

## PARTNER STORY



## EDUCATION



### OPPORTUNITY

The new Extended Reality Center at Sungkyul University required a cutting-edge multi-speaker audio system to provide immersive sound for virtual, augmented and mixed-reality media.



### SOLUTION

TechData PS and MyeongSeong Nano System equipped the XR Center with a JBL Intonato 24 Monitor Management and Tuning System, JBL loudspeakers, Crown amplifiers and BSS DSP.

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### SUNGKYUL UNIVERSITY, SOUTH KOREA

First established in Seoul in 1962 before moving to a sprawling campus in Anyang, Gyeonggi-do province in 1975, Sungkyul University is currently attended by over 4,500 students. The university recently added a state-of-the-art Extended Reality (XR) Center devoted to the study and development of virtual, augmented and mixed-reality technologies; the first facility of its kind in South Korea. To provide immersive sound to compliment a variety of XR experiences, Sungkyul University commissioned AV integrators TechData PS and Myeongseong Nano System to design and install a state-of-the-art audio system featuring a JBL Intonato 24 Monitor Management and Tuning System, JBL loudspeakers, Crown amplifiers and BSS signal processors.

“We required a solution that could bring out the best in our cutting-edge XR Center,” said Hyeon Sik Yu, XR Center Director, Sungkyul University. “Our criteria for the project was quite clear from the beginning. The sound system had to deliver powerful output with a high degree of clarity and even distribution; and of course, it had to be flexible enough to adapt to various AV formats. Having said that, we are very satisfied with the solutions provided by TechData PS, as these products meet all the requirements and achieve the highest quality of sound at reasonable prices.”

TechData PS and Myeongseong designed the XR Center’s audio system around the JBL Intonato 24 Monitor Management and Tuning System for maximum flexibility and control. With 24 analog inputs and outputs, the Intonato 24 is capable of accommodating the large multi-speaker setups necessary for creating immersive, three-dimensional sound for XR experiences. Cutting-edge speaker calibration software and an external microphone input streamline the setup process with automatic calibration for a variety of surround sound and immersive audio speaker configurations. Multiple RJ45 ports for JBL HiQnet and BLU Link connectivity allow the Intonato 24 to interface with networked audio systems for even greater flexibility.



AKG

AMX

BSS



dbx

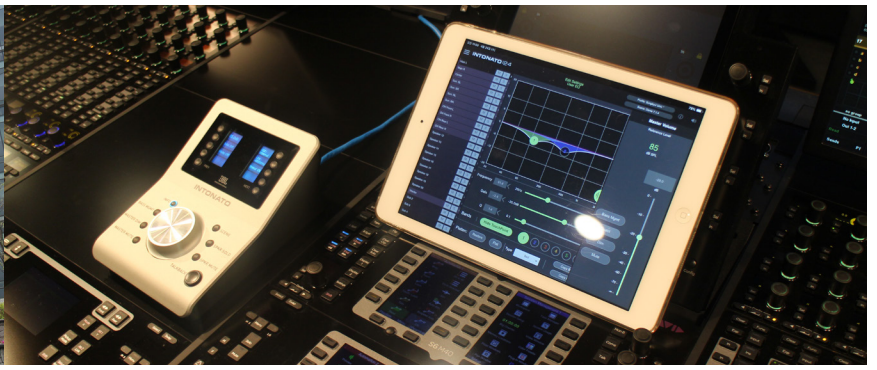


lexicon

Martin

Soundcraft

STUDER



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The Intonato 24 feeds a set of 11 JBL 708i monitors and an S2S-EX subwoofer arranged in a 7.1.4 configuration. Seven directional speakers form a circle similar to traditional 7.1 surround sound speaker placement, while four overhead speakers add a height dimension, creating a true three-dimensional sound field. TechData PS and Myeongseong selected the 8-inch JBL 708i for its extended frequency response and Image Control Waveguide, which provides enhanced spatial accuracy. The S2S-EX subwoofer delivers additional low-frequency output with minimal distortion thanks to a 15-inch driver and dual SlipStream ports, supplementing the main speaker array with deep bass to enhance the immersion.

The loudspeakers and subwoofer are powered by Crown DCi 8|300N, 4|300N, 2|300N and 2|1250N amplifiers, which provide ample headroom for ultra-transparent sound. The Crown amplifiers are connected to BSS digital signal processors via BLU Link, a low-latency, fault-tolerant 48-channel digital audio bus carried over standard Cat 5e cabling, creating a flexible audio network. The BSS BLU-120 and BLU-50 signal processors perform complex digital signal routing and provide powerful DSP for fine-tuning the array. TechData PS and Myeongseong added BLU-DAN cards to allow the system to transmit data over the Dante network protocol.

“The client required an industry-leading sound system to supplement the cutting-edge technology at the XR Center,” said Won Ha Jeong, Sales Representative, TechData PS Co., Ltd. “In addition, they requested a sound system that was being adopted for its quality by eminent companies in the Republic of Korea. Moreover, the system had to be flexible, allowing students to experience various audio formats while also providing powerful sound distribution and clear output for the theater. After assessing the specific requirements, we concluded that sound solutions powered by HARMAN and JBL would be best suited for the project.”

“The project at Sungkyul University was a momentous one, being the first use case of ultra-modern audio solutions in South Korea,” said Ramesh Jayaraman, VP & GM, HARMAN Professional Solutions, APAC. “We would like to thank our partner TechData PS Co., Ltd. for not just designing and executing the solution to the last detail, but also pioneering the use of such an innovative setup.”



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We are very satisfied with the solutions provided by TechData PS, as these products meet all the requirements and achieve the highest quality of sound at reasonable prices.”



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#### PRODUCTS USED

**BSS BLU-120 SIGNAL PROCESSORS**

**BSS BLU-50 SIGNAL PROCESSORS**

**BSS BLU-DAN AES67 TO BLU LINK BRIDGE**

**CROWN DCI 8|300N AMPLIFIERS**

**CROWN DCI 4|300N AMPLIFIERS**

**CROWN DCI 2|300N AMPLIFIERS**

**CROWN DCI 2|1250N AMPLIFIERS**

**JBL INTONATO 24 MONITOR MANAGEMENT AND TUNING SYSTEM**

**JBL 708I MASTER REFERENCE MONITORS**

**JBL S2S-EX SUBWOOFER**

#### ABOUT HARMAN

HARMAN (harman.com) designs and engineers connected products and solutions for automakers, consumers, and enterprises worldwide, including connected car systems, audio and visual products, enterprise automation solutions; and services supporting the Internet of Things. With leading brands including AKG®, Harman Kardon®, Infinity®, JBL®, Lexicon®, Mark Levinson® and Revel®, HARMAN is admired by audiophiles, musicians and the entertainment venues where they perform around the world. More than 50 million automobiles on the road today are equipped with HARMAN audio and connected car systems. Our software services power billions of mobile devices and systems that are connected, integrated and secure across all platforms, from work and home to car and mobile. HARMAN has a workforce of approximately 30,000 people across the Americas, Europe, and Asia. In March 2017, HARMAN became a wholly-owned subsidiary of Samsung Electronics Co., Ltd.



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