

The Mod Squad

*Ready for
a change in
lifestyle?*

by Kevin Hunt

Don't think for a minute that the **Infinity Modulus speaker system** is one of those prettified home-theaters-for-dummies sold under the cozy "lifestyle" banner for the first-time buyer. Yes, the Modulus system is a sculpted beauty. It's also a serious speaker system—maybe too serious for some people. If your lifestyle doesn't include a working knowledge of sound-level meters, test CDs, and interpolating bar graphs, this lifestyle





CHEAP THRILLS

Infinity Modulus Speaker System

might overwhelm you. Setting up the Modulus is a sure brain-teaser for the novice, a home theater Rubik's Cube.

At the same time, the Modulus system is very room-friendly. The MSW-1 subwoofer has a built-in, single-band parametric equalizer that pinpoints and then eliminates a low-frequency bump below 80 hertz. Once the subject of discrimination in the audio world—thankfully, we're now living in a more-tolerant society—the equalizer resolves one of home theater's most troublesome idiosyncrasies. Infinity's Room Adaptive Bass Optimization System, or R.A.B.O.S., restores order in the lower frequencies. To find the offending low-frequency bump, put on your

hard hat and grab Infinity's supplied tool kit: a trim digital sound-level meter, a test-tone CD, a

plastic bandwidth selector, blank graphs, and a "key" that adjusts the sub's three equalizer settings. Plot the Modulus' low-frequency response on a graph, take a reading with the bandwidth selector, do some basic math, then make the adjustments. Confirm the results by retesting the system, and you're done. From there, it's smooth frequency-response sailing. Now that you're convinced you can solve the puzzle (if it's at all intimidating, stick with the steady hand of the

manual), let's take a closer look at this lifestyle system.

The Modulus ensemble is very 2001, its minipod contours a tribute to modernity. Think of the MS-1 satellite as a cuddly Nerf football with a Marine flattop and the MCC-1 center-channel speaker as a Slinky going down a flight of stairs freeze-framed in mid-slink. The satellite's grille is framed with a horseshoe-shaped charcoal brushed-aluminum bezel, and its cabinet is painted a rubbery black. The system is also available in a platinum finish. (Warning: The Modulus system can make the rest of your room look acutely old-fashioned.) The satellite comes locked into its base; however, remove the little rubber cover on the rear, and you'll find an Allen wrench and an adjustment screw that allows the speaker to pivot on a mounting ball. Then, the base becomes either a stand or, with a few more twists, ready for securing to a wall with the included set of mounting plates. For an even more-distinguished look, the optional TV bracket (\$150) holds the left, right, and center speakers

atop any 30- to 55-inch set, with the left and right satellites extending beyond the set like the engines of a turbo-prop jet.

The MS-1 weighs 4 pounds and measures only 11 inches high (in the shelf position), 5.5 wide, and 4.5 deep. It has a 0.75-inch tweeter mounted below a 4-inch midrange driver. The elbow-macaroni-shaped center-channel speaker has the same tweeter mounted between, and slightly above, two midrange drivers. The speakers have no parallel surfaces, so they don't produce any standing waves. The goal, says Infinity, is to lower distortion. You can tidily wind light-gauge speaker wire through the base and up to the gold-plated binding posts on the rear. Lock the speakers into the base, then put them in place.

In 1991, Floyd E. Toole—a by-the-numbers research scientist whose work at Canada's National Research Council in Ottawa has influenced a generation of speaker designers—brought his special interest in speakers and room interaction to Infinity's parent company, the Harman Consumer Group. Now senior vice president of acoustic engineering and the company's "listening advocate," Toole has chosen to use the same bass-equalization technology and driver materials in the \$1,699 Modulus system as those found in Infinity's \$8,000-for-a-pair or \$12,200-for-a-complete-ensemble

