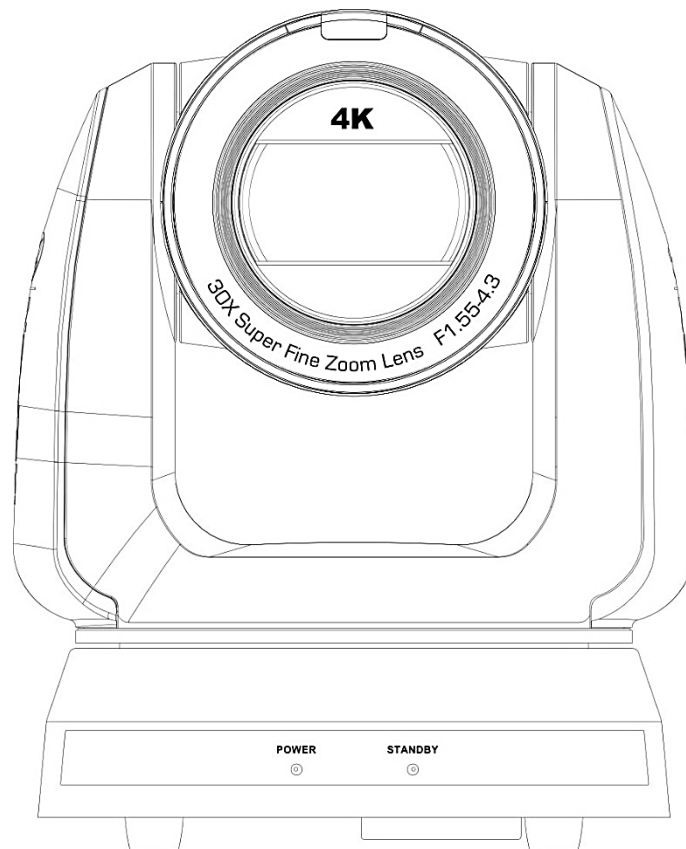


# **VC-A71P/VC-A71PN**

## **4K PTZ Video Camera**

### **User Manual - English**



**To download the latest version of Quick Start Guide,  
multilingual user manual, software, or driver, etc.,  
please visit Lumens**

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# Chapter 1 Safety Instructions

Always follow these safety instructions when using the product:

## 1 Operation

- 1.1 Please use the product in the recommended operating environment, away from water or source of heat.
- 1.2 Do not place the product in tilted position or unstable trolley, stand or table.
- 1.3 Please clean the dust on the power plug prior to usage. Do not insert the product's power plug into a multiplug to prevent sparks or a fire.
- 1.4 Do not block the slots and openings in the case of the product. They provide ventilation and prevent the product from overheating.
- 1.5 Do not open or remove covers, otherwise it may expose you to dangerous voltages and other hazards. Refer all servicing to licensed service personnel.
- 1.6 Unplug the product from the wall outlet and refer servicing to licensed service personnel when the following situations happen:
  - If the power cords are damaged or frayed.
  - If liquid is spilled into the product or the product has been exposed to rain or water.

## 2 Installation

- 2.1 For security considerations, please make sure the standard hanging rack you bought is in line with UL or CE safety approbations and installed by technician personnel approved by agents.

## 3 Storage

- 3.1 Do not place the product where the cord can be stepped on as this may result in fraying or damage to the lead or the plug.
- 3.2 Unplug the product during thunderstorms or if it is not going to be used for an extended period.
- 3.3 Do not place the product or accessories on top of vibrating equipment or heated objects.



## 4 Cleaning

- 4.1 Disconnect all the cables prior to cleaning and wipe the surface with a dry cloth. Do not use alcohol or volatile solvents for cleaning.

## 5 Batteries (for products or accessories with batteries)

- 5.1 When replacing batteries, please only use similar or the same type of batteries.
- 5.2 When disposing of batteries or products, please adhere to the relevant instructions in your country or region for disposing of batteries or products.

### ■ Precautions

|                                                                                     |                                                                                                                                                                                                                               |                                                                                      |                                                                                                                           |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
|  | This symbol indicates that this equipment may contain dangerous voltage which could cause electric shock. Do not remove the cover (or back). No user-serviceable parts inside. Refer servicing to licensed service personnel. |  | This symbol indicates that there are important operating and maintenance instructions in this User Manual with this unit. |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|

### ■ FCC Warning

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

Notice:

The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

### ■ IC Warning

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus as set out in the interference-causing equipment standard entitled "Digital Apparatus," ICES-003 of Industry Canada.

Cet appareil numérique respecte les limites de bruits radioélectriques applicables aux appareils numériques de Classe A prescrites dans la norme sur le matériel brouilleur: "Appareils Numériques," NMB-003 édictée par l'Industrie.

### ■ EN55032 CE Warning

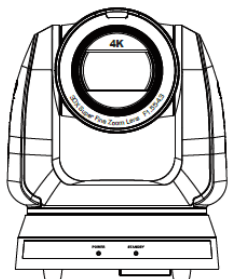
Operation of this equipment in a residential environment could cause radio interference.

### ■ KC Warning

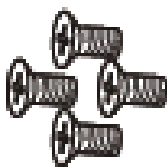
This equipment is Industrial (Class A) electromagnetic wave suitability equipment and seller or user should take notice of it, and this equipment is to be used in the places except for home.

# Chapter 2 Package Contents

VC-A71P/VC-A71PN



M3 Screws

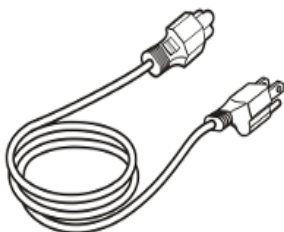


Silver x8 / Black x2

Remote Control

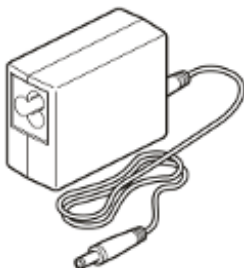


Power Cord

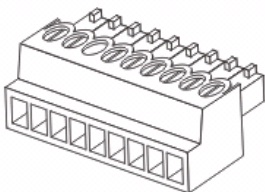


Appearance may vary depending on country/region

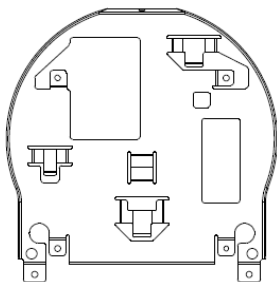
Power Adapter



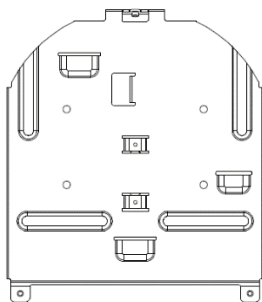
RS-422 Connector



Metal Plate A



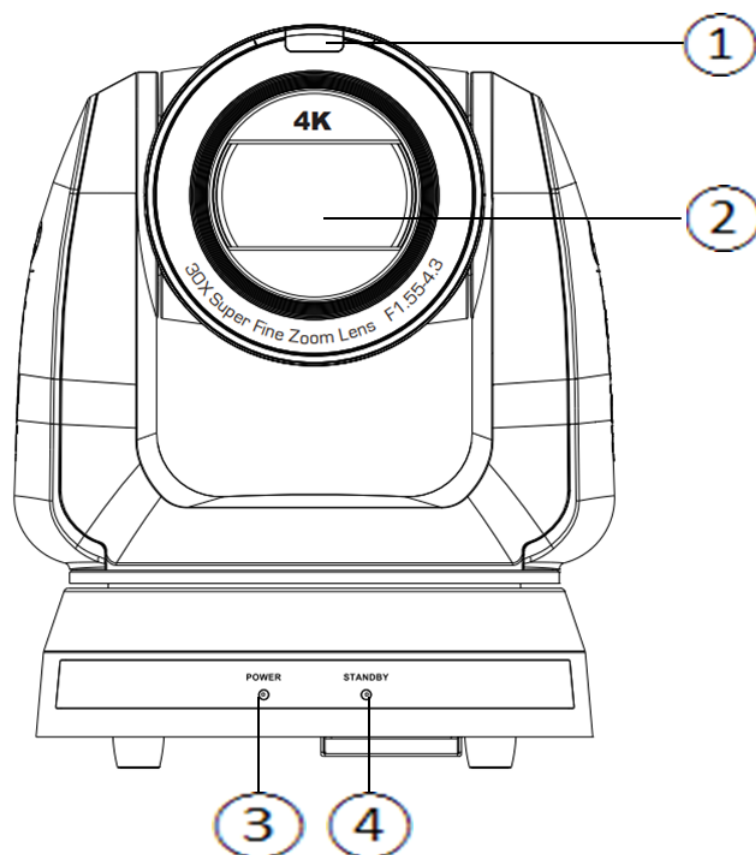
Metal Plate B



# Chapter 3 Function Introduction

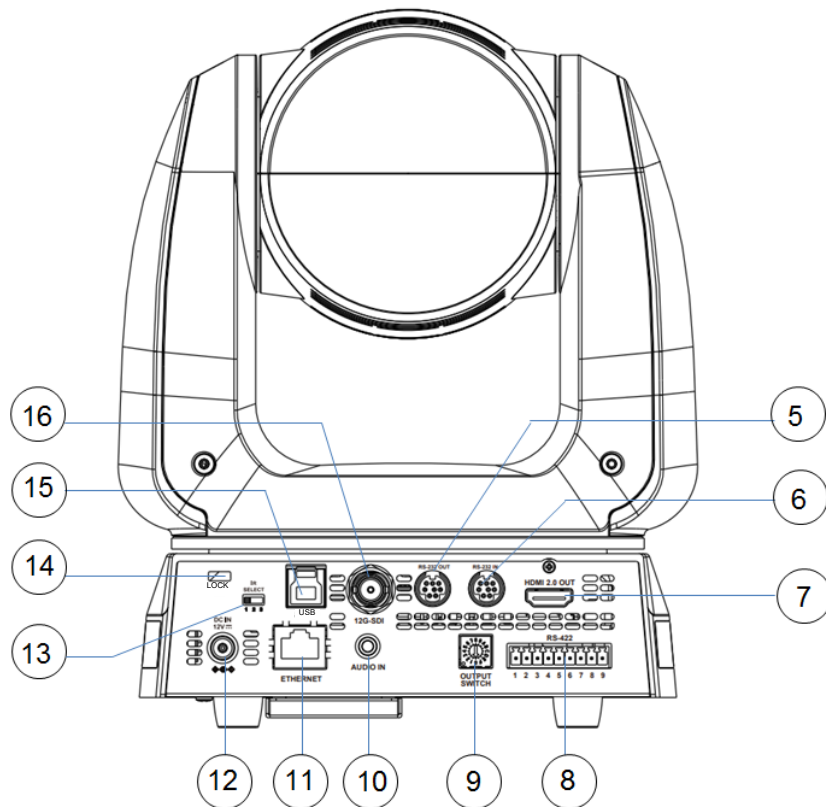
## 3.1 I/O functions Introduction

### 3.1.1 Front View



| NO. | Item                  | Function Descriptions                                                                              |
|-----|-----------------------|----------------------------------------------------------------------------------------------------|
| 1.  | Tally indicator light | Display the tally light status of the camera                                                       |
| 2.  | Camera lens           | 30x HD camera lens                                                                                 |
| 3.  | Power LED indicator   | Display the status of the camera, please refer to <a href="#">3.2 Description of LED indicator</a> |
| 4.  | Standby LED indicator | Display the status of the camera, please refer to <a href="#">3.2 Description of LED indicator</a> |

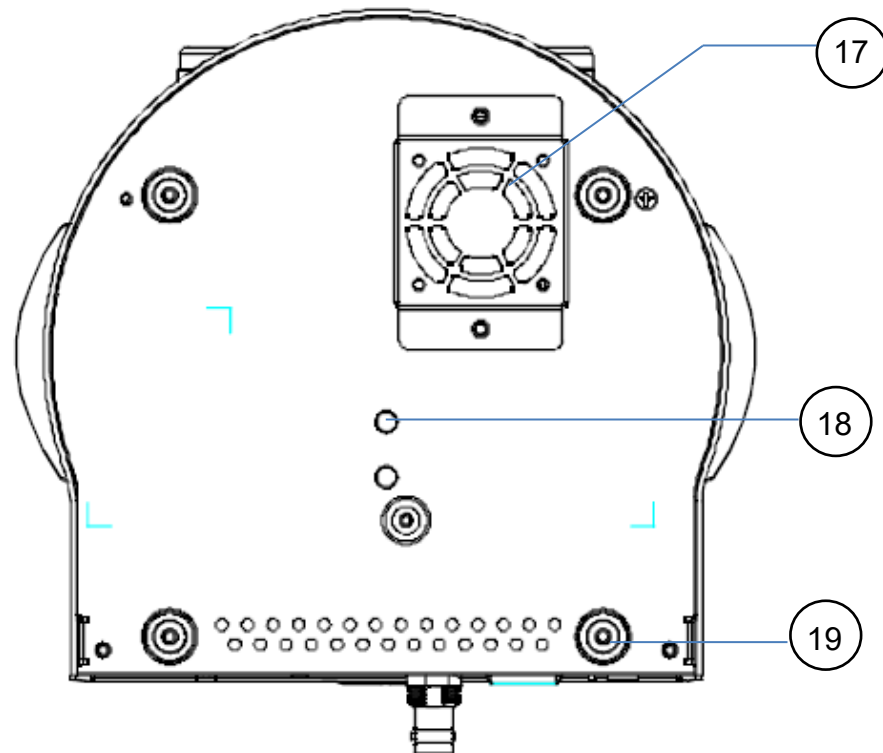
### 3.1.2 Back View



**<Remark> The figure is an example of VC-A71P. VC-A71PN does not support SDI and USB output.**

| NO. | Item                    | Function Descriptions                                                                                                                                                                                            |
|-----|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5.  | RS-232 output           | RS-232 output port, at most 7 cameras can be connected in a serial connection                                                                                                                                    |
| 6.  | RS-232 input            | RS-232 input port, at most 7 cameras can be connected in a serial connection                                                                                                                                     |
| 7.  | HDMI 2.0 output         | HDMI 2.0 output (Audio output supported)                                                                                                                                                                         |
| 8.  | RS-422 port             | RS-422 connecting port, at most 7 cameras can be connected in a serial connection                                                                                                                                |
| 9.  | OUTPUT SWITCH           | Adjust the resolution setting. The default is 3840 x 2160/59.94p                                                                                                                                                 |
| 10. | Audio input             | Support Line In/Mic In                                                                                                                                                                                           |
| 11. | Network port            | Network port, supporting routers or hubs with power supply<br>■ VC-A71P : PoE++ (IEEE802.3bt)<br>■ VC-A71PN : PoE+ (IEEE802.3at)                                                                                 |
| 12. | DC 12 V power connector | AC power supply connecting port                                                                                                                                                                                  |
| 13. | IR SELECT               | The remote control ID setting is only controlled after corresponding to the Camera Select on the remote control                                                                                                  |
| 14. | Kensington lock hole    | Safety lock slot                                                                                                                                                                                                 |
| 15. | USB 3.0 port            | It is for connecting to the USB port of the computer to provide USB signal images<br><b>&lt;Remark&gt;</b> Support up to 3840 x 2160/29.97p<br><b>&lt;Remark&gt;</b> VC-A71PN does not support this output port. |
| 16. | 12G-SDI output          | 12G-SDI output (Audio output supported)<br><b>&lt;Remark&gt;</b> VC-A71PN does not support this output port.                                                                                                     |

### 3.1.3 Bottom



| NO. | Item                  | Function Descriptions                                                                                                                                                                         |
|-----|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 17. | Mute cooling fan      | The cooling fan automatically controls its rotation speed and performs cooling in cope with the operation temperature of the machine<br><Remark>The cooling fan is not available on VC-A71PN. |
| 18. | Tripod deck lock hole | The camera is mounted on a (specification) 1/4" - 20 UNC tripod                                                                                                                               |
| 19. | Rotatable foot pad    | When using the metal plates of accessories, remove 4 pieces of rotatable food pads on the bottom by rotating counterclockwise, and then install the mental plates                             |

### 3.2 Description of LED indicator

| Status                               | Power        | Standby      |
|--------------------------------------|--------------|--------------|
| Startup in progress (initialization) | Green light  | Orange light |
| In use                               | Green light  | No indicator |
| In standby mode                      | No indicator | Orange light |

### 3.3 Tally Lamp Function Description

3.3.1 Tally Lamp function may be enabled through the control of RS-232 command. Please refer to RS-232 command set document

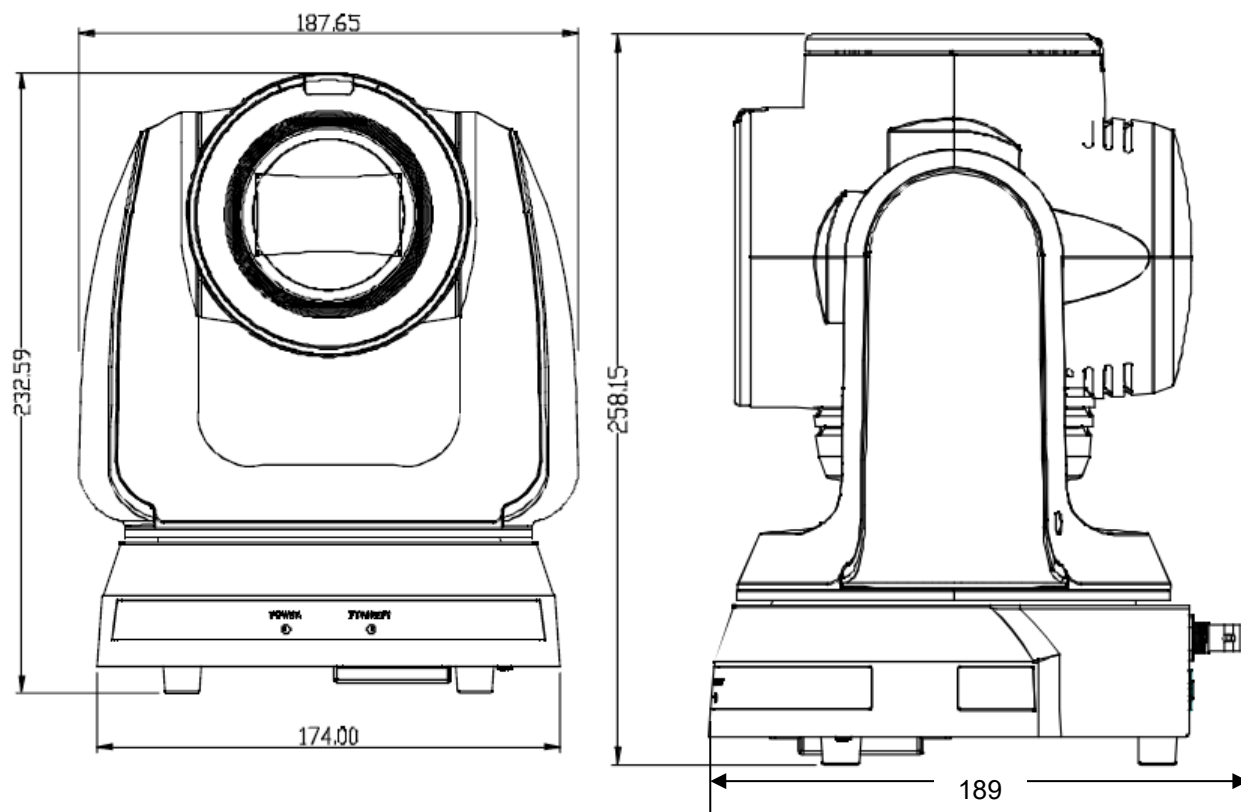


## Chapter 4 Instruction for installation

### 4.1 Camera dimension

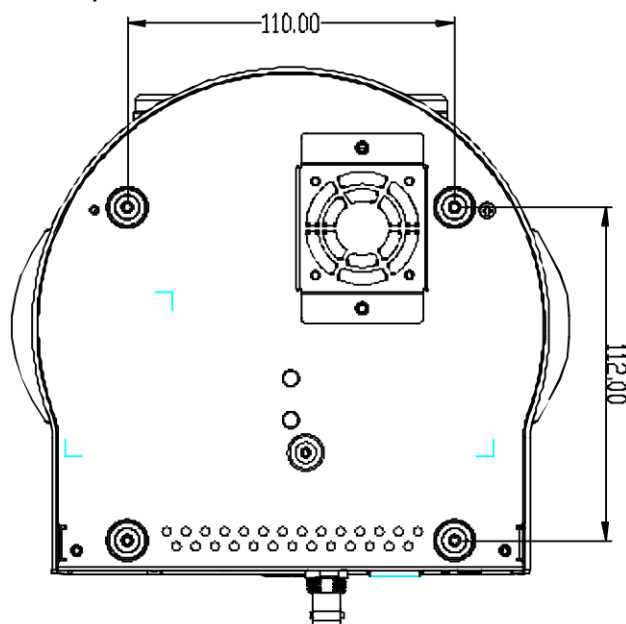
#### 4.1.1.1 Camera front view and side view

- Length x width x height: 232 x 188 x 189 mm
- Weight: 3.0Kg (excluding the metal plate)



#### 4.1.1.2 Camera base

The camera base has tripod mount lock holes and can be installed on the tripod deck of a standard specification 1/4"-20 UNC.



