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# Hi-Fi News™

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## A tower of **STRENGTH?**

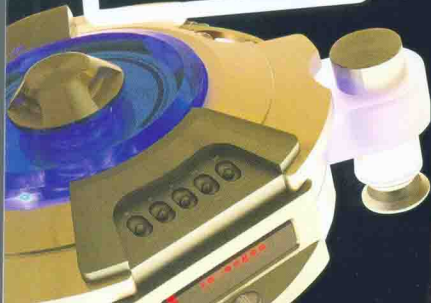
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ATC 30th anniversary • **loudspeaker**

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**DEFINITIVE  
TEST**





# Tower of Power

It may cost over £12,000, but ATC's Anniversary SCM 50 offers a driver configuration never before available in one of its floorstanders, plus a trio of re-vamped Class A amps. **Dave Berriman** reckons it sounds sublime

## 30th Anniversary Signature SCM 50 ASL Tower

PRICE £12,720

**A**TC has been quietly going about its business of making loudspeakers since 1974 – not ordinary loudspeakers mind, but high-powered designs with high-fidelity aspirations. One of founder Bill Woodman's first product was the now-famed three-inch midrange dome driver, designed to reproduce music more convincingly by combining smooth frequency response, low coloration, wide dispersion and dynamic range.

The 'Limited Edition 30th Anniversary Signature SCM 50 ASL Tower', to give it its full name, is a special edition of ATC's well-established SCM 50 active stand-mount loudspeaker. It uses the latest derivation of the famed midrange dome, the SM75-150S, with ATC's 234mm ATC woofer and 25mm soft-domed silver voice-coiled tweeter and is the first time this configuration has been available as a floorstander.

In recent years, ATC has up-rated its drive units by incorporating its Super Linear high gauss magnet technology. This makes use of electrically insulating magnetic materials in the magnet system to reduce eddy currents by more than 10 to 15dB and give a substantially cleaner sound. The all-electronic crossovers are fourth order 'to eliminate phase and harmonic distortions' introduced by typical passive crossovers'.

Apart from the stunning high-gloss piano finish, which is in honey-hued multi-grained American burr magnolia veneer and 'aeronautical grade' polished aluminium trim, the extra 15% in internal volume improves the bass alignment for even deeper low frequencies. Also part of the Anniversary Signature package is an attractive acrylic base and spiked 'feet', both of which provide physical support for what is an extremely heavy design.

The internal amplifiers run in Class A up to two-thirds of the full-rated power, which is 200 watt for bass, 100 watt for midrange and 50 watt for the tweeter. They have been re-vamped with new ultra-low noise discrete circuitry but retain the same grounded source technology as in the standard model. With a claimed noise floor of -90dB, the only noise audible via these speakers should be from the source equipment.

### SOUND QUALITY

The first thing I noticed about the sound of the SCM 50 Anniversary was the sheer solidity and stability of the soundstage it created (stereo imaging is absolutely pin-sharp) and its even, consistent tonal balance. For instance, playing Ivo Janssen's recording of Bach's *Well Tempered Clavier* [Void 9808] the piano position was convincingly centre-stage, remarkably clear and lifelike, down to the subtle but not emphasised tap of fingernails on keys and the full, rich sound of the instrument's body. Indeed, I have rarely heard piano reproduced sound so convincingly. Just take the left hand, for

**The piano position was centre-stage, remarkably clear... down to the tap of fingernails on keys**

instance. Through many loudspeakers this sounds weak or muddled, but here it was accorded a power and solidity that is rarely heard. The longest strings were given equal weight to those higher in the scale, assisted no doubt by the loudspeaker's unusually wide frequency range. While the sound is both rich and powerful, it's not over-resonant or muddled and in that sense these



**Titanium-finished heatsinks disperse heat from the three amplifiers per box, totalling 350W class A power**

magnificent loudspeakers convey just the right balance of power, solidity and precision.

Moving on to a different solo instrument, I spun a 25-year-old Decca CD of Kyung Wha Chung playing the Beethoven Violin Concerto with the Vienna Philharmonic, conducted by Kirill Kondrashin [Decca 400 048-2]. As an early digital recording, this usually lacks the relative translucency of modern 16-bit fare. From past experience her violin can sound fierce and unyielding when replayed over unforgiving systems, but with the ATC and, it must be said, the Musical Fidelity kW SACD player with valve output stage [see p56 of this issue for a full review], the string tone was much more natural than usual and surprisingly fresh.

