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Floorstanding Speaker Reviews

MartinLogan Motion 40 Speaker System

By Darryl Wilkinson • Posted: Feb 12, 2013



Price: \$4,345 At A Glance: Folded Motion tweeters • Dual 6.5-inch aluminum cone woofers • Custom five-way bi-wire tool-less binding posts

A couple of years ago, I took a tour of the Ben & Jerry's ice cream factory in Waterbury, Vermont. (Somehow, it lessens the soul-soothing delight that is ice cream when you talk about it being churned out of a factory. I would rather think of it as being collected soft-serve straight from the udders of Antarctic dairy cows that graze exclusively on fresh-fallen snow, drink pure thousand-year-old glacier water, and make the sound of ice cream truck bells when they moo.) Whilst there, I heard the tour guide refer to Ben & Jerry's ice cream as super-premium. I was

intrigued because: 1) I'm thinking about using it as a nickname for myself; 2) I'd never heard the term used in reference to ice cream before; and 3) I wondered if there were additional levels of premium-ness. (Ultra-super premium? Super-duper premium? Maximum-ultra-super-duper premium?) I was disappointed to discover that, although the FDA sets standards for the use of nutrient descriptors—such as light, reduced fat, and lowfat—the terms economy, regular, premium, and super-premium don't have hand-packed definitions and are merely made-up marketing terms that vary from brand to brand. Evidently, it has to do with both the amount of air mixed into the ice cream and the content of butter fat in the recipe. Less air and more butter fat promotes higher premium-ness—all the way up, I assume, to the heart-valve-clogging, airless, 100-percent pure, frozen-block-of-butter-fat variety.

In the case of loudspeakers, it's the opposite. More air and less fat—no one likes tubby bass—results in super-smooth, premium sound. (Think of distortion as the audible equivalent of freezer burn.) Similar to the official nutrient descriptors for ice cream, there are set parameters by which loudspeakers are measured and, on a basic level, can be compared: frequency response, efficiency, blah, blah, and blah. But whether it's frozen dairy treats or the reproduction of music beats, the recipes and the quality of the ingredients used can vary dramatically from brand to brand—and even within a brand if they offer designs running the gamut from economy to super-premium.

Daddy's Got a Squeezebox

Since it began in the early 1980s, MartinLogan has always crafted loudspeakers that by almost anyone's definition would fit in the super-premium category; and sometimes, such as with the

★★★★★

MartinLogan Motion 40 Speaker System

Performance ★★★★★

Build Quality ★★★★★

Value ★★★★★

★★★★★

Dynamo 1000 Subwoofer

Performance ★★★★★

Features ★★★★★

Build Quality ★★★★★

Value ★★★★★

\$120,000/pair Statement E2 speaker system in the late 1990s, they'd dabble in the maximum-ultra-super-duper-premium realm. The hallmark of a MartinLogan speaker has always been the seductively smooth, revealingly open, lighter-than-air quality of sound that came from the company's near-exclusive use of electrostatic transducers to reproduce the mid and high frequencies. In 2010, however, to the horror of many MartinLogan devotees who feared it would be the beginning of the end, the company introduced what could be considered a range of MartinLogan light or regular speakers—with prices starting at \$200/each for the compact Motion 2 monitor. Instead of electrostatic panels, MartinLogan's new Motion series speakers used a newfangled take on an oldfangled idea for a tweeter with a pleated diaphragm material. (MartinLogan calls the tweeter design *Folded Motion*.) Almost as scandalous was the use of (gasp!) cone drivers to cover the midrange.



As it happens, the speaker gods did not rain down fire and brimstone on the MartinLogan headquarters in Lawrence, Kansas. (Last summer, it pretty much didn't rain at all in Kansas, but I doubt it had anything to do with loudspeaker design.) As a result of extraordinary engineering brilliance or the application of ancient Masonic secret knowledge, MartinLogan's 1 x 1.4-inch *Folded Motion* tweeters are uncanny in their ability to closely mimic some of the best aspects of a true electrostatic panel transducer: excellent transient response, high dynamic contrast, and relatively low distortion. For those who aren't familiar with MartinLogan's *Folded Motion* technology, the basic concept is to take a 5.25 x 1.75-inch piece of super-light/thin diaphragm material with an attached conductive grid and fold, or crease, it into a series of tiny pleats resembling the side of an accordion. Rather than move in and out as typical driver designs do, the pleats in the diaphragm material are compressed and pulled apart edgewise—again, similar to an accordion. This action squeezes air, sending compressed and rarefied waves into the room. (*SqueezeBox* tweeter would have been much catchier than *Folded Motion*.) The design is highly efficient; thanks to the pleating of the diaphragm, it has a sound-producing surface area that's about eight times more than a typical 1-inch dome tweeter while requiring almost 90 percent less excursion than that traditional dome tweeter.



