



D7702 Omnidirectional Ceiling Microphone – Full-Scenario Conference Audio Application Solution

I. Solution Overview

- With the continuous expansion of the company's scale, the need for internal communication and collaboration is increasing. The meeting room, as an important venue for corporate communication, directly impacts meeting efficiency through its equipment performance. To enhance the audiovisual experience and reduce communication costs, this project will adopt omnidirectional microphone technology to create an efficient and intelligent meeting room solution.



Project Requirements

- Enhance the audiovisual quality in meeting rooms to ensure clear and smooth communication.
- Simplify equipment operation to lower the usage threshold.
- Increase meeting room utilization to meet the needs of various meeting scenarios.
- Reduce corporate costs and improve work efficiency.

■ II. Market Demands



Drawbacks of Traditional Handheld Microphones

- **Limited pickup range:** Handheld microphones need to be aimed directly at the speaker's mouth, resulting in a relatively narrow pickup range, which is not suitable for meetings or discussions with multiple speakers.
- **Frequent passing requirements:** In meetings with several participants, the handheld microphone must be passed between different speakers, which may interrupt the flow of the meeting.
- **More susceptible to echo and interference:** Due to their directional nature, handheld microphones are more likely to be affected by echoes and background noise from the surrounding environment.
- **Complex installation and usage:** Handheld microphones may need to be connected to complex sound systems and require adjustments and testing during use.
- **Narrow applicability:** Handheld microphones are better suited for performances and speeches, making them less versatile in meetings with multiple participants.



Launch of the D7702 Omnidirectional Ceiling Microphone

- **Wide pickup range:** The omnidirectional microphone can evenly capture sound within a 360-degree radius, eliminating the need to aim directly at the speaker, making it suitable for meetings or discussions involving multiple participants, unlike handheld microphones that require direct alignment with the speaker's mouth.
- **Reduced passing requirements:** In traditional handheld microphone scenarios, microphones often need to be passed between different speakers. The omnidirectional microphone eliminates this need, enhancing the flow of the meeting.
- **Minimized echo and interference:** Omnidirectional microphones are typically designed to reduce echo and background noise, providing clearer audio quality.
- **Easy installation:** Omnidirectional microphones are generally easy to install. It can be installed at the center of the conference table or on the ceiling without the need for complex wiring and setup.
- **Facilitated recording and transcription:** Omnidirectional microphones can be easily connected to recording devices or meeting documentation systems, making it convenient to record and transcribe meeting content.

III. Solution Configuration - Small Conference Room (50m²)

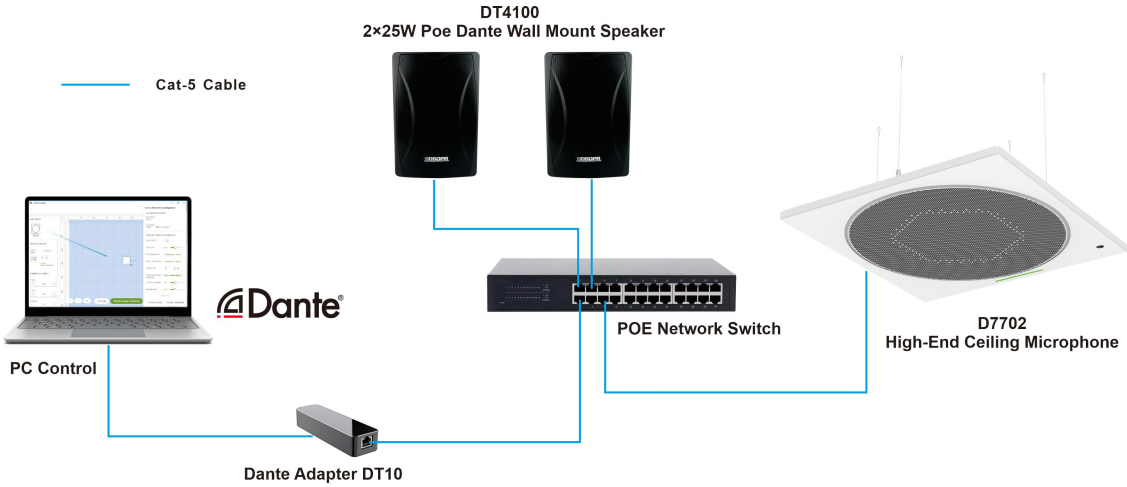
Single D7702 Unit: Remote Conferencing + Local Sound Reinforcement

System Design Concept

- A single D7702 omnidirectional ceiling microphone is used for full-room voice capture.
- Two Dante DT4100 speakers provide local sound reinforcement.
- The D7702's AI noise reduction, echo cancellation, and multi-zone pickup features ensure clear and intelligible audio.

