iSpeaker

All-in-One Speakerphone with UC controller

Model: iSpeaker CM800
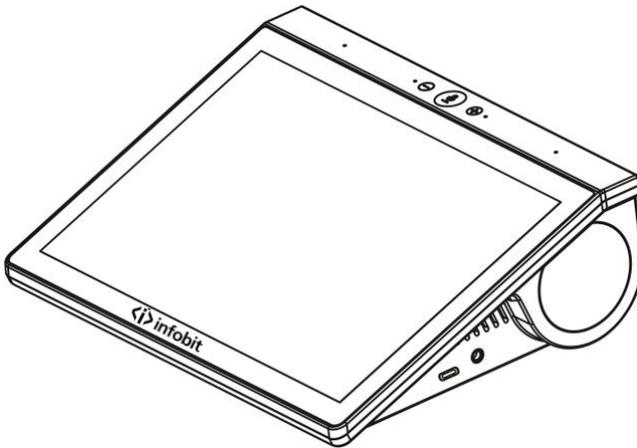
User Guide

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⚠ Warning

This is class A production. Electromagnetic radiation at specific frequencies may affect the image quality of TV in home environment.

Catalog

1 Packing List

When unpacking, please check and confirm all accessories that should be provided.

ISpeaker CM800 x 1	Power Adapter x 1	HDMI Cable x 1
USB Cable x 1	User Guide x 1	

2 About Product

This iSpeaker CM800 is a touch screen device that integrates multiple conference functions, and can be flexibly deployed in a variety of application scenarios. The main application scenarios include speaker phone, hands-free headset, voice meeting bridge, and android tablet with touchscreen.

2.1 Product Features

All-in-one Unit

The main unit integrates a microphone array with high SNR and a high-fidelity speaker.
It can be connected to computers, video terminals, mobile phones, etc. via USB, 3.5mm, and Bluetooth, and be used as a microphone and a speaker with AEC (Auto Echo Cancellation), AGC (Auto Gain Control) and ANS (Auto Noise Suppression).

Built-in Audio Console and Status Indicator

Using the Audio Console app, you can quickly adjust the input and output gains of various audio interfaces, and display the connection status in real time. Flexible mixing and routing supporting multiple input and output.

Android Tablet with Touch Screen

The device has a 10.1-inch capacitive screen, running android 8.1 system. The third-party conference control applications such zoom controller can be installed to control your conferences or terminals.

HDMI Input

The HDMI input can be connected to a computer to display and present wirelessly to TV.

Built-in VoIP

Built-in VoIP client supports H.323 and SIP.

Bluetooth

The device can be connected to a mobile phone via Bluetooth, used as a headset.

Multiple Power Supply Methods

Support power supply with DC adapter, PoE switch, and PD (requires host side support).

2.2 Appearance and Interface
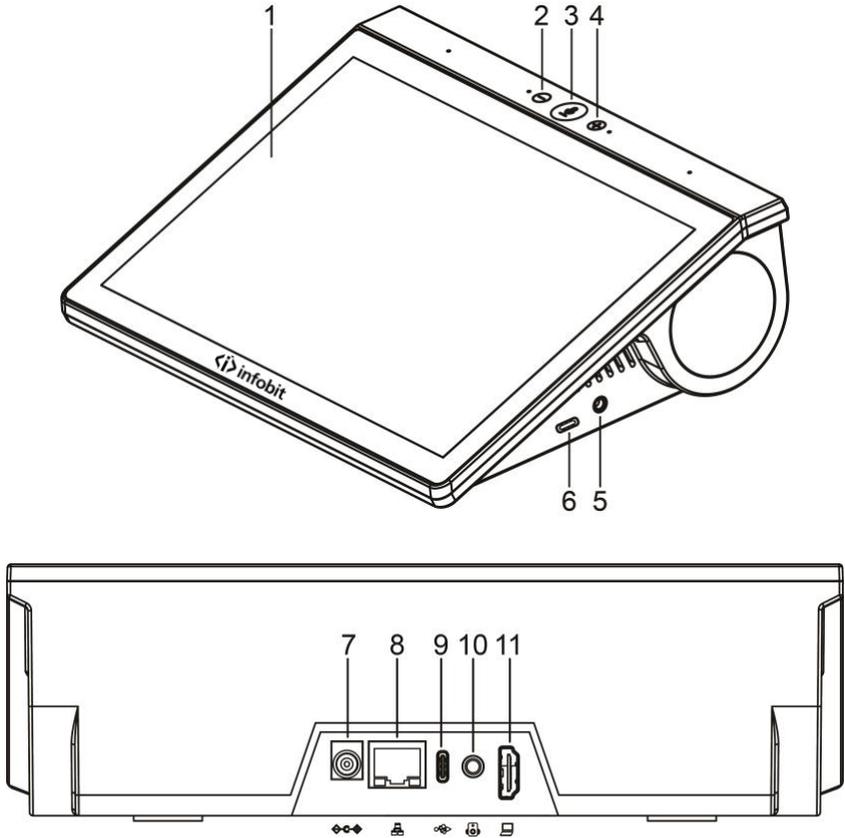
No.	Name	Function
1	Touch Screen	Touch input and display
2	Volume -	Decrease the volume of the built-in or external speakers

