

EXOTICA

MBL 101 E Radialstrahler Omnidirectional Loudspeaker

Jonathan Valin

The very first thing HP told me when I started writing for this magazine ten years ago was never to paint myself in a corner with a rave. “Always leave room for the next great thing that comes your way,” said he, “because sooner or later it *will*.”

In this instance, it's come far too soon for comfort. Just as I finished my, uh, rave of the Kharma Midi-Exquisite/CeSb 1.0 loudspeaker system in Issue 151, these space-age contraptions from Meletzky Berlin Loudspeaker (MBL) showed up to make me eat my words.

Well, “eat” is too strong a word. Perhaps “rechew” is better. The Kharma Midi-Exquisites will remain in my listening room for the reasons outlined in Issue 151. But the MBL 101 Es have now joined them—and in several ways superseded them—as my references.

Before I start singing the 101 E's praises (and pointing out its peculiarities), let me talk a little about how the speakers work, since they work differently than just about every other loudspeaker I've auditioned. The MBL 101 Es are omnidirectional speakers, meaning they radiate sound throughout a true 360 degrees. The folks at MBL like to point out that musical instruments are also omnidirectional radiators, which is true, although unlike the 101 Es musical instruments do not radiate *equal energy* in all directions.

The way MBL gets its speakers to radialstrahl (emit a circular signal) involves a nifty bit of thinking from MBL founder Wolfgang Meletzky (in cooperation with Professors Josef Sternberg and Herbert Fritz of the Institute for Aeronautics and Aerospace



at the Technical University of Berlin), and a just as nifty bit of execution by MBL's resident engineering genius, Juergen Reis. To take the Radialstrahlers' tweeter as an example, the driver's "motor"—a fairly conventional magnet and voice coil—is seated horizontally on the chassis, like a dynamic speaker sitting face-up on a stand. Instead of being attached to a paper or plastic cone, however, this magnet/voice coil is wired to a sheaf of slightly bent, carbon-fiber petals (what MBL calls "lamellas") that are arrayed vertically in a circle, rather like a segmented orange standing on its stem, and then glued at their tops into a thrust bearing. As the voice-coil moves up and down, the lamellas of the spherical driver are driven, accordion-like, in and out, producing sound throughout 360 degrees. A true—dare I say it?—pulsating sphere.

The tweeter and midrange Radialstrahlers use carbon-fiber lamellas; the big tulip-bulb woofer uses aluminum/magnesium ones. Other than these material differences, they work in exactly the same ingenious way. Each is bolted atop the other—tweeter, midrange, woofer—with no box surrounding them.

The only conventional dynamic driver in the four-way 101 E is the 12" cone "subwoofer" (a proprietary MBL design), located immediately beneath the tulip-bulb woofer. It does have a box—a beautifully finished, high-gloss, piano-black enclosure, with two front-facing ports near its bottom—into which it fires downward. (Though it is called a "subwoofer," the cone woofer is actually just a very good low-bass driver, with a LF cutoff of about 25Hz and HF cutoff of 105Hz; like all low-bass drivers it, too, radiates sound omnidirectionally.)

Wearing their optional, tall, "pagoda-like," mesh grilles, the 101 Es are stunning-looking, avant-garde *objets d'art*; unfortunately, these grilles cause all sorts of audible diffraction problems and simply cannot be left in place for critical listening. Stripped of them, the 101 Es look rather like, well, *Star Wars*' C-3PO sitting in a hot tub. (Our CEO,

Tom Martin, who came to Cincy to audition the 101 Es, said that he kept expecting them to get up and start moving toward him.) I love their vaguely android looks, but even if you don't, the 101 Es are certainly going to be conversation-starters—grilled or grilleless. Outside of the Avantgarde Trios, I can't think of another loudspeaker that makes this much of a design statement.

So what does C-3PO-in-a-hot-tub sound like?

First, as you might expect, because they radiate sound through 360 degrees the 101 Es make your room an even bigger factor than usual. Unless you have a very large space or a very well-damped one, the MBLs are going to require you to pay careful attention to: 1) room treatment (behind the speakers, to the

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sides of the speakers, and on the wall behind the listener); 2) listener height (for the very best balance, the Radialstrahlers prefer you to be seated with your ear roughly parallel to the midrange driver—sit lower than this and you begin to hear too much woofer; higher, too much tweet); and 3) listener distance from the speakers, and the speakers' distance from the back and sidewalls and from one another. Although all speakers require careful attention be paid to these matters, they become considerably more critical with the omnidirectional Radialstrahlers. (I should note that 101 Es allow you to better accommodate room acoustics by giving you the choice of quite-different-sounding silver, silver alloy, or copper wiring from the crossovers to each of the radial drivers. You can experiment with the three kinds of wire via large, easy-to-set jumpers on the backs of the speakers.)

