S-TRACK

Ceiling Array Microphone

User Manual

Product Compliance Statement

I. Product Quality Assurance

Our company is committed to providing high-quality civilian products. All products are carefully designed and manufactured to ensure compliance with relevant national and industry standards. We strictly adhere to our product quality management system to guarantee product performance, reliability, and durability, thereby providing users with an exceptional user experience.

II. Legal Compliance

Our company consistently complies with national laws, regulations, and product standards, and strictly adheres to all relevant regulations in the design, production, and sales processes of our products. We guarantee that the products we sell meet relevant product compliance requirements and continuously update and advance related technologies and production processes to ensure the legality and compliance of our products.

III. Environmental Responsibility

Our company places great importance on environmental protection and sustainable development. In the product design and manufacturing processes, we use environmentally friendly materials and continuously improve production processes to minimize our environmental impact. We are committed to complying with national and local environmental protection laws and regulations and contributing to the creation of a greener planet.

IV. Health and Safety

The health and safety of our users are our company's top priority. Our products comply with relevant health and safety standards and have undergone rigorous testing and verification to ensure they pose no harm or risk to users. We actively promote knowledge regarding safe use and maintenance, and provide detailed product instructions and warning information to safeguard users' physical health and personal safety.

V. Protection of User Rights

Our company respects users' rights and is committed to protecting the security of their personal information and privacy. We strictly comply with relevant data protection laws and regulations and have established comprehensive information security management systems and technical measures to prevent the leakage, misuse, or improper use of personal information. We will spare no effort to protect users' legitimate rights and interests and safeguard their personal privacy.

VI. After-Sales Service

Our company provides comprehensive after-sales service, including product quality guarantees, technical support, and problem resolution. If users have any questions or needs, they can contact our customer service team through official channels; we will respond promptly and provide satisfactory solutions.

Preface

The purpose of this section is to ensure that the user is able to use the product correctly through this manual in order to avoid danger in operation or property damage. Before using this product, please read the product manual carefully and keep it for future reference.

Outlined

This manual applies to Ceiling Array Microphone.

This manual describes the functions and use of the various functional modules of the Ceiling Array Microphone, and guides you through the installation and commissioning of the Ceiling Array Microphone.

Symbol Conventions

The symbols that may be found in this document are defined as follows.

Symbol	Description
Note	Provides additional information to emphasize or supplement important points of the main text.
Caution	Indicates a potentially hazardous situation, which if not avoided, could result in equipment damage, data loss, performance degradation, or unexpected results.
Danger	Indicates a hazard with a high level of risk, which if not avoided, will result in death or serious injury.

Safety Instructions

Danger

To ensure reliable use of the equipment and the safety of personnel, please observe the following during installation, use and maintenance:

- During the installation and use of the equipment, all electrical safety regulations of the country and the region of use must be strictly observed.
- Keep the working environment well ventilated so that the heat generated by the equipment during operation can be discharged in time to avoid damage to the equipment due to excessive temperature.
- Always unplug the unit's power adapter from the AC power outlet before: A. Removing or reinstalling any part of the equipment; B. Disconnecting or reconnecting any electrical plug or connection of the equipment. Do not operate with electricity.

- There are AC high-voltage parts in the equipment, non-professionals should not disassemble them without permission to avoid the risk of electric shock. Do not repair the equipment privately to avoid aggravating the damage.
- Do not spill any corrosive chemicals or liquids on or near the equipment.
- If the unit emits smoke, odour or noises, turn off the power immediately and unplug the power cord, and contact your dealer or service centre.
- If the appliance is not working properly, contact the shop where you purchased the appliance or the nearest service centre and do not disassemble or modify the appliance in any way. (We cannot be held responsible for problems caused by unapproved modifications or repairs).

Caution

- Do not drop objects on the equipment or vibrate the equipment vigorously, and keep the equipment away from locations with magnetic field interference. Avoid installing the equipment in a place where the surface vibrates or is susceptible to shock (neglecting this may damage the equipment).
- Do not use the equipment in high temperature, low temperature or high humidity environments. Refer to the equipment's data sheet for specific temperature and humidity requirements.
- Use the unit indoors, not in an exposed installation where it may be exposed to rain or extreme humidity.
- When the equipment is not used for a long period of time or in a humid and dewy environment, the main power supply of the equipment should be switched off.
- When cleaning the equipment, please use a sufficiently soft dry cloth or other alternatives to wipe the internal and external surfaces, do not use alkaline detergent to wash, and avoid hard objects to scratch the equipment.
- Please keep all the original packaging materials of the equipment properly, so that in case of problems, use the packaging materials to pack the equipment and send it to the agent or return it to the manufacturer for processing. We will not be responsible for any accidental damage in transit not caused by the original packaging materials.

Note

- Requirements for the quality of installation and commissioning personnel

  Qualifications or experience in the installation and commissioning of audio and video systems and qualifications to perform related work, in addition to the knowledge and operational skills listed below.

  - Basic knowledge and installation skills of audio and video systems and components.
  - Basic knowledge and skills in low voltage cabling and wiring of low voltage electronics.
  - Basic audio and networking knowledge and skills and the ability to read and understand the contents of this manual.

TABLE OF CONTENTS

Chapter 1 Product Introduction 1
1.1 Overview 1
1.2 Product Features 1
Chapter 2 Interface Description 2
2.1 Front Panel 2
2.2 Rear Panel Interface 3
Chapter 3 Product Installation Methods 4
3.1 Microphone Installation Guidelines 4
3.2 Recessed Ceiling Installation 4
3.3 Rope Suspension 5
3.4 Suspension Rod Installation 5
Chapter 4 Using the Product 6
4.1 Standalone Use 6
4.2 Series Cascade Use 7
4.3 Parallel Cascade Use 8
Chapter 5 Microphone Control Software Interface 8
5.1 Software Overview 8
5.2 Main Interface 9
5.3 Device Search 9
5.4 Main Parameters 10
5.5 System Workflow 11
5.6 Audio Workflow Control Area 11
Chapter 6 Microphone Audio Processing Controls 12
6.1 Input 12
6.2 Beam 13
6.3 Beam Control 13
6.4 Dodge 14
6.5 AEC Path 14
6.6 AFC Path 15
6.7 VHF Path 17
6.8 Matrix 17
6.9 Output 18
6.10 Audio Record 19

6.11 System Control 20
6.12 Network Parameters 21
6.13 Import/Export 22
6.14 Audio-Video Synchronization 22
6.14.1 Principles of Matching Beam Zones with Camera Positions 23
6.14.2 Audio-Video Synchronization Settings 24
6.14.3 Setting Preset Positions in the Camera 25
6.14.4 Installation Precautions for PTZ Tracking Cameras 27
Chapter 7 Dante Network Audio Routing 27
7.1 Dante System Sound Reinforcement Topology Diagram 28
7.2 Local Sound Reinforcement Audio Routing 28
7.3 Remote Interaction Audio Routing 30

Chapter 1 Product Introduction

1.1 Overview

The unobtrusive ceiling array microphone system consists of 129 high-fidelity microphones arranged in a composite circular array, providing the necessary sound pickup and sampling conditions for the algorithms; The system utilizes a professional audio processor (8-core, 6T high computing power) and incorporates industry-leading audio signal processing algorithms, such as the low-latency ClearVoice AI algorithm, real-time feedback suppression engine, adaptive sound field control technology, multimodal AI noise reduction system, spatial sound field modeling technology, a dual-engine architecture combining traditional audio processing with deep AI algorithms, and dynamic beamforming, all of which effectively enhance the quality of voice amplification and interaction; The system features a professional audio composite circular array microphone design, supporting 33 amplification zones and 33 pickup zones. With an amplification range of up to 4 meters and a pickup range of up to 8 meters, it can effectively capture sound from any location within the pickup zones. It includes a built-in cascading function module that enables seamless cascading of multiple ceiling array microphones; a built-in Dante module supports network audio transmission; It features built-in audio-visual synchronization, enabling camera tracking when paired with a camera. Equipped with proprietary advanced algorithms, it automatically adapts to various scenarios, ensuring clear and highly accurate voice reproduction—whether for local amplification or output to remote terminals.

The microphone simplifies and streamlines the work of conference audio administrators. With its ultra-wide pickup range, speakers can be heard clearly from every corner—whether in a small room with 30 people or a large auditorium with 800 attendees. Utilizing dynamic beamforming, it intelligently divides the space into zones during discussions and automatically tracks the speaker during presentations. During remote conferences, the audio sounds as natural and lifelike as face-to-face communication. The system is streamlined—no need to clutter the space with microphones. The equipment is concealed in the ceiling, making its presence virtually unnoticeable during meetings and ensuring a clear, seamless communication experience.

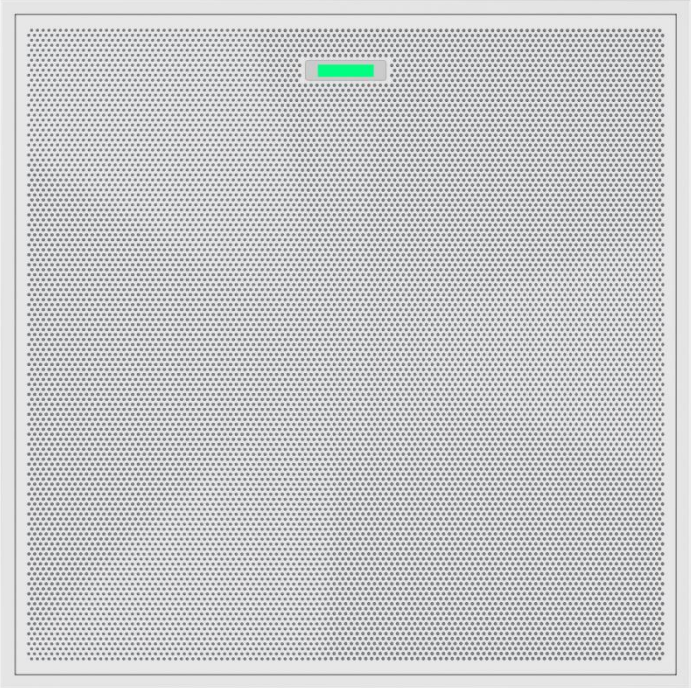
1.2 Product Features

- ✧ Wide Pickup Range: The unobtrusive ceiling array microphone system consists of 129 omnidirectional array microphones, with a sound projection range of 4 meters and a pickup range of 8 meters. Speak from anywhere in the room—truly unobtrusive sound amplification;
- ✧ High Volume: Acoustic feedback gain ≥15dB ensures higher volume levels with reduced risk of feedback, making speaking effortless;
- ✧ Clear Sound: Incorporates the ClearVoice AI large-model deep learning algorithm to precisely recognize speech, eliminate various types of noise, and enhance the audio signal;

- ✧ High Flexibility: Supports customizable directional pickup settings, with configurations for 33 pickup zones and 33 amplification zones, and allows for cascading multiple units to adapt to different scenarios;
- ✧ Easy to Expand: Features a wide range of analog and digital (Dante, USB) audio interfaces that can be used independently or connected to wireless microphones and other devices, eliminating the need for a separate audio processor;
- ✧ Easy to Manage: The system is straightforward and offers multiple external control methods—including infrared, RS-485, and network—to meet diverse needs and enhance system flexibility;
- ✧ Built-in audio-visual synchronization functionality enables camera tracking when paired with a camera.

