

Multifunctional Lecture Hall+Professional Sound System

1. Solution Description

The lecture hall in the school is also called the multifunctional lecture hall which can accommodate more than 300 people, with an area of 390 m², about 28m in length, about 14m in width and 4.3m in height. And the stage is about 9m in length and 6m in width. The lecture hall is mainly used for important conferences, various lectures, art performances, academic reports and other important activities of the school. Due to the high frequency of use of the lecture hall, there are certain requirements for speaker quality and system functions.

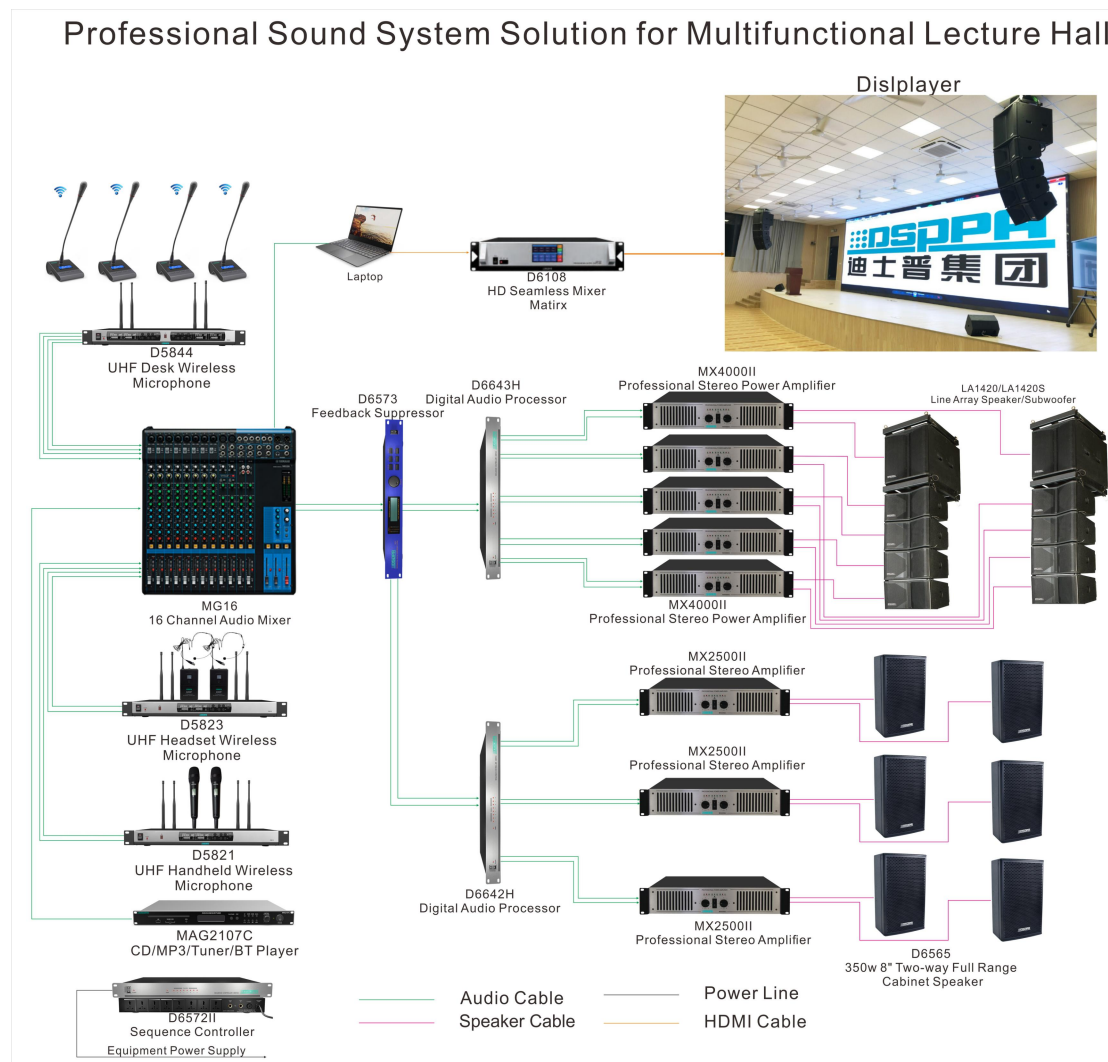


2. Professional Sound System Design

The array speakers integrate professional speakers, power amplifiers, and digital signal processing units. The digital signal processing unit can manage and optimize performance, as well as protect the power amplifier and sound reinforcement unit. And the unique correction technology can enhance the accuracy of sound expression and reduce on-site commissioning work. The array speaker system can transmit line-level signals, with low line loss and better sound quality.



