

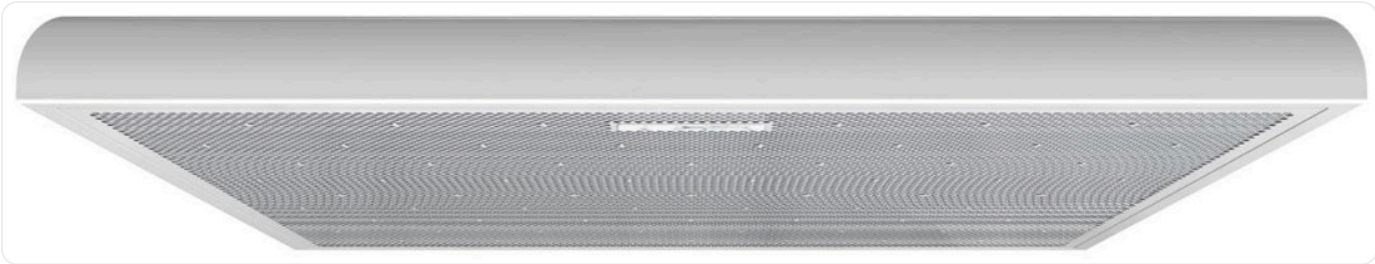
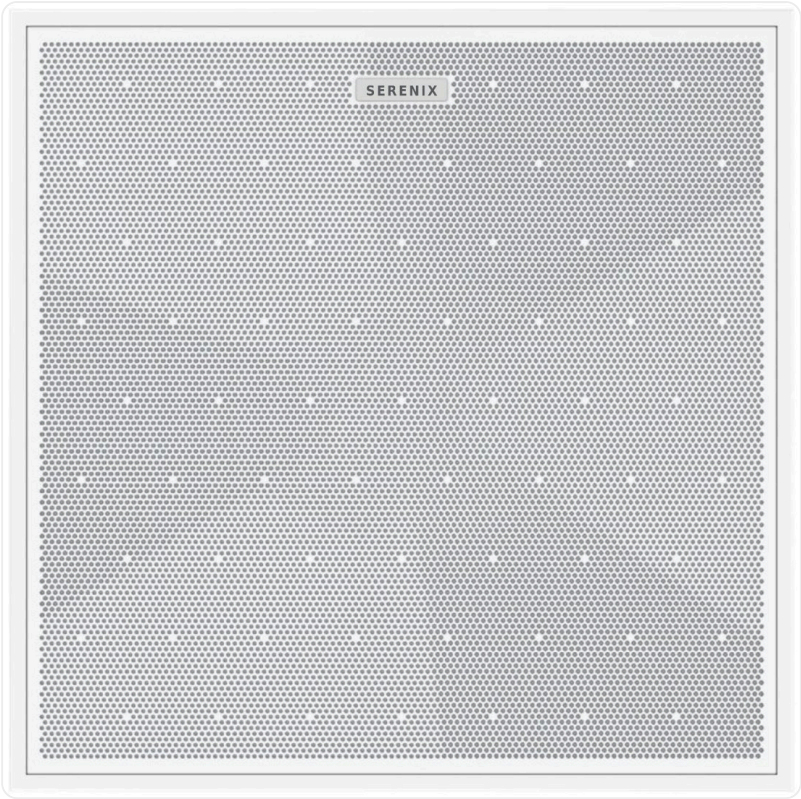
SOUND REINFORCEMENT · CEILING ARRAY MICROPHONE

SR-MC128D

Seamless sound reinforcement ceiling array microphone

- 128 mic elements
- 8 m pickup radius
- Dante · USB · Analog
- PoE / DC 12–48 V

USER MANUAL & SPECIFICATION SHEET



INTRODUCTION

Sound reinforcement ceiling array microphone

Thank you for using the seamless sound reinforcement ceiling array microphone. Please read this manual carefully to ensure safe and correct operation of the equipment. Please keep this manual properly for future reference.

