"...just like being at the movies except the SOUND IS A LOT BETTER."

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THE PERFECT VISION

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THE PERFECT VISION 2002 speaker of the year

by Nicholas Bedworth

Studio/100

Paradigm's Reference Studio Series speakers with matching Servo-15 powered subwoofers offer home-theater enthusiasts a rare combination of performance, versatility, and value. If you're building a new sound system from scratch, or upgrading an existing one, the Paradigms will handle with ease the diverse requirements of high-impact surround-sound movie soundtracks, traditional two-channel stereo, and the evolving multichannel music formats. After several months of listening to what the Paradigms do and, perhaps just as importantly, what they *don't* do, I am thoroughly impressed.

The primary characteristic of the Paradigm Reference Studio/100 main speakers is that they disappear into the listening space. The Paradigms don't add anything to the sound; instead they have the qualities most essential for home-theater systems: midrange clarity; deep, controlled, refined bass; coherent soundstaging; and accurate imaging. All this is accomplished across a wide dynamic range. And the Studio/100s have plenty of transient zip, especially for conventional (cone) speakers. While not quite as quick as the electrostatics I used for years, they're fast enough to allow you to easily spot reversed absolute phase on CDs by a telltale lack of snap and imaging detail.

The Paradigm Reference Studio/100s' bass is very deep and authoritative, with real *ka-boom* power —but it's an accurate, detailed *ka-boom*, even with notes in the very bottom octaves. And that's *without* the positively subterranean Servo-15 powered subwoofers, which extend the already deep bass response down to about 14Hz.

Timbral balance is preserved in multichannel applications because Paradigm uses the same tweeter and almost identical midrange drivers in the mains, center,

and surrounds. What comes from the source is what you will hear—human voices are alive and emotionally charged; violins and harpsichords sound like the fragile, plangent, complicated, almost-living contraptions of wood, glue, and fiber that they are. In short, the Paradigm Studio/100s are neutral, natural, convincing—unencumbered by any easily discernible colorations.

"… a seamless, wide, tall, almost rectangular soundstage … with every word of dialogue easy to hear, well integrated spatially and timbrally … a smooth presentation of sound."

SOLID MUSICAL FOUNDATIONS

The sheer weight of each Studio/100 main speaker (120 pounds per side) says a lot about its construction. The speakers' appearance is simple and gimmick-free—rather 1950s Danish, which is fine with me. The thick slabs of cherry veneer on either side, with their beveled edges, transform what would otherwise be an imposing, utilitarian black monolith, suitable for a recording studio control room, into a rather attractive living room resident.

"… [the speakers] disappear into the listening space … wide dynamic range … plenty of transient zip …"

The Studio/100s are highly sensitive speakers, with about 91dB real-world-sensitivity, and though their impedance drops to 4 ohms at points, almost any l20Wpc receiver or multichannel amp will have no trouble driving them to hazardous-to-hearing levels.

Studio/ADP

"… bass is very deep and authoritative, with real ka-boom power—but it's an accurate, detailed ka-boom, even with notes in the very bottom octaves. And that's without the positively subterranean Servo-15 …"

I tried the Paradigms with the popular Onkyo TX-DS989 receiver, a Balanced Audio Technology VK-6200, and an Integra Research RDA-7 amp. The sonic signature of each device was clearly discernible. For those on a relatively limited budget, eBay a TXD5989 to start with, and put the difference into high-quality cables. For deeper pockets, the BAT VK-6200 produces the most spatially-correct soundstage and imaging, with exceptionally neutral timbres. The Integra RDA-7 has good soundstaging but is a bit forward in presentation, with an upper-octave emphasis that some might prefer.

These speakers are designed to be bi-wired, and one of my few complaints about the entire Paradigm product line is the overly-fat speaker termination binding posts. They're simply too big for even the rather large silver-plated spade lugs on AudioQuest cables. What's more, the knurled tightening knobs are hard to grip. If I owned these speakers, I'd replace the connectors.

CHECKING OUT THE FUNDAMENTALS

Compelling home-theater sound is based upon music, dialogue, and effects. By first setting up the *main* speakers so that they handle these well, the presentation will become even more engaging when surrounds are added, rather than more confusing. Get the basics right from the start.

I used the wonderful Proprius *Cantate Domino* disc, with its two-microphone, soundstage-friendly recording scheme, to set intra-speaker distance. Too close together, and voices become laterally compressed. Too far apart, and centerfill is weak. Just right, and the Studio/100s won't be there at all. There will just be a soundfield, which extends left and right of each speaker, with every voice stabilized within that soundfield and good front-to-back depth. The vertical height of the soundstage will be considerable (note also the detailed and prolonged hall reverberation).

"… the most coherent, richest, three-dimensional portrayal of [James] Taylor's voice (which occasionally goes slightly flat—the Paradigms reveal all). … bass is quite deep, taut, precisely positioned, and well integrated."

Studio/CC

Next up, drop in the Sheffield *Pop Experience* CD. These tracks come from various studios, and their dry, neutral ambience should pose an obvious contrast to the gigantic, gentle, reverberant space of the *Cantate Domino* church. In the "Life is What You Make It" track, the mix comprises separately-recorded groups of performers, each of whom appear in a different soundstage position, as if there were several little oval islands of music, each with its own ambience, surrounding the soloist. The clapping towards the end has a soundfield-crossing *crack* to it, but one can also tell that it's a collection of hands clapping, flesh against flesh. Keep listening to the other tracks, and see how long it takes before the living room becomes a dance floor.

