

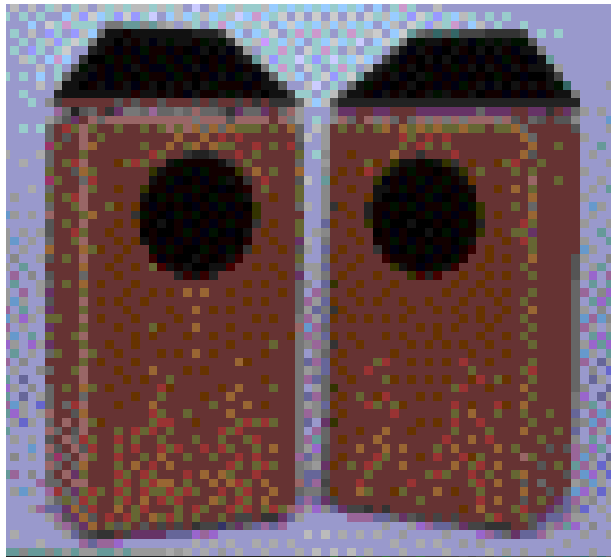
The Fifth Element

John Marks

The other night I heard The Tallis Scholars — the world's foremost exponents of Renaissance polyphony — sing in the Chorus of Westerly's performance hall, in Rhode Island: an 1886-vintage former Roman Catholic church with nearly all of its original horsehair plaster intact.¹ Even sitting back in the cheap seats, the sound was glorious. I have never heard a vocal ensemble sing with more finesse, pitch security, or blend of tone.

After the concert, director Peter Phillips was kind enough to chat with me, and to autograph the Scholars' CD of John Sheppard's *Media Vita* I had just purchased. (Before the encore, Phillips had very kindly announced that, afterward, he would be glad to sign "absolutely anything." I took that to mean that he did not want people to think they had to buy a CD to get his autograph; my wife took him to mean that he wanted a new contract.) I told him that the Tallis Scholars' recording of Heinrich Isaac's *Missa de Apostolis* (Gimell CDGIM 023; www.gimell.com) was one of my desert-island discs, and was gratified that he immediately responded that it was also one of his. He said that there were phrases in that music that had no equal anywhere else. The music is otherworldly, the singing is beyond inspired, and the recorded sound is sublime. Allow me to nudge your elbow, and quietly urge you to buy

¹ Up to the 1930s, horse or cattle hair was usually used as a binding agent in base-coat plaster. The surface's resultant tensile strength, and the resilience of the wooden split-lath strips the base-coat plaster was troweled over, were largely responsible (along with most halls' "shoebox" shape) for the warm yet detailed acoustics of the great concert and performance halls of the classical era. Most attempts using modern materials to reproduce the acoustical characteristics of plaster-on-lath construction have not been notable successes. During the mid-1970s renovation of New York City's Avery Fisher Hall, they added chopped-up monofilament fishing line to the wet plaster. Needless to say, that hall's problems persist. However, recently there have been some new developments; RPG Inc.'s Baswaphon wall system looks promising (www.rpginc.com).



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Richard Shahinian's speaker designs have long been controversial.

the disc! Tonight! Stop letting merely urgent matters displace the really important ones!

Shahinian Hawk loudspeaker

When John Atkinson compiled the list of Hot 100 Products for *Stereophile's* 40th Anniversary issue (November 2002, Vol.25 No.11), Shahinian Acoustics' Obelisk loudspeaker made the grade with a rank of 71. JA commented:

"I first heard the quasi-omnidirectional Obelisk 25 years ago, and it sounded as different then from what else was around as it does now. Richard Shahinian has always gone his own way, guided by his overwhelming passion for classical orchestral music; his speakers fall into the category of 'If you love their sound, they're the best speakers in the world for you.' However, for Dick to survive and even to prosper through the years lends his efforts a credibility that cannot be acquired in any other way."