Chapter 2 Interface Description

2.1 Front Panel



① Indicator Light: The indicator light remains on when the device is receiving power;

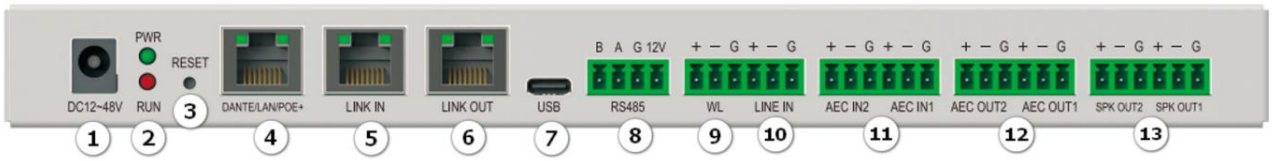
② The device comes with a remote control that supports switching between multiple modes:

- Green indicates that sound amplification and audio pickup are both on;

- Blue indicates that sound amplification is off and audio pickup is on;
- Orange indicates that audio pickup is off and sound amplification is on;
- Red indicates that both sound amplification and audio pickup are off.



2.2 Rear Panel Interface



① DC 12–48V Port: Power supply port; input voltage range: DC 12V–48V;

② PWR/RUN: When powered on, the red light remains on; when the system is operating normally, the green light remains on;

③ RESET: Press and hold to restore factory settings;

④ DANTE/LAN/POE+: Dante signal transmission port + network port + POE power supply port;

⑤ LINK IN: Ethernet port for daisy-chain input;

⑥ LINK OUT: Ethernet port for daisy-chain output;

⑦ USB: Type-C firmware upgrade port; USB 2.0 audio transmission port;

⑧ RS485: RS-485 device control interface; output voltage: DC 12V/0.4A;

⑨ WL: Analog input port for wireless microphones;

⑩ LINE IN: Analog line input for external audio sources (e.g., PC);

⑪ AEC IN1/2: Analog input for remote audio (reference signal);

⑫ AEC OUT1/2: Analog audio output to the remote end;

⑬ SPK OUT1/2: Analog audio output ports for direct connection to power amplifiers or active speakers.

Chapter 3 Product Installation Methods

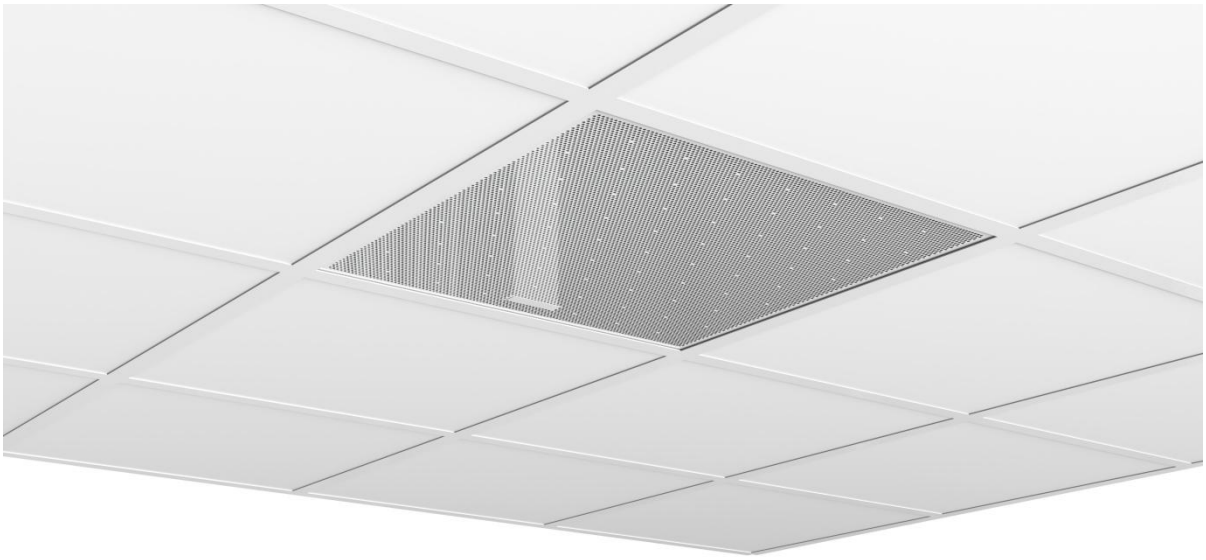
3.1 Microphone Installation Guidelines

1. Installation reference point: The geometric center of the conference area in the meeting room;
2. Vertical height from the floor: 2.8 m to 3.2 m;
3. Effective sound pickup range: 1.2 m to 1.5 m (suited to the speaking height of seated individuals);
4. Installation orientation: Horizontal or vertical suspension/recessed ceiling mounting; no tilt or rotation;
5. Obstacle Avoidance Requirements: Keep away from light fixtures, air conditioning vents, and projection equipment.

3.2 Recessed Ceiling Installation

Suitable for installation in 600 mm × 600 mm suspended ceilings.

❖ **Important Note:** Must be secured using ropes for suspension.



3.3 Rope Suspension

This product is equipped with 4 M5 lifting eyes, mounted at the four corners of the unit, to facilitate rope suspension.



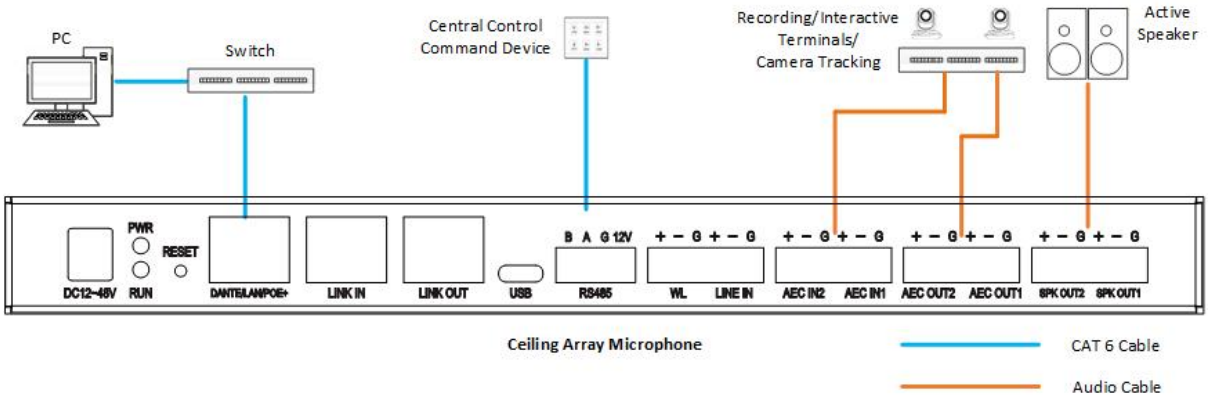
3.4 Suspension Rod Installation

If choosing suspension rod installation, you must provide your own suspension rod.

