



D7401 AI Intelligent Digital Conference System Solution for Meeting Rooms

Solution Overview

- With the continuous advancement of technology, enterprises and organizations increasingly rely on video conferencing and online collaboration platforms for communication and coordination in their work. Traditional meeting systems exhibit certain limitations, such as cumbersome operations, untimely information transmission, lack of focus assistance, and low communication efficiency. Consequently, AI-powered meeting system applications have emerged. AI meeting systems not only enhance meeting efficiency but also optimize the meeting experience and facilitate focused decision-making support.



Project Requirements

- **High-fidelity Audio Quality:** It is necessary to address sound distortion and howling issues in traditional conference systems to ensure clear and interference-free speech.
- **Efficient Speaking Management:** Flexible control over speaking order (e.g., limiting the number of speakers, priority management) is required to prevent multiple people from speaking over each other.
- **Environmental Adaptability:** It must suppress disturbances such as microphone tapping, applause, and air conditioning noise, adapting to various conference room acoustic environments.
- **Simple Installation and Usage:** Easy setup is essential for rapid deployment scenarios, minimizing installation and debugging time.

■ Why Choose Our AI Intelligent Conference System?



Traditional Conference

- There are numerous cables that are prone to pulling, tangling, and knotting, making them difficult to manage;
- Multiple signal channels require dedicated personnel for management, resulting in high costs;
- The structure is complex and difficult to maintain;
- Adding microphones necessitates rewiring, with no expansion capability;
- Prone to feedback and low transmission gain.



AI Intelligent Digital Conference

- Hand-in-hand single-line design for easy installation;
- Ultra-long pickup distance with high acoustic gain;
- Advanced feedback suppression algorithm to eliminate howling;
- High-performance dynamic noise reduction engine that effectively suppresses various non-stationary noises such as tapping microphones, clapping, and wind;
- Multiple modes for intelligent control and enhanced meeting efficiency;
- Digital audio processing technology delivers high-fidelity sound quality;
- Plug-and-play operation with no need for debugging.

D7401 Configuration Plan for 15-20 People Conference Rooms

System Configuration

Meeting Room: 150-200m²

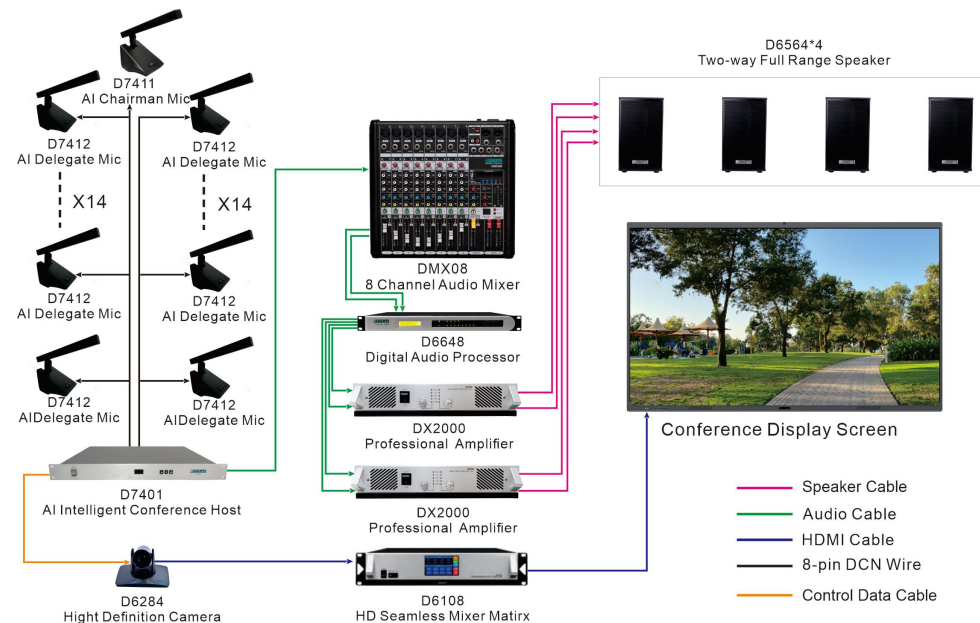
System Composition: AI Intelligent Digital Conference System + Camera Tracking System + Professional Sound Reinforcement System

