



## D7111 Digital Conference System Solution for Multiple Meeting Scenarios

# I. System Overview

- This solution is built on an ARM + FPGA + DSP fully digital distributed conference system architecture, integrating high-performance audio processing, network-based digital transmission, and intelligent management functions. It provides a comprehensive and professional conference solution for modern multifunctional meeting rooms, international convention centers, parliamentary buildings, and educational and training institutions. With a modular architecture design, the system supports large-scale expansion and flexibly adapts to diverse requirements, ranging from small and medium-sized meeting rooms to ultra-large conference venues.



## Core Advantages

**Triple-Processing Architecture:** ARM (system control) + FPGA (high-speed signal processing) + DSP (professional audio processing), ensuring high performance, ultra-low latency, and exceptional system reliability.

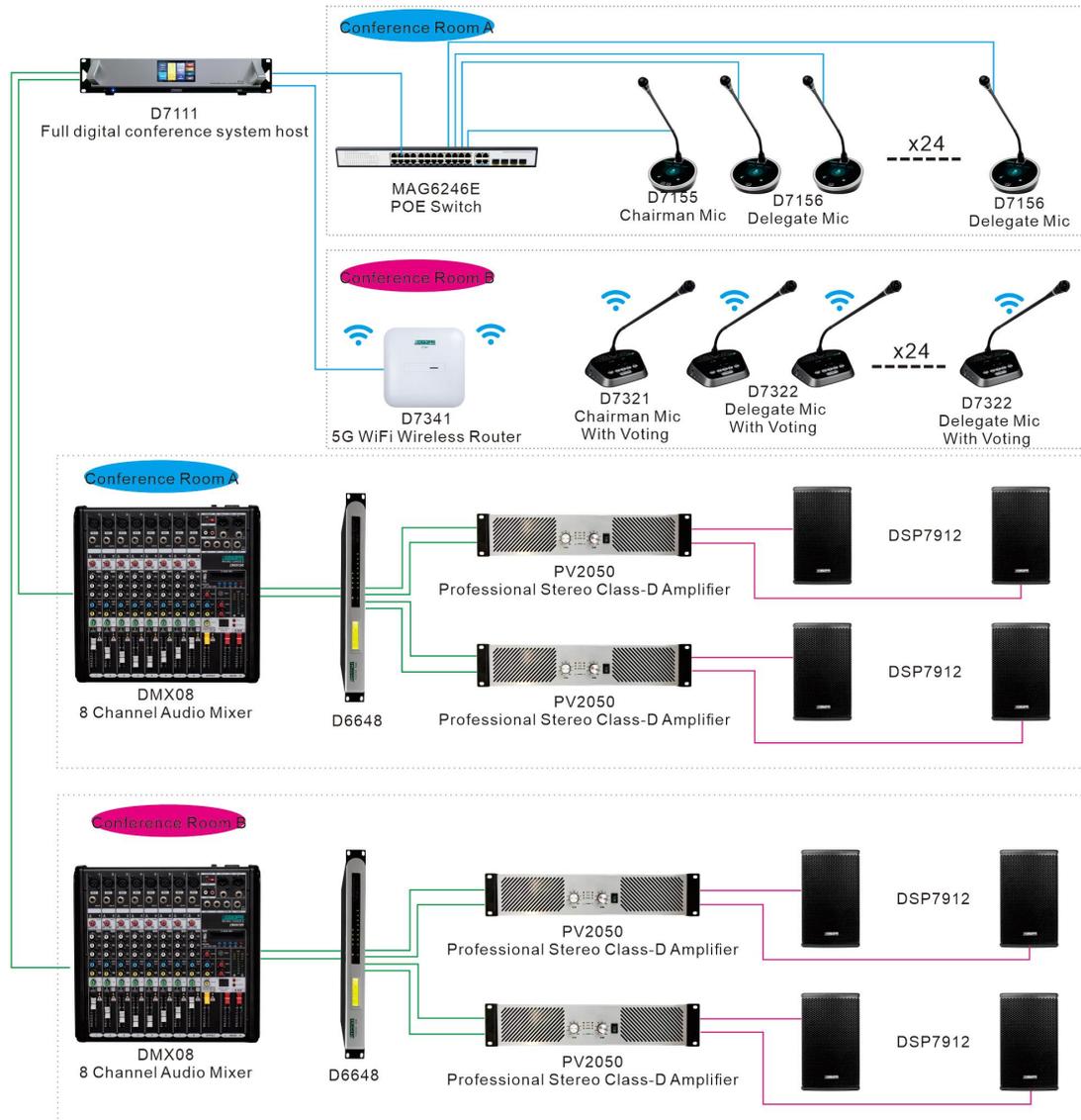
**Fully Digital Transmission:** Based on the TCP/IP network protocol, supporting both C/S (Client/Server) and B/S (Browser/Server) architectures for convenient integration and centralized management.

**Ultra-Large Capacity:** Supports up to 4,096 wired units and 300 wireless units in hybrid deployment, meeting the needs of large-scale conference applications.

**High-Fidelity Audio Quality:** 48 kHz sampling rate with uncompressed audio transmission and transmission latency of less than 5 ms.

**Dual-System Redundancy:** Automatic main/backup switching combined with ring-based dual-link redundancy ensures uninterrupted and stable conference operation.

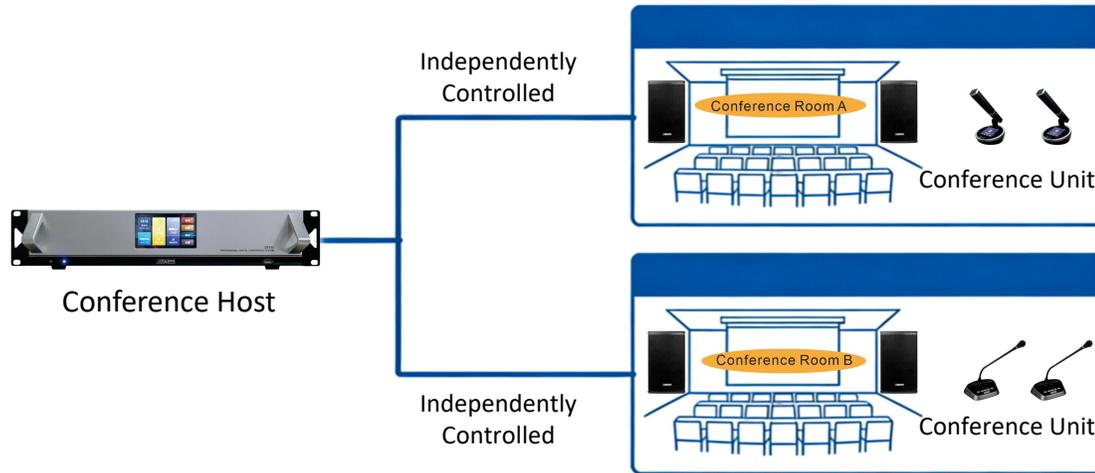
## II. D7111 Dual Conference Room Solution



Note: The D7111 series conference microphones are supplied with a Square Microphone Rod by default. A Gooseneck Microphone Rod is available upon request and requires customization when placing the order. This solution is provided for reference only. For specific requirements, please feel free to contact us.

