

**BC-602**  
**HD Camera**  
**(FHD Box Camera)**

**User Manual - English**



**[Important]**

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# Chapter 1 Safety Instructions

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Always follow these safety instructions when setting up and using the product:

## 1 Operation

- 1.1 Please use the product in the recommended operating environment.
- 1.2 Do not place the product in tilted position.
- 1.3 Do not place the product on an unstable trolley, stand or table.
- 1.4 Do not use the product near water or source of heat.
- 1.5 Use attachments only as recommended.
- 1.6 Use the type of power source indicated on the product. If you are not sure of the type of power available, consult your distributor or local electricity company for advice.
- 1.7 Always take the following precautions when handling the plug. Failure to do so may result in sparks or fire:
  - Ensure the plug is free of dust before inserting it into a socket.
  - Ensure that the plug is inserted into the socket securely.
- 1.8 Do not overload wall sockets, extension cords or multi-way plug boards to avoid potential risks.
- 1.9 Do not block the slots and openings in the case of the product. They provide ventilation and prevent the product from overheating.
- 1.10 Except as specifically instructed in this User Manual, do not open or remove covers, otherwise it may expose you to dangerous voltages and other hazards. Refer all servicing to licensed service personnel.
- 1.11 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 Never push objects of any kind through cabinet slots. Never allow liquid of any kind to spill into the product.
- 3.3 Unplug this product during thunderstorms or if it is not going to be used for an extended period.
- 3.4 Do not place this product or accessories on top of vibrating equipment or heated objects.

## 4 Cleaning

- 4.1 Unplug all the cables before cleaning. Use a damp cloth for cleaning. Do not use liquid or aerosol cleaners.





## 5 Remote control (if the accessories are equipped with remote control)

- 5.1 Using an incorrect battery type in the remote control may result in breakdown. Follow local instructions on how to dispose of used batteries.

## ■ Precautions

**Warning: To reduce the risk of fire or electric shock, do not expose this appliance to rain or moisture.**

If the HD camera will not be used for an extended time, unplug it from the power socket.

	<div>Caution</div> <div>Risk of Electric Shock Please do not open it by yourself</div>	
Caution: To reduce the risk of electric shock, do not remove cover (or back). No user-serviceable parts inside. Refer servicing to licensed service personnel.		
	This symbol indicates that this equipment may contain dangerous voltage which could cause electric shock.	 This symbol indicates that there are important operating and maintenance instructions in this User Manual with this unit.

### ■ FCC Warning

This HD Camera has been tested and found to comply with the limits for a Class A digital device, pursuant to Article 15-J of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a commercial installation.

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 Radiation) Warning

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

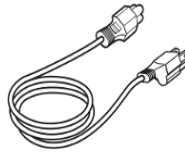
## Chapter 2 Package Contents

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BC-602

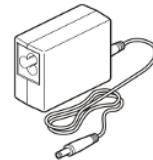


Power Cord



Appearance may vary  
depending on country/region

Power Adapter



# Chapter 3 Function Introduction

## 3.1 I/O functions Introduction



NO.	Item	Function Descriptions
1	Lens	30x HD camera lens
2	Tally indicator light	Display the tally light status of the camera
3	Network port	Network port, support routers or hubs (IEEE 802.3 af) with PoE power supply support
4	3G-SDI output	The factory setting for the output resolution is 1080P/60
5	Power indicator light	After power is on, the indicator light will display in red
6	DC 12 V power connector	AC power supply connecting port
7	RS232 output	RS232 output port, at most 7 cameras can be connected in a serial connection
8	RS232 input	RS232 input port, at most 7 cameras can be connected in a serial connection
9	HDMI output	HDMI output
10	Audio input	Support Line In/Mic In
11	Audio output	Support 3.5 mm audio input
12	Tripod screw holes	The camera is mounted on a (specification) 1/4", 20 UNC tripod deck or installed on VC-WM11 (optional)

### 3.2 Tally Indicator Light Function Description

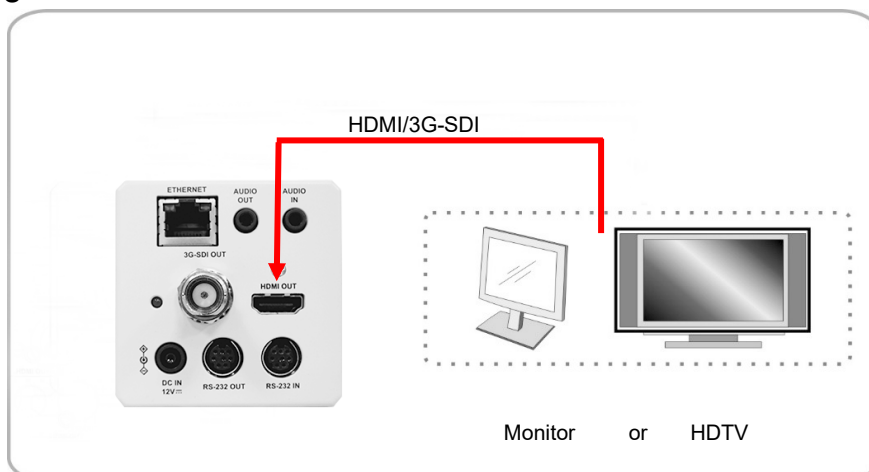
The Tally lamp function may be enabled through the RS232 command. Please refer to [RS-232 command set](#) document



