



Small Line Array Speaker System for Small Lecture Halls

1. Solution Overview

- In small lecture halls, the core objective of the sound system is to ensure crystal-clear and intelligible audio delivery to every seat, eliminating challenges such as echo and distortion. To achieve this, it is essential to use a sound system capable of delivering uniform sound coverage, exceptional audio performance, and compatibility with the hall's acoustic environment. To address these needs, a meticulously designed solution is presented.



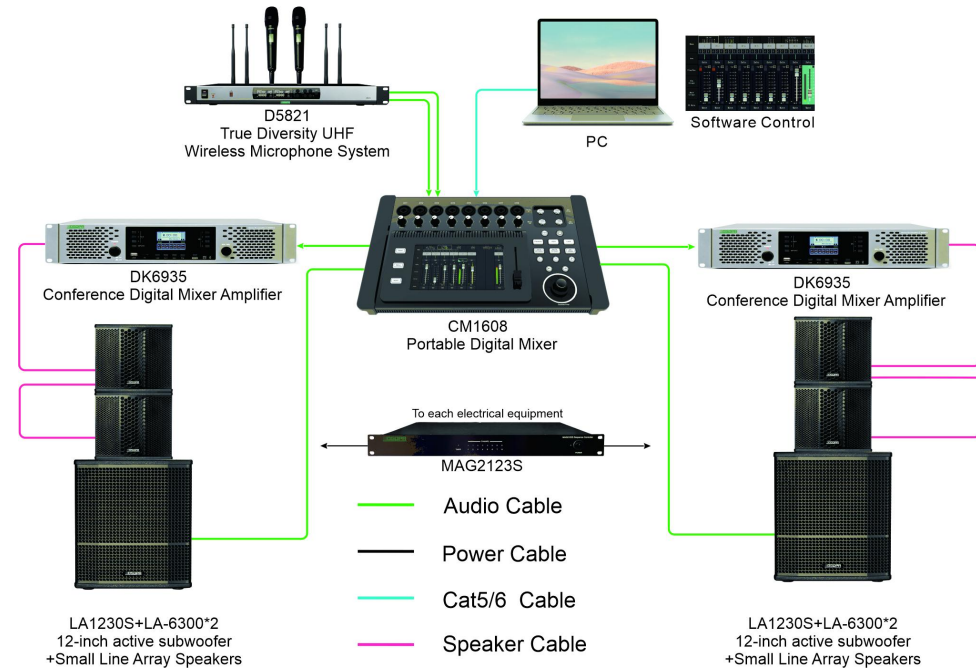
Project Requirements

- **Uniform sound coverage:** The coverage range of the sound reinforcement system is determined based on the size of the lecture hall, ensuring consistent volume across all areas and meeting the auditory needs of the audience at different locations.
- **High directionality:** The system is engineered to precisely control the direction of sound propagation, minimizing sound wave reflections and interference.
- **High sound pressure level:** The system is designed to deliver a high sound pressure level, catering to the volume requirements of most small lecture halls.
- **Minimal reflections and echoes:** The system significantly reduces sound wave reflections and echoes, enhancing the clarity and intelligibility of speech.
- **Ease of use:** The system is designed for quick setup, with an intuitive user interface and comprehensive manual to ensure ease of operation.

2. Small Lecture Hall Configuration

Small Lecture Hall Configuration

- Small lecture hall: The venue measures 18 meters in length, 7 meters in width, and 3 meters in height. The stage is rectangular, with a depth of 3 meters and a width of 7 meters.
- System components: Microphone System + Professional Sound Reinforcement System.
- System functions: The system supports handheld wireless microphones for mobile audio amplification, with a mixing console for sound source blending and adjustments. The combination of active line array full-range speakers and subwoofers ensures a wide sound coverage, capable of supporting both speech and musical performances.



