

EQUIPMENT REVIEWS

Loudspeakers over \$40k



Magico M5

Redefining a Genre

Jonathan Valin

First, a confession: I generally don't like big dynamic loudspeakers. To me their chief *raison d'être* are loudness and bass. And since I gravitate toward small-scale acoustic music where neither is a necessity, I don't see the point of giving up all that you stand to lose with one of these behemoths for (to my way of thinking) the little that you stand to gain.

Yes, Virginia, you do give up a few items with a big multiway dynamic loudspeaker. First of all, where do you put it? If you live in a penthouse this may not be the issue that it is in my smallish listening room, although the corollary to “Where do you put it?”—to wit, “Where do you put it *without exciting all sorts of room resonances?*”—can remain a problem even in a penthouse. Second, how do you make that menagerie of drivers—all those paper or silk or metal or ribbon tweeters, upper-midrange cones, lower-midrange cones, mid/woofers, and woofers, with different on- and off-axis dispersion patterns, power-handling capabilities, and break-up modes—cohere? It's hard enough to make a two-way sound like a single thing, but a four- or five-way? Third, those giant enclosures aren't just hard to place; they're hard to erase. To me, the first essential duty of any loudspeaker (of any piece of hi-fi gear) is to disappear as a sound source. A “disappearing act” is a lot harder to achieve when you have a cabinet with the surface area of a picnic blanket, every square inch a potential source of diffraction

or reflection. Fourth, lots of drivers mean lots of crossovers—those heal-alls that are supposed to compensate for all the other problems I've mentioned (like different dispersion patterns, power-handling capabilities, and break-up modes). Crossovers may be necessary, but lots of them with lots of different parts, slopes, and hinge points aren't necessarily good things. (Just consider how hard it is to get the simple high-pass crossover in a subwoofer to work right.)

So what happens to that Holy Grail “disappearing act” when you house half-a-dozen different drivers, with half-a-dozen different high-pass and low-pass filters, in a gigantic singing box? Don't ask. Not only do you usually hear the box, you sometimes hear the individual drivers, the crossovers, everything. Now I'll grant that materials, technology, and engineering have come a long way in the past decade—and that big speakers are considerably better than they used to be. (The Rockport Hyperion was a high point for me, as were the Kharma Grand Exquisite and the Wilson MAXX Series 3 I heard at CES.)



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Nonetheless, as a group they still evince many of the driver-coherency and enclosure problems I've mentioned, and in worst cases, can still carry you about as far from the "single-driver" ideal as any kind of loudspeaker can take you. Is it any wonder, then, that I prefer (bass-limited) 'stats, planars, and mini-monitors?

But...what about the fifth string of that five-string Fender Deluxe American Jazz bass guitar, I hear some of you asking? What about rock-concert power handling? How can you listen to the latest Slayer album at "lifelike" (or would that be "death-like," because you're surely killing your ears) levels on a Quad 2905, a MartinLogan CLX, a Maggie 1.6QR, or a Magico Mini II? Well... you can't. There—I've said it. But let me also say something about so-called deep bass in many typical large ported dynamic loudspeakers.

So. Does Magico's big multiway speaker cure the traditional woes that have turned me off to many big multiway speakers?

First of all, more often than not the bass isn't really that deep. There is more than one gigantic loudspeaker out there with a steep roll-off below 35–40Hz. What keeps you from noticing this is its greatly elevated midbass and upper bass—a plateau in the 40–125Hz region that can make standard four-string bass guitars or Hammond organs or jazz/rock drumkits sound astonishingly powerful and "authoritative," giving the impression

of a really deep-reaching low end although none of these instruments really goes that deep (the lowest E of a four-string bass is 41.2Hz). Many audiophiles tend to like speakers that accentuate the mid-to-upper bass in this way. They think the sound is more exciting and visceral—and it is. It can also be annoying.

Second, there is the huge problem of coherence. I don't know how many times I've talked in these pages about the troubles I've seen trying to make cone subwoofers blend seamlessly with 'stats or ribbons or mini-monitors. I grant that some people are less sensitive to timbral, dynamic, and textural discontinuities among drivers than I am, but (outside of the MBL 101 X-Treme subs and a brief flirtation with the Wilson-Benesch Torus) I have never been able to come close to mating a cone sub to a "satellite" speaker of any kind without losing much of what I prized the satellite for in the first place. Not only do I always hear that sub playing faintly up into the midrange (no matter how low I cross it over), overlaying timbres, transients, and textures with its own greasy thumbprint; I also hear the enclosure of the sub singing up there, causing bass-range (and sometimes lower-midrange) instruments to sound more "localized" and "boxy." Hearing drivers and enclosures as the source of the music—or any register of the music—is the exact opposite of a "disappearing act."

Now, here's the kicker. Though I haven't made this point explicitly before, I generally feel that cone woofers present many of the same issues as cone subwoofers. Yes, they are housed in the same box as the midrange and the tweeter—and given proper time and phase alignment there are well-known advantages to projecting all the

sound from the same point or plane (although there are also disadvantages). Nonetheless, to me cone-bass-in-a-ported-box-in-an-average-sized-listening-room almost always sounds like, uh, cone-bass-in-a-ported-box-in-an-average-sized-listening room. Putting aside the inevitable (and often incurable) room modes—those huge, maw-like 60–80Hz peaks that swallow up everything below (and sometimes above) them—cones-in-a-box bass more often than not sounds louder, darker, lumpier, noisier, and less articulate than cone midrange and cone treble. The consequent audible discontinuity in timbre, transient speed, distortion, and resolution between bass-range and midrange and treble-range instruments instantly makes me more aware that I'm listening to a loudspeaker—just as it does with a subwoofer.

Given all that I've just said, why then am I reviewing a multiway dynamic loudspeaker in a relatively large enclosure (though, to give the M5 its due, at a mere 18" wide, 53" tall, and 21" deep, it is demure in comparison to most of its competitors)? The answer is that in complaining about the things I think typically get traded away, wholly or in part, in large multiway dynamic loudspeakers I am also pointing to the challenges that faced Magico's Alon Wolf and Yair Tammam in designing the M5.

Let's talk about how they went about tackling them.

First, consider the enclosure problem. How do you keep a box from singing along with the drivers it houses? Well, what is the box doing when it "sings"? It is being excited by the energy of the front and backwaves of the driver, adding its own resonant note to each, and then radiating

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that resonance back into the room for all the world to hear as the opacity, coloration, dulling, and smearing we call “boxy sound.” How do you prevent this? According to Wolf (see my interview with him on p. 96), to create a relatively resonance-free enclosure you have to balance three different, somewhat conflicting elements: stiffness (to push the enclosure’s resonant frequency as high as possible), mass (to dampen this higher-frequency resonance and reduce its Q), and damping (to further reduce the amplitude of the resonance and kill the sound of the backwave). Finding the right combination of materials to perform this complex bit of resonance-control is a somewhat controversial topic. For Wolf, adding the high stiffness of a 6061-T aircraft-aluminum baffle to the high mass and high damping of an airtight Baltic Birch box is the right formula (although it isn’t the only right formula). I can’t speak to the physics of Wolf’s box, but I can say this: The M5 is the first and *only* large multiway loudspeaker I’ve heard whose enclosure disappears into the soundfield like that of a mini-monitor. Indeed, the similarity between it and the Magico Mini II in this regard is striking. For all sonic intents and purposes, the M5s’ boxes just aren’t there.

However, Wolf had to address a couple of other matters in order to make his heroic enclosure work the way it was intended to. To begin with, he had to ensure that the only moving parts in his speakers were the drivers’ cones. If those drivers weren’t securely fastened to his inert enclosures, their frames would rattle against the aluminum baffles, inciting resonances and destroying the “seal” of his sealed boxes (more on this in a moment or two). To achieve this resonance-free seal, Wolf uses an ingenious tension-coupling

system that clamps the drivers at very high torque against their aluminum baffles and then “pulls” those baffles against the birch-ply boxes via thick stainless-steel tensioning rods that run between knobs at the back of the cabinet and the backs of the baffles (into which the rods are screwed by applying very high torque to the adjustable knobs).

O.K. We’ve got a box that doesn’t sing, a system of attaching drivers to that box that ensures that their cones are the only moving parts in the speaker, now what about the drivers themselves?

Those of you who remember my Magico Mini II review (in Issue 179) will recall how astonished I was at the magnitude of the improvement that a single pair of Magico’s proprietary “Nano-Tec” mid/woofers made to a sound that I didn’t think could be further improved. Designed by Wolf’s partner Yair Tammam, these Nano-Tec cones combine front-and-back multi-walled carbon skins embedded with carbon-Nano-tubes and an inner core of Rohacell foam to make exceedingly strong, light, stiff drivers. The Nano-Tec cones are then attached to 75mm titanium voice coils and a special neodymium magnetic system that is said to reduce distortion to new lows. (This is not an idle claim, BTW. I have seen independent laboratory measurements of the Nano-Tec drivers that show THD is 60+dB down even at *very* loud levels—results that would’ve been respectable in a phonostage not too many years ago.)

With the Mini II only one pair of drivers was changed to a Magico in-house design and the improvement was astounding. In the M5, *every* driver (including the MR-1 ring-radiator tweeter) is Magico-designed and all of the midranges and

woofers are Nano-Tec cones. Indeed, the M5s are the first speakers Wolf and Tammam have engineered with all-Magico drivers. The results... well, we’ll get to that in another moment. First, let’s consider one more piece of the multiway-speaker puzzle—the crossover.

In my Mini II review, I attributed the improvement in the sound in large part to the Nano-Tec driver (with its much higher-in-frequency breakup modes and much lower distortion) and in part to Magico’s superb CAD-designed crossovers. Wolf is a bit secretive about the slopes and hinge points he uses in all of his speakers, but he’s proud as punch of the quality of the parts he uses—gold and gold/silver caps, precision coils, and low-inductance resistors from Raimund Mundorf of Cologne, Germany. Once again, this divine excess isn’t just window dressing. To make a crossover work *precisely* the way it is intended to work, you have to use *precisely* the right-value parts, and those values can’t change with time or use. That the break-up modes (the frequencies at which any driver stops behaving in a linear fashion and starts to distort) of Magico’s 6” Nano-Tec midrange cones have been moved out to nearly two octaves above its passband is a remarkable accomplishment, but it would go for naught if Magico’s in-house-designed crossovers didn’t ensure that the output of that midrange driver was completely removed from the passband well before those breakup modes start to matter. With the Mini II, I can remember being shocked not just by how much better the new Nano-Tec mid/woof sounded in its own right but also by how much better it made *the tweeter*—no longer roughed up by the residual break-up-mode distortions of the midrange driver—sound. Once again, this is a

testament to both driver and crossover.

Finally, before turning to the sound itself, let’s consider the M5’s bass—as its, I dare say, unique quality will be the very first thing you notice when you listen to M5s, although you will also notice the newfound buttery smoothness of the speaker’s treble. How come the low end of the M5 sounds so flat, so seamless, so completely integrated with the other drivers, so *non-big-speaker-like*? True, the bass is still coming from a cone-in-a-box—two 9” cones, in fact—but these are highly linear, very-low-distortion Nano-Tec cones in a superbly engineered box with the highest-precision crossover that the mind of man (or, at least, of a man named Alon Wolf) can design. In addition to this, Wolf’s box is sealed—

The M5 is the most neutral
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multiway dynamic speaker
I’ve heard in my home.

not ported.

Sealed-box (or acoustic-suspension) bass has, and has always had, certain distinct advantages over ported bass (and vice versa). Although a sealed box is *much* harder to make because of the enormous pressures generated inside it by the backwaves of the woofers, it is also inherently more linear, as the air trapped inside the enclosure acts as a spring that returns the woofers’ cones to their zero point above and *below* resonance, allowing the cones to remain flatter in response

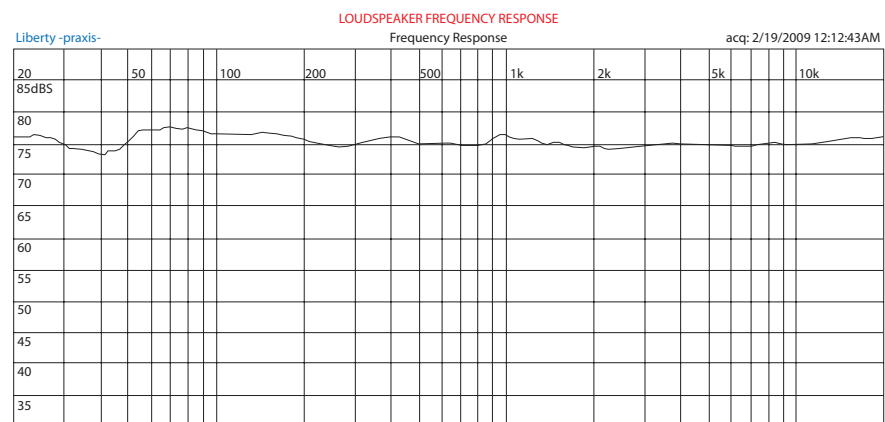
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and lower in distortion longer (which is to say, to play deeper into the bass without breaking up or petering off) than the woofer of a ported design. The trade-off in an acoustic-suspension design (other than the greater difficulty of building the sealed enclosure) is sensitivity. It takes more power to drive the woofers in a sealed box than those in a ported box. You also lose that often-*gemütlich* resonant peak in the low-to-mid bass, which can add energy and excitement to the sound.

So. Does Magico's big multiway speaker cure the traditional woes that have turned me off to many big multiway speakers? If you read my CES report (in Issue 192), you already know that the answer is pretty close to an unqualified "Yes!" The M5 is, quite simply, the finest big multiway cone loudspeaker I've heard in my home (or, for that matter, in someone else's home or at a show), largely because it is the most neutral and coherent and delicately detailed, lowest-in-enclosure-and-driver-coloration, fullest-range multiway cone loudspeaker I've heard in my home or someone else's home or at a show. Indeed, as I said in my CES report, I have never auditioned a multiway dynamic speaker that comes this close to the "single-driver" ideal or disappears this completely as a sound source.

You can get a sense of why the M5 sounds so octave-to-octave seamless—so much like a single-driver transducer—by looking at the following RTA, taken from the listening position in my room.

This is *standard-settingly flat* on-axis response, testifying to the superb integration and linearity of all five of the M5's drivers, from woofers through midranges to tweet. But it isn't just flat frequency



response that makes the M5 so special; after all, I've tested other very-flat-measuring speakers (the MBL 101 X-Tremes, for instance) that didn't sound like the M5s. There is something else going on here—a marked overall reduction in driver/enclosure/crossover distortion and coloration—that makes the M5 the first (and thus far only) big cone multiway loudspeaker I've heard that has much of the coherence, resolution, and lack of distortion of an electrostat.

This comparison to electrostats has, I'm afraid, been worked to death in the audio press (sometimes by me). But the clarity, freedom from distortion, and octave-to-octave coherence of 'stats remain a benchmark, and each time a speaker comes closer to this ideal we trot out the analogy. Here it applies more appropriately and completely than ever before in my experience. If you can imagine a MartinLogan CLX—the most neutral and transparent electrostat I've tested—with greatly increased extension and linearity in the low-to-mid bass, a sweeter, more effortless, more extended treble, slightly less low-level

resolution and (hence) transparency-to-sources, *slightly* less sterling dynamic range and scale on *pppp*-to-*mp* passages or at very low listening levels (where the CLXes remain champens), but considerably fuller and more lifelike reproduction of tone color and instrumental "body" at any volume and considerably better dynamic range and scale on *mf*-to-*ffff* passages and at medium-to-loud listening levels, equally great transient response top to bottom, and much wider, deeper, taller soundstaging, then you have an accurate idea of how the M5s sound.

