

Images

Making History: KØRG, Artist Connection, and AURO-3D Livestream in Immersive Audio/HD Video

Three companies collaborated to send uncompressed immersive audio and 1080p high-def video from a concert in Japan in a unique live stream experience.



Japan's Hall of Halls, Kiyosato Moeginomura Museum

Last week at Deluxe Hollywood studio in Los Angeles, viewers gathered at Stage 5 to witness a historic feat—a first-of-its-kind demonstration showing how a live concert can be streamed in real-time with uncompressed audio and full 1080p video resolution. The demo utilized a complete end-to-end streaming ecosystem using [KØRG](#), [AURO](#), and [Artist Connection](#) streaming platform.

Historic Instruments, Futuristic Demo

Organized by KØRG with support from Japanese media company and TV broadcaster WOWOW, distributor Syntax Japan, and Genelec Japan, this live one-hour performance was held at the [Hall of Halls](#) in Kiyosato Moeginomura Museum (Yamanashi, Japan). Called “The Sound of the Previous Century Into the

Future," the concert featured a marimba performance by Tatsushi Omori and Yoko Kamihara, accompanied by early 20th century instruments such as the Chickering Ampico Grand Player Piano (the last unit in the world still maintained and playable) and the Limonaire 1900 organ (from the Paris World Exposition in 1900).

A century ago, only one automatic piano was created for demonstration purposes. It was a grand piano originally built by Chickering and later modified by Ampico for automatic performance. During that time, it was common for composers to personally record music for these automatic pianos. The concert showcased recordings made by composers such as Mascagni and Rachmaninoff. The grand piano's rich sound was fully appreciated during the performance.

The Limonaire 1900 automatic organ replicated realistic sounds, including the mechanical noises of the instruments in action. Despite its size, the organ's sound seemed to come from directly above, showcasing the strength of AURO-3D's three-layer height structure in the Hall of Halls.

Audiences at Deluxe Hollywood and those watching the stream at home could hear enveloping sound from the museum's rare instruments streamed in 24bit/96kHz AURO-3D immersive audio, paired with high-definition, H.264 1080p 15 Mbps streaming video. Master of Ceremonies Hideki Matsutake noted the marimba's large dynamic range, capturing everything from the faintest sounds to the deepest resonances without causing listening fatigue.

"This demonstration proved that the technology is here *now* to make premium, immersive streaming a reality," says Jon Reichbach, Founder and CEO, Artist Connection. "It looked and sounded as if it was being recorded live in the next room, not across the world in Japan."



