iSpeaker CM710

Digital Ceiling Microphone Array

User manual V1.0

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1. Introduction

The iSpeaker CM710 is a digital array microphone with embedded architecture, beamforming, professional digital audio processing, 8 meters long distance voice pickup, Intelligent voice tracking and full duplex communication.

The iSpeaker CM710 adopts anti-reverberation technology, which can clearly remove the reverberation of environmental noise, and provide you with excellent voice pickup at a 8m long distance. The CM710 digital array microphone available in ceiling mounting, wall-mounted and desktop use in audio and video conferencing, education classrooms, supporting daisy-chaining via PoE network cables.

With a coverage of up to 200 m², there's still no better solution for larger meeting rooms and lecture or collaboration spaces than our industry-leading iSpeaker CM710 ceiling microphone.

The CM710 is a real problem-solver that allows cable free tables and flexible furniture arrangement, while benefits like higher audio quality, efficient setup, simple management and control, a sleek design, and a sustainable impact.

2. Features

- Digital array microphone, 8 meters long-distance crystal-clear voice pickup
- Innovative daisy-chaining, supporting up to 4 units cascaded.
- Type-C interface, plug and play.
- PoE interfaces, support long-distance power supply and data transmission.
- Intelligent Voice Tracking
- Intelligent noise reduction, echo cancellation, reverberation suppression and full duplex communication
- Adaptive beamforming technology provides adaptability to different sound environments. With speech reinforcement, the microphone minimizes interference and keeps speech clear all the time.
- Supports dual-mode digital or analog audio outputs.
- Multiple Audio Algorithms, High Quality of Sound
- Simply Installation, Plug and Play
- Using standard USB (TYPE-C) and 3.5 mm audio interface, zero configuration design, plug and play.
- Available for ceiling mounting, wall mounting and desktop use.
- Made of aluminum alloy, exquisite and durable design
- Ceiling, wall mounting or on desktop, true hands-free lecture and presentation solution.
- Compact appearance, easy to install and maintain.

3. Interfaces

3.1 iSpeaker CM710 microphone

Front   Bottom

Indicator

1	2	3	4	5
LINE-OUT/AUX	PREV	NEXT	POWER	⛢
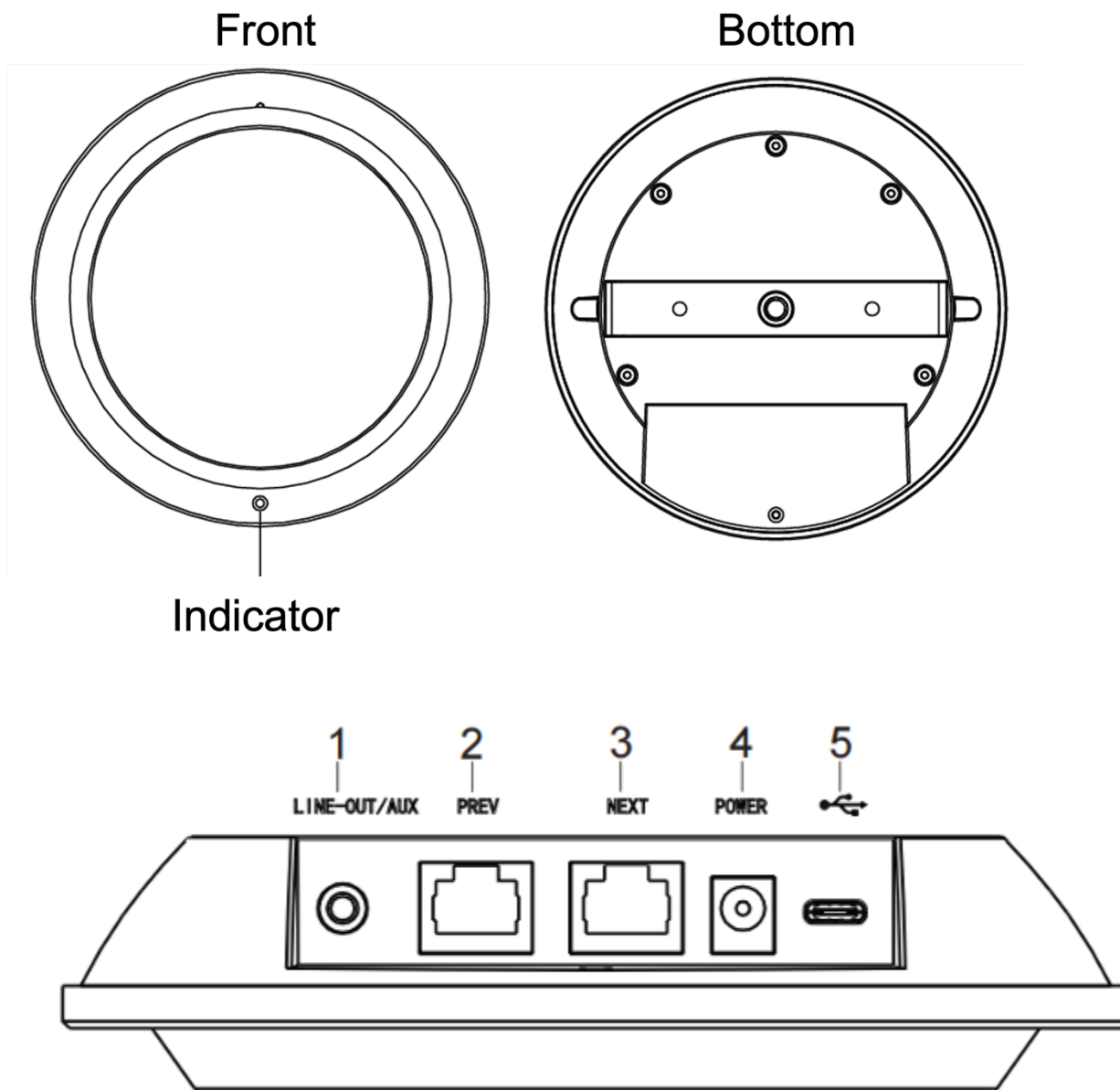
1. LINE-OUT/AUX: Local upstream audio/PC downstream audio (Not working simultaneously.)
2. PREV: Connect the previous daisy-chaining microphone (with PoE power supply)
3. NEXT: Connect the next daisy-chaining microphone (with PoE power supply) or connect to the CM710-Hub/ CM710-Mixer.
4. POWER: DC 12V-1A Power IN

