

THOMAS J. NORTON

Thiel Audio TT1

LOUDSPEAKER

Thiel Audio's CS3.7 loudspeaker was launched, to much fanfare, in 2006. Like most of Jim Thiel's designs, the CS3.7 received universal praise, but it was Jim's swan song. No one could predict that he would pass away in 2009, undoubtedly leaving on his desk many future designs.

But more was in the cards for—and from—Thiel Audio. The company was sold in 2012 to a private equity company based in Nashville; soon thereafter Thiel Audio moved to that city from Lexington, Kentucky, where Jim had co-founded it in 1977. Thiel's longtime president, Kathy Gornik, left, and for a while the company's directors came and went as if through a revolving door.¹

It appears that things have at last begun to settle down in Nashville. True, all of Jim Thiel's designs have now been discontinued, surely to the consternation of his dedicated fan base of dealers and customers. But a new Thiel Audio has emerged, with a new range of speakers.

Three to get ready

Thiel's new model line has been dubbed the 3rd Avenue Collection, a reference to the address of the company's new music-performance and -streaming venue, Aurora. The range consists of three models: the TM3 minimonitor (\$4000/pair without stands); the TC1 center-channel speaker (\$3000 each without stand); and the subject of this review, the floorstanding TT1 (\$7000/pair).

The speakers that comprise Thiel's 3rd Avenue Collection are assembled in Nashville, though the cabinets are made in Asia and the drivers in Scandinavia, the latter very likely by SEAS, in Norway, or Scan-Speak, in Denmark. (I suspect SEAS.) The TT1 has a 1" titanium-



¹ From the time of Thiel Audio's sale until early 2014, Bill Thomas was its CEO. He was replaced by John Wittman, who held the position until early 2015. Thiel Audio's current CEO, J. Thomas Malatesta, joined the company in March of this year, after a long stint at Procter & Gamble.—**Art Dudley**

SPECIFICATIONS

Description Three-way, four-driver, floorstanding loudspeaker with rear-ported enclosure. Drive units: 1" titanium-dome tweeter, 4.5" glass-fiber-cone midrange, two 6" aluminum-cone woofers. Crossover frequencies: 400Hz, 1.9kHz. Frequency

range: 39Hz–30kHz. Sensitivity: 87dB/2.83V/m (anechoic), 91dB/2.83V/m (pair in-room). Impedance: 4 ohms nominal, 3.67 ohms minimum. Recommended amplification: 20–250W. **Dimensions** 40.1" (1030mm) H by 10.2" (260mm) W by

10" (255mm) D. Weight: 58.1 lbs (26.4kg).

Finishes Gloss Black, Gloss White, Rosewood, Espresso Walnut.

Serial numbers of units reviewed 10207, 10208.

Price \$7000/pair. Approximate number of dealers:

Undisclosed. Warranty: 10 years.

Manufacturer Thiel Audio Products Co., 566 Mainstream Drive, Suite 500, Nashville, TN 37228. Tel: (615) 913-8532. Web: www.thielaudio.com.

dome tweeter, a 4.25" midrange driver with glass-fiber cone, and two 6.5" woofers with aluminum cones. The woofers are crossed over to the midrange at 400Hz, the midrange to the tweeter at 1.9kHz.

The tweeter is positioned in a shallow waveguide. A waveguide—actually a very shallow horn, with the diaphragm (dome) at its throat—can offer three benefits. First and probably most important, a waveguide can reduce the tweeter's dispersion at the bottom end of its operating bandwidth, to better match the inherently narrower dispersion at the upper end of the midrange driver's bandwidth (or the mid/woofer's, in a two-way design). Second, it increases the tweeter's efficiency in its bottommost octaves. When this increase in sensitivity is compensated for in the crossover, as it must be, less power is passed on to the tweeter, making it less likely to overload at the bottom of its response range. Finally, a waveguide can increase the tweeter's top-end dispersion, though it may also have no effect in this regard, depending on the waveguide's design: I've seen measurements from various drivers that show both possibilities.

On the back of the TT1 are two ports and two pairs of binding posts, the latter for biwiring or biamping. Jumper straps are included to connect these posts for single-wire runs, which was how I used them. The TT1's rounded back—it has no rear panel per se—more or less demands that the speaker terminals be placed in a vertical column. Such an arrangement requires that the speaker-cable connections be carefully tightened, particularly if the cables are terminated with spades, with enough slack left that the cables exert minimal pull on the posts. Should one of the top spades come loose, it could fall, strike a post below it, cause a short circuit, and damage an amplifier. (My cables have locking banana plugs at the speaker end.)

