

GENELEC®

# CASE STUDY

## Futureproof OB

GENELEC HELPS  
ASAHI TELEVISION  
BROADCASTING  
CORPORATION DELIVER  
5.1.4 IN OB VAN REFIT



*Sadanari Iwahashi from Asahi Television Broadcasting Corporation*





**THE ONES AND GLM** CREATE THE PERFECT IMMERSIVE MONITORING SYSTEM





With immersive sound fast becoming an audio standard for premium content, broadcasters are getting on board fast, and no more so than in Japan. The country has a long history of pushing the boundaries of immersive sound. The 22.2 immersive format was developed by Japanese national broadcaster NHK, and more recently,

the country made history when the 2021 Tokyo Olympic Games were broadcast as a fully immersive event for the first time.

Live sport has always been a natural driver for immersive audio. So, with its focus on live baseball, football and other sports, it's no surprise that when it was time to upgrade its 202 outside broadcast truck, the [Asahi Television Broadcasting Corporation](#) (ABC) was focused



# ” GLM SOFTWARE WAS A GREAT HELP IN BUILDING AN IDEAL MONITORING ENVIRONMENT.

on the 5.1.4 immersive format. ABC, the third oldest commercial broadcaster in Japan, has been involved in 5.1 surround for many years – having shifted to full digital TV broadcasting in 2011 – but now has its sights set firmly on the future.

“Right now, the limit is 5.1, but organisations like the Association of Radio Industries and Businesses are discussing standards for next-generation broadcasting, and three-dimensional audio is under consideration,” says Sadanari Iwahashi of ABC’s production

engineering department. “When we thought about a broadcasting van which could be used 15 years in the future, we concluded that it’s necessary to support immersive sound.”

The move is a coordinated initiative across the group. In addition to the remote truck, its MA (Multi Audio) room has also been upgraded to a 5.1.4 immersive format.

“When broadcasting starts to support immersive, we’ll be able to monitor the sound live from the site, and recordings can be





# ” AN IMMERSIVE SYSTEM IS AN IMPORTANT AND NECESSARY FEATURE FOR ANY OB VAN.

brought into the immersive MA room for further processing,” says Iwahashi. “It makes sense to have an OB unit ready to record immersive sound for many reasons. For example, when we record a concert, we can approve the use of the sound in other events and programmes as well. It’s also important that we have four monitors installed in the ceiling from the start, so we can just begin immersive monitoring without the hassle of setting up.”

OB environments are already a tight squeeze, and the addition of overhead monitors to

achieve an accurate and consistent 5.1.4 environment is even more of a challenge. With further restrictions on size, structure and measurements due to Japanese road traffic laws, the incorporation of an immersive monitoring system is even more demanding, so ABC brought in the experts.

Nihon Onkyo Engineering Co.,Ltd. planned the acoustics, while [Keisei Motors Ltd.](#), a company with extensive experience in OB vans, manufactured the vehicle. The monitoring environment was completed with Genelec



'The Ones' three-way coaxial studio monitors, configured and calibrated with [GLM software](#).

The L-C-R are handled by three [8341](#) studio monitors, and thanks to a custom-designed 2.2 m high production room, ABC was able to mount four [8331](#) monitors in a recess in the ceiling. As the smallest model in The Ones series, the 8331 is perfect for small rooms where space is limited, and this unusually high ceiling meant that they could be placed at the same distance from the listening position as the L-C-R monitors in the front. Low frequency duties are handled by a [7360](#) subwoofer.

"The goal was to ensure as much distance between the monitors as possible," says Iwahashi. One particular challenge was the position of the left and right rear [8331](#) monitors, which due to the structure, would be closer than the L, C and R monitors. The ideal angle for rear channel monitors is 110 degrees +/- 10 degrees, but if we positioned these and the L-C-R channels equidistant to the listener using that angle, they would exceed the width of the van! So we compared the sound prioritising the angle and then the distance many times, and in the end we decided to prioritise the angle. In order to maximise the distance, the rear monitors were also installed slightly above the horizontal position, at an elevated angle."

As Smart Active Monitors like The Ones integrate closely with GLM software, ABC was able to compensate for frequency response, playback level and distance delay. In fact, according to Iwahashi, GLM created the perfect environment

for accurate immersive monitoring – despite the acoustic demands of the space.

"We adjusted the angle of each monitor, fixed the reflections with sound absorption, calibrated them and then repeated the listening and fine-tuning process," he explains. "GLM software was a great help in building an ideal monitoring environment. The visualisations of frequency dip points were easy to understand too.

"We tested several different studio monitors during the installation process," Iwahashi continues. "The Ones stood out because they reproduced sounds from all kinds of sources clearly, right across the frequency spectrum. Additionally, in an OB unit, a TV monitor must be set up in front of the mixer – and the monitors must be positioned in a way that doesn't block it. This is easily achieved with the point source design of The Ones, since they can be orientated in either the vertical or horizontal position without any compromise in performance."

With Dolby Atmos now a household name, and 3D soundbars commonplace throughout millions of homes, Iwahashi is confident that ABC was right to step up to immersive when it did.

"These developments support my initial feeling that an immersive system is an important and necessary feature for any OB van, and I'd like to continue to work harder in this format in the future as ABC TV creates more appealing programmes in immersive."

## THE KIT

- 3 x 8341A
- 6 x 8331A
- 1 x 7360A
- 1 x GLM Calibration Software

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