Her technique was easy to hear, the subtlest variations in bowing were clearly apparent and the string tone and

**“Brubeck’s *Take Five* really swung, with the sax firmly at the centre, full toned and not at all shrill”**

delicacy were excellent – at least given the age of this recording. There was no harshness, brittleness, roughness or ‘shouty’, ‘horny’ quality to the violin or orchestra – just a sense of natural openness and transparency coupled with the firm foundation provided by a solid and powerful (but not too powerful) lower

midrange and bass output. I have rarely heard this old disc sound so good. Most noticeable was how the tone of the violin remained consistent through the range, with little or no obvious changes in character introduced by transitions between the various drive units. Also, it could be played at realistic concert levels without my having to leap to turn down the volume control for relief from listening fatigue.

Maybe having soft domes for the mid and treble helps consistency, but these drivers must be knitted together well in amplitude and phase to achieve this. Also most noticeable was the warmth and richness of the orchestral sound and the lovely tone of the double basses. The massed strings were brilliant in tone, but not harsh.

Dave Brubeck’s ‘Take Five’ from *Time Out* SACD [Columbia Legacy CS 65122] really swung, with Paul Desmond’s sax firmly at the centre, full toned and not at all shrill. The drums had real power and scale. Indeed, it is rare to find drums sounding so realistic – most likely a combination of the unusually deep and even bass and low distortion [see Lab Test measurements]. The sound in this recording is quite ‘dry’, controlled and neutral and one could almost imagine sitting in the booth during the first playback. Bass was excellent, though this particular recording’s treble quality was undistinguished. The SCM 50 can’t improve on what’s on the recording, but if it has been captured faithfully one can be assured it will be reproduced well.

At this point I substituted an Audio Research Reference 2 all-valve pre-amp for the ATC SCA3 all-discrete solid-state unit. Coupled with the valve





Three amps sit inside each speaker with a power inlet and XLR balanced signal input at the cabinet base

Tweeter above SM75-150S midrange driver

output stage of the Musical Fidelity kW SACD player, this brought a further level of translucency and fluidity into the system and I fancied I could hear the benefits of the speaker's on-board Class A amplifiers even more clearly.

Shifting a gear in musical genres, Morcheeba's *Big Calm* [Indochina 3984222442] featured Skye's voice as smooth and silky as one could wish, while in 'Part of the Process' the floor fairly shook with awesomely deep and powerful but well-controlled bass. This CD is richly layered with effects, such as multiple loops, samples, 'scratches' and echoes. Every little detail was audible and one can imagine the ATC 50 as the heart of a productive studio acting as a clear window on the recording. Even in the most complex mixes, the sounds held together and kept the strands separated. That is the mark of a fine monitor – a true monitor, not merely a marketing label.

Voice was particularly well reproduced. For instance, James Taylor and Mark Knopfler's vocals in 'Sailing to



### Lab report

The composite curve, comprising combined anechoic axial and near-field woofer/mid range frequency responses, is shown in Fig 1. This indicates a very even frequency response, with nicely extended and gently falling bass output (-3dB at 39Hz) which reaches way down to 30Hz (-6dB), without peaking.

The mild low-frequency lift in the composite curve is mainly due to the near-field measuring technique. The port was tuned low (to around 27Hz), which extends bass far deeper than is usual and helps keep distortion down to the lowest audible frequencies. Treble was smooth and extended too, with just a mild lift at high frequencies on-axis. Overall, as measured, the frequency response held within  $\pm 3\text{dB}$  from 40Hz to 20kHz, which is pretty good.

The off-axis curve family of frequency responses of the SCM 50 ASL Tower were measured at one metre, initially at a typical listening height of 89cm from the base, which is mid-way between the midrange and tweeter. The responses showed good consistency, marginally smoother below axis than above.

Bearing in mind this is a three-way, and that listening is usually done at two metres or more, the vertical tests were repeated with the microphone on the mid-range axis (see Fig 2). This tells a similar story but with less of a dip on and below axis.