5. USB: USB power supply + audio transmission. Connect to PC.

3.2 iSpeaker CM710-Hub
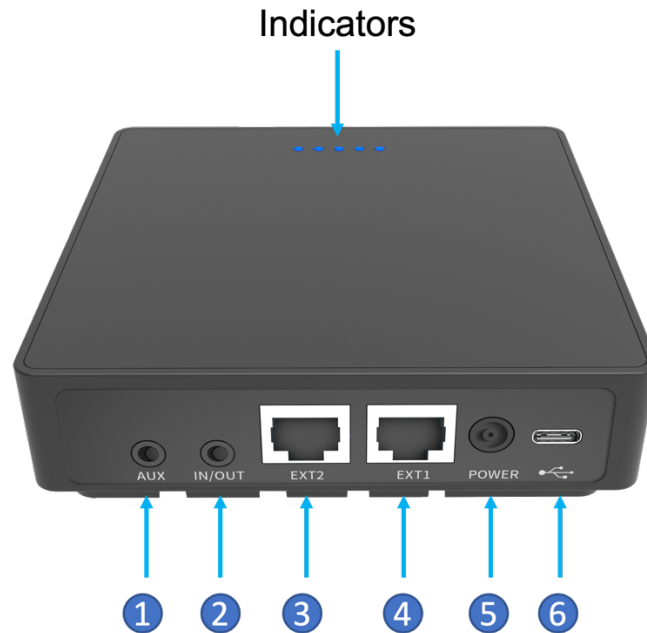

Indicators
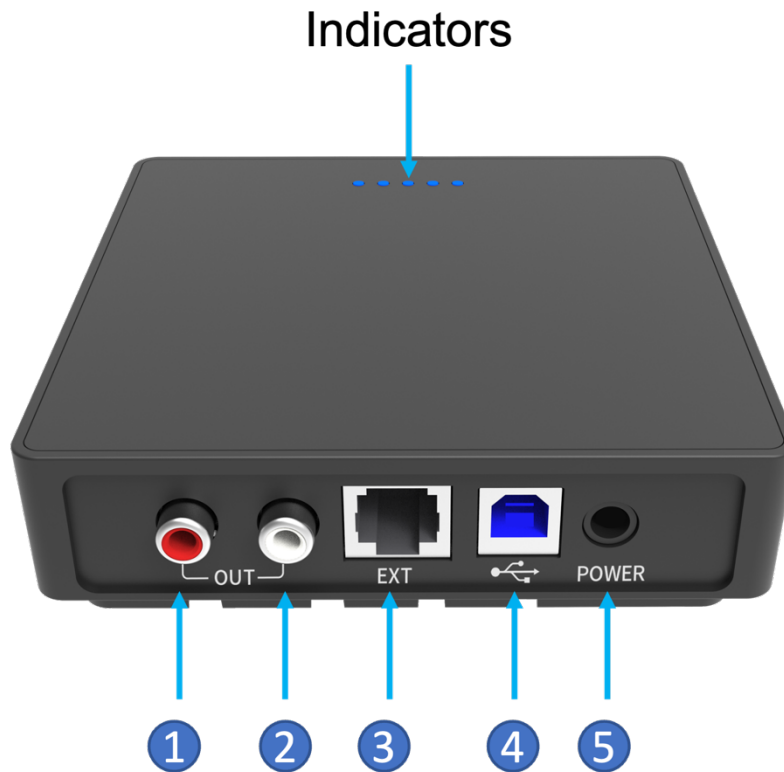
1 OUT: Audio output
2 OUT: Audio Output
3 EXT: Connect to iSpeaker CM710 microphone, PoE.
4 USB Host: Connect to PC or conference terminal.
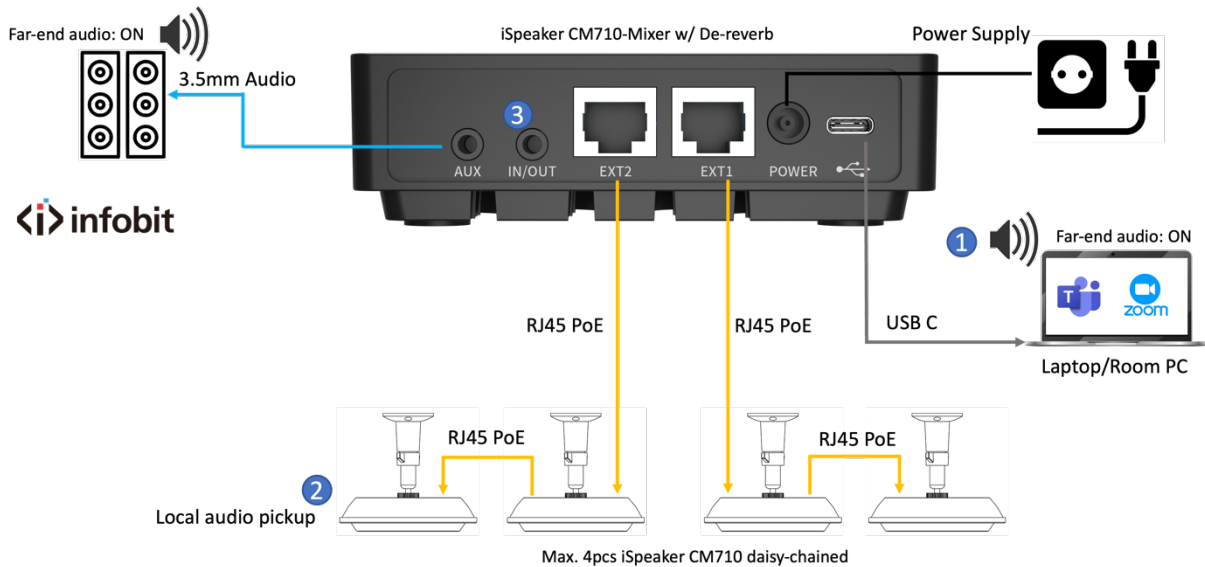5 Power: Power supply DC12V 1A

3.3 iSpeaker CM710-Mixer

Indicators

1 AUX: Audio output of far-end signal
2 IN/OUT: Connect to PC. Does not work with the USB C port simultaneously.
3 EXT2: Connect to iSpeaker CM710 microphone. Extend by PoE up to 10m.
4 EXT1: Connect to iSpeaker CM710 microphone. Extend by PoE up to 10m.
5 Power: Power supply, DC12V 2A
6 USB C: Connect to Host PC.