No.	Name	Function
3	Power/Mic Key and LED	When power off: Short press to power on. When power on: Short press to mute/unmute built-in microphone. LED is green when microphone is unmuted, and red when microphone is muted. Long press for 3 seconds to show power option. Long press for more than 5 seconds to force reboot.
4	Volume +	Short press to increase the volume of the built-in or external speakers
5	Phone 3.5	3.5mm audio in/out that can be connected to mobile phones or computers
6	Type-C	Type-C interface, used to connect the expansion microphone.
7	DC 12V	Connect to DC adapter
8	NET	10M/100M Ethernet, support PoE
9	Type-C	USB interface that supports USB Audio (UAC)
10	AUDIO	3.5mm audio out that can be connected to external speaker
11	HDMI	It can be connected to a computer

3 Connection and Power On/Off

3.1 Connection Cable

The cable connections shown in the following figure contains optional configurations. They are for reference only. Please connect cables according to actual needs.
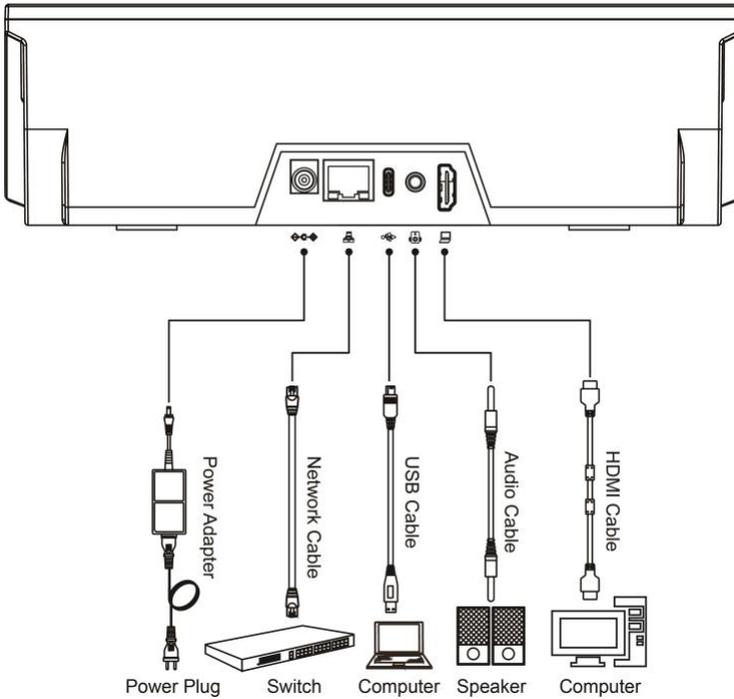
3.2 Power On/Off

Power On

- Non-power-on state: plug in the power source and the device will automatically turn on.
- Shutdown state: Short press the power button to turn on the device.

Restart

- Long press the power button for 3 seconds to let go, the "Shutdown and Restart Options" pops up, and select restart.
- Long press the power button for 5 seconds to let go, and the device restarts.

Power Off

- Unplug the power cord of the device and shut down.
- In the power-on state, press and hold the power button for 3 seconds, and the "Shutdown and Restart Options" pops up, and select shut down.

Standby

In the power-on state, press and hold the power button for 3 seconds, the "Shutdown and Restart Options" pops up, and select standby.

