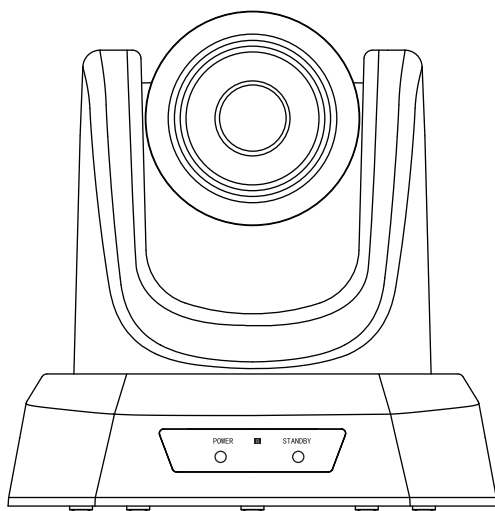


HD Conference Camera

User Manual



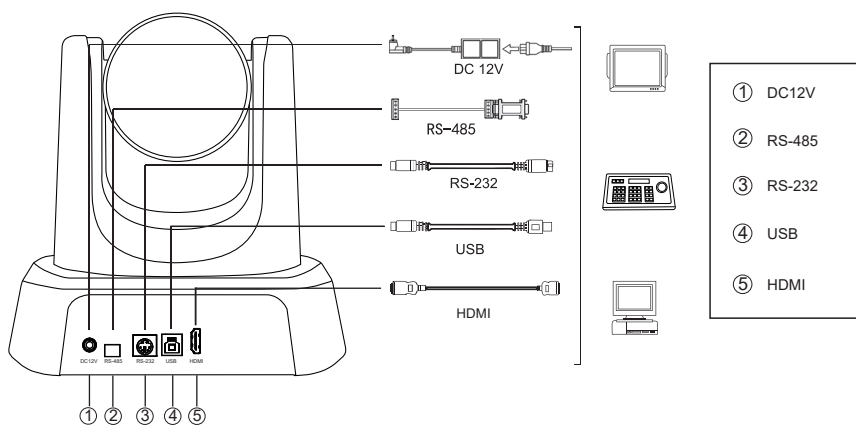
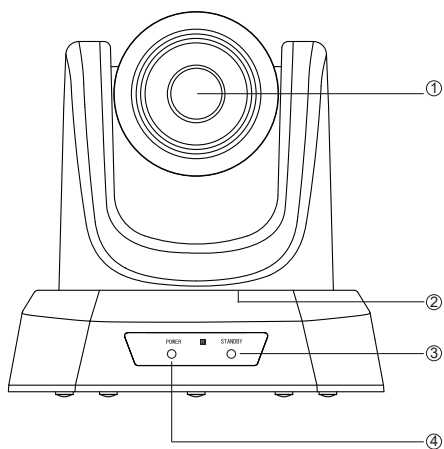
Version V1.0

Contents

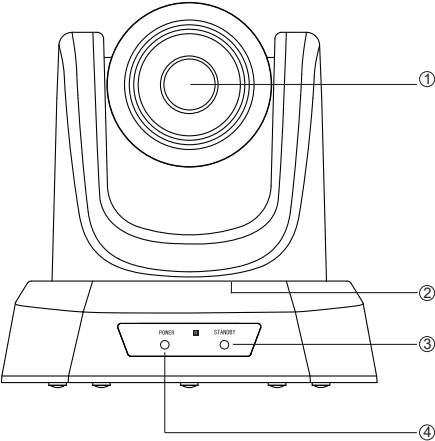
Product Description-----	1
Packing List-----	3
Performance Characteristics-----	4
Remote Control Button Description -----	5
Camera Menu Set -----	6
Common Operation Instructions -----	10
Network Function-----	14
Installation Instructions -----	23
Trouble Shooting -----	24
Maintenance Services -----	25

1. Product Description

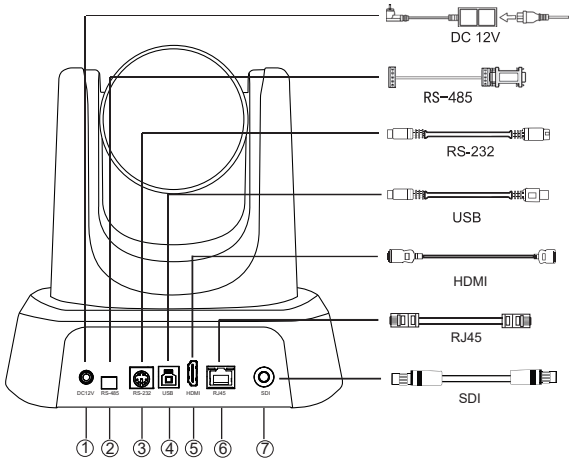
1.1 USB+HDMI Interface Diagram



1.2 USB+HDMI+SDI+RJ45 Interface Diagram

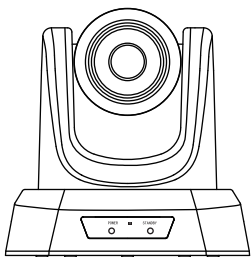


- ① Lens
- ② Pan & Tilt
- ③ Standby
- ④ Power



- | | |
|---|--------|
| ① | DC12V |
| ② | RS-485 |
| ③ | RS-232 |
| ④ | USB |
| ⑤ | HDMI |
| ⑥ | RJ45 |
| ⑦ | SDI |

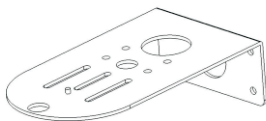
2. Packing List



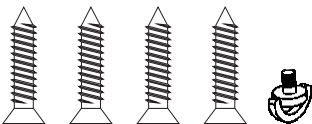
HD conference camera



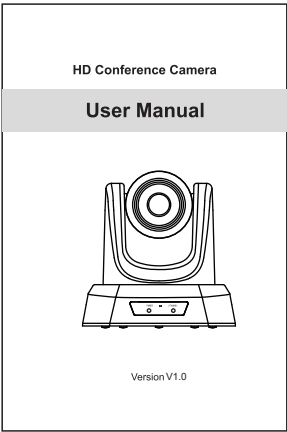
DC 12V power supply



Wall mount



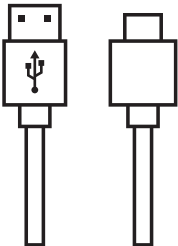
Mounting screws



User manual



Remote control

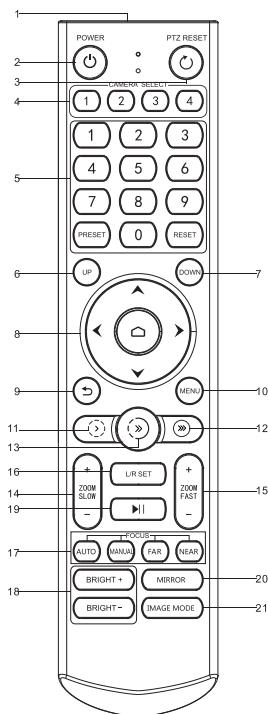


USB cable

3. Performance Characteristics

Model	NV-10H	NV-20H	NV-10A	NV-20A
Sensor	1/2.8"SONY CMOS			
Effective Pixel	2.38 mega pixel			
Video Signals	1080p-60/50/30/25, 720p-60/50/30/25			
Zoom	10x optical zoom	20x optical zoom	10x optical zoom	20x optical zoom
Lens	f=4.34-35.17mm	f=5.5-110mm	f=4.34-35.17mm	f=5.5-110mm
Aperture	F1.85-2.63	F1.6-3.5	F1.85-2.63	F1.6-3.5
Horizontal Angle	68.8°(W)-8.8°(T)	55.8°(W)-3.2°(T)	68.8°(W)-8.8°(T)	55.8°(W)-3.2°(T)
Vertical Angle	29.3°(W)-1.9°(T)	32.2°(W)-1.8°(T)	39.5°(W)-5.1°(T)	32.2°(W)-1.8°(T)
Diagonal Angle	59.8°(W)-3.9°(T)	61°(W)-3.64°(T)	77.2°(W)-10.1°(T)	61°(W)-3.64°(T)
Video Output	USB, HDMI		USB, HDMI,RJ45, SDI	
Video Encoding Format	H.264, H.265, MJPG, YUY2			
Video Resolution	1080P (1920 *1080) etc			
Signal Standard	NTSC/PAL			
Preset Position	User can set up to 64 presets (IR remote 10 presets)			
Control Temernal	RS-232, RS-485			
Shutter	1/30s-1/10000s, auto			
Baud Rate	38400/9600bps			
Control Protocol	VISCA, PELCO-D, PELCO-P(RS-232, RS-485)			
USB Protocol	UVC1.1			
Minimal Illumination	0.1Lux			
SNR	≥50dB			
Horizontal Rotation	350° (±175°) 0.1°/s ~ 100°/s			
Vertical Rotation	180° (±90°)0.1°/s ~ 80°s			
Power Supply	DC 12V/2A			
Power Consumption	12W			
Work Temperature	0°~+50°			
Work Humidity	0~95% RH			
Product Size	181*184*174mm/257*220**198mm (before / after packing)			
Product Weight	1.5kg/2.0kg (net / gross weight)			

4. Remote Control Button Description



No	Name	Function
1	Launch Window	Remote Control Launch Window
2	Power	Enter into Standby mode by pressing
3	PTZ Reset	Reset the PTZ
4	Camera Select Key	Select the camera need to control
5	Position	Preset position setup keys, include 【PRESET】 and 【RESET】 Set the preset position Reset the preset position
6	UP	The camera rotates horizontally in regular installed direction
7	DOWN	The camera rotates horizontally in reversed installed direction
8	PTZ Control Key	PTZ move according to the arrow indicates. Press 【】 PTZ will back to the default position
9	Return/Exit	Return to up level menu or exit menu
10	MENU	Enter or exit OSD Menu after pressing it
11		PTZ rotates speed-
12		PTZ rotates speed
13		PTZ rotates speed+
14	ZOOM Slow Key	Zoom in + or out - slowly
15	ZOOM Fast Key	Zoom in + or out - quickly
16	L/R Set	Support, press this key for 10 seconds
17	Focus Key	Auto/Manual/Far/Near Focus Default: Auto Focus
18	Bright Adjustment	Adjust the brightness of the image
19		Reserved
20	Mirror	Enable the picture left/right flip
21	Image Mode	Switch between three image modes Normal, PC, Bright

★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.

5. Camera Menu Setup

When operating remote control, press **【MENU】** to enter main menu of the video camera.

5.1 Level 1 Menu- Main Menu

Main Menu	

→ Exposure	
Color	
Image	
P/T/Z	
Information	
Restore Default	
Language	English
[Home]	Enter
[Menu]	Back

Language: Support Chinese/English

Click the Home button on the Remote to enter level 2 sub-menu

Click the Menu button on the Remote to exit menu

5.2 Level 2 Menu - Exposure

Exposure	

→ Mode	Auto
Backlight	On/Off
ExpComp	0~15
Flicker	50/60Hz
[Return]	

Mode: Auto/Manual

Backlight: On/Off the backlight

ExpComp: Exposure compensation, optional item is 0 to 15

Flicker: Support 50Hz/60Hz

When changing the exposure mode to Manual, the sub-menu is the following,

Exposure	

→ Mode	Manual
Iris	F1.6
Shutter	1/100000~1/25
Gain	50
Flicker	50Hz/60Hz
[Return]	

Iris: FNo. Setting, the value should be F1.6/F2.0/F2.4/F2.8/F3.4/F4.0/F4.8/F5.6/F6.8/F8.0/F9.6

Shutter: Shutter value setting, the value is between 1/100000 and 1/25

Gain: Exposure Gain Setting, optional item is 0 to 99

5.3 Level 2 Menu-Color

Color	

→ Brightness	50
Contrast	50
Hue	50
Saturation	50
Sharpness	50
WB Mode	Auto
Rtuning	50
Btuning	50
[Return]	

Brightness: Set image brightness Dynamically. Default 50, optional item 0-99

Contrast: Set image contrast Dynamically. Default 50, optional item 0-99

Hue: Set the relative brightness of the image. Default 50, optional item 0-99

Saturation: Set image color effect. Default 50, optional item 0-99

Sharpness: Set sharpness level. Default 50, optional item 0-99

WB mode: Auto/Manual/VAR

When the WB mode is Auto, the Rtuning and Btuning value can be tuning, the range is 0 to 99

When the WB mode is Manual, the sub menu will be the following,

Color	

→ Brightness	50
Contrast	50
Hue	50
Saturation	50
Sharpness	50
WB Mode	Manual
Rtuning	50
Btuning	50
Rgain	50
Bgain	50
[Return]	

In manual WB mode, the above values can be adjusted. The Rgain and Bgain value can be tuning, the range is 0 to 99

When the WB mode is VAR, the sub menu will be the following,

Color	

→ Brightness	50
Contrast	50
Hue	50
Saturation	50
Sharpness	50
WB Mode	VAR
Color Temp	2500K~9000K
Rtuning	50
Btuning	50
[Return]	

The range for the color temp can be adjusted between 2500K to 9000K

5.4 Level 2 Menu Image

Image	

→ Flip	Off/On
Mirror	Off/On
Video Format	1080P60
Menu Mirror	On/Off
USB Mode	ISOC/BULK
Style	Normal/PC/Bright
[Return]	

Flip: Enable/disable the picture up/down flip
Mirror: Enable/disable the picture left/right flip
Video Format: 1080P60/1080P50/1080P30/1080P25/720P/60/720P/50
USB Mode: ISOC/BULK
USB mode: Adjust between Isochronous transfers mode and Bulk transfers mode
Style Mode: Normal, PC, Bright

5.5 Level 2 Menu P/T/Z

P/T/Z	

→ Acc Curve	Slow/Fast
[Return]	

5.6 Level 2 Menu-Information

Information	

Model	HD Camera
Version	1.1.1.1
	2022-11-04
→ [Return]	

Model: HD Camera
Version: 1.1.1.1
Date: 2022-11-04
Notice: The version number here is just an example, the actual parameters shall prevail.

Restore Default	

Restore?	No/Yes
→ [Return]	

6. Common Operation Instructions

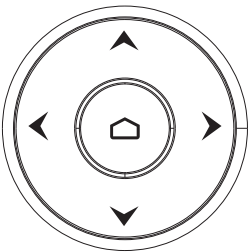
6.1 Camera Select

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.

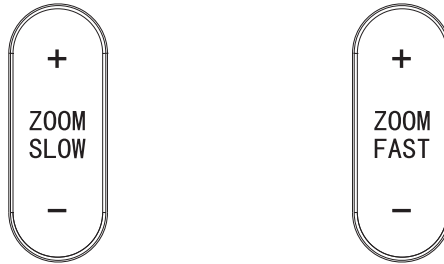
6.3 Camera Focusing Mode Control

- 【AUTO FOCUS】 Switch the focus mode to AUTO
- 【MANUAL FOCUS】 Switch the focus mode to MANUAL
- 【FAR】 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

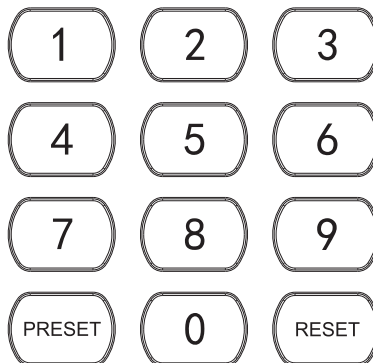
(1) Reserve Preset: Press **【PRESET】**, then press one of the numbers (0-9) to reserve a preset that corresponds to the **NUMBER**.

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 Dial switch setting



6.7 Dial SW1 (1/2/3/4/5/6/7/8): Camera address code setting

SW1								
PTZ Add.	DIP-1	DIP-2	DIP-3	DIP-4	DIP-5	DIP-6	DIP-7	DIP-8
1	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF
2	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF
3	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
....								
63	ON	ON	ON	ON	ON	ON	ON	ON

