



CASE STUDY

## From Classroom to Future-Ready Teaching Laboratory - An Inside Look at The Education University of Hong Kong

**Extron**



The portable lectern is the movable centerpiece of the room and can be positioned in three, optimal locations with minimal cable infrastructure.

**“Feedback from users is hugely positive. Teachers enjoy the flexibility to freely move the lectern within the room as it facilitates an active learning environment and the capability to interact with the students.”**

Finson Lam  
BAP Project Director

The Education University of Hong Kong (EdUHK) is a public research university based in Tai Po, New Territories, Hong Kong. Founded in 1994, it is the only government-funded institute in Hong Kong that specializes in teacher education. The University needed a new E-Learning and teaching laboratory to provide interactive and flexible learning styles in a space designed for students and teachers to explore educational technology tools and resources. The laboratory is designed to foster collaboration, promote innovation in teaching, and develop digital literacy skills.

### **CHALLENGES – INSIDE AND OUT**

In such a classroom, collaboration is crucial, so it had to be equipped with the latest technology for the delivery of digital lectures and presentations. As such, the designers’ wanted the technology to meet today’s needs, but also accommodate developments in future teaching technologies.

Outside challenges in planning this new space mainly surrounded the timeline and working up against supply shortages as COVID-19 started impacting the project. Despite these hurdles, clear communication from the integrator, BAP and the Extron team helped set realistic project expectations.



NAV encoders handle the sources from the lectern, and feed the signal to the PC and monitors via NAV decoders and the MediaPort 200.

## Transforming a Normal Classroom into a Flexible Teaching Laboratory

In order to create a teaching laboratory, BAP worked with the University to convert a normal classroom with a fixed table at the front and a standard front-throw projector into a flexible space which required a very fluid and easily configurable design. That meant that all of the tables, displays, lecterns, and any other items which would find fixed positions in a normal classroom had to be easily and frequently rearranged and, with them, any of the attached AV. As one could imagine, cabling is a huge factor when it comes to moving several pieces of AV equipment from one area to another on a frequent basis. BAP knew that they needed to reduce the overall cable count to make this type of flexible classroom possible.

