HD Camera
(Camera)

Installation Guide - English

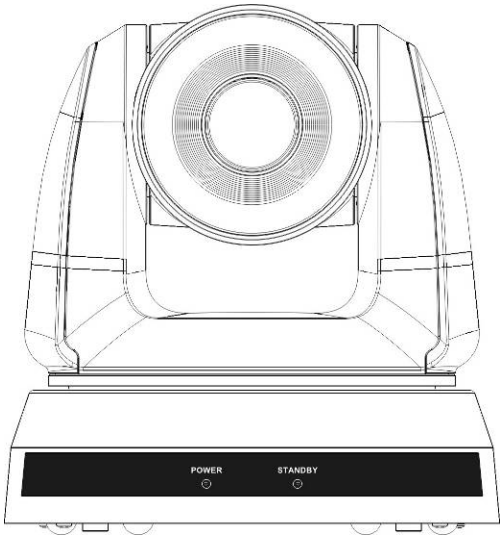


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Chapter 1 Safety Instructions

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

1. Use attachments only as recommended.
2. Use the type of power source indicated on the HD Camera. If you are not sure of the type of power available, consult your dealer or local electricity company for advice.
3. 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.
4. Do not overload wall sockets, extension cords or multi-way plug boards as this may cause fire or electric shock.
5. Do not place the HD Camera where the cord can be stepped on as this may result in fraying or damage to the lead or the plug.
6. Do not block slots and openings in the HD Camera case as poor ventilation may lead to overheated HD Camera. Do not place the HD Camera on a sofa, rug or other soft surface.
7. Never push objects of any kind through cabinet slots. Never allow liquid of any kind to spill into the HD Camera.
8. Except as specifically instructed in this User Manual, do not attempt to operate this product by yourself. Opening or removing covers may expose you to dangerous voltages and other hazards. Refer all servicing to licensed service personnel.
9. Unplug the HD Camera during thunderstorms or if it is not going to be used for an extended period. Do not place the HD Camera or remote control on top of vibrating equipment or heated objects such as a car, etc.
10. Unplug the HD Camera from the wall outlet and refer servicing to licensed service personnel when the following situations happen:
    - If the power cord or plug becomes damaged or frayed.
    - If liquid is spilled into the HD Camera or the HD Camera has been exposed to rain or water.

<Note>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 HD Camera will not be used for an extended time, unplug it from the power socket.

<table>
<tr><td colspan="4">
Note
Risk of Electric Shock
DO NOT OPEN
</td></tr>
<tr><td colspan="4">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.</td></tr>
<tr><td></td><td>This symbol indicates that this equipment may contain dangerous voltage which could cause electric shock.</td><td></td><td>This symbol indicates that there are important operating and maintenance instructions in this User Manual with this unit.</td></tr>
</table>

■ FCC Warning

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

■ EN55022 (CE Radiation) Warning

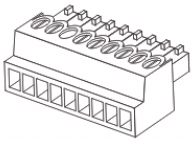
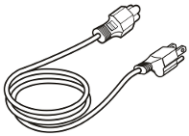
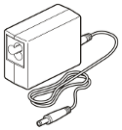
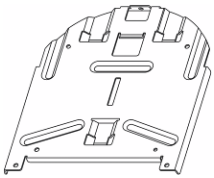
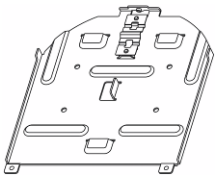
This product is intended for use in a commercial, industrial, or educational environment. It is not intended for residential use.

This is a Class A product. In a residential environment it may cause radio interference, in which case the user may be required to take adequate measures. The typical use is in a conference room, meeting room or auditorium.

■ KCC Warning

A 급 기기 (업무용 방송통신기자재)	이 기기는 업무용(A 급) 전자파적합기기로서 판매자 또는 사용자는 이 점을 주의하시기 바라며, 가정 외의 지역에서 사용하는 것을 목적으로 합니다.

