

Marshall

Broadcast A/V Division

CV620-BI2/CV620-WI2

FHD PTZ 20X Camera



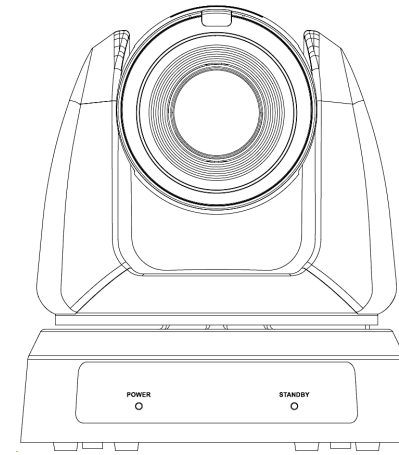
User Manual

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Chapter 1: Package Contents

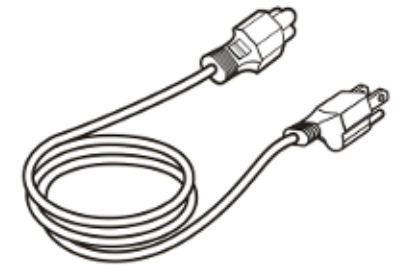
PTZ Camera



Remote Control

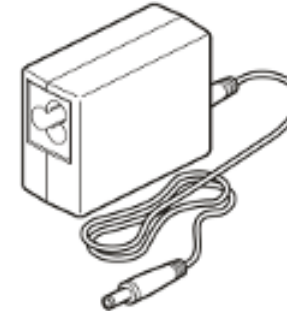


AC Power Cord

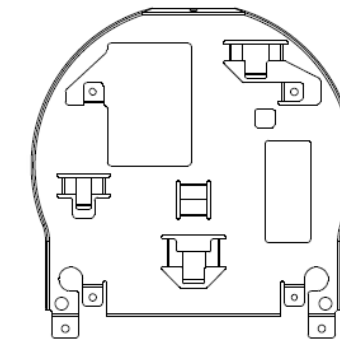


Appearance may vary depending on country/ region

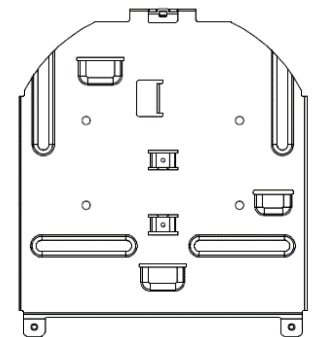
Power Adapter



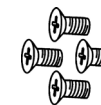
Metal Plate A



Metal Plate B



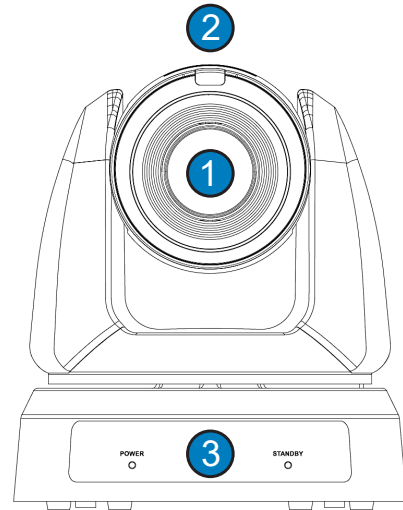
M3 Screws



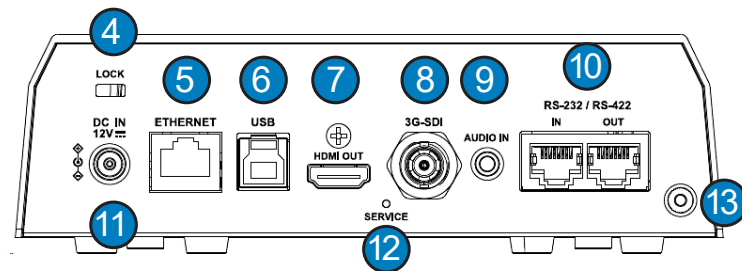
Silver x8 / Black x2

Chapter 2: Function Introduction

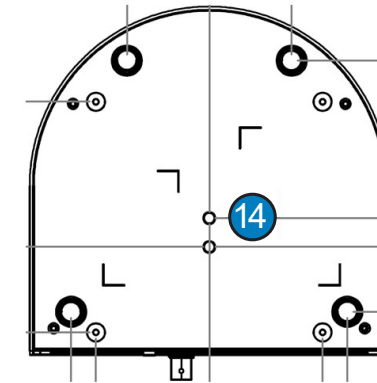
2.1 I/O Functions Introduction



NO.	Item	Function Descriptions
1	Camera lens	HD camera lens
2	Tally Lamp	Displaying the Tally Lamp status of the camera
3	Power/Standby LED indicator	Displaying the status of the camera, please refer to 2.2 LED indicator



NO.	Item	Function Descriptions
4	Lock	Safety lock slot
5	Ethernet	Network port supports PoE(IEEE802.3af)
6	USB output	The USB port is for connecting to the USB port of the computer and providing USB signal images
7	HDMI output	HDMI output (Audio output supported)
8	3G-SDI	3G-SDI output (Audio output supported)
9	Audio output	Support Line In / Mic In
10	RS-232/ RS-422 OUT/ IN	RS-232/ RS-422 port, up to 7 cameras can be connected in a serial connection
11	DC IN 12V	AC power supply connecting port
12	Service	Reset the camera to the default setting
13	Lock	Safety lock slot



NO.	Item	Function Descriptions
14	Tripod lock hole	The camera is mounted on a (specification) 1/4"-20 UNC tripod

2.2 LED Indicator

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

2.3 Tally Lamp

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

Chapter 3: Installation

3.1 Preparation before installation

Installation and connection of 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 accidents.

3.1.1 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.

3.1.2 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.

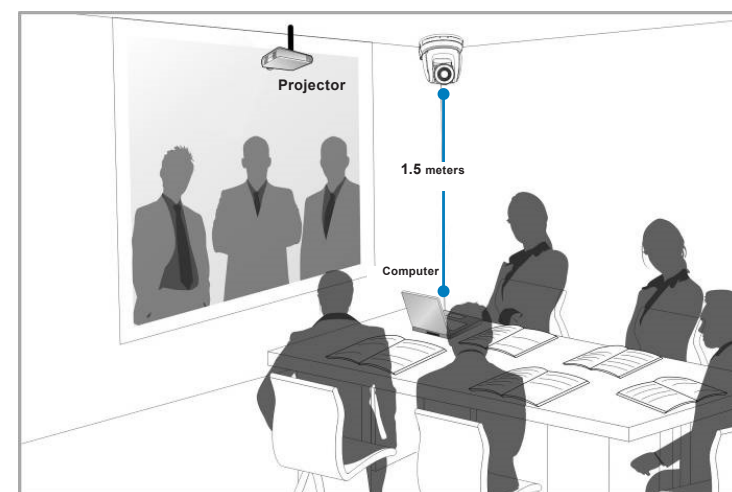
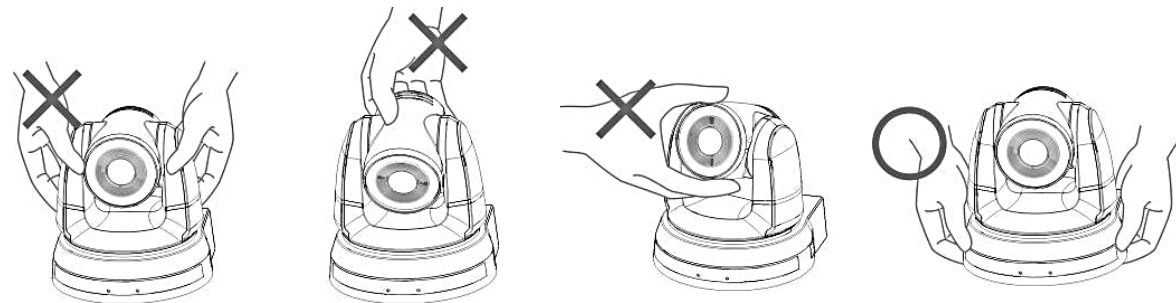
3.1.3 Please choose a proper place for installation of camera in advance.
Please determine an installation place according to the following requirements

- (A) Confirm the position for the object to be captured.
- (B) Confirm whether the camera is set at a proper distance from other light sources

3.2 Instruction for installation

3.2.1 Precautions

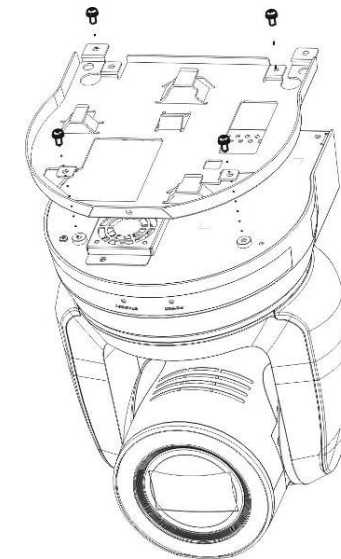
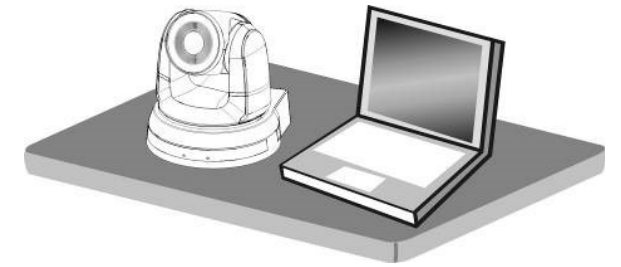
- Do not grab the camera head by hand when handling the device
- Do not rotate the camera head by hand. Improper rotation may result in breakdown of the camera



- Before installation, please confirm the orientation of the machine relative to the object to be captured
- It is recommended that the machine should be set at a distance of more than 1.5 meter away from the object to be captured. Please adjust for a best distance according to the magnification of the lens
- The Camera (including metal plates) weighs about 2.5 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.
- Please check whether the camera is installed securely on a regular basis

3.2.2 Install the camera on the desk

Please place the camera on a flat desk to ensure the normal vertical and horizontal operation of the machine.



3.2.3 install the camera on the ceiling

(A) Prepare for the parts and equipment required during the installation

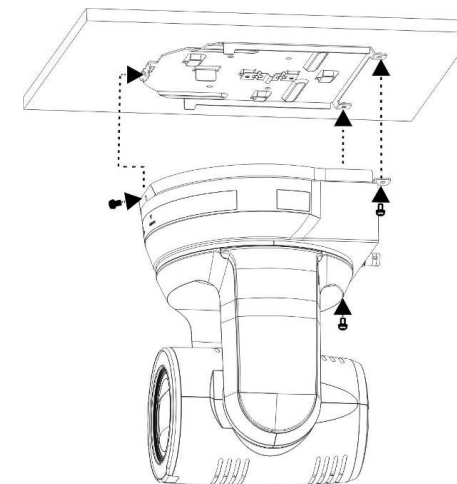
- Accessories in the box (metal plates A, B, M3 screw silver x 8, black x 2)
- Screw for locking on ceiling mounted hanger x 4
- Drilling machine, screwdriver, ladder
- Camera and Metal dimension please refer to [Chapter 7 Addendum](#)

(B) Installation Steps

1. Fix the metal plate A on the machine base with M3 silver screws
2. Lock the metal plate B on ceiling mounted hanger

! Caution:

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

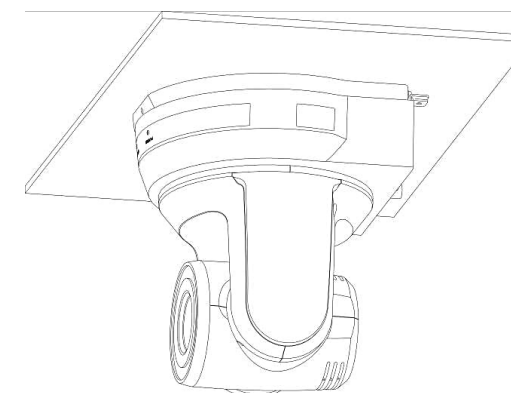


3. Combine the metal plate A and the metal plate B

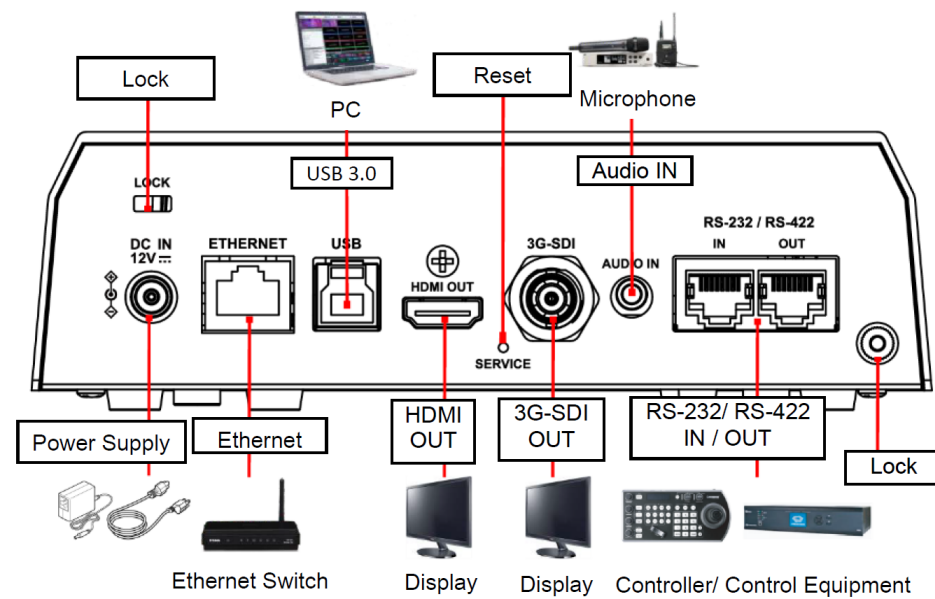
- (1) Push the metal plate A up to the ceiling and then to the right to latch the metal plate B
- (2) And then secure with 2 M3 silver screws and 1 M3 black screw

