



06 November 2019

The Higashiosaka Hanazono Rugby Stadium

“HANAZONO,” a mecca for rugby in Japan. Here, TOA has installed a combined sound and broadcast system worthy of a stadium hosting the Rugby World Cup

Outline

Built in 1929, the Hanazono Rugby Stadium in the city of Higashiosaka is one of Japan’s leading rugby-specific stadiums, long famous as a venue for national high school rugby tournaments. For over ninety years this stadium has been part of the history of Japanese rugby, and it is now rightly considered a mecca for rugby in Japan. Having been chosen to host matches for the 2019 Rugby World Cup, in 2018 the stadium’s equipment and facilities were renovated, including the installation of TOA sound systems designed to deliver clear sound to both playing field and spectator stands. TOA is dedicated to supporting the creation of sound spaces not only for rugby matches, but also for a wide variety of other gatherings, meetings, and events.

Installation Details

Customer: The Higashiosaka Hanazono Rugby Stadium

Equipment Installed: HX-5 Series and HX-7 Series Compact Array Speakers, Digital Wireless Systems and Digital Power Amplifiers

Installation Date: June 2018

Background: The selection of the Hanazono Rugby Stadium as a venue for 2019 Rugby World Cup in Japan presented an opportunity to undertake a major expansion and refurbishment of the facilities, including updating its conspicuously aging sound system.

Challenges & Solutions

Challenges

- The stadium’s aging sound system was causing irregularities in the audibility of broadcasts, so the goal was to build a uniform sound space in which announcements can be heard with uniform clarity throughout the venue, both on the playing field and in the spectator stands.
- In light of past complaints about noise from neighboring residential areas, the goal was to suppress sound leakage outside the stadium in order to allay the concerns of local residents.
- The new sound system should offer an operating environment easy to use by any operator.
- The new sound system should be usable for diverse events other than rugby matches, even after the completion of the 2019 Rugby World Cup.

Solutions

- Use a distributed arrangement of compact array speakers with high clarity and excellent directivity control to produce a high-quality, uniform sound field and a sound space full of high realism and “presence.”
- Divide the listening areas finely and suppress the output of individual speakers, thus preventing sound leakage outside the area toward reducing potential noise complaints
- Broadcast status within the stadium can be confirmed visually via a PC monitor, reducing operator burden and greatly improving system operability.
- Utilize digital wireless equipment, mobile sound wagons, and moveable speakers to reduce interference, and also to make the system easy to use for more general events.

[Details]

Background

Selection as a 2019 Rugby World Cup host venue required major refurbishment, including an updated sound system

In 2014, the Hanazono Rugby Stadium was nominated as a potential venue for the 2019 Rugby World Cup in Japan. In March 2015, Higashiosaka was among the twelve cities selected to host the tournament. Hosting such an event would require major expansion and renovation of the stadium’s facilities, including the construction of a new lighting tower and spectator seats behind the north goal, as well as renewal of the sound system.

Challenges

Broadcast audibility irregularities due to an aging sound system, and neighborhood complaints about sound leakage

The Hanazono Rugby Stadium’s sound system had been in use for quite a long time, and age-related declines in performance had become conspicuous. Further, the original system had been liable to allow sound to spread out easily, and over the years this had led to noise complaints from adjacent residential areas.

Additionally, the aging system tended to cause sound cracking and audibility variations that made broadcasts easy to hear in some parts of the stadium but difficult to hear in others. If the venue was to host the Rugby World Cup, it needed a world-class sound system capable of delivering clear sound to all parts of the stadium, from spectator stands to the playing field.

Solutions

Distributed compact array speakers with excellent intelligibility, directivity and long-distance transmission capability create a high-quality, uniform sound space befitting a Rugby World Cup host stadium.

Compact array speakers with excellent intelligibility and directivity control are distributed around the stadium to create a high-quality, uniform sound field and a sound space full of realistic “presence.” Further, the capability to suppress the output of individual speakers by dividing listening areas finely helps to prevent sound leakage beyond the stadium, thereby reducing the potential for neighborhood noise complaints.

The broadcast status within the stadium can also be confirmed visually via computer monitors in the control room, improving system operability and reducing operator burden. Additionally, the system also uses digital wireless technology, mobile sound wagons, and moveable speakers to help reduce radio interference, and is designed to accommodate the sound needs of events beyond rugby matches.

