

Upgrading Part two – the loudspeakers

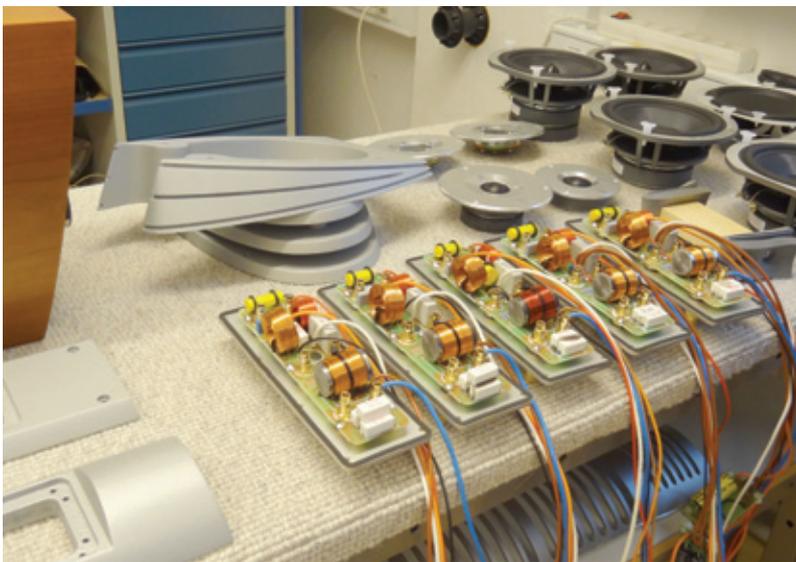
By Alan Sircom

In issue 91, we discussed the importance of upgrading, and how you can take a perfectly good set of electronics and – through a step-by-step series of upgrades – build something remarkable. But it's also possible to do the same thing with loudspeakers.

Danish loudspeaker brand Audiovector has been doing this for years. We touched upon the upgradability of the brand in Paul Messenger's review of the SR6 in issue 87, but instead of just mentioning it in passing, we went the whole hog; we went to Audiovector's Copenhagen factory to see what makes up every one of those five steps in the chain from standard loudspeaker to the top-flight performer, using the same basic Si3 tower loudspeaker core.

To assess all five versions of the same loudspeaker, we kept the system constant – we used a very good Naim system (Audiovector being Naim's Danish distributor) with Audiovector's own loudspeaker cables and began the process. Yes, it could be argued that top-notch Naim is overkill to evaluate a pair of £2,100 loudspeakers, but as we go up the Audiovector ladder, so the need for the highest-quality electronics becomes more important and rather than make some kind of clunky mid-way electronics adjustment, this is the most consistent way to evaluate the loudspeaker upgrade path.

The base Si3 model uses a silk-dome tweeter and two bass units in a genuine two-and-a-half way configuration. The ported (rear and base) cabinet's construction is designed to be non-parallel and the drive units attach directly to the front baffle. The cabinet itself sits on a cheese-wedge base and the design is tri-wired. From the outset, the Si3 has those classic Audiovector traits of being very fast, very clean and tight in the bass. It's perhaps not the biggest, deepest bass you could get from a tower loudspeaker of this volume, but it's easily one of the most attractive and tuneful sounds you could get for the money.



Some of the component parts that go into the Audiovector upgrade process

Next in line is the Si3 Super. The big changes here are the use of Audiovector's Carbon Composite Sandwich units and a rigid additional front baffle panel. From the outside at least, everything else stays the same. Keen eyed types might note the number of screws holding the drive unit to the baffle goes down from six to three. This is thanks to Audiovector's strong listening test policy – in listening tests, the move to halve the number of screws actually improves the dynamics of the drive units in situ. While it's not a massive change, it's an incremental step toward making a better loudspeaker, and one that couldn't happen without that additional front baffle panel. The overall sound of the upgrade from base model to Super is marked; the bass fills out and is deeper. It seems more tight and cohesive, and it's like the whole band is playing together a little better. It's not the biggest change in the whole upgrade path though. This is more of a step, than a jump.

However, one of the jumps comes when moving up to the Signature. This replaces the standard silk dome tweeter with the company's Evotech design, which is essentially a silk dome in a doubled-up magnet arrangement with no back to the tweeter, to give it greater power handling. It also uses what Audiovector calls its 'No Energy Storage' system, which replaces the rear panel block and plinth with milled aluminium... actually three separate plates of milled aluminium in the plinth, to make that distinctive fan shape. This distributes the mass of the whole loudspeaker more evenly, thereby minimising the amount of that mass 'carried' by the loudspeaker drive units themselves. Once again, this necessitates a new crossover too. And the results of such a change are substantial, making the soundstage wider, deeper, making instruments at once more delineated and yet making the band seem more cohesive, and

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the attack of the leading edges of musical notes are significantly more ordered and precise. It's a big change, taking the Audiovector concept to new levels.