The TT1's cabinet is 40.1" tall and 10.2" wide at the front; from there, in the currently popular style, it curves inward toward the rear, like a ship's stern. Such a rounded shape adds considerably to a cabinet's rigidity, all else being equal.

The tweeter is positioned in a shallow waveguide.

As I've noted before, while curved cabinets are said to also offer a reduction in internal standing waves, I don't accept that claim.

The frequency of a standing wave is related to the distance between two parallel surfaces. In anything

short of the very largest speakers, that frequency is high enough to be absorbed by properly arranged internal damping, even in the cabinet's largest dimension (top to bottom).

The depth of the TT1's cabinet also tapers a bit, from the deeper bottom to the slightly shallower top, with the slope at the back; the front baffle is plumb. The downside of a tapered cabinet—and Thiel's designs are hardly alone in this—is that it has considerably less internal volume than a nontapered enclosure of the same footprint. The TT1's two woofers cover the same range, but each has its own isolated chamber and rear-firing port; the midrange drive-unit is enclosed in its own isolated chamber. While weighing a relatively modest 58.1 lbs, the TT1 sailed through the basic knuckle-rap test from top to bottom.

The TT1's cabinet does present an elegant appearance, and its modest size won't dominate a room. It's available in four finishes: Gloss Black, Gloss White, matte Espresso Walnut, and the gorgeous matte Rosewood of the review samples. In other words, its Spousal Acceptance Factor is outstanding.

Grilles are included, held in place by concealed magnets, but I performed all of my listening without them. Although spikes and hard rubber feet are provided, I used neither.

The New Thiel Order

A significant departure from Jim Thiel's philosophy is the use in the new Thiels of higher-order crossover networks. Jim was a passionate advocate of first-order networks and their gradual rolloff past the drive-units' specified crossover frequencies. He felt that the more benign time-domain

MEASUREMENTS

I used DRA Labs' MLSSA system and a calibrated DPA 4006 microphone to measure the Thiel TT1's frequency response in the farfield; and, for the nearfield frequency responses, an Earthworks QTC-40, which has a 1/4" capsule and thus doesn't present a significant obstacle to the sound.

My estimate of the Thiel's voltage sensitivity was 88dB(B)/2.83V/m, confirming the specified figure. The speaker's electrical impedance magnitude and phase are shown in fig.1. Like earlier Thiel models, the TT1 is a fairly demanding load for the partnering amplifier to drive, with minimum impedance magnitudes of 3.2 ohms at 140Hz and 3.1 ohms at 1.4kHz (solid trace). These values are a little lower than the specified minimum of 3.7 ohms, though the electrical phase

angle (dashed trace) remains low over much of the audioband. The wrinkle in both traces at 25kHz is presumably due to the first breakup mode of the tweeter's titanium dome, but the traces are otherwise free from the small discontinuities that would suggest the presence of enclosure panel resonances. Nevertheless, when

I investigated the cabinet's vibrational behavior with a plastic-tape accelerometer, I did find resonances at 309 and 344Hz that were most pronounced on the curved sidewall level with the uppermost woofer (fig.2). Neither is very high in level, however, and I doubt they will have audible effects. Thomas J. Norton did find the speaker dead to

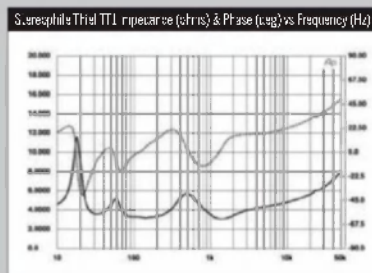


Fig.1 Thiel TT1, electrical impedance (solid) and phase (dashed) (5 ohms/vertical div.).

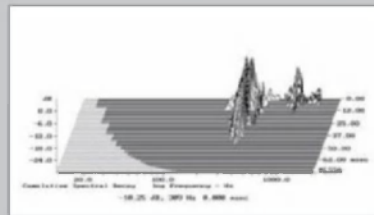


Fig.2 Thiel TT1, cumulative spectral-decay plot calculated from output of accelerometer fastened to center of side panel level with upper woofer (MLS driving voltage to speaker, 7.55V; measurement bandwidth, 2kHz).

characteristics such networks offer were important to good fidelity.

