

YG Acoustics Sonja 2.2 floorstanding loudspeaker

by Chris Martens

In mid-2017 *Hi-Fi+* took the opportunity to audition and review YG Acoustics' flagship Sonja XV (for eXtreme Version) four-tower loudspeaker system and found it to be a world-class and state-of-the-art product in every way. At the same time, though, the speaker's sheer size and daunting \$265,900 price tag meant that only a select few with rooms big enough and wallets deep enough would ever be likely to enjoy the Sonja XV in action. But what of those passionate audiophiles who live in (somewhat) smaller spaces and who would prefer to keep their loudspeaker investments in the five-figure range? People, meet the Sonja 2.2!

The three-way, four-driver Sonja 2.2 is, like almost all YG Acoustics models, a modular loudspeaker. At its top, the Sonja 2.2 features a midrange-tweeter-midrange module nearly identical to the one used in the Sonja XV, while down below is a sealed, acoustic suspension woofer module. Both the upper and lower modules use cabinet enclosures milled from solid aircraft aluminium and whose panels are fastened together using what YG describes as aircraft-type "vibration-free pressurised assembly" techniques. Internally, the cabinets use YG's proprietary FocusedElimination™ anti-resonance technology, which is said to keep "mechanical losses lower than any competing speaker, by combining the minimised turbulence of a sealed design with the low friction otherwise associated with enclosure-free concepts."

The mid-bass drivers and woofer employed in the 2.2 feature proprietary YG BilletCore™ diaphragms, which are machined out of thick cylinders of aircraft-grade aluminium and are treated to jet-black anodised finishes. For those curious about such things, let me mention that YG chooses to go with machined diaphragms—as opposed to stamped metal, ceramic, or exotic composite diaphragms—because machined diaphragms allow more precise dimensional tolerances, allow complicated 3D shapes that enhance rigidity and freedom from unwanted resonance, impose less stress on the aluminium materials used, and, most importantly, exhibit greater long-term structural integrity after hours and years of use.

The single woofer used in the 2.2 is the same type as the four woofers used in the Sonja XV, while the mid-bass

drivers are essentially identical to those used in the XV, but with the notable difference that the 2.2's mid-bass drivers are run down a 65Hz crossover point, whereas the same drivers in the XV operate down to a 337Hz crossover point and then transition to a trio of dedicated lower mid-bass drivers.

Importantly, the Sonja 2.2 is treated to the exact same BilletDome™/ForgeCore™ tweeter used in the Sonja XV, which is quite frankly the finest piston-type tweeter I have yet heard in any loudspeaker. The tweeter is a hybrid design that combines a fabric dome (chosen for its desirable damping properties and smooth roll-off characteristics) with a precision-machined and ultra-low-mass (30 milligram) aluminium support frame (which adds tremendous rigidity and strength, while giving the tweeter better high-frequency extension than either a fabric or metal dome tweeter would enjoy). The term ForgeCore™ in turn refers to the fact various elements of the tweeter's motor structure have been CNC-cut to receive special 3D geometries that are said to minimise distortion while imparting "a sense of ease to the sound". It is impossible to overstate the importance of this special tweeter to the Sonja 2.2's overall sound; the tweeter effortlessly reproduces extremely low-level high-frequency transient and textural details, in the process enabling the speaker to create soundstages of exceptional breadth, depth, purity, and precision.

The Sonja 2.2 crossover network is fashioned from exceptionally high quality parts and circuit boards whose extra-thick traces are milled—not photo-etched—in place. Among the special parts used are YG's custom-made ToroAir™ air-core inductors and, for the low-frequency portion of the crossover, the massive and highly vibration-resistant ViseCoil™ bass inductors first created for the Sonja XV. Relative to even the finest off-the-shelf bass inductors, the ViseCoil™ inductors are said to reduce residual loss by 24% and to improve linearity by a stonking 60%, in the process enabling "better control over the woofers" and fostering greater overall bass definition and impact. If you are sceptical that specialised inductors can make a significant difference in a speaker's overall sound, just try listening to a pair of Sonja 1.2's built before the advent of the ViseCoil™ inductors vs. a



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- pair of Sonja 2.2's; the qualitative improvements wrought in the 2.2's low-end are readily apparent.