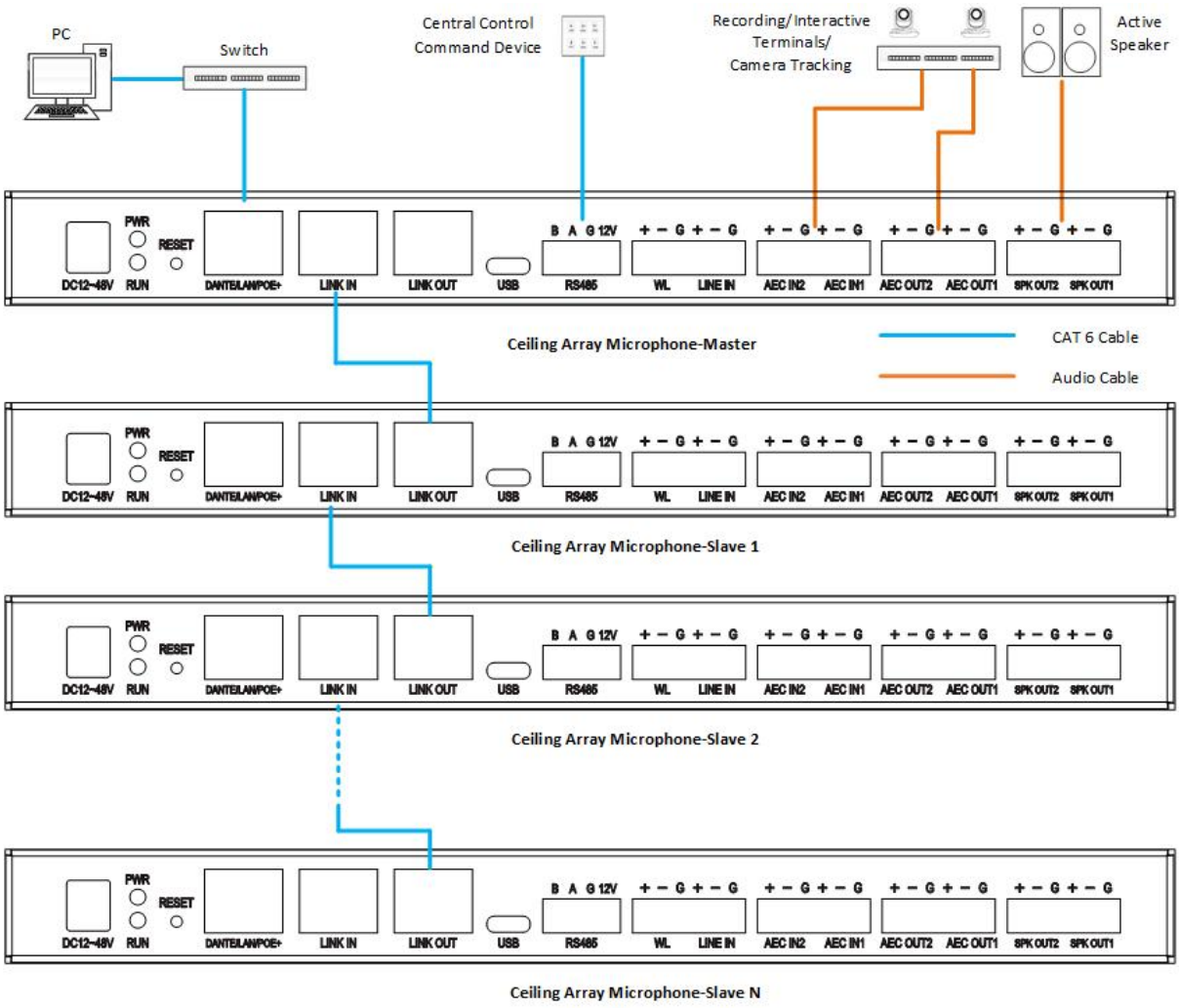


Chapter 4 Using the Product

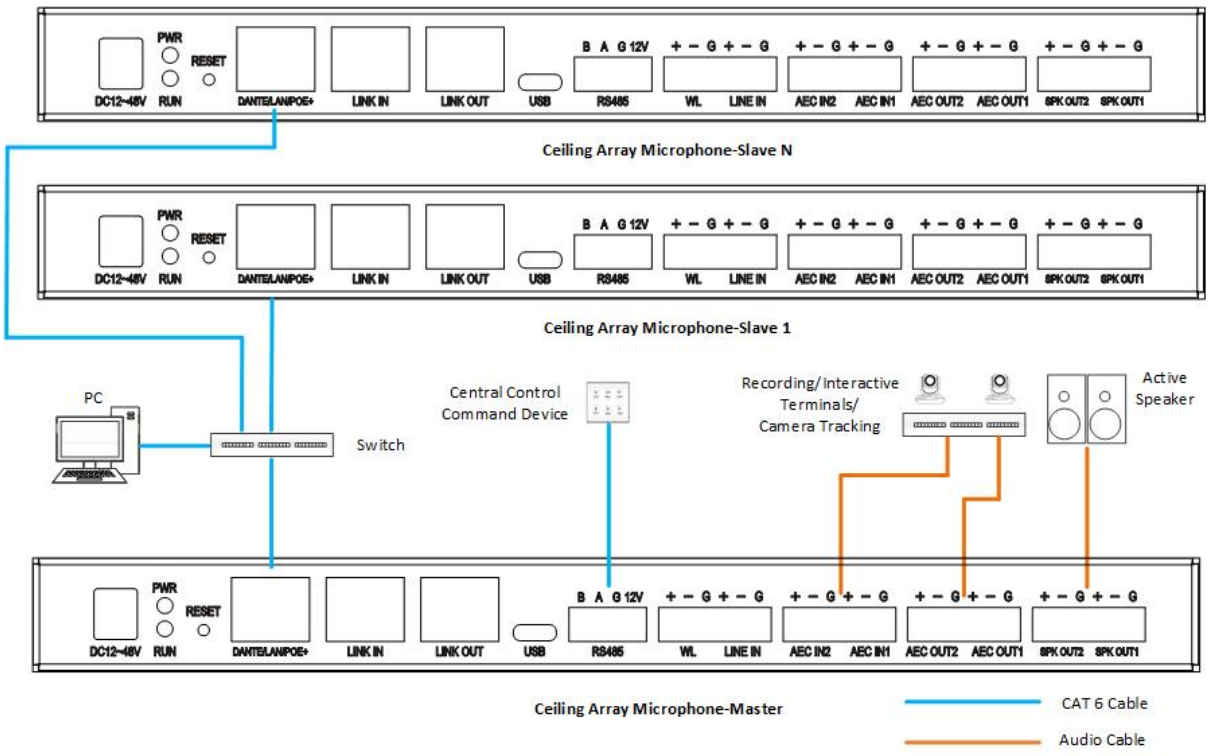
4.1 Standalone Use



4.2 Series Cascade Use



4.3 Parallel Cascade Use



Chapter 5 Microphone Control Software Interface

5.1 Software Overview

The microphone control software is compatible with Windows 7 (64-bit), Windows 10 (64-bit), and Windows 11 (64-bit) operating systems.

The device's default factory IP address is: 192.168.1.100, subnet mask: 255.255.255.0, gateway: 192.168.1.1; Please first add the IP addresses in this subnet to your PC. The PC and the ceiling array microphone must be on the same local area network (LAN) to connect properly.

Default Parameters: Based on typical application scenarios, the device comes pre-configured with a set of recommended parameters as the default settings. These parameters can be adjusted and saved on-site according to the actual acoustic environment.

Restore Default Parameters: If you need to restore the factory default settings, you can do so through the client software.

5.2 Main Interface



① Device search and parameter saving;

② Device search results display the IP address area; select an IP address and double-click to log in;

③ System workflow area, showing the device signal flow;

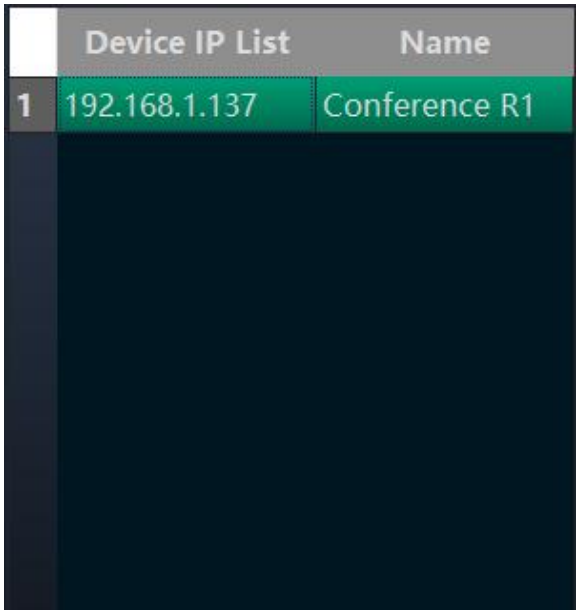
④ Device main parameter display area, showing the device software version information;

⑤ Audio workflow control area: audio data flowchart; click the icons to configure detailed parameters for each processing module;

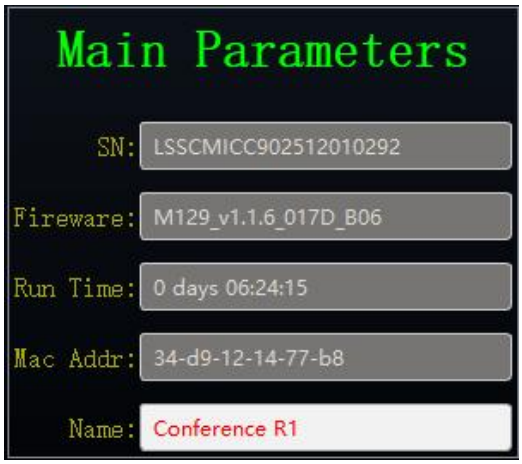
⑥ Audio processing parameter control area: Drag or scroll the mouse to show or hide sections.

5.3 Device Search

Click “Search” to search for all devices on the same local area network and display their IP addresses in a list. Select the IP address you want to log in to, then double-click to log in. Click “Save Param” to save the current configuration.



5.4 Main Parameters



① SN: Displays the device's serial number;

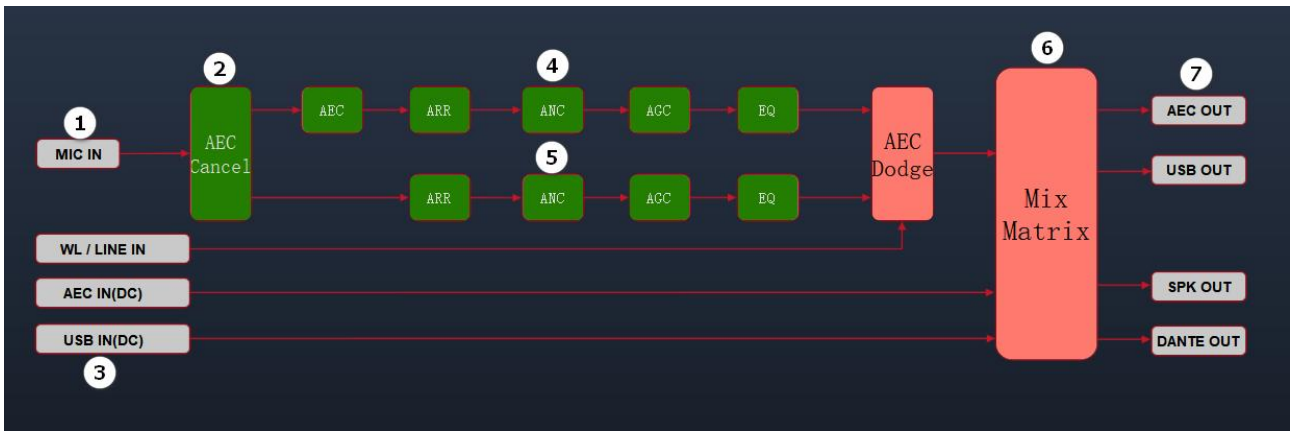
② Firmware: Displays the software firmware version number;

③ Run Time: Indicates the duration of normal operation;

④ MAC Address: Displays the MAC address information;

⑤ Name: Edit the device name; press Enter to confirm after making changes.

5.5 System Workflow



① Microphone input channel;

② Toggle switch for enabling or disabling the microphone channel algorithm; green indicates enabled, red indicates disabled;

③ WL/LINE IN, AEC IN, and USB IN input channels;

④ Echo channel algorithm configuration; click to toggle—green indicates enabled, red indicates disabled;

⑤ Feedback channel algorithm configuration; click to toggle—green indicates enabled, red indicates disabled;

⑥ Mixing selection: Click to toggle and switch to the mixing matrix interface in the processor parameter control area;

⑦ Output channels.

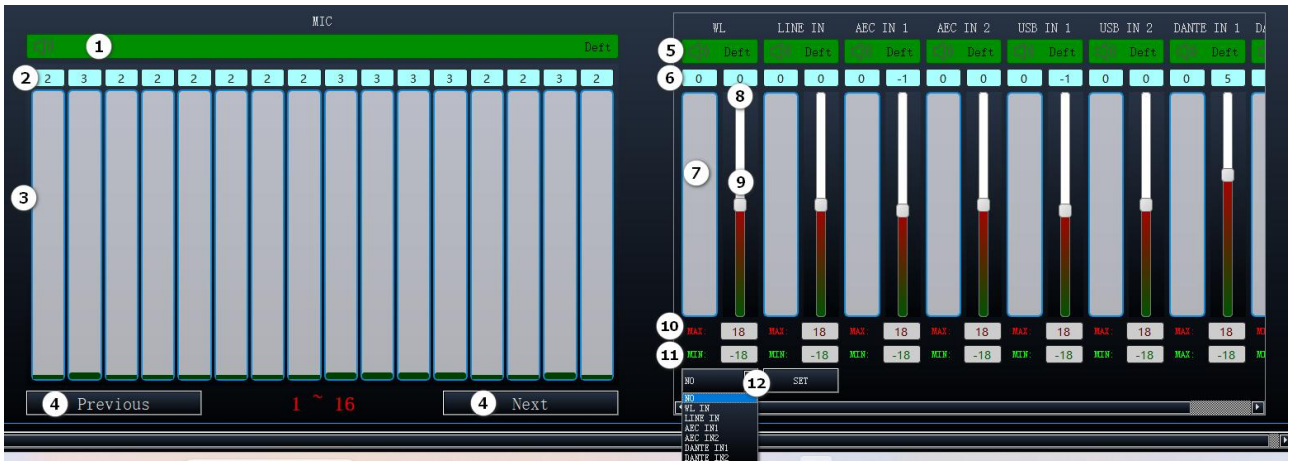
5.6 Audio Workflow Control Area

Click the toggle button to select the audio processing parameter control function and configure the parameters.



Chapter 6 Microphone Audio Processing Controls

6.1 Input



Array Microphone Input Channels:

① Mute Function: Enables or disables the array microphone input signal;

② Level Value: Displays the volume level in real time; cannot be adjusted;

③ Level Indicator: Displays real-time changes in the array microphone level;

④ Previous Page, Next Page: Scroll through to view other microphone channels.