The next upgrade, from Signature to Avantgarde might be more of an evolution than a revolution, but it's possibly a function of the last being so substantial sounding. However, the move is significant because it involves moving to Audiovector's third generation AMT tweeter. This is a version of the Heil Air Motion Transducer ribbon tweeter used by Burmester, ELAC and others, although the transducer is built in house to Audiovector's own design. This makes the treble seem effortless and far more extended, adding a touch of pep in the Si3's already peppy step. But, given the design is already delivering the goods when it got to Signature levels, the change is one of building on strengths.

It's also worth noting there is a delicate and distinct shuffling of bass driver units as you go up the range. Once you get to Audiovector's own carbon drivers, there are changes best noted by whether there is a phase plug or just a cap. The end result has the two and a half way sporting near identical drive units in the bass. This shows that each step in the upgrade process is not merely an additional set of parts leading up to the ultimate conclusion, but a destination in and of itself. ▶



Caption left to right: Audiovector's Si3 loudspeaker in standard, Super, Signature and Avantgarde/Avantgarde Areté versions

► But that ultimate conclusion is the Avantgarde Areté. This is almost dismissed in the literature as being what the company calls ‘NCS Freeze Technology and the rest of the audio world calls cryogenic treatment. In fact, the bass driver and crossover are also changed and further internal cross-bracing (using special vibration absorbing pads at either end of the brace) are inserted into the loudspeaker cabinet.

This last is one of the bigger changes, moving the loudspeaker into a new arena. It not only makes that tight, entertainingly musical Audiovector sound, but it adds the sort of soundstage openness and extremely fine detail so beloved of traditional high-end lovers. It becomes an all things to all people loudspeaker in effect. Very, very satisfying.

What you don’t see behind the scenes is that each step comes with its own crossover, a subtle variation on the same theme that includes different components (not necessarily component values) to determine the best network for each design change. The level of nuance here is remarkable; different gauge wire is used to connect treble and mid/bass and bass units. Even the amount of torque put on the screws holding the drive units to the baffle is preset, and determined by empirical means. Which means all of this is predicated on a lot of listening tests. Having had a short but enlightening demonstration of just how much performance is lost through overtightening the bolts holding the drivers in place (something no measurement protocol can currently parse) it’s clear the company’s policy of backing up every objective measurement with a lot of listening pays dividends.

The direct results here are that Avantgarde takes a perfectly good floorstander capable of reaching from 29Hz to 23kHz @-6dB) and ends up with a loudspeaker that reaches down to 24Hz and goes up to 52kHz. In the process, the cross-over points are refined to push them even further out of harm’s way, the power handling is improved and the speaker puts on a few kilos. It’s all good.

There are some easy mistakes to make here, mostly built on a lack of listening by the end user. The first is to think this is just a way of disguising a poor base model loudspeaker with the promise of later improvements, to which the obvious answer is ‘shut up and go listen to the base model!’ And there are always going to be nay-sayers; those who think this whole exercise could be dubbed ‘Pimp My Loudspeaker’, but this argument evaporates – or begins to sound very clunky – after about 10 seconds of listening to one of the upgrades. Finally, there will be others convinced that you should be able to get Avantgarde Areté performance for standard Si3 prices, neatly forgetting that the cost of the drive units in the top model cost almost as much as the whole basic loudspeaker. Once again, a quick listening test to the base Si3 and its price rivals, and one of the more up-market models and its price rivals and you’ll see nothing’s out of place.

Too many companies sell ‘vertically’ today. If you want better, you need to buy bigger. Audiovector is one of the few that offers a viable and logical alternative; chances are, you chose the original model based on fitting it into your room. Fitting a bigger loudspeaker into the same room will frequently come up with very different results. And, with the economy meaning people aren’t moving as often as they used to, the room might be a constant for a decade or two. Audiovector’s way allows the user to improve their loudspeakers with every bit as much finesse as they get to upgrade their electronics. Given that none of the intermediary steps sound like a halfway house, this is a winning formula.

Why don’t more loudspeaker companies do the same thing? +



TECHNICAL SPECIFICATIONS

Prices per pair

Audiovector Si3:	£2,100
Si3 Super:	£2,900
Si3 Signature:	£3,900
Si3 Avantgarde:	£5,900
Si3 Avantgarde Areté:	£7,100

To upgrade from one Si3 model to a higher one involves the cost of the difference between the two models plus an additional 30%, to cover labour costs, shipping, etc.

Manufactured by: Audiovector

URL: www.audiovector.com

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