## 4.2 Preparation before installation

Installation and connection of the HD camera requires special skills. To install by yourself, please follow necessary steps, ensure steady and tight installation of the device, and pay attention to your safety to avoid any accident.

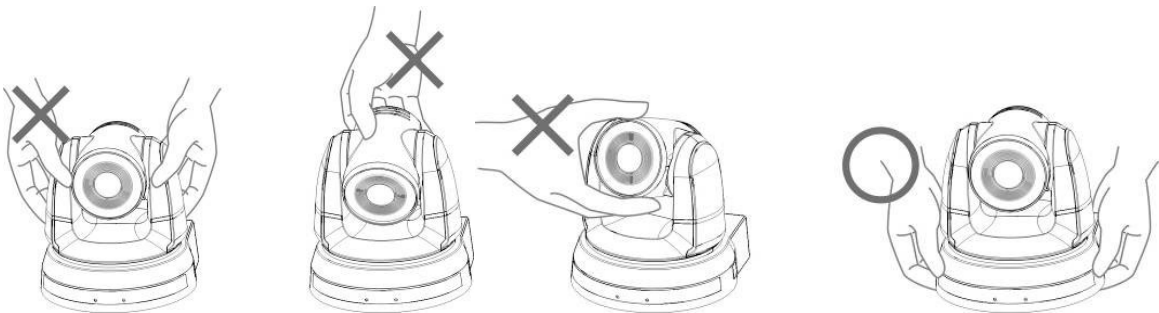
- 4.2.1 Ensure the safety of the installation environment. Please do not install the device on unstable ceiling or in a place where the device is in danger of falling to avoid any accident.
- 4.2.2 Please check whether accessories in the box are complete or not. Please contact the supplier for any shortage, and make sure to keep the accessories in the box intact.
- 4.2.3 Please choose a proper place for installation of camera in advance. Please determine an installation place according to the following requirements
  - 4.1.1.1 Confirm the position for the object to be captured.
  - 4.1.1.2 Confirm whether the camera is set at a proper distance from other light sources.

## 4.3 Instruction for installation

### 4.3.1 I would like to install camera on the desk

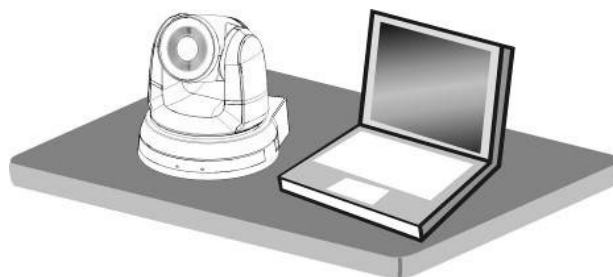
#### 4.3.1.1 Precautions for installation

- ◆ Please install the machine on a flat desk
- ◆ Do not grab the camera head by hand when handling the device
- ◆ Do not rotate the camera head by hand. Improper rotation may result in breakdown of the camera



#### 4.3.1.2 Installation steps

1. Place the camera on a flat desk directly to ensure the normal vertical and horizontal operation of the machine



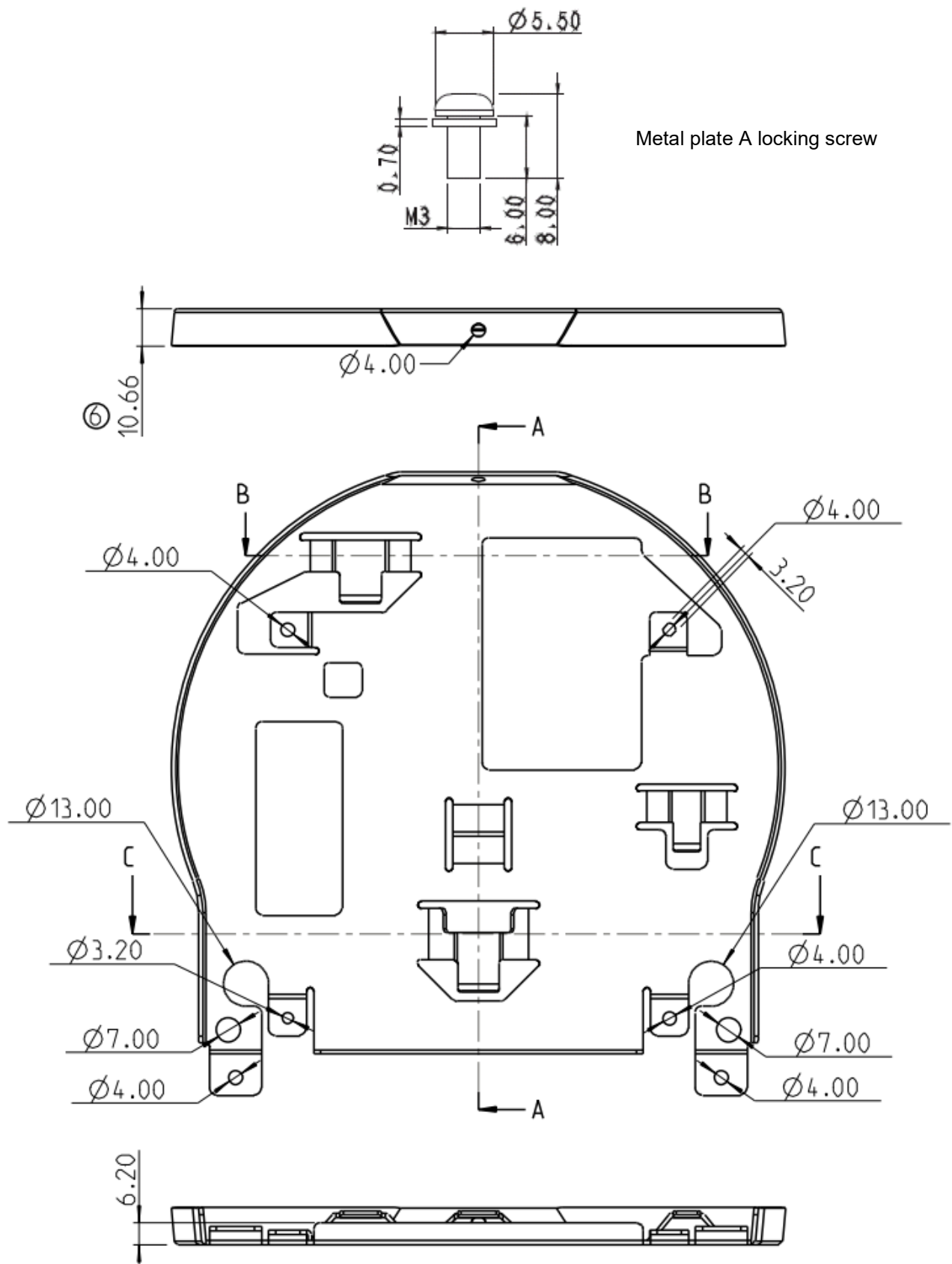
### 4.3.2 I would like to install the camera on the ceiling

#### 4.3.2.1 Prepare for the parts and equipment required during the installation

1. Accessories in the box (metal plates A, B, M3 screw silver x 8, black x 2)
2. Screw for locking on ceiling mounted hanger x 4
3. Drilling machine, screw driver, ladder

#### 4.3.2.2 Metal Plate size diagram

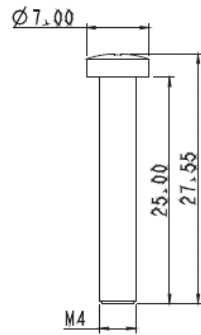
##### ■ Metal plate A - machine side



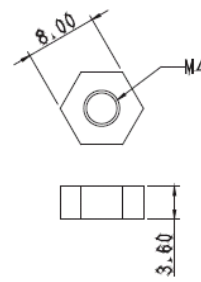
Metal plate A locking screw

Metal plate A - machine side

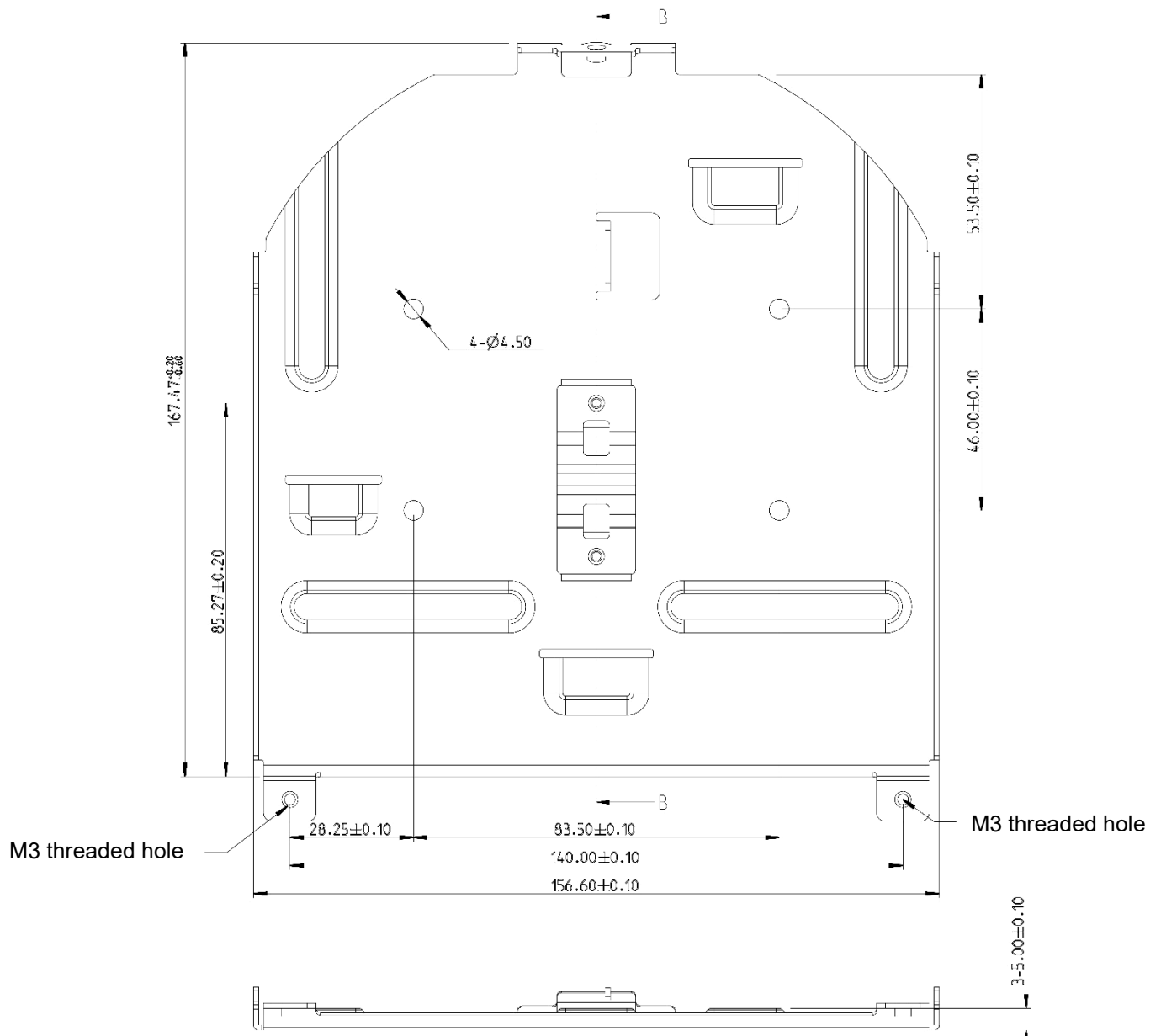
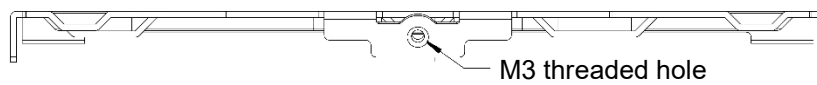
■ Metal plate B - ceiling side



Metal plate B locking screw



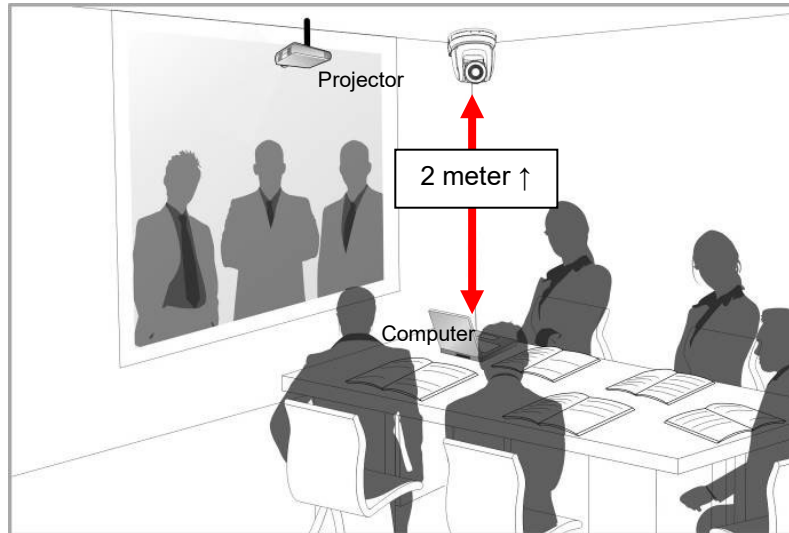
Metal plate B locking bolt



Metal plate B - ceiling side

#### 4.3.2.3 Precautions for installation

1. Before installation, please confirm the orientation of the machine relative to the object to be captured
2. It is recommended that the machine should be set at a distance of more than 2 meter away from the object to be captured. Please adjust for a best distance according to the magnification of the lens

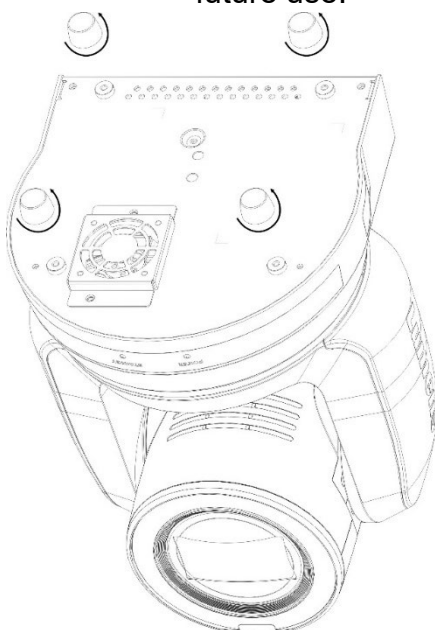


3. The machine (including metal plates) is weighed at about **3** kg. If it is to be installed on the ceiling, please use the hanger that has obtained UL security approval to prevent the machine from falling down.
4. Please check whether the camera is installed securely on a regular basis.
5. Please clean the cooling fan located at the bottom to ensure the good heat dissipation effect of the machine on a regular basis.