The seamless sound amplification ceiling array microphone consists of 129 high fidelity microphones, designed with a composite circular array layout to provide the necessary pickup sampling conditions for the algorithm; The CPU adopts a professional audio processor (8-core, 6T high computing power) and is equipped with industry-leading audio signal processing algorithms, such as 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, traditional audio processing + AI deep algorithm dual engine architecture, dynamic beamforming, etc., which can effectively improve the quality of voice amplification interaction; The design adopts a professional audio composite circular array layout microphone, which can achieve 17 amplification areas and 33 pickup areas, with an amplification distance of 4 meters and a pickup distance of 8 meters, effectively picking up sound from any position in the pickup area; Built in cascading function module, capable of cascading multiple seamless sound reinforcement ceiling array microphones; Built in Dante module to achieve network audio transmission function. Built in advanced algorithms that automatically match various scenes, whether it is the effect of local amplification or the effect of outputting to remote terminals, can achieve clear and high fidelity vocals.

Note: Our company may upgrade our products and firmware in the future, which may differ slightly from this user manual. All interpretation rights belong to our company.

§ Matters needing attention

- 01 Please comply with relevant national laws and not use this product for any illegal purposes.
- 02 Working temperature: 0–40 degrees Celsius, please use at the specified temperature.
- 03 Working humidity: < 90%; this product does not have complete waterproof function.
- 04 During transportation and storage, it is necessary to prevent heavy pressure to avoid damage to the product.
- 05 Except for the installation of the suspension rod, other installation methods of this product must be fixed by hoisting with ropes.
- 06 Built in cascading function, capable of cascading multiple microphone seamless sound reinforcement ceiling array microphones.
- 07 Built in Dante module, capable of digital audio network transmission function.
- 08 Please do not disassemble the product without authorization. If you encounter any problems during use, please contact after-sales service.
- 09 When installing and deploying, it is necessary to ensure that the suspended microphone is installed firmly to prevent it from falling off.
- 10 During installation and deployment, cables and equipment should be kept as far away as possible from strong electrical signal sources.

UNPACKING & FEATURES

Unpacking inspection

When opening the outer packaging box, please check for any obvious damage to the appearance and confirm that the items match the list below.

ACCESSORY NAME	SPEC.	QTY
Sound reinforcement ceiling array microphone	PCS	1
Power adapter (output: DC 24V / 2.7A)	PCS	1
Product suffix power cord (1.5M)	PCS	1
Infrared remote controller	PCS	1
3.81 spacing, 6P Phoenix wiring plug	PCS	4
3.81 spacing, 4P Phoenix wiring plug	PCS	1
Lifting accessories package (four M5 lifting rings, four 3-meter steel wire ropes, four spring hooks, 4 disc codes, 12 self tapping wires, and 12 rubber plugs)	PCS	4
User manual	PCS	1

§ Functional features

- 01

Wide sound pickup. The seamless sound amplification ceiling array microphone is composed of a 129 unit omnidirectional array microphone, with a sound amplification distance of 4 meters and a sound pickup distance of 8 meters, achieving true seamless sound amplification wherever you go.
- 02

High volume. The sound feedback gain is $\geq 15\text{dB}$. With a higher volume, it is less likely to howl and makes speaking without burden.
- 03

Clean sound. Implant ClearVoice AI deep algorithm to accurately recognize sound, remove various noises, and enhance speech signals.
- 04

High flexibility. Supports custom setting of positioning pickup, supports 33 pickup zones and 17 amplification zone mode settings, and can support multiple cascaded adaptation to different scenarios.
- 05

Easy to expand. Rich analog and digital (Dante, USB) audio interfaces, can be used independently, and can be connected to wireless microphones, without the need for additional audio processors.
- 07

