

ATC Active 50 Loudspeaker

by Jason Kennedy

Why doesn't everyone use active loudspeakers? They have so many fundamental theoretical advantages over their passive counterparts that the reasons have to be buried in something other than logic. Perhaps it's because there are so few active speaker makers in the world of domestic audio and therefore we think that they can't be any good otherwise everyone would be making them? Or could it be that you don't get the chance to try different power amp, cable and speaker combinations? There's certainly not so much tweak appeal to a product that ties up two and a half of the four basic variables in a hi-fi system (source, amplifier, cables and speakers). Possibly it's the nature of the active speakers that people have heard or read less than positive reviews of (you do get a serious slice of one designer's vision after all). Price probably has a bearing as well. It's difficult to get your head around the notion that you are buying high quality loudspeakers, multiple mono-block amplifiers, speaker cables and electronic crossovers simultaneously. People look at active speakers and think they're expensive, but if you broke them down and sold each element individually you'd probably double the price.

All of these factors play a part in the genre's domestic scarcity, but in the professional world that's virtually all there is: all those in wall systems and often the desk monitors too, are active designs. They pretty well have to be in order to generate the SPLs all day, and, supposedly, all night as well. There have even been brands like Tannoy that have built active speakers exclusively for the pro world and ironically the same brand is now making active speakers for the install market. Tannoy clearly realises that changing the perceptions of the

domestic market is likely to be a less profitable business.

But the brands that do make actives for the home, like ATC, Meridian, PMC and of course B&O, have been doing so for a long time. And having lived with a few different active designs over the last few years it's not hard to hear why.

The intrinsic advantage of the breed is the ability to design amplifiers to partner specific loudspeaker drive units whilst eliminating the subtractive crossover network in between. The benefit in terms of control is phenomenal. Remember each drive unit has its own amplifier, so a three way loudspeaker like the Active 50 has three power amps in each box. A 200 watt for the 9" (225mm) bass unit, a 100 watt for the 3" (75mm) midrange dome and 50 watts for the 1" (25mm) dome tweeter. That's 350 watts per channel, a lot more than the majority of passive systems, and controlling the drive units directly. Add to that the fact that the active crossover can compensate for low efficiency in a drivers, or its mechanical roll-off, by actually adding level where required, and you have a recipe for wide bandwidth and high energy levels from a compact enclosure.

Which explains why 99% of subwoofers or sub bass systems are active. We take it for granted that a sub should

be active and we are gradually coming round to the idea that subs are very useful for reproducing a realistic sound-stage. To be frank, you haven't heard bass until you've heard active bass. I guess this is mostly because bass drivers are the heaviest and hardest to control, and you can't really have too much control. I know that low powered amps can sound fantastic with loudspeakers that offer an undemanding load, but this doesn't stop me wishing that someone would build an active speaker around those amplifiers. An all valve powered active speaker could be incredible. I think such a beast was created in Germany not so long ago, but whether it still exists has got to be worth a search on the internet if nothing else. There are of course drawbacks with the genre - nothing in hi-fi is ever perfect! The

one that comes most readily to mind is the back breaking weight of each speaker when they get into the 50 litre domain. I can't lift an Active 50 and it's a struggle carrying one up the stairs when there's two of you.

Then there's the issue of supporting an amplifier within an energised wooden box. To a man whose source and amps usually sit on air suspended Townshend racks the idea of attaching them to the main source of resonance within the system goes against the grain. There must be some mileage to be had from separating amps and speakers whilst retaining the active factor. ▶



▶ There have been a few active systems with outboard amps and crossovers, including Wharfedale's Option One and B&W's Nautilus, but Naim are by far the best known, with newcomer Emotive Excellence going the same route. But you won't find this with brands that do business in the pro world. This is presumably for practical reasons, but having very short cables between crossover and amp, and amp and drive unit is clearly beneficial and may outweigh the problems associated with poor isolation.

From a system building point of view you also need to get hold of a pre-amplifier that has good cable driving characteristics, and preferably balanced outputs to match the inputs on the speakers. However, I successfully used the ATCs with a single ended output equipped Border Patrol valve pre-amp using phono to XLR converters at one end, so this isn't essential.

The high power found with ATCs is due to the company's pro heritage. Founder and Australian Billy Woodman started off by making bass drivers for PA systems in 1974. From there he moved into building complete pro loudspeakers and inexorably got into active designs with the rest of that industry. He has done so with no little success, developing the dome midrange driver along the way and managing to get his speakers installed in some of the most prestigious studios in the world. Peter Gabriel's Real World, Todd AO (the biggest film scoring stage in the US) and Bob Ludwig's Gateway Mastering. Not to mention supplying many of the biggest names in the business such as Pink Floyd: the eagerly awaited multichannel SACD of *Dark Side of the Moon* was mixed by James Guthrie using an ATC System 3 consisting of SCM 150s at the front and SCM 50s (the professional

version of the Active 50) at the rear with 15" Sub bass system. Talk about wish you were here, or even there, for that matter!