Device Layout Plan

- The D7702 is installed at the center of the room to cover the entire conference area.
- Two Dante speakers are symmetrically placed on either side of the room to achieve stereo sound reinforcement.
- All devices are powered via PoE switch and transmit Dante audio signals over the network.



No.	Model	Product Name	Quantity
1	D7702	High-End Ceiling Microphone	1PC
2	DT4100	2*25W POE Dante Wall Mount Speaker	2PCS
3	DT10	Dante Adapter	1PC
4	POE Switch	POE Switch	1PC
5	PC	PC	1PC

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



■ IV. Solution Configuration - Medium-Sized Conference Room (80~120m²)

Single D7702 Unit: Remote Conferencing + Local Sound Reinforcement

Conference Room Overview:

- Primary Usage: Department meetings, training sessions, and multi-room linked conferences.

System Design Concept:

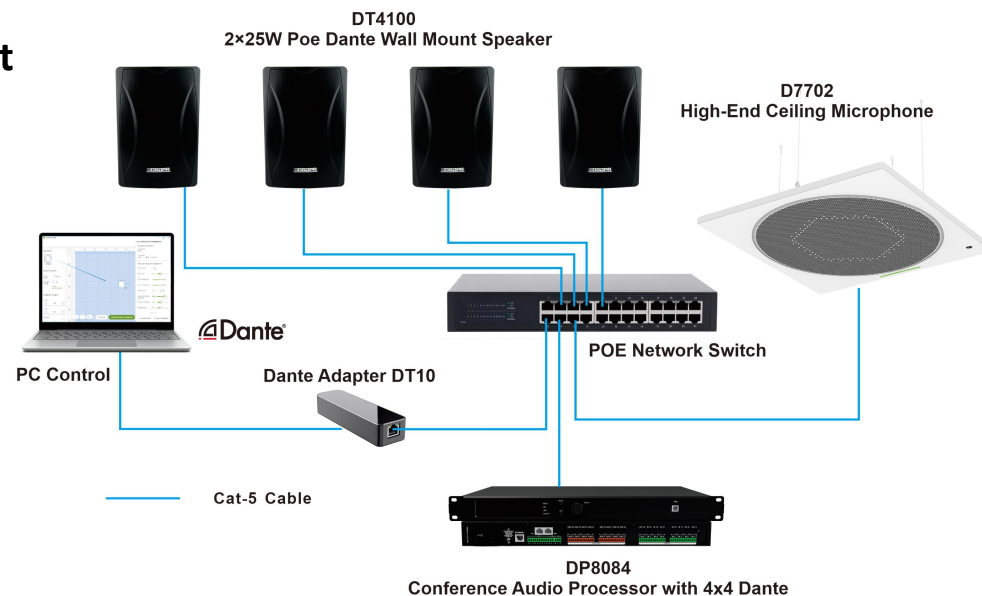
- A single D7702 Omnidirectional Ceiling Microphone is used for intelligent voice capture.
- One Dante audio processor DP8084 handles audio routing and processing.
- Four Dante speakers are configured to achieve more uniform sound coverage.

Device Layout Plan:

- The D7702 is installed slightly forward of the center of the room to cover the main speaking area.
- Four Dante speakers are placed at the corners or symmetrically to enhance voice clarity and coverage.
- The Dante audio processor is connected to a PoE switch to centrally manage all audio signals.

No.	Model	Product Name	Quantity
1	D7702	High-End Ceiling Microphone	1PC
2	DT4100	2*25W POE Dante Wall Mount Speaker	4PCS
3	DT10	Dante Adapter	1PC
4	DP8084	8 channels Conference Audio Processor with 4x4 Dante	1PC
5	POE Switch	POE Switch	1PC
	PC	PC	1PC

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



V. Solution Configuration - Large Conference Room (200m²)

Multiple D7702 Units Cascaded: Remote Conferencing + Local Sound Reinforcement

Conference Room Overview:

Primary Usage: Large conferences, presentations, training sessions, and multi-location video-linked meetings.

