



UPSTAIRS

Up on the Roof: The Kharma Exquisite Reference 1B Loudspeaker System

U h...remember a coupla months ago when I told you that the Nearfield Acoustics Pipedreams were the best speakers *a lot* of money could buy? Well, they just got competition.

Meet the new contender: a \$65,000 (\$70,000 with dedicated stands, \$80,000 with stands plus Kharma's dedicated speaker cables), ported, dynamic, three-way loudspeaker system from O.L.S. Audio Technology in the Netherlands that looks a bit like a four-foot-tall Philco radio and sounds like nothing else I've heard.

It isn't so much that the Kharma Exquisite Reference 1Bs are better in every regard than the other great loudspeakers I've had in my home. They aren't. The Pipedreams still rule the field when it comes to spectacular soundstaging and lifelike imaging. The Avantgarde Trios remain the champs at overall dynamic range and scale. The Sound Labs M-1 electrostats (still my favorite "affordable" Upstairs loudspeaker system) have superior tone color, low-level detail, and transient response. The Genesis 200s go substantially deeper in the bass. The Maggie 20R ribbons own the top treble. So what makes these Dutch treats special enough that, had I the money, I would install them as my references?

Just this: though the Exquisite Reference 1Bs aren't the absolute best I've heard in any one of the above categories, they are the second-best in *all* of them. Moreover they come in second only by a smidgeon. Add all those narrow second-place finishes to the four things that the Kharma Exquisites do better than other speakers I've heard (for which, see below), and you get a new reference standard.

Before the Pipedreams (and now the Kharmas), I had never heard a large dynamic loudspeaker that truly disappeared as a sound source. Mini-monitors do this disappearing act, at the high price of miniaturizing the soundstage and the instruments in it; but large, full-range loudspeakers invariably call attention to themselves. First of all, you hear those big boxes singing along with the music – pinning the images to the speaker cabinets in worst cases, or adding a fine bright grain, cottony haze, or thick,

pervasive darkness to the soundfield in the best. Second, you hear the different drivers themselves, and the crossover points between them, as a subtle discontinuity in the fabric of the sound, a kind of sonic "quilting" wherein the bass sounds "stitched" to a slightly different swatch of midrange, and the midrange stitched to a slightly different (often more metallically colored) bit of treble.

Although the Pipedreams did have slight discontinuities in the fabric of their sound – between the bass modules and the midrange towers, and in the upper midrange where their multiple woofer/midrange drivers cross over to their softish silk-dome tweeters – they had less of this sonic "quilting" than any large dynamic system I'd heard prior to the Kharmas. Moreover, the Pipes' ingenious enclosures and line-array design made for less "box" sound than I'd heard from a large dynamic system prior to the Kharmas. This then-unparalleled combination of exceptionally low driver and enclosure colorations contributed mightily to the Nearfields' sensationally lifelike sound. For once, it almost seemed as if I was hearing instruments scaled physically and acoustically like the real things, rather than analogs of instruments restricted in acoustical power, directionality, and scale because the full and timely transfer of their energy was being grossly distorted by box, crossover, driver, and speaker/room interface.

As noted, the Kharmas are not quite the Pipedreams' match in envelopment and life-sized imaging. There are two reasons for this. First, though scarcely midgets, the Reference 1Bs are smaller than



the gigantic Pipes – a little more than four feet tall when mounted on their dedicated stands, a little less than a foot-and-a-half wide, and about 20 inches deep. Second, and perhaps more crucially, the Kharmas are time-aligned point-source loudspeakers, which, among many other things, means they project their soundfield from an acoustical “focal point” that is physically closer to the floor than the “mid-height” focal point of the Pipedreams’ eight-foot line array. As a result, soundstage height and instrumental image size are, at lower volumes, slightly reduced in comparison to the Pipes – smaller than life-sized, less free-floating, more anchored to the ground. But this reduction in vertical scale is actually a bit illusory. As you turn the volume up (and the Kharmas like to be played loud), the soundstage “inflates” to fill the entire back third of your room. As the soundstage grows larger, the instruments themselves become more life-sized till you reach an amplitude level – and that level depends on the record – where everything is just “right.”

