

# GoldenEar T66

A refinement of GoldenEar's established Triton series, the new T range still combines an AMT tweeter, active bass and ABRs  
 Review: **Jamie Biesemans** Lab: **Paul Miller**

**W**hen the Quest Group, known for the ubiquitous AudioQuest brand, acquired GoldenEar in 2020 it raised some eyebrows. Why would a company excelling at manufacturing and selling cables, often co-operating with speaker brands, wish to tackle the challenging loudspeaker market itself? And what would happen to the GoldenEar product range, which next to custom install and subwoofer models mostly consists of curious semi-active loudspeakers? The answer to that second question, at least, is the £6249 T66, the first arrival under GoldenEar's new ownership.

Succeeding the Triton Two+, the three-way semi-active T66 at first glance appears to be more of the same. This is not so surprising, as for all the change at board level, GoldenEar's main development team is still the same as before, albeit with Quest's Bill Low and Garth Powell (of Niagara power conditioner fame) added to the mix. However, the initial plan was to merely update the slightly threatening monolithic Triton Two+ with an aesthetic more suited to non-US markets, but once everyone gathered around the table it turned into a more comprehensive redesign. Hence the long-running Triton moniker was dropped.

## LOVE ME SLENDER

A floorstanding loudspeaker, the T66 stands 124cm tall before optional spikes have been fitted to its new-look – and strengthened – cast-aluminium base. Such a height means it's not particularly diminutive, but the limited baffle width gives it a slender appearance even as the cabinet, also upgraded in terms of rigidity, widens at the rear. Meanwhile, curves to the loudspeaker's top along with a newly designed full-length metal grille result in a really quite attractive design.

GoldenEar's familiar high gloss black finish remains available, but for the first time there's an alternative colour option on offer, for a £250 premium. Not white, as might be expected these days, but a fiery, metallic Santa Barbara Red that will remind some of products offered by sibling brand AudioQuest.

It's quite striking – maybe too striking for some – but there's no faulting the fit or finish of the T66 in either colourway.

## SUB CULTURE

We're told by GoldenEar that the main objective for the new speaker was to take the authoritative sound of its Triton Two+ and make it a bit more 'audiophile'. In pursuit of this, the T66's High-Velocity Folded Ribbon (HVFR) AMT tweeter is now the same unit as found on the company's Triton Reference [HFN Jun '19], its mounting plate here dressed in a wool felt to reduce baffle reflections.

The underlying crossover has also been upgraded, one alteration being the removal of a 'Global Zobel' network that was previously employed by GoldenEar to make the Triton Two+ model more 'forgiving' of inexpensive AV amplifiers. As before, the HVFR tweeter is placed in a D'Appolito arrangement between two 4.5in (115mm) bass/mid drivers with 'Multi-Vaned Phase Plugs'. Upgrades to these include new yoke assemblies. Yet what truly sets the T66 apart from a traditional loudspeaker is its use of a built-in DSP-controlled subwoofer unit.

Here, a 500W-rated amplifier, leveraged from GoldenEar's ForceField subwoofer models, powers a pair of front-facing 'quadratic' 5x9in (125x230mm) bass drivers, while a larger passive radiator is placed between, on each side. Importantly, the active bass crossover/amp can either tap a signal off the main speaker inputs or be fed directly via a separate interconnect cable to its RCA LFE input. A knob above the LFE connector lets you adjust the subwoofer level, and adjacent to these are new, higher-quality binding posts, now duplicated to enable bi-wiring and linked by a pair of AQ-sourced gold-plated 'naked' jumper bars.

**RIGHT:** Revealed behind GoldenEar's fixed metal grille are two 5x9in actively-driven bass units (and two 8x12in ABRs at the side), two 4.5in bass/mid drivers with 'multi-vented' phase plugs, and one HVFR (High-Velocity Folded Ribbon) AMT tweeter



## HYBRID THINKING

Marrying what is essentially a large passive standmount with its own active (sub) bass section, and housing it in a taller floorstanding cabinet has many benefits – not least a 'tower' with the same compact footprint but offering 'better than passive' bass extension and lower distortion. The gains in performance offered by an active bass – not simply a 'powered bass' – begin with the design of a line-level crossover more intimately attuned to the foibles of the bass driver. User-adjustable bass level is also realised in the T66 – an aid to speaker positioning and low frequency tuning that's vastly more accommodating than the rear-firing reflex ports and foam bungs of even the best passive floorstanders.