System Design Concept:

- Three D7702 Omnidirectional Ceiling Microphone are cascaded to achieve seamless full-room voice coverage.
- One Dante audio processor D6642HD provides multi-channel mixing.
- Eight Dante DT4100 speakers deliver uniform sound reinforcement across the room.

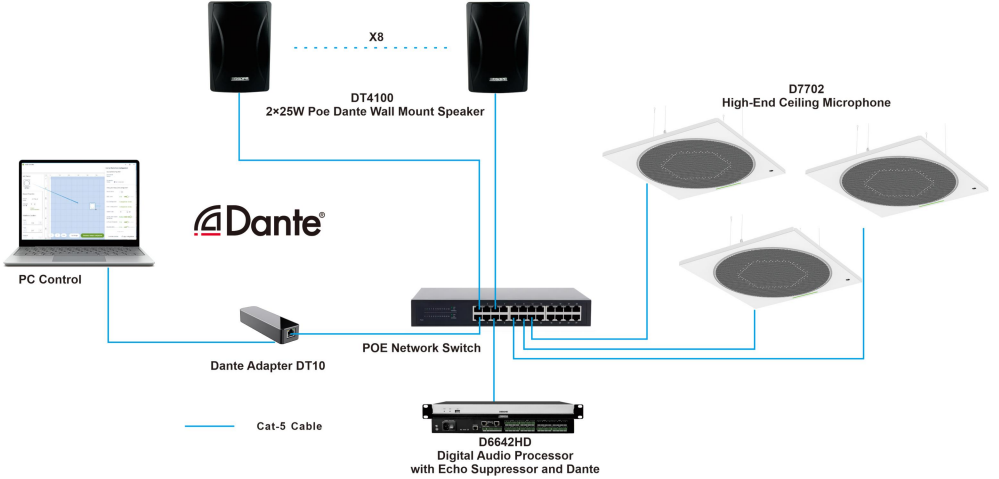
Device Layout Plan:

- The three D7702 microphones are installed in a triangular or linear arrangement to cover the entire room.
- Eight Dante speakers are distributed by zone to achieve zoned reinforcement and balanced sound coverage.
- All devices are cascaded via PoE switches, supporting Dante network audio transmission.

Software Configuration Plan:

- Each D7702 is configured with independent pickup zones, supporting up to 8 zones per unit.
- Enable full AI functions: noise reduction, reverberation suppression, AFC, and echo cancellation.
- Use Dante Controller for unified management of multiple devices, supporting independent channels for remote conferencing and local sound reinforcement.

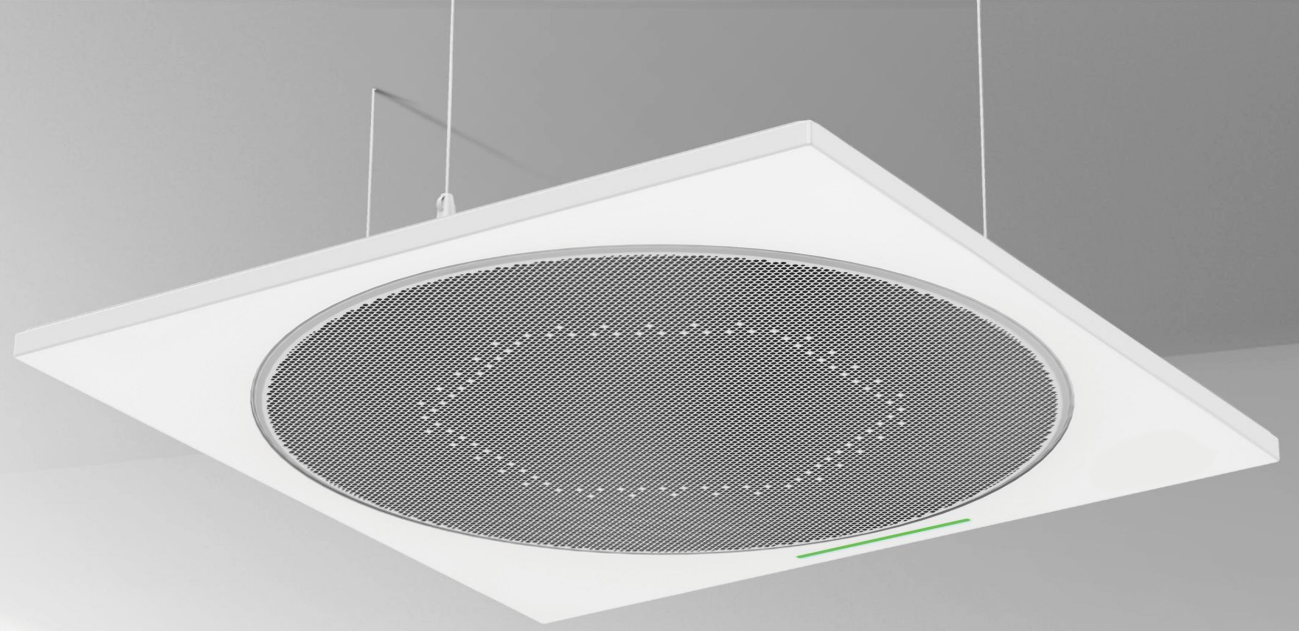
No.	Model	Product Name	Quantity
1	D7702	High-End Ceiling Microphone	3PCS
2	DT4100	2*25W POE Dante Wall Mount Speaker	8PCS
3	D6642HD	Digital Audio Processor with Echo Suppressor and Dante	1PC
4	DT10	Dante Adapter	1PC
5	POE Switch	POE Switch	1PC
6	PC	PC	1PC