No.	Model	Product Name	Quantity
1	D7111	Full Digital Conference System Host	1pc
2	D7155	Desktop Chairman Microphone with Voting Function	1pc
3	D7156	Desktop Delegate Microphone with Voting Function	23pcs
4	D7341	5G WiFi Wireless Router	1pc
5	D7331	5G WiFi Conference Microphone Charger	3pcs
6	D7321	Chairman Mic With Voting	1pc
7	D7322	Delegate Mic With Voting	23pcs
8	DMX08	8 Channel Audio Mixer	1pc
9	D6648	4x8 Professional Audio Processor	1pc
10	PV2050	2x500W Professional Stereo Class-D Amplifier	4pcs
11	DSP7912	12" Two-way Full Range Speaker	8pcs
12	D5A	Professional Speaker Bracket (Wall Mount)	8pcs
Peripheral Devices			
1	D6721S	Sequence Controller	2pcs
2	MP20U	20U 19" Floor Stand Audio Rack with Electric Fan	2pcs
3	MAG6246E	1000M 24 Ports POE Switch	2pcs

# Solution Configuration Description



## Conference Room Scale and Configuration:

### Conference Room A (Main Conference Room / Discussion Room 1):

- Size: 120–200 m<sup>2</sup>
- Conference Unit Configuration: 1 Chairman Unit + 15 Delegate Units (including 2 VIP Units)
- Sound Reinforcement System: Independently configured mixer, amplifier, and speakers, connected to the “Zone 1” output channel of the main unit.

### Conference Room B (Sub-Conference Room / Discussion Room 2):

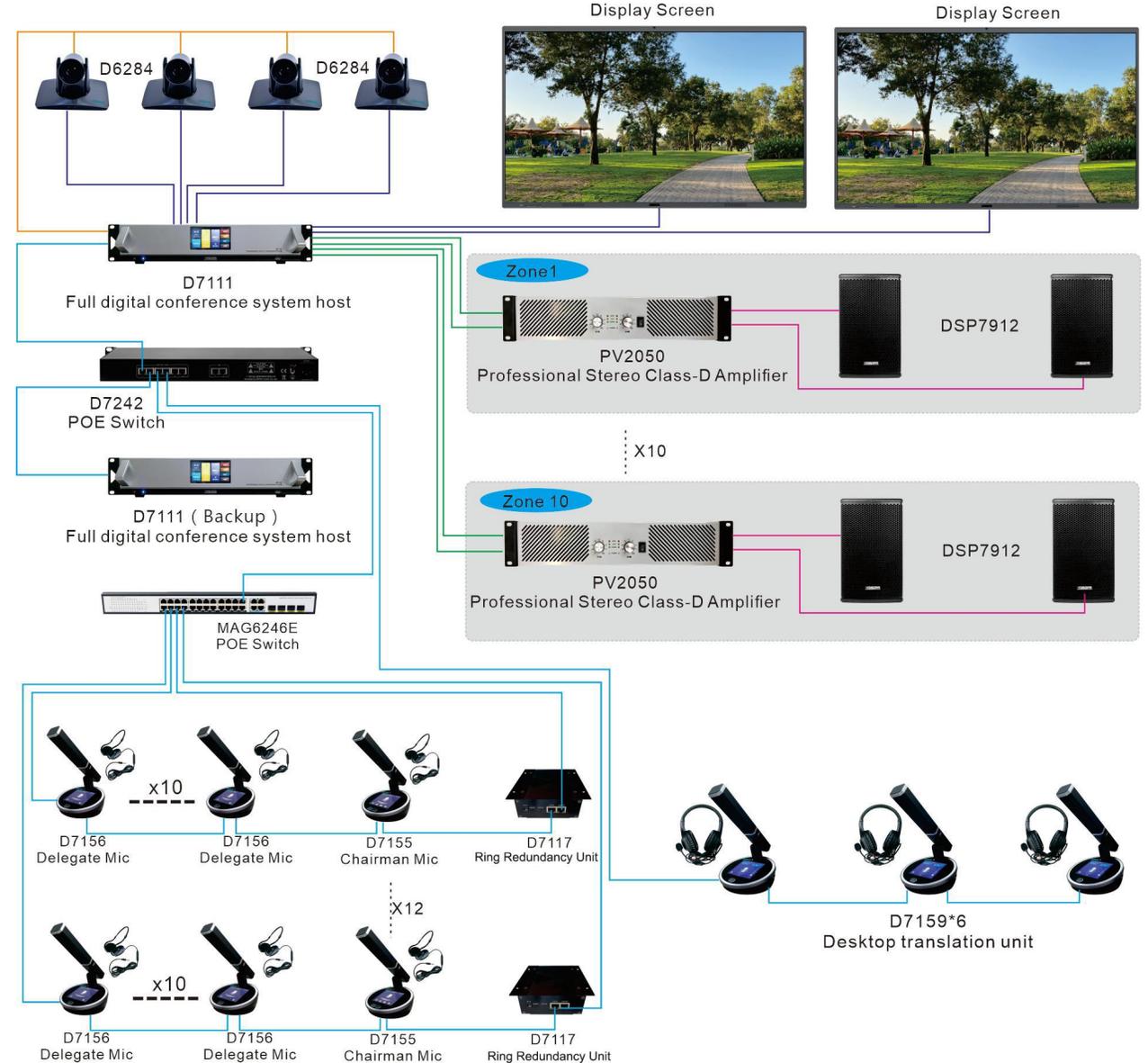
- Size: 120–200 m<sup>2</sup>
- Conference Unit Configuration: 1 Chairman Unit + 10 Delegate Units (including 1 VIP Unit)
- Sound Reinforcement System: Independently configured mixer, amplifier, and speakers, connected to the “Zone 2” output channel of the main unit.

