M&K SOUND 300 SERIES

STereo & Home Cinema Loudspeakers

A couple of years ago, M&K Sound had a demonstration set up in a side room at the Darling Harbour Convention Centre in Sydney, during the annual Integrater event technology show. It was a large room, but it was alone there with Lars Johansen, the company President, who was telling me about the rebirth of the company in Denmark, its long experience as the choice of Hollywood professionals, and the new drive to deliver the company’s key technologies to both consumer and professional markets.

The system in the room was a full complement of the new 300 series monitors in surround configuration, including support for the immersive audio of Dolby Atmos. One of the demonstrations was the opening of Mad Max Fury Road, freshly released on the then brand-new UHD Blu-ray format, though already the daring of equipment demonstrations — this was perhaps the tenth system on which I’d heard this opening Mad Max sequence with its collage of sound effects and its deep crumbling narration.

Except — this was the first time I’d heard it properly. Besides the clarity and accurate placement of the collage effects, the narration was a revelation. It hovered, stage central above our heads, a voice of God position, all the more impressive in that Atmos layouts don’t have a central voice of God position. But the M&K system rendered it precisely in position, richly toned, close-miked and absolutely massive. It was far superior to the previous demonstrations I’d heard, this was real movie sound, as much as a compact movie mix can be described as real.

And there’s a good reason for that. M&K speakers are, as Mr. Johansen said, the choice of professionals. The Lord Of The Rings was mixed on M&K speakers. Star Wars Episode IV, V, VI and VII — mixed on M&K speakers. King Kong, The Incredible, Pearl Harbor, Black Hawk Down — all mixed on M&K speakers. Do you know what else those movies all have in common? They’re all also Academy Award winners for their sound.

Something of a pattern then, then, reinforcing M&K’s claim to Hollywood acceptance. It certainly has M&K Sound impressively positioned to bring the full reality of cinema sound, as created by the sound engineers on the movies, to your own home.

And now it’s a Danish firm. The company, also known widely as Miller & Kessels, was US-based for most of its history, since 1969 when teenage audiophile Ken Kessels teamed up with Jonas Miller, who had opened one of the world’s first true high-end audio salons. They got a big boost after being asked by Walter Becker of Steely Dan to design a studio monitor system for the recording of Pretzel Logic. Other landmarks include the first subwoofer system, the "David and Goliath" in 1974, and in 1977 the first self-powered subwoofer. The company’s sound quality in Hollywood screening rooms became legendary.

But in 2007 the company closed its factory, and when Lars Johansen took over the company with his partners, he set about rejuvenating the brand, reducing what was then an unmanageable large range of models to something more realistic — and relocating to Denmark.

A NEW REFERENCE

One design not in any danger of mothballing at that time was the company’s iconic 1510 loudspeaker, built by M&K Sound since 1995. THX-certified and recently given a tech refresh in a new edition, the 1510 shows one of the company’s points of difference. For the last few decades high fidelity loudspeakers have tended towards a taller, narrower and deeper form, with a simple arrangement of drivers stacked vertically. The latest 1510 speakers have three 25mm tweeters in a vertical stack, with two 13mm bass/midrange drivers in another stack next to them. That front baffle layout, with its triple-tweeter array alongside dual woofers has become instantly recognizable as the M&K ‘look’.

So when the company introduced a new reference range, the 350, it followed this iconic layout, but done larger — “double the performance and quality”, it said when launching them in 2014. They are based on a larger enclosure, sonically able to fill larger rooms and to play "louder than ever before", while maintaining the same accurate sound reproduction on which the 1510 design had built its reputation. M&K is quick to point out that the 3500, although larger, is nevertheless more compact (40 x 34 x 35cm) than any rival monitor capable of rendering their level of impact, clarity and detail.

In order to cater to the varied requirements of home cinema designs, there are three implementations of the 3500 — the monitor version with that iconic triple tweeter and dual woofer front array, but also the 300T triple model for use in side or rear positions, and a shallow, wall-mount MP100 (more overlapping).

The 350 series met predictable acclaim both in the industry and through their use in high-end home cinemas. THX chose the 3500 as their new reference loudspeaker and installed the system in their test facilities in California. And indeed the monitors meet and exceed THX’s highest THX Ultra2 specifications. As M&K puts it, “As an utterly neutral conduit, the 350 Series neither adds nor subtracts. It simply reveals.”

The larger cabinet of the 5300 houses driver units that have been developed and custom-built in cooperation with fellow Danes Scan-Speak, whose legendary drivers have for decades been a go-to for designers of the high-end speakers. The one-inch tweeters are dual polymer (silicon and polyester)-coated domes with large suspension rolls, while the 6.5-inch woofers have glass-fibre cones with polymer heatshields and glass-fibre dustcaps. Their positioning synchronises sound from both sets of drivers, says M&K Sound.