3.2.4 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

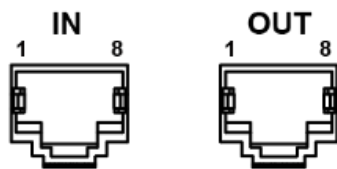


3.3 Connecting Devices



4.3.1 RS-232/RS-422 Connection

RS-232/RS-422 port, up to 7 cameras can be connected in a serial connection

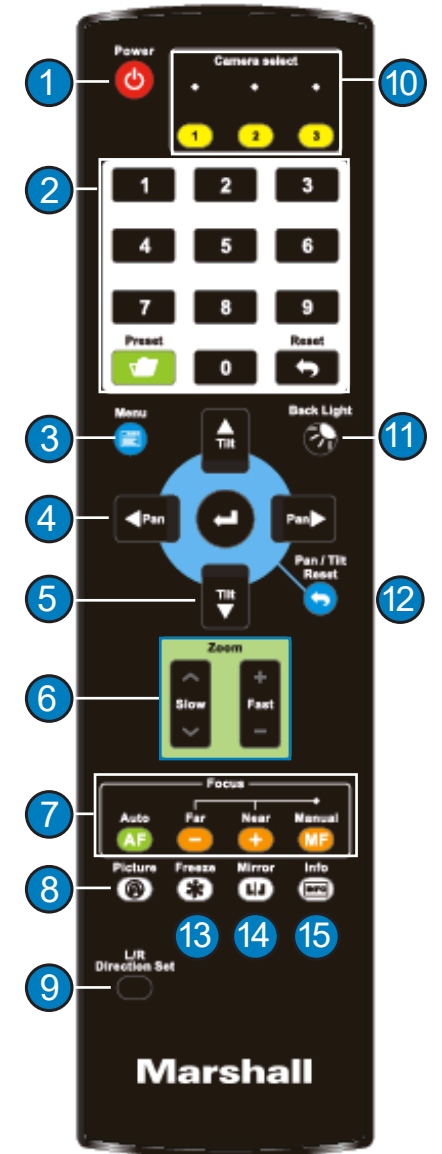


Pin No.	Function	Function	RS-232 / RS-422
1	RX-	TX-	RS-422
2	RX+	TX+	RS-422
3	GND		RS-232 / RS-422
4	TX	RX	RS-232
5	RX	TX	RS-232
6	DTR	DSR	RS-232
7	TX-	RX-	RS-422
8	TX+	RX+	RS-422

Chapter 4: Remote Control and Setting Menu

4.1 Functions of remote control

No.	Item	Description
1.	Power	Power Switch
2.	Preset	<ul style="list-style-type: none"> Numeric Keys 0 - 9: Click to call the preset Preset: Appoint a n ID (0 ~ 9) to save the current position data Reset: Appoint an ID (0 ~ 9) to delete the current position data
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"> Fast: Adjust image size Slow: Fine-tune image size
7.	Focus	<ul style="list-style-type: none"> Auto: Auto focus Manual: Enable Manual Focus Far/ Near: Adjust the focal length in Manual
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/ Rotate)
15.	Info	Status information



1st Level	2nd Level	3rd Level	Descriptions
Exposure	Mode	Full Auto/ Shutter Pri/ Iris Pri/ Manual	Exposure mode setting
	Exposure Comp.	On / Off	AE Level The function can only be turned on after you enable the Advanced in the Picture section
	Level	-5~5	The value can be adjusted after Exposure Comp. is activated
	Spot Light	On / Off	
	Position	X(0~6)Y(0~4)	The value can be adjusted after Spot Light is activated
	Shutter Pri	60/30 mode 50/25mode 1/10000~1/25	Adjustable when the Exposure mode is set to Shutter Pri
	Iris Pri	F1.6~F6.3	Adjustable when the Exposure mode is set to Iris Pri
	Manual Gain	0-45dB	Adjustable when the Exposure mode is set to Manual
	Manual Speed	60/30 mode 50/25mode 1/10000~1/25	Manually set the shutter
	Manual Iris	F1.6~F6.3/ OFF	Manually set the iris
	Gain Limit	9-45 dB	Max. limit value of electron gain
	Iris Limit	F1.6~F6.3	Max. limit value of iris
	WDR	OFF/ 1/ 2 /3	The function can only be adjusted after you enable the Advanced in the Picture section
White Balance	Mode	1. Auto 2. Indoor 3. Outdoor 4. One Push WB	Select the color temperature mode 1. 4000k ~ 7000k 2. 3200k 3. 5800k

1st Level	2nd Level	3rd Level	Descriptions	
		5. ATW 6. Manual 7. Sodium Lamp 8. 3000K 9. 4300K 10. 5000K 11. 6500K 12. 8000K	4. 1700k ~ 10000k 5. 1700k ~ 10000k 6. Custom 7. 2800k	
	One Push	ENTER	One push trigger	
	Manual Red	0~128	Adjustable when the white balance mode is set to Manual	
	Manual Blue	0~128	Adjustable when the white balance mode is set to Manual	
Picture	Picture effect	OFF/ Neg / B&W		
	Advanced	On / Off		
	Sharpness	0~14	Adjustable when the Advanced is enabled.	
	2D NR	OFF/ 1/ 2/ 3	Adjustable when the Advanced is enabled.	
	3D NR	OFF/ Low/ Typical/ Highest	Adjustable when the Advanced is enabled.	
	Image Mode	Standard/ LED mode/ Brilliant		
	Brightness	0~15	Adjustable when the Advanced is enabled.	
	Hue	0~15	Adjustable when the Advanced is enabled.	
	Saturation	0~15	Adjustable when the Advanced is enabled.	
	Gamma	0~3	Adjustable when the Advanced is enabled.	
	Pan Tilt Zoom	Pan/Tilt Limit	On / Off	Turn on/off the angle limit setting
		Pan Right Limit	0~170	Limit the right angle
Pan Left Limit		-170~0	Limit the left angle	

1st Level	2nd Level	3rd Level	Descriptions
	Tilt UP Limit	0~90	Limit the upward angle
	Tilt Down Limit	-30~0	Limit the downward angle
	Pan Flip	On / Off	Activate the reverse Pan direction
	Tilt Flip	On / Off	Activate the reverse Tilt direction
	Preset Speed	5/ 25/ 50/ 80/ 120/ 160/ 200/ 300 deg/sec	Set the rotation speed of the cradle head when Preset is performed
	PTZ Speed Comp	On / Off	Set the Pan/Tilt moving speed to vary from the zoom position
	D-Zoom Limit	x1~x12	Set the D-zoom limit
	PTZ Motion Syn)	On / Off	When activated, PTZ synchronization can be achieved by controlling with the Presets <small>Note</small> Refer to the Preset speed setting for this feature. The speed may be adjusted automatically due to the difference of PTZ moving range.
D-Effect	Mirror / Flip	OFF / Mirror / Flip / Mirror + Flip	Set the mode at which the image is mirror or flipped
Auto Focus	AF Sensitivity	Low / Mid / High	For AF triggering speed, the higher the speed is, the faster AF is triggered
	AF Frame	Center Area / All Area / Auto	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
	Zoom tracking	Manual / Curve Tracing / Zoom Tracking	The focus mode during lens zooming (It can be set in the Manual Focus (MF) mode)
	PTZ Assist	On / Off	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

1st Level	2nd Level	3rd Level	Descriptions
			changes (It can be set in the Manual Focus (MF) mode)
	Preset AF	On / Off	Set whether to execute auto focus after <i>Preset</i>
	SMART AF	On / Off	Turn on this function and AF will mainly focus on the face
Ethernet	DHCP	On / Off	Enable/Disable DHCP setting using left and right arrow keys and press [ENTER] to apply setting.
	IP Address	192.168.100.100	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.
	Subnet mask	255.255.255.0	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	192.168.100.254	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	Line In/Mic In	Set Audio In
	Audio Enable	On / Off	Turn on/off audio output
	Volume	0~ A ~10	Volume Setting
	Delay	On / Off	When audio and video are out of sync, enable this feature to set the audio delay time
	Delay Time(ms)	-1~-500ms	Set audio delay time
	Encode Type	AAC/ G.711	Set encode type
	Encode Sample Rate	48 KHz(AAC)	Set the encode type and sample rate

1st Level	2nd Level	3rd Level	Descriptions
System	Prompt	On / Off	Turn on/off the prompt information on the display
	IR Receive	On / Off	
	IR Select	1/ 2/ 3	
	Tally Lamp	On / Off	
	Tally CMMD Mode	Normal/ Link	Set whether the indicator light is linked with RS232 command <ul style="list-style-type: none"> ▪ Normal (Not linked): The indicator light switch and mode shall be set separately. <ul style="list-style-type: none"> ➢ When the indicator light is on and the default mode is off, additional command is required to set the indicator light mode ➢ Setting indicator light mode when the indicator light is off will not trigger the indicator light ▪ Link: <ul style="list-style-type: none"> ➢ When the indicator light is on, the default mode is red light ➢ Setting indicator light mode when the indicator light is off will turn on the indicator light
	Language	English/ 中文	
	Initial Position	Last MEM / 1st Preset	Set the camera lens to return to the last operated position or the first preset position after POWER ON <small>Note</small> 1st Preset = Preset 0
	Control Device	Encoder / Controller	Control Device setting, Controller: for joystick Encoder: for tracking system
	Motionless Preset	On / Off	When the function is enabled, the screen will Freeze when Preset is executed. Freeze will be released after Preset is completed.

1st Level	2nd Level	3rd Level	Descriptions
	Control Port	RS-232/RS-422	Choose whether the control interface used is RS-232 or RS-422
	Protocol	VISCA	
	Baud Rate	9600/38400	Choose the transmission speed of the control signal
	VISCA Address	0 ~ 7	
	Output Mode	1. 1080p/60 2. 1080p/50 3. 1080p/30 4. 1080p/25 5. 720p/60 6. 720p/50 7. 720p/30 8. 720p/25	Choose the output resolution
	Factory Reset	On / Off	Resume the factory default setting
	Status		Display the current setting status

