HIKVISION

Network Microphone

User Manual

Legal Information

About this Manual

The Manual includes instructions for using and managing the Product. Pictures, charts, images and all other information hereinafter are for description and explanation only. The information contained in the Manual is subject to change, without notice, due to firmware updates or other reasons. Please find the latest version of this Manual at the Hikvision website (https://www.hikvision.com/).

Please use this Manual with the guidance and assistance of professionals trained in supporting the Product.

Trademarks

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Other trademarks and logos mentioned are the properties of their respective owners.

Disclaimer

Regulatory Information

FCC Information

Please take attention that changes or modification not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC Compliance

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

FCC Conditions

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

EU Conformity Statement

This product and - if applicable - the supplied accessories too are marked with "CE" and comply therefore with the applicable harmonized European standards listed under the EMC Directive 2014/30/EU, the LVD Directive 2014/35/EU, the RoHS Directive 2011/65/EU.

2012/19/EU (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: www.recyclethis.info

2006/66/EC (battery directive): This product contains a battery that cannot be disposed of as unsorted municipal waste in the European Union. See the product documentation for specific battery information. The battery is marked with this symbol, which may include lettering to indicate cadmium (Cd), lead (Pb), or mercury (Hg). For proper recycling, return the battery to your supplier or to a designated collection point. For more information see: www.recyclethis.info

Industry Canada ICES-003 Compliance

This device meets the CAN ICES-3 (A)/NMB-3(A) standards requirements.

Safety Instructions

⚠Warnings

Laws and Regulations

The device should be used in compliance with local laws, electrical safety regulations, and fire prevention regulations.

Electrical Safety

Use a power adapter provided by qualified manufacturers. It is recommended to provide an independent power adapter for each device as adapter overload may cause over-heating or a fire hazard.

⚠️**Cautions**

Fire Prevention

No naked flame sources, such as lighted candles, should be placed on the equipment.

The serial port of the equipment is used for debugging only.

Maintenance

If the product does not work properly, please contact your dealer or the nearest service center. We shall not assume any responsibility for problems caused by unauthorized repair or maintenance.

Installation

Install the equipment according to the instructions in this manual.

To prevent injury, this equipment must be securely attached to the floor/wall in accordance with the installation instructions.

Make sure that the power has been disconnected before you wire, install, or disassemble the device.

Transportation

Keep the device in original or similar packaging while transporting it.

Do not drop the product or subject it to physical shock.

Using Environment

To avoid heat accumulation, good ventilation is required for a proper operating environment.

DO NOT expose the device to extremely hot, cold, dusty, corrosive, saline-alkali, or damp environments. For temperature and humidity requirements, see device specification.

Contents

Chapter 1 Overview

1.1 Product Features

The main features of the network microphone are as follow:

- Adopts multi-mic array, picking up sounds in the radius up to 10 meters.

- The built-in digital circuit is embedded with DSP processing unit and AGC technology to realize clear sound with high fidelity.

- With multi-mic array design and self-adaptive beamforming technology, the microphone reduces reverberation effectively.

- Supports accessing echo reference signal via line in interface, and with AEC algorithm, the microphone suppresses echo effectively.

- Supports 5-level noise reduction and auto noise reduction, avoiding environmental noise.

- The indicator is convenient for troubleshooting.

- Supports configuring parameters, updating software, and maintaining via network. The network audio stream can access to the camera, back-end device or Speech-to-Text Platform.

- 32 kHz high audio sampling rate for Hi-Fi sound.

- Supports POE power supply.
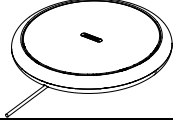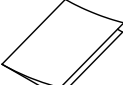
[i]**Note**

For detailed function, refer to the actual device.

1.2 Packing List

Check the package contents and make sure that the device in the package is in good condition and all the assembly parts are included.

