#### 2. Packing List

## **HD** Conference Camera

## **User Manual**



Version V1.0



## HD Conference Camera



Wall mount







User manual



USB cable

DC 12V power supply

Remote control

#### 4. Remote Control Button Description



#### ★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.

ight: Optional item is 3 Level 2 Menu - 0	0-17 (Only effective und Color	l
с	olor	
→ Brightness	50	
Contrast	50	
Hue	50	
Saturation	50	
Sharpness	50	
WB Mode	Auto	
Rtuning	00	
Btuning	00	
[Return]		

#### 1. Product Description

1.1 Front



1.2 Front



Model No.	VHD10H	VHD20H	VHD12H
Image Sensor	Sony IMX327 1/2.8" CMOS		
Effective Pixels	10x zoom	2.07MP	
Optical Zoom	f=4.32-40.9mm	20x zoom	12x zoom
Lens	F1.76~F3.0	f=5.5-110mm	f=4.1-49.2mm
Aperture	67.5°(W)-8.8°(T)	F1.6-3.5	F1.8-2.68
Horizontal Angle	40.2°(W)-4.3°(T)	55.8°(W)-3.2°(T)	70.28°(W)-6.57°(T)
Vertical Angle	75.4°(W)-8.8°(T)	32.2°(W)-1.8°(T)	42.06°(W)-3.76°(T)
Diagonal Angle		61°(W)-3.64°(T)	78.36°(W)-7.5°(T)
Video Format	108	0p@60/50/30/25fps, 720p@60/50/3	0/25fps
Video Encoding Format		H.264, H.265, MJPG, YUY2	
Backlight Compensation		Support	
SNR		>50dB	
Focus		Auto / Manual	
Digital Noise Reduction		2D & 3D Noise Reduction	
Exposure		Auto / Manual	
· · · · · · · · · · · · · · · · · · ·	17	O Interface	
Video Interfaces	HDMI, USB3.0, RJ45		
Video Compression Format		H.264, H.265, MJPG, YUY2	
LAN	10M/100M/1000M adaptive Ethernet port; Support POE IEEE802.3at		
Network Protocol	NDI/HX2,RTSP, RTMP, ONVIF, GB28181; Support VISCA Over IP		
Control Protocol	VISCA/Pelco-D/Pelco-P; Baud Rate: 9600/4800/38400/2400		
Control Interface	RS232, RS485, USB3.0 TYPE-B(UVC1.1), RJ45		
	17	O Interface	
Pan/Tilt Rotation	±175°, -90°~+90°		
Pan Control Speed	0.1 -80°/sec		
Tilt Control Speed		0.1 -60°/sec	
Preset Number	User can set	up to 255 presets (10 presets by IR	remote)
	17	O Interface	
Operation Systems	Windows 7	, Windows 8.1, Windows 10, Window	ws 11;
	Android, Mac OS™ 10.10 or higher, Linux (Required to support UVC.)		
Input Voltage	DC 12V		
Input Current		2.0A (Max.)	
Power Consumption	13W (Max.)		
Store Temperature	-10 °C ~+60 °C		
Store Humidity		20%~90%	
Working Temperature		-10°C~+50°C	
Working Humidity		20%~80%	
Dimension (W*H*D)	247.1*152*169	.6mm/285*217*197mm(before / afte	er packing)
N.W. / G.W.	1.	37kg/2.45kg (net / gross weight)	
Accessory	1 x Camera; 1 x USB (	Cable; 1 x Power Adapter; 1 x Wall M	Nount; 1 x Manual
Mfg. Warranty	3 Yea	ars standard Parts & Labor warranty	r

#### 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 【 】 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	Off
ExpComp	00
Flicker	50Hz
[Return]	

Mode: Auto/Manual/SAE/AAE/Bright

Backlight: On/Off (only effective under Auto mode)

ExpComp: Optional item is -7~+7 (only effective under Auto mode) Flicker: Support 50HZ/60HZ

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

Saturation: Optional item is 0-99 Sharpness: Optional item is 0-99 The range is 0 to 99.