Far-end audio: ON

3.5mm Audio

iSpeaker CM710-Mixer w/ De-reverb

③

AUX   IN/OUT   EXT2   EXT1   POWER

Power Supply

Far-end audio: Mute

①

3.5mm Audio   RJ45 PoE   RJ45 PoE

Laptop/Room PC

② Local audio pickup

RJ45 PoE   RJ45 PoE

Max. 4pcs iSpeaker CM710 daisy-chained
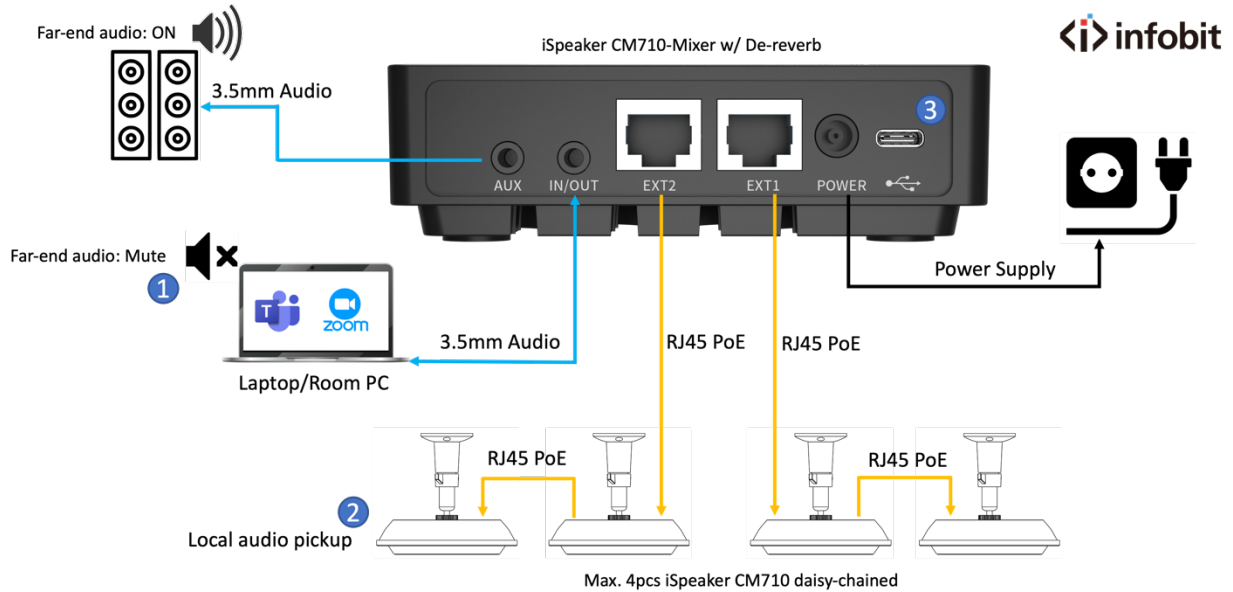
① Mute the PC speaker: to avoid sound reverberation

② To use the ceiling microphones to pickup the local sound, the user need to select the CM710 in VC software, don't select PC mic.

③ By this way connection through 3.5mm IN/OUT, the USB C is unnecessary to be connected. The 3.5mm and USB C don't work simutaneously.

By 3.5mm connection

Far-end audio: ON

3.5mm Audio

iSpeaker CM710-Mixer w/ De-reverb

Power Supply

③

AUX   IN/OUT   EXT2   EXT1   POWER

① **Far-end audio: ON**

USB C

Laptop/Room PC

RJ45 PoE   RJ45 PoE

② Local audio pickup

RJ45 PoE   RJ45 PoE

Max. 4pcs iSpeaker CM710 daisy-chained

① The PC also can output the far-end audio since the CM710-Mixer has de-reverberation processing.

② To use the ceiling microphones to pickup the local sound, the user needs to select the CM710 in VC software, don't select PC mic.

③ By this way connection through USB C, the 3.5mm is unnecessary to be connected. The 3.5mm and USB C don't work simutaneously.

