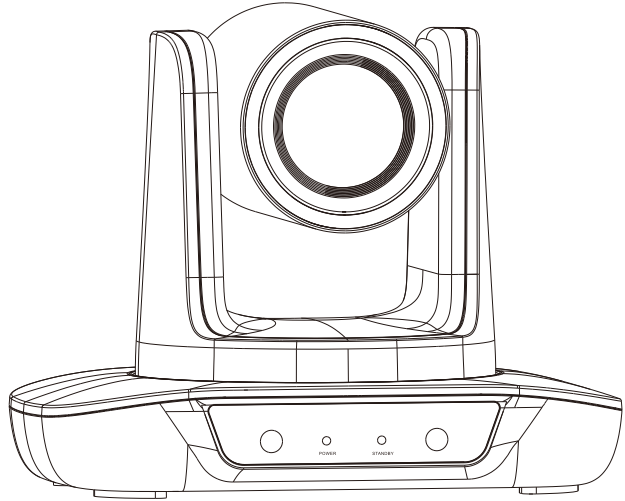


HD AI Auto Tracking Conference Camera

User Manual



Version V1.1

2. Packing List

Diagram showing packing list items: HD AI Auto Tracking Conference Camera, DC 12V Power Supply, Wall Mount, Mounting Screws, User Manual, Remote Control, and USB Cable.

4. Remote Control Button Description

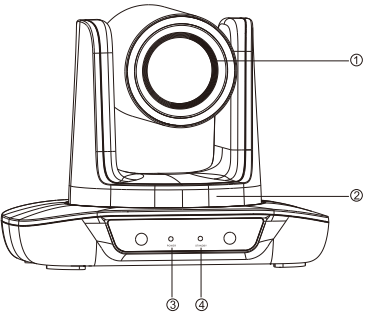
Diagram of the remote control with numbered buttons 1-21 and a corresponding table of functions.

★Attentions for Remote Control

- 1. Please check whether the indicator corresponding to the camera selection area is on or not.
2. If the remote control doesn't work, please replace batteries.
3. Make sure the Number keys on the camera selection area are consistent with the remote control address in the menu.

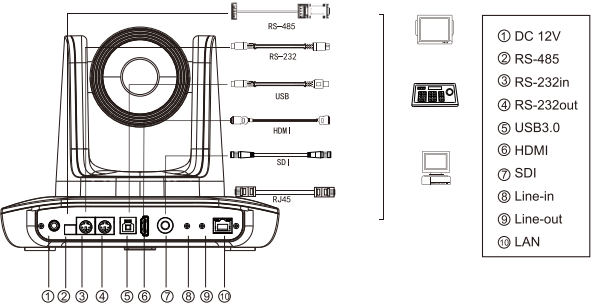
1. Product Description

1.1 Front



- ① Lens
② Pan&Tilt
③ Power
④ Standby

1.2 Back



3. Performance Characteristics

Table with performance characteristics for the camera, including Sensor, Video Signals, Zoom, Lens, Aperture, Horizontal/Vertical/Diagonal Angles, Digital Zoom, Video Output, Signal Standard, Control Interface, Shutter, White Balance, Backlight Compensation, Digital Noise Reduction, Bit Rate, Control Protocol, USB Protocol, Minimal Illumination, DNR, Horizontal/Vertical Rotation, IIR & V Flip, Image Freeze, PoE, Number of Preset, Preset Accuracy, IPC Features, Video Encoding Format, Video Stream, Main Stream Resolution, Sub Stream Resolution, Video Bit Rate, Bit Rate Type, Frame Rate, Audio Compression, Audio Bit Rate, Network Protocol, HD Output, LAN, Audio Interface, USB, Communication Interface, Power Jack, Power Supply, Power Consumption, Work Temperature, Work Humidity, Product Size, and Product Weight.

5. Camera Menu Setup

5.1 Exposure

Diagram of the Main Menu with sub-menus: Exposure, Color, Image, P/T/Z, Noise Reduction, Setup, Information, Restore Default, [HOME] Enter, [MENU] Exit.

Press the [MENU] button on the Remote to enter/exit the main menu of the camera. Press the button to enter sub-menu.

