



All Photos courtesy of Lee University

Extron AV Solutions Enhance the Learning Experience at Lee University School of Nursing

“With my background in programming and coding, I’m impressed with how Extron’s Global Configurator Pro and GUI Designer software tools made our AV control system setup so straightforward. Extron’s configuration tools are easy to understand, allowing you to jump right in.”

Mark Mong
IT Technology Lab Manager
Lee University

Lee University is a private Christian university in Cleveland, Tennessee. It was founded in 1918 with twelve students and one teacher as the Church of God Bible Training School, a small Bible institute. The university has grown to serve over 5,200 students with a faculty of approximately 350 instructors on a campus covering 127 acres. Students pick from 57 undergraduate majors, 159 undergraduate programs, and 56 graduate programs in the fields of Business, Arts & Sciences, Education, Music, Religion, and Nursing.

Challenges

In 2016, the School of Nursing constructed a spacious lecture hall with a soaring ceiling and tiered desk seating for 120+ students in order to accommodate a growing student population. The hall was equipped with audiovisual amenities befitting such a grand space. In 2020, to meet the challenges of COVID-19 and support remote learning, it was augmented with AV streaming capabilities. The venue hosts large gatherings for lectures on subjects covering nursing procedures, biology, and life sciences.

Design Solution

The AV system design and installation was a joint effort by Lee University's Information Technology Lab Manager Mark Mong and pro AV integration firm Encore Broadcast Solutions. The Encore team was led by Glenn



Lecture Hall viewed looking toward stage. The presenter podium is at center stage. The AV operator desk is stage left. The projector is seen in the foreground. The projection screen is flanked by two flat panel displays. A PTZ camera facing the audience is mounted to the wall at the lower right corner of the projection screen.

Bradley, sales manager at Encore's Bridgeport, Alabama office. Extron supplied AV switching, distribution, control, and streaming equipment for the project.

A 275" projection screen is at the front of the room, flanked by two 65" flat panel displays. Two 65" flat panel confidence monitors are on the back wall. Hand-held and wearable wireless RF microphones are used by presenters and audience members. AV system components are housed in the presenter podium and an AV operator desk.

Presenter Podium Places Multimedia AV Tools at Lecturers' Fingertips

Lecturers can load presentation material onto the PC contained in the AV operator desk, or they can bring a laptop containing presentation material. Convenient guest connections for power, HDMI, DisplayPort, and USB-C cables are available at a Cable Cubby® 202 cable access enclosure in the AV operator desk and a TLP Pro 320C Cable Cubby TouchLink® Pro Touchpanel in the podium.

A document camera at the podium allows display of printed materials. Lecturers can annotate their presentations by tapping, writing, and drawing on the podium's touchscreen. The touchscreen connects to an Annotator 300 Annotation Processor in the AV operator desk through USB Extender Plus Transmitters and Receivers.

AV Operator Desk is Switching, Streaming, and Recording Hub

The equipment that forms the backbone of the lecture hall AV system is housed in the AV operator desk. The core component is a DTP CrossPoint 84 4K Scaling Presentation Matrix Switcher. It performs AV signal switching and video scaling for delivery of video lecture content



Lecture Hall viewed from presenter's position on-stage. The presenter podium in the foreground has a touchscreen for annotation and a document camera. Two flat panel display confidence monitors and a PTZ camera face the stage. Windows allow viewing from the second-floor mezzanine.

to the room's five displays. Available AV content sources include the PC in the operator desk, a guest laptop at the podium, the Annotator 300, front and rear wall PTZ cameras, and analog audio from the operator desk mixer.

Touchpanel Control

AV content is selected using a TLP Pro 1022T 10" TouchLink Pro Touchpanel at the operator desk, or the TLP Pro 320C 3.5" flip-up touchscreen at the podium. The two touchpanels work with the control processor built into the DTP matrix switcher to control all system functions.

Convenient Audio Options

The room's speakers are driven by the switcher's integrated 100-watt amplifier. Multiple wireless microphones are available for instructor(s) and to support student participation. Most instructors prefer the VoiceLift® Pro



AV operator desk. Inset shows the main AV control GUI.



RCP 101 Remote Control Panel for SMP 351 Streaming Media Processor is located on the AV operator desk, providing a convenient location to insert a USB memory stick and to start, stop, pause, lecture capture and streaming. Presenters can also control start, stop, and pause from a button on their VoiceLift Pro pendant mic.

pendant mic when presenting because it's so easy to use. The mic turns-on automatically when lifted from the charging stand. Presenters put the mic on, and they're ready to go.

Video Distribution to Displays

Content is displayed on the main projection screen and on two pairs of flat panel displays. The projector video is connected directly from the matrix switcher to the projector's HDBaseT input. The flat panel displays receive HDMI over shielded twisted pair cable via a DTP HD DA4 4K Distribution Amplifier and DTP HDMI 4K 230 Rx Receivers.

Lecture Capture and Streaming to Remote Learners

AV content can also be routed to an SMP 351 Streaming Media Processor for recording and for live or on-demand streaming to remote learners. Streamed content is delivered via a hardware codec or through a UC platform, such as Zoom or Teams. The SMP 351 is equipped with an RCP 101 EU Remote Control Panel at the operator desk, providing convenient recording start, stop, pause, and mark buttons. This panel includes a USB port where users can insert a memory stick for lecture "capture and carry" portability. Instructors also appreciate that they can start, stop, and pause SMP 351 lecture capture by simply pressing a button on their VoiceLift Pro pendant mic.



AV Operator desk equipment bay showing some of the Extron components. Top to bottom: SMP 351, DTP CrossPoint 84 4K, DTP HD DA4 4K, Annotator 300. DTP HDMI 4K 230 Tx and USB Extender Plus T are at very bottom.

Results

The lecture hall reopened to students and faculty in spring 2021. It's a popular venue, always heavily booked. Lee University's IT Technology Lab Manager Mark Mong reports that the hall's AV systems are running trouble-free. Mark notes that, with his background in programming and coding, he is impressed with how Extron's drag-and-drop Global Configurator Professional and GUI Designer software tools contributed to straightforward setup of the AV control system. "Extron's controller configuration tools are easy to understand. You can jump right in and get the job done. For this installation, I developed the control logic flow and user interface screen hierarchy and Encore performed configuration and GUI creation using Extron's tools."

Mark goes on to praise Extron's support throughout installation, commissioning, and continuing into daily operation of the lecture hall AV system. "If I ever need something, I just call. They have an engineer on the line to help you immediately, no matter when you call. That's what's so cool about Extron. They're all over the world. They're ready to help, anytime, anywhere."

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