By USB C connection

4. Connection

4.1 Standalone mode (short distance)

If the user needs to place the iSpeaker CM710 at desktop or short distance to the PC, a single unit iSpeaker CM710 can be connected to the PC directly through single USB cable. Normally the USB cable is only at 1 to 3 meters, if for long distance, we recommend using our iCable series USB extension cables which support maximum 40 meters. If the user needs to mount the microphone in the ceiling at a far distance, then the iSpeaker CM710-Hub or CM710-Mixer will be needed.
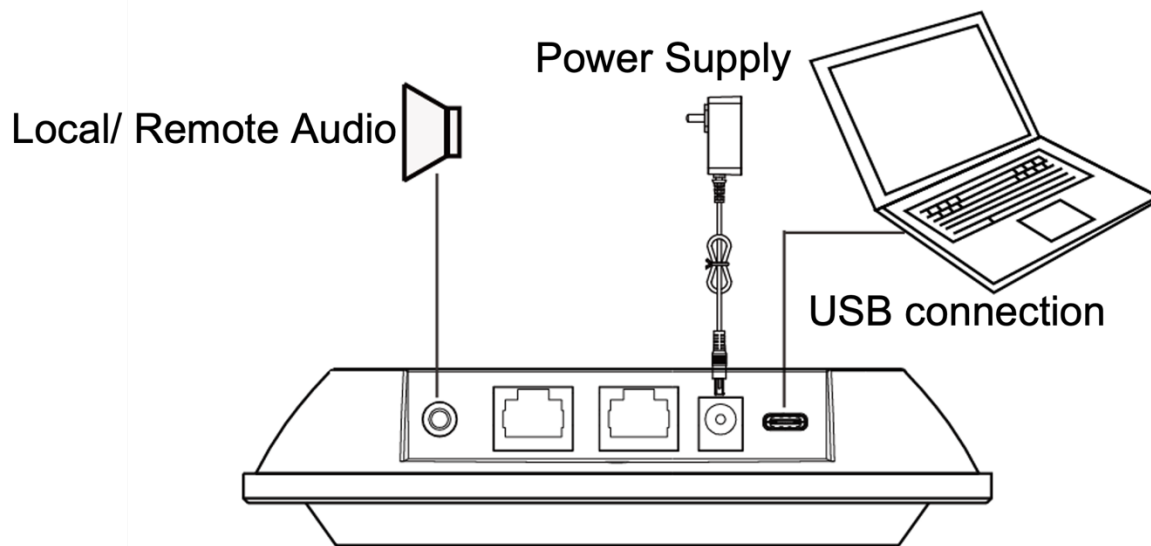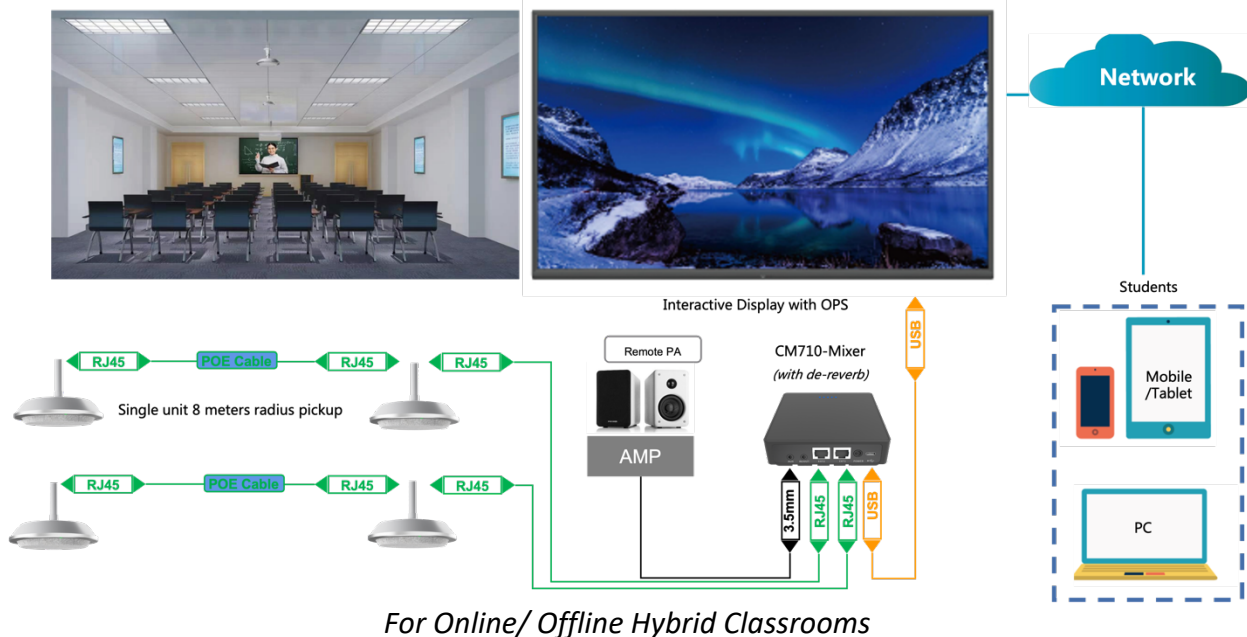
4.2 Standalone mode (long distance with CM710-Hub)

The iSpeaker CM710-Hub is used to connect between the microphone and the PC by extending the distance up to 10 meters via network cable which is much easier for installation.