No, cones aren't quite as high in resolution and low in grain as 'stats; even the Nano-Tec drivers add just the slightest overlay of texture to foregrounds and backgrounds, making the difference between listening to M5s and CLXes rather like the difference between viewing a slide enlarged and projected on a screen by a Leitz projector and viewing the same slide on a light table with a loupe. The CLXes will tell you a bit more about how a record or CD has been recorded and engineered. But its peerless transparency-

to-sources comes at a price that you don't pay with the M5s, which, unlike CLXes, never make lousy recordings sound barely listenable and do anything but roll off the bass.

Let's talk about the M5's bass. A friend of mine—Andre Jennings, a first-class listener with a superb ear (and a gifted audio engineer, to boot)—said rightly about the M5s that it is the first big box loudspeaker he's ever heard in which the enclosure didn't seem to be playing along with the music. I myself have never heard anything quite like it from a cone speaker. The bass octaves here are so much flatter, better integrated with the midrange, and lower in distortion and coloration than they usually are with cones-in-a-box that it is rather like listening to the planar bass of a Maggie I-U (which remains, after all these years, my ideal). Bass-range instruments from the deep-reaching plucked doublebasses (faintly doubled by the glistening timbre of plucked harps) in the Passacaglia of Lutoslawski's great Concerto for Orchestra [EMI]—where the notes of the bass line (which, after all, are what a passacaglia is based on) are clearer and more lifelike than I've heard them sound before—to the thrilling entrance of the electric bass on Alison Krauss' "Forget About It" [MoFi]—which seems to rise straight up from the floor as if lifted on pneumatic tubes, an almost literally solid foundation perfectly in tune, time, and tempo with the rest of the band (rather than a flooded basement of ill-defined pitches, timbres, and rhythms)—are so "freed-up" from the drivers and the enclosure, so quick and finely detailed and naturally imaged (rather than artificially spotlighted), so close to the absolute in pitch, color, texture, and dynamic that it is kind of mind-boggling. Cone bass just hasn't sounded

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like this in my past experience—ever. Yeah, the M5s will shake the floors with the best of them (just put on the third track of *The Thin Red Line* soundtrack and strap on your seatbelt), but rattling floors, windows, and walls is (thank God) in many ways the least of what these speakers do. (I've just never heard a better blend of low, mid, and high from a dynamic multiway. I've never heard a smoother presentation of low-, mid-, and upper-bass, either—from anything.)

Speaking of highs, if you're familiar with the ScanSpeak Revelator that Magico uses in its Mini and Mini II, you're going to be in for a surprise. I don't know exactly what Wolf and Co. have done with that in-house ring-radiator tweeter (although I do know Wolf is using a powerful neodymium magnet of Magico's own design), but whatever it is it makes the treble octaves blend as seamlessly with the midrange as the bass octaves do. There just isn't a note that you can point to and say, "Oh, yeah, *now* I hear the tweeter!" Frankly, this is not something I could have said about the original Mini or even the Mini II, as improved as it was in this regard. The tweet in both iterations of this great mini-monitor did have an audible rising response and a bit of residual roughness. Not here, with Magico's own MR-1 tweeter. Indeed, if you are used to the sound of the Mini, you may at first feel cheated of top end—the treble is that smooth, flat, and low in customary distortions. But put on any record with considerable midrange and treble energy, like the youthful Nadia Salerno-Sonnenberg's fiery rendition of the Prokofiev First Violin Sonata [MusicMasters], and marvel at the lifelike timbre and dynamics of the fleet, eerie, muted runs of scales (which cover almost the entire range of the instrument

and which Prokofiev himself said should sound like "wind in a graveyard") at the finish of the first movement *Andante assai*, or at the in-the-room-with-you realism of the whistling harmonics that close the second movement *Allegro brusco*, or at the rhythmic clarity of the tricky cycle of eighth notes (which alternate 5/8, 7/8, 7/8, 8/8) that starts the final movement *Allegroissimo*. (Those folks who claim that there is no way to tell how a piece of music should sound on a recording ought to look at a score every now and then.)

As for the midrange...Magico has long had a lock on that. The Mini II was the most lifelike dynamic speaker I'd heard on voice, guitar, sax, trumpet, viola, piano (above the bottommost octaves), you name it. I don't know that the M5 is *better* (save that its mids blend with the bass and treble more seamlessly), but it sure is every bit as good. Just listen to Miloslav Klaus' phenomenal rendition of Britten's *Nocturnal after John Dowland* (on a great-sounding Panton LP)—eight variations for classical guitar so famously difficult that Julian Bream, who was Britten's dedicatee, declared them unplayable. Eventually, Bream mastered the piece, and so, God knows, has Klaus. The Czech virtuoso wrings colors and textures from these toss-and-turn restless, drowsy, dreamlike variations (the Dowland theme was written to accompany a song on sleep and death) that will astound you, especially through the M5s. I've simply never heard a more realistic facsimile of a classical guitar or of a classical guitarist on a hi-fi system. When you hear piece, performer, and performance reproduced this fully—when a speaker lets you understand not just how beautiful music sounds but also how much craft and skill and intelligence it took to compose and

to play it—it is an almost irresistible invitation to keep listening. That's what a great loudspeaker and a great stereo system really buy you.

Obviously, the M5 is every bit as marvelous with the human voice as it is with guitar (or anything else). Alison Krauss' soprano, Holly Cole's contralto, Frank Sinatra's baritone, Tom Waits' bass pop up in your room with breathtaking realism. Better still, as with Miloslav Klaus' guitar, you not only hear the timbre and texture of each of these voices with astonishingly high fidelity; you hear precisely the way these vocalists are *using* their voices—the way they're thinking and feeling about the words they sing. As I pointed out in the last issue in my Odyssey Khartago review, great singers are inevitably also great actors, and the M5 gives you their entire performance as if it were reading from their scripts. It sends a literal chill up my spine to hear Frank Sinatra sing and act the lyrics of "What's New" from *Only the Lonely* [MoFi] and, minus a bit of whiskey-colored wear-and-tear on the vocal cords, bring virtually the same sophisticated mix of lyricism and *weltschmerz*, the same *life experience* to the song played back through the M5s that he did when I heard him sing it live many years ago.

As for soundstaging...that depends on the LP or CD, for the M5 goes as wide or as narrow, as shallow or as deep, as tall or as short as the engineering and mastering allow. Though I wouldn't say its stage is quite as encompassing or uncannily three-dimensional as that of the MBL 101 X-treme (which, because of their omni design, simply own that aspect of high fidelity), it is *at least* as good as any other kind of speaker I've heard, including the Mini IIs. Better still, like the great MBLs, it utterly disappears into the

stage, leaving behind nothing but the panorama of instrumentalists and the music they are making.

The words "the best" have been bandied about quite a bit in this magazine and on our Web site (avguide.com)—and there is legitimate concern that they are being overused. Unfortunately, no other words will do to describe how I feel about the Magico M5. Not only has it redefined an entire genre of speakers for me, it has carried me substantially closer to the absolute sound. So close, in fact, that, for the first time, I can imagine the possibility of someday achieving a genuine

SPECS & PRICING

Magico M5 Loudspeaker

Type: Five-driver, four-way, floorstanding dynamic loudspeaker

Driver complement: One MR-1 ring-radiator tweeter, two 6" Nano-Tec midrange, two 9" Nano-Tec woofers

Bandwidth: 22Hz-40kHz

Impedance: 4 ohms

Sensitivity: 89dB

Recommended power: 50-1000 watts

Dimensions: 18" x 53" x 21"

Weight: 360 lbs. each

U.S.

Price: \$89,000/pr

MAGICO

Berkeley, CA
(510) 649-9700
magico.net

U.K.

Price: On agreement

ABSOLUTE SOUNDS

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Setting Up and Driving the Magico M5s

The M5s are a handful. Although I've had other speakers that weigh a good deal more than these Magicos do, they've broken down into semi-manageable parts. The M5s do not. You are going to be dealing with two four-and-a-half-foot tall, nearly two-foot deep, 360-pound objects, so...get some help.

Happily the speakers arrive with wheels on them, allowing you to roll them out of their crates and freely maneuver them around your listening room. Once you've settled on a spot for the speakers, the wheels must be removed—a process that involves tipping the enclosures fore and aft (Magico supplies an illustrated instruction booklet that shows you how to uncrate the speakers and remove the wheels safely). After the wheels are off, gliders on the bottoms of the baseplates allow you to move the speakers for fine adjustments without marring floors. (You will need a strong friend to help you do this and be sure to avoid touching the drivers as you push the speakers about.) Like most big speakers the M5s thrive on room, so keep them as far from sidewalls and backwalls as is feasible and at least as far apart as the distance between

your listening seat and their front baffles.

Unlike the Mini IIs, which liked to be listened to slightly off-axis, the M5s fare best when the centers of their drivers are pointed *directly* at your ears. (Use the nipple of the ring-radiator tweeter as a guide.) In a smaller room, this makes for a “narrower” sweet spot. It's not as if the M5s don't sound great well off-axis; they just don't sound as great as they do when you're sitting directly in their tractor beams.

Be aware that the M5s are very full-range loudspeakers that will put an amount of energy into your room. In a less-than-palatial estate this can be problematical, and you may have to consider adding corner traps and diffusors to reduce room resonances in the midbass. As with any kind of room treatment, be careful not to overdamp.

Although they are rated at 89dB sensitivity, the M5s are actually closer to 86dB sensitive. On top of this they are acoustic-suspension speakers. All of which means you're going to need some power to drive them. I have tried them with both great solid-state amps (Soulution 700s) and great tube amps (ARC 610Ts), and

they sound fabulous with each, though fabulous in different ways. For the most “accurate” sound (particularly in the bottom octaves), I would lean toward transistors—and especially toward the Soulution amps, which are a match made in audio heaven with the M5s. For a more bloomy, three-dimensional sound and higher ultimate SPLs, I would tend toward the 610Ts (also a match made in audio heaven). In any event, if you're going to spend \$89k on a pair of the world's best loudspeakers, you would be foolish not to drive them with the best electronics you can afford and harness them up with the best cables and interconnects.

Speaking of cables, the M5s are designed to be bi-wired or bi-amped. Each speaker has two sets of binding posts and both sets must be used. Although Magico supplies two pairs of (very good) MIT jumpers if you choose to single-wire, the speakers sound better bi-wired with two identical sets of cables and best bi-amped (which is something you can do with the Soulution 700 but not the ARC 610T). **JV**

facsimile of the real thing—not merely parts of it, not merely midrange or treble, voices and violins, but the *whole* thing from the lowest notes to the highest, from the least dynamic utterance to the most. *That* is how natural—how complete—the M5 sounds to my ears. It is, in fact, the most complete loudspeaker I've ever heard.

Remember that when I say “the best,” I mean “the sound, overall, that comes closest to the real thing to my ears”—with the kind of music I listen to most often, at the levels I typically choose, and in the room where I listen. What I *don't* mean, which may be as important as what I do mean, is “the best in every way” or “the best for

every listener.” As good as it is, the M5 has sonic competition in several areas: The \$250k MBL 101 X-Treme omni is more immersive, dimensional, and outright exciting; the \$23k MartinLogan CLX electrostat is more transparent-to-sources, more finely detailed, and better scaled dynamically on pianissimos and at lower levels; the \$115k

Symposium Acoustics Panorama hybrid ribbon/planar is every bit as realistic in timbre and texture in the midrange and lower treble and better at softer volumes; the \$68k Wilson Audio MAXX 3 has more lifelike wallop in the mid-to-upper bass and much the same beauty of timbre; the \$32k Magico Mini II mini-monitor has just as remarkable a “disappearing act” and a similar midband; even the \$1.7k Magnepan 1.6QR quasi-ribbon planar is as top-to-bottom seamless and “of a piece,” where it plays. On top of this, the M5 is very expensive, sounds its very best played loud (or louder), and may not suit some musical tastes or some rooms or some ancillaries as well as it does mine (although, frankly, I can't imagine anyone being disappointed with it).

There may be other speakers on the market or on the horizon that outperform the M5s overall—the absolute sound is, after all, a rapidly moving target. If there are such speakers, I simply haven't heard them yet. If you have, I have no argument with you. For all the observations and evidence I've presented in support of my opinion, there is, finally, no arguing taste. I freely concede that there is room out there for more than one nominee as “*the best loudspeaker.*” You've just read about mine. **tas**

Marten Coltrane Soprano

Jazz for the Smaller Room

Roy Gregory

More often than not, a high profile, high-priced and technologically advanced design is followed by simplified versions at lower prices, models that dilute the performance while slashing the purchase price. Not so with Marten: Their first model, the flagship Coltrane was followed by an even more ambitious project, the massive, four-cabinet Coltrane Supreme. Now comes the smaller and outwardly simpler Coltrane Soprano (although personally I think that 'Favorite' would have been a nicer name and maintained a greater sense of Coltrane continuity) and again, Marten have defied expectations. After all, the new model has all the outward indicators of a cost cutting, cash in design: fewer drivers, a smaller cabinet, less bandwidth. That is until you notice that the Coltrane Soprano still tips the scales at a far from inconsequential €40,000. Not much cost cut there then...

In fact, the rationale for this new Coltrane model is quite distinct and rather than offering a slice of Coltrane performance at a lower price, has more to do with delivering as much of the larger, three-way Coltrane's performance as possible in the confines of a smaller room and a smaller cabinet.*

So, far from cutting costs, it employs the same carbon fibre/honeycomb sandwich for its boat-backed cabinet, the same stainless steel outriggers and Black Diamond Racing cones as the larger Coltrane. It also uses a diamond tweeter (in this case the new 26mm model from Jantzen), ceramic drivers for the mid and bass

frequencies and a laminated MDF baffle. Indeed, in most important respects this is, quite literally, a chopped down Coltrane — and that's no way to create a bargain, believe me. Despite the smaller size, most of the material costs are going to approach those of the larger model with only the driver complement pegged back. Meanwhile, building the beast and finishing it, packing it and guaranteeing it will also all cost pretty much the same as the larger Coltrane design. What savings there are come from the reduced driver complement and some detail changes. So why build a smaller version of the same thing, with less bandwidth to match the slightly lower price?



EQUIPMENT REVIEW - Marten Coltrane Soprano Loudspeaker



Because it's going to do a different job — one for a different listener with a smaller room.

As impressive as the original Coltrane is, there's no escaping the fact that it's a large loudspeaker that, while it's capable of impressive performance in smaller rooms (largely due to its tightly controlled low frequencies), really blossoms once it's given space to breathe. That sonically unobtrusive cabinet allows the speakers to disappear while the driver area delivers enough bandwidth for a real sense of scale. In contrast, listen to the Coltrane Soprano and while it shares the same lightness of touch and precise transparency that characterizes the Marten sound, the fact that this characteristic extends much lower in the smaller cabinet makes it even more tolerant of smaller spaces and closer boundaries.