D7702 Installation Diagram

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

■ VI. Product Highlights



Multi-Camera Audio Tracking Function

High Density
Microphones Array
(128 Units)

Preferred Pickup
Zones & Block Area

Dynamic Multi-Beam
Voice Tracking
To Hear Every Word from
Multiple Speakers

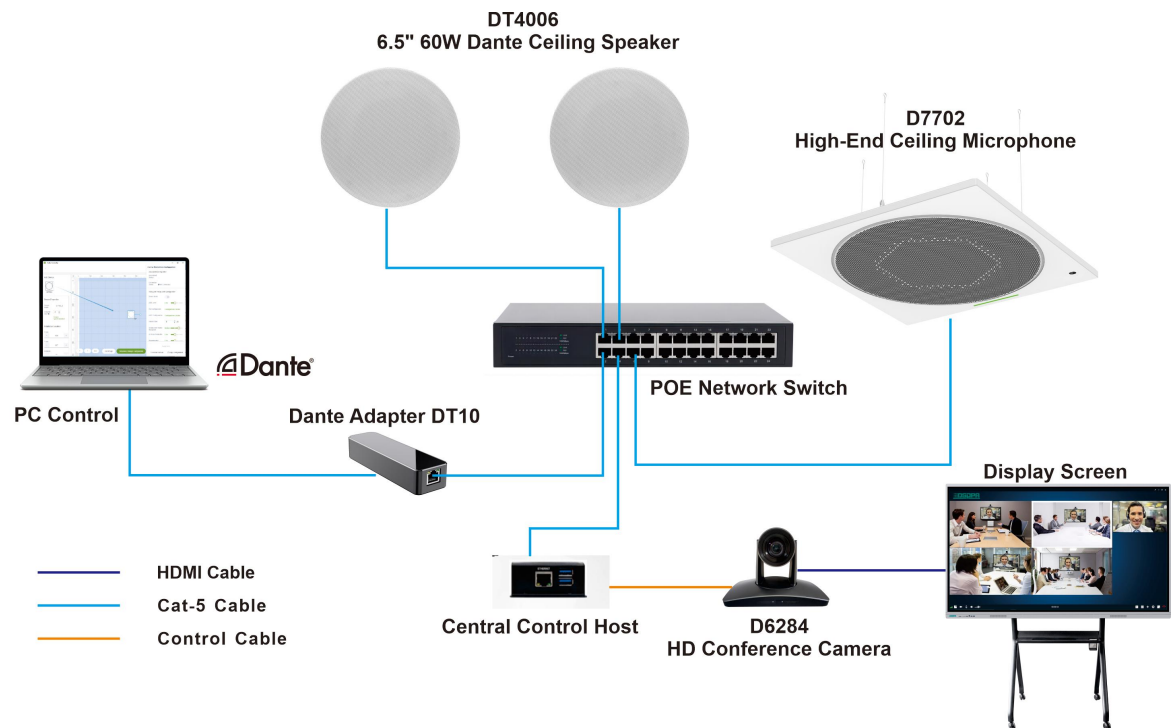
Voice Lift
Ultra Low Latency (25ms)
High Gain (+10 dB) AFC