Network cable connection
(power supply by POE)

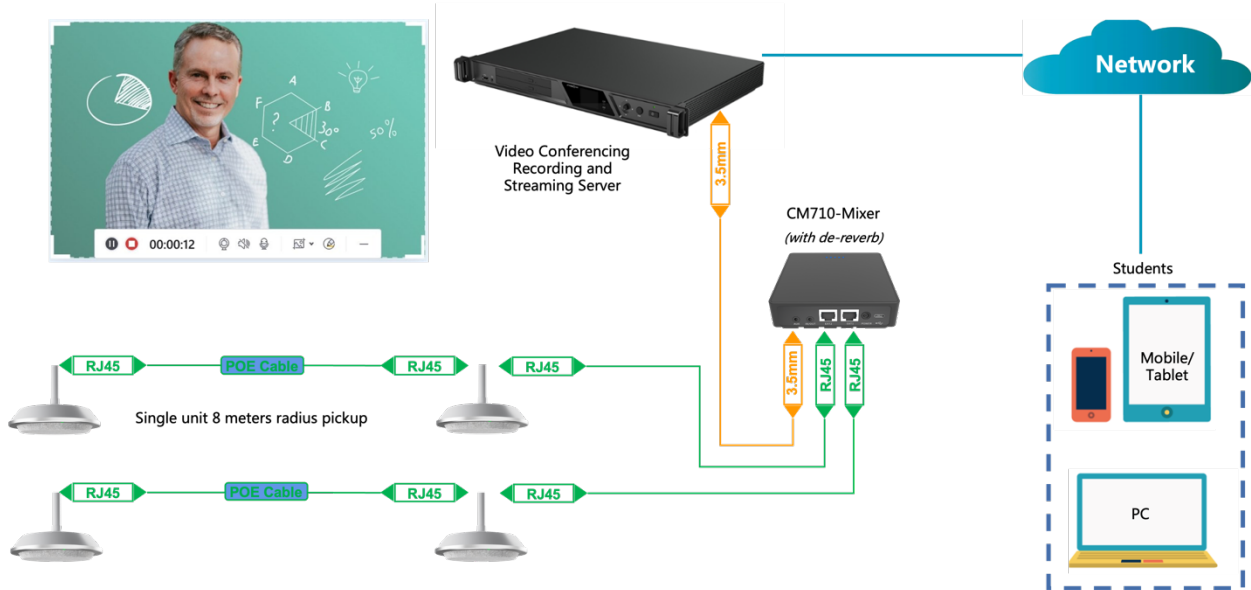OUT   OUT   EXT   POWER

HUB(optional)
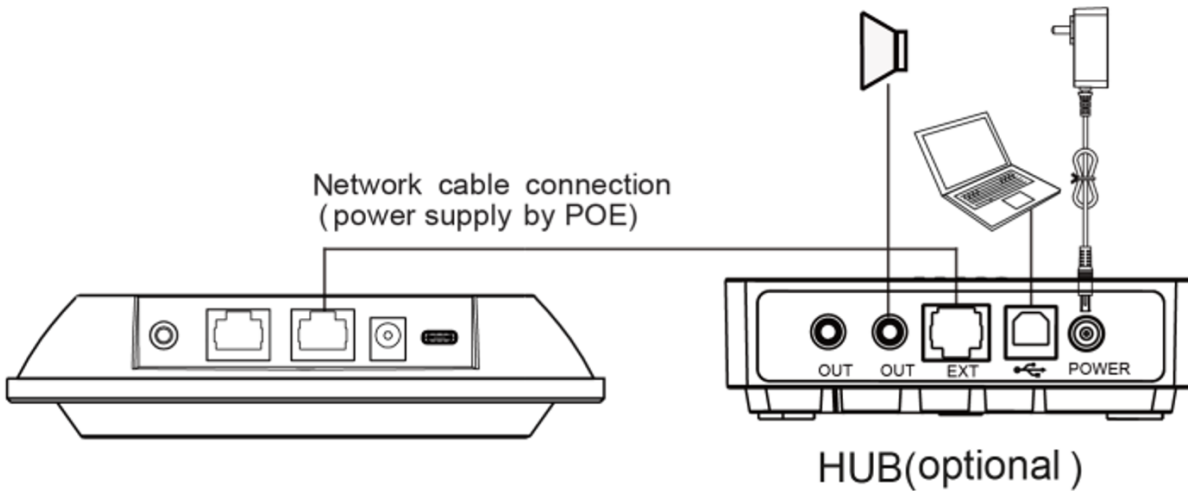
4.3 Daisy-chain mode (short or long distance with CM710-Mixer)