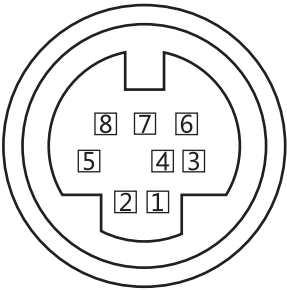
6.8 Dial SW2 (1/2/3): Protocol setting

SW2				
Protocol	DIP-1	DIP-2	Baud	DIP-3
VISCA	OFF	OFF	9600	OFF
PELCO-D	OFF	ON	38400	ON
PELCO-P	ON	OFF		

6.9 Dial 3 IR Transfer (IR PASS)

IR Add	DIP-4		
All	OFF	OFF	OFF
1	OFF	OFF	ON
2	OFF	ON	OFF
3	OFF	ON	ON
4	ON	OFF	OFF

6.10 RS-232 Interface Distribution

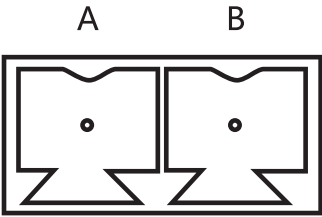


VISCA RS-232 IN

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

6.11 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 Operating System: Windows 7/8/10, Mac OS X, Linux, Android

Network Protocol: TCP/IP Client PC: P4/128M RAM/40G HDD/ support scaled graphics card, support DirectX 8.0 or more advanced versions.

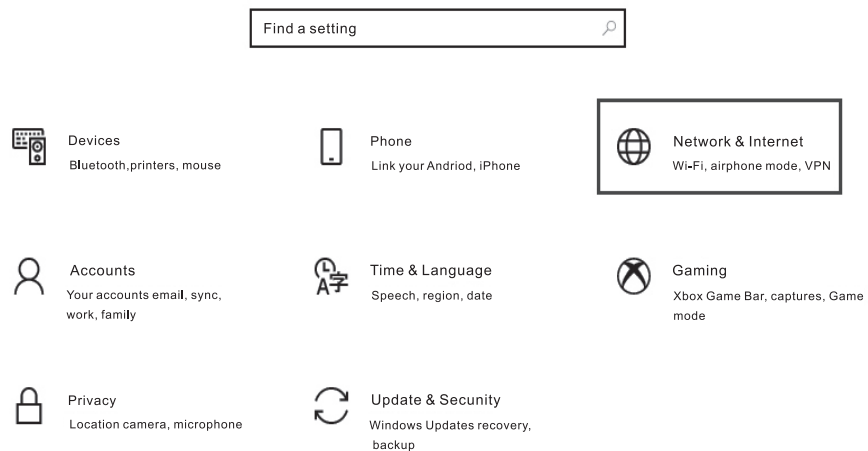
7.2 Equipment installation

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.)

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

Windows Settings



← Settings

Home

Find a setting

Network & Internet

Status

Ethernet

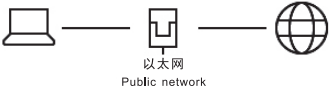
Dial-up

VPN

Proxy

Status

Network status



You're connected to the Internet

If you have a limited data plan, you can make this network a metered connection or change other properties.

以太网

From the last 30 days

Properties

32.64 GB

Data usage

☐ Off

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

7.2.2 How to add networking:

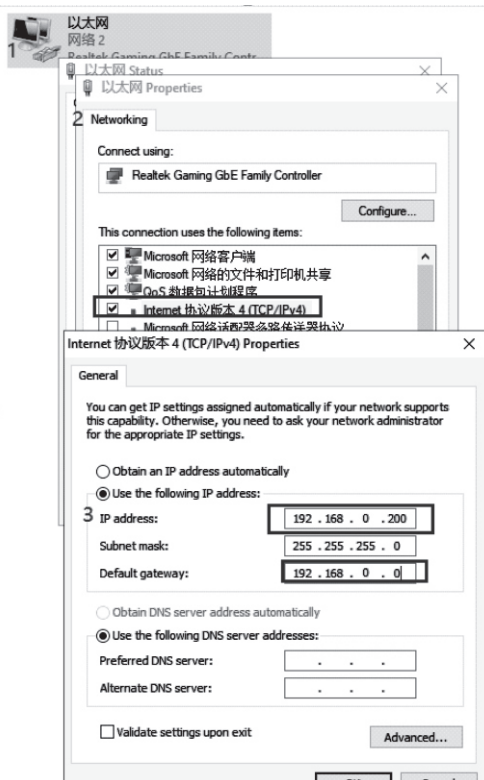
7.2.21 Open the computer network local connection attribute window, select "Internet Protocol Version 4 :TCP/IPv4;

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

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

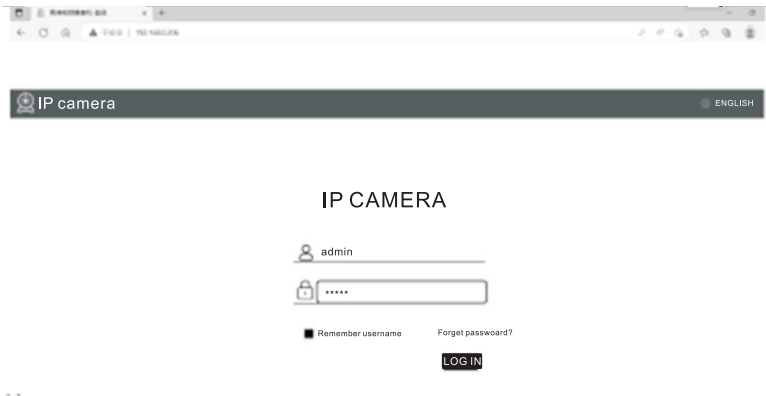
7.2.24 Change the computer's IP to 192.168.0.200 so that the computer IP and camera IP are on the same network segment.

PS:If no network segment is added, You will fail to login. The default IP address of the product is 192.168.0.208. "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.

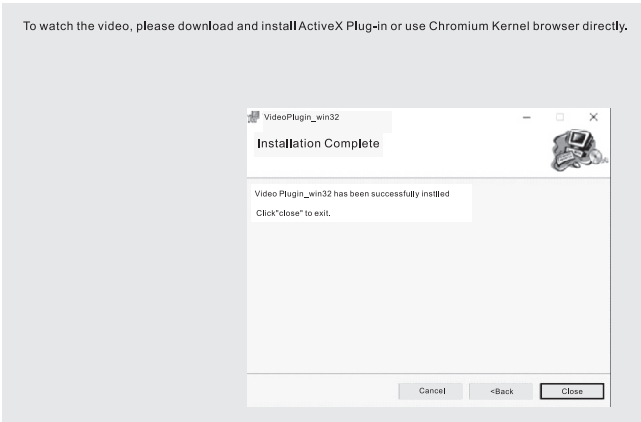
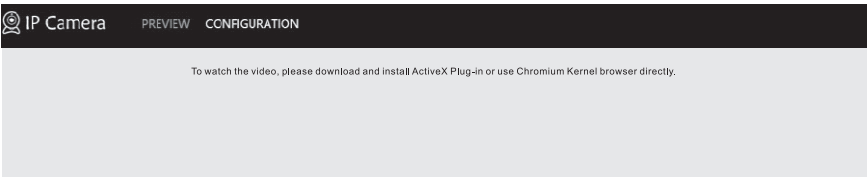


7.3 Input `http:// 192.168.0.208` to IE(better with IE or Google web browser), a login window pop up, input user name: admin, password: admin, language, English, shown as below,whether the IP already exists.

7.3.1 When logging in for the first time, you will be prompted to change your password. Users can change the passwords and save it.



7.3.2 To watch the video, please download and install ActiveX Plug-in or use Chromium Kernel browser directly.



7.3.3 When logging in for the first time, you need to select encode compression format H264. Users can set the code stream or other parameters and save. The preview image will be displayed.

Main Stream

Enable

☒

Stream Type:

Normal

▼

Compressed :

H,264

▼

Resolution :

1080p

▼

BP Frame:

Single P frame

▼

Frame Rate :

60

(1-60)

Rate Control:

CBR

▼

Bit Rate:

8192

100-40960kb/s

IFrame Interval:

60

1-150

Sub Stream

Enable

☒

Stream Type :

Normal

▼

Compressed :

H,264

▼

Resolution:

640*480

▼

BP Frame:

Single P frame

▼

Frame Rate:

30

(1-30)

Rate Control :

CBR

▼

Bit Rate:

512

100-4096kb/s

IFrame Interval:

30

1-150

Apply

Default

7.3.4 Users can set the image parameter, Encode, Video Output and OSD after the preview image comes out.

Scene: PC ▼

▼ Image

▼ Exposure

▼ WB

▼ Focus

▼ Day/Night

▼ Enhance

▼ Rotate

▼ Others

Default

PTZ Control

↶

↴

↵

↷

↶

↴

↵

↷

↶

↴

↵

↷

PTZ Speed

5

Zoom Speed

6

PTZ Settings

~Select Action~

~Select Action~

Output format :

1080P60

^

OFF

1080P60

1080P50

1080P30

1080P25

720P60

☐ 1-channel

▼

adjust

☐ 2-time

white

▼

adjust

☐ 3-character

white

▼

adjust

☐ 4-character

white

▼

adjust

☐ 5-character

white

▼

adjust

☐ 6-character

white

▼

adjust

☐ 7-character

white

▼

adjust

☐ 8-zoom

white

▼

adjust

☐ 9-logo

▼

browse

upload

adjust

PS: PNG picture size less than 1920*1080

Default

18

7.3.5 Users can sent the network such as Ethernet, Port, RTMP, RTSP and SRT, too.

Pattern:	Static	TOP port:	36666	1-65535
NAC Address:	00: C0:C8: 44:E1:2B	UCP port:	37778	1-65535
IP Vers ion:	IPv4	RTSP port:	554	1-65535
IP Address:	192.168.0.208	VISCA port:	52381	1-65535
Subnet Mask:	255.255. 255.0 :	HTTP port:	80	Raad Only
Default Gateway:	192.168. 0.254	ONVIF port:	2000	Raad Only
Preferred DNS:	192.168.0.7			
Al ternate DWS:	192. 168.0.8			

ApplyDefault

Enable☒

Stream TypeMain stream

Server URLrtmp://a.rtmp.youtube.com/live2

Push Flow Code1468- es8q-4vrv-j2vv-4e8t

Enable☐

Stream TypeMain stream

Server URL

Push Flow Code

Apply

Main Stream:

Rtap Address:rtsp://192.168.0.208.554/live/av0Copy

Sub Stream:

Rtsp Address:rtsp://192.168.0.208.554/live/av0Copy

Mode:

Off^OffCallerListenerRendezvous

Default

7.4 Video streaming

7.4.1 RTSP video streaming

“System setting” → “Network setting” → “RTSP” enter following interface,

Main Stream:

Rtsp Address:rtsp://192.168.0.208.554/live/av0Copy

Sub Stream:

Rtsp Address:rtsp://192.168.0.208.554/live/av1Copy

Configure parameters according to the network environment.

For example, Camera default IP Address: 192.168.0.208 here is the way to get RTSP video streaming,

Default RTSP main streaming address:

rtsp://192.168.0.208:554/live/av0(av0 Main)

Default RTSP sub streaming address:

rtsp://192.168.0.208:554/live/av1(av1 Sub)

7.4.2 RTMP video streaming

“System setting” — → “Network setting” — → “RTMP” enter following interface.

Enable	<input checked="" type="checkbox"/>
Stream Type	Main stream▼
Server URL	rtmp://a.rtmp.youtube.com/live2
Push Flow Code	1468-es8q-4vrw-j2vv-4e8t
Enable	<input type="checkbox"/>
Stream Type	Main stream▼
Server URL	
Push Flow Code	

Apply

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.

7.5.1 Change the camera IP address to: 192.168.110.206

7.5.2 Default Gateway: 192.168.110.254

7.5.3 Alternate DNS: 192.168.110.7

7.5.4 Preferred DNS: 192.168.110.8

Pattern: Static ▼

MAG Address: 00:C0:C8:44:E1:2B Read Only

IP Version: IPB4 ▼

IP Address: 192.168.110.206

Subnet Mask: 255.255.255.0

Default Gateway: 192.168.110.254

Preferred DNS: 192.168.110.7

Alternate DNS: 192.168.110.8

Apply Default

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

Internet协议版本4 (TCP/IPv4) Properties ✕

General Alternate Configuration

You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

☒ Obtain an IP address automatically

☐ Use the following IP address:

IP address: .*.*.*

Subnet mask: .*.*.*

Default gateway: .*.*.*

☒ Obtain DNS server address automatically

☐ Use the following DNS server addresses:

Preferred DNS server: .*.*.*

Alternate DNS server: .*.*.*

☐ Validate settings upon exit Advanced...