HIGHLIGHTS

- Beautiful, well-built system
- R.A.B.O.S.: the ace of bass

A. You can transform the MS-1 satellite's base into part of a wall mount, if you desire.

B. The MCC-1 center channel has excellent off-axis range.

C. The big 42-pound MSW-1 isn't the kind of subwoofer you'd expect to find in a lifestyle system.

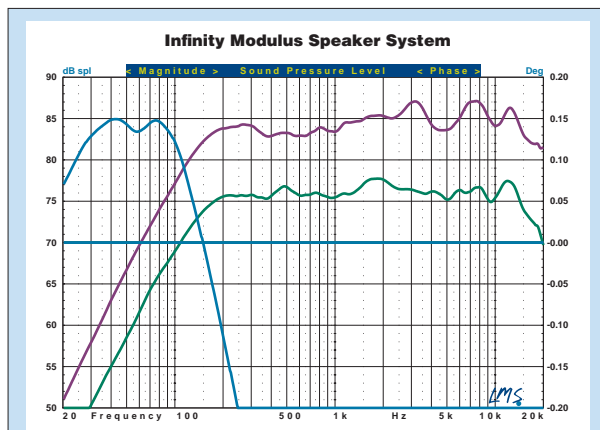




Infinity Modulus Speaker System

Prelude MTS system. Obviously, he hasn't forgotten the little-speaker people. All of the Modulus system's drivers utilize Infinity's Ceramic Metal Matrix Diaphragm technology, in which a deep-anodized ceramic material is applied to either side of an aluminum core. This ultralight substance, Infinity says, is more rigid, stronger, better-equipped to withstand environmental extremes, more resistant to resonance, and longer-lasting than other driver materials—from polypropylene to Kevlar to titanium. From that rigidity comes greater clarity, detail, and resolution, as well as a general lowering of distortion. What's more, Infinity says this material is equally suitable for both tweeters and midbass drivers.

D. The backside of the MSW-1 offers line- and speaker-level connections, as well as flip switches for adjusting the low-pass filter, phase control, and R.A.B.O.S.



HT Labs Measures: Infinity Modulus Speaker System

This graph shows the quasi-anechoic (employing close-miking of all woofers) frequency response of the MS-1 satellite (purple trace), MSW-1 subwoofer (blue trace), and MCC-1 center channel (green trace). All passive loudspeakers were measured at a distance of 1 meter with a 2.83-volt input and scaled for display purposes.

On-axis response of the MS-1 measures +2.01/-2.28 decibels from 200 hertz to 10 kilohertz. The -3dB point is at 148 Hz, and the -6dB point is at 114 Hz. Impedance reaches a minimum of 4.33 ohms at 260 Hz and a phase angle of -63.98 degrees at 136 Hz. Sensitivity averages 85 dB from 500 Hz to 2 kHz.

On-axis response of the MCC-1 measures +1.21/-1.62 dB from 200 Hz to 10 kHz. An average of axial and (+/-15 degree) horizontal responses measures +1.26/-1.17 dB from 200 Hz to 10 kHz. The -3dB point is at 146 Hz, and the -6dB point is at 112 Hz. Impedance reaches a minimum of 5.62 ohms at 14.1 kHz and a phase angle of -70.18 degrees at 132 Hz. Sensitivity averages 86.5 dB from 500 Hz to 2 kHz.

Close-miked response of the MSW-1, normalized to the average level from 40 to 80 Hz, indicates that the lower -3dB point is at 27 Hz and the -6dB point is at 22 Hz. The upper -3dB point is at 103 Hz.—AJ

The Modulus system's powered subwoofer, with its front-firing 12-inch driver, completes the all-C.M.M.D. revue. The MSW-1 has no variable crossover; it begins working at 100 Hz, where the satellites bottom out. Although the on/off switch is on the rear panel, the volume control is shifted, conveniently, to the front panel by a vertically mounted rotary switch that illuminates green when



activated, red in standby mode. But who let this monster through the lifestyle door? It's a 42-pounder with a 300-watt amplifier in a conventional bottom-vented cabinet that's 16.5 inches high, 14.5 wide, and 19.25 deep. To go up against other lifestyle systems, something in a size 14 (as in a 14-inch cube) would've been more appropriate. Unlike the Modulus ensemble's satellites, this sub is hard to hide.

The sub is also more unconventional than the satellites. The back panel features line- and speaker-level connections, as well as flip-switches that activate the low-pass filter, phase control (0 or 180 degrees), and R.A.B.O.S. Below those flip-switches are adjustable equalizer settings for frequency (the center frequency for the equalizer), level (the drop in volume, in decibels, at that center frequency), and bandwidth (the number of frequencies, adjacent to the center frequency, that will be affected). The three equalizer controls are hidden beneath rubber stoppers, so you have to reach in with an adjustment key (also known as a screwdriver) and turn the controls while counting

the number of detents. I had to use a flashlight to get a good view of the controls. It would've been more efficient to use control knobs flush on the back of the sub, with numbered detents.