4 Audio Control

Audio Console software is the built-in audio central control software of the device, which can finely configure various audio input and output interfaces of the device. After the device is started, short press the floating ball on the system desktop to run the application. Audio Console interface Figure 4-1:
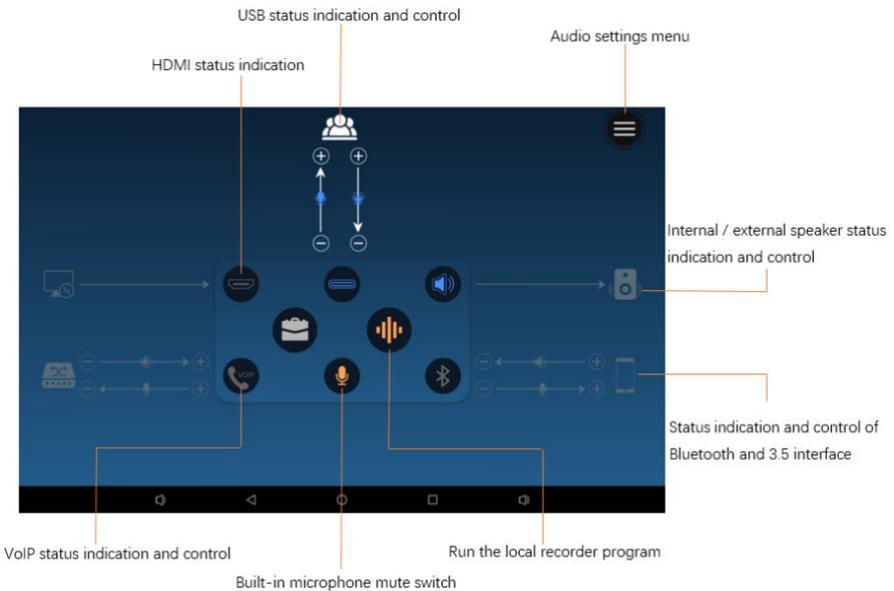
Figure 4-1 Audio Console operation interface

Audio Console buttons and instructions:

- Status indication: gray indicates "not connected"; blue indicates "connected"; red indicates "mute".
- Gain adjustment: Click "✚" or "━" to increase or decrease the gain.
- Microphone mute or speaker mute; click "Microphone icon" or "Speaker icon" to complete the microphone mute, or speaker mute.

4.1 Built-in Microphone

Short press the microphone icon 🎤 to switch the built-in microphone pickup or mute.

4.2 Built-in Speakers & External Speakers

Click the speaker icon 🔊 in the gray area to pop up the volume adjustment bar. Click the
"volume icon" 🔊 on the left side of the adjustment bar to quickly mute the sound.

Key points of speaker operation:

- When the external audio equipment is not connected, the volume of the built-in speaker
  is adjusted.

- When an external audio device is connected, it adjusts the volume output to the external
  audio device. At this time, the built-in speaker switches to a silent state.

- Directly press the "blue speaker icon" to quickly turn off the sound. When the sound is
  turned off, the status indicator icon is red.

⚠️ Warning

The interface is plugged into a 3.5mm audio head, it is recognized as connecting to an external
speaker.

4.3 USB Connection Instructions

⬛ It is a USB connection status indicator, gray means USB is not connected, Blue means
USB is connected. Slide the gain bar above the indicator to adjust the USB audio input and
output gain.

- The gain bar with the arrow outward, adjusts the audio gain output to the PC or terminal.

- The gain bar with the arrow inward adjusts the audio gain of the input device.

4.4 Phone 3.5 & Bluetooth

Click the gray area Phone3.5 indicator to pop up Bluetooth ⭐ and 3.5mm connection
interface. The interface includes the following functions:

Sub-module function:

- Provide a quick entry to establish a Bluetooth connection.

- Real-time display of Phone 3.5mm 🔘 or Bluetooth connection status ⭐

- Adjust the audio gain of the phone in headset mode.

Gain Adjustment:

- Control the Bluetooth audio gain when connected to the phone via Bluetooth only.

- When connected to a mobile phone via phone 3.5, control the audio gain of the phone 3.5 interface.

⚠ Warning

Plug the 3.5mm audio head into the interface, it is recognized as connected to the mobile phone.