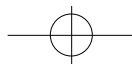
Before founding his own company (www.shahinianacoustics.com), Richard Shahinian worked as an engineer designer at Harman/Kardon. The Obelisk, released in 1976, was Shahinian Acoustics' first speaker. The Obelisk remains in production today, having undergone steady evolution to keep pace with driver-technology developments and "lessons learned" about internal cabinet bracing.

Shahinian's speaker designs have long been controversial. He attempts to actualize the theoretical ideal — of a point source propagating an expanding three-dimensional wavefront — by use of unique

cabinet architecture and driver disposition. I believe that it is a misleading oversimplification to refer to his designs as "omnidirectional," in that not all frequencies are handled in the same manner. I think that "polyradial" is a more accurate description.

Shahinian's line includes designs that embody all his desiderata (Diapason, Hawk, Obelisk), as well as speakers that, for reasons of cost, represent compromises (Arc, Compass, Starter). There is even a conventional front-firing box loudspeaker, the Super Elf, which is a bit larger than the LS3/5A, but has a detailed yet warmly inviting sound quite reminiscent of it.

The Obelisk, which weighs 55 lbs and measures 29" by 13" by 15", looks like a squat wooden replica of the Washington Monument. Currently priced at \$4000/pair, it is the least-expensive speaker that embodies Shahinian's ideals. These include use of proprietary loading for the woofer. The 8" woofer, on the front face of the lower portion of the Obelisk's cabinet, is backed by a folded transmission line, with a stuffing of sheep's wool and polyfill. However, unlike conventional transmission lines, which terminate in free air, Shahinian's T-lines are terminated



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by a weighted 10" passive radiator.²

The good news is that, even with the Obelisk's comparatively moderate cabinet size, its bass extension and volume are remarkable. Shahinian's claimed -3dB point of 28Hz for the speaker seems very credible. The Obelisks, driven by the right amplifier, could do justice to the string basses and organ pedals of Robert Shaw's recording of Brahms' *Ein deutsches Requiem* (Telarc CD-80092). I felt them as well as heard them. An added benefit is that the quasi-aperiodic nature of Shahinian's woofer loading means that, unlike ported designs, which depend on cabinet-cavity resonances for bass extension, there was no sense of one-note bass.

The not-so-good news is that Shahinian's bass loading places substantial (although not extreme) demands on the amplifier's current-delivery and damping-factor capabilities. It would stand to reason that once a bass note has been propagated, the weighted passive radiator will continue to move through inertia, with the resultant air pressure in the transmission line seeking to move the woofer itself, in cases even generating back-EMF up the speaker wires.

Confronting this scenario is a job for an amplifier with greater-than-ordinary current reserves and damping factor—it is precisely the wayward motion of the woofer that the amplifier is called on to "damp." Don't be alarmed—just about every dynamic speaker design (with the possible exception of drivers designed specifically for horn enclosures, and which have minimal cone excursion) requires at least some help from the amplifier in the way of damping.

Little surprise, then, that some of the more successful amplifier pairings with Shahinian speakers have long been Plinius' solid-state designs, which appear to be unusually robust in terms of damping factor and current delivery. Richard Shahinian owns a Plinius power amplifier, while Plinius' Peter Thomson owns Shahinian Hawks. Fancy that.

The rest of Shahinian's design brief includes handling the midrange and lower treble with drivers that fire both forward and rearward but are arrayed at an upward angle—and, for the highest frequencies, using tweeters or supertweeters arrayed upward and pointing north, south, east, and west. This would appear to mimic the behavior of the highest frequencies in a classically designed concert hall. Obviously,

Shahinian intends that room reflections will be a major part of the sound perceived at the listening chair. Just as obviously, this will stick in some (if not many) craws.³

On the Obelisk, the faces of the pyramid or roof are symmetrical, and hold 1.5" dome midrange/tweeters firing back and front, and four 3/8" supertweeters firing to the four compass points. The Obelisk's roof is part of the same enclosure as the bass unit, and there is only one set of binding posts.