Furthermore, the direct amplifier-to-driver connection improves damping while all the drawbacks of a passive low-pass filter, with its reactive components, are eliminated. Hybrids like the T66 are a half-way house to full active operation, offering benefits across the frequency range while relieving your stereo amp of all the 'heavy lifting'. Downsides? Few, aside from the extra design complexity and, of course, a trailing AC mains cable... PM

It will come as a surprise to absolutely nobody that the T66's internal mid/tweeter cabling is also furnished by AudioQuest – not from an existing range, but the wiring does utilise the brand's 'direction-controlled' design. The exception is the active subwoofer connection, which is built to Quest's specification by an external partner. This is a purely economic decision, as GoldenEar says creating speciality cabling is only viable in lengths of three kilometres or more. Even runaway sales of the T66 wouldn't require that much!

## BODY AND SOUL

Because of its DSP bass control, the T66 offers a different listening experience to an equivalent passive three-way design. For one thing, you don't need to really crank the volume up high to be treated to a full-bodied bass performance. This was the case with GoldenEar's earlier Triton hybrid models too, the difference being now that the low-end delivery of the T66 is a little less overassertive and feels tighter.

The result is a loudspeaker with a better balance overall. Not only is the sound less dense and compact in terms of imaging, but fine detail is presented in a more airy and open fashion. In other words, while never quite displaying ultimate resolution, the GoldenEar T66 has the audiophile character its designers were aiming for. Anyone used to the erstwhile 'American' tuning, which sometimes seemed more suited to home theatre than hi-fi, will be pleasantly surprised. The interplay between the T66's passive drivers and its active woofers delivers spacious detail on

an expansive soundstage that has the rock-solid foundation you would expect from a son of Triton. A benefit of the semi-active DSP-controlled approach is that the T66 generally remains in equilibrium, even at lower volumes. Sure, there's no beating physics, but bass presence didn't evaporate when I turned down the wick during 'Alive' on the Deadmau5/Kascade techno collaboration Kx5 [Mau5trap Recordings MAU50533A1X].

## RHYTHM MASTER

Returning to a more respectable sound level, and with the bass dial set to the two o'clock position for added oomph, I was met by a massive wall of sound. In that sense the T66 is still very much true to the original GoldenEar intent, being capable of jaw-dropping amounts of controlled low-frequency fun. Even better, though, this bass punch is part of a detail-packed soundfield extending beyond the cabinets, which gave the vocals by Brit singer Hayla, on Kx5's technopop track 'Espace', plenty of textured character and a distinct position in the mix.

The African-influenced polyrhythms of the opening song on Beverly Glenn-Copeland's new *The Ones Ahead* set [Transgressive TRANS674CD] can leave less adept loudspeakers struggling to remain coherent, but the T66 let the various drums

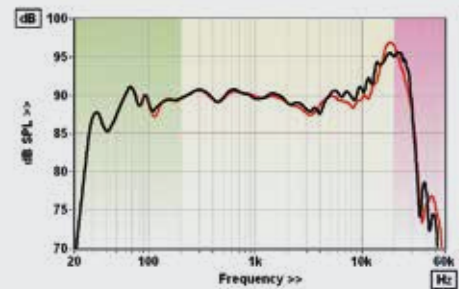


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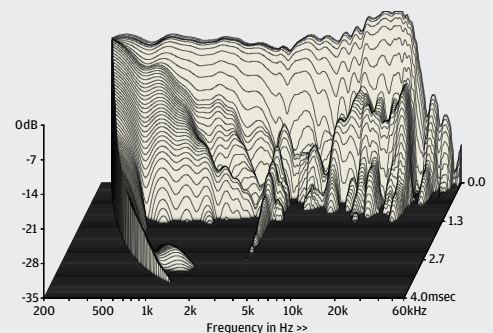
## GOLDENEAR T66

While our measured sensitivity(s) for GoldenEar's T66 of 89.6dB (500Hz-8kHz) and 89.8dB/1kHz are shy of the rated 91dB, the forward response [see Graph 1] is commendably flat from bass to midrange. There's a slight dip in the upper midrange before a strong recovery in the treble that contributes to the high  $\pm 4.0$ dB and  $\pm 5.2$ dB response errors, respectively, just as pair matching is also slightly wayward at 1.7dB (all re. 200Hz-20kHz). Off-axis listening will suppress the boosted treble but we've seen the closely-spaced ripples before [HFN Jun & Nov '19], caused by a reflection within the speaker and seen as a peak in the impulse response at a delay of 0.5msec, equivalent to a path length of 17cm. Associated resonances are also visible on an otherwise 'clean' CSD waterfall [see Graph 2] – GoldenEar's trademark fixed, curved, perforated grille remaining the chief suspect here.