Advanced Noise
Reduction Algorithms
To Block Background Noise

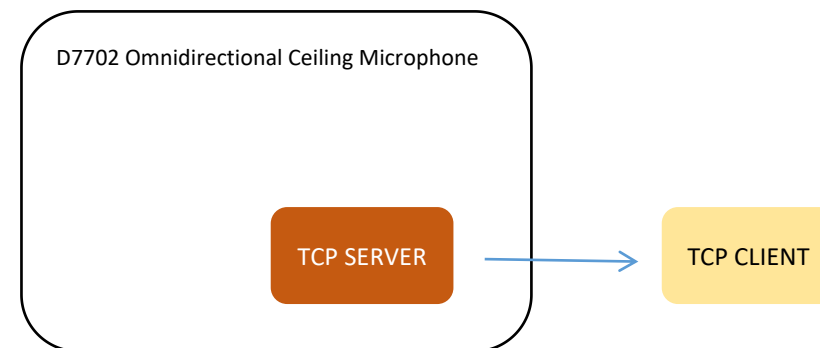
Built-in PTZ Camera
Audio Tracking Function

VII. Camera Tracking

System Connection Diagram



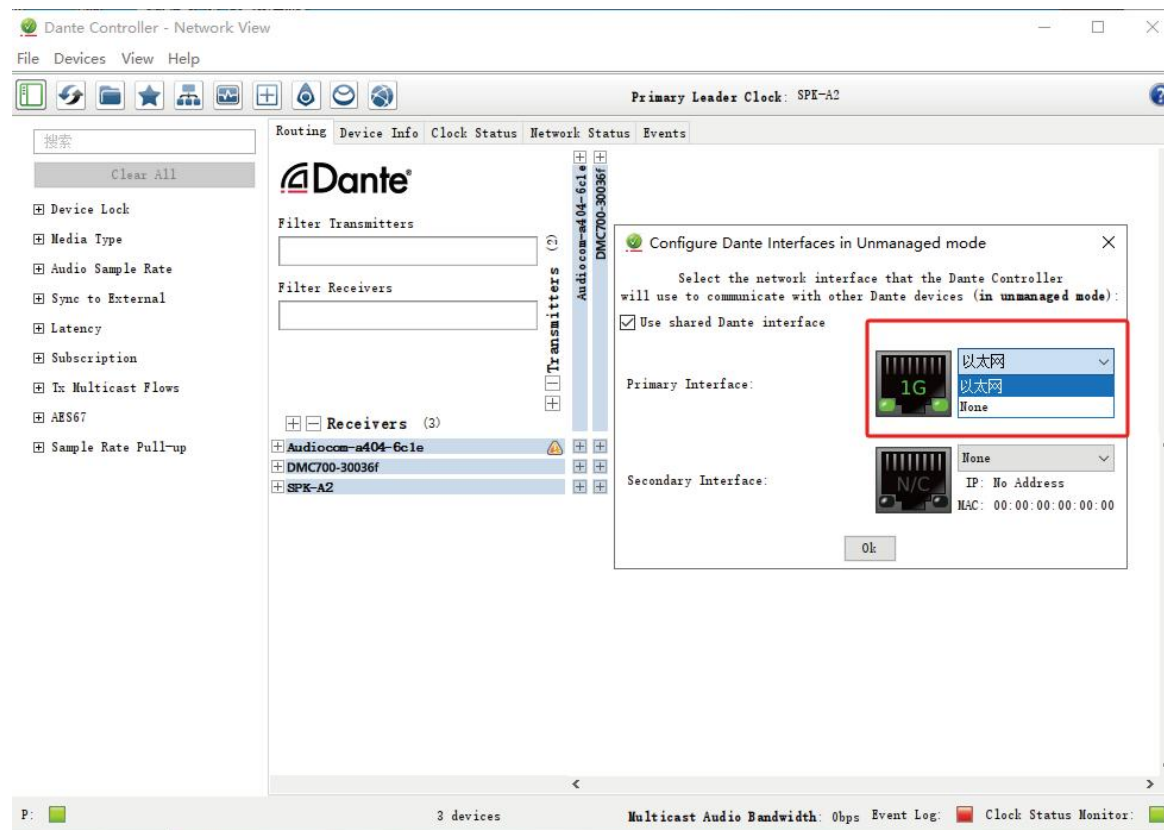
The D7702 omnidirectional ceiling microphone needs to be integrated with the central control system to achieve camera linkage and face tracking functionality. The D7702 device has a built-in TCP server (see red box below), and the central control system needs to implement a TCP client (see yellow box) to communicate according to the agreed protocol.