4.5 HDMI

Provide HDMI connection instructions

4.6 Recording

Provide quick access to the recorder entrance. According to the recording and playback conditions, determine whether the built-in microphone and built-in speaker of the device are working properly.
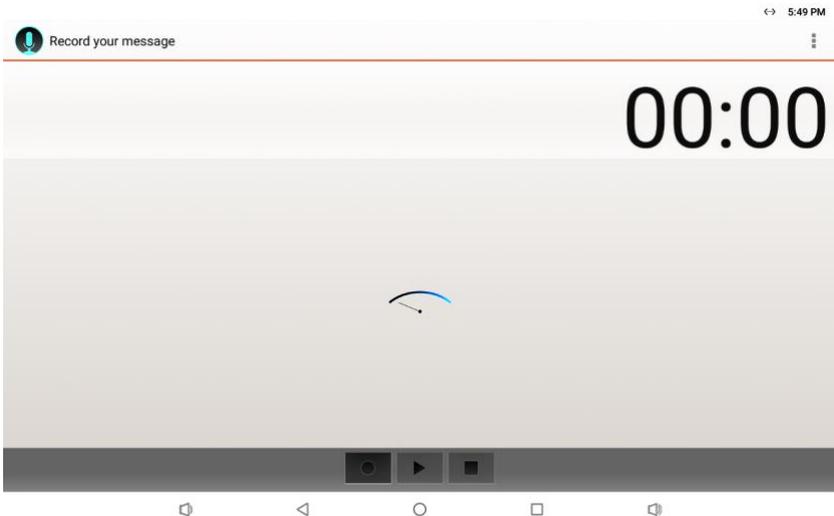
Figure 4-2 Recording Software

Recording tool description:

- Recording pointer: The rotation range of the pointer indicates the sound pickup volume of the built-in microphone.

- Three buttons: the left is to start recording, the right is to stop recording, and the middle is to play recording.

4.7 Audio Settings

Short press the upper right corner of the Audio Console interface ☰ to open

"Audio Settings".

"Audio Settings" menu description:

Browse "Audio Settings" > "Basic Settings" and select "Restore Default Settings" to restore all audio parameters of the device to default values.

Browse "Audio Settings"> "Advanced Settings", enable "Force Disable Built-in Microphone", or select "3.5 Interface Input Type on the Right".

For specific usage methods, please refer to "5.2 Headset Function" and "5.3 Connecting Gooseneck Microphone" in the Application Scenarios section.

⚠️ Warning

Please connect the 3.5 interface on the right before configuration.

5 Application Scenarios

Before setting up and using, please read and understand the relevant content of the

"Audio Console" part of this manual.

5.1 Speakerphone

The device can be used as a USB microphone and speaker for a computer or terminal, and the

device will enable the audio 3A function.

➢ **Connect to the Computer**

Step 1 Cable Connection

Use the standard USB to Type-C cable to connect the Type-C interface of the device to the

USB interface of the computer.

Step 2 Select an external audio device on the computer and adjust the input and

   output volume

Right-click the speaker in the computer taskbar to open the sound settings. Select this device

as the sound input and output device. Adjust the output volume through the volume property,

and adjust the audio input level through the "sound control panel".

Step 3 Built-in Microphone Mute

Mute the built-in microphone by short pressing the "Mute button" on the device panel.

Press the "volume button" on the device panel to adjust the volume of the built-in speaker.

Step 4 Adjust the device USB volume

Adjust the USB input and output volume via the Type-C audio control in the

Audio Console.

➢ **Connect Terminal**

Step 1 Cable Connection

Use the standard USB to Type-C cable to connect the Type-C interface of the device to the

USB interface of the terminal.

Step 2 Enable USB Audio on the Terminal

For details, please refer to the product manual of the terminal.

Step 3 Built-in microphone mute

Use the "Mute button" on the device panel to switch the mute or pickup state of the built-in microphone. Press the volume key on the device panel to adjust the volume of the built-in speaker.

Step 4 Adjust the device USB volume

Adjust the USB input and output volume via the Type-C audio control in the Audio Console.

5.2 Headset Function

The device can be used as an external microphone and speaker of the mobile phone, greatly increasing the pickup range and playback volume. At this time, there are two connection methods: 3.5 interface connection on the right or Bluetooth connection.

➢ **The 3.5 port on the right is connected to the phone**

Step 1 Connect to Mobile Phone

Connect the 3.5mm interface on the right side of the device to the 3.5mm interface of the mobile phone via a 3.5mm audio cable. If the audio interface type of the mobile phone is Type-C, a Type-C to 3.5mm adapter cable is required at this time.

Step 2 Select Interface Input Type

Browse to the upper right corner of Audio Console "Audio Settings> Advanced Settings"> 3.5 interface settings on the right and select "MIC" as the input type.

