Soundbars. Before the advent of the home theatre, they simply didn’t exist. In fact, they only emerged some time after the home theatre revolution, in answer to growing dissent from décor-conscious spouses fed up with the way their lounges had been transformed into home movie domains.

The soundbar was meant to replace the large and unsightly front, centre and surround loudspeakers with a single, sleek piece of gear that magically projected the sound with such directional accuracy that it was able to create the illusion of a true surround soundstage from a single box in a single location.

Sounds too good to be true? Indeed — by and large, soundbars are a compromise solution for those not able to accommodate a surround sound speaker system. Yes, they sound much better than the TV’s integrated speakers. But their ability to deliver a 360-degree soundfield is mostly overstated.

Before we get onto the system under review here, let’s just distinguish between active and passive soundbars. In the case of the former, the soundbar also offers amplification, source selection and in some cases even video switching functionality.

But passive soundbars, such as the GoldenEar Technology SuperCinema 3D Array, still need to be powered by an AV receiver, and consist of speaker arrays combined in a single enclosure, but performing the role of a conventional left, centre, right speaker. Sounds pretty simple, doesn’t it?

Don’t be fooled by that apparent simplicity in the case of the SuperCinema 3D Sound Array, however. For all its super-slim dimensions, this soundbar represents a lot of clever engineering.

The 3D Array is nominally a three-channel passive soundbar that employs a tweeter and two mid/bass drivers for each of those channels. In this instance, the tweeters are rather special: in GoldenEar speak, they’re termed High-Velocity Folded Ribbon Tweeters (or HVFR tweeters), developed from the original Heil Air Motion Transformer.

The tweeter uses a folded diaphragm that squeezes air like a concertina when a signal is applied, as opposed to a more conventional pistonic movement, with improved control, smoother response, better dynamic range and superior dispersion some of the claimed benefits.

The mid/bass drivers are 114 mm units with cast basket chassis and an eye-catching multi-vaned phase plug. A high-power magnet assembly, and a 25 mm Kapton former voice coil all contribute to a linear, resonance-free response. The enclosure is fashioned from extruded aluminium, fitted with a non-resonant composite baffle.

So far so good. But all is not quite what it seems. What sets the 3D Array apart from other passive soundbars is its three-dimensional image optimisation.
GoldenEar developed the 3D Array in response to a research project conducted at Princeton University, which recognised that the crosstalk between the left and right front loudspeakers disturbs the aural cues required to create the illusion of a three-dimensional sound picture. It’s apparently worse in cases where the left and right speakers are located close together, as in the combined enclosure typical of a soundbar.

GoldenEar’s solution to this dilemma is to use the extra mid/bass driver provided for each of the left and right channels, and located at the extremities of the soundbar, to cancel out the crosstalk distortion. The drive unit on the far left plays an out-of-phase version of the right channel, and vice versa. In theory, this should enhance the perception of spatial clues, with an improved sense of threedimensionality the predicted result.

Accompanying the 3D Array review sample was a pair of SuperSat 3s for use as surround channels, and a ForceField 4 active subwoofer. This allowed me to run a 5.1 system based on the 3D Array with voice-matched surrounds. However, I also auditioned the 3D Array in a 2.1/3.1 configuration, with the soundbar joined by the sub only.

The SuperSat 3s are diminutive satellites constructed from a non-resonant composite. The driver complement combines the 114 mm mid/bass unit with the HVFR tweeter, ensuring similar voicing across all channels. The ForceField 4 active sub is a tidy, compact unit featuring a tapered shape that sets it apart from the boxy norm. The front-firing 254 mm woofer is combined with a down-firing quadratic infrasonic radiator.

The former promises agility and transient response, especially in the company of a...
1 200 watt power amp, while the infrasonic radiator extends the low-frequency range and presence to tautly controlled, but almost tactile levels.

As one would expect, it will accommodate both high-level and line-level LFE signal feeds, while output level and the high-pass crossover point can be adjusted. The Class D power amp is DSP controlled in the interests of precision, speed and low distortion, while also offering sophisticated protection against clipping and overloading.

In practice, the 3D Array is surprisingly compact and lightweight, and was placed on our equipment stand, just below the TV screen. Wall mounting is also an option. The sturdy, solid-metal binding posts are positioned in the centre of the enclosure, which makes managing cables easy.

