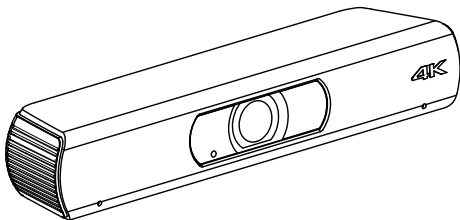


4K Ultra HD Camera



User Manual

English (V1.0)

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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.

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1 Note

- **Electric Safety**

Installation and operation must accord with electric safety standard.

- **Caution to Transport**

Avoid stress, vibration or soakage in transport, storage and installation.

- **Careful Installation**

The product should be placed on smooth desktop. The shell of product is an organic material and is strictly prohibited from contact with any liquid, gas or solid material that may cause corrosion to the shell.

- **Do not Unauthorized Disassemble**

This product has no parts which can be repaired by the user. The damage caused by the user's own disassembly is not covered by warranty.



Warning

Specific frequencies of electromagnetic field may affect the image of the camera!

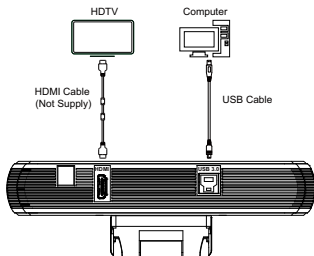
2 Supplied Accessories

When unpacking the package, check that all the following accessories are included:

Name	Quantity
Camera	1
USB Cable	1
Remote Control	1
User Manual	1

3 Quick Start

Please check the connections are correct before starting.



4 About Product

4.1 Features

- **4K UHD**

Support 4K Ultra HD with super resolution up to 4K@30fps/25fps encoding output, and down compatible with 1080P and 720P etc.

- **USB 3.0**

Full function USB 3.0 interface, integrates power supply, video and audio, supports 1 USB video + audio and 1 HDMI signal source.

- **Lens**

Wide angle field of view up to 120 degrees, small lens, wide vision. Support EPTZ with unmovable brake, more larger, more clear.

● Built-in Microphone

Built-in microphone array, omnidirectional pickup, pickup distance up to 6 meters. Support the unique noise suppression algorithm and makes your voice perfect.

● Low Illumination

The new CMOS image sensor with star level ultra-high SNR can effectively reduce the image noise under low illumination. The application of 2D and 3D noise reduction algorithm greatly reduces the image noise, even under the condition of ultra-low illumination, it keeps the picture clean and clear, and the SNR of image is as high as 55dB.

● Automatic Frame Selection

Support intelligent automatic view taking function, which can adjust the camera automatically to get better composition with the change of personnel seating in the conference room.

● Easy Installation

Standard damping rotary support, suitable for 100% monitors on the market, easy installation, stable and reliable.

4.2 Product Specification

Name	4K Ultra HD Camera
Camera	
Sensor	1/2.5", CMOS, Effective Pixel: 8.29M
Scanning Mode	Progressive

Lens Mount	M12
Lens 1 (optional)	Focus: f=3.5mm, FOV: 84° (Support Auto Focus)
Lens 2 (Default)	Focus: f=2.8mm, FOV: 120°
Minimal Illumination	0.5 Lux @ (F1.8, AGC ON)
Shutter	1/30s ~ 1/10000s
White Balance	Auto, Indoor, Outdoor, One Push, Manual, VAR
Camera Stand	Standard Damping Rotary Support
Digital Noise Reduction	2D & 3D Digital Noise Reduction
Backlight Compensation	Support

USB Features

Operate System	<ul style="list-style-type: none"> Windows® 7 (only 1080P and below supported), Windows 8.1, Windows 10 or higher macOS™ 10.10 or higher Linux (support UVC) Android
Hardware	<ul style="list-style-type: none"> 2.4 GHz Intel® Core 2 Duo CPU or higher 2 GB RAM or more USB 2.0 interface (4K requires USB 3.0)

