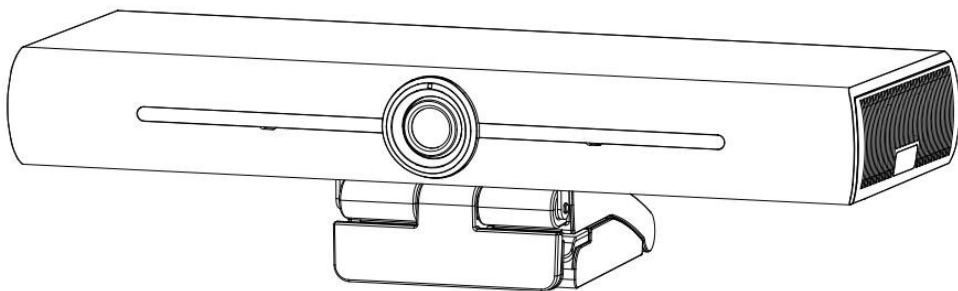# AI 4K UHD Video Conference Camera

RXVCam50 User Manual

This guide provides a brief introduction to the AI 4K UHD Video Conference Camera functions, installation and operations.

Safety Precautions

This manual introduces functions, installation and operations for the camera in details. Please read this manual thoroughly before installation and use.

How to Use

To prevent damage to this product or any product connected to it, this product can only be used within the specified range:

1. Do not expose the product to rain or moisture.
2. To prevent the risk of electric shock, do not open the case. Installation and maintenance should only be carried out by qualified technicians.
3. Do not use the product beyond the specified temperature, humidity or power supply specifications.
4. Wipe it with a soft, dry cloth when cleaning the camera lens. Wipe it gently with a mild detergent if needed. Do not use strong or corrosive detergents to avoid scratching the lens and affecting the image

Electric Safety

Installation and use of this product must strictly comply with local electrical safety standards.

Handle with Care

Avoid damage to product caused by heavy pressure, strong vibration or immersion during transportation, storage and installation.

Install with Caution

1. Do not rotate the camera head violently, otherwise it may cause a mechanical failure.

2. This product should be placed on a stable desktop or other horizontal surface. Do not install the product obliquely, otherwise it may display an inclined image.
3. If the camera is installed on TV or computer, the base can be fixed by four double-sided adhesive trays.
4. Housing of this product is made of organic materials. Do not expose it to any liquid, gas or solids which may corrode the shell.
5. Ensure there are no obstacles within rotation range of the holder.
6. Do not power on before completing installation.
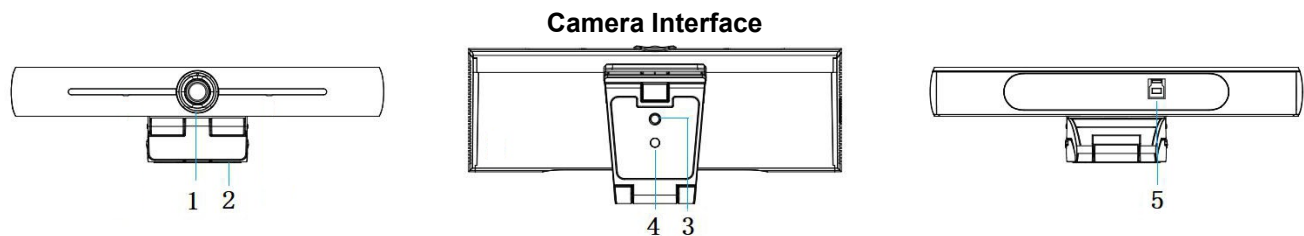
Do not Disassemble the Product Without Permission

This product contains no parts which can be maintained by users themselves. Any damage caused by dismantling the product by users without permission is not covered by the warranty.

Magnetic Interference

Electromagnetic fields at specific frequencies may affect the image. This product is Class A. It may cause radio interference for the household applications. Appropriate measures are required.