However, the binding posts are located very close together, which is fine if you’re using banana termination, but spades or bare wire can be awkward. That said, the overall finish and execution is admirable, with the aluminium enclosure creating a classy, and elegantly understated, impression.

The surrounds were wall-mounted slightly higher than ear height on either side of the listening position. The ForceField 4 was positioned to the right of our equipment rack, at least 45 cm away from side walls and corners.

I used the LFE input to couple the sub to our NAD T777 receiver, and set the crossover all the way up to its 150 Hz maximum, with the output level set to about one-third. I then used the NAD’s in-built Audyssey level calibration and EQ system for an initial system check and in-built Audyssey level calibration and about one-third. I then used the NAD’s maximum, with the output level set to crossover all the way up to its 150 Hz.

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I kicked off the review session with Lord Of The Rings: The Return Of The King — and what I heard was so entertaining, so engrossing, that I ended up watching the movie from start to finish — impressive, considering the three hour-plus running time, and the fact that I’ve seen selected scenes more times than I care to remember.

A big part of my fascination with the system was the way the soundbar managed to create a wide, deep front stage, with clearly defined layers of dialogue and effects that extended well beyond the...
The sound was big, muscular and deftly rendered, with the left and right channels completely divorced from their physical point sources in the soundbar. In fact, so discrete was the front left/centre/right delivery that it seemed quite at odds with the notion of a single enclosure with multiple drivers.

Not only that, but the scale and power of the sound belied the fact that those drivers are small by conventional standards, and have no right to deliver the kind of room-filling performance I was experiencing.

Part of the reason, of course, was the seamless tonal integration between the 3D Array, the surround channels, and especially the ForceField subwoofer. In tonal terms, it was certainly a case of the sum being greater than the parts.

Thus, the sound was generous, with a solid, muscular bottom end, a clean and concentrated midrange, and bright but never biting trebles — the latter tending to emphasise the three-dimensional steering of effects by laying bare essential details.

By the way, the 3D Array will deliver a useful sense of surround sound even in the absence of the surround speakers. Because of the way the soundbar addresses crosstalk, and its three-dimensional talents, the surround effects remained clearly audible even in downmixed form.

Star Wars remains one of my favourite sci-fi anthologies, not only because of the strong storylines and emotive characterisation, but also because the sonic effects are rendered with compelling realism.

Watching Revenge Of The Sith, the GoldenEar system was able to recreate the immersive quality of the soundtrack, combining authority and muscle with finesse to capture both the grandeur and the subtleties of the movies. Dialogue was impressive in its projected clarity, adding to an overriding sense of realism.

Okay, so the loudspeaker system — and the 3D Array in particular — was able to meet the challenge of a multichannel soundtrack with real conviction and aplomb. But how would the soundbar fare with stereo material?

In many ways, the latest 2013 instalment of the Eric Clapton-inspired Crossroads Guitar Festival is better enjoyed in stereo than in multichannel mode: somehow, the staging is more focussed, and more realistic, and there is still sufficient ambient information to preserve the live energy of the performances.

But even with the stereo soundtrack on this Blu-ray release selected, the 3D Array rendered the sonic picture with so much depth and air that the impression was more surround sound-like than plain old two-channel stereo. The 3D Array accurately placed instruments and vocals, delivering an impressively coherent and thoroughly involving listening experience.

And when Vince Gill, Albert Lee and Keith Urban let rip on ‘I Ain’t Living Long Like This’, the 3D Array easily showcased the individual traits and inflections of these guitar greats, as well as the intuitive interplay between them. Frankly, it was riveting stuff.

The SuperCinema 3D Array has to be heard to be believed. It’s one of those increasingly rare components that overdelivers on its seemingly exaggerated promise in every respect. And while its performance of multichannel material is compelling, it’s the way it treats stereo that really sets the cat among the sonic pigeons.

The ability to create a powerfully scaled, accurately dimensioned and perfectly focussed stereo image from a single, slim enclosure and modestly sized drivers is quite astonishing.

However, let’s not forget the role of the ForceField subwoofer, which underscores the soundbar’s delivery with fast, solid, punchy bass, so that the overall sound is carried with true authority and conviction. Similarly, the SuperSat 3s deliver the surround sound goods with perfectly integrated elegance, seamlessly extending the sound picture into a true 360-degree sound field.

Movies or music — this GoldenEar soundbar/satellite/subwoofer system hits the sweet spot in every respect!

Deon Schoeman