Trial by television

Having impressed at a televised awards show, Kling & Freitag's VIDA speaker system was chosen for permanent installation at Hamburg's Elbphilharmonie

The Elbphilharmonie in Hamburg, Germany, was designed by Herzog & de Meuron, with acoustics by Yasuhisa Toyota, and opened in 2017. The biggest of its two concert halls is the 2,100-capacity Grand Hall, while the building also incorporates a hotel, apartments and a public viewing area.

In October 2017 an event was held in the Grand Hall that would prove pivotal – Echo Klassik 2017, Germany's award ceremony for classical music, which was broadcast live on German public television.

Broadcast sound

Neumann & Müller, a leading event technology provider, was put in charge of the technical aspects of the award ceremony, including the provision of the broadcast sound feed. The company chose various solutions from Kling & Freitag's Versatile Intelligent Digital Array (VIDA) series for the event.

For the live audience sound, Neumann & Müller deployed several VIDA L/C steerable column speakers. These units were positioned carefully to achieve precise coverage of the main audience area. The VIDA units were covered with a white stretch fabric and flown from a circle truss so that they would fit in unobtrusively, as befitting the high-end setting of the televised event.

"Representatives of the Elbphilharmonie were so impressed with the sonic experience of the live sound that they started a direct cooperation with Kling & Freitag following the awards ceremony," comments Christoph Wöhler, senior consultant at Kling & Freitag.

The Elbphilharmonie wanted to replicate the quality of the setup with the elegance of a small footprint. After an initial planning phase, Neumann & Müller and Kling & Freitag collaborated to set up a demonstration of VIDA at the concert hall. AiR Ingenieurbüro and ASC were also involved in defining the final configuration that would best fit the venue.

The demonstration showcased live system control via the Kling & Freitag VIDA app, low-latency reproduction and the ability to recall preset configurations to accommodate and support the wide range of applications that are held at the Elbphilharmonie.

Venue flexibility

"The ability to change coverage and tuning so that the system can be optimized for speech and music was a huge improvement," says Wöhler. "The accuracy of the simulation was praised for being nearly identical when compared with numerous measurements."

VIDA C cardioid modules were used to enhance low-frequency pattern control. "This allowed the system to have extraordinarily full

Photos: Kling & Freitag

Main: **The VIDA cluster during setup**

Inset: **A VIDA L/C unit**


Claudia Höhne/Elbphilharmonie

and musical sound yet maintain directivity," explains Wöhler.

The demonstration secured the order, and conversion to the new cluster took place in July 2018. In total, 18 VIDA L and VIDA C units were installed in the Grand Hall's roof dome and an additional two VIDA L/C sets were placed at either side of the stage.

Above: Diego El Cigala in concert at the Elbphilharmonie Grand Hall

"VIDA is a precise and useful tool that greatly satisfies our special requirements regarding sonic performance and installation properties," comments Jonathan Hammoor, systems engineer at Elbphilharmonie. "With Kling & Freitag's GLL data, we can create realistic simulations and ensure that our planning will work for each project. Beam steering and cardioid low-frequency pattern control perform as defined in theory, all while retaining great musicality. We are very happy with the flexibility for the broad range of applications in the Grand Hall."

Peter Schneekloth is another happy end user of Kling & Freitag's equipment. He has been working with renowned tenor José Carreras for more than 17 years, taking care of sound engineering. In August 2018 he had the opportunity to visit the Grand Hall and experience the newly installed sound system. "I was very pleasantly surprised by the even and authentic sound of the new speaker system," says Schneekloth. "The rich and natural reproduction within Yasuhisa Toyota's extremely accurate and lively acoustic design is impressive." ■

www.kling-freitag.com

THE VIDA SERIES

The centerpiece of Kling & Freitag's VIDA series of loudspeakers is a 48-channel signal processor, which is built on a powerful field-programmable gate array. "This creates the basis for all the outstanding properties that characterize VIDA," says Christoph Wöhler. "The corresponding multichannel amplifier is responsible for the good tone and provides the power reserves for impressive performances."

The resolution and power of the digital signal processing platform is intended to make system setup very easy. Dispersion can be adjusted in real time and in steps as small as 0.1°. "In addition, the VIDA app supports the user through its intuitive and easy-to-use interface," says Wöhler.

In the VIDA series, all drivers are optimized for their distinctive use. The block-element-modifier-optimized VIDA Waveguide, together with the coaxial arrangement of the drivers, is configured to support precise dispersion in the horizontal dimension. "The combination of driver arrangement, channel count and acoustic optimization is responsible for the incomparable sound as well as the highest quality beam steering in the vertical axis," says Wöhler. "All VIDA systems are designed for maximum naturalness, resolution and signal control. This makes the best results easy to achieve."

In addition, all VIDA loudspeakers offer Dante, AES/EBU and analog input formats as standard. There is automatic fallback redundancy for reliability. VIDA's General Purpose Input Output interface is designed to enable seamless integration into media control systems and installations.

The VIDA series covers applications ranging from speech reinforcement to concert-level reproduction. Depending on the application, VIDA can be arrayed up to 8m (26.2ft) in length. "This extends low-frequency beam steering dramatically," says Wöhler.