VC-BC701P Ultra HD Camera (4K UHD Box Camera)

User Manual - English



Version VCAX105

[Important]

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

http://www.MyLumens.com/support

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Chapter 1 Safety Instructions

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 this 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 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.





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 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 numerique respecte les limites de bruits radioelectriques applicables aux appareils numeriques de Classe A prescrites dans la norme sur le material brouilleur: "Appareils Numeriques," NMB-003 edictee par l'Industrie.

■ EN55032 (CE Radiation) Warning

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



Chapter 2 Package Contents

VC-BC701P

Power Cord

Power Adapter



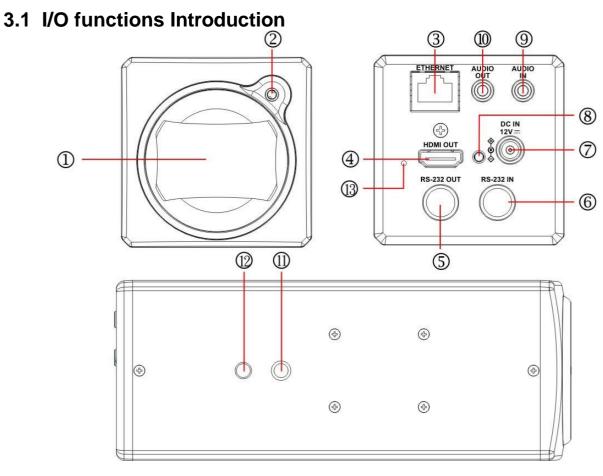


Appearance may vary depending on country/region





Chapter 3 Function 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.	HDMI output	The factory output resolution is 4K/30. Please make sure that the connected display device supports 4K resolution
5.	RS232 output	RS232 output port. At most 7 cameras can be connected in a serial connection
6.	RS232 input	RS232 input port. At most 7 cameras can be connected in a serial connection
7.	DC 12 V power connector	AC power supply connecting port
8.	Power indicator light	After power is on, the indicator light will display in red
9.	Audio input	Support Line In / Mic In
10.	Audio output	Support 3.5 mm audio input
11.	Tripod screw holes	The camera is mounted on a (specification) 1/4", 20 UNC tripod deck or installed on VC-WM11 (optional)
12	Locating holes	Ø5; depth 2 mm
13	Reset button	Hold the button to reset the camera settings

3.2 Tally Indicator Light Function Description

3.2.1 The Tally light function may be enabled through the control of RS232 command. Please refer to VC-BC701P RS-232 command set document



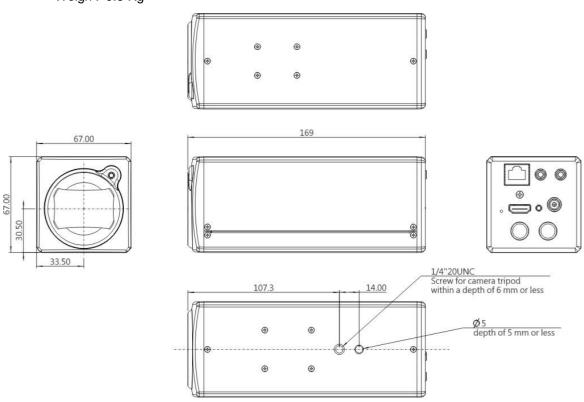
Chapter 4. Instruction for installation

4.1 Basic Devices

4.1.1 VC-BC701P size

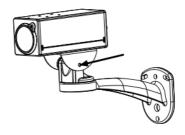
Length x Width x Height: 169 x 67.0 x 67.0 mm

Weigh: 0.5 Kg



4.1.2 Installation method

4.1.2.1 Wall-mounted frame: The camera is installed on the wall, using Lumens VC-WM11 (optional) wall-mounted frame



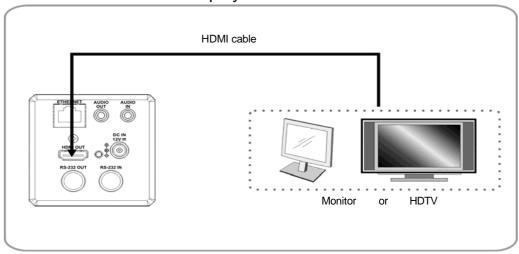
4.1.2.2 Tripod: The camera is mounted on a 1/4", 20 UNC PTZ tripod deck



