



CASE STUDY

Extron Brings Vibrancy to NC State University Esports

Extron



Students enjoy state-of-the-art gaming on 35 top-notch gaming PCs in addition to four gaming stations for console play.

All photos and video courtesy of North Carolina State University

“Extron made a huge impact in getting this project open on schedule, even helping to get everything running smoothly with products from other manufacturers. They really stepped up over and beyond expectations.”

Ryan Hunter
Lead AV Professional for Advanced Technology Spaces
North Carolina State University

North Carolina State University, located in vibrant downtown Raleigh, NC, is a leading public research university well known for its forward-looking, results-oriented philosophy, expressed in a single phrase: “Think and Do.” A leader in experiential education, NC State provides unparalleled opportunities for students to put learning into practice and to develop career-ready skills, and esports is no exception.

CHALLENGES

NC State sought to elevate its student-built gaming ecosystem by launching NC State Esports, an official program dedicated to collegiate competition. Utilizing funding from the State’s General Assembly, it sought to create a truly superlative space for its students. NC State created one of North America’s most advanced esports labs, featuring technology that rivals the practice rooms of some professional esports teams.

Ryan Hunter, Lead AV Professional for Advanced Technology Spaces at North Carolina State University, was tasked with set up and commissioning the project, which was on a tight timeline. He utilized Extron support, which he found to be extremely helpful. “Extron made a huge impact in getting this project open on schedule, even helping to get everything running smoothly with products from other manufacturers,” said Mr. Hunter. “They really stepped up over and beyond expectations.”

Students relax after class while playing on cutting-edge Lenovo Legion T7 gaming PCs.

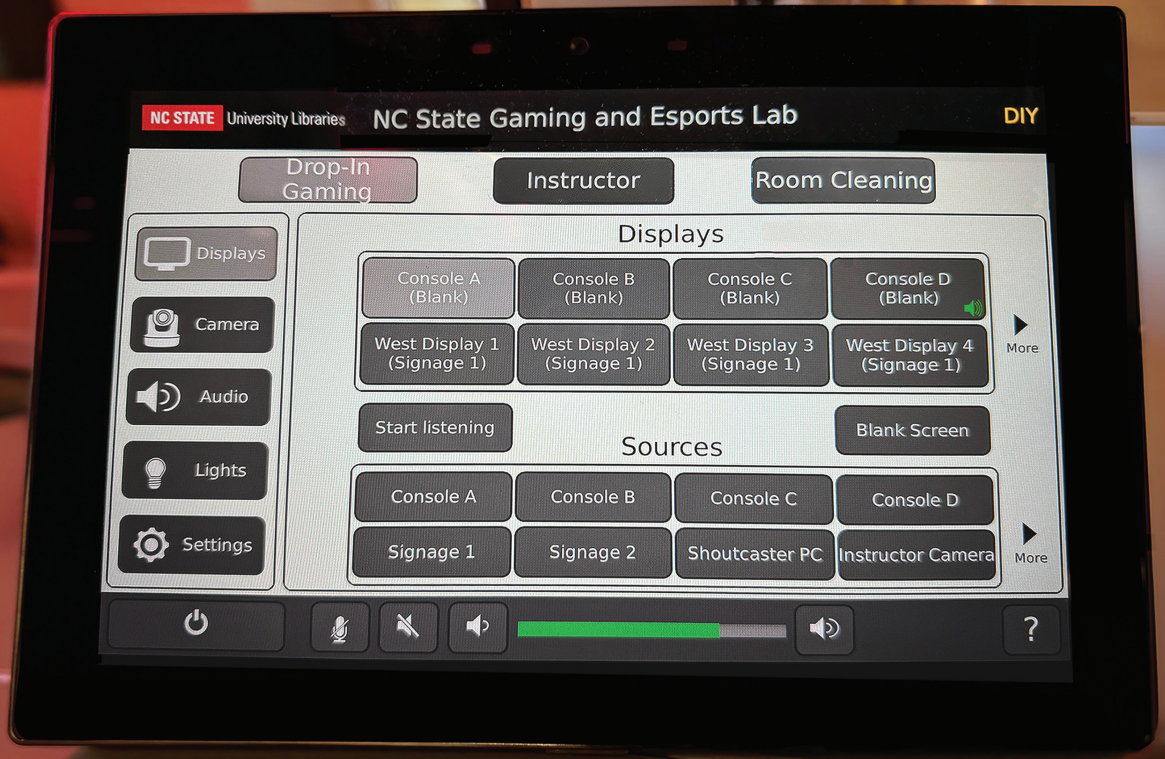


Equipment rack featuring Extron Pro Series Control and an XTP II CrossPoint 3200 modular matrix switcher with a 50 Gbps digital backplane, essential for maintaining smooth AV function.

NC State used space located on the fourth floor of the James B. Hunt Jr. Library to create the NC State Gaming and Esports Lab. The lab features 35 Lenovo® Legion T7 Gaming PCs and four console stations that each feature Xbox® Series X, PlayStation® 5, and Nintendo Switch™ (OLED) gaming systems. Seven PTZ cameras, including six ceiling-mounted cameras with one facing the instructor and one room camera mounted in the South wall capture every aspect of the lab. The lab is outfitted with 12 large screen displays ranging in size from 65 to 98 inches, providing an immersive experience where students, coaches, team members, and local spectators can observe the game action in captivating detail. Extron AV switching, distribution, and control products were selected for the project.

