



Pro Sound System for Outdoor Performances

PRESENTATION

1. Solution Overview

- An outdoor performance venue measures approximately 100m in length and 50m in width, featuring a 9m-long and 6m-wide arc-shaped stage, accommodating up to 5,000 attendees.
- DSPPA provides a comprehensive professional sound solution for outdoor sound reinforcement (concerts, stadiums, etc.), ensuring exceptional audio performance, significantly enhancing outdoor sound reinforcement capabilities, and offering strong support for the smooth execution of various events.



Design Objectives

Sound quality requirements: The system should deliver high-fidelity audio with options for volume control, tone enhancement, effects optimization, and sound field processing. It should ensure clear and natural reproduction of vocals and instrument sounds. The sound must be evenly distributed, allowing sound engineers to easily adjust settings for various event types.

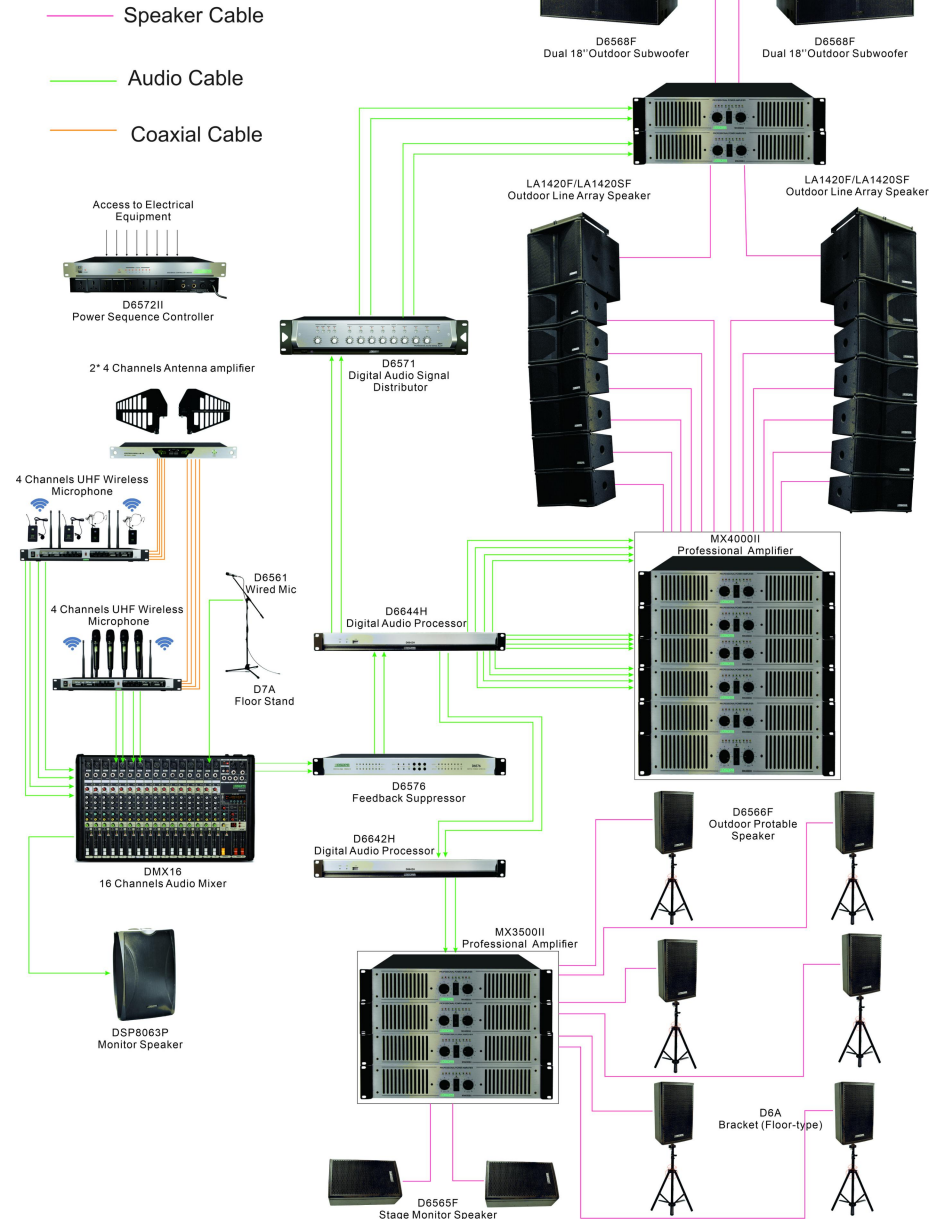
Coverage requirements: The sound system should cover venues accommodating over 1,000 attendees, with a coverage distance ranging from 50 to 100 meters. It must provide multi-angle sound source distribution to avoid dead zones and reflections, ensuring uniform sound coverage.