But there's other things going on beneath that familiar exterior that bear closer examination and point quite clearly to a subtly different blend of

high gloss lacquered) rather than the layered, solid wood employed in the larger design. Two slabs of differing thickness are used, with a damping glue in between to create a constrained layer and a baffle 56mm thick. The stainless steel outriggers and BDR cones are for more than just leveling and stability; they also optimize the distance of the port from the floor boundary. So far so similar: the real differences lie in the driver complement and crossover configuration — and in turn, the specific strengths and weaknesses that go with them.

Rather than the three-way, twin bass driver configuration of the Coltrane, the Soprano is a straight two-way design, both of the 7" ceramic-coned bass-mid drivers working across their entire range. The two circular cutouts in their diaphragms suppress the first break-up mode, helping their midrange performance and ensuring a clean transition to the high-frequency driver.

“[The Soprano delivers] as much of the larger, three-way Coltrane's performance as possible in the confines of a smaller room and a smaller cabinet.”

virtues in this design, virtues that also clearly separate the Coltrane Soprano from its larger namesake.

Let's look at the detail. As mentioned above, the boat-backed, one-piece composite cabinet with its large, downward firing reflex port closely echoes the construction of the original Coltrane. Likewise the carefully shaped and beveled front baffle is unmistakable, although in this instance it's formed from laminated MDF (veneered or

This is a new design from Jantzen and while it can't boast the 100kHz extension of the Accuton design used in the larger speaker, 55kHz is far from shabby. Tying this together is a hybrid first/second order crossover consisting of just three, extremely high-quality parts and hard wired throughout with Jorma cable.

The end result of combining a smaller cabinet with the two-way configuration is a speaker that delivers the same 89dB sensitivity as the Coltrane

and gives up 7dB of low-frequency extension (along with the cut at high-frequencies). But the news is a long way from all bad: smaller and easier to accommodate, the two-way configuration with its simpler crossover is also significantly easier to drive. In comparison to the larger Coltrane, the rated impedance rises from four to five ohms,

SPECS & PRICING

The Marten Coltrane Soprano Loudspeaker

Type: Two-way reflex loaded loudspeaker

Driver Complement: 1x 26mm Jantzen diamond dome
2x 180mm ceramic cone bass/mid

Crossover: 1st/2nd order

Bandwidth: 27Hz - 55kHz +2dB

Impedance: 5 Ohms nominal

Sensitivity: 89dB

Dimensions (WxHxD): 310 x 1120 x 400mm

Weight: 36kg ea.

Finishes: Gloss black with baffle in Oak, Cherry, Maple, Walnut or Piano Black

U.S.

Price: \$50,000/pr

U.K.

Price: £36,495/pr

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EQUIPMENT REVIEW - Marten Coltrane Soprano Loudspeaker

which may not sound like much, but an increase in the minimum value from 2.7 Ohms to 3.6 Ohms is definitely significant when it comes to drive time. The other big difference is in the bottom-end voicing, which while leaner and less obviously powerful than the Coltrane, is wonderfully transparent and surefooted. Combine that with a little welcome room reinforcement and the result offers surprising musical scale and stability from such a compact cabinet.

Use the Sopranos in a large room and they don't sound authoritative or commanding. Detailed, precise, focused and incredibly quick to be sure; just a little on the cool and lean side to offer the sort of substance and wallop that comes with from a real musical foundation. The orchestral fireworks that enliven the Enigma Variations are certainly impressively sudden, but the full-on tuttis don't have that grounded feel, that reach right down to the floor feel, that massed brass and heavily bowed strings should really deliver.

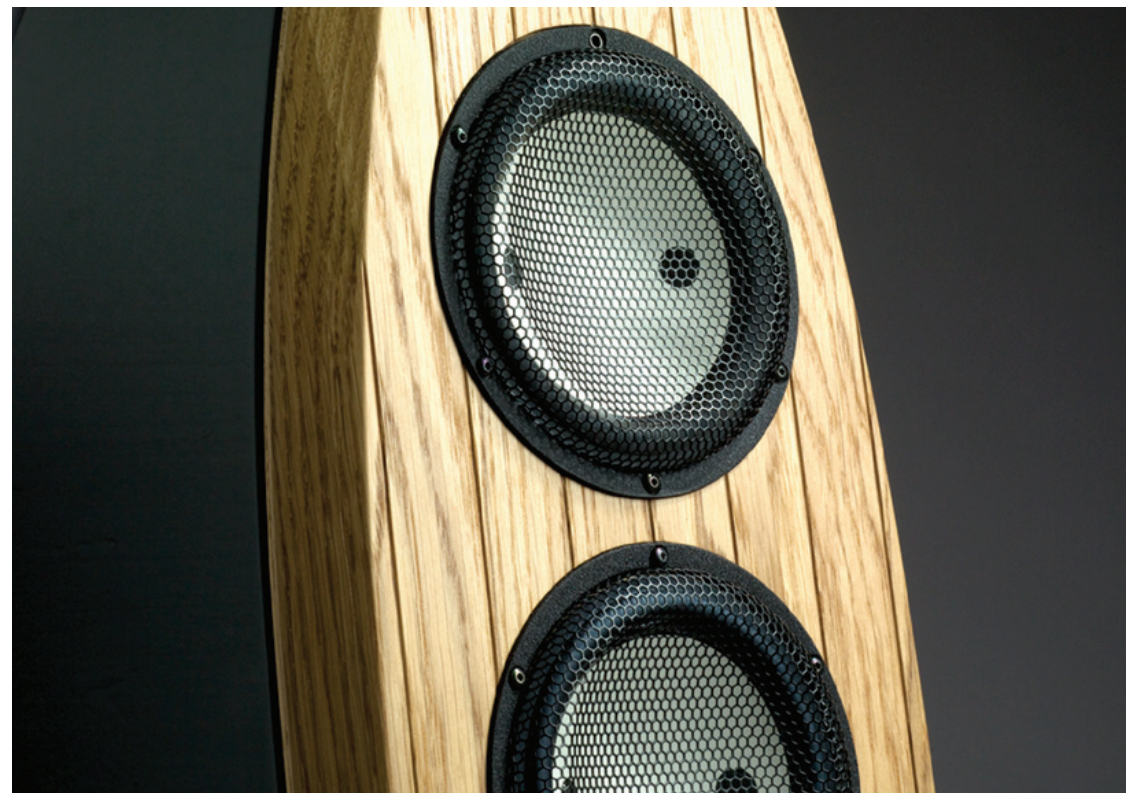
Now move them to a medium to small space and hear them blossom. They are the complete opposite of the Coltrane in that regard. The extra reinforcement from the room fills out the body and bottom end, Nimrod really gets to puff out his chest now, the seamless soundstage and cavernous acoustic making the far end of the listening room simply disappear. Of course, it's an acoustic trick, and comparison with larger, more fulsome designs will quickly reveal a lack of absolute bottom end texture and transparency, a vague rumble where the surface of the stage should be, but that doesn't stop it being immensely impressive and enjoyable.

And you know what? I won't tell anyone if you don't, because the vast majority of listeners will

never notice. They'll be too busy marveling at the scale and dynamic range emanating from such unassuming boxes — and given a smaller listening space I'd be among them.

But there's more to the secret of the Soprano's success than a carefully weighted low-end balance. It's not just a case of what it gives you, but how it gives it to you too. One of the problems with any speaker this clean and this revealing is that those strengths can quickly become a double-edged sword if there's news you'd rather not hear. The Soprano's greatest strength is the way it manages to keep those attributes firmly on the positive side of the balance sheet, a feat it achieves largely I suspect, as a result of its incredibly simple crossover design. There's a genuine lack of restraint or intrusion in the sense of musical flow, with voices and instruments easily able to traverse the crossover region without fracturing or stumbling in the process. It's this that gives the speaker its lucid agility and, while I don't have the virtue of having the two side by side, I also suspect that this is one regard in which the soprano actually betters the larger Coltrane, despite that speaker's dedicated midrange driver. It's not a question of continuity per se; more one of musical freedom and expressive range, aspects at which the Soprano excels.

Reaching for "the man" to make the point could be considered a bit of a cliché, so how about a bit of Miles instead, and *Sketches Of Spain*. Just listen to the fluidity and freedom of Miles' lines, the plaintive, stretched out, sinuous melodies that he places, note by unforced note over the muted instrumental backing. Listen too, to the detail and crisp attack of the percussion,



“Smaller and easier to accommodate, the two-way configuration with its simpler crossover is also significantly easier to drive.”

but more importantly, the way all those taps and clacks and rattles lock into the music, adding to the atmosphere rather than distracting from it. This level of integration and dynamic nuance are actually harder to achieve, their absence easier to expose, with the measured sparseness of a track like this than with some up-beat frenzy.

Just listen and marvel to the way the track grows in density and complexity while Miles' horn grows almost imperceptibly to keep pace and proportion, always centre-stage, always riveting your attention.

Voices too, are handled with assured and easy grace. Sinatra's familiar tones and phrasing are

EQUIPMENT REVIEW - Marten Coltrane Soprano Loudspeaker

unmistakable, Nice And Easy summing up the Soprano's delivery perfectly — and exceedingly enjoyably, the balance between Francis and the perfectly poised arrangements effortlessly captured and projected into the room. From the careful muting of the brass to the absolute clarity with which you can hear the percussive quality of the piano, the layout of the band, Sinatra's relationship to the mic and the way he moves for emphasis in his phrasing, the Sopranos deliver exactly the kind of natural intimacy and focused stability that make performances so much more convincing. You can hear the way that the instruments are being played, the way that Sinatra works both his voice and the mic — but rather than screaming, “Look, look at me — look at all the detail I'm revealing”, the Martens integrate that information into a more real whole. This isn't detail for detail's sake in the style of some, super-etched speakers; this is simply allowing more of the signal through and making more sense as a result.

Time then to step back a little and take stock. What we have here is a two-way speaker of compact dimensions that works in smaller rooms and delivers a sound of tremendous precision and insight; sounds like a classic mini-monitor. It even suffers from the classic mini-monitor trade-off of dynamic against harmonic resolution; the laws of physics pretty much dictate that you can have one, the other but not both, with the Marten sacrificing warmth and richness for transparency and micro-dynamic definition. But to less of an extent than you might think, especially if you really dial in the set-up and sit a little closer than you might expect — on the points of an equilateral triangle is about right. And that's an

important point because in many ways it sums up this speaker.

Yes, appearances can be deceptive; the Soprano looks like the bigger Coltrane but isn't. Nor does it look like what it is, which is one of the best (and most expensive) mini-monitors in the world. Actually, let's make that mini-ish — because the beauty of the Coltrane Soprano is that it delivers all the strengths of the best mini-monitors with significantly less compromise. It images with the best of them — but delivers a significantly larger and more defined acoustic space. That's because it's got more bandwidth and tons more dynamic range — a performance that it delivers with gusto, resulting in real musical impact, drama and dynamic contrast, without needing a direct connection to the National Grid. It takes up no more space than the high-zoot stand-mounts and leaves them all — without exception from what I've heard — comfortably in its wake; Transparency AND scale, rather than one at the expense of the other.

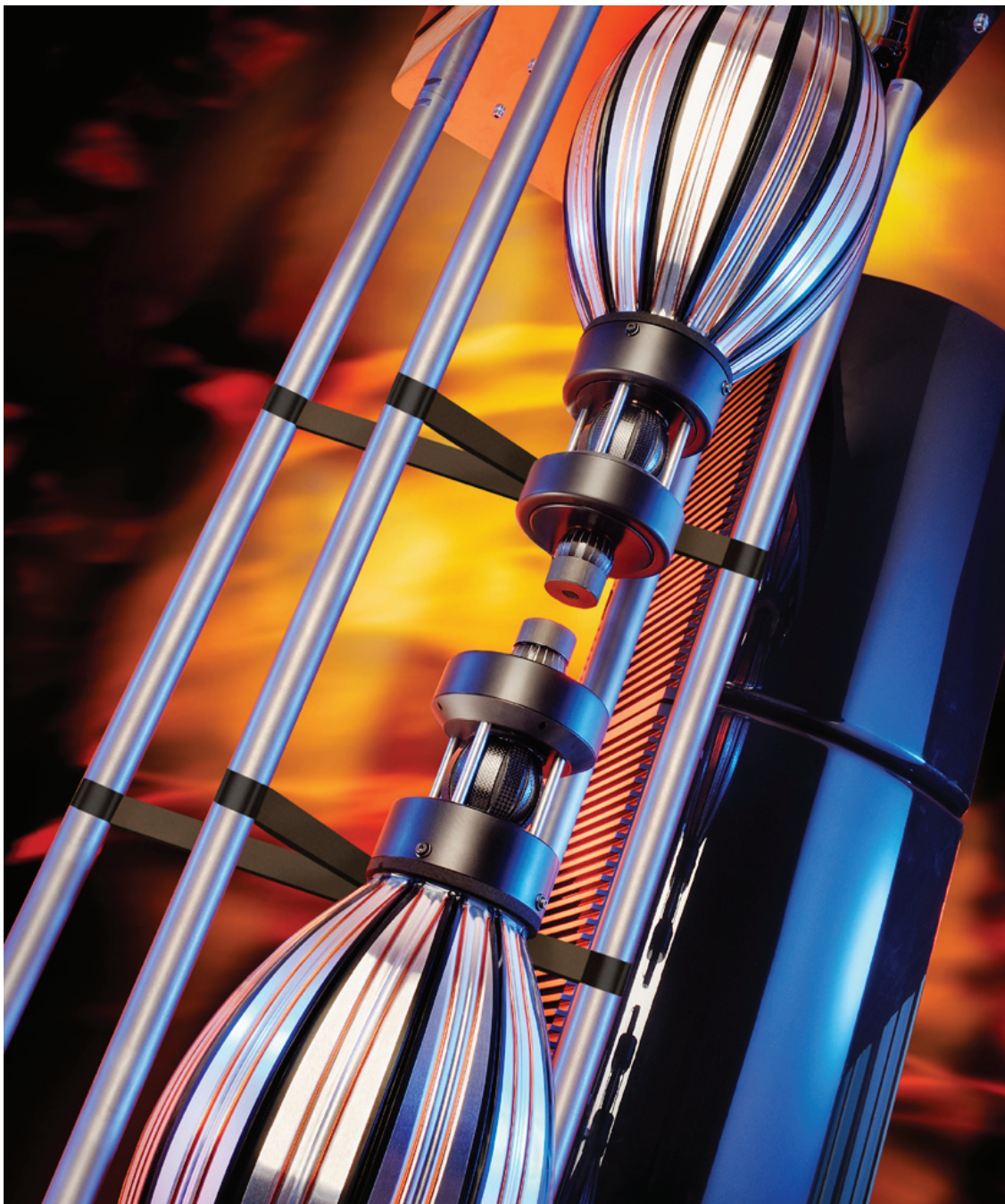
The rub — and there's always a rub — is the price. That's ameliorated to some extent by the Soprano's more modest power demands. 100 really good Watts will do it — 200 and they fly! A quality integrated and a decent, well weighted front-end and you'll be away. I had a high old time with the VPI Classic running into the Burmester 032 amplifier, while the fluid grace of the Crystal Dreamline was the icing on the cake. That's not exactly a heavy bill given the ticket on the speakers but it is a system that sings — and goes staggeringly load with considerable grace in a smaller to medium sized room; should circumstances and the Devil demand, of course.