At that point – and, brother, can you hear it! – there is virtually no difference between the Kharmas’ soundstaging and imaging capabilities and those of the Pipedreams. You get nearly the same wrap-around staging, life-like scale, and almost physical presence. *But* – you also get considerably richer, more realistic timbres (second in this regard, as noted, only to the Sound Labs), fuller dynamic range and better transient response (the References reproduce the softest *pianissimos* almost as well as the Sound Labs M-1s, and the loudest *fortissimos* nearly as well as the Avantgarde Trios), audibly lower levels of driver and enclosure noise and coloration, *plus* the Reference 1Bs’ four aforementioned salient virtues, which I will come to momentarily.

You might be wondering, as I certainly did, how such stellar performance is possible in a three-way loudspeaker housed in a medium-sized ported box. Well, first of all, there *is* the box. While the Kharmas are about a fifth the size of the entire Pipedream system, they weigh very nearly as much – 1,200 pounds the pair (uncrated), not including their massive stands. No, their enclosures are not made of lead, but they sure are made of something that is more dense and inert than any material I’ve ever heard – or, rather, not heard.

According to Kharma’s white paper, the CAD-designed enclosures are constructed of vertically layered panels of CNC-milled, ultra-heavy laminate, which are then glued to one another with an even denser elastometric compound that decouples the panels from each other (and thereby prevents whatever structure-borne energy is passing through them from being stored in the cabinet). To provide space to mount and backload the drivers, each of the individual panels in this super-dense constrained-layer “sandwich” is cut out differently (in a process patented by Kharma’s guru, Charles van Oosterum), with computer-optimized *irregularity*, in order to randomize internal reflections and minimize decay times. This irregular cutting gives the Kharma’s inner cavities the distinctive sawtooth look of an RPG diffuser panel (which, indeed, is much the way they function – see Illustration 1).

In the past I have been skeptical of super-rigid enclosures, taking the (entirely observational) view that all materials – even so-called “non-resonant” ones – resonate and that, all things considered, it is better to use natural materials (like wood) which resonate “tunefully” than man-made materials like Corian which seem to add an unnatural deadness to the soundfield. The Pipedreams, which use a Corian-like material for the enclosure walls, began to change my thinking. The sound of the Kharmas have changed it entirely. Remember, this isn’t a speaker with walls of Corian; this is virtually a *solid block* of polymers (carved-out internally in those irregular facets). I doubt if there could be a better test case for whether highly dense, highly rigid boxes constructed of man-made materials are superior to lightly braced wooden boxes.

The truth is the Reference 1Bs just don’t have a box sound – or more than a trace of the supervening grain, cloudiness, and discoloration that I associate with massive enclosures. But this “disappearing act” isn’t the only boon of the Kharmas’ super-dense construction. Because they are so acoustically inert – because they store and smear so little musical energy in the form of internal resonances and reflections – the Reference 1Bs’ enclosures provide an almost uniquely stable “platform” for their drivers. Although the Kharmas aren’t horn-loaded, the net effect is somewhat similar to horn-loading: More energy, more music, is getting into the room more efficiently, because (in the Kharmas’ case) less of that energy is being stored or dissipated inside the box. You hear this not merely in the superlative wrap-around soundstaging and sensational clarity with which the Reference 1Bs layer instruments front-to-back, side-to-side, but in the nearly tape-like continuousness and ease of their dynamic swings.

This dynamic ease is the first of the Kharmas’ four remarkable virtues. If you’ve heard a *very* high-powered tube amp (300 watts or more), you’ll have an idea of how the Kharmas sound as they get louder. There is no sense of an amplitude ceiling with these speakers, or of a ratcheted, notch-by-notch ascent to very high levels. The Kharmas simply glide up and down the amplitude ladder, without breaking up or breaking down, without suddenly turning your room into a hall of mirrors or turning glassy, compressed, and mean-sounding themselves. In my experience, only real music has this kind of dynamic continuousness and ease. Hearing it from a loudspeaker is not just startling and wondrous; it is, once you get accustomed to it, addictively relaxing. The “cringe factor” – that feeling you get when you know your speakers (or your amps) are about to crap out and turn mushy or snarly (or both) – simply goes away, letting you sink into the music the way you do in a concert hall.

