was more than compensated for by its magic in the midrange and upper midrange. The speaker's excelled in the recreation of small orchestral and vocal ensembles and solo performers—even in large venues. The recent 200gm, 45rpm reissue of Astor Piazzolla's *Adios Noñino* (Foné 013J), with violinist Salvatore Accardo performing the solo part and conducting the Orchestra da Camera Italiana, and recorded in Pontificio Istituto di Musica Roma, is the kind of disc for which the memento was created. The recording's mid-hall perspective makes it sound most realistic with the volume appro-



A single pair of terminals sits beneath the reflex port.

measurements, continued

and treble—no wonder he liked the Sonus Faber's sonic signature. However, even with the minimization of the effects of room modes provided by the spatial averaging, the fairly close placement to the room boundaries of the speakers in his room results in a boost between 40 and 70Hz and a lack of energy in the two octaves above that region. Certainly, while I was measuring the speaker in Mikey's room, I thought the midbass region sounded a little "ripe," though not unpleasantly so.

Turning to the time domain, the Guarneri's step response on the tweeter axis (fig.8) reveals that the tweeter is connected in inverted acoustic polarity, the woofer in positive polarity. The tweet-

er's step smoothly hands over to the woofer's, but the slight discontinuity just before the 4ms mark ties in with the vertical dispersion graph's suggestion that the best frequency-domain integration between the two drive-unit outputs occurs below the tweeter axis. Finally, other than a slight amount of delayed energy at the frequency of the response anomaly in the upper midrange, the Guarneri's cumulative spectral-decay plot (fig.9) is superbly clean. As a result, this speaker should offer a grain-free, transparent treble.

In common with other recent-generation Sonus Faber speakers, such as the Amati anniversario, (which I reviewed in May 2006), the Guarneri memento offers excellent measured performance.

—John Atkinson

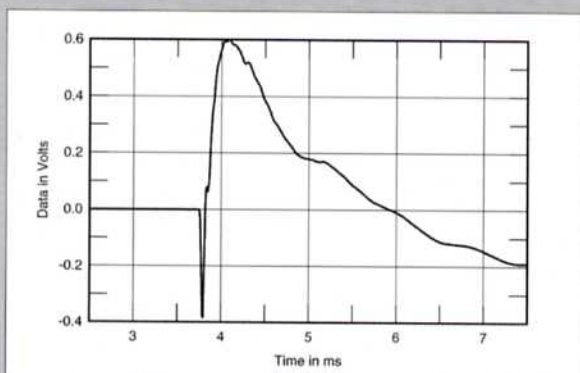


Fig.8 Sonus Faber Guarneri memento, step response on tweeter axis at 50° (5ms time window, 30kHz bandwidth).

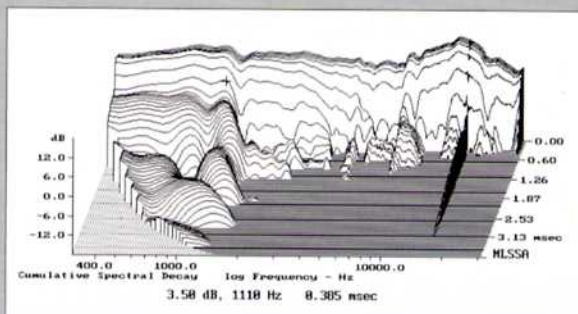


Fig.9 Sonus Faber Guarneri memento, cumulative spectral-decay plot at 50° (0.15ms risetime).

privately lowered. Accardo's violin then soars sweetly, with good image focus, expressive texture, and harmonic completeness, while the hall's acoustic provides a subtle and surprisingly spacious backdrop. Turn the volume up and the sound gets excessively midrangey and shouty—a function of the recording's spacious perspective, not the speakers' sonic character.

The Guarneri mementos' midrange transparency and freedom from congestion or obvious tonal coloration got me as involved in the music as I could be—the subtlest musical and spatial details were revealed with pinpoint precision across and within a far larger, deeper, and stabler soundstage than such small boxes had any business producing. Solo vocalists were rendered with a complete absence of nasality, chestiness, or other obvious distractions, thanks both to the speaker's freedom from midbass bloat and its silky-smooth yet finely detailed top end.

If your musical taste runs toward solo or small-ensemble acoustic music or vocals, the Sonus Faber Guarneri memento will not disappoint. It reproduced every instrument in the orchestra—brass, woodwinds, strings, percussion—with a silky, satisfying purity of tone and texture. Here, the speakers arrived just in time to feed my recent and unlikely addiction to the sacred cantatas of J.S. Bach, thanks to three superbly recorded and pressed sets of LPs from Telefunken Das Alte Werk. Through the mementos, these performances by Nikolaus Harnoncourt and Concentus Musicus Wien never failed to produce a pleasing stupor as I sat entranced by soaring vocals with natural clarity, free of grain and etch, and by strings and woodwinds with visceral textures and harmonic fullness, all set against the backdrop of the reflective hall. When the chorus chimed in, the individual voices arrayed across the stage were presented with solidity, weight, and the clarity of high-definition video. When the massed voices pronounced sibilants, they sounded as they do live, instead of locking together to form the large masses of mechanical-sounding essences that some speakers produce.

