

MartinLogan Motion 40 Loudspeakers

Note: Measurements taken in the anechoic chamber at Canada's National Research Council can be found through [this link](#).

MartinLogan was founded in 1983 and introduced their first loudspeaker, the Monolith, that year. A hybrid speaker that combined an electrostatic panel with a 12" woofer, the Monolith was the model for which the company became known. Today, "MartinLogan" is synonymous with electrostatic speakers, though most of the company's models still feature a dynamic woofer to fill out the low end -- something that electrostatic panels can't do on their own.

Two years ago, MartinLogan introduced the Motion series, for which they abandoned the use of electrostatic panels, instead combining dynamic drivers with their proprietary Folded Motion Tweeter™ (FMT) in a bass-reflex design. This shift toward dynamic loudspeakers allowed MartinLogan to offer lower-cost models than before. Unlike their electrostatic speakers, which are manufactured in Mississauga, Ontario (see [SoundStage! Global](#) for the SoundStage! Network's tour of the factory this past spring), the Motions are designed in the US and built in China.

The subject of this review is the Motion 40 floorstanding speaker, the largest and most expensive (\$1900 USD per pair) of the 11 Motion models.

Description

The Motion 40 is a three-way speaker with a 1" x 1.4" Folded Motion Tweeter, a 5.5" aluminum-cone midrange, and two 6.5" aluminum-cone woofers, respectively crossed over to each other at 2600 and 500Hz, and mounted in a rear-ported cabinet measuring 42.5"H x 7.6"W x 12.8"D and weighing 49 pounds. Above the port are two sets of binding posts that allow for biwiring or biamplication -- or you can use the supplied jumpers to run a single pair of speaker cables, as I did. The posts are fairly large, which makes it easy to cinch them down tight on spade lugs. They also accept banana plugs or bare wire. The Motion 40 felt solidly constructed.



Although the Motion 40's aluminum midrange driver and woofers are more conventional, its Folded Motion Tweeter is anything but. To produce sound, the FMT moves air perpendicular to the folded ridges of its diaphragm, in much the way an accordion works. By squeezing air and pushing it outward from the diaphragm, the FMT has roughly one-tenth the excursion of a traditional dome tweeter, which, MartinLogan argues, lowers distortion and improves transient response. Furthermore, the folds in the diaphragm increase its surface area to eight times that of a 1" dome, which ML claims benefits the driver's dispersion characteristics.

With its sensitivity of 92dB/2.83V/m, the Motion 40 is easy to drive, provided your amplifier can produce a little bit of current to handle the speaker's nominal 4-ohm impedance -- not an unusually low impedance for a speaker. A half-decent amp or home-theater receiver should do the trick; ML recommends anywhere from 20 to 300W. You'll likely find that you don't need to turn the volume knob too far before this speaker starts to sing.

The Motion 40's frequency response is specified as 40Hz-25kHz, ± 3 dB -- the speaker is nearly full range, but if you want to reproduce really deep bass, you'll need a subwoofer. This is something that's quite common even with floorstanding speakers, few of which can actually play with any sort of authority into the low 20Hz range. Listening to the Motion 40s, I never felt the need for a subwoofer -- a point I'll return to shortly.

The Motion models are available in gloss black, white, and black cherrywood; the black review pair of Motion 40s looked very slick, even expensive, at the front of my room. In fact, their fit and finish are of such high quality as to seem to belie the asking price of \$1900/pair.



The top panel slopes down toward the rear, giving the speaker a distinctive profile. What I most admired about the Motion 40 was its matte front baffle; in combination with the black aluminum drivers, whose mounting screws are invisible (very nice), this produced a sleek look overall. Because I wanted to see the baffle, I did all of my listening without the grilles; for those who require them, MartinLogan supplies grilles of black perforated metal that attach magnetically to the baffle and fit perfectly flush with the speaker. I rarely use grilles, but these are as nice as I've seen.

Overall, the Motion 40 looks very sharp, and demonstrates excellent attention to detail. My only complaint is with the rubber feet supplied for use on wood and laminate flooring -- they aren't very long, which means that their range of adjustment is short: I was barely able to keep the speakers from wobbling on my hardwood floors, which aren't quite flat. This will be annoying if you have anything other than a perfectly level floor.

I partnered the Motion 40s with Simaudio's flagship integrated amplifier, the Moon Evolution 700i (review forthcoming), and the matching Moon Evolution 650D DAC-transport. Nordost Quattro Fil balanced interconnects linked the 700i and 650D, and AudioQuest Type 4 speaker cables terminated in banana plugs connected the 700i to the Motion 40s. I did some listening via a Wi-Fi network using an Apple AirPort Express, its optical digital output connected to the 650D's DAC by an XtremeMac XtremeHD TosLink cable. All electronics were plugged into an ExactPower EP15A power conditioner-regenerator.

