

Equipment Reviews

Magico S3 Loudspeakers

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The floorstanding Magico S3 costs \$22,600 USD per pair and measures 48”H x 12”W x 12”D, a small footprint that makes positioning them considerably easier and more rewarding, particularly in rooms not dedicated to listening. The speaker’s effective width is increased to 16” with handsome outrigger stands that, when set properly, couple the speakers to the earth’s continental shelf.

Despite its modest size, each S3 weighs 150 pounds -- like all current Magico speakers, its cabinet is made of aluminum well damped to suppress any ringing. The S3 is also the largest of Magico’s S models to have a monocoque chassis, which is claimed to provide greater stiffness than the multi-piece construction of, say, the S5.

The S3's fit and finish in one of Magico's six basic M-Cast finishes (Black, Pewter, Silver, Rose, Bronze, Blue) is beyond reproach. For a modest upcharge, you can get the S3 in a painted, M-Coat finish. Like other Magico speakers, the S3 is made *almost* entirely in house. No off-the-shelf drivers for these guys; the S3 has the same beryllium tweeter and Nano-Tec midrange driver found in the S5 (\$29,400/pr.), along with a pair of newly developed 8" woofers instead of the 10" model used in the S5. While I greatly admire inventors who first must invent something else in order to realize their true inventions, I sometimes wonder if it's actually necessary, or merely marketing fluff to justify a designer's OCD. In the case of Magico's Nano-Tec drivers, it seems to have been necessary. Here's why.

The enclosures of Magico speakers are sealed boxes; that is, they have no ports. A port allows the backwave of air pressure generated by a speaker's drivers to leave the cabinet quickly, reducing internal pressures and, according to Magico, the resultant distortions on the drivers. However, every type of speaker design is a compromise between strengths and weaknesses: ports allow a speaker to play louder and with seemingly more bass -- "seemingly" because ports are tuned to augment a small narrow frequency range, and usually roll off quickly thereafter. Without expert voicing, this can result in too much bass in one area and not enough further down. In contrast, a sealed-alignment speaker, while unable to play as loud, will behave more linearly in the bass and go lower in frequency (all else being equal), but at the risk of higher levels of distortion. Magico believes that a sealed alignment is the only way to get truly accurate bass (more about this shortly), and to prevent pressure-related distortion from compromising the S3's linearity, they've given it a monocoque aluminum cabinet, with braces machined in their own CNC facility. Aluminum is considerably more rigid than the medium-density fiberboard (MDF) of which many speaker cabinets are made. Finally, to fully realize the promise of a sealed-alignment design, Magico had to invent the Nano-Tec driver, currently the only driver based on carbon nanotubes that's used in a commercially available loudspeaker. Magico's published specifications indicate that the S3's distortion is only 3% higher at 20Hz than at 80Hz, in contrast to the 300% higher distortion over the same bandwidth with drivers made of more typical materials.



I also found the design of Magico's Elliptical Symmetry Crossover to be compelling. Magico was able to achieve a 24dB rolloff between drivers, but their Elliptical Symmetry Crossover allows this to be done with half the number of parts used in a traditional crossover. And as there's no such thing as a perfect part, fewer parts usually means higher quality, all else being equal.

Two criticisms: The S3's drivers are protected by magnetically affixed grilles that appear to be made out of aluminum. You're welcome to listen to the S3s with their grilles on, just as you're welcome to tour the Fine Arts wing of the Smithsonian Institution while wearing sunglasses. I'd advise against doing either, as both impose horrible colorations on artistry. Also, while the fit'n'finish of the speakers, stands, and packaging was exceptional, no physical manual was included (it is, however, available online once the product is registered). Granted, setting up the S3s was as complicated as setting up a pair of lamps, but still -- nothing?

Listening

"Music is beautiful the way it is. It needs no help or enhancement." -- Alon Wolf, President, Magico.