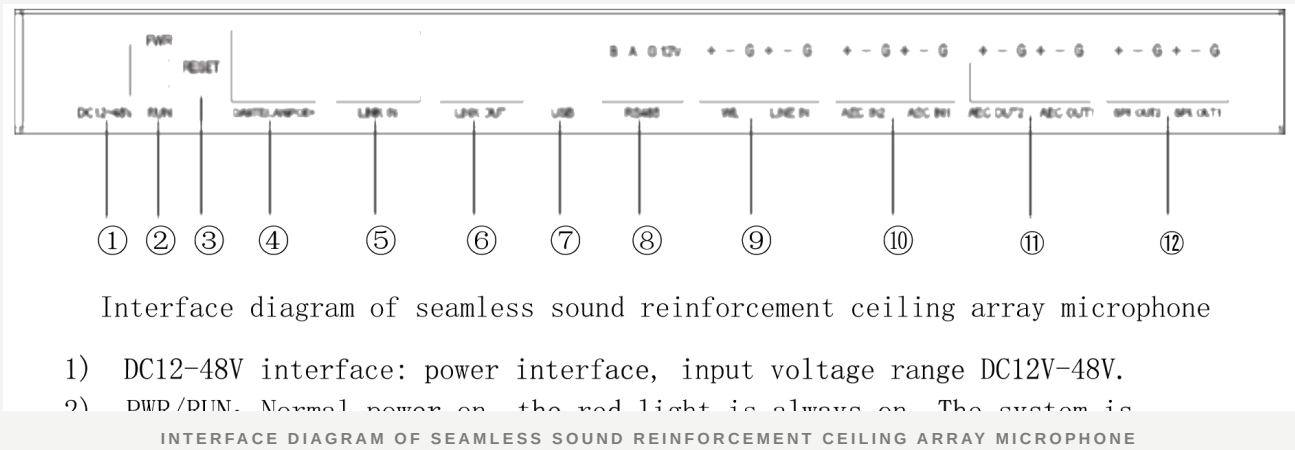
Easy to manage. The system is simple and provides multiple external control methods such as infrared, 485, and network to meet different needs and make the system more flexible.

PRODUCT INTRODUCTION

One ceiling unit for the whole room

The seamless sound amplification ceiling array microphone makes conference sound administration simple and efficient, with an ultra wide pickup range. Whether it's a small room with 30 people or a large auditorium with 800 people, every corner can hear the speech clearly. Equipped with a low latency ClearVoice AI algorithm, it can automatically block interference such as keyboard sound and air conditioning noise, greatly improving meeting focus. Using dynamic beams, intelligent zone recording during discussions, and automatic tracking of the speaker's voice during speeches. During remote meetings, the sound is as authentic and natural as face-to-face communication. Simplify the system — no longer need to fill it with microphones; devices are hidden in the ceiling, and their presence is almost imperceptible during meetings, providing a clear and smooth communication experience.

§ Interface function — rear panel



- 01 · DC 12-48V — Power interface, input voltage range DC 12V-48V.

02 · PWR/RUN — Power on — red on; running — green on.

03 · RESET — Restore factory settings.

04 · DANTE — Dante / network interface / POE power supply port.

05 · LINK IN — Cascade link input network port.

06 · LINK OUT — Cascade link output network port.
- 07 · USB — Type-C firmware upgrade; USB 2.0 audio.

08 · RS485 — 485 control interface; output DC 12V / 0.4A.

09 · WL/LINE IN — Wireless mic / external PC analog input.

10 · AEC IN 1/2 — Remote audio (reference signal) analog input.

11 · AEC OUT 1/2 — Remote analog audio output.

12 · SPK OUT 1/2 — The speaker simulates audio output.



Rear connector bay

REAR PANEL — CONNECTOR BAY

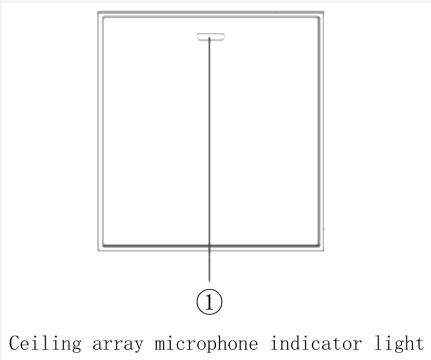


Rear connector bay detail

REAR PANEL — CONNECTOR DETAIL

OPERATION

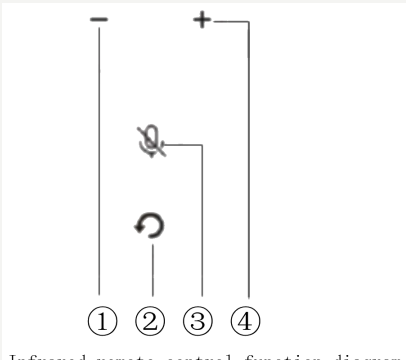
Indicators & infrared remote



CEILING ARRAY MICROPHONE INDICATOR LIGHT

Indicator light function

- On power on, the red, blue and green lights cycle on.
- During normal operation, the green light remains on continuously.
- When muted for local amplification, the red light remains on.