WL, LINE IN, AEC IN1, AEC IN2, USB IN1, USB IN2, DANTE IN1, and DANTE IN2 Input Channels:

⑤ Mute Function: Enables or disables the input signal for this channel;

⑥ Level Value: Displays the real-time audio level; cannot be adjusted;

⑦ Level Indicator: Displays real-time level changes for this channel;

⑧ Gain Value Display: Digitally displays the volume gain value, with a range from -18 to 18;

⑨ Gain fader: Adjusts the volume gain within a range of -18 to 18;

⑩ Maximum Value: Sets the maximum value for volume gain adjustment; the maximum value must not exceed 18;

⑪ Minimum Value: Sets the minimum value for volume gain adjustment; the minimum value must not be lower than -18;

⑫ AEC Signal Feedback Channel Selection: Selects the AEC signal feedback channel; click “OK” to apply the setting.

❖ **Note:** The DANTE IN1 and DANTE IN2 input channels are available only in Dante mode; these are the input channels for the Dante module signal.

6.2 Beam



① Beam umber; there are 33 beams in total;

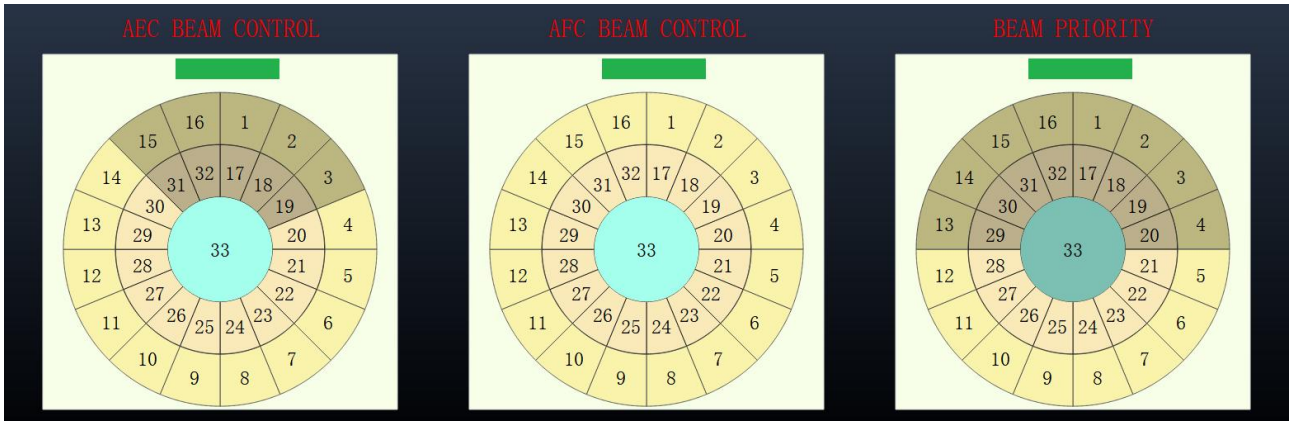
② Level Value: Displays the volume level in real time; cannot be adjusted;

③ Level Indicator bar: Displays real-time changes in the current level of the array microphone;

④ Previous Page, Next Page: Navigate between pages to view other microphone input channels.

6.3 Beam Control

The ceiling array microphone supports adjustment of 33 pickup beams and 33 sound reinforcement beams. In interactive video conferencing scenarios, it allows for independent division of sound capture areas for sound reinforcement and pickup based on on-site requirements, and beam priorities can be set.

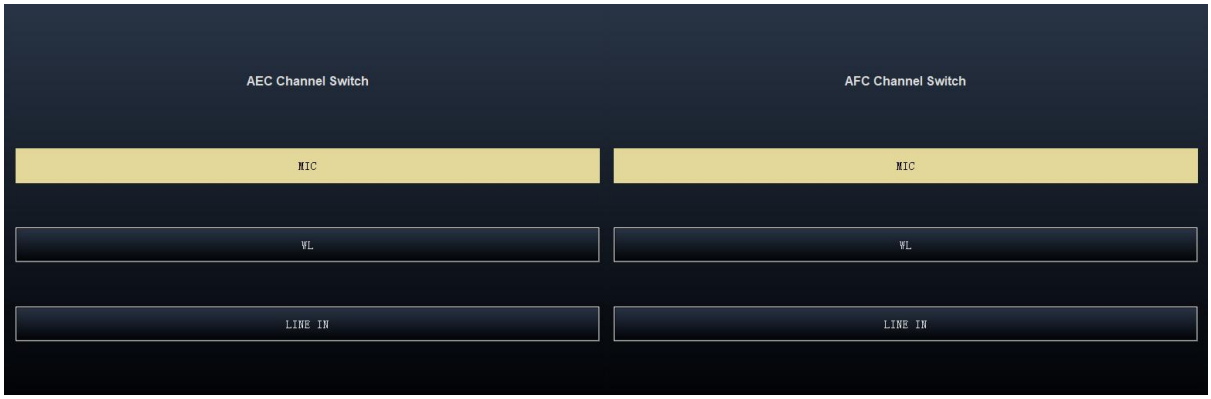


① AEC Channel Beam Control: 33 selectable switches for adjusting the sound pickup beam in the AEC channel; gray indicates off, and a bright color indicates on;

② AFC Channel Beam Control: 33 selectable switches for adjusting the sound expansion beam in the AFC channel; gray indicates off, and a bright color indicates on;

③ Beam Priority: 33 beam priority switches; gray indicates off, and a bright color indicates on.

6.4 Dodge



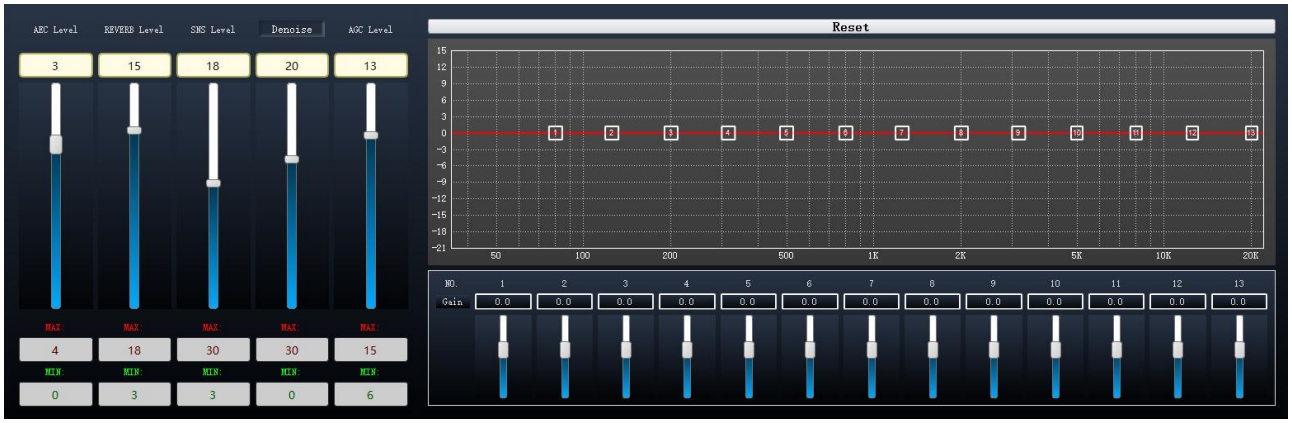
① AEC Channel Switch: Click the selected channel to indicate that the signal from that channel will be output after undergoing echo cancellation processing;

② AFC Channel Switch: Click the selected channel to indicate that the signal from that channel will be output after undergoing feedback processing.

- AEC Channel Switch: MIC On, AFC Channel Switch: MIC On: The device indicator lights up green, indicating that both sound amplification and microphone pickup are enabled;
- AEC Channel Switch: MIC On, AFC Channel Switch: MIC Off: The device indicator lights up blue, indicating that sound amplification is off and microphone pickup is on;
- AEC Channel Switch: MIC Off, AFC Channel Switch: MIC On: The device indicator lights up orange, indicating that audio pickup is off and sound reinforcement is on;
- AEC Channel Switch: MIC Off, AFC Channel Switch: MIC Off: The device indicator lights up red, indicating that both sound reinforcement and audio pickup are off.

6.5 AEC Path

The Acoustic Echo Canceler (AEC) is used in conference rooms (Near-End) and other installations where people call in from remote locations. The remote caller's (Far-End caller's) voice is broadcast over loudspeakers in the conference room. The sound is picked up by microphones in the conference room and echoed back to the Far-End caller. The purpose of the AEC is to eliminate these echoes while at the same time allowing the Far-End caller to hear clearly, what people in the room are saying.



① AEC Level: The numerical display shows the current level; use the fader to adjust the AEC suppression level within a range of 0–4;

② Reverb Level: The numerical display shows the current reverb suppression level; use the fader to adjust the reverb suppression level within a range of 3–18;

③ Steady-State Noise Suppression Level: The numerical value displays the current steady-state noise suppression level. Use the fader to adjust the steady-state noise suppression level within a range of 3–30;

④ DENoise: Transient noise suppression level; the numerical value displays the current level. Use the fader to adjust the transient noise suppression level within a range of 0–30;

⑤ Auto Gain Control Level: The numerical value displays the current gain. Use the fader to adjust the maximum gain within a range of 6–15;

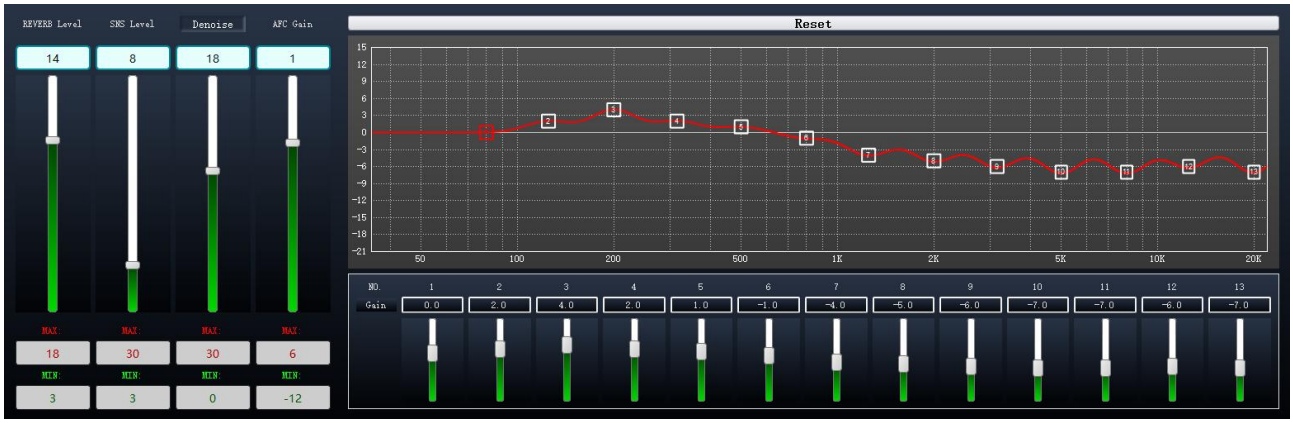
⑥ 13-Band Graphic Equalizer adjustment:

- Drag the graphic equalizer band number up or down with the mouse to adjust the gain for that frequency band;
- Enter a gain value directly to adjust the gain for that frequency band;
- Move the fader to adjust the gain for that frequency band.