But does all this power and control make sense in the home? Oddly enough it does. Even if you don't aim to recreate



live SPLs in the living room the active approach delivers the goods at real world levels. There is of course always the temptation to wind up the wick because the headroom is limitless by normal standards. But they work at background levels too. This is due to the phenomenal transparency delivered by the system as a whole and the remarkable midrange dome in particular. This driver was developed by Billy Woodman when he started the business and continues to be manufactured at ATC, by hand, using edge wound coils. It makes a powerful

argument for the three-way approach in the way it resolves the signal being fed to it with so little apparent coloration. The other two drive units are certainly in the same league and contribute the width of range, but it is this part of the system that would seem to be the key to the speaker's transparency.

The Active 50s make this explicit when you listen to a range of different material, each recording has its own distinct character to a far greater extent than is usually apparent. You can literally dissect the technical aspects of a track, pick out the vintage, venue and, if you knew what you were listening for, the type of compressors and microphones as well. The multiple layers of Lambchop's subtle but extremely powerful 'Is A Woman' peel away to reveal the instrumentation behind what often sound like background noises, while the phenomenal energy of AC/DC's finest five minutes, in the form of 'Problem Child' on the appropriately named *If You Want Blood*, is delivered to full effect. The recording may have one of the leanest mixes in recorded rock but this, if anything, enhances the power of the performance. And with speakers like these you're guaranteed the last ounce of whatever low frequency information is in that recording, which is always a good thing when you want to play Angus and co in anger. Or Deep Purple or Metallica or even Glenn Gould!

It's not the same sort of transparency you get with a Nautilus Signature 805 for instance, where the tremendous sense of openness and high frequency clarity reveals a lot of what's going on in the midrange. The existence of a serious bass driver and accompanying amplifier underpins the mid and top to give a wider tonal range which rarely results in an 'airy' sound. The traditional ▶

▶ cabinet shape and the manufacturer's preference for keeping the grilles on when in use means that the high frequencies are more contained. You can get the impression that the sound-stage is rather small and restricted, but this only lasts until you play something that has a genuine sense of expansiveness. Something like the Grateful Dead's live album *Reckoning* (the track 'China Doll' is the one, by the way). The LP has acres of atmosphere and fills the room so well via the ATCs that you wonder what other speakers are playing at. They provoke one into feeling that the expansiveness of alternatives is due to box resonance and other colorations rather than the radiating power of the drive units themselves.

The energy factor is also rather different with ATCs like these. They are never going to sound like horn speakers, for obvious reasons, and you don't get the effortless power of the genre. But you don't get the coloration either. What you can get is level. Jimmy Hughes once wrote that music often sounds better in the record shop than it does at home, and I know what he means. But I think that, in the case of non-classical stores at least, this is because they play at quite high levels and sometimes have enough large loudspeakers to cope. Power handling is what divides the men from the boys with loudspeakers. If you like music that when performed live tends to be delivered at uncomfortable levels there's nothing like great power handling to emulate that effect in the home. Music sounds intrinsically different at different volume levels: boring tracks can become interesting when turned up and lively ones can become tedious. There are no hard and fast rules except that if you like it at normal levels the chances

are you'll like it more louder. So having a speaker that can deliver it louder without resorting to obvious distortion is a good thing.

The degree to which the recording is compressed is not disguised with the Active 50s and inevitably some material will disappoint. The majority however deliver big time.



Take Erykah Badu's *Baduizm*, often as not her heavyweight bass playing is lost on average loudspeakers. They either have a stab at it and end up out of their depth, producing bloated, uncontrolled bass, or simplify matters by high passing the fundamentals and get by on the harmonics. The ATCs give you what seems like the whole picture in deep, tuneful fashion. This comes down to the grip afforded by 200 watts in charge of a high quality, hand built nine-inch drive unit.

I was very sorry to let these speakers go. Not merely because I had to help

carry them down the stairs either. They are remarkably entertaining to use and from a reviewing perspective phenomenally transparent. However, the other reviewing angle is that you can't use them to listen to power amps or speaker cables, which is about the only reason I let them leave the house at all. All in all the Active 50 represents tremendous value for money, I'd challenge anyone to produce a loudspeaker, amplifier and cable system that came anywhere near this performance level at the price. If what you want from your system is high resolution, high power handling and high entertainment this is one of the finest solutions available. ▶+

TECHNICAL SPECIFICATIONS

Type:	Three-way, reflex loaded active speaker
Drivers:	25mm SEAS Excel tweeter, featuring a silver voice coil and double magnet system 75mm ATC fabric dome midrange 225mm SCM bass unit incorporating SCM technology and voice coil speakers
Amplification:	200 watt bass, 100 watt midrange, 50 watt treble
Dimensions (WxHxD):	303x 717x 480mm (inc amplifier)
Weight:	45kg each
Price:	£7,255 (black ash), £7,471 (cherry, walnut), £7,791 (yew, rosewood), inc stands

Owners of SCM 100 and SCM 50 active or passive loudspeakers can upgrade to Active spec for £495.00 per speaker for both models, including return freight UK mainland

Manufacturer:

ATC Loudspeaker Technology Ltd,
Gypsy Lane, Aston Down, Stroud,
Glos GL6 8HR
Tel. (44)(0)1285 760561
Net. www.atc.gb.net