



CASE STUDY

## Hawaii Pacific University Builds Community with Esports and Extron

**Extron**

HPU's esports arena is open seven days a week until 11:00 pm each night, providing ready access to busy students and community members with standard and shift work schedules.



An important focus for HPU is to educate while building relationships among the students and especially within the community. The esports arena is central to the effort.

**“Our esports arena brings students and the public together in a balance between social interaction and tech, resulting in a synergy that builds community in new and exciting ways. With products like Extron’s XTP, we can plug into things that are happening right now and still grow the environment with advancements in technology.”**

Jordan Oliver  
Director of Esports Computing Services,  
Information Technology Services  
HPU

Hawaii Pacific University (HPU) is an international private institute of higher learning with campuses and satellite facilities scattered throughout the culturally rich Hawaiian islands. Located on a downtown pier at Oahu’s Aloha Tower Marketplace on the water is the HPU Esports Arena. An important focus for HPU is to educate and foster connections among their students while building relationships with the surrounding communities and islands. Esports helps to forge these bonds.

The arena is available to players at all experience levels and open year round, seven days a week until 11:00 PM. Students in the program receive a credit of 50 gaming hours per semester. It is used for daily game play, tournaments, invitationals, and sponsored or corporate events. Age is not a limiting factor, with teenage competitors to players in their 60s and 70s.

## CHALLENGES

The HPU esports arena is approximately 3,000 square feet, with many endpoints requiring computer and AV connectivity, as well as power. It features cutting-edge gaming computers and consoles, multiple display devices, LED PAR lights, and virtual reality capabilities. It also offers observation spaces both inside and outside of the arena.

During initial planning, HPU determined that the arena’s AV system needed to be flexible, expandable, and upgradeable. It had to support the gaming servers plus a computer and one or more consoles at each player station. Varying source content had to be available for distribution to any combination of displays and projection systems. Also, the design required specialized equipment at certain locations, such

When only a few tournament participants are left, teammates and observers can cheer on the players from the arena floor.



Projectors and large screen displays are mounted from the ceiling to enhance visibility without requiring valuable floor space. XTP receivers deliver 4K HDMI video content.

**“You don’t have to be under 21 to gain experience and develop marketable skills through esports. The average gamer these days is 35 or 36, so it isn’t only for the young, esports is for the young at heart too, helping people at any age to learning and meet the demand for experience with technology; HR departments and job recruiters are very much keyed into this fact.”**

Jordan Oliver  
Director of Esports Computing Services,  
Information Technology Services  
HPU

as the Streaming Booth with a streaming computer and the Shoutcast system.

The AV system was expected to support more than just the arena installation. It had to facilitate signal extension to two private meeting rooms, each with a computer and two displays, and two to four spectator lounges with large screen displays. These rooms had to serve as auxiliary esports competition rooms, enabling system connectivity through gaming consoles.

The arena had to continually support an ever-broadening array of games. The supporting AV system requirements included best-in-class image quality, video and audio signal integrity, and top signal switching speed at the stations, room displays, and overflow areas. A limited pool of generic game accounts are available on a first-come, first-serve basis. Players can also use their own IDs. In addition, the system had to support students and community members wishing to play games that require a personal username or login, such as Fortnite, Rocket League, Minecraft, Roblox, Valorant, and League of Legends.

The installation had to be upgradable to stay current with the gaming world and evolving technology, as well as be economically feasible. To meet the initial AV system requirements and to remain relevant with each technology refresh and system expansion, the AV system design team selected XTP Systems® and control products from Extron.

## DESIGN SOLUTION

Currently, the HPU esports arena features 30 player stations with some supporting multiple consoles, nine high-end 55" and 65" 4K displays, and two commercial-grade projection systems.

The AV system is used to provide instructions to the competitors, launch tournament play, display the action and player stats, and announce the champions.



The arena is designed to allow coaches and tournament officials to pass among the players or monitor actions from the streaming booth.

**“There's not necessarily this large incursion of debt or drag and timeline for development of an esports arena and infrastructure with a modular solution that's easy to expand, which is why Extron's XTP II matrix is such a good fit.”**

Kevin ReBollo  
Esports Technician  
HPU

Each station includes a powerful gaming computer and 25" gaming monitor. Twelve stations also provide two additional gaming monitors for multi-player sessions at a single station. Some stations can accommodate up to four players each for group play, creating 45 stations for multi-player gaming. Virtual reality sessions are also available on PlayStation VR2, Quest 2, and Quest 3 stations. Esports coaches, staff, student workers, and a dedicated system technician are on site at all times.

During large tournaments and special events, auxiliary PCs, consoles, and extender cables are set up in one or more of the facility's lounges, meeting spaces, and classrooms. They also serve as audience overflow. For example, Zippy's Invitational included Valorant teams from HPU, UHT Manoa, Stonybrook, and Michigan State University. The company flew the players from the mainland to the island to compete for the coveted surfboard trophy. The size of the teams required the use of a back classroom as a competition space for an average of 10 players on the room's computers.