## Summary of Core System Configuration and Implementation:

- **Host Mode:** “Dual Conference Room Mode” is enabled. The host’s internal audio processing and control logic operate independently, serving Conference Room A and Conference Room B separately.
- **Network Architecture:** High-performance PoE switches are used to connect the conference units of Conference Room A and B via separate VLANs, ensuring data isolation.
- **Audio Processing and Output:**
  - Audio signals from Conference Room A are output to Channel 1 (Zone 1) for its sound reinforcement system.
  - Audio signals from Conference Room B are output to Channel 2 (Zone 2) for its sound reinforcement system.
  - Each sound reinforcement system has independent volume, EQ, and delay adjustments, without affecting the other.
- **Functional Applications:**
  - Both conference rooms can independently manage check-in, voting, and speaking rights.
  - Supports “Discussion Function,” allowing both conference rooms to conduct independent group discussions and record audio.
- **Key Advantages**
  - Dual Use with One Host: Reduces equipment procurement and space costs.
  - Independent Management: Administrators can operate simultaneously without cross-permission conflicts.
  - High-Fidelity Sound Reinforcement: 20-zone matrix ensures independent, high-quality audio for each room.
  - Flexible Expansion: Additional conference rooms or devices can be easily added.

# III. D7111 Application Solution for International Conferences

No.	Model	Product Name	Quantity
1	D7111	Full digital conference system host	2Pcs
2	D7155	Desktop Chairman Microphone with Voting Function	6pcs
3	D7156	Desktop Delegate Microphone with Voting Function	114pcs
4	D7159	Desktop Interpretation Microphone	6pcs
5	D6393	Interpretation Headset Conference Earphone	6pcs
6	D6386G	Single-ear Headset	120Pcs
7	D6284	HD Camera	4Pcs
8	D7117	Ring Redundancy Unit	12Pcs
9	PV2050	2x500W Professional Stereo Class-D Amplifier	10pcs
10	DSP7912	12" Two-way Full Range Speaker	20pcs
11	D5A	Professional Speaker Bracket (Wall Mount)	20pcs
Peripheral Devices			
1	D6721S	Sequence Controller	1
2	MP40U	40U 19" Floor Stand Audio Rack with Electric Fan	2
3	Display Screen	Display Screen	2
4	D7242	Dante 8 Port POE Switch	
5	MAG6246E	1000M 24 Ports POE Switch	2



Note: This solution is provided for reference only. For specific requirements, please feel free to contact us.

Note: The D7111 series gooseneck conference microphones require a custom order.

# System Configuration Description



## Conference Room Scale and Configuration:

- Size: Large venue accommodating approximately 200–300 participants
- Layout: Includes a Chairman, Delegate Seating, Interpretation Booth, and Technical Control Area

## Conference Unit Configuration:

- Chairman/VIP Units: 6 Chairman Units + 32 VIP Units (placed at the Chairman and key seats)
- Delegate Units: Approximately 150 wired Delegate Units (connected in a daisy-chain configuration with ring backup support)
- Interpreter Units: 6 interpreter units with corresponding 6 language channels, providing wired headset access for participants
- Video System: Equipped with a “4-in-2-out seamless video matrix module” to integrate multiple camera signals, perform seamless switching, and output to large displays

## Core System Configuration and Implementation:

### ● Interpretation and Simultaneous Translation System:

- Interpreters listen to the original audio channel through the host’s interpretation function and translate it into six language channels (CH1–CH6). The system supports  $\geq 20$  simultaneous translation channels, allowing independent recording for each language. Audio signals can also be output to infrared transmitters or wireless audio systems for participant listening.

### ● Audio Matrix & Zone Sound Reinforcement

- The built-in audio matrix handles mixing and zonal management for the venue.

### ● Video Linkage & Camera Tracking

- The integrated camera tracking system controls cameras via RS422. When a conference unit speaks, the system automatically calls presets to quickly locate the speaker. The video matrix module supports 2–4 camera inputs for seamless switching, enhancing the visual experience.

### ● High Reliability Assurance:

- Conference units are connected via a “ring-based dual-link” to ensure stable operation. The main/backup host configuration supports automatic switching, guaranteeing uninterrupted meetings. Conference units support multiple speaking modes to maintain orderly meeting management.

# IV. D7111 System Introduction



**20-Zone Output**

**EQ** 

Independent Zone Control

**ARM + FPGA + DSP**

Audio Processing and Networked Digital Transmission Architecture

**Mixed Output**

- EQ Control
- Volume Control
- Shared Gain Control

 **12-Band EQ**

**FULLY DIGITAL CONFERENCE SYSTEM**



**Channel Separation**

Multiple Inputs, Separate Outputs

**NR** **AGC**

Support in Conference Unit

 **6 + 1**

Simultaneous Interpretation

**18 + 6**

**Wired** **Wireless**

Hybrid Unit Speaking



**Dual Room Mode**

Single Host

Support in Conference Unit

**Central Control**



**48KHz**

Digital Audio Sampling Rate

Support 

- Independent Recording**
- Mixed Recording**

# ■ V. D7111 Conference System Host

## Features

- LINE/ALARM Input Sensitivity:  $300 \pm 50$  mV
- LINE Output (Unbalanced): 1000 mV
- Frequency Response: 30 Hz – 20 kHz
- Total Harmonic Distortion (THD):  $<0.3$  %
- Signal-to-Noise Ratio (SNR):  $>75$  dB (A-weighted)
- Maximum Power Consumption: 75 W
- Dimensions: 484 × 385 × 88 mm

4.3-inch TFT True-Color Screen

Resolution increased to 800 × 480

Graphical Interface Design

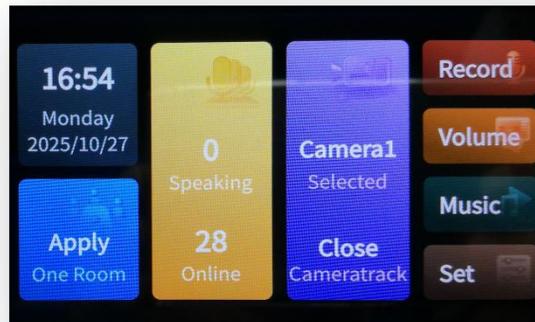
All functions and information are clearly displayed at a glance.

Family Series Style Panel Design

Silver Fine-Textured Aluminum Panel



# ■ D7111 Digital Conference System Host



The redesigned main interface adopts a modular layout for key functions, enabling users to quickly grasp essential system information directly from the home screen.