AURO's John Kellog and KORG's Shogo Murai

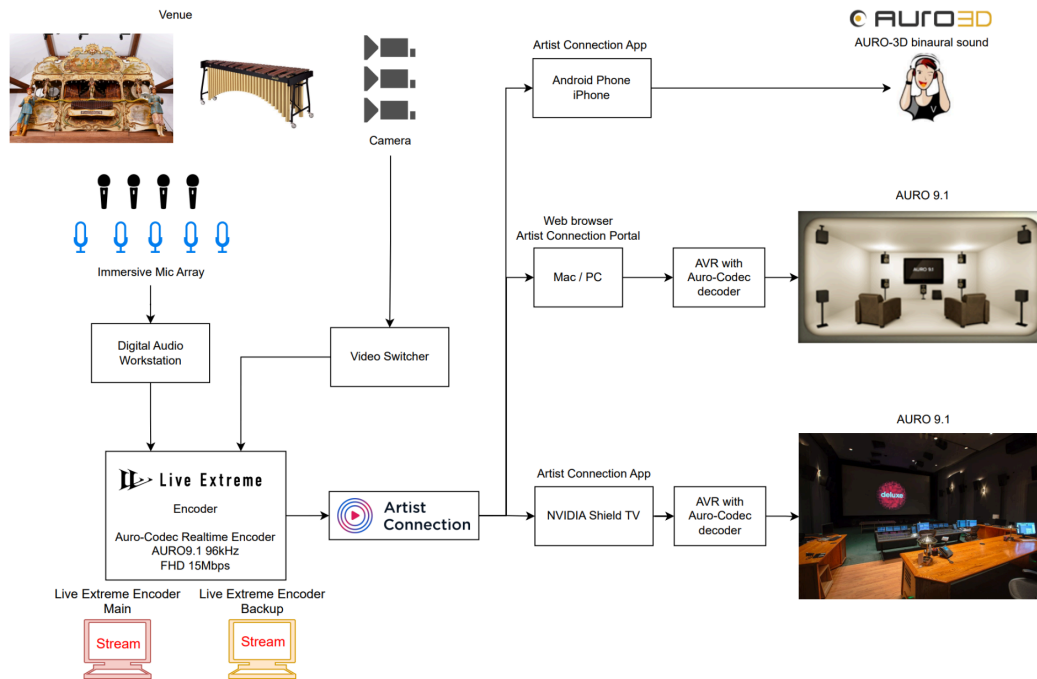
The Technology Behind the Stream

The concert centered around [KORG's Live Extreme](#). This encoding technology eliminates the need for compression and workarounds to deliver a bit-for-bit experience of any audio/video source, allowing audiences to hear every nuance of a performance. AURO-3D, a renowned brand known for its exceptional sound quality, was used for its unique ability to deliver a lossless reproduction of the acoustic space at 24bit/96kHz premium sound quality across mobile, desktop, and home theater platforms in a single stream.



Deluxe Studio Hollywood Viewing of Livestreamed Concert

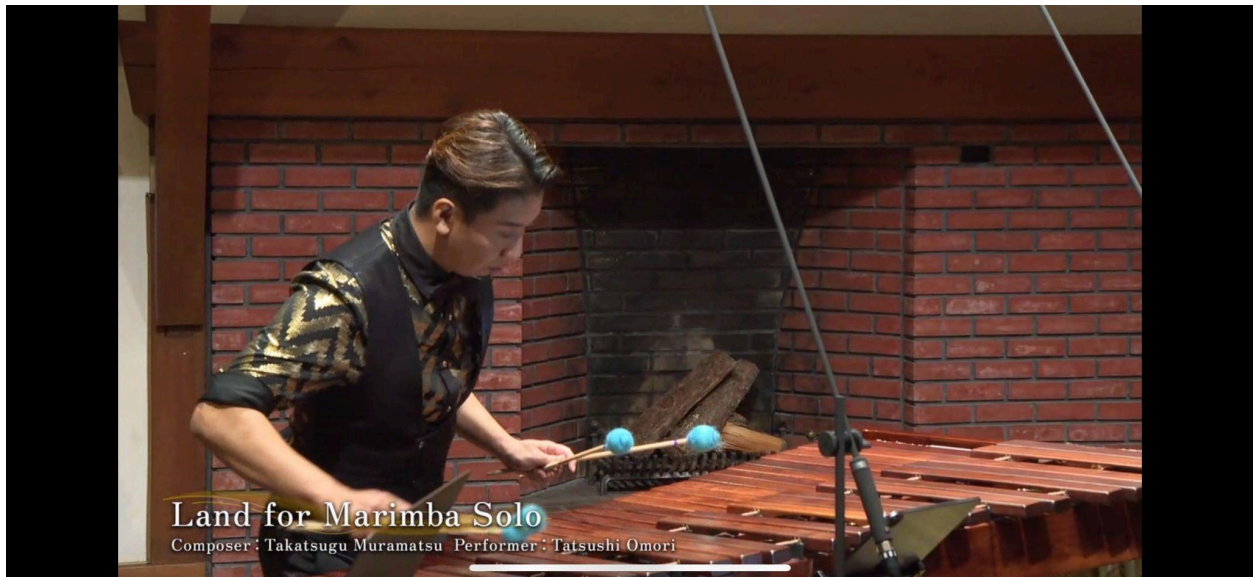
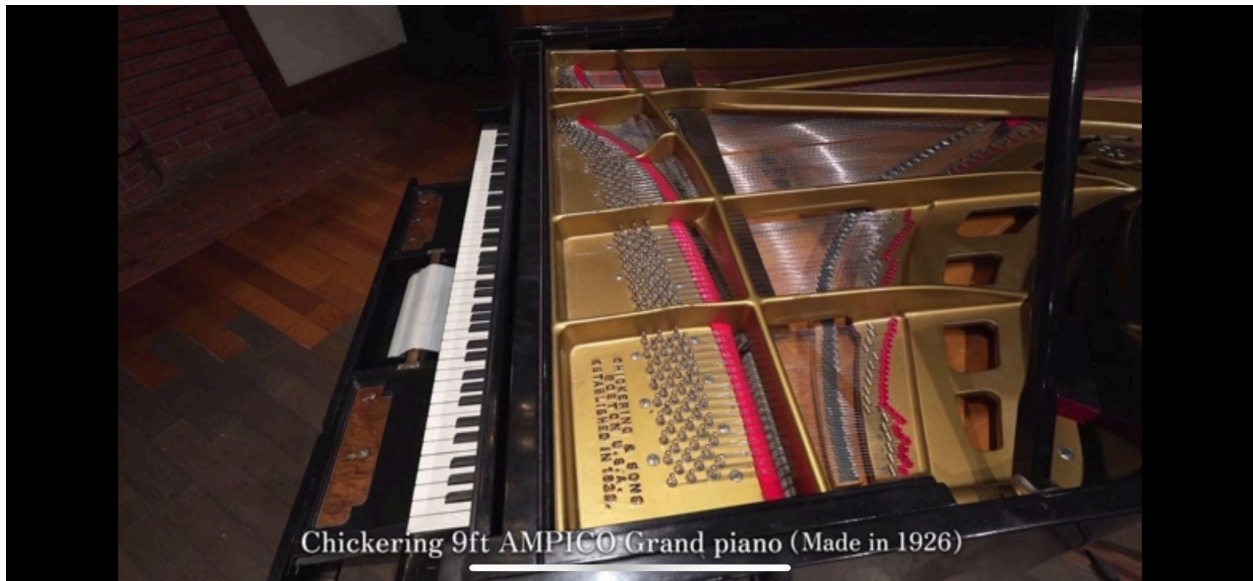
At Deluxe, the stream was fed to their immersive audio-ready room using the NVIDIA shield. Those who attended the live stream and many watching at home commented on the realistic quality of the concert audio and video.