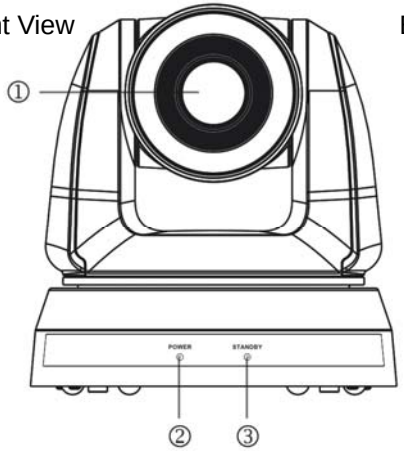
Chapter 2 Package Contents

HD Camera	Remote control	RS-422 Connector
		
Power cord	**Power Adapter**	**M3 Screws**
 Appearance may vary depending on country/region		
Metal Plate A	**Metal Plate B**	
		

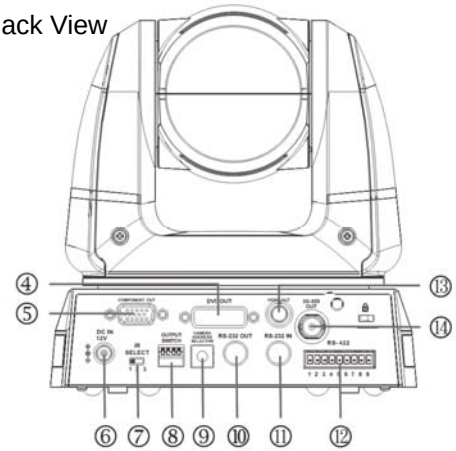
Chapter 3 Product Overview

3.1 Overview

Front View



Back View



1. Camera lens	2. Power LED indicator
3. Standby LED indicator	4. DVI output
5. Component output	6. Power input
7. IR SELECT	8. OUTPUT Switch
9. Camera Address Selectors	10.RS-232 output
11.RS-232 input	12.RS-422 Connection
13.VIDEO output	14.3G-SDI output

3.2 Description of LED indicator

3.2.1 Power：

3.2.1.1 No light: Power off

3.2.1.2 Green light: In use

3.2.1.3 Flickering green: Signal from the remote control is received; the indicator flickers every 0.5 second

3.2.2 Standby：

3.2.2.1 Orange: In standby mode

3.2.2.2 No light: Power on

Chapter 4 Instruction for installation

4.1 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 any accident.

4.1.1 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.

4.1.2 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.

4.1.3 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.

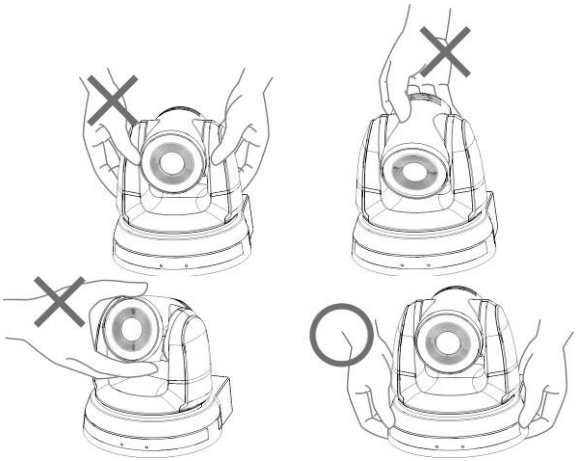
4.1.1.2 Confirm whether the camera is set at a proper distance from other light sources.

4.2 Instruction for installation

4.2.1 I would like to install camera on the desk

4.2.1.1 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

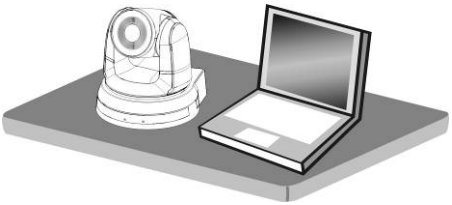


4.2.1.2 Installation steps

1. Please adjust DIP switch at first prior to installation.

   <Remark>Please refer to Chapter 7 DIP Switch Setting for the relevant descriptions on DIP switch.

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



4.2.2 I would like to install camera on the ceiling

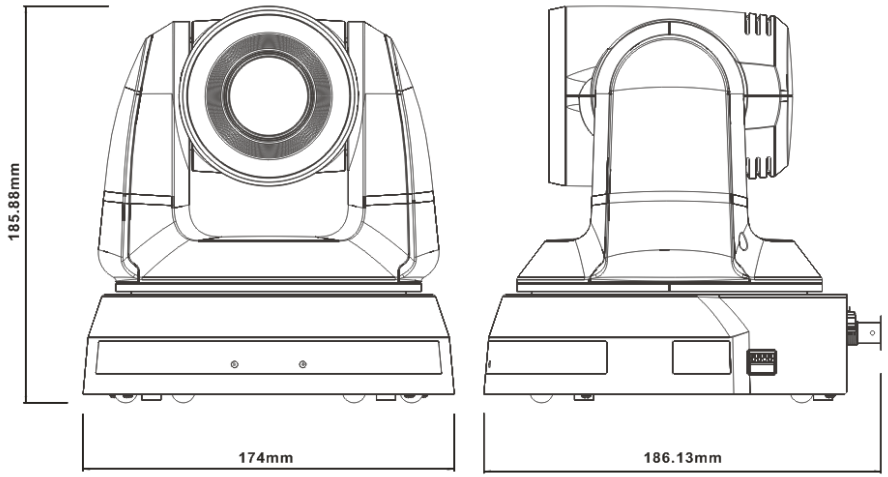
4.2.2.1 Prepare for the parts and equipment required during the installation

