

ATC SCM7

I had been impressed by the sound of the SCM7 on a glancing visit to the ATC room at the February Bristol Show, so requested a sample pair. This experience did not prepare me for my reaction when I got them back to base, but first there's a long history to this miniature...

In the 1960s-1970s the best-selling Goodman's Maxim, and also the BBC LS3/5A in the mid 1970s were two popular and very compact miniature, and sealed enclosure Hi-Fi speakers, and Bill Woodman, later ATC founder, became very familiar with the 1965 Maxim while a junior engineer at Goodmans Loudspeakers, Wembley, North London. Later, at ATC in early 1990, he aimed to improve on the observed limitations of these



two exemplary miniatures. He had three primary goals: to increase bandwidth or frequency span, greatly reduce distortion and to improve power handling, this leading to increased dynamic range to play at higher sound levels.

By 1992, following Billy's development work for this new compact two-way hi-fi speaker, the SCM10 emerged, featuring a larger 10 litre cabinet and an in-house designed and built 5"/125mm mid-bass, here partnered with a Vifa soft dome tweeter. The '10 became very successful in Japan but proved less popular elsewhere. Feedback indicated that the SCM10 was just slightly too big to substitute for those target older miniatures. By 1997, the SCM10 had evolved into the more compact A7, featuring a much revised bass driver that could work optimally in a smaller cabinet volume, and here partnered with a later compact, neodymium powered tweeter from Vifa. Way back in 2001, this was the A7 which was later developed into the 1st generation of our review 7 litre enclosure SCM7.

Completing the story, the current SCM7 is the 3rd generation of this model and is the first with an ATC designed and manufactured tweeter, developed in-house by ATC's engineer Richard Newman, to go with that proprietary mid/bass driver which has been a constant feature. The latest version also gets an upgrade from a simpler rectangular cabinet to a formed and laminated, curve-sided enclosure promising greater rigidity also conferring improved panel resonance damping. Finishes include natural wood veneers and black ash.

Technical details

This sealed box, or IB design employs a fairly simple second order, i.e. 12dB/octave, slope, implemented in a high quality crossover employing saturation free air-core inductors together with selected 250V polypropylene film capacitors. Short and simple, it is made possible by in house control of the many design variables, the enclosure, system design and the proprietary bass and high frequency units.

The largely pistonic and heroically built die cast frame ATC 125mm/5in mid/ bass driver has a most a generous 45mm diameter underhung voice coil, this that fabled short-coil, long-gap implementation and the coil is even flat wound, a typical pro feature. It also has a large doped fabric centre dome, both for sound radiation and for structural reinforcement. The line-up is completed by ATC's own design of 25mm/1" soft dome tweeter,

again with underhung low-distortion voice coil, also fitted with a rare anti-rocking dual-suspension feature which also confers greater dynamic range. The crossover is nominally at 2.5kHz, this lower value made possible thanks the powerful tweeter. The internal volume is just 7 litres aligning with the model name. Such a small box necessarily defines a lower efficiency/sensitivity if good bass is to be had and is claimed at just 84dB for a 1W 8ohm input. Each loudspeaker weighs a chunky 7.5kg and deserves a strong 60cm high stand. ATC's customary vestigial curved perforated steel grille is provided, magnetically retained and having a negligible effect on the sound.

Sound Quality

From the off, if you close your eyes you would swear that this well balanced and informative sound came from a much larger and more costly example. It does not sound 'small' in any way save when you mercilessly overdrive it. For smaller spaces it fills the room well enough, while the natural timbres, clean high frequencies and spacious deep stereo images inform the listener well. Acoustically it disappears into a nicely formed soundstage. It is low in listener fatigue, likely due to the smooth frequency responses and low distortion.

Cognisant of the monitor designation, it sounded natural on a wide variety of programme from a youthful Kovacevic playing the Brahms 'Diabelli' Variations on Philips (1968), to Donald Fagan's *Morph the Cat* (2006), here with expansive sound staging and rich, deep and tuneful basslines. If on a smaller scale it could rock with fine timing.

Benson and Klugh on *Collaboration* showed a huge soundstage for the opening track and was imbued with a generous funk expressiveness. Further, Reinhard Goebel's reading of Bach's *The Art of Fugue*, on Archiv, was superbly atmospheric, revealing a finely focused delineation of the well balanced strong counterpoint scoring and natural sounding acoustic instruments.

Conclusions

This is a remarkable loudspeaker on several grounds. Firstly build quality and finish are excellent. Then comes the monitor grade accuracy, excellent pair matching and the remarkable bass for the size, and then the low distortion. It sounds musical and entertaining and was a delight to review. Within the natural limitation of size it really is of musically revealing monitor quality.

Test Results

The load impedance is beneficially higher than usual, very close to 8ohms and with a 6.4ohm minimum. Consequently, for this small size the sensitivity will be quite low, here just about 82dB/watt, just 0.5dB louder than a 15ohm LS3/5a. On frequency response it meets +/-2.2dB 100Hz to 14kHz, this containing minor 1.5dB prominences at 750Hz, and 7kHz. It falls to -6dB by 20kHz with a minor suppressed bump at 28kHz -7dB. The decay responses were most respectable. Off axis the output in the vertical plane over a 30 degree sector was first rate, very consistent, showing excellent phase control and integration.

Again of studio behaviour, the horizontal output was also excellent to 10kHz. Laterally off axis it was tidy and even at 60 degrees it held to a minor 4dB loss by 10kHz. Up to 7kHz all the off-axis traces held to +1, - 2.5dB of the axial reference, a remarkable result. No wonder it sounded so consistently neutral, with a great in -room quality. And unbelievably it could accept 28V sinewave short term at 100Hz, this 100W understandably reducing to 4W by a low 35Hz, this output still being clearly and cleanly audible in the room. Overall distortion was low at typically 0.1%, and was particularly so in the treble at 0.05%.

Specifications

ATC SCM7
Two-way, sealed box

Tweeter	25mm soft dome
Mid/bass	125mm SC
Matched Response	±0.5dB
Frequency Response (-6dB)	60Hz-22kHz
Dispersion	±80° Coherent Horizontal, ±10° Coherent Vertical
Sensitivity	84dB @ 1W @ 1metre
Max SPL	103dB
Recommended Power Amplifier	75 to 300 Watts
Nominal Impedance	8ohm
Crossover Frequency	2.5kHz
Connectors	Binding Posts/4mm Plugs, bi-wire
Cabinet Dimensions (H x W x D)	300x174x215mm (grille adds 28mm depth)
Weight	7.5kg

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ATC SCM7 Frequency Responses: 82.3dB/2.83V @ 1m

