Reference 3A Taksim Loudspeaker

Right at the Point of Diminishing Returns

Andrew Quint

Experienced audiophiles know this dictum well: When it comes to the design and pricing of high-end equipment, there's a point of diminishing returns. Exactly where that point is depends upon multiple factors, including the goals of the manufacturer and, especially, the sonic priorities of the purchaser. Many of us are willing to pay dearly to move the dial only a little bit—or at least what seems like "a little bit" to someone else. But identifying products that live right at that inflection point of the cost-to-perceived-value ratio is immensely satisfying—not to mention an important mission of this magazine. Reference 3A's latest loudspeaker model, the Taksim, priced at $6990, is such a product. I used Taksim as my one and only speaker for a solid month, and felt no small amount of regret when it was loaded onto the FedEx truck for its return trip to Waterloo, Ontario.

Awaiting their return north of the border was Tash Goka who, in one way or another, has had connections to Reference 3A going back decades. As a student, his first speakers were 3As, and when he was employed as a part-time retail audio salesman, the stores he worked in always seemed to carry the brand. After Goka moved from England to Canada, he became the 3A's North American distributor and finally purchased the company from its founder, Daniel Dehay, and moved production from Europe to Ontario.

Dehay, a Frenchman, established 3A, which stands for "Applied Acoustic Arts." The "Reference" name came later—in the late 1950s. He was an innovative engineer who developed (among other things) the concept of loudspeaker driver time-alignment. Reference 3A manufactures all its drivers in-house, and Dehay was responsible for the most consistent design feature of the marque's speakers over the years, namely the full-range driver used in the company's products and the manner in which it's implemented—that is, with no intervening crossover between an amplifier and the sound-producing parts of the transducer. The driver is unusual in its "hyperexponential" shape. Goka explained that "what makes it full-range without any nasty dips, peaks, and resonances is the transfer function of the voice coil." Unlike other cone designs, there's no break point where the voice coil meets the cone. Instead, there's a smooth coupling of the motor to the cone that goes a long way towards eliminating upper-frequency resonances in the driver. In addition, instead of a typical stationary phase plug, Reference 3A builds an "acoustic lens" into the middle of the driver. This device is licensed from Surreal Acoustic, a Texas-based company; it moves with the driver to change the aerodynamic function of the cone, which otherwise can create a high-frequency, noise-generating "vortex." The dispersion characteristics and linearity of the driver are also improved.

The new Taksim model—the term "Taksim" refers to a form of musical improvisation heard in Middle Eastern classical music, as well as a major square in Istanbul with recent political connotations—employs one of these drivers in an enclosure measuring 10" x 46" x 17" and weighing 88 pounds. It's a two-way loudspeaker system with a beryllium tweeter mounted immediately above the main driver. As noted previously, there is no crossover, just a single non-inductive capacitor to protect the tweeter from low frequencies and high power. (Earlier Reference 3A speakers utilized a Murata supertweeter, but that manufacturer left the audio business. Goka says he's much happier with the performance parameters of the new tweeter.) The main driver has an "upper-frequency shelf" that effectively begins roll-off in the neighborhood of 1.8 to 2kHz, the same range where the low-frequency filtering for the beryllium tweeter occurs. Inside the enclosure, which is fabricated from HDF, is a spine brace that extends from top to bottom to provide mechanical grounding of the main driver. Eleven perforated horizontal crossbraces further stiffen the enclosure. The speaker's exterior panels vary slightly in thickness to improve resonant behavior. There's only minimal filling material in the box, though a "quasi-compression chamber" is created for the main driver. The backwave is effectively blocked and very little in the way of high-frequency information is audible from the rear-firing port. All the internal wiring in the speaker, as well as the jumper connecting the two sets of binding posts, is made of single-crystal (OCC), highly purified copper. All these wires, as well as a number of parts used in the drivers, have been cryogenically treated.

The entire cabinet is covered with grey suede Nextel. Although this finish does reduce enclosure vibration, it's largely a choice made for the sake of appearance. Nextel is not reflective (it's used to reduce glare on the dashboards of fighter jets), and Goka feels, with some justification, that this makes a largish speaker less visually imposing. In looks, the Taksims are not going to win any beauty contests, and their appeal to a non-audiophile domestic partner will likely be further diminished by the recommendation that they be played without their grilles in place. That's OK. After 35 years of marital bliss, the number of loudspeakers that my wife felt actually *improved* our home décor remains zero.

A three-page owner's guide provides useful instructions for setup. Reference 3A recommends, ideally, a minimum distance of three meters from each speaker to the listener and at least 20" from the rear wall, and somewhat further from the sidewall. In my smallish, 15' x 15' room, the Taksims were no closer than 26" from the wall behind them, and I sat 9' 3" from the front plane of the speakers. The Taksims were 9' apart, acoustic center to acoustic center, so an equilateral triangle was approximated by the location of the speakers and the sweet spot. Unlike earlier Reference 3A products, the Taksims are designed to be toed in toward the listening position. The tweeter resides in a recess carved into the front baffle that ensures time alignment with the main driver and also controls dispersion. The Taksims have metal stabilizers attached to each corner that expand the speaker's footprint slightly. Four adjustable brass spikes screw into the stabilizers. For setup relatively close to the listening position, Reference 3A suggests adjusting the spikes so that the rear of the speaker is a few degrees higher than the front, which I did.