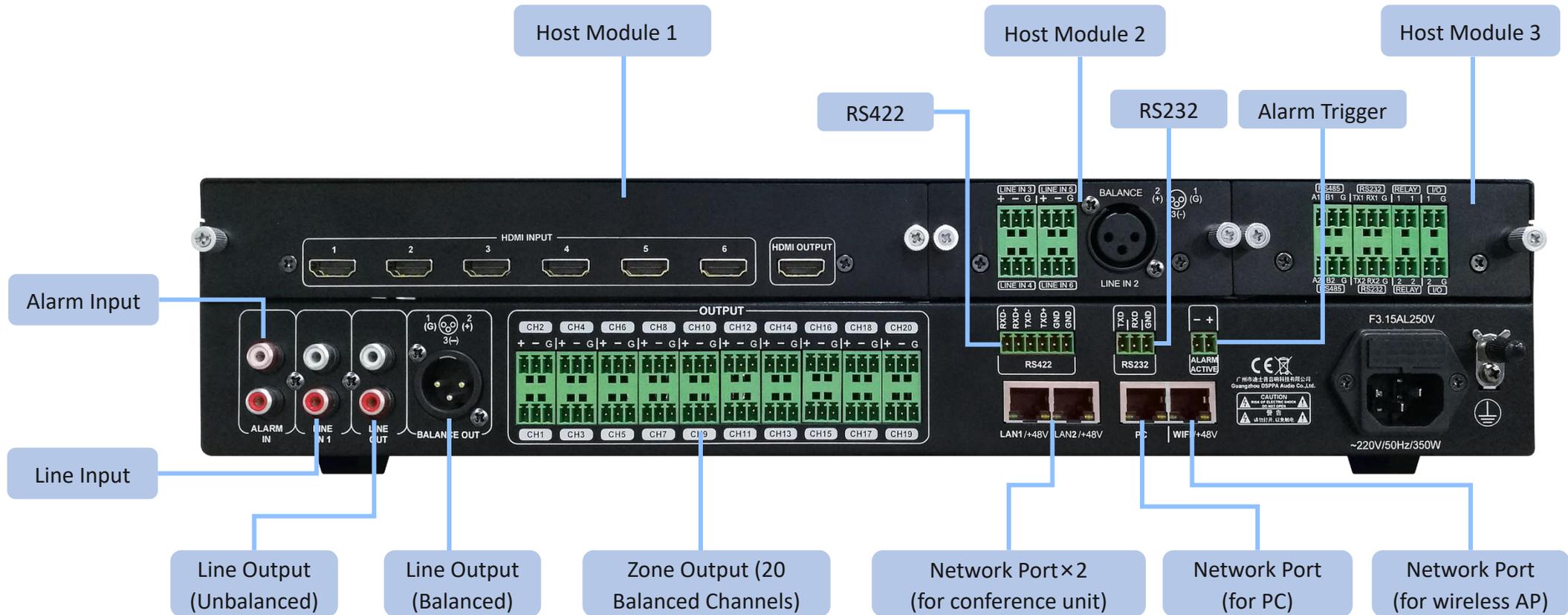


The conference mode supports **dual meeting rooms**.



A single meeting room supports **five** standard conference modes: FIFO, FREE, NORMAL, APPLY and VOICE. It also provides a configurable limit on the number of simultaneous active microphones.

# D7111 Series-Interface Description



# D7111 Series -Expansion Modules

## D7112 U-Band Transmitter Module

U-band transmission for monitoring 5G WiFi units



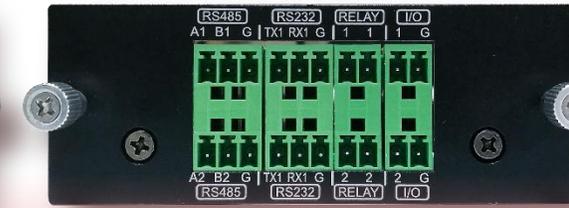
## D7113 USB Interface Module

4 USB ports for song playback or file transfer



## D7116 Control Module

Controls devices via RS485, RS232, RELAY, I/O, etc.

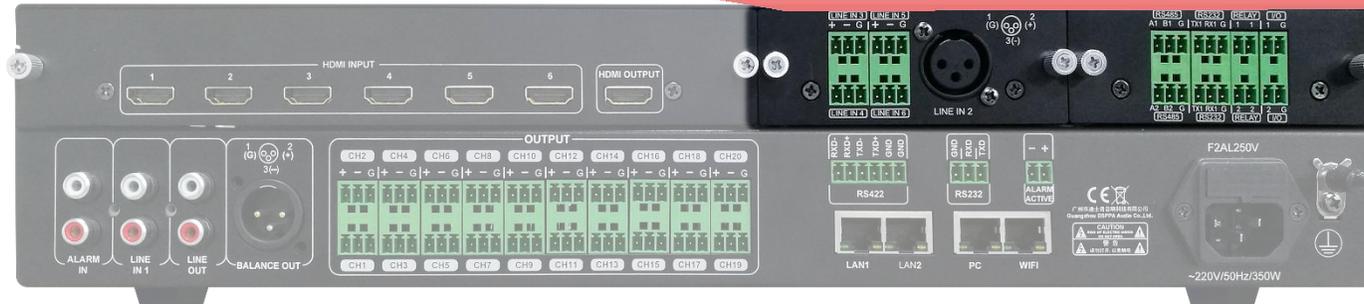


## D7119 Audio Input Module

Expands multiple line-level audio inputs



Host Module 2/3 Slot



# D7111 Series -Expansion Modules

6 HDMI inputs, 1 HDMI output (seamful).

## D7114 HDMI 6×1 Video Matrix Module



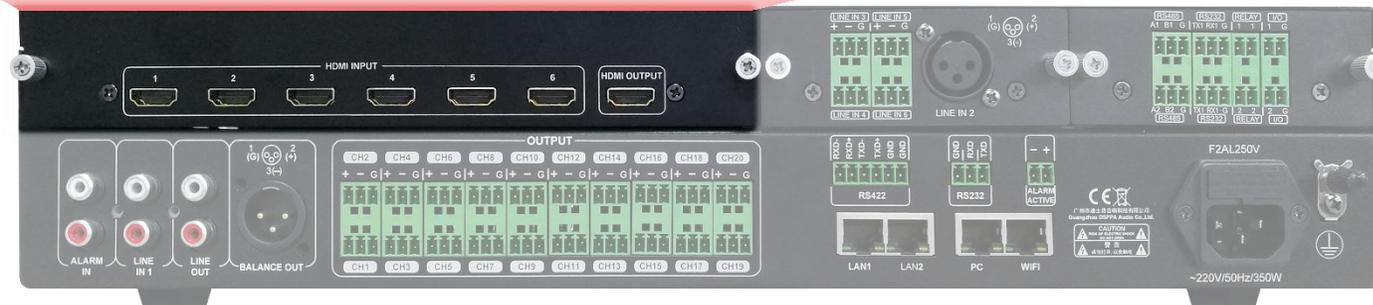
4 HDMI inputs, 2 HDMI outputs (seamless).