The HPU esports arena is also a popular destination for off-duty military personnel participating in the month-long Rim of the Pacific (RIMPAC) military exercises held off of the Hawaiian islands every other year. The sheer number of players requires that each lounge, meeting room, and classroom provides some degree of system access. Players from as many as 29 different countries sit shoulder to shoulder. As with any other esports activities, content can be sourced from any combination of connected computer and console for distribution to the active display devices located throughout the facility.



An Extron XTP II CrossPoint modular matrix switcher enables switching and distribution for AV and RS-232 control signals throughout the arena and its auxiliary locations.



An XTP decorator-style wallplate receiver is installed behind each display, enabling a snug fit and clean appearance. For each projection system, an XTP scaling receiver delivers 4K HDMI video content at the projector's native resolution.

**“The ability to send any HDMI source feeds to any combination of screens at any time from day one let us institute a much larger array of events and venue offerings and experiences to our students. It also allowed us to open it to the other disciplines on campus like our new cybersecurity team and launching the Masters program using our tech-enabled esports arena.”**

Kevin ReBollo  
Esports Technician  
HPU

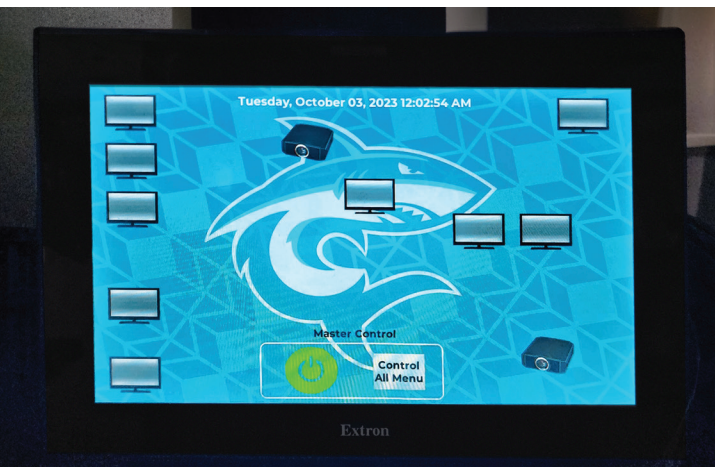
## Arena Athletes & Staffers Declare Esports with Extron is Buff (that’s a good thing)

The AV system centers on XTP because of its features and proven durability, ensuring non-stop gameplay during tournaments and sponsored events. The Extron XTP II CrossPoint® modular digital matrix switcher enables sending any video content anywhere and bringing in audio from any feed. Destinations include one or more displays within the arena and to each active overflow space. This model was selected for its powerful features, such as a 50 Gbps digital backplane that provides instantaneous switching without signal lag or delays. The hot-swappable XTP I/O boards support remote endpoints and local HDMI sources with video resolutions up to 4K/60 at 4:4:4 color sampling and data rates up to 18 Gbps. This level of performance is vital in an esports environment. The player-athletes praise the arena, describing it and the large displays filled with ultra-fast video switching of glitch-free images as buff. The support team completely agrees.

Two more of the valued capabilities include HDCP 2.3 compliance that can be necessary for content-protected games and RS-232 insertion for remote device control. To support the arena as it continues to expand, the XTP frame can be populated with additional I/O boards while the matrix switcher stays in place.

AV and control signals are extended over a twisted pair cable infrastructure. XTP decorator-style wallplate transmitters provide signal extension from select stations within the arena to the matrix switcher mounted in the equipment room rack.

Lighting in the arena is controllable, enhancing the environment for all parties during action sequences and allowing the vibrant colors to pop.



The custom touchpanel interface for the arena AV system was created using GUI Designer.

**“Our esports arena is about giving people access to this kind of equipment and technology, getting their hands on it and learning there is so much more; there’s true community growth. It’s a great way to come connect and also have your voice heard.”**

**Mark Nitta**  
Director of Instructional Technology  
and Client Services  
HPU

An XTP decorator-style wallplate receiver is installed behind each display, enabling a snug fit and clean appearance. For each projection system, an XTP scaling receiver delivers 4K HDMI video content at the projector’s native resolution.

The system designer chose this model to mount with the projectors for multiple reasons, including Extron Vector™ 4K scaling technology to ensure crisp picture detail, enhanced color accuracy, and critical-quality 4K image scaling. Both receiver models accept HDMI video with embedded audio, bidirectional control, and Ethernet up to 330 feet (100 meters). Most of the transmitters and receivers are remotely powered by the XTP matrix switcher over the twisted pair connection, streamlining integration.

In addition to supporting the amazing video sequences associated with esports, the installation easily accommodates the mandated streaming and two-way to multi-point communication systems. Made to be dynamic, the arena team uses the included XTP control software to monitor the entire system and perform routine tasks such as managing EDID and updating firmware. Also, the XTP software is useful during system expansion for configuration and commissioning.