	Bright	]
'	Contra	é
	Hue	
:	Satura	
:	Sharp	
→ !	WB M	
	Rgain	
	Bgain	
	[Retur	i
When t	he W	i
		ĺ

c	olor
Brightness	50
Contrast	50
Hue	50
Saturation	50
Sharpness	50
→ WB Mode	VAR
Color Mode	5600
[Return]	

The Color Temp value is adjustable. The range is between 2500 and 9000. When the WB mode is Indoor/Outdoor/Onepush, the sub-menu will be as shown below:

Cold	r	Col	or
→ Brightness	50	→ Brightness	50
Contrast	50	Contrast	50
Hue	50	Hue	50
Saturation	50	Saturation	50
Sharpness	50	Sharpness	50
WB Mode	Indoor	WB Mode	Outdoor
[Return]		[Return]	

Brightness Contrast Hue Saturation Sharpness • WB Mode OnePush [Return]

#### \_ \_ \_ \_ → Mod Iris

Shutt Gain Flicke [Reti

Iris: F1.6、F1.85、F2.0、F2.2、F2.63、F3.0、F3.4、F4.0、F6.0、 F8.0、F10.0、F16.0、F32.0、Off (Only effective under Manual/AAE mode) Shutter: 1/25、1/30、1/60、1/90、1/100、1/125、1/180、1/250、1/350、 1/500、1/750、1/1000、1/1500、1/2000、1/3000、1/4000、1/6000、 1/10000 (Only effective under Manual/SAE mode) Gain: Optional item is 0 to 99 (Only effective under AAE/SAE mode)

\_ \_ \_ \_ \_ → Mode Shutt Gain Flicke

> . \_ \_ \_ \_ → Mode Flick

Bright [Return]

Exposure		
	Manual	
	F2.2	
er	1/30	
	00	
er	50Hz	
rn]		

Exposure		Exp	posure
Mode	SAE	→ Mode	AAE
Shutter	1/30	Iris	F2.2
Gain	00	Gain	00
Flicker	50Hz	Flicker	50Hz
[Return]		[Return]	

Exposure	
e	Bright
er	07
nt	50Hz

#### der Bright mode)

- Brightness: Optional item is 0-99 Contrast: Optional item is 0-99 Hue: Optional item is 0-99
- WB mode: Auto/Manual/VAR/Indoor/Outdoor/Onepush
- When the WB mode is Auto, the Rtuning and Btuning value can be tuning.
- When the WB mode is Manual, the sub-menu will be as shown below:

	Color
ness	50
st	50
	50
tion	50
ness	50
ode	Manual
	00
	00

VB mode is VAR, the sub-menu will be as shown below:

#### 5.4 Level 2 Menu-Image

Color	
→ Flip	Off
Mirror	Off
Video Format	1080P60
Menu Mirror	Off
USB Mode	BULK
Style	Normal
[Return]	

Flip: On/Off (Enable/disable the picture flip up/down) Mirror: On/Off (Enable/disable the picture flip left/right)

USB Mode: BULK (Adjust between lsochronous transfers mode and Bulk transfers mode) Style: Normal/PC/Bright 5.5 Level 3 Menu-Video Format 1080P60 camera supports the following video formats

Video Format		
→ 1080P60		
1080P59.94		
1080P50		
1080P30		
1080P29.97		
1080P25		
720P60		
720P59.94		
720P50		
720P30		

4K camera supports the following video formats:

Video Format		
→ 4KP30	1080P29.97	
4KP25 1080P60	720P60	
1080P59.94 1080P50	720P59.94 720P50	
1080P30	720P30	

#### 5.6 Level 2 Menu- P/T/Z

P/T/Z		
Middle On 6 Bottom Low Normal		

Acc Curve: Fast/Middle/Slow. L/R SET: On/Off Zoom Speed: Optional items are 0-7 AF Zone: Bottom/Left/Right/Front/Top/Middle AF Sense: Normal/High/Low AF Scene: Normal/Macro/Live 5.7 Level 2 Menu - Communication

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

Protocol: Option items are Auto/Visca/PELCO-D/PELCO-P Baudrate: Option items are 2400/4800/9600/38400 RC Address: Set the IR remote control's address to control the corresponding camera. Option items are ALL /1/2/3/4 Address: Set the camera's address. Option items are 1-7 in Visca, 1-255 in PELCO-D, 1-31 in PELCO-P.