VIII. Function Features_D7702

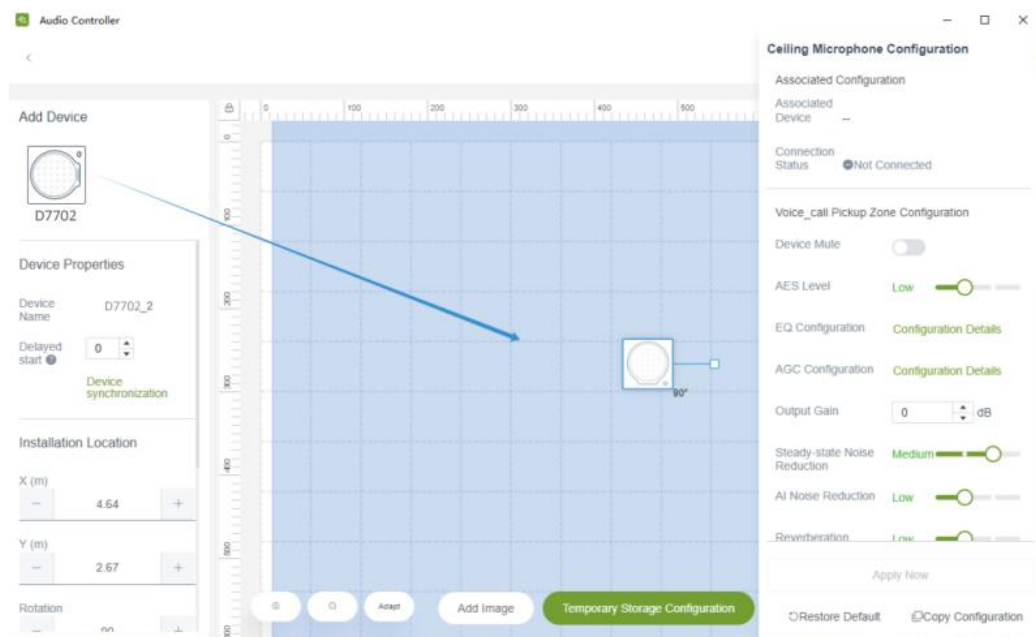
D7702 is a newly launched high-end ceiling conference microphone. It integrates up to 128 units of omnidirectional microphone array, providing 16 independent configurable pickup zones for refined pickup configuration. It adopts Dante digital audio technology to ensure stable audio transmission and wide compatibility. DMC700 incorporates AI algorithms, providing functions such as AI noise suppression, AI reverberation suppression, AI adaptive feedback control (AI-AFC), and AI echo cancellation, effectively improving meeting efficiency.

Connect to all Dante devices via Dante Controller and select the corresponding network.

