

ATC SCM20SL AT Active Loudspeakers REVIEW

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\$14,999
5 Stars

On-board power pays off with this winning speaker/amplifier combo, where there's no fudging of the sounds coming from the source.

THERE'S A STRANGE mix and match methodology involved in the pursuit of audio nirvana. More often than not, hi-fi folk will put together seemingly random sources, amplification and loudspeakers from multiple manufacturers in an effort to create system synergy and to create a sound that's "just right" for them within the constraints of their budgets and rooms. Witness my own endless struggle to find the "right" preamplifier for my power amps and speakers.

Occasionally, some will stick to a single brand for every component (right down to the cabling) but this is only possible with the few manufacturers that can supply the lot – Naim and Linn come to mind.



Sometimes, the mix and match approach works like a charm, but there's one area that's particularly hit and miss, and that's the complex interaction between amplifier and transducer. Taking an integrated amplifier or even a pre/power combo from brand A, hooking it up to a speaker from brand B, and hoping for the best seems a little odd, even if it is the default choice. In the ideal world, it would be nice if the designers of both the amplification and the reproduction equipment had a chat before proceeding to the actual design process. It would be even better if they liaised so closely that the speakers and the amplifier were crafted to suit each other, thus creating that elusive synergy before the boxes even left the factory.

In the case of ATC's range of fully active speakers, the relationship between amp and speaker is even more intimate because the speakers are designed from the outset for each driver to be powered by its own dedicated amplifier. Even better, the necessary evil of the passive crossover has been done away with. ATC makes a compelling case for the active approach. The following is extracted from one of the company's PDF documents, and it's well worth a read to understand ATC's reasons for creating speakers such as the SCM20SL AT's:

"The performance benefits of active over passive loudspeakers is substantial. Even a system that incorporates the best available stand-alone power amplifier will never achieve the performance of a similar active system. There are very good engineering reasons why this is true and the following brief will introduce some of the issues.

1. The magnitude of the frequency response of both active and passive loudspeakers can be controlled, with good design, to be within 1dB of one another. However, the phase component of the frequency response will always be better in an active system. The active filters produce better filter roll-off characteristics at crossover. Combine this with the inclusion of a variable all-pass filter at each crossover point to correct the phase response of the drive units through the crossover regions and the result is a loudspeaker with much better group delay characteristics. The benefit to the listener will be improved polar response and therefore radiated power response. Such an active loudspeaker will, therefore, have a large stable sound field with stable imaging and source location not possible with a passive loudspeaker

2. A passive crossover will only operate correctly into the load impedance of a particular loudspeaker drive unit. However, the impedance of a loudspeaker drive unit will change with the amount of power input. This is because loudspeakers are very inefficient and most of the input power is dissipated as heat in the voice coil. As a result, the temperature of the voice coil will rise and, because copper has a positive temperature coefficient of resistance, the impedance of the loudspeaker drive unit will rise. The result will be frequency response errors as the filters move from their designed response with increased input power. This effect does not occur in active loudspeakers where the filter response is maintained independent of input power to the loudspeaker.

3. Because the amplifiers in an active loudspeaker system are only required to operate over reduced frequency bands the intermodulation distortion products present in a passive system will be dramatically reduced, by typically 20dB, in an active system.

4. In an active system the absence of a passive crossover and long cable runs together with a known amplifier damping factor prevents the modification of the loudspeaker drive unit "Q" ensuring better controlled low frequency performance.

5. For a given amount of amplifier power an active loudspeaker can be expected to produce approximately 6dB more level than the equivalent passive system. Furthermore, powers may be more optimally specified in an active system. A tweeter, for example, requires much less power than a woofer to produce a balanced system performance."

Of course, not all manufacturers will agree with this assessment, especially those that don't make active speakers (i.e. most of them) but as we shall see, going active pays tangible dividends from a sonic perspective.

Features and Construction

The SCM20SL AT's are packed in some of the biggest chunks of heavy-duty polystyrene that I've ever seen. Under that lot is a thick wrap-around cloth cover, and once that's stripped off, the speakers are revealed in all their gorgeousness. The intricate detailing of the Yew veneer on the review units is quite lovely and the overall finish is superb – they're definitely in the high-quality bespoke furniture category.



The driver complement is made up of a 25mm soft dome tweeter crossed over at 2.8kHz to a distinctive doped "polyester weave" 150mm mid/woofer, with a 75mm soft dome grafted onto it, which gives it the appearance of a giant mutant dome-midrange driver. The mid/woofer is one of ATC's low-distortion Super Linear drivers with a massive 9Kg motor assembly. The passive version of this speaker is suitable for amplifiers with up to 300 watts of power, so there's no doubt that this driver is a rugged unit, which would be equally at home in a professional studio monitor.

