

# GoldenEar Technology Triton Three Floor-Standing Speakers

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## Introduction to the GoldenEar Triton Three Floor-Standing Speakers

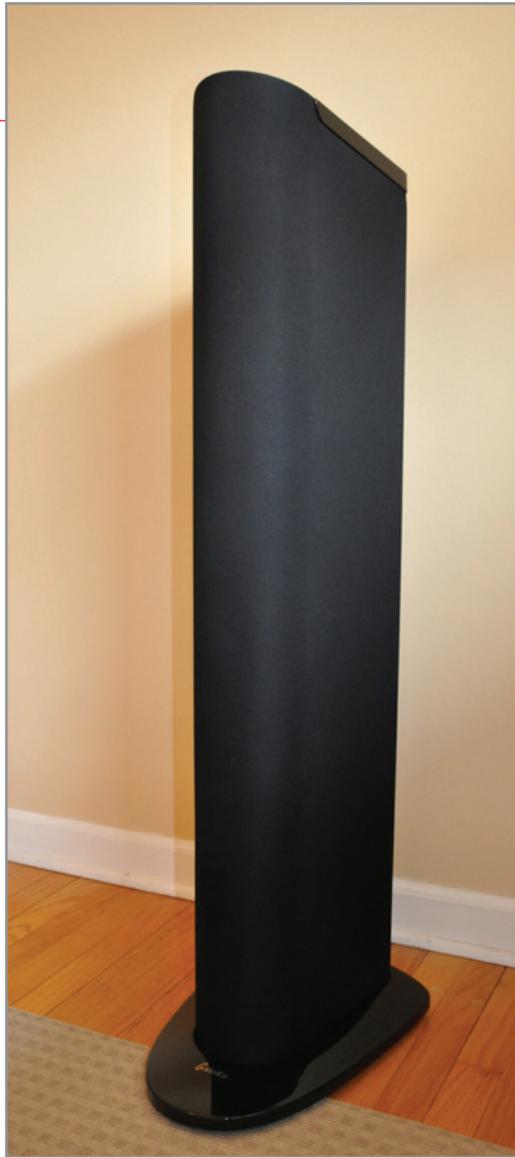
Sandy Gross if nothing else is a colorful and fascinating man who loves to share his many passions including fine art, great food and surely what is most obvious by now, great audio. His enthusiasm is infectious and after his involvement with two hugely successful speaker company startups (Polk Audio and Definitive Technology), Sandy wasn't quite ready to call it a day. Two years after leaving Definitive Technology, he began his next venture, GoldenEar Technology with his previous DT partner Don Givogue.

I had met Sandy by chance at the NY Line Show after his departure from Definitive Technology the previous year. He graciously asked if I had time to review some renderings. Of course it was the beginning of the new line, but the vision was complete, floor models, bookshelf, center channels and subs.

Soon after we were treated to the first auditions at the 2010 CEDIA show in Atlanta, a pair of Triton towers. The demo caused a stir amongst the show attendees — Sandy had done it again. We were all familiar with his previously successful built-in powered subs, but what caught all our attention was his debut of the high velocity folded ribbon tweeter or HVFR.

Triton Three —

After the successful launch of the Triton design, GoldenEar soon introduced the Triton Two, which packed a 1200 watt class-D amplifier powering two 5" x 9" "racetrack" subwoofers, along with a pair of 4.5" midrange drivers and the now popular HVFR folded ribbon tweeter. Triton Three followed on the heels of the larger Triton Two. The Triton Three is a smaller version with one less subwoofer and one less midrange driver. Of course the enclosure is slightly smaller shaving 4 inches off the height and shedding 15 pounds.



## The Design of the GoldenEar Triton Three Floor-Standing Speakers

The design of the Triton is elegant from an industrial design standpoint. Although the giant "sock" may hide the working part of the speaker, the design is nonetheless clean and well proportioned. The top of the speaker is adorned with an extruded gloss black cap covering the drawstring for the fabric enclosure.

