



## EPA Regional Headquarters Uses Extron XTP Systems

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**Aaron Alt**  
Federal Channel Manager at Mission  
Electronics, Inc.

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The United States Environmental Protection Agency – EPA Region 7 serves Iowa, Kansas, Missouri, Nebraska, and nine Tribal Nations. When the lease expired at their Kansas City headquarters, the EPA relocated to a more energy-efficient building in Lenexa, Kansas. This move required an extensive technology overhaul of the site's existing AV system and cabling infrastructure. Mission Electronics – MEI was awarded the integration contract approximately 60 days prior to the initial move-in date. To provide AV signal switching and distribution, the integrator installed XTP Systems® from Extron.

“After many years of supporting the EPA in their prior Region 7 headquarters and other facilities, Mission Electronics has a strong relationship and understanding of their needs and how they would be using the new AV systems,” says Aaron Alt, Federal Channel Manager at Mission Electronics, Inc. “Extron's XTP met or exceeded their expectations in each room of the new headquarters building.”

### Efficient Use of Space and Technology

EPA Region 7 is headquartered in a newly LEED Platinum-certified two-story building on a 31-acre site. The structure consists of four wings totaling 160,000 square feet (14,864 square meters) of office and meeting space for approximately 600 employees. The wings include a Conference Center, the Regional Emergency Operations Center – REOC, a Market Place meeting and dining area, along with 31 meeting rooms in varying sizes, which are located throughout the building. The Conference Center, REOC, Executive Boardroom, and eight of the largest meeting rooms use Extron XTP Systems for in-room presentation.



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For the new AV systems, the facility remodel required installation of conduit, an updated cable infrastructure, and integration of industry-standard back boxes under raised flooring. Although facility construction was on-going, the integrator was able to move between rooms when necessary. The MEI team followed the construction crew from area to area, installing the AV equipment as soon as a room or space was made available.

### Flexibility with XTP Systems

Each AV system design includes digital and analog AV sources plus one or more Panasonic PT-EW630U projectors or Sharp flat panel displays, depending on square footage. Sources include computers, OPPO BDP-93 Blu-ray Disc players, CATV tuners, along with AV signals from a videoconferencing system. Extron Cable Cubby® 600 furniture-mountable enclosures in select rooms offer AV connectivity for laptops and other portable devices. Because room sizes vary, each modular XTP CrossPoint® matrix switcher is configured with the appropriate selection of input and output boards for the space. Extron twisted pair extenders enable signal delivery to remote in-room display devices. Incoming RGBHV signals are converted to HDMI using Extron RGB-HDMI 300 A scalars, which can also digitize and embed analog audio signals into the HDMI output.

Sound systems, which include Extron 8x4 stereo audio matrix switchers and XTRA® Series power amplifiers, support playback of audio embedded on an HDMI signal or separate analog audio transmissions. DSP processors provide mixing of microphones for specific locations. Periodically, embedded digital audio is needed to support other switched content. Extron HAE 100 HDMI Audio De-Embedders designed into each AV system enable independent routing of audio, when required.

### Conference Center

The 2,633 square-foot (579 square meters) Conference Center features a two-story atrium and multiple glass-walled conference rooms. The glass walls are movable, allowing the central atrium space to be expanded for special events and all-hands meetings. Other than one Blu-ray Disc player installed in the lectern, the AV equipment is rack-mounted in an adjacent space. The lectern also offers connectivity for a presenter's portable device. When the glass walls are removed, content from multiple sources can be displayed in any arrangement using a flush-mounted 3x3 video wall that consists of Sharp PNV601 60" ultra-slim LCD panels and one or both projection systems mounted on the conference room walls. The other meeting rooms in this wing include one or more of the same LCD flat panel display.