While the Kharmas’ boxes are contributing greatly to this natural ease, so, clearly, are its unique battery of drivers and its crossover. Ported three-ways simply aren’t supposed to sound this continuous, full-range, dynamic, detailed, and gorgeous. I’ve never heard another one that comes remotely close. Then again, I’ve never heard one that costs 65 grand.



Illustration 1. Irregular cutout of the Exquisite 1Bs’ internal cavities. (From the Kharma literature.)

The keystone of the Exquisite Reference 1B is its 7-inch ceramic midrange driver (made by the German firm, Thiele) – certainly the least-colored dynamic midrange driver I’ve auditioned. I believe that Avalon uses a smaller version of this same driver in its Eidolon loudspeakers; and while that smaller version has the reputation of being a mite polite dynamically, the considerably larger one that Kharma is using does not. Although it looks, shockingly, like a white china dinner plate sitting behind its protective light mesh cage, Kharma’s ceramic midrange driver combines tremendous stiffness with *very* low mass (the thing is so delicate that it would shatter were you to tap it – which is why it is protected by that mesh cage). Many other driver manufacturers claim that their products provide this same combo of high stiffness and low mass, but I’ve never heard another that is so neutral, seemingly effortless with dynamics (I cannot hear brightness, loss of resolution, or break-up at any level), ‘stat-like in inner detail and density of tone color, or grainless and transparent. Whether it’s the crosscut saw of Bob Willouby’s vocals on *Blues, Booze, & Oldtimey Soul* [Mapleshade], so coarse and raspy you can almost see sawdust spilling from his mouth, or Clark Terry’s brilliant trumpet flashing across the room like sun in your eyes [*Clark Terry: One on One* on Chesky], or the Klezmer-like capering of Frank Glazer’s piano (and the churning ostinato unisons of the Fine Arts Quartet) in the opening movement of Bloch’s remarkable *Quintet for Piano & Strings* [Concert-Disc], this piece of china conjures up the

presence of real instruments in real space as persuasively as anything I’ve heard – planar, ‘stat, or cone. To quote Ole Lund Christensen, manufacturer of the Gamut D-200 amplifier, it may well be the most natural-sounding midrange you can buy.

For the treble, Kharma uses a one-inch titanium inverted-dome tweeter. I generally don’t like titanium tweeters, which, to my ear, usually sound, uh, metallic. I don’t know what van Oosterum is doing differently here, but the Reference 1Bs’ treble is anything but hot, hard, or tinny. It is as sweet, effortlessly dynamic, and delicately detailed as the ceramic midrange. While I have heard tweeters that seem to go farther “out” into the ultra-high-frequencies than the Kharmas’ do (for instance, the Maggie ribbon, par excellence), unlike the Pipedreams’ silk dome tweeters, this one does not seem at all soft or feckless – at all lacking in air, bloom, or sheer power delivery on mighty *fortissimos*. On a great recording such as the Munch performance of *Escapes* [RCA], the Kharmas reproduce every jingle (those tiny “high-hat” cymbals around the edges of a tambourine) as clearly as they do the mighty, sea-like surge of strings and brass, and they do this without etching the higher-pitched instruments, heating them up, or throwing them in your face (as metal-dome tweeters so often do). That tambourine, for example, exists there in its own space, getting louder or softer, more jangly or drum-like or percussive, as it is shaken or rubbed or sharply struck, while the rest of the orchestra plays massively around it.

This brings me to the second of the Reference 1Bs' virtues. These speakers preserve the dynamic/harmonic envelopes of different instruments playing simultaneously at different intensities as well as anything I've heard. You never lose track of how softly or loudly, how sweetly or astringently, how gently or forcefully, an instrument is being played, even in the midst of enormous ensembles, even at overall levels well above 100 dB SPL. In other words, you never lose track of the expressiveness of the performer (or the beauty of the instrument).

