



CASE STUDY

Compton Students Level Up with Esports and Extron XTP

Extron



Each CUSD esports lab, such as this one at Davis Middle School, is a visionary tool for linking what students learn in current CTE pathways like computer science, animation, and business management to how vital the same skills are in the gaming industry.

“We have a lot of qualitative data from coaches, teachers, and administrative staff explaining how students that were indifferent to their studies have turned around because of our esports program. Technology, such as Extron’s XTP system, is a contributing factor to student transformation and success.”

Alvaro Brito
STEAM Administrator
Department of Educational Technology & Innovation
Compton Unified School District

The Compton Unified School District (CUSD) in Southern California encompasses 21 elementary schools, six middle schools, and four high schools. It provides instruction to approximately 18,200 students each year. To better engage the K12 students, CUSD began their esports program five years ago. It was conceived to enable growth of a student’s social and emotional wellbeing and open avenues for their future.

This case study explores the achievements of the CUSD esports program, highlighting the exemplary esports lab at Davis Middle School. It focuses on the lab's advanced AV switching system, powered by Extron XTP® and a key component of its success.

CHALLENGES

The technologies built into the CUSD esports labs needed to enable seamless presentation of the gaming content, including instantaneous content display triggered by student reactions and interactions at multiple stations. The system requirements encompassed delivery of 4K video content and selectable audio signals from a production-quality computer system to multiple large-screen displays. The number of displays had to meet the unique needs of each lab space. High quality audio

Large screen displays allow observers to see the action during high-intensity matches and tournaments.



A variety of game titles are available to the esports athletes, with some choosing to concentrate on one while others play a series of titles on different days.

“The most recent middle school esports tournaments were planned, produced, and hosted by our high school students using the amazing Davis Middle School lab loaded with Extron AV equipment. I think this is the right direction to go with esports and the event spaces we’ve created throughout the district.”

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was essential, and it needed to precisely match the rapidly changing video sequences. Top priorities were switching performance, signal integrity, and image quality. In addition, the AV system had to be upgradeable and expandable to incorporate additional devices in the future. The installation also had to be economical to own and maintain.

Two professional AV integration firms were involved in the multi-phase project. DI Technology handled the Esports gaming solutions and implementation. For the AV switching and distribution solution, they engaged EKC Enterprises to provide AV system design, integration, and support. An Extron XTP® system is at the heart of the lab's installation.

Program Background

Some students come to the esports program when their teacher discovers the student is interested in online gaming. The teacher connects a coach to a parent to explain the purpose and opportunities behind the esports program. It is more than just a safe haven away from home.

To participate in the esports program, the CUSD student must maintain high grades and a spotless attendance record. A teacher or counselor checks the student's attendance record and grades at the lab door before admittance. Staff volunteers also monitor the lab activities. The esports student athletes participate after school and on weekends for live-play and online tournaments. Matches are conducted intramurally, involving students from the same school and competitions within the district and against teams from other districts.



The operators at the production workstation monitor game play and can help identify student needs.

“Over the past several years, more and more students coming into our schools are highly interested in video games. Instead of writing individualized lesson plans for each student, we chose to produce curricula around their interests.”

Dr. Kristy Custer
President of Educational Innovation
Generation Esports / Gaming Concepts

Tournament matches against other schools may take place after school or on weekends. As with other athletic competitions, there can be ‘away’ matches, but these are held online.

