



CASE STUDY

Extron AV Enables Wake Tech to Create Exciting Esports Venues

Extron



Wake Tech is a major player in North Carolina's collegiate esports scene, with esports venues on two campuses.

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“In Wake County, esports and game development are not just fun and games – they’re big business. Esports is a perfect complement to our Simulation and Game Development degree program, which is one of the best in the country.”

Dr. Scott Ralls, PhD
President
Wake Technical Community College

In 2021, Wake Technical Community College (Wake Tech) in Raleigh, North Carolina, became one of a handful of institutions across the state to include esports as part of its intercollegiate athletics program. The National Junior College Athletic Association Esports [NJCAA](#)-affiliated esports program offers unique synergy with the college's academic programs. As Wake Tech President Dr. Scott Ralls notes, “In Wake County, esports and game development are not just fun and games – they’re big business. Esports is a perfect complement to our Simulation and Game Development degree program, which is one of the best in the country.”

Wake Tech's IT/AV staff worked with Raleigh-based pro AV integrator Strategic Connections to upgrade and repurpose existing AV systems in a divisible classroom on the Southern Wake campus to create a state-of-the-art 14-seat “home field” esports arena for the Wake Tech Eagles varsity team. Extron AV switching, distribution, control, and audio products were selected for the project.

CHALLENGES

Jennifer Unitis, Wake Tech's Associate Director of Academic Technologies, and End User Support Analyst William Reed executed the vision of Brian Anweiler, Dean of Student Activities and Athletics to design and build the esports arena AV system



The teaching lectern was reconfigured to play back Twitch-archived play action for review and opposition scouting. Inside the lectern are a gaming PC and an Extron switching transmitter.



“My first exposure to Extron was when I came to Wake Tech. As I’ve worked with the products, I’ve come to appreciate just how easy it is to design AV systems with Extron hardware and software. Of course, you need some technical expertise, but it’s so easy to configure, and it just works together. It’s good to obtain Extron’s training and certification to get your feet wet, but the average AV technician can design, build, configure, and commission an Extron AV system just by reading the manuals.”

William Reed
End User Support Analyst
Wake Technical Community College

within an existing divisible classroom. The bulk of the budget went to outfitting the player stations with high-end gaming PCs, peripherals, gaming chairs, and other equipment that an esports team must have to seriously compete and win. Unitis and Reed got creative to make the best use of the remaining budget to assemble an AV system that met the high expectations of esports players and audiences. The esports AV system started out modestly with AV gear scavenged from the existing instructor lectern. William Reed used knowledge gained through Extron certification training, coupled with daily hands-on experience installing and maintaining AV systems all over campus, to design and build the first iteration of the Esports AV system on his own. Later, pro AV integrator Strategic Connections was brought in to modernize and upgrade the AV system with the latest Extron components.

DESIGN SOLUTION

Repurposing the Teaching Lectern and Creating an Esports AV System

AV equipment in the original teaching lectern was relocated to other areas of the classroom during conversion to an esports venue. The lectern is used primarily for local playback of archived game action from Twitch or other gaming platforms. Players gather in the spectator area to watch this content on



A credenza in the spectator lounge houses the main AV equipment.



A TouchLink Pro touchpanel on top of the credenza controls routing of the gaming content through the AV system.

55" gaming monitors. They evaluate play action from previous competitions to develop improved strategies, and to scout opponents' games in preparation for upcoming competitions. The lectern is fitted with a Lenovo Legion™ tower gaming PC and a DTP T DSW 4K 233 three-input switching transmitter that accepts HDMI, DisplayPort, and VGA video, and audio to send signals from the lectern to the main AV system. If needed, the lectern has all the network and AV connectivity required for it to function as an extra gaming station during competitions.

The Lenovo Legion gaming PCs used by the esports team during intercollegiate competitions run the open-source OBS Studio app to screencast and livestream over the school's esports [channel](#) on the [Twitch](#) gaming platform. This approach provided the fledgling Wake Tech Eagles esports teams with a cost-effective avenue to connect with and compete against opposing teams at other schools.

Credenza Houses Main AV System. A credenza in the spectator lounge provides storage for Xbox®, Nintendo Switch®, and PlayStation® gaming consoles. All of these consoles are connected to the AV system. Users can select which console's gaming action is displayed on which display. Those who bring their own gaming console can connect through an auxiliary HDMI cable.

The main AV equipment components are housed in the credenza. This includes a resident gaming PC for general-purpose use and for running various game apps, a DXP 88 HD 4K PLUS 8x8 matrix switcher, DTP transmitters and receivers, and an IPCP Pro 250 xi control processor. The switcher is configured to automatically switch to one of the

One of two Alienware 55" OLED gaming monitors in the spectator lounge area.



A shoutcaster booth contains a PC for observing play action, a pro announcer condenser microphone, and an audio mixer for combining game audio with play-by-play commentary.

three game consoles, based on which one is first to provide an active signal. Users can manually override the automatic mode using a 7" TouchLink® Pro touchpanel on top of the credenza.

