



Extron AV Systems Accommodate All Who Enter Syracuse University's National Veterans Resource Center

“The reliability, consistency, and ease of use with Extron products allowed for a seamless transition experience for university departments relocating into the new NVRC, as well as for the students, by providing familiar functionality. This was especially important during the pandemic to allow for continuing operations.”

Mike O'Mara
Director, Learning Environments and Media Production
Syracuse University

Challenges

The new National Veterans Resource Center – NVRC at Syracuse University provides US service members, veterans, and their families with innovative academic offerings and helps with supportive programs. Housed within the Daniel and Gayle D'Aniello Building, it welcomes and provides space and enhanced technology that is enabling for everyone, including students, staff, and organizations external to the university. It is ideally situated between the university and the Syracuse VA Medical Center. This state-of-the-art facility cultivates innovative academic, government, and community collaborations positioned to empower those who have served in defense of the nation. It functions as the center of veteran life on campus and across central New York.

The NVRC needed to provide a collaborative space and forum to nurture academic research, actionable programming, and thought leadership. The facility would feature multiple learning spaces, meeting rooms, and a conference center with a 750-seat auditorium. The installation had to include a wide array of sources, from Blu-ray® players and document cameras to BYOD connectivity and PTZ cameras on ceilings and walls. Projection systems and displays in various sizes and adjustable height levels had to support visibility throughout the facility.



Meeting spaces such as Conference Room 330 include a DTP CrossPoint 4K scaling presentation switcher for signal routing, audio, and control, with the specific model dependent on room size and resources. All photos courtesy of Syracuse University, Steve Sartori.

Each room's AV system and integrated technologies had to support a wide variety of activities, including meeting the needs of each user's personal abilities and limitations. This meant that the systems had to be intuitive, physically easy to use, and imminently dependable. Also, certain functions would be automated or follow ADA guidelines for ease of use.

Design Solution

The NVRC was designed along ADA guidelines for universal accessibility, providing ready access to resources for students, staff, and visitors, regardless of their physical abilities. For example, the installation includes an ALS system and sign language computer-aided real-time transcription - CART displays with cameras to support the hearing impaired. To meet these and other requirements for the LEED-certified building, the design team selected a variety of Extron technologies including DTP® systems, audio products, and control systems.

DTP CrossPoint 4K Matrix Switchers Streamline Installation and Operation with One Box

An Extron DTP CrossPoint® 4K seamless presentation matrix switcher in a fixed I/O of 10x8, 8x6, or 8x4 is the backbone of the AV system for each room. One of the many features that instructors, guest speakers, and students value is its seamless switching transitions. This adds polish to a presentation and enables veterans and other students to build and practice their professional presentation skills.

Each DTP CrossPoint matrix switcher includes integrated control processing and audio DSP mixing with AEC plus a built-in 100-watt mono amplifier, which streamlined installation and system configuration. The university chose the DTP Crosspoint for its proven reliability and multiple capabilities, such as HDMI and DTP inputs and outputs, Vector™ 4K scaling technology, and audio, video, and control signal extension up to 330' (100 m) over one twisted pair cable. The scaling engine enables independent video scaling up to 4K for each of the DTP outputs, and the digital I/O ports facilitate interfacing with the other systems in the more technologically enriched rooms. An integrated three-port AV LAN switch allows the AV devices to be isolated from the campus network, ensuring bandwidth availability and network isolation within the NVRC.

Select rooms include the Cable Cubby 222 US cable access enclosure to provide AV connectivity and AC power for charging mobile devices at a workstation, lectern, or conference table.

A typical AV system includes one or more Extron four-input HDMI switchers, either the SW4 HD 4K PLUS 4K/60 HDMI switcher or the DTP T SW4 HD 4K HDMI switcher with an integrated DTP output. These models were selected to auto-switch and then send signals from in-room sources and user devices to the matrix switcher that is rack-mounted in



The standard classroom presentation workstation is a Steelcase AirTouch height-adjustable table outfitted with a micro-PC, an annotation touch screen, a Blu-ray® player, a document camera, AV connectivity with power, and an Extron TLP Pro 1025T 10" Tabletop TouchLink Pro Touchpanel for system control.

an adjacent room. Automatic switching among sources within the room reduced the number of inputs needed at the rack, allowing the best-sized DTP CrossPoint model for the space. To support AV and control signal distribution within each room, DTP transmitters and receivers extend 4K HDMI signals between the switcher and/or matrix switcher and the sources and display devices. USB Extender Plus transmitters and receivers facilitate transmission of USB signals.