As I've said in multiple prior reviews, the cabinet that flexes least sounds best. You'll bruise your knuckles if you knock them anywhere on the Magico S3's cabinet of 0.5"-thick aluminum, and while the S3s made some beautiful music, rest assured: their cabinets did *not* sing along with the tunes. The Magico S3 demonstrated a remarkable ability to play cleanly and loudly at the same time -- that's what a stone-dead cabinet will do for you. Precious few manufacturers make genuinely inert speaker cabinets, and of those that do, few of their models have as small a footprint as the S3's -- and I can't think of a single full-range model that costs less. That's not to suggest that the S3 is a one-trick headbanger's speaker (it's not), but it is to say that, to ensure that the dynamic range of music is properly expressed, a speaker cannot resonate and thus add distortions to the music at dynamic peaks, regardless of what sort of music it's reproducing.



The S3 was linear and predictable, as I found when listening to "The Battle," from Hans Zimmer's score for the film *Gladiator* (CD, Decca 289 467 094 2). Overall volume levels within this track range from soft to

stupid loud, and depending on the volume setting, the only change I noted was in terms of room resonances (stuff on the walls started to rattle). The S3's sonic character never flinched with the volume setting. Sure, when I pushed them to jet-landing-in-my-room levels, the frequency balance tilted upward; that wasn't distortion per se, but the sealed-box design demonstrating its limits -- the bass output will lag behind the ultimate output levels of the midrange and tweeter. But again, that happened only at stupid-loud levels -- or in a room much too large for the S3s, and more suited for the larger S5s.

I frequently host other audiophiles for listening sessions. Many folks whose ears I trust stopped by to listen to the S3s, and invariably described them as *clean* (i.e., non-distorting) and *resolving*. And if I had to sum up the S3's sound in just two words, those would be the words. The S3s were among the most resolving speakers I've heard in mine or anyone's home, and those that may have had a smidge more resolution have cost exponentially more (as have the associated gear). In my own room, there was no question about the S3's superiority of resolution vs. prior residents. Listening to "Bag's Groove," from Jerry Garcia and David Grisman's *So What* (CD, Acoustic Disc ACD-33), a track I've used as a demo for years, I heard a wealth of information that was new to me -- not just the ringing, but the *fretting* of Garcia's guitar strings, the decay and inner detail of Jim Kerwin's double bass, and the space between the notes of the handheld shakers (I heard each rattle as a distinct sonic object) -- all this from a track I've heard hundreds of times. The S3s revealed new things about long-worn recordings to a degree that I hadn't thought possible this long and far into the audiophile game.



I found it impossible to point to any single reason why the S3s sounded heads and shoulders above the rest -- a system's sound is a function of every element in the chain, as well as of how the speakers interact with the room. But in terms of resolution, let's not gloss over the laundry list of technologies that may have contributed to the S3's world-class resolution: superstiff monocoque cabinet with sealed-alignment for the bass, the new midrange enclosure (found only in the S3, and purported to reduce distortions to a fraction of those found in other types of enclosures), the proprietary Nano-Tec drivers and Elliptical

Symmetry Crossover, and the extensive QA process by which all these technologies were optimized. The sum total of the Magico S3s -- the technological tour de force that they are, and how they interacted with my room -- left me awestruck by how much more info was conveyed from each shiny disc I put in.

And while the treble and midrange were both stunning for their transparency, the part of the audioband that really stuck out for its paradigm-shifting resolution was the bass. There was not “more” bass with the S3, nor did the bass sound deeper, despite frequency-response plots telling me otherwise. What the S3 did that no other speaker I’ve had in for audition has done was deliver degrees of bass texture, definition, and transient fidelity that I hadn’t known existed. Magico is firmly in the camp of those who believe that a sealed alignment is the only way to get accurate bass, and given that I’d never heard such accurate bass as I heard from the S3, I can now only agree with them.