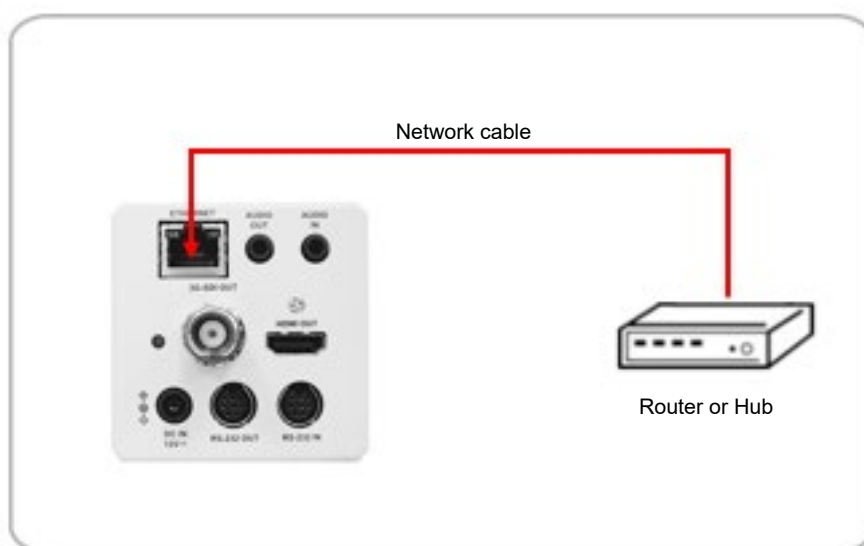


## 4.2 Connecting devices

### 4.2.1 Using HDMI/3G-SDI connect to the screen

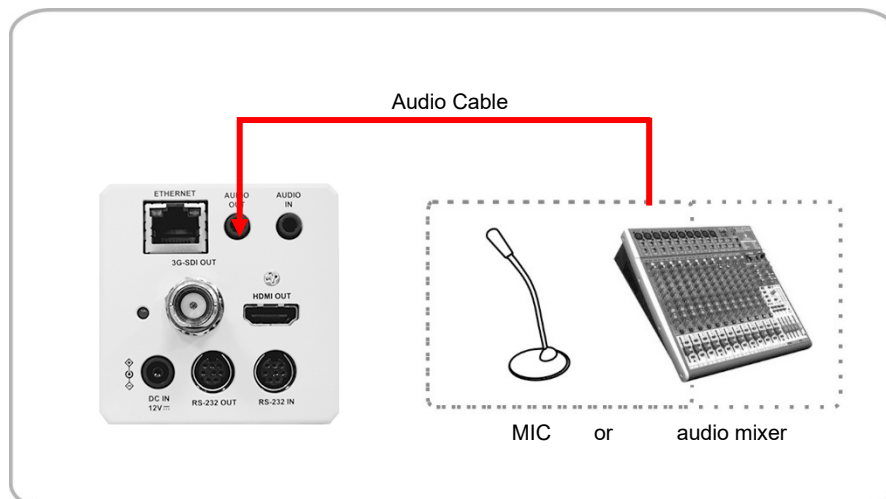


### 4.2.2 Connecting to Internet



**<Remark>** For details of web page connection setting and description, please refer to [Chapter 5 Network Function Settings Description](#).

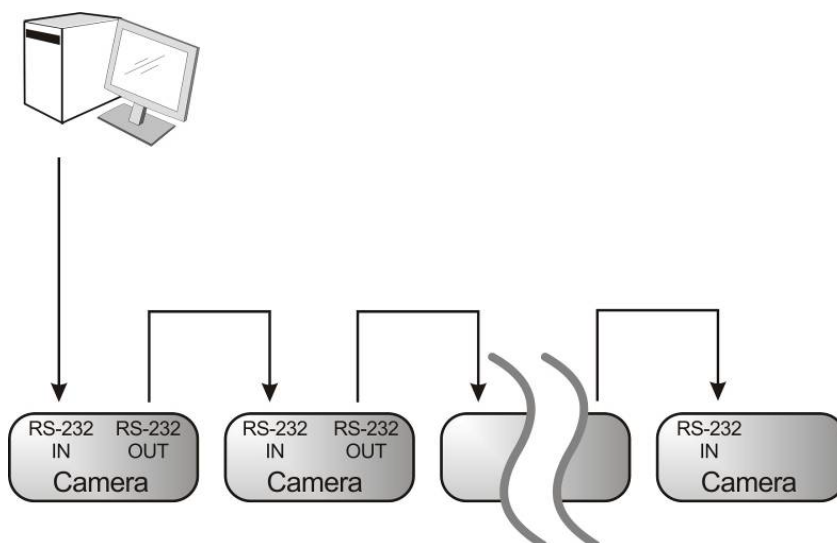
### 4.2.3 Connecting AUDIO IN



## 4.2.4 Connecting RS-232

### ■ RS-232 serial connection

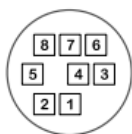
With RS-232 in/out, at most 7 Lumens cameras can be connected.



### ■ RS-232 pin definition description

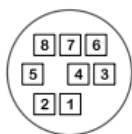
#### ▼ RS-232 IN Pins Instructions

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

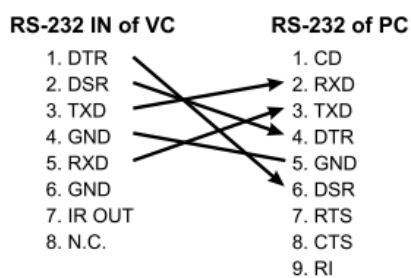


#### ▼ RS-232 OUT Pins Instructions

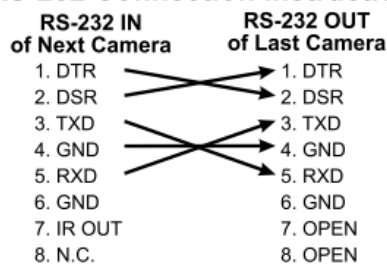
NO	Pins	Signals
1	DTR	Data Transmission Reade
2	DSR	Data Set Reade
3	TXD	Transmit Data
4	GND	Ground
5	RXD	Receive Data
6	GND	Ground
7	OPEN	Reserved
8	OPEN	Reserved



#### ▼ RS-232 Connection Instructions



#### ▼ RS-232 Connection Instructions



# Chapter 5 Network Function Settings Description

## 5.1 Web System Requirements

### 5.1.1 Web Browser:

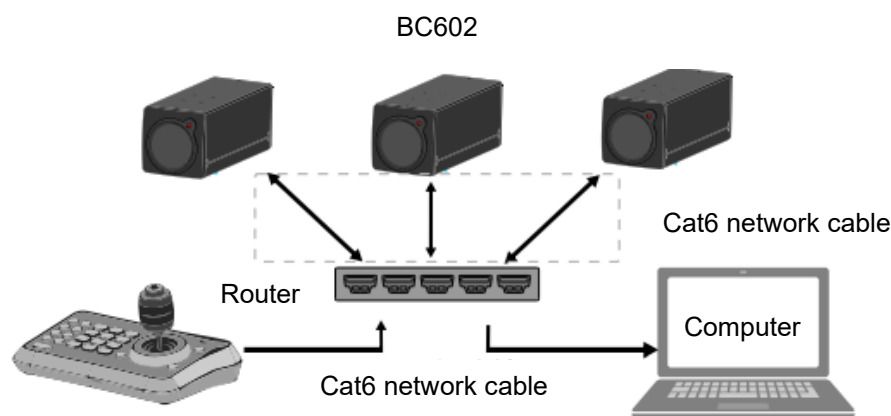
- Internet Explorer 11 or above
- FireFox 66.0.3 or above
- Chrome 73 or above
- Edge 42.17134 or above
- Safari 12.1 or above

## 5.2 Connecting Camera to Network

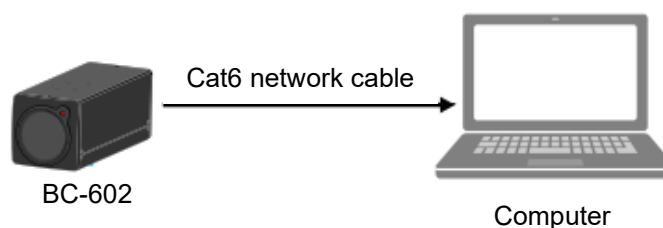
### 5.2.1 Connecting to Internet

Two common connection methods are shown below

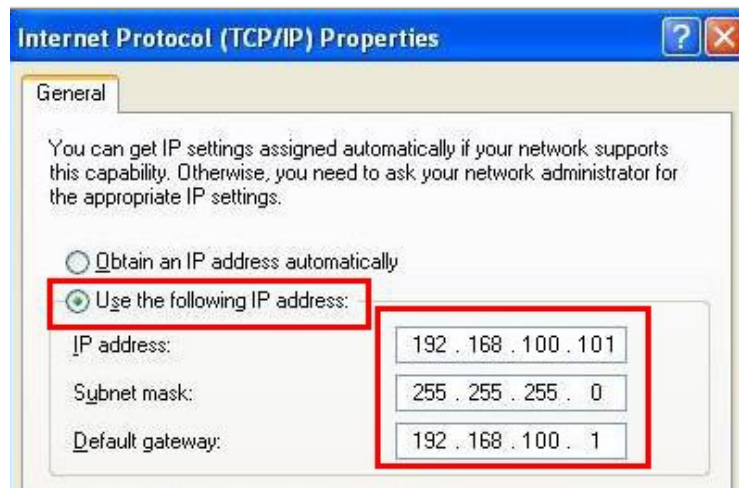
1. Connecting via switch or router



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 BC602 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
- Connection diagram