Quick Installation Instructions

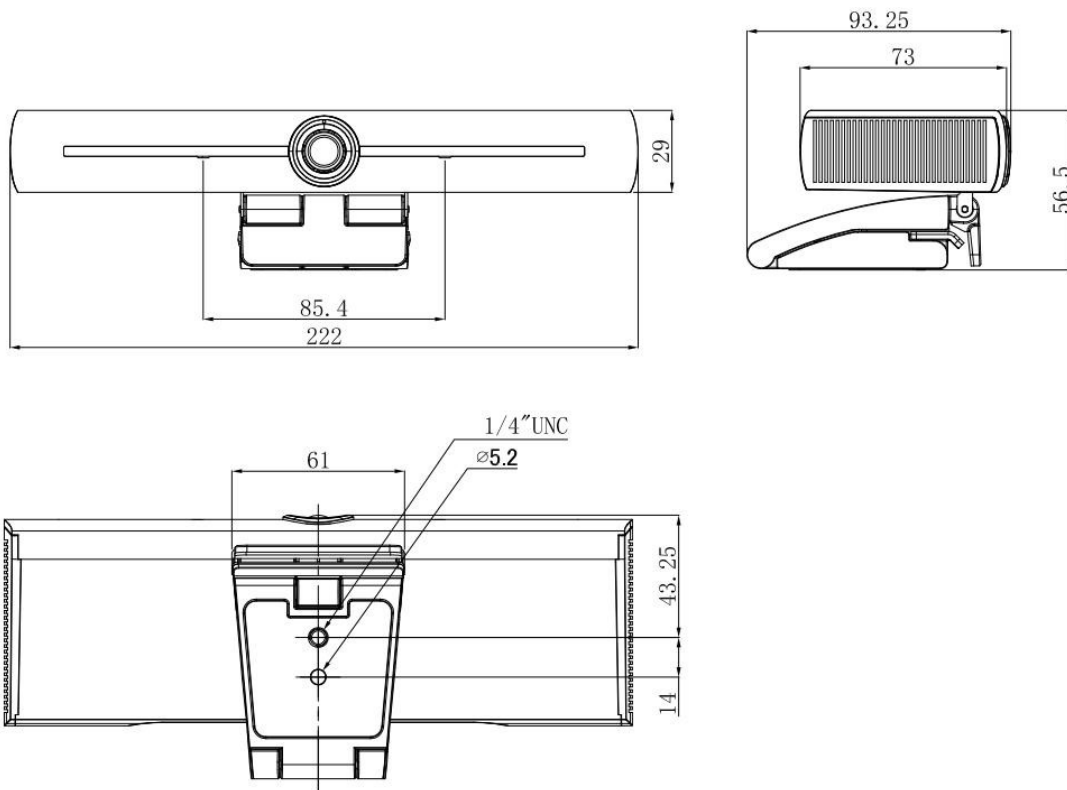The figure below illustrates the camera interface.

Camera Interface

1. Camera lens

2. Bracket

3. Tripod fixing hole

4. Positioning hole

5. USB 3.0 output interface

Camera Operation

1. Product Installation: Fix the device on an LCD screen, on top of a computer; place it on a desk top, or on a tripod mounting.

2. Connect the camera using a USB cable to a computer, a video conference terminal or any other USB input device. Log in to the video conference software and select a video device.

Product Overview

- **Product Model:** RXVCam50

- **Camera Dimensions:**

- **Accessories:**
  - User Manual
  - Wireless remote controller
  - USB3.0 Type-A to Type-B, 10FT cable
  - 2 * AAA batteries

Main Features

This product is a new 4K UHD ePTZ video conference camera includes built-in AI functions which can automatically centrally frame all people in a meeting. It also includes perfect functionality and high performance with advanced ISP processing algorithms so as to provide vivid images with evenly clear brightness, strong color layering, high resolution, and fantastic color rendition. The product is easy and convenient to install and maintain and is stable and reliable.