Second, omni radiation takes some getting used to. Instrumental images are larger, and ambience less of a discrete and more of a continuous element "infused" throughout the soundfield (as it is, by the bye, in life). Even when the speakers are set up properly in a well-damped room and you're sitting in the "sweet spot," the MBL 101 Es' phantom center images will not be as tightly defined or truly dead-centered as they are with well-designed direct radiators; they will seem bigger and slightly more diffuse than what you're used to, though the rest of the soundstage lays out like that of a conventional speaker, albeit with fantastic width, depth, and height, and occasionally with something like a "wrap-around" effect.

Beyond vast soundstaging, the 101

E's omni dispersion pattern has other unique benefits. For one, quite unlike conventional dynamic speakers, the Radialstrahlers do not require you to be seated in the middle to enjoy excellent imaging and soundstaging. You can sit (or stand) surprisingly far off-axis and still hear a wide, deep, layered stage that is not canted as much toward the off-axis listening position as it is with

direct radiators or dipoles. (Paradoxically, if you are seated off-axis, you will get *better* center imaging than you do with direct radiators or planars.)

Another peculiarity: With some music (particularly that which is rich in deep bass or percussion), the MBL 101 Es sound best played very loud (peak levels of 95–100+dB). Whether this is because the Radialstrahlers "dissipate" some of the acoustic energy that is generally directed straight at the listener, I don't know, but there are reasons why the MBL folks tend to play these things at jet-engine levels at shows. For one thing, *they can*—these speakers will play more loudly, more cleanly and coherently (and less irritatingly) than any speaker I've heard save for horns. The other reason is that the 101 E's bass drivers (the radial woofer and 12-inch conventional ported "subwoofer") gain considerable dynamic range, scale, and impact at higher SPLs—rather "catching up" in

these respects with the rest of the speaker. While room boundaries augment the bass response of all loudspeakers more noticeably at higher volumes, this is especially true with the omni 101 Es, which seem to couple to the listening space much more uniformly and efficiently above a certain loudness level—with consequently greater and more dramatic effect on bass-range dynamics, extension, and scale.

Not that the 101 Es require you to play them ultra-loud to bring them to fullest life, like big Maggies do. The sound-pressure levels at which they sound best depend, almost to the decibel, on the kind of music and the quality of the recording. They are, for instance, quite persuasively realistic at moderate volumes (80–85dB peaks) with recordings of modest dynamic range and limited bass (think classical, folk, or jazz vocals). That said, the 101 Es generally prefer to be played *somewhat* louder than what you may be used to on most music through most speakers, and with power music of any kind you just won't hear all that they are capable of unless you really turn up the juice.

What the 101Es are capable of is astonishing. At the right SPLs, the Radialstrahlers have the best (which is to say deepest-reaching, most naturally full and rounded, sensationally dynamic and extraordinarily lifelike) low end I've heard from any loudspeaker, with or without a sub. On cuts with truly subterranean bass—like Nine Inch Nails' "The Perfect Drug" from Trent Reznor's soundtrack to *Lost Highway* [Nothing/Interscope] or David Bowie's "Little Wonder" from *Earthling* [Columbia] on CD, or the Montsalvatge Piano Concerto [*Concertos from Spain*, London] or Schoenberg *5 Stücke* [AMER/ Mercury] on LP—these things move so much air that they don't just make your pants legs flap, they make the cushions on the

couch you sit on flex in and out. And on drumkits...well, this is as close as I have come to recreating the physical presence—the sheer size and room-shaking power—of a drum set since I listened to four barrel-sized Nearfield Acoustics Pipedream subwoofers (each one equipped with twin 18" drivers). It almost seems like a magic trick to hear a



speaker of the 101 E's modest dimensions produce such astonishing bass-range slam and through-the-floor extension.