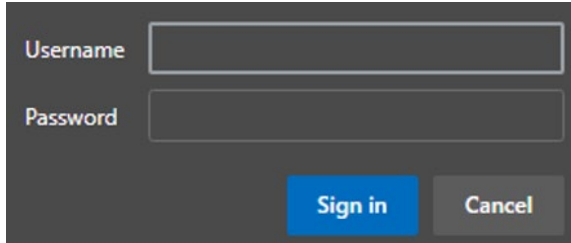


- Change network settings



## 5.2.2 Using the Browser to View the Images

- Open the browser, and enter the URL of BC-602 in the IP address bar  
e.g.: <http://192.168.100.100> (default IP address)
- Enter administrator's account and password  
Account: admin (Default)  
Password: 9999 (Default)

A login form with a dark gray background. It contains two input fields: 'Username' and 'Password'. Below the 'Password' field are two buttons: 'Sign in' (blue) and 'Cancel' (gray).

## 5.2.3 Using RTSP Player to View the Images

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

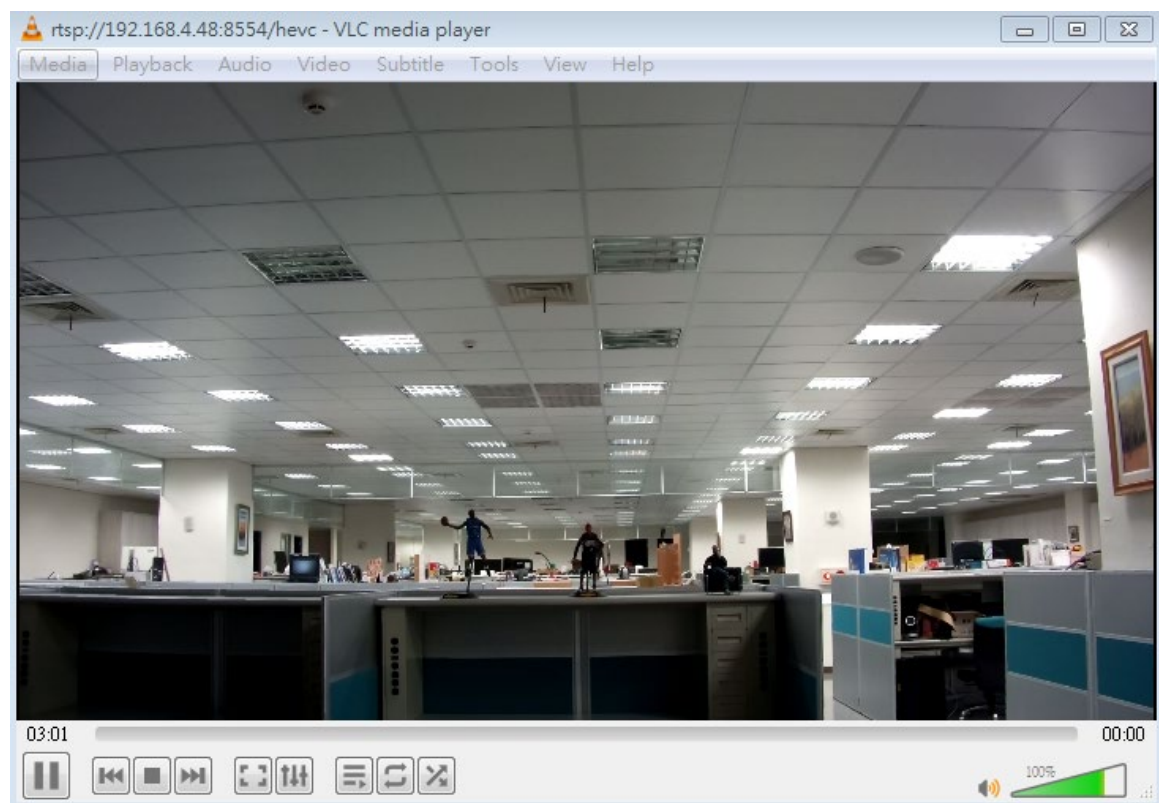
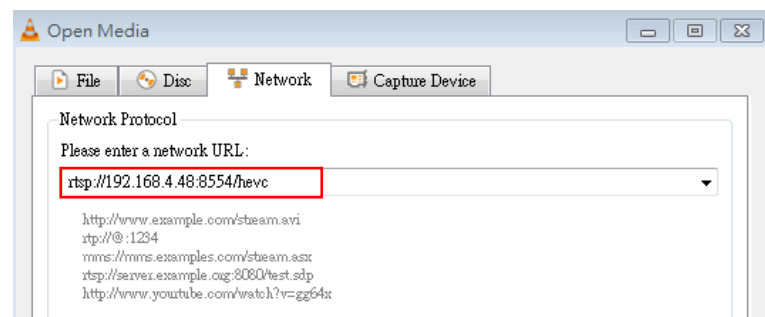
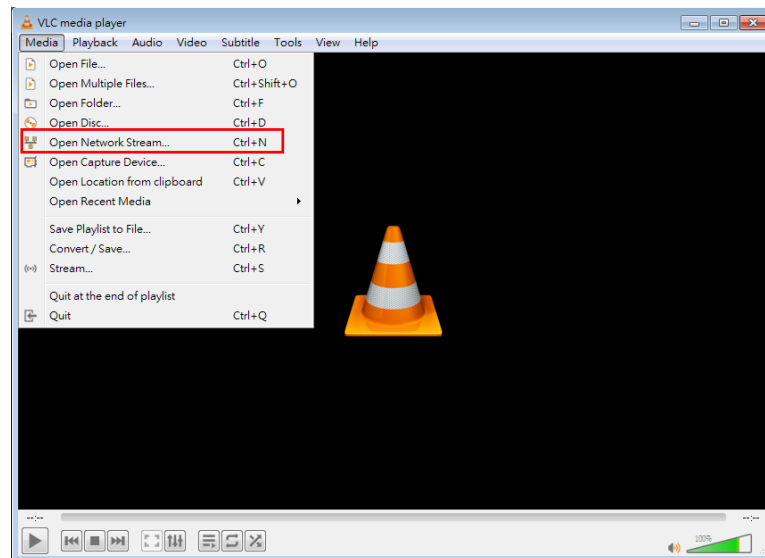
RTSP connection address formats are as follows:

- RTSP Main Streaming (1080P@H.265) => <rtsp://camera IP:8554/hevc>
- RTSP Sub1 Streaming (1080P@H.264) => <rtsp://camera IP:8557/h264>
- RTSP Sub2 Streaming (720P@H.264) => <rtsp://camera IP:8556/h264>

If password authentication is enabled, the RTSP connection address is as follows:

- [RTSP Main Streaming](#)  
<rtsp://Username:Password@VC IP address:port/hevc>
- RTSP Sub1/ Sub2 Streaming  
<rtsp://Username:Password@VC IP address:port/h264>
- To enable password authentication function, please refer to [5.3.9 Setting-Network](#)