The Power of Three

Why three tweeters? You might think that a single unit would be a more reliable point source, but a vertical tweeter array with well-designed waveguides delivers the beginnings of a line array, the vertical stacking resulting in a large effective surface area, while the horizontal dispersion is much wider and more uniform across the height of the tweeter array. This promotes an even coverage of the listening area, but also reduces vertical spread, thereby controlling reflections off floor and ceiling to the listening area. The combination is ideal for improving clarity and generating a larger sweet spot.

Further, with three tweeters connected in parallel, the power load and displacement for each is reduced to a third, reducing distortion,
If you've already encountered an M&K S150 system, then the impact of the S300 system is easy to quantify — just double it.

Meantwhile the dual 6.5-inch midwoofers combine to deliver the equivalent of a single 9-inch driver woofer, but again two separate cones and motor systems share the load, running cooler and with greater speed and dynamic agility, as well as power handling. The cones are formed with a hyperbolically curved profile and single-synthetic butyl rubber surround optimised for minimal mass. At the rear behind the soft-steel top-plate, a high-grade stromium ferrite magnet and "Distortion killing" aluminium shorting ring back the Miller & Freidel custom made aluminium basket, which allows full ventilation under the ultra (near Conex spider) Conex is a component of cotton and heat-resistant polypropylene. A soft steel yoke with vented pole piece aims to minimise compression and distortion while evacuating captive air behind dust-cap, allowing the low-mass, high-conductance vented 32mm voice coil to achieve linear travel up to 50mm during transient. The predicted result of all this is fast transient response and minimal compression even at high excursions.

CABINET BRIEFING

Separate tweeter and woofer mounting brackets are used, with a solid-steel woofer mounting bracket ensuring a tightly sealed connection to the inside of the front baffle, and the mid-woofers slightly recessed in the baffle. A specially designed rigid cast-aluminium mounting flange for the tweeters includes integral waveguides. With all drivers rear mounted to the brackets and the brackets rear mounted to the baffles, the front remains free of effective edges near the drivers, and offers a clean front aesthetic without a screw in sight. The cabinets themselves are sealed with a "box-in-a-box" construction, an internal 9mm MDF enclosure separated from an outer set of 12mm MDF panels by a vibration- and resonance-damping 3mm layer of tar (between and joining) the two cabinets. Tar? Yep, tar — but only after extensive testing of your amplifier power at 90W (remembering that a 25W difference represents a doubling of effective power), while the 4-ohm impedance assists further in making them friendly even to relatively low powered amplifiers. The power requirement here is listed at starting at 25W, though they'll clearly handle more (the upper figure is 600W).

"It doesn't take tens of thousands of pounds in amplification to get the best out of it, with even modest AVs (like our subjective evaluation system) having no problem with it. I recommend you avoid too much gain in the crossover, as this system is a "throwback" to the classic crossover style of the 1970s. However, a solidfour system like the above mentioned, with the right type of crossover, can really bring out the best in the S300 system."

M&K has a claim to the invention of the triple configuration, which in the S300 employs one each of the S300's cone and tweeter on the front face and the upper tweeter (where the S300s are not used for any purpose other than the S300s). While the S300s have independent side chambers each housing a pair of 4-inch drivers, the speed of sound delivers a combination of diffuse and focused sound, highly effective with ambient loudspeakers but also enhancing the positioning of effects and voices as the soundfield passes to the rear. The on-wall MP300 keeps the drivers of the S300 but cuts a shallow cabinet which M&K intended for placement directly on the wall behind an acoustically transparent screen, but which will also suit other installations and decors where a shallow cabinet may be preferred or required — to this end the MP300 (and the tripods) are available in a satin white finish, as well as the black of the main S300 monitors. The sensitivity falls back to 80dB, while the lower end of the quoted frequency response (–3dB) shifts to 80Hz compared with the 60Hz of the monitor S300. Of course in a full system they would be supplemented by one or several of the company's X-series subwoofers of renown.

But the MP300 on-wall carries the THX Ultra2-certified, this success attributed to that 2017 Editor's Choice award from ReFurnished, concluding "Music and movies are brought to life with incredible accuracy and detail, along with stunning dynamics. The soundstage is massive with amazing depth and astonishing cohesion and engagement, mixed with breathtakingly fast transitions in volume and dynamics."

The triple and on-wall models of the S300 series allow flexibility in both positioning and decor for those building a fully immersive and accurate playback system.