CASE STUDIES

Mestalla

Place: **Valencia, Spain**
Date: **December 2019**
Systems: **Aero, Artec & HQ Series**

D.A.S.
SOUND WITH SOUL

Mestalla Stadium

When Valencia's Mestalla Stadium needed to upgrade its sound system to enhance the fan experience, DAS Audio stepped in to participate in the full renovation of the stadium, delivering a modern solution that provides wide coverage and flawless quality to create a unique entertainment experience.

Valencia Club de Fútbol celebrated its 100th anniversary in style, deploying a plan for a host of technological and infrastructure upgrades, including an updated sound system, that put Mestalla on-par with the world's most modern sports venues. The oldest football stadium in La Liga (Spain's top professional soccer division) needed better voice and music intelligibility to enhance the fan experience. So, taking advantage of the summer lull, the stadium underwent a renovation in 2019 that ultimately equipped the stadium with a state-of-the-art audio system that delivers exceptional clarity and sound to every single fan in the stands.

With a capacity for 55,000 spectators, the legendary Mestalla stadium is located between Av. Suecia and Av. Aragón, two major avenues in the heart of a central and residential neighborhood in the city of Turia. The stadium is famous in Europe for the steep incline of the stands, which helps create an impressive atmosphere during games. The stadium, which participates in the first division of La Liga, often hosts other prestigious national and international competitions including the Copa del Rey and the Champions League.

Well-aware of how fans can influence a team's performance, the club management selected a sound system that would further enhance the atmosphere in the stands with clear, powerful audio for every seat in the house, responding to fans' demands for better sound. Therefore, one of the criteria for the stadium system upgrade was to achieve high intelligibility and to direct sound pressure to the stands, coupled with the ability to adjust the sound according to capacity and thus control any unnecessary noise pollution outside the stadium. The project also had to comply with the host of organizational and safety requirements set by La Liga, as well as with the club's system location proposals.

SYSTEMS USED

24 Aero-50 / Scoreboard
34 HQ-112-95 / Stands
10 Artec-510A / Balcony
12 Artec-510A / Amphitheater

After an extensive acoustic study of the stadium, a line array system based on twenty-four AERO-50 modules was chosen and deployed in two systems strategically located on either side of the main electronic scoreboard to focus the power on the fans.

The line array was augmented with 50 systems distributed throughout the stadium. Thirty-four HQ-112.95 were installed in the Mar (Sea) and Gol Sur (South Goal) stands, in the areas under the balcony of both the stadium's upper and lower level, with 90° x 50° coverage and precisely aligned with the system located in the scoreboard. Dante protocols were used to distribute the signal, which sends the signal through fiber optic cables to the four racks that cover the different levels (upper and lower) of the stands, the balcony and the scoreboard. The lower level South Goal and Mar (West) stands use two 4080 DSPs, one for each side, which handle signal distribution and processing to the speakers at the lower level of the bleachers. In the upper level, one DSP 4080 was installed for the Gol Sur stand and two DSPs 2060 for the Mar stand.

Both the upper and lower levels of the balcony were reinforced with ten ARTEC-510A, with twelve ARTEC-510A installed in the amphitheater. Two DSPs 2060 distribute and process the signals to the powered speakers under the balcony. For the AERO-50, located in the scoreboard, Lake LM26 processors and Lab Gruppen's FP1000Q amplifiers (DAS Audio's D-100) were used to route the signal to the speakers. Madrid-based company "Fluge Proyectos" headed this impressive installation and its subsequent remote monitoring, which makes it possible to quickly configure or repair processors from the company's offices.

"One of the biggest challenges was the complexity of the system's location," said Álvaro Plumed, DAS Audio applications engineer, "so we opted for two strategically located line arrays with both vertical and horizontal angles that were precisely calculated to maximize the uniformity of energy distribution throughout the stadium. Consequently, four independent signal processors were used for the line array located to the left of the scoreboard and three for the line array to the right, which made it possible to homogenize the pressure levels throughout the stadium. We also added a central system above the scoreboard to provide coverage to the area below the scoreboard."

The current sound system design, with a distribution more like one for huge concerts rather than sporting events, delivers maximum music and sound effect uniformity and intelligibility. Despite the challenge posed by installing a state-of-the-art audio system in La Liga's oldest stadium, the new system has managed to enhance the fan experience by offering high intelligibility and uniformity for every seat in the house paired with power required for the stadium’s most intense and celebratory moments.

The new sound system made its debut in the Mestalla in style with the first Champions League pair-up of the season in October 2019. Fans got to enjoy live music from DGRACE, clear and defined voice announcements during the game, and the official music of Europe’s top-tier soccer competition like never before. The audio system was enthusiastically welcomed by everyone from the fans to the press, including Valencia Club de Fútbol management.

“With this new sound installation, the visit to Mestalla becomes an experience that goes far beyond a 90-minute game.”


D.A.S.
SOUND WITH SOUL
THIS IS MESTALLA
WE THANK OUR FANS!
1963
1967
1971
1988
1999
2002
2004
ESTO ES MESTA
bwin
ŠKODA
Libertex
PUMA
AMSTEL
Coca-Cola