Output 1 supports split-screen modes, including single-screen, dual-screen, triple-screen, and quad-screen modes. Outputs 1 and 2 support seamless matrix switching.

## HDMI 4×2 Video Matrix Module



### Host Module 1 Slot



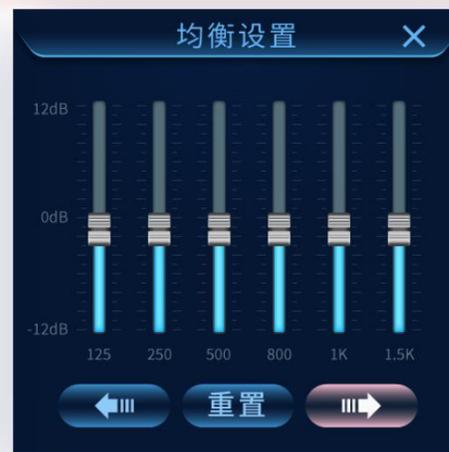
# VI. D7111 Series - Conference Unit



Tea Service



Central Control



12-Band Equalizer



Interpreter Unit

# Desktop Speaking & Voting Chairman / Delegate Unit - D7155 / D7156



## Features

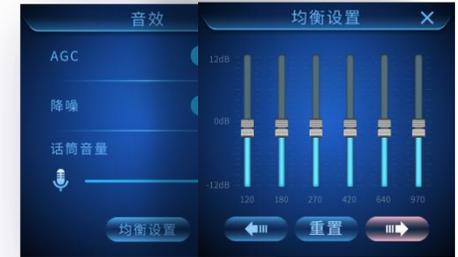
- Input Sensitivity: -45 dBV/Pa
- Output Frequency Response: 80 Hz – 15 kHz
- Headphone Output: 9 dBu, 8–32 Ω, 3.5 mm jack
- Total Harmonic Distortion (THD): <0.3%
- Signal-to-Noise Ratio (SNR): >75 dB (A-weighted)
- Maximum Power Consumption: <4 W
- Power Supply: +48 V via PoE switch

Note: The unit is supplied with a default short square microphone rod. For a long gooseneck rod, please place a custom order.



### Central Control:

The chairman unit features central control functionality, allowing it to manage conference-related equipment.



### Automatic Adjustment:

Equipped with automatic gain control (AGC) and noise reduction, as well as a 12-band equalizer for fine-tuned audio adjustment.



### Hospitality Function:

Provides paper, pens, tea, coffee, and manual service.



### Three Built-in Theme Interfaces:

Supports **two** modes:

**Free Mode:** Each unit can independently change its theme.

**Locked Mode:** All themes are centrally managed via the PC backend; individual units cannot change their theme independently.

# ■ Desktop Interpretation Microphone - D7159



- 🎧 Professional Interpretation: Supports 6+1 language channels.
- 🛡️ Interference Protection: Robust protection against mobile phone interference.
- 🎧 Dual Input Modes: Switch freely between built-in microphone and external headset.
- 🗣️ Cough Suppression: Automatically suppresses coughing sounds.
- 🌐 Language Customization: Languages can be configured remotely via PC or web interface.
- 📱 Self-Detection: Automatic detection of buttons, indicators, and screen.
- 🔊 Independent Audio Control: Microphone and headphone volumes adjustable separately.

Note: The unit is supplied with a default short square microphone rod. For a long gooseneck rod, please place a custom order.



- ① Intelligent Microphone Rod: Cardioid condenser microphone with dual-color LED ring indicator.
- ② 4-inch Touchscreen: Real-time status display.
- ③ Integrated Cable Design: RJ45 male and female connectors for daisy-chain connection.
- ④ Convenient Interfaces: 3.5 mm audio jack and volume control button.

# ■ Desktop Speaking Chairman / Delegate Unit - D7157 / D7158



## Features

- Input Sensitivity: -45 dBV/Pa
- Output Frequency Response: 80 Hz – 15 kHz
- Headphone Output: 9 dBu, 8–32 Ω, 3.5 mm jack
- Total Harmonic Distortion (THD): <0.3%
- Signal-to-Noise Ratio (SNR): >75 dB (A-weighted)
- Maximum Power Consumption: <4 W
- Power Supply: +48 V via PoE switch

### Professional Audio Pickup

- Cardioid condenser microphone integrated into a single microphone rod.
- Dual-color LED ring (red/green) for status indication.
- Robust interference protection against mobile phones.

### Easy Deployment

- Daisy-chain connection via RJ45 IN/OUT ports.
- Passive design, supports PoE or host power supply.
- Flexible chairman unit placement — unit location is not restricted.