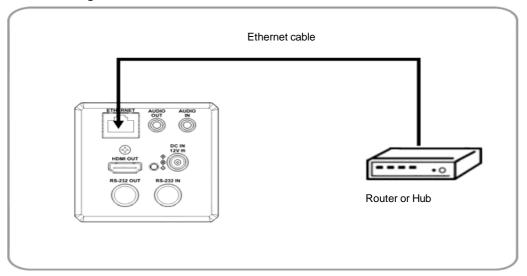


4.2 Connecting devices

4.2.1 HDMI connection to TV/display screen

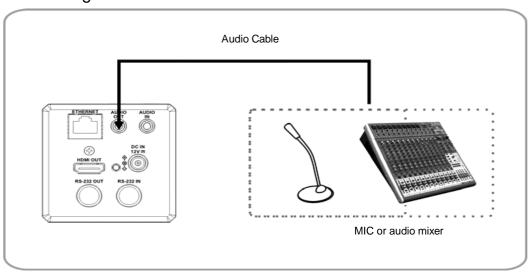


4.2.2 Connecting to Internet



Remark> For details of web page connection setting and description, please refer to <u>Chapter 5 Network Function Settings Description</u>.

4.2.3 Connecting AUDIO IN



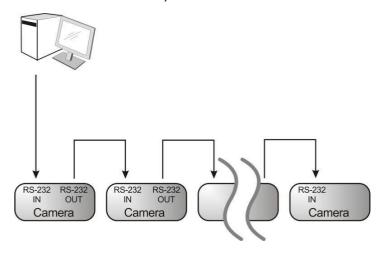


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4.2.4 Connecting RS-232

■ RS-232 serial connection

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



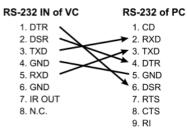
■ RS-232 pin definition description

▼ RS-232 IN Pins Instructions

876 5 43 21	

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 Connection Instructions

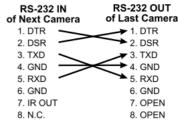


▼ RS-232 OUT Pins Instructions

876 5 43 21

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
	1 2 3 4 5 6 7	1 DTR 2 DSR 3 TXD 4 GND 5 RXD 6 GND 7 OPEN

▼ RS-232 Connection Instructions





Chapter 5. Network Function Settings Description

5.1 Web System Requirements

5.1.1 Web Browser:

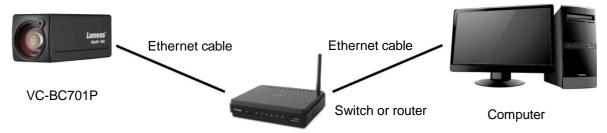
- Internet Explorer 11 or above
- FireFox 66.0.3 or above
- Chrome 73 or above
- Edge 42.17134 or above
- Safari 12.1 or above

5.2 Connecting Camera to Network

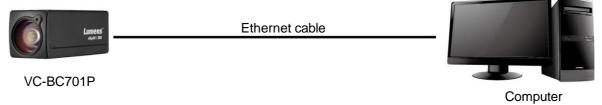
5.2.1 Connecting to Internet

Two common connection methods are shown below

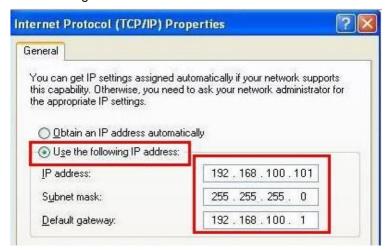
1. Connecting via switch or router



- 2. If the camera is connected to the computer directly, the computer IP address must be modified to have the same network segment as the camera For example, the factory-preset default IP address of VC-BC701P is 192.168.100.100. The computer IP address must be set with the same subnet, such as 192.168.100.101, so that the computer can be connected correctly with the camera
 - Connection diagram



Change network settings



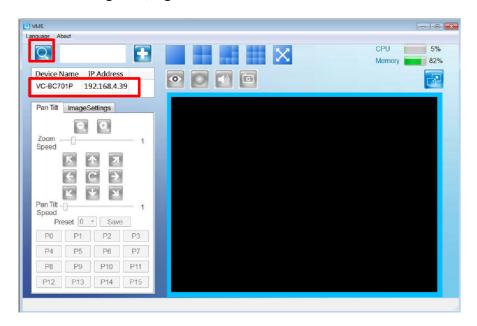


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5.2.2 Using Lumens VMS Software to View the Images