The curves for horizontal off-axis measurements are shown in Fig 3. Note that the drivers are offset to the left on the front baffle (measuring the

right-hand loudspeaker), introducing different variations towards the left and right. Once again, the curves were consistent and smooth.

Various sine-wave sweeps were carried out, to measure harmonic distortion. In Fig 4 are shown non-gated sine measurements. These were measured at 0.25m, mid-way between woofer and port, at a level equal to 90dB at one metre (more accurate at low frequencies).

At 40Hz, second harmonic [blue] was just 3.3% and third 2.2% [green]. Fourth and fifth harmonics [brown, grey] were only 0.7% at this frequency. At 100Hz, distortion was even lower. Second harmonic was less than 0.5%, third under 0.3% and fourth and fifth even less.

Gated measurements, on the midrange axis at 0.5m gave more accurate mid-range and treble figures (curves not shown). These indicated remarkably low distortion of under 1% through the mid and treble.

The waterfall family of curves (not shown here), indicated some well distributed ridges of energy through the midrange and treble. These were not the lowest levels of delayed energy I've seen, but the energy is spread out across the frequency range. There were no major peaks which could stand out to become noticeable and this, no doubt, accounts for the low audible coloration recorded.

This was a very fine set of measurements, as one would expect.

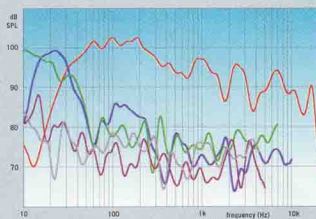


Fig 1. On-axis composite 20Hz-20kHz

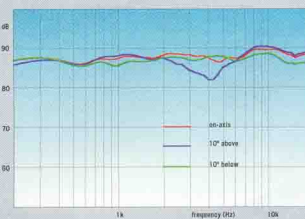


Fig 2. Off-axis response, vertical

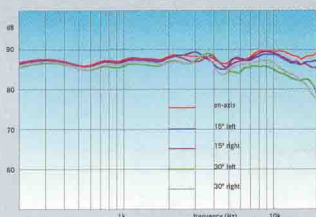


Fig 3. Off-axis response, lateral



Fig 4. Harmonic distortion (see text)





Those drivers, and cabinets with their honey coloured American Burr Magnolia veneer

Philadelphia' were rendered superbly. From Elvis singing 'Four Leaf Clover' on a compilation CD to Van Morrison's difficult-to-handle guttural drawl in 'The Last Laugh' from *Sailing to Philadelphia*, the ATC delivered the goods in a free, natural and easy manner.

There is one thing about these loudspeakers which may not appeal to everyone used to hi-fi with the emphasis on 'hi'. I think it's the ATC's intrinsic neutrality and lack of emphasis or distortion. One could call it lack of character – but in a loudspeaker that's a benefit to my ears. Some listeners may find them a trifle underwhelming – at least at first. It's important to give them time, allow one's ears to adjust and learn to appreciate their subtle understated analysis and then you might find it difficult to revert to 'ordinary' speakers. If you like music larger than life or with obvious 'clarity' and 'definition' you may prefer something more 'impressive', but if you enjoy live and natural-sounding music there's no doubt you'll enjoy these magnificent loudspeakers.

The price of around £12,720 may seem expensive, but just remember each loudspeaker houses three high-quality low-distortion amplifiers of startling sound quality. There's always the passive version at £10,280, but then you'll need to find a really good amplifier for the difference in price. I reckon the extra cost of the active version represents excellent value. Then there's

“ **The price may seem expensive, but each speaker houses three high-quality Class A amplifiers** ”

the fact that with the 'active' version, all that's required for a stunning system is a pre-amplifier and signal source of comparable quality.

A pair of these speakers may set you back the price of a decent car, but what pleasure they can bring. With hand-built quality, furniture-quality finish and a six-year no quibble guarantee, they could be the last loudspeakers you'll ever need to buy. ■

#### Supplier

Loudspeaker Technology Limited  
01285 760561  
[www.atc.gb.net](http://www.atc.gb.net)

#### Hi-FiNews verdict

A studio-quality speaker that combines fine engineering, solid hand built construction and accurate, musically satisfying replay in the home. While it's not cheap, remember this is an active design and so comes with dedicated high quality power amplification on board.