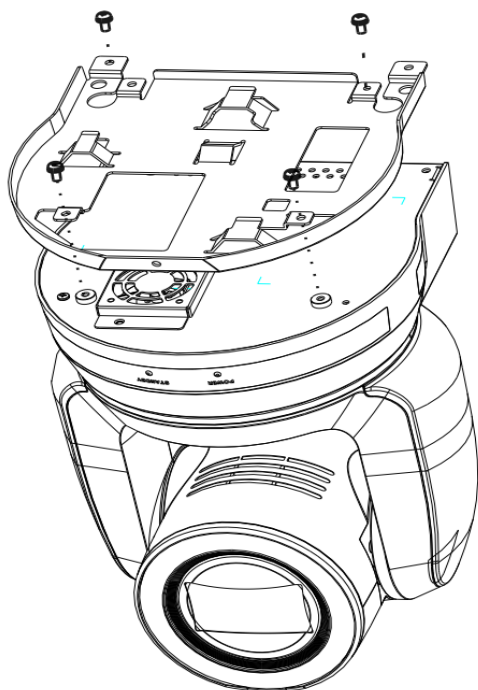
#### 4.3.2.4 Installation steps

1. Remove 4 pieces of foot pads on the bottom of the camera by rotating the foot pads counterclockwise.

**<Remark>** Please keep the foot pads properly after removal and store them for future use.



2. Fix the metal plate A on the machine base with 4 M3 silver screws



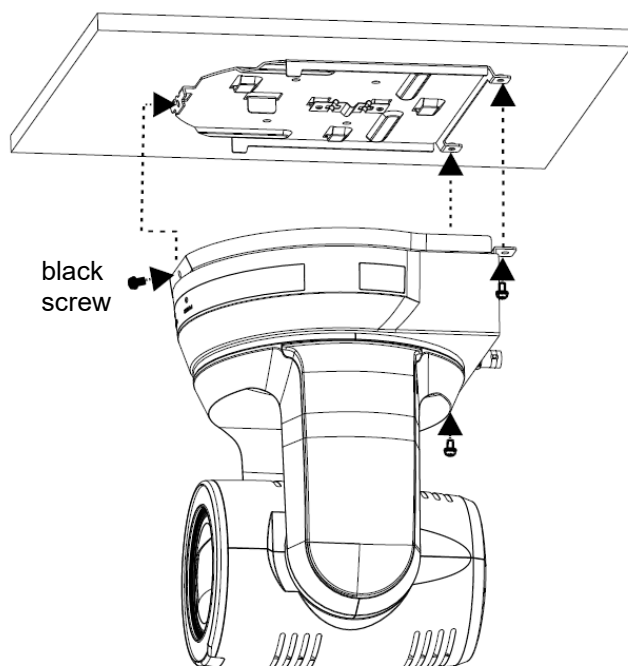
3. Lock the metal plate B on ceiling mounted hanger

**<Caution>:**

- (1) Please use the hanger that has obtained UL security approval
- (2) Please reserve the hole for the connecting wires of the camera

4. Combine the metal plate A and the metal plate B

- (1) Push the metal plate A up to the ceiling and then to the right to latch the metal plate B
- (2) And then secure with 2 M3 silver screws and 1 M3 black screw



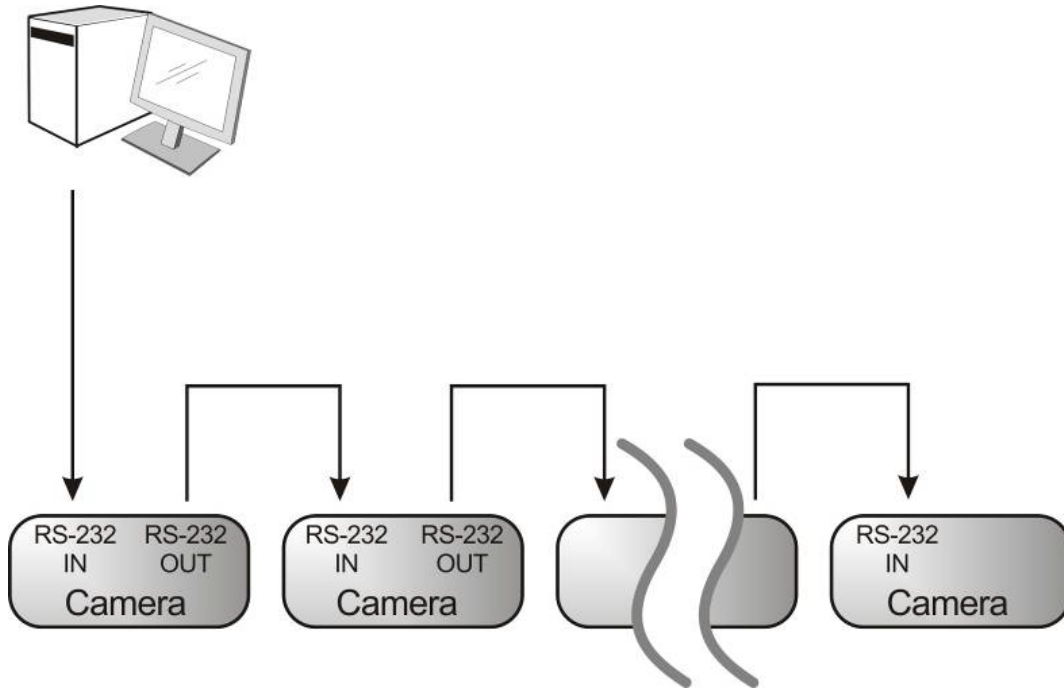
#### 4.3.2.5 How to remove

1. Remove the connecting wires from the camera
2. Uninstall the camera together with the ceiling, loosen the three screws that fix the metal plates A and B and push to the left to remove the machine
3. Then remove the screws on the hanger and the machine

## 4.4 Connecting devices

### 4.4.1 Connecting RS-232

With RS-232 in/out, at most 7 Lumens cameras can be connected.



### ■ RS-232 pins definition instructions

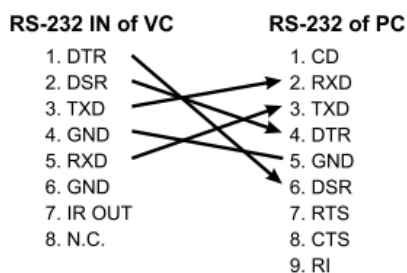
#### ▼ RS-232 IN Pins Instructions

| NO | Pins   | Signals                 |
|----|--------|-------------------------|
| 1  | DTR    | Data Transmission Reade |
| 2  | DSR    | Data Set Reade          |
| 3  | TXD    | Transmit Data           |
| 4  | GND    | Ground                  |
| 5  | RXD    | Receive Data            |
| 6  | GND    | Ground                  |
| 7  | IR OUT | IR Commander Signal     |
| 8  | N.C.   | No Connection           |

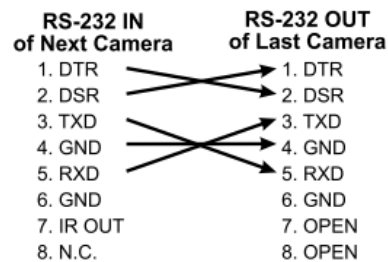
#### ▼ RS-232 OUT Pins Instructions

| NO | Pins | Signals                 |
|----|------|-------------------------|
| 1  | DTR  | Data Transmission Reade |
| 2  | DSR  | Data Set Reade          |
| 3  | TXD  | Transmit Data           |
| 4  | GND  | Ground                  |
| 5  | RXD  | Receive Data            |
| 6  | GND  | Ground                  |
| 7  | OPEN | Reserved                |
| 8  | OPEN | Reserved                |

#### ▼ RS-232 Connection Instructions



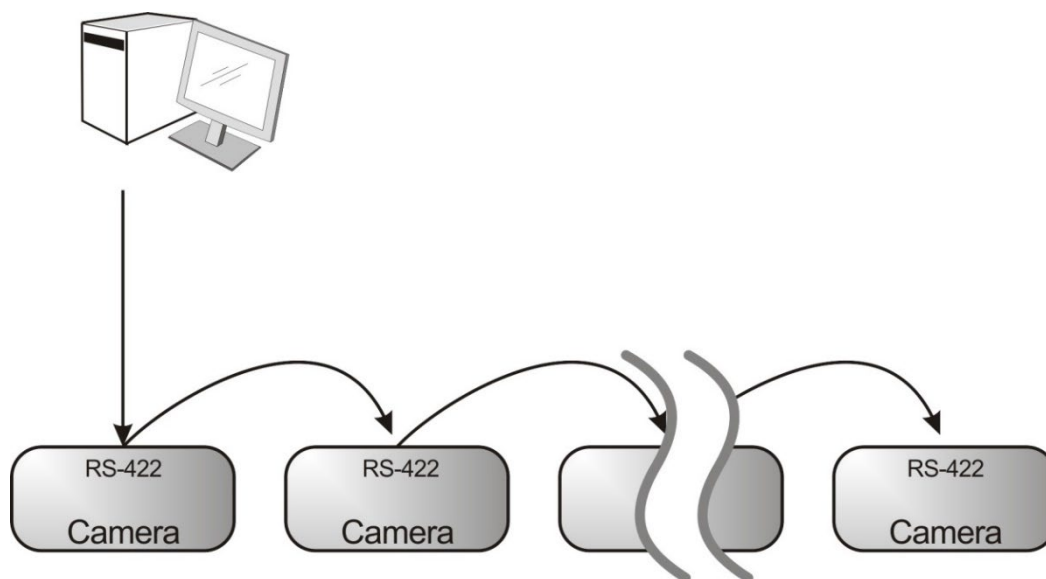
#### ▼ RS-232 Connection Instructions



#### 4.4.2 Connecting RS-422

With RS-422, at most 7 Lumens cameras can be connected.

**<Caution> When RS-422 connection is being used, do not use RS-232 connection.**



#### ■ RS-422 pins definition instructions

##### ▼ RS-422 Pins Instructions

**RS-422**

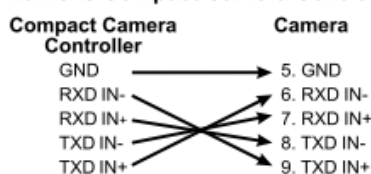
| Pin NO. | Function |
|---------|----------|
| 1       | RXD OUT- |
| 2       | RXD OUT+ |
| 3       | TXD OUT- |
| 4       | TXD OUT+ |
| 5       | GND      |
| 6       | RXD IN-  |
| 7       | RXD IN+  |
| 8       | TXD IN-  |
| 9       | TXD IN+  |

##### ▼ RS-422 Serial Connection

Up to seven cameras can be daisy-chained

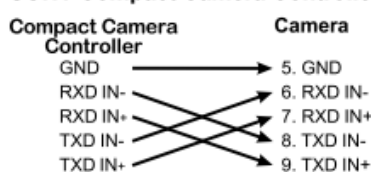
##### ▼ RS-422 Connection Instructions

—Applicable to  
Lumens Compact Camera Controller



##### ▼ RS-422 Connection Instructions

—Applicable to  
SONY Compact Camera Controller



Compact Camera Controller

|   |         |
|---|---------|
| 1 | NC      |
| 2 | NC      |
| 3 | NC      |
| 4 | NC      |
| 5 | GND     |
| 6 | RXD IN- |
| 7 | RXD IN+ |
| 8 | TXD IN- |
| 9 | TXD IN+ |

Third Camera

|   |          |
|---|----------|
| 1 | RXD OUT- |
| 2 | RXD OUT+ |
| 3 | TXD OUT- |
| 4 | TXD OUT+ |
| 5 | GND      |
| 6 | RXD IN-  |
| 7 | RXD IN+  |
| 8 | TXD IN-  |
| 9 | TXD IN+  |

Second Camera

|   |          |
|---|----------|
| 1 | RXD OUT- |
| 2 | RXD OUT+ |
| 3 | TXD OUT- |
| 4 | TXD OUT+ |
| 5 | GND      |
| 6 | RXD IN-  |
| 7 | RXD IN+  |
| 8 | TXD IN-  |
| 9 | TXD IN+  |

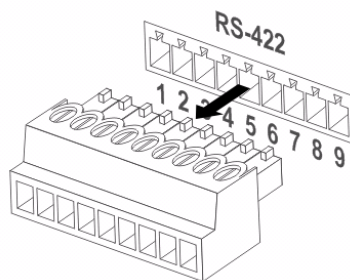
First Camera

|   |          |
|---|----------|
| 1 | RXD OUT- |
| 2 | RXD OUT+ |
| 3 | TXD OUT- |
| 4 | TXD OUT+ |
| 5 | GND      |
| 6 | RXD IN-  |
| 7 | RXD IN+  |
| 8 | TXD IN-  |
| 9 | TXD IN+  |

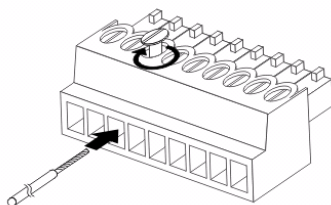
#### ■ RS-422 connection instructions



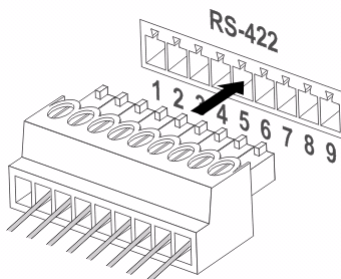
1. Hold the two sides of RS-422 connector and pull out in the direction shown by the arrow in the figure below



2. Peel off a section of copper wire (AWG Nos. 28 to 18) and insert it into the connector hole; then use flat screw driver to fix it

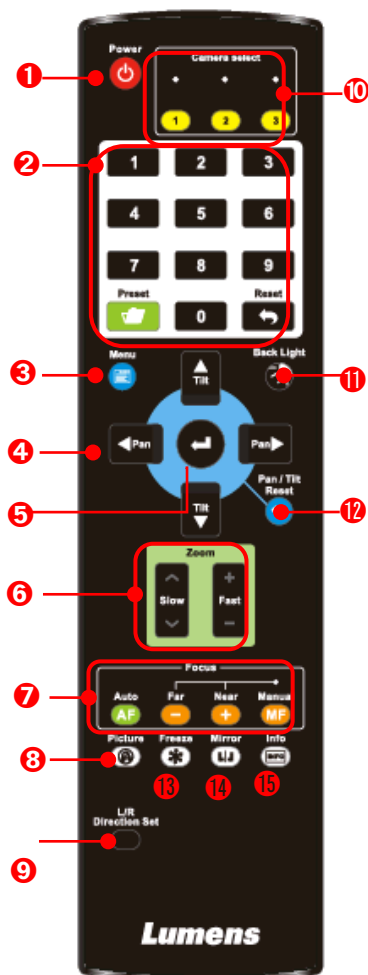


3. Insert the wired RS-422 connector back to the Camera. Now the connection is completed



# Chapter 5 Remote Control and Setting Menu

## 5.1 Functions of remote control



| No. | Item              | Description                                                                                                                                                                                                                        |
|-----|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.  | Power             | Power Switch                                                                                                                                                                                                                       |
| 2.  | Preset            | <ul style="list-style-type: none"> <li>Numeric Keys 0 - 9: Click to call the preset</li> <li>Appoint an ID (0 ~ 9) to save the current position data</li> <li>Appoint an ID (0 ~ 9) to delete the current position data</li> </ul> |
| 3.  | Menu              | Display OSD menu                                                                                                                                                                                                                   |
| 4.  | Pan/ Tilt         | Move the lens                                                                                                                                                                                                                      |
| 5.  | Home-Enter        | Go back to the main page / Execute                                                                                                                                                                                                 |
| 6.  | Zoom              | <ul style="list-style-type: none"> <li>Fast: Adjust image size</li> <li>Slow: Fine-tune image size</li> </ul>                                                                                                                      |
| 7.  | Focus             | <ul style="list-style-type: none"> <li>Auto: Auto Focus</li> <li>Manual: Enable Manual Focus</li> <li>Far/ Near: Adjust the focal length in Manual</li> </ul>                                                                      |
| 8.  | Picture           | Switch image effect (OFF / Neg / B&W)                                                                                                                                                                                              |
| 9.  | L/R Direction Set | L/R Direction / Normal                                                                                                                                                                                                             |
| 10. | Camera select     | Choose Camera ID 1 ~ 3                                                                                                                                                                                                             |
| 11. | Back Light        | Turn on/ off back light compensation                                                                                                                                                                                               |
| 12. | Pan/ Tilt Reset   | Clear the Pan / Tilt setting                                                                                                                                                                                                       |
| 13. | Freeze            | Freeze the screen                                                                                                                                                                                                                  |
| 14. | Mirror            | Rotate the image (OFF / Mirror / Flip / Mirror+Flip)                                                                                                                                                                               |
| 15. | Info              | Status information                                                                                                                                                                                                                 |

### 5.3 Setting Menu

<Remark>Press [Menu] on the **remote control** to enter the setting menu; the **bold underlined** values in the following table are defaults.

| 1st Level<br>Major Items | 2nd Level<br>Minor Items | 3rd Level<br>Adjustment Values                                           |                    | Function Descriptions                                                 |
|--------------------------|--------------------------|--------------------------------------------------------------------------|--------------------|-----------------------------------------------------------------------|
| Exposure                 | Mode                     | 1. <b><u>Full Auto</u></b><br>2. Shutter Pri<br>3. Iris Pri<br>4. Manual |                    | Exposure mode setting                                                 |
|                          | Exposure Comp.           | On / <b><u>Off</u></b>                                                   |                    | AE Level                                                              |
|                          | Exposure Comp. Level     | -5 ~ <b><u>C</u></b> ~ 5                                                 |                    | The value can be adjusted after <b>Exposure Comp.</b> is activated    |
|                          | Spot Light               | On / <b><u>Off</u></b>                                                   |                    |                                                                       |
|                          | Spot Light Position      | X (0 ~ 6) Y (0 ~ 4)                                                      |                    | The value can be adjusted after <b>Spot Light</b> is activated        |
|                          | Shutter Pri              | 60/30 mode                                                               | 50/25 mode         | Adjustable when the <b>Exposure mode</b> is set to <b>Shutter Pri</b> |
|                          |                          | 1/10000                                                                  | 1/10000            |                                                                       |
|                          |                          | 1/5000                                                                   | 1/5000             |                                                                       |
|                          |                          | 1/3000                                                                   | 1/3000             |                                                                       |
|                          |                          | 1/2500                                                                   | 1/2500             |                                                                       |
|                          |                          | 1/2000                                                                   | 1/1750             |                                                                       |
|                          |                          | 1/1500                                                                   | 1/1250             |                                                                       |
|                          |                          | 1/1000                                                                   | 1/1000             |                                                                       |
|                          |                          | 1/725                                                                    | 1/600              |                                                                       |
|                          |                          | 1/500                                                                    | 1/425              |                                                                       |
|                          |                          | 1/350                                                                    | 1/300              |                                                                       |
|                          |                          | 1/250                                                                    | 1/215              |                                                                       |
|                          |                          | 1/180                                                                    | 1/150              |                                                                       |
|                          |                          | 1/120                                                                    | 1/120              |                                                                       |
|                          |                          | 1/100                                                                    | 1/100              |                                                                       |
|                          |                          | 1/90                                                                     | 1/75               |                                                                       |
|                          |                          | <b><u>1/60</u></b>                                                       | <b><u>1/50</u></b> |                                                                       |
|                          |                          | 1/30                                                                     | 1/25               |                                                                       |
|                          |                          | 1/15                                                                     | 1/12               |                                                                       |
|                          |                          | 1/8                                                                      | 1/6                |                                                                       |
|                          |                          | 1/4                                                                      | 1/3                |                                                                       |
|                          |                          | 1/2                                                                      | 1/2                |                                                                       |
|                          |                          | 1/1                                                                      | 1/1                |                                                                       |

