



CASE STUDY

Extron AV Levels-Up Esports at Cal State University Channel Islands

Extron

The CSUCI esports club is a friendly gaming community that advances computer literacy while providing a social outlet for students and hosting tournaments and charity events.

All photos courtesy of California State University Channel Islands

Video courtesy of EKC Enterprises, Inc.



The esports lounge is located in Trinity Hall, on the South Quad. It is a short walk from the student housing villages to the esports lounge, providing a strong incentive for students who are avid gamers to consider living on campus.

California State University Channel Islands (CSUCI) occupies a picturesque campus nestled against the Santa Monica Mountain foothills, 10 minutes from Pacific Ocean beaches in Ventura County. Opened in 2002, it is the youngest of 23 CSU campuses. 556 staff members educate 5,127 students living on and off campus. The [school](#) offers 27 undergraduate majors and eight graduate programs spanning the arts, humanities, and science.

CHALLENGES

The Dolphins esports club has been active on campus for some time, using improvised quarters in classrooms and, occasionally, even overflowing into hallways. A student-driven initiative, supported by the administration, led to the recent opening of a purpose-built esports lounge equipped with sophisticated computer, network, and audiovisual technology that can support the ultimate goal of competing in intercollegiate esports league tournaments. The new venue allows the esports club to fulfill its charter to promote a friendly gaming community that encourages student comradery while building computer literacy and providing a social outlet through video games. A robust esports program is also a draw for student recruitment, particularly to encourage on-campus residency.

Christopher Murphy, CSUCI's ITS Manager of User Services, his IT team, and esports team members turned the esports lounge vision into reality. They did it with assistance from pro integrator EKC Enterprises, Inc., headquartered in Fresno, Calif., who performed design, installation, and AV control programming. Student members of the esports club contributed to the effort by building many of the high-performance gaming PCs at "build parties" facilitated by the Information Technology



Two 75" displays are at the front of the esports lounge at the head of the long table. Seven gaming stations are on each side of the table. The instructor station is at the head of the table.

“Extron listened to our needs. They presented a CrossPoint® switch solution and a NAV Pro AV over IP solution. They walked us through the pros and cons of both designs for our esports application, looking at technical and cost tradeoffs and flexibility. It was really helpful having that expertise at hand. We went with NAV.”

Christopher Murphy, MS, MBA, CTS-I
ITS – Manager of User Services
California State University | Channel Islands

Services department. Extron products play key roles in AV signal switching, distribution, control, and audio. NAV® Pro AV over IP provides the flexible and scalable AV distribution backbone.

DESIGN SOLUTION

15 Gaming Stations Plus a Laptop PC Dock

Fourteen gaming stations occupy a long table, with seven stations on each side. The instructor gaming station is at the head of the table. Each station includes a high-performance gaming PC running gaming software apps, a high refresh rate gaming monitor, gaming keyboard, mouse, and headphones. The gaming monitors connect to the PCs via DisplayPort.

For intramural gameplay between the 15 stations in the room, the gaming apps running on the PCs interact over the Ethernet LAN. Via this LAN connection, the instructor station operator can select and observe the gameplay action being viewed and heard at any of the 15 stations. The play action being observed at the instructor station is available at the HDMI port of the instructor PC. This port is connected to the AV over IP network via a NAV E 101 encoder. The selected gaming action is routed through the AV over IP network to any of the room’s three spectator screens and to the overhead pendant speakers for the audience to take-in.

If you are a player who owns an old gaming console with no HDMI, the retro gaming corner has you covered.



Visitors and CSUCI's dolphin mascot observe gaming action on one of three spectator displays in the esports lounge during the open house that followed the ribbon cutting event.

“Everyone involved in designing and installing the esports lounge network and AV systems came together and communicated well. CSUCI’s network team talked with Extron and learned everything they needed to do. Extron quickly diagnosed and resolved the few network issues that popped up during integration. Everything came together on the planned schedule. Everything worked great.”