INFRARED REMOTE CONTROL FUNCTION DIAGRAM

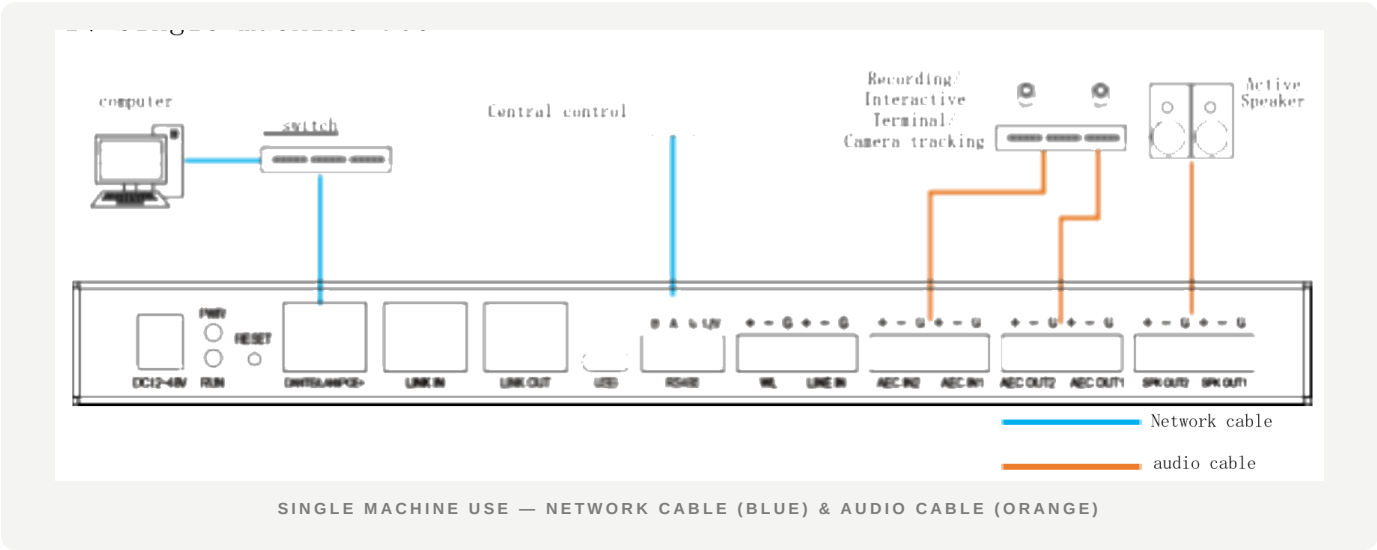
Infrared remote control

① Volume -	Reduce the local amplification volume of the ceiling array microphone.
② Restore	Restore the ceiling array microphone to the default volume.
③ Mute	Control mute / unmute of the ceiling array microphone (local amplification).
④ Volume +	Increase the local amplification volume of the ceiling array microphone.