Environmental adaptability: The system must be wind and rain-resistant, capable of operating in extreme outdoor conditions such as high temperatures, low temperatures, and rain. Given potential environmental noise, it should possess strong anti-interference and noise control capabilities.

System stability: The system should operate reliably for extended periods, incorporating redundancy designs to prevent single-point failures from affecting overall performance. It should be user-friendly, easy to maintain, and equipped with automatic adjustment and feedback control features.

2. Solution Configuration List + System Diagram

| No. | Model | Product Name | Quantity |
|-----|----------|---|----------|
| 1 | LA1420F | 650W Passive Array Full-Range Speaker (1 pc) | 12 pcs |
| 2 | LA1420SF | Passive Line Array Subwoofer | 2 pcs |
| 3 | D6568F | Dual 18" Subwoofer | 2 pcs |
| 4 | D6566F | 15" Two-Way Full-Range Speaker | 6 pcs |
| 5 | D6565F | 12" Two-Way Full-Range Monitor Speaker | 2 pcs |
| 6 | D6644H | 16-Channel Digital Audio Processor with Echo Suppressor | 1 pc |
| 7 | D6642H | 8-Channel Digital Audio Processor with Echo Suppressor | 1 pc |
| 8 | D6576 | Automatic Feedback Suppressor | 1 pc |
| 9 | MX4000II | Professional Stereo Power Amplifier (8Ω; 2x1000W) | 8 pcs |
| 10 | MX3500II | Professional Stereo Power Amplifier (8Ω; 2x800W) | 4 pcs |
| 11 | DMX16 | 16-Channel Audio Mixing Console | 1 pc |
| 12 | D6571 | 2-In 8-Out Audio Signal Distributor | 1 pc |
| 13 | D5841 | True Diversity UHF Wireless Microphone System (4 Handheld MICs) | 1 pc |
| 14 | D5813 | Headset Microphone | 2 pcs |
| 15 | D5814 | Desktop Microphone | 2 pcs |
| 16 | D5816 | 4-Channel Wireless Microphone System Receiver | 1 pc |
| 17 | D5828 | 8-Channel Antenna Amplifier | 1 pc |
| 18 | D6561 | Handheld Dynamic Microphone | 1 pc |
| 19 | D6572II | 8-Channel Power Sequence Controller | 4 pcs |
| 20 | DSP8063P | Active Monitor Speaker | 1 pc |



3. Solution Configuration

- Sound pickup section: True diversity wireless handheld microphones are selected for easy outdoor use, eliminating the need for wiring. Depending on the speaking needs, options for handheld, headset, and lavalier microphones are available. These are professional-grade dynamic microphones with a high-end design, offering high-fidelity sound quality. To ensure stable wireless signal transmission without dropout or interference, an antenna amplification system is also included. This setup fully meets the wireless mobile speaking requirements for hosts and audience members in large outdoor venues.
- Control section: A digital mixing console, digital audio matrix, and feedback suppressor are employed to manage the entire system, ensuring sound clarity without distortion or feedback. Additionally, various audio effect processing functions are included to further enhance the audio experience.
- Sound reproduction system: Highly directional dual 10” full-range waterproof line array speakers are used as the main sound reinforcement speakers. To address low-frequency limitations in performance events, 18” subwoofers are included to compensate for the lower mid-frequency range. The line array speakers are characterized by high sound pressure levels, uniform coverage, consistent diffusion, strong directivity, and minimal volume differences between near and far fields, making them ideal for large space sound reinforcement. Six sub speakers are positioned on both sides of the audience area to ensure sound synchronization and clarity even for the back rows. Additionally, two 12” full-range speakers are placed horizontally on the stage floor as stage monitors, further enhancing the overall sound system.
- System protection: To ensure the safety and reliability of the system during operation, particularly in the event of unforeseen circumstances, a power sequence controller is adopted to prevent any potential damage.