### Intelligent Audio Monitoring

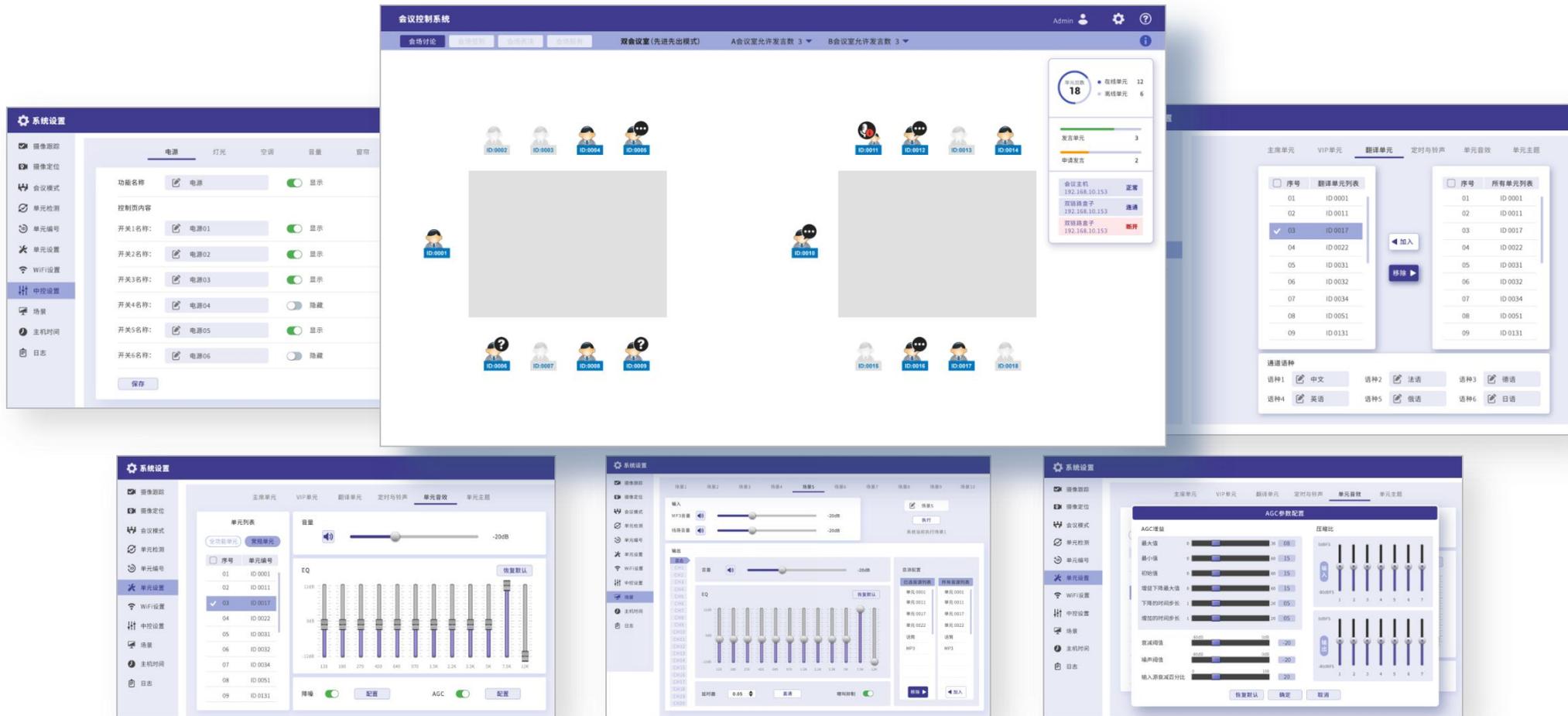
- Independent volume control for microphone and headphones.
- 3.5 mm headphone jack for real-time monitoring.
- Software supports 12-band EQ, noise reduction, and automatic gain control (AGC).

### System Management

- Unique ID number for easy identification.
- Automatic master/backup switching for high reliability.
- Works with host self-detection (buttons, microphone, LEDs).

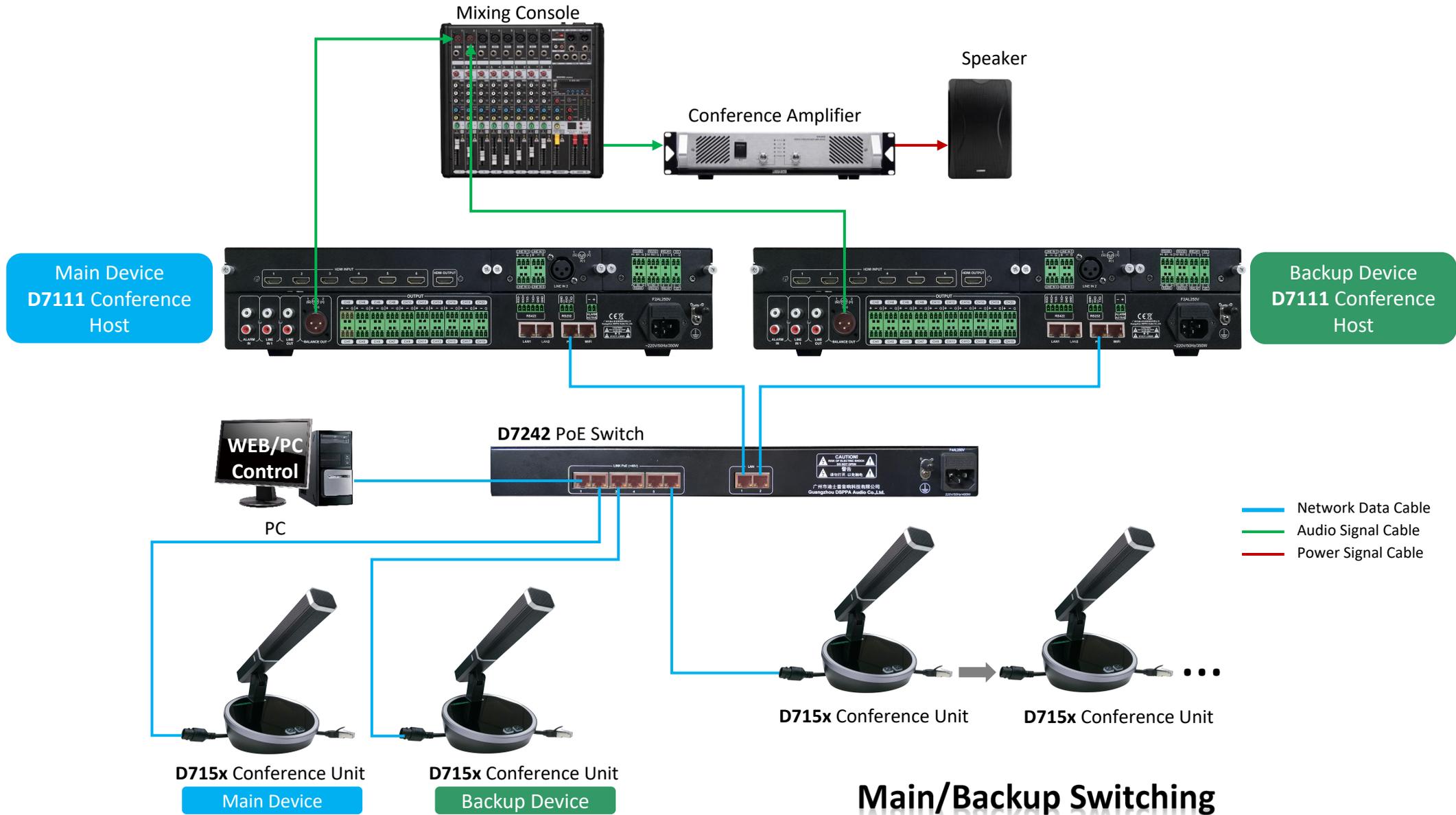
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# VII. D7111 Series - Control Software