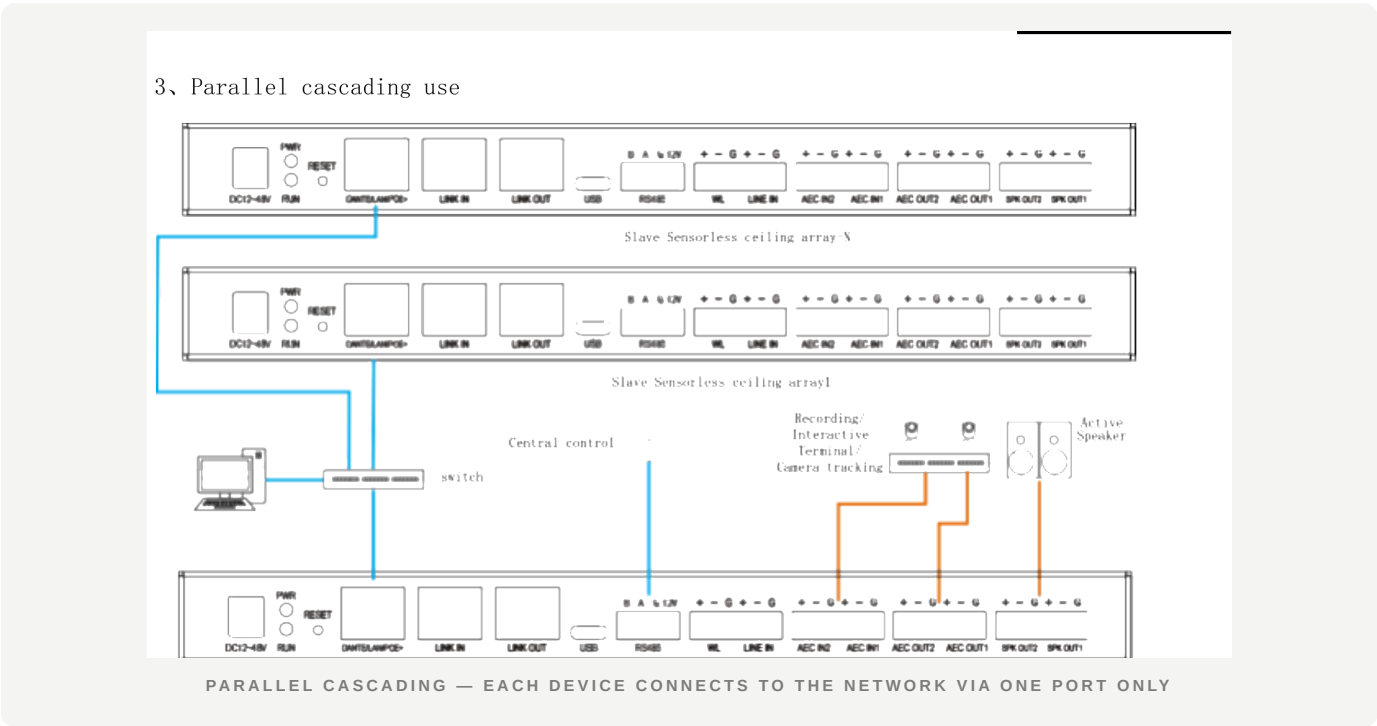
USAGE & INSTALLATION

Connection modes

1 Single machine use



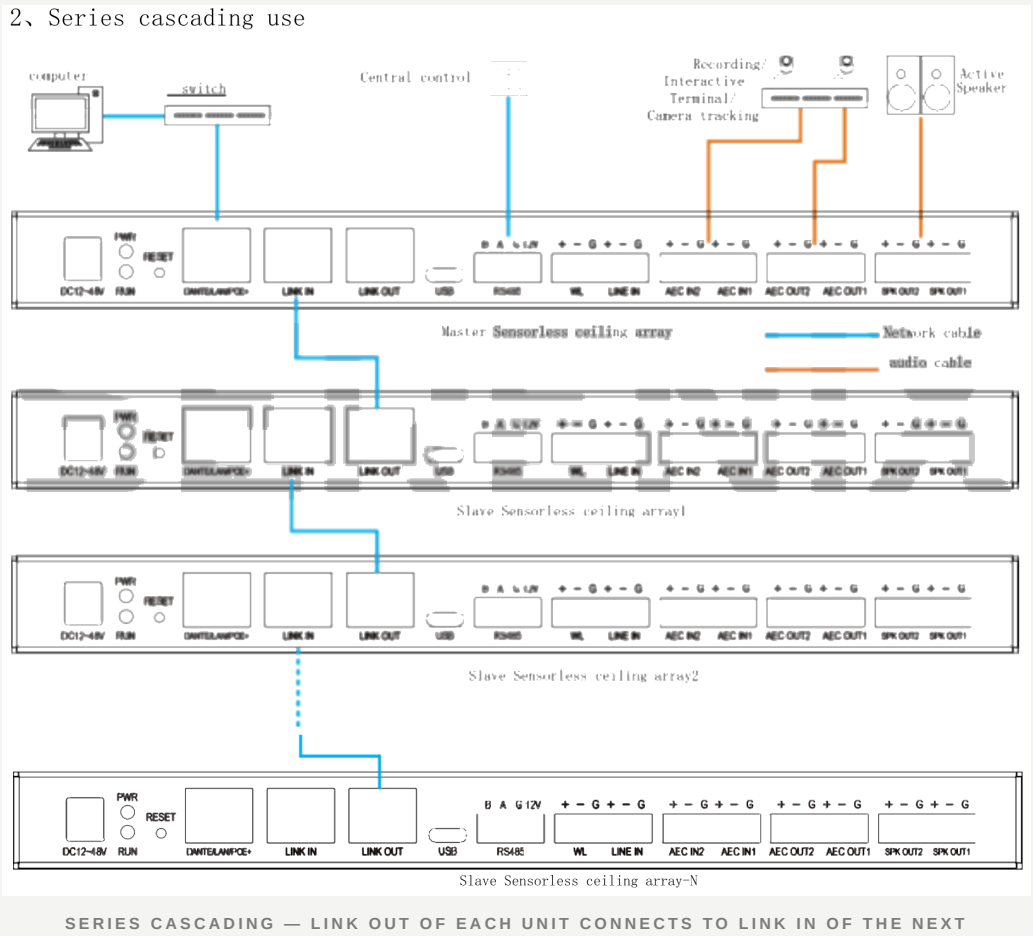
3 Parallel cascading use



USAGE & INSTALLATION

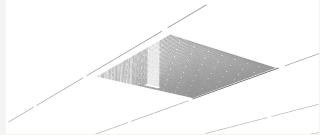
Series cascading & mounting

2 Series cascading use



§ Installation methods

4、Installation method 1: Embedded into the ceiling (must be suspended and fixed with ropes)



METHOD 1
Embedded into the ceiling

Recessed into a suspended ceiling grid. Must be suspended and fixed with ropes.



Installation Method 2: Suspension Rod Installation

METHOD 2
Rope hoisting

Suspended using the four 3-metre steel wire ropes and spring hooks.



METHOD 3
Suspension rod

Rigid drop-rod mount — the only method not requiring ropes.

PRODUCT PARAMETERS

Specifications

A · ALGORITHM SPECIFICATIONS

Support algorithm	AFC · ANS · AEC · AGC · ARR
Sound feedback gain	≥ 18 dB
Noise reduction amplitude	≥ 30 dB
Echo cancellation amplitude	≥ 90 dB
Echo cancellation length	≥ 1 s
Reverberation suppression	≥ 18 dB
Maximum gain	≥ 30 dB
AI noise reduction	Support
Automatic mixing	Support
Beamforming / Source localization	Support

B · MICROPHONE SPECIFICATIONS

Number of microphones	128
Sensitivity	-32 ± 2 dB