3. System Connection Diagram



4. Attainable Functions

1. The sound reinforcement system is mainly composed of speakers, power amplifiers, mixers, microphones, sound sources, video matrix system and other equipment, which can realize simple meetings, lectures, special reports, etc.
2. D5821, D5824, and D5823 can be used as the audio source inputs, based on the customer's needs for speeches, special symposiums and work reports.
3. MG16, D6573, D6643H, and D6642H can be used as professional audio processing equipment, making the sound clear without distortion and feedback howling.
4. In this system, we arrange two series of array speakers LA1420/1420S on both sides of the stage for full sound pressure, uniform sound field and accurate sound image positioning on the scene; and six 350W full-range professional speakers D6565 for auxiliary sound reinforcement on both sides of the seats, making the live music clear with a better performance.
5. D6573 and D6643H can not only be used to modify vocals and musical instrument sounds or produce specific effects as needed, but also be used to pick up and record live programs, and adjust in a timely manner when a broadcast failure occurs, as the monitor speakers have been

installed on the stage and the control room.

6. The video matrix system D6108 can switch video signals from any internal camera, video conference terminal signals, and various types of external signals to the corresponding display terminal as needed to ensure the orderly progress of the conference. Choose a matrix signal switcher with flexible configuration to achieve seamless connection, conversion, switching, and transmission of various video signal sources in the system.

5. Applications

With low noise, high intelligibility and durability, the speakers on both sides of the stage can work well without distortion even in a high-power working environment, for creating a stereo original sound in every corner of the lecture hall.

As the multifunctional conference system solution provided by DSPPA for the lecture hall has powerful functions and easy-to-understand system operation, it can effectively guarantee the daily operation of various meetings and activities in the lecture hall.



6. Main Device

D5821/5823/5844

2-channel UHF Wireless Microphone Receiver



Receiver Feature:

- PLL 2/4/8-channel phase-locked loop design.
- UHF 200-channel PLL digital lock automatic communication function.
- IR frequency pairing.
- Display function (display frequency, channel, squelch, level, etc.).
- With volume control for each channel.
- AF output (using “XLR” type socket for independent output and mixed output).

4-channel UHF Wireless Microphone Receiver



Auto display of IR pairing



Various types of wireless microphones:



Handheld Mic
D5811



Clip Mic
D5812



Headset Mic
D5813



Desktop Mic
D5814



Handheld Mic with Remote Control
D5811R



Specifications:

Items		Parameters
Frequency Range		632-695.25MHz
Modulation Method		Broadband FM
Adjustable Range		60MHz
Number of Channels		200
Channel Intervals		250KHz
Frequency Stability		Within $\pm 0.005\%$
Dynamic Range		88dB
Maximum Frequency Deviation		$\pm 45\text{KHz}$
Audio Frequency Response		120Hz-16KHz($\pm 3\text{dB}$)
SNR		$>73\text{dB}$
Distortion		$\leq 1\%$
Work Environment		$-10^{\circ}\text{C} - +40^{\circ}\text{C}$
Effective Range		150-200m (in open environment)
Package Dimensions (L×W×H)		530×335×330mm
D584144 Gross Weight		9kg
D5842/D584344 Gross Weight		7.4kg
D5844 Gross Weight		9.6kg
Receiver	Wireless Interface	BNC/50Ω
	Sensitivity	-100dBm
	Spur Suppression	$\geq 75\text{dB}$
	Display Method	Display screen
	Working Power	DC12V, 600mA

D6642h/D6643H

8/12 Channels Digital Audio Processor



System Set-up Via Computer

Feature:

- 4/8/12/16 balanced audio input of phoenix jacks
- 4/8/12/16 balanced audio output of phoenix jacks
- 24bit/48kHz sampling, high efficiency A/D & D/A converter
- Advanced audio processing of EQ, frequency filter, feedback, noise, echo, etc.
- 1 RJ 45 interface to link with computer for system setup
- 1 RS232 interface to third-party devices such as audiovisual matrix, camera, etc.
- 10 GPIO input interfaces, and 4 GPIO output interfaces
- With built-in PC software, no need to install or download from network
- 1U slim design, suitable for 19" rack mounting
- D6642HD/D6643HD/D6644HD support Dante function
- Power supply: AC 180V-250V