- **4K UHD:** It employs 1/2.5 inch, 8 million pixels high quality CMOS sensor; supports 4K UHD; provides 4K@ 30fps MJPG video resolution at most; and provides clear UHD video and vivid expressions and movements. At the same time, it is compatible with 1080p and 720p resolution.

- **ePTZ:** ePTZ and 4x digital zoom

- **Dual stream output:** The USB3.0 port supports simultaneous main stream and sub-stream output.

- **Auto framing:** Includes an excellent facial detection algorithm which automatically adjusts the zoom according to the number of people in the meeting. It can frame all the people in the meeting and display them in the middle of the scene.

- **Wide view angle without distortion:** 120° super wide-view angle lens

- **Multiple Installations:** Standard equipped with a mold clamp. Easy to install on any devices, such as LCD screen, PC, table and tripod.

- **Easy to Use:** No need to download driver; USB plug and play

- **Wide Applications:** Personal video conferencing, enterprise video conferencing, Unified Collaboration etc.

Specifications

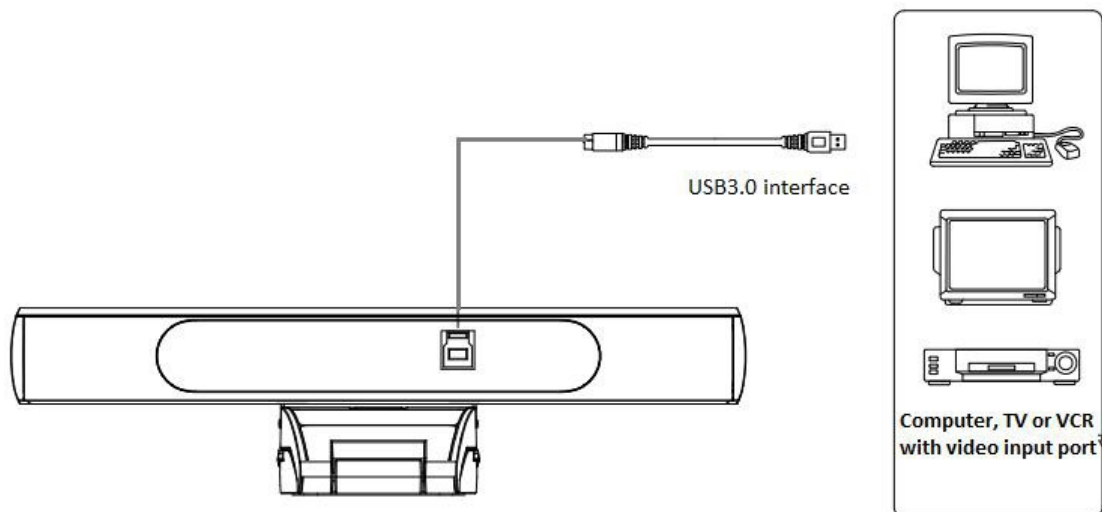| Parameter	Description
Camera	
Image Sensor	1/2.5-Inch-High Quality 4K CMOS Sensor
Effective Pixels	8.28MP 16:9
Video output port	1* USB3.0, Type B, support audio output over USB3.0
View Angle	126°(D)/120°(H)/85°(V)
Video Format	**Main stream:** 3840×2160@30fps、1920×1080P@30fps/25fps、1280×720P@30fps/25fps, etc. **Sub-stream:**1280×720P@30fps/25fps 、640×480P@30fps/25fps；320×172P@30fps/25fps, etc.
Min Illumination	0.1Lux (F1.8, AGC ON)
Lens	f=2.72mm
Aperture	F2.5
Digital zoom	4X
DNR	2D & 3D DNR
Ultra-low illumination	On/off
White Balance	Auto / Manual/ One Push/ 3000K/ 3500K/ 4000K/ 4500K/ 5000K/ 5500K/ 6000K/ 6500K/ 7000K
Focus	Auto / Manual/
Exposure	Auto / Manual
Auto framing	On/off/sensitivity
Backlight compensation	On/off
Dual stream	On/off
USB Feature	
Operation Systems	Windows 7(1080p at the most), Windows 8.1, Windows 10; macOS™ 10.10 or higher, Linux (required for UVC support)
Video Compression format	YUY2, MJPG, H.264, H.265