Table 1-1 Packing List

Item	Description	Amount
	Microphone	1
	User Manual	1
	Screws	1
	Installation Plate	1

1.3 Appearance and Interfaces
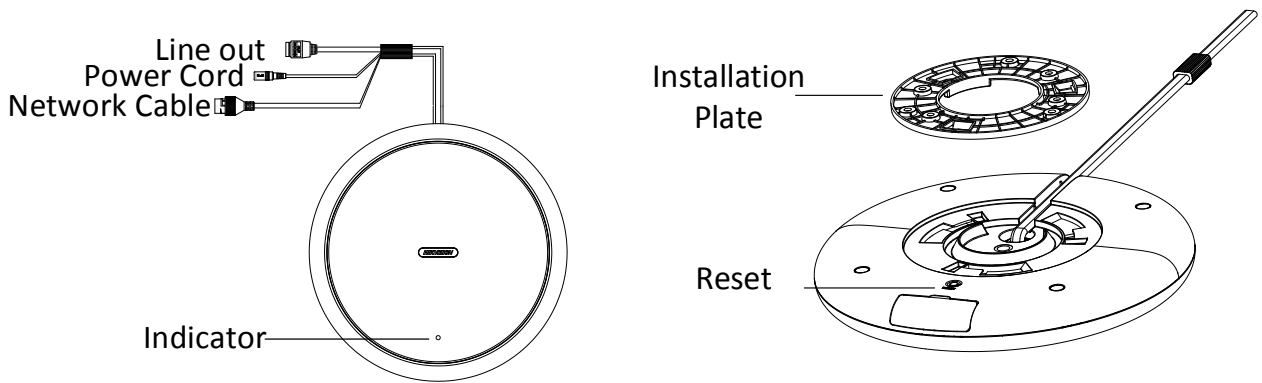
Figure 1-1 Type I
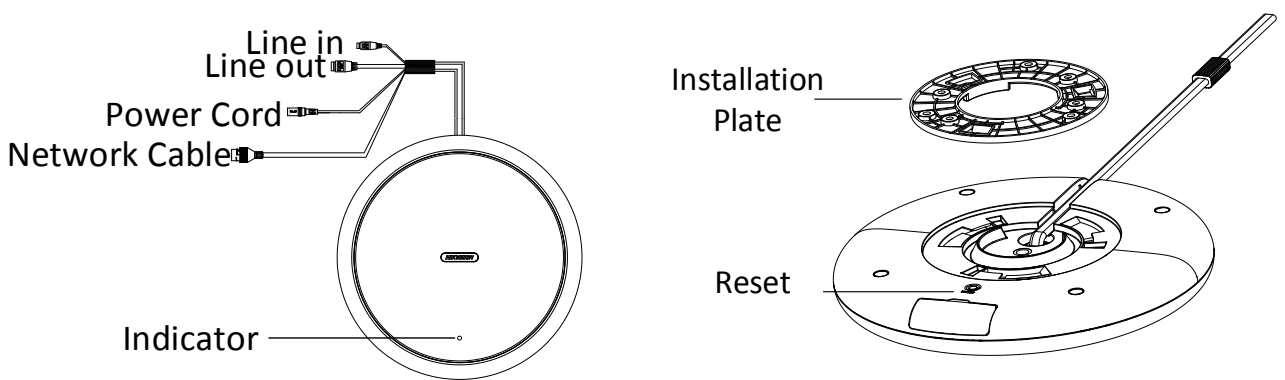
Figure 1-2 Type II

