



**A STEREO MOJO EXCLUSIVE
WORLD'S FIRST REVIEW**

Powered Loudspeaker
ATC
SCM 50ASL



Review by James L. Darby (december 2008)

If you are not familiar with the ATC brand of speakers, you are probably not involved in the recording industry. ATC speakers and electronics are as common in recording, mixing and mastering studios as rainy days in Seattle. According to their website, artist who use ATC speakers include Pink Floyd, Mark Knopfler, Tom Petty, the Rolling Stones to name just a few. The people who make those artists sound good are the engineers and the list there is even more impressive with names like **Doug Sax, George Massenburg and Bob Ludwig** among them. Sony uses ATC's in their New York SACD studios. So does Abbey Road, Warner Brothers, Polygram and Naxos among many others.



Abbey Road

One name listed jumped out at me as a guy I had exchanged several emails with over the years. He recently won his seventh Grammy for engineering on the Telarc label. His name is **Michael Bishop**. So, I dropped him a line and asked if he and Telarc did indeed use ATC monitors. His answer was an enthusiastic "Yes! I use the ATC SCM-50s quite frequently at Telarc, in studios and at home. I'm a big fan of ATC's speakers in general. My associate, Rob Friedrich, also uses the ATC's almost exclusively in his sessions. We have ATC's in every post-production room and on every Telarc session".



In addition, from ATC's website is this quote: *Whether at home in Cleveland or on the road, he relies on five ATC 150 midfield monitors. The highest of the high-end speakers, ATC 150s are often found in mastering studios. However, Bishop reasons that the qualities that make them ideal in a mastering studio also make them ideal in critical direct recording.*

"The extreme resolution of the ATC 150s reveals the slightest shift in mic position or the subtle effects of changing atmospheric conditions," he explained. "At the same time, they're very musical and fun to listen to, even after long hours of tracking." Since a single ATC 150 weighs nearly 200 pounds, the fact that all five travel with him says something about their indispensability. "Stage crews are seldom happy to see us pack in with half a ton of speakers," he laughed, "but that's what I need to have to do my job properly."

ATC (Acoustic Transducer Company) was founded in Britain by Australian born Billy Woodman in 1974. In an exclusive interview with him, he said that the company's first big break was supplying the midrange driver for Super Tramp's live touring rig in that first year.

Billy studied electrical engineering in Victoria, writing his final paper on loudspeaker design. "Many of the best American jazz players gave

concerts in Melbourne and it was listening to live jazz that fired my interest in loudspeaker design and high resolution audio reproduction. It is my love of music and finding the most effective engineering solutions to solve problems that drives me and keeps me enthusiastic and motivated. I am a fortunate man to have been able to work and make a living doing what I most enjoy in an industry that I love", he told me.

When I asked specifically about the design goals of the ATC 150, he replied, *"We set out to design a product for the domestic market that was the sum of our experience and knowledge and which employed the most effective of modern engineering principles whilst being packaged to appeal to the audiophile as well as the music lover. The SCM50ASL is set apart from the competition because of its huge dynamic range, excellent linearity, corrected phase response, very low non-linear distortion, well controlled time domain anomalies and broad and even dispersion verses frequency. In fact, when I set out to design the (smaller) SCM50 originally the aim was a turnkey loudspeaker of exceptional performance and dynamic range in a relatively small package. Most of this is also true for the tower. It is the performance of the midrange dome, the SL bass drivers and their integration through the purpose designed Ampack (built in amplifiers) that makes this product hard to beat. ATC still makes, I think, the most highly specified drive units in the world and that does differentiate us in the market"*.

If you did not catch it, it should be reiterated that ATC designs and makes all of their own drivers in house. As you know, most speaker makers take drivers made by other companies and design enclosures and crossovers around them. But ATC does not stop there; they also design and make their own amplifiers to drive them. Studio monitors are all about precision and Billy found early on that the only way to have total control over quality and precision was to do it themselves.



