

EXTENSIVE EV® SOUND SYSTEM AT THE NEW JAY PRITZKER PAVILION, MILLENNIUM PARK, CHICAGO



Figure One: EV® X-Array™ LCR reinforcement system covering the fixed seating area

The Jay Pritzker Pavilion at Millennium Park is the new home of the Grant Park Symphony Orchestra and Chorus. It opened officially on July 16, 2004, shortly after 11 rehearsals with the orchestra were used to balance and fine-tune a state of the art sound reinforcement system from **Electro-Voice® (EV®)** and a LARES™ reverberation enhancement system. The new facility features fixed seating for 4,000 and lawn seating for 7,000.

Architect Frank Gehry designed the façade surrounding the stage house, using his signature billowing curves of stainless steel. The Talaske Group of Oak Park, Illinois, was the acoustical and sound-system consultant: Rick Talaske designed the Douglas fir stage house and Jonathan Laney designed the sound system. db Integrated Systems of Chicago engineered, fabricated the system, and managed the project with labor from db Sound and Continental Electric. EV's conversations with Jonathan Laney (Senior Audio Consultant with The Talaske Group) started in 1999, after he heard an **X-Array** demonstration put on by EV's Dave Hosbach -- an indication of how long the gestation period can be for large, prestigious projects like this.



Figure Two: View from edge of lawn. The in-firing speaker is a Frazier custom cabinet for the enhancement system. The right-firing speaker in this photo is an EV Xi-1123A/106F full-range.

Jonathan Laney described the system design and specification process: "The challenge of this project was to provide an exceptional orchestral music experience in an outdoor urban environment whilst accommodating additional programming that would include Jazz, Blues, and Rock-n-Roll. Early in the design we recommended that a dual system approach be utilized - a sound reinforcement system that could provide loudness, clarity, and localization to the stage, and an acoustic enhancement system to provide the reverberation and reflections that are an important part of an orchestral listening experience, giving a sense of envelopment, of being immersed in the music."

Laney continued: "An enhancement system requires a distributed approach - an approach that was also best suited for the sound reinforcement system - minimizing both leakage to the surrounding urban area and the weather related effects of throwing sound over long distances. The distributed approach, along with the required horizontal coverage of the seating area, led us to utilize a traditional array rather than a line array for the main reinforcement system. When deciding on the appropriate sound reinforcement loudspeaker for this project, we wanted a speaker system with

a very transparent character for the orchestral programming, and one that also had the power handling and transient response demanded by the other musical presentations. Using the X-Array systems for the main hang and the Xi systems for the distributed portion met both the versatility and fidelity standards demanded by this venue."

The loudspeaker systems installed consist mostly of custom, weather-resistant versions of various EV X-Array models: the **Xcn, Xf, Xb, Xcb, Xds** and **Xi-1123A/106F**. These are systems with horn-loaded mids, a highly refined sound quality and high acoustic output ability. Their large-format mid-bass horns maintain directivity control to 800 Hz and below, helpful in keeping sound on the absorptive audience and away from reflective surfaces. There are also 8 custom CS91 front fill speakers based loosely on the **EV FRi-2082**.

Sound reinforcement for the fixed seating is provided by left-center-right arrays of X-Array mid-high and LF systems, augmented and flanked by two vertical stacks of Xds subs (*see Figure One*). Reinforcement for the lawn is provided by fifty Xi-1123A/106F full-range variants and six **Xi-1191F** sub variants, distributed over the lawn on a suspended trellis. In addition to the EV reinforcement systems, there are approximately 50 Frazier® systems - units about the size of the Xi-1123A's - suspended over both the fixed seating and the lawn. These receive signal from the LARES™ reverberation enhancement system. Enhancement loudspeakers are also integrated into the stage house. Two of the enhancement systems are visible in *Figure One*. More are visible next to the Xi-1123A's in *Figure Two* (flat-front systems). The loudspeakers number 113 in all.

It would seem this attention to sonic detail has paid off in dividends. EV's Jim Long let his ears be the judge at a recent concert. He commented: "I attended a concert on August 14, which included Walton's *Belshazzar's Feast*, a dramatic work for solo voice, chorus and orchestra. The Grant Park Chorus was augmented by the visiting National Collegiate Chorale of Scotland. The sound quality was natural, subtly detailed and intelligible all at once, with the loudspeakers seldom drawing attention to themselves. Orchestral stop chords revealed a reverberant characteristic from the LARES system that sounded very much like a real concert hall. It was a thrilling musical and sonic experience in an extraordinarily beautiful space!" From the driving seat, the sentiment was similar. John Lisiecki, the venue's sound engineer reported: "The system is easy to mix on and provides clarity and punch, allowing a very detailed mix."

(more photos)







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