Example: Open VLC software and enter URL: <rtsp://192.168.4.48:8557/h264>



# 5.3Web Page Function Description

## 5.3.1 Login Screen

1

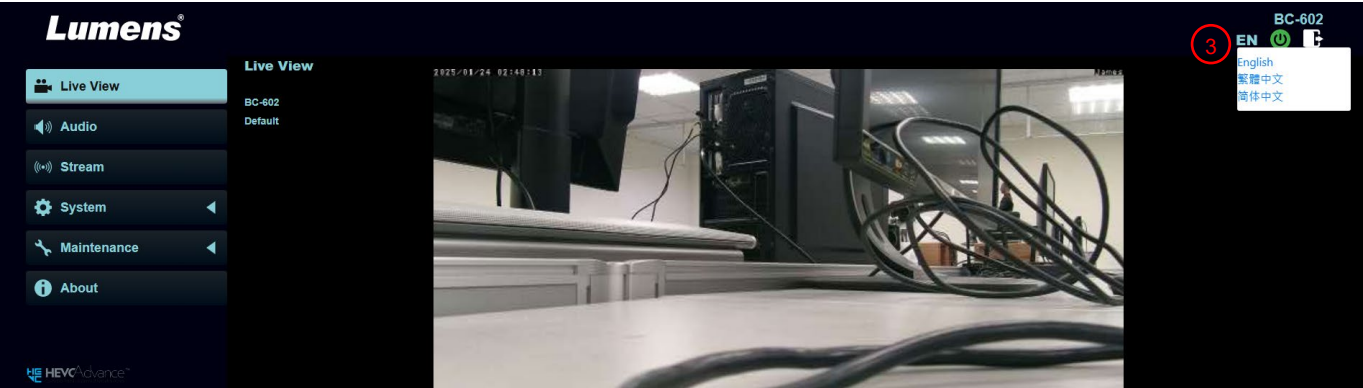
Username

2

Password

Sign in

Cancel

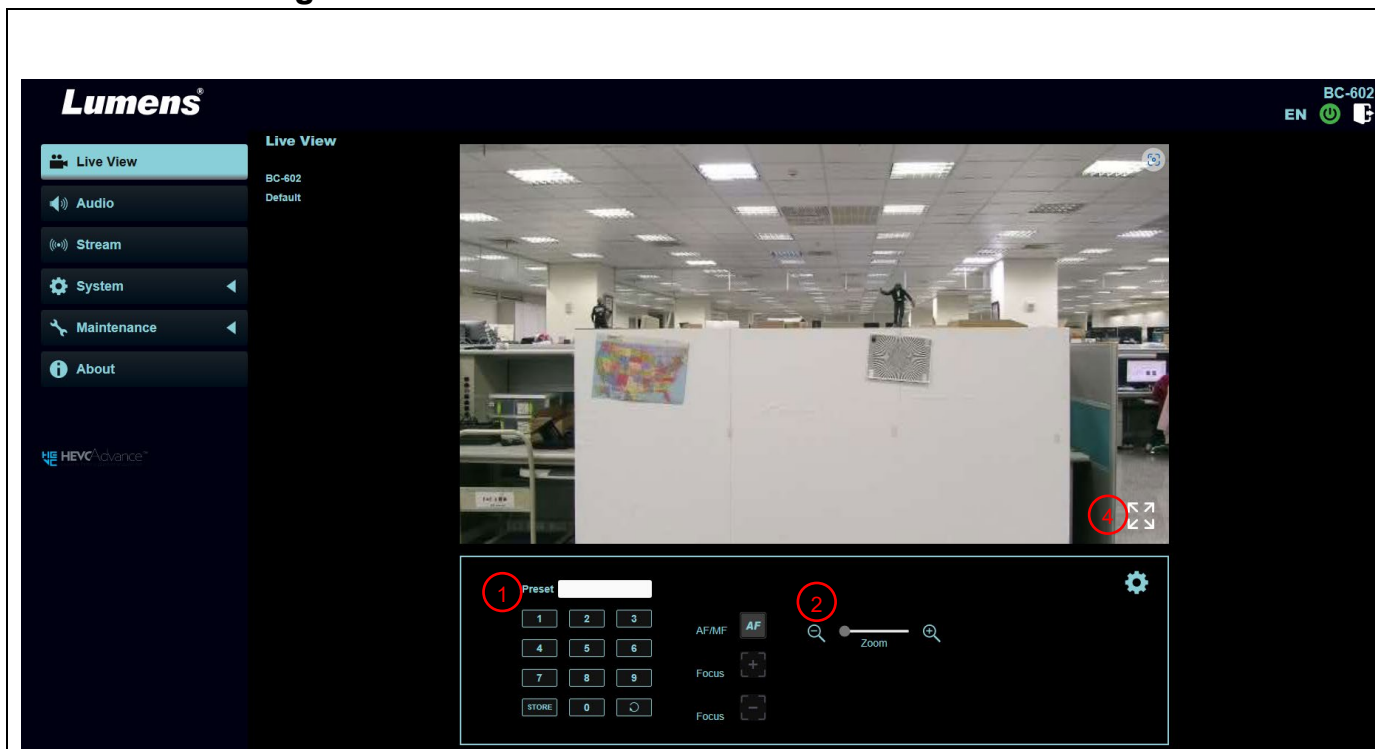


Enter the IP address on the URL column in webpage then log in.

No	Item	Function Descriptions
1	Username	Enter user account (default: admin)
2	Password	Enter user password (default: 9999)
3	Language selection	After entering the webpage, you can select the desired language: English, Traditional Chinese or Simplified Chinese

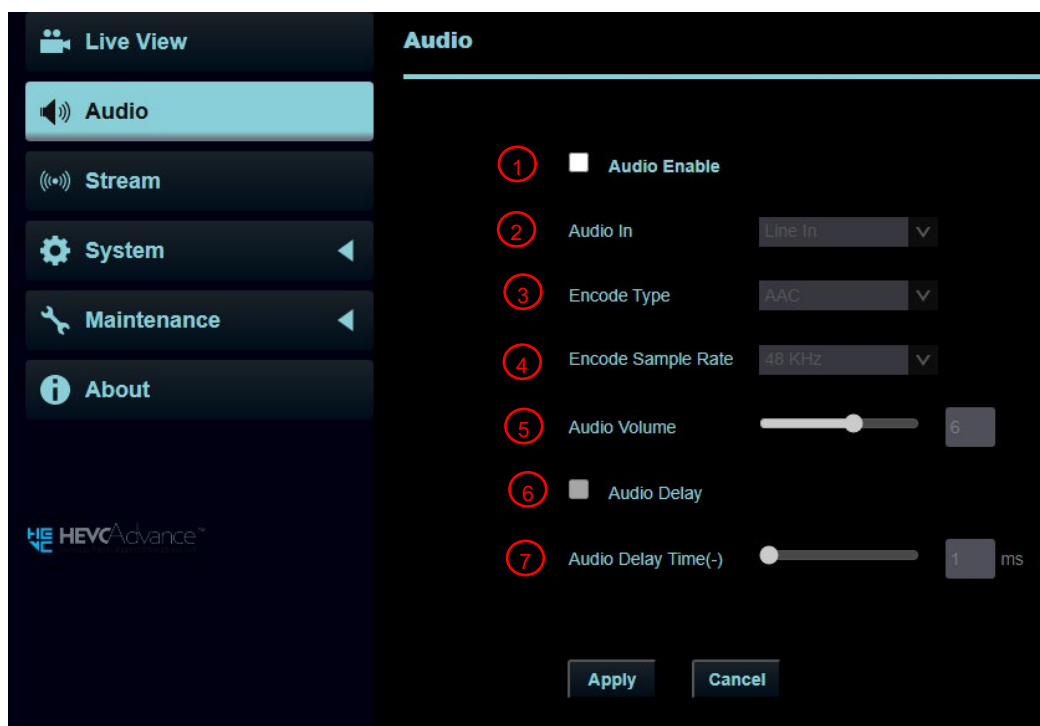


## 5.3.2 Viewing In Real Time



No	Item	Function Descriptions
1	Preset setting	Select the number first, then press the 'Store' button to save or the 'Enter' button to trigger.
2	Zoom ratio	Adjust the zoom-in or zoom-out ratio via scroll bar
3	Preview window	Display the screen currently captured by the camera
4	Switch to Full Screen	Switch the preview window to full screen
5	Power button	Turn on or turn off the camera power