Chapter 5: Network Function

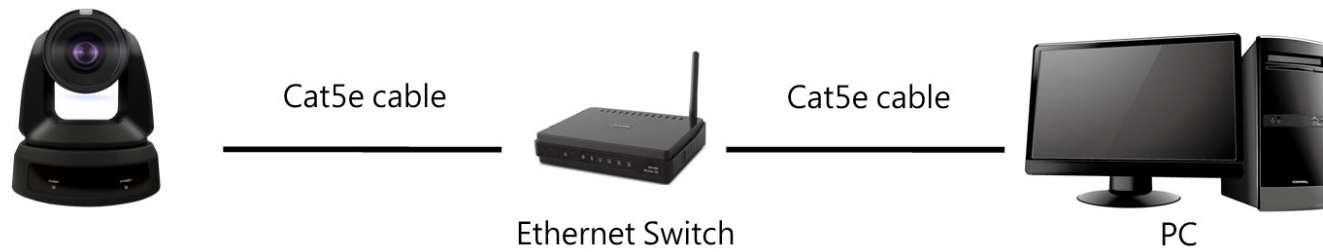
5.1 Connecting Camera to Network

5.1 Connecting Camera to Network

5.1.1 Connecting to Internet

Two common connection methods are shown below

1. Connecting via switch or router

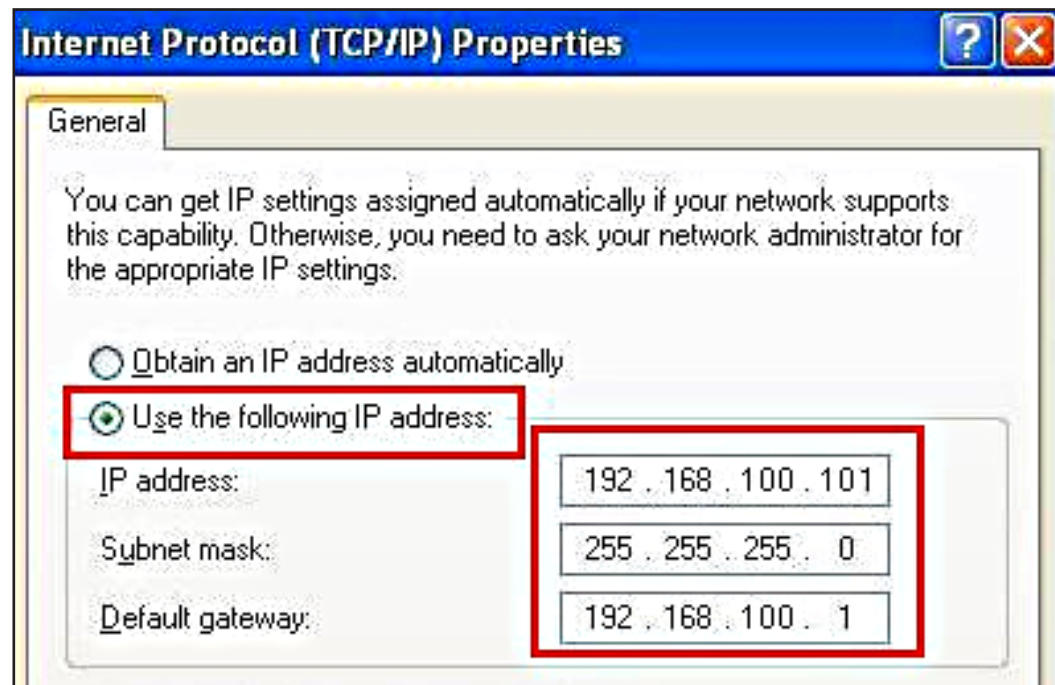


Camera

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 the 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



5.1.2 Using the Browser to View the Images

- Open the browser, and enter the IP address of the camera in the address bar
E.g.: <http://192.168.100.100> (default IP address)
- Enter administrator's account and password
For the first-time login, please refer to [5.2.10 System-User](#) to change the default password

Marshall Network Camera

- **Username: admin**
- **Password: 9999 (Default)**

5.1.3 Using RTSP Player to View the Images

Free softwares can be used for RTSP connection, such as VLC, Quick Time and PotPlayer

RTSP connection address formats are as follows:

- RTSP Stream 1 => <rtsp://Camera IP:8557/h264>
- RTSP Stream 2 => <rtsp://Camera IP:8556/h264>

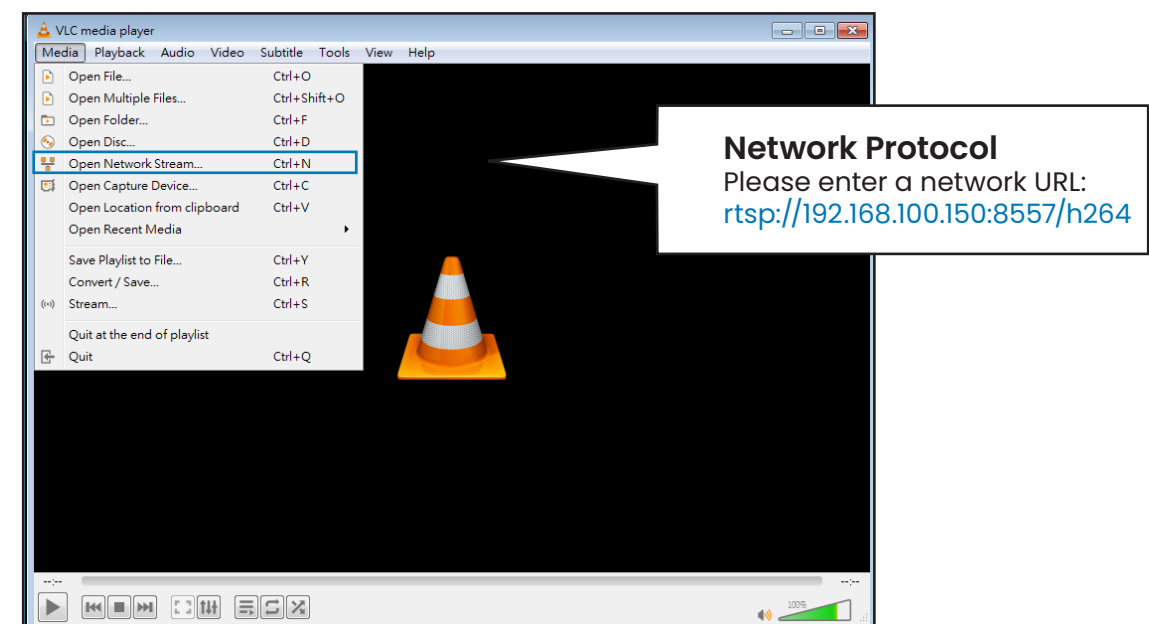
If password authentication is enabled, the RTSP connection address is as follows:

- <rtsp://Username:Password@VC IP address:port/h264>
- To enable password authentication function, please refer to 5.2.4 Stream

Example:

Open the VLC software, click [Open Network Streaming], and enter the URL:

<rtsp://192.168.100.150:8557/h264>



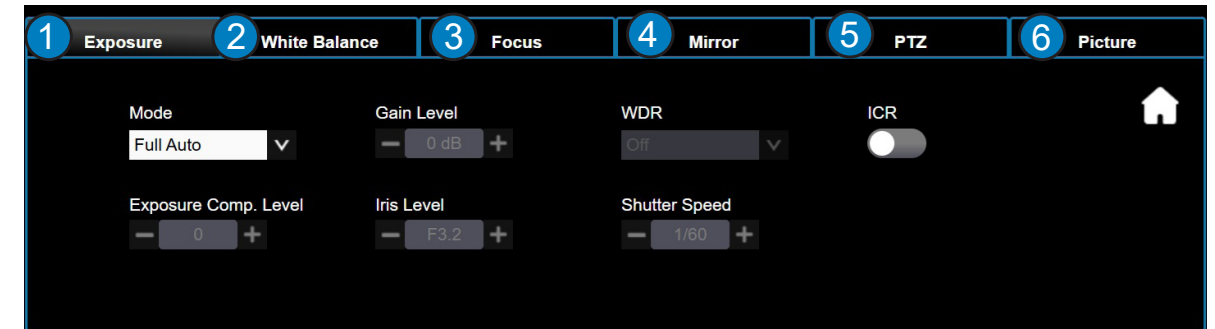
5.1 Web Page Function


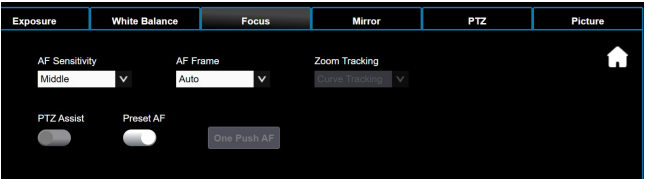
5.2.1 Live View

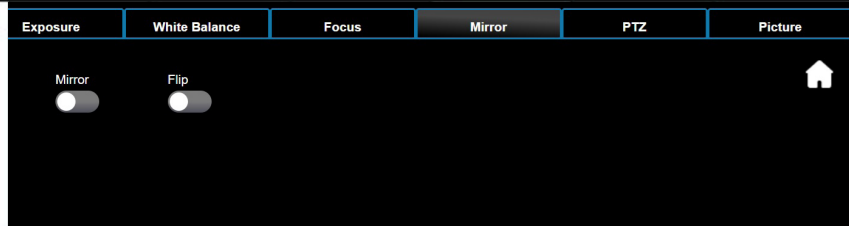
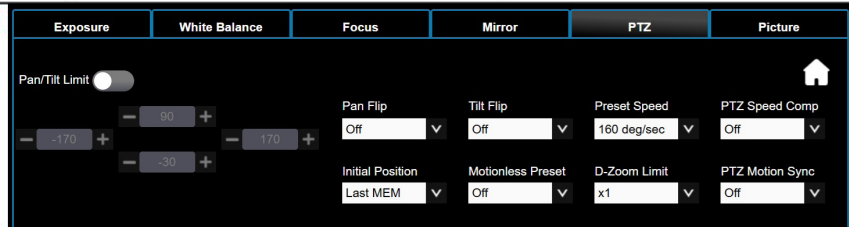



No	Item	Descriptions
1	Camera ID/ location	Display camera ID/location Please refer to 5.2.5 System - Device
2	Preview window	Display the screen currently captured by the camera
3	Enlarge	Enlarge the preview image
4	Preset	Select the number first and then select [STORE] or [Call]. PTZ Only: Enable/disable PTZ Only <ul style="list-style-type: none"> Disable (Default): Call the preset, execute Pan/Tilt/Zoom/Focus + picture parameters setting Enable: Call the preset, only execute Pan/ Tilt/ Zoom/ Focus
5	Pan/Tilt	Adjust the Pan/Tilt position of the camera screen
6	AF/MF	Switch to Auto Focus/Manual Focus. Focus can be adjusted in Manual Focus
7	Zoom	Zoom In/Zoom Out ratio
8	Camera Setting	Please refer to 5.2.2 Live View - Camera Setting for related settings
9	Power	Power ON/ OFF the camera
10	Log out	Log out the web interface

5.2.2 Live View - Camera Setting

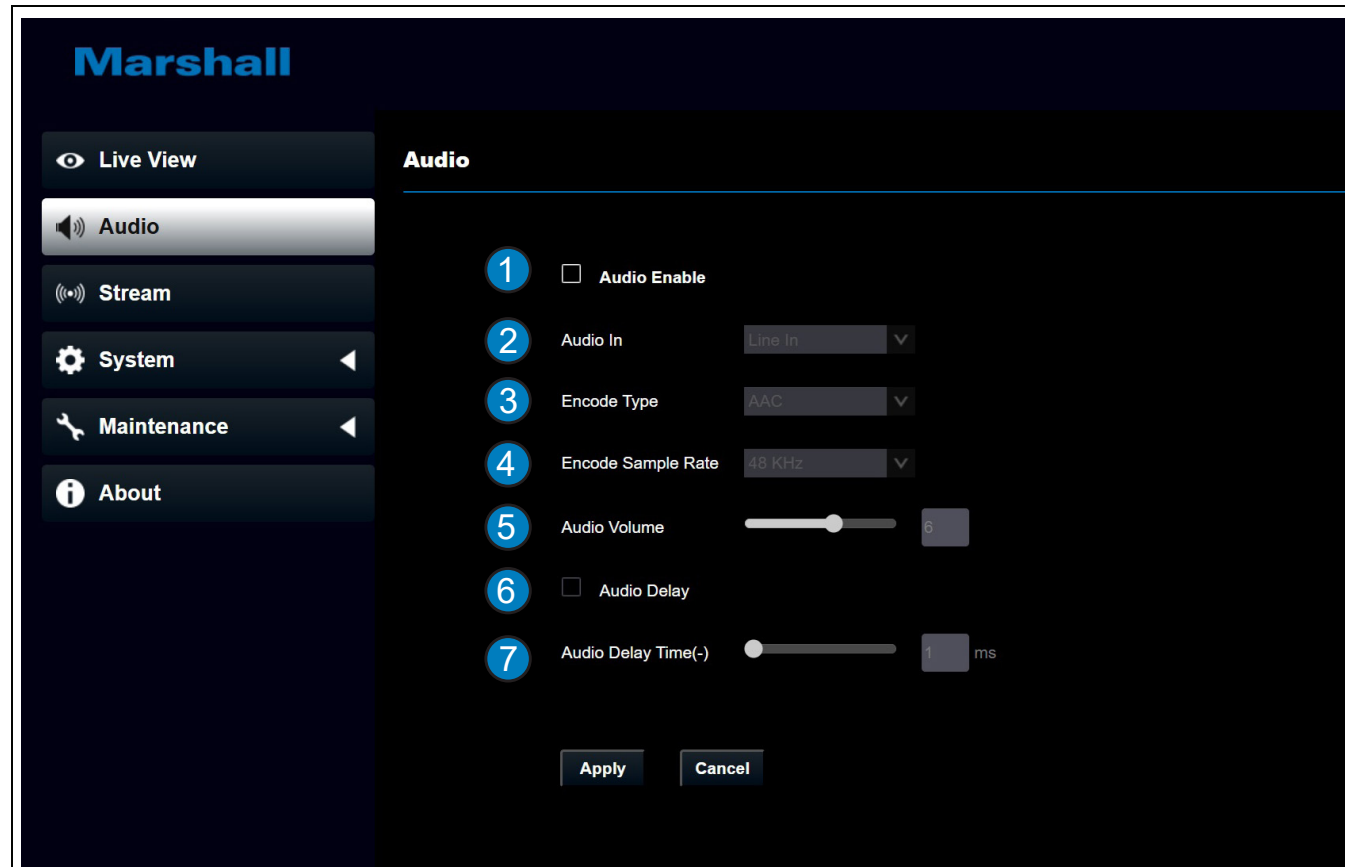


No.	Item	Description
1	Exposure	<ul style="list-style-type: none"> Mode: Select exposure mode (Full Auto/Shutter Pri/Iris Pri/Manual/) Gain Level: Adjust the gain level (adjustable under the "Manual") WDR: Set the level of wide dynamic range (WDR) in order to obtain better images. (The WDR can only be adjusted after you enable the Advanced in the Picture section.) Exposure Comp. Level: Select exposure compensation level (The Exposure Comp. level can only be adjusted after you enable the Advanced in the Picture section.) Iris Level: Adjust the size of iris (adjustable under the "Manual" or "Iris Priority") Shutter Speed: Adjust the shutter speed (adjustable under the "Manual" or "Shutter Priority")
2	White Balance	 <ul style="list-style-type: none"> Mode: Select the color temperature mode Manual Red/Blue: Adjust blue/red color temperature (adjustable under the "Manual") One Push WB: Single color temperature execution adjustment (adjustable only under the "One Push WB")
3	Focus	 <ul style="list-style-type: none"> AF Sensitivity: Set automatic focus sensitivity AF Frame: Set automatic focus range Zoom Tracking: The focus mode during lens zooming (can be set in "Manual") PTZ Assist: Check whether auto focus is enabled if there is any changes of PTZ (can be set in "Manual") <p>Note When PTZ Assist is enabled, focus will be triggered after PTZ control, but won't be triggered when the scene changes</p>