4. System Advantage - LA1420 / LA1420S

Style and performance come together



Class-leading 18-inch "compact" subwoofer

- The speaker box body is made of special plywood for sea vessels, with high reliability.
- Long-stroke woofer, with powerful bass.
- Excellent application for mobile occasions.



J-Curve Stacked Array Units

- High-quality medium and high frequency passive line array speaker.
- Excellent radiation characteristics, clear and delicate sound, and strong sound penetration.



ABS Cabinet

- Russian multilayer birch plywood, compact structure.
- High density mixed grade speaker materials.
- Front protection hexagonal hole.



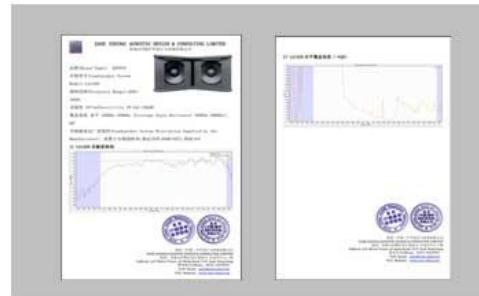
Outdoor Waterproof Protection Coating

- Strong enough and scratch resistant to withstand harsh performance environments.
- Customized

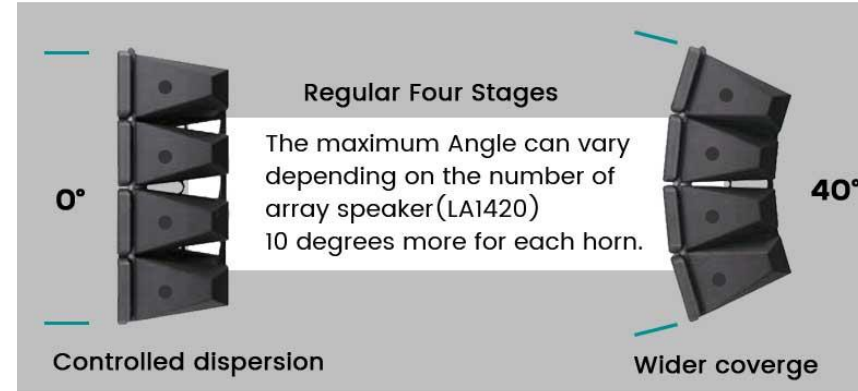
Free EASE and EASE FOCUS Libraries



LA1420 EASE Certification



Increases Coverage and Offers Ease of Installation



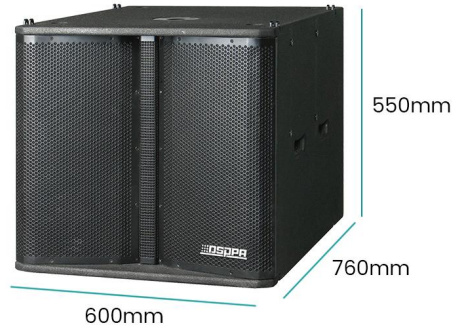
Multi Unit Configuration



5. System Advantage - LA1420 / LA1420S

Increases Coverage and Offers Ease of Installation

Professional Array Subwoofer LA1420S



| | |
|--|---------------|
| Unit Structure | LF 18" ×1 |
| Rated Power | 1000W |
| Rated Impedance | 8Ω |
| Frequency Response | 43Hz-250Hz |
| MAX. SPL. | 126±2dB |
| Speaker Sensitivity (converted to 1m, 1W) | 96±2dB |
| Color | Black |
| Dimensions (W×H×D) | 600×555×760mm |
| Weight | 60kg |

Dual 10" Full-range Array Speaker LA1420



| | |
|-----------------------|---------------------------|
| Frequency Response | 50Hz-18KHz |
| Rated Power | 650W |
| Rated Impedance | 8Ω |
| Sensitivity (1W/m) | 99±2dB |
| MAX. SPL. | 128±2dB |
| System Composition | LF 10" ×2, HF 1.75" ×2 |
| Radiation Angle (H×V) | 120°×10° |
| Color | Black |
| Net Weight | 24kg |
| Dimensions (H×W×D) | 330×610×490mm |

- The LA1420 is a high-performance speaker system with a rated output of 650W, featuring a high-frequency array consisting of 2x10" bass drivers and 2x1.75" treble drivers, along with a large 18" subwoofer (LA1420S). It produces exceptional sound pressure levels of up to 128dB SPL. With an impressive 120° horizontal and 10° vertical coverage, the LA1420 ensures clear, high-quality sound across a wide area.
- The LA passive compact linear array system offers outstanding performance and easy installation. It can be flexibly configured and adapted to meet various acoustic amplification requirements.