Signal to noise ratio	70 dB
Frequency response	75 Hz – 20 kHz

D · OTHER SPECIFICATIONS

Dimensions (L × W × H)	600 × 600 × 42.8 mm
Net weight of equipment	6.03 kg
Operation temperature	0 °C – 40 °C
Storage temperature	-20 °C – 60 °C
Colour	Pearl White

C · HARDWARE SPECIFICATIONS

Sampling rate	48 kHz
Frequency response	20 Hz – 20 kHz, ±0.5 dB
Signal to noise ratio	100 dB
Degree of distortion	≤ 0.1%
SPL	120 dB
Input impedance (balanced)	20 kΩ
Output impedance (balanced)	200 Ω
Maximum input level (balanced)	4 dBu
Maximum output level (balanced)	10 dBu
Dante audio	Support
Cascade function	Support
485 central control interface	Support
Input power supply	DC 12V – 48V / POE
Power	25 W

PRODUCT USAGE

Configuration & firmware

1 Client configuration software

1.1 Compatible operating systems: Windows 7 (64-bit), Windows 10 (64-bit).

1.2 Compatible hardware: PCs with mainstream office and home configurations can run normally.

1.3 Installation: No installation required — the .exe file can be directly opened and used.

1.4 Remote network requirement: Same local area network.

2 Configuration debugging

2.1 After the device is installed and deployed according to the requirements, run the client configuration software **micDemo.exe**.