No.	Item	Description
		<p>Note When PTZ Assist is enabled, focus will be triggered after PTZ control, but won't be triggered when the scene changes</p> <ul style="list-style-type: none"> Smart AF: Turn on this function and AF will mainly focus on the face Preset AF: Set whether to perform auto focus after Preset One Push AF: When manual focus mode is on, click this function for one-time autofocus
4	Mirror	 <ul style="list-style-type: none"> Mirror: Set image mirroring Flip: Set the mode at which the image is turned
5	Pan Tilt Zoom (PTZ)	 <ul style="list-style-type: none"> Pan/Tilt Limit: Enable to set the pan/tilt limit Pan/Tilt Flip: Set On and the Pan/Tilt directions will be reversed. Preset Speed: Set the rotation speed of the cradle head when Preset is executed PTZ Speed Comp: After it is activated, the Pan/Tilt moving speed will vary from the zoom position Initial Position: Set the camera lens to return to the <i>last MEM</i> or the <i>1st Preset</i> after POWER ON <p>Note 1st Preset= Preset 0</p> Motionless Preset: When the function is enabled, the screen will Freeze when Preset is executed. Freeze will be released after Preset is completed PTZ Motion Sync: Enable to achieve PTZ synchronization when operating Preset. <p>Note This function refers to the preset speed setting but may automatically adjust the speed based on the PTZ movement range.</p>

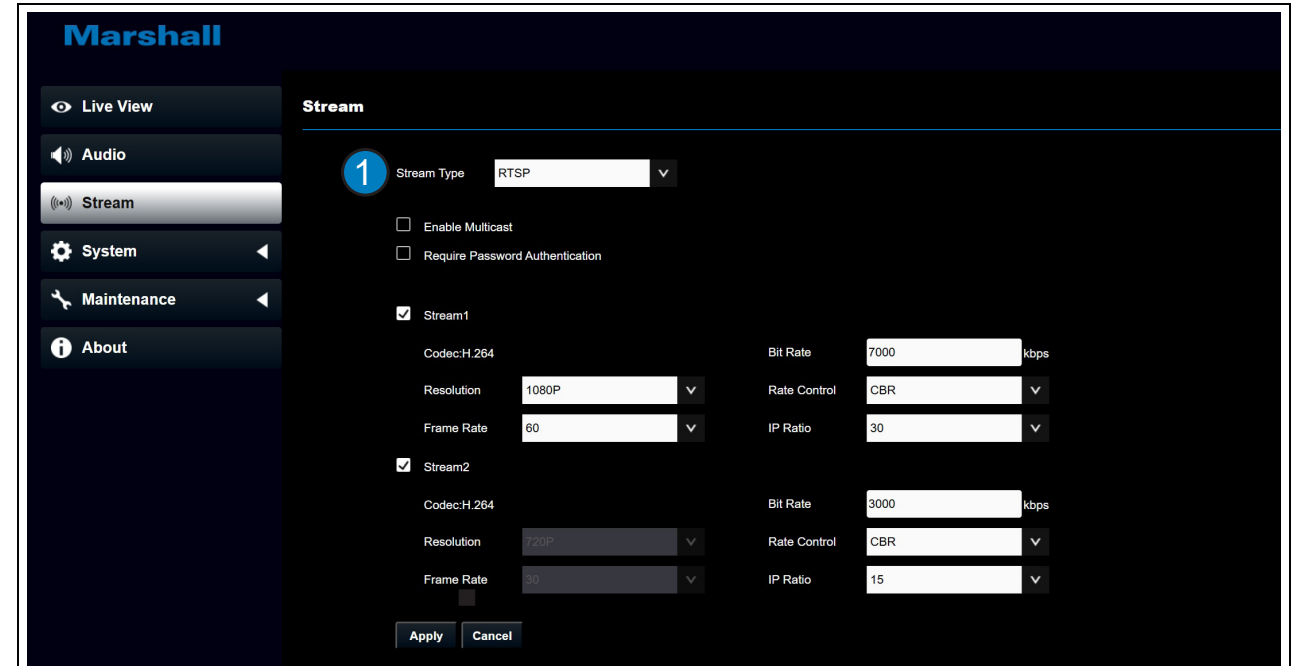
No.	Item	Description
6	Picture	 <ul style="list-style-type: none"> Picture Effect: Set picture effect, Off/ Black and White Image Mode: User can customize the desired image mode Advanced: Check to enable advanced settings. 2D NR: 2D noise reduction settings 3D NR: 3D noise reduction settings Hue: hue adjustment of the image; Adjustable when the <i>Advanced</i> is enabled. Gamma: Gamma Level adjustment; Adjustable when the <i>Advanced</i> is enabled. Brightness: Brightness adjustment of the image; Adjustable when the <i>Advanced</i> is enabled. Saturation: Saturation adjustment of the image; Adjustable when the <i>Advanced</i> is enabled. Sharpness: Sharpness adjustment of the image; Adjustable when the <i>Advanced</i> is enabled.

5.2.3 Audio

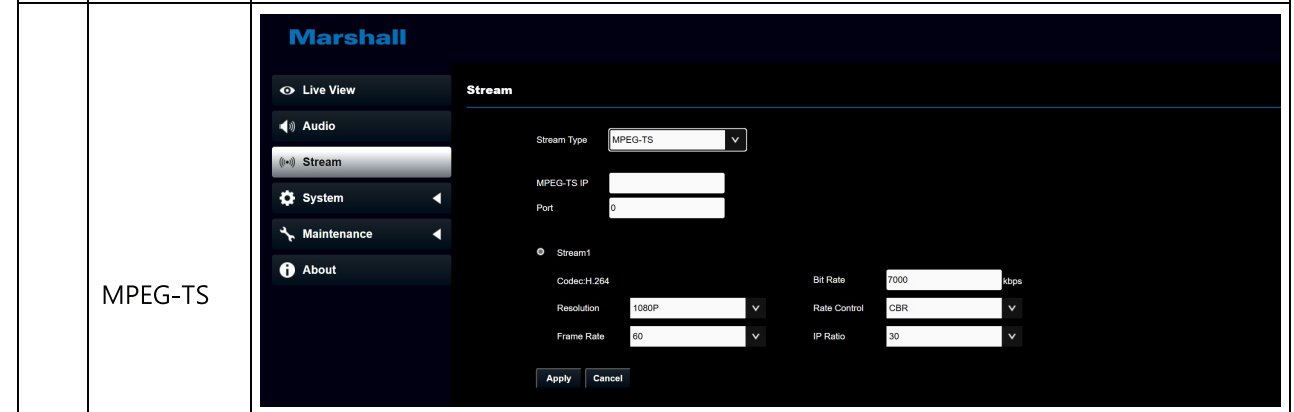


No	Item	Descriptions
1	Audio Enable	Enable/ Disable Audio
2	Audio In	Set MIC In/ Line In
3	Encode Type	AAC / G.711
4	Encode sample rate	Set Encode sample rate Ø 48 KHz (AAC) Ø 44.1 KHz (AAC) Ø 16 KHz (AAC) Ø 16 KHz (G.711) Ø 8 KHz (G.711)
5	Audio Volume	Adjust Volume
6	Audio Delay	Enable/ Disable Audio Delay
7	Audio Delay Time(-)	Set Audio Delay Time (-1~-500ms)

5.2.4 Stream



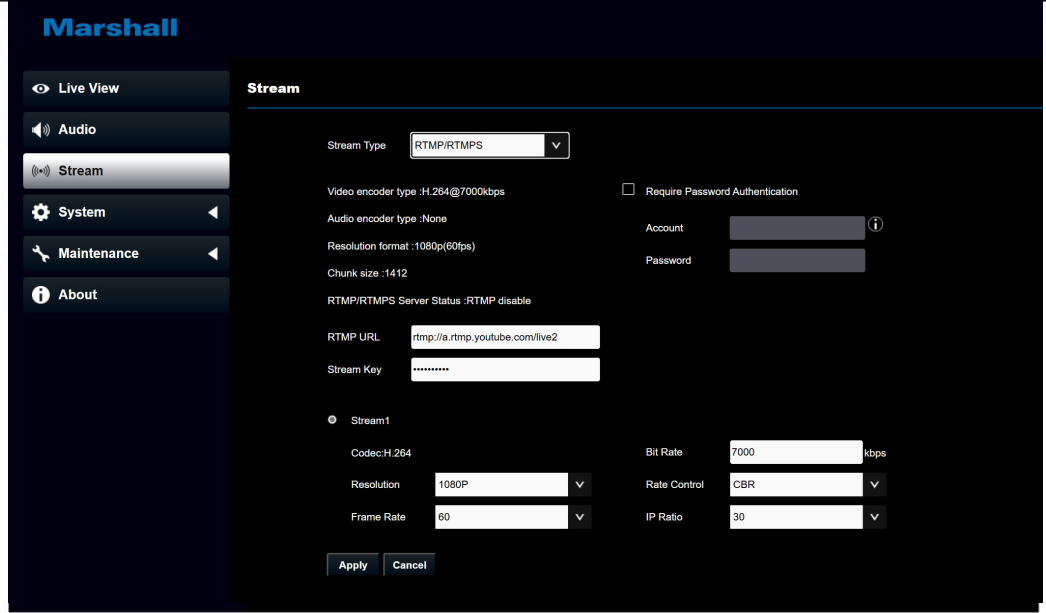
No	Item	Descriptions
1	Stream Type	Support MPEG-TS / RTMP/RTMPS / RTSP / SRT
	RTSP	<ul style="list-style-type: none"> Enable Multicast Note It is suggested to enable Multicast when the number of users online watching the live image simultaneously is more than 4 Require Password Authentication RTSP connection format can be found in 5.1.3 Using RTSP Player to View the Images The username/password is the same as the web login password of the camera, please refer to 5.2.10 System - User to add/modify account information Stream 1/ 2: Please refer to 5.2.4.1 Streaming Parameter Setting for relevant settings



	MPEG-TS	<ul style="list-style-type: none"> Port range: 1025~65535 Note Port 3702, 5353, 8080, 8554, 8556, 8557, 52380, 52381 are used by the camera, please do not set these ports. Stream 1: Please refer to 5.2.4.1 Streaming Parameter Setting for relevant settings
--	---------	--

please do not set these ports.