The Taksims have a measured sensitivity of 92dB; they are an exceptionally easy load, which makes Reference 3A products a popular choice with the single-ended-triode crowd. Mostly, I used my usual Pass 60.8 monoblocks, 60 Class A watts per channel, which was plenty. I also drove the speakers with a 225Wpc Parasound HCA-2200 II. (This was beyond the recommended maximum input power specification of 150Wpc, but as Goka had mentioned specifically using this amp in testing, I felt safe in trying it out. Nothing untoward occurred.) As for cabling, the manufacturer suggests bi-wiring, while noting, sensibly, that "better-quality single wire is always better than mediocre bi-wire cables." It should be reported, in case you are considering this speaker and get wind of it, that Reference 3A has a historical bias against networked cables. Tash Goka admits, however, that he hasn't heard a networked cable used with one of his speakers in years and encouraged me to try. Although I got good results with a bi-wire pair of the ridiculously overachieving AntiCable Performance Series wires (which cost less than $200 per pair), they were no match for my usual Generation 5 Transparent Ultra speaker cables that are, of course, a networked design. (I really don't think owners of MIT and Transparent products need lose any sleep over the Taksim.)

There is one last technological feature of the Taksim loudspeakers to mention: the "Magnetic Conduction Signal Wave Guides" that are inside the speakers' binding post input connectors. The owner's guide explains that "strong magnetism keeps the electrical signal flow aligned and random pathways for electrons, within and along the conductor, are minimized." I have no way at all to judge if this premise is reasonable—the supporting materials that Tash Goka sent along to elucidate the technology rapidly outstripped the two semesters of college physics I endured many years ago. After careful listening over months, Goka reports hearing better dynamics, spaciousness, and detail—which I guess is good enough for me.

One of the most critical components in my audio system is the software for the Anthem Room Correction DSP algorithm that's put to use whenever I introduce something new to my listening environment—speakers, cables, amplifiers, a change in the position of the sofa, anything. Measurements are taken with a calibrated microphone from eight room locations; the numbers are crunched and the eq settings uploaded from a laptop to my Anthem D2v processor. It's quite easy to turn the room correction on and off while listening, but I can no more imagine assessing a speaker without it than I could a reviewer who has "tuned" his room by physical means removing every trap, diffuser, and absorber he painstakingly placed to optimize his acoustic milieu. With every loudspeaker I've measured in my room, there have been significant dips observed both in the midbass and around 15kHz, and those anomalies were present when the Taksims were calibrated. I ran room correction full-range for my critical listening all the way out to 20kHz.

I listened with pleasure to all kinds of music through the Taksims and never found myself gravitating to one genre or another because of some perceived shortcoming of the loudspeaker. In spatiality (as heard in recordings possessing this sort of information), the Taksims are soundstaging and imaging champions. The stage is wide and continuous from side to side and has good depth. Imaging is highly specific, and these speakers (predictably) love small jazz groups and classical chamber music. With Wayne Horvitz's *Sweeter Than the Day* SACD, on which pianist Horvitz collaborates with guitar, acoustic bass, and drums in ten subtly adventurous jazz compositions, the four instruments are as present and palpably dimensional as I've heard with two-channel audio. Similarly, the Emerson String Quartet's performance of Mendelssohn's Octet for Strings delivers a believable representation of eight specifically positioned musicians performing together in real time—even though (in an engineering *tour de*

SPECS & PRICING

Type: Two-way, ported floorstanding loudspeaker
Driver complement: 1" beryllium tweeter, 8" hyperexponential woven-carbon-fiber mid/bass driver
Frequency response: 31Hz-40kHz
Sensitivity: 92dB
Impedance: 8 ohms
Maximum recommended amplifier power: 150 watts
Dimensions: 10" x 46" x 17"
Weight: 88 lbs.
Price: $6990

DIVERGENT TECHNOLOGIES INC.
480 Bridge Street West
Waterloo, ON
Canada N2K 1L4
(519) 749-1565
reference3a.com

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force) the four players of the ESQ were recorded twice. Studio techniques with carefully produced 1970s rock can be savored; for example, the manner in which Rick Marotta's drums were panned on "The Caves of Altamira" from Steely Dan's *The Royal Scam*. The Taksims' rock-solid imaging demonstrates the potential for listeners to more fully enjoy monaural "historic" recordings. I listened with amazement to the two-CD set (on the Pristine Audio label) that documents Arturo Toscanini's celebrated all-Wagner program broadcast from Carnegie Hall on February 22, 1941. Through the Taksims, the soundstage had remarkable width and depth; solo instruments and the singers (Helen Traubel and Lauritz Melchior) were consistently localized in an intelligible musical context.

