



CASE STUDY

Syracuse University Auditorium Delivers World-Class AV with Extron

Extron

To control the AV system, the instructor or presenter uses a TLP Pro 1025T 10" Tabletop TouchLink® Pro Touchpanel.



Content from a variety of connected sources is switched by the Extron XTP II CrossPoint 3200 matrix for presentation on any combination of displays, including the main videowall.

CHALLENGES

Central New York had a shortage of large venues that could support regional public, private, and sponsored events. Recognizing this need, Syracuse University included a 744-seat auditorium into their new 115,000-square foot National Veterans Resource Center at the Daniel and Gayle D'Aniello Building. It was designed to support a wide range of activities, from a large lecture theater to a community or government agency event space. Similar to the other rooms within the center, the auditorium and its AV system had to be ADA compliant.

The AV system had to be flexible and dependable. System requirements included high-performance AV signal switching and routing, exceptional sound, intuitive system control, and remote management. Images and sound had to be crystal clear at each standard and bariatric seat. The space had to offer alternative ways to communicate with the vision and/or hearing impaired. To facilitate lectures and panel discussions, the stage needed to offer multiple points of AV connectivity and system control.

DESIGN SOLUTION

Syracuse University brought in Theatre Projects to design an innovative AV system that supported vibrant imagery and exceptional sound, all within ADA guidelines. Teamed with the university ITS Learning Environments and Media Production department, Theatre Projects selected XTP Systems®, along with audio and control systems from Extron.

The K. G. Tan Auditorium seats 744, with a two-tiered design that provides unrestricted visibility throughout the space. Multiple floor boxes on the stage provide AV connectivity



During the pandemic, the K. G. Tan Auditorium was used for lectures to ensure appropriate spacing between students, with a standardized instructor workstation taking the place of the portable lectern on the stage.



The control center is at the back of the auditorium, enabling easy AV system monitoring and operation.

“Extron products allow us to easily transform from a classroom-style lecture hall to a multi-candidate debate stage, as well as a 7.1 surround sound theatre. This versatility makes the K. G. Tan Auditorium in the National Veterans Resource Center at Syracuse University a world-class presentation and production space.”

Robb Sharpe
Instructional Technology Analyst,
ITS Learning Environments and Media Production
Syracuse University

and flexible placement for a portable lectern. Gooseneck and lavalier microphones are available for the instructor, presenter, or moderator and panelists alike. The main display is a videowall that is nearly 32' wide. Two smaller videowalls installed on either side of it are dedicated as secondary monitors. Located within this room are eight PTZ cameras that are for use with web-based video applications, including Blackboard™ Collaborate Ultra and Zoom®.

For the hearing impaired, the installation incorporates an Assisted Listening System and support for Communication Access Real-time Translation - CART. The AV system enables captions to be displayed on either or both smaller videowalls.

The control center is located between the tiers at the back of the room. Multiple monitors and a bank of windows enable support staff visibility into the auditorium.

XTP High Performance and Reliability Ideal for Live Events

An Extron XTP II CrossPoint 3200 modular matrix switcher provides instantaneous switching among various installed and BYOD sources. It is configured to support 3G-SDI sources and extension of uncompressed HDMI video resolutions up to 4K/60 at data rates up to 18 Gbps. The XTP II matrix switcher frame features a 50 Gbps digital backplane that supports signals up to 8K by upgrading the input and output boards. A redundant power supply ensures continuous operation, which is critical during live events such as a panel discussion among scholars or a presentation by Veterans Affairs.

To compliment a separate SDI routing system, four XTP HDMI outputs feed Extron signal processors that convert HDMI signals to SDI. The signals are then passed to a 32x32 SDI matrix switcher. When the SDI sources are upgraded in the future,

The support staff uses an Extron TLP Pro 1725TG 17" Tabletop TouchLink Pro Touchpanel to operate the AV system for the presenter.



The auditorium's AV system components such as the Extron XTP II CrossPoint® matrix switcher, the multi-window processor, and the dual-recording streaming media processor are conveniently rack-mounted within the control center.

the modular nature of the XTP II CrossPoint® matrix switcher will allow the current 3G-SDI input board to be replaced with a 12G-SDI version. Additional XTP® HDMI and twisted pair I/O boards support the other devices. Audio, video, and control signals are extended from the matrix switcher to XTP transmitters and scaling receivers using a twisted pair cable infrastructure.

Four outputs on the XTP II matrix are connected to an Extron MGP 641 multi-window processor. This provides high performance scaling and windowing capability for the main videowall. This display can show up to four windows over a live or static background, and the windows can be independently arranged across the single canvas.

Professional-Grade Surround Sound

In addition to high-performance AV switching with the XTP system, clear, echo-free sound from local and remote sources is vital within this large space. The integration team installed an Extron SSP 200 processor to decode and process 7.1 surround sound from various sources. The processor provides individual trim level and delay for each channel, along with internal Dolby® noise and full-bandwidth pink noise to sequentially calibrate each speaker. Then, they directed audio signals to specific speakers using the included software to verify sound coverage at each section of the auditorium.

