Video Conferencing Group

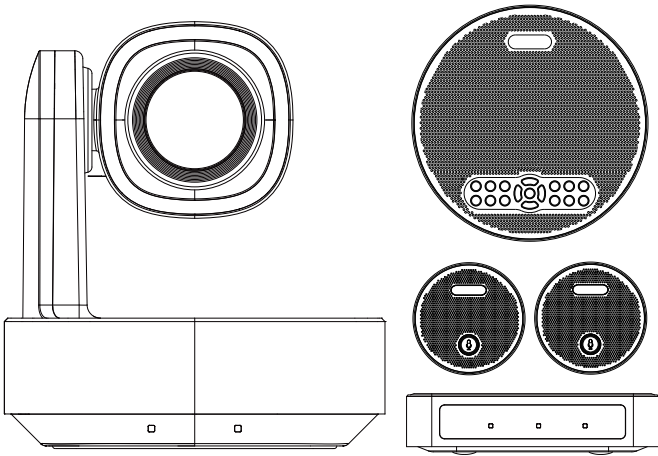## User Manual

Version V1.1

Note: The extended microphones are optional.
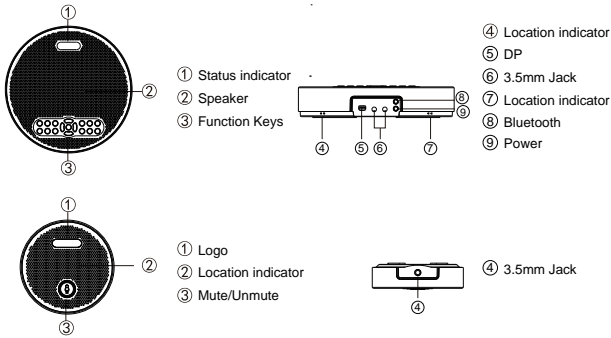

1.Packing List

① ② ③

④ ⑤ ⑥ ⑦

⑧ ⑨ ⑩ ⑪

①HD Camera*1 ②Speakerphone*1 ③Hub*1 ④ Expansion microphone*2(optional, need to buy)
⑤ Remote Control*1 ⑥5m DP Cable*2 ⑦Manual*1 ⑧3m USB Cable*1 ⑨Power Adaptor*1
⑩Wall Mount Bracket*1 ⑪3.5mm Audio Cable *2
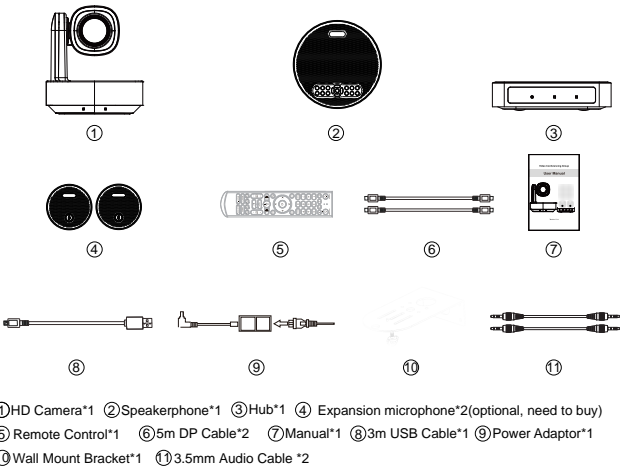
2.Product Overview