- The VC-BC701P DHCP initial setting is ON. If VC-BC701P is connected to the local area network (LAN), the camera IP can be retrieved via the following methods
- Install Lumens VMS software (Please download from the Lumens official website, http://www.mylumens.com/support)
 - Open *LUMENS VMS* software
 - Search for the camera: Press [automatically search for the device] button to locate the VC-BC701P camera
 - Click VC-BC701P in the list and start operation after connecting to network

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



5.2.3 Using the Browser to View the Images

- Open the browser, and enter the URL of VC-BC701P 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)

Remark> For a first-time login, please refer to <u>5.3.3 Account Management</u> to change the default password





5.2.4 Using RTSP Player to View the Images

Besides the browser and VMS, other free software also can be used for RTSP connection, such

as VLC \ Quick Time \ PotPlayer and other free software

RTSP connection address formats are as follows:

- RTSP Stream 1 => rtsp://camera IP:8554/hevc
- RTSP Stream 2 => rtsp://camera IP:8557/h264
- RTSP Stream 3=> rtsp://camera IP:8556/h264

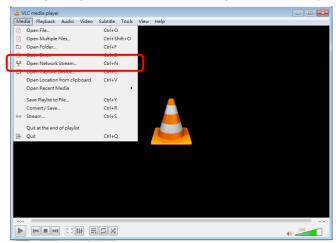
If password authentication is enabled, the RTSP connection address is as follows:

RTSP Stream 1

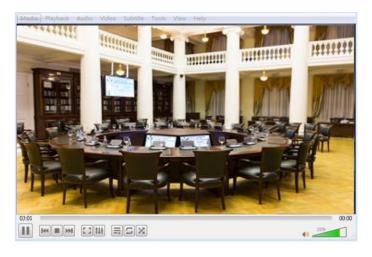
rtsp://Username:Password@VC IP address:port/hevc

RTSP Sub1/ Sub2 Streaming
 rtsp://Username:Password@VC IP address:port/h264

• To enable password authentication function, please refer to <u>5.3.9 Setting-Network</u> Example: Open VLC software and input the URL: https://192.168.100.150:8557/h264









5.3 Web Page Function Description

5.3.1 Login Screen



No	Item	Function Descriptions	
1	Username	Enter user account name (default: admin)	
2	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	



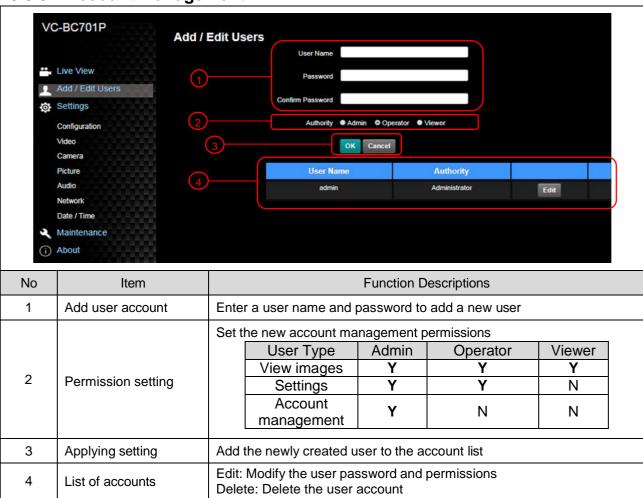
5.3.2 Viewing In Real Time



No	Item	Function Descriptions	
1	Preset setting	Select the number first and then select SAVE or LOAD	
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	

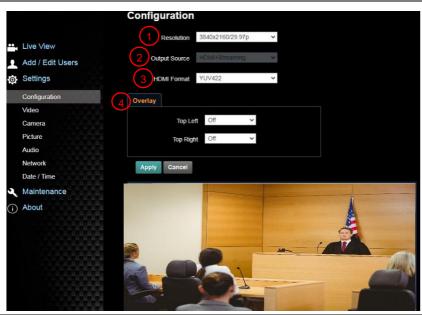


5.3.3 Account Management





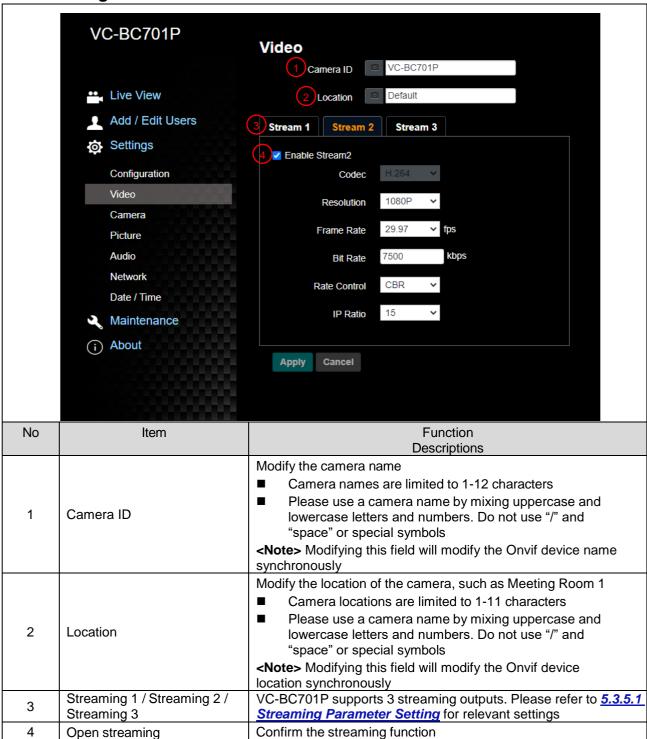
5.3.4 Setting-System Setting



No	Item	Function Descriptions		
		Set the resolution of the camera. Resolutions supported by the camera are		
		as follows:		
		3840x2160P 60/ 59.94/ 50/ 30/ 29.97/	/ 25 fps	
	Danalutian	1080P 60/ 59.94/ 50/ 30/ 29.97/ 25 fp	s	
1	Resolution	720P 60/ 59.94/ 50/ 30/ 29.97/ 25 fps		
		1080i 60/ 59.94/ 50 fps		
		After switching to the resolution, the c	amera will restart. Please refresh the	
		browser		
		According to the output resolution, selections are available for HDMI output, streaming output, or HDMI + streaming output. For output signals supported by different resolution, please refer to the following table:		
	Output signal	Resolution	Available output modes	
		3840x2160 60/ 59.94/ 50	HDMI or streaming single output	
2		3840x2160 30/ 29.97/ 25		
		1080p 60/ 59.94/ 50/ 30/ 29.97/ 25	Simultaneous HDMI and streaming outputs	
		720p 60/ 59.94/ 50/ 30/ 29.97/ 25	- Streaming outputs	
		1080i 60/ 59.94/ 50		
3	HDMI Format	Select YUV422, YUV420 or RGB <remark>YUV420 is only available for these two resolutions, 3840x2160/ 59.94p and 3840x2160/ 50p and remains in display mode for all other resolutions</remark>		
4	Overlay	Set the stream to display "date and time" or "custom content" and to display "location" <remark>"Custom Content" supports up to 30 characters</remark>		