Whether driven by the solid-state, 1000Wpc Musical Fidelity kW monoblocks or the 100Wpc Music Reference RM-200 tube amp, the Sonus Fabers performed the same delicate balancing act of detail, texture, transparency, and harmonic completeness.

While the Guarneri's in-room measurements may not be quite as flat and impressive as those of the Focal Electra 1037 Be, I predict that, within its more limited bandwidth, the memento's measurements will be more than credible and reasonably flat, with a top-end rolloff designed to compensate for

the rolloff below 40Hz. If there turns out to be a mild midbass "bump" designed to increase the illusion of deep bass, it's extremely well hidden. I couldn't hear one when listening to music, though the impulse created by lowering the stylus into a record groove created a mild telltale *honk*.

The Guarneri memento's performance in the midbass and lower midrange—especially with well-recorded female vocals, which usually reveal any response "bump" with chestiness and discontinuity—was beyond reproach. The speaker delivered low-frequency power and produced enticing, utterly credible renderings of male and female vocals—a major accomplishment for such a small speaker.

ASSOCIATED EQUIPMENT

ANALOG SOURCES Continuum

Audio Labs Caliburn, Grand Prix Audio Monaco turntables; Graham Phantom, Continuum Audio Labs Cobra tonearms; Lyra Titan i, Air Tight PC-1 cartridges.

DIGITAL SOURCES Musical Fidelity kW DM25 transport-DAC, Esoteric SA-60 universal player, BPT-modified Alesis Masterlink hard-disk recorder.

PREAMPLIFICATION Manley Steelhead phono preamplifier, dartZeel NHB-18NS preamplifier.

POWER AMPLIFIERS Musical Fidelity kW monoblocks, Music Reference RM-200.

LOUDSPEAKERS Wilson Audio Specialties MAXX 2.

CABLES Phono: Hovland Music Groove 2, Crystal Cable CrystalConnect Ultra DIN to RCA, TARA Labs Zero, Crystal Cable CrystalConnect Ultra, Element Signature. Speaker: TARA Labs Omega; AC: Shunyata Research Anaconda Vx Helix, JPS.

ACCESSORIES Continuum Audio Labs Castellon magnetic isolation stand; Finite Elemente Pagode, Grand Prix Monaco equipment stands; Symposium Rollerblocks; Audiodharma Cable Cooker; Shunyata Research V-Ray Reference & Hydra 2 power conditioners; Oyaide AC wall jacks; ASC Tube Traps, RPG BAD & Abffusor panels; Furutech DeMag LP demagnetizer; Loricraft LRC4, VPI record-cleaning machines.

—Michael Fremer

Toward the end of the listening period, Sumiko's John Hunter stopped by and carefully dialed in an REL subwoofer (driven from the amplifier terminals), sent along as a low-frequency reality check. Yes, the sub opened up the soundstage when the recording venue was a big hall, and added weight and substance where appropriate without calling attention to itself, but despite being used to a reference speaker capable of going down to 20Hz, I didn't miss the additional bottom octave when listening to the Guarneri mementos.

Conclusion

This loudspeaker is another stellar blend of art and science from the house of Serblin. You'll pay dearly for outstanding engineering, superb build quality, and off-the-chart appearance. You can get greater extension, increased dynamics, and somewhat more revealing and airy upper-octave performance elsewhere. And if you listen exclusively or mostly to rock, you'll be wasting your money. But for those whose tastes run to small-ensemble classical music or jazz, don't have room for larger speakers, but need whatever speakers they buy to complement an elegantly appointed room, a pair of Sonus Faber Guarneri mementos will surely satisfy.

While Sonus Faber's Guarneri memento won't play extremely loud, it played loud enough. While it doesn't go way down low, it went deep enough: just below 40Hz with conviction. And while it can't produce the dynamic slam of a bigger speaker, it provided a convincing spectrum of dynamics, particularly at the microdynamic end of the scale, where music lives and breathes.

But I easily and quickly forgot what the Guarneri memento couldn't deliver, because of the quality of what it could: transparency, delicacy, detail; a lack of mechanical artifacts such as dryness, edge, and etch; and a wide, surprisingly deep, ultrastable soundstage. In terms of pure musical pleasure and involvement, the Sonus Faber Guarneri mementos rank near the top in my listening experience, especially in the reproduction of small acoustic ensembles. I went in a skeptic and came out a believer. ■

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