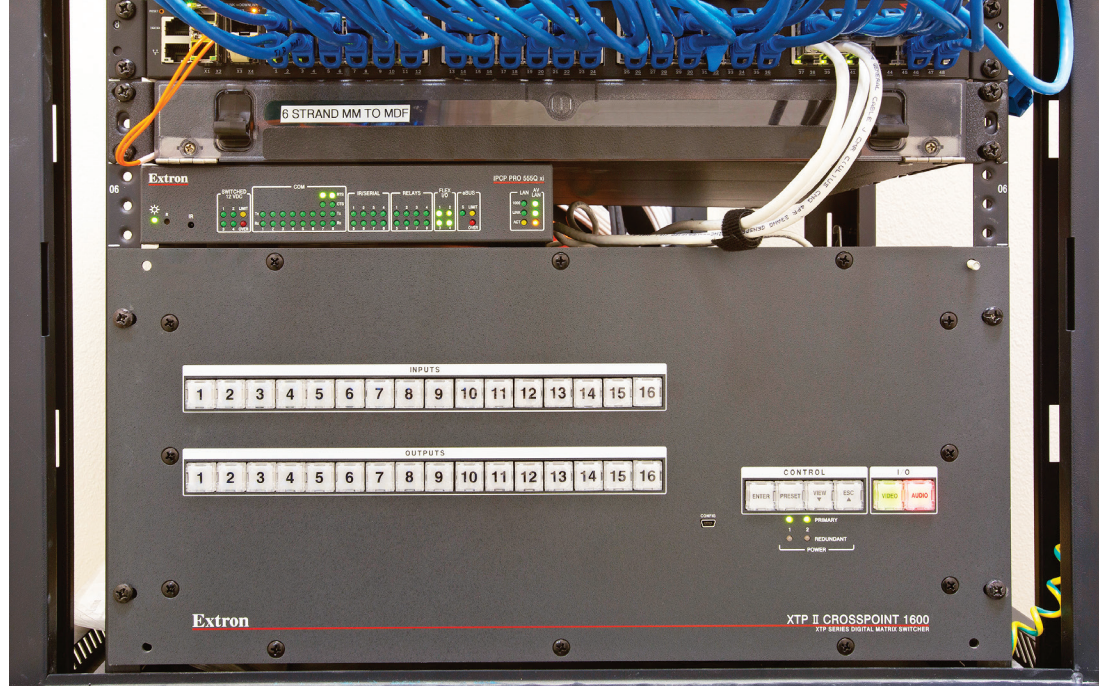
DESIGN SOLUTION

The standardized curriculum was developed by Generation Esports / Gaming Concepts. Some of the common game titles are Call of Duty, Fortnite, League of Legends, Overwatch, Rocket League, and Valorant. Regardless of the titles preferred by a student, the esports program allows each one to hone their skills and mature socially. It also provides the opportunity to gain a basic to advanced understanding of the technology behind esports.

Lab Facts

CUSD’s esports labs are built to ensure that the player stations perform well during daily use and throughout tournaments. The design team evaluated esports lab requirements based on square footage, open floor and wall space, and power. The conceptual design was then finessed to fit that room.

The heart of the AV system is the XTP II CrossPoint modular matrix switcher populated with XTP CP 4K I/O boards that extend signals up to 330 feet (100 meters).



To manage the AV system, the operator uses the Extron TouchLink® Pro tabletop touchpanel at the production workstation.

“Esports in K12 schools and the technologies that support it is really about building skill sets, providing college opportunities, and connecting the student’s natural talents and learned abilities to careers that come about from being part of these programs.”

Tony Williams
Manager of Technology Services and Esports Specialists
DI Technology

Once the flooring, lighting, wall art, and furniture, including Spectrum gaming chairs, were in place, the integration team installed and configured the AV equipment.

XTP for Esports

DI Technology and EKC handled the build outs, creating state of the art esports installations. The XTP system is a turnkey solution for the district, with an Extron XTP II CrossPoint® modular matrix switcher loaded with XTP CP I/O signal extension boards as the heart. Rack-mounted in the equipment room, the matrix switcher routes content sourced from the computer system at the production station to the five ViewSonic® 86" 4K commercial displays mounted on the walls around the lab.

Extron XTP transmitters send HDMI signals to the matrix switcher, and XTP HDMI scaling receivers deliver the AV and control signals to the displays. The high-resolution video and audio signals are sent over the shielded CAT 6A cable infrastructure; data is passed over the school’s network with cable runs to the gaming stations, production computer, and show casting systems. During the pandemic, the esports labs were operated and accessed remotely.

A 10" TouchLink® Pro touchpanel located at the production station works in concert with an Extron IP Link® Pro control processor to orchestrate all AV system functions. The XTP system responds to control system commands and provides the flexibility, signal integrity and reliability required by high powered esports activities.



Coaches and mentors are able to view player responses from multiple vantages and offer advice or guidance as necessary.

“Our esports program has and continues to build a community of gamers and e-athletes, instilling and opening up opportunities in STEAM careers and personal pathways in growth.”

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“Esports is also phenomenal at bringing children with disabilities into a team environment, from those in wheelchairs to others with challenging social skills such as being on the spectrum.”

Rick Venuto
Chief Technology Officer
DI Technology

From Esports and Tournaments to Jobs and Careers

Recently, CUSD held their annual Middle School Esports Tournament. The district partnered with LAN Fest to prepare the high school students charged with creating the event for the combined middle school students, helping to guide the upper grade students in proper match design and hosting responsibilities. Backed by a wealth of experience in producing professional meets such as Twitchcon, the LAN Fest instructor coached the high schoolers during an intense six-week course on tournament production. He then stepped back to let them flex their new skills. The high school students successfully produced, hosted, and broadcast the middle school tournament held at the Davis Middle School lab.