Almost invariably, loudspeakers reach a point in amplitude (both at very low levels and very high ones) where these subtle differences in expression and timbre blur together. You simply can no longer clearly tell whether a string section, for instance, is playing *staccato* or *legato*. The strings' articulation gets drowned out by the sheer volume of sound from brasses, percussion, and basses. Not so with the Kharmas – at least, not so at moderate-to-loud levels. No matter how mighty the crescendo, every instrument continues to bloom clearly, beautifully, and distinctly, at its own dynamic pace, in its own space, in its own unique colors. It's equivalent to seeing a page of fine print magically converted to a larger typeface.

Before talking about the Kharmas' woofer, let's talk about the crossover. I haven't heard a three-way (or any dynamic speaker system) in which the drivers blend more coherently, which is the third of the Kharmas' virtues. I defy you to identify the crossover points between tweeter and midrange, and midrange and woofer in this speaker system – or to hear any "material" differences in the drivers themselves, in spite of the fact that each one of these drivers is quite different in material composition. If nothing more, this seamless blending of disparate drivers is itself some kind of breakthrough for a dynamic design.

You hear the triumph of van Oosterum's crossover, first, in the Kharmas' sweet, unflagging, unfailingly lifelike reproduction of instrumental timbres, particularly where instruments span bass and midband or midband and treble-range frequencies. Properly broken in, set up and amplified, the Reference 1Bs have next to none of a dynamic loudspeaker's typical tizziness in the top octaves that makes cymbals and bells and other high-pitched percussion sound too forward and piercing, next to none of the upper midrange brightness that makes strings and winds turn shrill and edgy, none of the lower-midband suck-out that robs brasses, violas, cellos, and human voices of natural warmth, clarity, and heft, no upper-bass hump that turns bottom-octave piano and string basses into one-note wonders, no midbass suck-out that makes big drums or doublebasses sound dried-up, phasy, and anemic. It has, in short, next to none of the telltale signs that you are listening to more than one sound source.

Just as importantly, the Kharmas make each *instrument* in the soundfield sound like a single sound source. The crossover is so phase-coherent (and the drivers so discerning and well-matched to their enclosures) that you don't get any sense that the speakers are playing little games of their own in the presence and brilliance ranges (or anywhere else). Instruments

sound like the point sources they are – never like cardboard cutouts. Regardless of how busy the orchestration gets or how loud or soft the playing, you hear each instrument blooming roundly, three-dimensionally into three-dimensional space (including the space behind it), in proportion to the way it is being played and the register it is playing in.

Let's turn to the woofer – and the last, and perhaps most awesome, of the Kharmas' four sterling virtues. To look at this woofer, you wouldn't think it particularly capable. A little short of 14 inches in diameter, it is a poly-Kevlar "sandwich" unit. There is only one of these woofers per box, and each woofer is ported at the rear of the enclosure – not, in my previous experience, a particularly promising situation for bass-lovers.

Ported woofers tend to sound "huffy" and discontinuous. Even in a great three-way like the Shun Mook Bella Voce Signatures, prior to the Kharmas the best three-way I'd heard, you hear that port wheezing in the bottom octaves, particularly when the woofer is stressed by large dynamic swings.

Although the Kharmas' ported woofer does not plumb the deepest bass (going down in my room, flat, to 30 Hz, with usable output down to 25 Hz), it does not huff or puff, either. What it will do, however, is blow your house down.

Trust me: You have never heard a three-way loudspeaker with this kind of natural authority in the bass range. In life, a choir of double basses and cellos going full out has some of the same wrenching power of a semi pulling away from a curb. You get a physical sense of its massive tonal weight and of the sheer amount of air that it is moving. Of the loudspeakers I've heard, only the Pipedreams, JMLabs Utopias, Maggie 20Rs, M1s, and the Trios approach this effect. And none approaches it more closely than the Kharma Reference 1Bs do – it is the fourth and last of their great virtues.

When these speakers reproduce a big choir of basses or trombones or percussion, you'd think that a refrigerator had been dropped on the floor in front of you. Never have I heard such lifelike weight and power in the upper bass to lower midrange. And the best of it is that the Kharmas do this trick without muddying the soundfield, still keeping their remarkable focus on each instrument "blooming" into space.