The ATC SCM50SL is a three-way, self powered tower that is a little over 3' tall, a foot wide and 18 ½" deep. Each speaker weighs a hefty 188 lbs. While the tweeter is a 25mm Neodymium soft dome, rather uniquely and of special note, the midrange is also a soft dome design; a concept developed by ATC. The woofer sizes up as about 91/2 inches. Each of these drivers has its own amplifier custom designed to match its characteristics. The top end is powered by 50 watts, the mid 100 watts and the woofer has its own amp rated at 250 watts for a total amplifier output of 400 watts per cabinet.

There are several qualities that are absolutely essential for a speaker in a commercial recording studio environment. First, it has to accurate with a frequency response that is as flat as possible. The engineer has to be able to hear exactly what each instrument and vocalist sounds like with no coloration, dips or peaks. Distortion is the bane of every recording session that can and often does last for 18 hours a day. Distortion causes ear fatigue and with precious, costly studio time and very tight deadlines, engineers cannot afford to

have their ears and minds going south after a couple of hours. Speakers have to be built like tanks to be bulletproof. Accidents always happen like when a mic feed from the studio is left open too wide and sound comes through that would instantly trash the typical home speaker. Or that loopy guitar player who turns up his Strat without telling the booth.

Check out the construction of the ATC's woofer at left. Notice the extreme number of fasteners and how close they are to each other? Check out your woofers and see how fastidiously they are mounted. This reminds of 12 bolt main on a dragster.

They have to be extremely fast to deal the transients only live music can generate. And, of course, they have to be detailed. Recording sessions are all about details when you are working with effects that are measured in microseconds and a couple of microseconds too much or too little can make the difference between a recording that is too dense or spars, muddy or clean. If you were having brain surgery, you wouldn't want your surgeon using tools he picked up at Home Depot. It's the same with recording engineers; their tools have to be precise, perfectly balanced and antiseptically clean.

As mentioned above, a very unique feature of the ATC SCM50SL's is the large, soft-domed mid-range driver. I asked designer Billy Woodman about it; *"The idea for the soft dome goes back to my days as a young engineer and student trying to find a solution to the problem of combining high performance and large dynamic range. At the time, Britain was well known for producing loudspeakers of excellent acoustic performance but with limited dynamic range (Quad ESL63, Rogers LS3-5A etc.) and the US for loudspeakers that would play very loud but at the expense of acoustic performance. The ATC soft dome midrange covers a full decade of frequency, 350Hz to 3500Hz typically +/- 1.5dB, the most critical range of the human ear, and does so whilst generating very low harmonic distortion (-45dB second harmonic and -63dB third harmonic). It has a sensitivity of 1W@96dB@1M due to its light structure and high flux density magnet and is the only transducer I have encountered where the mass of the drive system equals the mass of the diaphragm assembly thus ensuring maximum power transfer. The voice coil is 75mm diameter and under-hung (3.5mm long coil in a 5.0mm magnet gap) to minimize distortion and maximize power handling capacity. The voice coil also has a double suspension to minimize diaphragm wobble modes, which cause unwanted distortion. The magnetic circuit is made of annealed pure iron to optimize flux density in the magnet gap. The dome is only 75mm diameter which guarantees broad and even dispersion verses frequency over its operating range. The dome itself is made from a fabric that is formed and onto which is applied a viscous damping medium optimized to deal with any structural resonance and time domain anomaly"*.



Being self powered, the ATC's employ built in amplification called the "Ampack" previously mentioned. Woodman told me that the Ampack incorporates phase correction and momentary gain reduction to prevent clipping the amplifiers when listening to very loud music when the output stage is driven to near full output. Bulletproof. The power stage of the amplifier is of a ground source MOS FET design and operates in class AB. Actually, the Ampack in the 50 tower operates in class A up to around 96dB@1M. The input is fully balanced allowing the system to be driven from a suitable remote source via long cables (up to 50M). In fact, the only way to connect the speakers to a source is via fully balanced XLR's. If you have a balanced CD player with volume control, you can eliminate the need for preamp altogether if it is your only source.