Other speaker designers continue to adhere to Jim Thiel's philosophy, though they're in the minority: engineering such slow-slope designs is hard to do. The flatness of a driver's frequency response above its crossover point is critical in a first-order network, which doesn't roll off the driver's output fast enough to kill the response peaks and dips that might lay beyond it. Such peaks are common, particularly with cone materials (such as metal) that offer benefits some designers value. Most designers of first-order crossovers therefore do as Jim Thiel did and use custom drivers, which can be expensive and frustrating to perfect. This effort becomes more onerous if the drivers aren't made in-house—and in a small company, they rarely are. Also, designing a driver is a skill very different from designing a finished speaker system around specific drivers. It can be time-consuming for a system designer in the US to communicate with a



driver designer in, say, Norway to get the desired performance, as many prototypes will likely have to be tried and rejected before the right one is found.

Advocates of low-order crossovers also point to their simplicity, but such crossovers are often incredibly complex, largely because they must correct for those response irregularities while still retaining the valued phase relationships. At a Consumer Electronics Show some years back, Jim Thiel showed me the crossover for one of his then-flagship speakers. It consisted of dozens of parts secured to a board at least 24" long.

Then was then, and now is now. The new Thiels, including the TT1, employ higher-order networks. One assumes that fans of classic Thiel designs are ready to break out the torches and pitchforks over the

The TT1 makes its case without apologies.

measurements, continued

the traditional knuckle-rap test.

In fig.3, the green trace above 350Hz shows the TT1's midrange and tweeter output in the farfield, and the blue trace above 350Hz the output of the woofers. Below 350Hz, the blue and green traces show the responses measured in the nearfield, as does the red trace, which shows the summed response of the ports on the rear panel. The acoustic crossover appears to be just below the specified 400Hz, and the woofers roll off smoothly above that frequency with that appears to be close to an 18dB/octave slope, suppressing any breakup modes in the

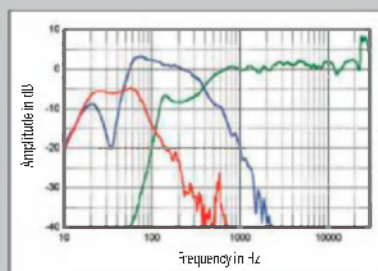


Fig.3 Thiel TT1, acoustic crossover on tweeter axis, corrected for microphone response, with summed nearfield responses of ports (red), woofers (blue), and midrange unit (green), all plotted in the ratios of their radiating diameters.

aluminum cones. What would otherwise be a smooth high-pass rolloff for the midrange unit (green trace) is disturbed by a small peak at about 150Hz. The ports and the woofers behaved identically, and the well-defined notch at 34Hz in the woofers' output (blue trace) suggests that this is the ports' tuning frequency. However, the ports' output (red trace) covers a wider bandpass than usual, not rolling off until above 65Hz. Though both ports had a peak in their output at 600Hz, this is well down in level and will not affect the TT1's sound quality.

Fig.4 shows the complex sum of the

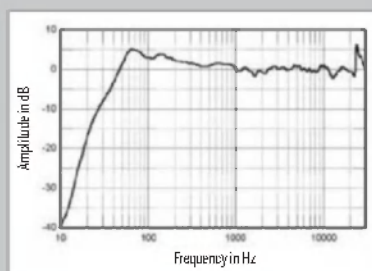


Fig.4 Thiel TT1, anechoic response on tweeter axis at 50°, averaged across 30° horizontal window and corrected for microphone response, with complex sum of nearfield responses plotted below 300Hz.

TT1's port, woofer, and midrange outputs, spliced at 300Hz to the farfield response and averaged across a 30° horizontal window centered on the tweeter axis. The gentle rise in the low-frequency response is almost entirely due to the nearfield measurement technique, though the unusual tuning of the ports means that the bass rolloff doesn't extend quite as low as implied by the 34Hz port-tuning frequency. TJN did comment on the TT1's lack of low bass. Higher in frequency, the farfield response is extraordinarily flat, meeting ± 1 dB limits from 400Hz to >10 kHz. Wow!