2.1 HD Camera

① Lens
② Pan&Tilt
③ Power
④ Standby

⑤ HDMI
⑥ DP
⑦ RS485
⑧ RS232

2.2 Speakerphone

① Status indicator
② Speaker
③ Function Keys

④ Location indicator
⑤ DP
⑥ 3.5mm Jack
⑦ Location indicator
⑧ Bluetooth
⑨ Power

① Logo
② Location indicator
③ Mute/Unmute

④ 3.5mm Jack

2.3 Hub

① Power
② DP 1
③ DP 2
④ Type-C

⑤ DP indicator 1
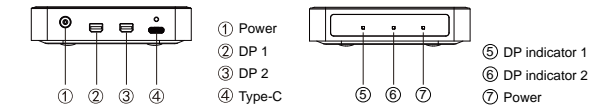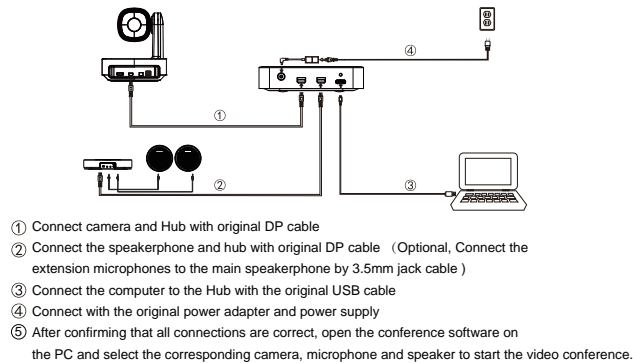⑥ DP indicator 2
⑦ Power
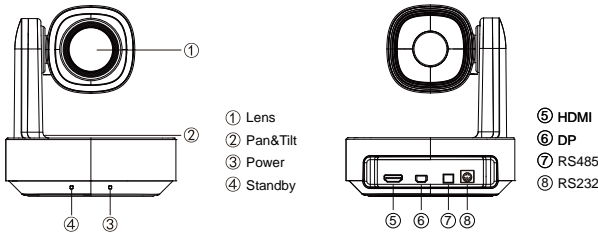
3.Connection Description

① Connect camera and Hub with original DP cable
② Connect the speakerphone and hub with original DP cable （Optional, Connect the extension microphones to the main speakerphone by 3.5mm jack cable ）
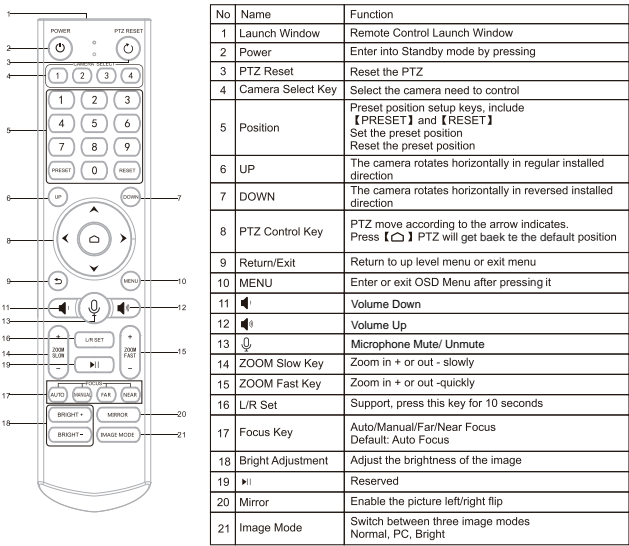③ Connect the computer to the Hub with the original USB cable
④ Connect with the original power adapter and power supply
⑤ After confirming that all connections are correct, open the conference software on the PC and select the corresponding camera, microphone and speaker to start the video conference.

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4. Key Description of Remote Control

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 get baek te 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	◀	Volume Down
12	◀))	Volume Up
13	⬚	Microphone Mute/ Unmute
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.Common Operation Instructions

5.1 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).

CAMERA SELECT: 1 2 3 4

5.2 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.

5.3 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

FOCUS: AUTO MANUAL FAR NEAR

5.4 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.

ZOOM SLOW + −   ZOOM FAST + −

5.5 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.
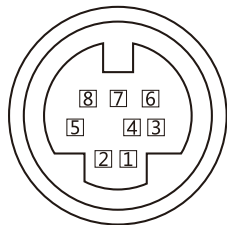

1	2	3
4	5	6
7	8	9
PRESET	0	RESET

5.6 Speakerphone Volume +/-/ Mute

◀ Volume Down
◀)) Volume Up
⬚ Microphone Mute/ Unmute

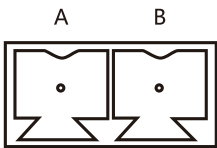## 6. Description of Control Interface

6.1 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.

6.2 RS-485 Interface Distribution

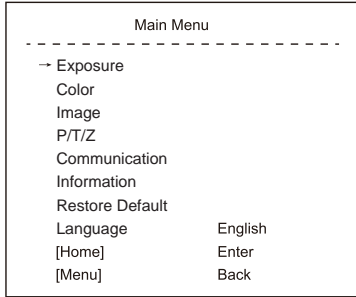| PIN NUM	FUNCTION
A	DTR IN+ (connect to RS-485)
B	DSR IN-(connect to RS-485)