Livestream Workflow

Korg's Live Extreme received multichannel audio from the production team using an immersive audio microphone array and hi-res video inputs. These inputs were encoded to create a stream for distribution on the Artist Connection Platform, which is the only streaming platform that supports both KORG Live Extreme and AURO-3D natively. Artist Connection used this stream to create three unique viewing experiences:

- For the mobile experience, the Artist Connection Android and iOS apps were utilized to stream the event to headphones.
- Mac or PC desktop users had the option of web browser playback through the Artist Connection web portal.
- Those connecting to their supported AV home theater system could use the Artist Connection app on NVIDIA Shield to stream the event over WiFi.



Screenshots From Livestream Event Viewed on an Apple iPhone with Spatial Headphones

As with any bleeding-edge technology, hiccups are to be expected. Some viewers streaming at home were not able to see the video when connecting their computer's browser to their AV playback device, such as an AV receiver. KORG, AURO, and Artist Connection are working to address those technical issues and are planning a private replay of the event for those users.



Holger Baier

Gerald Hilderink It was an absolutely amazing sound quality 😍

Sounds like the Marimbas playing directly in front of you.

Comment From an At-Home Streamer on Social Media

Aside from that technical hiccup, 100 people in the US and 100 in Japan were given the opportunity to watch and view the concert stream live at home, most of them on mobile, with much success. The three manufacturers received good feedback, with many streamers expressing that they could feel the space of the concert hall aurally on their headphones.

What a cool concept to stream these historic instruments in technology that we hope to see become mainstream in the future. Outside of the obvious application for the consumer, streaming immersive audio and video has huge implications for the artist and studio approval process. Instead of having Beyoncé or Martin Scorsese travel to a location to screen their content, they can stream it via Artist Connection and approve it from the comfort of their own homes—whether on mobile or via their immersive media room or home theater setup. In fact, that is where the moniker Artist Connection came from in the first place. The technology also has benefits for venues, which can live stream content and charge for premium streams. Imagine watching a live concert streamed in real time in immersive audio and high-def video, right from your couch.

We look forward to seeing more demos like these from the industry. This one gave us hope that premium streaming is in our near future.