Though not as SPL-dependent, the 101 E's treble is every bit as remarkable as its bottom end. On cymbals, bells, or top-octave piano and winds, the 101 Es sound so dynamically and harmonically complete and three-dimensional that, at first, you may think that there's too

much "there" there. To my ear, there isn't (unless, like certain music editors I know, you play the 101 Es so loud you chase people from the room). Like the Kharma's diamond tweeters (but to a greater degree), the Radialstrahlers' omni tweeters simply reproduce more of the instrument, the air that surrounds it, and the way its voice shimmers and hangs in that air than you're used to hearing from a loudspeaker, and they do this without adding the usual sting or smear of treble-range transducers. As with the Radialstrahlers' bass, on the right recordings the effect is magically realistic.

If you're expecting a let-down in the MBL's midrange (and given what I've just said about its magic act in the bass and treble, you may be), you're in for a surprise. Although we don't talk about this much anymore, it used to be that loudspeakers—from big expensive planars like Maggie 1-Us or stacked KLH 9s, to moderately priced dipoles like the Quad 57s, to cheap bookshelf dynamics like stacked Ad-vents—could "fool" you into thinking that a recorded vocalist or soloist was *there* in the room. I don't know what's happened to speaker technology in the past thirty years—whether or not the gains that have been made in imaging specificity and soundstaging breadth and depth and flat extended frequency response have been traded off against that magical sense of "presence"—but it is not often, anymore, that a loudspeaker tricks me into thinking that, say, Joan Baez or Artur Rubinstein or the Juilliard Quartet is "there" in the room. The MBL 101 Es are exceptions. Like Maggies of old—and perhaps because, like Maggies of old, they throw images that are larger, less razor-cut, and more "bloomy," dynamically alive, and three-dimensional—these things *can* fool you into thinking that you are in the pres-

ence of real musicians or vocalists. Of course, a great deal depends on the recording, but with the right disc—try Cisco's reissue of Doc Watson's *Southbound* or what my colleague Mark Lehman calls Bartók's seventh quartet, Jerome Rosen's String Quartet No. 1 [Epic]—at the right level, the 101 Es pull the ultimate magic trick: They make you momentarily forget you're listening to speakers.

This brings me to the 101 E's chief virtue. With any music, at any reasonable level, the Radialstrahlers aren't just world-beaters in dynamics or bass extension or treble clarity and purity or lifelike midrange presence; they are also and everywhere simply extraordinary with the duration of notes. Even with 'stats, I've never experienced anything like this. The MBLs simply don't let go of the music, no matter how low-level it is. I've never heard any speaker reproduce "stopping transients"—the way a sustained piano note or guitar note or violin note mixes its changing colors with the colors of subsequently sounded notes before bending and gradually dying off into silence—better than the MBL 101 Es. If you want to hear every bit of music that lives on the cusp between sound and silence, these speakers should be at the top of your short list.

And, frankly, you *should* want to hear this. When a composer like Chopin, for example, calls for a piano note or chord to be prolonged by the pedal, he is not doing so just to make a pleasant "background" thrum, although that is all too often the way this sort of thing sounds on loudspeakers. He wants you to hear the colors of that note blend and contrast with the colors of fresh notes; he wants to make harmonies out of past and present. The Radialstrahlers' uncanny ability to sustain a note—not just as vague noise but as a very low-level bit of music—allows you to hear such harmonies with a clarity unparalleled in my experience, outside of a concert hall or recital room.

Unlike many other multiway speakers, at moderate to very loud levels the

Radialstrahlers sound extraordinarily "of a piece" from top to bottom. Indeed, they are among the most coherent loudspeakers I've heard, rivaling the Kharma RM 3.2s or the Sound Lab M1s (save in the bass, where, as noted, there is a bit of a falling off in dynamic range and scale at lowish SPLs). The 101 Es are also high (perhaps highest) among the most open and boxless-sounding loudspeakers I've yet heard. Since they don't have an enclosure and radiate in all directions, they sound extraordinarily freed-up. However, this virtue must be weighed against the fact that they excite more room modes than other speakers, making room colorations potentially more prominent.

The MBL 101 Es (at least with the amplification I've so far used—for

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which, see below) are exceptionally natural in tone color from top to bottom. In this regard they are a distinct improvement over the earlier 101s, which tended to sound a bit shrill, analytical, and metallic (and far less "of a piece"). These Radialstrahlers never sound bright, thin, or spitty, unless you drive them to extraordinarily high (112dB+) sound-pressure levels, where the midrange and tweeter begin to grate. At average levels (or average for the MBLs), the 101 Es can (and do) make strings or winds or piano or brass sound nearly as rich and diaphanously beautiful as the Kharms or Sonus Faber Stradivari do. All depends on the quality of the source you feed them, for these speakers are among the most transparent (as in "transparent-to-the-source") of any I've heard.