Finally, the exact crossover network topology used in the Sonja 2.2 is, as are all YG Acoustics' crossover networks, shaped by the firm's proprietary DualCoherent™ design software, which is the brainchild of company founder and Senior VP – Chief Engineering Officer, Yoav Geva. While there are many good loudspeaker-oriented CAD/CAM software packages available today, Geva's DualCoherent™ design software enjoys the singular ability simultaneously to co-optimize both frequency response and relative phase response (typically competing software systems can optimize one or the other, but not both at once). Though I'm not an engineer, I can't help but think that Geva's DualCoherent™ software is a big part of the 'special sauce' that helps give YG's loudspeakers their characteristically quick, clear, tightly-focused, and neutrally balanced sound.

In a nutshell, the Sonja 2.2 represents a careful re-make of the firm's predecessor 1.2 model, but one that adds the two distinguishing technical features that set the mighty Sonja XV apart; namely, the aforementioned BilletDome™ tweeter and a crossover network equipped with ViseCoil™ low-frequency inductors. Since both the inductors and—especially—the tweeters are time and labour-intensive to make, there is a cost increase between the Sonja 1.2 and the 2.2, from \$72,800/pair to \$76,800/pair. Once listeners have heard the sonic improvements ushered in by the 2.2's design, though, I think most would agree the price increase is money well spent.

Importantly, YG Acoustics has deliberately not left Sonja 1.2 owners behind, so that for a fee they may have their speakers upgraded to 2.2-status (it's great to see a company like YG stand behind its customers and its earlier designs in this way). Similarly, it is possible for Sonja 2.2 owners to upgrade their speakers to have them become two-woofer, three-module Sonja 2.3 models should the need arise. However, as readers will learn in this review, the Sonja 2.2 has a distinctive sonic appeal all its own (more on this in a moment).

For my listening tests I was invited to audition the Sonja 2.2's in the studio/mid-size listening room of GTT Audio/Video in Long Valley, New Jersey, USA (GTT's listening rooms enjoy a reputation for superb sound quality so that many manufacturers prefer to hold product roll-out events at the

GTT facility rather than at their own factories). The test system comprised a suite of Audionet amplification and analogue and digital source components, a Kronos turntable and tone arm fitted with an Airtight phono cartridge, and a complete loom of Kubala-Sosna Elation-series cables.

From the outset, there was a strong familial connection between the sound of the Sonja 2.2 and its much bigger sibling, the Sonja XV. Let's take a moment to explore in some depth just what that comment means.

First, much like the XV, the 2.2 conveys both an immediate and lasting impression of offering superabundant sonic transparency. The speaker makes joyful child's play of rendering small, elusive, low-level sonic details with effortless clarity and definition. Unlike many other speakers that claim to be good at detail retrieval, however, the Sonja 2.2 manages to be highly informative while also remaining uncannily smooth sounding and unflustered, whether playing loudly, softly, or anywhere in between (where competing speakers often achieve perceived detail at the expense of a subtly bright, brittle, and edgy sound). The upshot of this is that the 2.2 is a wonderfully natural sounding loudspeaker; there is absolutely nothing strained or forced about its presentation.

To hear this quality of transparency-plus-smoothness in action, listen to the opening 'Into: Part 1 – Afternoon' movement of Falla's *The Three-Cornered Hat* [Ansermet/L'Orchestre de la Suisse Romande, London FFRR/ORG LP], and note how clearly and precisely the Sonja 2.2 renders the textures, tonal colours, and stage positions of each orchestra section, while also neatly defining the acoustics (and reverberant characteristics) of the recording space. The result is a satisfying quality of unforced realism.

Second, the 2.2 is a decidedly full-range and full-throated loudspeaker that is capable of terrific extension at both high and low frequency extremes, while also delivering premier league dynamics—subject only to the constraint that the 2.2 works best in medium-to-medium large listening spaces (whereas the larger Sonja 2.3, Sonja XV Jr., and Sonja XV models offer progressively greater dynamic clout and lower distortion when used in large-to-very-large listening rooms). But heard in its proper context, which includes rooms that would be regarded as relatively large lounge spaces in typical European or British homes, the Sonja 2.2 lacks for nothing. ►

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- Bass depth and definition? Check. Explosive dynamics on demand? Check. Subtlety and nuance to die for? Check.