With the Hawk and the Diapason, Shahinian moves into modular designs. The bass modules are separate from the

The first issues confronting a new Hawk owner are amplification and wiring.

elongated-pyramid roofs, which rest on the flat tops of the bass modules. The midrange and treble drivers can be connected to the terminals of the bass modules by short umbilical speaker cables, or the units can be biwired or biamped.

Each Hawk uses four 4.5" midrange drivers, two each pointing front and rear, and four 1" tweeters, one on each face of the pyramid. Unlike the Obelisk, the Hawk's roof has unequal rakes front and rear, the rear face being more vertical. The Hawk bass module uses an 8" woofer and 10" passive radiator, but the woofer is not the same as the Obelisk's (it has a much larger motor structure), and is in a larger enclosure, with a claimed -3dB point of 25Hz. The Obelisk's retail price is \$4000/pair; the larger, more complicated Hawk goes *ka-ching* at \$8100/pair.

The Diapason is even more complex.⁴ Each top uses four 5.25" midrange drivers, two each pointing front and rear; two 1.5" dome upper-midrange drivers, one each pointing front and rear; two 3/4" low tweeters, one each pointing front and rear; and six 3/8" supertweeters. Yes, that's 14 drivers per side.

There's more. Each Diapason bass

module contains two separate transmission lines (which is why the Diapason bass module is called the Double Eagle), each with the same 8" woofer and 10" passive radiator as in the Hawk. Doubling up the larger enclosure from the Hawk results in a claimed -3dB point of 23Hz. The *ka-ching* point for a pair of Diapasons is \$13,000, which, in today's world of dozens of loudspeakers costing more than \$30,000/pair, going all the way up to \$100,000-with-a-straight-face per pair, seems almost miserly.

I had initially asked for a pair of Diapasons because, since the last time I'd had Diapasons in the house, their woofer module had been revised. As it turned out, demand was far outstripping supply, but a pair of Hawks was available. The Hawks were the only speakers in the Shahinian line I had not already had extensive experience with. "Sure," I said.

Set up on its casters, the Hawk is 37.5" high, 17" wide, and 13" deep; the combined weight of the bass and upper modules is 80 lbs. My review samples arrived in light genuine oak veneer, with black grilles on the woofer and the roof.

The first issues confronting a new Hawk owner are amplification and wiring. I had requested back from JA the exceedingly scrumptious darTZeel NHB-108 amplifier, both for the Hawks and for another speaker that has not yet arrived. I was very pleased with the darTZeel's overall performance with the Hawks—the combination filled the room with sweetly layered, dimensional music, and could play louder than the room acoustics and my comfort level indicated was sane. However, the darTZeel's 100Wpc, which does not double into 4 ohms, was perhaps not the optimal match for Shahinian's bass loading—though the idea of biamping with darTZeels is very tempting!

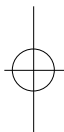
Seeing as I was using just one stereo amplifier, and one that had only single terminal pairs at that (Euro-Nanny terminals, come to think of it), I decided to run speaker cables to the bass modules from the amp, and then use short runs of cable from the bass-module terminals to the upper-module terminals. In the event, I used the ultra-spiffy *Stereovox* speaker cables (I know—they cost almost as much as the Hawks do) to run to the bass modules, and Nordost Valkyrja to run from the bass modules to the top.

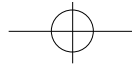
For a digital source, I had finagled the return of TEAC's Esoteric D70/P70 transport and DAC combination. That duo reaffirmed itself as pro-

³ Another possible benefit of directing the midrange and treble at the ceiling is that the direct sound that does arrive at the listening chair will be substantially off-axis, and therefore contain fewer driver distortion products, which become increasingly directional as frequency increases. Perhaps this is why Shahinians are some of the few metal-dome speakers I warm up to.