A   B

---

7. Menu Setup of HD Camera

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

7.1 Level 1 Menu- Main Menu

```
                Main Menu
------------------------------------
→ Exposure
  Color
  Image
  P/T/Z
  Communication
  Information
  Restore Default
  Language          English
  [Home]            Enter
  [Menu]            Back
```
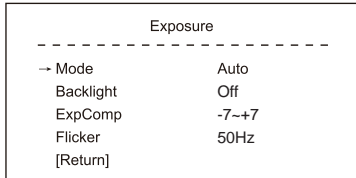
Language: Support Chinese/English
Click the Home button 【 △ 】 on the Remote to enter level 2 sub-menu
Click the Menu button on the Remote to exit menu

7.2 Level 2, Menu- Exposure

```
                Exposure
------------------------------------
→ Mode              Auto
  Backlight         Off
  ExpComp           -7~+7
  Flicker           50Hz
  [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 as follows：

```
            Exposure
- - - - - - - - - - - - - - - - -
→ Mode            Manual
  Iris            F1.6
  Shutter         1/100000~1/25
  Gain            00
  Flicker         50Hz
  [Return]
```

Iris:Off/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
Shutter：Between 1/10000 and 1/25
Gain, exposure gain setting, optional item is 0 to 99
Flicker: Support 50Hz/60Hz

7.3 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 relateive 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 follows ,

---

```
              Color
- - - - - - - - - - - - - - - - -
→ Brightness      50
  Contrast        50
  Hue             50
  Saturation      50
  Sharpness       50
  WB Mode         Manual
  Rgain           40
  Bgain           30
  [Return]
```

When the WB mode is VAR, the sub menu will be as follows：

```
              Color
- - - - - - - - - - - - - - - - -
  Brightness      50
  Contrast        50
  Hue             50
  Saturation      50
  Sharpness       50
→ WB Mode         VAR
  Color Temp      6600
  [Return]
```

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

7.4 Level 2 Menu Image

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

Flip: Enable/disable the picture up/down flip
Mirror: Enable/disable the picture left/right flip
Video Format: 4KP30/4KP25/1080P60/1080P50/1080P30/1080P25/
720P60/720P50/720P30/720P25

USB Mode: ISOC/BULK
USB mode: Adjust between Isochronous transfers mode and Bulk
transfers mode
Style Mode: Normal, PC, Bright

7.5 Level 2 Menu P/T/Z

```
              P/T/Z
- - - - - - - - - - - - - - - - -
→ Acc Curve       Middle
  L/R SET         Off
  [Return]
```

Acc Curve：Slow/Middle/Fast
L/R SET: On/Off
When On, the remote control press left, the PTZ camera moves
to the left, the remote control press right, the PTZ camera moves
to the right
When Off, the remote control press left, and the PTZ camera moves
to the right, the remote control press right, and the PTZ camera moves
to the left

7.6 Level 2 Menu Communication

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

```
          Communication
- - - - - - - - - - - - - - - - -
→ Protocol        Visca
  Address         1-7
  Baudrate        9600
  RC Address      All
  [Return]
```

```
          Communication
- - - - - - - - - - - - - - - - -
→ Protocol        Visca
  Address         0-255
  Baudrate        9600
  RC Address      All
  [Return]
```

```
          Communication
- - - - - - - - - - - - - - - - -
→ Protocol        Visca
  Address         0-31
  Baudrate        9600
  RC Address      All
  [Return]
```

Protocol:Auto/Visca/Pelco-D/ Pelco-P
Baudrate :9600/38400/2400/4800
RC Address:All/1/2/3/4

7.7 Level 2 Menu-Information

```
          Communication
- - - - - - - - - - - - - - - - -
→ Model           4K Camera
  PTZ Version     1.0.2.8
  SOC Version     1.1.24
  [Return]
```

Model: 4K Camera
PTZ version: 1.0.2.8
SOC Version 1.1.24
Note：The version number here is just an example, the actual
parameters shall prevail.

