



# Professional Sound System for Banquet Halls

高低音频结合

抗干扰能力强

音质效果好

智能中控

# I. Solution Overview



## Banquet Hall Description

- The banquet hall will hold various kinds of activities, such as wedding activities, corporate dinners, large gatherings, speeches, reports, news releases, product exhibitions, small and medium-sized cultural performances, dances and other activities. In order to ensure that participants can clearly hear the speaker's voice and music performances, the sound reinforcement system plays an important role in the banquet hall.
- The professional sound system for the banquet hall must enable clear sound from speakers and performances, enhancing the event's effectiveness and participants' experience. Additionally, the system should consider ease of installation and maintenance to ensure reliability and stability.
- Given that banquet halls are typically large spaces, it's essential to ensure even sound distribution to all corners, preventing any areas where sound may be unclear. This can be achieved through proper speaker placement and mixing console control.



## Project Requirements

- The banquet hall is a high-end entertainment venue, where the sound system primarily focuses on providing a comfortable and enjoyable environment for guests, ensuring that events or performances are carried out smoothly and with excellence.
- The sound system in the banquet hall must have an intuitive and user-friendly interface, allowing staff to easily manage audio adjustments and control.
- Additionally, installation and maintenance should be convenient, ensuring even sound distribution for reliability and stability.
- When designing the sound system, it's essential to consider the hall's acoustics and usage requirements. Speech signals mainly occupy the mid-frequency range, so it's crucial to ensure clear and even distribution of mid-range audio. At the same time, music performances require high-quality sound, which means low and high-frequency amplification should also be considered for optimal audio performance.

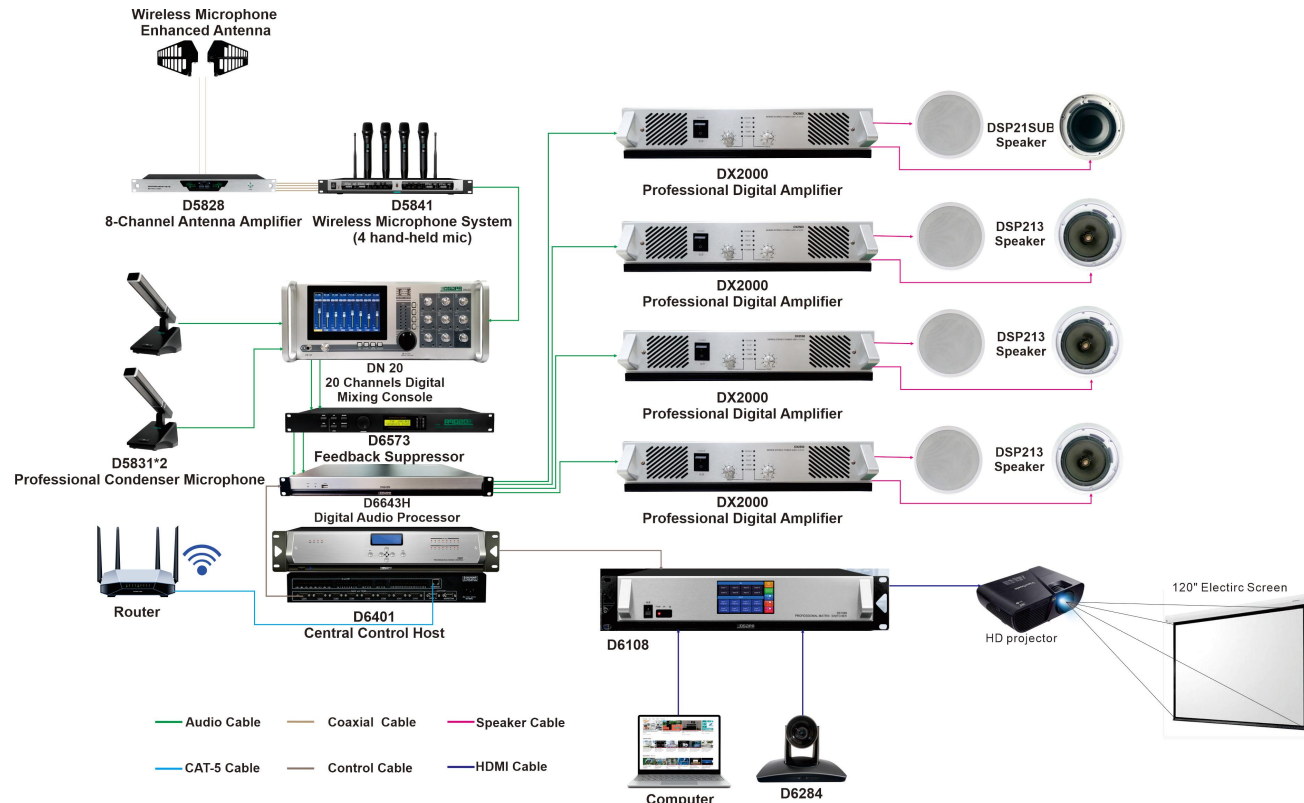
## II. 200-300m<sup>2</sup> Banquet Hall Solution Design (100-200 People)