⁴ The Diapason was reviewed for *Stereophile* by J. Gordon Holt in May 1993. —Ed.

² At one time, this arrangement was covered by a patent, which, I assume, expired about 10 years ago.





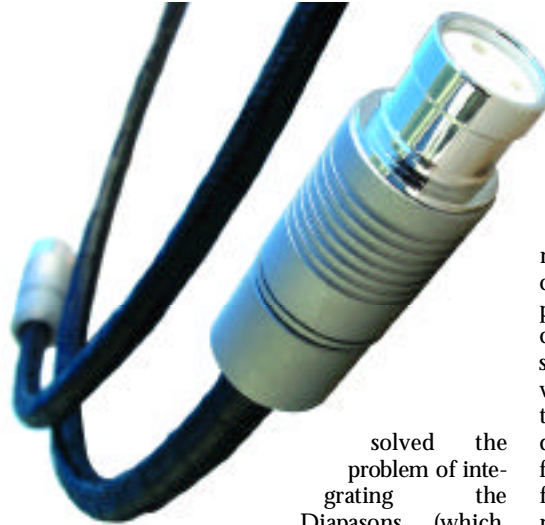
viding the best "Red Book" CD playback I have yet heard. I think you had better buy them before Esoteric changes its mind and stops making them. The connection from the Esoteric DAC to the darTZeel amp was made by **Stereovox's** new balanced cables, with proprietary Xhadow XLR connectors. They sounded glorious.

The speaker terminals on both modules of the Hawks are located so as to minimize their visual intrusiveness, but this has the effect of limiting cable options. The bass terminals are on the underside of the bass module, with the binding posts themselves set at a 45° angle to the floor. (Clearance is provided by the bass modules' approximately 2"-high, hard-rubber legs.) Furthermore, the terminals appear to be spaced closely for double banana-plug connections. Didn't those go out of fashion at about the time Jimmy Carter was having The Captain and Tennille serenade Queen Elizabeth with "Muskrat Love"? But I digress.

The situation is even more limiting at the upper module, in that there is less clearance, and the connections are not binding posts; they accept only banana plugs. Perhaps to avoid accidental disconnection, the banana receptacles face front (but at the same 45° downward angle). This means that, to exit rearward, your speaker cable must be able to make a 135° bend in a space less than 1" high. Some will be able to, some won't. Fortunately, I have always found Nordost cables to be a very synergistic match with Shahinian speakers, and Nordost's Valkyrja speaker cables were sufficiently thin and flexible to serve in this application.

In search of even more bass wallop, I substituted Plinius' over-achieving model 9200 integrated amplifier (\$3500) for the darTZeel. Although the much less expensive Plinius did not quite equal the darTZeel's sweet treble refinement, its 175Wpc did surpass the Swiss amp in dynamics and bass extension and control.

On the subject of getting the most out of these idiosyncratic speakers, Dan Banquer of RE Designs (www.redesignsaudio.com) passed along to me the experience of one of his customers, who



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solved the problem of integrating the Diapasons (which, like the Hawks, are modular) into his room by use of a multichannel pre-amplifier with separate trim pots for each channel's volume, and a master volume control. This, of course, requires biampification, but if you've gone that

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far you probably would benefit even more by being able to adjust the balance between the bass modules and the upper modules for the conditions in your room. For that RE customer, it was (surprise!) a preamp from RE Designs that saved the day. I was fascinated by this prospect, but there was not enough time to obtain the necessary equipment and try it. Perhaps for the Diapasons...



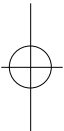
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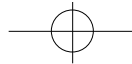
If I had to criticize the Obelisk, it would be because that speaker's 8" bass driver has to handle a substantial part of the midrange as well, before it hands off to the 1.5" midrange/tweeter. The Obelisk's midrange thus had a slightly velvety character, and the upper bass could be plummy. (The latter phenomenon could be related to floor reflections selectively canceling and reinforcing the woofer's output.) The Hawk addresses those issues by crossing over its bass driver (which is mounted higher off the floor) from 250Hz up, and having the four 4.5" midranges on the roof handle most of the middle octaves. This arrangement also gives the Hawk much more power-handling capacity.