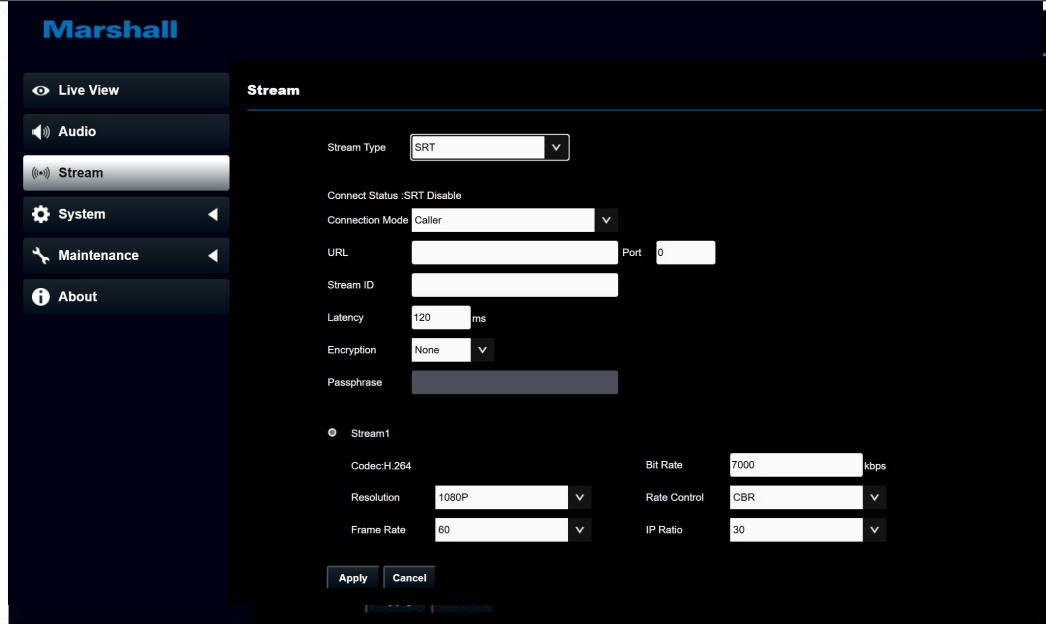
- Stream 1: Please refer to [5.2.4.1 Streaming Parameter Setting](#) for relevant settings



RTMP/
RTMPS

- Copy the URL provided by the RTMP service platform and paste it here to publish the camera live view on the RTMP service platform
- Note** For YouTube streaming, please refer to [5.2.3 Audio](#) to enable the audio.
- Stream 1: Please refer to [5.2.4.1 Streaming Parameter Setting](#) for relevant settings

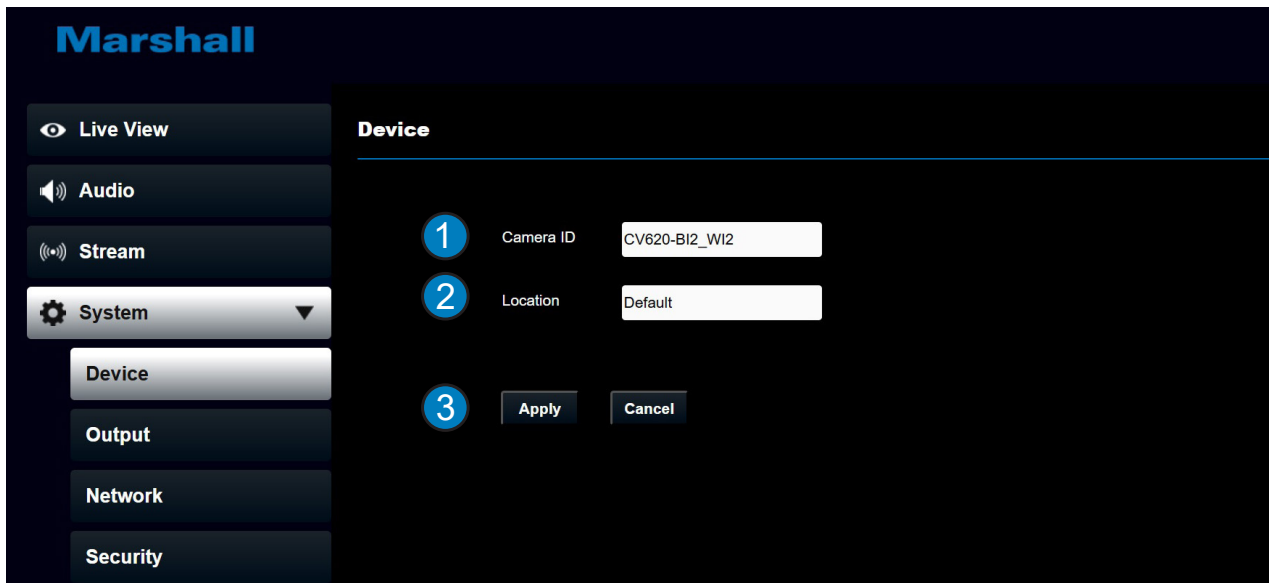
SRT



- Port range: 1025~65535
- Note** Port 3702, 5353, 8080, 8554, 8556, 8557, 52380, 52381 are used by the camera, please do not set these ports.
- Delay time is 20 to 8,000 microseconds. (default 120 microseconds)
- Stream 1/ 2: Please refer to [5.2.4.1 Streaming Parameter Setting](#) for relevant settings

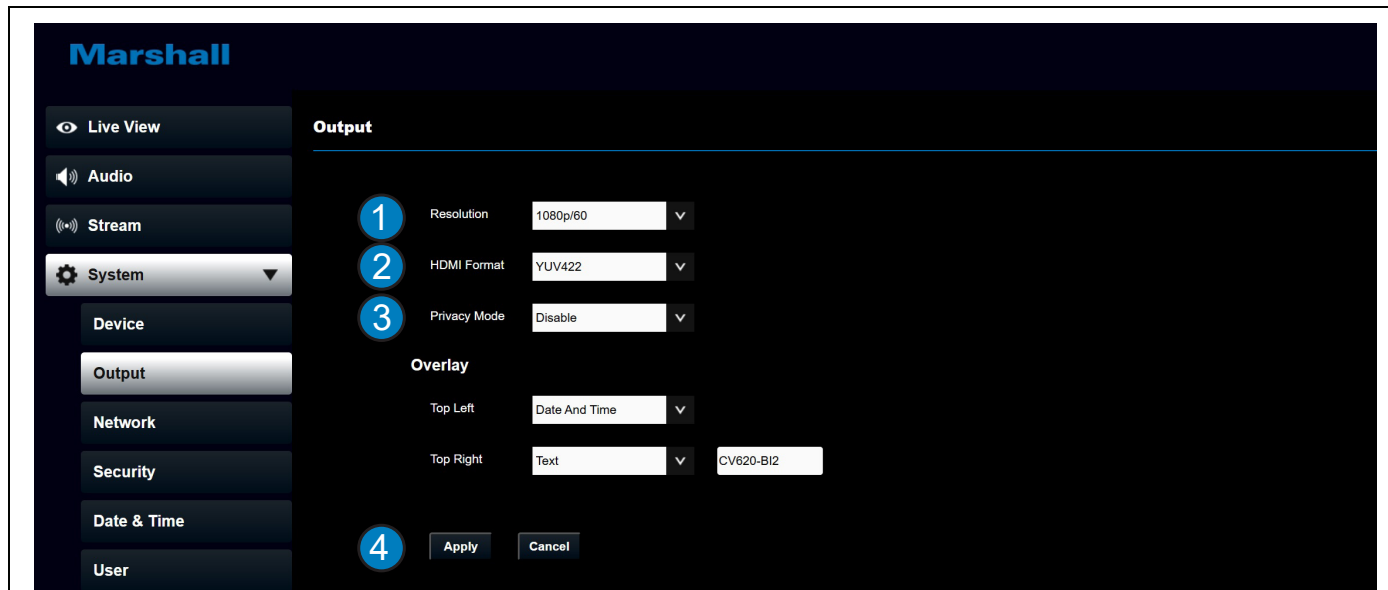
Function	Stream 1	Stream 2
Encode Format	H.264	H.264
Resolution	1080P / 720P	720P
Frame Rate	Setting according to the supported resolution	
Bit rate	Range	2,000~20,000
	Factory Default	7,000
Rate Control	CBR / VBR	
IP Ratio	Setting according to the supported resolution	

5.2.5 System-Device



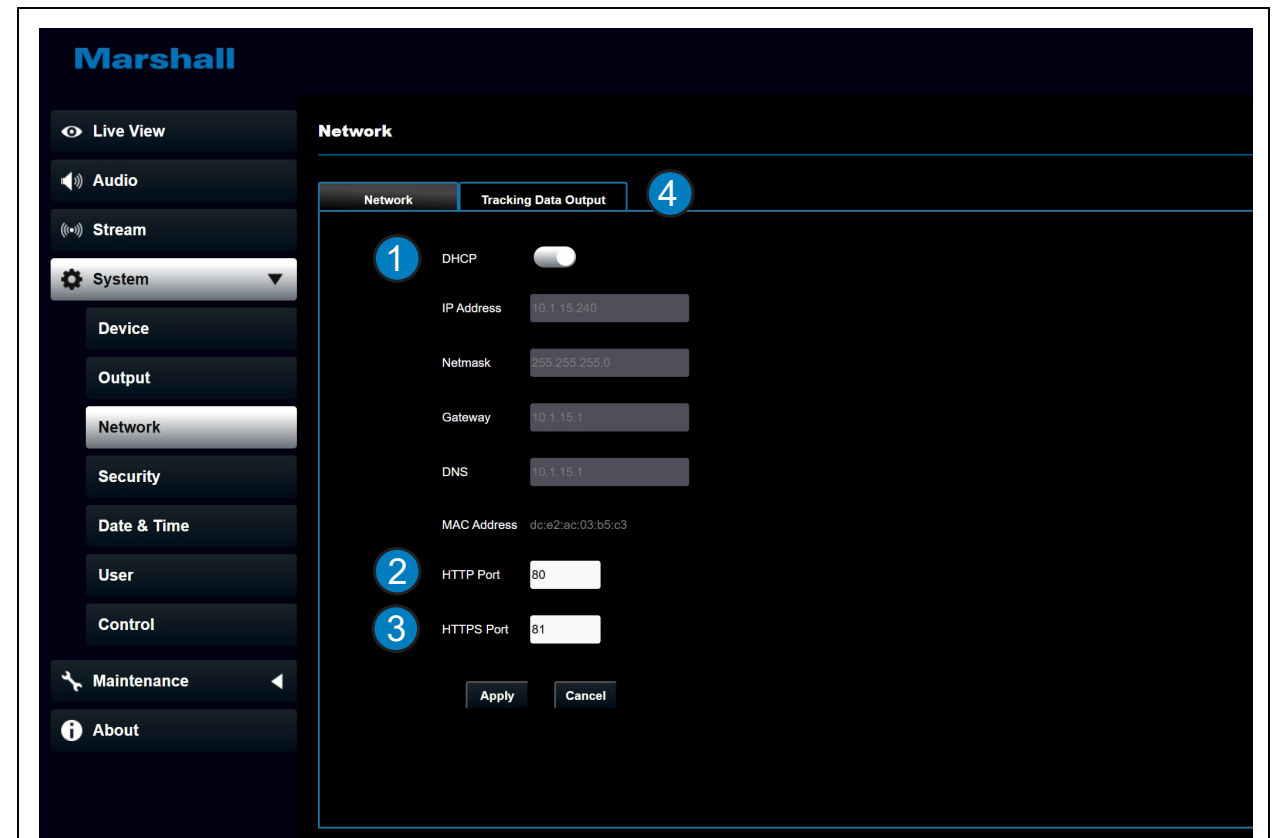
No	Item	Descriptions
1	Camera ID	<p>Camera ID can be customized</p> <ul style="list-style-type: none"> Supporting 1 - 12 characters for the camera ID Please use English letters or numbers. Special symbols such as "/" and "space" cannot be used <p>Note Modifying this field will modify the Onvif device name/ location synchronously</p>
2	Camera Location	<p>Location of the camera can be customized, such as Room 1</p> <ul style="list-style-type: none"> Supporting 1 - 11 characters for the camera location Please mix uppercase and lowercase letters or numbers for characters. Special symbols such as "/" and "space" cannot be used <p>Note Modifying this field will modify the Onvif device location synchronously</p>
3	Apply/Cancel	Apply/Cancel Setting

5.2.6 System-Output



No	Item	Descriptions
1	Resolution	Set the output resolution After switching the resolution, the camera will restart. Please refresh the browser
2	HDMI format	Select YUV422/ YUV420/ RGB <small>Note</small> YUV420 is applicable for 3840x2160 59.94/ 50.
3	Privacy Mode	Enable/ Disable Privacy Mode After the function is enabled, when the camera is turned off via the remote control or software, the lens will automatically turn to the bottom right to ensure the user' s privacy
4	Apply/Cancel	Apply/ Cancel Setting