XTP for Outstanding Signal Distribution

NC State wanted top-notch performance with no lags or delays to showcase high quality images and sound to all spectators. Thus, switching hardware with the highest available performance was required for the signal path. An Extron XTP II CrossPoint 3200 modular matrix switcher with a 50 Gbps digital backplane was selected to provide instantaneous switching among the gaming station feeds. It was configured 24x24, with seven XTP CP 4K I/O boards supporting video up to 4K, audio, control, and power over shielded CATx cable, and five XTP II CP HD 4K PLUS I/O boards supporting HDMI video resolutions up to 4K/60 4:4:4 at data rates up to 18 Gbps. The system is HDCP 2.3 compliant to support content-protected games. For critical times like competitions and matches, the switcher's redundant power supply and hot-swappable modular components ensure uninterrupted gameplay.



Extron TouchLink Pro touchpanels located throughout the space bring powerful and intuitive system control to users' fingertips.



Shoutcaster Studio located across from the Esports Lab.

“Throughout the rollout of the esports lab, Extron was extremely proactive in working to make the project a complete success.”

Ryan Hunter
Lead AV Professional for Advanced Technology Spaces
North Carolina State University

Intuitive Control

TouchLink Pro touchpanels are located throughout the space, including in the shoutcaster studio, at the check-in desk, and on many of the lab's walls. These touchpanels work in concert with a powerful rack-mounted IPCP Pro 255Q xi quad core control processor to manage all the major components of the system. The IPCP Pro xi control processor features an AV LAN port to isolate AV devices from the main network, securing the esports lab equipment from outside interference or intrusion. It also enables control of observation displays over the university network and provides application controls, such as AV system and device power, audio level adjustment, and streaming/recording controls.

Shoutcaster Studio

Located in a room just outside the NC State Gaming and Esports Lab is the Shoutcaster Studio. Shoutcasters are the voices of esports, providing insightful and entertaining analysis and commentary during competitive gaming matches. The Shoutcaster Studio features cameras, a host PC, dual monitors, and two high-end broadcast microphones. A 10" TouchLink Pro tabletop touchpanel brings control of various AV system options to the shoutcaster's fingertips.

NC State Esports Program Director Cody Elsen enjoys a friendly game with the school's mascot, Mr. Wuf.



Console Play

Four console stations in the lab each feature Xbox Series X, PlayStation 5, and Nintendo Switch (OLED) gaming consoles. Students use an Extron NBP 200 Network Button Panel to easily turn on or off the display, select which console they would like to use, and control the volume level.

In addition, the room's console stations are equipped with an SW HD 4K PLUS four-input switcher for video signal switching between the three gaming consoles and the 65-inch display. The switcher also supports content from an HDMI cable made available to students who want to use their own devices. The SW4 HD 4K PLUS supports computer and video resolutions up to 4K/60 at 4:4:4 chroma sampling, is HDCP 2.3 compliant, and supports data rates up to 18 Gbps, HDR, 12-bit Deep Color, 3D, and HD lossless audio formats, making it powerful enough for use with the latest gaming devices.

RESULTS

Ryan Hunter of NC State credits Extron in the successful launch of the project, stating, "Throughout the rollout of the esports lab, Extron was extremely proactive in working to make the project a complete success."

The new esports lab is paving the way for a full Esports Arena to open in the University's Mann Hall that will seat around 360 spectators and support competitive tournament events. The new arena is slated to open in late 2026 or early 2027 and will host and broadcast matches as well as field competitive teams. The NC State Gaming and Esports Lab is growing in popularity and is often filled to capacity.



Four console stations feature Xbox Series X, PlayStation 5, and Nintendo Switch (OLED) gaming consoles.

"Ultimately, we aim to make NC State the hub for esports on the East Coast."

Cody Elsen
Esports Program Director
North Carolina State University

FEATURED EXTRON PRODUCTS

Model	Description
XTP II CrossPoint 3200	Modular Digital Matrix Switchers from 4x4 to 32x32 with SpeedSwitch Technology
XTP CP 4K I/O	Transmitter and Receiver Boards with RS-232 and IR Insertion
XTP II CP HD 4K PLUS I/O	4K/60 HDMI Input and Output Boards
XTP T HD 4K	4K HDMI Transmitter
XTP SR HD 4K	4K HDMI Scaling Receiver
XTP T HWP 101 4K	4K HDMI Transmitter - Decorator-Style Wallplate
IPCP Pro 255Q xi	Quad Core Control Processor
TLP Pro 1025M	10" Wall Mount TouchLink Pro Touchpanel
TLP Pro 1025T	10" Tabletop TouchLink Pro Touchpanel
SW 4 HD 4K PLUS	Four Input 4K/60 HDMI Switchers with Ethernet Monitoring and Control
MediaPort 300	4K HDMI and Audio to USB Scaling Bridge

NC STATE ESPORTS LAB VIDEO

A Walk through the NC State Esports Lab highlighting powerful AV technologies that streamline vibrant gaming for players and audiences alike, click [here](#).