Being fully active speakers, the SCM20SL AT's are powered by a 250-watt amplifier each side, with 200 watts going to the mid/woofer and 50 watts to the tweeter. The amps are mounted on the back of each speaker, complete with beefy carry handles that wouldn't be out of place on pro-spec rack mounted amplifiers. These handles make carrying the speakers a bit easier but at 40kg apiece, they're still unwieldy beasts, especially with the vicious floor spikes in place. Like ATC's SIA2-150 amplifier (reviewed [here](#)), these amps are heavily biased into Class A – up to two thirds of maximum power according to ATC, so they run hot, with the heatsinks being put to good use as room heaters.

Having lugged, wrestled and manoeuvred these hefty beasts from the driveway to their final location in the lounge, I was surprised to find that the cabinet is nowhere near as solid or inert as the overall weight led me to believe. The built-in amplifiers obviously add to the weight, as does that heavy mid/bass driver, but a sharp knock on the cabinet surfaces had me thinking more of lightweight, thin-walled construction than thick-walls with heavy bracing. Apply an ear to the top panel and thump a side panel and you'll hear more resonance than seems reasonable at the price, although the double thickness of the front baffle means that it's rock solid. There are no obvious audible implications related to the construction but it's plain that the cabinets must be singing along to a degree when the speakers are driven hard.



The SCM20SL AT's are designed for grille-on listening, which is something I'm not a fan of. Admittedly, anyone with small kids or cats running around the house is going to leave the grilles on, so they'll appreciate the fact that their speakers will sound their best that way, but I'm of the opinion that grilles belong in the box, especially on speakers that look so good without them. Not everyone will agree with my appraisal of the looks of the SCM20SL AT's sans grille, but I reckon they're fabulous that way. There are no less than 17 exposed screw heads on that thick black baffle, which gives the speakers a purposeful, almost professional look. Combine that with the unique looks of the hybrid mid/woofer and you've got a conversation starter, or perhaps just something that should be appreciated as is. You can run them without the grilles, but the treble is a touch emphasised that way. In my room at least, the tonal balance was just right with the grilles on, so I elected to follow the manufacturer's guidelines, but your system and room might not concur, so feel free to try the speakers the other way.

There's only one way to get these speakers to talk to a preamplifier and that's via a balanced XLR input – the ATC agents supplied a pair of Klotz professional microphone cables. Power is delivered via standard IEC power cords, so tweekers could of course use aftermarket power cords and interconnects if they liked. The amps aren't fitted with any auto-sensing circuitry, so they need to be turned on and off as needed, either from the rear mounted power switch on each speaker or at the plug – leaving them on full time is going to play havoc with your power bill. Not much of a warm-up is needed to get these amps on song: a couple of tracks are enough to get them up to speed.

Sound Quality

Paired up with ATC's own CA2 preamp and my Marantz SA8260 SACD player, the SCM20SL AT's proved to be relentlessly accurate and transparent, as befits the professional studio background of the company. The speakers have zero opinion as to how the music should sound; they just play what they're fed, so there's precious little character being added. This is either very good, or very bad depending on your point of view, and of course, the music you feed into the system in the first place. Play something like CSN's '50/50' from their 1991 box set, turn it up loud and you'll want to take refuge behind the couch with your fingers in your ears, because the splashy treble isn't attenuated at all, nor is the brightness warmed up by so much as a degree. At high levels, the track is basically unbearable.



However, move from there to the lovely (and nicely recorded) 'Find The Cost Of Freedom' on the same disc and you'll be spellbound by the openness and depth of the layered vocals, the clarity, attack and decay of the strummed guitars, and the warmth and resonance of the guitar bodies. It doesn't really matter how loud you want to play this track, listen to it as loud as you can take it and the ATC's just pour out music, and it's bloody gorgeous – my brief listening notes at the end of the track read simply: "Damn!" This amplifier/speaker combination is one of the most detailed I've heard at this kind of money, or more for that matter. Take a main driver that's been specifically designed to reduce distortion and pair it with matched amplification that doesn't have to deal with any of the iniquities of passive crossovers, and you get a sound quality that's quite remarkable from top to bottom.

It's obvious that the tweeter is very impressive in its own right. While it doesn't reach into the ultrasonic range like many modern exotic units, it's beyond reproach in both its ability to convey the finest of tonal gradations and to match seamlessly with the mid/woofer. Paul Weller's 'Wild Wood' from the *Deconstructed* compilation CD showed just how capable the drivers are in terms of detail retrieval – the cymbals and guitar notes were clear as crystal right to the very top, with a lovely soft decay to the sound of the strings, but these high notes were also beautifully integrated into the honesty of the midrange, where the high resolution sound quality showcased the vocals with a realism that reminded me of the openness and midrange quality of a very good valve amplifier.