1.4 Connection

1.4.1 Type I

The device supports POE power supply and the using scenarios of the microphone are as follow:
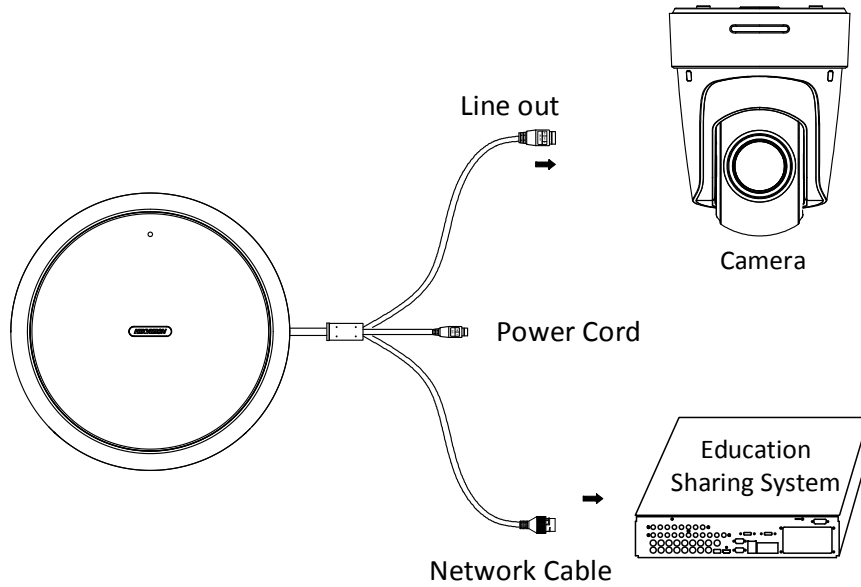
Figure 1-3 Using Scenario I

Connect the device with the camera.
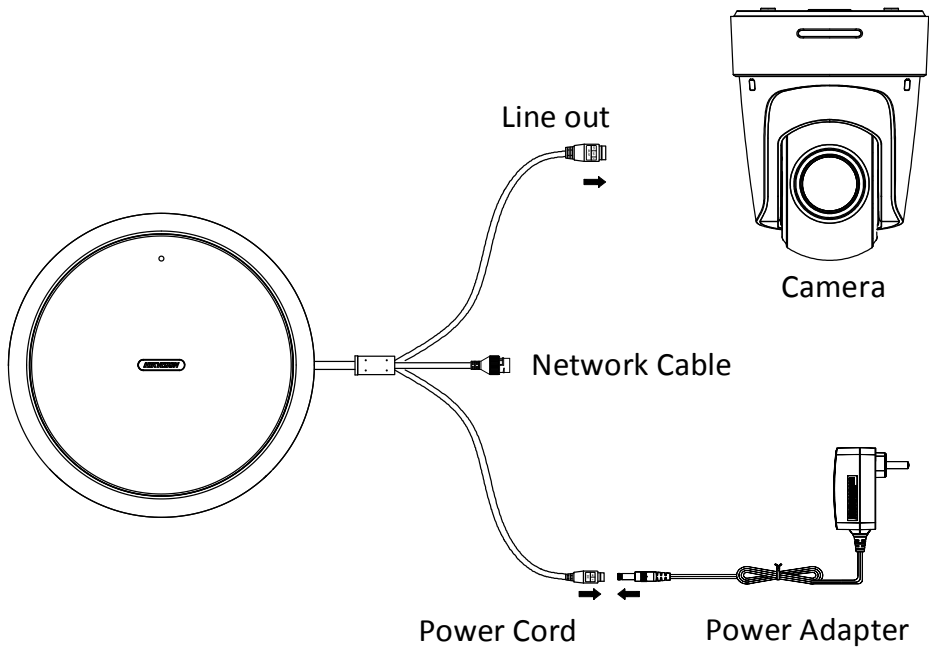
Figure 1-4 Using Scenario II