D6573

Feedback Suppressor



Feature:

- 2-channel auto feedback suppressor
- 64/128 sampling of 24-bit, with A/D and D/A converter, high resolution
- Each channel with 12-band feedback search, intelligent processing
- Single point mode: auto search and process notch frequency
- Manual mode: can set up the 2x12 wave filter's parameter, including frequency and equalizer
- XLR and TRS interfaces for audio inputs and outputs
- Two processing modules, L and R channels can be processed individually or in parallel
- 2x16 LCD screen for displaying working status
- With RS232 interface for communication with other device
- Aluminum fashionable panel, 1 U slim design, suitable for rack mounting

D6108

2K HD Seamless Mixed Matrix



Feature:

- Support 8-channel, 16-channel, 32-channel signal inputs and outputs
- Intelligent matrix system for audio and video signal switching, compatible with different audio signal input/output signal cards

- Signal cards matched include: HDMI, DVI, VGA, SDI, AV seamless input / output signal cards
- Support multiple signal input and output cross matrix switching, providing independent video signal and audio input and output terminals
- The audio and video signals of each video signal are transmitted separately and switched separately to minimize the attenuation of signal transmission. The image and sound signals can be output with high fidelity and can be matched with the input and output signal cards randomly
- Support power-off protection, power-off memory, audio and video synchronization or separate switching
- With RS232 communication interface and TCP/IP (optional function) control, it can be easily used with personal computer, remote control system or various remote control devices
- Mainly used in radio and television engineering, multimedia conference halls, large-screen display engineering, television teaching, command and control centers and other occasions

D6563

350W 8" Two-way Full Range Cabinet Speaker



Feature:

- Two way full range cabinet with reflex bass technology
- Equipped with high quality woofer and tweeter, ensure excellent performance
- Anti resonance designed cabinet, painted metal mesh with sound transmitting cotton
- Tweeter with advanced treble shock absorbing technology, making treble sound more clear and pleasant
- Woofer unit with strengthened paper coil, adopts unique magnetic circuit technology, making bass sound more resonant

LA1420/LA1420S

Passive Line Array Speaker/Subwoofer



LA1420



LA1420S



LA1420D
Installation Bracket



Feature:

- The high frequency part adopts wave converter, combined with a British mid low drive unit with a midrange plug.
- The treble uses a compression unit with low distortion titanium composite film. The specially designed high vaulted dome structure increases the strength of the diaphragm and reduces harmonic distortion.
- The bass adopts specially developed dual voice coil unit. Similar to Class AB amplifier, the push pull structure reduces the harmonic distortion
- Compared to the structure of the traditional single voice coil, it doubles the heat capacity and voice coil heat radiation area, in order to achieve double power. The two reversed voice coil, can offset the inductance themselves, improve the unit's middle frequency of the bass , while maintaining the strength of bass, reduce low frequency distortion while expand the low frequency.
- Russian birch plywood housing, painted mesh with sound transmitting cotton.
- LA1420 along with LA1420S make a stacked type curve array system, to maintain the bass, expand the low frequency while reducing low frequency distortion. They can increase 35-50Hz band output, and significantly increase the linear stroke.

Specification:

Model	LA1420
Frequency response	60Hz-20KHz
Speaker power(AES/peak)	MF: 600W/1200W, HF: 100W/200W
Sensitivity (1 W/m)	MF: 106dB, HF: 113dB
System composition	2×10"Bass+1×3"Treble
Rated impedance	MF: 8Ω/HF: 8Ω
Radiation angle(H×V)	120°×20°
Color	Black
Net Weight	26kg
Size (Width×depth×Height)	780×474×306mm
Model	LA1420S
Rated Power(AES)	600W
Maximum power	1200W
Frequency response	35Hz-300Hz
System composition	1×18"Bass
Sensitivity (1 W/m)	102dB
SPL	130dB (peak, @1m)
Rated impedance	8Ω
Color	Black
Net Weight	48kg
Size (W×D×H)	779×685×521mm

Installation Effect:



