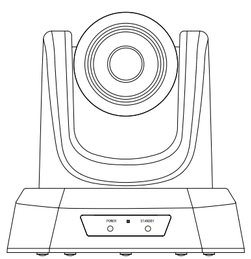
HD Conference Camera

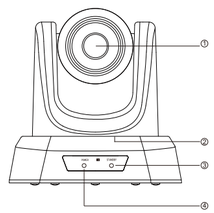
User Manual



Version V3.0UH

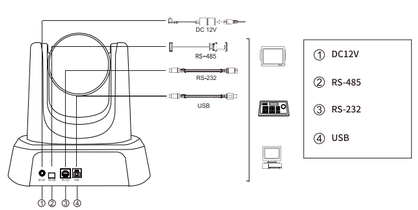
1. Product Description

1.1 Front

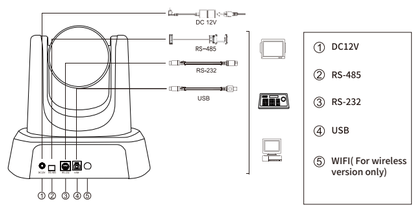


①Lens
②Pan & Tilt
③Standby
④Power

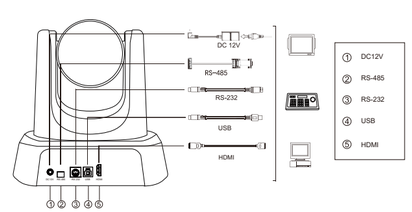
1.2 USB Interface Diagram



1.3 USB+WIFI Interface Diagram



1.4 USB+HDMI Interface Diagram



2. Packing List

2.1 USB / USB+HDMI Interface Packing List



HD conference camera



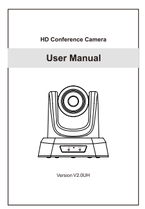
DC 12V power supply



Wall mount



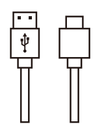
Mounting screws



User manual



Remote control



USB cable

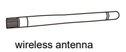
2.2 USB+WIFI Interface Packing List



HD conference camera



DC 12V power supply



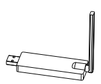
wireless antenna



Wall mount



Mounting screws



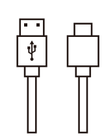
Wifi dongle



User manual



Remote control



USB cable

3. Performance Characteristics

3.1 USB3.0 Version Specifications

Model No.	NVPro3U	NVPro10U	NVPro20U
Sensor	1/2.8"SONY CMOS		
Effective Pixels	2.38 mega pixel		
Video Signals	1080p@60/50/30/25fps, 720p@60/50/30/25fps		
Zoom	3x optical zoom	10x optical zoom	20x optical zoom
Lens	f=2.38-7mm	f=5.76-46.09mm	f=5.9-94.4mm
Aperture	F1.96-3.64	F1.8-2.6	F1.8-3.9
Horizontal Angle	103.69°(W)-42.12°(T)	54.7°(W)-6.8°(T)	52.1°(W)-3.4°(T)
Vertical Angle	67.14°(W)-24.87°(T)	30.8°(W)-3.8°(T)	29.3°(W)-1.9°(T)
Diagonal Angle	113.91°(W)-47.55°(T)	62.8°(W)-7.8°(T)	59.8°(W)-3.9°(T)
Video Output	USB 3.0		
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 255 presets (10 presets by IR remote)		
Control Interface	RS-232 (input only), RS-485, USB		
Shutter	1/30s-1/10000s, auto		
Baud Rate	2400/4800/9600/38400bps		
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/285*217*197mm(before / after packing)		
Product Weight	1.5kg/2.0kg (net / gross weight)		

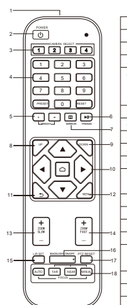
3.2 USB3.0+Wireless Version Specifications

Model No.	NVPro3W	NVPro10W	NVPro20W
Sensor	1/2.8"SONY CMOS		
Effective Pixels	2.38 mega pixel		
Video Signals	1080p@60/50/30/25fps, 720p@60/50/30/25fps		
Zoom	3x optical zoom	10x optical zoom	20x optical zoom
Lens	f=2.38-7mm	f=5.76-46.09mm	f=5.9-94.4mm
Aperture	F1.96-3.64	F1.8-2.6	F1.8-3.9
Horizontal Angle	103.69°(W)-42.12°(T)	54.7°(W)-6.8°(T)	52.1°(W)-3.4°(T)
Vertical Angle	67.14°(W)-24.87°(T)	30.8°(W)-3.8°(T)	29.3°(W)-1.9°(T)
Diagonal Angle	113.91°(W)-47.55°(T)	62.8°(W)-7.8°(T)	59.8°(W)-3.9°(T)
Video Output	USB3.0 / Wireless dongle		
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 255 presets (10 presets by IR remote)		
Control Interface	RS-232 (input only), RS-485, USB		
Shutter	1/30s-1/10000s, auto		
Baud Rate	2400/4800/9600/38400bps		
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/285*217*197mm(before / after packing)		
Product Weight	1.5kg/2.0kg (net / gross weight)		

3.3 USB3.0+HDMI Version Specifications

Model No.	NVPro3H	NVPro10H	NVPro12H	NVPro20H	NVPro12H-4K
Sensor	1/2.8"SONY CMOS				1/2.8"SONY CMOS
Effective Pixels	2.38 mega pixel				8.29mega pixel
Video Signals	1080p@60/50/30/25fps, 720p@60/50/30/25fps				4K@25/30,1080p@60/50/30/25fps, 720p@60/50/30/25fps
Zoom	3x optical zoom	10x optical zoom	12x optical zoom	20x optical zoom	12x optical zoom
Lens	f=2.38-7mm	f=5.76-46.09mm	f=3.42-40.02mm	f=5.9-94.4mm	f=3.42-40.02mm
Aperture	F1.96-3.64	F1.8-2.6	F1.88-3.77	F1.8-3.9	F1.88-3.77
Horizontal Angle	103.69°(W)-42.12°(T)	54.7°(W)-6.8°(T)	80.56(W)-7.89°(T)	52.1°(W)-3.4°(T)	80.56(W)-7.89°(T)
Vertical Angle	67.14°(W)-24.87°(T)	30.8°(W)-3.8°(T)	49.61°(W)-4.46°(T)	29.3°(W)-1.9°(T)	49.61°(W)-4.46°(T)
Diagonal Angle	113.91°(W)-47.55°(T)	62.8°(W)-7.8°(T)	89.51°(W)-9.04°(T)	59.8°(W)-3.9°(T)	89.51°(W)-9.04°(T)
Video Output	USB 3.0, HDMI				
Video Encoding Format	H.264, H.265, MJPG, YUY2				
Video Resolution	1080P (1920 *1080) etc				4K(3840*2160)etc
Signal Standard	NTSC/PAL				
Preset Position	User can set up to 255 presets (10 presets by IR remote)				
Control Interface	RS-232 (input only), RS-485, USB				
Shutter	1/30s-1/10000s, auto				
Baud Rate	2400/4800/9600/38400bps				
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/285*217*197mm(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 model by pressing
3	Camera Select Key	Select the camera needs to control
4	Position	Preset position setup keys, include [PRESET] and[RESET]
		Set the preset position
		Reset the preset position
5	Bright Adjustness	Adjust the brightness of the image
6	Screen Freeze	Turn on or turn off Screen Freeze
7	Mirror	Enable the picture left/right flip
8	Up	The camera rotates horizontally in regular installed direction
9	Down	The camera rotates horizontally in reversed installed direction
10	PTZ Control Key	PTZ moves according to the arrow indicates
		Press [HOME] PTZ will get back to the default position
11	Return/Exit	Return to the previous operation
12	Menu	Enter or exit OSD Menu after pressing it
13	Zoom Slow Key	Zoom in + or out - slowly
14	Zoom Fast Key	Zoom in + or out - fast
15	Left/Right	Long press 10 Seconds to switch the left and right directions
16	Backlight on/off	Turn on/off backlight compensation
17	PTZ reset	Self-checking
18	Focus Key	Auto/Far/Near/Manual
		Default: Auto focus

★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	
Communication	
Information	
Restore Default	
Language	English
[Home]	Enter
[Menu]	Back

Language: Support Chinese/English

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

Press the Menu button on the Remote to exit menu

5.2 Level 2 Menu - Exposure

Exposure	
→ Mode	Auto
Backlight	On/Off
ExpComp	1
Flicker	50Hz
[Return]	

Mode: Auto/Manual

Backlight: On/Off the backlight

ExpComp: Exposure compensation, optional item is -50-+50

Flicker: Support Off/50Hz/60Hz

When changing the exposure mode to Manual, the sub-menu is as shown below:

Exposure	
→ Mode	Manual
Iris	F1.6
Shutter	1/60
Gain	0
Flicker	50Hz
[Return]	

Iris: F No. 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 1/10000 and 1/25

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

Flicker: Off/50Hz/60Hz

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 as shown below:

Color	
→ Brightness	50
Contrast	53
Hue	50
Saturation	55
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 as shown below:

Color	
→ Brightness	50
Contrast	50
Hue	50
Saturation	50
Sharpness	50
WB Mode	VAR
Color Temp	5500
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
Mirror	Off
Video Format	1080P60
Menu Mirror	Off
USB Mode	ISOC
Style	Normal
[Return]	

Flip: Enable/disable the picture up/down flip

Mirror: Enable/disable the picture left/right flip

Video Format: 1080P-60/50/30/25:720P-60/50/30/25

USB Mode: ISOC/BULK

Adjust between Isochronous transfers mode and Bulk transfers mode

Style Mode: Normal, PC, Bright Normal/PC/Bright

5.5 Video Format

1080P supports video formats as follows:

Video Format
→ 1080P60
1080P50
1080P30
1080P25
720P60
720P50
720P30
720P25

4K supports video formats as follows:

Video Format
4KP30
4KP25
→ 1080P60
1080P50
1080P30
1080P25
720P60
720P50
720P30
720P25

5.5 Level 2 Menu P/T/Z

P/T/Z	
→ Acc Curve	Middle
[Return]	

Acc Curve: Adjust the speed of pan，tilt.

5.6 Level 2 Menu - Communication

Communication	
Protocol	Auto
Baudrate	9600
RC Address	2
→ [Return]	

Protocol: Default Auto, option item Visca/PELCO-D/PELCO-P/Auto

Address: Set the camera's address, optional item 1-7 in Visca, 1-255 in PELCO-D, 1-32 in PELCO-P

Baudrate: Default 9600, option item 2400/4800/9600/38400

RC Address: Set the IR remote control's address to control the corresponding camera, option item ALL/1/2/3/4

5.7 Level 2 Menu - Information

Information	
Model	UHD Camera
Version	1.0.1.0
→ [Return]	2023-8-21

Model: UHD Camera

Version: 1.0.1.0

Date: 2023-8-21

Notice：The version number here is just an example. The actual parameters shall prevail.

5.8 Level 2 Menu - Restore Default

Restore Default	
Restore?	NO/YES
→ [Return]	

Restore: No/Yes

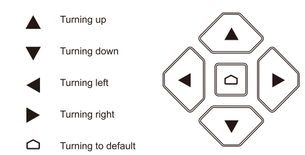
6. Common Operation Instructions

6.1 Camera Select

Set the IR remote control's address to control the corresponding camera, option item 1/2/3/4



6.2 Camera Direction Control



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 Focus Mode Control

【AUTO】Switch the focus mode to AUTO

【FAR】Far focus manually

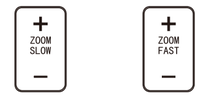
【NEAR】Near focus manually

【MANUAL】Switch the focus mode to MANUAL



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

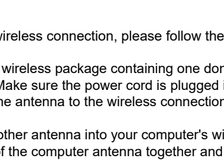
(1) Reserve Preset: Press【PRESET】, then press one of the numbers (0-9) to reserve a preset that corresponds to the NUMBER.

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

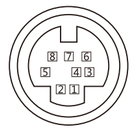
(2) Call Preset: Press the NUMBER (0-9) directly to call the reserved preset.

Note: It won't work if there's no preset reserved in the corresponding 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 RS-232 Interface Distribution

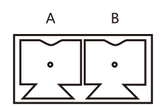


VISCA RS-232 IN

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

6.7 RS-485 Interface Distribution

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



6.8 For the wireless connection, please follow these installation instructions:

1, Locate the wireless package containing one dongle and two wireless antennas.Make sure the power cord is plugged into a power source.

2, Connect one antenna to the wireless connection port at the back of the camera.

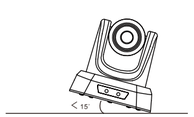
3, Install the other antenna into your computer's wireless dongle. Join the two parts of the computer antenna together and plug it into the computer's USB port.

Once both antennas are in place, open your computer's video conferencing software, select the camera, and start your video conference.

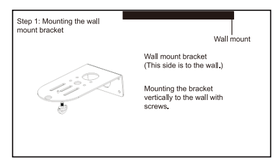
7. Installation Instructions

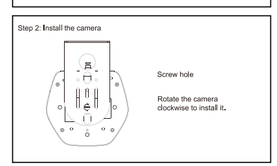
7.1 Surface Installation

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's pan&tilt works normally.



7.2 Wall Mount Installation





8. 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 corrspond 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.