An Extron XTP CrossPoint 3200 in a 32x12 configuration provides AV signal switching and distribution within the atrium. When the divisible meeting hall is segregated from the atrium, another XTP CrossPoint 3200 in a 20x4 configuration supports in-room signal routing. This matrix switcher model was selected because of the proven reliability and capabilities of XTP Systems. To support current and emerging resolutions, the matrix switchers feature a high performance



**MEI loaded the racks and tested the AV systems in-house before installing the equipment at the EPA Region 7 headquarters.**

digital backplane that ensures signal integrity of video, including 4K. An Extron DVS 605 A on the output provides seamless switching and content scaling to send a common output resolution for support of the building's V-Brick IPTV system. SpeedSwitch® Technology provides the exceptional switching speed deemed vital for this space. This includes switching of HDCP-encrypted content. As an added benefit, the Ethernet port on each XTP CrossPoint frame enables insertion of signals from the separate control system. Control is routed over the same single shielded CATx cable used for AV signals.

To broadcast Conference Center events to the other wings in real time, the AV system design includes a multimode fiber optic backbone. A single Extron FOXBOX Tx HDMI MM transmits the signal to a FOX DA8 Plus fiber optic distribution amplifier. It sends signals to three additional FOX DA8 Plus units for delivery to FOXBOX SR HDMI MM scaling receivers, which are discreetly mounted with the remote display devices. The FOX Series transmitter and distribution amplifiers require a minimum of the valuable rack space in the center's equipment room. This design has proven to be a simple and effective solution.

### Regional Emergency Operations Center

The Region 7 REOC is a communications hub for the EPA and is responsible for coordinating relief efforts in case of a major regional incident. Source devices are similar to those supporting the Conference Center, but in greater quantity and with enhanced capabilities. The main display is a 2x2 video wall using 60" LCD panels, and two 70" HDTV flat panel displays are mounted to each side. Additional displays

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are located in the Ops Room and Superfund Conference Room. Another XTP CrossPoint 3200 in a 32x16 configuration provides AV signal switching and distribution throughout the REOC.

To support in-room AV signal routing in this wing's briefing room and other breakout spaces, the design includes an SW4 VGA Ars and 16 SW HDMI Series switchers from Extron. These switchers are linked to the REOC's XTP CrossPoint, enabling content to be routed to any or all of the center's displays.

The XTP System Configuration Software provided streamlined setup and configuration for the integrator and offers a complete view of the matrix switcher for the REOC system operators. According to Alt, the software helped reduce the commissioning period. Currently, the application is used for system control and real-time status monitoring. The XTP configuration software, in addition to the built-in technologies, hot-swappable boards, and redundant power supply of the XTP matrix, all help ensure AV system reliability in this mission-critical installation.

### Executive Boardroom and Meeting Areas

Within the Multipurpose Room, an XTP CrossPoint 3200 in a 20x8 configuration provides AV signal switching and distribution for this large divisible space and the adjacent Market Place dining area. This room is most often used for large departmental and group meetings.

The Executive Boardroom and eight of the largest meeting rooms each include an XTP CrossPoint 1600 configured to 12x4. According to

the integrator, the smaller XTP matrix switcher is more appropriately sized for each of these spaces while still providing the same high performance switching and distance support that the EPA has come to expect. Extron DXP HDMI Series and MVX 84 VGA A twisted pair matrix switchers provide signal routing in the other meeting rooms with AV systems.

### Proven Performance and Reliability

At the ribbon-cutting ceremony on December 4, 2012, the Administrator of the EPA presented in the building's new Conference Center. The AV system worked flawlessly.

**“From a project management standpoint, the tight schedule for such a large installation had me worried. But, with XTP and a little help from Extron, our onsite engineer needed only a few days to have everything commissioned in time for the EPA's move-in,” says Scott Strong at MEI.**

The building's various presentation systems have been operational since November 2012. According to Strong, all parties involved in this multi-million dollar project are pleased with the success of the installation that includes XTP Systems and other Extron products for high performance AV signal switching and reliable distribution throughout the EPA Region 7 headquarters.



**Modular XTP CrossPoint matrix switchers and a wide selection of XTP extenders in a variety of form factors offer the needed scalability and flexibility for twisted pair applications.**

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