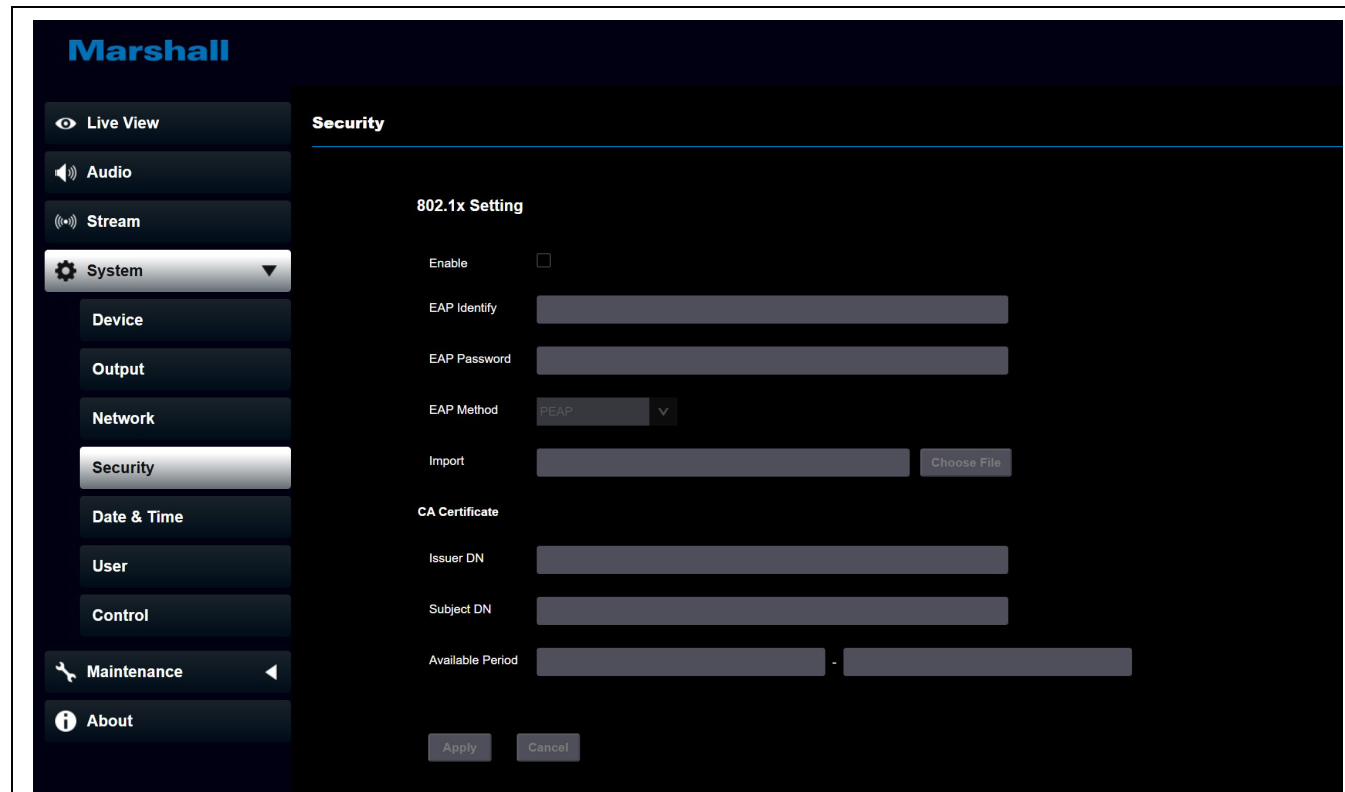
5.2.7 System-Network



No	Item	Descriptions
1	DHCP	Network setting of camera. Change of setting is available when DHCP function is closed
2	HTTP port	Set HTTP port. The default Port value is 80
3	HTTPS port	Set HTTPS port. The default Port value is 81

4	Tracking Data Output Setting	<div data-bbox="2082 1278 2533 1562" data-label="Image"> </div> <p>When enabled, PTZ position information can be fed back when the camera is moving</p> <ol style="list-style-type: none"> 1. Serial port output: The protocol must be set to VISCA, and the baud rate should be 38400 2. IP output: It can set IP address and communication port 3. The port numbers should be > 1024. Port 3702, 5353, 8080, 8554, 8556, 8557, 52380, 52381 cannot be used. <p><small>Note</small> The performance of the camera may be affected when Tracking Data Output is enabled</p>
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5.2.8 System-Security

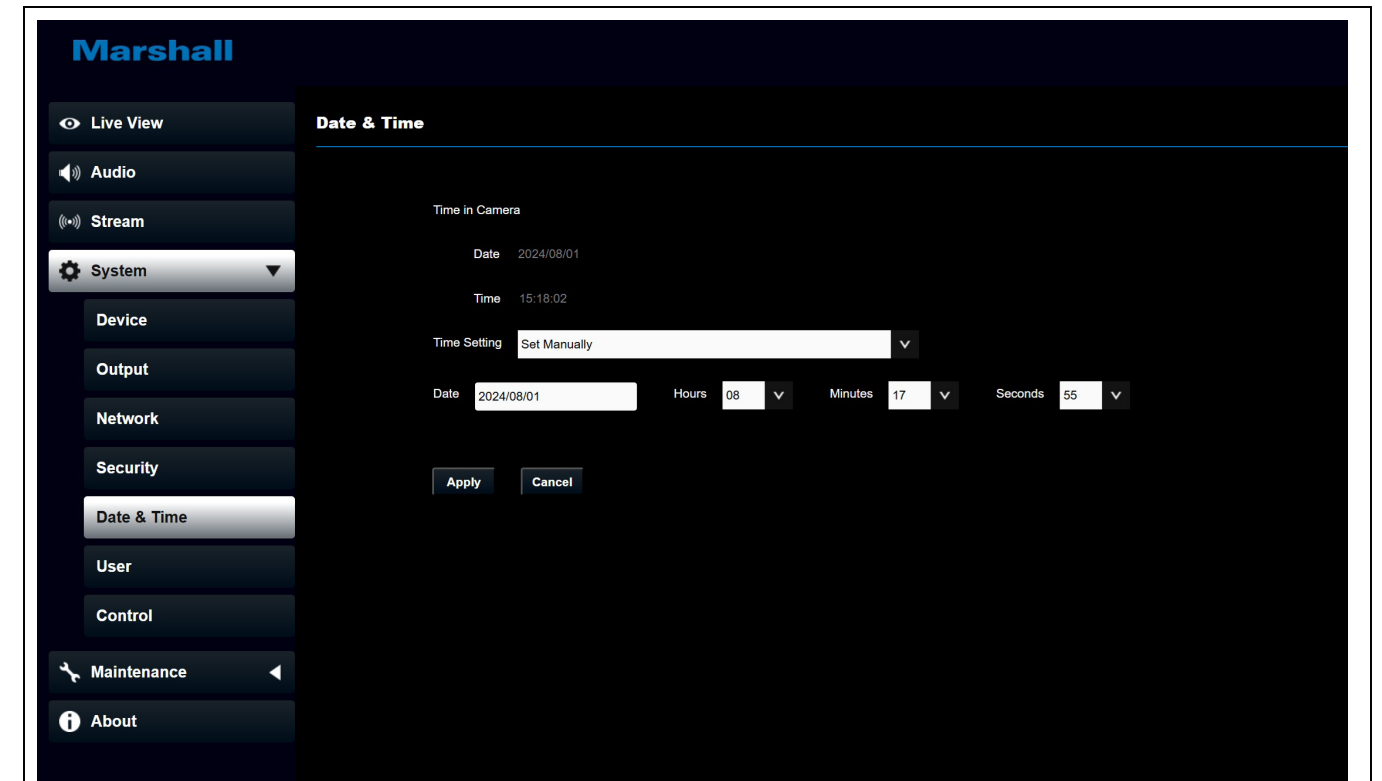


Descriptions

Enable/Disable 802.1 Protocol. Setting can be made after enabling.

Note In order to enable this function, the router must support 802.1x Protocol

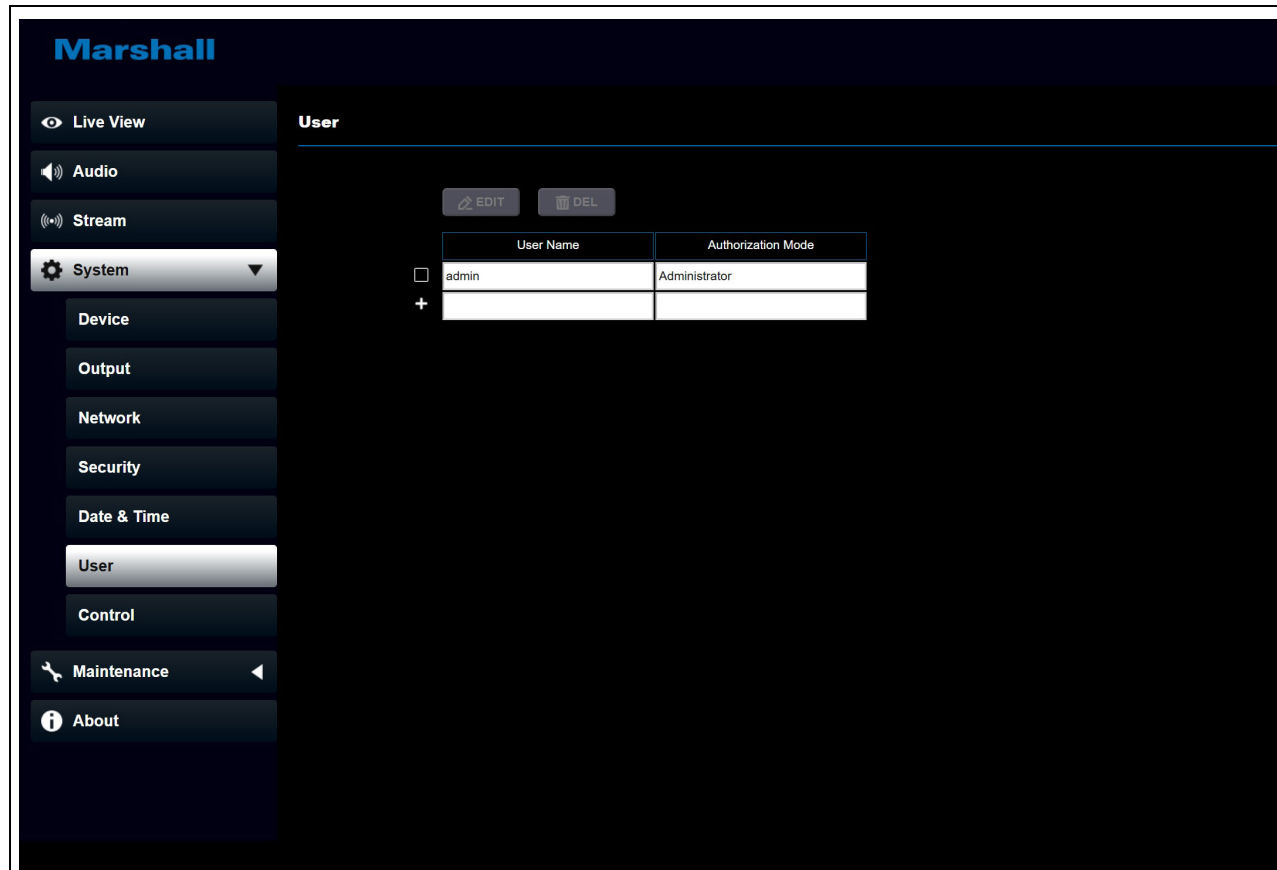
5.2.9 System-Date & Time



Descriptions

Display the date and time of the camera, set synchronization methods or manually set the date and time.

5.2.10 System-User



Descriptions

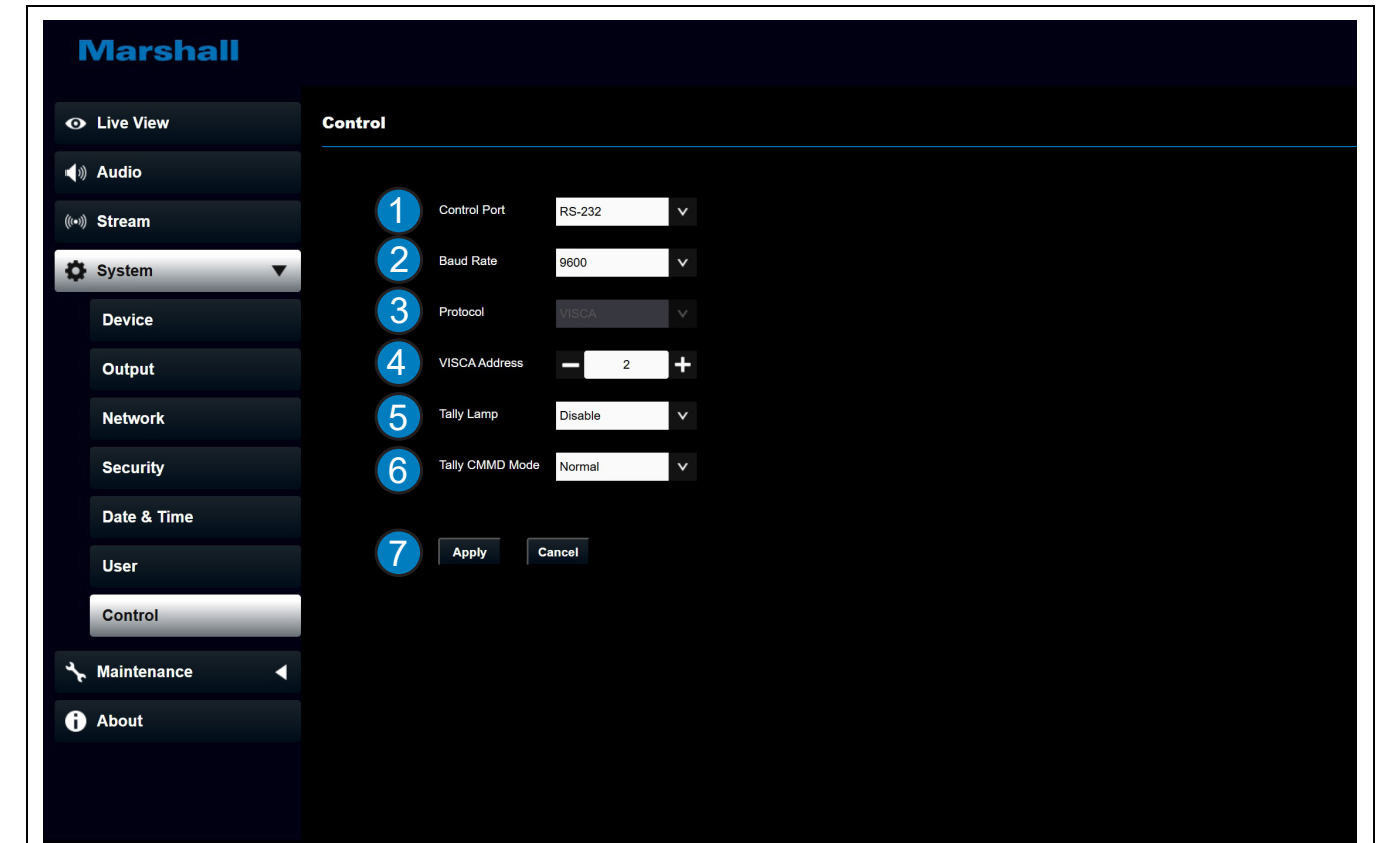
Add/ Modify/ Delete user account

- Supporting 4 - 32 characters for user name and password
- Please mix uppercase and lowercase letters or numbers for characters. Special symbols or the underlined cannot be used
- Authentication Mode: Set the new account management permissions