If you own a Prelude system, you may be able to have a dealer come to your home to take measurements and make the R.A.B.O.S. adjustments. As proof of their room-friendly philosophy, the company has included R.A.B.O.S. on lower-

priced systems like the Modulus, but you'll have to make the adjustments yourself. It takes some time to get it straight—the Modulus manual suggests 30 minutes, but it took me about that long just to read through the manual, plus another 90 minutes to complete the R.A.B.O.S. course. Dissatisfied with the results—always run through the test again after making adjustments to the subwoofer—I started over. Plugging the data into the R.A.B.O.S. calculator on the company's Website reduces the work, but Infinity had not yet included the Modulus system in the calculator options at the time of this review (the Modulus data is now online for consumer use). Finally, I calibrated the system using the *AVIA Guide to Home Theater* test disc.

The difference was both audible and visible. I could see the difference when I plotted the test results again after I made the frequency, level, and width adjustments. In my basement home theater, the test disc revealed twin peaks at 43 Hz and 40 Hz. These peaks create an elongated



CHEAP THRILLS

Infinity Modulus Speaker System

thud that overstates a movie's special effects. **With the Modulus' parametric equalizer, I eliminated the peaks and achieved a more-even response that, plotted on a graph, looked much closer to Infinity's ideal.** (The process is helpless against dips in frequency response. For that, you have to experiment with the sub's placement.) Immediately, I noticed a smoother lower end on the DTS-encoded version of Bjork's "I've Seen It All" from Lars von Trier's *Dancer in the Dark* DVD. The "Enemy Tank" chapter from *Courage Under Fire*, with tanks blazing in DTS, registered about 80 on the excitement meter. The effects were clean and potent, but they lacked the raw power that larger speakers could have given them. The center channel proved to be adept on all dialogue tests, displaying excellent off-axis range during the "In Iris' Apart-

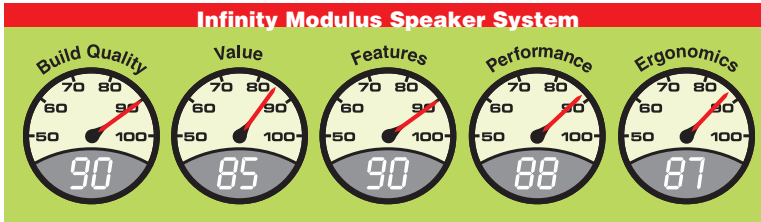
ment" chapter, featuring Glenn Close and Robert Redford, from the *Natural* DVD.

Once the bass peak was knocked out, **the Modulus speakers moved easily into music.** On "Fig Foot" from *Not Two, Not One* by Paul Bley, Gary Peacock, and Paul Motian, **there was no blurring of Peacock's bass. Here, the Modulus speakers sounded big, open, and under control.** The same was true of Doug MacLeod's "St. Louis on My Mind," a simple blues tune from the *Whose Truth, Whose Lies?* CD, recorded directly to two-track using Sony's DSD technology, the foundation of SACD. The satellites, with virtually nothing in the low end and the high-frequency range sawed off, saved it all for an exemplary midrange. Larger-scale productions could be a challenge, however. The Modulus blinked in the

face of "The Pearl" from Emmylou Harris' *Red Dirt Girl*. Weighted with electronic enhancements, this song sounded congested at louder volumes. Harris' voice was too breathy, and cymbals sounded like dulled tin.

Thankfully, such moments were few with the Modulus system. **In every category, from looks to construction quality to performance, the Infinity Modulus ensemble exudes a purity that other lifestyle systems can't touch.** First-time buyers shouldn't be scared off by its complexities. The system is harder to set up than a DVD player, but not that much harder. It just takes some time. If in doubt, ask your dealer for a quick demonstration of the R.A.B.O.S. process.

Modulus Speaker System	\$1,699
Infinity Systems (800) 553-3332 www.infinitysystems.com Dealer Locator Code IFY	



More-experienced hands shouldn't be turned off by the Modulus system's obvious lifestyle features, either. **You can get bigger sound from bigger speakers for the same money, but this is about more than beauty: It's a lifestyle decision.**



A Harman International Company

250 Crossways Park Drive, Woodbury, NY 11797 USA
(800) 553-3332 (USA Only) www.infinitysystems.com
Infinity is a registered trademark of Infinity Systems, Inc.