| 1st Level<br>Major Items | 2nd Level<br>Minor Items | 3rd Level<br>Adjustment Values                                                                                                                                                                         |            | Function Descriptions                                              |                                                                  |            |                          |
|--------------------------|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------------------------------------------------------|------------------------------------------------------------------|------------|--------------------------|
|                          | Iris Pri                 | 1. F1.6<br>2. F2<br>3. <b><u>F2.2</u></b><br>4. F2.7<br>5. F3.2<br>6. F3.8<br>7. F4.5<br>8. F5.4<br>9. F6.3<br>10.F7.8<br>11.F9<br>12.F11<br>13.F13<br>14.F16<br>15.F18<br>16.Off                      |            | Adjustable when the <b>Exposure mode</b> is set to <b>Iris Pri</b> |                                                                  |            |                          |
|                          |                          | 1. <b><u>0 dB</u></b><br>2. 3 dB<br>3. 6 dB<br>4. 9 dB<br>5. 12 dB<br>6. 15 dB<br>7. 18 dB<br>8. 21 dB<br>9. 24 dB<br>10.27 dB<br>11.30 dB<br>12.33 dB<br>13.36 dB<br>14.39 dB<br>15.42 dB<br>16.45 dB |            |                                                                    | Adjustable when the <b>Exposure mode</b> is set to <b>Manual</b> |            |                          |
|                          |                          | Manual Speed                                                                                                                                                                                           | 60/30 mode |                                                                    |                                                                  | 50/25 mode | Manually set the shutter |
|                          |                          |                                                                                                                                                                                                        | 1/10000    |                                                                    |                                                                  | 1/10000    |                          |
|                          |                          |                                                                                                                                                                                                        | 1/5000     |                                                                    |                                                                  | 1/5000     |                          |
|                          |                          |                                                                                                                                                                                                        | 1/3000     |                                                                    |                                                                  | 1/3000     |                          |
|                          |                          |                                                                                                                                                                                                        | 1/2500     |                                                                    |                                                                  | 1/2500     |                          |
|                          |                          |                                                                                                                                                                                                        | 1/2000     |                                                                    |                                                                  | 1/1750     |                          |
|                          |                          |                                                                                                                                                                                                        | 1/1500     |                                                                    |                                                                  | 1/1250     |                          |
|                          |                          |                                                                                                                                                                                                        | 1/1000     |                                                                    |                                                                  | 1/1000     |                          |
|                          |                          |                                                                                                                                                                                                        | 1/725      |                                                                    |                                                                  | 1/600      |                          |
|                          |                          |                                                                                                                                                                                                        | 1/500      |                                                                    |                                                                  | 1/425      |                          |
|                          |                          |                                                                                                                                                                                                        | 1/350      |                                                                    |                                                                  | 1/300      |                          |
|                          |                          |                                                                                                                                                                                                        | 1/250      |                                                                    |                                                                  | 1/215      |                          |
|                          |                          |                                                                                                                                                                                                        | 1/180      |                                                                    |                                                                  | 1/150      |                          |

| 1st Level<br>Major Items | 2nd Level<br>Minor Items | 3rd Level<br>Adjustment Values                                                                                                                                                           |                                                                                                                                                                    | Function Descriptions |
|--------------------------|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
|                          |                          | 1/120                                                                                                                                                                                    | 1/120                                                                                                                                                              |                       |
|                          |                          | 1/100                                                                                                                                                                                    | 1/100                                                                                                                                                              |                       |
|                          |                          | 1/90                                                                                                                                                                                     | 1/75                                                                                                                                                               |                       |
|                          |                          | <b><u>1/60</u></b>                                                                                                                                                                       | <b><u>1/50</u></b>                                                                                                                                                 |                       |
|                          |                          | 1/30                                                                                                                                                                                     | 1/25                                                                                                                                                               |                       |
|                          |                          | 1/15                                                                                                                                                                                     | 1/12                                                                                                                                                               |                       |
|                          |                          | 1/8                                                                                                                                                                                      | 1/6                                                                                                                                                                |                       |
|                          |                          | 1/4                                                                                                                                                                                      | 1/3                                                                                                                                                                |                       |
|                          |                          | 1/2                                                                                                                                                                                      | 1/2                                                                                                                                                                |                       |
|                          |                          | 1/1                                                                                                                                                                                      | 1/1                                                                                                                                                                |                       |
|                          | <b>Manual Iris</b>       | 1. F1.6<br>2. F2<br>3. <b><u>F2.2</u></b><br>4. F2.7<br>5. F3.2<br>6. F3.8<br>7. F4.5<br>8. F5.4<br>9. F6.3<br>10. F7.8<br>11. F9<br>12. F11<br>13. F13<br>14. F16<br>15. F18<br>16. Off |                                                                                                                                                                    | Manually set the iris |
|                          |                          |                                                                                                                                                                                          |                                                                                                                                                                    |                       |
|                          |                          |                                                                                                                                                                                          |                                                                                                                                                                    |                       |
|                          |                          |                                                                                                                                                                                          |                                                                                                                                                                    |                       |
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|                          |                          |                                                                                                                                                                                          |                                                                                                                                                                    |                       |
|                          |                          |                                                                                                                                                                                          |                                                                                                                                                                    |                       |
|                          |                          | <b>Gain Limit</b>                                                                                                                                                                        | 1. 9 dB<br>2. 12 dB<br>3. 15 dB<br>4. 18 dB<br>5. 21 dB<br>6. 24 dB<br>7. 27 dB<br>8. 30 dB<br>9. 33 dB<br>10. 36 dB<br>11. 39 dB<br>12. 42 dB<br>13. <b>45 dB</b> |                       |
|                          |                          |                                                                                                                                                                                          |                                                                                                                                                                    |                       |
|                          |                          |                                                                                                                                                                                          |                                                                                                                                                                    |                       |
|                          |                          |                                                                                                                                                                                          |                                                                                                                                                                    |                       |
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| 1st Level<br>Major Items | 2nd Level<br>Minor Items | 3rd Level<br>Adjustment Values                                                                                                                                             | Function Descriptions                                                                                                                            |
|--------------------------|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
|                          | <b>Iris Limit</b>        | 1. <b><u>F2.2</u></b><br>2. F2.7<br>3. F3.2<br>4. F3.8<br>5. F4.5<br>6. F5.4<br>7. F6.3<br>8. F7.8<br>9. F9<br>10. F11                                                     | Max. limit value of iris                                                                                                                         |
|                          | <b>WDR</b>               | 1. <b><u>Off</u></b><br>2. 1<br>3. 2<br>4. 3                                                                                                                               |                                                                                                                                                  |
|                          | <b>Smart AE</b>          | 5. On / <b><u>Off</u></b>                                                                                                                                                  | Available when "Smart AF" is on                                                                                                                  |
| <b>White Balance</b>     | <b>Mode</b>              | 1. <b><u>Auto</u></b><br>2. Indoor<br>3. Outdoor<br>4. One Push WB<br>5. ATW<br>6. Manual<br>7. Sodium Lamp<br>8. 3000K<br>9. 4300K<br>10. 5000K<br>11. 6500K<br>12. 8000K | Select the color temperature mode<br>1. 4000k ~ 7000k<br>2. 3200k<br>3. 5800k<br>4. 1700k ~ 10000k<br>5. 1700k ~ 10000k<br>6. Custom<br>7. 2800k |
|                          | <b>One Push Trigger</b>  | <b><u>ENTER</u></b>                                                                                                                                                        | One push trigger                                                                                                                                 |
|                          | <b>Manual Red</b>        | 0 ~ <b><u>C</u></b> ~ 128                                                                                                                                                  | Adjustable when the white balance mode is set to <b>Manual</b>                                                                                   |
|                          | <b>Manual Blue</b>       | 0 ~ <b><u>C</u></b> ~ 128                                                                                                                                                  | Adjustable when the white balance mode is set to <b>Manual</b>                                                                                   |
| <b>Picture</b>           | <b>Picture Effect</b>    | 1. <b><u>Off</u></b><br>2. Neg<br>3. B & W                                                                                                                                 |                                                                                                                                                  |
|                          | <b>Sharpness</b>         | 0 ~ <b><u>A</u></b> ~ 14                                                                                                                                                   |                                                                                                                                                  |

| 1st Level<br>Major Items | 2nd Level<br>Minor Items | 3rd Level<br>Adjustment Values                 | Function Descriptions                                                                                                                                                    |
|--------------------------|--------------------------|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                          | 2D NR                    | 1. Off<br>2. <u>1</u><br>3. 2<br>4. 3          |                                                                                                                                                                          |
|                          | 3D NR                    | 1. Off<br>2. LOW<br>3. <u>Typ</u><br>4. Max    |                                                                                                                                                                          |
|                          | Image Mode               | 1. <u>Standard</u><br>2. LED Mode<br>3. Custom | The user may customize his/her desired image mode.                                                                                                                       |
|                          | Image Mode Load          | <u>ENTER</u>                                   | Adjustable when the <b>Image mode</b> is set to <b>Custom</b> . After selected, the corresponding <b>Image mode</b> parameters will be read and applied to <b>Custom</b> |
|                          | Brightness               | 0 ~ <u>A</u> ~ 15                              | Adjustable when the <b>Image mode</b> is set to <b>Custom</b>                                                                                                            |
|                          | Hue                      | 0 ~ <u>A</u> ~ 15                              | Adjustable when the <b>Image mode</b> is set to <b>Custom</b>                                                                                                            |
|                          | Saturation               | 0 ~ <u>A</u> ~ 15                              | Adjustable when the <b>Image mode</b> is set to <b>Custom</b>                                                                                                            |
|                          | Gamma                    | 0 ~ <u>3</u>                                   | Adjustable when the <b>Image mode</b> is set to <b>Custom</b>                                                                                                            |
|                          | Black Level              | 0~ <u>Auto</u> ~10                             | Adjust the brightness of dark areas.                                                                                                                                     |
| Pan Tilt<br>Zoom         | Pan/Tilt Limit           | On / <u>Off</u>                                | Turn on/off the angle limit setting                                                                                                                                      |
|                          | Pan Right Limit          | 0 ~ <u>170</u>                                 | Limit the right angle                                                                                                                                                    |
|                          | Pan Left Limit           | <u>-170</u> ~ 0                                | Limit the left angle                                                                                                                                                     |
|                          | Tilt UP Limit            | 0 ~ <u>90</u>                                  | Limit the upward angle                                                                                                                                                   |
|                          | Tilt Down Limit          | <u>-30</u> ~ 0                                 | Limit the downward angle                                                                                                                                                 |
|                          | Pan Flip                 | On / <u>Off</u>                                | Activate the reverse Pan direction                                                                                                                                       |
|                          | Tilt Flip                | On / <u>Off</u>                                | Activate the reverse Tilt direction                                                                                                                                      |

| 1st Level<br>Major Items | 2nd Level<br>Minor Items | 3rd Level<br>Adjustment Values                                                                                                                        | Function Descriptions                                                                                                                                                                                                    |
|--------------------------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                          | <b>Preset Speed</b>      | 1. 5 deg/sec<br>2. 25 deg/sec<br>3. 50 deg/sec<br>4. 80 deg/sec<br>5. 120 deg/sec<br>6. <b><u>160 deg/sec</u></b><br>7. 200 deg/sec<br>8. 300 deg/sec | Set the rotation speed of the cradle head when <b>Preset</b> is executed                                                                                                                                                 |
|                          | <b>PTZ Speed Comp</b>    | On / <b><u>Off</u></b>                                                                                                                                | Set the Pan/Tilt moving speed to vary from the zoom position                                                                                                                                                             |
|                          | <b>Preset Mode</b>       | <b><u>Default</u></b> / PTZ Setting                                                                                                                   | <ul style="list-style-type: none"> <li>▪ Default: Call the preset, execute Pan/Tilt/Zoom/Focus + picture parameters setting</li> <li>▪ PTZ Setting: Call the preset, only execute Pan/Tilt/Zoom/Focus</li> </ul>         |
|                          | <b>D-Zoom Limit</b>      | <b><u>x1</u></b> ~x12                                                                                                                                 | Set the D-zoom limit<br><Remark>3840 x 2160 59.94/50 does NOT support this setting                                                                                                                                       |
|                          | <b>PTZ Motion Sync</b>   | On / <b><u>Off</u></b>                                                                                                                                | After turning on, operate <b>Preset</b> to achieve PTZ Motion Sync<br><Remark> This function will refer to the default speed setting, but may automatically adjust the speed due to the difference in PTZ movement range |
| <b>D-Effect</b>          | <b>Mirror / Flip</b>     | 1. <b><u>Off</u></b><br>2. MIRROR<br>3. Flip<br>4. Mirror + Flip                                                                                      | Set the mode at which the image is mirror or flipped                                                                                                                                                                     |
| <b>Auto Focus</b>        | <b>AF Sensitivity</b>    | 1. LOW<br>2. <b><u>Middle</u></b><br>3. High                                                                                                          | For AF triggering speed, the higher the speed is, the faster AF is triggered                                                                                                                                             |



| 1st Level<br>Major Items | 2nd Level<br>Minor Items | 3rd Level<br>Adjustment Values                          | Function Descriptions                                                                                                                                                                                                                                  |
|--------------------------|--------------------------|---------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                          | <b>AF Frame</b>          | 1. Center Area<br>2. Full Area<br>3. <b><u>Auto</u></b> | AF frame setting, when central area was set as AF frame, focusing will be on the center of the screen. When Full Frame was set as AF frame, focusing will be calculated based on the full screen                                                       |
|                          | <b>Zoom Tracking</b>     | Manual/ <u>Curve Tracking</u> /<br>Zoom Tracking        | This function can only be enabled in the Manual Focus (MF) mode<br>Set the focus mode during lens zooming in Manual Focus mode                                                                                                                         |
|                          | <b>PTZ Assist</b>        | On / <b><u>Off</u></b>                                  | This function can only be enabled in the Manual Focus (MF) mode<br>When PTZ Assist is enabled and PTZ control is in operation, the focus performs only once upon immediate execution. The focus will not be triggered afterward when the scene changes |
|                          | <b>SMART AF</b>          | On / <b><u>Off</u></b>                                  | Turn on this function and AF will mainly focus on the face                                                                                                                                                                                             |
| <b>Ethernet</b>          | <b>DHCP</b>              | <b><u>On</u></b> / Off                                  | Enable/Disable DHCP setting using left and right arrow keys and press [ENTER] to apply setting.                                                                                                                                                        |
|                          | <b>IP Address</b>        | <b><u>192.168.100.100</u></b>                           | Press [ENTER] to be in modify mode; select the item to be modified using the up and down keys, and modify the value using the left and right keys or the numeric keys.                                                                                 |

| 1st Level<br>Major Items | 2nd Level<br>Minor Items | 3rd Level<br>Adjustment Values                                                                          | Function Descriptions                                                                                                                                                   |
|--------------------------|--------------------------|---------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                          | Subnet Mask              | <u>255.255.255.0</u>                                                                                    | Press [ENTER] to be in modify mode; select the item to be modified using the up and down keys, and modify the value using the left and right keys or the numeric keys.  |
|                          | Gateway                  | <u>192.168.100.254</u>                                                                                  | Press [ENTER] to be in modify mode; select the item to be modified using the up and down keys, and modify the value using the left and right keys or the numeric keys.  |
| Audio                    | Audio In                 | <u>Line In</u> / Mic In                                                                                 | Set Audio In                                                                                                                                                            |
|                          | Audio Enable             | On / <u>Off</u>                                                                                         | Turn on/off audio output                                                                                                                                                |
|                          | Audio Volume             | 0 ~ <u>A</u> ~ 10                                                                                       | Volume Setting                                                                                                                                                          |
|                          | Audio Delay              | On / <u>Off</u>                                                                                         | When audio and video are out of sync, enable this feature to set the audio delay time<br><Remark>For VC-A71PN, to support this function, please turn off NDI HX         |
|                          | Audio Delay Time(ms)     | <u>-1</u> ~-500ms                                                                                       | Set audio delay time<br><Remark> For VC-A71PN, to support this function, please turn off NDI HX                                                                         |
|                          | Encode Type              | 1. <u>AAC</u><br>2. G.711                                                                               | Set encode type<br><Remark> For VC-A71PN, to support this function, please turn off NDI HX                                                                              |
|                          | Encode Sample Rate       | 1. <u>48 KHz (AAC)</u><br>2. 44.1 KHz (AAC)<br>3. 16 KHz (AAC)<br>4. 16 KHz (G.711)<br>5. 8 KHz (G.711) | Set the encode type and sample rate<br><Remark> SDI supports the audio output of 48 KHz only<br><Remark> For VC-A71PN, to support this function, please turn off NDI HX |

| 1st Level<br>Major Items | 2nd Level<br>Minor Items | 3rd Level<br>Adjustment Values | Function Descriptions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------------|--------------------------|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>System</b>            | <b>Prompt</b>            | On / <u>Off</u>                | Turn on/off the prompt information on the display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                          | <b>IR Receive</b>        | <u>On</u> / Off                | When it is Off, the remote control will not be able to control the camera. At this moment, turn off and then turn on the power to restore control of the remote control.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                          | <b>Tally Lamp</b>        | On / <u>Off</u>                | Select to enable or disable Tally Lamp function.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                          | <b>Tally CMMD Mode</b>   | Normal/ <u>Link</u>            | <p>Set whether the indicator light is linked with RS232 command</p> <ul style="list-style-type: none"> <li>■ General (Not linked): The indicator light switch and mode shall be set separately. <ul style="list-style-type: none"> <li>➤ When the indicator light is on and the default mode is off, additional command is required to set the indicator light mode</li> <li>➤ Setting indicator light mode when the indicator light is off will not trigger the indicator light</li> </ul> </li> <li>■ Link: <ul style="list-style-type: none"> <li>➤ When the indicator light is on, the default mode is red light</li> </ul> </li> </ul> <p>Setting indicator light mode when the indicator light is off will turn on the indicator light</p> |
|                          | <b>Language</b>          | <u>English</u> / Chinese       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

| 1st Level<br>Major Items | 2nd Level<br>Minor Items | 3rd Level<br>Adjustment Values  | Function Descriptions                                                                                                                                                  |
|--------------------------|--------------------------|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                          | Initial Position         | <u>Last Memory</u> / 1st Preset | Select the camera lens to return to the last operated position or the first preset position after POWER ON.<br><b>&lt;Remark&gt;</b> First default position = Preset 0 |
|                          | Control Device           | Encoder / <u>Controller</u>     | Control Device setting,<br>Controller: for joystick<br>Encoder: for tracking system                                                                                    |
|                          | Motionless Preset        | On / <u>Off</u>                 | When the function is enabled, the screen will Freeze when Preset is executed. Freeze will be released after Preset is completed.                                       |
|                          | Control Port             | <u>RS-232</u> / RS-422          | Choose whether the control interface used is RS-232 or RS-422                                                                                                          |
|                          | Protocol                 | <u>VISCA</u> / Pelco D          |                                                                                                                                                                        |
|                          | Baud Rate                | <u>9600</u> / 38400             | Choose the transmission speed of the control signal                                                                                                                    |
|                          | VISCA Address            | <u>0</u> ~ 7                    | The Protocol set to VISCA allows the camera ID address to be assigned. Select 0 for automation.                                                                        |
|                          | PELCO D Address          | <u>1</u> ~ 255                  | The Protocol set to Pelco D allows the camera ID address to be assigned.                                                                                               |

| 1st Level<br>Major Items | 2nd Level<br>Minor Items | 3rd Level<br>Adjustment Values                                                                                                                                                                                                                                                 | Function Descriptions                                                                                                                                                                                         |
|--------------------------|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                          | <b>Output Mode</b>       | 1. <u><b>3840 x 2160/59.94p</b></u><br>2. 3840 x 2160/50p<br>3. 3840 x 2160/29.97p<br>4. 3840 x 2160/25p<br>5. 1080p/59.94<br>6. 1080p/50<br>7. 1080p/29.97<br>8. 1080p/25<br>9. 720p/59.94<br>10. 720p/50<br>11. 720p/29.97<br>12. 720p/25<br>13. 1080i/59.94<br>14. 1080i/50 | Choose the output resolution<br><b>&lt;Remark&gt;</b> VC-A71PN does not support 720p/29.97 and 720p/25 output modes<br><b>&lt;Remark&gt;</b> For HDMI/SDI output, when 1080i mode is set, NDI output is 1080p |
|                          | <b>Color Space</b>       | Standard Profile/<br>rec.709/ BT.2020                                                                                                                                                                                                                                          | Set the standard for color space<br><b>&lt;Remark&gt;</b> VC-A71PN does not support this feature                                                                                                              |
|                          | <b>Factory Reset</b>     | On / <b><u>Off</u></b>                                                                                                                                                                                                                                                         | Resume the factory default setting                                                                                                                                                                            |
| <b>Status</b>            |                          |                                                                                                                                                                                                                                                                                | Display the current setting status                                                                                                                                                                            |

