

Westfield wears its HALO with pride...

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Brand new. State-of-the-art. Revolutionary. Ultimate quality. These are just four of the descriptions that can accurately be applied to the Westfield London retail development in London's Shepherd's Bush. So it is particularly fitting that they can also be applied to the EM Acoustics' HALO line array, which features in one of Westfield's most outstanding areas, The Atrium. The Atrium is a 6,500m² central area that will host a wide range of entertainment, including live performances and exhibitions. With a cutting edge audio infrastructure designed and installed by Surrey-based Delta Sound, an equally ground breaking PA system was required to ensure that the audio maintained The Atrium's core values of maximum quality and adaptability. Westfield's technical manager Simon Jones and Delta Sound designed a system which specified a HALO system comprising eight enclosures per side, which can be flown from a variety of locations to maximise the flexibility of the space. The system is complemented by six EMS-121 full-range cabinets used as under-balcony fills, and four Quake subs which will be ground-stacked, two per side. Although HALO is brand new, it has been extensively tested with every conceivable input source and road tested for several months in the USA - the opening gigs being Elvis Costello and the B-52s. So a measure of how impressive it sounds is that its first UK installation is in a project as prestigious as Westfield London. "Without wishing to blow our own trumpet too much, we do believe that HALO is genuinely revolutionary," says Mike Wheeler, EM Acoustics Operations Director - and a man not given to marketing hyperbole. "Ed Kinsella, our R&D director, and I believe we're the first manufacturer anywhere in the world to use this driver in a line array. We believe it makes a huge difference to both the audio quality and controllability of the system." The driver to which Mike refers is HALO's 60mm-wide true ribbon HF driver, which has the power and horizontal dispersion to fully complement other elements of the system, but has an incredibly controlled vertical dispersion. "Other systems use a waveguide of some kind to change the output from a compression driver into a plane wave, because when a ribbon driver is larger than a certain width, it brings inherent problems with horizontal directivity at higher frequencies," says Mike. "Our 60mm wide ribbon driver is much wider than other's - we've seen and features patent pending diffusion technology to solve the problems with horizontal directivity. It means HALO has a genuine plane wave source. There is no manipulation of the sound wave, which produces a much more open and detailed sound." HALO also features a revolutionary rigging system that allows the array to pivot on the centre line of the ribbon driver. As the array curves, this allows it to behave very closely to being one curved source, with no gaps between the vertical dispersion of the individual speakers, allowing for very clearly controlled sound, an important requirement to satisfy at Westfield. "Controllability and sound consistency were high on the list of priorities, the area the system has to aim sound into is bounded by a row of pillars which support balconies above, so the aim is to keep the sound energy within this area," says Mike. "The properties of the system and its flying hardware allow for very precise alignment and directivity - it is so directional you can all-but place a laser pointer on the top cabinet and where the red dot falls is where the HF coverage will stop. For an installation like Westfield, where the system will be regularly moved, a big advantage is that it is a lot more 'point and shoot' than many other line arrays." The requirement to move the arrays is further eased by the flying hardware, designed by Mike to be strong, safe, lightweight and very fast to take down and re-rig. Everything on the hardware is captive - no more dropped pins or nuts - and the arrays are moved, pre-wired, in a chariot custom-designed by Delta Sound. "Two people can hang an eight box system in five minutes. The weight distribution within the enclosure is such that one person can adjust the angles of boxes at the top of the array by themselves with ease." Planning and execution of The Atrium installation has been characterised by very close co-operation between Delta Sound and all three manufacturers involved - EM Acoustics, Yamaha and Lab.gruppen. And the choice of the latter company's amplifiers characterised the close working relationship that EM enjoyed with Delta. "We have known Delta's project manager Lee Dennison for several years," says Mike. "But we have only really worked with them as a company for the past couple. The other guys there - Daren Hurst, Mark Bonner, Paul Keating and the rest - are all great people to work with and everything went incredibly smoothly. "We don't have an amplifier brand that we say 'You should use these'. We can suggest and recommend, but it was Delta's decision and they consulted extensively with us about what would be the right choice. "Amps do make a big difference in how a system sounds and Lab.gruppen amplifiers sound great. They're also eminently suitable because the level of production technology in The Atrium is so revolutionary. So having the PLM series - the most sophisticated amplifier control package - driving the system is entirely appropriate." With the revolutionary audio technology of EM Acoustics HALO line array bringing ultimate sound quality to The Atrium - whichever of the many possible configurations the system is used in and whether the production is anything from a single announcement microphone to a full live band - visitors will soon discover that, far from being 'just' a shopping centre, Westfield London is one of the best sounding performance spaces in the entire city.