MartinLogan recommends breaking in the Motion 40s by playing them for 72 hours at a "moderate listening level" of 90dB. A word of caution: If you do this, don't plan on spending much time in the room -- exposure to sound-pressure levels of 85dB or higher for prolonged periods is known to lead to hearing loss (see hearinghealthfoundation.org). You'd be wise to back off the volume a bit, even if it means break-in will take a little longer.

Sound

When I sat down to listen, one thing stood out clearly: The MartinLogan Motion 40 had a big, bold sound notable for its warm, voluminous mid- and upper bass. One of the first tracks I listened to was "Going Nowhere," from Elliott Smith's *New Moon* (CD, Kill Rock Stars KRS 455), a song I've heard far too many times using many different stereo configurations. The bass guitar on this track sounded powerful through the MartinLogans, creating a warm, lush drone that was fatter and fuller than anything I've heard in my listening room. The Motion 40s were unapologetically warm down low, reproducing bass with a fullness and volume that some people will love but that may not appeal to all tastes.

The Motion 40 possessed a wowfactor that I attribute not only to its beefy bass but also to its slightly lean, forward-sounding midrange. It was difficult not to stop and notice what these floorstanders were doing. Unlike more neutral-sounding speakers, the Motion 40 wore its sonic heart on its sleeve. An example of this was "Take It With Me," from Tom Waits's *Mule Variations* (CD, Anti-/Epitaph 86547-2). This well-recorded track offers the listener a front-row seat at a very intimate performance. Through the Motion 40s, Waits's rough baritone was closer than I'm accustomed to hearing it, as though I'd just pulled my chair a bit nearer the stage. His voice was nicely detailed; the Motion 40s readily conveyed lower-level cues, such as the sound of his breathing and the movements of his chair. Piano notes were cleanly reproduced -- the MLs did a good job resolving the character of the instrument.



The Motion 40s were no bulls in a china shop. Though they had a big, upfront sound, they could also capture a recording's scale while resolving a good amount of detail in the music. When I listened to the *Mass Pange Lingua*, from *The Tallis Scholars Sing Josquin* (CD, Gimell CDGIM 206), the voices of the singers sounded clean and pure as they ascended to the ceiling of Oxford's Merton College Chapel, creating such a palpable sense of space that I could easily imagine myself sitting in a pew and watching the performance in person. As the singers' voices filled the space between and slightly behind the plane of the speakers, it was apparent that the Motion 40s were capable of creating a cohesive stereo soundstage across the front of my room.

Another example of this was "Lotus Flower," from Radiohead's *The King of Limbs* (CD, TBD Records TICK001CD). The wall-to-wall sound was very spacious and highly immersive, and Thom Yorke's voice was placed squarely between the speakers as the fat thump of the kick drum competed for its share of space on the stage. The 40s sounded huge -- I couldn't help but think that listening to *The King of Limbs* through them was a bit like hearing the band play live, albeit with far more resolution than I've heard at their shows.



Enthralled with the Motion 40s' sense of scale, I pulled out one of my favorite references: *War Dance*, from Respighi's *Belkis, Queen of Sheba: Suite*, with Eiji Oue conducting the Minnesota Orchestra (CD, Reference RR-95 CD). This fierce music begins with a beating of drums that seems to foreshadow impending peril. As I've said, the Motion 40s had no shortage of energy in the mid- to upper bass, and so were able to reproduce the power of the percussion in *War Dance* while maintaining a tautness and speed that allowed them to convey its ferocious pace. Once again, the speakers did an admirable job of showcasing the size of the recording venue: Orchestra Hall, in Minneapolis. The music sounded massive through the MartinLogans as notes from a solo flute seemed to climb to the heavens, offering the briefest feeling of calm and solitude before the raucous chaos resumed. As with each section of the orchestra, the flute's position was well delineated, again making it easy for me to imagine hearing this performance in person.

Prior to the Motion 40s' arrival, I'd never listened to a tweeter that works by squeezing air outward, the way MartinLogan's FMT does. It performed

very well, reproducing extended high frequencies and retrieving a good amount of detail. "A Case of You," from Joni Mitchell's *Blue* (CD, Reprise CD 2038), sounded crisp through the FMT as the sharp twang of the guitar strings jumped out into the room. As she soared into her upper register, the tweeter easily captured the clarity and sweetness of Mitchell's voice. Overall, I found the FMT quick and incisive, and its ability to convey detail seemed to make things such as Mitchell's voice pop out of the mix more than usual. I think the FMT's performance significantly contributed to the Motion 40's wow factor. This speaker commanded my attention.