Extron ProDSP™ Processors and Audio Amplifiers Ensure Clear Sound for All

The DTP matrix switcher's 100-watt audio amplifier drives the ceiling speakers. The number of speakers depended on room size. For rooms with more extensive sound requirements, an Extron ProDSP™ digital matrix processor selects and mixes microphone and program audio and then tailors the sound for room acoustics. Fine tuning of the sound to the space includes such characteristics as audio delay and echo cancellation. These processors each provide AEC that ensures natural communication for all in attendance, including those with slight hearing impairments. For those with severe hearing loss, most rooms include ALS capabilities.

In rooms with an Extron DMP 128 Plus C AT, the processed audio is transported over the NVRC network via Dante®. A DMP 128 Plus C V is deployed in rooms that require VoIP, such as Conference Room 330.



For local AV connectivity, device charging, and system control, rooms include an Extron Cable Cubby 202 enclosure and a TouchLink Pro touchpanel. Specific rooms provide an Extron EBP 1200C Cable Cubby® enclosure with an integrated eBUS® button panel for control.

In some rooms an Extron XPA 2001-70V amplifier is used to drive the speakers for that space.

Intuitive User-Friendly Control

In rooms with the DTP matrix switcher, the integrated IP Link® Pro control processor works in concert with TouchLink® Pro touchpanels, MediaLink® controllers, and/or eBUS® button panels to provide convenient, user-friendly control. An Extron IPCP Pro 250 control processor supports rooms with point-to-point solutions.



In the Grand Hall, the AV products are rack-mounted in an equipment room. An Extron TLP Pro 1025T 10" TouchLink Pro Touchpanel on the rack offers local system control.

Larger rooms have multiple points of control. For example, the auditorium has four TouchLink Pro touchpanels. These include a TLP Pro 1025M 10" touchpanel mounted to the front wall within the auditorium, a TLP Pro 1720MG 17" model in the adjacent control room, and a TLP Pro 725M 7" wall-mount touchpanel in each green room. When the auditorium is used as a lecture hall, a standard workstation with a 10" touchpanel is tethered to a floor box on the stage.

The standard classroom workstation is a Steelcase® Airtouch® height-adjustable table. Built into it are an annotation monitor, a micro-PC, a Blu-ray® media player, a document camera, AV connectivity, and an Extron TLP Pro 1025T 10" tabletop touchpanel. The capacitive touchscreen on the TouchLink Pro touchpanel provides high resolution and color depth, making the screen clearly visible for low-vision users and also provides easy operation.

The furniture- and wall-mount control products offer intuitive system operation in designs that are well-suited to the NVRC requirement for ease of use. The soft-touch, back-lit buttons on the Extron EBP 50 and EBP 1200C eBUS button panels are custom labeled for the specific system capabilities within each room. In addition to buttons, the EBP 1200C Cable Cubby® enclosure includes three openings that are filled with AAP™ AV Connectivity Modules and power modules that enable the instructor or students to charge multiple devices simultaneously. The MLC Plus 100 AAP MediaLink Controller has similar buttons. Also, its beveled edges, rounded corners, and mounting screws hidden by the faceplate provide a smooth snag-free surface and prevents screws from being lost. The PoE capability allows it to be powered and support communication over a single Ethernet cable. For AV connectivity, four single-space AAP modules offer connection to the system.

Results

The first of its kind, the NVRC is among the most transformative multi-use facilities on the Syracuse University campus. It advances the social, economic, and wellness concerns of the nation's veterans and their families. The facility houses the University's Army Reserve Officer Training Corps, Air Force Reserve Officer Training Corps, Office of Veteran and Military Affairs as well as the D'Aniello Institute for Veterans and Military Families. It also includes exhibits and a gallery displaying the University's long-standing tradition of serving veterans.

The learning spaces are in regular operation, and the conference center and auditorium are successfully being used to host community activities, lectures, and national convening events and conferences.

The NVRC's learning, enabling, and community-accessible spaces with Extron AV systems and technologies are a clear success story, proving how collaboration among academia, community, and government can benefit members of the US armed forces, veterans, and their families.

Extron Equipment - Partial List:

DTP CrossPoint 108 4K 10x8 Seamless 4K Scaling Presentation Matrix Switchers

DTP T SW4 HD 4K Four Input HDMI Switcher with Integrated DTP Transmitters

DTP2 R 211 4K/60 HDMI DTP2 Receivers with Audio De-Embedding

USB Extender Series

DMP 128 Plus C AT 12x8 ProDSP Processors w/AEC and Dante

DMP 128 Plus C V 12x8 ProDSP Processors w/AEC and VoIP

XPA 2001-70V 70 V Mono Amps - 200 Watts

SF-3PT SoundField 3" Full-Range Pendant Speakers

IPCP Pro 250 IP Link Pro Control Processors

MLC Plus 100 AAP MediaLink Plus Controllers with AAP Opening

EBP 1200C Cable Cubby Enclosures with eBUS Button Panel

To learn more about the mission of the NVRC, click [here](#).

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