### 5.3.3 Audio



No	Item	Function Descriptions
1	Audio Enable	Turn on/off sound
2	Audio In Type	Set MIC In/Line In
3	Encode Type	AAC / G.711
4	Encode sample rate	Set Encode sample rate ➤ 48 KHz (AAC) ➤ 44.1 KHz (AAC) ➤ 16 KHz (G.711) ➤ 8 KHz (G.711)
5	Audio Volume	Adjust Volume
6	Audio Delay	Enable / disable Audio Delay
7	Audio Delay Time	Set the audio signal delay time (-1 ~ -500 ms)

## 5.3.4 Stream

**Stream**

1 Stream Type: RTSP

☐ Enable Multicast

☐ Require Password Authentication

2 ☒ Stream1

Codec: H.265, Resolution: 1080P, Frame Rate: 29.94, Bit Rate: 7000 kbps, Rate Control: CBR, IP Ratio: 30

☒ Stream2

Codec: H.264, Resolution: 1080P, Frame Rate: 59.94, Bit Rate: 7000 kbps, Rate Control: CBR, IP Ratio: 30

☒ Stream3

Codec: H.264, Resolution: 640x360, Frame Rate: 29.94, Bit Rate: 1000 kbps, Rate Control: CBR, IP Ratio: 15

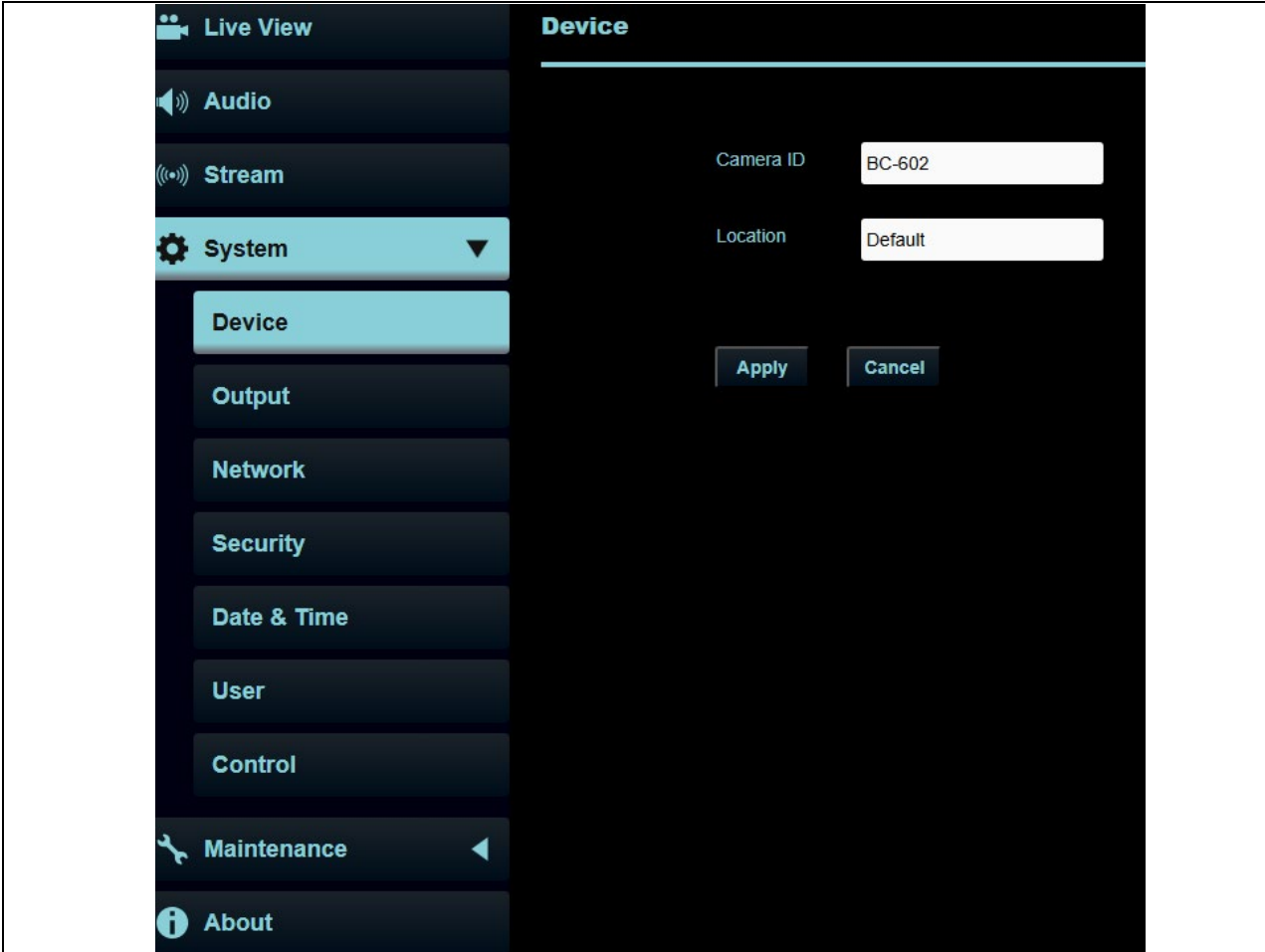
No	Item	Function Descriptions
1	Stream Type	<p><b>1. RTSP</b> Enable/Disable Multicast. It is suggested to enable Multicast when the number of users online watching the live image simultaneously is more than 4</p> <p><b>2. MPEG-TS</b> Port must be set in the range above 1024 with a maximum value of 9999  The following port has been used by the camera. Setting of the port may not connect correctly. 8554, 8556, 8557, 8080, 9090, 1935</p> <p><b>3. SRT</b>  Set the field of SRT and then check the item to open STR streaming After the SRT streaming is opened, it will be connected automatically upon startup  The port number must be set in the range above 1024 with a maximum value of 9999  The following port has been used by the camera. Setting of the port may not connect correctly. 8554, 8556, 8557, 8080, 9090, 1935  Delay time is for 20 to 8000 microseconds. The default value is 120 microseconds</p> <p><b>4. SNTP/ Port</b></p> <ul style="list-style-type: none"> <li>■ SNTP Setting: Set SNTP Server IP</li> <li>■ Port Setting: Set HTTP and HTTPS ports. The default values are Port 80 and Port 81 respectively</li> </ul>