To listen to the massive swell of basses in *Escapes* or the sheer golden weight of trombones and trumpets of the great Count Basie orchestra on *88 Basie Street* [JVC-XRCD] or the synth and Fender basses on the great new Patti Smith album *Gung-Ho* [Arista] (review page 151) is to hear music reproduced with the authority of the real thing. In combination with their unparalleled dynamic ease, their uncanny way of holding focus on the expressiveness with which individual instruments are being played (even in the midst of a crowd), their seamless, three-dimensional, phase-coherent soundfield, and their sheer beauty of tone, the Kharmas' natural authority makes them hard to beat. If you can imagine a Quad 63 with seemingly unlimited dynamic reserves, near-lifelike scale, and massive tonal weight, you have an idea of what these things sound like.

I know this is a chestnut, but the Reference 1Bs sent me back to my record collection – and are still, after several months of listening, sending me back to it. Never before have I heard familiar records sound so like themselves. Details of orchestration, miking schemes, performance techniques are clearer than ever. Better yet, the sheer beauty of sound and the emotional impact of these performances – the very reasons I first fell in love with them – has been reaffirmed and renewed. Every listening session has become a reunion with long-lost friends.

In all fairness, I need to point out where the Kharmas are idiosyncratic or could stand improvement. First of all, their very virtues have a downside. Because they are point sources with flat, phase-coherent off-axis response, because they seemingly put more musical energy into your room more efficiently, because they are so powerfully authoritative in the bass, you will need to be extremely careful about placement and room treatment. I've located the speakers about seven feet out from the back wall and four from the sides, with ample toe-in. In my space, I needed to use RPG's computer-optimized room treatment on all walls – where, with the more room-friendly line-source Pipedreams and Sound Labs M-1s, I used only rear- and front-wall treatment. To listen to these things “nude,” you will need a larger space than I have or you will have to invest in RPG'ing. This is not a small consideration.

Second, while scarcely lacking in bass, the Kharma Reference 1B will not plumb the deepest octaves like Genesis 200s do. At \$65,000 you might expect a true 20-Hz response, but you won't get it (although you will get a solid 30 Hz and a 4-dB-down 25 Hz). If you're a deep, deep bass freak, you might want to stick around for the Reference 1As, about to be released, which will have a larger cabinet, a larger woofer, and provision for tri-amping. Of course, these extras are going to cost you another \$13,000!

Third, even at their best, the Kharmas' soundstaging and imaging is not, as noted, quite the equal of the remarkable Nearfield Acoustic Pipedreams. If you don't care to fiddle with room treatments, have a tremendous amount of space, and want the most lifelike soundstaging and life-sized imaging money can buy (along with the other virtues I detailed in my review), the Pipes may still be the better choice for you.

Fourth, like the Pipes and the Maggie 20Rs, the Kharma Reference 1Bs sound better when they are played loud (average SPLs of 85-90dB) and best when they are played *really* loud (average SPLs of 90-100dB). At lower volumes, stage and image height does shrink a bit, as noted. It isn't as if the Reference 1Bs fall apart acoustically at low levels – they certainly do not – but they do tend to “miniaturize” images slightly much below 85 dB SPL, where the Pipes don't.

Fifth, while they are so detailed you can hear the clatter of the valves on Clark Terry's trumpet (and

the incessant vocalizations of pianist Monty Alexander and the other musicians on the Chesky recording I mentioned), the Reference 1Bs are not as low-level-detailed as the incredible Sound Labs M-1s. I doubt if you're going to miss the little bit of air, nuance, and color the Kharmas don't resolve (they are certainly superior to every other dynamic loudspeaker I'm familiar with in this regard, including the Pipedreams and the Shun Mook Bella Voce Signatures); however, if you must hear every single jot of every single note, you may, once again, want to wait for the Reference 1As, which Kharma says will be marginally better at low-level resolution. (Frankly, I'll believe this when I hear it.)


