

ATC SCM100SE floorstanding speaker

by Jason Kennedy

Acoustic Transducer Company (ATC) has been making drive units and loudspeakers since 1974 and building a fan base in the hi-fi market for the performance quality of its systems for over two decades. Modelled on the company's Tower series of heavyweight floorstanders, the SE versions bring fancier cabinet work and electronics to the equation. You pay over 50% more for the impressive finish, inlaid metalwork and all-discrete electronics, but you do get a pretty swanky loudspeaker for your money. And in the case of the SCM100SE it is a pretty substantial one, tipping the scales at 79kg, over 10kg more than the standard model. .

Special Edition design enhancements include nickel piping on top and sides and a matching electro-plated nickel flat plate that covers the amplifier on the rear. On the Classic ATCs the amplifier's cooling fins and grab handles sit proud of the back, but all of this is hidden on the SE versions, and a second vented panel is fitted to let the heat out. This makes for a more elegant piece of furniture.

Another difference is the plinth that raises the cabinet up a little, creating a gap that adds panache to the design of the speaker footing and possibly helps the bass too. The plinth is threaded on the underside for spiked feet, but I'd be careful about using spikes on some floor finishes given the weight involved. The most satisfying detail of all for me is the curve in the top of the box which forms a 'brow' over the baffle housing the drivers. You can choose the colourway for the 'brow' section with matching or contrasting fillets, which is a nice touch. The SCM100SE has a rectangular grille with a fairly substantial frame that fits over the baffle. I preferred the look with the grille on, and since the system is tuned by ATC with grille attached, that's where it stayed for most of my listening.

Like many ATCs the SCM100SE is an active system. There is an electronic crossover and three separate power amplifiers in each cabinet. The signal from a preamplifier goes into the crossover via an XLR-only input, where it is split up using second order active filters and an all-pass phase correction filter. Then it's sent to the individual power ►





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- ▶ amplifiers which in turn are connected directly to the drive units. When I asked ATC engineer Ben Lilly to explain the benefits of active operation, he began with the fact that of all the speaker pairs ATC sells into the pro market every year, less than one percent are passive, which tells you quite a lot. In a nutshell, the benefits avoid the problems inherent with passive systems. These peccadilloes include the need for an inductor on the bass driver, which absorbs energy, reducing efficiency and compromising the damping factor of the amplifier due to series resistance: similar in effect to a speaker cable. A compromised damping factor means less control over the bass. Another issue is that passive crossovers struggle to cope with the dynamic behaviour of driver impedances; designers are forced to engineer around the problem in order to deliver a least-worst compromise. Then there is the difficulty of achieving a good phase response whilst maintaining an even frequency response and steady impedance. The whole thing is a tricky balancing act. Not only are the most successful passive crossovers more complex and expensive to design than active crossovers, but they also have to deal with the high power of an amplifier. By contrast active networks receive the far lower voltage output of a preamp.

In an active loudspeaker the crossover only sees the fixed input impedance of the power amplifier(s), which in turn have low output impedances and can cope with the variations presented by any driver, especially when they're specifically trimmed for the job. Thus the optimised power system aboard the SCM100SE has a 50W amp for the tweeter, 100W for the mid and 200W for the bass driver.

There are some drawbacks to active design nonetheless. First is the difficulty of upgrading: you are pretty much stuck with the on-board amplifiers. Second is the fact that the amplifier is attached to a vibrating box and thus vibrates itself. If these niggles hold you back from embracing the glory of active performance, ATC has a solution in the form of a standalone stereo amplifier with built in active crossovers. The P6 was created for the range topping EL150 but can be used with any of their three-way speakers, it's no more powerful than the on-board amps but it's a more refined amp and has a rather fancy case.

The amplifiers in the SE models are an upgrade to those found in lower ranges by virtue of discrete components ▶

- ▶ replacing op-amps, and they're all built from the ground up by ATC in house. The drive units on the SCM100SE are likewise built in-house and consist of a soft dome tweeter from the company's 'S' series, a classic ATC dome midrange unit, and a 12-inch bass driver with a Super Linear Magnet system, the latter contributing significantly to the overall weight of this loudspeaker.

The SCM100SE is a bass reflex loaded system with a large port on the front, allowing it to be placed closer to a wall than you'd normally expect for a speaker of this size and capability. I've used active SCM150s in a regular British living room of 15 x 12 feet and had no problems with excess bass, which is pretty rare in a speaker capable of reaching down to 25Hz (-6dB).

On this occasion the SCM100SEs were used in a larger space but remained little more than a foot from the wall where they were connected to the Townshend Allegri+ preamp, which is neither balanced or active, but with a pair of suitably terminated, three metre interconnects, worked rather nicely, or so I thought until I made an important discovery, which I will divulge in due course.