A concurrent immersive showcase introduced the program and its benefits to the parents, the community, and visitors from outside of the district. The event featured an opening ceremony with the Compton High School Marching Band, unique exhibits, and a demonstration area with second to fifth graders showing their talent with Minecraft. The high school students responsible for the event produced professional-grade storyboards of their tournament development process and

During tournaments, a volunteer at the shoutcaster booth provides a running commentary of the esports action as it unfolds.



The middle school students that compete as part of a league team are helped by student-mentors from Compton High School.

“It started with gaming and Overwatch of course. I learned about the Overwatch league and wanted to play, but it was on a PC only, so I had to build my own desktop and learn about its components. Eventually through that I started watching YouTube videos on the mechanics of it and my love for computers blossomed from there.”

Cesar Cedano Jr.
Computer Sciences Major and Overwatch Team Captain
California State University, Dominguez Hills

the sequence of events for the immersive showcase, proudly displaying them at the showcase. The majority are looking forward to the next event they host.

CUSD allies with the Network of Academic and Scholastic Esports Federations (NASEF). This non-profit organization provides opportunities for students to use esports as a platform to develop STEAM-based skills. The organization's mission is to help students grow socially and emotionally, developing communication, collaboration, and problem-solving abilities that can be beneficial throughout their lives. NASEF's principles are in line with the district's program goals.

Passing the Torch with Mentorship

Esports can create paths to higher education and the development of marketable skills. These can include a wide range of fields, from event planning and hosting to game design, programming, and IT/AV technologies. Many students that are introduced to the career possibilities at Davis Middle School and the other elementary and middle schools continue in the program through high school. A number of graduates have moved on to esports programs at higher institutes of learning such as California State University, Dominguez Hills (CSUDH).

Students mentored through Compton's esports program and who join the university's Esports Association often choose to be mentors themselves. They are role models for the high school students, helping with their esports athletic development and career-readiness skills. For example, the previous captain for the Compton High School's winning Overwatch team went on to be a Computer Science major at CSUDH and is the current captain of the Overwatch team. By following a passion for

The multiple displays around the lab provide ever-changing views of the action during matches and tournaments.



Mentors are from the district high schools and California State University, Dominguez Hills.

“We wanted our students to have access to state of the art technology that can prepare them for potential careers in IT/AV support, production game design, and other related fields. Our esports labs use Extron XTP.”

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gaming, this graduate is demonstrating how esports is a strategic move now and for the future.

RESULTS

Last year, CUSD’s esports program received the California School Board Association Golden Bell Award®, which recognizes excellence in education and school board governance throughout the state. CUSD continues to accomplish the goals of the program, with esports labs at 65% of their K12 campuses.

The success of the Compton USD esports program continues to be a bridge between the students, their school, and community, helping them to connect, learn, and grow to reach their full potential.

The CUSD esports program provides positive interactions, mental stimulation, and team-building opportunities. The esports labs, with Extron XTP and control systems, contribute to enhanced self-confidence and development of the skill sets that can lead to being a productive member of the community. The program creates comradery and a teamwork mentality among the player athletes and with the coaches, teachers, and mentors. The immediate benefits are that esports and its supporting technology drives better attendance and motivates each student to improve and maintain their grades in order to stay in this extra-curricular activity. In the long term, the esports program is guiding the district’s students to develop skills and discover interests that enhance their social and emotional wellbeing, now and in their futures.

EXTRON EQUIPMENT - PARTIAL LIST

Model	Description
XTP II CrossPoint 1600	Modular Digital Matrix Switcher from 4x4 to 16x16 with Redundant Power Supply and SpeedSwitch® Technology
XTP CP 4i 4K	Four Input Boards, XTP 4K with IR/RS-232 Insertion
XTP CP 4o 4K	Four Output Boards, XTP 4K with IR/RS-232 Insertion
XTP T HD 4K	XTP Transmitters for 4K HDMI
XTP SR HD 4K	XTP Scaling Receivers for 4K HDMI
IPCP Pro 555Q xi	IPCP Pro xi Quad Control Processor with LinkLicense for User Interfaces Upgrade
TLP Pro 1025T	10" Tabletop TouchLink Pro Touchpanel

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