



Fact Sheet - Stadium PA & Sound System Design

Technical Services & Overlay / 09 July 2019

Fact Sheet for Stadium PA & Sound System Design

- UEFA is referring to the basic requirements on safety and security. This is not limited to but focusing on the stadium bowl, as we expect that the stadium can be evacuated by voice alarm system as required by local and/or European regulations. The main purpose must be the ability to address audio messages to the audience during the loud/high noise environment of a football match. The reference for this purpose is the EN 60849 regulation, which clearly defines the technical specification of such PA systems.
- On top of these “essential requirements” UEFA requires for all UEFA operated Events the possibility to exclude TV & Media relevant areas (such as Media Tribune, Pitch Side Presentation, etc.) from direct sound. The main goal is to avoid direct sound for typical TV & Media **commentary** areas during broadcasting operations.
- If it comes to the entertainment aspect, requirements for the stadium bowl are higher. The following requirements are typical for UEFA EURO, UEFA Champions League Final, UEFA Europa League Final and UEFA SuperCup:
 - The PA system must be capable for entertainment use, either as integrated entertainment system or as additional entertainment system
 - Intelligibility: STI/RSTI of 0,7/0,65 (measured in a full stadium)
 - Sound Pressure Level:
 - SPL difference between the spectators most and least exposed to the loudspeakers must not exceed 6dB SPL(A)
 - Minimum sound pressure level is 110dB SPL (A) for 120 sec
 - Sound Quality:
 - Frequency range: +/- 8dB in the 160Hz-12kHz band
 - The system must be free of distortion, hiss and hum;
 - Diffusion zones: the system must cover all spectator areas with the possibility to exclude the media and pitch areas from the entertainment programme



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