At this price, with a little more space you could

run the Avalon Indra. A little more again and you might get away with the Crystal Arabesque, both speakers which can do the bandwidth, dynamics and harmonics thing better and bigger (or at least with even greater subtlety) than the Coltrane Soprano. But both need more system as well as more room and I don't know anything that comes close in performance terms to the Marten once the walls close in. Expensive yes, but for the listener who demands and will cherish its unique blend of strengths then I suspect that price will become secondary. Despite appearances, is this the best mini-monitor in the world? Probably...

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*Those wanting Coltrane bandwidth and dynamics in a more affordable package should look at the Bird, which while it might not seem to deliver much more on paper than the Soprano, is an easier load with a greater sense of scale and more expansive dynamics.



MBL 101 X-Treme

Zowie!

Jonathan Valin

Over the years I've reviewed my share of big, expensive loudspeakers, but none as big or as expensive as the six-and-a-half-foot tall, three-thousand-five-hundred pound, four-chassis, \$200,000 MBL 101 X-Tremes. And none, I am relieved to say, as good.

Why relieved? Well, if you were at the last two CESes you wouldn't have to ask. Even driven by MBL's own superb, ultra-pricey, near-dedicated electronics, the Xes sounded—how shall I put this?—not very good. *Real* not very good. Indeed, when I went to Germany to visit MBL's offices and manufacturing facility this past spring, I had no intention of reviewing MBL's flagships. I'd come for the debut of the 101 E MkII, a revised version of the speaker that has won more TAS Best Sound of Show awards than any other competitor.

What made and makes the 101 Es such showstoppers is their uncanny ability to get the first step in enjoying music right. Before it does anything else (and it does many things else), music works on us physically. It excites us. Gets us moving. Starts our toes tapping and our butts wiggling and our arms waving like air-guitar players (or air conductors). When a performer or a hi-fi really allows us "into" the music and the music "into" us, we are always and only a half-step away from dancing and singing and sheer

self-abandon. It's one of the chief reasons why we listen.

The 101 Es own this first step in musical enjoyment. They are the thrill rides—the rollercoasters—of the high-end audio amusement park. Though they have any number of things going for them, it is primarily their sensational dynamic range, speed, and impact, their huge enveloping soundstage, their uncanny three-dimensional presence, their through-the-floor bass, and, of course, their ability to play very loud without compression or confusion that make them so electrifying. Sheer sonic excitement may not mean much to those joyless souls who want to hear a vocalist or a Mahler symphony sound precisely as good or as bad as she or it did in the engineering booth on the day of a recording session; as for me, I still thrill to the thrill of getting goosebumps on my arms or feeling a chill run up my back when a stereo—a mere contraption playing back another mere contraption—captures the excitement of the real thing.

EQUIPMENT REVIEW - MBL 101 X-Treme Omnidirectional Loudspeaker

So...given my intention to review a greatly revised version of a speaker I knew was great, how did I end up with a speaker that I thought I knew wasn't? This, my friends, was serendipity—combined with a touch of lunacy on my part and on Wolfgang Meletzky's (inventor of the Radialstrahler driver and the "M" in "Meletzky Berlin Loudspeakers").

As fate would have it, before visiting MBL's Berlin offices and its factory in Eberswalde (a picturesque town outside of Berlin), I made the mistake of stopping at the Munich High-End Show for a few hours, where I heard the 101 X-Tremes properly set up and playing in a much better room than the echo chambers of The Venetian at CES. What a difference! I literally didn't recognize the sound—it was that improved. Though still a little dark in balance and perhaps a little too lively in the upper mids and lower treble (the Munich room was enclosed in glass), this was a far cry from the shrieking harridan I'd heard at CES. Sweet in timbre, incredibly wide and deep in soundstage, huge in dynamics, with sensational bass and top treble and the kind of three-dimensionality in the midrange that only Radialstrahlers seem to own, the X-Tremes sounded like giant 101 Es but with a timbral and dynamic suavity, a focus and refinement that the wilder, woollier 101 Es never quite managed.

By the time I got to Berlin, my schnitzel was cooked. Hell, I'd already reviewed the 101 Es; I wanted a crack at the Big Boys.

Of course, there were the little problems of the Xes' sheer size and mass to deal with.

What we have here, on *each* speaker-side, is essentially two 101 Es without their subwoofers and subwoofer cabinets—one trio of Radialstrahler

(Deutsch for "omnidirectional") drivers facing upward and another, immediately above it, down, in a mirror-image array. The bottom trio of Radialstrahlers is mounted on a massive (over 500 pounds) base constructed of birchwood, brass, and aluminum in a constrained-layer sandwich; the upper set is bolted to a similarly massive top piece, also made of a constrained-layer sandwich of birch, brass, and aluminum, with a high-quality dynamic "ambiance tweeter" nestled out of sight on its roof. Thick struts of stainless steel and cross members of powder-coated brass provide top-to-bottom and side-to-side structure and support. Each speaker-side weighs half-a-ton.

In addition to the gigantic Radialstrahler "towers," the 101 X-Tremes come with two six-and-a-half-foot-tall subwoofer towers that weigh better than half-a-ton all by themselves. Each sub array comprises three ported, lacquered-birch and aluminum boxes, fitted on top of each other via heavy-duty aluminum pegs and sockets, with the sub crossover controls and the MBL amplifier that drives the entire array housed in the middle box. Two 12" aluminum-cone drivers with very wide and flexible surrounds are mounted in a push-push configuration inside each of the three boxes—one woofer on the right side of the enclosure, one on the left, both stabilized and cross-braced by a massive aluminum rod running between them to prevent the drivers from passing resonant energy to each other and to the box itself. That makes a total of six 12" woofers per speaker-side, twelve 12" woofers altogether. *That*, my friends, is a lot of bass.

Although the 101 X-Tremes break down into pieces, the pieces themselves are massive (roughly 300 to over 500 pounds each). With the

invaluable help of three of the strongest human beings on earth (piano movers from the Cincinnati company of Elam and Sons), Jeurgen Reis (the X-Treme's designer, who had come over from Germany to assist in setup), David Alexander (MBL's U.S. importer), and I managed to haul the 101 Xes upstairs to my listening room. (Those of you interested in how this Herculean feat was accomplished, go to the forum on AVguide.com and look at the thread "MBL 101-Xtreme Radialstrahler" in the "Speakers" category.)

After assembling the speakers, Reis positioned the Xes and dialed them in—a two-day process that involved many large and small adjustments in the physical location of the Radialstrahler towers and their woofer stacks, as well as adjustments of the controls for each of the twelve Radialstrahler drivers and the two ambient tweeters on top of the Radialstrahler towers, plus tweaking of the gain, group delay (phase), and Q of the woofer stacks. (The crossover point between the woofers and the Radialstrahlers is fixed at around 100Hz with a slope of 18dB/octave and cannot be adjusted.) This is a very large, extraordinarily heavy, exceedingly complex speaker

system that absolutely requires professional assistance in setup. In other words: Kids, don't try this at home without adult (German) supervision (and, of course, the Elam brothers).

If the 101 Es looked, as I once wrote in TAS, like R2D2 in a hot tub, the assembled 101 X-Tremes



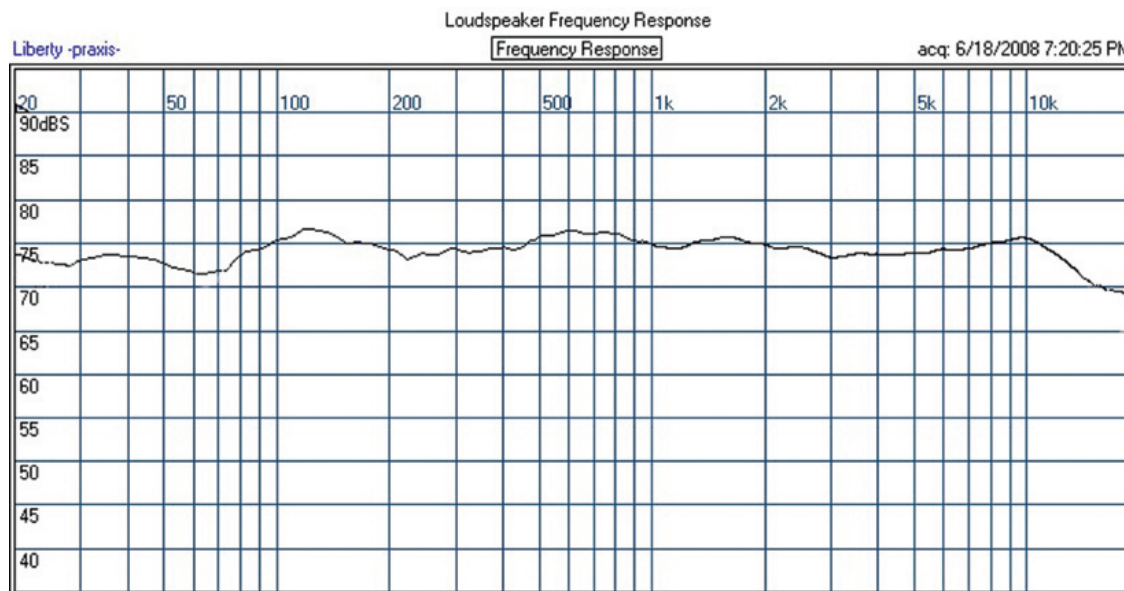
EQUIPMENT REVIEW - MBL 101 X-Treme Omnidirectional Loudspeaker

looked like the jungle-gym in Nikolai Tesla's house. As a visiting wag remarked, like 'em or hate 'em, they certainly make a design statement. What I expected to hear from these ultra-cool high-tech giants was more or less what I'd heard in Munich—a bigger, better 101 E. But from go, that's not the sound I got.

Let me be honest here: Forget everything you may have heard from the 101 Xes at CES—I had to. Forget everything you've read, including everything I've written about the 101 Xes (counting what I just wrote about its poor-to-mixed performance at CES and its excellent performance in Munich)—I had to. In all candor, this was the most surprising first listen I've had with *any* loudspeakers. They simply didn't sound at all like what I expected based on my show experience, good or bad.

First of all, the 101 Xes were so much more neutral in balance than I anticipated that I was shocked (and still am). They didn't seem to have any of the of the frequency-response lumpiness—the darkness or over-ripeness or hard aggressiveness or searing treble or bloated bass—that I had (secretly) expected to hear from them on the basis of CES auditions. Indeed, if the 101 Xes sounded like any other speaker, it was the Magico Mini IIs, which is to say that they were solidly and impressively and, again, totally unexpectedly (at least to me) uncolored, undistorted, and “flat.”

Of course, Radialstrahlers have always sounded boxless (they have none) and incomparably big, open, and spacious. But 101 Es were never what I would call truly neutral in balance. The 101 Xes *were*, and even bigger, more open, more spacious than the Es—and not by a little bit. Plus, they had simply sensational dynamic range and



scaling—truly lifelike speed, pace, and impact even on instruments (like huge drums or plucked bass guitar) that are nearly impossible to scale realistically in a home. At the same time they had the same “in the room with you” presence on voice and guitars and pianos and strings that makes listening to the 101 Es like looking into a diorama.

Pleased but mystified, I did an RTA on the 101 X-Tremes after Reis and Alexander departed—just to find out if I was fooling myself about their neutrality. I wasn't. At the top of this page you'll find the RTA, taken in my listening room with a calibrated microphone and Liberty Instruments' Praxis software.

For what it's worth, from 20Hz to about 14kHz this is the flattest frequency response I've measured in my listening room with *any* loudspeaker, including

the Magico Mini IIs! The Xes' waterfall and impulse plots were also superb.

Though these plots were a reassuring confirmation of some of what I was hearing, they scarcely accounted for all that impressed me about the 101 X-Tremes, which, like any Radialstrahler, have a unique sonic presentation that no measurements can describe.

To explain the uniqueness of the 101 Xes (or the 101 Es) you have to consider how they generate sound. Radialstrahler drivers are omnidirectional. They are, literally, pulsating spheres—point sources that radiate equal amounts of energy at all frequencies through a 360-degree soundfield. Unlike conventional wide-dispersion dynamic drivers, they do not sound or measure substantially differently “off-axis,” which is to say, they don't change in frequency response or

introduce higher amounts of distortion and phase/time incoherence as you move away from the central axes of their drivers (in fact, their drivers don't have central axes). They produce precisely the same signal whether you are sitting in front of them, to the sides of them, or behind them. Necessarily, this means that they bring the entire listening room into play in a way that no other kind of loudspeakers (including dipoles and bipoles) does.

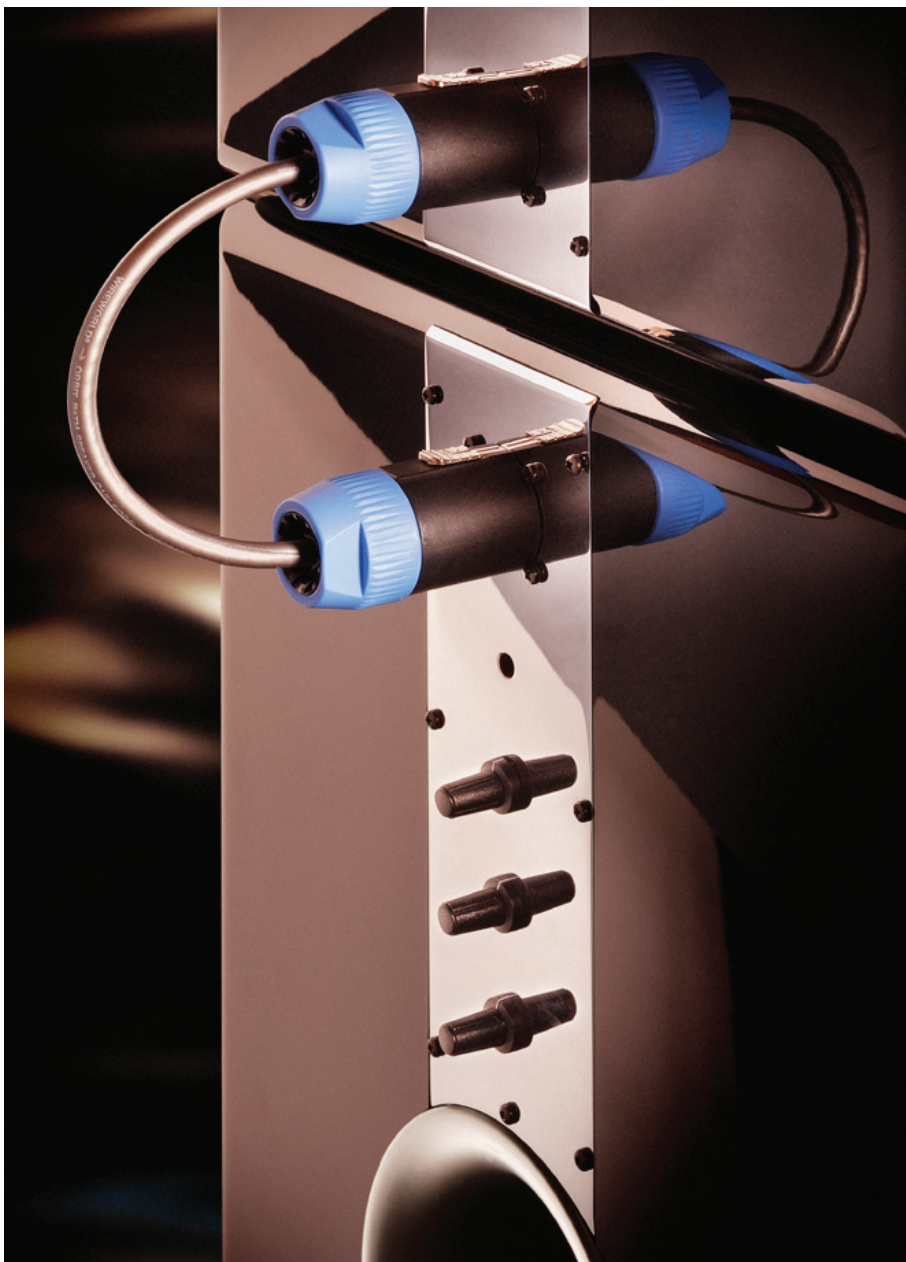
You might think that energy being broadcast in equal amounts at all frequencies toward literally every surface of your room would make the sound you end up hearing a confusing, echo-chamber-like mess. That it doesn't has to do with two interrelated phenomena: the 101 Xes' frequency-independent, constant-directionality dispersion, and the Precedence Effect.