| No. | Model | Product Name | Quantity |
|-----|----------|---|----------|
| 1 | CM1608 | Portable Digital Mixing Console | 1 pc |
| 2 | DK6935 | Conference Digital Mixer Amplifier | 2 pcs |
| 3 | D5821 | True Diversity UHF Wireless Microphone System | 1 pc |
| 4 | MAG2123S | Sequence Controller | 1 pc |
| 5 | LA1230S | 300W 12-inch Active Subwoofer | 2 pcs |
| 6 | LA-6300 | 150W Small Line Array Speaker | 4 pcs |

3. System Advantages

Optimized Installation and Transport Design

- The LA-6300 speaker incorporates a patented lateral phase-inversion design, which not only improves the speaker's sensitivity but also enhances its compactness, effectively reducing its size and footprint, thus facilitating easier installation and transportation.
- Furthermore, the lateral phase-inversion design provides additional functionality, serving as a handle for convenient mobility and installation, thereby minimizing the challenges associated with manual handling.

Reliable System Stability and Durability

- Featuring a premium pure copper transformer, the system significantly enhances power stability and resistance to interference, ensuring reliable performance across diverse environments and preventing sound distortion due to power fluctuations.
- Engineered for extended, high-intensity use, every component undergoes stringent testing to ensure exceptional durability and reliability, even under prolonged, high-efficiency operation.



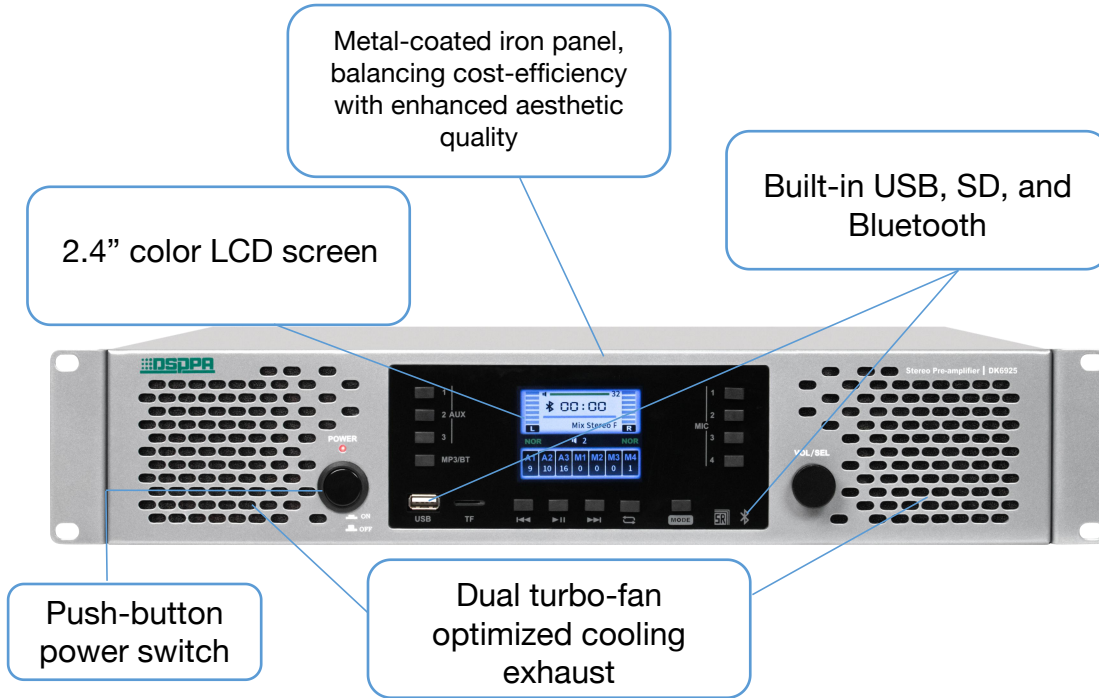
Flexible System Configuration

- The LA-6300 speaker offers flexible setup options, supporting hanging, stacking, or standalone configurations, allowing for seamless adaptation to different venue sizes and requirements, thereby significantly enhancing system versatility.
- Equipped with a comprehensive connection system, the speakers feature magnetic connectors that enable effortless angle adjustments and precise control over the projection range, ensuring optimal sound coverage.
- Additionally, the system supports parallel connection of two speakers and series connection of four speakers, providing excellent scalability to accommodate diverse audio demands.