1. Accessories in the box (metal plates A, B, M3 screw x 7)
2. Screw for locking on ceiling mounted hanger x 4
3. Drilling machine, screw driver, ladder

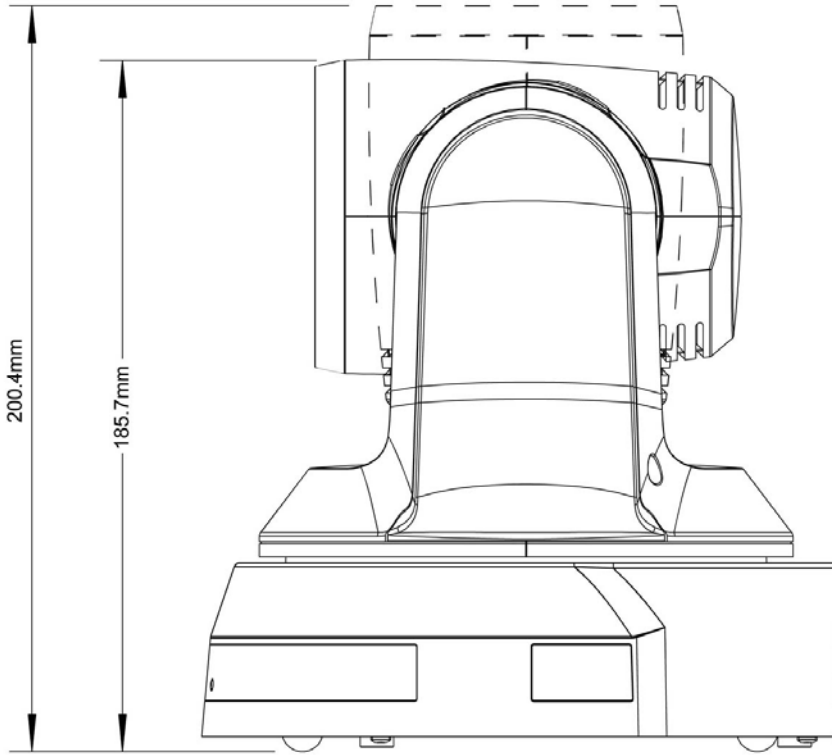
4.2.2.2 Dimension

Length x Width x Height : 174x186.13x185.88mm

Weight: 2.0Kg

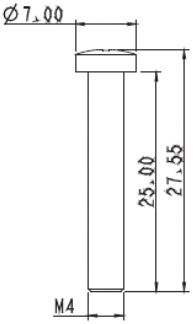


4.2.2.3 Max. rotation dimension of camera