Solution Configuration:

Digital Conference System: Composed of AI-powered digital conference control host D7401, intelligent conference speaking units D7411/D7412, and related equipment, it meets the functional requirements for speaking and discussion in various meeting rooms. Equipped with tracking camera D6284, when a conference unit is activated, the tracking camera will locate and zoom in on the speaker's position, transmitting the signal to the matrix or directly to display devices for viewing.

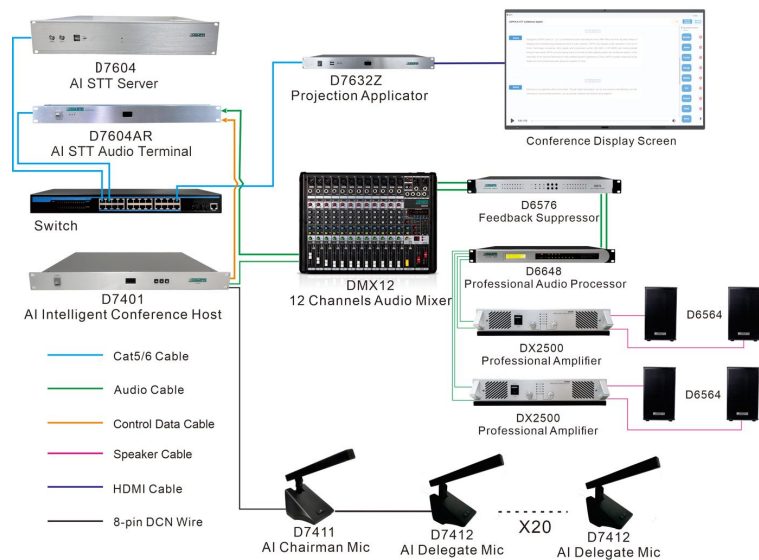
Camera Tracking System: 8-slot card host D6108, 1 HDMI input card (4 channels), 1 HDMI output card (4 channels), capable of meeting requirements such as camera tracking, video playback, and work report presentations during meetings. The signal processing section consists of an HDMI matrix forming a central signal management system to achieve powerful signal switching and scheduling tasks.

Sound Reinforcement and Audio Processing Equipment: Configure the DMX08 8-channel mixer for meeting room audio input. Additionally, the D6575 serves as a professional audio processing device to ensure clear speech reproduction, free from distortion and acoustic feedback howling. The four wall-mounted full-range high-fidelity speakers (DSP6564) installed in the meeting room meet the venue's sound field requirements.



No.	Model	Product Name	Quantity
1	D7401AI	AI Intelligent Conference Host	1
2	D7411	AI Chairman Microphone	1
3	D7412	AI Delegate Microphone	28
4	D6284	HD Camera	1
5	D6108	HD Seamless Mixer Matirx	1
6	DMX08	8 Channel Audio Mixer	1
7	D6648	Digital Audio Processor	1
8	D6564	Two-way Full Range Speaker	4
9	DX2500	Professional Stereo Digital Power Amplifier (8Ω; 2x400W)	2
10	Screen	Conference Display Screen	1

Solution Configuration for D7401 + AI STT System



Meeting Room: 150-200m²

System Composition: Intelligent Digital Conference System + AI STT System + Sound Reinforcement System

Solution Configuration:

Digital Conference System: The system consists of intelligent conference control host D7401, intelligent conference speaking units D7411/D7412, and related equipment, meeting the functional requirements for speaking and discussion by participants in various conference rooms. Before the meeting starts, the microphones and LED indicators of the conference units can be tested to verify proper operation.