6. Product Description

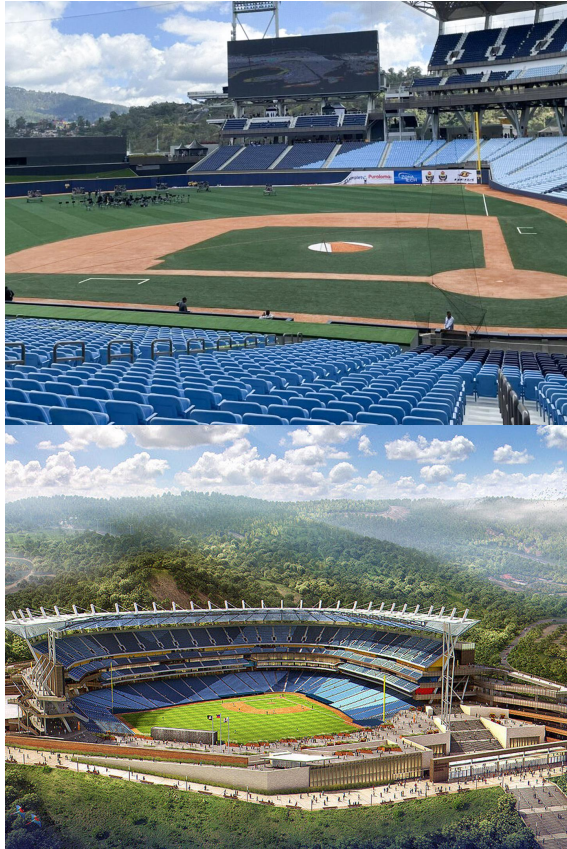


- To facilitate outdoor use and eliminate the need for wiring, all microphones are wireless. For speech and performance, a wireless microphone system with one receiver and four transmitters is used, with options for handheld, headset, or lavalier microphones based on the speaker's preference. These microphones are professional-grade dynamic microphones with a premium design and texture, delivering high-fidelity sound quality.
- The D58 series wireless microphones offer enhanced interference resistance, stronger signal stability, longer operating range, and superior sound quality, making them an essential component of any professional audio system.



- This sophisticated audio processing device offers 8/12/16-input and 8/12/16-output analog channels, along with 1 USB streaming channel. Equipped with a variety of noise reduction and sound optimization technologies, it is ideal for large venues, ensuring clear and natural sound. Its user-friendly interface and responsive controls make setup and adjustments straightforward and intuitive. Compatible with a wide range of devices, it meets the diverse needs of modern sound reinforcement systems.

7. Featured Cases of Professional Sound System for Outdoors



La Rinconada Baseball Stadium,
Venezuela



Jiuzhaigou Middle School, Sichuan,
China



Bu Luo Campus of Guangzhou Institute of
Science and Technology, Huizhou, China

More cases at www.dsppacs.com

■ 8. Application Scenarios



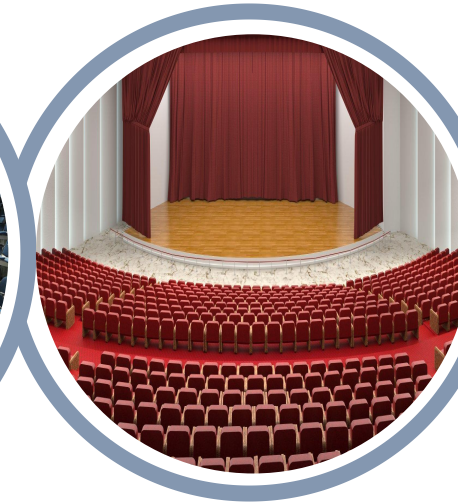
Stadiums



Multifunctional
Halls



Auditoriums



Concert Halls



Conference
Rooms

The DSPPA professional sound system delivers efficient and stable sound coverage, ensuring that every participant in large events or venues can hear clearly. With exceptional sound quality and reliability, the system is suitable for a variety of venues, including stadiums, multifunctional halls, auditoriums, concert halls, and conference rooms.



CREATING THE BEST, SOUNDING THE WORLD



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