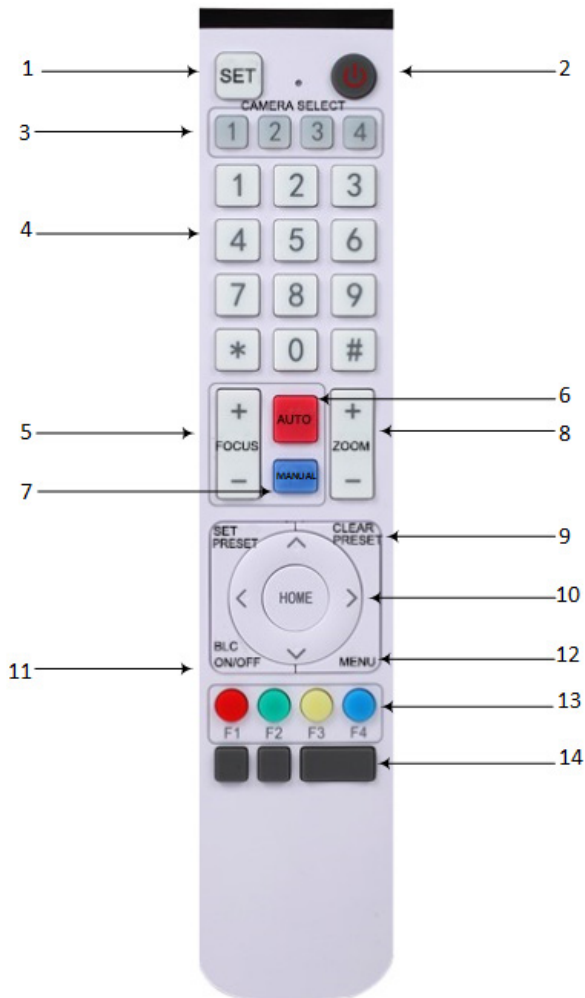| Parameter	Description
USB communication protocol	UVC, UAC
PTZ control	Support EPTZ
Hardware requirement	▪ 2.4 GHz Intel@ Core 2 Duo processor or higher ▪ 2GB RAM or more USB 2.0/USB3.0 port (USB 3.0 is needed for 4K video)
Other Parameters	
Input Voltage	5V
Input Current	1A(Max.)
Power consumption	5W(Max.)
Store Temperature	-10℃～+60℃
Store Humidity	20%～90%
Working Temperature	-10℃～+50℃
Working Humidity	20%～80%
Dimension	(W*H*D）222mm×93.25mm×56.5 mm
Weight	Approximately 0.53 kg
Application	Indoor
Accessory	▪ User Manual ▪ Wireless remote controller ▪ USB3.0 Type-A to Type-B 10FT cable ▪ 2 * AAA batteries

Interface

External Interface

The external interface connections are displayed in the figure below:

Interface Diagram

Application

Wireless Remote Controller

Keys Instructions

1. **SET Key 【SET】:** This key is used in combination with other keys to confirm actions, see use cases below.

2. **Standby Key:** After a three-second long press, the camera enters **Standby** mode. Long press for three seconds again, the camera will self-test again and return to the HOME position.

   Note: If preset 0 is set, the camera is not operational for 12 seconds and the camera head will automatically point to the specified preset 0 position.

3. **Camera Address Selection:** Selects the camera addresses 【1】【2】【3】and 【4】(for this camera, only 【1】is used).

4. **Number keys:** Set or call 0-9 presets.

5. **Focus Control key:**
   - 【FOCUS +】: Focus In
   - 【FOCUS -】: Focus Out

6. **Auto key 【AUTO】:** Activates the Auto mode for zoom, focus, pan and tilt.