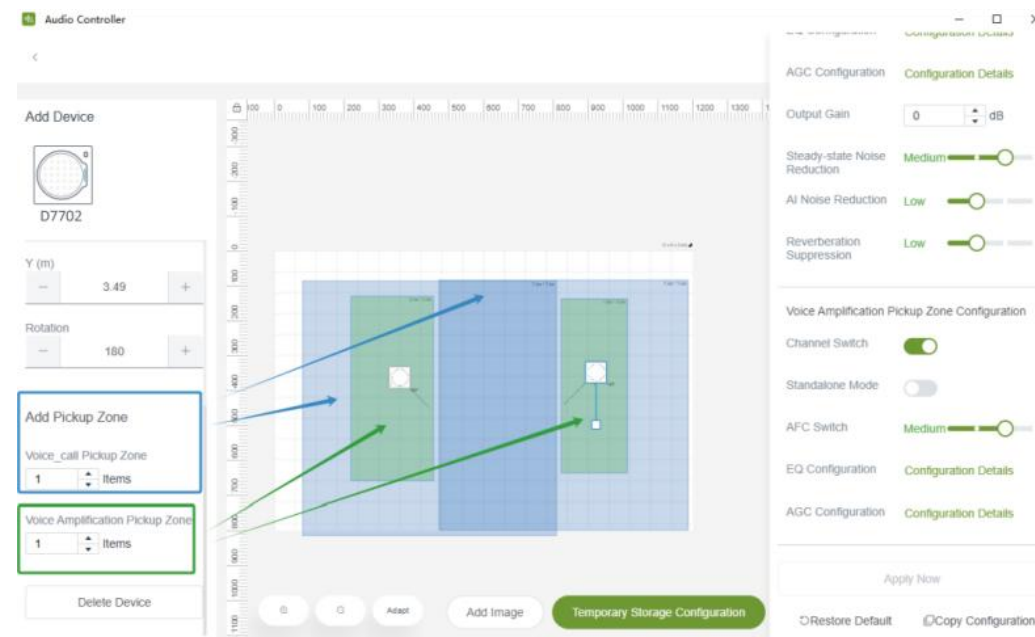


IX. Function Features - D7702

The Audio Controller is an interface configuration tool for Ceiling Microphones. Use this tool to adjust the sound pickup area of the conference room and configure different parameters for different conference rooms. (Current software version is only available for Windows system).



Drag the ceiling microphone into the canvas



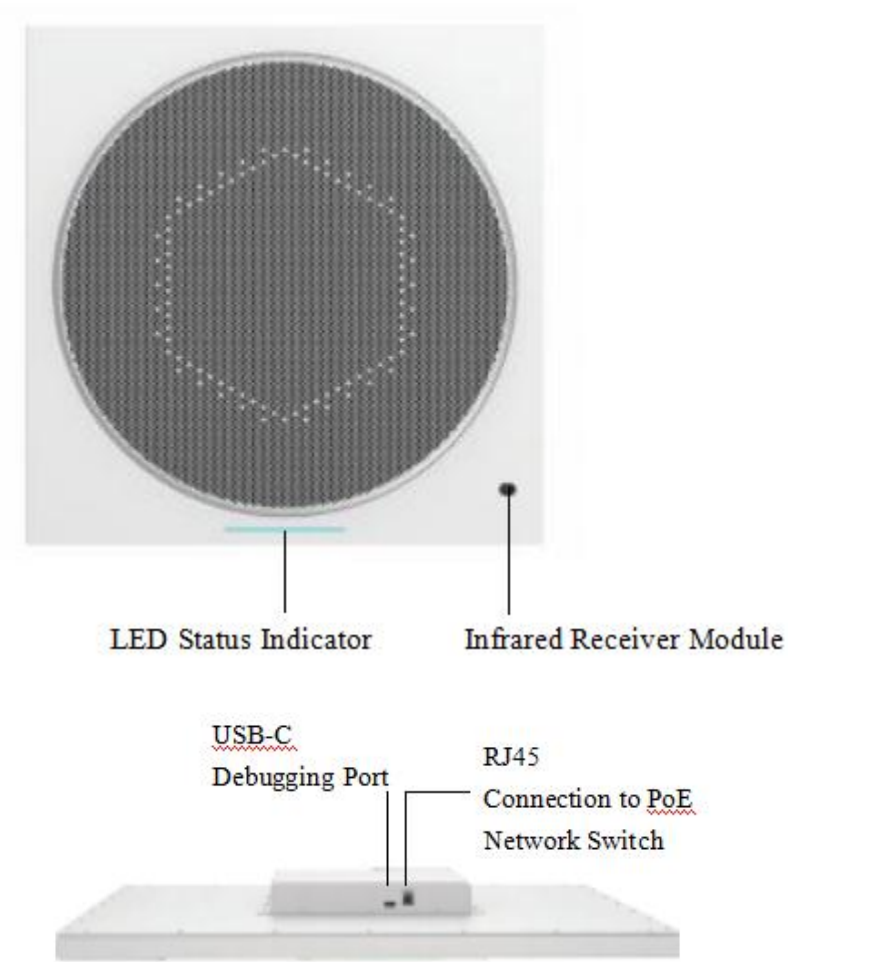
The configuration software offers two types of pickup zones: "Call Pickup Zone" for remote calls and "Amplification Pickup Zone" for local amplification. Adjust the sizes of the "Call Pickup Zone" and "Amplification Pickup Zone" to appropriate ranges. Each D7702 can configure up to 8 pickup zones.