Listening to the SHM-CD remastering of the Grateful Dead’s *Europe ’72* (CD, Warner Bros. 3WX 2668), I found myself nodding along with any instrument I focused my attention on (again, that superior-resolution thing). But it was when I focused on the virtuoso lines of bassist Phil Lesh that I realized how far the S3 had raised the bass bar. The Magicos got it all: the minor tonal differences of notes close together in harmonics and in time, the rapid-fire acceleration followed by a tempo change and lingering decay to nothingness, and above all, the weaving of the electric bass into the fabric of the entire performance -- the S3 delivered. Was it the sealed alignment, the advanced technology used throughout the S3s, or the unique way the S3s coupled to my room that provided such clearly superior sound? I can only say *yes* to all three, while assigning a special weight to none -- they all mattered. In short, the Magico S3 is the first loudspeaker to let me hear what was really going on in the bass. Such an experience is not to be missed -- and, once heard, it won’t be easily given up.



That's not to say that the S3's bass was without flaw. Physics got the better of it with some ultradeep (sub-30Hz) bass lines, which I heard (or didn't) in some staging cues, the decay of kick drums, and some organ parts of orchestral works. Two 8" woofers in a sealed box can move only so much air, and while the electric bass was represented throughout its ranges of weight and depth, some harmonics were missing during the decay of the kick drum in the title track of Steely Dan's *Aja*, as the second verse ends. While the frequency-response plot would indicate that the S3 puts out bass into the bottom octave, the level down there was attenuated. I'd estimate that more than 80% of the decays were there, but the last bit was rolled off. This, along with the absence of a ported design's frequency bump, will no doubt have some listeners thinking that the S3 doesn't have as much bass -- which I didn't find to be true.

When I threw on "Paper Tiger," from Beck's *Sea Change* (CD, Geffen 493 393-2), one visitor commented, "Where did all that bass come from?" There really isn't much musical information below 30Hz, particularly on pop or rock records, and the S3s could still rock, covering those genres with all the heft and depth that rock instruments deliver in real life -- but no more. The S3 didn't sound as thick in the bass as ported speakers do, but whether or not ported speakers' bass is accurate is a separate matter. All this means that, for the uninitiated, the S3's bass may sound a bit less grounded than that of a ported speaker. But good luck finding a ported speaker with as much bass *definition* as the S3 -- or as much midrange definition, for that matter, for they're interrelated: bass bloat smears midrange resolution and transparency. The S3s delivered levels of transparency and resolution in the bass and midrange that I've never heard from ported speakers.



The Magico was about as transparent and uncolored a loudspeaker as you're likely to hear, and extremely responsive to changes in upstream components. While the S3s will limit their owner's choice in amplification -- they loved power, preferably class-A solid-state, another byproduct of a sealed alignment; owners of flea-watt, single-ended-triode tube amps should look elsewhere -- all other changes I made upstream in my system were clearly audible with the S3s in place. A great example (my editor will hate me for this) was when I began playing with footers under my TG Audio power-conditioning boxes. When I played "Zombie," from Fela Kuti's *The Best of the Black President* (Megaforce/Knitting Factory KFR1001), the horn section went from having a tonally bleached quality with my homemade footers under the TG boxes to a more accurate tonality with the Stillpoint footers, which maintained all the *blat* of the

saxophones while removing the whitish treble, which I found objectionable. Surprisingly, adding the Stillpoints also improved the bass depth and heft, which I would never have expected *from merely using different footers under a power conditioner*. While this is an endorsement of the Stillpoints, it's also a statement of the exceptional transparency of the Magicos -- the sonic signature of footers, cables, AC outlets and plugs, etc., were all laid bare with the S3s in my system, while lesser speakers often didn't indicate any difference in the efficacy of these tweaks. OC-type audiophiles (*i.e.*, 98% of us) will love that the S3s can be "tuned" in this way. Of course, the S3s aren't changing at all; they're simply telling you all that can be told about what you've put in front of them -- and that will be a good thing or a bad thing, depending on your system and your willingness and ability to fine-tune it as needed. But I dare say the Magico S3s themselves will never sound bad, for that would imply that they *have* a sound -- and to my ears, they did not. However, if they're installed in a system that hasn't been optimized and the overall sound is bad . . . well, if you don't like the message, don't blame the messenger.

