

BOSE

PROFESSIONAL

Cityu

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City University of Hong Kong

學術樓

CASE STUDY - EDUCATION | CITY UNIVERSITY OF HONG KONG

Man Academic Building

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中國北方游牧藝術

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earthpulse  
Overseas Foundation

廣州電聲廣播  
Guangzhou Electric Sound Broadcasting

香港五區文化康樂  
Hong Kong Five Districts Culture and Leisure

Wah Kwong



Solid Foundation

OR

Future

In partnership with:

WHY NOT BOTH





## A UNIVERSITY FOUNDED ON PROVIDING DIVERSE TEACHINGS

City University of Hong Kong (CityU) is an English-language public research university in Kowloon, Hong Kong. It became a fully accredited university in 1994. The university has nine main colleges offering courses in business, science, engineering, liberal arts and social sciences, law, and veterinary medicine. It is also home to the Chow Yei Ching School of Graduate Studies, and Hong Kong Institute for Advanced Study.

“This was the first time I’ve set up AV provisions for the lecture halls without any form of analog cables ... This is the future, where all devices will be digital and analog issues will become a thing of the past.”

— Batra

CityU’s IT Manager and Section Head of Computing Services Centre

CityU is an innovative centre for research and professional education. According to metrics compiled by Stanford University, over 170 CityU faculty members are listed among the top 2% of the world’s most highly cited scientists.

## DESIGNING HIGH-QUALITY LECTURE HALLS

Designing high-quality lecture halls that deliver intelligible audio is an ongoing challenge, whether for universities or other public venues. To ensure that ‘every seat is the best seat,’ auditoriums must provide an optimal audio experience for all.

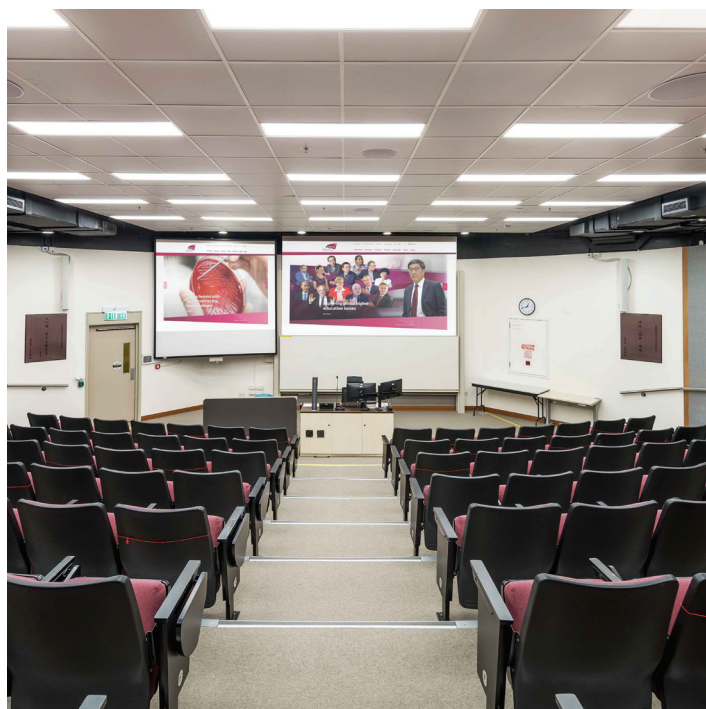
CityU’s IT Manager and Section Head of Computing Services Centre, Deep Batra, conveyed the university’s awareness of key principles that ensure a quality experience:

Audio is more important than video in an educational setting.

Reducing ambient noise while providing clear, intelligible audio is critical in larger teaching spaces.

Practical understanding of how sound behaves is critical to the principles of sound design.

Clearly, creating the perfect sound experience in a large, dynamic space is more involved than what a typical audience member may notice. However, while this may quickly become a daunting task — even for audio experts — the payoff is infinite by the knowledge gained during assemblies.



## TECHNOLOGY THAT ENHANCES THE TEACHING ENVIRONMENT

With a clear understanding of what the university needed, the Bose Professional Hong Kong team worked closely with CityU's AV team to enhance lecture halls one through four. Together, they designed a solution that not only meets their needs now, but also in the future because of the system's high quality, flexibility, and scalability. After reviewing multiple manufacture offerings, the team created a holistic solution that met all the university's requirements.

The design specifically ensured the networked audio solution provided a theater-quality audio experience, was scalable, and was powered by a high-performance, cost-effective digital signal processor. The solution's success wouldn't have been possible without the Bose Professional system components seamlessly working together.