The iSpeaker CM710-Mixer is used to connect between the microphone and the PC by extending the distance up to 10 meters via network cable which is much easier for installation, and it support De-reverb function to eliminate unwanted noise or background sound from AC/ Fan or other environmental sounds.
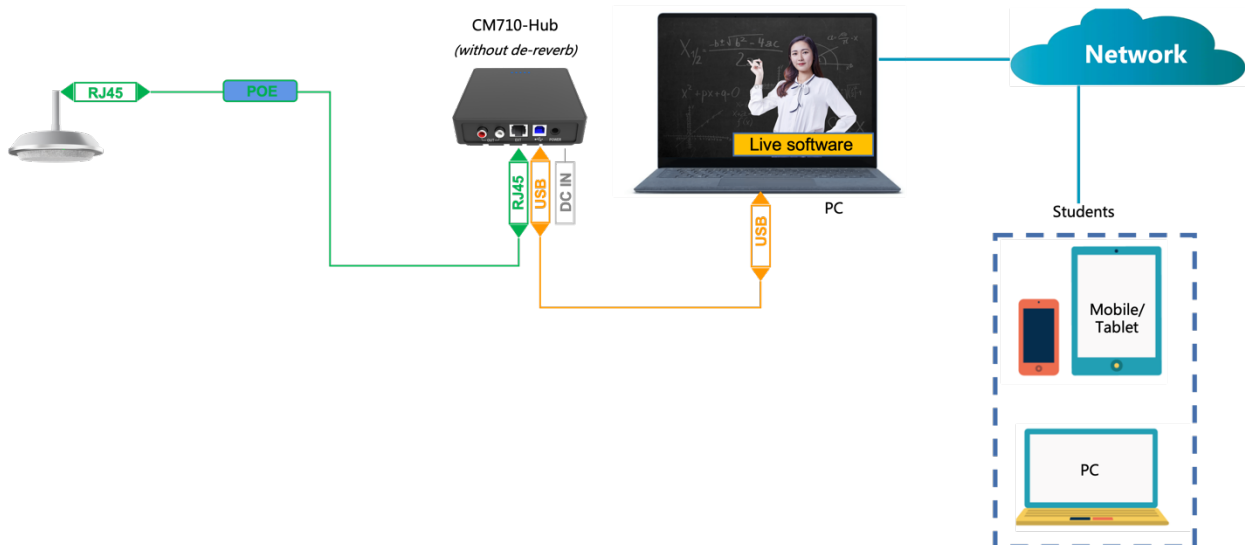

Online & Offline Hybrid Classroom: *Interactive display with OPS*

For Online/ Offline Hybrid Classrooms

infobit

Professional Education recording & Broadcasting

Video Conferencing
Recording and
Streaming Server

3.5mm

CM710-Mixer
(with de-reverb)

Network

3.5mm | RJ45 | RJ45

00:00:12

RJ45 — POE Cable — RJ45 | RJ45

Single unit 8 meters radius pickup

RJ45 — POE Cable — RJ45 | RJ45

Students

Mobile/
Tablet

PC

For Professional Education recording or broadcasting

infobit

Computer Recording/Live Classroom
Quickly set up a simple recording and live broadcast class

CM710-Hub
(without de-reverb)