1.4.2 Type II

Connect the device with the education sharing system by adapter cable.
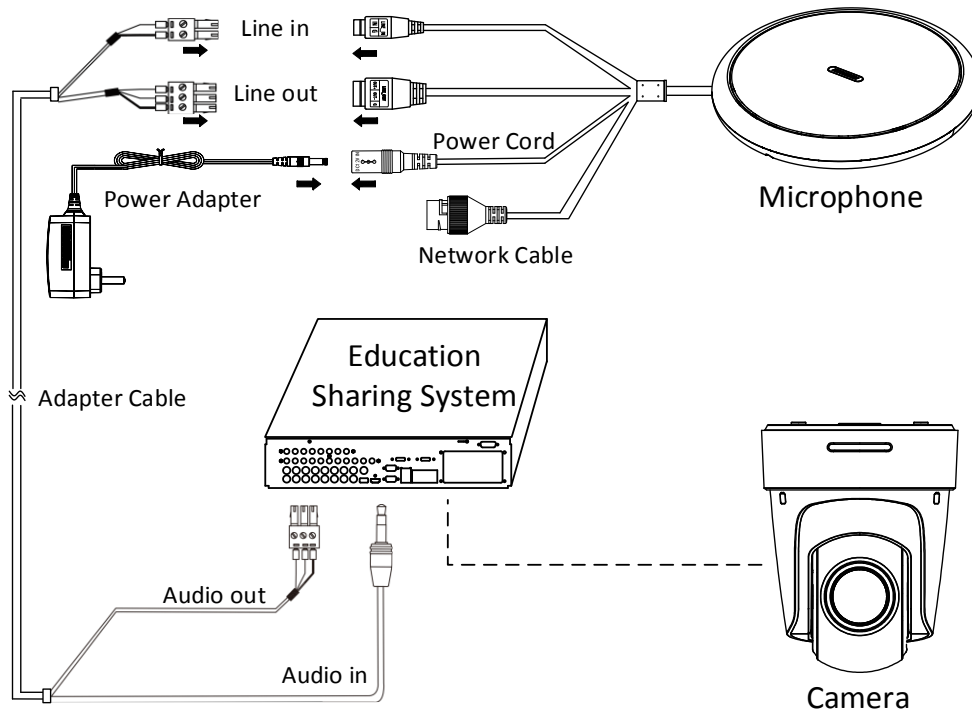
Figure 1-5 Using Scenario III

ⓘNote

- Type II microphone can also directly connect to the education sharing system. Refer to Figure 1-3 for detailed information.
- If you don't have an education sharing system, you can connect the microphone to a POE switch to get powered on.

Chapter 2 Installation and Application

2.1 Installation

Before you start

Both ceiling and pendant mounting are suitable for the device. The supplied screws are for ceiling mounting. The bracket for pendant mounting shall be purchased separately.

2.1.1 Ceiling Mounting

Step 1 Fix the installation plate to the ceiling with three KA4 × 22 screws.

[i]**Note**

(Optional) For cement wall, drill the screw holes with a 5.5 mm drill and insert the supplied wall plugs before installation.
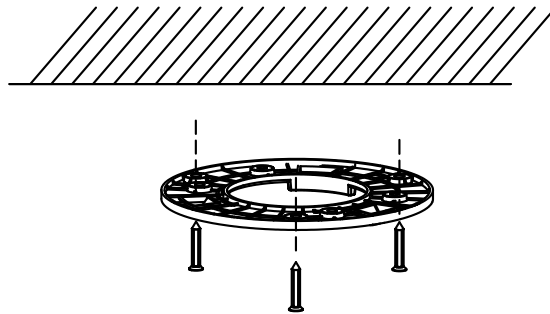
Figure 2-1 Fix the Installation Plate

Step 2 Remove the stick in the cable slot and snap the cable in the slot.

Step 3 Fit the microphone onto the installation plate.

Step 4 Turn the microphone as the figure below until it snaps into the installation plate.
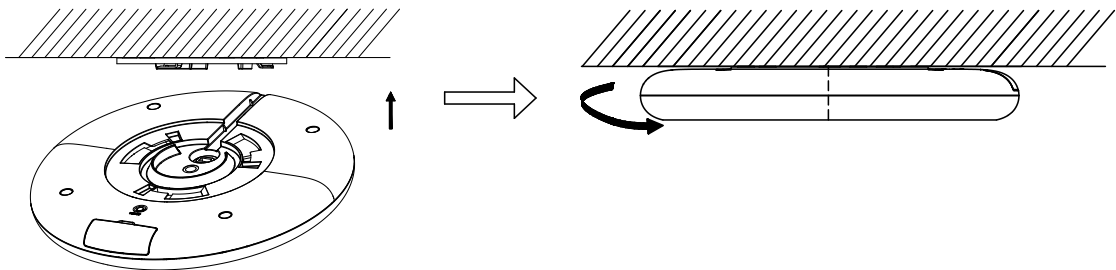
Figure 2-2 Install the Microphone to Ceiling