Adaptability to Diverse Application Scenarios

- Whether for large conferences, concerts, or small gatherings and exhibitions, the sound reinforcement system composed of the LA-6300 and LA1230S delivers superior audio performance.
- Designed for both mobile performances and fixed installations, this system excels in various settings, including stage sound, conference audio, and outdoor event amplification, providing seamless solutions to meet a wide range of acoustic needs.

4. Features -- DK69 Series Amplifiers



| Model | DK6915 | DK6925 | DK6935 | DK6950 | DK6965 |
|-------|-----------|-----------|-----------|-----------|-----------|
| Power | 2×150W/8Ω | 2×250W/8Ω | 2×350W/8Ω | 2×500W/8Ω | 2×650W/8Ω |

Features

- Available in multiple power options: 2×150W/8Ω, 2×250W/8Ω, 2×350W/8Ω, 2×500W/8Ω, 2×650W/8Ω. The entire series of digital amplifiers supports 4-ohm loads.
- Equipped with a rotary encoder for primary operation, each audio channel has an independent volume control button for easy volume adjustment. The interface is straightforward, minimizing the risk of incorrect operations.
- Include a built-in player with visual song display, supporting functions like previous track, next track, pause, and repeat.
- Include 2 microphone balanced inputs on the rear panel, 2×6.35mm microphone inputs, each with independent volume control. The microphone inputs feature reverb effect processing and a 7-band digital equalizer for fine-tuning. It also holds a microphone feedback suppression function.
- Include 3 audio channels with independent volume control, 7-band digital equalizer adjustments, and preset sound effects.
- Include 1 stereo audio output channel.

5. Features -- CM1608 Digital Mixing Console



- 8 XLR/TRS balanced microphone inputs, 2 stereo TRS balanced inputs.
- 2 stereo TRS balanced inputs, USB playback and recording channels.
- Outputs: 2 MainLR balanced outputs, 4 AUX balanced outputs.
- 5 built-in effects processors, including delay, chorus, reverb, pitch shift, and other effect types.
- 4 effect channels, each supporting different presets.
- Versatile effects: Multiple audio effect options to meet the needs of various music styles.
- **Control software compatible with Windows, Linux, MacOS, Android, and iOS operating systems.**
- Language support: English, Spanish, Simplified Chinese, and Traditional Chinese.
- Compact and lightweight design, easy to carry and move, ideal for quick deployment in various settings.

6. Features -- LA1230S Active Subwoofer



Precise Volume Control

This subwoofer is equipped with a high-quality volume adjustment feature, allowing users to fine-tune the volume according to the environment, ensuring optimal bass performance in various settings.

Flexible Frequency Response Adjustment

The subwoofer features frequency adjustment functionality, enabling users to tailor the bass frequency range to suit different audio systems, ensuring optimal bass response and preventing sound distortion or frequency mismatch.

High Performance and Durability

Equipped with a pure copper transformer, this subwoofer delivers more stable power output, reducing energy loss and enhancing overall performance and longevity, while ensuring the subwoofer maintains high efficiency during prolonged use.

Prevention of Audio Distortion

With its integrated limiting function, the subwoofer effectively controls excessive signal gain, preventing distortion or potential damage to the subwoofer during high-power output, thereby maintaining stable and clear sound quality.

Powerful Bass Output

This active subwoofer is specifically designed and optimized to drive large 12/15-inch bass drivers, delivering deeper and more powerful bass response.

Optimized Sound Field Positioning

Featuring phase adjustment capabilities, this subwoofer allows users to fine-tune the speaker's phase according to its placement and acoustic requirements, ensuring a more balanced and precise bass response while enhancing the overall immersive audio experience.