Speaking of sources...With an extremely low sensitivity of 82dB/W/m, the 101 Es do require you to use powerful amps, and those amps must support

bi-wiring, as the 101 E's bass drivers have to be fed separately (i.e., with their own set of speaker cables) from its midrange and tweeter. I am currently using MBL 9011 monoblocks—huge, 280-pound-per-side, \$66,800-per-pair, solid-state powerhouses, capable of delivering something like 5000W of peak power without blinking. A bit to this tube maven's surprise (I reviewed an early version of these amps about ten years ago), the 9011s are superb amps—very deft and detailed, exceptionally dynamic and gorgeously rich in tone color, without any of the off-putting coolness and dryness of their earlier iteration. There is no question in my mind that these monoblocks—in combination with MBL's *wunderbar* 6010 D preamp—play an indispensable part in the extraordinary low-level resolution, large-scale dynamic clout, and lifelike presence I've heard from the 101 Es. (I will be reviewing the 9011s, the 6010 D, MBL's superb 1621 A CD transport, and 1611 E DAC at a later point. I will also be reporting on other appropriate tube and solidstate amplification for der Radialstrahlers.)

The 101 Es, like the Kharma speakers, are not giants that require giant rooms to sound their best. Though they will play as loudly as the biggest Wilsons or Rockports, they are demure enough to fit the room of just about any listener (or just about any listener with \$45,900 burning a hole in his lederhosen).

To sum up, driven by \$122,300 worth of MBL electronics (and that's not counting Lloyd Walker's nonpareil Proscenium Gold turntable, Clearaudio's wonderful new "Magic Fingers" Titanium cartridge, Lamm Audio's LP2 Reference phonostage, and nearly \$80k in Tara Labs' fabulous Zero cable and interconnect), the 101 Es are in many respects the best loudspeakers I've ever heard, but they are different enough from the competition—and peculiar enough in their wants and needs—to require a few caveats that do not apply to other great speakers, chiefly in the matters of room treatment, SPLs, imaging, low-level bass dynamics, and amplification.

As for how they compare with the

Kharma Midi-Exquisite/CeSb 1.0s: The Kharms are a bit more “of a piece” (dynamically and harmonically) at low-to-medium volumes, though the Midi-Exquisites by themselves also sound the slightest bit polite in the bass (and, in the Kharms’ case, this is true at all volume levels if you don’t add the subwoofer); they are far less room-sensitive and much easier to drive than the MBLs; they are nearly as open and every bit as good at soundstaging as the 101 Es—and more precise at imaging; they may be slightly warmer in timbre, although the difference is *slight* and source-dependent; they are the Radialstrahlers’ equals or superiors at the resolution of certain kinds of fine detail; and they make less of an avant-garde “design statement.” On the other hand, they are not as uncannily dynamic or quite as good at starting and stopping transients as the MBLs at moderate-to-loud levels

(nothing I’ve heard is); as good as it is (and it is great), their bass is simply not the equal of the MBLs at moderate-to-loud levels (nothing I’ve heard is), nor is their treble (ditto); though better than anything else in this regard, they are slightly less good at soundstaging and imaging *off-axis* than the MBLs; nor are

SPECIFICATIONS

Type: Four-way, floorstanding, omnidirectional loudspeaker

Driver complement: Radial TT100 woofer, radial MT50/E midrange, radial HT37/E tweeter, 12" cone subwoofer

Frequency response: 24Hz–40kHz

Sensitivity: 82dB/W/m @2.83V/2 π


Impedance: 4 ohms

Recommended amplifier power: 320–500W (2200W peak power)

Dimensions: 67" x 16" x 18"

Weight: 176 lbs.

they quite as “you are there” present in the mids at moderate-to-loud levels.

I could live with either speaker (and will). But, if carefully damping your room, purchasing an exceptionally powerful high-current amplifier, playing some of your music a bit louder than usual, and living with a work of avant-garde art don’t daunt you, the 101 Es are an exceptionally tough act to follow—or precede. 

MANUFACTURER INFORMATION

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