First, unlike conventional loudspeaker drivers (particularly tweeters) that tend to send spotlight-like beams of inherently-more-distorted off-axis sound toward sidewalls—where, delayed only slightly in time, they bounce back to your ears alongside the direct output of the loudspeaker, screwing up timbres, dynamics, and durations at certain frequencies—an omni doesn't “selectively” energize specific spots on your walls. It doesn't work like a specular flashlight. It works like a diffuse glowing ball. It energizes your room *uniformly* at all frequencies, so that any reflected early arrivals will comprise the entire signal and not a small distorted piece of it.

Of course, an omni is still creating broadband room reflections, but we don't hear them as colorations because of the Precedence Effect.

The Precedence Effect is a psychoacoustic phenomenon whereby an acoustic signal arriving

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first at our ears suppresses our ability to hear any other signals, including echoes and reverberations that arrive up to about 40ms after the initial signal (provided that the delayed signals are not significantly louder than the initial signal). As Dr. Siegfried Linkwitz says on his fascinating Web site at www.linkwitzlab.com: “The ear/brain automatically relegates [these late-arriving signals] to the earlier learned acoustic behavior of the room and readily blankets that information and thereby the [sound of the] room itself.” Far from being more colored by room reflections, drivers, and enclosures, boxless omnis are in principle much *less* colored by all of these things and potentially much more faithful to sources because they essentially take the room sound *out* of the equation, thanks to the Precedence Effect and the fact that they are lighting up reflective surfaces *uniformly* at all frequencies rather than selectively at specific frequencies.

Omnis not only light up every surface of your room evenly; they light them up with *tremendous* energy, greatly reinforcing uniform power response through the passband (albeit at a price in loudspeaker sensitivity). Part of the reason that MBL Radialstrahlers are so famously lifelike in dynamics (particularly when they are played at moderate to loud levels) is the sheer amount of energy they are generating thanks to the unusually large surface area of their drivers. Consider a Radialstrahler woofer (the big silver pumpkin-like driver at the bottoms and tops of the Radialstrahler towers in the photos of the MBL 101 X-Tremes). Every square inch of these giant spheres is producing sound with the same intensity as the central portion of a conventional dynamic woofer (and without any of the center-to-edge drop-off in power or increase in distortion of a conventional woofer). In radiating area a Radialstrahler woofer is the equivalent of something like twelve 12” cones! (And each side of the 101 X-Treme has two of them!). The exact same thing is true of the Radialstrahler midrange and tweeter (and what a tweeter!).

You might think that drivers this large would be slowed

down by their mass and would ring like bells being struck when hit with an electrical signal, but their size actually works to their advantage. Since they’re driven over the entire surfaces (they expand and contract, accordion-like, when playing), they have to move only very small amounts to make very loud sounds. These small excursions also mean that they don’t have to move very much to *stop* making sounds. Plus for all their size they are made of lightweight materials (the midranges and tweeters are formed from petals of carbon-fiber, the woofers’ from an aluminum-magnesium alloy) and, because of the volume of air inside them, are virtually self-damping. No, Radialstrahler drivers aren’t as lightweight as, oh, Quad ESL-2905 or MartinLogan CLX membrane drivers. (And, at *really* low listening levels, not as quick on transients or as high in resolution, either—though the difference in speed of attack and resolution of detail is surprisingly small and is completely gone at moderate to loud volumes, while the difference in sheer lifelike power delivery on big dynamic swings is hugely in the 101 Xes’ favor. ‘Stats and ribbons are fast but relatively “weightless,” like hummingbirds. Radialstrahlers are fast and strong, like bulls.)

Putting all of this energy into your room is going to mean that—omni theory notwithstanding—you will need to selectively damp certain surfaces of your room, particularly the walls between the speakers and behind the listening position. But then you have to selectively damp walls with any speaker. What you will get for your trouble is, I promise you, something extraordinary.

Everyone who’s heard the MBL 101 X-Tremes—from my usual listening panel of friends and colleagues (many of whom have auditioned every piece of gear that has come through my room) to visiting manufacturers (some of competing loudspeakers)—has had the exact same reaction, expressed in almost exactly the same words: “Where are the speakers?” Despite any shortcomings (and I will come to these), the MBL 101 Xes (properly situated and adjusted)

EQUIPMENT REVIEW - MBL 101 X-Treme Omnidirectional Loudspeaker

sound less like loudspeakers than any other speaker system I've heard. All of the various ways in which speakers betray that their sound is being projected in narrower or broader dispersion patterns by individual drivers in resonant enclosures simply aren't present (lending considerable credence to Dr. Linkwitz's argument about the superiority of frequency-independent, constant-directionality transducers). What you hear, instead, is a soundfield that seems, magically, to have been imported *in toto* from some other place—from a concert hall or a recording studio—and plopped down in your listening room. There's simply little to no vestige of "speaker" in the traditional sense. To put this differently, where other transducers sound the way movies look—like a two-dimensional medium imitating a three-dimensional one—the 101 X-Tremes sound the way a *theatrical play* looks—no ersatz third dimension, but actual people on an actual stage right there in front of you (albeit reduced in size).

I've heard speakers with great "disappearing acts" before (the Magico Mini IIs, *par excellence*), but none like this one, which doesn't so much disappear as not show up in the first place. It's really a bit bizarre that a system that calls so much attention to itself when the music isn't playing, because of its huge size and ultra-cool high-tech looks, vanishes so utterly when the music is on. It is, perhaps, the most astonishing bit of acoustic legerdemain I (or any of my friends) have ever witnessed.

When the recording allows, the Xes' magical three-dimensional soundfield extends far beyond the boundaries of the speakers (including their woofer towers) and far beyond the backwall. When the recording doesn't, the stage shrinks accordingly. The notion, advanced by some, that the "soundstage control" of omnis is always set to "11," to borrow from Nigel Tufnel of Spinal Tap, just isn't true. Yes, they add an attractive bit of air and spaciousness to most recordings, but like any great transducer they reproduce what they are handed with high fidelity.



Where omni detractors used to have an indisputable point was imaging. For all their many virtues, something like the 101 Es had trouble focusing vocalists and instrumentalists at center stage (though not at the sides of the stage); there was always a vagueness, a swimminess to their central images, which lacked the specificity of other high-end speakers. However, I am happy and astonished to report that imaging is no longer an issue with the 101 X-Tremes, which focus voices or instruments at center stage with all the precision of Magico Minis (and with more lifelike size, to boot).

What's changed? Well, there are two Radialstrahler arrays now per speaker side, in a mirror image (or quasi D'Appolito) configuration; the midrange and tweeter Radialstrahlers have been greatly improved with new formers and voice coils; the crossovers have been upgraded with new caps from Mundorf and Intertec; the 101 E's vibration-producing subwoofers have been moved to their own constrained-layer enclosures; and the entire Radialstrahler tower is now heavily damped and braced by massive applications of constrained-layer materials. In other words, all of the drivers and crossovers have not just been audibly improved, made higher in sensitivity, and less subject to exciting room nodes (thanks to the D'Appolito configuration), but they are also seeing orders of magnitude less vibration than they did in the 101 E, which, I have to think, was a large part of why they didn't image very well.

Not only have these changes in drivers, crossover, and support system wrought big improvements in imaging, they have, to my ear, also improved overall smoothness of frequency response, resolution at low volume levels, and bass response.

Let's start with the last first. Putting twelve 12" woofers in two towers might seem like a recipe for overloading a room. But I'm here to tell you that the effect is just the opposite. While the 101 Es low bass was one of its glories, because it went so incredibly deep and sounded so incredibly fast and

EQUIPMENT REVIEW - MBL 101 X-Treme Omnidirectional Loudspeaker

dynamic for a single driver in a small, dual-ported enclosure, it was also (or occasionally could be) one of its shortcomings. As great as it was to hear bass drum strikes detonating like sonic booms, or doublebass choirs growling like semis pulling away from a curb, or organ notes rattling the floor and walls like a subway passing outside the window, the 101 E's bandpass sub was a little wild and woolly. It was fast and powerful all right and tremendously exciting, but it was adding vibration to itself and the Radialstrahlers ensconced above it and it was more likely to excite room nodes (since it was fixed in one spot facing downward toward the floor).

In my room the 101 E subs tended to lump up around 60–80Hz, to the extent that with the right recording (or should I say the wrong one), like, say, just about any LP or CD with good solid Fender bass, you could be wowed and annoyed simultaneously—wowed by the sheer extension and floor-shuddering, pantsleg-shaking power of the MBL's bottom end, annoyed by the sub's room-induced boominess at select frequencies. Don't get me wrong. I still think that the 101 E's bass is astounding. The best I've heard. I just think that the 101 X-Tremes' bass is better. By adding more and better woofers and locating them at different heights from the floor, walls, and ceiling (both in the bass towers and in the Radialstrahler towers), the Xes are *much* less likely to reinforce room nodes—and so they sound. They may be a little less purely astounding now, but that is because they are calling less attention to themselves. They are audibly and measurably flatter, smoother, better controlled, lower in distortion, and much better integrated with the Radialstrahler drivers than the 101 E's bandpass subs. At the

same time, they are every bit as impressive in extension, speed, and power delivery as the 101 E's subs, and more impressive in resolution. If you think you've heard all there is to hear in the way of timbre, texture, and dynamics in low-pitched instruments (like bottom-octave piano, double bassoon, doublebass, bass drum) think again. In the bass, these things sound the way 'stats would sound if they went down flat to 20Hz and had the weight, body, and density of tone color of great cones. The Xes' sheer resolving power coupled with their speed, neutrality of timbre, lifelike cushioning of air, and astonishing three-dimensionality make things like forcefully bowed cello or bass (or forcefully struck timp) come alive in a way that very few other speakers I've heard can match—and none that I've heard in my home exceeds. It may be that the Wilson Alexandria X-2 Series 2 that Robert Harley recently reviewed or the Magico M6 would outdo them in the bass; even so, this is phenomenal low end.

As those of you familiar with my writing know, I'm generally no fan of outboard subwoofers. Not to put too fine a point on it, I almost always hear them as separate and separable drivers. With the 101 X-Tremes, for once, I don't. This is the most seamless blending of subwoofer and main speakers I've heard. Indeed, I would dare anyone, who didn't already know where they crossed over, to tell me by ear alone where the 101 X-Treme sub towers were starting and the Radialstrahler towers stopping. They are as much of a piece as the Radialstrahlers themselves.

Of course, it probably doesn't hurt that they are being driven by built-in MBL amplifiers. And I *know* that it doesn't hurt that they have been painstakingly tweaked in by Juergen Reis.

(Before he worked his magic, you *could* hear the sub towers quite plainly. Indeed, I believe that the proper dialing in of the sub towers has been the chief problem at shows—that and playing these things at jet-airplane-engine levels.)

Lowering the amount of resonant energy and improving the drivers and crossovers of the Radialstrahlers and their subs has also improved another area of 101 E weakness—realistic playback at lower volume levels. Like dipole Maggies, the 101 Es tended to lose a little dynamic scale at both the *piano* and the *forte* end of the spectrum when played softly. You needed to turn up the juice to make them come to life (which was why the MBL gang has always played them loud at shows). Though still not the match of a Magico Mini II, a Quad ESL-2905, a MartinLogan CLX, or a Symposium Acoustics Panaroma in timbre, texture, and dynamic nuance when played at low volumes (under 80dB average SPLs), the 101 X-Tremes are *considerably* improved in all three areas over the 101 Es—to the extent that you can now listen through them to chamber or acoustic rock or folk music with the same pleasure (and with very nearly the same sense of verisimilitude) that you'll get through them from any and all kinds of music played at louder levels (80dB+ average SPLs). It used to be said that MBLs were a rock 'n' roller's loudspeaker. Not anymore. Low-level resolution, top-to-bottom neutrality, and dynamic scale at all volumes have been greatly improved. And at lifelike SPLs, the Xes are very nearly unmatchable in every area save for top-treble extension, where the ribbons in the Symposium Panoramas and the ring-radiator tweeter in the Mini IIs outdo them. (While not as extended on top as these two other great speakers, let me

SPECS & PRICING

MBL 101 X-Treme Omnidirectional Loudspeaker

Type: Four-way omnidirectional loudspeaker with separate subwoofer towers and ambient tweeter in four chassis

Drivers (per speaker side): Two Radial TT100 woofers, two Radial MT50/E midrange, two HT37/E Radial tweeters, one "ambient" dome tweeter, six 12" aluminum cone subwoofers

Frequency response: 20Hz-40kHz

Sensitivity: 88dB/2.8V/2pi

SPL: 109dB

Power handling: 500W (continuous), 2200W (peak)

Weight: 3600 lbs.

U.S.

Price: \$199,000/pr

MBL OF AMERICA

20381 Lake Forest Drive, Suite B-1
Lake Forest, CA 92630
(949) 331-3147
mbl-usa.com

U.K.

Price: £195,000/pr

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EQUIPMENT REVIEW - MBL 101 X-Treme Omnidirectional Loudspeaker

assure you that neither the Pans nor the Minis can reproduce a cymbal as realistically as the Xes' Radialstrahler tweeter.)

As noted earlier *in re* electrostats, the 101 X-Tremes don't just deliver the goods with superior speed and startling neutrality; they deliver them with a power and a lifelike duration that reminds me of the TW Acoustic Raven AC-3 turntable. Through the 101 X-Tremes, instruments like struck cymbals aren't just wispy, floaty little things expressed with exquisite delicacy that then die away like a sigh—half color, half air, like aural half-tones. They are the big, powerful, solid bell-bronze instruments they are in life, whose sound is reproduced with the power and lingering, shimmering sustain that describes their physical presence—their three-dimensional shape and material composition—in addition to their timbre and texture. All instruments are so described by the 101 X-Tremes, not just in richly colored outline but in *solid*, richly colored shape. To hear the Xes—well, not really the Xes because they aren't there as sound sources—but to hear the way they conjure up something like Mark Cohn's terrific cover of Willie Dixon's "29 Ways" is to hear something much closer to musicians in a club or hall or recording studio than to mere hi-fi. Cohn's centered voice, his voice doubled for backup and panned hard right and left (sometimes well "outside" the physical bounds of the speakers), the hard spikes and soft-palmed strokes of percussion distributed throughout the stage, that wonderful purling Hammond organ that comes flooding across (and beneath) the floor like a dark, burbling tide...once again, it is like watching a play to hear these things conjured up in three dimensions before eye *and* ear. While we all

listen, perforce, blind to stereo, the 101 X-Tremes go further toward compensating for our hunger to see what we hear—to fulfilling the definition of the word "stereo" (which literally means "three-dimensional" or "solid")—than anything else I've yet auditioned.