Sixth, these things take *considerable* break-in and must be used with appropriate amplification. Figure on at least a month of (relatively uncongenial) listening before the bass begins to open up and bloom (and make sure to snug down the Allen bolts that secure the drivers, if they've loosened in transport). Although the Kharmas are fairly sensitive (at 91 dB) and an easy 8-ohm load, they are picky about amplifiers. I've had best luck with Audio Research's terrific Reference 300s, the finest amp I've heard from this venerable company, and the Gamut's D-200, particularly when each is hooked up with Transparent's Reference Power Cord. (The Gamut amp is one of those once-or-twice-every-decade wonders – a \$5,000 solid-state amp that looks, in sharp contrast with the stunning, deco-like Kharmas, like something you'd find on the shelves of Best Buy, but sounds nearly as good as any amplifier I've heard, regardless of price. It will get a review of its own shortly, but for the time being understand that this thing is a veritable steal.)

Seventh, while the Reference 1Bs' top treble is as good as I've heard in an all-cone system, it still isn't, as noted, the match in air, color, and transient speed of something like the Maggie ribbons or the Sound Labs electrostats. Because Kharma's titanium dome blends so faultlessly with its midrange and woofer, I don't pine for a "better" driver (as I did with the Pipedreams), but be aware that there is superior treble to be had for considerably less money and at no cost in overall coherence.

Eighth, the Kharmas *must* be used on their dedicated stands, massive and very cool-looking numbers, which will add an extra \$5,500 to the Reference 1Bs' \$65,000 price tag. And they should be used with Kharma's own dedicated silver/gold speaker cable, which adds ten more grand to the total. For \$80,000 you can buy an awful lot of car – or house. But then we're beyond Upstairs with speakers in this price range. We're up on the Roof.

Finally, I know that some of you are wondering how I could possibly rave about a \$70,000 speaker – and now turn around and rave about another \$70,000 speaker. What am I supposed to tell you? I would hope you'd expect me to tell you the truth, at least as I hear it. The fact that I ended up marginally preferring the Reference 1Bs to the Pipedreams does not make the Pipedreams any less "great" or invalidate my take on their virtues. Nor

does it mean that you made a "mistake" if you bought the Pipedreams after reading my review or HP's. What it means is that, in my room, with my equipment, the Kharmas come just a bit closer to my idea of what real music sounds like. The salient point here is that it is *my idea*.

I used to talk about this notion when I wrote for *Fi* – that a stereo system isn't just a collection of highly esteemed parts, some kind of sonic connoisseurship in which you pick one from Column A and another from Column B because that's what audio reviewers (or test results) tell you to do. A stereo system is an idea, *your* idea, of what real music sounds like – it directly reflects your level of *active engagement* with the real thing and the recorded one alike. The Kharmas come closer to my idea of the sound absolute than anything else I've heard. The pity of it is, like most of the rest of you, I can't afford them. But, then, as Debbie Harry of Blondie once said, dreaming is free. 

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DISTRIBUTOR INFORMATION

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Price: \$64,599; stands, \$5,499

SPECS

System: 3-way (ported at the back)
Drivers: 13-inch poly-Kevlar sandwich woofer coated with proprietary coating; 7-inch ceramic driver; 1-inch titanium
Frequency Range: 30Hz-25kHz
Power: 250WRMS; 500W peak
Crossover: 250Hz/2000Hz
Efficiency: 91dB (1W/1m/dB)
Impedance: 8 ohms
Dimensions: 46.2"H x 21.6"D x 15.7"W
Weight: 1,686 pounds including packaging/pair

ASSOCIATED EQUIPMENT

Clearaudio Reference turntable/Souther tonearm
Clearaudio Gold-Coil Insider and "Discovery" cartridges
Burmester 979/980 transport/DAC
Audio Research Reference 2 linestage, Reference Phono preamps
Audio Research Reference 300, Gamut D-200 amplifiers
Purist Audio "Dominus" interconnect
Kharma speaker cable
Transparent Reference power cord
RPG Diffusor System computer-optimized room treatment
ASC tube traps
Bright Star sandboxes
Townshend Seismic Sinks
Solid Tech "Cradle of Silence" and "Feet of Silence" cable and component support system
Clearaudio Magix2 magnetic isolating feet
Clearaudio Exact stylus gauge
Shun Mook M/pingo discs
ASC tube traps