The Thiel's lateral dispersion (fig.5) is also textbook in nature: The contour

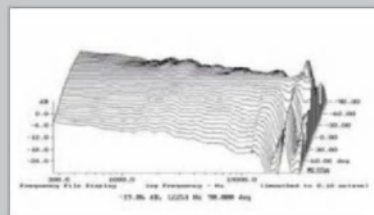


Fig.5 Thiel TT1, lateral response family at 50°, normalized to response on tweeter axis, from back to front: differences in response 90-5° off axis, reference response, differences in response 5-90° off axis.

changes from Jim's design concepts, but you can't run a going concern on nostalgia, and the few designers who remain passionate advocates of first-order networks are employed elsewhere. And it's certainly possible to produce a fine speaker using higher-order topologies—just ask Paul Barton (PSB), Andrew Jones (Elac, Pioneer, TAD), Jeff Joseph (Joseph Audio), Kevin Voecks (JBL, Revel), Dave Wilson (Wilson Audio Specialties), and dozens of others, famous and otherwise.

All of the new Thiels were designed by Mark Mason, who formerly worked under Paul Barton at PSB. Mason has since left Thiel, but his designs remain in production.

Setup

While my listening room proper is of relatively modest size—roughly 21' long by 16' wide, with a non-flat ceiling averaging a height of 9'—the adjoining spaces to which this area is essentially open total at least 8000 cubic feet. I set up the Thiel TT1s 4–5' from one short wall, about 10' apart and slightly more than 10' from my listening seat, which was 5' from the room's back wall. The left TT1 was about 5' from its sidewall, and the right TT1's outer edge was adjacent to the open space's kitchen and breakfast area. Both were angled in to point directly at the primary listening position. The TT1's tweeter ended up close to my ear height when seated, so no back or forward tilt was used.

A large, thick, unpadded rug covers most of the hardwood floor in the listening space, and the wall behind my chair is covered in shelves filled with books and discs of various types. I've installed acoustic panels and additional rugs in the adjoining areas to further tame the acoustic.

While the listening space, so treated—an ongoing project!—is far from dead, music played there has, for me, a

pleasingly spacious quality, without obvious reverb or flutter echo. Bass support is good, if less dramatic than in my prior, fully enclosed 25' by 15.5' by 8' room with its lath-and-plaster walls. But it's also less even than I'd ideally prefer for two-channel sound unassisted by a subwoofer and/or room equalization. (With these speakers and others—welcome to the real world!)

Except where noted, I drove the Thiel TT1s full-range with two-channel sources, using an Integra DTC-9.8 7.1-channel preamplifier-processor primarily as a 2.0-channel preamp in its Direct mode. While a Jeff Rowland Design Group Consummate analog preamplifier was also available, the slightly more open top and tighter bass of the newer Integra (both models were discontinued long ago) better suits the system and room as a whole, and that's what I used for most of my time with the Thiels. A new high-end pre-pro is due to be installed soon, but I stayed with the Integra for this review because I'm fully familiar with its setup, operation, and sound.

The power amp was a Proceed AMP5. I used only two of its five channels of amplification, each of which is driven by a completely separate power supply and transformer. The Proceed originated, in 1998, from the House of Mark Levinson in its early years under Harman International—I like to think of it as a Levinson Lite. While its specified output of 125Wpc into 8 ohms is modest by today's standards (the AMP5 was discontinued in 2003), it easily enough drove the Thiels as loudly as I desired—and the music required—in my room. The source was a Marantz UD7007 Smart 3D universal Blu-ray player, connected to the Integra with a coaxial digital cable. I mostly listened to CDs, but for the occasional two-channel SACD I used the Rowland preamp connected to the UD7007's analog output (the Integra's main weakness

measurements, continued

lines are evenly spaced; the rolloff with increasing frequency is apparently gentle and smooth; and there are no off-axis flares or suckouts up to the cursor position at 12.25kHz. As TJN found, this behavior correlates with stable, well-defined stereo imaging. In the vertical plane (fig.6), the TT1's tonal balance is maintained over quite a wide window above and below the tweeter axis, which is 36" from the floor.