Bass Notes

The specifications of the SCM20SL AT's would give many a brochure reader pause for thought. For a metre tall pair of floorstanders, the claimed low frequency extension seems feeble to say the least. At $\pm 2\text{dB}$, they're listed as reaching 80Hz and at $\pm 6\text{dB}$, they're good for only 60Hz. Even speakers as diminutive as Quad's 11L stand mounts (only 310mm tall) can boast a claimed low frequency extension of 38Hz ($\pm 3\text{dB}$).

It's worth bearing in mind that despite the overall size of the cabinets, the internal volume of the speakers is only 20 litres, which isn't much at all. Similar floorstanders would use most of their internal volume as a speaker chamber but here, the bottom of the cabinet is used to house the amplifier module – it's not open space for the drivers to interact with. In addition, these speakers are a sealed box design, with no port contributing to the bass output; this means that the speakers are less efficient, and the passive version of this speaker has a claimed sensitivity of 83dB, which is pretty low. Fortunately, there is a serious amount of power available here, so high volumes are easily achieved and maintained without strain.



ATC is obviously measuring very carefully, as even the bigger speakers in its range have relatively conservative specifications. More to the point, it seems that the company's engineers are focused strongly on bass superiority and linearity, aiming for quality over quantity, rather than forcing the speakers to reach down lower than they should via big peaks. They should be commended for this approach because the bass you do get is excellent – it's tight and fast, in the sealed box style with no looseness at all.

Despite the claimed figures and the physical limitations, there's a decent amount of bass on offer – in my room, they were very strong at 63Hz, rolled off slightly at 50Hz and started falling off from there. So they won't dig down deep into the bottom notes of a church organ but they can do rock commendably well. Sited close to a rear wall, they'll put enough low-end energy into a room to make most listeners happy, as long as they're thinking standmount, rather than big floorstander bass. In keeping with their accurate nature, you only get bass when the music calls for it.

The plucked guitar notes on 'Like A King/I'll Rise' from the acoustic second disc of Ben Harper's *Live From Mars* double CD vibrate and throb nicely enough but compared to the power and low end impact available from my Theophany M5 floorstanders, the limitations of the SCM20SL AT's low end extension is obvious. Massive Attack's *Collected* CD sounded fabulous in terms of the sheer detail on display but even though the bass was superbly tight, I really wanted another 10Hz of extension to make the music sound right. Again – think big standmount levels of bass and you've got the sonic picture.

Fast Movers

Dynamics and speed are standout characteristics in the SCM20SL AT's performance. That taut bass underpins the music and conveys an addictive rhythm that is complemented by the agility of the midrange and the leading edge attack coming from mid/woofer. The vocal in the aforementioned Ben Harper track ranges from softly spoken to searing, and these speakers have no hassle with the required dynamic range – they go from dead quiet to exceedingly loud with the effortlessness that comes from loads of power and total control.

That first disc of that Ben Harper *Live From Mars* double CD is a high-energy recording, and via the SCM20SL AT's, it's a powerful performance, even with the limited low bass. Turned up very loud indeed, there's no sense that the amplifiers are coming close to running out of puff, or that the drivers are heading into compression – even the top end remains totally balanced and under control. Not all small two-way floorstanders (or big ones for that matter) are able to remain this composed when driven really hard.

The ATC's put on a decent level of dynamics when listened to at lower volumes, but are definitely at their best with a bit of power flowing up into the cabinets.

The imaging and soundstaging are superb and they easily highlight the way different sources are able to locate performers. With a fair amount of toe-in, these speakers disappear into the soundfield like a pair of small stand mounts, and they place instruments and vocals at distinct points in space without getting into the artificiality of making everything seem pinpoint small. There's a great deal of width and depth to the presentation along with a sense of elevation and scale that belies the metre height of the speakers.