As things stood the system sounded right from the very first note of Nils Frahm's 'Said and Done' [*Spaces, Erased Tapes*], which starts with an insistent repeating piano note that has been treated in some way. ATCs have always been good at reproducing piano recordings: founder Billy Woodman used to play professionally (which must help), and this one - despite its less than purist nature - hit me right in the ivories. With the aid of BorderPatrol's non-oversampling DAC SE, which is particularly adept in the emotional communication department, it reached the parts that others fail to find. Alfred Brendel's 'Joanna' sounded pretty superb as well; his Haydn 11 Piano Sonatas [Philips] being particularly nuanced and charming, demonstrate that in addition to (or perhaps because of) huge power and bandwidth, this speaker can do the fine detail as well as any.

I tried a number of different digital to analogue converters with the SCM100SEs. They revealed the wideband neutrality of an MSB Discrete with its huge detail resolution and calm delivery as effectively as they unveiled the excellent timing if relatively dry presentation of a Naim NDX 2 streamer. In both instances the speakers exhibited plenty of control right down to the lowest frequency without any of the subtle high frequency glare that you get with grippy amps that have a little bit too much negative feedback. I really like the effortless volume that they can deliver; there really is very little change in character between high and low listening levels, and what there is may well be down to the reflections in the room rather

than the loudspeakers. It may take a while before I get used to regular amp and speaker combos when these are gone, such is the roller-coaster life of the audio reviewer.

I tried using the volume controlled output of the NDX 2 directly into the ATCs as well. This was strong in the mid and a little lean in the upper bass but had impressive powers of engagement, taking tracks into a sublime zone where all you do is close your eyes to be transported. Depth of reverb was particularly strong as was the shape and power of kick drums. The MSB combined with an AURALiC ARIES G1 streamer, connected this time with balanced cables, was very special in a more even handed way. Abdullah Ibrahim's 'Ishmael' [*Africa - Tears and Laughter*, Enja] is a vocal-led long form piece that sounded incredibly transparent and totally captivating with this combination. I also spun some vinyl back through the Allegri. Here Gwenifer Raymond's guitar picking lacked some of the openness I expect of her *You Never Were Much of a Dancer* [Tomkins Square] album, but the beauty and brilliance of her playing was very clear indeed, and the banjo positively turbo charged. The live sound of a thunderstorm in the distance was especially gratifying because I'd not been able to identify the low-end rumble until it was exposed by the bass definition of this speaker.

I mentioned earlier that I'd made a discovery about ATC actives over the course of this review. They need more drive than average; more than was provided by the MSB DAC or transformer passive Allegri. I was getting extremely revealing, wide bandwidth results with plenty of power but limited emotional impact: something wasn't quite gelling. So I dug out an ATC CA2 preamplifier and hooked it up. Bam, that did it: the musicians were in the room. Now the Nils Frahm sounded truly live, the piano regaining its full dynamic glory and the performance taking on a spine tingling immediacy. Using a preamp with decent line driving capabilities broke through the last barrier between the listener and the performance to deliver both technical and emotional communication of the first order. Hendrix's 'Spanish Castle Magic' [*Axis Bold as Love*, Track] is hardly a high fidelity recording in the conventional sense but all the important stuff is there: all of his power to communicate precisely what he felt is present in the data stream, and you can't help but be blown away by the soul and energy of the performance. That and the bass, which surely could never have sounded this good back in the day with the monitors available. Zappa's 'The Torture Never Stops' [*Zoot Allures*, Warner Bros] has so much going on in the background: such an intense and compressed guitar sound on a tune that starts out sounding lush but ends up infused with layers of the filthiest feedback.

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TECHNICAL SPECIFICATIONS

Type: Three-way, three-driver, floorstanding speaker with active drive and reflex loaded enclosure

Driver complement: 1 x SH25-76S 25mm ATC soft dome, dual suspension tweeter; 1 x ATC SM75-150S 75mm/3" soft dome midrange driver; 1 x ATC SB75-314SL 314mm/12" 'Super Linear' magnet bass driver

Crossover frequencies: 380Hz, 3.5kHz

Frequency response: 32Hz–25kHz (-6dB)

Amplifier output: 200W LF, 100W MF, 50W HF

Input sensitivity: 1V

Protection: Fabric grilles

Finishes: Satin lacquered or high gloss, black, white and a range of wood veneers

Dimensions without spikes (HxWxD): 1150 x 419 x 585mm

Weight: 79kg/each

Guarantee: 6 years

Price: £31,250 satin lacquered, £36,083 high gloss

Manufacturer: ATC

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All this glory and more is there for the enjoying with these high-resolution loudspeakers.

The ATC SCM100SE is a big-boned loudspeaker, and while its SE aesthetics help it to look more classy than its 'pro-tools' type stable mates, it will never be the slender belle of the speaker ball. But the 100SE makes no apologies for this and neither should it. If you want to move air properly you need a box with volume and preferably a large bass driver. The SCM100SE has both and is very well put together. What makes it so appealing is the ease with which it goes about the business of reproducing not only the full bandwidth of the signal but its full dynamic envelope as well, and if you like to play at levels that approach the realistic, it is in a class of its own.

I found the ATC SCM100SE extremely rewarding once a key ingredient had been added to the mix. I'm sure that there are other preamplifiers that have the ability to drive these speakers but the results I got with the modestly priced CA2 were pretty damn fabulous. However I suspect they have even more to give. +