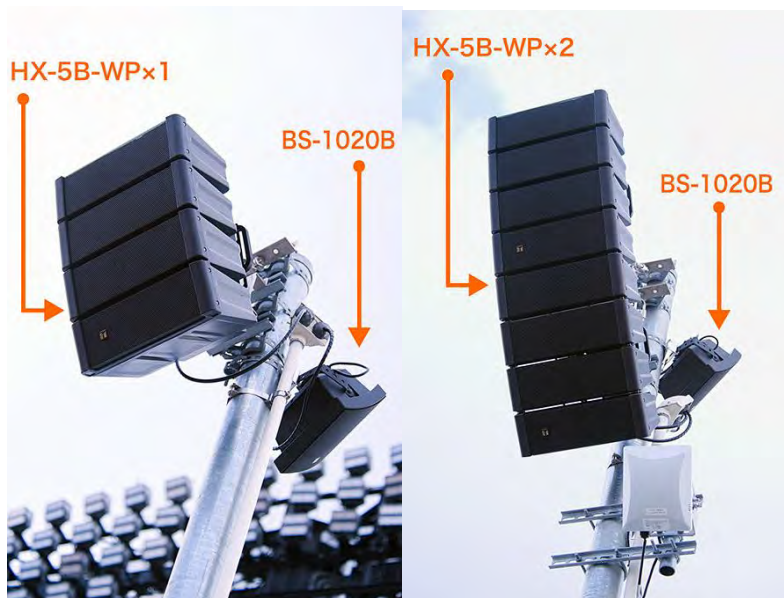


Main stand speakers oriented toward the playing field (left) and toward spectator seats (right)

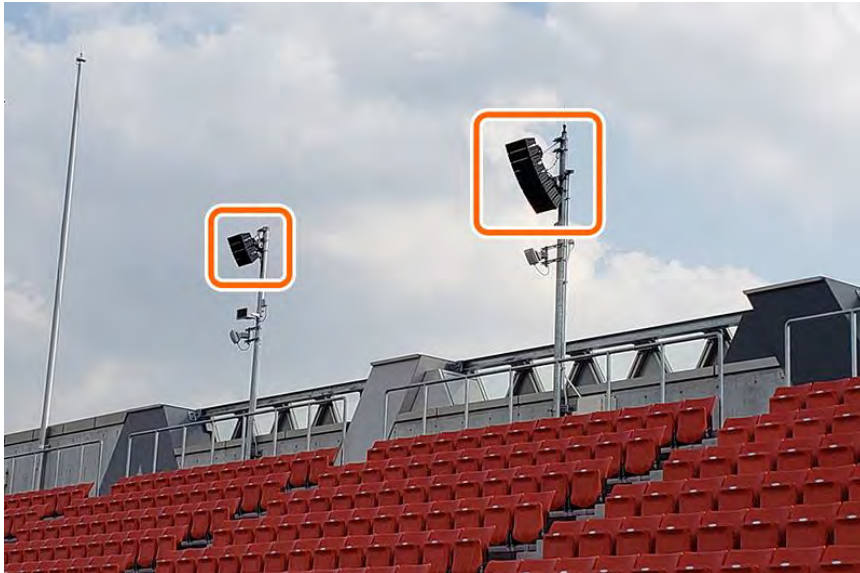
Both speakers are configured with three HX-7B-WP waterproof compact array speakers and transmit sound to the playing field (far range) and spectator seats (directly below) to build clear and high-quality sound spaces.



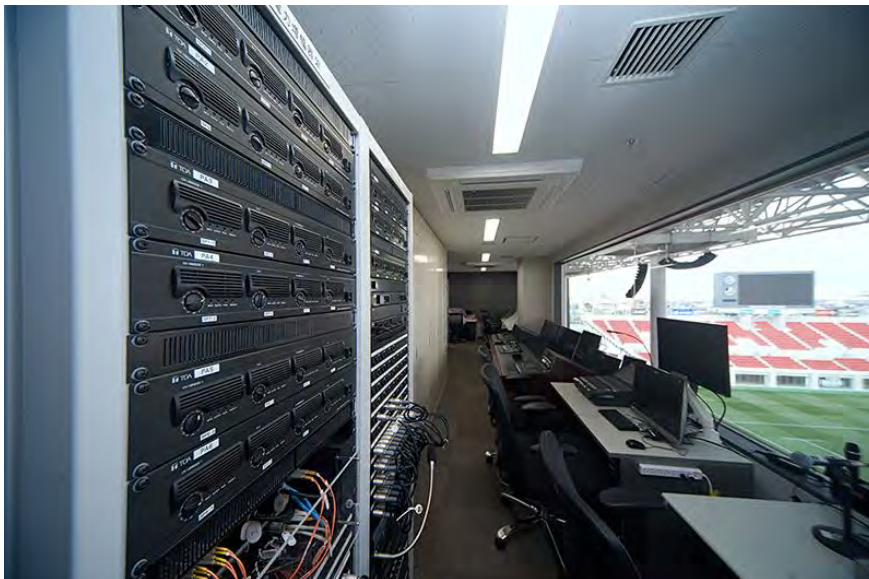
Outdoor compact array speakers distributed to face the south stands deliver uniform sound to spectator seats.