### System Configuration

- **Sound Source Part:** To enhance convenience during events, the system is equipped with mobile wireless handheld microphones. These prevent the inconvenience of restricted movement for speakers, effectively amplifying the main sound source and suppressing background noise, ensuring clear speech. The microphones are easy to manage, with automatic frequency pairing from the main unit, allowing for immediate use with minimal setup.
- **Regulation and Control Part:** The digital mixing console, digital audio processor and feedback suppressor are selected to regulate and control the whole system. The digital mixing console has a simple interface and powerful functionality, featuring multiple input/output options to handle various audio sources and outputs. The digital audio processor and feedback suppressor come with built-in modules for system adjustments, maintaining a high signal-to-noise ratio and reducing failure rates. The system supports hot-swapping, ensuring that other channels remain operational even if one channel fails, thus enhancing the stability of the entire system.
- **Sound Retrieval System:** The combination of full-range speakers and subwoofers in a banquet hall is crucial. Full-range speakers are responsible for delivering clear mid-to-high frequencies, ensuring the details of speech and music are well-presented, while subwoofers enhance the bass, improving the overall sound quality and ambiance. The system should consider speaker placement to achieve uniform sound coverage, avoiding echoes and dead spots.
- **Central Control System:** Paired with the central control host, it allows centralized control of power switches, volume, screen switching, lighting, and more, all integrated into a wireless tablet. This setup enhances the operational convenience of the banquet hall and adds a sense of technological sophistication to the smart banquet hall.
- **System Protection:** In order to prevent the safety and reliability of the system equipment in the use process, especially in the event of accidents, the system is designed to protect equipment from damage. It primarily includes a power sequence controller purification system.



# III. Banquet Hall Solution Configuration



No.	Model	Product Name	Quantity
<b>Sound Source Part</b>			
1	D5841	Wireless Microphone System (4 hand-held mic)	1Pc
2	D5828	8-Channel Antenna Amplifier	1Pc
3	D5831	Professional Condenser Microphone	2Pcs
<b>Regulation and Control Part</b>			
1	DN20	20 Channels Digital Mixing Console	1Pc
2	D6643H	Digital Audio Processor	1Pc
3	D6573	Feedback Suppressor	1Pc
<b>Sound Retrieval System</b>			
1	DX2500	2*400W Professional Digital Amplifier	4Pcs
2	DSP21SUB	240W 10 Inch In-Ceiling Subwoofer	2Pcs
3	DSP213	240W Full Range Ceiling Speaker	6Pcs
<b>Central Control System</b>			
1	D6401	Central Control Host	1Pc
2		Router	1Pc
<b>Video System</b>			
1	D6108	2K HD Video Matrix Switch System	1Pc
2	D6284	HD Conference Camera	1Pc
<b>Supporting Materials</b>			
1	D6572II	Sequence Controller	1Pc

## ■ IV. System Advantages



### Reducing Sound Reflection

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- The DSP21SUB and DSP213 are ceiling-mounted speakers, which, due to their high installation position, allow sound to spread in all directions. This helps achieve more uniform sound coverage and reduces instances where sound reflects directly off walls before reaching the audience. As a result, echoes and acoustic interference are minimized, improving sound quality.