In the time domain, the Thiel's step

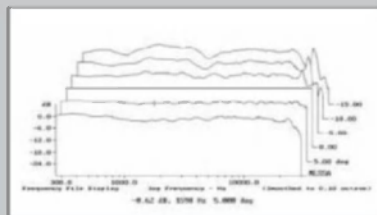


Fig.6 Thiel TT1, vertical response family at 50", normalized to response on tweeter axis, from back to front: differences in response 15–5° above axis, reference response, differences in response 5–10° below axis.

response on the tweeter axis (fig.7) reveals that the tweeter and midrange unit are connected in inverted acoustic polarity, the woofers in positive polarity. While the TT1's output is not time-coincident, which differentiates it from the late Jim Thiel's designs, it is time-coherent, in that the decay of each drive-unit's step smoothly blends into the start of the step of the unit next lower in frequency. This confirms the optimally realized, high-order crossover design. Finally, the TT1's

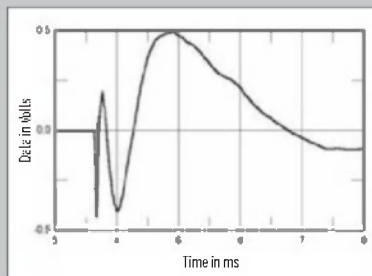


Fig.7 Thiel TT1, step response on tweeter axis at 50" (5ms time window, 30kHz bandwidth).

cumulative spectral-decay plot on the tweeter axis (fig.8) reveals a superbly clean initial decay.

I was impressed by the Thiel TT1's measured performance. In most ways it resembles what I would expect from a speaker designed by Mark Mason, an engineer who worked with Paul Barton at PSB. It is a shame that Mason is no longer with Thiel, but his legacy remains in the sound and the measured performance of this excellent speaker.

—John Atkinson

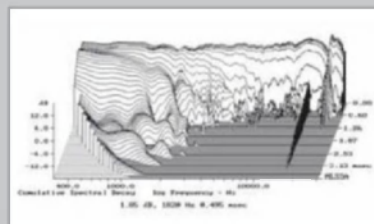


Fig.8 Thiel TT1, cumulative spectral-decay plot on tweeter axis at 50" (0.15ms risetime).

is its analog sound).

Before doing *any* listening, serious or otherwise, I broke in the Thiel TT1s for about 100 hours with pink noise.

Listening

My current area, large overall and slightly livelier than the norm, doesn't allow quite as precise a soundstage as did my previous space, which was smaller, more enclosed, and heavily damped. But despite that and some of my above comments about design philosophy, the Thiel TT1s produced wide, deep, and convincingly detailed images.

For example, the sound of the chorus in John Rutter's *Requiem*, in the recording by Timothy Seelig and the Turtle Creek Chorale (CD, Reference RR-57CD), came off exceptionally well, the group realistically spread out between the speakers (but not *beyond* them—a quality I feel is more often an artifact of the speakers and room than something in a recording just waiting to be reproduced). In some passages, the Thiels also resolved individual voices within the chorus. This recording can also provide a compelling sense of depth, and at this the TT1s were equally impressive.

Arne Domnerus and Gustaf Sjökvist's *Antiphone Blues* (CD, Proprius PRCD 7744) is a superb recording of saxophone and pipe organ in the highly ambient Spanga Church, a 12th-century sanctuary in Tensta, Sweden. The odd pairing of instruments works in a program that encompasses everything from hymns, blues, spirituals, and jazz to Schumann and Vivaldi. The Thiels did an outstanding job of fully capturing the church's deep, rich acoustic. While Domnerus's alto saxophone does sound unrealistically huge, that's certainly down to the mix and the acoustic. The only thing the Thiels didn't fully capture was the weight in the lowest reaches of the organ (more on this later)—but they did a good job of concealing this deficiency.

On their *I Couldn't Hear Nobody Pray* (CD, Warner Bros. 46698-2), the five (yes, five) singers of the Fairfield Four were spread out convincingly from left to right, though image spread was a bit enlarged and less precise in the songs in which the singers are most closely miked. But again, that appears to be a recording choice. And if those closely recorded solo voices (mostly bass-baritone, particularly on "These Bones") were a bit too prominent, the Thiels properly conveyed each singer's unique style and vocal texture. Overall, on this and other good recordings, I had no reservations about the TT1's ability to put forth natural-sounding reproductions of male and female voices without coloration.

The TT1 also produced a wealth of unexaggerated detail. Dean Peer's *Travelogue* (CD, Fahrenheit FR2451) sounded fast and crisp, but with a natural overall balance. Everything here—from the transients of Dean's electric bass *and* its rich warmth, the percussion, and the "Hello, pretty girl" from a "parrot" that begins the final track—was convincingly rendered.