Accuracy vs. Enjoyment

These speakers are chameleon-like in their ability to reflect what's on the recordings they're fed. They can sound like a budget pair of standmounts fed by a cheap amp or they can sound like a set of high-end floorstanders and amps costing more than they do, and it all comes down to the music. Certain recordings are going to sound great, others quite frankly are going to suck but the flaw is in the recordings, not the ATC gear

And that is the conundrum that's part and parcel of dealing with a ruthlessly revealing audio system that has no real warmth whatsoever. I had T. Rex's *Great Hits 1972-1977 The A Sides* in from the local library while I had the ATC's, and some of tracks on this CD sounded so thin as to be skeletal (despite the remastering). On a warmer or less revealing system, this music would be easier to listen to but then again, you wouldn't really be hearing as accurate a rendition of what's on the disc. However, spin 'I'm Alive' from disc one of *Love Is Strange* by Jackson Browne and David Lindley immediately following the T.Rex CD and you'll be amazed at just how warm and texturally rich the speakers suddenly sound. The guitars roll and rumble and decay beautifully, while the vocals are creamy smooth yet starkly detailed, but that's actually the way the recording sounds, and these speakers do an absolutely wonderful job of making the music come to life.

Preamps

I tried the SCM20SL AT's with both ATC's CA2 preamp and the new CDA2 CD player/DAC/preamp, and my own passive StereoKnight Silverstone Balance transformer volume control. In each case, they were hum free and their sonic character and tonality remained relatively consistent with an impressively low noise floor. The transparency of the StereoKnight revealed that there's even more resolution to be had from the speakers, but the dynamics and intensity were better with the active preamps. With the passive pre in the loop, the speakers were even more emphatic as to the nature of the recordings they were playing – cold, thin tracks were rendered more so, but the virtues of good recordings were showcased in all their glory. My treasured copy of *Hellhound On My Trail*, Telarc's excellent Robert Johnson tribute album, sounded amazing with masses of detail and an electrostatic-like transparency through the ATC/StereoKnight pairing, but then again, it is an amazing recording.

The SCM20SL AT's will match up well with many good quality balanced preamps but an excessively bright unit should be avoided. Conversely, it should be possible to add some warmth to the system without losing any of the speed and accuracy by running a high-quality valve preamp, and this might well prove to be the best of both worlds. They'll need a good source too, because they'll easily show up any restrictions at the front-end.

Conclusion

Some will call the ATC's cold, dry or analytical, especially those who prefer a rose coloured tint to their hi-fi. Not everyone actually wants to hear exactly what's on his or her discs or albums; those that do, for better or worse, will appreciate every aspect of these speakers. There's a transparency and purity to the sound that's hard to give up once you hear it.

With their subtleties, their intensity and their cohesiveness, not to mention their ability to communicate and involve, the SCM20SL AT's reminded me of panel speakers, of full-range single driver speakers, even of good headphones and of course, of studio monitors. They're a fascinating study of what can be done when a company knows exactly what it wants to create, and then sets out with single-minded intent to achieve it. They're also a marvellous showcase of the virtues of active speakers, and of sheer component synergy – the amps literally were made for the speakers, an approach that makes so much sense.

Despite their inherent accuracy, they're able to pull off the magic trick of still being emotionally involving and not too cool; that is as long as the recordings are good enough to allow them to shine. This isn't a matter of requiring perfect audiophile test tracks, just that there has to be some life, energy and quality on the disc. Heavily compressed crap sound exactly as it should – rubbish in equals rubbish out. I obviously really liked the ATC's but I have to admit that they had me hitting the skip button on my remote more often than usual as I avoided certain recordings. In all likelihood, they'll have you doing the same or even paring back the worst sounding bits of your music collection. Not everyone is going to like that idea...

At \$15,000, these aren't inexpensive speakers but consider that you're getting a superb set of beautifully finished UK made speakers plus 250 watts of high-quality power amplifier, a fully active crossover and a six-year warranty for that money. Then consider the killer sound quality, that almost supernatural clarity and the fact that there's no sonic weakness to be found bar a lack of outright bass extension (which isn't what these speakers are designed for, so this can't be held against them any more than one can thrash a set of mini monitors for not doing justice to Massive Attack).

There are reams of speaker and power amp combinations out there for this kind of money. Even a good integrated amp like ATC's own SIA2-150 or a Plinius Hautonga matched to a really top notch set of speakers would be an option, especially given the fact that a preamp wouldn't be needed.

Any of these alternatives might better the ATC's in some way, but I'd be highly doubtful that any would genuinely sound dramatically superior in every way and few, if any will get close to the clarity of these speakers. For many listeners, a less revealing sound and some warmth would be a better bet than the sheer accuracy of the ATC's, but in my book, these speakers are a good high-end audio purchase, perhaps even a great one if you're into the unvarnished truth.

I'm dead keen to try the bigger models in ATC's active range – perhaps the three-way SCM150SL AT with its 150-litre cabinet, 15-inch woofer, 350-watt amplifiers and 25Hz low frequency extension. I'm picking that'd be an experience that won't easily be forgotten, but then again, I'm not likely to forget this one. ASHLEY KRAMER

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