X. Product Features - D7702

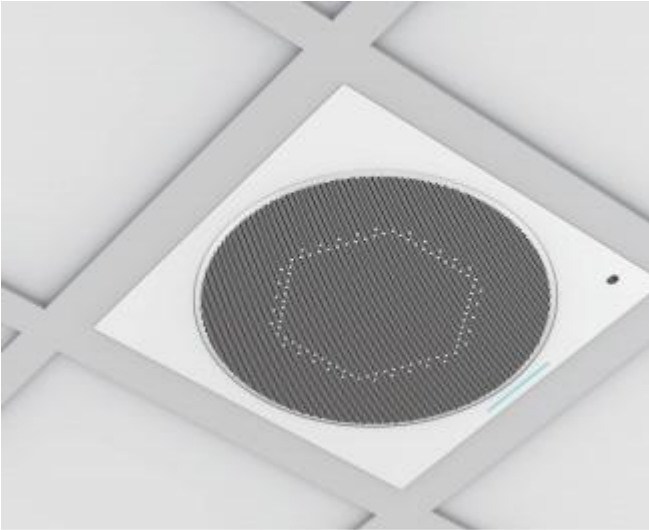
Features

No.	Indicators	Parameters
1	AI Noise Suppression	Support
2	AI Reverb Suppression	Support
3	AI Feedback Suppression	Support
4	AI Echo Cancellation	Support
5	Microphone Type	128 MEMS Microphones Array
6	Sensitivity	-38dBv /94dB SPL @1kHz
7	SNR	65dBv /94dB SPL@1kHz,A-weighted
8	Number of Channels	2×2
9	Remote Conference Channel/Local Amplification Channel	1/ 1
10	Remote Dialogue Pickup Area	8
11	Local Amplification Pickup Area	8
12	Sampling Rate	48kHz
13	Max. Background Noise Suppression	35dB
14	Delay (Automatic Mixing Output, including Dante)	≤25ms
15	Cascade Quantity	Unlimited

Interface Instruction



■ XI. Installation Methods - D7702



Embedded



Suspended



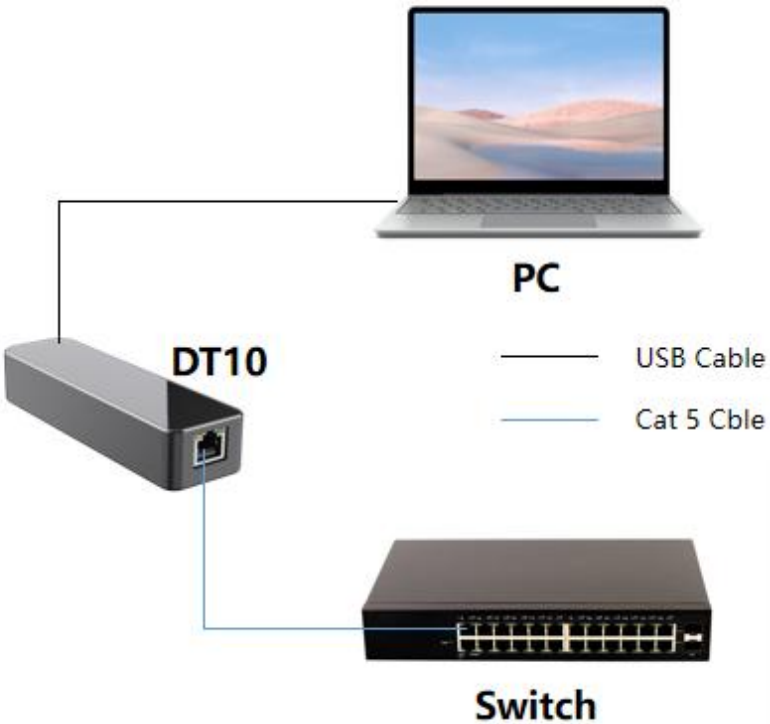
Hanging Rod

XII. DT10_Dante Adapter



DT10-Dante Adapter

Mode	DT10
Dante Device Delay	1,2 or 5ms
Audio Channel	2 IN-OUT
Connector	RJ45&USB
Sampling Rate	48KHZ
Data Bit	24bit
Bit Depth	24
Power Supply	USB 5V



The DT10 Dante USB adapter features advanced technology and excellent performance. With driver-free software, it enables easy connection between a computer and a Dante audio network, making it ideal for audio playback and recording in conference rooms and presentation scenarios.

■ XIII. Application Scenarios



Training
Rooms



Smart Classrooms



High-end
Conference Rooms



Interactive
Meeting Spaces



Courtrooms

With its elegant and durable design, together with outstanding audio performance, the D7702 omnidirectional microphone effectively addresses unclear voice pickup from participants. It is well suited for use in training rooms, smart classrooms, high-end conference rooms, interactive meeting spaces, and courtrooms.



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