7. **Manual key 【MANUAL】:** Activates the Manual mode for zoom, focus, pan and tilt.

8. **Zoom Control key:**
   - 【ZOOM +】: Zoom In
   - 【ZOOM -】: Zoom Out

9. **Set or Clear Preset key:**
   - 【SET PRESET】: Sets preset key + 0-9 number key
   - 【CLEAR PRESET】: Clears preset key + 0-9 number keys

10. **Electronic Pan/Tilt Control Key:**
    - ▲ : **Up**
    - ▼ : **Down**
    - ◀ : **Left**
    - ▶ : **Right**
    - 【HOME】 key: Returns to the middle position or opens the sub-menu.

11. **BLC Control Key:** Back Light ON / OFF: Turns the back light on or off.

12. **Menu Setting:**
    - Open or close the On-Screen Display (OSD) menu
    - Enter / exit the OSD menu or return to the previous menu

13. Not in Use.

14. Not in Use.

Key Combination Functions:

- 【#】+【#】+【#】: Clears all presets
- 【*】+【#】+【6】: Restores factory defaults

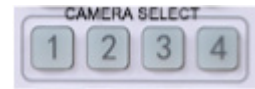# Basic Operations

Pairing the Wireless Remote Controller with Camera

1. Connect the camera to PC using USB3.0 Type-A to Type-B cable.

2. On the Wireless Remote Controller: press and hold the 【SET】and 【*】 keys simultaneously for three seconds.

3. The LED indicator on the Wireless Remote Controller starts flashing.

4. Release the 【SET】and 【*】 keys

5. Unplug the USB cable from the camera for 1 second; then plug it back.

6. The LED indicator on the Wireless Remote Controller turns off.

7. The paring process completed successfully.

Key Usage

- "Press the key" implies a click rather than a long-press; a note will be included in the User's Guide if a long-press for more than one second is required.

- When a key-combination is required, perform it in sequence.

  For example: 【*】+【#】+【F1】" means press "【*】 first, then press"【#】" and last press"【F1】".

Camera Selection: Select the camera address to control.

Pan/Tilt Control

- Up: press ▲
- Down: press ▼
- Left: press ◀
- Right: press ▶

- Back to middle position: press"【HOME】"

- Press and hold the up/down/left/right key, camera pans/tilts, from slow to fast, until it reaches its maximum range or as soon as the key is released.

- **Preset setting:** For setting a preset position, first press the "【SET PRESET】" key and then press the relevant number key 0-9 to set a specific preset.

  Note: 10 preset positions in total are available for the Wireless remote controller.

- **Preset calling:** Press a number key 0-9 directly to activate a specific preset.

  Note: This action is not relevant if the Preset key has not been configured.

- **Preset clearing:** to clear a preset position, first press the "【CLEAR PRESET】" key and then press the number key 0-9 to clear the specific preset key.

  Note: Press the"【#】" key three times continuously to cancel all the presets.

8. **Zoom Control:**

   - Press【ZOOM +】: Zoom In
   - Press【ZOOM -】: Zoom Out

   Press and hold one of these keys; the camera zooms in or out and stops zooming as soon as one of the keys is released.

   The above keys are only valid in 【MANUAL 】mode.