Color / Compression	YUY2/MJPG/H.264
Video Format	4K@30fps/25fps, 1080P@30fps/25fps, 720P@30fps/25fps, 960x540P@30fps/ 25fps, 40x360P@30fps/ 25fps etc.
USB Video Communication Protocol	UVC 1.1
UVC PTZ	Support (EPTZ)

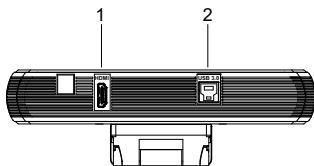
Input/Output Interface

HDMI Interface	1 x HDMI: Version 1.4
USB Interface	1 x USB 3.0: Type B, Female

General Specification

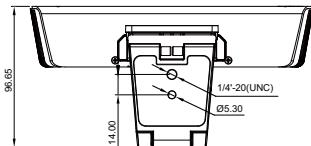
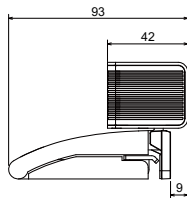
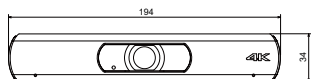
Input Voltage	5V (USB Power Supply)
Input Current	0.6A (max.)
Operating Temperature	-10°C ~ 40°C (14°F ~ 104°F), 95%RH
Storage Temperature	-40°C ~ 60°C (-40°F ~ 140°F), 95%RH
Power Consumption	3W (max.)
Dimension	194mm x 34mm x 42mm (without bracket)
Net Weight	0.5Kg

4.3 Interface and Button

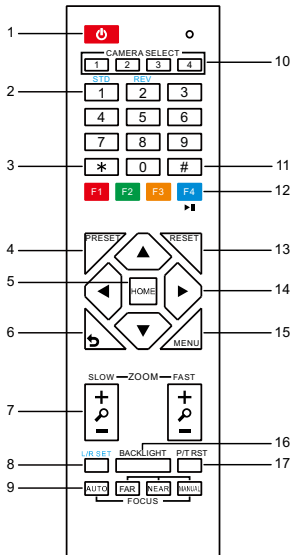


Item	Name
1	HDMI Interface
2	USB 3.0 Interface

4.4 Dimension



4.5 Remote Control



Key Description

1. **⏻ (Standby) Key**

Press to enter standby mode. Press again to resume to normal mode.

Note: The power consumption in standby mode is approximately half of that in normal mode.

2. **Numeric Key**

To set preset or call preset.

3. *** Key**

Use with other keys.

4. **PRESET Key**

Set preset: Store a preset position.

[PRESET] + Numeric key (0-9): Set the preset position.

5. **HOME Key**

Confirm selection or press to turn the lens back to the middle position.

6. **↶ (Return) Key**

Press to return to the previous menu.

7. **ZOOM Key**

- SLOW: Zoom In [+] or Zoom Out [-] slowly.
- FAST: Zoom In [+] or Zoom Out [-] fast.

8. **L/R SET Key**

Press with 1 or 2 key to set the direction of the Pan-Tilt.

- Press L/R Set + 1 [STD]: Set the Pan-Tilt turn the same direction as the PTZ control key.
- Press L/R Set + 2 [REV]: Set the Pan-Tilt turn the opposite direction as the PTZ control key.

9. **FOCUS Key**

Focus adjustment:

Press [AUTO] to adjust the focus automatically.

Press [MANUAL] to adjust the focus manually.

When in manual focus mode, press [FAR] to focus on far object or [NEAR] to focus on near object.

10. **CAMERA SELECT Key**

Camera selection:

Press to select and control the camera.

11. # Key

Use with other buttons.

12. IR Remote Control Key

[*]+[#]+[F1]: Address 1

[*]+[#]+[F2]: Address 2

[*]+[#]+[F3]: Address 3

[*]+[#]+[F4]: Address 4

13. RESET Key

Clear the preset position:

[RESET] + Numeric key (0-9).

14. PTZ Control Key

After zooming, press arrow button to perform panning and tilting. Press [HOME] button to face the camera back to front.

15. MENU Key

Enter or exit OSD MENU.

16. BACKLIGHT Key

Backlight ON/OFF: Press repeatedly to enable or disable the backlight compensation.

NOTE:

- Effective only in exposure full auto mode.
- If there is a light behind, the subject will become dark, press the backlight key to enable the backlight compensation. Press again to disable this function.

17. P/T RST (PTZ Reset) Key

Function only applicable to the PTZ camera.

5 GUI Settings

5.1 MENU

Press [MENU] key to display the main menu on the screen. Use direction keys to move the cursor to desired item and press the [HOME] key to confirm to enter the corresponding sub-menu.

MENU	
▶	Exposure
	Color
	Image
	Noise Reduction
	Setting
	Information
	Restore Default
	Exit

5.2 EXPOSURE

When in main menu page, move the cursor to [Exposure] and press [HOME] key to confirm to enter the exposure page as shown in below figure.

EXPOSURE		
▶	Mode	Full Auto
	ExpCompMode	On
	ExpComp	1
	Gain Limit	7
	Backlight	Off
	DRC Strength	2
	Anti Flicker	50Hz
	Return	

Mode: Full Auto, Manual, Shutter Priority, Bright.

Shutter: 1/30s, 1/60s, 1/90s, 1/100s, 1/125s, 1/200s, 1/250s, 1/350s, 1/500s, 1/725s, 1/1000s, 1/1500s, 1/2000s, 1/3000s, 1/4000s, 1/6000s, 1/10000s (Effective in Manual and Shutter Priority mode).

ExpCompMode (Exposure Compensation Mode): On, Off (Effective only in Full Auto mode).

ExpComp (Exposure Compensation Value): -7 ~ 7 (Effective only in ExpCompMode On).

Gain Limit (Maximum Gain Limit): 0 ~ 15 (Effective in Full Auto and Bright mode).

Backlight: On, Off (Effective only in Full Auto mode).

Bright: 0 ~ 17 (Effective only in Bright mode).

DRC Strength: 0 ~ 8.

Anti Flicker: Off, 50Hz, 60Hz (Effective in Full Auto and Bright mode).

5.3 COLOR

When in main menu page, move the cursor to [Color] and press [HOME] key to confirm to enter the color page as shown in below figure.

COLOR		
▶	WB Mode	Auto
	RG Tuning	1
	BG Tuning	1
	Saturation	100%
	Hue	7
	Return	

WB Mode (White Balance Mode): Auto, Indoor, Outdoor, One Push, Manual, VAR.

R Gain (Red Gain): 0 ~ 255 (Effective only in Manual mode).

B Gain (Blue Gain): 0 ~ 255 (Effective only in Manual mode).

colortemp: 2500K ~ 8000K (Effective only in VAR mode).

RG Tuning (Red Gain Tuning): -10 ~ 10 (Effective in Auto, One Push and VAR mode).

BG Tuning (Blue Gain Tuning): -10 ~ 10 (Effective in Auto, One Push and VAR mode).

Saturation: 60% ~ 200%.

Hue: 0 ~ 14.

5.4 IMAGE

When in main menu page, move the cursor to [Image] and press [HOME] key to confirm to enter the image page as shown in below figure.

IMAGE		
▶	Luminance	7
	Contrast	7
	Sharpness	4
	Flip-H	Off
	Flip-V	Off
	Gamma	EXT
	Style	Default
	LDC	8
	Return	

Luminance: 0 ~ 14.

Contrast: 0 ~ 14.

Sharpness: Auto, 0 ~ 15.

Flip-H (Image Flipped Horizontally): On, Off.

Flip-V (Image Flip Vertical): On, Off.

Gamma: EXT, Default, 0.45, 0.5, 0.56, 0.63.

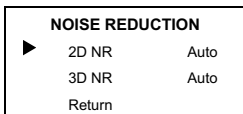
Style: Default, Norm, Clarity.

LDC (Lens Distortion Correction): Off,

1 ~ 10.