Many self-powered speakers use DSP (digital signal processing) equalization to help achieve a flat response and also to establish crossover points. The ATC's do not – they stay purely in the analog domain. To quote Woodman, *"The crossover filters are of the Linkwitz/Riley type, are forth order and critically damped. What is significantly different is that a variable all-pass filter is configured across each crossover point and is adjusted to ensure that the group delay through the crossover region is correct and therefore the loudspeaker system will exhibit a true minimum phase*

response. This helps to maintain accurate timbre of reproduced sounds as well as stabilizing the location of performers in the stereo sound field. No DSP is used in the implementation of filters in the active 50".

ACTIVE LISTENING

Since the theme of this review seems to be "the truth", you need to know that I am biased. Over a 30+-year career, I have spent lots of time in professional recording studios on both sides of the glass, including some of the best in US such as The Record Plant in New York and LA and Criteria in Miami. In the late 70's, I ran a state of the art 40-track studio in Akron, Ohio where the musicians contracted were first chair players from

the Cleveland Symphony and I have a hard-disk based studio in my home now. I don't mention that to brag, but to disclose that I am well acquainted with "studio sound" and I like it. A lot. So I am biased.

With that in mind, how do they sound? In a word, utterly truthful. Okay...that's two words, but they are both apt. I played dozens and dozens of recordings in several formats, both digital and vinyl, including a strong dose of recordings in which I have participated either as soloist, session player, arranger, recording engineer and sometimes all of the above. I have never heard a more "faithful to the original" than through the Active 50's, including the original playback of the master tapes in the original recording studio.

The first thing that strikes you is the uncanny quietness of the soundstage. Instruments leap from the speakers unfettered by background noise that is not otherwise noticeable until you hear a system that is this quiet. For example, a few years ago I participated in acoustic tests of a large, 3,000 seat church. Completely empty with the air conditioning off, the measured acoustic floor was almost 50 db. Now, just standing there, you would have sworn that the building was perfectly quiet. However, had you walked from that edifice into an anechoic chamber, you would have noticed the difference immediately. You could "hear" the quiet and it would be oppressive. You could hear yourself breathe and you would describe it as eerie.

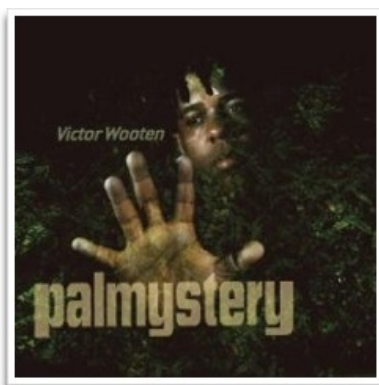
A quiet background allows you to hear more details, more nuances. But the sound of the ATC's is never etched, mechanical or dry. To me, the sound was very natural and not bright, but some might think otherwise if they are not used to it.

Next I noticed the bass. The low register of piano solo recordings had weight and authority without being overly (or "underly") emphasized or colored. It was not warm, soft, hard or cold. It sounded extremely neutral, just like the 6' grand in the living room and what I remember of the 9 footers in the studios and various venues. By the way, ask any pianist and they will tell you that a large part of a piano's character is how it feels. How the sound feels, not just the keyboard action. Being mostly wood, the sound is transmitted to the fingers as well as the ears. Through the 50's, it was easy to feel the piano sound as well as hear it.



The bass, as well as the rest of the frequency range was obviously very fast and responsive. Recordings such as bassist Dean Peer's classic electric bass guitar only "Ucross" was revelatory as he energetically popped and snapped the strings which leads me to say that dynamic range is a very strong quality of the 50's. I cannot think of any speaker that betters them, but I can think of many that pale in comparison in this regard.

I am currently writing reviews of three recent CD's by bassists Stanley Clarke, Marcus Miller and Victor Wooten. Even though these are not audiophile recordings, it was amazing to be able to easily discern their different styles, touches, tone and even their instruments. On the Wooten disk "Palmystery", I thought the bass playing on a couple of cuts was much different than the others. I attributed it to Vic just using different bass guitars and adjusting his style to the different tunes, but come to find out as I later read the liner notes, there were actually four different bassists scattered among the cuts – himself, his brother Regi, Flex Wellington and Alvin Cordy. So when I say these speakers are revealing and detailed, I don't mean sounds poking out or spot lit in an unnatural way, I mean it in the sense that musical nuances are clearly and cleanly portrayed.