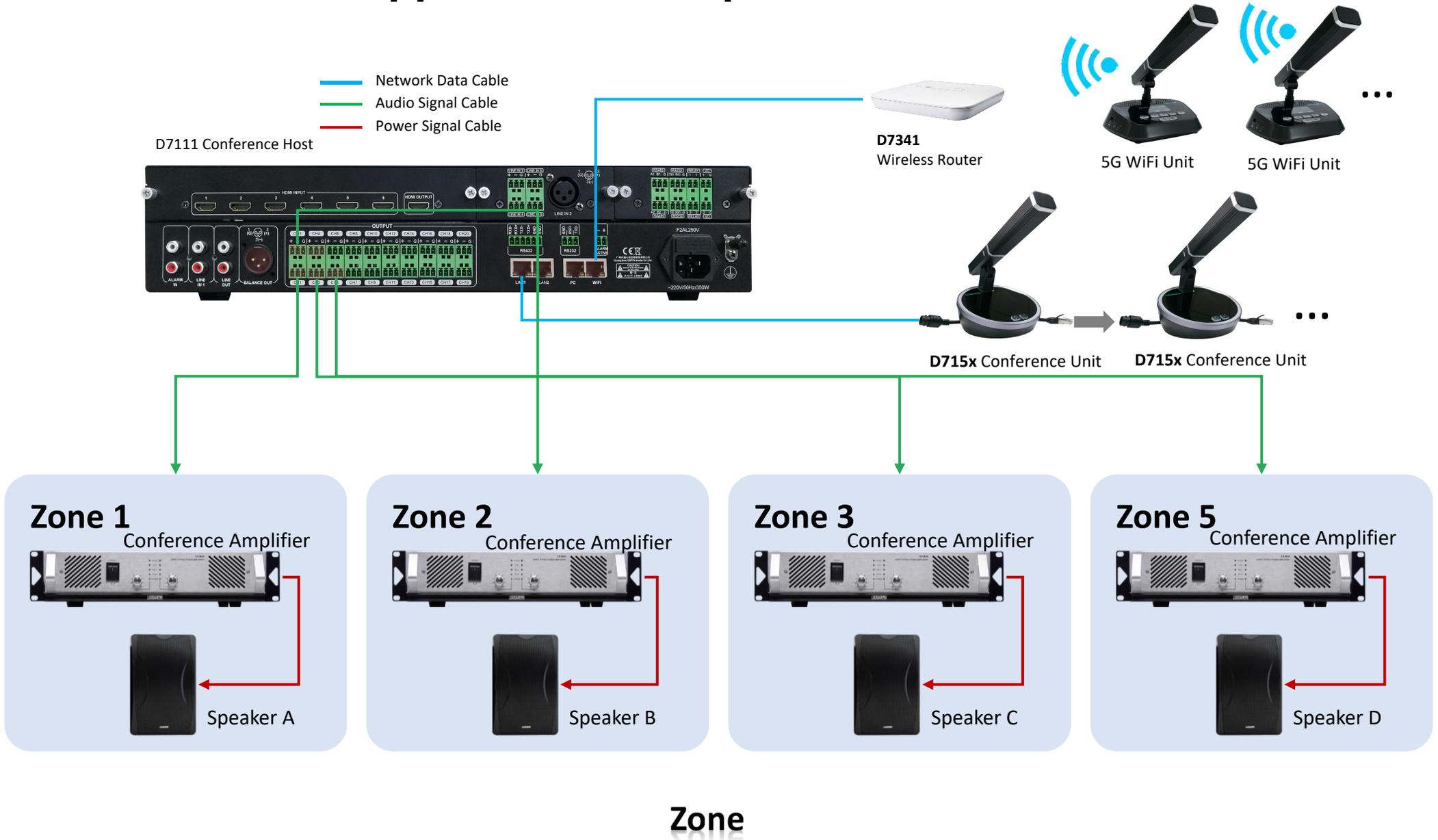


Control software supports C/S and B/S architectures.

# VIII. D7111 Series - Application Examples



# IX. D7111 Series - Application Examples



# X. D7111 Series - Application Examples



D7111 Host



D7159 Interpretation Microphone

PoE Switch



D715x Conference Unit



D715x Conference Unit

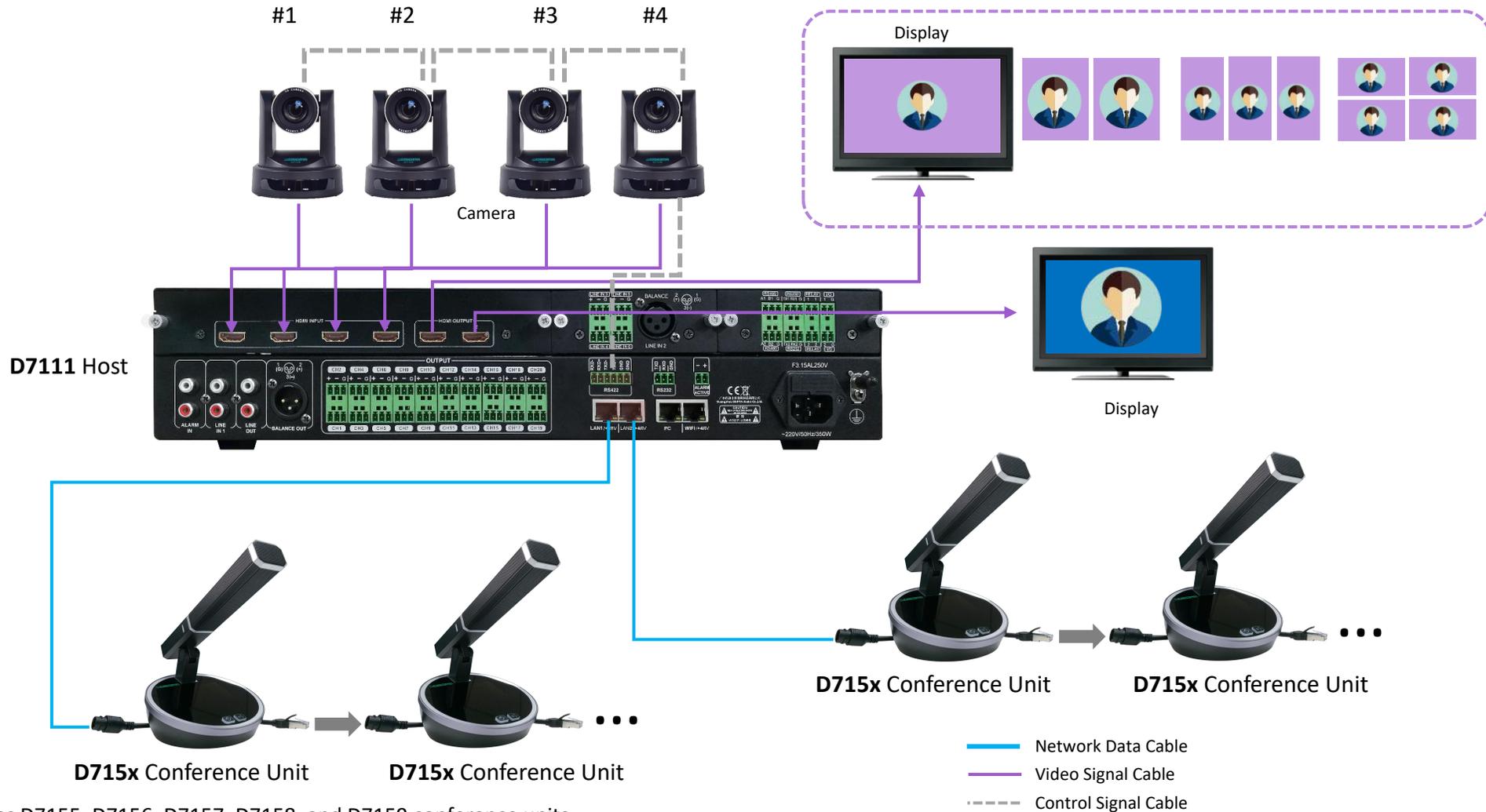
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— Network Data Cable