Step 3 Mute and Volume Adjustment

● Use the "Mute button" on the device panel to switch the mute or pickup state of the built-in microphone.

● Press the volume key on the device panel to adjust the volume of the built-in speaker. Open "Audio Console" to adjust Phone 3.5 audio input and output volume.

➢ **Bluetooth Connection to Mobile Phone**

If the Phone 3.5 interface of the device is connected, please unplug the right 3.5mm cable first.

Step 1 Turn on Bluetooth

Open the device "Audio Console", short press the Bluetooth switch, select "Use Bluetooth to connect to your phone", enter "Bluetooth Settings", and enable Bluetooth.

Step 2 Establish Bluetooth Connection

Turn on the Bluetooth on the phone, search for the Bluetooth device, find the device, connect the device and confirm "pairing". At this time, "Pairing Request" pops up in the status bar at the top of the device screen, click "Pairing and Connecting" to confirm pairing.

Step 3 Mute and Volume Adjustment

- Use the "Mute button" on the device panel to switch the mute or pickup state of the built-in microphone.
- Press the volume key on the device panel to adjust the volume of the built-in speaker. Use the Bluetooth audio gain control in the "Audio Console", adjust the Bluetooth audio input and output volume.

5.3 Connect Gooseneck Microphone

Gooseneck microphones are required for some usage scenarios. The device can be connected to an external gooseneck microphone, so that the built-in microphone and gooseneck microphone can pick up sound at the same time, or only the gooseneck microphone can be used to pick up sound. The specific steps are as follows:

Step 1 Connect Gooseneck Microphone

Connect the gooseneck microphone to the 3.5mm interface on the right.

Step 2 Interface Configuration

- Short press the floating ball on the system desktop to open the Audio Console application.
- Browse the upper right corner "Audio Settings"> "Advanced Settings"> 3.5 interface settings on the right and select "MIC" as the input type.
- Enable audio loopback (optional). If audio loopback is enabled, the sound picked up by the gooseneck microphone will be output from the built-in speaker of the device. At this time, the device is used as a local loudspeaker.

Step 3 Adjust Input Gain

Please adjust the input gain of the gooseneck microphone in the Phone3.5 gain bar in the Audio Console. For details, please refer to the "Phone3.5 & Bluetooth" section of the "Audio Control" section of this document.

Step 4 Forcibly close the built-in microphone (optional)

Navigate to "Audio Settings" > "Advanced Settings" in the upper right corner. After enabling "Forcibly turn off the built-in microphone", the device's built-in microphone is in the mute state, the built-in microphone indicator is red, and the built-in microphone pickup state cannot be switched by pressing the mute button shortly.

5.4 Bridge Access

When the participant is not next to the device and does not have the conditions to participate, you can join the conference by bridging the phone call to the current conference. Participants on the device side can pick up the sound through the built-in microphone of the device and play the sound through the built-in speaker; remote mobile phone participants can participate through the mobile phone. The specific steps are as follows:

Step 1 Device connected to the conference host

The Type-C interface of the device is connected to the PC or terminal that has joined the conference (hereinafter collectively referred to as the conference host). Set the conference host to pick up and play sound through the device.

Step 2 Adjust USB volume

Use the volume button on the device panel to adjust the volume of the built-in speaker to the best, and then use the Audio Console to adjust the USB audio input and output volume to the best audio state for the conference.

Step 3 Connect the device to the phone

The device is connected to the mobile phone via the Phone 3.5 interface or Bluetooth.

Step 4 Mobile phone calls for participants

Step 5 Adjust the 3.5 interface or Bluetooth volume

Use Audio Console to adjust the volume of Phone 3.5 or Bluetooth audio to its best and enter the meeting.

5.5 Wireless Projection

Wireless screen projection function refers to the device picture and sound projection to the TV screen and other display devices that support this function, so as to meet the needs of multiple people watching the same picture and listening to the same sound. With the built-in HMDI video preview software and audio routing function, PC images and audio can also be projected

to the TV screen. The following describes how to project the PC screen and audio to the TV screen through the device.

Step 1 The TV screen turns on wireless projection

Various brands of TV screens have different ways to turn on the wireless projection function, please refer to the TV screen instruction manual. Take Sony TV as an example, just select "Screen mirroring" as the signal source.