The one thing that would still keep me hanging on to Obelisks is that each Obelisk uses four 3/8" supertweeters to cover the entire soundfield (the same arrangement as in the Diapason), while the Hawk uses four 1" tweeters. I found the Obelisk to have a wonderfully airy and open character in the upper treble, while the Hawk was warmer and more solid in that region. (I think it safe to say that this is almost entirely within the realm of personal preference. Also, I listened to the Obelisks with their grilles removed.)

To get a good idea of what the Hawks do best, you should hear them playing very-well-recorded orchestral music with lots of bass and dynamics. One excellent contender is a characterful recording of **Geirr Tveitt's** *One Hundred Folk Songs from Hardanger* orchestration (CD, BIS CD-987), which you really should own. (If you buy it and hate it, then just stop taking my advice. It's that good.) Playing the Tveitt disc, the Hawks gave that floor-to-ceiling, wall-to-wall soundstage that many fans think of as one of the *raison d'être* of Shahinian speakers.

Another sonic blockbuster, this one perhaps better known, but which doesn't seem to get the respect it deserves, is André Previn's recording of Prokofiev's *Peter and the Wolf* (Telarc CD-80126). Don't pass it up just because it's meant for kids—it has some of the best-recorded orchestral instrumental timbres I know of. But even historical recordings with so-so sonics, such as an apparently unauthorized release of a Barbirolli/Boston Symphony recording of Delius' *The Walk to the Paradise Garden* (Music & Arts CD 251(2), no longer available), are arresting and entrancing. Organ





recordings, of course, are particularly well served. By the way, one of the reasons you should visit www.shahinianacoustics.com is that the site has a page with quite a few recommendations of recordings, most of them orchestral.

Ironically enough, the strongest impression the Hawks made on me during the time I had them was to reconfirm what a screamingly amazing bargain the Obelisks are, at half the price. In my medium-sized room, I never even remotely approached the limit of the Hawks' ability to move air. A quick consultation with my good chum and long-time Hawk owner Scot Markwell, formerly of *The Absolute Sound*, confirmed this impression. Scot said that, apart from the previously mentioned issues of velvetiness and plumminess, the Hawks will decisively show their mettle over the Obelisks in a much larger room, or on huge orchestral transient peaks.

When I listened critically, the Hawks were less colored, more seamless and smooth, and more coherent than the Obelisks. But at twice the price, they should be. Vasken Shahinian, Richard's son, hastens to point out that the Hawk is not an Obelisk on steroids, but a junior-varsity Diapason.

So it becomes a question of whether, taking into account ascending price, the airiness of the Obelisk outweighs its slightly compromised midrange and upper bass; whether the Hawk's overall coherence and power outweigh its less airy treble; or whether you should just have it all by buying the Diapasons. There are perhaps half a dozen speakers I could live with indefinitely, and the Diapason is on that list. (The others, in alphabetical order, are: Aerial 20T, DALI Megaline, ESP Concert Grand, Peak Consult InCognito Grande, and Wilson Benesch Chimera.) However, the Obelisk remains my go-to recommendation for classical music lovers who have to stay within an average budget.

To sum up the Shahinian Hawk: Pros: magisterial bass, huge soundstage, remarkably rendered instrumental timbres; in general, addictive to listen to. Cons: need an amp with high current and damping; stable-mate Obelisk has airier treble, and for most people will be better value for money (despite being more colored overall); few US dealers; usually a waiting list for speakers. Verdict: One listen will tell you whether you love the Hawks or just don't get them.

And if you don't, that's okay. We can still be friends.

Comments or questions: jmrcds@jmrcds.com 