D715x Series includes D7155, D7156, D7157, and D7158 conference units.

## Wired Interpretation

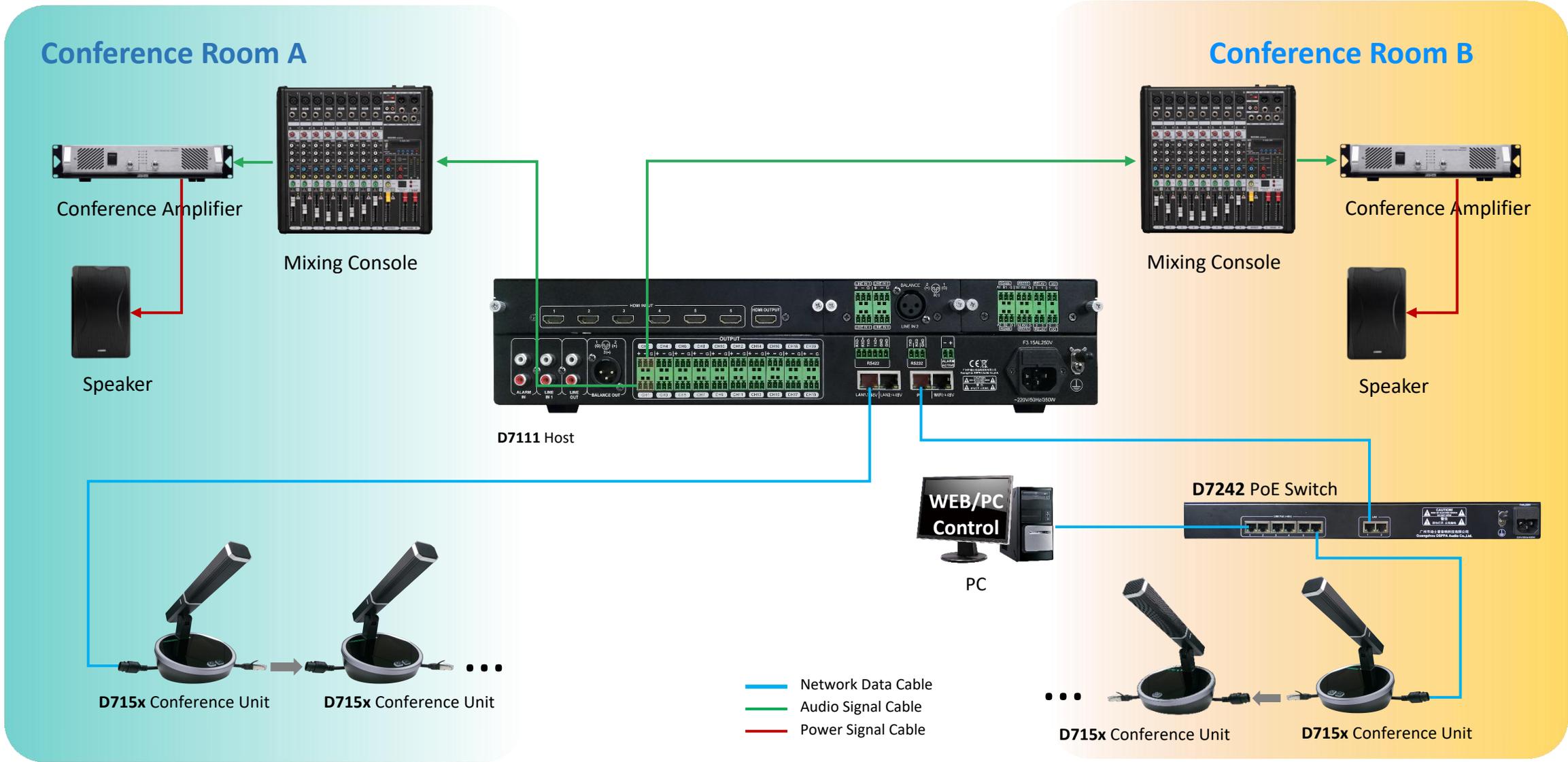
# XI. D7111 Series - Application Examples



D715x Series includes D7155, D7156, D7157, D7158, and D7159 conference units.

## Seamless Matrix

# XII. D7111 Series - Application Examples



D715x Series includes D7155, D7156, D7157, D7158, and D7159 conference units.

## Shared Mode

## ■ XIII. Application Venue Introduction



Meeting Room



Internal Corporate Meeting



Multi-function Hall



Academic Seminars



Command Center

The D7111 Conference System is suitable for various meeting scenarios, such as Internal Corporate Meetings, Multi-function Halls, Academic Seminars, Command Centers, where it can play an important role.



# CREATING THE BEST SOUNDING THE WORLD

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