#### 5.8 Level 2 Menu -Information

Communication		
Model	FHD Camera	
PTZ Version	1.0.1.1	
SOC Version	1.1.32	
→ AF Version	1.0.1	
[Return]		

Notice: The version number here is just an example. The actual parameters shall prevail. 5.9 Level 2 Menu - Restore Default

Default
No.
NO

#### 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

0		-CAMERA	SELECT-	
	1	2	3	4

#### 6.2 Camera Direction Control

#### ▲ Turning up ➤ Turning down

Turning left Turning right  $\frown$ 

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 Focus Mode Control

[AUTO] Switch the focus mode to AUTO

[MANUAL] 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 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



#### 6 7 RS-485 Interface Distribution

PIN NUM	FUNCTION
А	DTR IN+ (connect to RS-485)
В	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)





### Off

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

Automatic (DHCP)

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



IP assignment: Edit

#### Properties

1000/1000 (Mbps)
fe80::b1b8:1f9a:3e4d:4899%3
192.168.110.73
192.168.110.1
lan
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.

Q 以太网 State	is ronerties	×
2 Naturation	lopenes	
Connect us	ing:	
ur nea	tek Gaming GDE Fami	ly Controller
		Configure
This conne	ction uses the followin	ig items:
⊻ ∰M	crosoft 网络各户嘴 crosoft 网络的文件和	中TED机共宜
V Qu	S趋振句计划程序	
	emet 协议版本 4 (TC	P/IPv4)
Internet 协议版	本4 (TCP/IPv4) Pro	perties
General		
General		
General You can get I this capability	P settings assigned au . Otherwise, you nee	utomatically if your network suppr d to ask your network administral
General You can get I this capability for the approp	P settings assigned au . Otherwise, you nee priate IP settings.	utomatically if your network suppr d to ask your network administrat
General You can get I this capability for the approp	P settings assigned au . Otherwise, you nee priate IP settings. n IP address automat	utomatically if your network suppo d to ask your network administrat bically
General You can get I this capability for the appro Obtain a @ Use the	P settings assigned au . Otherwise, you nee priate IP settings. n IP address automat following IP address:	utomatically if your network supp d to ask your network administral tically
General You can get II this capability for the approp Obtain a © Use the 3 IP address	P settings assigned au . Otherwise, you nee priate IP settings. n IP address automat following IP address:	utomatically if your network support d to ask your network administrat scally 192 . 168 . 0 . 200
General You can get II this capability for the approp Obtain a © Use the 3 IP address Subnet mar	P settings assigned au . Otherwise, you nee priate IP settings. n IP address automat following IP address: : sk:	utomatically if your network suppo d to ask your network administral scally 192 . 168 . 0 . 200 255 . 255 . 0
General You can get II this capability for the approp Obtain a © Use the 3 IP address Subnet ma Default gat	P settings assigned as . Otherwise, you nee priate IP settings. n IP address automat following IP address: : sk: teway:	utomatically if your network support d to ask your network administrat tically 192 . 168 . 0200 255 . 255 . 0 192 . 168 . 0 . 0
General You can get II this capability for the approj Obtain a © Use the 3 IP address Subnet mar Default gal	P settings assigned at . Otherwise, you nee oriate IP settings. n IP address automat following IP address: : : : : teway: NS server address at	atomatically if your network appo d to ask your network administrat totaly 192.168.0.200           192.168.0.0.00           192.168.0.0.00           192.168.0.0.00           192.168.0.0.00           192.168.0.0.00
General You can get II this capability for the approj Obtain a © Use the 3 IP address Subnet mar Default gal Obtain D @ Use the	P settings assigned at Otherwise, you nee printe IP settings. In IP address automat following IP address: is ak: teway: NS server address at following DNS server:	utamatically if your network support d to adk your network administral tically 192         158         0         0           255         255         0         1           192         168         0         0           192         168         0         0           192         168         0         0           192         168         0         0           Atomatically         addresses:         1
General You can get II this capability for the appropriate the appropriate Obtain a © Use the 3 IP address Subnet mar Default gal Obtain D © Use the Preferred I	P settings assigned at Otherwise, you nee printe IP settings. In IP address automat following IP address: is ak: teway: NS server address ac following DNS server NKS server address ac	utomatically if your network support of to adk your network administrat toolly 192         168         0         00           255         255         0         1           192         168         0         0         1           192         158         0         0         0         1           utomatically         addresses:         .         .         .         .         .         .
General You can get II this capability for the appropriate Obtain a @ Use the 3 IP address Subnet man Default gal Obtain D @ Use the Preferred II Alternate D	P settings assigned as Otherwise, you nee priate IP settings. In IP address automat following IP address: : : ak: teway: NS server address as following IPS server: NS server: NS server:	utomatically if your network support of a sak your network administrat kcally 192         168         0         200           255         255         0         0           192         168         0         400           Admatically         deses:         -         -           -         -         -         -

7.3 Input http:// 192.168.0.206 to IE (better with IE or Google web browser), then a login window wi11 pop up; Input user name: admin, password: admin; and choose language: English, shown as below, whether the IP already exists.

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

WELCOME	LOGIN
IP CAMERA	
Web Service	<pre></pre>

7.3.2 After successfully login, you will enter the Video viewing interface. In the setting interface, you can set Pan and tilt control, Zoom, Focus,



# Prefe Alter

#### 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:

	Identity Authentication
Port	554
One-Stream:	One-stream:rtsp://192.168.0.206:554/live/av0
Sub-Stream:	Sub-stream:rtsp://192.168.0.206:554/live/av1
	Save Refresh

Configure parameters according to the network environment. If the camera default IP address is 192.168.0.206, then the way to get RTSP video streaming as below 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:

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

General	Alternate Configuration						
You car this apa	n get IP settings assigned an ability. Otherwise, you need	utomatica to ask yo	lly if y ur nei	your ne twork a	etwork : adminis	supports tator	
	ptain an IP address automa	tially					
-00	se the fllowing IP address:					-	
IP at	uress:		•	•	•	-	
Subi	iet mask:		•	•	•	-	
Defa	ult gateway:		•	•	•		
0	otain DNS server address a	utomatia	lly				
00	e the following DNS serve	address	es:				1
Prefe	erred DNS server:						
Alter	nate DNS server:				•		
٦v	alidate settings upon exit				Adva	anced	
			_				

General	Alternate Configuration						
	riteriate comgetation						
You car	n get IP settings assigned aut	omatica	illy if :	our ne	atwork a	supports	
this apa	ability. Otherwise, you need to	o ask yo	urne	twork a	adminis	tator	
for the a	appropriate IP settings.						
00	btain an IP address automati	ally					
OU	se the fllowing IP address: —						
IP ad	ddress:						
						-	
Sub	net mask:		•		•		
Defa	ault gateway:						
						_	
0	btain DNS server address au	tomatia	illy				
- <b>O</b> U	se the following DNS server a	ddress	es:				
0						-	
Prefe	erred DNS server:		•	•	•		
Alter	mate DNS server:						
	alidate esttinge upon exit						
v	anuate settings upon exit				Adva	anced	

# following interface:



	Enable RTMP	
One-Stream:		
Sub-Stream:		
	Save Refresh	

- 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:

IP Configuration Type	Static IP	
IP Address:	192.068.110.206	(0.0.0.0-225.225.225.225)
Subnet Mask:	255.255.255.0	
Gateway:	192.168.110.254	
MAC Address:	80:0d:ed:5c:30:05	
Preferred DNS	192.168.110.7	
Alternative DNS	192.168.110.8	
	Save	esh

- 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

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

7.6.1 Select "Setup"--"Maintenance" -- "System Upgrade" to enter the

m Edition		
PTZ		1.0.1.1
SOC		9.0.01
estart		Reboot
ograde		
rade File	Upload	Upgrade

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 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

#### 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: 1)Not work, please replace batteries.
- <sup>(2)</sup>Not 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
- 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.

#### 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's pan&tilt works normally.



## 8.2 Wall Mount Installation



#### 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.