2.1.2 Pendant Mount

Step 1 Fix the bracket on the ceiling with four M6 metal expansion bolts.
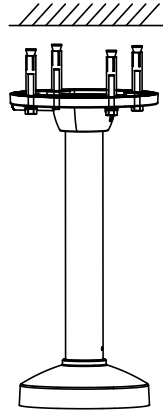
Figure 2-3 Fix the Bracket

Step 2 Fix the installation plate to the bracket with four SC-KM4 × 8 screws.
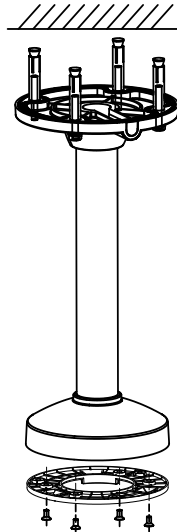
Figure 2-4 Fix the Installation Plate

Step 3 Refer to steps 2 to 3 of *2.1.1 Ceiling Mounting* to finish installation.
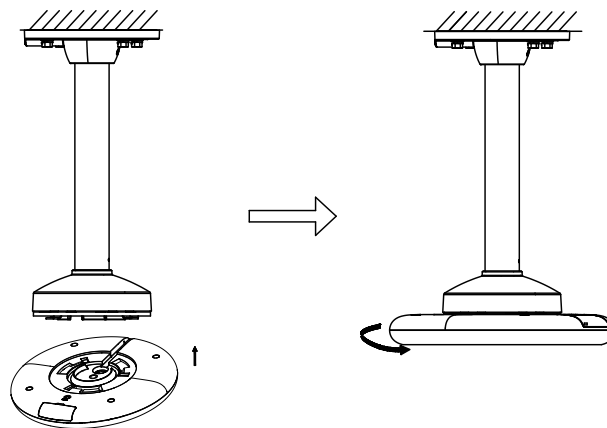
Figure 2-5 Install the Microphone

2.2 Cable Routing

● It is recommended to use RVVP 2 × 1.0 shielded cable.

● DO NOT install the microphone near the power adapter, power transformer, or mains electricity circuit.

● It is recommended to use an external linear regulated power supply.

● The audio cable length should be shorter than 30 meters.

2.3 Indicator

Status	Description	Solution
No Light	No Power	Change the power adapter, and check if the power supply is normal.
Solid Red	Device Exception	Restart the device. If the red light is still on, and the camera has no sound, send the device to the factory repair.
Solid White	Normally Working	/

Chapter 3 Web Configuration

3.1 Device Activation and Accessing

To protect the security and privacy of the user account and data, you should set a login password to activate the device when accessing the device via network.

[i] **Note**

Refer to the user manual of the software client for the detailed information about the client software activation.

3.2 Activate Device

The device needs to be activated by setting a strong password before use. This part introduces activation using different client tools.

3.2.1 Activate Device via Web Browser

Use web browser to activate the device. For the device with the DHCP enabled by default, use SADP software or PC client to activate the device.

Before You Start

Make sure your device and your PC connect to the same LAN.

Steps

1. Change the IP address of your PC to the same subnet as the device.

   The default IP address of the device is 192.168.1.64.

2. Open a web browser and input the default IP address.
3. Create and confirm the admin password.

   ⚠️**Caution**

   STRONG PASSWORD RECOMMENDED-We highly recommend you create a strong password of your own choosing (using a minimum of 8 characters, including upper case letters, lower case letters, numbers, and special characters) in order to increase the security of your product. And we recommend you reset your password regularly, especially in the high security system, resetting the password monthly or weekly can better protect your product.

4. Click **OK** to complete activation and enter **Live View** page.
5. Modify IP address of the device.
   1) Go to **Configuration** → **Network** → **Network Settings** → **TCP/IP**

2) Change IP address.

3) Save the settings.