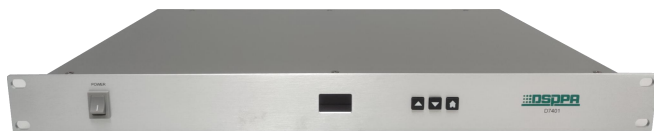
AI STT System: D7401 AI Intelligent Digital Conference System can seamlessly connect with the AI Speech-to-Text System to achieve real-time speech transcription;

Sound Reinforcement and Audio Processing Equipment: Configure the DMX08 8-channel mixer for meeting room audio input. Additionally, the D6575 serves as a professional audio processing device to ensure clear speech reproduction, free from distortion and acoustic feedback howling. The four wall-mounted full-range high-fidelity speakers (DSP6564) installed in the meeting room meet the venue's sound field requirements, guaranteeing uniform sound distribution and accurate sound imaging throughout the entire public address system.

No.	Model	Product Name	Quantity
AI STT System			
1	D7604	AI STT Server	1 pc
2	D7604AR	AI STT Audio Terminal	1 pc
3	D7632Z	Projection Applicator	1 pc
AI Intelligent Digital Conference System			
4	D7401	AI Intelligent Conference Host	2 pcs
5	D7411	AI Chairman Microphone	1 pc
6	D7412	AI Delegate Microphone	20 pcs
Pro Sound System			
7	DMX12	12 Channel Audio Mixer	1 pc
8	D6576	Automatic Feedback Suppressor	1 pc
9	D6675	Professional Audio Processor	1 pc
10	DX2500	Professional Stereo Digital Power Amplifier (8Ω; 2x400W)	1 pc
11	D6564	10" Two-way Full Range Speaker	2 pcs
Auxiliary Equipment			
12	Screen	Conference Display Screen	1 pc
13	Switch	Switch	

■ D7401AI Intelligent Digital Conference System

The D7401 intelligent digital conference system is built on an ARM embedded system platform, employing high-performance DSP digital audio processing technology and high-fidelity circuit design. This effectively integrates advanced control technology with audio processing technology, realizing a comprehensive high-quality conference system solution featuring digital control, high-standard audio transmission, and visual operation. The system includes functions such as discussion speaking, conference cascading, and seamless integration with AI speech-to-text. It consists of a conference system host, conference units, and various application software. The conference host includes a digital conference system host, while conference units comprise chairman speaking units and delegate speaking units, among others.



Digital Audio Processing

Utilizing high-performance DSP digital audio processing technology and high-fidelity circuit design, it effectively integrates advanced control technology with audio processing technology, achieving a comprehensive high-quality conference system solution featuring digital control, high-standard audio transmission, and visual operation.

■ Technical Features of D7401 AI Intelligent Digital Conference System



Built-in High-performance ARM Processor

Adopting an embedded operating system, it delivers stable performance, reliable operation, and supports TCP/IP connectivity.

OLED Screen and Touch Operation

The control host is equipped with a 0.96-inch OLED screen displaying model numbers, IP information, and other data, simplifying operations with graphical display functions and visual touchscreen operation.

TCP/IP Network Interface

Supports decentralized connection of PCs and remote control of all functions of the conference system (such as voting, check-in, etc.), achieved through independently developed control software.

Conference System Control Host

The core equipment can power up to 32 conference units (additional expansion hosts can be added for more than 32 microphones), connect multiple chairman units, and designate 2 units with chairman control privileges. It supports conference control, unit configuration, audio input/output, and seamless integration with AI speech-to-text systems.

Conference Unit

It includes the chairman unit, delegate unit, and speaking unit, among others. The host provides unified power supply and is equipped with speakers, headphone jacks, and LED terminals to ensure that entities in different roles have corresponding control and operation permissions.