A capacity to reveal detail is another Taksim strength. Sometimes, that detail is of the "I never heard *that* before" variety—a warbling organ in "Line 'Em Up" from James Taylor's *Hourglass*, or the way the drummer on the above-mentioned Steely Dan song frequently employs his kickdrum off the beat to contribute to the impression that the song is at once squarely metric *and* slyly syncopated. On other occasions, small instruments manage to make their presence known over an orchestra playing full-out; for example, the diminutive triangle in the third movement of Antal Dorati's Mercury recording of *Capriccio espagnol*. Tonal neutrality was impressive. Among the best recordings I own to investigate this sonic variable is a compact disc accompanying *The Miracle Makers*, a gorgeous 13" x 13" hardcover book published by the Chicago-based, rare violin merchant Bein & Fushi. The book features full-page photographs of 30 famous violins, 15 from the Stradivarius workshop and 15 Guarneri del Gesùs. On the CD, Elmar Oliveira plays each of them, unaccompanied, in an excerpt from the Sibelius Violin Concerto. The Reference 3A speakers faithfully distinguish the more elegant, sweeter, silkier sound of the Stradivari from the darker, earthier, more powerful sonority of the Guarneri violins.

The top octaves of the Taksims are open and airy especially, in my case, with room correction. One will learn that from just the two glockenspiel notes that begin Shostakovich's Symphony No. 15 on an RCO Live SACD conducted by Bernard Haitink. In bass performance, room factors again must be considered. As above, every speaker I've had in my room has manifested a midbass dip of 5 to 10dB. With the Taksims, the ARC software measured a drop of 14 to 15dB centered in the 100 to 200Hz region, the largest I've ever encountered in my room. With the Anthem processor's room eq turned off, not only was the bass light in quantity but there was also a bleached-out quality to frequencies considerably higher up. Engaging ARC fixed the second issue entirely. I'm guessing that the Taksims may actually be a bit reticent in the midbass (in any room) but not enough to compromise orchestral weight or one's enjoyment of well-recorded rock and blues. The *amount* of low bass—that is, information 40Hz and below—is pretty substantial and one need not write off organ recordings by any account. I was impressed by the massive organ chords beginning the finale of Saint-Saëns' Symphony No. 3 (played by Olivier Latry and the Philadelphia Orchestra on an Ondine SACD), as well as the long pedal point during the *Lebhaft* section of the first movement of Paul Hindemith's Organ Sonata No. 1 (Peter Hurford on an Argo recording). Likewise, the Taksims generate a quite respectable quantity of synthesizer bass on the title track of Jennifer Warnes' *The Hunter*. The issue is less bass extension than bass dynamics. It's "slam" that's missing from the Warnes cut and the phenomenally well-reproduced five-string electric bass on Kevyn Lettau's *Songs of the Police*, a JVC/Master Music XRCD.

Another aspect of "power music" where a loudspeaker system with just two 8" drivers between them will inevitably fall short is *scale*. During my time with the Taksims, one of my Philadelphia Orchestra subscription concerts came up; the closing work on the program was Holst's *The Planets*. Since the Orchestra moved from the Academy of Music to the Kimmel Center in 2001, our seats have been tenth-row center, and the sense of a *lot* of air being moved in a large space was almost overwhelming, especially during "Mars" and "Uranus," and whenever the pipe organ joined in. Three days after the concert, I pulled out some favorite recordings of the work, all excellent sonically, to listen to with the Taksims—Mehta/LA, Previn/LSO, Previn/RPO, and Gardiner/Philharmonia. With all, up to an *ff* dynamic level, the Taksims were pretty convincing. But *The Planets* has passages marked *ffff* in the score—Holst "turns it up to 11," so to speak. With these, the speakers could only hint at my experience in the hall 72 hours earlier. I did try the Parasound amplifier driving the Taksims, and *The Planets* was a little more commanding at the biggest moments, if less refined. I've heard plenty of big, complex loudspeaker systems that reproduce large-scale music considerably better than the Taksims (better, as well, than my own current reference, Wilson Duette Series 2s plus a WATCH Dog subwoofer.) But the distance, if you will, between the Taksims and those mega-buck products is no greater than that from the mega-buck products to the real thing. That's just the way it is.

So, the Reference 3A Taksim does everything at least effectively and some things nearly as effectively as any product I've heard, at any price. I won't pretend that it's only bass performance and scale where the Taksims are bested—and do note that Reference 3A has two models that are bigger than this one—but, especially when it comes to matters of spatiality, tonality, detail, and that difficult-to-define metric of *musicality*, we are right up against that proverbial point of diminishing returns. Beyond that point, the hill gets pretty steep. I'd say the Taksims give me 85 percent of what I'm looking for in a loudspeaker system, given my musical tastes and listening environment. It's a superb speaker and an exceptional value. tas