

GoldenEar Technology Triton Reference floorstanding loudspeaker

by Chris Martens

Sandy Gross is widely acknowledged as an audio legend in large part because he has played a central role in launching three major loudspeaker-manufacturing companies: Polk Audio, Definitive Technology, and most recently GoldenEar Technology. As we have noted in the past one common thread connecting these firms involves a commitment to producing sensibly priced loudspeakers that give their owners a substantial taste of authentic high-end sound quality. At GoldenEar, though, Sandy Gross' passion has been to raise the performance bar higher still and to push the edges of the performance envelope for affordable loudspeakers—a passion that has now found its highest level of expression in GoldenEar's flagship Triton Reference floorstanding loudspeaker, priced at £9,500 per pair.

Gross' set an almost impossibly challenging design brief for the Triton References. First, he specified that the target price for the speaker should fall comfortably below £10,000/pair—a price point that many consumers would admittedly find expensive, but not 'out-of-reach' expensive. Second, Gross called for a loudspeaker that could directly challenge the performance of top-tier competitors selling for low to mid five-figure sums. Third, he specified that the Triton Reference should be relatively sensitive and easy to drive—so that amplifiers of modest output could power the speaker effectively. Finally, Gross insisted that the ▶



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- ▶ Triton Reference should perform equally well in both music and home theatre systems. In short, Gross wanted to build a dead-serious high-end loudspeaker, but one that was very keenly priced and that could fit easily into real-world systems.

To answer these requirements GoldenEar turned to its time-proven ‘Triton formula’, which calls for a slim, tower-type floorstanding loudspeaker that incorporates an internal, self-powered woofer/subwoofer section (complete with active bass drivers and matching passive radiators), plus a separate midrange-tweeter section whose operation is entirely passive. This formula has been applied successfully in GoldenEar’s earlier Triton Two+ and Triton One speakers, but is taken to an altogether higher level in the Triton Reference.

At first glance, the Triton Reference seems conceptually similar to GoldenEar’s Triton One (as reviewed in *Hi-Fi+* issue 118), but the fact is that the two speakers share virtually no parts in common. Given its extremely ambitious design brief, the Triton Reference features all-new active woofers and passive low-frequency radiators, wide-bandwidth midrange drivers, and new Heil-type high velocity folded ribbon tweeters. The speaker’s cabinet, too, is reshaped, restyled,

increased in size, and represents a clean-sheet-of-paper design, as does the balanced crossover network. The Triton Reference’s 1800-watt woofer amplifier and its associated 56-bit DSP control unit is, says GoldenEar, “an evolution of those used in the Triton One and our SuperSubs”, but that is about it for elements in common.

The Triton Reference’s slender, gloss black-lacquered enclosure stands a little over 1.47m tall, with the lion’s share of the cabinet’s volume used to house the speaker’s crossover network, hybrid active/passive bass driver array, and the aforementioned 1800-watt/DSP-controlled woofer amplifier. The bass driver array consists of three racetrack-shaped (150 × 254mm) long-throw active woofers plus four oblong (241 × 267mm) passive “planar infrasonic radiators”. The active woofers are mounted above one another on the face of the speaker while the passive radiators are side-mounted (two radiators per side) in what GoldenEar terms an “inertially balanced” configuration. The active woofers have 40% more surface area than the woofers in the Triton One, while the passive radiators, though similar to those used in the firm’s flagship SuperSub X subwoofer, have been “retooled to allow for even greater excursion.” The enclosure is loaded with a proprietary mix of Dacron and traditional long-fibre wool damping materials, while the plinth of the speaker is reinforced with a 2.4mm steel plate that improved rigidity and effectively reduces the noise floor of the speaker, making low-level sonic details easier to discern.

Toward the upper end of the enclosure is an internally isolated, sealed chamber that houses the Triton Reference’s midrange-tweeter-midrange array. The chamber has angled back walls to help prevent reflected back-waves from smearing the sound. The speaker incorporates two 150mm upper-bass/midrange drivers that feature low-mass voice coils and diaphragms plus a newly developed low-mass method for bonding the diaphragms to their butyl surrounds—all in the name of improved transient response. For the same reason the upper-bass/midrange drivers use so-called ‘Focused Field’ magnet ▶

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► structures to more tightly focus the magnetic flux field on the driver's voice-coil gaps.