Streamlined System Control with Extron

For intuitive AV system operation, the installation offers multiple points of control within the auditorium and the adjacent control room. Extron TouchLink® Pro touchpanels are located in the control room and the front wall of the auditorium. Floor boxes in the stage also offer several



In the control center, a bank of windows combined with the multiple displays and monitors allow the system operator to easily respond to cues from the instructor or presenter.



The NVRC, with its K. G. Tan Auditorium, was built to fulfill the need for a large presentation venue in Central New York and to support veterans from all branches of the US military.

“Syracuse University students, faculty, and staff benefit greatly from the ease of use of Extron equipment in the NVRC’s K.G. Tan Auditorium.”

Adam J. Hepburn,
Executive Director of Operations
Strategic Initiatives & Innovation
Syracuse University

connectivity points for a touchpanel. A touchpanel and display in each green room enable visibility of events taking place within the auditorium. The touchpanels work in conjunction with an Extron IP Link® Pro control processor to provide complete system control. Using an iPad running the Extron Control app, instructors and presenters can use the GUI on the tablet to control all system operations from anywhere in the room.

When the auditorium serves as a large lecture hall, the instructor can present and control the system using a standard university teaching station connected to one of the stage floor boxes. The station is a Steelcase® Airtouch® height-adjustable table that includes a micro-computer running Microsoft® Windows® and the University’s Registrar Classroom Software, as well as a variety of AV devices. An Extron Cable Cubby® enclosure provides connectivity for HDMI, USB, network, and power. An Extron 10" tabletop TouchLink Pro touchpanel provides user-friendly AV system control.

Extron SMP and Kaltura Ensure Pristine Lecture Capture and Streaming

For powerful live and on-demand lecture video capture with content management, the installation includes an Extron SMP 351 streaming media processor with the LinkLicense® SMP Enhanced Kaltura Features upgrade. The processor integrates directly into the Kaltura video platform. They work in concert to facilitate media capture and video content delivery to remote locations. Some of the features include the capability to schedule recordings from Kaltura and to stream live media ad-hoc or for a scheduled webcast or lesson to Kaltura using RTMP and RTMPS. This was extremely helpful with distance learning during the pandemic.

“From lecture-style classes to national press conferences, Extron’s AV products provide the capability to seamlessly configure the NVRC’s K.G. Tan Auditorium to support the wide variety of events that occur in the space.”

Gianna Marie Mangicaro,
Associate Director of Learning Environments
and Media Production, IT Services
Syracuse University.

RESULTS

Housed within Syracuse University’s NVRC, the K. G. Tan Auditorium and multi-media center serves all students, specifically those who are or were members of the US military and their families. The facility has been in constant use for lectures throughout the pandemic. Now, as the pandemic continues to wane, it is being used for an ever-expanding range of presentations. The university and various third-party entities are hosting successful community activities, public information presentations for the residents of Central New York, and national convening events and conferences.

The auditorium completely fulfills the university’s intent for the space. The advanced AV system, complete with Extron XTP, surround sound, and intuitive control, facilitates higher learning, community, and comradery for all.

EXTRON EQUIPMENT - PARTIAL LIST

Model	Description
XTP II CrossPoint 3200	Modular Digital Matrix Switcher from 4x4 to 32x32 with SpeedSwitch Technology
XTP CP 4i 4K	Four Input Board with RS-232 and IR Insertion and 26W Remote Power Capability
XTP CP 4o 4K	Four Output Board with RS-232 and IR Insertion and 26W Remote Power Capability
XTP CP 4i 3G-SDI Board	3G-SDI Input Board with Stereo Audio
XTP II CP 4i HD 4K PLUS	Four Input Board, 4K/60 HDMI with Stereo Audio
XTP II CP 4o HD 4K PLUS	Four Output Board, 4K/60 HDMI with Stereo Audio
XTP T HD 4K	4K HDMI Transmitter
XTP SR HD 4K	4K HDMI Scaling Receiver
FOXBOX Tx HDMI	Fiber Optic Transmitter for HDMI, Audio, and RS-232 - Multimode
FOXBOX SR HDMI	Fiber Optic Scaling Receiver for HDMI, Audio, and RS-232 - Multimode
MGP 64i	4K/60 HDMI Multi-Window Processor with DTP2 Extension
DTP2 R 211	4K/60 HDMI DTP2 Receiver with Audio De-Embedding
DSC HD-3G A	3G-SDI to HDMI Scaler with Audio Embedding
SMP 351	H.264 Streaming Media Processor
SSP 200	Surround Sound Processor
IPCP Pro 555Q xi	IP Link® Pro Quad Core Control Procesor with LinkLicense User Interface Upgrade
TLP Pro 1720MG	17" Wall Mount TouchLink Pro Touchpanel
TLP Pro 1025T	10" Tabletop TouchLink Pro Touchpanel
TLP Pro 725M	7" Wall Mount TouchLink Pro Touchpanel

Extron

www.extron.com/education