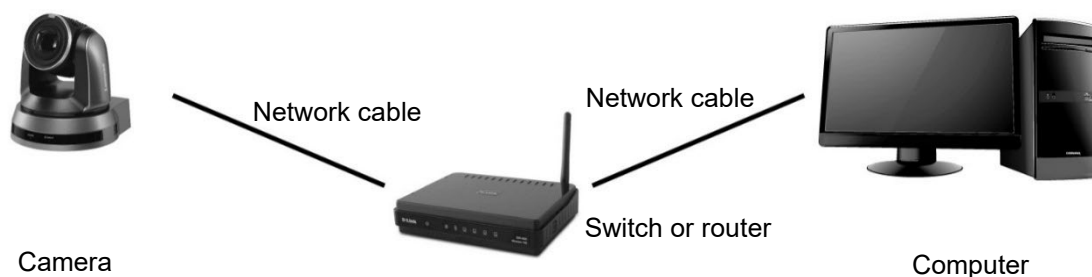
# Chapter 6 Network Function Settings Description

## 6.1 Connecting Camera to Network

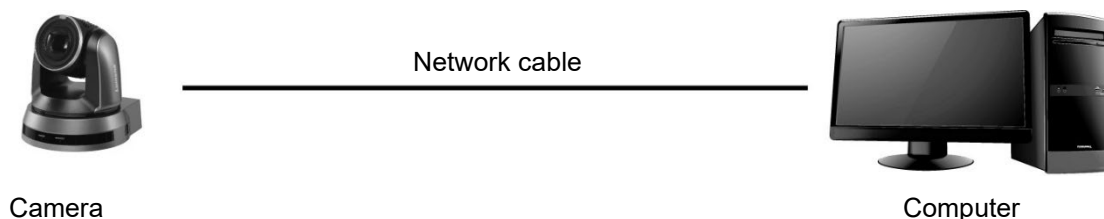
### 6.1.1 Connecting to Internet

Two common connection methods are shown below

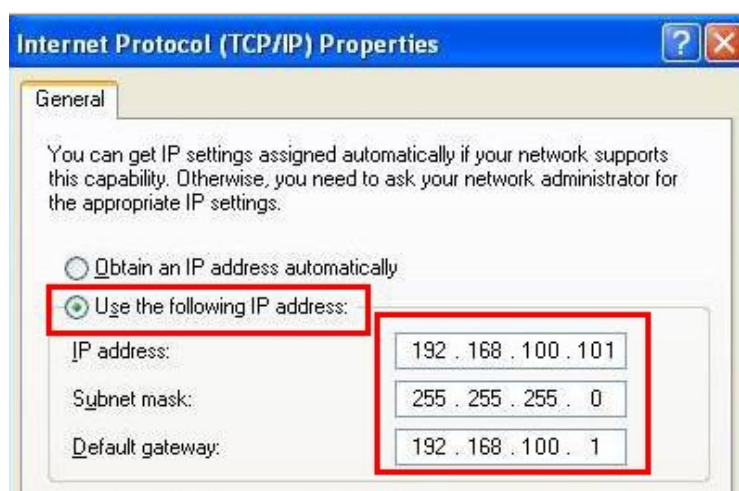
1. Connecting via switch or router



2. To connect directly through network cable, the IP address of the computer should be changed so that it is on the same network segment as the camera  
**e.g.:** The factory-preset default IP address of camera is 192.168.100.100. The computer IP address must be set with the same network segment, such as 192.168.100.101, so that the computer can be connected correctly with the camera



- Change network settings



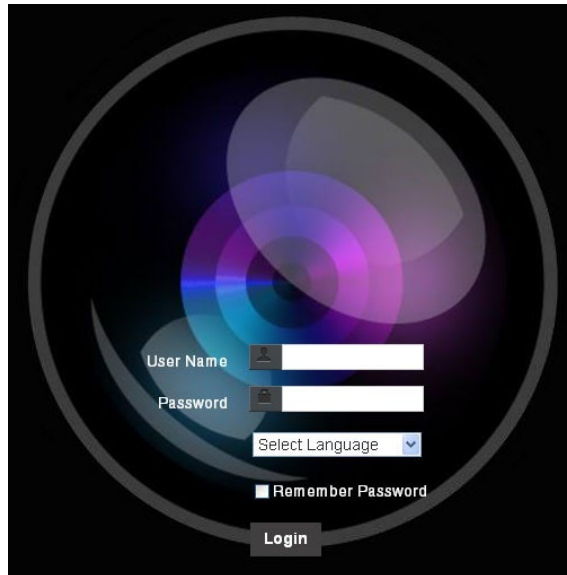
### 6.1.2 Using the Browser to View the Images

- Open the browser, and enter the URL of camera in the IP address bar

e.g.: <http://192.168.100.100> (default IP address)

- Enter administrator's account and password


\*For the first login, please refer to [6.2.3 Account Management](#) to change the default password



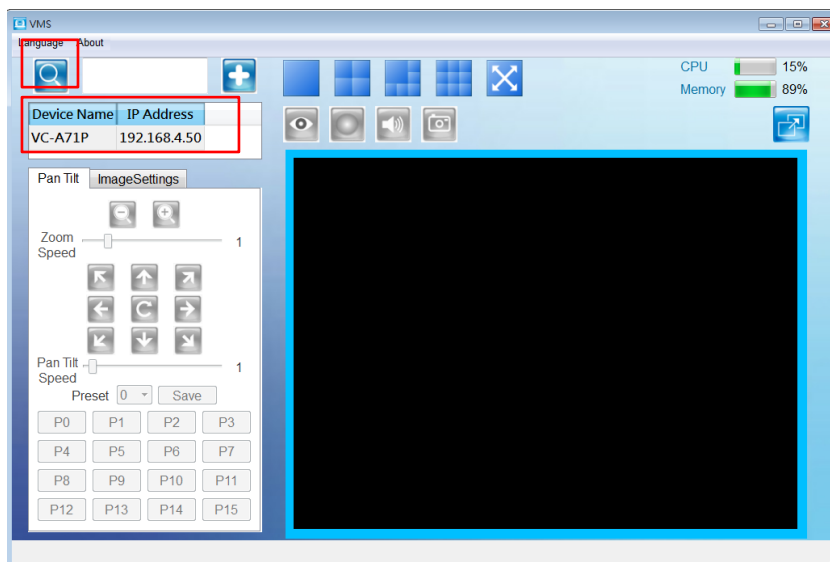
| Lumens Network Camera |                |
|-----------------------|----------------|
| ●                     | Account: admin |
| ●                     | Password: 9999 |

### 6.1.3 Using Lumens VMS Software to View the Images

<Remark> For VC-A71PN, to support this function, please turn off NDI|HX (Please refer to [6.2.5 Setting-Video](#))

- Open **LUMENS VMS** software (Please download from the Lumens official website)
- Search for the camera: Press  [automatically search for the device] button to locate the VC-A71P camera
- Click the camera in the list and start operation after connecting to network

<Caution> When using automatic search, the camera and computer must be in the same network segment, e.g.: 192.168.4.X



### 6.1.4 Using RTSP Player to View the Images

**<Remark>** For VC-A71PN, to support this function, please turn off NDI|HX (Please refer to [6.2.5 Setting-Video](#))

In addition to the browser and VMS, other free softwares also can be used for RTSP connection, such as VLC, Quick Time and PotPlayer

RTSP connection address formats are as follows:

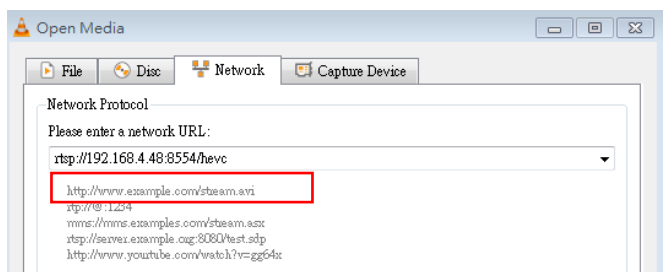
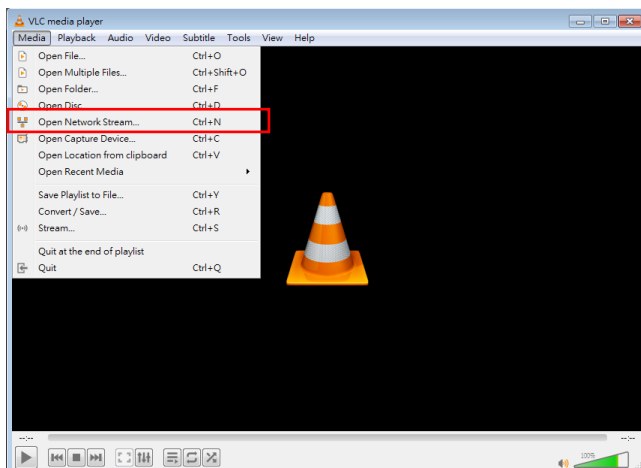
- RTSP Streaming 1 (4K@H.265) => rtsp://[camera IP:8554/hevc](#)
- RTSP Streaming 2 (1080P@H.264) => rtsp://[camera IP:8557/h264](#)
- RTSP Streaming 3 (720P@H.264) => rtsp://[camera IP:8556/h264](#)

For password authentication, the RTSP connection address is as follows:

- RTSP Streaming 1  
[rtsp://Username:Password@VC IP address:port/hevc](#)
- RTSP Streaming 2/ 3  
[rtsp://Username:Password@VC IP address:port/h264](#)
- To enable password authentication, please refer to [6.2.9 Setting - Network](#)

Example: Open VLC software, click [**Open Network Stream**], and enter a URL:

rtsp://192.168.4.48:8554/hevc



### 6.1.5 Using NDI Studio Monitor to View the Images

**<Remark>** Only VC-A71PN is available. Support when NDI|HX is on (Please refer to [6.2.5 Setting - Video](#))

For NewTek product operation or instructions, please visit the website:

<https://www.newtek.com/>.

To download NDI 4 Tool, click the link: <http://new.tk/NDIHX-Driver-Win>

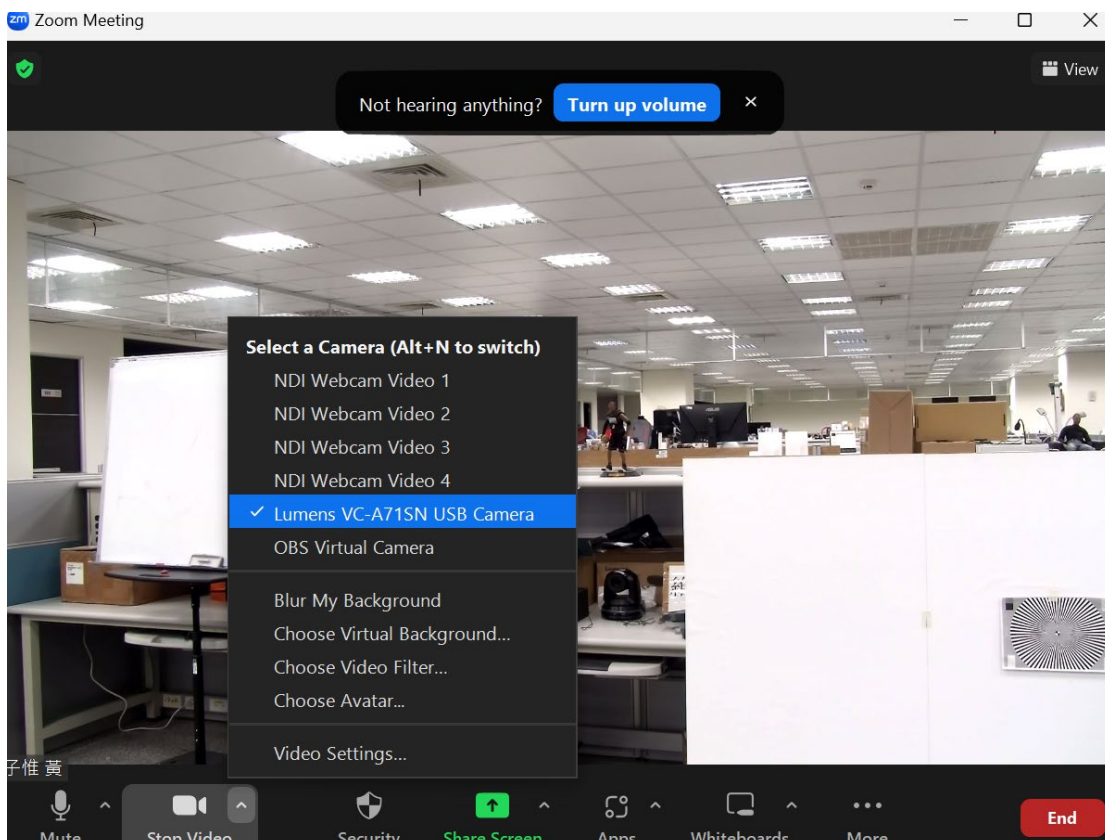
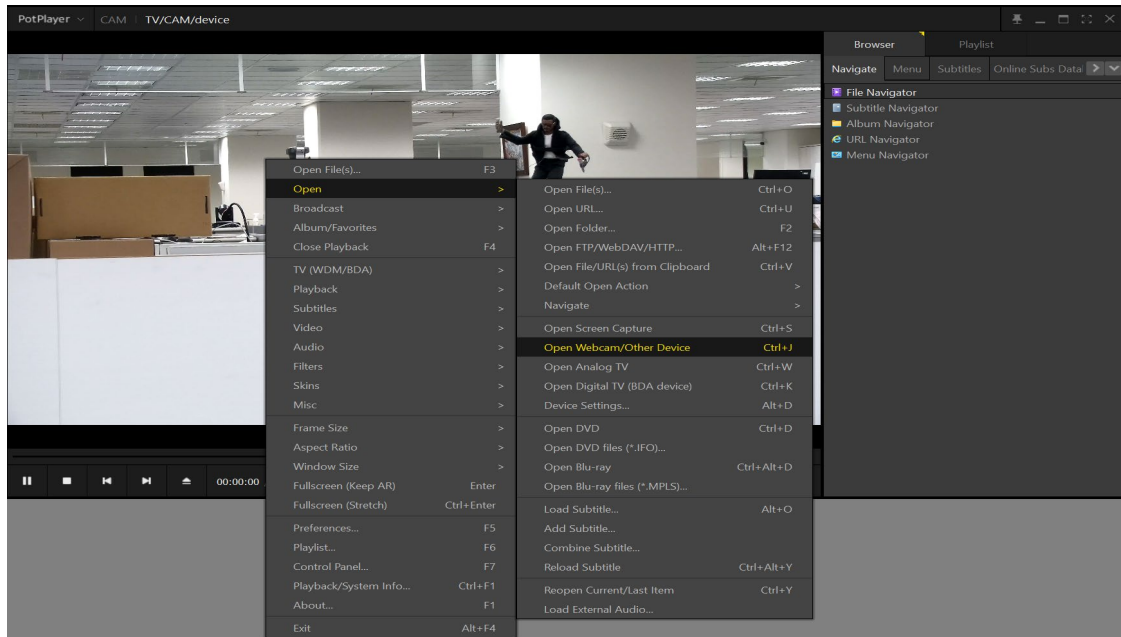
### 6.1.6 Using USB to View the Images

**<Remark>** When using 4K resolution for USB output, the video is encoded in H.264 format, while resolutions of 1080P and below are encoded in either H.264 or MJPEG format (the media player will choose automatically). However, some media players or



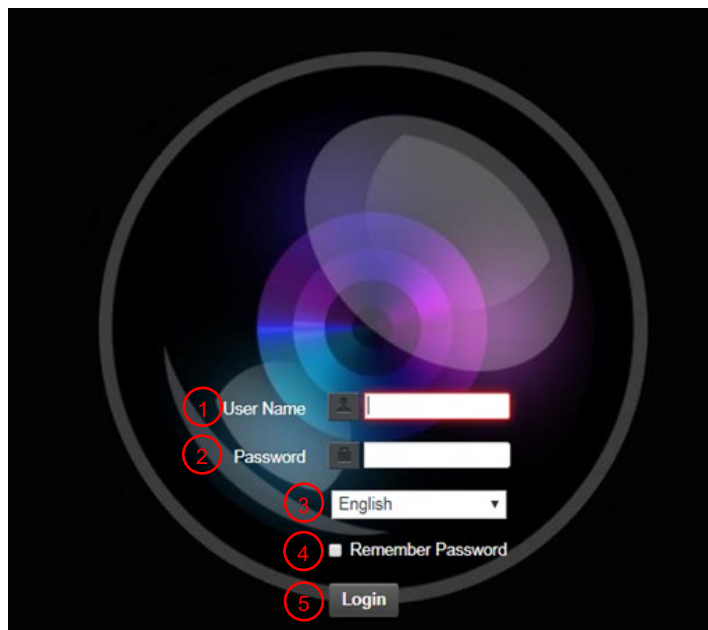
conference meeting apps may not display images when using 4K resolution due to conflicts between the A71P H.264 format and the software itself. In that case, please lower the resolution to 1080P.

To utilize the USB camera source, launch a media player like PotPlayer or a conference meeting app such as Zoom, then select the camera source.