Nothing to Gloss Over

Currently, MartinLogan uses the same *Folded Motion* tweeter in every *Motion Series* speaker model, including the newly minted *Motion 40* towers (\$950/each), the *Motion 30* center (\$650), and the *Motion 15* monitor (\$800/pair) that the company sent for this review—plus a *Dynamo 1000* wireless subwoofer (\$1,000). In addition to sharing the same tweeter, the new *Motion Series* speakers have similar cabinet styles with a gorgeous high-gloss *Piano Black* finish, softly

rounded edges, gently sloping top panels, and MartinLogan's finger-friendly custom five-way tool-less binding posts. Each speaker utilizes a ported design along with magnetically attached metal grilles. The grilles are slightly indented in front of the tweeter, a feature that serves to highlight its soft-golden color. Also behind the grilles are aluminum cone mid- and low-frequency drivers that range in size from 5.25 inches to 6.5 inches depending on the model.



MartinLogan's Dynamo 1000 subwoofer's sealed cabinet has a matte black finish rather than high-gloss and hides a 500-watt internal amp and a 12-inch cone driver. In addition to a built-in wireless receiver, the subwoofer ships with an SWT-2 transmitter that attaches to the sub output of your AVR or surround processor. You can go old school and use the sub's line-level inputs, but there are no old-old-school speaker-level inputs. Including the wireless transmitter with the subwoofer (rather than selling it as an optional upgrade) isn't the only unusual and very appreciated aspect of the Dynamo 1000. Although it's configured as down-firing when it comes out of the box, the Dynamo 1000 can quickly be converted—without any tools other than your hands—to a front-firing orientation by moving the four pedestal feet from the side of the cabinet with the 12-inch driver to the side with the input/control panel and attaching the black-cloth-covered grille to what is now the front of the subwoofer cabinet. The dual-configuration capability and instant wireless-ness make the Dynamo 1000 extremely easy to adapt to a wide variety of unique installation situations.



Repeat Attraction

I checked out the Motion 40 towers for a Perfect Focus quick look in the October 2012 issue. Much as I liked them then, I found them even more engaging and delightful this time around. No, they don't have quite the same expansive reach and three-dimensionality to the soundstage as do the more expensive MartinLogan speakers, such as the ElectroMotion ESL towers, which incorporate full-sized electrostatic transducers. Nor do they have that same "In your face, dude, I've got flippin' electrostatic speakers! What's in your home theater?" domination of whatever room they're in. On the other hand, they're so frickin' amazing at how close they do get to the light and airy sonic character of an electrostatic speaker that it's hard to believe.



Take, for instance, the strangely compelling, ethereal-yet-grounded song, "Islands," from The xx's 2009 self-titled release, during which every aspect of the Motion 40s came together perfectly. A steady, firm bass beat pervades the entire song over which are layered slow-moving, drowsy male and female vocals. The voices hung in the air in much the same open way you would expect from an electrostatic speaker. The sound was extremely clean and transparent with great snap and energy in the high end. Likewise, The Blind Boys of Alabama's heartfelt "People Get Ready" (Higher Ground) was absolutely marvelous with a soundstage that was incredibly wide and filled with such pinpoint detail that the individual voices in the chorus were readily distinguishable. Finally, the Motion 40s were simply sublime in their ability to simultaneously portray the individual light and heavy tones of the clarinet and piano on Gerard Satamian's Dry Fig Trees release. Both instruments were fully formed and rich with the individual character of their internal and distinct overtones.

The Circle of Liveliness

Match the Motion 40s with a Motion 30 center channel, a pair of Motion 15 monitors for the surrounds, and the Dynamo 1000 subwoofer, and you have the makings for one of the most phenomenally cohesive, startlingly immersive home theater systems you can buy for under \$4,500. Partly due to the character of the Folded Motion tweeters and partly because MartinLogan uses the same tweeter in all the speakers, there was a clarity and immediacy to the soundfield the system created that was especially revealing. Iron Man 2 absolutely sizzled (and not just because of Gwyneth Paltrow) when Ivan Vanko appears at the racetrack in Monaco and begins his rampage of arc-reactor-powered, whip-snapping mayhem. In addition to the Dynamo 1000's extremely powerful bass output that shook with great authority and heft without being boomy whenever Vanko slapped his energized whips against the pavement—or as race cars slammed into one another—what most stood out during the scene was how you could distinctly hear (and virtually feel) the far-reaching, rapid kinetics of the lightning-encrusted cables as the tips moved throughout the soundfield side to side and front to back. Seamless is a description that doesn't do the system justice. This particular combination of MartinLogan Motion Series speakers was more akin to an inextricable, intertwining mind-meld of sound.