		<b>&lt;Remark&gt;</b> Change of setting is available only when DHCP function of camera is closed
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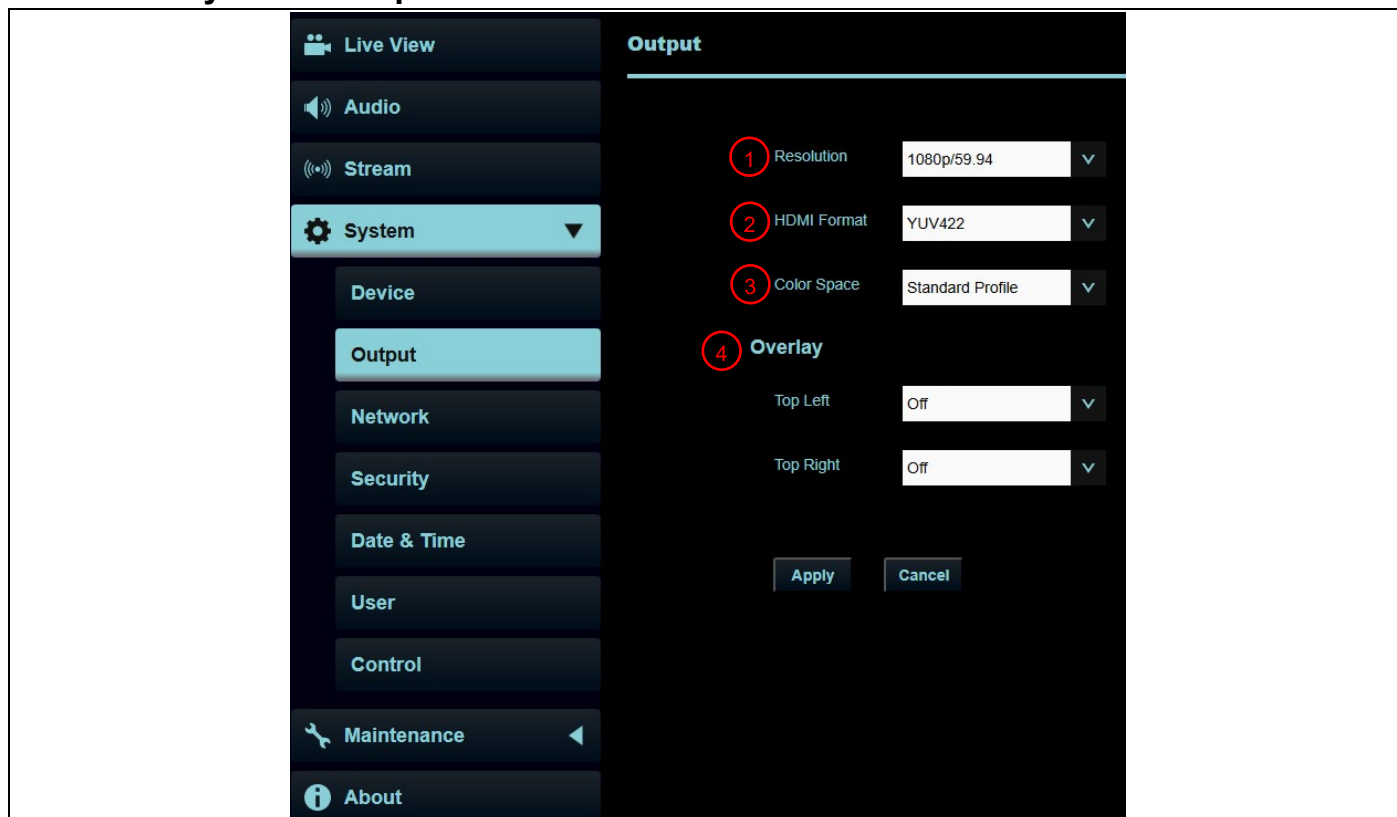
## 2. Streaming parameter setting

Function		Streaming 1	Streaming 2	Streaming 3
Encode Format		H.265	H.264	
Resolution		1080P/720P		640 x 360
Frame Rate		Setting according to the supported resolution		
Bit Rate (kbps)	Range	2,000 ~ 20,000	2,000 ~ 20,000	512 ~ 5,000
	Factory Default	7,000	7,000	1,000
Rate Control		CBR/VBR		
IP Ratio		Setting according to the supported resolution		

### 5.3.5 System - Device

		
No	Item	Function Descriptions
1	Camera ID	Modify the camera name <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>
2	Camera Location	Modify the location of the camera, such as Meeting Room 1 <ul style="list-style-type: none"> <li>■ Camera location is limited to 1 - 12 characters</li> <li>■ Please use a camera location by mixing uppercase and lowercase letters or numbers. Do not use "/" and "space" or special symbols</li> </ul>

### 5.3.6 System - Output



No	Item	Function Descriptions
1	Resolution	Set the resolution of the camera, resolutions supported by the camera are as follows: ➤ 1080p / 60, 59.94, 50, 30, 29.97, 25 ➤ 1080i / 59.94, 50 ➤ 720p / 60, 59.94, 50, 30, 29.97, 25 After switching the resolution, the camera will restart. If there are no images on the website, please refresh the browser
2	HDMI Format	YUV422 / RGB
3	Color Space	Standard Profile / REC.709 / BT.2020
4	Overlay	The information displayed on the live view image and the monitor can be customized. The display position can be set to the left side, right side, or both  1. Date and Time: Displays the current date and time. 2. Text: Allows you to enter customized text as desired

### 5.3.7 System - Network

The screenshot shows the 'Network' settings page. On the left is a sidebar with menu items: Live View, Audio, Stream, System (selected), Device, Output, Network, Security, Date & Time, and User. The main area is titled 'Network' and contains the following settings:

Setting	Value
DHCP	<input checked="" type="checkbox"/>
IP Address	192.168.4.88
Netmask	255.255.255.0
Gateway	192.168.4.254
DNS	192.168.1.211
MAC Address	dc:e2:ac:00:58:87
HTTP Port	80
HTTPS Port	81

#### Function Description

Network setting of camera. Change of setting is available only when DHCP function is closed.

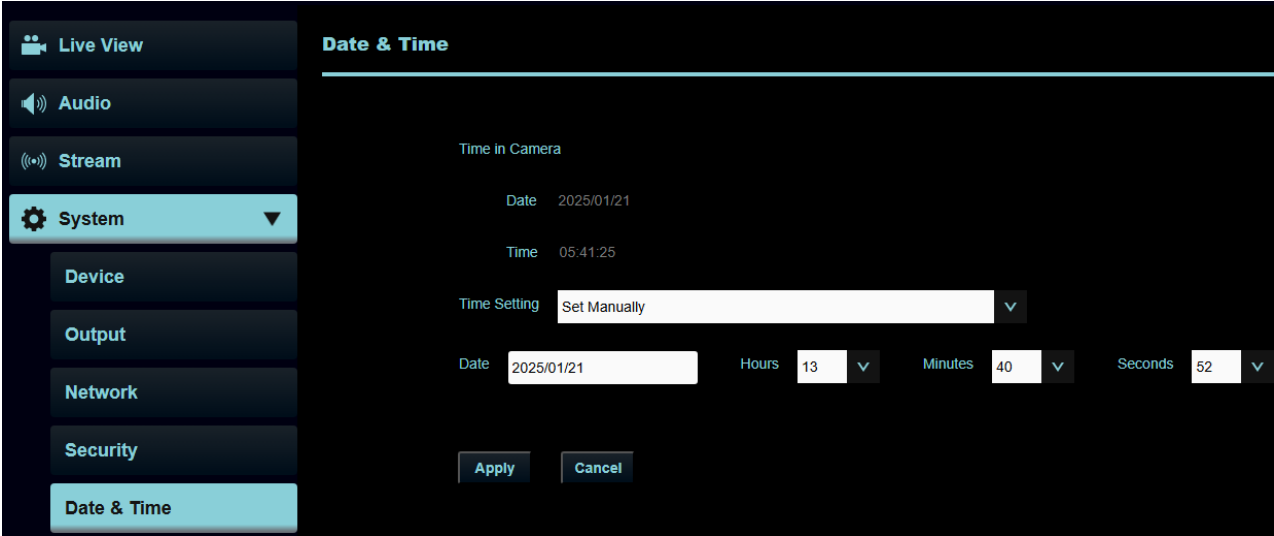
### 5.3.8 System - Security

The screenshot shows the 'Security' settings page. On the left is a sidebar with menu items: Live View, Audio, Stream, System (selected), Device, Output, Network, Security (selected), Date & Time, User, Control, Maintenance, and About. The main area is titled 'Security' and contains the following settings:

Setting	Value
802.1x Setting	
Enable	<input type="checkbox"/>
EAP Identity	
EAP Password	
EAP Method	PEAP
Import	<input type="text"/> <input type="button" value="Choose File"/>
CA Certificate	
Issuer DN	
Subject DN	
Available Period	<input type="text"/> - <input type="text"/>

Function Description
<p>Enable/disable 802.1x protocol, and configure settings when enabled.</p> <p>&lt;Remark&gt; The router must support 802.1x protocol to enable this feature</p>

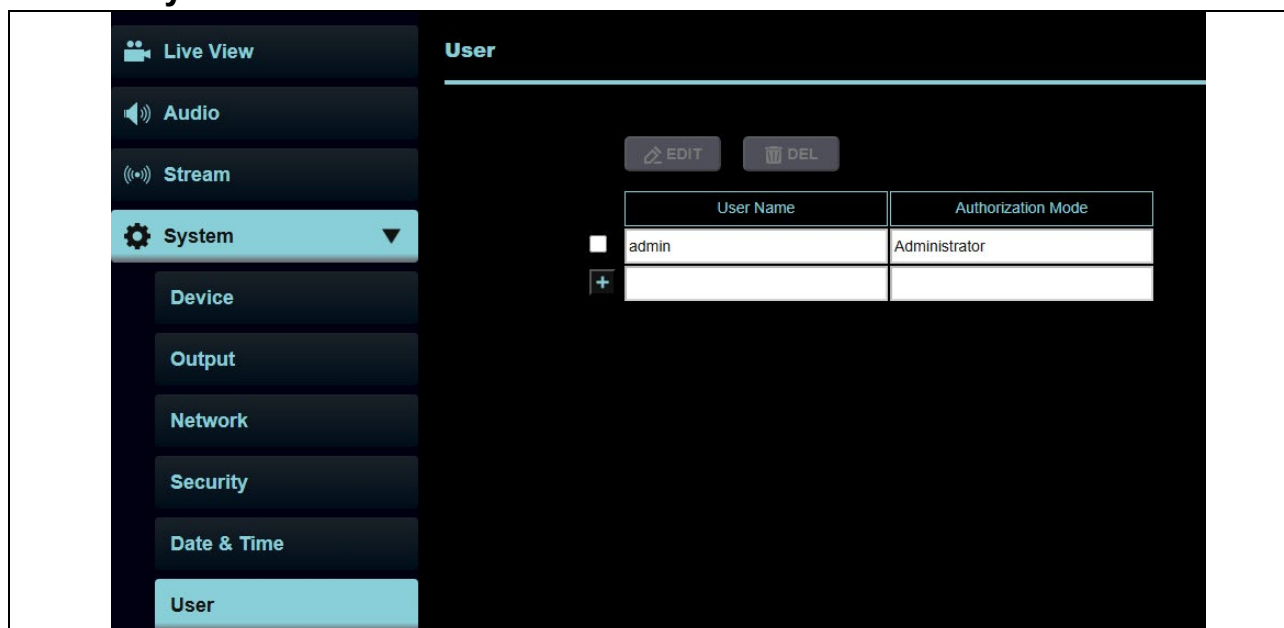
### 5.3.9 System – Date & Time



Function Description
<p>Display date and time of the current camera/ PC. You may set the synchronization method and modify date and time</p>