```
          Restore Default
- - - - - - - - - - - - - - - - -
  Restore?          No
→ [Return]
```

8.1 Button Function

Button	Status	Function	OLED
🔇	Speaker Mute	ON/OFF Speaker mute	ON: Logo position red OFF: logo position Green
🔈	Volume-	Volume Decreasing	10-level display at the
🔊	Volume+	Volume Increasing	Logo indicator ；
📞	Answer/Hang up	Answer and hang up the phone call	
🎤	Microphone mute	Mute/unmute	Mute：Red Unmute：Green
MENU	Camera Menu	Setup the camera specifications	
(D-pad)	Control PTZ of the camera	Control pan/tilt of the camera.Press【 ⌂ 】Button, Back to the default position	
🔍+	Zoom+	Lens nearly	
🔍-	Zoom-	Lens far	
① ② Set Call	Setup/recall preset position	presets are available to setup/call by speakerphone button Set: Setup presets Call: Call Presets Set preset：Move the camera to the right position, press 【Set】then press 1 Call Preset: Press【Call】, press button 1	
✱	Bluetooth	Bluetooth connection/disconnection Press and hold the Bluetooth button for 10s to clear the pairing memory and re-pair Click Bluetooth Button to switch Bluetooth /wire transmission	Power on green
⏻	Power on/off	Power on/off Press and hold the switch for 3 seconds Click to enable or disable the microphone and speaker at the same time	Power on green

8.2 Expansion Microphone Button Function

Button	Status	Function	OLED
🎤	Mute Button	Mute/unmute for single microphone	Unmute：Green Muted：Red

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8.3 LED Indicator Function

Bluetooth status indicator (only for Bluetooth device)	Blue light flashing	Bluetooth is pairing
	Green light on	Bluetooth connected
Microphone status indicator	Red light on	Microphone mute
	Green light on	Microphone working normally

Note: When adjusting the volume, the blue light of the volume status indicator
will change with the volume. When the volume increase key is pressed,
the blue light progress bar of the volume status indicator will increase; When the
volume down key is pressed, the blue progress bar of the volume status indicator
is reduced. When the volume is adjusted to off, the indicator is red. After adjusting
the volume, the green light will return at intervals of 2s.

Conference Camera	
Optical Zoom	12x zoom
Image Sensor	1/2.8" SONY CMOS
Effective Pixels	8.29MP
Lens	f=4.1mm-49.2mm
Aperture	F1.5-2.68
Video Format	4K30,1080P-60/50/30/25, 720P-60/50/30/25
	H.264, H.265, MJPG, YUY2, NV12
Horizontal Angle	70.28°(W) -6.57°(T)
Focus	Auto / Manual
Digital Noise Reduction	2D & 3D Noise Reduction
Exposure	Auto / Manual
Video Interfaces	HDMI, DP
Video Compression Format	H.264, H.265, MJPG, YUY2
Control Protocol	VISCA/Pelco-D/Pelco-P
Baud Rate	9600/4800/38400/2400
Pan/Tilt Rotation	±175°,-90°~+90°
Pan Control Speed	0.1 -60°/sec
Tilt Control Speed	0.1-60°/sec
Preset Number	255 presets by Pelco-D,32 presets by Pelco-P, 7 presets by Visca (10 presets by remote controller)
Speakerphone	
Acoustic echo cancellation(AEC):	>65dB
Speaker Power	5W
Speaker Volume	120dB
Response	100Hz-20KHz
Pickup Range	6m(Radius)
Microphone Sensitivity	-38dB
SNR(Signal to Noise Ratio)	62dB
Interface	DP interface:2x3.5mm Jack（for Expansion Mics)
Hub	
Interface	DP*2; Power interface*1; USB Type-C*1
Power Supply	DC 12V
USB Cable	3m USB cable*1
Connection Cable	5m DP cable*2
General Parameter	
Operation Systems	Windows 7 or higher; Android, Mac OS™ 10.10 or higher, Linux (Required to support UVC.) Compatible with Zoom, MS Teams, Skype and etc.
Input Voltage	DC 12V
Input Current	2.0A(Max.)
Store Temperature	-10℃~+60℃
Store Humidity	20%~90%
Working Temperature	-10℃~+50℃
Working Humidity	20%~80%
Dimension（W*H*D)	Camera: 171.6*192.6*171.6mm; Speakerphone:180mm*180mm*35.4mm; Extension micrphon:76*76*21mm；Hub: 98*98*20mm

Connect, collaborate and create with Tenveo.

FCC regulatory conformance：

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference.
(2) This device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a **Class B** digital device, pursuant to part 15 of the FCC Rules.   These limits are designed to provide reasonable protection against harmful interference in a residential installation.
This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.   However, there is no guarantee that interference will not occur in a particular installation.   If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
 - Reorient or relocate the receiving antenna.
 - Increase the separation between the equipment and receiver.
 -Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
 -Consult the dealer or an experienced radio/TV technician for help

NOTE: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

RF Exposure

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.