### Remote Control

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- By connecting a computer to the local area network via an Ethernet cable, the control interface of the digital mixer can be accessed and managed through a web browser.



### Strong Interference Resistance

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- The banquet hall sound reinforcement system has a certain level of interference resistance, effectively reducing disturbances from other audio sources or noise, ensuring that sound quality remains unaffected.



### Intelligent Central Control

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- The intelligent control system allows for one-key operation to control devices, including lighting, air conditioning, and cabinet power supply, offering the convenience brought by an intelligent banquet hall.

## V. Product Features-1



### DSP21SUB 240W 10 Inch In-Ceiling Subwoofer

- **Distortion Reduction:** As a ceiling-mounted subwoofer, the DSP21SUB is specifically designed to handle low-frequency sounds, allowing other speakers to focus on mid-to-high frequency output. This division reduces distortion caused by a wide frequency range, ensuring a balanced overall sound effect.
- **Aesthetic Appeal:** With a refined and durable design featuring precise perforations, it seamlessly blends into any interior setting.
- **Easy Installation:** The installation is relatively simple and does not require complex wiring or configuration.

#### Features

- 10" woofer
- 70V/100V, Rated Power:240W
- Freq. Resp.:36Hz-150Hz
- Sensitivity 89dB
- Power tap:240W/120W/60W/4Ω
- Product size:φ360 \*330mm
- Material: ABS speaker cover + Iron speaker body
- Color: White speaker cover+ Matt black speaker body

#### Specifications

Model	DSP21SUB
Rated Power	240W
Driver Units	10" Woofer
Max Power	480W
Power Taps	240W/120W/60W/4Ω
Sensitivity	89dB
Frequency Response(-10dB)	36-150Hz
Coverage angle(1KHz/-6dB)	180°
Impedance	42Ω/83Ω/167Ω/4Ω
Color	White Speaker Cover+ Matt Black Speaker Body
Product Size(W*D)	φ360 *330mm
Package Size (L*W*H)	450*450*430mm
Net Weight	9.5kg
Gross Weight	12.7kg

## VI. Product Features-2



**DSP213**

**240W Full Range Ceiling Speaker**

- **Easy Installation:** The installation process is simple, requiring no complex wiring or configuration.
- **Consistent Sound Characteristics:** Full range speakers typically offer consistent sound characteristics across the entire frequency response range, preventing mismatches in sound style between different frequency bands.
- **Simple and Convenient Power Settings:** Power configurations are easy to set up and adjust.

### Features

- 10" woofer+2" tweeter
- 70V/100V, Rated Power:240W
- Freq. Resp.:45Hz-20kHz
- Sensitivity 92dB
- Power tap:240W/120W/60W/8Ω
- Product size:Φ360 \* 330mm
- Material: ABS speaker cover + Iron speaker body
- Color: White speaker cover+ Matt black speaker body

### Specifications

Model	DSP213
Rated Power	240W
Driver Units	10" Woofer+2" Tweeter
Max. Power	480W
Power Taps	240W/120W/60W/8Ω
Sensitivity	92dB
Frequency Response(-10dB)	45-20kHz
Coverage angle(1KHz/-6dB)	140°
Impedance	42Ω/83Ω/167Ω/8Ω
Color	White Speaker Cover+ Matt Black Speaker Body
Product Size (W*D)	Φ360 *330mm
Package Size (L*W*H)	450*450*430mm
Net Weight	10.5kg
Gross Weight	13.7kg



# CREATING THE BEST, SOUNDING THE WORLD



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