Next, try James Taylor's *Hourglass*, and adjust the speaker positions for the most coherent, richest, three-dimensional portrayal of Taylor's voice (which occasionally goes slightly flat—the Paradigms reveal all). From track to track, notice how the miking changes subtly. Listen to the panning of the large drum on "Gaia." The bass is quite deep, taut, precisely positioned, and well integrated. After doing all this, put the speakers up on sturdy stands, about six inches high will do, and run through the tracks again. The bass definition should be greatly increased.

> *"… hook up the Servo-15 … In addition to the enhanced ka-boom effect, note the musicality, the timbre … and its air-moving impact …"*

Now hook up the Paradigm Servo-15 1200-watt powered subwoofer, set the X-30 external crossover for about 35Hz, and try everything again. In addition to the enhanced *ka-boom* effect, note the musicality, the timbre of the "Gaia" drum, and its air-moving impact. Elevate this monster on a sturdy mount. The higher, the better—a foot or more is ideal. (For a more detailed report on the Servo-15, see Wayne Garcia's "Subwoofer Buyer's Guide" in Issue 42.)

> *"… a soundfield, which extends left and right of each speaker, with every voice stabilized within that soundfield and good front-to-back depth …"*

Servo-15

Over the course of several listening sessions, you'll get the hang of how small changes in speaker position influence soundstage, imaging, bass, and coherence. As a final tweak, try tilting the speakers down a bit in relation to the height of the couch. This adjustment gives a nice polish to the overall tonal balance.

SECOND OPINION

I've heard this Paradigm system several times at shows, and every time have left the room amazed not just by the outstanding sonic performance, but by the product's tremendous value. Although not inexpensive, the Paradigm package competes with loudspeaker systems that cost nearly that much just for the center speaker. The Paradigm system has tremendous dynamic range, with no sense of strain on peaks. In addition, the subwoofer integrates well with the main speakers, and is tight and detailed enough to use for critical music listening. I also enjoyed the Paradigm's deep, wide, and seamless soundstaging; these loudspeakers, correctly setup, truly disappear. Although the system has a real sense of excitement and dynamic impact on action movies; it is equally adept at conveying the subtleties of audiophile- grade music recordings.

I get to hear lots of very expensive loudspeaker systems and can tell you that this Paradigm package gets you most of the way there at a fraction of the price. That's why we've crowned this system The Perfect Vision's loudspeaker of the year.

Robert Harley

MULTICHANNEL MODALITIES

As we all know, much of the home-theater experience–its visceral and emotional impact–is conveyed by the soundtrack. The challenge is to produce an enveloping, convincing soundstage that integrates the disparate soundtrack elements of music, dialogue, special effects, and ambience.

> *"… human voices are alive and emotionally charged; violins and harpsichords sound like the fragile, plangent, complicated, almost-living contraptions of wood, glue, and fiber that they are."*

With the main speakers and sub in position and tweaked, hook up the biwired Paradigm Reference Studio/CC center speaker. It's magnetically shielded, finished in black laminate, with the same tweeter as the mains, and a pair of similar midrange/bass drivers that, with a reflex port, reach down to 42Hz. Sensitivity is about the same as the mains, 90dB.

> *"In short, the Paradigm Studio/100s are neutral, natural, convincing … unencumbered by any easily discernible colorations."*

Fire up *Gladiator* to experience a seamless, wide, tall, almost rectangular soundstage across the front of your home theater, with every word of dialogue easy to hear, well integrated spatially and timbrally, within the large scene's soundfield. What center speaker? What speakers at all, for that matter? There's just a smooth presentation of sound.

With the front speakers in position, add the Paradigm Reference Studio/ADP (for adaptive dipolar) surrounds. This rather unusual design uses four drivers–two pairs of tweeter and midrange/bass, on opposite faces of an enclosure. Below about 200Hz, the two midrange/bass units radiate sound in a bipolar, or in-phase manner. Above the threshold, they radiate as dipoles, out-of-phase. The Studio/ADP reaches down to about 50Hz, excellent for reproducing ambience and special effects.

"… a coherent ambient environment … compelling … a real sense of being outdoors … As characters walk away from the center, their voices trail off farther and farther to either side … you instinctively look to see where they went … incredible … whimsical … smoothly integrated … Although I've seen the DVD a dozen times, it was like hearing an entirely new soundtrack."

With the Studio/ADP surrounds in place on the left and right of the listening couch, the illusion of a coherent ambient environment is quite compelling. Just try out the opening minutes of *A Bug's Life*. This soundtrack is carefully done and gives a real sense of being outdoors. As characters walk away from the center, their voices trail off farther and farther to either side. The effect is real enough that you instinctively look to see where they went. On *The Fifth Element*, the incredible, sometimes whimsical, sonic details mixed into the soundtrack generally come through the surrounds, but are nonetheless smoothly integrated into the whole. (Has anyone figured out why there's a wolf howling after the cruise ship has been evacuated?) The Paradigm speakers pull so many things like this out of the sonic murk that, although I've seen the DVD a dozen times, it was like hearing an entirely new soundtrack.

ON WITH THE SHOW

Once properly set up, the Paradigm Reference Studio series speakers and Servo-15 subs will bring top-quality sound into your home. With both stereo and multichannel music, these speakers approach high-end quality without the high-end price and fussiness that usually go with the territory. And with DVDs they'll conjure up a convincing soundfield that immerses the listener in the acoustic space of the on-screen action. It's just like being at the movies–except the sound is a lot better.