The T66's impedance rises from 3.5ohm/140Hz to 17ohm/20Hz (and 20ohm/5Hz) as the active subwoofer takes over but remains sub-7ohm from 140Hz-100kHz. The 3.05ohm/360Hz minimum means the T66 meets GoldenEar's 4ohm specification but the big negative swing in phase angle of  $-54^\circ/85$ Hz adds to a slightly tougher EPDR of 1.3ohm/128Hz (the active bass cover). Meanwhile, this active bass section further reduces distortion (sub-0.1% at 90dB SPL) in what is already an impressively 'low distortion' speaker design, the two 5x9in 'quadratic' woofers peaking at 72Hz and working with dual ABRs, tuned to 31Hz, to deliver a deep, diffraction-corrected 28Hz bass extension ( $-6$ dB re. 200Hz). The lower active woofer also utilises boundary reinforcement with the floor to achieve this result. PM



ABOVE: Response including nearfield summed active drivers/ABRs [green], freefield corrected to 1m at 2.83V [yellow], ultrasonic [pink]. Left, black; right, red



ABOVE: The cabinet is well behaved at LF but various driver/structural resonances are seen >3kHz

**LEFT:** RCA input connects the '0.1/sub channel' line output of an AV receiver directly to the active sub. Otherwise the sub-bass feed is taken from the 'passive' bass 4mm speaker terminals when used in bi-wire/bi-amp modes

was happy to deliver the goods in its claimed 30W Class A mode, with an Accuphase DP-560 DAC/SACD player and Primare NP5 II streamer acting as sources. In this set-up, the T66 both communicated the subtle flutes and clarinets of Antonín Dvořák's 'The Water Goblin' [Life With Czech Music; Supraphon SU 4041-2] while delivering the visceral thrill of an orchestra at full blast.

### FULL SPEED

This performance, conducted by Charles Mackerras, takes you straight to the heart-pounding action as it begins with the fast-paced Slavonic Dances (Presto). Even though the T66 has greater refinement and politeness than the 'old' GoldenEar models, it still grabbed my attention with its mighty dynamics and speed.

Tomaso Albinoni's beautiful Adagio in G Minor, as performed by the Academy of Saint Martin in the Fields in 1973 [Warner Music download; 44.1kHz/16-bit], also let the T66 strut its stuff. The rich church organ and deftly portrayed strings ensured the piece's melancholic atmosphere was on full view, without the performance becoming distant or cold. Overall, these sensibly sized speakers from GoldenEar perform like a substantially grander sound system. If the T doesn't stand for Triton, maybe it stands for 'terrific' ☺

### HI-FI NEWS VERDICT

The T66 is a more accomplished offering than GoldenEar's previous midrange hybrid floorstander, while still staying true to the brand's identity. It's a rewarding listen capable of communicating dynamics, excitement and airiness – as well as spectacular bass extension. And best of all? This balancing act is achieved without need of a huge powerhouse amp to drive it. Red or black, the T66 is worth a bet...

Sound Quality: 88%



and percussion instruments flow freely with a first-rate sense of speed and rhythm. And while it did tend to push the vocals forward, making Glenn-Copeland's chanting a bit 'in your face', that at least let me savour the finer vocal highlights in the mellower tracks 'Love Takes All' and 'The Ones Ahead'.

To top it off you don't need a massive power amplifier to drive these speakers, as the built-in active subwoofer is taking care of the difficult low-end [see PM's boxout, p53]. The Riviera Levante amp I mainly used for auditioning the T66

### HI-FI NEWS SPECIFICATIONS

Sensitivity (SPL/1m/2.83V – 1kHz/Mean/IEC)	89.8dB / 89.6dB / 88.4dB
Impedance modulus: minimum & maximum (20Hz–20kHz)	3.05ohm @ 360Hz 17.0ohm @ 20Hz
Impedance phase: minimum & maximum (20Hz–20kHz)	$-54^\circ$ @ 85Hz $+17^\circ$ @ 1000Hz
Pair matching/Resp. error (200Hz–20kHz)	1.7dB/ $\pm 4.0$ dB/ $\pm 5.2$ dB
LF/HF extension ( $-6$ dB ref 200Hz/10kHz)	28Hz / 30.9kHz/31.0kHz
THD 100Hz/1kHz/10kHz (for 90dB SPL/1m)	0.08% / 0.2% / 0.25%
Dimensions (HWD) / Weight (each)	1241x300x432mm / 27kg