Because it was in the cheap Blu-ray bin (I may call myself super-premium, but I'm also super-cheap), I picked up a copy of the gray-and-grayer motion-captured movie, [Renaissance](#), with Daniel Craig and a bunch of other actors whose names I didn't recognize. This Blade Runner-meets-A Scanner Darkly flick was more entertaining than I'd had any reason to expect, partly because the lack of color and detail in the image onscreen served to highlight the movie's audio, but more so because the film's sound designers did such an excellent job using the audio to create various moods as well as an intimate feel for the acoustic space in which each scene—and the multiple aspects within those spaces—takes place. (There's also a good line or two, such as when the questionable CEO of the ominous Avalon corporation defends his integrity with the following: "I sleep with my wife. I sleep with my secretary. I even sleep with my sister-in-law, but I would never sleep with one of my researchers.") In chapter 4, for example, when Karas (Daniel Craig) questions Dr. Muller at the clinic's morgue, there is a glass wall separating the two characters; and each one's voice takes on a clear-and-direct or slightly muffled aspect depending on who is talking and which side of the glass the camera is shooting from. Throughout, the Motion 40s and Motion 30 performed as one unit. At the same time, whenever the perspective is from inside the morgue, there was a constant low, foreboding rumble that the Dynamo 1000 maintained impeccably.

There's nothing much to say about the MartinLogan Motion 15 monitors as surround speakers in the system other than OMG. In the same way that the Motion 30 performed as a magical extension connecting the two Motion 40 towers, the Motion 15s were absolutely perfect in completing the arc of the soundfield from the sides to the back of the room. Later in Renaissance, as a voice calls out to Karas from behind, the Motion 15s placed it as a clear and fully formed voice dead center behind my head. Further into the movie, during a futuristic car chase involving a special Citroen-designed car of 2054, the flawless blend of the Motion 15s with the Motion 40s was dramatically emphasized as the cars approached from the rear, flew through the center of the room, and then disappeared into the front. During the entire scene, the film score emanated from all channels so contiguously that it was as if the music were a part of the room beyond the action rather than an incidental part of the soundtrack. As with Iron Man 2, the Motion 40/30/15/Dynamo 1000 system created such a wonderful, self-contained soundfield throughout Renaissance that more than once I had to remind myself of the fact that this was coming from a system selling for under \$4,500.

You Complete Me

I consider anything over five bucks to be real money, and \$4,500 is certainly significantly real money. When it comes to speakers, I'd say that kind of sticker price puts the MartinLogan Motion 40/30/15/Dynamo 1000 system firmly in the premium range. But performance doesn't always strictly correlate with price. This system is so sublime and so thoroughly enthralling that it feels miserly to limit the description to super-premium. The MartinLogan Motion 40 system is



one of those rare products that comes along in which every aspect construction, physical appearance, emotional appeal, etc. is so ideally matched in its expression to one another that the finished whole transcends the category that the parts would have normally put it in. This system has that special essence of completeness that's extremely difficult to find at any price. Marvelous, MartinLogan. Absolutely marvelous.



MartinLogan Motion 40 Speaker System Specs



Specs

Speaker: Motion 40 Tower / Motion 30 Center / Motion 15 Monitor (Surround)

Tweeter (size in inches, type): 1 x 1.4, Folded Motion

Midrange (size in inches, type): 5.5, aluminum cone (1) / None / None

Woofer (size in inches, type): 6.5, aluminum cone (2) / 5.25, aluminum cone (2) / 5.25, aluminum cone (1)

Nominal Impedance (ohms): 4 / 4 / 5

Recommended Amp Power (watts): 20–300 / 20–200 / 20–200

Available Finishes: Piano Black, White, Black Cherrywood / Piano Black / Piano Black, White, Black Cherrywood

Dimensions (W x H x D, inches): 7.6 x 42.5 x 12.8 / 16.5 x 6.9 x 10.5 / 6.8 x 11.4 x 9.5