Diagram of the EXPOSURE menu with options: Mode (Auto), ExpCompMode (On), ExpComp (-1), Gain Limit (3), Meter (Average), Backlight (Off), DRC (2), Anti-Flicker (Off).

Mode: Auto/Manual/SAE/AE/Bright
ExpComp Mode: On/Off (only effective under Auto/AE mode)
ExpComp Range: -7~7(only effective under ExpComp mode)
Gain Limit: 0-15
Meter: Average/Center/Smart/Top
Backlight: On/Off (only effective under Auto/AE mode)
DRC: 0-8
Anti-Flicker: Off/50HZ/60HZ

Diagram of the EXPOSURE menu with options: Mode (Manual), Shutter (1/125), Iris (F1.8), Gain (2), DRC (2).

Iris: Off/F11.0/F9.6/F8.0/F6.8/F5.6/F4.8/F4.0/F3.4/F2.8/F2.4/F2.0/F1.8
(Only effective under Manual/SAE mode)
Shutter: 1/60-1/10000 (Only effective under Manual/SAE mode)

Diagram of the EXPOSURE menu with options: Mode (SAE), Shutter (1/125), Gain Limit (3), Meter (Average), DRC (2).

Diagrams of the EXPOSURE menu with options for AAE and Bright modes, including Iris, Gain Limit, Meter, DRC, and Anti-Flicker.

Bright: 0-17 (Only effective under Bright mode)

5.2 Color

Diagram of the Color menu with options: WB Mode (Auto), AWB Sens (Low), RG Tuning (3), BG Tuning (1), Saturation (100%), Hue (7).

WB Mode: Auto/Indoor/Outdoor/OnePush/Manual/VAR
AWB Sens: Low/Normal/High
RG Tuning: -10-10
BG Tuning: -10-10
Saturation: 60%-200%
Hue: 0-14

Diagram of the Color menu with options: WB Mode (Indoor), Saturation (100%), Hue (7).

Diagram of the Color menu with options: WB Mode (OnePush), AWB Sens (Low), RG Tuning (3), BG Tuning (1), Saturation (100%), Hue (7).

R Gain: 0-255
B Gain: 0-255

Diagram of the Color menu with options: WB Mode (VAR), ColorTemp (6500K), RG Tuning (3), BG Tuning (1), Saturation (100%), Hue (7).

ColorTemp: 2500K-8000K

5.3 Image

Diagram of the IMAGE menu with options: Luminance (7), Contrast (7), Sharpness (4), B&W-Mode (Colorful), Flip-H (On), Flip-V (Off), Gamma (0.5), Image style (Default).

Luminance: 0-14 Contrast: 0-14
Sharpness: Auto/0-15
B&W Mode: Colorful, B&W
Flip-H: On/Off Flip-V: On/Off
Gamma: Ext/Default/0.45/0.5/0.56/0.63
Image Style: Default/Clarity/Normal

5.4 PTZ

Diagram of the P/T/Z menu with options: D-Zoom Limit (Off), Speed By Zoom (On), L/R Set (STD), Display Info (On), Image Freeze (Off), Call Preset Speed (24), Pre zoom Speed (5), Pt By Speed (Slow).

D-Zoom Limit: Off/x2/x4/x8
Speed by Zoom: On/Off
L/R Set: STD/REV
Display Info: On/Off
Image Freeze: On/Off
Call Preset Speed: 1-24
Pre Zoom Speed: 0-7
Pt By Speed: Slow/Medium/Fast

5.5 Noise Deduction

Diagram of the NOISE REDUCTION menu with options: 2D NR (Auto), 3DNR (Auto).

2D NR: Off/Auto/1-5
3D NR: Off/Auto/1-8

5.6 Setup

Diagram of the SETUP menu with options: Language (English), Video Setting, Audio Setting, Focus Setting, USB Setting, Communication Setting, Tracking Setting, Other Setting.

Language: Chinese/English

5.6.1 Video Setup

Diagram of the VIDEO SETUP menu with options: DVI Mode (HDMI), Format Mode (OSD), HDMI Format (1080P60), SDI Mode (Level A).

DVI Mode: DVI/HDMI
Format Mode: OSD/DIP/50HZ/60HZ
HDMI Format: 1080P60/1080P59.94/1080P50/1080P30/1080P29.97/1080P25/1080I60/1080I59.94/1080I50/720P60/720P59.94/720P50
Only effective under the OSD Format Mode. When in DIP Format Mode, set with the DIP switches and corresponding table on the bottom of the camera)
SDI Mode: Level A/Level B

5.6.2 Audio Setup

Diagram of the AUDIO SETUP menu with options: AUDIO SOURCE (LINE), INPUT VOL (30), AUDIO OUT (HDMI/SDI).

INPUT VOL: 0-30
AUDIO OUT: HDMI/SDI,LINEOUT,OFF

5.6.3 Focus Setup

Diagram of the FOCUS SETUP menu with options: AF-Sense (High), AF-Zone (Center).

AF-Sense: High/Low/Normal
AF-Zone: Front/Top/Center/Bottom

5.6.4 USB Setup

Diagram of the FOCUS SETUP menu with options: H264Enable (Off), USB Mode (BULK), UVC Standby Mode (Off), Wakeup Pos (Preset 0).

H264 Enable: On/Off
USB Mode: BULK/SOC
UVC Standby Mode: On/Off
Wakeup Pos: Preset 0/Preset UVC

5.6.5 Communication Setup

Diagram of the COMMUNICATION SETUP menu with options: Protocol (VISCA), VAddress (1), VAddrFix (Off), Net Mode (Serial), Baudrate (9600), IR Addr (General).

Protocol: VISCA/PELCO-D/PELCO-P
V Address: 1-7
V AddrFix: On/Off
Net Mode: Serial/Paral
Baudrate: 9600/19200/38400/2400/4800
IR Addr: General/NO.1/NO.2/NO.3/NO.4

Diagram of the COMMUNICATION SETUP menu with options: Protocol (PELCO-D), P-DAddr (1), Baudrate (9600), IR Addr (General).

P-D Addr: 0-254

Diagram of the COMMUNICATION SETUP menu with options: Protocol (PELCO-P), P-PAddr (1), Baudrate (9600), IR Addr (General).

P-P Addr: 0-31

5.6.6 Tracking Setup

Diagram of the TRACKING SETUP menu with options: Tracking Enable (Off), Tracking Overlay (On), Delay Time (1).

Tracking Enable: On/Off
Tracking Overlay: On/Off
Delay Time: 1-60

5.6.7 Other Setup

Diagrams of the OTHER SETUP menu with options: Auto Inversion (On), Preset Tour (Off), OSD Flip (Off), OSD TimeOut (Off), Auto Inversion (On), Preset Tour (On), ResidenceTime (2), Call Preset Speed (12), OSD Flip (Off), OSD TimeOut (Off).

Auto Inversion: On/Off
Preset Tour: On/Off
Residence Time: 1-60
Call Preset Speed: 1-24
OSD Flip: On/Off
OSD TimeOut: Off, 2.5 minutes

5.7 Information

Diagram of the INFORMATION menu with options: Version (9.0.01), Date (2024-01-12), AF Version (5.4.59), Video Format (1080P60).

5.8 Restore Default

Diagram of the RESTORE DEFAULT menu with options: Yes, No.

6. Common Operation Instructions

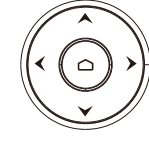
6.1 Camera Select

Refer to the dial-up at the bottom of the camera and choose camera address number that you want to control (1-4).



6.2 Camera Direction Control

- Turning up
Turning down
Turning left
Turning right
Turning to default



Note: Press the direction key when you need to adjust the angle. If you want to move the camera slowly, just click the direction key; If you want to move the camera fast at a large scale, just long-press the button; If you want to adjust the Pan-Tilt direction, just press and hold the L/R button for 10S.

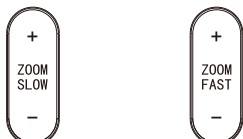
6.3 Camera Focusing Mode Control

- [AUTO FOCUS] Switch the focus mode to AUTO
[MANUAL FOCUS] Switch the focus mode to MANUAL
[FA] Far focus manually
[NEAR] Near focus manually



6.4 Camera Zoom Control

Press any one of the 4 【ZOOM】 to make the zoom functioning. These 4 keys are not applicable for fixed focus cameras.



6.5 Preset Setup, Call, Cancel

(1) Reserve Preset: Press 【PRESET】, then press one of the numbers (0-9) to reserve a preset that correspond to the NUMBER.

Note: You can setup 10 presets at most by the remote control.

(2) Call Preset: Press the NUMBER (0-9) directly to call the reserved preset.

Note: It won't work if there's no preset reserved in the corresponded number.

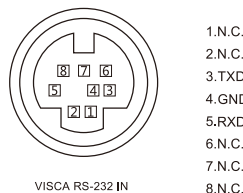
(3) Remove Preset: Press 【RESET】, then press one of the number (0-9) to remove a preset that corresponds to the NUMBER.



6.6 AI Mode

- Press 【AI】 button to enter autoframing mode, and start Auto Tracking; Press 【AI】 button again to turn off autoframing.
- When in autoframing mode, press to track single object. A green box will appear on the object tracked. Switch between different objects by pressing the PTZ Control Keys. Press button to start Single Object Tracking, when the object is confirmed.
- Press to exit Single Object Tracking mode and return to general autoframing.

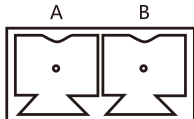
6.8 RS-232 Interface Distribution



- 1.N.C.
- 2.N.C.
- 3.TXD
- 4.GND
- 5.RXD
- 6.N.C.
- 7.N.C.
- 8.N.C.

6.9 RS-485 Interface Distribution

PIN NUM	FUNCTION
A	DTR IN+ (connect to RS-485)
B	DSR IN-(connect to RS-485)



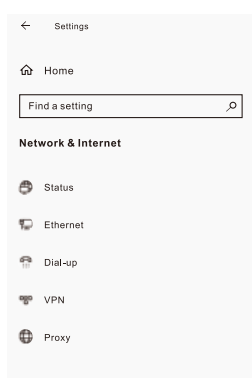
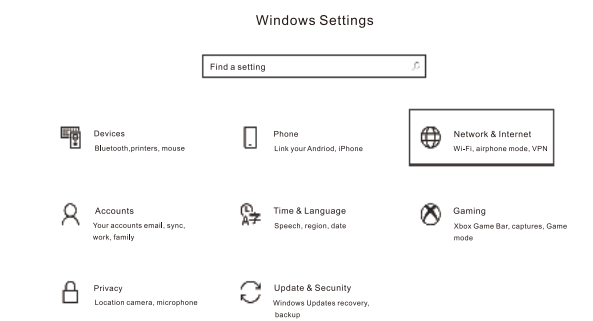
7. Network Function

7.1 Equipment installation

Connect HD video camera to your internet or your PC via network cable, or connect by Switch/Router.

You can log into the camera's web interface with the default or modified IP. (Different models have different IP, please check the default IP at the bottom of the camera.)

7.1.1 How to query the IP address of your PC (Note the text in the box)



If you set a data limit, Windows will set the metered connection setting for you to help you stay under your limit.

Set a data limit to help control data usage on this network

IP settings

IP assignment: Automatic (DHCP)

Edit

Properties

Link speed (Receive/Transmit): 1000/1000 (Mbps)
 Link-local IPv6 address: fe80::b1b8:1f9a:3e4d:4899%3
 IPv4 address: 192.168.110.73
 IPv4 DNS servers: 192.168.110.1
 Primary DNS suffix: lan
 Manufacturer: Realtek

7.2 How to add networking:

7.2.1 Open the computer network local connection attribute window

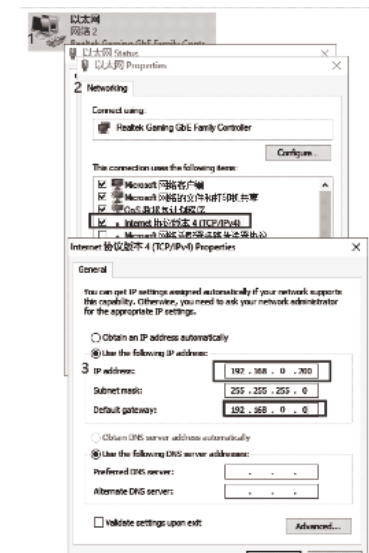
select "Internet Protocol Version 4 :TCP/IPv4;