9. **Focus Control:**

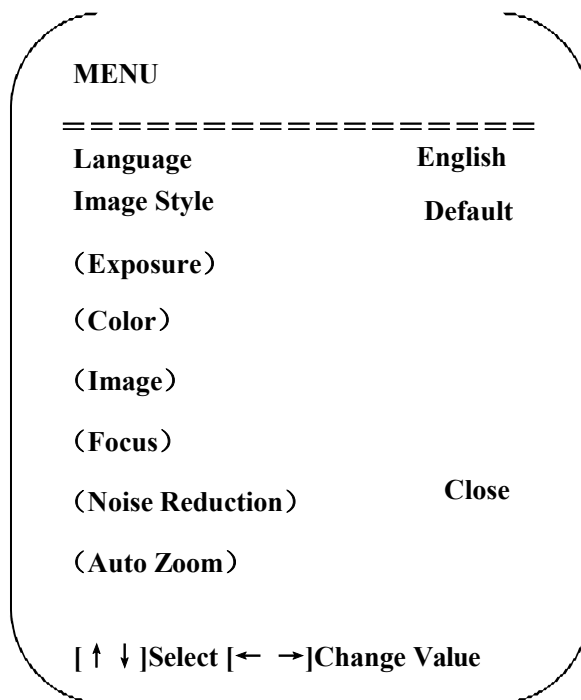   - Press【FOCUS +】: Focus In
   - Press【FOCUS -】: Focus Out

   Press and hold one of these keys; the camera focuses in or out and stops focusing as soon as one of the keys is released.

   The above keys are only valid in 【MANUAL 】mode.

   - **Auto Focus:** Press【AUTO】, the camera focus operation continues until the key is released.
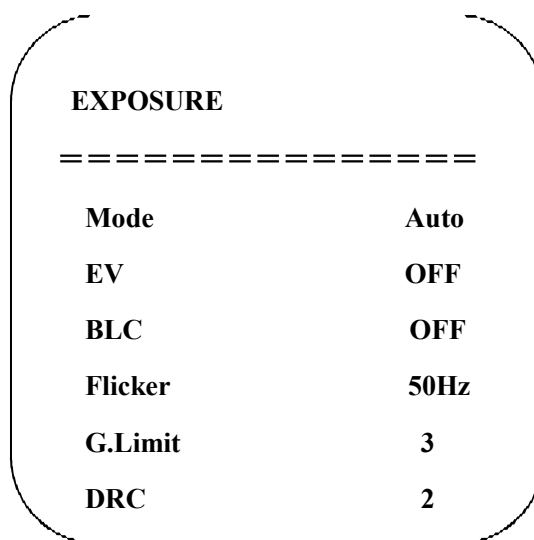
Menu Setting

When using MJPG/ H.264 / H.265 compression, press 【MENU】key to display the menu, using scroll arrow to point at or highlight the selected items.

```
MENU
=================
Language              English
Image Style           Default
（Exposure）
（Color）
（Image）
（Focus）
（Noise Reduction）    Close
（Auto Zoom）

[↑ ↓]Select [← →]Change Value
```

- **Language Setting: press 【← →】key to select Language**
- **Image Style Setting: press 【← →】key to select style**

Exposure Settings

In the Menu, move the pointer to EXPOSURE, click 【HOME】 and enter the (EXPOSURE SET) as follows:

```
EXPOSURE
================
Mode              Auto
EV                OFF
BLC               OFF
Flicker           50Hz
G.Limit           3
DRC               2
```

- **Mode:** Auto, Manual, Shutter priority, Iris priority and Brightness priority.

- **EV:** On/Off (only available in auto mode)

- **Compensation Level:** -7~7 (only available in auto mode when EV is ON)

- **BLC:** ON/OFF for options (only available in auto mode) Dynamic range: adjustable items: 1 ~ 8, close

- **Anti-Flicker:** OFF/50Hz/60Hz for options (only available in Auto/Iris **priority**/Brightness **priority** modes)

- **Gain Limit:** 0~15(only available in Auto/ Iris priority /Brightness priority mode)

- **WDR:** Off,1~8

- **Shutter Priority**: 1/25,1/30,1/50,1/60,1/90,1/100,1/120,1/180,1/250,1/350,1/500,1/1000,1/2000,1/3000,1/4000, 1/6000, 1/10000 (only available in Manual and Shutter priority mode)

- **Brightness**: 0~23 (only available in Brightness priority mode)

Color Settings

In the Menu, move the pointer to COLOR, click the 【HOME】and enter the (COLOR SET) as follows:

```
  COLOR

  ================

  WB Mode              Auto

  RG Tuning             0

  BG Tuning             0

  Saturation           100%

  Hue                   7

  AWB Sensitivity      High
```