5.3.5 Setting-Video



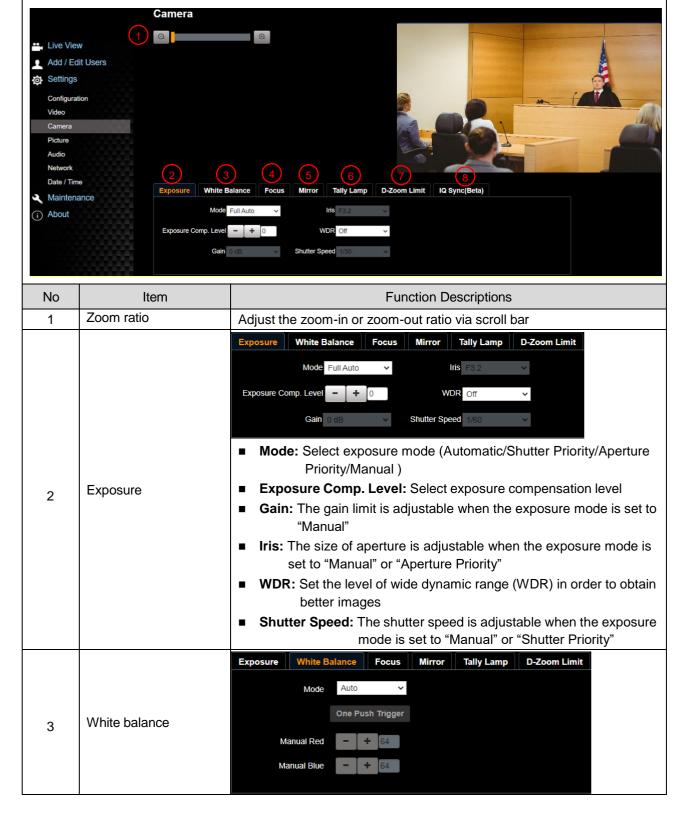
5.3.5.1 Streaming parameter setting

Function	Streaming 1	Streaming 2	Streaming 3
Encode Format	H.265	H.	264
Resolution	4K /1080P / 720P	1080P / 720P/ 1080i	D1
Frame rate		according to the supported orts 59.94/ 50 when the	d resolution e stream 2's resolution is

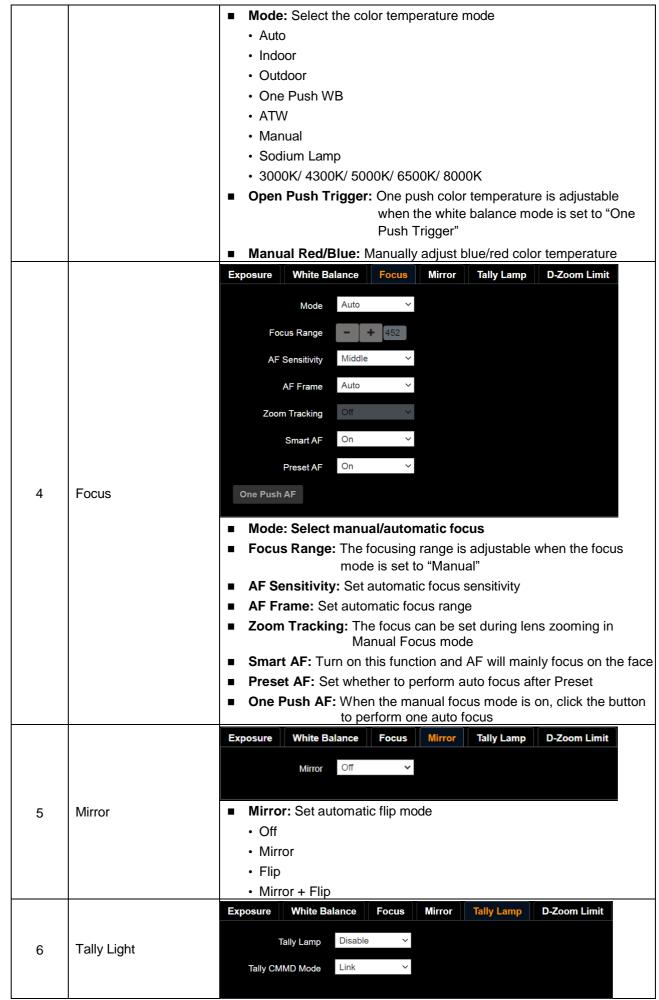


Bit Rate(kbps)	Factory default	15,000	7,500	1,000
Rate cor	ntrol		VBR / CBR	
IP ratio			according to the supported a supports 15 / 25 when the	