Step 2 PC screen and audio access device

● The PC projection port is connected to the HDMI port of the device via an HDMI cable.

● The PC headphone port is connected via a 3.5mm cable to the 3.5 port on the right side of the device or the PC via USB to the device Type-C port (optional, no audio is required if only the PC screen is projected).

● Find the "HDMI IN" application on the system desktop ⬛ and run the application to show the PC screen.

Figure 5-1 HDMI IN software interface

Step 3 Connect the device to the TV screen by wireless projection

● Short press the menu in the upper right corner of the HDMI IN software interface ≡ to show the software sub-menu and select "Wireless Projection" 🔲

Figure 5-2 HDMI IN Software Submenu

● Select the upper right corner of the "cast" interface ⋮ and check "Turn on wireless

   display". Select from searched device list and connect to the TV screen to be connected.
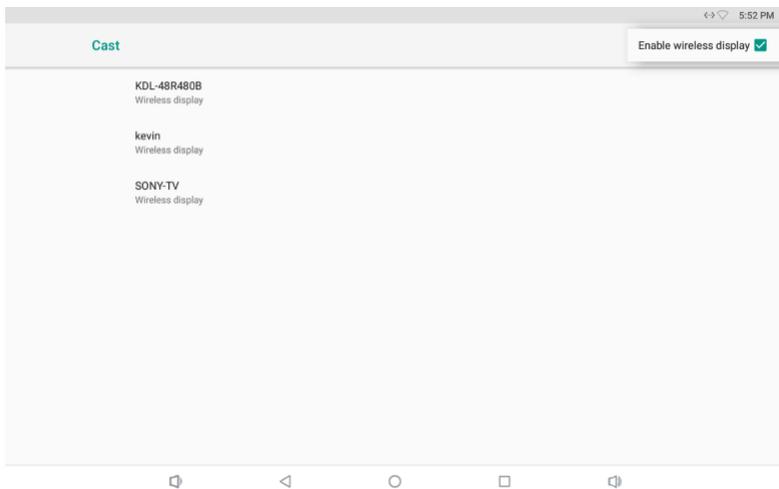
Figure 5-3 Projection Interface

Step 4 Press the return key at the bottom of the screen to return to the HDMI IN software

interface and continue to preview the PC screen; you can also press the "HOME

key" at the bottom to select other applications you want to demonstrate.

5.6 Android Conference Platform

The device provides an Android platform, and users can install the adapted meeting APP or meeting control software by themselves. Let's take "Zoom Control" as an example to introduce how to install the video meeting APP by yourself and how to control the volume.

Step 1 Connect Network

To connect the device to a wired or wireless network, please browse Settings > Network and Internet, set up WLAN or Ethernet.

Step 2 Install APP

You can open the device browser, search, download and install the APP or install the APP via the TF card. The following describes how to install the TF card.

● Copy Zoom Control APP to TF card.

● Insert the TF card into the TF card slot on the side of the device, pay attention to the pin side down.

● Open the "Explorer" on the device system desktop

● Browse the "SD Card" directory to find and click on Zoom Control APP.
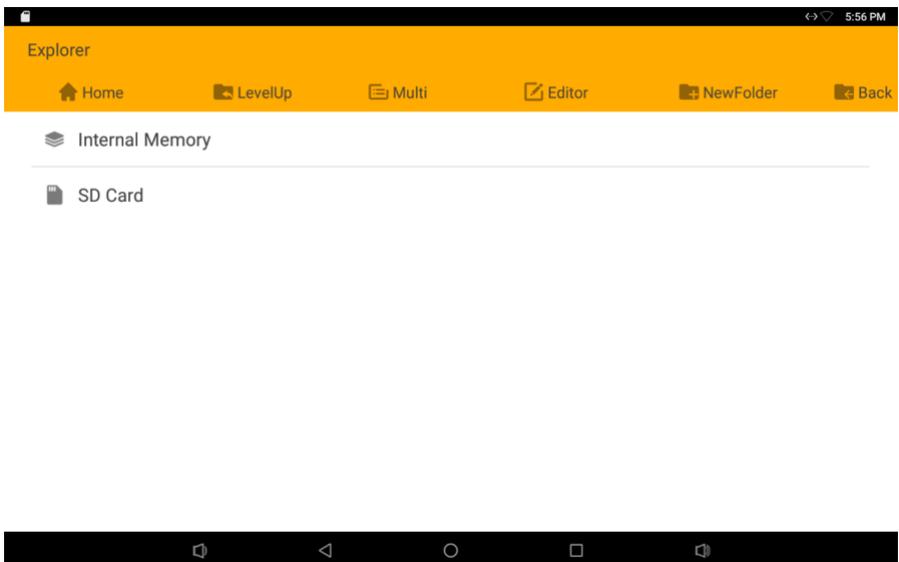
Figure 5-4 Resource Manager