As a check on bass depth and definition, put on the third ‘Landscape. Lento’ movement of Ralph Vaughan Williams’ Symphony No. 7 “Sinfonia Antartica” (Bakels/Bournemouth, Naxos, 16/44.1) and listen to the masterful way that the Sonja 2.2 handles the deep, shuddering, descending pipe organ pedal notes used to suggest the otherworldly quality of the arctic landscape. It’s a true low-frequency *tour de force*.

Similarly, to verify the speaker’s macrodynamic power and vigour, listen to the third ‘Volcano – Adagio – Allegro – Adagio’ movement of Alan Hovhaness’ Symphony No. 50 “Mount St. Helens”. The movement begins quietly enough, but then suddenly explodes into a series of brute force orchestral dynamic passages meant to depict the violent eruption (and explosive self-destruction) of Mount St. Helens and when it did so the 2.2 rendered those passages with such fierce and fast-rising bursts of dynamic energy that a listening companion seated next to me literally bolted from his seat (perhaps suspecting something had just gone drastically wrong with the system’s volume control, which wasn’t the case at all). Such is the instantaneous power the Sonja 2.2 can bring to bear when the need arises.

But the true strong suit of the Sonja 2.2 involves its almost breath-taking ability to render both songs and soundstages with equal parts precision, three-dimensionality, subtlety, and nuance that just won’t quit. A brilliant example of this came in the form of the speakers’ superb rendition of an old favourite: namely, the sumptuous track ‘Nublado’ from *Será Una Noche*’s eponymous album (MA Recordings 45 RPM LP). ‘Nublado’ is a slowly unfolding, profoundly engrossing, and almost hypnotically rhythmic variation on a Tango known as a Candombe. The song is carried by an ensemble consisting of Marcelo Moguilevsky on clarinets and flutes, Gabriel Kirschenbaum on guitars, Gabriel Rivano on bandoneon, Martin Iannaccone on cello, and leader Santiago Vazquez on percussion. The recording was captured by MA Recordings producer Todd Garfinkle from the interior of a small church located, says MA, “about 150 miles from Buenos Aires”.

What floored me about the sound of the Sonja 2.2’s on ‘Nublado’ was their ability to reproduce the seductive richness of tonal colours and the delicate textures of the instruments

TECHNICAL SPECIFICATIONS

Type: Three-way, four-driver, modular floorstanding loudspeaker with sealed acoustic suspension cabinet enclosures

Driver complement (per loudspeaker):

One approximately 10-inch BilletCore woofer, two approximately 6-inch BilletCore mid-bass drivers, and one approximately 1-inch BilletDome/ForgeCore tweeter

Frequency response: Below 20Hz - above 40kHz, ± 1 dB in the audible band, $\pm 5^\circ$ relative phase throughout the entire overlap

Impedance: 4 Ohms nominal, 3 Ohms minimum

Sensitivity: 88dB/2.83V/1m 2 π anechoic

Dimensions (HxWxD): 129 x 22 x 63cm

Weight: 135kg per channel, unpackaged

Price: \$76,800/pair or £79,000/pair

Manufacturer Information: YG Acoustics LLC

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in play, the almost tractor-beam-like pull of the Candombe rhythm, while at the same time convincingly conveying the sound and ‘feel’ of a small church interior. In my experience, to hear this track on the 2.2’s is to be utterly drawn in, and that is due in no small part to a quality they deliver better than almost any speaker I have yet heard: namely, intimacy. While the Sonja 2.2 cannot deliver the giant ‘wall-of-sound’ presentation that the Sonja XV provides in very large rooms, one thing the 2.2 may do even better than the flagship model is to convey an up close and personal quality of musical intimacy—that is, a sense that one has been brought face-to-face with the very essence of the music.

The Sonja 2.2 is a remarkable loudspeaker that delivers much of the sonic excellence of YG Acoustic’s flagship Sonja XV, but that is more accessible in both a financial and physical sense. The speaker is so revealing that it requires top-class ancillary components to give of its best, but it will reward its fortunate owners with extraordinary musical experiences for many years to come. +