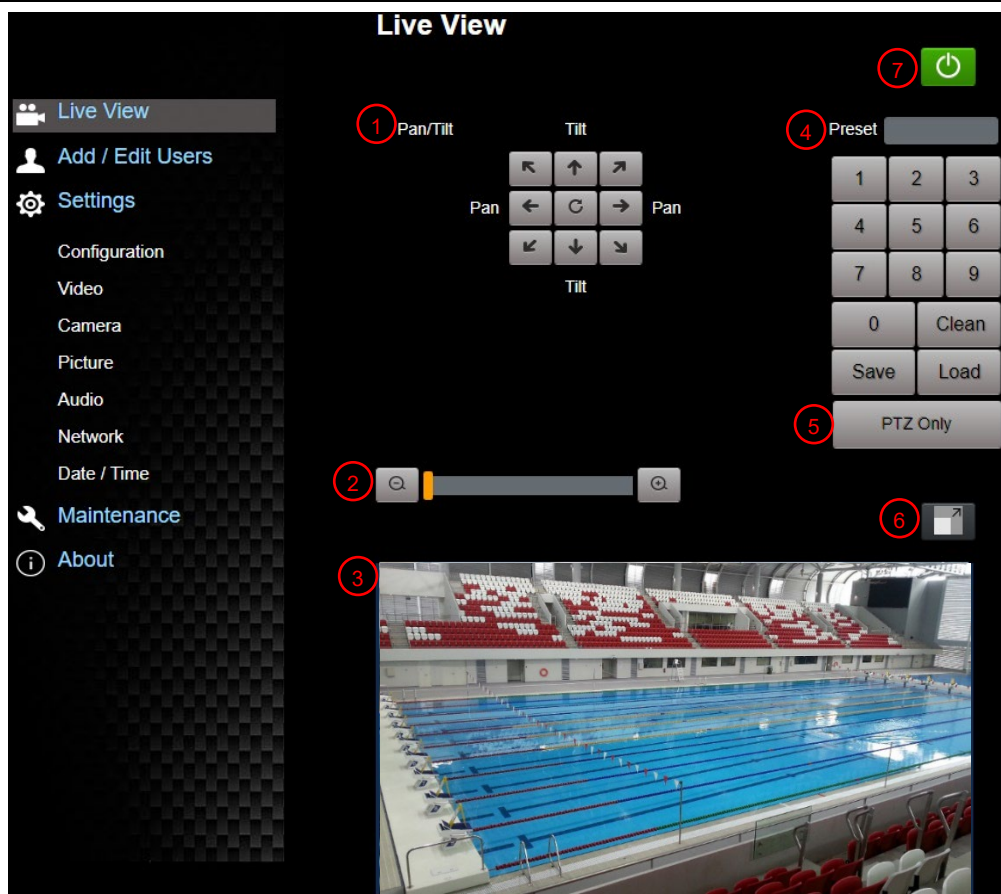
## 6.2 Web Page Function Description

### 6.2.1 Login Screen



| No | Item               | Function Descriptions                                                                                                                      |
|----|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Username           | Enter user account (default: admin)                                                                                                        |
| 2  | Password           | Enter user password (default: 9999)<br>*For the first login, please refer to <a href="#">6.2.3 Account Management</a> the default password |
| 3  | Language selection | Currently, the system supports English, Traditional Chinese and Simplified Chinese                                                         |
| 4  | Remember password  | Save user account name and password to the browser. When you log in next time, there is no need to re-enter them                           |
| 5  | Login              | Log into the administrator screen on the website                                                                                           |

## 6.2.2 Live View



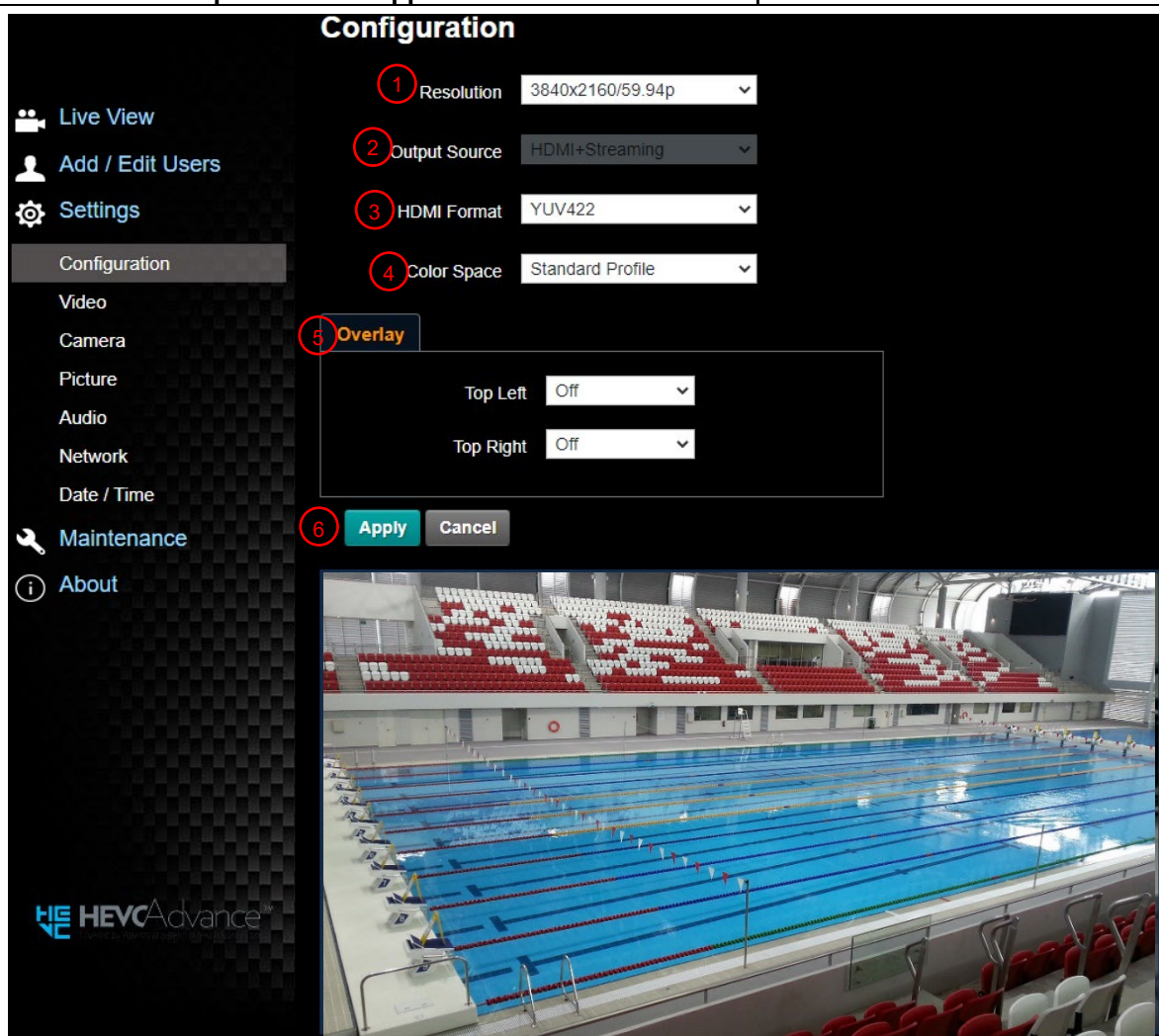
| No | Item                  | Function Descriptions                                                                                                                                                                                                                               | VC-A71P | VC-A71PN                   |
|----|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|----------------------------|
| 1  | Pan / Tilt setting    | Adjust the Pan/Tilt position of the camera screen                                                                                                                                                                                                   | V       | V                          |
| 2  | Zoom ratio            | Adjust the zoom-in or zoom-out ratio via scroll bar                                                                                                                                                                                                 | V       | V                          |
| 3  | Preview window        | Display the screen currently captured by the camera                                                                                                                                                                                                 | V       | Support when NDI HX is Off |
| 4  | Preset setting        | Select the number first and then select SAVE or LOAD                                                                                                                                                                                                | V       | V                          |
| 5  | PTZ Only              | Enable/disable PTZ Only<br><ul style="list-style-type: none"> <li>▪ Disable (Default): Call the preset, execute Pan/Tilt/Zoom/Focus + picture parameters setting</li> <li>▪ Enable: Call the preset, only execute Pan/ Tilt/ Zoom/ Focus</li> </ul> | V       | X                          |
| 6  | Switch to Full Screen | Switch the preview window to full screen                                                                                                                                                                                                            | V       | Support when NDI HX is Off |
| 7  | Power button          | Turn on or turn off the camera power                                                                                                                                                                                                                | V       | V                          |

## 6.2.3 Account Management

| No                 | Item               | Function Descriptions                                                                                                                                                                                                                                                                                                                                                                             |           |       |          |        |             |   |   |   |          |   |   |   |                    |   |   |   |
|--------------------|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-------|----------|--------|-------------|---|---|---|----------|---|---|---|--------------------|---|---|---|
| 1                  | Add user account   | Enter a user name and password to add a new user                                                                                                                                                                                                                                                                                                                                                  |           |       |          |        |             |   |   |   |          |   |   |   |                    |   |   |   |
| 2                  | Permission setting | Set the new account management permissions<br><table border="1"> <thead> <tr> <th>User Type</th> <th>Admin</th> <th>Operator</th> <th>Viewer</th> </tr> </thead> <tbody> <tr> <td>View images</td> <td>V</td> <td>V</td> <td>V</td> </tr> <tr> <td>Settings</td> <td>V</td> <td>V</td> <td>X</td> </tr> <tr> <td>Account management</td> <td>V</td> <td>X</td> <td>X</td> </tr> </tbody> </table> | User Type | Admin | Operator | Viewer | View images | V | V | V | Settings | V | V | X | Account management | V | X | X |
| User Type          | Admin              | Operator                                                                                                                                                                                                                                                                                                                                                                                          | Viewer    |       |          |        |             |   |   |   |          |   |   |   |                    |   |   |   |
| View images        | V                  | V                                                                                                                                                                                                                                                                                                                                                                                                 | V         |       |          |        |             |   |   |   |          |   |   |   |                    |   |   |   |
| Settings           | V                  | V                                                                                                                                                                                                                                                                                                                                                                                                 | X         |       |          |        |             |   |   |   |          |   |   |   |                    |   |   |   |
| Account management | V                  | X                                                                                                                                                                                                                                                                                                                                                                                                 | X         |       |          |        |             |   |   |   |          |   |   |   |                    |   |   |   |
| 3                  | Applying setting   | Add the newly created user to the list of account                                                                                                                                                                                                                                                                                                                                                 |           |       |          |        |             |   |   |   |          |   |   |   |                    |   |   |   |
| 4                  | List of accounts   | Edit: Modify the user password and permissions<br>Delete: Delete the user account                                                                                                                                                                                                                                                                                                                 |           |       |          |        |             |   |   |   |          |   |   |   |                    |   |   |   |

## 6.2.4 Setting - System Setting

<Remark> Preview pane is not supported when VC-A71PN NDI|HX is on

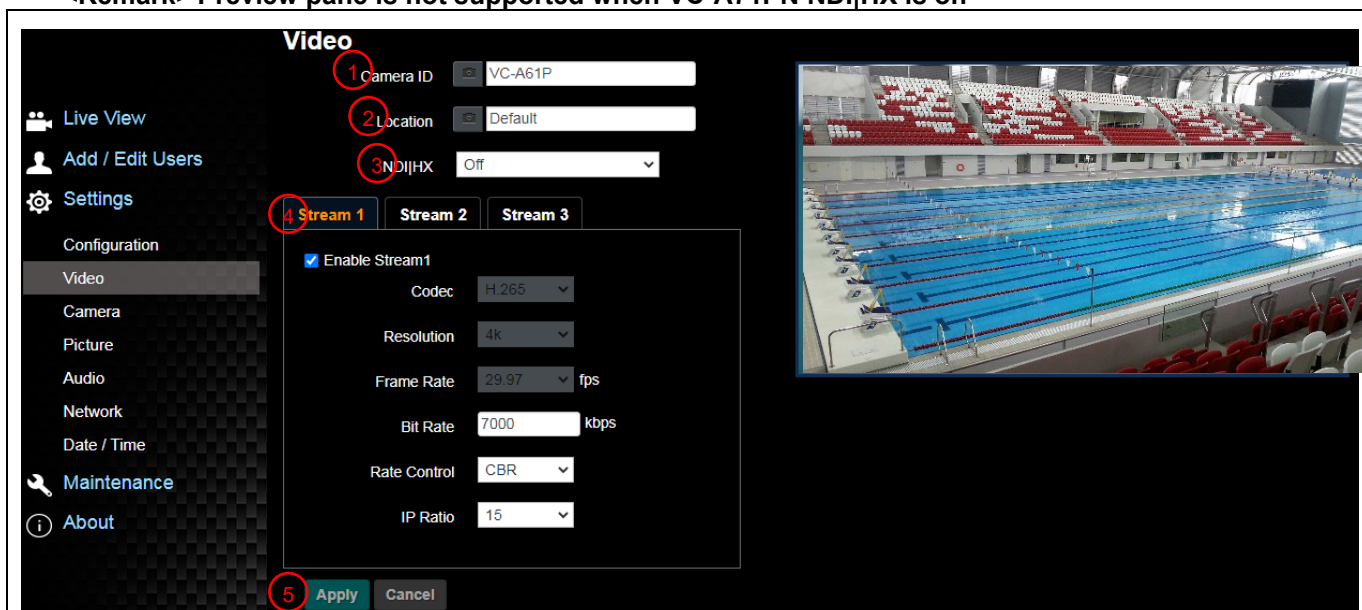


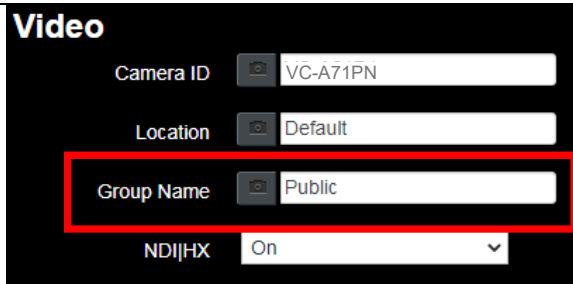
| No | Item          | Function Descriptions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Resolution    | <p>Set the resolution of the camera, resolutions supported by the camera are as follows:<br/>           3840 x 2160 59.94 / 50 / 29.97 / 25 fps<br/>           1080P 59.94 / 50 / 29.97 / 25<br/>           720P 59.94 / 50 / 29.97 / 25<br/>           1080i 59.94/50<br/>           After switching to the resolution, the camera will restart. Please refresh the browser<br/> <b>&lt;Remark&gt;</b>VC-A71PN does not support 720p 29.97/25 fps resolutions<br/> <b>&lt;Remark&gt;</b>1080i mode only supports HDMI/SDI output. When 1080i mode is set, NDI output is 1080p</p> |
| 2  | Output signal | <p>According to the output resolution, you can select HDMI + streaming output or HDMI + UVC output<br/> <b>&lt;Remark&gt;</b> When it is set to UVC output, 3840 x 2160 29.97p or lower resolutions are supported</p>                                                                                                                                                                                                                                                                                                                                                              |
| 3  | HDMI Format   | <p>Select YUV422 / YUV420 / RGB<br/> <b>&lt;Remark&gt;</b> When it is set to YUV420, 3840 x 2160 59.94p and 3840 x 2160 50p resolutions are supported</p>                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 4  | Color Space   | <p>Set the standard for color space Standard Profile/ REC.709/ BT.2020<br/> <b>&lt;Remark&gt;</b> VC-A71PN does not support this feature</p>                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 5  | Overlay       | <p>Set the stream to display “date and time” or “custom content” and to display location</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 6  | Apply         | <p>After the setting has been modified, select this button to apply the setting</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

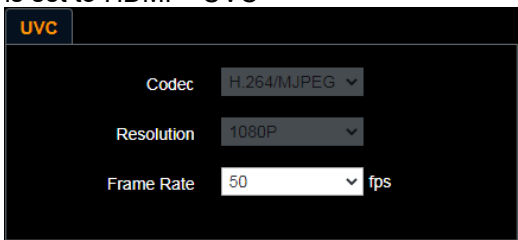


## 6.2.5 Setting – Video

<Remark> Preview pane is not supported when VC-A71PN NDI|HX is on



| No  | Item            | Function Descriptions                                                                                                                                                                                                                                                                                                                                                                               | VC-A71P | VC-A71PN                  |
|-----|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------------------------|
| 1   | Camera name     | <p>Modify the camera name</p> <ul style="list-style-type: none"> <li>Camera names are limited to 1 - 12 characters</li> <li>Please use a camera name by mixing uppercase and lowercase letters or numbers. Do not use “/” and “space” or special symbols</li> </ul> <p>&lt;Remark&gt; Modifying this field will modify the Onvif device name synchronously</p>                                      | V       | V                         |
| 2   | Camera Location | <p>Modify the location of the camera, such as Meeting Room 1</p> <ul style="list-style-type: none"> <li>Camera location is limited to 1 - 12 characters</li> <li>Please use a camera name by mixing uppercase and lowercase letters or numbers. Do not use “/” and “space” or special symbols</li> </ul> <p>&lt;Remark&gt; Modifying this field will modify the Onvif device name synchronously</p> | V       | V                         |
| 3   | NDI HX          | <p>VC-A71PN can turn NDI HX on/off</p> <ul style="list-style-type: none"> <li>On: Support NDI (ONVIF cannot find devices, and RTSP/RTMP/RTMPS/MPEG-TS/SRT streams cannot be used.)</li> <li>Off: Support RTSP/RTMP/RTMPS/MPEG-TS/SRT, and ONVIF can find devices but cannot be used with NDI Tool</li> </ul>                                                                                        |         | V                         |
| 3.1 | Group Name      | <p><b>Video</b></p>  <p>The group name can be modified here and set with Access Manager - Receive in NDI Tool</p> <ul style="list-style-type: none"> <li>If no group is assigned, the machine belongs to Public. As</li> </ul>                                                                                   |         | Support when NDI HX is On |