6.6 AFC Path

The Acoustic Feedback Canceler (AFC) allows you to set feedback suppression based on the room, and automatically suppress feedback. The AFC reduces the gain at the notch frequency while affecting the gain at surrounding frequencies as little as possible.

Its core functions and features include real-time monitoring of audio input signals, analyzing frequency components that may cause feedback using digital signal processing (DSP) technology, and attenuating or frequency-shifting these components. The AFC can detect feedback frequencies and process them within an extremely short time (0.01 seconds), thereby preventing feedback from occurring. It dynamically adjusts gain based on changes in the audio signal to ensure that feedback is suppressed without compromising audio quality.



① Reverb Level: The numerical display shows the current reverb attenuation level. The fader adjusts the reverb attenuation level, with a range of 3 to 18;

② Steady-State Noise Attenuation: The numerical display shows the current steady-state noise attenuation level. The fader adjusts the steady-state noise attenuation level, with a range of 3 to 30;

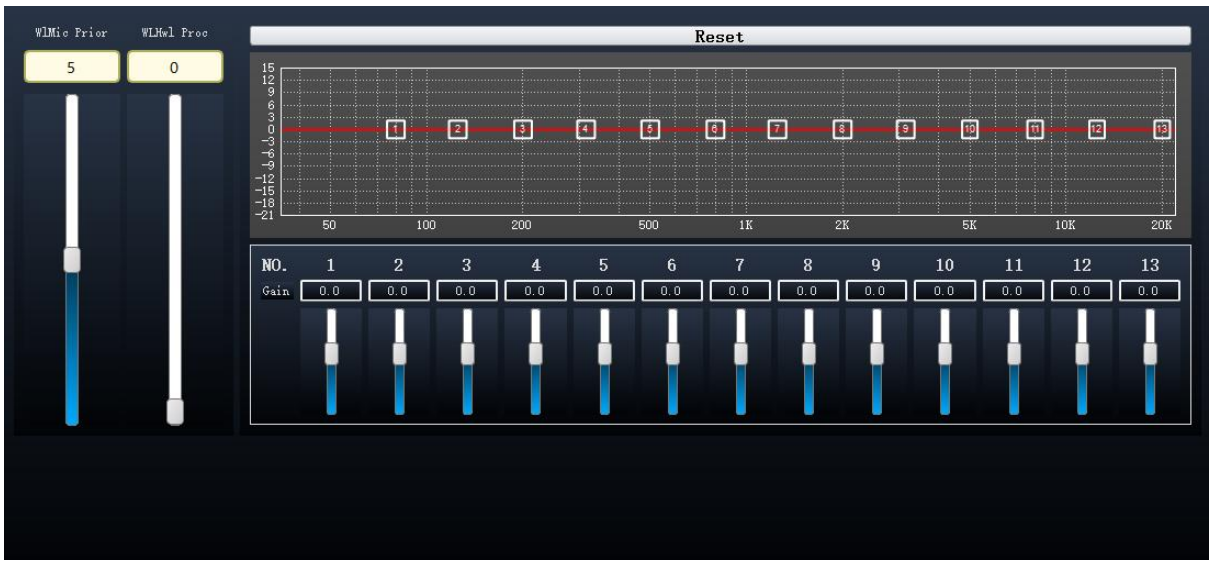
③ DENoise: Transient noise suppression level; the value displays the current transient noise suppression level. The fader adjusts the transient noise suppression level, with a range of 0–30;

④ AFC Gain: The value displays the current AFC gain; the fader adjusts the maximum gain, with a range of –12 to 6;

⑤ 13-band graphic equalizer adjustment:

- Drag the graphic equalizer band number up or down with the mouse to adjust the gain for that frequency band;
- Enter a gain value directly to adjust the gain for that frequency band;
- Move the fader to adjust the gain for that frequency band.

6.7 VHF Path



① Wireless Microphone Priority: The value displays the current priority level. Use the fader to adjust the wireless microphone priority within a range of 0–10;

② Wireless AFC: The value displays the current level of wireless feedback suppression. Use the fader to adjust the wireless feedback suppression level within a range of 0–4;

③ 13-Band Graphic Equalizer Adjustment:

- Drag the graphic equalizer band number up or down with the mouse to adjust the gain for that frequency band;
- Enter a gain value directly to adjust the gain for that frequency band;
- Move the fader to adjust the gain for that frequency band.

6.8 Matrix



Input Channels:

① USB IN: USB input channel;

② DANTE IN 1: Input channel for remote audio (reference signal) during remote interaction in Dante mode;

③ DANTE IN 2: Input channel for the signal returned after AEC processing in Dante mode, or for local sound reinforcement;

④ WL: Wireless microphone input channel;

⑤ LINE IN: Line-level input channel, primarily for computers or other devices with line-level outputs;

⑥ AEC IN: AEC reference input channel;

⑦ AEC CHANNEL: Signal after AEC; an internal software channel with no structured interface definition;

⑧ AFC CHANNEL: Signal after AFC; an internal software channel with no structured interface definition.

Output Channels:

① AEC OUT: Output for remote interaction signals; signal after AEC;

② SPK OUT: Local sound reinforcement output when not in cascade mode; connects to a power amplifier;

③ USB OUT: USB interface output channel;

④ DANTE OUT 1: Remote interactive output in Dante mode; signal after AEC;

⑤ DANTE OUT 2: Local sound reinforcement output for remote audio signals in Dante mode, or local sound reinforcement output for signals after AFC.

6.9 Output



SPK OUT Output Channel

① Mute Function: Enables or disables the SPK OUT channel input signal;

② Audio Output: Enabling audio output (yellow) indicates that the output includes a feedback function; disabling audio output (gray) indicates that the SPK OUT channel outputs normally according to its defined function;

③ Level Value: Displays the volume level in real time; cannot be adjusted;

④ Gain Value Display: Displays the current channel gain value;

⑤ Level Indicator: Displays real-time level changes for the output channel;

⑥ Gain Fader: Allows adjustment of volume gain; the maximum adjustment range is -18 to 18;

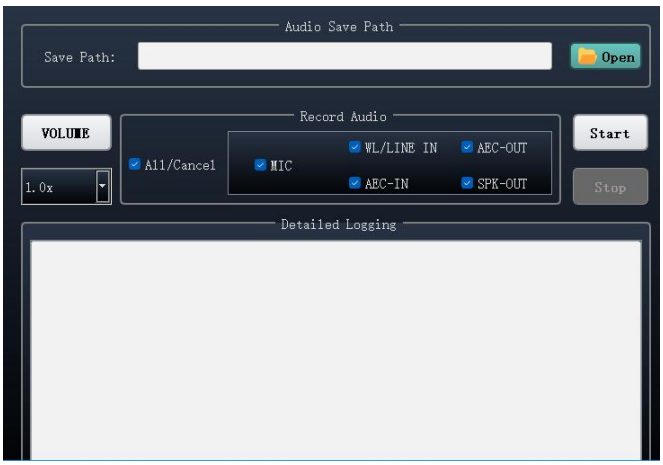
⑦ Maximum Value: Sets the maximum value for volume gain adjustment; enter a number to change the maximum value, which must not exceed 18;

⑧ Minimum Value: Sets the minimum value for volume gain adjustment; enter a number to change the minimum value, which must not be lower than -18;

⑨ Output dB Value: Four values are available: 0 dB, -12 dB, -18 dB, and -24 dB. Select a value and click the “Set” button to apply it.

❖ **Note:** The settings for AEC OUT, USB OUT, and DANTE OUT are the same as above.

6.10 Audio Record



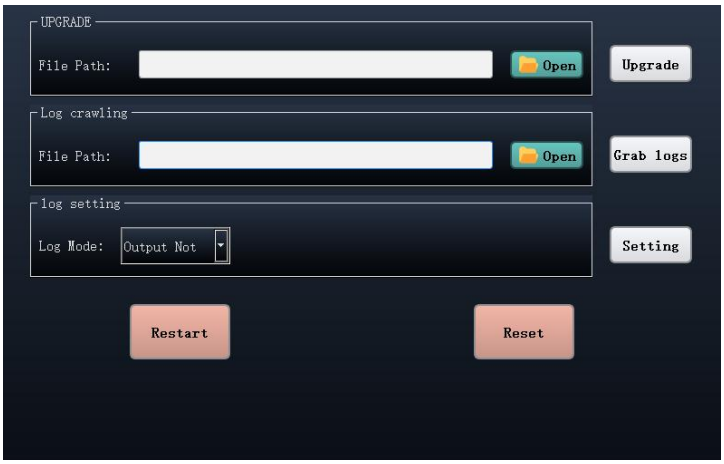
① Audio Save Path: Click “Open” to set the path where the audio recording files will be saved on your computer;

② Record Audio: There are 5 audio sources to choose from for recording. By default, all sources are selected. Check the boxes next to the sources you want to record; After selecting the audio sources, click “Start” to begin recording; click “Stop” to end the recording. The recorded audio file will be saved in the folder you specified on your computer;

③ Record Volume: You can adjust the recording volume to 0.5, 1, 1.5, 2, or 4 times the original level;

④ Detailed Logging: Records information about the device's operation.

6.11 System Control



① Firmware Upgrade: Click "Open," locate the path where the firmware update file is saved, select it, open it, and click "Start Upgrade." After a successful upgrade, a pop-up window will appear indicating "Upgrade Successful!" The device will automatically reboot; please rescan for the device;

② Log Crawling: Click "Open," set the path on your computer where the captured logs will be saved, and click "Grab Logs";

③ Log Mode: There are three log modes: Terminal Output, Write to File, and No Output;

④ Restart System: Restarts a normally operating device;

⑤ Rest Factory Settings: Restores the device parameters to their factory default configuration.

6.12 Network Parameters



① When set to “Auto Obtain IP”: The device automatically obtains an IP address from a router or switch that supports DHCP; the IP address cannot be changed manually.

② When set to “Use Manual IP”: You can manually change the IP address (default IP address: 192.168.1.100).