3.3 **Access Device via Web Browser**

Steps

1. Open the web browser.

2. Input IP address of the device to enter the login interface.

3. Input user name and password.

4. Click **Login**.

5. Download and install appropriate plug-in for your web browser.

3.3.1 Plug-in Installation

Certain operation systems and web browser may restrict the display and operation of the device function. You should install plug-in or complete certain settings to ensure normal display and operation. For detailed restricted function, refer to the actual device.

Operating System	Web Browser	Operation
Windows	Internet Explorer 10+	Follow pop-up prompts to complete plug-in installation.
	Google Chrome 57+ Mozilla Firefox 52+	Click ⊞ to download and install plug-in.

3.4 Live View

It introduces the live view parameters and audio listening operations.

Steps

1. Go to **Configuration → Audio →Parameter Settings**, and click **Start Listening** to listen the real-time sound, and the audio waveform shows on the live view image.

2. Hovering the mouse over **Record to Local Device** to set saving path.

3. Click **Record to Local Device**, the device starts recording audio to local device. Click again to stop recording.

What to do next

You can also go to **Configuration → Local** to set the audio file saving path in **Local Saving Path**.

3.5 Storage Settings

This part introduces the configuration of several common storage paths.

3.5.1 **eMMC**

eMMC, short for embedded multimedia card, is an embedded non-volatile memory system. It is able to store the audio file of the device if the device does not have memory card or the memory card is abnormal.

☐**Note**

If the device has a memory card and the status is normal, eMMC is invalid.

Steps

1. Go to **Security and Maintenance → Maintenance → Original Data Recording**.
2. Select **Record to EMMC**.
3. Click **Start Listening** to listen the real-time sound, and the audio waveform shows on the live view image.
4. Hovering the mouse over **Record to Flash Memory** to set saving path.
5. Click **Record to Flash Memory**, the device starts recording audio to local device. Click again to stop recording.

3.5.2 Memory Card

Before You Start

Insert a new or unencrypted memory card to the device. For detailed installation, refer to *Quick Start Guide* of the device.

If the memory card status is abnormal or the card does not match the file system (the device only supports the memory card in FAT32 format), click **Format** to initialize the memory card.

When the status turns to **Normal**, the card is ready to use.

Steps

1. Go to **Security and Maintenance → Maintenance → Original Data Recording**.
2. Select **Record to SD**.
3. Enable **Record to Memory Card**, and the device starts recording.
4. Set custom file name. Enter the custom name in the **Add Custom File Name** text box and click **Add**, and the custom name will be added after the default name.

☐**Note**

- The custom file name takes effect in a new recording.
- The device creates a recording file every 10 minutes to the memory card.

In **Recording File**, you can download or delete the audio file.

3.6 Audio Settings

Set basic audio parameters, such as volume, audio encoding, and noise reduction.

3.6.1 Basic Settings

Steps

1. Go to **Configuration → Audio → Parameter Settings**.

Output Volume

Adjust the output volume of the device according to need.

Noise Reduction Level

Enable the function in noisy environment. The higher the value of the noise reduction, the better capacity of the noise suppression.

Audio Encoding

Select the type of the audio encoding according to the platform or custom demand.

Sampling Rate

The higher the value of the sampling rate, the higher quality of the sound.

Audio Stream Bitrate

It can only be set under AAC encoding.

2. Optional: Go to **Configuration** →**Audio** → **Educational Audio Settings**, and enable **Echo Suppression** to suppress the echo effectively for online class or video conference.

☐**i**Note

The function is only supported by certain model.

3.6.2 Set Audio Scene

Three scenes can be set. You can quick select the set scene according to the actual environment, and slightly adjust the parameters.

Steps

1. Go to **Configuration** → **Audio** → **Parameter Settings** → **Advanced Settings**.
2. Select a scene No.
3. Set the following audio parameters.

Dereverberation Level

The higher the value, the better capacity of the dereverberation. When the dereverberation is strong, raise the value to get clear sound.

AGC Level

The higher the value, the louder the small audio signal. It is recommended to set the value below 30.

AGC Rate

The higher the value, the better capacity of suppressing the interference audio signal. It is recommended to set the value between 2 to 3.

Smart Noise Reduction

It suppresses certain transient noise, such as claps, keyboard knock, sound of falling and closing the door. The function is off by default.