In turn, the Triton Reference's Heil-type HVFR tweeters now incorporate fully 50% more rare-earth Neodymium material than previous GoldenEar HVFR tweeters—a change said to improve transient response and increase efficiency. Other changes include special internal wiring with a distinctive twist-pattern, plus film-type capacitors “bridged across the high-pass section of the upper-bass/midrange drivers”. Welcome detail touches include sets of stainless steel floor spikes and cups to help draw out the full measure of the speaker's resolving powers.

In my listening tests I ran the Triton References in a system that included a Rega Reference-series Osiris integrated amplifier; a PS Audio DirectStream DAC and DirectStream Memory Player transport; an AURALiC ARIES wireless streaming bridge; a power distribution module plus power cables, interconnects, and speaker cables from Furutech; digital cables from AudioQuest; noise-isolating audio racks from Solid Tech; and room treatments from Auralex and RPG. The speaker was evaluated using a combination of standard and high-res CDs and SACDs, plus standard and high-res PCM and DSD files.

The key question I wanted to answer was whether or not the Triton Reference could deliver sound quality competitive with that of loudspeakers several times its price. The answer is that it could and did in very many respects, though I think there are a few areas where certain high-priced speakers still enjoy a narrow performance edge. But even in those few areas the Triton Reference did not miss the mark by much at all, which is astonishing when you consider that we are comparing a sub-£10,000/pair speaker to models that start in the mid-£20,000/pair range and climbing

upwards from there! With all factors considered, the Triton Reference offers performance likely to surprise and delight its owners. Let me start by describing some of the performance factors that impressed me most favourably.

First, the Triton Reference proved to be an extremely wide bandwidth loudspeaker that offered essentially unlimited low-end extension and plenty of top octave ‘air’ and ‘sparkle’. You don't realise how much music you may be missing until hear a speaker such as the Triton Reference, which addresses both the top and bottom octaves of the audio spectrum with equal parts of authority, swagger, and finesse. For example, listen to the massive concert bass drum thwacks as heard on the O-Zone Percussion Ensemble's ‘Jazz Variants’ [Klavier, 16/44.1] and notice how the Triton References deliver the high-impact notes with enough raw power to shake the walls and windows of your listening room, yet with enough speed and delicacy for listeners to hear the subtle ‘skin sounds’ of the giant drum heads flexing.

Up high, the Triton Reference also offers excellent extension, neatly rendering the high-frequency harmonics of treble instruments as well as the elusive sense of ‘air’ surrounding them. A great example would be the track ‘Stank’ from Jamey Haddad, Mark Sherman, and Lenny White's *Explorations in Space & Time* [Chesky, SACD], which features a variegated mix of percussion instruments as heard in a natural, three-dimensional recording space. Through the References, each of the instruments—and especially the higher-pitched ones—sounded harmonically rich and complete, with high frequency harmonics that seemed to soar upwards beyond the range of hearing—floating delicately on the open air. What is more, the speaker also captured the subtle reverberations and echoes that made the space itself seem palpable and real.

Second, the ‘T Refs’ (as Sandy Gross is fond of calling them) are exceptionally easy to drive, while providing superb resolution of low-level ‘microdynamics’ along with abundant amounts of dynamic headroom. As a result, the speaker sounds effortlessly expressive and alive, whether playing loudly, softly, or somewhere in between. Few speakers I have heard at any price convey such a vivid impression of freedom from dynamic constraints—a quality that pays huge dividends in terms of musical satisfaction. Stated simply, the speaker invites you to play whatever material you wish, from the quietest to the most bombastic recordings in your collection, without fear that loudspeaker limitations will get in the way. Similarly, the speaker lets you choose whatever playback levels you wish, since in most rooms the speaker will prove to have more dynamic headroom than your ears do—even on loud rock or other forms of power music. The theme is one of liberation; the Triton References free you to make whatever musical choices you wish, secure in the knowledge that the speaker will back your decisions every step of the way.