Weight (pounds): 49 / 18 / 12

Price: \$950 each / \$800/pair / \$650 each

Dynamo 1000 Subwoofer

Enclosure Type: Sealed

Woofer (size in inches, type): 12, poly cone

Rated Power (watts): 500, RMS

Connections (rear panel and wireless transmitter): Line-level, left and right/LFE RCAs

Crossover Bypass: Switchable

Available Finishes: Black

Dimensions (W x H x D, inches): 13.69 x 14.54 x 14.59

Weight (pounds): 34

Price: \$995

Company Info

MartinLogan

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martinlogan.com

MartinLogan Motion 40 Speaker System HT Labs Measures

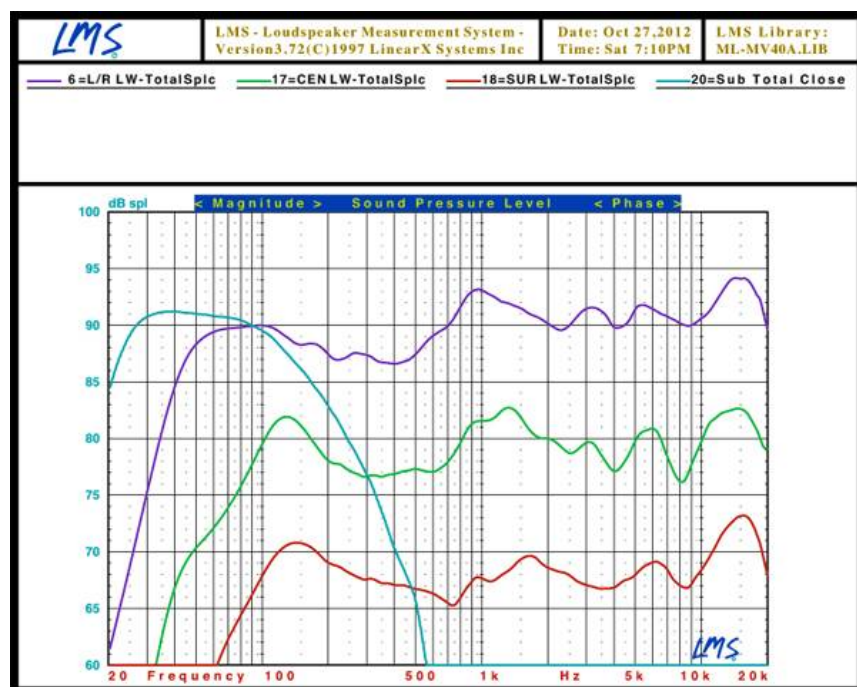


HT Labs Measures

L/R Sensitivity: 91 dB from 500 Hz to 2 kHz

Center Sensitivity: 89 dB from 500 Hz to 2 kHz

Surround Sensitivity: 88 dB from 500 Hz to 2 kHz



This graph shows the quasi-anechoic (employing close-miking of all woofers) frequency response of the Motion 40 L/R (purple trace), Motion 30 center channel (green trace), Motion 15 surround (red trace), and Dynamo 1000 subwoofer (blue trace). All passive loudspeakers were measured with grilles at a distance of 1 meter with a 2.83-volt input and scaled for display purposes.

The Motion 40's listening-window response (a five-point average of axial and ± 15 -degree horizontal and vertical responses) measures $+2.25/-4.34$ decibels from 200 hertz to 10 kilohertz. The -3 -dB point is at 48 Hz, and the -6 -dB point is at 40 Hz. Impedance reaches a minimum of 3.48 ohms at 111 Hz and a phase angle of -44.04 degrees at 69 Hz.

The Motion 30's listening-window response measures $+2.70/-3.86$ dB from 200 Hz to 10 kHz. An average of axial and ± 15 -degree horizontal responses measures $+2.68/-4.75$ dB from 200 Hz to 10 kHz. The -3 -dB point is at 86 Hz, and the -6 -dB point is at 71 Hz. Impedance reaches a minimum of 3.94 ohms at 53 Hz and a phase angle of -33.69 degrees at 41 Hz.

The Motion 15's listening-window response measures $+1.54/-2.84$ dB from 200 Hz to 10 kHz. The -3 -dB point is at 83 Hz, and the -6 -dB point is at 69 Hz. Impedance reaches a minimum of 3.78 ohms at 2.0 kHz and a phase angle of -61.05 degrees at 136 Hz.

The Dynamo 1000W's close-miked response, normalized to the level at 80 Hz, indicates that the lower -3 -dB point is at 23 Hz and the -6 -dB point is at 20 Hz. The upper -3 -dB point is at 131 Hz with the Crossover switch set to Bypass.—MJP