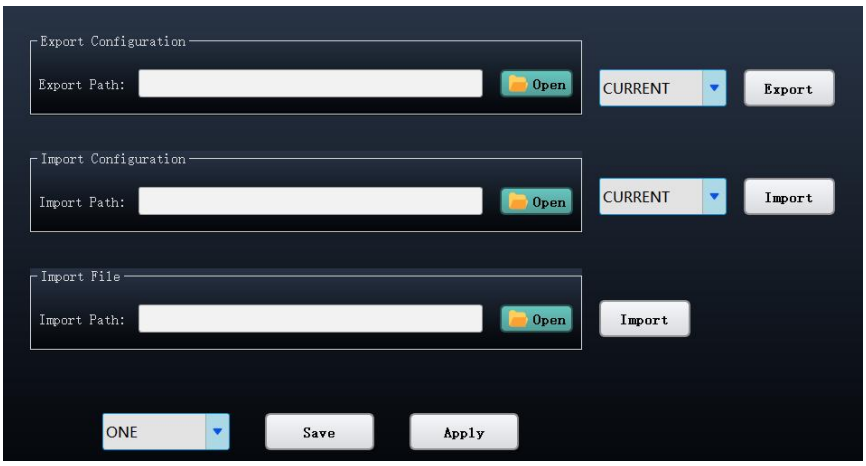
③ IP Address: Enter the IP address you want to set, such as 192.168.1.3; Subnet Mask: Enter the subnet mask, such as 255.255.255.0; Default Gateway: Enter the gateway, such as 192.168.1.1;

④ After setting the device’s IP address, click “Determine” to apply the changes. The device will automatically restart; please rescan for the device;

⑤ Device Audio Stream: The device can stream audio to a speech-to-text device via its IP address for transcription. After configuring the speech-to-text device’s IP address and port, click “Open” to start streaming; click “Close” to stop streaming;

⑥ Cascade Module: Set the corresponding device as the primary or secondary microphone, configure the cascade priority, and click “Determine” to apply the settings.

6.13 Import/Export



① Export Configuration: Click “Open” to specify the path on your computer where the exported file will be saved. Click the “Current Configuration” drop-down menu to select the scene you want to export, then click “Export.” A pop-up window will confirm that the configuration has been successfully exported;

② Import Configuration: Click “Open” to browse to the file’s location on your computer. Click the selected file; click the “Current Configuration” drop-down menu to select the scene to import into, then click “Import.” A pop-up will confirm that the configuration has been successfully imported;

③ Import Path: Click “Open” to browse to the file’s location on your computer. Click the selected file; click “Import File.” A pop-up will confirm that the configuration has been successfully imported;

④ Scene Select: There are a total of 10 scenes; Scene ONE is the default;

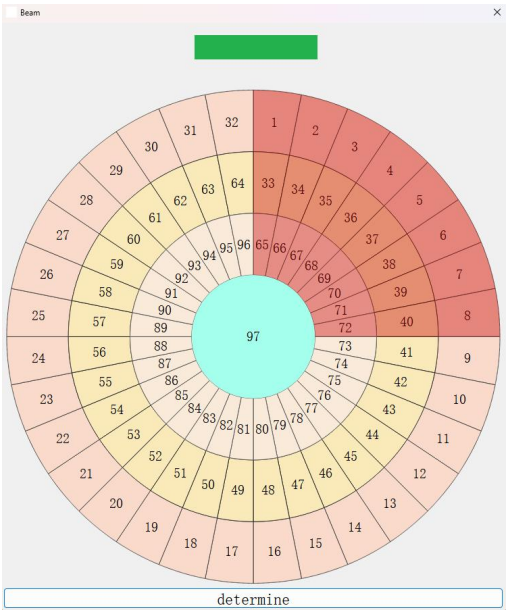
⑤ Save Scene: Click this button to save the current scene;

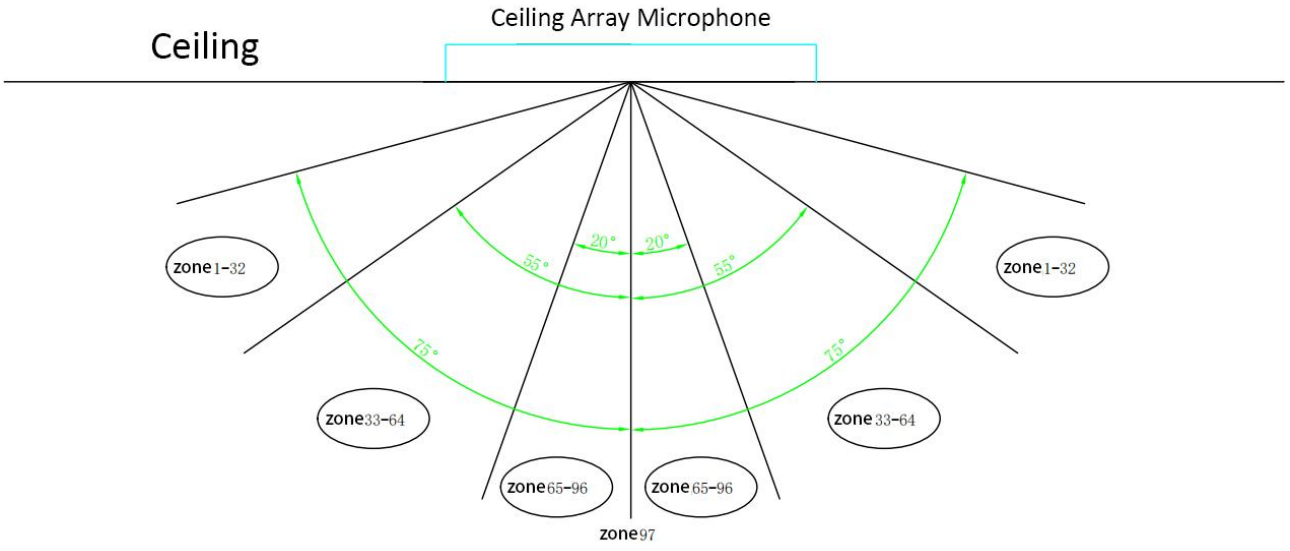
⑥ Apply Scene: After selecting a scene, click this button to switch to that scene.

6.14 Audio-Video Synchronization

Audio-video synchronization controls the tracking of PTZ cameras equipped with full-range pan-tilt movement and lens zoom and focus control functions.

6.14.1 Principles of Matching Beam Zones with Camera Positions



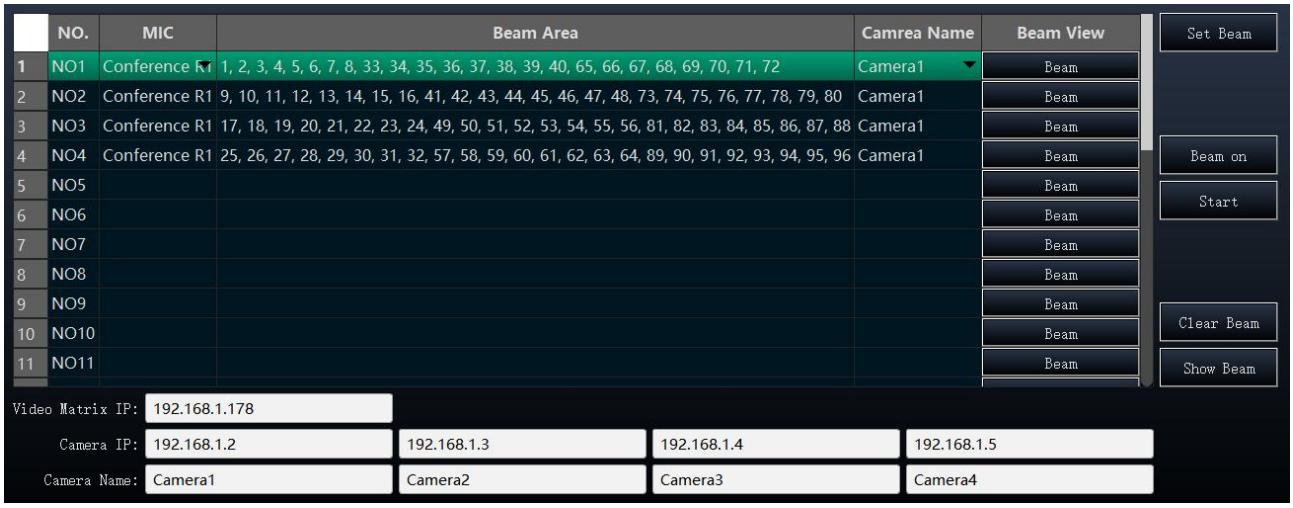


1. Angle Correspondence for Zones:
   - ① Zone 1–32: Corresponding angles 55°–75°;
   - ② Zone 33–64: Corresponding angles 20°–55°;
   - ③ Zone 65–96: Corresponding angles 0°–20°;
   - ④ Zone 97: Corresponding angle 0°.
2. Taking an installation height of 3 meters and a speaking height from a seated position of approximately 1.5 meters as an example:
   - ① Furthest distance from the center for Zones 65–96: 1.5 × tan 20° ≈ 0.546 meters;

② Furthest distance from the center for Zones 33–64: 1.5 × tan 55° ≈ 2.142 meters;

③ Furthest distance from the center for Zones 1–32: 1.5 × tan 75° ≈ 5.598 meters.

6.14.2 Audio-Video Synchronization Settings



① NO.: Seat numbers 1–30 can be selected, corresponding to network camera preset positions 0–29 (for a single camera); if two or more cameras are used on-site, the preset positions for the second camera correspond to the unoccupied seat numbers. For example: If Camera 1 uses seat numbers 1–10, Camera 2 must use numbers 11–20, and so on;

② MIC: Select the microphone to be used for camera tracking; you can also bind other microphones to trigger camera tracking;

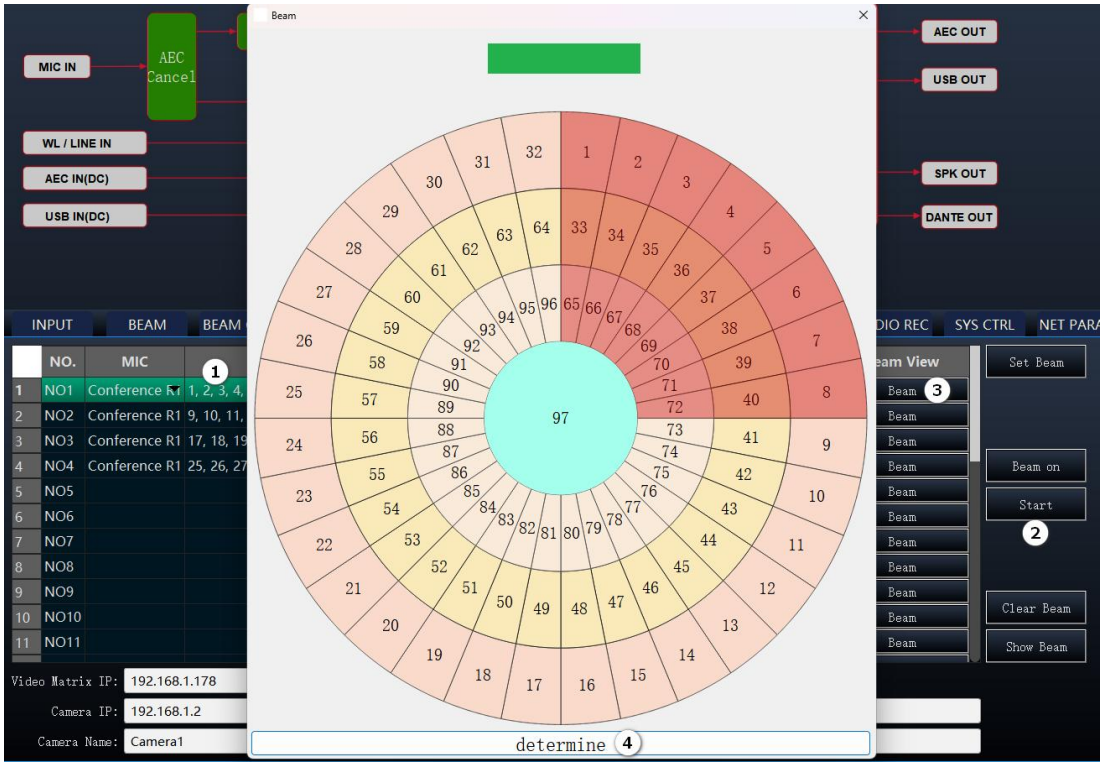
③ Beam Area: Displays the bound beam number:

1) Select the audio pickup area to highlight it;

2) Click “Start ” then speak from “NO1” in the conference room; the system will recognize your seat and automatically display the corresponding beam. Click “Stop” to complete recognition;

3) Click Beam View “Beam” to display the corresponding area; you can manually modify the highlighted beams;

4) Click “Determine” to save, thereby binding the audio beam. As shown below:



④ Camera Name and IP: The factory default camera names are Camera1, Camera2, Camera3, and Camera4; select the appropriate one. You can customize the camera name and IP address. After entering the information, press the Enter key; a prompt will appear indicating the modification was successful. Note: The camera and microphone must be on the same LAN segment;

⑤ Video Matrix IP: If a conference room uses two or more cameras, a video matrix is required to coordinate and switch between camera views. Simply enter the video matrix IP address; the control code is hard-coded and cannot be changed. Note: Ensure that third-party video matrices support TCP/IP control and control codes; if not, contact the manufacturer for compatibility adjustments;

⑥ Set Beam: After manually modifying the beam binding area, click “Set Beam”;

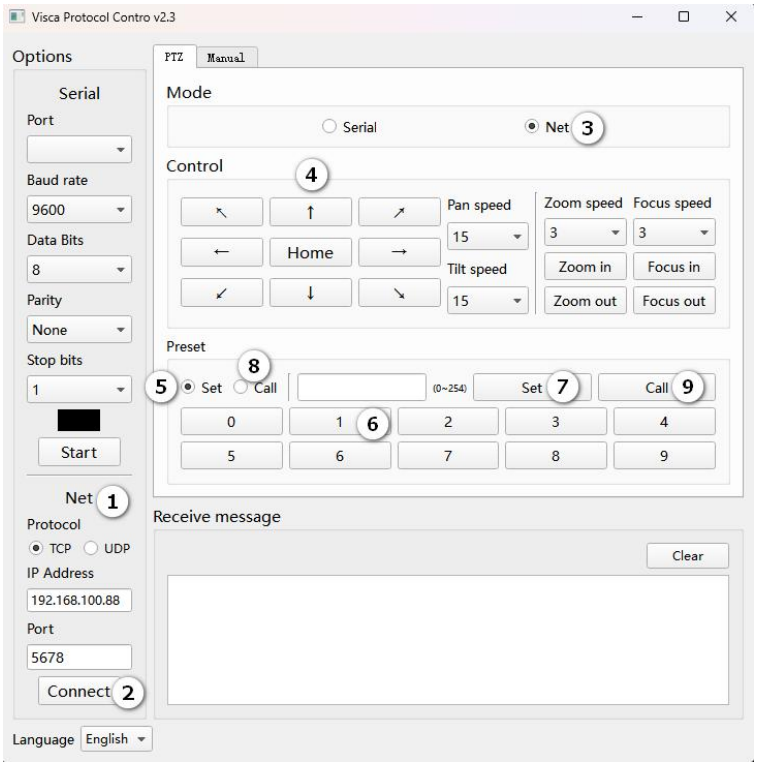
⑦ Beam On/Beam Off: After configuration is complete, click “Beam On” to activate the feature; click again to disable it;

⑧ Clear Beam: Deletes all bound information;

⑨ Show Beam: Displays binding information for all seats, beams, and cameras.

6.14.3 Setting Preset Positions in the Camera

You can set preset positions in the camera using either the camera’s built-in remote control or the Visca control software. Note: The Visca control software can only control cameras that support the Visca protocol.



① Select the network protocol supported by the camera, and enter the camera's IP address and port;

② Click "Connect" to connect to the camera;

③ Select "Network Control";

④ Use the up, down, left, and right arrows, as well as the zoom in and zoom out controls, to position the camera lens on the corresponding seat in the conference room;

⑤ Select "Set" under Preset Positions to configure preset positions;

⑥ Select the preset position number—which corresponds to the camera's current position;

⑦ Click "Set" to save the camera's current position to the selected preset position number; After setting all preset positions in sequence—where preset positions 0–9 correspond to seat numbers 1–10 in the microphone control software's audio-video synchronization—

⑧ Select "Call" under "Preset Positions" to recall a preset position;

⑨ Select the preset position number and click "Call" to retrieve the saved preset position, which allows you to verify whether the preset position was set successfully;

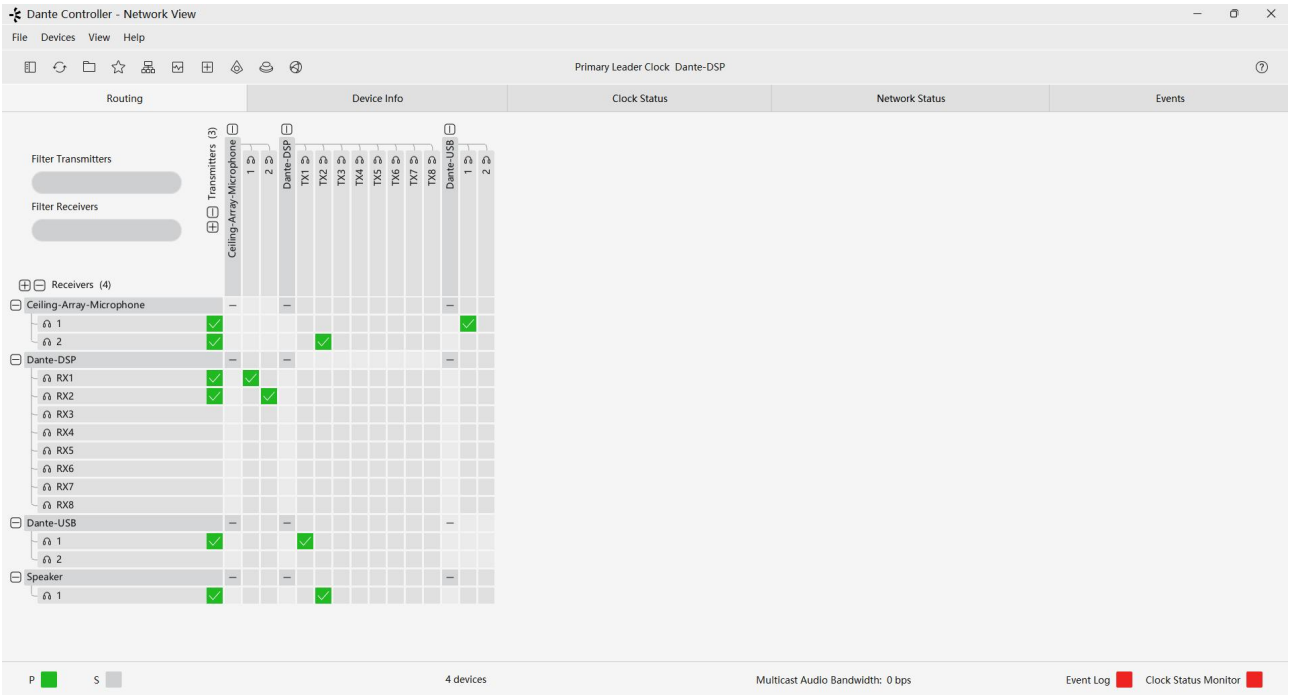
❖ **Note:** If Preset 0 cannot be recalled, simply reset Preset 0. For some cameras, Preset 0 must be set last.

6.14.4 Installation Precautions for PTZ Tracking Cameras

1. Installation reference position: Centered on the side wall of the conference room, facing directly toward the center of the meeting area;
2. Vertical height from the floor: 2.6 m to 3.0 m;
3. Standard downward viewing angle: 15°–20°;
4. Optimal horizontal distance from the lens to the center of the meeting area: 3.5 m–5 m;
5. Distance tolerance range: Minimum ≥ 3 m, maximum ≤ 5.5 m;
6. Field of view requirements: Full coverage of the entire meeting area, matching the circular beam boundary;
7. Prohibited installation locations: Directly behind, diagonally opposite, low-angle eye-level, or backlit positions.

Chapter 7 Dante Network Audio Routing

In a Dante audio network, the Dante Controller software is required to set up the routing of the various signals accessing the processor. It can realize 1-to-1, 1-to-N mapping operation from input to output within Dante network.



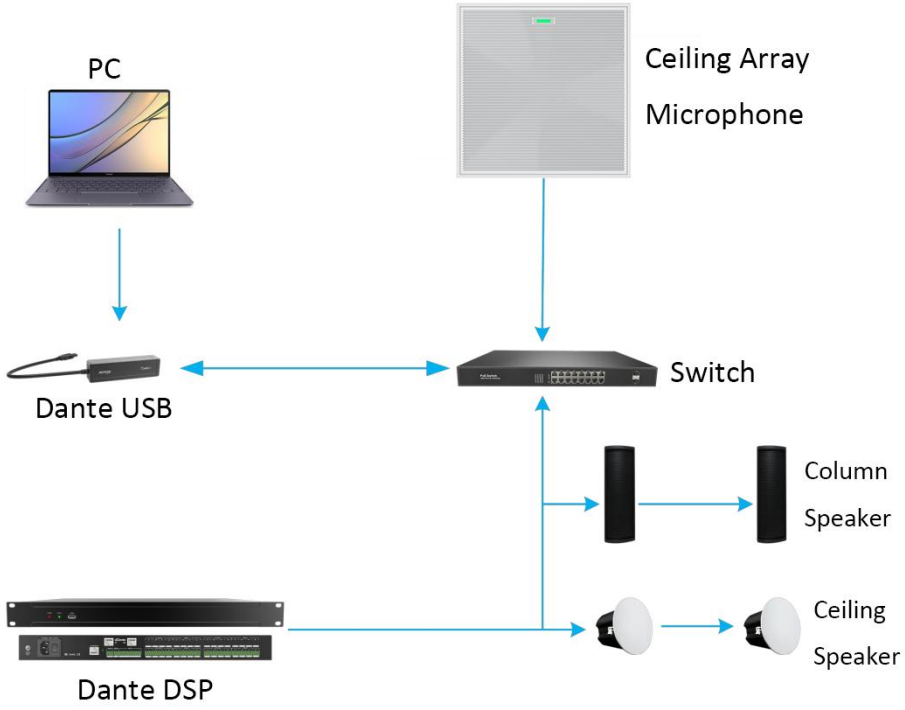
The software "Dante Controller" is free to download from the company of Audinate (the owner of Dante technology).To install the software on the computer,please visit the link: https://www.getdante.com/products/software-essentials/dante-controller.

