



Extron XTP Systems and Control Products Provide Absolute AV Reliability at Trimble

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Kevin Hodgson
Senior Consultant at K2 Audio

Trimble Navigation Limited offers a vast array of positioning products and technologies used in geographical mapping, surveying, public safety, agriculture, construction, and asset management. To house the operations and engineering teams for the Pacific Northwest region, Trimble constructed a four-story, 125,000-square foot building at their 15-acre campus in Westminster, Colorado. The facility includes a divisible training area and 37 meeting rooms. K2 Audio, consultants in audio, video, and acoustics, was brought in to design the AV systems, and integration expert, Whitlock, was awarded the project installation. After consulting with the corporate development team and the building's architect, K2 Audio selected Extron XTP Systems® and TouchLink® touchpanels to provide reliable signal routing and easy-to-use system control within the new building.

“Performance was important, but component quality and overall stability were the main goals because of Trimble’s past experience with unreliable AV equipment,” says Kevin Hodgson, Senior Consultant at K2 Audio. “I specified Extron XTP Systems and control products from the very beginning to ensure that the AV systems were high quality and absolutely reliable.”

XTP Systems for Divisible-Space Flexibility

The training area is a three-way divisible space. In addition to training, it is used on a regular basis for corporate sessions that range from exclusive vendor collaborations to town hall-style events.



Extron Electronics
INTERFACING, SWITCHING AND CONTROL



An Extron XTP CrossPoint 1600 matrix switcher in the divisible training room provides AV switching flexibility to meet any room configuration.

Each partitioned room features a high definition Panasonic® DLP projector and a portable lectern with AV connectivity and a gooseneck microphone. Multiple floor boxes allow each lectern to be positioned to best suit the allocated room size and seating arrangement.

An Extron XTP CrossPoint 1600 matrix switcher configured as 12x8 provides signal routing of video, audio, and bidirectional control plus Ethernet extension for all space layouts. K2 Audio selected XTP Systems for a number of reasons. They had a proven track record for dependability, supported transmission distances well beyond the 170 foot (52 meter) requirement, and offered simplified integration. Also, the modular design of the XTP CrossPoint® matrix switcher offered Trimble a simple upgrade path.

An XTP® HDMI input board provides local connectivity for a Comcast HD Tuner and a Samsung Blu-ray player, while two XTP CP 4i twisted pair input boards support remote connections at any of the floor box locations. For audio distribution at the rack, the XTP CP 4o SA Analog Stereo Audio Output Board provides audio routing to the room's sound system.

Whitlock was able to complete the install ahead of schedule. "We've had quite a bit of experience installing XTP Systems, and they're incredibly easy and quick to get up and running," says Dean Jensen, Project Manager at Whitlock.

To meet Trimble's connectivity and form factor requirements, end user input points needed to support both HDMI sources and legacy VGA sources while also fitting inside floor boxes. The Extron XTP T UWP 202 two-input transmitter met their criteria and was installed in each room.

The auto-switching feature delivered added convenience by simplifying input selection at these unmanaged locations by removing need for user interaction. Configuring the EDID and audio embedding functions of these transmitters also proved to be simple and quick for the technicians, further increasing installation efficiency.

An Extron XTP SR HDMI scaling receiver was mounted in the ceiling above each projector to ensure that the optimal resolution is always displayed. Additionally, RS-232 insertion from the matrix switcher along with the receiver's built-in relays took advantage of the capability to send multiple signals over a single twisted pair cable, simplifying the wiring and delivering complete control of the projector and screen. "The plenum-rated enclosure was a big plus since it allowed us to secure the XTP receiver in the ceiling airspace without need for a special enclosure," says Jensen.

The capability of the XTP CrossPoint 1600 to provide power to XTP extenders over the same twisted pair cable greatly reduced the number of AC outlets needed throughout the space, ultimately saving time and overall project cost. "I used Extron's online tool, XTP System Builder, to validate the design and confirm that the matrix switcher could power the number of XTP transmitters and receivers to be installed in the training area," says Hodgson.

Easy-to-Use XTP System Configuration Software

To set up the XTP CrossPoint matrix switcher, Whitlock used the included XTP System Configuration Software. Tabbed views within the software allowed streamlined management of I/O ties, input EDID, and remote power to the endpoints. "The XTP configuration software made system integration and commissioning straightforward and quick. We



The XTP CrossPoint and shared resources are rack mounted within an equipment room adjacent to the pre-function area.

were able to configure and review the entire installation from a laptop," says Jensen.

Trimble's support staff also appreciated the embedded web interface, using the same software for ongoing system monitoring, configuration control, and remote management. "The XTP software offered a great resource with all of the data necessary to monitor the system, and, although I haven't had to do any, I know exactly where to go for troubleshooting," says Kim Davidson, Facilities Engineer at Trimble.

User-friendly Control with TouchLink Touchpanels

The divisible area includes three Extron TLP 350MV TouchLink® Touchpanels. Functions assigned to the touchpanel's eight, customizable backlit buttons include system activation and shut down, source selection, and projection screen control. The source is selected from the 3.5" color screen, and the convenient knob provides precise volume adjustment. The efficient, wall-mount design of this touchpanel complemented the aesthetics of this heavily used space, and offered convenient access to all AV system control from the wall.

Trimble appreciated the energy-saving features of the TLP 350MV touchpanel, specifically the sleep timer mode and the motion detector that wakes the unit when someone approaches the touchpanel. Whitlock reported that these fully configurable units were easy to set up as well. The wall-mounted touchpanels use PoE – Power over Ethernet, which further reduced the number of AC outlets as well as network drops needed to support the divisible space.



When all partitions are removed to form one large presentation space, the Extron TLP 350MV in Training Room B provides AV system control in a small affordable package.

The Extron IPCP 505 IP Link® Control Processor enables system control from each of the touchpanels. Bidirectional RS-232 ports provide simultaneous two-way control and monitoring of all AV devices for each room configuration. When one or both partitions are removed, the touchpanel associated with the middle room is used to control presentation content and sound within the combined space. This flexibility supported the widest range of seating arrangements, from separate training sessions to all-hands meetings.

"Extron products were the ideal choice since they gave us the ability to provide intuitive control at all levels," says Hodgson. "The intent was to design AV systems that were very user-friendly; the TouchLink touchpanels allow everyone to focus on the subject matter rather than the technology needed to share the material."

Reliable Results

According to the parties involved with the project, selection of Extron products has proven beneficial for both the end users and those charged with supporting the installation. The AV systems, designed to provide the required similar experience throughout the facility, are also easily replicated at Trimble offices around the world.

"It was important that Trimble had AV systems we knew were reliable and intuitive to use, as well as provided the technology that would continue to support them going forward," says Kevin Hodgson at K2 Audio. "Using Extron XTP Systems and control products for the new building just made sense."

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