User Type	Admin	Operator	Viewer
View images	V	V	V
Settings	V	V	X
Account management	V	X	X

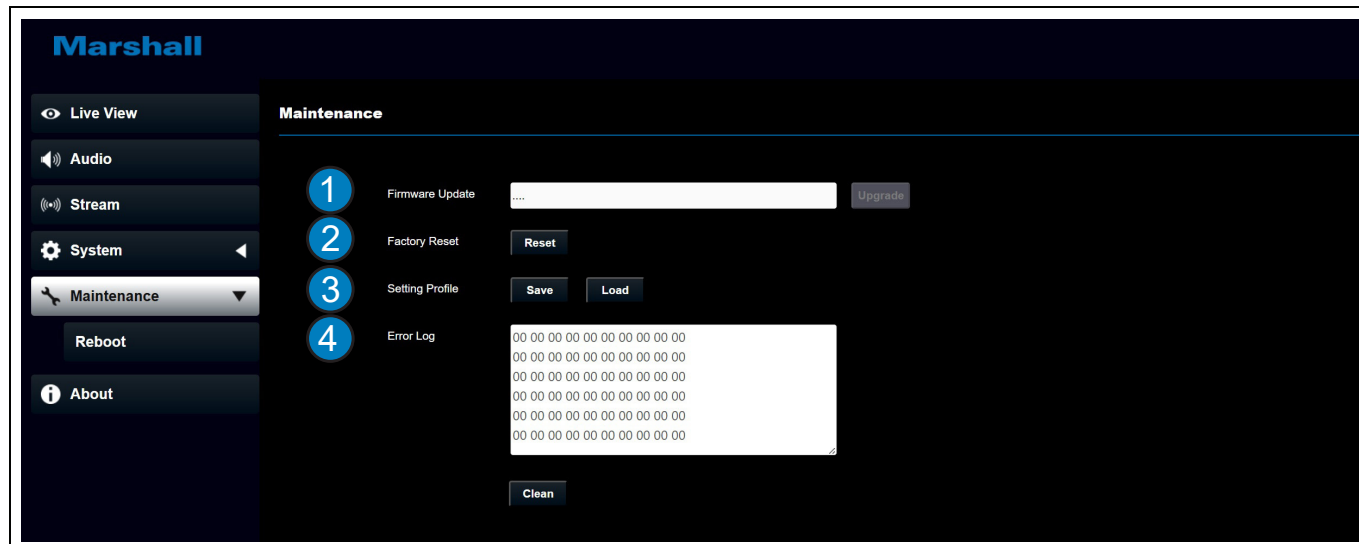
Note Factory Reset will also clear the User' s data

5.2.11 System-Control



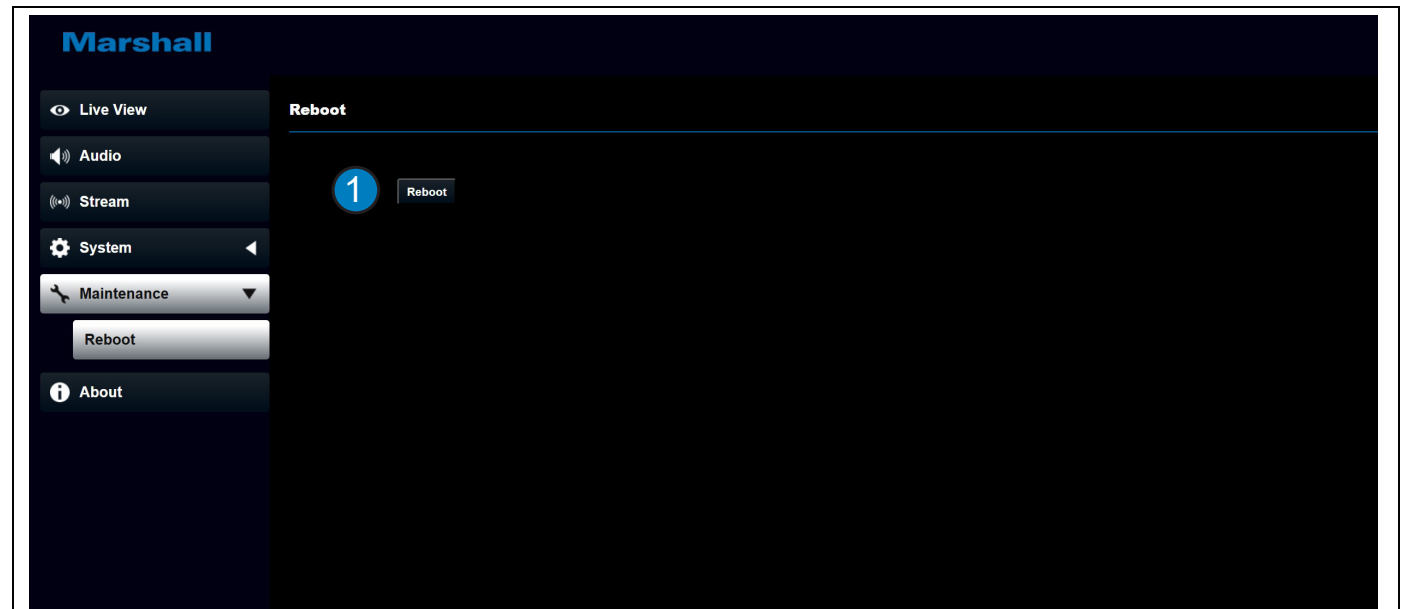
No	Item	Descriptions
1	Control Port	RS-232/ RS-422
2	Baud Rate	Choose the transmission speed of the control signal as 9600/38400
3	Protocol	VISCA protocol is supported
4	VISCA address	The camera ID address 0 ~ 7 can be assigned
5	Tally Lamp	Enable/Disable Tally Lamp
6	Tally CMMD Mode	Set whether the [Tally lamp] is linked with RS232 [Tally Mode] command ∅General (Not linked): The [Tally lamp] and RS-232 [Tally mode] need to be set separately. -When the [Tally Lamp] is ON, the RS-232 [Tally mode] default is off, additional command is required to set the [Tally mode] ON. - When the [Tally Lamp] is OFF, even the RS-232 [Tally mode] set to ON will not trigger to turn on the tally lamp. ∅Link: - When the [Tally Lamp] is ON, the RS-232 [Tally mode] will be synchronized (default is red light). - When the [Tally Lamp] is OFF, it will be triggered to turn ON once the RS-232 [Tally mode] set to ON.
7	Apply/Cancel	Apply/ Cancel Setting

5.2.12 Maintenance



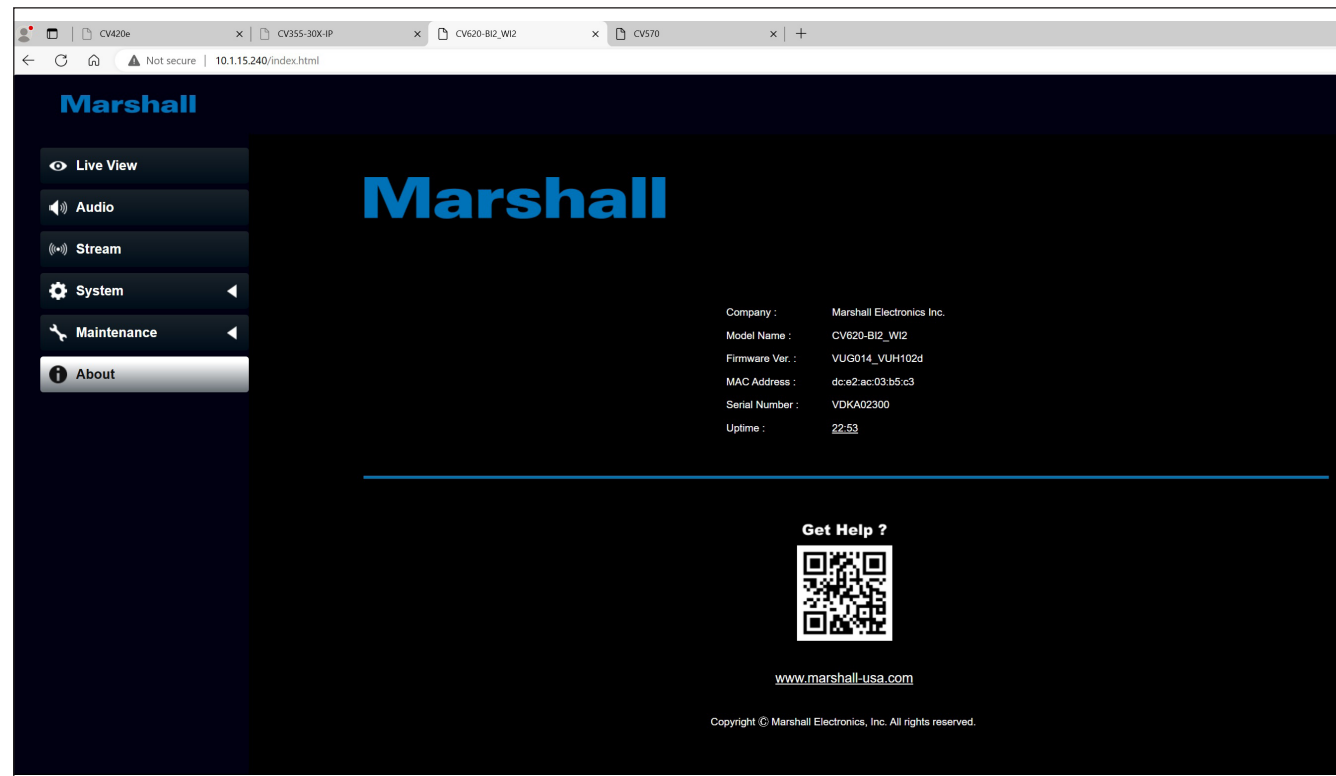
No	Item	Descriptions
1	Firmware Update	Select the firmware file, and click [Upgrade] to update the firmware <small>Note</small> Update takes about 2 - 3 minutes <small>Note</small> Please do not operate or turn off the device during the update to avoid firmware update failure
2	Factory Reset	Reset all configurations to factory default settings
3	Setting Profile	The camera setting parameters can be exported and imported/applied to another cameras.
4	Error Log	If the camera encounters errors, an error code log will be established <small>Note</small> When an error code appears, please try to clear it to check whether the issue has occurred repetitively