Powerful Sound. Part of converting the room from teaching to an esports venue involved leveling-up the sound system for gaming. A 200-watt XPA 2001 amplifier augments the AV system in the credenza and drives nine preexisting ceiling speakers.

Spectator Lounge

Flanking the credenza to the left and right are two Alienware 55" OLED gaming monitors. Players and coaches review playback of past tournaments to plot new strategies. Fans see stunning real-time views of gaming action during tournaments. Each display feeds audio to an SB 33 A soundbar mounted below it, for equally impressive sound.

A WPD 163 HDMI pass-through wallplate is provided below each display where users can plug-in game consoles for local gameplay in the lounge area. An SW2 HD 4K PLUS two-input HDMI 4K/60 switcher is mounted behind each lounge area display to switch between the game console signals from the wallplates for individual gameplay and the competition gameplay signals from the main AV system in the credenza. The SW2 switchers are configured to automatically select the HDMI wallplate input when a game console is plugged in and providing an active signal.

Shoutcaster Announcer Booth

Shoutcasing is an integral part of the esports experience for spectators. The shoutcaster broadcasts from a room just off of the gaming floor. Observing the gaming action via a network

Wake Tech teams have been [winning competitions](#) since the inception of the esports program.



This trophy commemorates the Eagles' first national win in 2021. They won again in 2022, playing League of Legends. They extended the winning streak in 2023, taking first place in the League of Legends Premier Series Championship.

"I'm so proud of the students and their accomplishments this season. They came together with a confidence and a mission that they were the best team and just needed the opportunity to prove it. They deserved to win, and I am excited to see what's next for them."

Patrick McNair
Esports Director
Wake Technical Community College

(Upon winning the League of Legends National championship in December 2023)

connection to Twitch, the shoutcaster provides high energy play-by-play commentary about gaming action to both on-site and online audiences. The shoutcaster uses a pro-quality condenser microphone and operates an audio mixer to combine game audio with play-by-play commentary.

RESULTS

When Wake Tech joined the academic esports sensation, their strategy was to start small and build capability if the interest was there. Suffice it to say, after winning three national championships since 2021, the interest is definitely there. Wake Tech has a current roster of approximately twenty players - and growing - on multiple intercollegiate esports teams. They've added a second esports facility on the Research Triangle Park (RTP) campus and are considering expansion of AV capabilities in both facilities. Recently, the school partnered with the parks and recreation department of the nearby town of Morrisville in a program that invites groups and individuals from the community to participate in gameplay at the RTP campus esports facility, as reported in this [TV newscast](#) and publicized in this [press release](#).

As Wake Tech president Dr. Scott Ralls pointed out when the school [announced](#) establishment of the esports program, there is strong synergy with the associate's [degree program](#) in Simulation and Game Development. This degree program prepares students to become artists, animators, programmers, designers, testers, and other roles in the game development industry. Wake Tech graduates are employed at many of the Triangle's 40+ companies, including industry giant [Epic Games](#).

“To get the esports venues up and running, we needed to create infrastructure that was cost effective and easily scalable for future growth. William Reed built the AV systems himself from spare Extron equipment that we had on hand, which ticked the box for ‘cost effective’. As the esports program grew in popularity, we upgraded to newer Extron equipment, with help from integrator Strategic Connections. That ticked the box for ‘scalable’. It’s a winning strategy for the school’s AV team as well as for the esports teams.”

Jennifer Unitis
Associate Director of Academic Technologies
Wake Technical Community College

Wake Tech’s esports program started small on a modest budget. But as the Wake Tech Eagles rack up multiple national tournament championship wins, the program is poised for growth. And Extron will be there to help prepare the esports arenas for that growth with best-in-class AV switching, distribution, and control equipment.

“WE ARE WAKE TECH” PODCAST

Episode 3: Game Development and Esports

Interested in how the Wake Tech Simulation and Game Development degree program and esports team competitions developed on parallel tracks? Watch the Wake Tech podcast at this YouTube link:

https://www.youtube.com/watch?v=eSJ1UTZ_rBA

FEATURED EXTRON PRODUCTS

Model	Description
DXP 88 HD 4K PLUS	8x8 4K/60 HDMI Matrix Switcher with Audio De-Embedding with 2 Audio Outputs
SW2 HD 4K PLUS	Two Input 4K/60 HDMI Switcher With Ethernet Monitoring and Control
DTP T DSW 4K 233	Three Input Multi-Format Switcher with Integrated DTP Transmitter and Audio Embedding
DTP2 T 211	4K/60 HDMI DTP2 Transmitter with Audio Embedding
DTP2 R 211	4K/60 HDMI DTP2 Receiver with Audio De-Embedding
XPA 2001-70V	Mono 70/100 V Amplifier – 200 Watts
SB 33 A 55-65	Adjustable Width Sound Bar
IPCP Pro 250 xi	IPCP Pro xi Control Processor
TLP Pro 725T	7" Tabletop TouchLink Pro Touchpanel
Global Configurator Professional GUI Designer	Configuration Software for AV Control Systems Design Software for User Interfaces

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