- **WB Mode:** Auto, Manual, One Push, 3000K, 3500K, 4000K, 4500K, 5000K, 5500K, 6000K, 6500K, 7000K

- **RG Tuning:** -10~10 (only available in Manual mode)

- **BG Tuning:** -10~10 (only available in Manual mode)

- **Red Gain:** 0~255 (only available in Manual mode)

- **Blue Gain:** 0~255 (only available in Manual mode)

- **Saturation:** 60%, 70%, 80%, 90%, 100%, 110%, 120%,130%, 140%,150%, 160%, 170%,180%, 190%, 200%

- **Hue**: 0~14

- **AWB Sensitivity:** high/middle/low (only available in Manual mode)

Image Settings

In the Menu, move the pointer to IMAGE, click 【HOME】and enter the (IMAGE) as follows:

```
    IMAGE
    =================
    Brightness           7
    Contrast             7
    Sharpness            4
    Flip-H              OFF
    Flip-V              OFF
    B&W-Mode           Color
    Gamma             Default
```

- Brightness: 0~14
- Contrast: 0~14
- Sharpness: 0~15
- Flip-H: On/Off
- Flip-V: On/Off
- B&W Mode: color, black/white Gamma: default, 0.45, 0.50, 0.55, 0.63
- DCI: Dynamic Contrast: Off,1～8

Focus Settings

In the Menu, move the pointer to FOCUS, click 【HOME】and enter the (FOCUS) as follows:

```
    FOCUS
    =================
    Focus Mode           Auto
    AF-Zone            Center
    AF-Sensitivity

                          Lo
```

- **Focus Mode:** Auto, manual, one-push
- **AF-Zone:** Up, middle, down, overall
- **AF-Sensitivity:** High, middle, low

Noise Reduction Setting

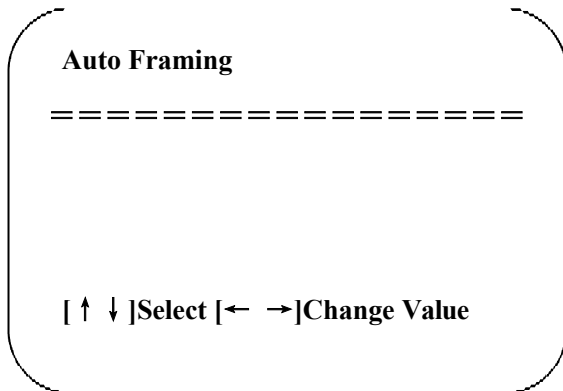**Note: This setting is only relevant for models supporting Audio.**

In the Menu, move the pointer to NOISE REDUCTION, click 【HOME】and enter the (NOISE REDUCTION) as follows:

```
    NOISE REDUCTION
    =================
    NR-2D                    2
    NR-3D                    5
    Dynamic Hot Pixel      OFF

    [↑ ↓]Select [← →]Change Value
```

- **2D Noise Reduction:** Auto, close, 1~7
- **3D Noise Reduction:** Close, 1~8
- **Dynamic Hot Pixel:** Close, 1~5

