PARADIGM® REFERENCE

PRODUCT review

STUDIO /100

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"...A TRUE FLAGSHIP..."

"...you'll find the Paradigm Reference Studio/100 a speaker that blows the doors off many other large full–range speakers at two or three times its price, especially some of the exotic brands that don't have this level of engineering behind them...a true flagship model..."."

By

Andrew Marshall

The *Studio/100* is a big speaker, and I mean big. It's also *really* heavy, weighing in at close to 100 pounds.

"Female voice is as uncoloured as I've heard it, while choral voices are sweet and easily separated... an almost perfect tonal balance."

Definitely designed to be a full range reproducer with very high dynamic capability, the *Studio/100*, uses a pair of 8" polypropylene woofers with very large cast baskets, a 6 1/2" woven Kevlar midrange, and for this second iteration of the *Studio/100,* a new aluminum dome tweeter identical to that used in the *Active 40* (Wtr 99). All drivers are designed and made in-house, *Paradigm* is a very vertically integrated company.

An unusually wide variety of finishes is offered for the *Reference* series of speakers. Veneer is offered in light Cherry, Rosenut, and Black Ash, while laminates of these are also available at the lower cost. Looking at our pair, I'm not sure you'd be able to tell a black ash laminate finish from the veneer, which our pair is. I'd assume that the plastic-coated wood grain is shinier.

Where the *Studio/100* shines is in its measurement, one of the flattest widest range speakers we've ever evaluated. Looking at the Pink Noise Sweep (PNS) at top (that's the squigglier of the overlaid traces), we see response that is +/-1 1/2 dB from 40 Hz to beyond 10 kHz. It's just about as smooth in the on-axis quasi-anechoic curve below, and axial curves at the bottom are closely grouped, that at 60° also very flat, but down about 4 dB in level. Adding them together yields the Summed Axial Response at top with the PNS; the fact that they are virtually identical indicates the superb dispersion, and evenness of response on all axes of the *Studio/100*, Diffraction well controlled by the concave tweeter lens.

Looking at the deep bass measurements, there are two comments to be made. First it's down 5dB at 30 Hz, but, second it's also down only 5 dB at 20 Hz. *Paradigm's* design team has wisely shelved the bottom octave below 40 Hz on this speaker to avoid overloading rooms. In most cases, the front-

ported enclosure will have this deep bass restored by boundary reinforcement. I'll have more to say about this in the listening notes.

You don't need a great many watts to drive the *Studio/100*, but current is a real concern, with impedance dropping to just below 4 ohms in the bass region. It rises to a little over 20 ohms in the midrange. The electrical phase angle through crossover is fairly moderate, about 30º either way, making the *Studio/100* a fairly easy load for most amplifiers, provided they are not wimpy, current-starved tube types.

"…one of the flattest widest range speakers we've ever evaluated… superb dispersion, and evenness of response on all axes…"

Put a *Bryston 3B ST* on these big mothers, and you could just about do the PA for a rock concert in Central Park. About 3 dB more sensitive than the *Veritas*, the *Studio/100's* will play very loud on few watts and some ample amperes. There was an unusual evenness and immediate power in the bass of these speakers, with a notable freedom from Doppler distortion, the midrange driver clearly crossed over (at 250 Hz) to minimize deep bass interaction with midrange energy.

The outstanding bass performance of this Speaker makes a subwoofer superfluous, though if you really wanted to break windows you could add a *Servo-15*.

After the effortless bass, you start to notice the overall neutrality of this speaker. Female voice is as uncoloured as I've heard it, while choral voices are sweet and easily separated, a clarity and definition unlike I've heard from any previous *Paradigm* speaker. The real improvement in the tweeter seems, in retrospect, to have been limited by the quality of the amplifier in the *Active 40*. But maybe here it's something more, perhaps the integration of the drivers to achieve an almost perfect tonal balance.

"…an unusual evenness and immediate power in the bass of these speakers, with a notable freedom from Doppler distortion…outstanding bass performance…"

Solo Piano, (our *Debussy Preludes*), cello (Sergei Istomin's *Bach Suites*), and orchestral music sounded completely natural, though the spatial balance seemed a bit forward. This may have something to do with the fact that because of their considerable depth (16 1/2") we were listening at a closer distance than usual. But soundstage depth, too, was foreshortened a bit, too, about the only criticism I could make of this speaker. And it's small caveat, because the spatial reproduction of the *Studio/100* was otherwise superb.

"Solo piano …cello, and orchestral music sounded completely natural… the spatial reproduction of the Studio/100 was otherwise superb."

The sense of realism with a great orchestral recording lie the Maazel/Vienna Phil *Mahler 4th* at real orchestral levels was marvellous, with a combination of quick agile bass and remarkable transient response that few speakers in my experience have matched. Mini-monitors just don't move air this way.

I've maintained that most midrange drivers are just not up to the job (that's an Ontario election in-joke; poor old Squinty McGuinty!), unable to manage the dynamics of live-level music. That's why I've liked some 3" aluminum domes, because they may not break up at high levels, being driven at its periphery by a 3" voice coil and matching magnet structure.

"The sense of realism … at real orchestral levels was marvellous, with a combination of quick agile bass and remarkable transient response that few speakers in my experience have matched."

Well like this dome, the *Paradigm* midrange delivers big time, and it makes quite a difference even at fairly normal listening levels. Again the word "effortless" comes to mind.

When a speaker combines very flat frequency response, exceptional off-axis performance, and great transient and dynamic characteristics, you know it's a great speaker. Did I prefer it to my more expensive reference? Not quite, finding a little higher resolution in it and a few other more expensive speakers. But you might, when you see the price for a nice shiny laminate finish that will never need oiling. And there's a lot of finish on these big boxes!

If you have the physical room for it, you'll find the *Paradigm Reference Studio/100* a speaker that blows the doors off many other full-range speakers at two or three times its price, especially some of the exotic brands that don't have this level of engineering behind them. I guess you really could call it a true flagship model.

"the Paradigm midrange delivers big time… Again, the word "effortless" comes to mind."