Live software

Network

RJ45 — POE

RJ45 | USB | DC IN

USB

PC

Students

Mobile/
Tablet

PC

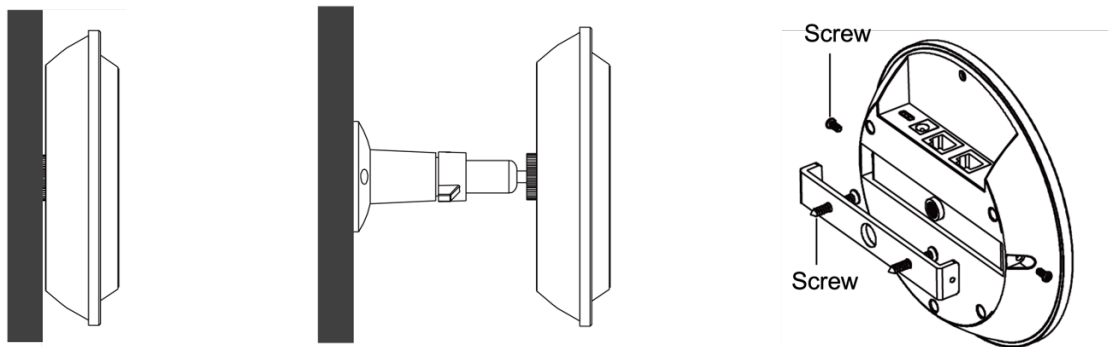*For computer recording or live streaming*

5. Mounting

Note: When installing, it is necessary to drill holes in the wall, insert the expansion bolts into holes, and finally fix them with screws. The microphone can be mounted to the ceiling or wall with or without the rotatable mount bracket (included in the package by default).

5.1 Ceiling Mounting
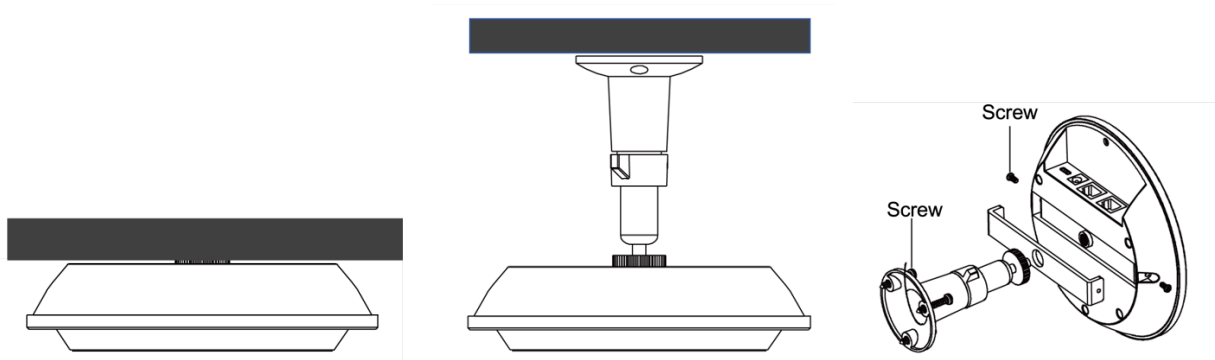
5.2 Wall Mounting

6. Spec

Model	iSpeaker CM710
Name	**Daisy-chaining Digital Ceiling Microphone Array**
Digital Array Microphone (Model: iSpeaker CM710)	
Microphone Type	Omnidirectional Microphone
Built-in Mic	Built-in 10 Microphone Array
Pickup Distance	8 Meters
Sensitivity	-26 dBFS
Signal Noise to Ratio	>95 dB(A)
Frequency Response	20Hz - 16kHz
Samping Rate	32kHz Broadband Sampling
USB Protocol	Support UAC
3A Algorithm	AEC/ANS/AGC
Daisy Chain	Max. 4 via RJ45
Interface	1x DC12V, 2x RJ45, 1x 3.5mm,1x Type-C
Digital Array Microphone HUB (Model: CM710-Hub)	
Audio	Audio Long-distance Transmission, Audio Data Communication
Interface	2x 3.5mm OUT, 1x RJ45
USB Interface	1x USB-B
Power Supply	DC12V
Powered By	POE
Digital Array Microphone Mixer (Model: CM710-Mixer)	
Audio	Audio Long-distance Transmission, Audio Data Communication
Interface	2x 3.5mm (1x AUX OUT; 1x IN/OUT), 2x RJ45 PoE, 1x Power, 1x USB C
USB Interface	1x USB-C
Power Supply	DC12V
Powered By	PoE