The 101 X-Tremes are not the only great loudspeakers I've heard—merely the best. They aren't quite as transparent as MartinLogan CLXes. They aren't quite as lifelike in timbre as Magico Mini IIs. They aren't quite as fast in transient response as Quad ESL-2905s. They aren't as colorless in the midband and treble as Symposium Acoustics Panoramas or as microscopically finely detailed (at least at low-to-moderate volume levels). They are ungodly expensive. They are huge. They require extensive setup and fine-tuning, and in spite of the fact that they are 6dB more sensitive than 101 Es they still do best biamped with *four* of MBL's own nearly \$100k/pair 9011 monoblocks and fed by MBL's own superb 6010 D preamp (although the ARC Reference 3 preamp is, IMO, every bit as good as the MBL 6010 D with MBL's powerhouses, and a pair or two of ARC's 610Ts represents much-less-expensive and equally impressive alternative amplification). They need the best sources and cabling that money can buy. They are handmade to order and take at least 90 days to build. In short, a system built around them represents an insanely complex and expensive investment of time, space, and upwards of half-a-million dollars, which, in this economy, is a stretch even for the ultra-rich and ultra-loony. Although they did exceedingly well in my smaller room (so well that even saturnine Juergen Reis pronounced himself greatly pleased), they will probably do better in medium-sized-to-large rooms, although

I would be wary of rooms that are too large (since Radialstrahlers need to see walls at some distance to function the way they are designed to function).

There may be other speakers—in fact, there are other speakers (some of which I've mentioned)—that *marginally* outdo the 101 X-Tremes in this area or that, and there are some on the horizon (two in particular from Magico and Kharma) that will doubtlessly prove competitive. That's OK. There's room for more than one great transducer, even at this level of excellence. This said, I rather doubt that the 101 X-Tremes will be beaten out by any other kind of loudspeaker when it comes to their uncannily realistic recreation of space, their three-dimensionality, their dynamic range and scaling from top to bottom (above 80dB SPLs), and their "you-are-there" presence.

Frankly, the other reaction that every single listener who's heard the 101 X-Tremes has had, once he gets past the Xes' disappearing act, is: "This is the most realistic stereo system I've ever heard." It hurts me to say so, since I will never be able to afford them, but I have to agree. **tas**

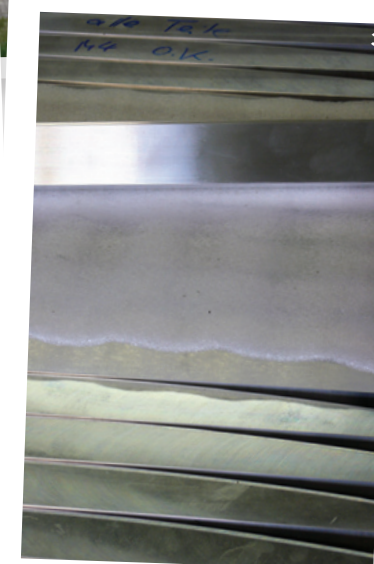
How To Make A Radialstrahler

Jonathan Valin

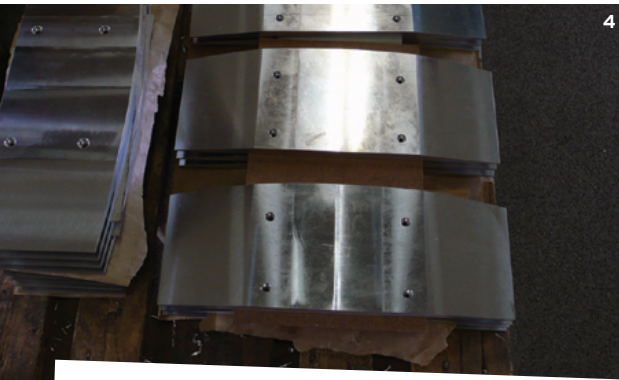
In April of this year, I traveled to Berlin by way of Munich to visit Wolfgang Meletzky, a most amiable, sophisticated, and cultured man, the founder and CEO of MBL (Meletzky Berlin Loudspeaker) and the inventor (in 1979) of the Radialstrahler loudspeaker. Meletzky's company has been in business for almost 30 years and, as I could tell from the two letters on his desk in MBL's Einemstrasse offices from pleased customers (one in Scotland and one in the U.S.), he still gets a kick out of bringing the joy of music into other people's lives. Part scientist, part businessman, part music lover (Wolfgang goes to concerts at least twice a week—and in fact took me and my wife to Alfred Brendel's memorable farewell concert at the Berlin Philharmonie and to a fantastic chamber-music recital at the gorgeous old Konzerthaus), Meletzky has arranged his offices to reflect his personality, with one section devoted to business affairs, one (filled with computers and eager young research assistants) to R&D, and one to auditioning MBL's loudspeakers and electronics.

MBL differs from other audio manufacturers in two important ways. First, it makes entire stereo systems from front end to back—not just loudspeakers—and its electronics are just as beautifully designed and highly regarded as its Radialstrahlers. Such com-prehensiveness and uniformly high quality is in itself unusual in this industry. Second, outside loudspeaker enclosures, MBL manufactures virtually everything in house. MBL is not one of those domestic-design/overseas-manufacture companies. Its products are entirely German-engineered, German-fabricated, and German-assembled.

Although most of the design work is currently done by the able and talented Juergen Reis (and an assemblage of gifted young college graduates at MBL's Berlin offices), the execution of these designs is carried out at MBL's manufacturing-and-assembly plant in the little town of Eberswalde (Boar's Wood), outside of Berlin. The factory was designed by Wolfgang himself; like a scientific lab, it is air- and temperature-controlled, sealed against contaminants, and linked by computer to MBL's Berlin offices and other design facilities (see Illustration 1). The entire facility is systematically organized, beginning with Wolfgang's offices



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in the front of the building and preceding to a computerized parts department (run by Thomas Peter) where every nut, bolt, and fitting for MBL's extensive line of speakers and electronics can be called up via a computer server that keeps track of parts inventory, to the large manufacturing floor where speaker/electronics parts are made and assembled (Illustration 2).

The manufacturing floor houses four large computer-controlled CNC machines that convert raw materials to parts for electronics and speakers. To give you an example of how this works, consider the milling and machining of one of the massive faceplates for one of MBL's superb components. In Illustration 3 you can see the thick aluminum slabs that will form the massive front plates of an MBL faceplate after an initial CNC-milling; in Illustration 4 you see these same billets after the second stage of CNC-milling; and in Illustration 5 you can the third stage

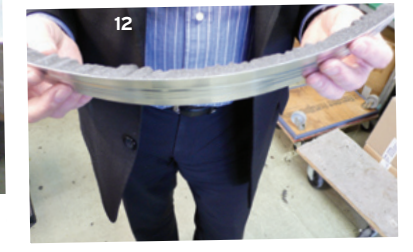
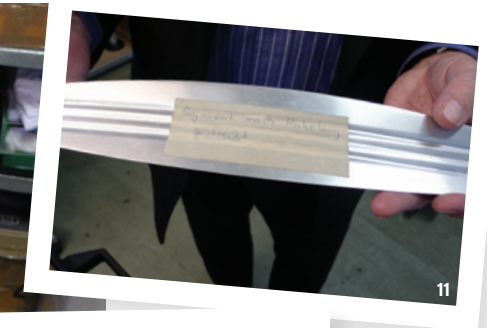
of cutting with the "MBL" logo embossed on the faceplates. The faceplates are then painted and beautifully finished in brass (Illustration 6)—the entire process is done in MBL's machine shops. Lest you think that everything in the MBL factory is computer-generation high-tech, in Illustration 7 you see a pressing machine built in 1886 that is still functioning and used in the construction of MBL electronics, and in Illustration 8 you see a skilled craftsman machining the top plates of a 6010 D preamp by hand.

Every product that MBL makes is tested at the factory at various stage of assembly. In Illustration 9 you see a partly assembled 9007 amp being bench-checked using computer programs and test gear.

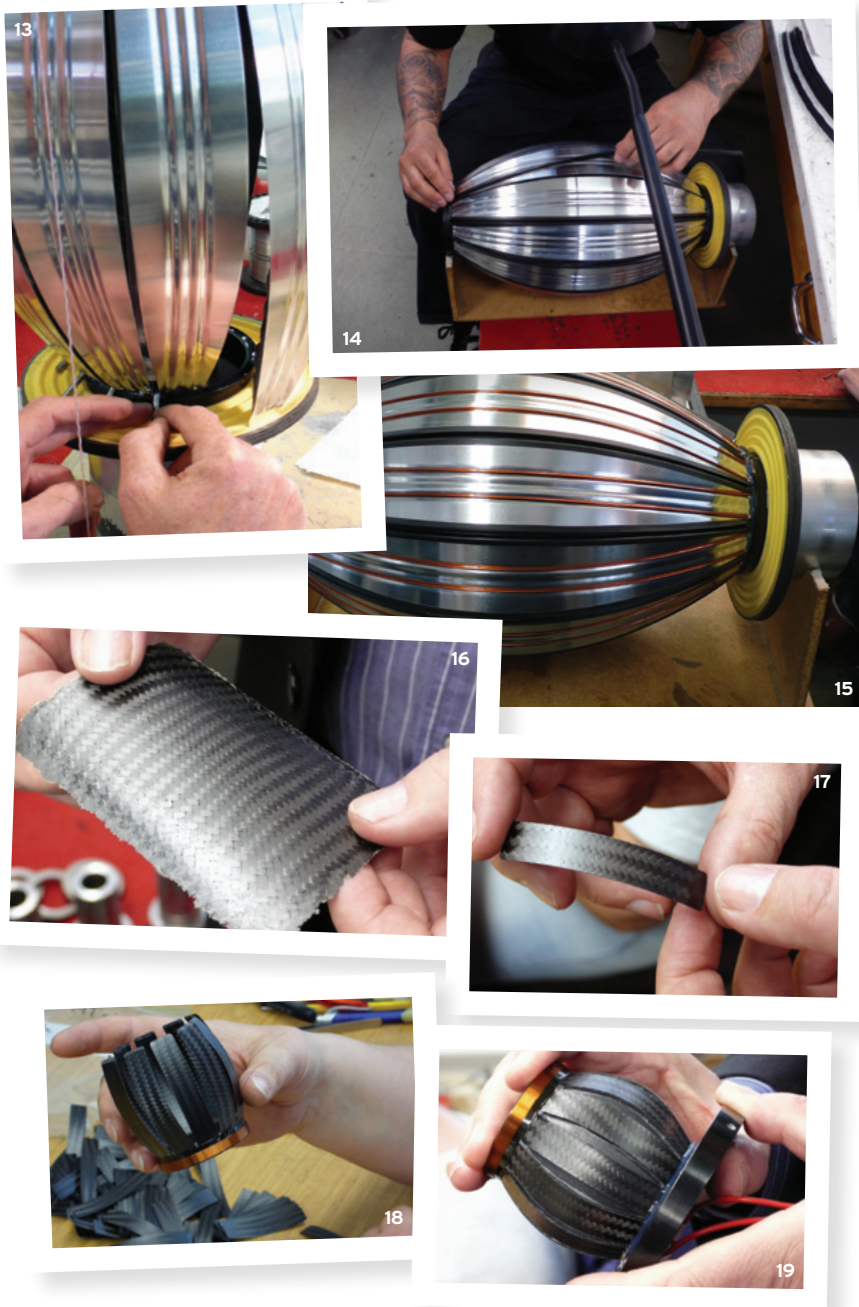
Let's turn to the manufacture of MBL loudspeakers, which takes place in a different section of the factory. The first step in building a Radialstrahler woofer is the milling of "petal"-

shaped slices of magnesium-aluminum alloy (Illustration 10). In the next production step that petal is corrugated—the corrugations are rolled on (not pressed) to make the petals stiffer (Illustration 11). Materials are added to the corrugated petal—to dampen it (Illustration 12). After this, the petals are glued by hand to a thrust plate at the end of a pole piece and wired (delicately) and affixed to a voice coil and magnet (Illustration 13) at the opposite end of the pole. Strips of elastic material are hand-inserted between the petals and external damping materials are hand-applied to their surfaces (Illustration 14). In a finished Radialstrahler woofer, the voice coil drives one end of the petals; the other end is held stationary. The moving voice coil causes the petals to flex in and out in response to the musical signal (Illustration 15).

The Radialstrahler midrange and tweeter function in the same way but their petals are



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made of different material—carbon fiber. Here is a piece of “baked” carbon fiber (Illustration 16), fresh from MBL’s oven. Smaller slices of this sheet are computer-cut from the larger piece to make the “petals” of the midrange Radialstrahler driver (Illustration 17). As with the MBL woofer, the petals are wired and attached to the midrange’s voice coil on bottom and glued to a thrust plate on top (Illustration 18). Here we see a partly assembled midrange, with thrust plate held in place on top

(Illustration 19).

As I hope you can tell from this brief photographic tour of MBL’s factory, MBL electronics and speakers combine extraordinarily high-tech computer technology with the most delicate hand-craftsmanship. They are ongoing testaments to the determination and imagination of MBL’s founder, Wolfgang Meletzky, for whom, even after 30 years of enterprise, anything less than exceptional just isn’t good enough. **tas**

MBL ELECTRONICS AND THE 101 X-TREMES

It is no secret that I think that MBL electronics are among the finest solid-state components that money can buy. Gorgeously made and beautifully finished, they not only look cool but sound fantastic. Which is a good thing because the 101 E MkIIs and the 101 X-Tremes were designed with them in mind. Though there are undoubtedly other combinations that would work effectively with the 101 Xes, the Radialstrahlers are a peculiar case. Though they aren’t anything like a difficult load, they simply thrive on power. There are obvious reasons for this: They have no enclosures and radiate omnidirectionally, so much of the energy they produce isn’t being heard directly—or, depending on the size of your room, even indirectly. Though MBL rates the 101 E MkIIs as 82dB sensitive and the 101 X-Tremes as 88dB sensitive, I think both numbers are misleading. Both speakers are 4-ohm loads, which means that you cut 3dB off those sensitivity numbers to start with. Second, Radialstrahler drivers are unusually large in surface area, more like ‘stats than cones, and like ‘stats take power to drive. This is where the MBL 9011 monoblock amps come in—beautifully. I’ve talked before, at length, about these 275-pound monsters. They are, IMO, the most liquid, gorgeous sounding, inexhaustibly powerful (capable of 5000W peaks!) solid-state on the market. Being a little bit darker and richer in balance (more like Class A amps

than Class AB), they aren’t as dead-neutral as, oh, a Soulution 710 or an ARC 610T, but they are every bit as lovely to listen to, extremely finely detailed, and simply standard-settingly good for solid-state at reproducing the full duration of notes (including their decays). Add to this, iron grip in the bass and tremendous speed and articulation in the treble.

Long my own personal favorite solid-state preamp, the MBL 6010 D has all of these same virtues. Also a little dark and sweet (a little Class A sounding), it is, like the amplifiers, robust and hard-hitting, with tremendous grip in the bass and treble but also, like all MBL electronics, gorgeous in timbre and liquid in textures. It’s almost a paradoxical combination of virtues—this Teutonic control and authority, Burgundy-like color and sweetness, and all-American resolution and dynamic excitement.

