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### OLYMPIASTADION

Electro-Voice's audio revamp at the historic Berlin stadium ahead of the European Athletics Championships.

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### DANUBE ARENA

Thorn and Zumtobel create a state-of-the-art sports lighting solution for the Budapest venue.

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### MIKE HEDDEN

Danley Sound Labs' President discusses the company's impressive work in stadiums and arenas.

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### VIDEO FOCUS

We take a closer look at specific products and eye-catching projects from the world of video.

# MONDO | STADIA

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## Outline | Stadia100 LA

**O**utline's vast experience in stadiums and sporting venues led to the creation of Stadia, a one-of-a-kind loudspeaker product toolbox, conceived exclusively for sound reinforcement in stadiums and sports venues regardless of their dimensions. Stadia is a completely new concept, designed from the ground up to deliver the ideal audio solution for stadium applications. By combining in a single element four modules of Outline's famous and road-proven Mantas line-source design, Outline's R&D department has created a compact device which meets and exceeds the very tough SPL and dispersion characteristics required by this application.

The Stadia100 LA range comprises three loudspeaker modules of very similar dimensions but identical horizontal directivity (100°), which offer a choice of 10°, 20° or 30° dispersion in the vertical plane allowing modules to be combined to provide optimum coverage for the location. This allows the system designer to create a sound reinforcement solution that is extremely accurate at distance, which keeps audible reflections and unwanted reverberation to a minimum, providing maximum intelligibility.

The acoustic and physical performance of the Stadia100 LA range is a result of several different design criteria. These include frequency specific coupling of dedicated components by carefully controlled proximity, the design of Outline's own D.P.R.W.G. waveguides, special mid/high frequency

horns (V-Power Concept) and the physical construction of the enclosure including resonance-eliminating internal and external bracing and a unique system of weather proofing. All three variants are two-way active designs, each containing eight-inch mid-range transducers and four 1.4-inch exit compression drivers mounted on Outline's unique D.P.R.W.G. waveguide, which provide the designated vertical directivity. Each module can handle in excess of 8kW peak input power, will produce a maximum SPL of 149dB and coherent reproduction down to 300Hz with full directional control. The frequency response of each module is 65Hz to 19kHz. The enclosures are constructed from birch ply finished with 'outSIDE', an extraordinarily tough and waterproof elastoplastic coating, which interacts with the cabinet material to provide extreme levels of long-term protection. The front grille is treated with an epoxy and polyester-based thermosetting powder paint and matched to an acoustically transparent waterproof sheet, so protecting the components from moisture and other contaminants, while amplifier connections are recessed so that a weather-proof plate with cable retention can be fitted. The Stadia100 LA modules are all fitted with 16 M10 rigging points allowing plenty of mounting options, while all the external screws are corrosion-resistant stainless steel.

[www.outline.it](http://www.outline.it)

Outline's Stadia100 LA Loudspeakers. Stadia is a one-of-a kind loudspeaker product toolbox, conceived exclusively for sound reinforcement in stadiums.