One thing about the TT1 that struck me was that it didn't seem to reproduce all recordings with the same sonic signature, as do some speakers—and rooms. Fortunately, the better ones don't; they do their best to re-create what's on the recordings. And while no speakers do this perfectly, the closer they come, the better. I can't think of many words to

ASSOCIATED EQUIPMENT

Digital Sources Marantz UD7007 Smart 3D universal BD player.

Preamplification Integra DTC-9.8 preamplifier-processor, Jeff Rowland Design Group Consummate preamplifier.

Power Amplifier Proceed AMP5 5.0-channel.

Loudspeakers Monitor Audio Silver 10.

Cables Interconnect: Kimber Kable AGDL digital (sources to Integra) & analog (to Rowland Consummate), Cardas Hexlink analog (preamps to power amp). Speaker: Monitor M1.5. AC: Manufacturers' own.—Thomas J. Norton

ascribe a "characteristic sound" to the TT1: *bright, dull, nasal, boxy, bloated, overly dynamic, showy*—none fit. I have to limit myself to *smooth yet detailed, uncolored* (particularly with well-recorded voices), and *tight, somewhat lean bass*.

It was the TT1's bass that was my main concern. Not its tightness—audiophiles pine for that—but the leanness. Remember, no reviewer can tell you exactly what a speaker will sound like in *your* room, only what it sounds like in his or hers—and my listening area is very large. But all of us have to deal with room modes. The upside of that is that, in my space, the inevitable modes weren't as intrusive with the Thiels as they can be with speakers having a more extended bottom end. The TT1's true frequency response might be inherently flat and fairly extended—I'll await John Atkinson's measurements to settle this—but in my room, bass boom was never a problem with these speakers.

Some listeners prefer that sort of well-defined, unaggressive bass. Bass was never obviously lacking in my room, but I could hear when it wasn't quite up to the best I've enjoyed here. Perhaps this was a result of the TT1's small internal volume—or of a deliberate design choice to minimize the inevitable negative impact of most listening-room modes.

This won't trouble all of you. For those it does, and for those whose large rooms offer no cure, there's always the option of adding a subwoofer (or, better yet, two). I did try the TT1s with Revel's long-discontinued Performa B15 subwoofer. For this I used the B15's three channels of built-in parametric equalization, but none of the EQ offered by the Integra preamp-processor (graphic EQ, tone controls, Audyssey MultEQ XT) except for its high/low-pass filter, here set to 100Hz. Indeed, one of the reasons I used the Integra was its ability to switch between its Direct (subwoofer and all extraneous circuitry switched off) and Stereo (subwoofer and high/low-pass filter in circuit) modes with the push of a single button on the remote. This made possible direct A/B comparisons from the listening seat.

Without going into extensive detail (subwoofered TT1s are not the subject of this review): A good subwoofer did improve the TT1's top-to-bottom balance. But with most music it was hard to hear any differences in the bass when I switched in the sub—which was as it should be. There was a subtle and sometimes meaningful loss of top-end air with the subwoofer and the pre-pro's filter engaged. One work-around for this when listening to music would be to drive the Thiels full-range and use a sub's internal low-pass filter. But that approach can make it trickier in some situations to optimally blend a subwoofer with the main channels.

The Thiels did an outstanding job of capturing the church's deep, rich acoustic.

Comparisons

My comparisons were limited to the only current speaker model I had on hand: Monitor Audio's Silver 10.² The Monitor Silver 10 offers a bit more air on top than the Thiel TT1—perhaps this was a simple matter of a slightly elevated mid- and top-treble response. The Thiel was a bit more forward in the lower treble and midrange, but these differences, too, were subtle. The two pairs of speakers produced soundstages equally impressive in width and depth, though the Monitor's extra bit of top-end air subtly enhanced depth with low-level music, such as the quieter passages in Rutter's *Requiem*.

An obvious difference between the two designs was at the bottom end. While the TT1 underperformed a bit down low, the Silver 10 was occasionally a little *too* eager to chomp into a deep-bass riff; I didn't dislike this; with a good recording of pipe organ or drums, and without a sub, I often heard more at the bottom end from the Monitors than from the Thiels. The Silver 10s captured more of the organ underpinning the chorus in at least a few passages of the Rutter *Requiem* and some of his other works on that disc. The Monitors were also better than the Thiels at reproducing the big Japanese drums on recordings by the taiko drumming troupe Kodo, both in the drums' initial transient impact and the way in which the sound from the body of the instrument reverberated back into the recording space.