The MBL 1621 A and 1611 F transport and DAC—merely the second-best CD player I’ve ever heard, after the much-more-expensive dCS Scarlatti—have all of these same characteristics and more. The combo may be the most finely detailed and hardest-hitting CD player I’ve heard, and yet it isn’t a bit “analytical” or aggressive. Once again the combination of power delivery and control with melting sweetness and liquidity and extraordinary resolution and excitement make it sound purely gorgeous. **JV**



Verity Lohengrin II

The Cutting Edge

Jacob Heilbrunn

With its quaint shops and fine restaurants, Quebec City is a seductive place. But this city, which was first settled in 1608, also has a majestic side that helps to explain why the Quebecois are so stubbornly independent. Visit the old town, walk up the ramparts, which once served as the city's defense, and you have a towering view of the St. Lawrence river, where ships lazily make their way up and down the legendary seaway. Meanwhile, looming over the former military citadel is the massive hotel, Fairmont le Chateau Frontenac, where Franklin Roosevelt, Winston Churchill, and MacKenzie King met in 1943 to confer about World War II.

Perhaps it should not be altogether surprising, then, that these two sides of Quebec are also faithfully reflected in the Canadian manufacturer Verity Audio's sizzling Lohengrin II loudspeaker. A powerhouse of a loudspeaker, the Lohengrin II also possesses the ability to woo listeners with its extremely coherent and fluid sound.

Verity Audio's factory is based just outside of Quebec City and it would be hard to think of a more dissimilar pair than its two designers Bruno Bouchard and Julien Pelchat. Of these terrible twins, one, Bruno, is taciturn, contemplative, brooding; the other, Julien, is exuberant and full of *joie de vivre*. Somehow these disparate qualities have been fused to produce the elegantly fastidious and exciting line of Verity loudspeakers. The signs of the care with which Bouchard and Pelchat approach their calling—and it is a calling, not just a job—are immediately evident at the

factory, which I had the good fortune to visit for several days. For one thing, Verity has a sizable listening room with 11' ceilings that allows it to let its loudspeakers cut loose. It also boasts a considerable array of equipment, including Nagra preamplifiers and amplification. But perhaps the most unusual piece of equipment on hand was a rare and quite delectable Matisse tubed amplifier that sounded quite beautiful on a variety of music. Vinyl was in abundance as well. To gain a greater familiarity with the Verity sound, I also had the chance to listen to each speaker in the line, leaving me feeling a bit like a potentate ordering around his subjects as various speakers were hefted in and out.

As enjoyable as the others may have been, the big Daddy—the Lohengrin II—was clearly nonpareil. What made it so special? To grasp the basic character of the Lohengrin II, it helps

EQUIPMENT REVIEW - Verity Lohengrin II Loudspeaker

to be familiar with its technical features. The first and most obvious of these is that it is a very high sensitivity (95dB) loudspeaker, which makes life cushy indeed for any amplifier (though the Lohengrin is bi-amplifiable as well as bi-wirable). It simply takes a lot less power to produce sound once you get into that lofty zone of sensitivity. As Pelchat cogently explains, Verity, at bottom, seeks to unite the qualities of a horn design (high efficiency, jump factor) with the refulgent sound of moving-coil drivers. My own verdict: With high efficiency music becomes more tuneful, snappier, since the loudspeaker and amplifier don't have to strain to reproduce a recording. Verity's simple but carefully thought out crossover helps account for the sensitivity of the Lohengrin.

The four-way Lohengrin II features an upper-midrange driver that reproduces an extremely wide spectrum—from 300Hz to 6kHz. A ribbon takes over at 6kHz. The lower midrange (80Hz–300Hz) is handled by a 9½" cone driver, which crosses over to a 15" rear-firing ported woofer housed in a separate enclosure. The lower midrange driver is not high-pass filtered; rather, it rolls off naturally. The drivers were custom designed for wide bandwidth and minimal break up to allow the use of a minimalist crossover.

The woofer is low-pass filtered at 80Hz with a first-order filter. The woofer is thus conceived of acting as a subwoofer. The rear-firing woofer didn't seem to present any problems—I felt a goodly amount of bass kick. Furthermore, in contrast to some other manufacturers, Verity does not go to extreme lengths to dampen the cabinet. Instead, it believes that the cabinet should be rigid without being weighted down. Bruno Bouchard says that excessive damping kills the sound. The goal,



he says, should be to “control vibration through cabinet design that achieves a proper balance of energy dampening and transmission.”

What's more, Verity, it should be said, has also gone to considerable lengths to improve the Lohengrin II over its Mk. I version (older versions are fully upgradable). The new lower midrange driver is 9½" in contrast to the older version's 8" driver. The aluminum foil ribbon tweeter has also been completely reworked. I picked up the old and the new tweeter, and the old one was much heavier. This weight reduction results from the use of powerful neodymium magnets arranged in tight stacks to focus the magnetic field over the ribbon. The previous design used a single large magnet block with heavy pole pieces on either side of the magnetic gap. The new ribbon is lighter, more sensitive, has higher power handling, and delivers greater consistency in output across its bandwidth. Verity also developed an entirely new custom impedance-matching transformer specifically for this ribbon driver. Finally, the internal wiring has been upgraded to Nordost, which may help to account for the Lohengrin's sheer velocity.

My interest in the Lohengrin had been piqued when I heard it at the Nagra factory in Lausanne, Switzerland, where the estimable John Quick, who represents both Nagra and Verity, had arranged for a tour, complete with a trip to Nagra's listening room, which had some woeful deficiencies, most notably a glass wall. A second listen at Maier Shadi's spacious Audio Salon in Los Angeles convinced me that the Lohengrin would be well worth auditioning. Quick spent a day adjusting the loudspeaker and was also kind enough to lend me a pair of Nagra 845 tube amplifiers so

that I could listen to the Lohengrin with a lowered-powered amplifier than either the hefty Classé Omega or the VTL Wotan monoblocks.

Regardless of the amplifier I used on the Lohengrin II, it had several basic sonic characteristics. The Lohengrin produces an extremely—for lack of a better word—acoustic bass by which I mean to suggest that it has a

SPECS & PRICING

Verity Lohengrin II Loudspeaker

Type: Four-way loudspeaker

Driver Complement: One ribbon tweeter, one 5" mid, one 9½" lower mid, one 15" woofer

Frequency response: 15Hz to 60kHz

Sensitivity: 95dB

Weight: 250 lbs.

Dimension: 59.9" x 19" x 23"

U.S.

Price: \$89,995/pr to \$100,000/pr, depending on type of finish

VERITY AUDIO

1005 Saint-Jean-Baptiste Avenue, Suite 150
Quebec, Quebec G2E 5L1
Canada
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verityaudio.com

U.K.

Price: £64,999/pr to £78,995/pr, depending on type of finish

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EQUIPMENT REVIEW - Verity Lohengrin II Loudspeaker

remarkably woody, resonant characteristic. On Kenny Burrell's album *Handcrafted* [32 jazz], the plucked bass line on the cut "You and the Night and the Music" is often difficult for loudspeakers to clearly articulate, especially as it heads for the nether regions. The Lohengrin II supplied both the note as well as the ambience. The Lohengrin's bass also goes deep. On Claudio Abbado's recording of Mahler's Third Symphony with the Vienna Philharmonic, you can fairly hear the tympani mallet whistling through the air before it lands. The impact itself sounds like a depth charge going off. Sheer grins on my face. Childish? I suppose. But a lot of fun and, hey, that happens to be what it sounds like in the concert hall.

Part of this sonic spectacular, I suspect, can be ascribed to the sheer speed of the Lohengrin coupled with extreme dynamic reproduction. A somewhat similar effect could be discerned on a Roy Haynes, Phineas Newborn, and Paul Chambers LP on the New Jazz label called *We Three*. The Verity had the best reproduction of the snare drum and cymbals that I have heard. There is a sort of "rat-a-tat" quality to it. The Verity came closer than anything I've auditioned so far to the real thing in capturing the concussive hit of the drumstick and the rattle of the drum itself.

Another aspect of the dynamic power of the Lohengrin is its ability to ramp from pianissimo to fortissimo in a heartbeat. This was perhaps most obvious on the Abbado recording. There is a passage in the first movement where the trombone repeatedly plays a plangent passage. The Lohengrin captured both burnished sonority of the trombone and the air around it with great fidelity. Sudden, even grotesquely overblown,

orchestral crashes, which Mahler delights in, left the Lohengrin completely unfazed. The Lohengrin will also rock on out if you wish, but I don't really think of it as that kind of a loudspeaker. What all that dynamic power will do is allow the music to billow into your room, which some listeners may perceive as a "forward" orientation. But it's not. The front-to-back layering is superb. But the Lohengrin does provide an unusual amount of push, for lack of a better word, to the instruments. There is a lot of body and texture, to put it another way, behind each note.

What that speed and dynamic power also favor, however, is an extreme kind of attentiveness to each note. Each note is, in a sense, caressed. It's as though a good deal of forethought went into the reproduction of each note before it is actually enunciated, which, come to think of it, is precisely what a performer aims to accomplish in a concert. Take Andras Schiff and Yuuko Shiokawa's performance of Schubert's *Fantasie in C major* for violin and piano [ECM Records]. After a gentle piano introduction, the violin makes a whisper-quiet entrance, stretching out its initial note before soaring into the empyrean. Variation after variation follows and the Lohengrin carefully recapitulates each and every nuance. Similarly, on a Wynton Marsalis SACD recording of Haydn's trumpet concert [Sony], the Lohengrin simply nails the timbre of the E-flat trumpet he uses, capturing not simply the note but the shimmer around it. The tonal purity and accuracy of the Lohengrin is simply astounding. The Lohengrin does a marvelous job of conveying the silky sheen of strings and the bravura sound of brass instruments. As Marsalis performs double and triple octave jumps, I'm reminded of a fascinating



passage in Terry Teachout's new biography of Louis Armstrong. Armstrong's sideman, Charlie Holmes, is quoted as remarking: "Other trumpet players would hit them [high] notes, just like they do nowadays. They'd be hitting high notes, but they sound like a flute up there or something. But Louis wasn't playing them like that. Louis was hittin' them notes right on the head, and *expanding*. They would be notes... He wasn't squeain'. They wasn't no squeaks. They were notes. Big, broad notes.... The higher he went, the *broader* his tone got—and it was beautiful."

That's exactly what an instrument is supposed to sound like, whether it's jazz or classical music. So one of the aspects that I find most bothersome with some loudspeakers is that the tonality or depth of sound shifts depending on what part of the frequency spectrum they're reproducing. It ain't supposed to be so. The truth is that, given the frightening technical proficiency of musicians in this day and age, high notes simply don't thin out in a live concert; they don't sound any different—that is, sharper or thinner—than notes in the midrange. Wynton Marsalis sounds exactly the same, no matter what musical register he is playing in, and that happens to be the way the Lohengrin portrays it as well. This is an aspect concerning the issue of the overall coherency of loudspeakers that is, I think, sometimes underestimated.

Apart from a single-driver loudspeaker, no moving-coiling design is going to achieve complete coherence. But I didn't hear any gaping holes in the Lohengrin II. Instead, I was most impressed by the ribbon tweeter, which endowed the Lohengrin II with its most special characteristic. The amount of air and the cavernous size of the

EQUIPMENT REVIEW - Verity Lohengrin II Loudspeaker

soundstage really are quite impressive and can be ascribed, I suspect, to the ease with which the ribbon is working at 6kHz and above. No doubt those listeners who don't like ribbons in general will likely not be persuaded by the Lohengrin's treble reproduction, which is very neutral and may even be ever so slightly pitched toward the mids and treble. I myself may be partial to this sound because I'm accustomed to the Magnepan ribbon, which may extend even a little higher than the Lohengrin's. It's also the case, I feel obliged to note, that the Magnepan 20.1 produces a taller soundstage and even more air around the instruments. But the planar design, almost by definition, lacks the dynamics and palpability of a moving-coil design, not to mention the superbly precise imaging of the Lohengrin. The Lohengrin will reproduce pretty much every last jot and tittle on a recording, which, in some ways, is a kind of scary experience. Some listeners will find this kind of verisimilitude addictive; others may find it to be too much to handle.

I didn't. And I'm scarcely the only listener who is taken aback by the Lohengrin's performance. The composer Keith Murphy, who teaches at the University of Illinois, recently visited me together with his father Declan, a former archivist at the Library of Congress. Murphy *filis* was, to put it bluntly, wowed by the incredible power of the Lohengrin. His only regret, he said, was that most professional musicians could never afford such a system. Which raises the nettlesome issue of cost, which I usually don't really touch on in reviews, figuring that it is not my job to decide what is and isn't an appropriate expenditure for someone else. All I can say is that what is expensive for one person may be chump change

for another. If you're temerarious enough to take the plunge, then I suspect that you'll find that the Lohengrin II isn't cause for buyer's remorse but prolonged elation. **tas**



Lohengrin II

We designed Lohengrin in 2001 as a reference from which all other product development at Verity would flow. It became our benchmark for the creation and revision of all loudspeakers in our product family.

Today Lohengrin II represents our finest effort to date. From Finn to Sarastro II, every member of our current lineup is crafted with the same careful attention to detail, each loudspeaker benefitting from Lohengrin II's unique DNA.

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Wilson Audio Specialties MAXX 3 Loudspeaker

A Trickle-Down Alexandria X-2?

Jacob Heilbrunn

The great conductor Bruno Walter loved to recount the tale of an orchestra player's first chance to conduct a concert. "How did it go?" the musician was asked the next day by the orchestra's regular conductor. "Very well indeed," he replied. "And do you know, Maestro, this business of conducting is really very simple." After pretending to look alarmed, the conductor raised an admonishing finger and whispered, "I beg you: Don't give us away."

It's often hard to avoid the sense that this anecdote applies with equal force to sophisticated audio equipment. Why does company X's amplifier, the skeptics like to ask, have to cost so much? Put aside the hocus-pocus, and the business of making one is really very simple; an amplifier only consists of wires, transistors or tubes, and a transformer or two. When it comes to loudspeakers, these doubts can multiply. In the end, loudspeakers usually consist of a box, some capacitors, maybe a vent at the bottom, and a few holes cut in front for mounting several drivers. Why, then, is company Y charging such steep tariffs for its loudspeakers?

Enter David Wilson. When I recently met Wilson at his factory in Provo, Utah, he himself raised the issue of expensive wares in a sagging economy without any prompting from me. Sitting at his desk and peering at me excitedly through his spectacles, he began reading aloud from an essay by the editor of *Fortune*. The essay made a fundamental distinction between luxury, on

the one hand, and opulence, on the other. As Wilson explained it, luxury, unlike opulence, offers both elegance and real value, but it doesn't come cheap.

Certainly Wilson's factory epitomizes his commitment to both his products and music. With its lined walls of photographs of eminences such as Ricardo Muti praising Wilson, to its CNC router and its special automotive paint shop with downdraft chambers, this sophisticated operation is apt to leave even the most jaded audiophile quivering with admiration. No outsourcing to China here; everything in a Wilson loudspeaker is fashioned specially for it in America, down to the binding posts. Crossovers are hand-soldered at the factory—no boards with traces. Fit 'n' finish, as usual with a Wilson, is impeccable. Even the ports are specially machined. Wilson attaches great importance to achieving as much uniformity as possible with a pair of loudspeakers. I expected to stumble upon a team of seamstresses sewing the speaker grilles.