Auto Framing Settings

In the Menu, move the pointer to AUTO FRAMING, click 【← →】 keys to set ON/OFF.

```
   Auto Framing

   =================




   [↑ ↓ ]Select [←  →]Change Value
```
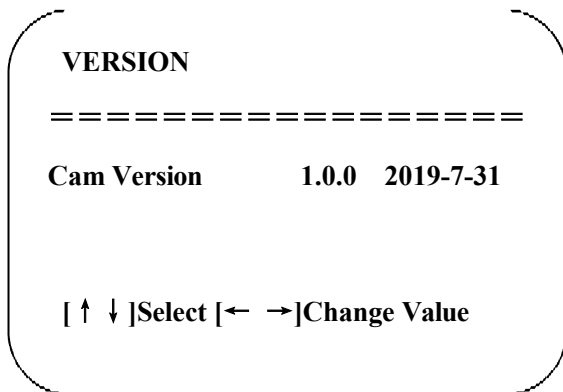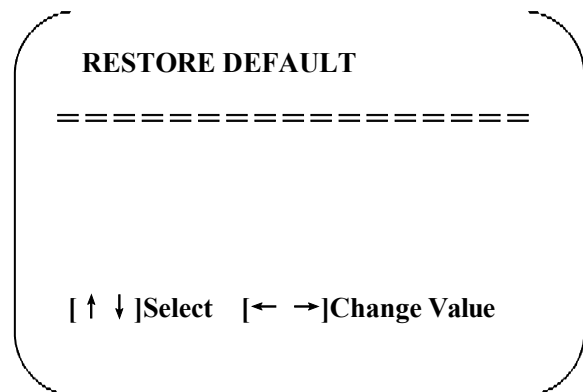
Dual Stream Setting

In the Menu, move the pointer to DUAL STREAM, click 【← →】 keys to set ON/OFF.

Version

In the Menu, move the pointer to VERSION, this field displays current software version and is read-only.

```
   VERSION

   ================

   Cam Version        1.0.0   2019-7-31


   [↑ ↓ ]Select [←  →]Change Value
```

Restore Default

```
     RESTORE DEFAULT

   ===================




   [↑ ↓ ]Select   [←  →]Change Value
```

In the Main Menu, move the pointer to RESTORE DEFAULT, click 【HOME】 and enter RESTORE DEFAULT:

Click 【←→】 keys to set YES/NO + 【HOME】 to confirm selection.

Note: **The video format and color style won't be restored.**

Note: **The Wireless remote controller can control up to four cameras; however, this product uses only a single camera. If the camera address is configured to No. 2, No. 3 or No. 4, this address restores to No. 1 when all parameters or system parameters are restored. The user should change the camera address to No. 1 for normal operation.**

Maintenance and Troubleshooting

This section describes maintenance and troubleshooting.

Maintenance

1. Disconnect the camera if it has not been in use for a long time.

2. Use soft cloth or tissue to clean the camera cover.

3. Wipe the camera lens with a soft, dry cloth when cleaning. Wipe it gently with a mild detergent if required. Do not use strong or corrosive detergents to avoid scratching the lens and affecting the image.

Troubleshooting

No Video Output

1. Check whether the USB cable is securely connected and that the power indicator light is ON.

2. Check whether the camera can perform a self-check after it has restarted.

3. Restart PC.

4. Check whether the camera is successfully recognized by your PC.

Sometimes an Image is not Displayed

- Check the USB cable quality and whether it is securely connected.

Image Dithering when Zooming-in or Zooming-out

- Check whether the camera installation position is stable.

Remote Controller does not work

1. Set the camera address to **1** (the camera address is restored to **1** after restoring default settings).

2. Repeat the pairing procedure between the Wireless Remote Controller and the camera.

3. Replace the AAA batteries.

Obtaining Documentation and Software

If you have a maintenance and support agreement with AudioCodes, you can download the device's latest software version from AudioCodes' Services Portal at https://services.audiocodes.com (registered users only).

Customer Support

Customer technical support and services are provided by AudioCodes or by an authorized AudioCodes Service Partner. For more information on how to buy technical support for AudioCodes products and for contact information, please visit our website at https://www.audiocodes.com/services-support/maintenance-and-support.

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AudioCodes Ltd. (NasdaqGS: AUDC) is a leading vendor of advanced voice networking and media processing solutions for the digital workplace. with a commitment to the human voice deeply embedded in its DNA, AudioCodes enables enterprises and service providers to build and operate all-IP voice networks for unified communications, contact centers and hosted business services. AudioCodes' wide range of innovative products, solutions and services are used by large multinational enterprises and leading tier one operators worldwide.

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