When I asked Sandy for some notes, he was kind enough to answer in spades.

Beneath the sock, Sandy claims is more than just for appearance and economy, he says:

The cabinet is constructed from high-density medite. The side cabinet walls are non-parallel which has benefits both acoustically and visually. This spreads out the peaks due to internal standing waves as well as results in a stiffer cabinet structure. There is considerable internal bracing. The grill sock construction is utilized for both industrial design as well as acoustical reasons. It provides additional sheer dampening to the cabinet walls.

The wide-standing oblong oval base beneath the tapered and rounded front speaker tower has a slim appearance from the listening position. Aesthetics aside, the slender front is wider than the rear for internal acoustic reasons. Sandy writes:

Most important, for imaging reasons, is the narrow front baffle. It has long been observed that small mini-monitor type loudspeakers have outstanding imaging. Much of this has to do with the narrow front baffle and the resulting benefits relative to diffraction effects. With a loudspeaker with

drivers mounted on a baffle, you get a primary radiation of sound from the drivers and then a secondary radiation from diffraction at the edges of the baffle. The wider the baffle, the greater the time delay between the primary and secondary radiation. The shorter the time delay, the better, as the two signals will psychoacoustically blend together into one if the delay is short enough. On the other hand, with a wide baffle, the listener subliminally hears the secondary radiation as a cue which caused them to identify the radiator as a box, allowing the speaker to disappear.

The Triton Three boasts a single 5" x 9" subwoofer and 800 watt class-D amplifier with two 6¾" x 8" passive radiators. Sandy explains:



### GOLDENEAR TRITON THREE FLOOR-STANDING SPEAKERS SPECIFICATIONS

- Design: Three-way, Floor-standing, Sealed Enclosure
- Drivers: One — HVFR™ High-Velocity Folded Ribbon Tweeter,  
One 4.5" High-Definition Cast-Basket MVPP™ Mid/Bass Driver,  
One 5" x 9" Long-Throw Quadratic Subwoofer Bass Driver,  
Coupled to Two 6.75" x 8" Quadratic Planar Infrasonic Radiators
- Powered Subwoofer 800 watt ForceField Amplifier
- MFR: 21 Hz – 35 kHz
- Nominal Impedance: 8 Ohms
- Dimensions: 44" H x 7" W x 13" D
- Weight: 45 Pounds/each
- MSRP: \$999.99/each USD
- [GoldenEar](#)
- SECRETS Tags: GoldenEar, Speakers, Floor-standing, Audio, Subwoofers

The reason for building in the powered subwoofers has all to do with superior integration of the subwoofers, especially for music. This was the driving raison d'être when Don Givogue and I developed and introduced the concept back in 1995. It is very hard to properly integrate a single subwoofer to a pair of freestanding speakers. There are many variables, including physical locations, which require adjustments, which few listeners are able to accurately perform. In fact, if you have a single subwoofer, unless you have it equidistant from the two speakers, it is impossible to set it up so that it is properly blended with both. Even with two subwoofers in a room, the adjustment of all factors to properly integrate them with the speakers is very difficult. In fact, the low frequency section of the Tritons is actually a powered woofer section whose response goes down deep into the sub-bass region. It is engineered as an integrated part of each speaker.

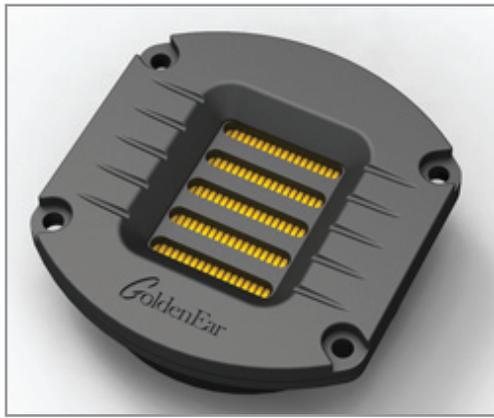
Also, of course, since a Triton system would put two subwoofers in a room, you also get bass output that is not only the additive result of the two sub-woofers, but also delivers additional gain due to the acoustic coupling of the two subwoofers plus the additional advantage of the two subs smoother interaction with the room because they are coupled to different room modes.

