



### **OPPORTUNITY**

Deploy a flexible, integrated, expandable audiovisual solution at Bank of Thailand's Learning Center which contains a library, dedicated presentation rooms, research areas, a banquet hall and museum.



### **SOLUTION**

Mahajak Development designed a complete HARMAN Professional AV solution consisting of JBL loudspeakers, Crown amplifiers, Soundcraft mixers, BSS signal processors, AMX control systems and Martin lighting fixtures.



HARMAN's best-in-class audio systems, video switchers and interfaces helped us create an inspiring, collaborative experience at the Learning Center."

## BANK OF THAILAND'S LEARNING CENTER, BANGKOK

Bank of Thailand is the central financial body overseeing all monetary policy in Thailand. Across the road from its Bangkhunprom Palace headquarters, the Bank recently established a Learning Center complex in its former mint facility. The five-story building contains the Prince Vivadhanajaya Library, dedicated presentation rooms and research areas, a banquet hall and the Bank of Thailand Museum, which offers guided tours and interactive exhibits about the history of Thai currency. The Learning Center required a flexible, integrated audiovisual solution that could be expanded and reconfigured as needed. To meet these goals, Bank of Thailand hired Mahajak Development to design a complete HARMAN Professional AV solution consisting of JBL loudspeakers, Crown amplifiers, Soundcraft mixers, BSS signal processors, AMX control systems and Martin lighting fixtures.

"The idea was to create an interactive environment in the Learning Center using high-tech scalable solutions to ensure our future needs are met as the Center grows and changes," said the spokesperson for Bank of Thailand. "The interactive exhibitions required clear speech reproduction, eye-catching visuals and advanced control systems to run it all seamlessly. HARMAN's best-in-class audio systems, video switchers and interfaces helped us create an inspiring, collaborative experience at the Learning Center."

For large events in the banquet hall and library, JBL VT4888 and AC599 loudspeakers with SRX812P and ASB7128 subwoofers project powerful, high fidelity sound. In the library's presentation rooms, JBL AC195 full-range speakers and Control 16C/T ceiling units provide even coverage for mid-size audiences. The museum's smaller exhibits utilize JBL LSR305 studio monitors and E55BT wireless headphones for private listening and audio assistance. Control 28-1 loudspeakers and SB-150 wireless subwoofers provide wide coverage for background music in the entrance hall. The system is powered























A distinct venue like the Bank of Thailand Learning Center requires a worldclass audio-visual system that provides end-to-end capabilities. HARMAN's diverse portfolio of products gave us the ability to build reliable, robust and futureproof AV systems for the venue. There were two overhead projectors installed to ensure complete realtime redundancy. During installation, we made adjustments to ensure the speakers were fitted at the right angles to deliver optimum audio experience."

by Crown I-Tech HD and DCi Series amplifiers. Soundcraft Si Impact digital mixers allow staff to easily make adjustments. Audio is routed through a network of BSS BLU-100 signal processors with flexible digital architecture that can be reconfigured as needed.

To enable seamless AV control, Mahajak outfitted the facility with a network of integrated AMX systems. DVX-2250HD presentation switchers and DGX digital media switchers form the core of the system, connected by DX-TX-DWP transmitters and DX-RX receivers. MSD-701 touch panels and the TPControl iPad app provide staff, presenters and guests with tactile interfaces for controlling various interactive features. Martin MAC Aura and Quantum Profile fixtures create an immersive lighting experience in the banquet hall and museum exhibits.

"A distinct venue like the Bank of Thailand Learning Center requires a world-class audio-visual system that provides end-to-end capabilities," said Pongsakorn Kanchanachayphoom, Project Director at Mahajak Development. "HARMAN's diverse portfolio of products gave us the ability to build reliable, robust and future-proof AV systems for the venue. There were two overhead projectors installed to ensure complete real-time redundancy. During installation, we made adjustments to ensure the speakers were fitted at the right angles to deliver optimum audio experience."

"Creating an interactive learning space for Bank of Thailand has been a unique, exciting challenge for HARMAN," said Ramesh Jayaraman, VP & GM of HARMAN Professional Solutions, APAC. "The project required a sophisticated AV system that would deliver rich sound and stunning visuals for an immersive interactive experience. Leveraging our global experience with projects like this and Mahajak Development's deep knowledge and capabilities, we were able to seamlessly execute the project."







Creating an interactive learning space for Bank of Thailand has been a unique, exciting challenge for HARMAN."



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#### **PRODUCTS USED**

JBL VT4888 MIDSIZE TRI-AMPLIFIED 3-WAY HIGH DIRECTIVITY LINE ARRAY ELEMENT
JBL AC599 TWO-WAY FULL-RANGE LOUDSPEAKER SYSTEM
JBL SRX812P 12" TWO-WAY BASS REFLEX SELF-POWERED SYSTEM
JBL ASB7128 ULTRA LONG EXCURSION HIGH POWER DUAL 18" SUBWOOFER
JBL AC195 TWO-WAY FULL-RANGE LOUDSPEAKER
JBL CONTROL 16C/T TWO-WAY 6.5" COAXIAL CEILING LOUDSPEAKER
JBL LSR305 5" TWO-WAY POWERED STUDIO MONITOR
JBL E55BT WIRELESS HEADPHONES
JBL CONTROL 28-1 HIGH OUTPUT INDOOR/OUTDOOR
BACKGROUND/FOREGROUND SPEAKER
CROWN I-TECH HD SERIES AMPLIFIERS
CROWN DRIVECORE DCI SERIES AMPLIFIERS.
SOUNDCRAFT SI IMPACT DIGITAL MIXING CONSOLE

BSS BLU-100 SIGNAL PROCESSORS WITH DIGITAL AUDIO BUS

# **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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