The combination of the S3s' increased resolution and narrow front baffles, the latter minimizing diffraction effects -- *i.e.*, soundwaves from the driver that are reflected off the front baffle and compromise staging and tonality -- led to a greater sense of soundstage depth and dimensionality, while also making it easier to follow individual performers on that stage -- both their instrumental lines and their onstage positions. This was obvious when I listened to "My Old Timey Baby," from *The Most of Dan Hicks & His Hot Licks* (CD, Epic EK 65481) -- I sensed greater amounts of space around, between, and behind the performers, while also being able to follow their individual instrumental and vocal lines, and gain great insight into their musicianship. While it was easy to forget all the audiophile mumbo-jumbo and just listen to music through the Magicos, it was also easy to hear and see how the parts comprised the whole.

One of the ways I found myself listening differently with the S3s than with other speakers was that I could enjoy music at different volumes and in different ways; it took me some time to put it all together. The S3s, being resolution monsters, didn't require a higher volume setting for me to hear the nuances of some recordings, as I found when I listened to *The Lumineers* and, for the first time, heard the studio reverb on the lead singer's voice in "Morning Song." I also spent a lot of time listening at stupid-loud levels, and enjoyed every minute of that as well -- another way of saying that I never found a volume level at which the S3s didn't like to be played.

Conclusion

The Magico S3's uncolored sound and virtually nonexistent sins of commission have made it one of the easiest products to review in my experience. Is it perfect? Of course not -- as mentioned, the bass below 30Hz isn't particularly satisfying, and I'd have preferred a bit more dynamic aplomb and foundational heft, and the grilles are sonically intrusive. Those criticisms are mostly of sins of omission in a small floorstanding speaker that punches well above its weight. But when it came to all the sins the S3 *could* have committed, well, it just didn't.

I'm not surprised about the lack of such errors. One of the things I respect and admire about Magico is the lack of variability they introduce to the entire pursuit of reproducing music in the home. Musicians and the people who build instruments will tell you the value of a good piece of wood in the making an instrument, as there's no consistency in the batches of wood from suppliers -- let the musicians, not the speaker builders, pick the wood.

Clearly, Magico has invested several million dollars in fixed assets to maximize the sound of every speaker model they produce -- models are designed, tested, measured, adjusted, retested, remeasured, readjusted, ad infinitum, solely to alter the signal as little as possible. That's why Magico pursues (and achieves) vanishingly low levels of distortion in their speakers.

Some will say that Magico speakers don't have a soul, as if that's a criticism. I agree: Magicos do what the upstream components and signals tell them to do. If you don't like what you're hearing, I can assure you that it's not the speakers' fault -- it's what you're feeding them. They're just doing what they're told to do, within the context of what, thanks to Magico's relentless drive to minimize distortion, they were designed to do: reproduce music with reference-level resolution.

Audiophiles who really want to hear their recordings, take note: Your invitation to join that club has arrived in the Magico S3.

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Associated Equipment

- **Preamplifiers** -- Ypsilon PST 100 TA, Audio Research Reference 5 SE
- **Amplifiers** -- Edge 12.1 Signature and Boulder Amplifiers 1060
- **Speakers** -- Rockport Technologies Merak II and Sheritan II
- **Sources** -- Sony XA-5400ES Signature with ModWright Ultimate Truth mod, Esoteric K-01 SACD/CD players
- **Cables** -- TG Audio interconnects, AudioQuest Redwood speaker cables, TG Audio power cords
- **Power treatment** -- TG Audio passive conditioner, ATL and Oyaide R1 outlets, WPZ wall plate

Magico S3 Loudspeakers

Price: \$22,600 USD per pair.

Warranty: Five years parts and labor.

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