



Argonne National Laboratory Uses Extron Quantum Elite Videowall for Historic Building

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Jon Chuchla
System Engineer
Audio Visual Systems

Argonne National Laboratory, surrounded by the scenic, 1,500 acre Waterfall Glen Forest preserve 25 miles south of Chicago, was the first national laboratory in America, and continues to be a leader in the research of high-energy physics, biotechnology, fuel cells, and the peaceful use of nuclear energy. When the laboratory decided to upgrade its 203 Physics Building, officially designated a National Landmark, it sought a high performance multi-projector display system that supported flexible source windowing and reliable delivery of video and audio signals over long distances. The Extron Quantum® Elite videowall processor and Extron twisted pair transmitters and receivers provided a solution that met all the laboratory’s requirements.

Seamless, Accurate Image Display

Argonne hired AV integrator Audio Visual Systems, Inc., AVS, to design and integrate the video processing and signal distribution solution. Argonne desired a large, wide format, seamless projection display for its media presentation room, and a single display on a side wall. The system had to present multiple high-resolution computer graphics and video sources from a lectern, floor boxes, and a presentation PC located in a server room on both displays without any distortion or visual artifacts. The system would also have to replicate content shown on the media presentation room’s side wall display in a distant conference room.

AVS designed a system with three projectors for the media presentation room’s primary display, creating a seamless, edge-banded image on a large 6’ x 28’ screen. A fourth ceiling-mounted projector produced a 60” x 90” image on a screen located on a side wall. A projector was installed



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in the distant conference room to present local sources and identical imagery presented on the side wall display in the media presentation room.

Quantum Elite

AVS System Engineer Jon Chuchla selected the Extron Quantum Elite videowall processor for its ability to deliver high quality image scaling and real-time performance across edge-blended displays. "Quantum's scaling technology produces crisp, clear images, maintaining real-time performance, regardless of the size and shape of the video windows," Chuchla said. "The video performance is exceptional."

Quantum Elite's high-speed video bus and intelligent bandwidth management maintains real-time frame rates for all the source and windowing configurations, ensuring smooth presentation of full motion video content. An extra output card drives the side wall display.

Signal Extension

AVS used Extron USB extenders, MTP 15HD mini twisted pair extenders, and DVI 201 extenders to distribute analog and digital signals between the AV sources, projectors, floor boxes in the media presentation and conference rooms, and the Quantum Elite and AV equipment in the distant server room.

"Extron extenders were chosen for their ability to reliably maintain signal integrity over distance and to transmit multiple signal types over a single CAT 5-type cable," Chuchla explained. Simplifying cabling with Extron extenders minimized the AV system's impact on the landmark building.

Advanced Technology and Dependable Support

Extron's Quantum Elite HDCP-Compliant Scalable Videowall Processing System and twisted pair signal distribution products created an efficient, customized solution that conformed to the physical constraints of this historical building, while providing an impressive cutting-edge presentation system.

The unique challenges posed by the many constraints in this application made technical support particularly important. "Extron helped every step of the way, including the design, on site system commissioning, and beyond," Chuchla says. "Extron support is what keeps me coming back. They are diligent in following up to make sure problems are resolved and everything works correctly."



The Extron Quantum Elite Videowall System provides high quality, real-time image processing for demanding presentation systems.



Connections between many of the AV sources, Quantum Elite videowall processor and projectors use Extron DVI extenders

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