5.3.6 Setting-Camera





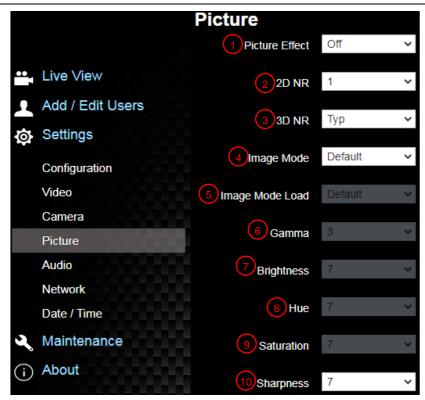




		■ Enable/ Disable Tally Light		
		 Tally CMMD Mode: Set whether the indicator light is linked with RS232 command 		
		 General (Not linked): The indicator light switch and mode shall be set separately. 		
		-When the indicator light is on and the default mode is off, additional command is required to set the indicator light mode		
		-Setting the indicator light mode when the indicator light is off will not trigger the indicator light		
		• Link:		
		-When the indicator light is on, the default mode is red light		
		-Setting the indicator light mode when the indicator light is off will turn on the indicator light		
		Exposure White Balance Focus Mirror Tally Lamp D-Zoom Limit		
7	D-Zoom Limit	D-Zoom Limit ×1 V		
		Set the D-Zoom Limit, x1-x12		
		Exposure White Balance Focus Mirror Tally Lamp D-Zoom Limit IQ Sync(Beta)		
		■ IQ Sync Master		
		● Serial Output ● IP Output		
		Add		
	IQ Sync	Slave IP		
8				
		Set IQ main synchronized device		
		Available when "Exposure" and "White Balance" is set to "Auto" mode		
		(Currently it's the beta version. Please refer to Web Page Firmware Update Information for the official version release schedule.)		



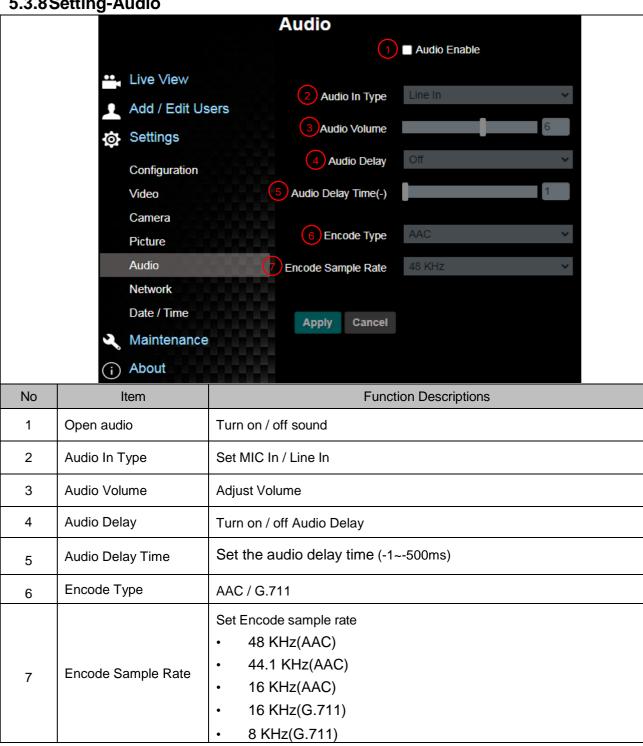
5.3.7 Setting-Picture



No	Item	Function Descriptions
1	Picture effect	Set picture effect, Off / Film / 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; Adjustable when the image mode is set to Custom
10	Sharpness	Adjust the sharpness of the image