5.2.13 Maintenance-Reboot



No	Item	Descriptions
1	Reboot	Reboot immediately

5.2.14 About



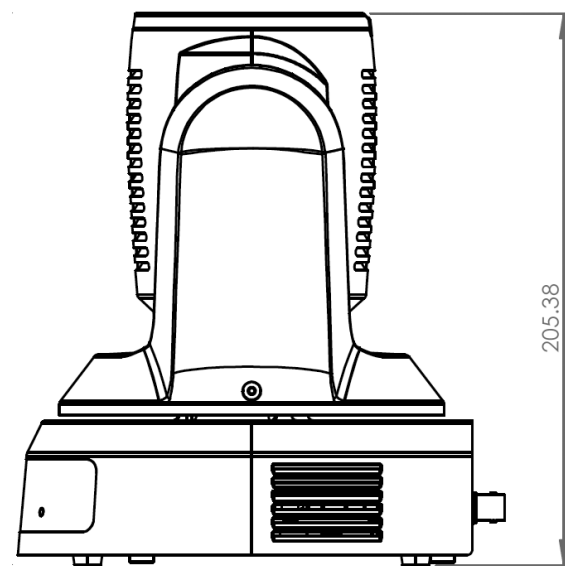
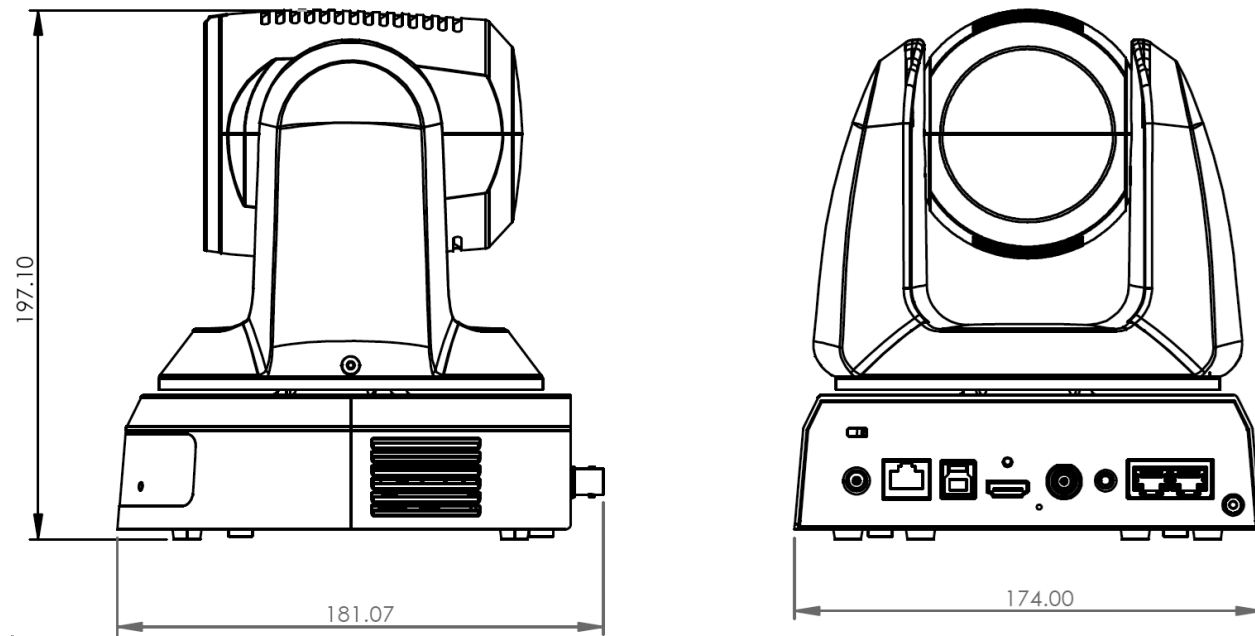
Descriptions

Display the firmware version, serial number, and other related information of the camera. For technical support, please scan the QR code at the bottom right for assistance

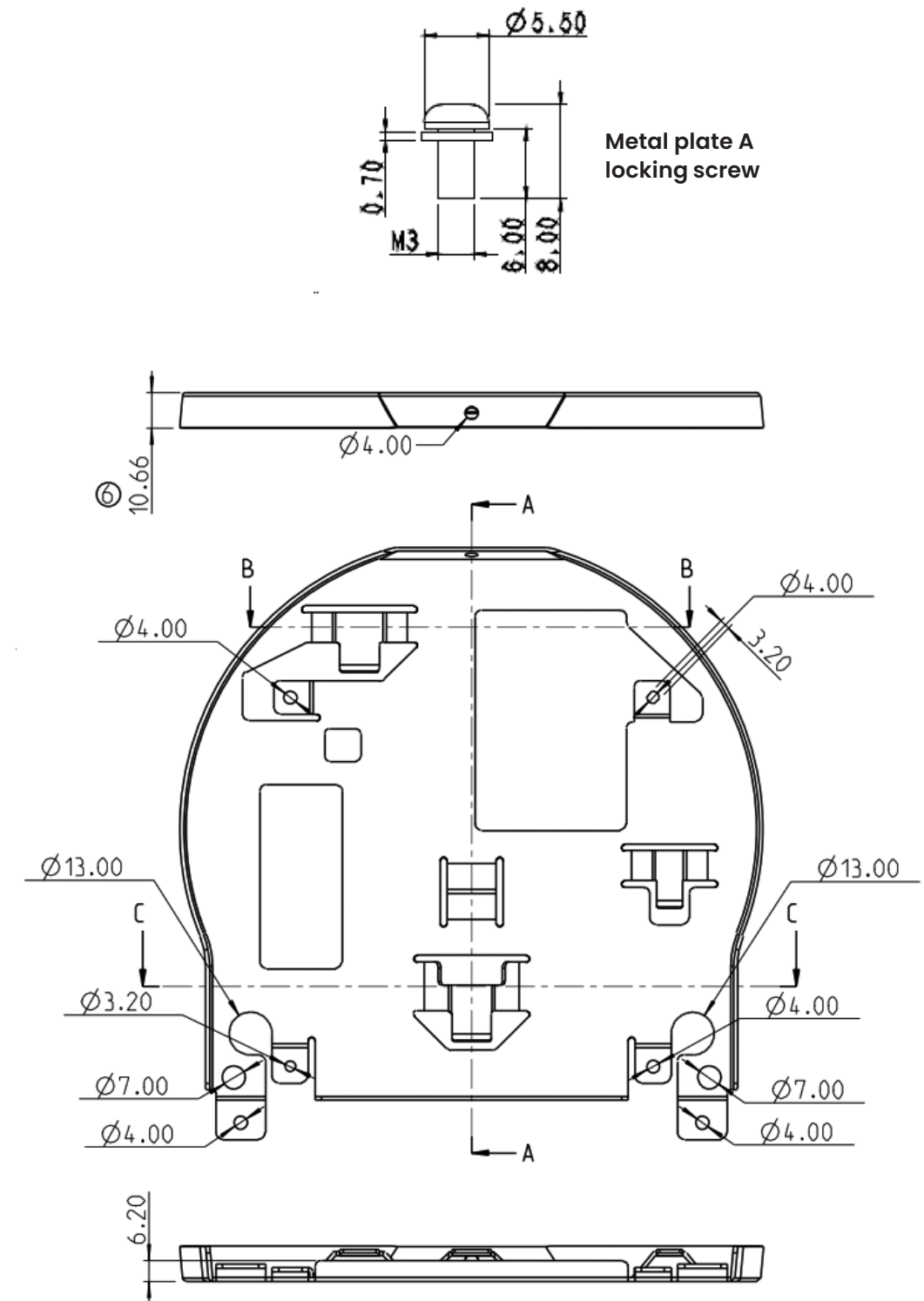
Chapter 6: Troubleshooting

No.	Problems	Solutions
1.	Boot without power signal	<ol style="list-style-type: none"> 1. Make sure you have plugged in the power cord. 2. When using a PoE connection, ensure that the power supply supports PoE(IEEE 802.3af)
2.	There is no image output from the camera	<ol style="list-style-type: none"> 1. Check the power supply or PoE supply functions. 2. Confirm if the camera resolution is compatible with the display. 3. Replace the cables and make sure they are not faulty.
3.	Camera image is severely delayed	Please use 1080p or 720p 60/50 fps rather than 25/30 fps signals
4.	RS-232/ RS-422 cannot be controlled	<ol style="list-style-type: none"> 1. Confirm the connection is correct (RS-232/ RS-422 In/ Out) 2. Please make sure the Baud rate setting is the same as the control equipment
5.	ONVIF software cannot locate the machine	Please be sure to use only English alphabets or numbers in [System]> [Device]> [Camera ID]/ [Location]of the webpage. Using special characters or space will cause the ONVIF software to be unable to search the machine.
6.	Tally lamp is not working when applying RS232 setting	<p>Please make sure if the Tally lamp function is enabled from the setting menu or web page.</p> <ul style="list-style-type: none"> ■ Setting Menu: System - Tally Lamp ■ Web page: System - Control - Tally Lamp
7.	The camera does not save the relevant parameters (PTZ, AWB ...) after reboot	<p>Please make sure if the Initial Position is set to [Last MEM] from the setting menu or web page</p> <ul style="list-style-type: none"> ■ Setting Menu: System - Initial Position ■ Web page: Live View - Camera Setting - PTZ
8.	Tracking Data Output is delayed or not updated	<p>Please make sure that the camera is not in the following conditions.</p> <p>The following function settings may cause data output to be delayed or not updated:</p> <ul style="list-style-type: none"> - Modify output resolution - Modify camera mode - Modify HDMI format - Enable OSD menu - Streaming setting - Audio setting

Chapter 7: Addendum

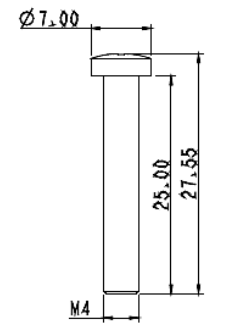


(1) Metal plate A - Camera side

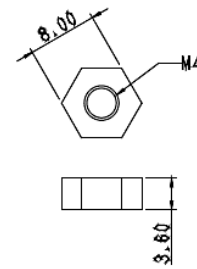


Metal plate A - Camera side

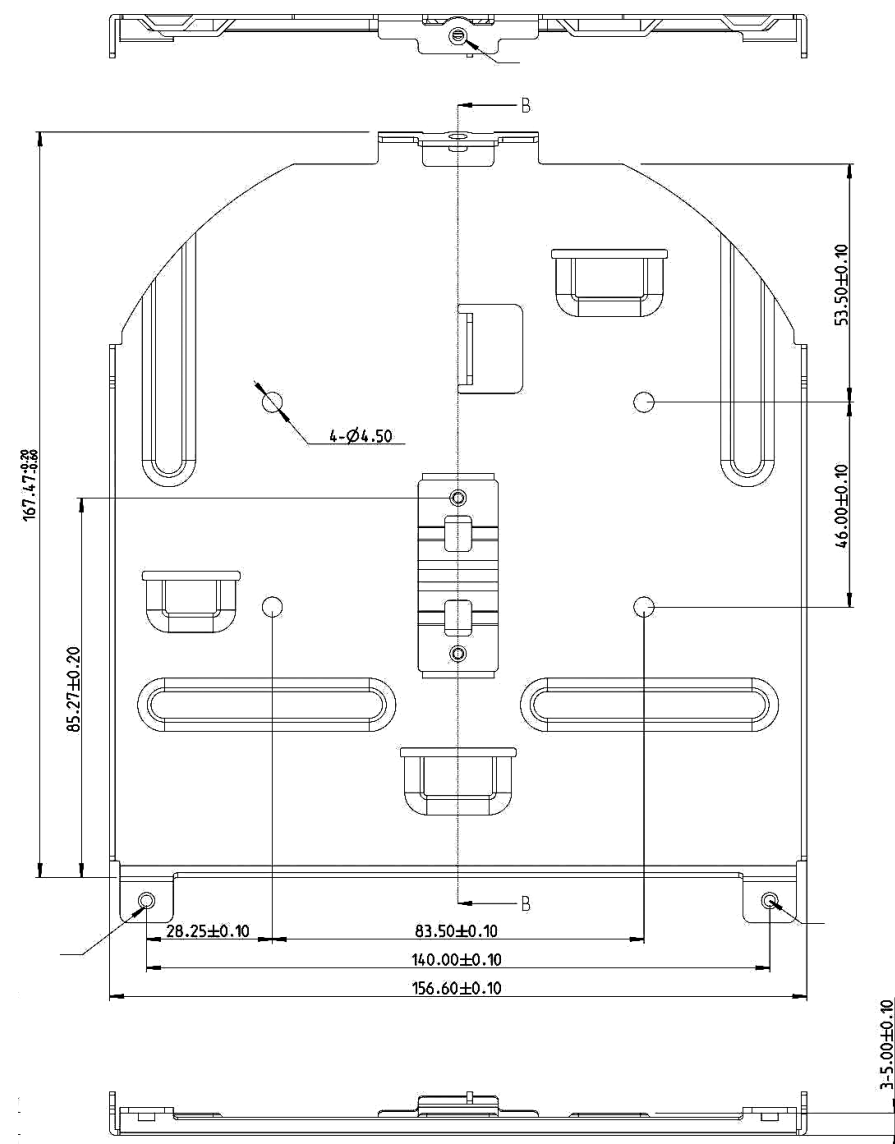
(2) Metal plate B - Ceiling side



Metal plate B locking screw



Metal plate B locking bolt



Chapter 8: 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

	<p>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.</p>		<p>This symbol indicates that there are important operating and maintenance instructions in this User Manual with this unit.</p>
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■ 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.

Supplier's Declaration of Conformity

47 CFR § 2.1077 Compliance Information

Manufacturer: Marshall Electronics, Inc.
Product Name: CV620-B12-W12
Model Number: FHAD PTZ 20X Camera

Responsible Party – U.S. Contact Information
Supplier: Marshall Electronics, Inc.
20608 Madrona Ave, Torrance, CA. 90503
e-mail: support@marshall-usa.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.

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