7.2.2 Double-or-right-click " Internet Protocol Version 4 (TCP/IPv4) ;

7.2.3 Enter the Internet Protocol Version 4 (TCP/IPv4) window.

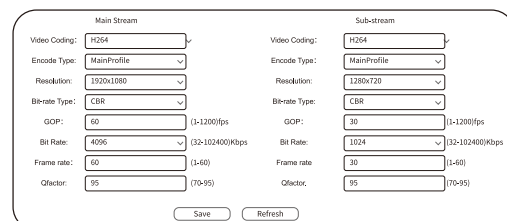
7.2.4 Change the computer's IP to 192.168.0.200 so that the computer IP and camera IP are on the same network segment.

PS:If no network segment is added, You will fail to login. The default IP address of the product is 192.168.0.206. "0"network segment needs to be added to the computer. The IP address cannot conflict with the IP address of other computers or products. Before adding, please verify whether the IP already exists.



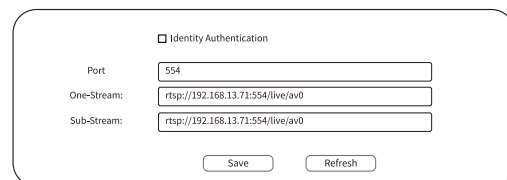
7.4 Video streaming

7.4.1Select "Setup"- "Video Settings"- "System Settings" to enter the following interface:



7.4.2 RTSP video streaming

Select "Setup"- "Network Settings"- "RTSP" to enter following interface:



Configure parameters according to the network environment.

For example, Camera default IP Address: 192.168.0.206 here is the way to get RTSP video streaming.

Default RTSP main streaming address:

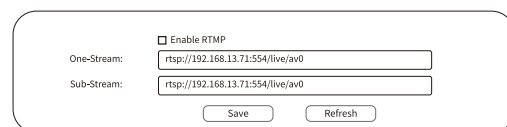
rtsp://192.168.0.206:554/live/av0(av0 Main)

Default RTSP sub streaming address:

rtsp://192.168.0.206:554/live/av1(av1 Sub)

7.4.3 RTMP video streaming

Select "Setup"- "Network Settings"- "RTMP" to enter following interface:



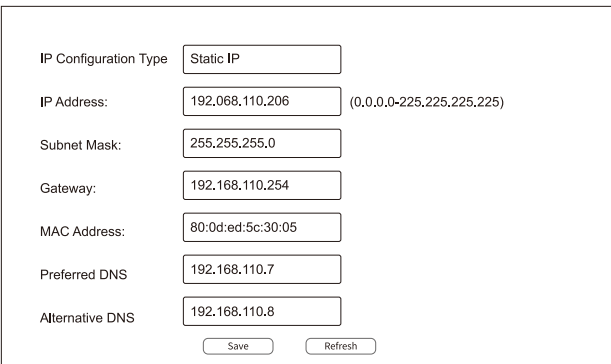
Enable and turn on the RTMP video stream to the server

Server URL: server address, which can be domain name or IP address

Streaming code: Persistent Stream Key/Name

7.5 Modify the camera IP and computer IP on to the same network segment, so that the computer network is not affected.

7.5.1Select "Setup"- "Network Settings"- "Local Network" to enter the following interface:



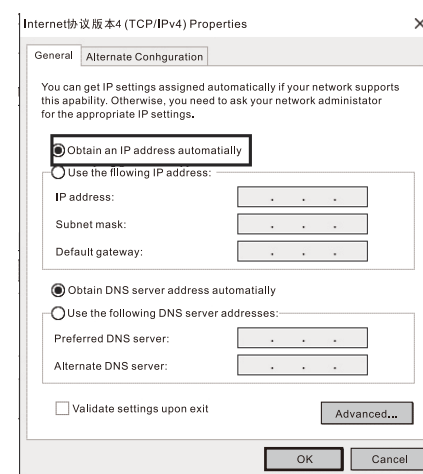
7.5.1.1 Change the camera IP address to: 192.168.110.206