Christopher Murphy, MS, MBA, CTS-I
California State University | Channel Islands

The instructor station includes a second NAV encoder to accommodate connection of a laptop PC to the AV over IP network. The laptop can be used as a 16th gaming station, or it can provide lecture content for conducting traditional class instruction in the room.

A Retro Gaming Corner with an Old-School CRT TV

For those wishing to play games on retro game consoles with pre-HDMI composite video and audio, there is an old-school CRT TV in a corner of the room. This TV has composite video and stereo audio jacks to accommodate connection needs for such nostalgic gaming sessions.

Spectator Displays

The room has three commercial grade 4K UHD digital signage displays. Two 75" displays are on the wall at the instructor end of the gaming station table. They perform double duty as teaching displays when the room is being used for traditional classroom instruction, and as spectator gaming displays when the room is used for esports. In the main spectator viewing area located behind the instructor station, guests can watch the action while sitting on couches that face an 86" display. Mounted behind each display is a NAV SD 101 scaling decoder connected to the AV over IP network. Each decoder provides its display with an HDMI signal carrying the gameplay action and RS-232 signals to control the display.

Audio System Fills the Room with the Sounds of Gaming Action

What would esports be without enveloping sounds of the gaming action? Players hear it through their headphones. Spectators in the room get high fidelity sound through six



TouchLink Pro touchpanel controls audiovisual content routing to displays, power on/off, and sound volume.

AV system central rack contains audio and control equipment.

SF 26PT ceiling mounted pendant speakers. The speakers are driven by a powerful yet energy efficient XPA U 1004 amplifier with four 100 watt channels. Ahead of the amplifier is a DMP 128 Plus audio DSP processor that interfaces the audio system to the AV over IP network via Dante/AES67 connectivity. The DMP unit tailors the audio for room acoustics and provides AEC audio echo cancellation.

AV System Control

The AV system is controlled by an IPCP Pro xi control processor. A NAVigator system manager configures and manages the endpoints of the NAV AV over IP network.

The user interface is a 10" tabletop TouchLink® Pro touchpanel positioned at the instructor station. Using Global Configurator® Plus and GUI Designer, EKC Enterprises created an intuitive user interface for the touchpanel that allows the operator to send gaming action from any one of the gaming stations to any of the spectator screens in the room. The two 75" displays on the front wall of the room double as teaching displays when the esports lounge is functioning as a standard classroom, receiving audiovisual lecture material from the instructor station desktop or laptop PC.

Room Scheduling

CSUCI expects the esports lounge to be in high demand for both gaming and teaching. So they decided to include the lounge as a bookable room in the CSU 25Live® Pro room scheduling system. At the entrance to the esports lounge, a 10" TLS room scheduling touchpanel shows booking details for the room and indicates at a glance with green or red backlighting whether the room is occupied. The scheduling panel is connected

TLS room scheduling panel at the esports lounge entrance is customized with the esports team logo and works with CSU's 25Live Pro room scheduling system.



“As an IT manager, one of the first things to come to mind when we selected NAV for the esports lounge was compatibility with our existing network switches. By the time design was complete and installation began, Extron had certified our network switches for NAV compliance.”

“Similar to our campus’s classroom AV systems, the esports AV system is on a VLAN within our campus enterprise network. With the esports lounge in daily use, the network has functioned normally. I’ve seen no impacts to AV signal transmission, nor to the gaming experience. And overall network performance remains solid.”

Christopher Murphy, MS, MBA, CTS-I
California State University | Channel Islands

to the 25Live scheduling system via Room Agent™ room booking software, so the room can be reserved right from the touchpanel, from a computer, a smartphone, or tablet.

NAV Pro AV over IP Scalability Makes Upgrades Simple and Seamless

Designs have already been mapped out to expand AV system functionality in the esports lounge. The scalability of the NAV Pro AV over IP network makes incremental future additions to the AV system straightforward. Adding each new endpoint requires only an additional NAV encoder or scaling decoder.

