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THE CUTTING EDGE

Redefining the State of the Art:

Technical Audio Devices TAD Model-1 Reference Monitor

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The TAD Model-1 is one of the most exciting audio products that I have ever reviewed—and my candidate for Product of the Year, in a great year. It has continued to grip me both emotionally and intellectually since the first time I auditioned it, and it is a brilliant aesthetic demonstration of what advances in audio technology can do, showing me once again that every time I think I understand the limits of the state of the art, a new product comes along to prove me wrong.

The TAD Model-1 is a $45,000 speaker—as beyond my rational budget as a Rolls Royce or Ferrari, and getting hooked on an impossible dream is not something I relish. Nevertheless, I *am* hooked and only part of the reason is the TAD Model-1's superb sound quality.

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I won't exaggerate the ease of living with the TAD Model-1. It is a large and very heavy speaker, anything but "delivery-friendly." Concealed casters on the bottom make it easy to move and position once it is situated, but we are talking about speakers that weigh 280 pounds per side. On the other hand, I don't know anyone who hasn't liked its design.

You can argue over the visual impact of the TAD Model-1 in the same way you might argue over a piece of sculpture in an art museum—a *modern* art museum. What you can't argue over is whether the TAD Model-1 qualifies as a piece of art where form and function combine. It has curved surfaces—a fine mixture of wood, metal, and molded finishes—and avoids the box-like (or coffin-like) look of many speakers. Its drivers integrate with its visual appearance rather than clash with it. You know it's a speaker when you see it, but it is also an *objet d'art* you want to live with rather than try to hide or ignore.

More importantly, the TAD Model-1 performs superbly in a real-world listening space. Like any speaker of its caliber, its

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sound will depend on the room. (It may well deserve a larger home than mine, as it has the power handling to perform well in a small auditorium.) Of course, it will also benefit from careful setup, although it is one of the easiest full-range reference speakers to place that I have ever encountered.

It is also the easiest state-of-the-art reference monitor I have ever worked with in terms of practical listening. While it benefits from plenty of "breathing space," its sound remains superb even when it is just a few feet from the back wall. The radiation patterns from the coaxial tweeter and midrange drivers, and the crossover to the bass drivers, minimize any coloration from sidewalls.

The design of the TAD-1 gives a "point source" character to the sound of a speaker that obviously is not a point source. Because of its coaxial tweeter and midrange it sounds coherent and superbly integrated even at distances as short as six feet. It also gives you exceptional centerfill, stable well-defined imaging and depth, and a wide listening area at any reasonable distance. Several people, not just one person, can truly enjoy the best the TAD Model-1 can deliver.

Turning to just how good that "best" really is, I have to preface my remarks with the warning that having to rely on written words immediately becomes a problem. I use some outstanding speakers as my references, including the Dynaudio Evidence Temptations, the Thiel CS 7.2s, and Snell XA90PS towers. If I were reviewing these speakers, I'd use many of the same adjectives and descriptions that I am going to use for the TAD Model-1s, simply because words can only begin to communicate the nuances of any speaker.

If you actually listen to the TAD Model-1, however, you will immediately hear superior performance in virtually every area I can think of. This is no reflection on the other speakers I've just mentioned—a $45,000 flagship speaker damn well should sound better than speakers far less than half its price. But the fact remains that words in a review are at best an appetizer. You have to go and listen to the TAD Model-1 to understand and believe.

That said, what strikes me first about the TAD Model-1 is its ability to achieve the right balance of outstanding performance characteristics in so many areas, and the overall coherence that results from this balance. The days when every speaker had at least one major flaw have long been over, but the TAD Model-1 shows that the days when a speaker can have consistent excellence in every area of sound performance have finally begun.

Bass, treble, and midrange blend in the best overall frequency balance and timbres I have ever heard. Response extends from room-moving deep bass to treble beyond the supertweeter range, with every aspect of the midrange just as revealing and musically realistic as the lows and highs. The TAD Model-1 sounds as much like music as the source material, system, and room permit.

Moreover, the dynamics of the TAD Model-1 are almost unbelievable. They are superb at every level of dynamic energy including the softest. The fact that TAD makes professional monitors may explain why the Model-1 is still clean from the bottom to the top of the frequency range at levels far above 110dBSPL—levels where virtually every other audiophile speaker begins to develop problems.

The TAD Model-1s exceptional coherence may result from the fact that it comes as close to sounding like a point source as I have heard from a full-range speaker. In fact, it is even more coherent than the best stand-mounted small monitors. Good as ribbon and electrostatic line-source speakers can be, they are not as seamless in soundstaging as the TAD, and none that I have heard integrates the bass with the midrange as well as the Model-1.