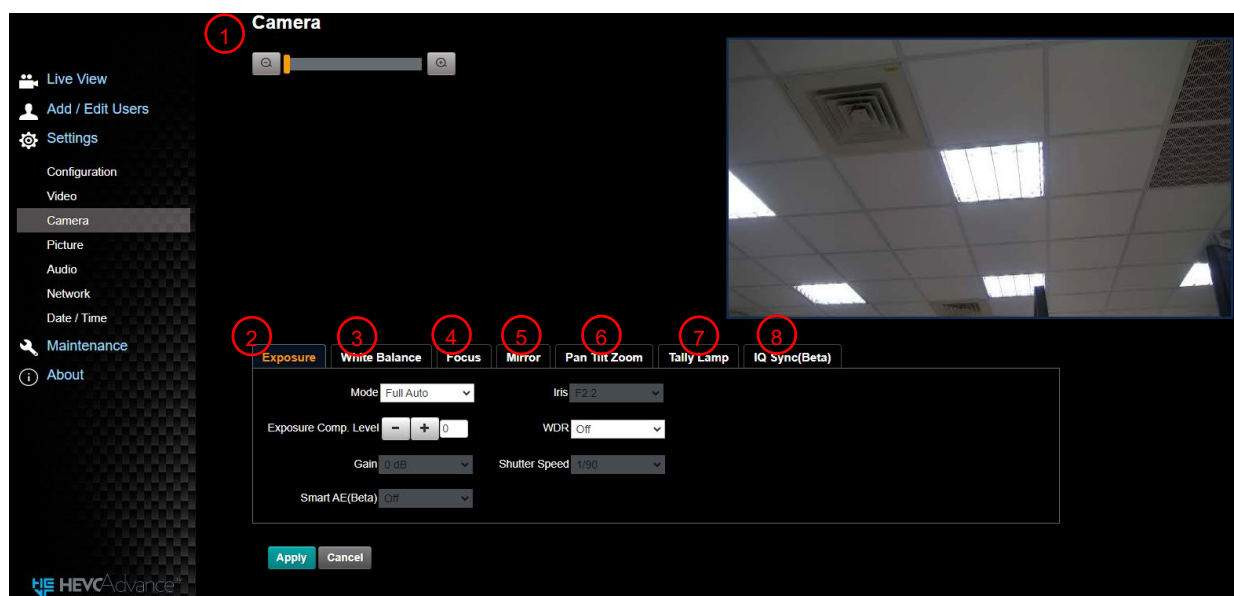
|     |                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |   |                           |
|-----|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---------------------------|
|     |                                             | <p>the default of Access Manager includes Public, Studio Monitor can discover this machine.</p> <ul style="list-style-type: none"> <li>■ If a group is assigned, but this group is not added into Access Manager, Studio Monitor cannot discover this machine.</li> <li>■ If a group is assigned and this group is added into Access Manager, Studio Monitor can discover this machine.</li> </ul> <p>The name can contain commas (,) to distinguish different groups<br/>Example: "default, 123, abc" means this machine belongs to three groups at the same time (default / 123 / abc)</p> |   |                           |
| 4   | Streaming 1/<br>Streaming 2/<br>Streaming 3 | <p><b><u>Setting - System Setting - Output Signal</u></b> Display when it is set to HDMI + streaming<br/>VC-A71P supports 3 streaming outputs. Please refer to <b><u>6.2.5.1 Streaming Parameter Setting</u></b> for relevant settings</p>                                                                                                                                                                                                                                                                                                                                                   | V | Support when NDI HX is On |
| 4.1 | UVC                                         | <p><b><u>Setting - System Setting - Output Signal</u></b> Display when it is set to HDMI + UVC</p>  <ul style="list-style-type: none"> <li>■ <b>Encode Format:</b> <ul style="list-style-type: none"> <li>➢ 3840 x 2160 29.97 / 25 fps: H.264</li> <li>➢ Less than 1080p (inclusive): H.264/MJPEG</li> </ul> </li> <li>■ <b>Resolution:</b> It is shown based on <b><u>Settings - System Settings - Resolution</u></b></li> </ul> <p>Frame Rate: 3840 x 2160 can only select the highest 29.97 fps</p>     | V |                           |
| 5   | Apply                                       | After the setting has been modified, select this button to apply the setting                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | V | V                         |

#### 6.2.5.1 Streaming parameter setting

| Function        |                | Streaming 1                                                                                                                         | Streaming 2          | Streaming 3 |
|-----------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------|----------------------|-------------|
| Encode Format   |                | H.265                                                                                                                               | H.264                |             |
| Resolution      |                | 4K / 1080p / 720p                                                                                                                   | 1080p / 720p / 1080i | 640 x 360   |
| Frame Rate      |                | Setting according to the supported resolution<br><Remark> Only 59.94 / 50 are supported when the resolution of Streaming 2 is 1080i |                      |             |
| Bit Rate (kbps) | 2,000 ~ 20,000 | 2,000 ~ 20,000                                                                                                                      | 512 ~ 5,000          | 512 ~ 5,000 |
|                 | 7,000          | 15,000                                                                                                                              | 7,500                | 1,000       |
| Rate Control    |                | CBR / VBR                                                                                                                           |                      |             |
| IP Ratio        |                | Setting according to the supported resolution<br><Remark> Only 15 / 25 are supported when the resolution is 1080i                   |                      |             |

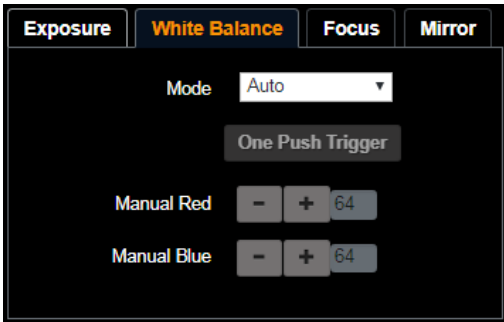
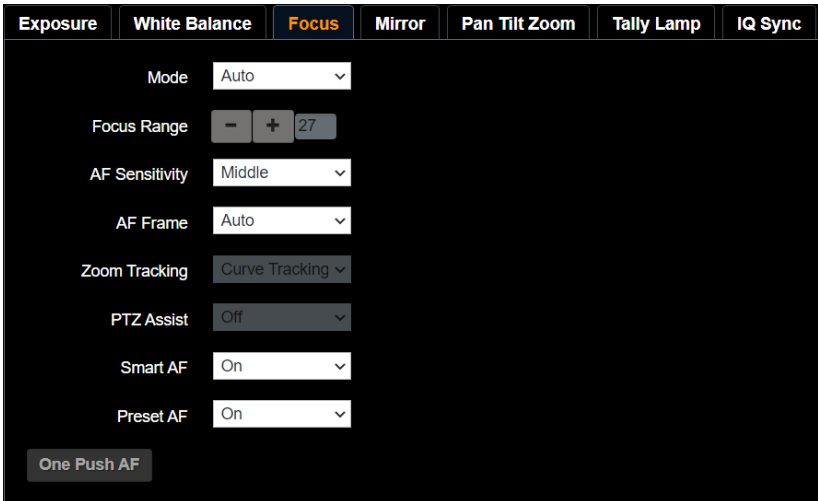

## 6.2.6 Setting – Camera

<Remark> Preview pane is not supported when VC-A71PN NDI|HX is on




| No | Item       | Function Descriptions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Zoom ratio | Adjust the zoom-in or zoom-out ratio via scroll bar                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 2  | Exposure   | <ul style="list-style-type: none"> <li>■ <b>Mode:</b> Select exposure mode (Automatic/Shutter Priority/Aperture Priority/Manual)</li> <li>■ <b>Exposure Comp. Level:</b> Select exposure compensation level</li> <li>■ <b>Gain:</b> The gain limit is adjustable when the exposure mode is set to "Manual"</li> <li>■ <b>Iris:</b> The size of aperture is adjustable when the exposure mode is set to "Manual" or "Aperture Priority"</li> <li>■ <b>WDR:</b> Set the level of wide dynamic range (WDR) in order to obtain better images</li> <li>■ <b>Shutter Speed:</b> The shutter speed is adjustable when the exposure mode is set to "Manual" or "Shutter Priority"</li> <li>■ <b>Smart Exposure:</b> Enable/Disable Smart Exposure; Available when "Focus - SMART AF" is on (Currently it's the beta version. Please refer to Web Page Firmware Update Information for the official version release schedule.)</li> </ul> |



|   |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3 | White Balance |  <ul style="list-style-type: none"> <li>■ <b>Mode:</b> Select the color temperature mode</li> <li>■ <b>Open Push WB:</b> One push color temperature is adjustable when the white balance mode is set to “One Push WB”</li> <li>■ <b>Manual Red/Blue:</b> Manually adjust blue/red color temperature</li> </ul>                                                                                                                                                                                                                                                                                                                                                                             |
| 4 | Focus         |  <ul style="list-style-type: none"> <li>■ <b>Mode:</b> Select manual/automatic focus</li> <li>■ <b>Focus Range:</b> The focusing range is adjustable when the focus mode is set to “Manual”</li> <li>■ <b>AF Sensitivity:</b> Set automatic focus sensitivity</li> <li>■ <b>AF Frame:</b> Set automatic focus range</li> <li>■ <b>Zoom Tracking:</b> Set the focus mode during lens zooming in Manual Focus mode</li> <li>■ <b>PTZ Assist:</b> Set Auto Focus in manual mode</li> <li>■ <b>Smart AF:</b> Turn on this function and AF will mainly focus on the face</li> <li>■ <b>One-shot Focus:</b> When manual focus mode is on, click this function for one-shot autofocus</li> </ul> |
| 5 | MIRROR        |  <ul style="list-style-type: none"> <li>■ <b>Mirror:</b> Set automatic flip mode<br/>[Off / Mirror / Flip / Mirror + Flip]</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

|    |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6. | Pan Tilt Zoom | <div data-bbox="555 145 1366 844"> </div> <ul style="list-style-type: none"> <li>■ <b>Pan/Tilt Limit:</b> Set the Pan/Tilt limit</li> <li>■ <b>Pan/Tilt Flip:</b> Set Pan/Tilt flip</li> <li>■ <b>Preset Speed:</b> Set the rotation speed of the cradle head when Preset is executed</li> <li>■ <b>PTZ Speed Comp:</b> Set the Pan/Tilt moving speed to vary from the zoom position</li> <li>■ <b>Initial Position:</b> Set the camera lens to return to the last operated position or the first preset position after POWER ON<br/> <b>&lt;Remark&gt;</b>First default position = Preset 0</li> <li>■ <b>D-Zoom Limit:</b> Set the D-Zoom Limit, x1 - x12</li> <li>■ <b>Motionless Preset:</b> When the function is enabled, the screen will Freeze when Preset is executed. Freeze will be released after Preset is completed</li> <li>■ <b>PTZ Motion Sync:</b> After turning on, operate <b>Preset</b> to achieve PTZ Motion Sync<br/> <b>&lt;Remark&gt;</b> This function will refer to the default speed setting, but may automatically adjust the speed due to the difference in PTZ movement range</li> </ul> |
| 7  | Tally Lamp    | <div data-bbox="555 1574 1295 1760"> </div> <ul style="list-style-type: none"> <li>■ Enable/Disable Tally Lamp</li> <li>■ Indicator Light Link Mode: Set whether the indicator light is linked with RS232 command <ul style="list-style-type: none"> <li>➢ General (Not linked): The indicator light switch and mode shall be set separately. <ul style="list-style-type: none"> <li>-When the indicator light is on and the default mode is off, additional command is required to set the indicator light mode</li> <li>-Setting indicator light mode when the indicator light is off will not trigger</li> </ul> </li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

|   |         |                                                                                                                                                                                                                                                                                                                                             |
|---|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |         | <p>the indicator light</p> <p>➤ Link:</p> <ul style="list-style-type: none"> <li>-When the indicator light is on, the default mode is red light</li> <li>-Setting indicator light mode when the indicator light is off will turn on the indicator light</li> </ul>                                                                          |
| 8 | IQ Sync |  <p>Set IQ main synchronized device</p> <p>Available when “Exposure” and “White Balance” is set to “Auto” mode<br/>(Currently it’s the beta version. Please refer to Web Page Firmware Update Information for the official version release schedule.)</p> |

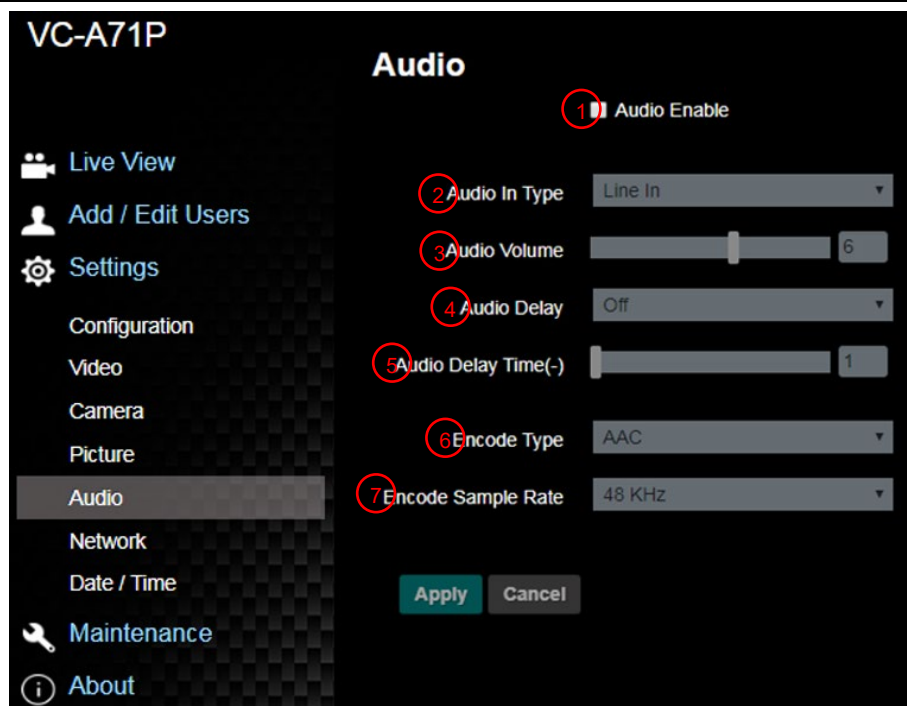
### 6.2.7 Setting – Picture

<Remark> Preview pane is not supported when VC-A71PN NDI|HX is on

|  |                             |                                                                                                                   |
|-------------------------------------------------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------------------------------------|
| No                                                                                  | Item                        | Function Descriptions                                                                                             |
| 1                                                                                   | Picture Effect              | Set picture effect, Off/Neg/Black and White                                                                       |
| 2                                                                                   | 2D noise reduction settings | 2D noise reduction settings                                                                                       |
| 3                                                                                   | 3D noise reduction settings | 3D noise reduction settings                                                                                       |
| 4                                                                                   | Image mode                  | The user may customize his/her desired image mode.                                                                |
| 5                                                                                   | Image Mode Load             | When no custom setting is needed, reset the picture parameters back to the factory default by selecting this item |
| 6                                                                                   | Gamma                       | Gamma Level adjustment; Adjustable when the image mode is set to Custom                                           |
| 7                                                                                   | Brightness                  | Brightness adjustment; Adjustable when the image mode is set to Custom                                            |

|    |             |                                                                                     |
|----|-------------|-------------------------------------------------------------------------------------|
| 8  | Contrast    | Contrast adjustment; Adjustable when the image mode is set to Custom                |
| 9  | Saturation  | Saturation adjustment of the image; Adjustable when the image mode is set to Custom |
| 10 | Sharpness   | Adjust the sharpness of the image                                                   |
| 11 | Black Level | Adjust the brightness level of dark areas                                           |

## 6.2.8 Setting - Audio

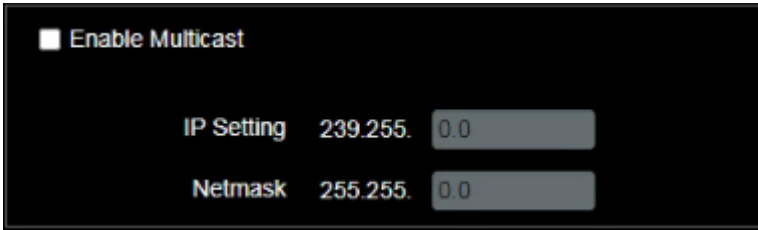
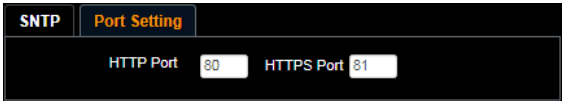


| No | Item                      | Function Descriptions                                                                                                                                                                           | VC-A71P | VC-A71PN                   |
|----|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|----------------------------|
| 1  | Open audio                | Turn on/ off sound                                                                                                                                                                              | V       | V                          |
| 2  | Soundtrack effect setting | Set MIC In/Line In                                                                                                                                                                              | V       | V                          |
| 3  | Audio Volume              | Adjust Volume                                                                                                                                                                                   | V       | V                          |
| 4  | Audio Delay               | Turn on/ off Audio Delay                                                                                                                                                                        | V       | Support when NDI HX is Off |
| 5  | Audio Delay Time(ms)      | Set Audio Delay Time (-1~-500ms)                                                                                                                                                                | V       |                            |
| 6  | Encode Type               | AAC/ G.711                                                                                                                                                                                      | V       |                            |
| 7  | Encode sample rate        | Set Encode sample rate<br><ul style="list-style-type: none"> <li>■ 48 KHz (AAC)</li> <li>■ 44.1 KHz (AAC)</li> <li>■ 16 KHz (AAC)</li> <li>■ 16 KHz (G.711)</li> <li>■ 8 KHz (G.711)</li> </ul> | V       |                            |

## 6.2.9 Setting - Network

The screenshot shows the 'Network' settings page. On the left is a sidebar with options: Live View, Add / Edit Users, Settings, Configuration, Video, Camera, Picture, Audio, Network (selected), Date / Time, Maintenance, and About. The main content area has a 'Network' tab selected, showing DHCP settings (On), IPv4 Address (192.168.4.37), IPv4 Netmask (255.255.255.0), IPv6 Address (2001:2001:2001:2001), IPv6 Netmask (2001:2001:2001:2001), Gateway (192.168.4.254), DNS (192.168.1.211), and MAC Address (dc:62:ac:01:04:9e). Below this is the 'RTMP / RTMPS' section with options to publish to a server, video/audio encoder settings, resolution, chunk size, and RTMP server status. It includes fields for RTMP URL, Stream Key, and password authentication. To the right are the 'RTSP' and 'SRT' sections. The 'RTSP' section has checkboxes for multicast and password authentication. The 'SRT' section has checkboxes for SRT streaming, connection mode, URL, stream ID, latency, encryption, and passphrase. At the bottom are 'SNTP' and 'Port Setting' tabs, and a 'Tracking Data Out' section with checkboxes for serial and IP output and a destination IP field. Red circles with numbers 1 through 8 highlight specific areas: 1. Network tab, 2. RTMP/RTMPS section, 3. RTSP section, 4. MPEG-TS section, 5. SRT section, 6. SNTP section, 7. Port Setting section, and 8. Tracking Data Out section.