To control the AV system from within the arena, Extron 10" TouchLink® Pro tabletop touchpanels are connected over the university’s network infrastructure to the IPCP Pro 555 control processor rack-mounted with the XTP matrix switcher. Coaches and authorized staff members use the touchpanels to select what content goes where using the custom user interface designed with Extron’s GUI Designer software. Bidirectional RS-232 passed through the XTP transmitters, receivers, and

scaling receivers enable the remote devices to be controlled without the need for additional cabling. Control is transmitted alongside the video signal.

### **Esports Engages Campus and Community**

Built under the leadership and vision of University President, John Gotanda, the arena offers the HPU students and the general public an inviting venue to gather and collaborate while playing competitive and casual video games in Oahu's urban Honolulu. HPU is proud to provide a highly personalized approach that prepares the graduates to make a positive impact in their workplaces and communities. One of the main goals and more prescient moves is workforce development through esports sponsorship and gaming partnerships. The progression to involve the community was and continues to be an equal part of HPU's mission.

The HPU esports arena has become the dominant esports destination throughout the islands of Hawaii. It is used to host a wide array of scheduled, periodic, and random events. These include the Hawaii Pacific Ultimate, which is a SSBU tournament held monthly, the largest FGC scene, SF, Tekken, and Guilty Gear, as well as cash tournaments for League of Legends and Valorant. Special-use occasions are esports watch parties, Twitch Hawaii Community Meetups, Women in Gaming, and the Hawaii Esports State Championships for Middle and High Schools, to name just a few. To support local charities, the HPU esports students and arena staff donate their time to transport computers and act as mentors to children for various community and fundraising functions. The camps held on site for children up to the age of 16 serve the same purpose, competing, socializing, and forming friendships that last well beyond their camp experience.

For the business community, Zippy's holds their Invitational and corporations host hackathons with local vendors interested in cyber-defense training and Capture The Flag drills in computer security. A recent corporate event brought the students and community together when HPU partnered with Sony EVO to host the March 2024 Conference. Sustaining community engagement through localized sponsorships and partnerships is both practical and beneficial to all parties.

**“Our mission at HPU esports is to give everyone an education in the industry of esports, including logistics and event management. What we've accomplished here in our esports arena with the new Extron system can benefit other schools as well as other coaches, directors, and administrators.”**

Jordan Oliver  
Director of Esports Computing Services,  
Information Technology Services  
HPU

**“We really want the arena to be seen as a community center where anybody can experience and enjoy the great opportunities of esports and gaming, especially in the Asia Pacific region. There's just nothing else like this sustainable esports space; it's very nuanced. We're definitely aiming for the stars but we're not trying to sell the moon at the same time; we're building real community through esports.”**

Jordan Oliver  
Director of Esports Computing Services,  
Information Technology Services  
HPU

### Leveling Up at HPU Esports Arena

HPU's esports arena and its AV system are dynamic by design. The next expansion project will address the need for more stations and displays to alleviate crunch times, such as the two-hour wait lists that are common during highly popular tournaments and RIMPAC. This growth dovetails with plans to expand the program to provide official certificates for the curriculum built around project management and computer science. The esports program participants are highly sought after by local companies, which include Zippy's headquarters, credit unions, banks, and refreshments companies. These organizations have come to recognize the value of an esports background. Their recruiters approach the graduating students with job offers involving e-commerce and developing UX strategies for corporate websites and apps. The students in the esports program are also proving to be very entrepreneurial, creating their own avenues to success.

In the process, HPU is teaching individuals how to become better gamers and better citizens. HPU is using their esports arena to enable a network of accountable, talented people filled with true inner strength to bond the population of the Hawaiian islands into a global community.

## EXTRON EQUIPMENT - PARTIAL LIST

Model	Description
XTP II CrossPoint 1600	Modular Digital Matrix Switcher from 4x4 to 16x16 with SpeedSwitch Technology
XTP T HWP 101 4K	4K HDMI Transmitters - Decorator-Style Wallplate
XTP SR HD 4K	4K HDMI Scaling Receivers
XTP R HWP 201 4K	4K HDMI Receivers with 90° Connector for Wall-Mounted Displays
IPCP PRO 555	IP Link Pro Control Processor
TLP Pro 1022T	10" Tabletop TouchLink Pro Touchpanels
XTP System Configuration Software	Software for the Complete Setup and Configuration of XTP Systems
GUI Designer	Free Design Software for User Interfaces

**Extron**  
[www.extron.com/esports](http://www.extron.com/esports)

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The HPU Esports Arena launched with 18 player stations and has continued to expand. Some stations can support up to four player consoles during tournaments and events.



Esports athletes and champions earn their ranks with skill and are not limited by such characteristics as age, gender, or physical abilities.



HPU partnered with Sony EVO to host the March 2024 Conference, bringing the students and the community together.

The team or individual tournament champion is called up to be recognized and celebrated. This is equally true for students and members of the public alike.



**"We are the only esports arena in Hawaii that's open to the public, and we invite everyone to learn, to play, to engage in all opportunities that esports provides. Visit us and you will see firsthand how plugged-in we are with our local communities."**

Jordan Oliver  
Director of Esports Computing Services,  
Information Technology Services  
HPU