### 5.3.10 System - User



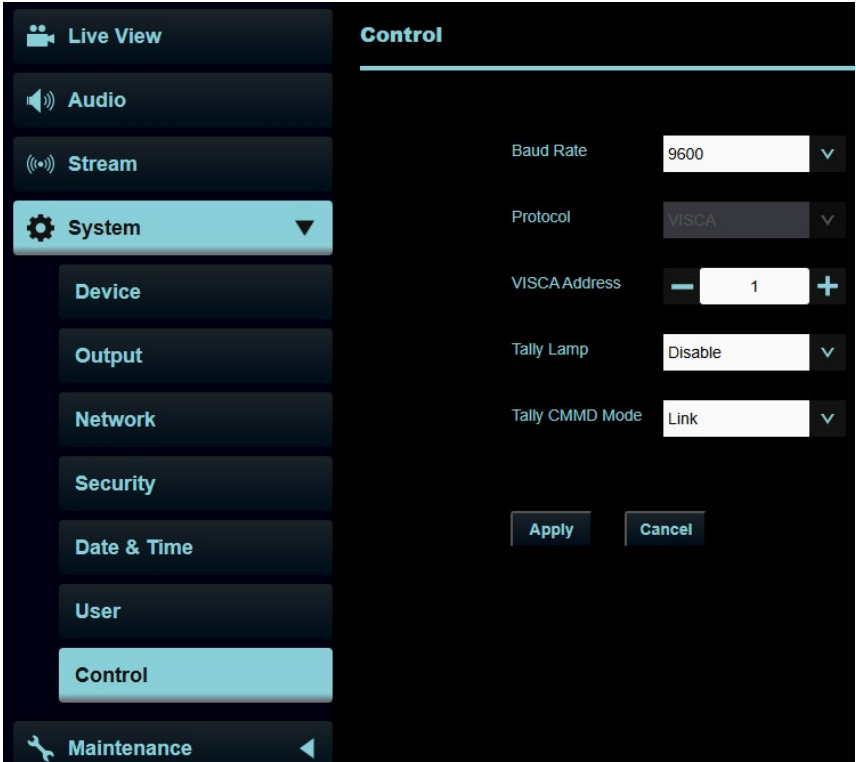
#### Function Descriptions

Add/ Modify/ Delete user account

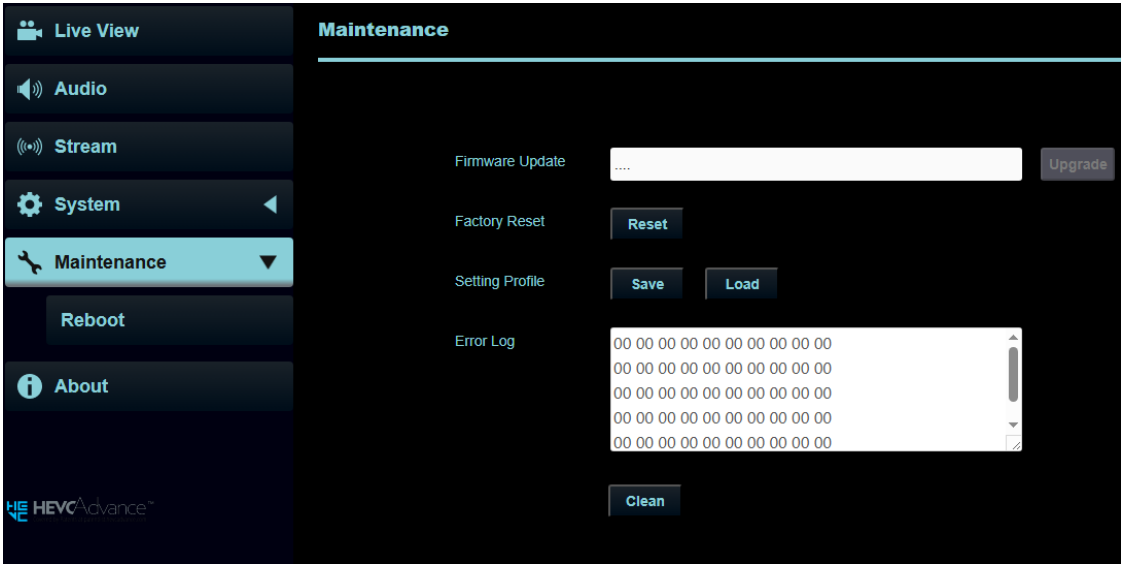
1. Supporting 4 ~ 32 characters for user name and password
2. Authentication Mode: Set the new account management permissions

User Type	Admin	Operator	Viewer
View images	Y	Y	Y
Settings	Y	Y	N
Account management	Y	N	N

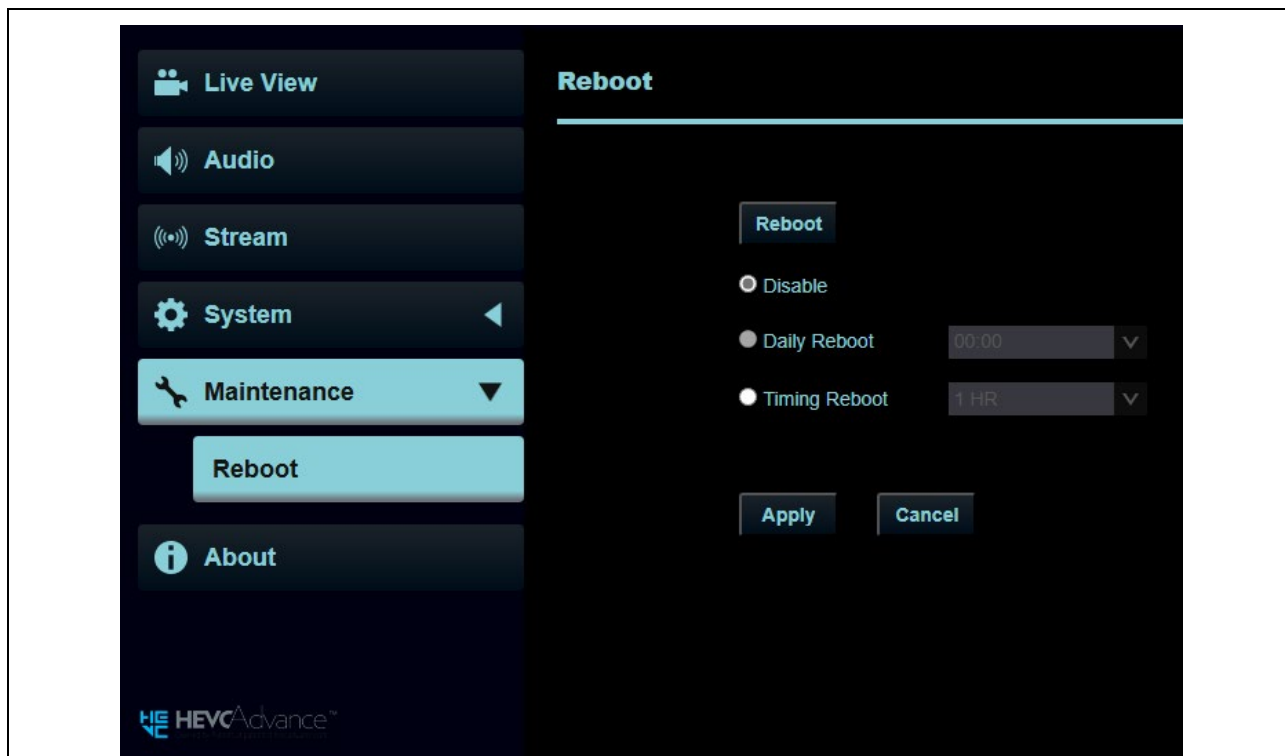
### 5.3.11 System - Control

		
No	Item	Function Descriptions
1	Baud Rate	Choose the transmission speed of the control signal as 9600/38400
2	Protocol	VISCA
3	VISCA Address	The camera ID address 0 ~ 7 can be assigned.
4	Tally Lamp	Enable / Disable
5	Tally CMD Mode	<p>Set whether the indicator light is linked with RS232 command</p> <p>1. Normal (Not linked): The indicator light switch and mode shall be set separately.</p> <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 the indicator light mode when the indicator light is off will not trigger the indicator light</li> </ul> <p>2. Link:</p> <ul style="list-style-type: none"> <li>- When the indicator light is on, the default mode is red light</li> <li>- Setting the indicator light mode when the indicator light is off will turn on the indicator light</li> </ul>

### 5.3.12 Maintenance


		
No	Item	Function Descriptions
1.	Firmware Update	Click [....] to select the firmware file, and click [Upgrade] to update the firmware. <Remark>Update takes about 2 - 3 minutes. <Remark>Please do not operate or turn off the power of the device during the update to avoid firmware update failure.
2	Factory Reset	Restore the factory default setting
3	Setting Profile	Save or load the setting profile
4	Event log	If the camera encounters errors, error codes will be displayed here as a record.

### 5.3.13 Maintenance - Reboot



No	Item	Function Descriptions
1	Reboot	Reboot immediately
2	Disable	Disable the reboot settings
3	Daily Reboot	Set the daily reboot time <Remark> 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

5.3.14 About

	
Function Descriptions	
Display the camera's product information, such as the firmware version, serial number, and model name.	

## Chapter 6 Troubleshooting

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This chapter describes problems you may encounter while using BC-602. 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.	<b>Boot without power signal</b>	1. Make sure you have plugged in the power cord. 2. When using a PoE connection, ensure that the power supply supports IEEE 802.3af hubs
2.	<b>There is no image output from BC-602</b>	1. Check the power supply or PoE supply functions. 2. Make sure the display supports the output resolution; in general, the resolution is 1080p60/720p60. 3. Replace the cables and make sure they are not faulty.
3.	<b>RS-232 cannot be controlled</b>	1. Confirm the connection is correct (RS-232 Input/Output) 2. Please make sure the Baud rate setting is the same as the control equipment
4.	<b>The ONVIF software cannot find the machine</b>	Please go to <b>Setting - Video - Camera Location</b> in the webpage and make sure that the ID is only made up of English letters or numbers. The Onvif software cannot find the machine if you use special characters and space.
5.	<b>Tally lamp is not working when applying RS232 setting</b>	Please go to <b>Setting - Camera - Tally Lamp</b> in the webpage to check if the function is on.