Transparency, "speed," resolution, and detail are also truly state of the art. The TAD Model-1s do a far better job of resolving sheer detail than very good electrostatics like the Quads and rival the very best MartinLogans, while having more dynamic capacity than either. I have always felt the best Apogee and Magnepan ribbons outperform the best dynamic speakers in sheer resolution, but the TAD Model-1s have changed my mind. The better the recording, the more the TAD Model-1s sheer transparency becomes apparent. Moreover, there is none of the slight discontinuity between the treble and midrange I hear in even the best hybrid blends of ribbons or electrostatics with dynamic drivers.

The TAD's resolution showed best with the best SACDs, and the Chesky and AIX 96kHz/24-bit recordings. What I found equally compelling, however, was using the TAD Model-1s as my monitors for tuning my new VPI HR-TNT turntable and the latest version of the VPI arm. I could immediately hear why HP praised the new VPI combination so much, and was truly struck by how the combination of the HR-TNT and Model-1 revealed yet another level of detail—all of it musical—in my 20-year-old Accent LPs of chamber music. If you love the best in digital, you will love this speaker. If you love analog, you will love it just as much or more. It is not euphonic or forgiving in any way, but it lets both the truth and the soul of acoustic music emerge.

I suspect that this unique combination of coherence and transparency is largely a result of the combination of tweeter and midrange into a single 165mm vapor-deposited Beryllium driver that does a better job of eliminating interference effects than any other I have encountered, but also has an almost incredible level of detail along with an absolutely minimal amount of coloration.

You can look on the TAD Web site for a full technical description of this driver—and indeed, of the entire speaker (http://www.tadaudio.com/). Of course, you will then read the usual hype. The manufacturer states that the TAD Model-1 uses "proprietary Beryllium technology for its midrange

and tweeter diaphragms…By employing a tweeter that is mounted concentrically within a shallow midrange cone, made possible only through the use of Beryllium"—the lightest and most rigid metal available for diaphragms—"the phasing and off-axis response problems of conventional drivers are eliminated."

The fact is, however, that such manufacturer literature isn't hype when the end product delivers the promised performance quality—and the Beryllium treble/midrange driver is only part of the story. That driver is also mounted in a new way in a cabinet that takes a new approach to controlling vibration and resonance. Moreover, it is mounted at a listening height that minimizes room and furniture interaction effects, and its crossover to the woofer at 350Hz is amazingly seamless.

As for the overall quality of the bass, the TAD Model-1 makes an absolute minimum of tradeoffs between deep bass extension, bass detail and accuracy, and the ability to outperform subwoofers in sheer loudness with low distortion. Heavy moldings, cross-braced woodwork, and massive long-throw drivers all do their things. The TAD Model-1 enclosure is constructed of more than fifty individually machined layers of high-quality laminated birch. It uses a mix of two 250mm trilaminate woven-Aramid-fiber/foamed-Acrylic-composite cone woofers, and one 200mm mid/bass driver constructed of the same materials. Their structure is heavy enough to challenge the new governor of California, and crush the old one.

You can feel the bass with the TADs, but a drum is still as tight as the recording allows. Complex organ and percussion music takes on a new clarity, and your listening room is going to do far more to color the low frequencies than this speaker will. The TAD Model-1 does more than give you the best of woodwinds, strings, and bass. It is a drummer's speaker, as well.

If you insist on listening at such levels, the TAD Model-1 also provides excellent bass far beyond the limits imposed by concern for one's hearing or musical good taste. It is the perfect path to glorious excess. If your idea of a rollicking good time is comparing Telarc and Reference Recording bass drum sounds, or unleashing the Kodo drummers at thunderous levels, this is the speaker for you. If you want to turn the deep bass of the organ on some Dorian recordings from mere music into actual room movement, no problem. If you want to hear all of the detail in a bass guitar or synthesizer with perfect clarity while the sound is so loud your ears bleed, the TAD Model-1 lets the bass rush out and fools rush in.

Soundstage detail, imaging, depth, and width are as good as you would expect from the rest of the Model 1's performance. If you space the speakers relatively widely, toe them in to lock in center-fill, and avoid beaming the tweeter directly at you, you get both exceptional soundstage width and depth, and remarkably stable centerfill, with imaging that is as natural in size and three-dimensional as I have heard from any speaker.

A warning, however, about your recordings. The better the speaker, the more obvious overprocessing, bad mixing, and a disregard for a realistic soundstage and realistic imaging become. The soundstage of the TAD Model-1 is not unforgiving; that is usually a sign of a poor speaker or poor speaker placement. It is, however, revealing without being euphonic. This is wonderful with a great recording. However, the sound is never "better" than the source material.