Comparison

I compared the MartinLogan Motion 40s with my pair of [Amphion Argon3L](#) speakers (\$3995/pair). The floorstanding Argon3L is similar to the Motion 40 in size and mass, but unlike the three-way Motion 40 with its total of four drivers, the Finnish speaker is a two-way with only a 1" titanium-dome tweeter and a 6.5" aluminum-cone midrange-woofer. A dome tweeter is a more conventional choice than the Motion 40's FMT, but the Amphion's is implemented a bit differently. It's situated at the base of a deep waveguide that's used to control the driver's dispersion while increasing its sensitivity. Although waveguides are popping up everywhere these days, most are far more shallow. Also, while the Motion 40's tweeter is crossed over to its midrange at 2600Hz, the Amphion's tweeter has to cover the audioband down to 1600Hz.

What really distinguished these two speakers were their sounds. Whereas the Motion 40s created a big sound that tended to propel images to the front of the stage, the Amphions are more reserved, with a more neutral sound that remains faithful to the original recording. While the MLs tried to grab my interest with prominent bass and a forward-sounding midrange, the Amphions sit back, calling far less attention to themselves.

With Tom Waits's "Take It With Me," the Motion 40's forward character provided a more intimate sound that, as I said above, made it seem as if I'd moved closer to the stage. The Amphions placed Waits a bit farther back; he sounded less in-my-face, even a touch reticent. Both speakers shone a spotlight on Waits, but the Argon3L's greater transparency did a better job of revealing detail in his voice. In fact, their ability to open a window on the music was one area in which the Amphions trumped the MartinLogans, letting me hear deeper into the soundstage, where subtle sonic cues seemed to emerge from blacker backgrounds.

Returning to Joni Mitchell's "A Case of You," I was once again treated to a more distant perspective by the Finnish speakers, which set the musicians farther from me on the stage than their American counterparts. Mitchell was still the focus of the song, but the more laid-back Amphions didn't shine the spotlight as brightly on her. Like the MLs, the Argon3Ls were also well extended up top, but sounded a touch smoother than the Motion 40s, and Mitchell's voice sounded more natural, less like a recording and more like the real thing. However, the Amphions lacked the gee-whiz appeal of the MartinLogans, whose reproduction of the guitar strings was more crisp, making the Finnish speakers seem less incisive by comparison.

The difference between the two speakers was very pronounced in the bass. I don't think the MartinLogans played any deeper than the Amphions, but they certainly had more weight in the midbass, and produced a far more voluminous low end than the Argon3Ls could muster. With "An Echo from the Hosts that Profess Infinitem," from Shabazz Palaces' *Black Up* (CD, Sub Pop 98787 09002), the Amphions couldn't match the sheer power and output of the bass from the MartinLogans, which did a far better job of energizing the room by moving a lot more air. *Black Up*, a hip-hop album, sounds pretty darn good when the beats thump hard enough to almost hit me in the chest. I'm accustomed to hearing this music at a club or concert; the MartinLogans were definitely better at capturing its spirit.

The MartinLogan Motion 40 and the Amphion Argon3L are very different-sounding speakers that will appeal to different tastes. The former is more about bravado and boldness; the latter stands back a bit, not to impose so much of itself on the music. If you don't already know which camp you're in, audition both and you'll find out pretty quickly.

Conclusions

The introduction of the Motion models has marked a significant evolution for MartinLogan, a brand that has spent the better part of the last three decades making electrostatic speakers. Based on my experience of the Motion 40, I'd say the decision to produce a wide range of dynamic speakers has been pretty successful for the company. The Motion 40 is an exciting speaker, due in no small part to its upfront sound, meaty bass, and clear highs. While some listeners might not appreciate that kind of character, others will enjoy the fact that it holds nothing back, and has an amazing ability to grab the attention with its more in-your-face sound. Combine that with its wonderful fit and finish and nice attention to detail, and I expect MartinLogan's new Motion 40 will generate considerable interest in the under-\$2000 market.

. . . *Philip Beaudette*

philipb@soundstagenetwork.com

Associated Equipment

- **Speakers** -- Amphion Argon3L
- **Integrated amplifiers** -- Bryston B100 SST, Simaudio Moon Evolution 700i
- **Sources** -- NAD C542 CD player; Thorens TD-160HD turntable, Rega Research RB250 tonearm, Dynavector DV-10X5 high-output moving-coil cartridge; Apple iMac computer, Apple AirPort Extreme, Apple AirPort Express; Simaudio Moon Evolution 650D DAC-transport
- **Speaker cables** -- AudioQuest Type 4
- **Interconnects** -- AudioQuest Copperhead, AMX Optimum AVC 31 coaxial, XtremeMac XtremeHD TosLink
- **Power conditioner** -- ExactPower EP15A

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Price: \$1900 USD per pair.

Warranty: Five years parts and labor.

MartinLogan, Ltd.
2101 Delaware St.
Lawrence, KS 66046
Phone: (785) 749-0133
Fax: (785) 749-5320