HX-5B-WP outdoor compact array speakers installed in the south spectator stands in single- and dual-unit configurations. Each of these speakers is combined with a BS-1020B compact speaker as an auxiliary speaker to ensure clear sound delivery.



Compact array speakers facing the south spectator stands. A single HX-5B-WP unit and a dual-HX-5B-WP unit are installed by means of distributed arrangement.



Power amplifier racks in the sound control room house digital power amplifiers, digital wireless tuners, and other equipment

Installed Products

Compact Array Speaker HX-5B-WP

Compact Array Speaker HX-7B-WP

Compact Speaker BS-1020B

Digital Power Amplifier DA-550F

Digital Wireless Tuner WT-D1804

Related Solutions

Related Product Information

Compact Array Speakers

Digital Power Amplifiers

INTERVIEWS



Yukihiro Okui

Higashiosaka City, Hanazono Rugby Stadium Manager

“We’re proud to have refurbished the stadium to such a degree to make it well worthy as a Rugby World Cup host venue. We hope the whole world will think of ‘Hanazono’ when it comes to rugby in Japan.”



Takeshi Tachibana

Higashiosaka City, Hanazono Rugby World Cup 2019 Promotion Office

“We’ve created a sound space that makes the sound easy to hear no matter where you are in the stadium. We’ve also added a ‘visual’ element to the sound controls, vastly improving operability.”

— How is the new sound system different from the one it replaced?

Tachibana: I feel the sound is a lot clearer, and the operators report that the new system is a lot easier to use. The previous equipment itself was old and the quality of the sound was not very good. Some of the speakers had stopped working, making it difficult to hear broadcasts in certain parts of the stadium. The newly renovated

system makes it possible to hear broadcasts at the same sound quality and volume wherever you are in the stadium, and the addition of “visualization” to the control system makes it easy to check, via a PC monitor, the outputs of individual speakers, which makes for a big improvement in terms of operability.

Okui: When I've been walking around the different parts of the stadium during the matches, I've found that the broadcasts about the game and other announcements come through very cleanly. I think it's easier to hear even during the game. Rugby matches can be complicated and the rules difficult to understand. The explanations of the rules are done by a female announcer during the matches, but the voice is really much easier to hear than before. Even people new to rugby can now enjoy the game more easily, and I think the stadium has become much more accommodating to spectators.

— The high school rugby championship at the end of last year generated quite a lot of buzz, didn't it?

Okui: High school rugby has become more popular, and the number of spectators has increased by about 20,000 compared to the last tournament. Quite a few people also attended the match between Japanese national teams held here to mark the re-opening of the stadium, and I think there's a lot of excitement about the upcoming 2019 Rugby World Cup, too. The Hanazono Rugby Field will host four games starting on September 22nd, and I think rugby fans from not only Higashiosaka City, but also Osaka and the Kinki region are all looking forward to these.

— What hopes do you have for the future?

Okui: To start with, I hope we'll complete the World Cup without incident. To that end, I hope there will be some excitement about it, including in the city of Higashiosaka, because that will help it succeed. The Hanazono Rugby Stadium is already well known in Japan as a kind of “sacred ground of rugby,” but this tournament will let the rest of the world know, too, that there's this wonderful rugby stadium here in Higashiosaka.

Beyond that, we'd like to play a role in sports promotion and town development, focusing, of course, on rugby. The stadium is located next to a residential neighborhood, so first and foremost we'll need to be considerate of those local residents, but if we can clear those issues, then I think it opens up prospects for using the facilities for various purposes other than rugby.

The Hanazono Rugby Stadium

Japan's first dedicated rugby stadium opened in 1929 in Hanazono Chuo Park in the city of Higashiosaka. Japan's leading rugby stadium, known as the home of the Japanese Rugby Top League, the National University Rugby Championships, and National High School Rugby Tournament. The stadium was also used as the home ground of the veteran Kintetsu Liners to celebrate the team's 90th anniversary.

DATA

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