● Click Settings after the installation authorization prompt pops up.
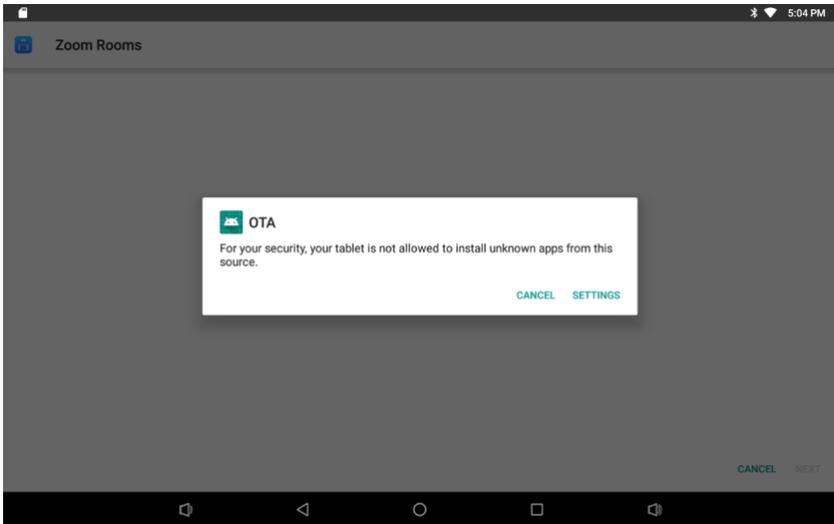
Figure 5-5 Installation authorization (1)

● Check "Allow Installation".
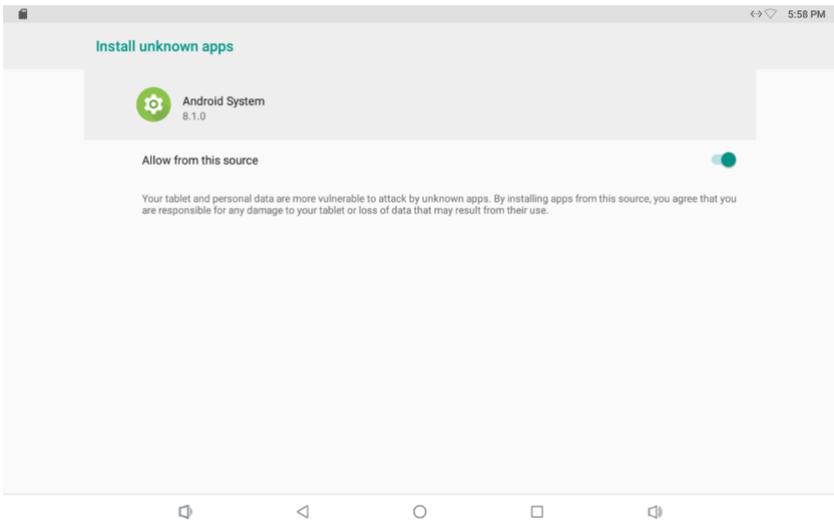
Figure 5-6 Installation authorization (2)

- After pressing the "return" button at the bottom of the screen, the program will automatically complete the installation.
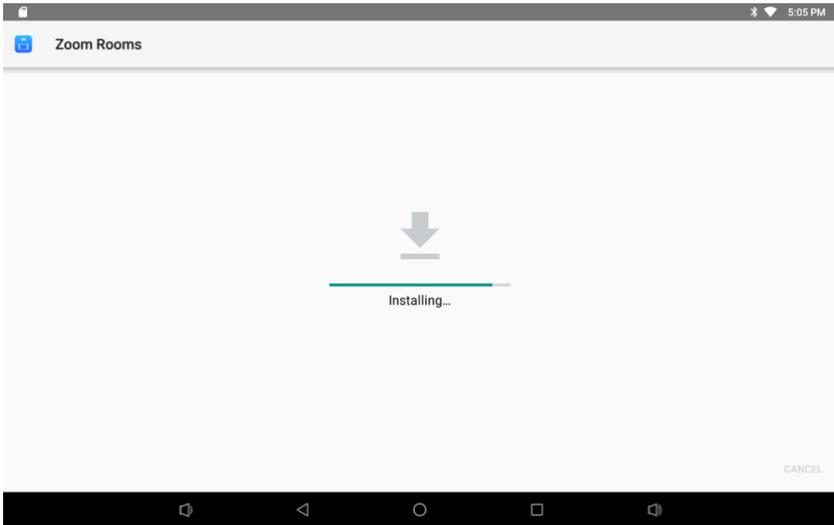
Figure 5-7 Installation Interface