Again on the "Palmystery" CD, Wooten decides that he wants to do a song utilizing three different drummers! He doesn't have a song, mind you, just the idea. So he lays down a click track (an electronic metronome) and brings in J.D. Blair and turns him loose to just play to the click track. Then he brings in Dennis Chambers who doesn't listen to JD's track, but plays to the same metronome. Lastly comes Will Kennedy who somehow manages to lay down a third track while monitoring the other two. So now he has three drum tracks but no song. He calls on guitarist Mike Stern to improvise a solo that he nails in one take. Vic is so blown away that he memorizes Stern's solo and doubles it on bass that becomes the root of the song. Then Neal Evans comes in and lays down a smokin' Hammond B3 track and we have the tune "Left, Right & Center", referring to how the drummers are panned or spread across the soundstage. Being able to hear the unique qualities of each man without any effort to do so

was pure pleasure.

"Without any effort" is the key phrase here. At no time did I find myself needing to lean forward or otherwise strain or focus to hear what was happening in a recording. The music and musicianship comes to you, you don't have to go looking for it. That, to me, is the true definition of a high-end stereo system.

Speaking of strain, at no time was there any sense of the speakers or amps working hard, even at very high volume. No distortion or compression. Linda and I found ourselves listening at somewhat higher levels than usual, but there was no sense of doing so. Even at levels with peaks nearing 100db, it was easy to carry on a conversation. Of course, Linda prefers levels a little lower than I, but with these, she never shot me the “turn it down a little” look.



There is no narrow sweet spot. Linda, seated about four feet to the right of me and almost in front of the right speaker, heard a perfectly formed stereo image. So did I when we switched positions.

There was no sense that I was listening to tubes or solid state. There was only the sense that I was listening to music. These speakers take the tube vs. solid-state quandary out of the equation, which is a big factor. They also eliminate the worry of whether your amp or amps are powerful enough – or too powerful – for your speakers. Think of what a relief that is to your mind as well as your wallet; you can permanently get off the expensive merry-go-round of amplifier upgrading and buying and selling. If everyone owned these, maybe Audioyon and Ebay would cease to be a factor.

Needless to say, the Active 50's will *rock* all night long. But they will also “classical” all night long as well. The ATC's do not play favorites when it comes to genre. Rhonda Vincent's bluegrass “*Good Thing Going*” on the Rounder label (11661-092-2) was just as convincing and enjoyable as the new and stunning K2HD remastered “*Antiphone Blues*” on FIM (LIM K2HD 026). This is a well-known 1976 Proprius audiophile recording of a solo jazz saxophone playing in a Swedish, 13th century cathedral accompanied by only the attendant pipe organ. Winston Ma's new K2HD version captures it in startling reality. Gorgeous.

True to its design goal, all the good qualities and lack of adverse qualities of this speaker meant that listening fatigue was not a factor. We never had the feeling that we had listened to these speakers and the music playing through them “enough”. It was easy to listen to them for hours, which we did several times.

CAN YOU HANDLE THE TRUTH?

In the movie “A Few Good Men”, when pressed under oath by Tom Cruise, Jack Nicholson utters the now classic line, “YOU can't handle the truth!” Let's face it; many audiophiles, when confronted with a system that is unflinchingly truthful, will not like it. A ruler flat frequency response may sound bright to those who are used to listening to a top end that is slightly rolled off, a midrange with a bit of added warmth and bass that is artificially enhanced by a bump up in the mid bass to give the illusion of deep bass. A true, professional studio monitor speaker may sound overly detailed to someone who is not used to hearing details of this quality and quantity. Even if your speakers measure pretty flat, your electronics may not be perfectly matched to them creating a pleasant, euphonic but flawed presentation. Even if you tri-amp your three-way speaker, trying to perfectly match each driver in the box with an amplifier would be close to impossible, not to mention expensive with the need for three different amps and speaker cables. Even a little bit of noise and distortion can detract from “the truth”. And here's another variable in the equation; let's assume that your speakers and amps are somehow perfectly matched. In a conventional setup with separate amps and speakers, there must be cables running between them. Usually rather long, unbalanced cables. There are not too many manufacturers and designers than make amplifiers, speakers and cables that are perfectly matched, so by introducing a third party cable, especially unbalanced, you are also altering or coloring the signal. We know how audiophiles love to adjust the sound of their systems by changing cables!