Are there some problems with the TAD Model-1? Yes. It does need a really good high-current amplifier to do its best. A Pass X600, for example, really allowed the Model 1's dynamics to rip to sound levels far beyond 110dB, while keeping it and its bass under tight control. A Pass XA-160 with the proper resistors (*Stereophile* tested an early production run with the wrong resistors that sharply limited current drive and 4 ohm power) also did very well, but it

The TAD Design Team

The TAD Model-1 is an assault on the state of the art in reference-quality high-end speakers, launched by a company with a 28-year history of building professional monitors. The Model-1 may be TAD's first foray into the world of consumer products, but it is the result of American, British, and Japanese expertise from an international design team led by Andrew Jones, TAD's Director of Engineering—a designer with years of experience at TAD, Pioneer, Infinity, and KEF Electronics, where he spent 11 years, first as a research engineer and then as KEF's Chief Development Engineer.

The team includes Brett Frank—Senior Design Engineer—who joined TAD in June, 2001, and who previously spent 11 years at Infinity as a designer and later as senior mechanical designer. During his tenure at Infinity, Brett completed mechanical design assignments for more than 100 audio reproduction components, most while under the tutelage of Infinity co-founder Cary Christie, Sr. The team also includes Toru Nagatani—Manager, Design Engineering—who has been at TAD since 1985 and whose knowledge and understanding of TAD's professional products—including the company's proprietary application of Beryllium—proved vital to the development of the Model-1 flagship loudspeaker for the high-end consumer market.

Is the product of this much talent the best speaker in the world? I can't tell you that. No reviewer ever can. There are too many candidates, too many new challenges for first place, and too many ways to judge the competition. Is, however, the TAD Model-1 the best speaker that I have ever heard? Yes, definitely! **AHC**

could be pushed to its power limits in the deep bass at levels over 110dB. A high-powered tube amp sounded very good overall, but did not have the ability to do real justice to the TAD Model-1's bass. If you are into low-wattage single-ended triodes, your day simply hasn't come.

I should note, however, that the Model-1 also is so revealing that it can trigger a bad case of upgrade syndrome. The Pass XA-160 may not have the ideal power for "bleeding ears." It does, however, provide a superb-sounding mix of transistor and tube-like timbre, superior natural detail and musicality, and great depth. Like the differences I noted among recordings and among front-end components, these improvements were even clearer on the Model-1 than on my reference speakers. As a result, I'm upgrading to the XA-160.

This is also a speaker that really does need the very best in speaker cables. Both the Kimber Select series and Wireworld Eclipse series did an excellent job. The Kimber had a bit more sheer coherence, the Wireworld a bit more upper-octave clarity. The Transparent Audio Reference XL also did very well, although not quite as well as with some other speakers, like the Wilsons. You can't really skimp on "wires" with this speaker, and you will need to experiment to get the best possible amplifier-cable-speaker synergy, but then you have to do that with any speaker with this level of resolution and overall quality.

The most serious drawback of the TAD Model-1, however, is that so few of us have $45,000—although a smaller monitor using the superb Beryllium driver is on the way. It just isn't fair that every audiophile can't afford this speaker. We need a federal grant program immediately!

SPECIFICATIONS

Type: 4-way vented-box
Driver complement: Two 250mm tri-laminate composite cone bass drivers; 200mm tri-laminate composite cone mid/bass driver; 165mm Beryllium CST concentric midrange/treble driver
Frequency response: 25Hz–100kHz
Sensitivity: 90dB SPL/2.83v/1m
Impedance: 8 ohms (minimum 3.2 ohms)
Recommended amplifier power: 50–300W
Dimensions: 22.8" x 54.5" x 22.4"
Weight: 285 lbs. each

ASSOCIATED EQUIPMENT

Van den Hul Black Beauty, Sumiko Celebration, and Koetsu Onyx Cartridges; VPI TNT HR-X turntable and JMW 12.5 arm; Pioneer Elite DV-47A SACD/DVD player: PS Audio Lambda CD transport (modified); Mark Levinson 360S DA Converter; Pass Xono phono preamp; Pass X0.2 stereo preamp; Pass X600 and XA-160 power amplifiers; Dynaudio Evidence Temptation and Thiel 7.2 Speakers; Kimber XL, Transparent Audio Reference XL, and Straightwire Eclipse interconnects and speaker cables

MANUFACTURER INFORMATION

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Price: $45,000/pair

If you actually listen to the TAD Model-1, however, you will immediately hear superior performance in virtually every area I can think of.

TAD