GoldenEar purports that the cabinet and bass radiators placement close to the floor "...optimally couples with the room for exceptional low frequency performance, which provides additional gain and bass radiation into the room beyond just the simple additive sum of their outputs. In this case 1+1 doesn't equal 2, but rather 3 or 4.."

Complimenting the impressive bass arrangement, the Triton Three has a single 4½" "High Definition" cast mid range driver along with the High-Velocity Folded Ribbon tweeter which when folded down is almost 1.5 inches square of surface area. Unlike conventional drivers, the folded ribbon design "squeezes air like an accordion" which among other things makes it very efficient.

So how do they work together? Sandy explains:

The crossovers are actually much more complex and interesting than I originally thought (this info is coming from Bob). I will try to describe: The crossover between the tweeter and the midrange is actually a Low Q third order where the additional order is not so much used for quicker



roll-off but rather to add phase correction for better phase alignment of the tweeter and the midrange. The crossover between the upper bass/midrange and woofer (high pass) is basically a Low Q second order, again, where the additional order is used more for phase correction rather than faster roll. Additionally, the enclosure of the 4.5" driver is designed to, in effect, be part of the crossover and provides an over damped roll-off which keeps the system Q low resulting in better transient response. Of course, the electronic crossover, which is part of the woofer electronics, is much more complex as it is in the DSP software so we could really go to town and optimize the rolloff and phase response to a very fine degree in order to get exceptional blending. There are a series of Low Q first order digital filters at different frequencies so there is nothing to ring or cause transient response issues. It would be very difficult to do this in the analogue domain whether at high or low level. Because it is done in the DSP we are able to get consistent accuracy better than .1 dB. Finally, there is a Zobel network across the tweeter to compensate for the phase shift of the speaker cables. This provides a much better, easier load for the amplifier. I believe that there are tweaky high-end companies selling aftermarket Zobel networks at high prices that perform the same function.

## Setup of the GoldenEar Triton Three Floor-Standing Speakers

John Miller, GoldenEar's Eastern Regional Sales Manager came over to help me unpack and set the Triton Three in place. I think I made him crazy. Side antidote; check your amplifier volume levels on both channels before placing the speakers for imaging and balance.

Despite the typical placement where speakers have generally stood in my listening space, I let John do his thing. Interesting enough, very

much like their demo rooms, John placed the speakers as far apart as possible with a significant toe-in. What this means is a concentrated focus closer to your ears than somewhere behind you. A concern would be sacrificing soundstage but I found no issue here. I very much liked this placement.

I can't stress the perfect ergonomics of the speaker; the overall height and placement of drivers and the height of the tweeter about 36", the footprint which tapers front to back in horizontal section. Subtle things impress me about the Triton Three, I'm not sure why for example that many speaker manufacturers place their speaker terminals too high from the floor, GoldenEar placed it as close to the floor as possible. Likewise for the power cord, it's placed almost on the floor. Volume control for the sub-woofer is placed at the top of the back panel, so a quick reach around doesn't have you fumbling touching the other cables, well thought out!

## The GoldenEar Triton Three Floor-Standing Speakers In Use

Most of my listening was done on a Parasound solid state preamp/amp combination; however I did manage to get my 55 wpc Onyx integrated tube amplifier into the system. Interestingly enough though I fed it high-res files through my Benchmark DAC1 USB. Other equipment included a Marantz SACD player and turntable, and Transparent Audio cables throughout.

Beginning with voices, I had just downloaded Paul McCartney's *Kisses on the Bottom*, a high-res file at 96kHz/24 bit covering some old jazz standards. The recording may not blow the sox off your feet, but I find it pleasurable nonetheless. Although this is a new recording and my familiarity minimal, it provided a good piece for auditioning. The Triton Three renders Paul's aging, character-filled voice with a warm finesse placing him intimately forward, front and center. The classically jazz ensemble includes a string section along with some all-stars, Diana Krall's piano, both John and "Bucky" Pizzarelli's guitars, Eric Clapton to name a few. Although a studio album, the Triton renders the performance with a sense of space. Musically, the piano sounds natural and the electric guitar is not only rich but articulate.