For me this point about dynamic freedom was driven home as I listened to the Yuri Honing Trio's cover of The Police song ‘Walking On the Moon’ ►

▶ from *Star Tracks* [Bonzaj Recordings, 16/44.1]. The track is in many ways a quiet one driven forward through an insistent, earthy groove established by percussion and bass, but at certain points key accent notes or solo statements fairly explode into the foreground. One such moment occurs early in the song when a particularly hard, sharp pattern is played on a snare drum as if to draw the listener to attention. The GoldenEars brilliantly captured the almost hyper-sharp attack of the snare and the sheer energy of its notes, complete with the delicate after-ring of the snares vibrating against the lower drumhead. Later on, though, as the song unfolded—its earthy groove still churning away—we come to a passage where there is big, full-bodied sax solo whose dynamics expand almost exponentially to fill the stage and, naturally, the listening room. What caught my ear was not just the realism of the sax solo, but the powerful and dramatic way the solo expanded and stretched out to fill the entire room with sound—something the Triton Reference conveyed with serious power and effortless grace.

Third, the Triton References offer plenty of resolution from top to bottom, but with particular strengths from the low bass region right on up through the heart of the midrange. With that resolution comes an almost uncanny quality of three-dimensionality that—on the right recording—can make a stereo system sound almost like a state-of-the-art surround sound system. A great example would be the track ‘Lazarus’ from the late David Bowie’s final album *Blackstar* [Columbia, 24/96], which—apart from having lyrics that eerily foreshadowed Bowie’s death—presents elaborate and complicated swirls of acoustic and electronic background sounds that the speaker captured in vivid textural detail, with a presentation that at times made sounds seem to emanate from beside or even slightly behind the listener. Significantly, the Triton Reference is not one of those speakers that capture musical detail for its own sake (or for audiophile bragging rights), but rather one that renders detail in the service of the music.

About the only area where I felt the Triton Reference was not quite the equal of premium priced top-tier speakers involved upper midrange and treble resolution and focus—an area where the Triton Reference is extremely good (as good if not better than anything near its price range), but where the best offerings in the £20,000–£50,000/pair range are just that small Nth degree better. I can’t say for sure, but I suspect this subtle sonic difference may be attributable to the fact that the crossover networks used in premium-priced speakers routinely feature pricy, best-in-class capacitors, resistors, and so forth—exotic parts choices that GoldenEar obviously did not have sufficient construction budget to explore for the Triton Reference.

If you have yearned for top-tier speakers costing many tens of thousands of pounds per pair, but don’t have the discretionary funds to acquire them, then GoldenEar’s Triton Reference floorstanders will be must-audition loudspeakers for you. In fact, the Triton Reference is so good that it offers all the performance most listeners will ever need or want (and then some). But even jaded and well-heeled high-enders who can afford pricier fare would do well to consider the Triton References, because few speakers at any price offer a more well-rounded balance of sonic virtues. +

TECHNICAL SPECIFICATIONS

Type: three-way, six-driver, floorstanding speaker with quad passive radiations and a built-in active subwoofer system

Driver complement: One Heil-Type HVFR (High Velocity Folded Ribbon) tweeter, two 150mm mid/bass drivers, three 150 × 254mm bass drivers, four horizontally-opposed 241 × 267mm passive radiators, 1800-watt Class D subwoofer amplifier fed by a hybrid passive/active balanced-mode crossover network implemented via a 56-bit DSP engine

Versions:

Low voltage version: designed for 120V/60Hz mains. (1800 watts)

High voltage version: designed for 240V/50Hz mains. (1800 watts)

The high voltage version is approved for NA (TUV) and the CE market.

Frequency response: 12Hz–35kHz

Impedance: 8 Ohms

Sensitivity: 93.5dB/W/m

Dimensions (H×W×D):

Speaker: 147.27cm × 23.36cm × 47.6cm

Plinth: 34.5cm W × 56.4cm D

Weight: 68kg/each (shipping weight)

Finishes: Gloss black lacquer with black fabric grilles

Price: £9,500 per pair (inc VAT), US\$8,499 per pair (exc taxes)

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