And the "User Guide" of "Dante Controller" is available on the Audinate websit: https://dev.audinate.com/GA/dante-controller/userguide/webhelp/content/front_page.htm.

❖ **Note:**

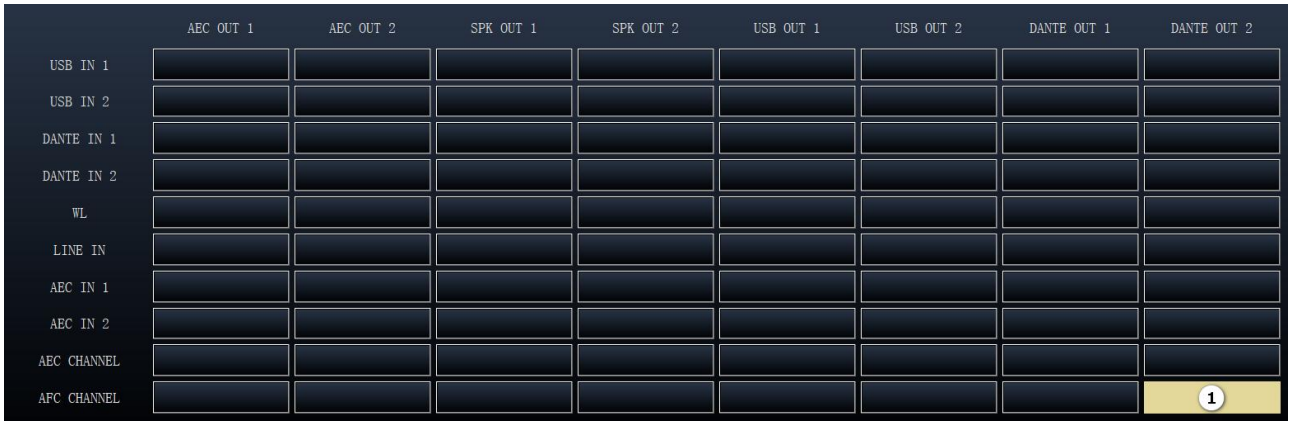
- Dante can not run in the Wi-Fi connection environment, is dependent on a reliable and secure wired network environment to transmit perfect audio;
- Dante Controller software corresponds to the platform of Windows 7, Windows 10, Windows 11, macOS, please select the appropriate software version according to your system platform.

7.1 Dante System Sound Reinforcement Topology Diagram



7.2 Local Sound Reinforcement Audio Routing

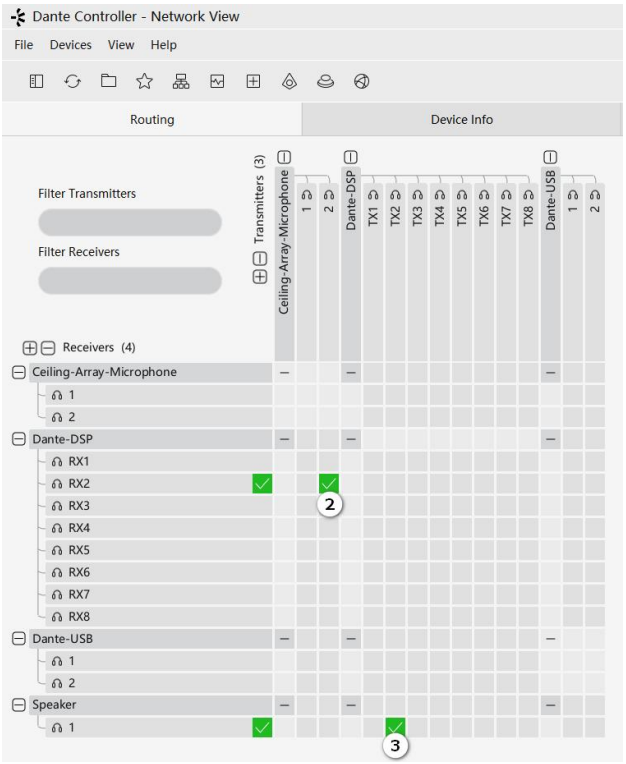
1. Local Sound Reinforcement Microphone Matrix Mixing:







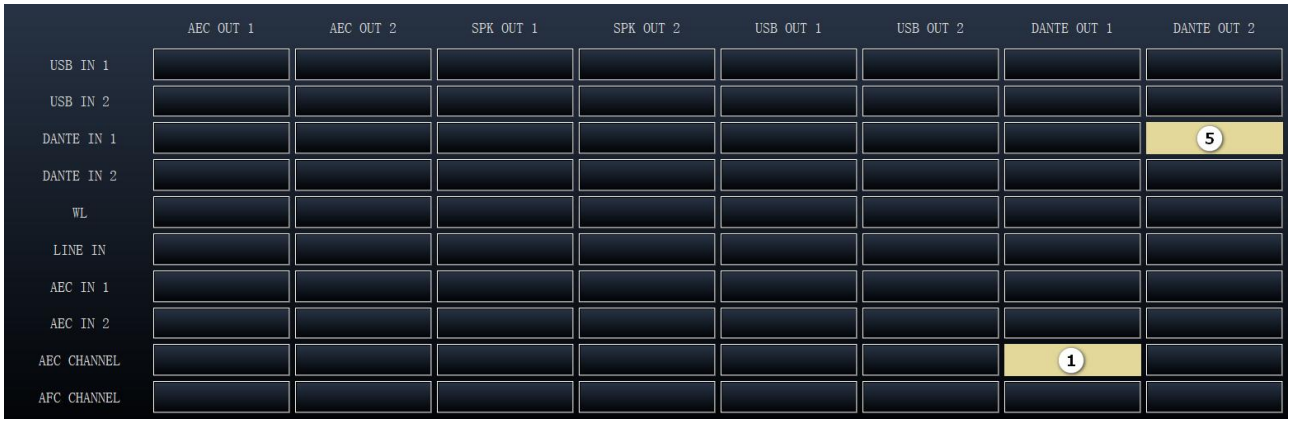
2. Local Sound Reinforcement Dante Controller Software Audio Routing:



- Microphone -> Local Sound Reinforcement Audio Routing: ① -> ② -> ③.

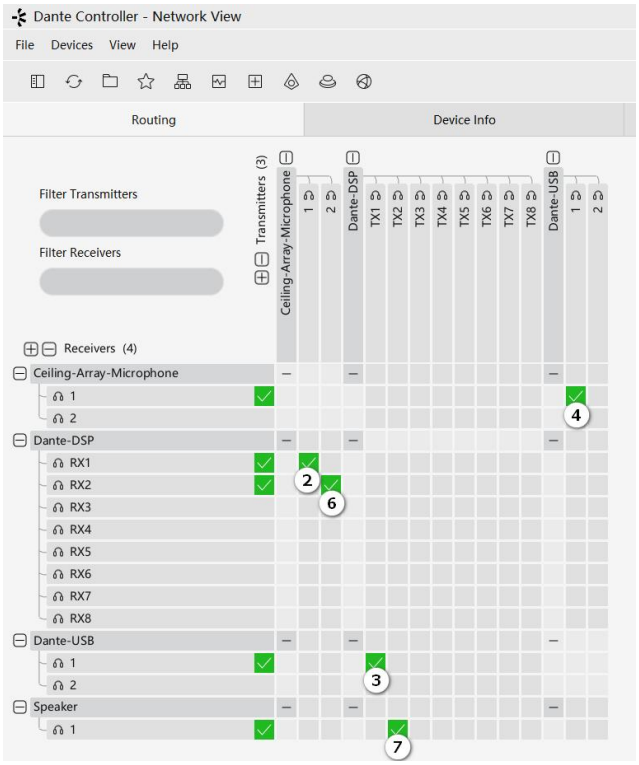
7.3 Remote Interaction Audio Routing

1. Remote Interaction Microphone Matrix Mixing:



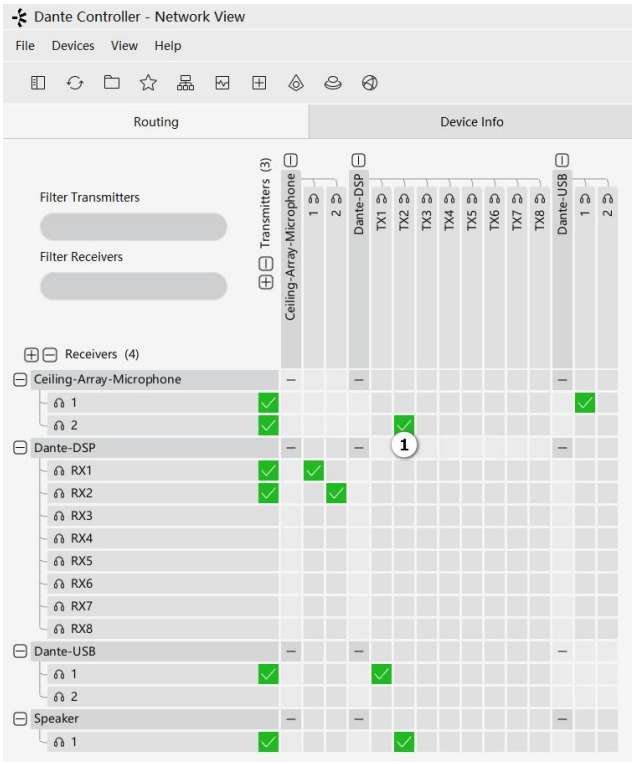


2. Remote Interaction Audio Routing via Dante Controller Software:



- Microphones -> Remote Audio Routing: ① -> ② -> ③;
- Remote -> Local Speaker Audio Routing: ④ -> ⑤ -> ⑥ -> ⑦.

3. Remote Interaction Feedback Audio Routing via Dante Controller Software:



Feedback: This refers to the signal from the microphone, after passing through AEC, being sent to the “DANTE OUT 2” channel for output, then returning to the microphone’s “DANTE IN 2” channel as a reference signal. Audio routing: ① -> ②.

If you can still hear your own echo at the remote end, select “DANTE IN 2” and click “OK” to enable feedback; otherwise, set it to “No Feedback Signal” 

.

Warranty Regulations

The warranty period of this product is 1 year.

In the warranty period of non-man-made damage caused by the product performance failure can enjoy three packages of service.

Warranty card by the sales unit stamped after the effective. The alteration is invalid!

The following conditions (including, but not limited to, this) are not covered by the three-package service:

1. No warranty card or missing valid invoice or the date has exceeded the validity period of the three packages of services;
2. Not in accordance with the requirements of the product instructions for use, maintenance, management and damage caused;
3. The product model or code on the warranty voucher does not match the physical goods;
4. Damage caused by the dismantling and repair of non-authorised service providers;
5. Normal discolouration, wear and tear and consumption during the use of the product are not covered by the warranty;
6. The product cannot be used due to the user's own network reasons, please consult customer service staff.



SHENZHEN S TRACK SCIENCE TECHNOLOGY CO., LTD

Web: www.s-track.com.cn Tel:+86 755 29983191 Mail:service@s-track.cn

Add: 9F, 1B, Shangzhi Technology Park, Guangming District, Shenzhen City, Guangdong Province, China 518107