Moving on to a female's voice, I like Rene Marie recordings because they just "feel" nightclub. Her CD *Black Lace Freudian Slip* is her effort to sing 'her way'. Her voice and musical style is casual and natural. The recording comes off through the Triton as both, soft and sensual yet powerful and emotional. More so, the instruments and especially the stand-up bass, is well defined yet extends deeply. The piano



here is richer; the Triton Three renders piano notes with clarity and weight.

The intriguing HVFR tweeter never sounds brittle or etched, but rather quite smooth. The shape of the ribbon tweeter is square rather than rectangular. I think this important for off-axis performance, very much like a conventional dome tweeter. Its strength was evident playing acoustic material, mostly strings. Guitars spring off the speaker plane.

Track 3 is an updated version of a previously recorded track called Wishes. The new arrangement is almost country-music sounding, hardly jazzy. Here the tweeter shines, the twang of the guitar on the Three is so articulate; the sense of each pluck of the string hangs and decays beautifully.

What really should be emphasized about the Triton Three is that while the image is clean, the instruments defined, and voices forward and warm; it's the ability to blend the powerful bass radiators with the mid-range and tweeter in a smooth and natural way. You will never fatigue listening to the Triton Three.

Further evidence of this clarity and blending is found playing David Chesky, *Area 31*. The opening Concert for Violin and Orchestra combines tremendous string movements with percussion instruments. The musician's flamenco hand clapping sounds astoundingly three-dimensional. The second movement is a bit dark and mysterious; the piece is melodic and emotional. The recording itself is well done, the Triton Three blends the heavy rhythms and startling percussions in such a seamless manner, that you begin to almost anticipate the next chord. Like the work itself, the Triton Three transforms the eclectic work. It's just "there"...

*Pipes Rhode Island* CD is a collection of live recordings of grand pipe organs throughout the Providence region. Each track is varied not only in style but played by different musicians. The soundstage and differences in musical space comes through nicely in the Triton Three. Although some recordings are more intimate others are open and spatial. The Triton Three gives you recognition of that difference.

I want to reiterate how impressive the Triton Three is with bass, where any of the speakers in the GoldenEar line excel. Throughout the CD, the pipe organ's sound immense, the Triton reverberates throughout my own space; rattling pictures on walls, flutters my pant leg and sends deep chills through my stomach. All this with relatively low power generated by my amplifiers but supported by the impressive amplifier within.

The ability to dial in the right amount of gain from the bass volume on the rear is huge, this allows for room adjustments that few speakers can accomplish.



Sandy did send along his disk of music he demonstrates at the shows. Each specifically chosen to show off attributes of the speaker. One track in particular combines the silky voice of Mel Tormé and an excellent orchestra, *Once in Love with Amy*. Not only does Tormé's voice hang impressively about 4 ft off the floor in my space, the orchestra's sense of swing-style is rich and toe-tappingly good. The Triton presents such a polished performance with graceful pitch, elegant blending and impressive dynamics.

## Conclusions about the GoldenEar Triton Three Floor-Standing Speakers

The Triton Three didn't surprise me in the least, it is exactly what you'd expect from Sandy Gross; excellent bass extension, a smooth grain-free midrange and a detailed, silky top end in the ribbon tweeter. Having listened to so many speakers that do some things very well yet suffer in other areas, the Triton Three does it all exemplary.

Because I had these speakers at home so long, I needed to swap them out several times, but when I returned to listen to them, I was always struck by their consistent performance and how smooth they sounded. You may notice in my review I really don't point out any shortcomings, well frankly I just felt they are that good. The bonus is that taking into account the GoldenEar Triton Three is under \$1,000 (\$1,999 for the pair) it's hard not to enthusiastically recommend.