2.2 The default IP address of the device at the factory is **192.168.1.100**, subnet mask **255.255.255.0**, gateway **192.168.1.1**. Please add the IP address of the network segment in the PC first. The PC and the smart audio host must be in the same network segment to connect properly.

2.3 Default parameters: A recommended parameter configuration is built in at the factory based on typical application scenarios. Parameters can be adjusted and saved on site according to the actual sound field environment.

2.4 Restore default parameters: Factory default parameters can be restored in the client software.

3 Firmware upgrade

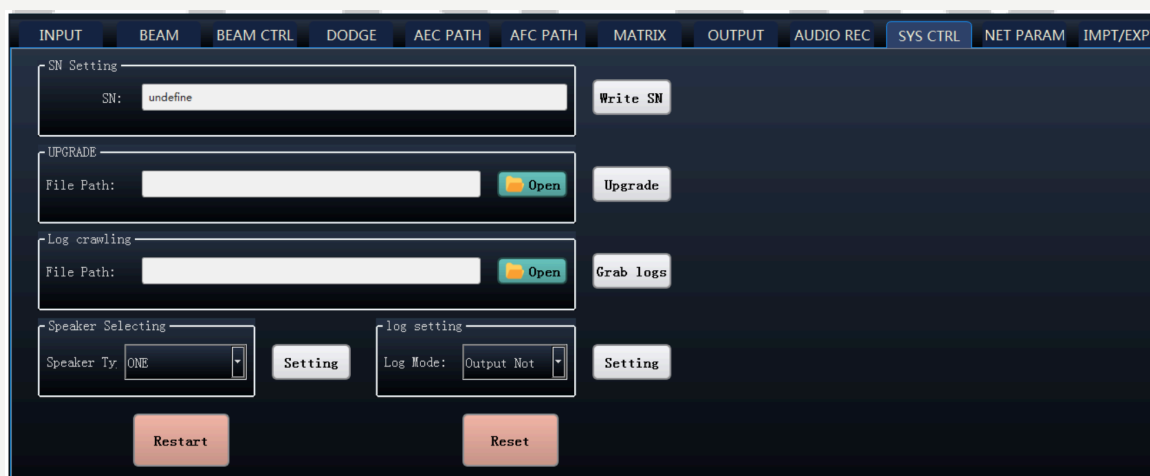


FIGURE 6.1 — UPGRADE INTERFACE DIAGRAM

Connect the device; after the system finds the device, perform a firmware upgrade. Open the client → **System Control** → **Firmware Upgrade**, select the upgrade file path, import the specified upgrade file into the system, and click **Start Upgrade** to automatically complete the upgrade. During the upgrade the parameter configuration remains unchanged; a successful upgrade will automatically restart. After reconnecting the device, restore the factory settings again.

TROUBLESHOOTING

Troubleshooting

PHENOMENON	REASON	SOLUTION
PC tool cannot be opened	Antivirus software restrictions	Close antivirus software.
	Tool damage	Update PC tools.
The network cannot communicate normally	Network reasons	Check the device status light.
		Check the PC network to ensure consistency between network segments and devices.
		Hardware RESET restores default; use the default network for search.
		When cascading in series, the LINK IN of the previous unit connects to the LINK OUT of the next; the last unit cannot be connected to the network.
		When cascaded in parallel, each device can only have one network port connected to the network.
		Three network ports cannot be connected to the same network at once — only one port can be connected.
Low output volume	Network port malfunction / Equipment failure	Check the PC network port light status; if faulty, depot repair.
	Configuration issues	Check the input and output configuration status.
	Output gain level	Each AEC OUT and SPK OUT output has hardware analog gain adjustment, 4 levels: 0 dB, -12 dB, -18 dB, -24 dB (default 0 dB).
	Wiring malfunction	Check that the input and output wiring is correct.

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