4. Click **Save** to save the settings.
5. Click **Reset** to restore the settings to factory default.

3.7 **Network Settings**

3.7.1 **TCP/IP**

TCP/IP settings must be properly configured before you operate the device over network.

Go to **Configuration → Network → Network Settings → TCP/IP** for parameter settings.

NIC Type

Select a NIC (Network Interface Card) type according to your network condition.

IPv4

Two IPv4 modes are available.

DHCP

The device automatically gets the IPv4 parameters from the network if you check **DHCP**. The device IP address is changed after enabling the function. You can use SADP to get the device IP address.

⬜ℹ**Note**

The network that the device is connected to should support DHCP (Dynamic Host Configuration Protocol).

Manual

You can set the device IPv4 parameters manually. Input **IPv4 Address**, **IPv4 Subnet Mask**, and **IPv4 Default Gateway**, and click **Test** to see if the IP address is available.

3.7.2 Port

The device port can be modified when the device cannot access the network due to port conflicts.

⚠**Caution**

Do not modify the default port parameters at will, otherwise the device may be inaccessible.

Go to **Configuration → Network → Network Service** for port settings.

HTTP Port

It refers to the port through which the browser accesses the device. For example, when the **HTTP Port** is modified to 81, you need to enter *http://192.168.1.64:81* in the browser for login.

RTSP Port

It refers to the port of real-time streaming protocol.

HTTPS Port

HTTPS is a network protocol that enables encrypted transmission and identity authentication, which improves the security of remote access.

3.8 **System and Security**

It introduces system maintenance, system settings and security management, and explains how to configure relevant parameters.

3.8.1 **View Device Information**

You can view device information, such as Device No., Model, Serial No. and Firmware Version.

Enter **Configuration** → **System** → **System Settings** → **Basic Information** to view the device information.

3.8.2 **Restore and Default**

Restore and Default helps restore the device parameters to the default settings.

Steps

1. Go to **Security and Maintenance** → **Maintenance** → **Backup and Reset**.
2. Click **Restore** or **Default** according to your needs.

Restore	Reset device parameters, except user information, IP parameters to the default settings.
Default	Reset all the parameters to the factory default.

☐ⓘ**Note**

Be careful when using this function. After resetting to the factory default, all the parameters cannot be recovered.

3.8.3 **Import and Export Configuration File**

It helps speed up batch configuration on other devices with the same parameters.

Steps

1. Export configuration file.
   1) Go to **Security and Maintenance** → **Maintenance** → **Backup and Reset** → **Backup**.
   2) Click **Export** and input the encryption password to export the current configuration file.
   3) Set the saving path to save the configuration file in local computer.
2. Import configuration file.
   1) Access the device that needs to be configured via web browser.
   2) Go to **Security and Maintenance** → **Maintenance** → **Backup and Reset** → **Import Config. File**.
   2) Click ☐ to select the saved configuration file.
   3) Input the encryption password you have set when exporting the configuration file.
   4) Click **Import**.

3.8.4 **Reboot**

You can reboot the device via browser.

Go to **Security and Maintenance** → **Maintenance** → **Reboot**, and click **Reboot**.

3.8.5 **Upgrade**

Before You Start

You need to obtain the correct upgrade package.

⚠**Caution**

DO NOT disconnect power during the process, and the device reboots automatically after upgrade.

Steps

1. Go to **Security and Maintenance** → **Maintenance** → **Upgrade**.
2. Click ☐ to select the upgrade file.
3. Click **Upgrade**.

3.8.6 **View Open Source Software License**

Click ⓘ on the web page, and click **View Licenses**.

3.8.7 **Time and Date**

You can configure time and date of the device by configuring time zone and time synchronization.

Synchronize Time Manually

Steps

1. Go to **Configuration** → **System** → **System Settings** → **Time Settings**.
2. Select **Time Zone**.
3. Click **Manual Time Sync.**
4. Choose one time synchronization method.
   – Select **Set Time**, and manually input or select date and time from the pop-up calendar.
   – Check **Sync. with computer time** to synchronize the time of the device with that of the local PC.
5. Click **Save**.