7. Features -- LA-6300 Small Line Array Speaker

Versatile Application

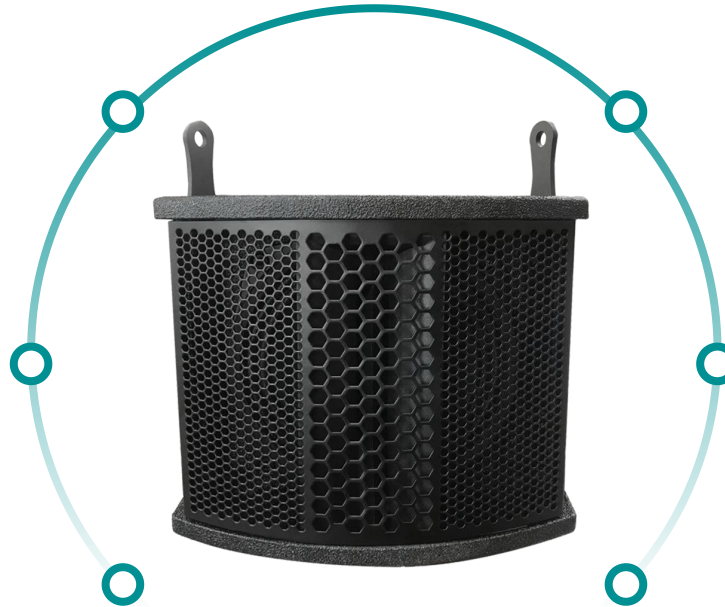
This vertical line array speaker is designed for flexible use, supporting multiple units for hanging or stacking, as well as standalone operation. It is well-suited for permanent installations, mobile performances, and temporary audio system setups.

Compact Design with High SPL.

Equipped with a 6.5" coaxial driver, this speaker offers precise central phase alignment for clearer sound quality and high sound pressure output. Its compact configuration maximizes space efficiency, while the speaker maintains a sleek and refined form.

Wide Audio Dispersion Angle

The high-frequency horn features a dispersion angle of $90^{\circ} \times 10^{\circ}$, effectively minimizing sound interference and ensuring more even sound distribution, thereby enhancing the overall audio performance.



Flexible Impedance Matching

With an 8-ohm impedance, this speaker allows for flexible parallel or series configurations: two speakers can be used in parallel, while four speakers are recommended to be arranged in two series with each pair connected in parallel, maintaining an 8-ohm impedance.

Easy Installation and Adjustment

The system features a well-designed connection system between multiple speakers, enabling easy angle adjustments and precise control over the projection range. The magnetic latch design facilitates effortless connection and disconnection between speakers, preventing issues such as the detachment of spring-loaded latch balls.

Patented Lateral Phase-Inversion Design

Leveraging a patented lateral phase-inversion technique, the front driver arrangement is optimized for greater compactness, boosting the speaker's sensitivity. The design further integrates a practical handle, enhancing ease of transport.

8. Specifications - LA1230S/LA-6300



| Name | Single 12" Active Subwoofer |
|----------------------|-----------------------------|
| Rated Power | 300W |
| Driver Unit | 12" Woofer |
| Frequency Response | 45HZ-200HZ |
| MAX. SPL | 119dB |
| Sensitivity | 94dB |
| Input Voltage | 220V AC 50Hz |
| Phase Adjustment | 0-180° |
| Impedance | 8Ω |
| Speaker Input | 1×XLR/2×RCA |
| Product Size (H*W*D) | 455mm×380mm×485mm |
| Net Weight | 22kg |

| Name | LA-6300 Small Line Array Speaker |
|---------------------------------------|----------------------------------|
| Input Voltage | AC220V/50Hz |
| Power | 300-350W |
| Limiter | Yes |
| Input Sensitivity | 0.707V, 60Hz |
| Frequency Response | 45Hz~300Hz |
| Phase Adjustment | 0~180° |
| Bass Speaker Size / Nominal Impedance | 12/15-inch / 4-8 ohms |

■ 9. Application Scenarios



Mobile
Performances



Conference
Rooms



Multifunctional
Halls



Banquet
Halls



Bars

The small line array sound reinforcement system is suitable for a variety of places such as mobile performances, conference rooms, multifunctional halls, banquet halls, and bars.



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