OK Cancel

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

7.6.1 After successfully login, you will enter the Video viewing interface. In the setting interface, you can set Pan and tilt control, Zoom, Focus, and set call, clear of preset positions, etc.

7.6.2 Select "System Settings" → "System Management" → "Maintenance Settings" to enter the following interface

Update

Update	<input type="text"/>	Browse
--------	----------------------	--------

Reboot

Manual	Restart the device
--------	--------------------

Auto	never ▼
------	---------

Restore default

Reset	Restore to factory settings. and login password will return to default t.
-------	---

7.6.2.1 Open upgrade file ".dat" to Upgrade automatically if needed.

7.6.2.2 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 over IP to reduce the trouble of RS232/RS485 wiring(controller must support IP communication function)

Communication port specifications:

Control port: RJ45

IP protocol: IPv4

Transport protocol: UDP

IP address: set through the web

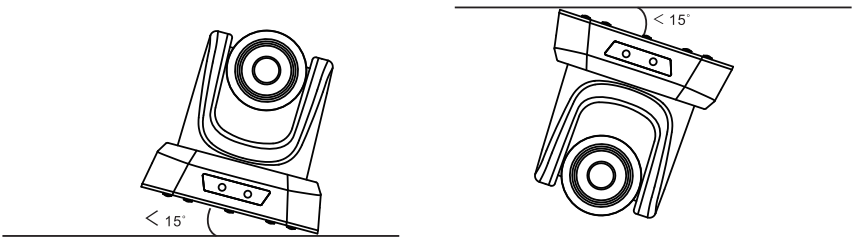
Port address: 52381

Scope of application: the same network segment

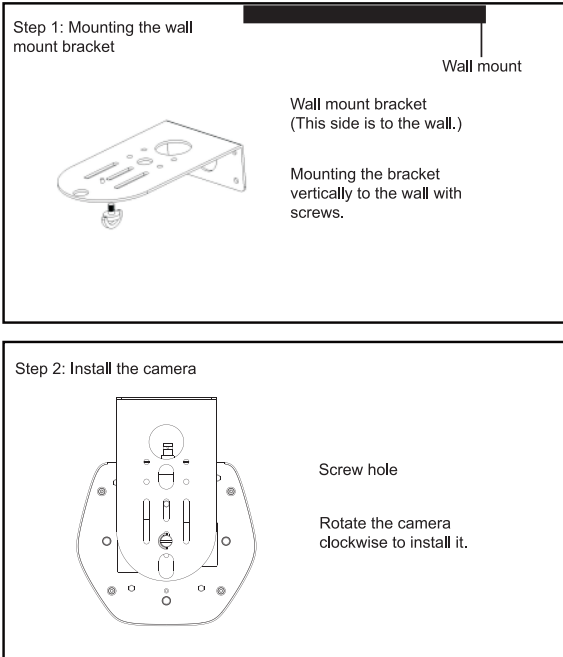
8. Installation Instructions

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.
(Refer to RS-485 and RS-232 Pins distribution on page 12).

Q: Why no ceiling mount bracket?

A: Camera comes with wall mount only. 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.

10. Maintenance Services

All products purchased from our company are guaranteed to keep in good repair for 36 months. If there are any quality problems during the guarantee period, we will maintain them for free.

Under any of the following warranties, related maintenance costs will be collected:

1. Product was not normally used.
2. Fire, electric shock, outside object collapse or other natural disasters causing the equipment damaged.
3. Unauthorized repair, misuse, abuse or change.

Warranty Card

Thank you so much for choosing our products.

User's Info

Name: _____ Tel: _____

Email: _____ Post Code: _____

Address: _____

Product's Info

Product Name: _____

Factory Serial Number: _____

Fault Description

Attention

1. This card is considered as the protection to fix warranty, so please reserve it carefully. Please fill in truthfully.
2. Please indicate the model number, factory serial number and the detailed description of the fault information.