| No | Item         | Function Descriptions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | VC-A71P | VC-A71PN                   |
|----|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|----------------------------|
| 1  | Network      | Network setting of camera. Change of setting is available when DHCP function is closed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | V       | V                          |
| 2  | RTMP Setting | Copy the RTMP web address provided by the RTMP service platform and paste it to the RTMP connection address to publish the camera images on the RTMP service platform<br>To upload to YouTube for live streaming, the audio function must be turned on first To upload to YouTube for live streaming, please see <a href="#">6.2.8 Setting - Audio</a> to turn on the audio function first                                                                                                                                                                                                                      | V       | Support when NDI HX is Off |
| 3  | RTSP Setting | <ul style="list-style-type: none"> <li>■ Enable / Disable Multicast<br/>When more than 4 people are connected to watch live video at the same time, it is recommended to enable the multicast function</li> <li>■ Enable / Disable Account Password Authentication <ul style="list-style-type: none"> <li>➢ Refer to <a href="#">6.1.4 Using RTSP Player to View Images for RTSP</a> connection format</li> <li>➢ The account password is the same as that for the camera web login page. Please refer to <a href="#">6.2.3 Account Management</a> to add/revise the account information</li> </ul> </li> </ul> | V       |                            |

|     |                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |   |                            |
|-----|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|----------------------------|
| 3-1 | Multicast Setting            | <p>The setting can be configured after Multicast is enabled</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |   | Support when NDI HX is On  |
| 4   | MPEG-TS Setting              | <p>Set MPEG-TS format</p> <p><b>&lt;Remark&gt;</b> The port setting range 1025 ~ 65535</p> <p><b>&lt;Remark&gt;</b> The following port has been used by the camera. Setting of the port may not connect correctly 1935, 8080, 8554, 8556, 8557, 9090</p>                                                                                                                                                                                                                                                                                                                                                            | V | Support when NDI HX is Off |
| 5   | SRT Setting                  | <ol style="list-style-type: none"> <li>Set the field of SRT and then check the item to open SRT streaming<br/>After the SRT streaming is opened, it will be connected automatically upon startup</li> <li>The port setting range 1025 ~ 65535<br/><b>&lt;Remark&gt;</b> The following port has been used by the camera. Setting of the port may not connect correctly 1935, 8554, 8555, 8556, 8557</li> <li>Delay time is for 20 to 8000 microseconds. The default value is 120 microseconds</li> </ol>                                                                                                             | V | Support when NDI HX is Off |
| 6   | SNTP Setting                 | Set the SNTP server address                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | V | V                          |
| 7   | Port Setting                 |  <p>Set HTTP port. The default Port value is 80<br/>Set HTTPS port. The default Port value is 81</p> <p><b>&lt;Remark&gt;</b> The settings can only be modified when the camera's DHCP function is turned off</p>                                                                                                                                                                                                                                                                                                                | V | V                          |
| 8   | Tracking Data Output Setting | <p>When enabled, PTZ position information can be fed back when the camera is moving</p> <ol style="list-style-type: none"> <li>Serial port output: The protocol must be set to VISCA, and the baud rate should be 38400<br/>(For related settings, please refer to <a href="#">6.2.14 Setting - Maintenance - System Service</a>)</li> <li>IP output: It can set IP address and communication port</li> <li>The port numbers should be &gt; 1024. 1935, 8555, 8556, 8557 cannot be used.</li> </ol> <p><b>&lt;Remark&gt;</b> The performance of the camera may be affected when Tracking Data Output is enabled</p> | V | V                          |

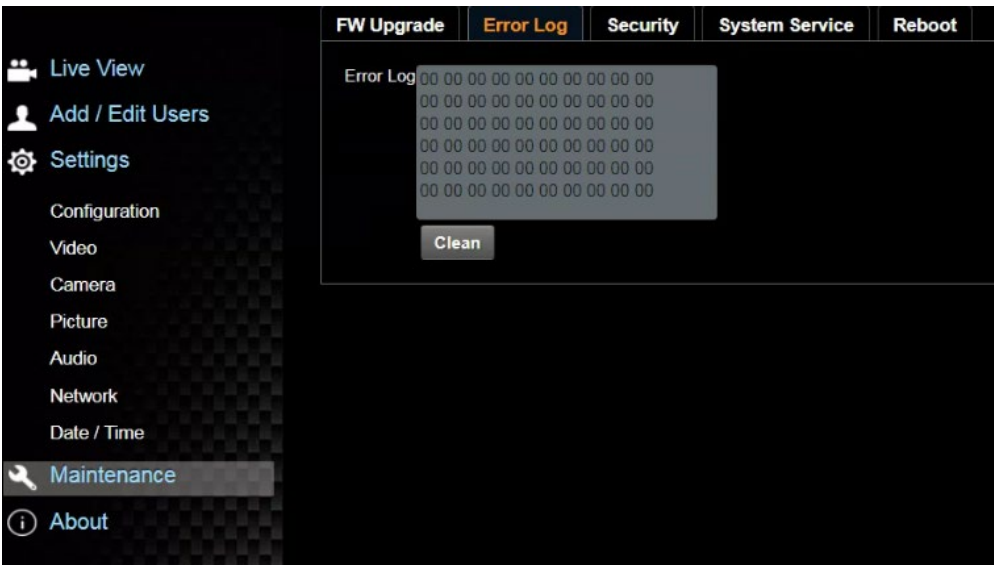
## 6.2.10 Setting - Time

| No | Item         | Function Descriptions                                                                                                                                                                                                                                                                                                                                                 |
|----|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Camera Time  | Display the date and time of the camera                                                                                                                                                                                                                                                                                                                               |
| 2  | Set the Time | <ul style="list-style-type: none"> <li>Manual Configuration Set time manually</li> <li>Synchronize with computer time: Set the camera time according to the computer time</li> <li>Synchronize with SNTP server: Set the camera time synchronously with the SNTP server</li> </ul> <p><b>&lt;Remark&gt;</b> SNTP server address: Please change in network setting</p> |

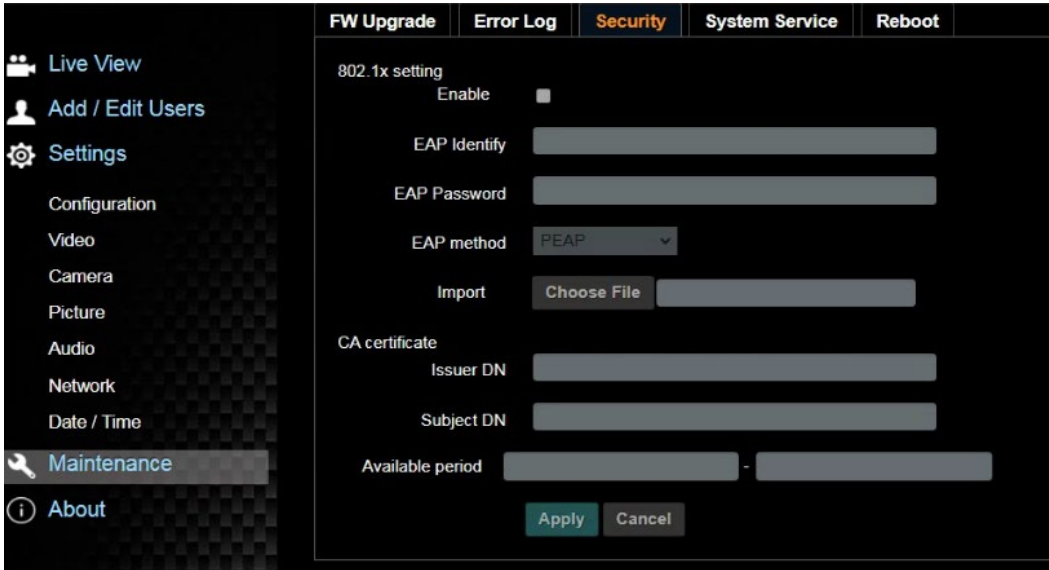
## 6.2.11 Setting - Maintenance - Upgrading Firmware

| No | Item             | Function Descriptions                                                                                                                                                                                                                                                                         |
|----|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Firmware Upgrade | <p>The camera firmware may be upgraded via web page. For the upgrade method, please download the FW upgrade manual from Lumens official website</p> <p><b>&lt;Remark&gt;</b> Please do not operate or turn off the power of the device during the update to avoid firmware update failure</p> |

## 6.2.12 Setting - Maintenance - Incident Log

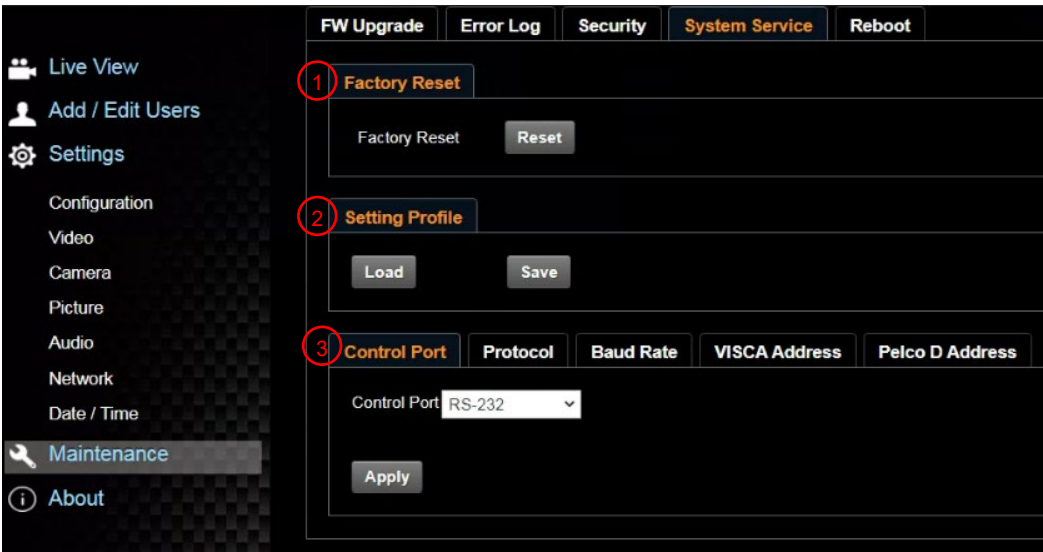
|  |           |                                                                                                                                                                                                                        |
|------------------------------------------------------------------------------------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No                                                                                 | Item      | Function Descriptions                                                                                                                                                                                                  |
| 1                                                                                  | Event Log | <p>If the camera encounters errors, an error code log will be established</p> <p><b>&lt;Remark&gt; When an error code appears, please try to clear it to make sure whether the issue has occurred repetitively</b></p> |

## 6.2.13 Setting – Maintenance - Security

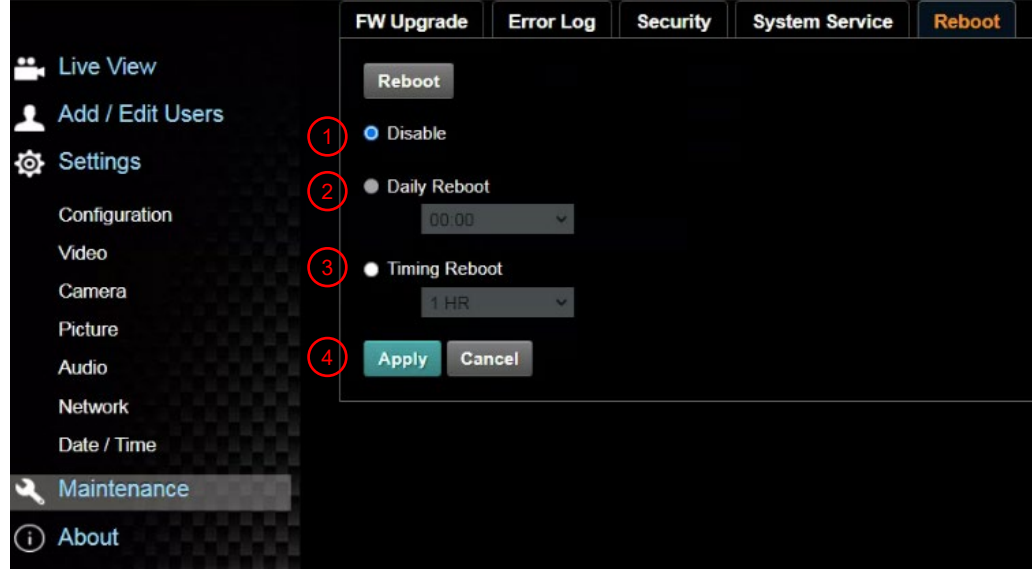
|  |                |                                                                                                                                                                                                                                                          |
|--------------------------------------------------------------------------------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No                                                                                   | Item           | Function Descriptions                                                                                                                                                                                                                                    |
| 1                                                                                    | 802.1x Setting | <p>Enable/Disable 802.1x Protocol. Setting can be made after enabling.</p> <p><b>&lt;Remark&gt; In order to enable this function, the router must support 802.1x Protocol.</b></p> <p><b>&lt;Remark&gt; VC-A71PN does not support this function.</b></p> |



## 6.2.14 Setting - Maintenance - System Service

|  |                 |                                                                                                          |
|------------------------------------------------------------------------------------|-----------------|----------------------------------------------------------------------------------------------------------|
| No                                                                                 | Item            | Function Descriptions                                                                                    |
| 1                                                                                  | Factory Reset   | Select the reset button to resume the factory default setting as the web page setting                    |
| 2                                                                                  | Setting Profile | The web page setting parameters can be exported from the computer and imported/applied to another camera |
| 3                                                                                  | Control Port    | Communication protocol related settings for connection with RS-232/RS-422 communication                  |

## 6.2.15 Setting - Maintenance - Reboot

|  |               |                                                                                                                                                        |
|--------------------------------------------------------------------------------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| No                                                                                   | Item          | Function Descriptions                                                                                                                                  |
| 1                                                                                    | Reboot        | Reboot immediately                                                                                                                                     |
| 2                                                                                    | Disable       | Disable the reboot settings                                                                                                                            |
| 3                                                                                    | Daily reboot  | Set the daily reboot time<br><b>&lt;Remark&gt;</b> Please go to <b>Settings - Time</b> to complete the SNTP server synchronization to set daily reboot |
| 4                                                                                    | Timing Reboot | Set the timing reboot time                                                                                                                             |

## 6.2.16 About

| No | Item               | Function Descriptions                                                                                                                         |
|----|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Camera ID          | Display the camera name                                                                                                                       |
| 2  | Firmware Version   | Display the firmware version of the camera                                                                                                    |
| 3  | Detail Information | Display firmware version-related information                                                                                                  |
| 4  | Serial Number      | Display the camera serial No.                                                                                                                 |
| 5  | Uptime             | Displaying the running time of the camera (the timing of standby continues; the time will be reset when the camera is rebooted or turned off) |

# Chapter 7 DIP Switch Setting

## 7.1 DIP SWITCH

### 7.1.1 OUTPUT Switch (Switch to different output resolutions)

To switch via the OSD/ RS-232 Command is also available based on the last executed action



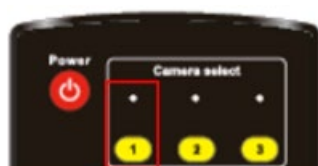
| ID | Resolution | Frame Rate |                                                                                                |
|----|------------|------------|------------------------------------------------------------------------------------------------|
| 0  | 3840x2160p | 59.94      |                                                                                                |
| 1  |            | 50         |                                                                                                |
| 2  |            | 29.97      |                                                                                                |
| 3  |            | 25         |                                                                                                |
| 4  | 1920x1080p | 59.94      |                                                                                                |
| 5  |            | 50         |                                                                                                |
| 6  |            | 29.97      |                                                                                                |
| 7  |            | 25         |                                                                                                |
| 8  | 1280x720p  | 59.94      |                                                                                                |
| 9  |            | 50         |                                                                                                |
| A  |            | 29.97      | <Remark> VC-A71PN does not support 720p 29.97/25 fps resolutions                               |
| B  |            | 25         |                                                                                                |
| C  | 1920x1080i | 59.94      | <Remark> 1080i mode only supports HDMI/SDI output. When 1080i mode is set, NDI output is 1080p |
| D  |            | 50         |                                                                                                |
| E  | Reserved   | Reserved   |                                                                                                |
| F  |            |            |                                                                                                |

### 7.1.2 IR SELECT (Selected by Remote control)

When using the remote control, please make sure the settings of IR SELECT and the Camera Select of the remote control are consistent



| ID | Setting |
|----|---------|
| 1  |         |
| 2  |         |
| 3  |         |



# Chapter 8 Troubleshooting

This chapter describes problems you may encounter while using VC-A71P/VC-A71PN. If you have questions, please refer to related chapters and follow all the suggested solutions. If the problem still occurred, please contact your distributor or the service center.

| No. | Problems                                                                     | Solutions                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----|------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.  | Boot without power signal                                                    | 1. Make sure you have plugged in the power cord.<br>2. When using a PoE connection, ensure that the power supply supports PoE+ / PoE++ hubs<br>■ VC-A71P : PoE++ (IEEE802.3bt)<br>■ VC-A71PN : PoE+ (IEEE802.3at)                                                                                                                                                                                                |
| 2.  | There is no image output from VC-A71P                                        | 1. Check the power supply or PoE supply functions.<br>2. Confirm the output signals are in streaming output.<br>3. Confirm whether the camera resolution can be used together with the monitor equipment<br>■ If 4k output, confirm the monitor equipment supports 4K output<br>4. Replace the cables and make sure they are not faulty.                                                                         |
| 3.  | RS-232 cannot be controlled                                                  | 1. Confirm the connection is correct (RS-232 In/ Out)<br>2. Please make sure the Baud rate setting is the same as the control equipment                                                                                                                                                                                                                                                                          |
| 4.  | Whether the Internet can be used for operation                               | Please refer to <a href="#">Chapter 6 Network Function Settings Description</a> for the Internet usage                                                                                                                                                                                                                                                                                                           |
| 5.  | ONVIF software cannot locate the machine                                     | Please be sure to use only English alphabets or numbers in [Setting]>[Video]> [Camera](Location) of the webpage. Using special characters and pressing the spacebar will cause the ONVIF software unable to locate the machine.<br><b>&lt;Remark&gt; For VC-A71PN, either NDI or ONVIF can be used.</b><br><b>Please go to the [Setting] &gt; [Video] &gt; [NDI HX] on the web page to check if it is [Off].</b> |
| 6.  | Tally lamp is not working when applying RS232 setting                        | Please make sure if the <b>Tally lamp</b> function is enabled from the setting menu or web page.<br>■ <b>Setting Menu: System - Tally Lamp</b><br>■ <b>Web page: Setting - Camera - Tally Lamp</b>                                                                                                                                                                                                               |
| 7.  | The camera does not save the relevant parameters (PTZ, AWB ...) after reboot | Please make sure if the <b>Initial Position</b> is set to <b>Last Operated Position</b> from the setting menu or web page<br>■ <b>Setting Menu: System - Initial Position</b><br>■ <b>Web page: Setting - Camera - Pan Tilt Zoom</b>                                                                                                                                                                             |
| 8.  | Tracking Data Output is delayed or not updated                               | Please make sure that the camera is not in the following conditions.<br>The following function settings may cause data output to be delayed or not updated:                                                                                                                                                                                                                                                      |

|  |  |                                                                                                                                                                                                                           |
|--|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  | <ul style="list-style-type: none"> <li>- Modify output resolution</li> <li>- Modify camera mode</li> <li>- Modify HDMI format</li> <li>- Enable OSD menu</li> <li>- Streaming setting</li> <li>- Audio setting</li> </ul> |
|--|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## **Supplier's Declaration of Conformity 47 CFR § 2.1077 Compliance Information**

**Manufacturer :** Lumens Digital Optics Inc.

**Product Name :** VC-A71P/ VC-A71PN

**Model Number :** 4KPTZ Video Camera

### **Responsible Party – U.S. Contact Information**

**Supplier :** Lumens Integration, Inc.

4116 Clipper Court, Fremont, CA 94538, United States

**e-mail :** support@mylumens.com

### **FCC Compliance Statement**

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, and (2) this device must accept any interference received, including interference that may cause undesired operation.