The AV system design includes provisions for installation of SMP 111 and SMP 352 streaming media processors to add recording and streaming functionality. This will enable the CSUCI Dolphins esports team to compete in intercollegiate league tournaments via internet gaming platforms such as Twitch. In the same vein, the design accommodates addition of a Mediaport 300 scaling bridge, which sends audio and video signals from the AV system to the instructor PC for integration with software and cloud-based unified communication platforms such as Zoom. PTZ cameras are also a planned addition to provide video feeds of activities in the esports lounge for viewing, recording, and streaming.

To enhance the spectator experience, an MGP 641 xi multi-window processor is included in the design plan. This will provide the capability for the spectator displays to show up to four source signals on a single screen, with the windows arranged in any position and orientation against a live or static background.

Pizza and PCs combine at “build parties” to create comradery, a sense of purpose, and a learning experience. Students build high-powered gaming PCs that they will later use for gaming in the Esports Lobby.



And for outdoor movie nights on warm summer evenings, a direct-view LED videowall is being considered for the outside wall facing the quad. This videowall could also show the gaming action going on inside.

RESULTS

CSUCI's esports lounge is a testament to teamwork and determination. Esports club members, led by club president and second year computer science major Chris Hernandez, proposed a permanent esports venue. Faculty, administration, and donors saw the value and pitched-in to make it happen.

The project was a valuable learning experience for students. Esports club members built the gaming PCs themselves. This conserved the project budget, and students gained hands-on technical knowledge. A win-win, before gameplay even began.

Students developed promotional programs for the new esports lounge, working with the university Student Marketing Center on design of logos and banners. Going forward, student clubs and university administrators will oversee event programming and upkeep of the facility.

According to Dr. Eboni Ford Turnbow, Vice President for Student Affairs and a key advocate for the esports lounge, her office plans to expand tournament participation and partnerships within the national academic community and the local Ventura County community. Also, faculty will be encouraged to take advantage of the technology-rich environment for teaching uses.

“All of our classrooms are outfitted with Extron AV. Last summer, we created a whole new classroom standard and worked with Extron to develop that.”

“We've been an Extron campus for close to 20 years. I'm impressed with the longevity of the product. Like any public enterprise, funding is not always guaranteed. Having equipment that stands the test of time is important, because we can't always perform technology refreshes on our planned refurbishment schedules.”

Christopher Murphy, MS, MBA, CTS-I
California State University | Channel Islands

EXTRON EQUIPMENT - PARTIAL LIST

Model	Description
NAV E 101	1G Pro AV over IP Encoder - HDMI
NAV SD 101	1G Pro AV over IP Scaling Decoder - HDMI
NAVigator	Pro AV over IP System Manager
DMP 128 Plus C AT	12x8 ProDSP Audio DSP Processor with AEC and Dante
XPA U 1004	Four Channel Low and High Impedance Amplifier - 100 Watts Per Channel
SF 26PT	SoundField 6.5" Two-Way Pendant Speaker
IPCP Pro 255Q xi	IPCP Pro xi Quad Core Control Processor
TLP Pro 1025T	10" Tabletop TouchLink Pro Touchpanel
TLS 1025M	10" Wall Mount TouchLink Scheduling Panel
SMP 111	Single Channel H.264 Streaming Media Processor
SMP 352	Dual Recording H.264 Streaming Media Processor
MGP 641 xi	4K/60 HDMI Multi-Window Processor with DTP3 Extension
MediaPort 300	4K HDMI and Audio to USB Scaling Bridge
Room Agent	Free Room Booking Software for Extron Room Scheduling
Global Configurator Plus and Global Configurator Professional	Powerful Configuration Software for AV Control Systems
GUI Designer	Free Design Software for User Interfaces

CSUCI ESPORTS LOUNGE VIDEO

[Click here](#) to see a fly-through video of the esports lounge on LinkedIn, courtesy of EKC Enterprises, Inc.

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www.extron.com/esports

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