5.5 NOISE REDUCTION

When in main menu page, move the cursor to [Noise Reduction] and press [HOME] key to enter the noise reduction page as shown in below figure.

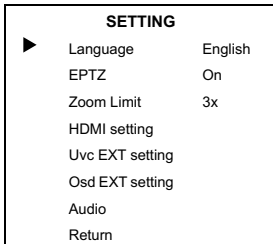


2D NR (2D noise Reduction): Close, Auto, 1 ~ 5.

3D NR (3D noise Reduction): Close, Auto, 1 ~ 8.

5.6 SETTING

When in main menu page, move the cursor to [Setting] and press [HOME] key to enter the setting page as shown in below figure.

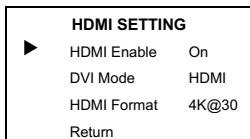


Language: English, Chinese, French and Deutsch.

EPTZ: On, Off.

Zoom Limit: 1.5x, 2x, 3x, 4x, 8x (Effective only in EPTZ On).

HDMI Setting: Press [HOME] key to confirm to enter the HDMI setting page as shown in below figure:

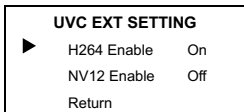


HDMI Enable: On, Off.

DVI Mode: DVI, HDMI.

HDMI Format: 4K@30, 1080P30, 1080P60, 1080P50.

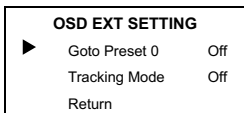
Uvc EXT Setting: Press [HOME] key to confirm to enter the Uvc EXT setting page as shown in below figure:



H264 Enable: On, Off.

NV12 Enable: On, Off.

Osd EXT Setting: Press [HOME] key to confirm to enter the Osd EXT setting page as shown in below figure:

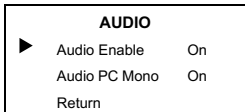


Goto Preset 0: On, Off.

Tracking Mode: Participants, Off.

Tracking Effect: Instaneous, Smooth
(Effective only in Tracking Participants mode).

Audio: Press [HOME] key to confirm to enter the audio page as shown in below figure:

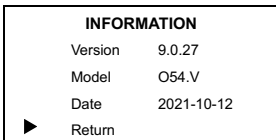


Audio Enable: On, Off.

Audio PC Mono: On, Off (Effective only in Audio Enable On mode).

5.7 INFORMATION

When in main menu page, move the cursor to [Information] and press [HOME] key to confirm to enter the information page to check the product information as shown in below figure.

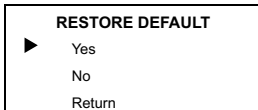


Note

The above information is for reference only, please refer to the real product for the actual specification.

5.8 RESTORE DEFAULT

When in main menu page, move the cursor to [Restore Default] and press [HOME] key to confirm to enter the restore default page as shown in below figure.



Yes: Select to restore the factory settings.



Notice

Press [HOME] key to confirm, all parameters will be restored to factory setting, including IR Remote Address.

No: Cancel restore factory settings.



Note

GUI menu and parameters are subject to change without notice.

6 Maintenance and Troubleshooting

Camera Maintains

- Use soft cloth to clean camera cover.
- Please use the soft dry cloth to clean the lens. If the camera is very dirty, clean it with diluted neuter detergent. Do not use any type of solvents which may damages the surface.

Unqualified Application

- Do not shooting extreme bright object for a long time, such as sunlight, etc.
- Do not operating in unstable lighting conditions, otherwise image will be flickering.
- Do not operating close to powerful electromagnetic radiation, such as TV or radio transmitters, etc.

Troubleshooting

Image

- Image jitters when the camera lens at maximum multiple
- 1) Check that the camera installation position is stable.
 - 2) Check that any vibrating machinery or object near the camera.

Control

- Remote control does not work
- 1) Check and replace with new batteries.
 - 2) Check that the camera working mode is correct.
 - 3) Check that the address key of remote control can match the camera.