■ Functional Features of D7401 AI Intelligent Digital Conference System



Discussion and Remarks

- The number of simultaneous speakers is limited (1/2/3/4/5/6), with timed speaking and countdown functions for timed speaking;
- A single system can be configured with two chairman units;
- There are four meeting speaking modes: First-In-First-Out mode, Quantity Limit mode, Free Speaking mode, and Request Speaking mode.



Unit Testing

- Before the meeting starts, test the microphone and LED indicator of the meeting unit to check whether these components can function properly. There are two testing methods: automatic detection and manual detection.



Remote Control

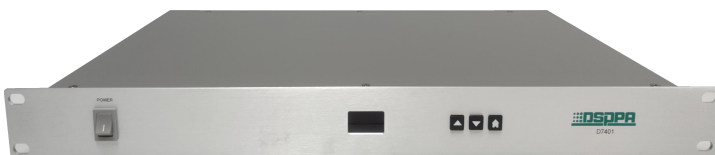
- Remote control of the conference system can be achieved via TCP/IP connections.



Seamlessly Connected with AI STT Services

- The D74 Intelligent Digital Conference System has achieved seamless integration with the AI Speech-to-Text System, enabling real-time speech transcription.

■ Product Introduction - D7401 AI Intelligent Conference Host



D7401 Conferenc Sytsem Host

Function Features

- The Digital Conference System Host can connect up to 32 conference units.
- Equipped with a 0.96-inch OLED screen displaying model, IP, menu, and other information, enabling various functions via buttons.
- Features a simultaneous speaker limit setting (1/2/3/4/5/6).
- Supports four conference modes: first-in-first-out, free mode, normal mode, and request mode.
- Includes volume adjustment to regulate output signal levels.
- Two RCA jacks for unbalanced input, receiving audio output from amplifiers or mixer outputs.
- XLR jack with 3P balanced output, compatible with professional amplifiers, mixers, or audio consoles.
- Seamlessly integrates with AI speech-to-text systems (D7601, D7604) via network, enabling real-time transcription when paired with D7601 or D7604.
- One RJ45 network port supporting TCP/IP protocol, allowing full remote control of system functions via built-in web interface.
- Provides data management functions such as speaking time limits.
- Supports screen standby mode for energy-saving operation.
- Features unit detection with both automatic and manual detection modes.
- 8-pin DIN aviation socket: two conference unit connection ports, supporting daisy-chain connection.
- Full-metal enclosure design with reinforced grounding for circuits and chassis, offering 10kV contact and 15kV air-gap electrostatic discharge protection.

■ Product Introduction - AI Intelligent Conference System Microphone



D7411\D7412 Conference Unit

Function Features

- Features ultra-long pickup distance and high acoustic gain characteristics.
- Comes with a dedicated 2-meter 8-core DIN high-density cable and includes an aviation male plug.
- Equipped with an integrated microphone pole (non-detachable), an electret condenser microphone with cardioid polar pattern, and a red speaking indicator light. The light stays solid during speaking and flashes when requesting to speak.
- Microphone volume can be adjusted via buttons or the main unit.
- When paired with the conference host, audio processing effect parameters of the microphone can be adjusted.
- Includes a speaking button on the microphone, and the chairman unit has a chairman priority button. Speaking and numbering can be performed via the microphone speaking button.
- Each conference unit has a unique ID number, which can be deleted by long-pressing the microphone speaking button.
- The chairman unit can approve delegate requests to speak and has priority functions for fully controlling conference order. The connection position of the chairman unit is unrestricted.
- The unit is a passive device, connected to the host via an 8-core DIN high-density cable, powered by the system host with an input voltage of DC12V.
- The chairman unit can approve delegate requests to speak.
- The chairman unit has priority functions for fully controlling conference order.
- The connection position of the chairman unit is unrestricted.
- Supports "daisy-chain," "T-type," or "+-type" connection modes.

■ Application Venue Introduction



Meeting Room



Internal Corporate Meeting



Multi-function Hall



Academic Seminars



Command Center

The D7401 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.



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