7.5.1.2 Default Gateway: 192.168.110.254

7.5.1.3 Alternate DNS: 192.168.110.7

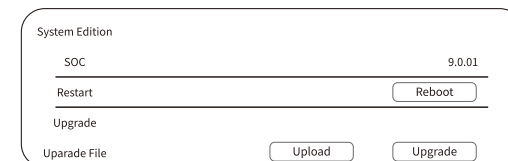
7.5.1.4 Preferred DNS: 192.168.110.8

7.5.2 Return PC's IP to the original IP address, and select Obtain an IP address automatically



7.6 Software upgrade (upgrade if there is a new version)

7.6.1 Select "Setup"--"Maintenance"--"System Upgrade" to enter the following interface:



7.6.1.1 Open upgrade file to Upgrade automatically if needed.

7.6.1.2 Restart the camera and prompts "Upgrade succeeded". Log in to the network and check whether the software version is consistent with the upgrade file to ensure that the upgrading is successful. Then click "Restore factory default" to restart and restore the parameters to the factory default setting. (IP default 192.168.0.206, User default: admin, password default: admin)

7.7 VISCA over IP

VISCA Protocol is transmitted through IP to reduce RS232/RS485 cabling(the controller must support IP communication)

Communication Port Specification:

Control Port: RJ45

IP Protocol: IPV4

Transmission Protocol: Sony VISCA;

IP address: Setting through the web

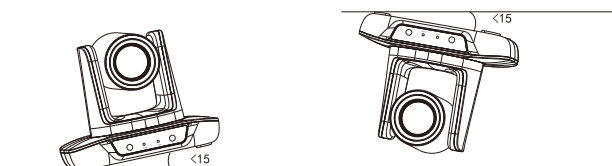
Port address: Sony VISCA(52381)

Application Range: Under the same network segment

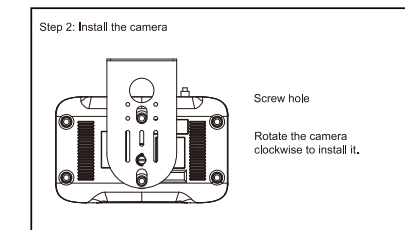
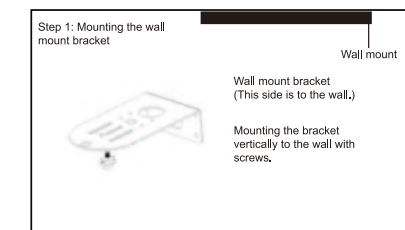
8. Installation Instructions

8.1 Surface Installation

Put the camera on the desk flatly, and make sure the camera is in a horizontal position. If you want to put the camera on an oblique surface, please make sure the angle of inclination is less than 15 degrees to ensure the camera pan and tilt work in normal operation.



8.2 Wall Mount Installation



9. Trouble Shooting

Before requesting service to service engineer, please refer to the following methods to remove failures. If the failures still can't be solved, please contact us for assistance.

Q: The video of the camera cannot be displayed on the screen.

A: Please check the connection between power cable, video cable, camera and monitor, fix the connector on each end.

Q: It's unable to Pan, Tilt and Zoom camera.

A: Because the menu was displayed on monitor. Please re-operate after exiting the menu.

Q: Why the camera rotates for about 10 seconds after power on?

A: This is the normal self-test of the camera.

Q: Poor Image quality while using in church or other low-light conditions.

A: Press menu (ON/OFF) to adjust backlight effect to suit the church lighting properly.

Q: Remote control is not working or insensitive.

A: ①Not work, please replace batteries.

②Not sensitive: Choose the correct "IR select" number to correspond to the camera. Control the camera within 10m (32.8ft). Remove the obstacles. Aim at the sensor which is in front of the camera when controlling it.

Q: USB interface is not identifiable.

A: Please check if the USB cable and extension cable are well connected or not. If yes, change to another USB interface and try to connect again.

Q: It won't be controlled via RS-232/RS-485 when camera connect to PC.

A: Make sure it is a correct connection between the camera and PC. (Reference to RS-485 and RS-232 Pins distribution on page 12).

Q: Why no ceiling mount bracket?

A: Camera comes with wall mount, ceiling mount or tripod brackets need to buy separately.

Q: Does this camera has built-in mic?

A: No, this camera comes with no built-in mic.

Q: Can we control the camera only by the remote control?

A: You can control the camera by remote control, keyboard controller (joystick), and software.