Set NTP Server

You can use NTP server when accurate and reliable time source is required.

Before You Start

Set up a NTP server or obtain NTP server information.

Steps

1. Go to **Configuration** → **System** → **System Settings** → **Time Settings**.
2. Select **Time Zone**.
3. Click **NTP**.

4. Set **Server Address**, **NTP Port** and **Interval**.

Note

Server Address is NTP server IP address.

5. Click **Test** to test server connection.
6. Click **Save**.

3.8.8 **Security**

You can improve system security by setting security parameters.

SSH

Secure Shell (SSH) is a cryptographic network protocol for operating network services over an unsecured network.

Go to **Security and Maintenance → Maintenance → Debug Device** to enable the function.

Caution

Use the function with caution. The security risk of device internal information leakage exists when the function is enabled.

Illegal Login Lock

It helps to improve the security when accessing the device via Internet.
Go to **Security and Maintenance → Security → Login Management**, and enable **Illegal Login Lock**.

Illegal Login Attempts

When your login attempts with the wrong password reach the set times, the device is locked.

Control Timeout Settings

If this function is enabled, you will be logged out when you make no operation (not including viewing live image) to the device via web browser within the set timeout period.

Go to **Security and Maintenance → Security → Login Management** to complete settings.

Set HTTPS

HTTPS is a network protocol that enables encrypted transmission and identity authentication, which improves the security of remote access.

Go to **Configuration → Network → Network Service → HTTP(S)** to enable the function.

User and Account

The administrator can add, modify, or delete other accounts, and grant different permission to different user levels.

⚠**Caution**

To increase security of using the device on the network, please change the password of your account regularly. Changing the password every 3 months is recommended. If the device is used in high-risk environment, it is recommended that the password should be changed every month or week.

Steps

1. Go to **Configuration → System→ User Management → User Management**.
2. Click **Add**. Enter **User Name**, select **Level**, and enter **Password**. Assign remote permission to users based on needs.

   User

    Users can listen and record the real-time audio, but no permission for other operations.

    Modify   Select a user and click ✎ to change the password and permission.

    Delete   Select a user and click 🗑 .

🛈**Note**

The administrator can add up to 31 user accounts.

3. Click **OK**.

Chapter 4 FAQ

Question

The network camera does not record sound.

Answers

- Check if the microphone is power-on, and the cable connection is normal.
- Check if the volume button of the microphone is turned to the lowest level. Adjust the volume button and try again.
- Connect a mobile phone to the camera and play sound to check if the recording function of the camera is normal.
- Connect the microphone to another type of the camera to check if the microphone is normal.
- Check audio cable connection. For the camera with a 3.5 mm audio connector, it is recommended to connect the front two sound channels of the 3.5 mm connector with the positive pole of the microphone's audio cable. For the camera with terminal blocks, connect the audio in terminal with the positive pole of microphone's audio cable.

Question

The sound picked up by the device is of poor quality, with high noise or rustling sound.

Answers

- Check if the cables are connected correctly. Poor quality of the cable and the cable connector may cause poor sound quality, such as low sound and high noise.

  Solution: Connect the device shell to the ground by cable, and use the twisted pair cable with good shielding performance.

- Check if the power supply of the microphone is a linear regulated power supply. Using the power of the network camera may cause ground loop and current sound.

  Solution:

  ➢ It is recommended to use POE power supply.

  ➢ Use an external linear regulated power to check the effect. If the noise disappears, it is recommended to use an external linear power supply.

- Check if the installation is not suitable for the device.

  Solution: Keep the microphone far away from and back to the noise resource, and isolate it from the vibration source. The pick-up holes should be faced to the sound source, and keep them as close as possible.

- Check if the parameters of the network camera are wrong.

  Solution: Refer to the user manual of the network camera to set the web parameters. Set the **Video Type** of the camera as **Video&Audio** and enable the audio function of the

camera. Test before using the audio function. If there is sound when testing, check if the recording function is normal.

See Far, Go Further

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