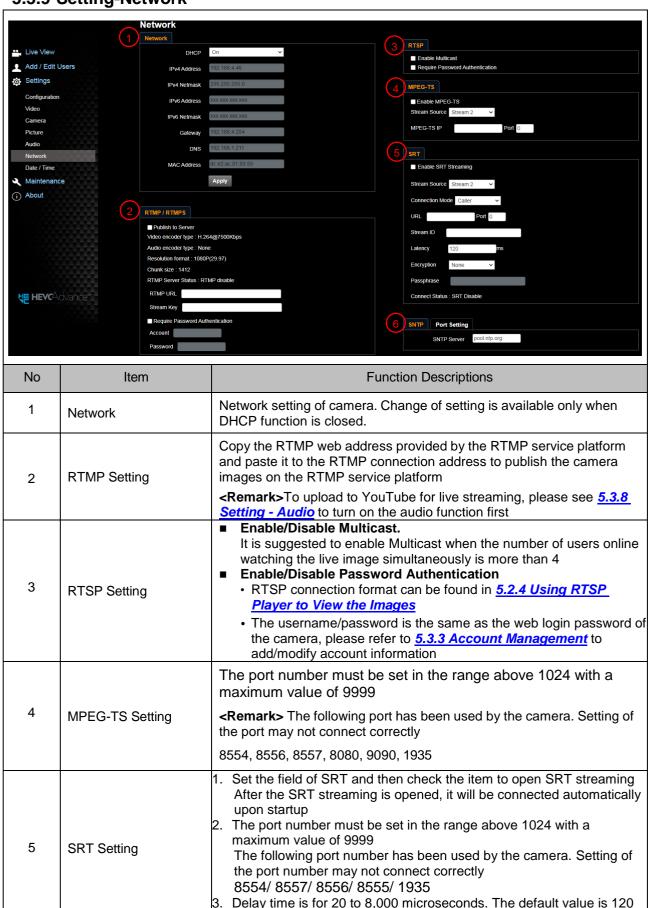


5.3.8 Setting-Audio



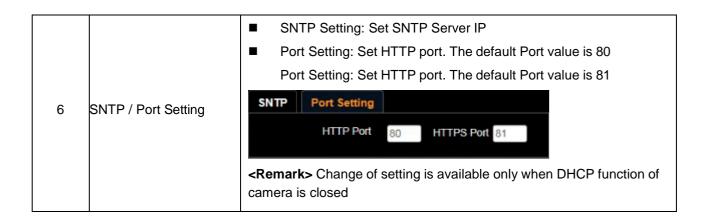


5.3.9 Setting-Network

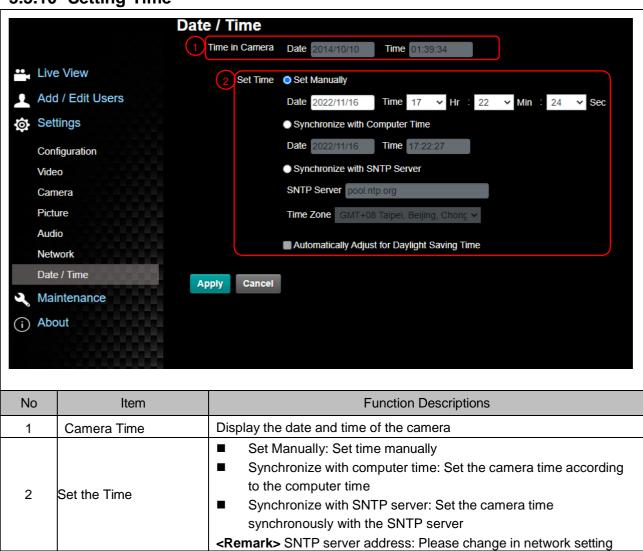


microseconds





5.3.10 Setting-Time

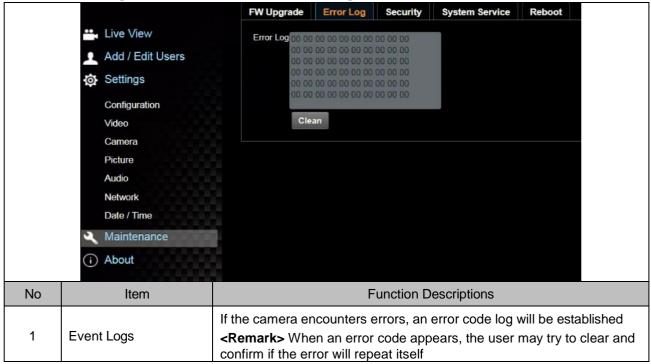




5.3.11 Setting-Maintenance - Upgrading Firmware

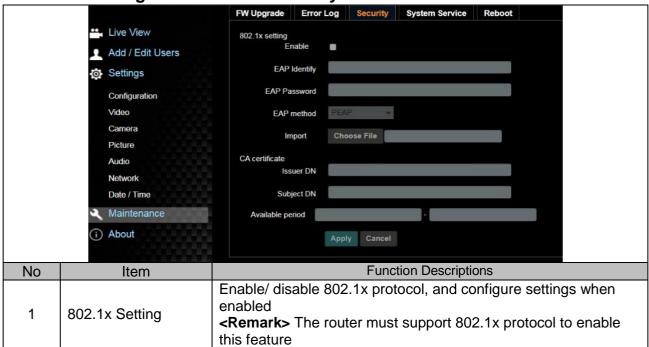


5.3.12 Setting-Maintenance - Incident Log

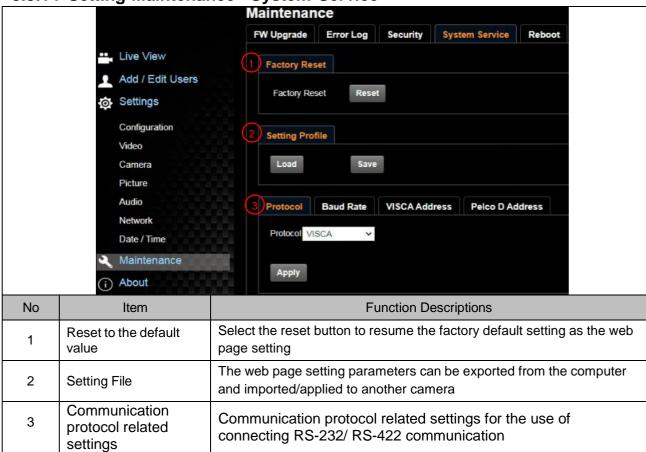




5.3.13 Setting-Maintenance - Security

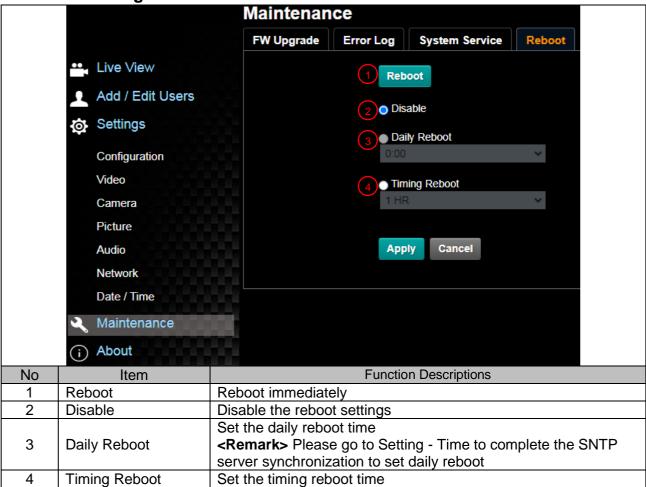


5.3.14 Setting-Maintenance - System Service

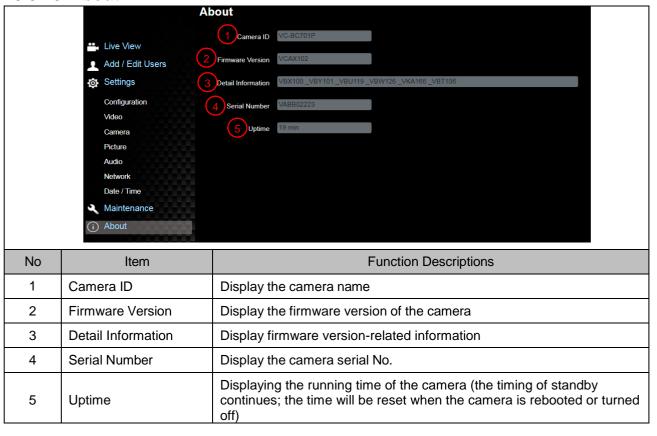




5.3.15 Setting-Maintenance - Reboot



5.3.16 About





Chapter 6. Troubleshooting

This chapter describes problems you may encounter while using VC-BC701P. 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	Make sure you have plugged in the power cord. When using a PoE connection, ensure that the power supply supports IEEE 802.3af hubs
2.	There is no image output from VC-BC701P	 Check the power supply or PoE supply functions. Confirm the output signals are in streaming output. If the camera is connected to a monitor, confirm the monitor equipment supports 4K output Replace the cables and make sure they are not faulty.
3.	VC-BC701P image is severely delayed	Please use 4K, 1080p or 720p 60/50 Hz signals rather than 25/30 Hz signals.
4.	RS-232 cannot be controlled	Confirm the connection is correct (RS-232 Input / Output) Please make sure the Baud rate setting is the same as the control equipment
5.	Whether the Internet can be used for operation	Please refer to <u>Chapter 5 Network Function Description</u> for the Internet usage
6	The ONVIF software cannot find the machine	Please go to Setting - Video - Camera Location 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.
7	Tally light is not working when applying RS232 setting	Please go to Setting - Camera - Tally Light in the webpage to check if the function is on.



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

Manufacturer: Lumens Digital Optics Inc.

Product Name: VC-BC701P

Model Number: UHD Box 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.