The ATC SCM50SL's eliminate all those variables and the associated expenses. There is really no need for expensive cables between your balanced preamp and the ATC's. I used three different brands and I can tell you that the standard XLR microphone cables you can buy in any guitar shop for under \$30 sound fine. After all, those are what is used in most recording studios, aren't they?

Are these speakers perfect and superior to every other speaker in every area? Not quite. There are four factors that might be deal breakers for some. First is the overall appearance. While the construction quality is

superior to most, the overall look of the towers is that of a typical boxy floorstanders. There is no real flair or unique style. The cherry finish of the samples was fine, but there are no glossy piano or exotic wood finishes available if that is important to you. The grills are supplied and easily removable, but that leaves a rather unremarkable plain black panel at which to look.

Secondly, while the speakers completely disappear sonically, the soundstage is not as vast in all directions as I have heard. Soundstage champs in a tower configuration such as the Gemme Audio Tanto and the Nola Vipers are clearly superior, but neither have the other virtues of the 50's in quite the same degree. To be fair, and I am sure Mr. Woodman would contend, that other speakers exaggerate the soundstage to unnatural proportions. That is possible. I'm just reporting the facts.

Third, the largish 50's are not well suited for small rooms like Room 2 at Casa Mojo here. They were in there for a couple weeks while breaking in. Main listening was in the large Room One. There are only two floorstanders that have ever worked in the small room that is normally reserved for smaller stand mount speakers: the Gemme Vivace which does not play loud but soundstage and go low extremely well and the new speakers I have in for review right now, the just released Coincident "Super Victory" which amazes me that such a large and tall speaker would even begin to work in a 12x10x8 room. They will play very loud and with as little 5 watts of power into them. The ATC's require a moderate to large room. They will have no problem filling a very large room.

Last, of course, is the \$20,000 price tag. This is definitely at the upper reaches of what anyone would call "affordable high-end", but of course it is nowhere close to the \$200,000 some models demand. But, that price on its own is deceiving because the true cost of ownership is lower



When considering the true cost of these speakers, one has to take into consideration the fact that amplifiers are included in the \$20K ticket. In fact, as we have seen, there are *six* of them. How much would it cost to tri-amp a pair of speakers like these – including six pairs of speaker cables? Another good question would be, how much would these speakers cost without the built in electronics? That is an easy answer - \$14,800. How do we know? These same speakers are offered sans the electronics in model SCM 50SLT – the letter "A" for "amplified" is dropped. Therefore, you are paying about 5 grand for 6 amplifiers producing 800 watts per pair of extremely high quality; class AB, perfectly matched power. In addition, if your source of choice is a balanced digital player, you could get away with not using a preamp for substantial savings. Remember, the only way to connect to these speakers is via balanced XLR's. Yeah, there are adapters, but who wants to use those. Also be advised that you need to plug both of these into something - they need AC for the amps. It is also a slight inconvenience to turn them on and off via the toggles in the rear.

Would I personally recommend these speakers to a friend? If he had an appropriate sized room, and inclination toward studio quality performance, the answer is an enthusiastic yes. Would I buy them myself? The answer is yes. And no. Let me explain. As a reviewer, I need to evaluate all kinds of amplifiers and cables. That would be impossible with speakers that have the amps built in. So, in that sense, I would not buy them for myself – and I didn't. However, if I were looking for a speaker in the 10 to \$15k range (I would sell my power amps and speaker cables since I wouldn't need them anymore) these would be my first choice. If they are good enough for guys like Michael Bishop, Doug Sax, George Massenburg, Bob Ludwig and Pink Floyd, they're good enough for me.

[ATC SCM 50ASLT Classic Tower \(Active \) in Black Ash - \\$20,900. With Cherry Finish as tested - \\$21,600.00](#)