The MSA12X steerable array column loudspeakers, DesignMax DM5C in-ceiling loudspeakers, and DM8-C Sub subwoofers worked together to provide outstanding vocal intelligibility and tonal consistency — while complementing the existing building's aesthetics. The MSA12X's proprietary Articulated Array transducer configuration allows wide, 160° horizontal coverage throughout the room. With its modular design, two of the lecture halls utilize loudspeaker stacks containing two MSA12X units per side.

Known as a flexible DSP platform, the ControlSpace EX-1280C conferencing digital sound processor supports rooms of various sizes that allow numerous integration capabilities with easy configuration. Paired with each MSA12X stack, using Dante protocol to connect to the ControlSpace EX-1280C digital processors over the

network greatly simplified device connectivity. The system is powered by the reliable and adaptable PowerShare PS404D amplifiers.

## BOSE PROFESSIONAL MASTERS THE ART OF AUDIO PLACEMENT

"This was the first time I've set up AV provisions for the lecture halls without any form of analog cables," said Batra. "This is the future, where all devices will be digital and analog issues will become a thing of the past."

Bringing more than 50 year of audio experience to the project, the Bose Professional team illustrated their clear understanding of how sound behaves and the mastery of loudspeaker placement.

"This reduced the audio quality variations across different locations, ensuring every seat became the best seat in the halls," continued Batra. "We embraced this change head-on and saw immediate benefits."

Knowing the audio solution will have a lasting impact on tomorrow's leaders, the team agreed it was a pleasure to support CityU's all four of the lecture halls projects. Of especial pride, the solution not only provides an ideal acoustic experience for all attending, but also improves the room aesthetics by blending the audio technology with the architecture.





CityU is now able to use AV over IP to inter-connect more than six large, separate spaces into one cohesive, virtual space that can seat more than 1,000 students. This efficient, cost-effective solution would not have been possible using traditional analog cables. All devices now reside on the university's IoT network and managed by their network engineers — who provide an IP-address to each device and set its firewall rules specific to their security needs.

Now CityU has a network audio solution that is easy to monitor and manage that's befitting a university so committed to ensuring quality audio in education. ■

## SYSTEM COMPONENTS

**ControlSpace EX-1280C** conferencing signal processor

**DesignMax DM5C** loudspeaker

**DesignMax DM8C-Sub** subwoofer

**MSA12X** steerable array loudspeaker

**PowerShare PS404D** adaptable power amplifier



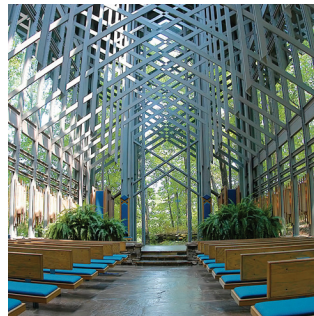
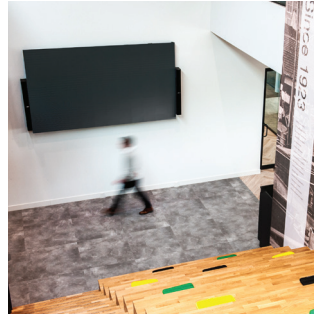
### **MSA12X**

MSA12X is a self-powered digital beam-steering loudspeaker that enables improved room aesthetics, with outstanding vocal intelligibility and tonal consistency. The proprietary Articulated Array transducer configuration allows wide, 160° horizontal coverage throughout the room, and MSA12X's modular design allows building of vertical arrays using 1-3 units. Dante digital audio network interface comes standard for connection with other Dante-enabled products over Ethernet-based networks.



### **CONTROLSPACE EX-1280C**

With an open-architecture, single-rack-unit design, the ControlSpace EX-1280 is a robust digital signal processor equipped for general-purpose audio processing applications. Twelve mic/line analog inputs, eight analog outputs, an AmpLink output, and 64 x 64 Dante® connectivity allow for flexible configuration and high-quality sound system control. ControlSpace Designer software simplifies the setup process with drag-and-drop programming, making configuration quick and easy.



Bose Professional serves many different markets, delivering great sound in venues all around the world — performing arts centers, theaters, places of worship, stadiums, restaurants, schools, retail stores, hotels, and corporate buildings.

We know that our pro audio customers depend on us in a unique way. This is your business, your reputation, your livelihood — not just an amp, not just a loudspeaker. So, when you buy a Bose Professional product, you get the full weight of the global Bose Professional team behind you — our time, support, and attention. We see every purchase as the beginning of a partnership.



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