But in some ways, the Thiel TT1s chalked up points for

not overdoing it. They also seemed less prone to a subtle smearing that may originate in the Monitors' more lively cabinets, though this happened rarely and never troubled me. Though neither speaker is a shy wallflower, some listeners might find the Silver 10s a bit more eager to please overall—perhaps too eager.

Conclusions

In the above comparison, the unmentioned elephant in the room is cost. The Monitor Audio Silver 10 retails for \$2498/pair—considerably less than half the price of the Thiel TT1. This is at least partially due to the fact that the Silver 10 is made entirely in China; Thiel uses more expensive US labor to assemble the TT1, and drivers from Scandinavia; only the TT1's cabinet is made in Asia. Beyond that, however, the TT1 faces formidable competition in the \$5000–\$7000 range from the likes of GoldenEar Technology (Triton One), KEF (R Series), Revel (Performa 3), Sonus Faber (Venere), and more than a few others.

But the TT1 makes its case without apologies. It won't dominate a small space, and its honest sound can satisfy even in a very large space over long listening sessions. It deserves a very careful audition. ■

2 Thomas J. Norton reviewed the Monitor Audio Silver 10 for our sister magazine *Sound&Vision*; see www.soundandvision.com/content/monitor-audio-silver-10-speaker-system-1. *Stereophile* hasn't reviewed the Silver 10, but we did review the similar, if slightly smaller, Silver 8 in January 2015; see www.stereophile.com/content/monitor-audio-silver-8-loudspeaker.—John Atkinson

TJN'S IN-ROOM MEASUREMENTS

Although I took all of these in-room measurements after I'd written the rest of this review, they shouldn't be compared to the in-room responses measured by John Atkinson that accompany almost all reviews published in *Stereophile*. This is not only because they were taken in a room very different from his, but also because John uses a superior microphone and bases his averaged results on more data points. My measurements were made with OmniMic v2 from Parts Express, and while that system employs a calibrated mike, I suspect that, on the basis of price alone, it's less accurate than JA's. This time, I took five readings in and around the main listening position, then averaged them.

Above 200Hz, the response of the pair of Thiel TT1s is respectably smooth (fig.9). Below 200Hz, the usual room issues crop up. My room appears to provide some reinforcement in the deep bass, but my measurements of the Monitor Audio Silver 10s (fig.10) show them to have about 5dB more output below 50Hz than the Thiels. While the Monitors' and Thiels' responses agree surprisingly well above 200Hz, they indicate that the Silver 10s have a little less energy from 1.5 to 4kHz, and a bit more from 4 to 12kHz—not by a lot, but by enough to be audible.—Thomas J. Norton

Fig.9
Thiel TT1,
left, spatially
averaged,
1/6-octave
response in
TJN's listening
room.

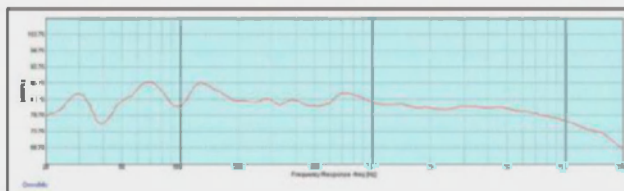


Fig.10
Thiel TT1,
right, spatially
averaged,
1/6-octave
response in
TJN's listening
room.

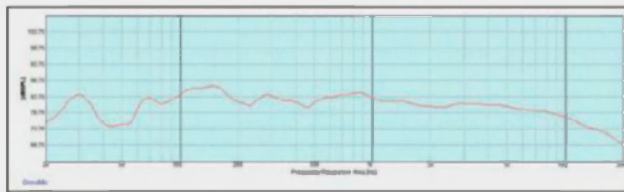


Fig.11
Monitor Audio
Silver 10,
left, spatially
averaged,
1/6-octave
response in
TJN's listening
room.

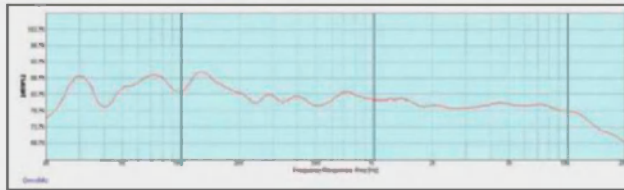


Fig.12
Monitor Audio
Silver 10,
right, spatially
averaged,
1/6-octave
response in
TJN's listening
room.