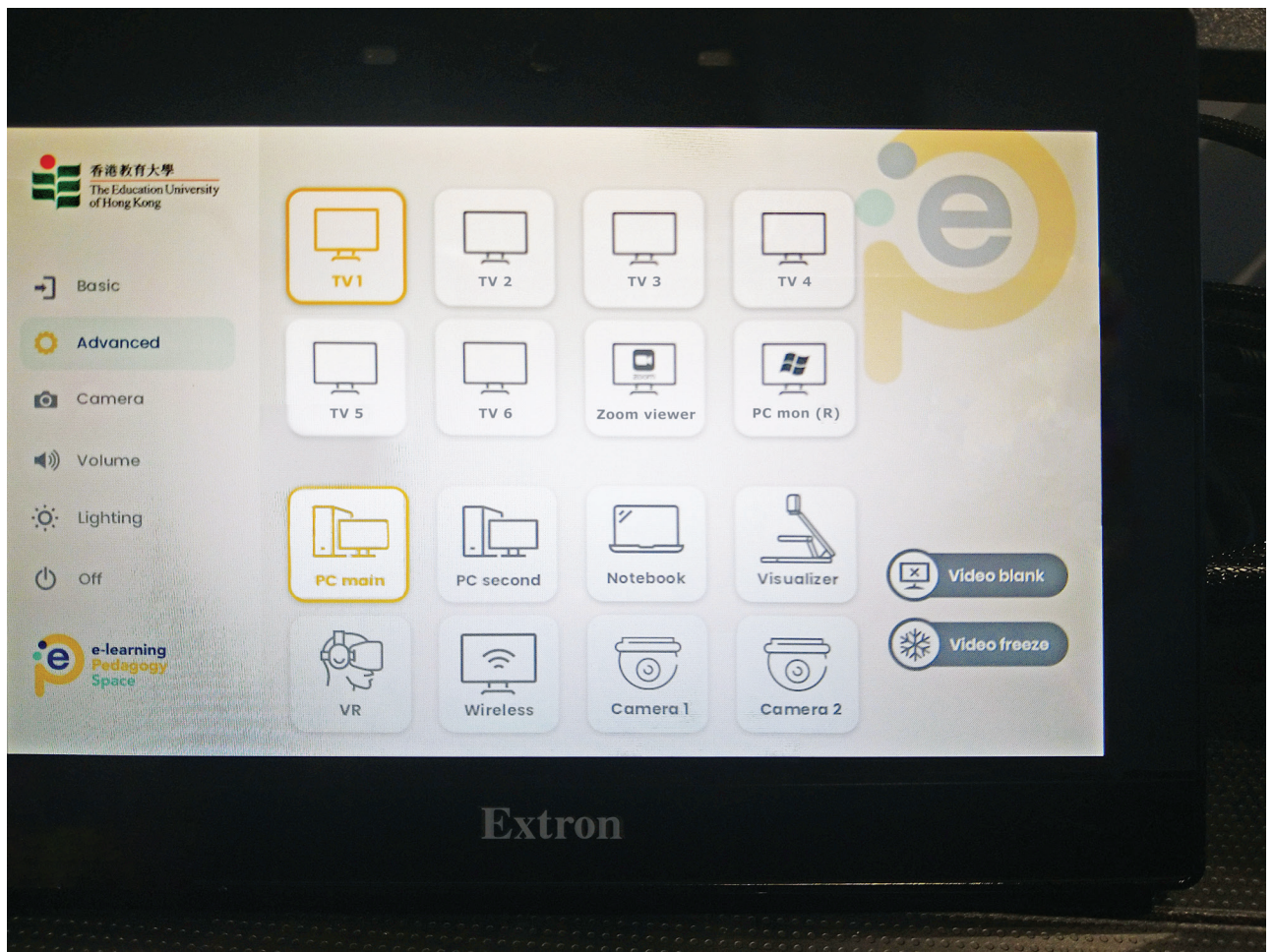
### DESIGN SOLUTIONS

The room houses two 85" and four 65" Fujitsu interactive displays. Supported by an Extron DTP CrossPoint 4K matrix switcher with 10 inputs and eight outputs, users can share content freely between these different displays. When they want to select sources, the Extron TLP Pro 725T 7" Tabletop Touchpanel on the lectern makes this an easy task. The room is equipped with camera and audio peripherals to enable remote participation using online meeting tools to support continuity of learning when in-person attendance is not possible. A full-featured, height-adjustable TeamMate lectern delivers a flexible workspace, giving them easy access to their teaching tools and resources.

Because the lectern can be moved to three different locations within the classroom space, there isn't necessarily a "front" of the class. The instructor moves about the room and has access to all the technology they need from the lectern, itself. From various points, they can use the TLP Pro 725T touchpanel and bring up any source and send it to any of the room's six displays.

### NAV Pro AV over IP – The Solution the Room Needed

This is where cable consolidation comes into play. Ordinary configurations in a flexible space such as this would involve multiple cables tethered to the lectern and a real challenge when it comes to mobility solution that requires more cables between the endpoint and the matrix, NAV can manage multiple AV signals over a single 10Gb fiber cable between network switches, which makes the cable management much easier. In this application, the NAV single-fiber solution is ideal - it helps



The custom TouchLink Pro interface provides one-touch source selection as well as volume and power control for the room's AV.

keep the lectern mobile and minimizes chances of a wrong cable connection. NAV is also a great choice when it comes to system expansion, which meets another one of the install goals. If it's decided that more monitors are needed, for example, expansion with NAV is as easy as adding two more decoders. As long as there are ports left on the network switch, NAV can support as much expansion as a space like this will need.

### Control and Audio

The customized touchpanel interface includes all of the functionality the instructor needs. Whenever a guest visits and takes over teaching duties, the intuitive nature of the touchpanel and its interface make an easy task out of operating the room AV. The Dante-enabled Extron DMP 128 Plus audio DSP processor processes and routes all classroom audio, starting with the lectern-mounted gooseneck microphone for the instructor and Sennheiser ceiling microphone arrays for the students. Audio DSP within the DMP 128 Plus C AT handles dynamics processing, echo cancellation, and automixing, ensuring the cleanest possible audio goes to the XPA U 358-70V amplifier, powering SF 26CT ceiling speaker that deliver exceptional intelligibility throughout the room.

**“The customized and user-friendly TouchLink Pro touchpanel offers intuitive system operation which simplifies control for the instructors.”**

Finson Lam  
BAP Project Director

## RESULTS

Education University Hong Kong had its work cut out for them with the timing of their project, but once underway, Extron and BAP worked hard to make it all happen. From the start, it was important to the University to build a sophisticated AV solution but also keep costs in mind. As such, the team was able to use some existing technology, while also bringing in the latest Extron solutions. Working closely with the project team, the end users, and everyone involved, Extron and BAP were able to provide the University with the type of forward-looking technology they desired, while keeping usability high and costs at acceptable levels.

## 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
DTP CrossPoint 108 4K	10x8 Seamless 4K Scaling Presentation Matrix Switcher
DTP HDMI 4K 330 Tx	Long Distance DTP Transmitter for HDMI
DTP HDMI 4K 330 Rx	Long Distance DTP Receiver for HDMI
USB Extender Plus T	Twisted Pair Extender for USB Peripherals - Transmitter
USB Extender Plus R	Twisted Pair Extender for USB Peripherals – Receiver
MediaPort 200	HDMI and Audio to USB Scaling Bridge
DMP 128 Plus C AT	12x8 ProDSP Digital Matrix Processor w/AEC and Dante
XPA U 358-70V	Eight Channel Low and High Impedance Amplifier - 35 Watts Per Channel
SF 26CT	SoundField XD 6.5" Two-Way Ceiling Speaker
IPCP Pro 550 xi	IPCP Pro xi Control Processor
TLP Pro 725T	7" Tabletop TouchLink Pro Touchpanel

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