- After the installation is complete, click "Open" to run "Zoom Control".
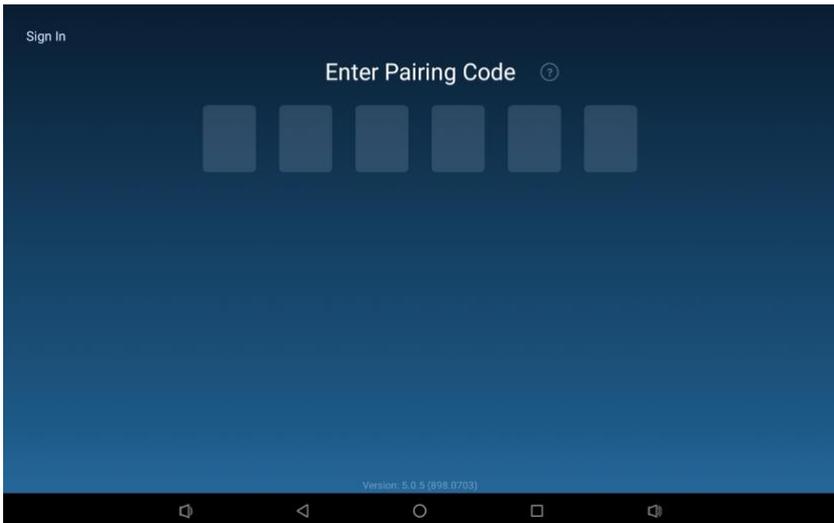
Step 3 Join video conference

Please follow the instructions of the software to complete registration, login, and joining the conference. For detailed steps, please refer to the official zoom control document.

Step 4 Mute and volume adjustment

● Short press the "Mute button" on the device panel to switch the mute state of the local microphone pickup.

● Press the "volume button" on the device panel to adjust the volume of the built-in speaker.

6 **System Upgrade**

The system supports TF card upgrade, HTTP upgrade, WEB upload upgrade.

6.1 TF card upgrade

The specific steps are as follows:

Step 1 Copy the version upgrade package "update.zip" to the root directory of the TF card.

  Note: You can copy the upgrade package on the computer to the TF card via a card reader.

Step 2 Insert this TF card into the TF card slot on the side of the device.

Step 3 After the system pops up the "Install Upgrade Package" prompt, select "Install".

Step 4 The system restarts, and an "upgrade progress bar" appears on the screen. After loading the upgrade package, the system restarts again and the upgrade is complete.

6.2 HTTP upgrade (supported by software upgraded)

The specific steps are as follows:

Step 1 Set up a simple HTTP upgrade server:

➤ The network between the server and the device to be upgraded is reachable (example, server_IP: 192.168.1.254, client_IP: 192.168.1.3).

➤ Visit the website https://www.rejetto.com/hfs/, download the hfs tool, and install hfs.

➤ Run hfs on the computer, browse the Virtual File System on the hfs panel, right-click the URL area, and select "add folder from disk".

➤ Browse the folder where the upgrade package is located, and then click "OK".

➤ Right click on the folder just created, select rename, and set the name (example: v1.0).

➤ Click the "port" option on the hfs panel, change the upgrade port (example: 8080), and set a port number that is not used by other services on the intranet.

➤ Browse Virtual File System and click on the newly renamed folder.

➤ The path box on the hfs panel shows the upgrade path: http://192.168.1.254:8080/v1.0/. This path is the network upgrade path that the device needs to fill in.

Step 2 The device runs "Upgrade Program" and select "Network Upgrade".

Step 3 Enter the upgrade path: http://192.168.1.254:8080/v1.0/.

Step 4 Click "Save", then the upgrade program pops up version confirmation, click "OK", the system enters the upgrade program