EQUIPMENT REVIEW - Wilson Audio Specialties MAXX 3 Loudspeaker

Wilson's own office, which is filled with model airplanes and rockets as well as an original manual for the Saturn V, is emblematic of his fascination with technical issues. The factory also contains several auditioning chambers, one with panels that can be pulled into the room so as to simulate an acoustically treacherous environment. At bottom, Wilson simply can't help himself: Upon meeting me, he started quizzing me about my room—reviewing the reviewer, so to speak. After I told him the dimensions, he disappeared and a few hours later handed me a paper sketching out my room and where any nodes might be. He suggested that there might be a bit more bass in the right hand rear corner. He was dead-on right.

But all of this attention to detail and fussing over the dimensions and appearance of his loudspeakers would be superfluous if they were unable to deliver the musical goods. As a longtime Magnepan fan, I've had a bit of a hankering to go over and experience the other side of the sound spectrum. Moving-coil designs almost always provide more slam and dynamics than planar ones, and none more so than Wilson. What it would be like, then, to experience the company's spanking new—and second from the top-of-the-line—MAXX 3 loudspeaker? The Alexandria, which retails for \$158,000, is a cost no-object design. Its younger sibling, by contrast, lists for \$68,000. But is the MAXX 3 a pale shadow of its big brother? Or does it deliver even more relative value and listening pleasure?

The MAXX 3 represents an attempt to trickle-down in somewhat more compact form many of the features that Wilson introduced in the new version of the Alexandria, which, among other things, features a redesigned, more efficient

midrange driver which I had the opportunity to hear at length a year ago at the Brooks Berdan store outside of Los Angeles. Powered by VTL Siegfried amplifiers, the Alexandria delivered gobsmackingly thunderous dynamics coupled with startling speed in the bass region, which is quite a feat, one that TAS editor Robert Harley has explored in his review of the Alexandria. Wilson himself has said that he decided to alter the Alexandria after extensive listening sessions at Vienna's Musikverein, where he was able to listen to the Vienna Philharmonic rehearsing, among other things, Mahler's glorious Second Symphony ("Resurrection"), conducted by Seiji Ozawa. They had no fewer than eight bass players playing that day (and one of them, says Wilson, actually owns a pair of Sophias). The Musikverein has the best acoustics of any hall I have ever heard. In fact, it contains two halls, one in the form of a large shoebox for orchestral and other large-scale performances as well as a more intimate one for chamber music.

As it happens, my listening room is in the form of a shoebox. It also has a concrete floor, which improves bass response. To help position the loudspeakers, Wilson's National Sales Director Peter McGrath came out to my house for several days. (Wilson rigorously trains its dealers in its special methodology for speaker setup.) Assembling the MAXX 3 is a snap. As part of its redesign of the MAXX 3, Wilson has separate cabinets for the tweeter and midrange drivers that can be angled separately. The tweeter is a Focal that has been modified and the midrange is a proprietary driver.

Once you've got the bass cabinet with its Focal 11" and 13" woofers set up, you then stack the

tweeter and midrange modules on top. Wilson has its own set-up regimen for fine-tuning the position of the speakers that involves calculating the distance from the listener to the speaker. It relies upon a system that it devised and calls Aspherical Group Delay. In theory, it allows Wilson to time-align the mid and tweeter drivers perfectly, whose modules, as with the Alexandria, can be shifted fore and aft as well as rotated. In addition, Wilson has gone to heroic lengths to isolate and pot the internal crossovers to increase their immunity to the distortions induced by the effects of speaker vibration. It took McGrath, who played me a number of his recordings of Miami's New World Symphony, a day before he was satisfied with their position. I have never moved them from the spot we both agreed upon was best, about six feet from the back wall, and three feet from the sidewalls. The distance from the inner edge of each speaker to the other was almost eleven feet.

Even in their unbroken-in state the MAXX 3s were notable in several respects. First, they set up a wide and deep soundstage, closer to the scale of a large orchestra or a full organ than any other loudspeaker I've had the chance to hear. Second, the midrange driver's sensitivity allows the MAXX 3 to deliver a more relaxed and refined sound than its predecessor, the MAXX 2. Third, it possesses whiplash speed in the bass that suggests that port designs, which are often accused of being a poor man's way of achieving deep bass at the cost of exactitude, don't always have to represent a sonic compromise. Fourth, it has a remarkable purity of timbre; it unfurls different tonal colors like a peacock's tail. Finally, for all the emphasis on the dynamic sizzle of Wilson loudspeakers,

perhaps their most outstanding characteristic is their ability to breathe—to play with true fidelity at low volume. But it did take *hundreds* of hours for the speaker to break in—the treble sometimes had a horrendous shrillness that took a long time to disappear. However, once it did, the one remark that visitors to my home made with almost metronomic regularity was that this was a Wilson that sounded nothing like Wilsons of yore.

Take the Brazilian Guitar Quartet. Their recording of the Bach suites for orchestra ranks high among my favorite transcriptions. The MAXX situated each guitar in its own space, which a lot of speakers can do, but what was particularly fetching was its ability to render the delicacy and nuance of each instrument. The MAXX 3 had an unbelievable ability not simply to enunciate each note crisply but to allow decays to linger on and die into silence. You hear each crepitation with uncanny precision, perhaps more than the performers themselves ever imagined would be reproduced. (Part of this reproduction was also due to the superlative Playback Designs CD player, which impressed Peter McGrath so much that upon returning home to Florida he immediately ordered two of them, one for recording purposes.)

Furthermore, the imaging was simply rock-solid. Part of this may be attributable to Wilson's decision to measure each capacitor in his crossover individually and then use bypass capacitors to achieve even tighter tolerances than those specified by their manufacturer. In so doing, Wilson helps to ensure that each loudspeaker measures identically. This, I'm convinced, helps improve image solidity to a great degree. That solidity, in turn, creates a heightened sense of

EQUIPMENT REVIEW - Wilson Audio Specialties MAXX 3 Loudspeaker

emancipation among instruments and of rhythmic security.

The MAXXs, you could say, got rhythm. This is no small point. While listening to the MAXXs, I perused pianist Gerald Moore's penetrating autobiography *Am I Too Loud?* in which he explains that he regards Dietrich Fischer-Dieskau as the singer nonpareil. Why? According to Moore, "If I had to put my finger on the key to Fischer-Dieskau's supremacy, setting him apart from every other singer, I would say, in one word: Rhythm. This is the life-blood of music and he is the master of it."

Instead of smearing or blurring, the MAXX 3 thus provides a great, much greater, sense of individual performers playing together simultaneously as opposed to a congealed blob. On one of my precious Fitzwilliam Quartet LPs of the Shostakovich String quartets, it sounded as though six feet separated the first violinist from the violist. The MAXX simply grounds instruments to a degree unprecedented in my experience. Similarly, the Beaux Arts trio sounded more transcendent, more unified than I had ever heard before on LP. In this regard, I should also mention that thanks to the generosity of Nagra distributor John Quick, I enjoyed the chance to try the elegant Nagra VPS phonostage, which renders tone colors beautifully and has a liquid sound.

The MAXX's higher sensitivity allows it to convey the elastic sense of music. Nuances and colors that make the music come alive—such as previously almost imperceptible rubatos and vibratos—are simplicity itself to discern. This isn't a matter of listening for irrelevant squeaks, rumbling subway cars, and the like, but vital musical cues that help create the illusion that the

real thing is transpiring in front of you. In short, the MAXX constantly astonished me with heretofore obscured details that the phenomenal Continuum Caliburn turntable was extracting from the black grooves; in many ways, it was as though I was hearing the turntable in an entirely new light.

If the precision and delicacy and finesse of the MAXX 3 came as something of a surprise, it is also fuller and more relaxed sounding than its predecessor, the MAXX 2 (the MAXX 3 is notably easier to drive than MAXX 2 as it features an easier load, even though its 4-ohm impedance means that its sensitivity is closer to 89dB than the specified 91dB). A comparison of the two loudspeakers at Wilson's home in Provo first alerted me to the contrast, but it became even more apparent as I continued to listen to my pair. On a CD of Thomas Hampson singing Schubert lieder, the MAXX reproduced the sound emanating from his chest, not simply the leading edge of the note. (Hampson, by the way, is a devout Wilson fan and owner—Wilson told me in a tone of some incredulity that he met him in the library of the Musikverein, where Hampson said, "You're David Wilson? *The David Wilson?*")

Nor is the MAXX at a loss when it comes to coherence. No, the three-way crossover isn't quite as seamless as that of a planar design. How could it be? I found it very difficult, though, to descry where the sonic handoffs were taking place, which seemed to occur with the velvety smoothness of a star track team passing the baton without sacrificing a millisecond. Its seamlessness is particularly notable on the big stuff—on Mahler's Third, conducted by Claudio Abbado, I was bowled over by the lack of congestion. Tympanis may be pounding away center stage, but the

violins, flutes, and trumpets are all there in full glory, unflappably playing away.

And those tympanis, my word! You can crank this speaker to crushing sound pressure levels and it will never lose its composure. Quite the contrary. So blinding is the speed in the nether regions that you almost hear the mallet descending an instant before it whacks the tympani. And you hear not only initial impact on the skin but also the reverberation in the tympani itself and then the hall. No doubt about it: Bass is not in short supply with the MAXX. On the CD *Count Basie Meets Oscar Peterson: The Timekeepers* [Pablo] John Heard's groovy bass simply oozes out of the MAXXs on the cut "I'm Confessin' (That I Love You)." One thing's for sure: I can't imagine anyone not loving the bass reproduction, which has a telluric quality. My sense, however, was that for the speaker to produce a towering soundstage and stygian bass it really required a high-powered tube or solid-state amplifier. Or maybe I'm just a sucker for grip and control!

Despite their reputation for boom and sizzle, the MAXXs never seemed splashy or to have a hebephrenic quality. Instead, they are almost conservatively voiced. No single part of the frequency spectrum seems to dominate another or become obtrusive. Some of this can probably be chalked up to the amazing inertness of Wilson cabinets. Yes, when really pushed on rap music it was possible to feel some vibration, but it wasn't as though the speaker were trembling. And the port would expel puffs of air that you could feel with your hand, but there was no auditory evidence of chuffing, which is pretty unusual in my experience. The MAXX's sense of command also may explain its notably pristine micro-dynamics.

TAS editor Neil Gader perceptively noted that the MAXX is so precise it appears to put a kind of miniature halo around each note.

Though the speaker is notably smoother than the MAXX 2 in the treble region, it is a tad drier in the mid-to-treble region than some other distinguished competitors such as the JM Lab. Here Neil complained that he felt that cymbals were consistently located too high, perhaps because of the driver configuration. For me, however, this wasn't an issue. More generally, on the spectrum between lush and analytical,

SPECS & PRICING

Wilson Audio Specialties MAXX 3 Loudspeaker

Drivers: 11" and 13" woofers, 6" midrange, 1" inverted dome tweeter

Frequency response: 19.5Hz-22.5 kHz

Impedance: 4 ohms

Sensitivity: 91dB

Dimensions: 68" x 16" x 24"

Weight: 450 lbs./speaker

U.S.

Price: \$68,000/pr

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the MAXX does lean toward the latter—a quality that, I’m convinced, helps create a tremendous percussive effect on piano recordings. What’s more, the Wilson opens up the recording studio to a degree I’ve never heard before—you’ll hear the drummer to the far left, stuck in his booth, while the piano plays centerstage. With choirs, each voice is almost distinctly identifiable, such is the accuracy of the MAXX. But no one will mistake it for a forgiving loudspeaker.

If I had my druthers, I’d flesh out the mids and highs just a tad. The slight leanness that I heard on some recordings may be a function of the resistors that Wilson uses to prevent its drivers from being blown out by excessive current or a crossover point. Or it might just be that the inverted titanium dome tweeter is the culprit. Ultimately, I felt that the Wilsons sounded their best with the tubed Wotan amplifiers. But make no mistake: The neutrality of the MAXX is what Wilson is striving for—a conscious design decision, I suspect, not to sugarcoat the sound but to allow dreadful recordings to remain just that.

It’s also the case that the MAXX has a highly evolved passive crossover network of capacitors and inductors, which have their pluses and minuses. (I’ve found my Magnepan 20.1 to pass the most information when run actively and using the crossover’s volume controls, which allows me to dispense with a preamplifier.) But running the MAXX in an active configuration would require several amplifiers and is probably a nonstarter as far as the factory is concerned. As Paul Seydor has observed in his thorough review of the Wilson Duette [Issue 176], an outboard crossover offers the chance to experiment with equalization to compensate for room effects. But this is an audio

arena that many manufacturers are loath to enter as it presents a new set of difficulties. When I made bold to mention active crossovers to Wilson himself, he simply raised his eyebrows. Forbidden fruit.

But these are nits I’m picking. Now that I’ve picked them, it’s time to assay the more forbidding question of whether the MAXX matches up to the Alexandria. Let’s say it covers a good deal of the distance, but doesn’t quite get to the finish line. The blunt fact is that the Alexandria is in its own stratosphere. There are several areas in which the Alexandria surpasses the MAXX.

First, the Alexandria has an array of dynamic gradations that the MAXX does not possess. The Alexandria has an amazing ability to ramp up from *pianissimo* to *forte*, then double *forte*, then triple *forte* in the space of a few seconds. It simply seems to possess no dynamic boundaries. Then there’s the issue of bass. For all its precision and power, the MAXX does not have the extension of the Alexandria. Finally, the Alexandria, to my little ears, has a more expansive midrange.

None of this should come as a surprise. If you have the passion, the space, and the green stuff, the Alexandria will be the ticket, should you covet a Wilson. But for almost another \$90,000, this verdict shouldn’t come as a surprise. The startling thing, I would say, isn’t where the MAXX falls short but how close it really does come to the Alexandria. The truth is that the Wilson MAXX 3 is superior, overall, to the original Alexandria. It represents a laudable effort to adapt the advances in the new Alexandria to improve the MAXX line. This isn’t trickle-down technology, but a cascading waterfall of improvements.

I can’t resist ending as I began with an

anecdote: When the delivery man from a shipping company caught a glimpse of the Wilson MAXX 3 loudspeaker through the door leading to my garage, he asked, “Remember the movie *The Italian Job*?” In it, a gang of thieves fantasizes about how they would like to spend their ill-gotten gold bullion; Left Ear indicates that he covets a villa in Spain that boasts a special room just for his shoes, while Lyle makes it clear that he pines for a cutting-edge stereo system with some rather unique abilities. As the shipper put it, “Can those speakers blow a woman’s clothes off?” Well, I couldn’t honestly answer that query affirmatively. But I can say that there doesn’t seem to be much else that the stupendous MAXX 3 is incapable of accomplishing. An aristocrat among loudspeakers, it offers the promise of a lifetime of enjoyment.

But it won’t, of course, come cheap. As Count Basie says on one of his recordings, “One more time, once more,” by which I wish to plead indulgence for what is truly the final anecdote: When my father, who has a modest system, listened to a classical cut on the MAXX 3, he quietly asked after it ended, “How much do these speakers cost?” I answered, “\$68,000.” Without missing a beat, he responded, “I guess that’s what it takes to get this kind of sound.”

Yes, it does. *tas*