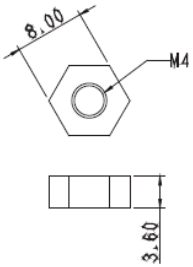


4.2.2.4 Size Diagram

1. Metal plate B - ceiling side



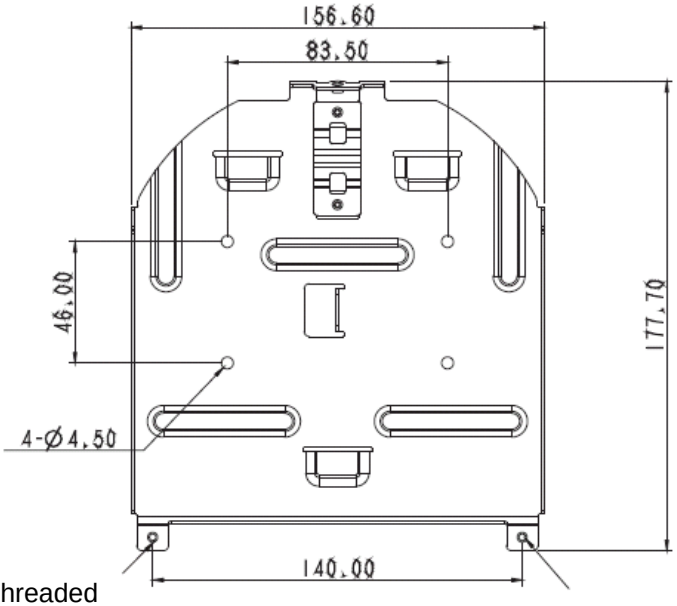
Metal plate B locking screw



Metal plate B locking bolt

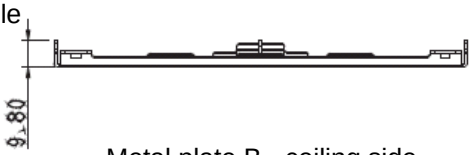


M3 threaded hole



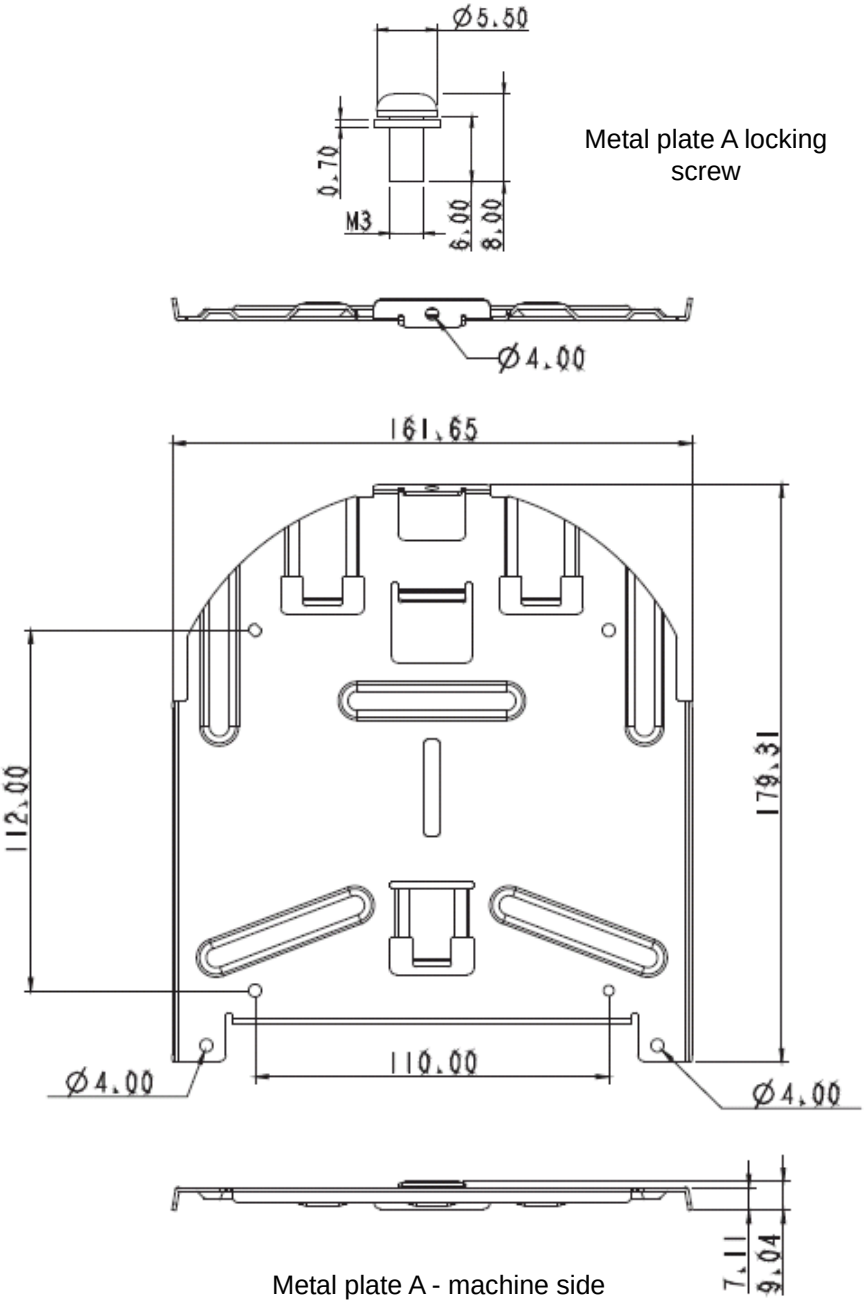
M3 threaded hole

M3 threaded hole



Metal plate B - ceiling side

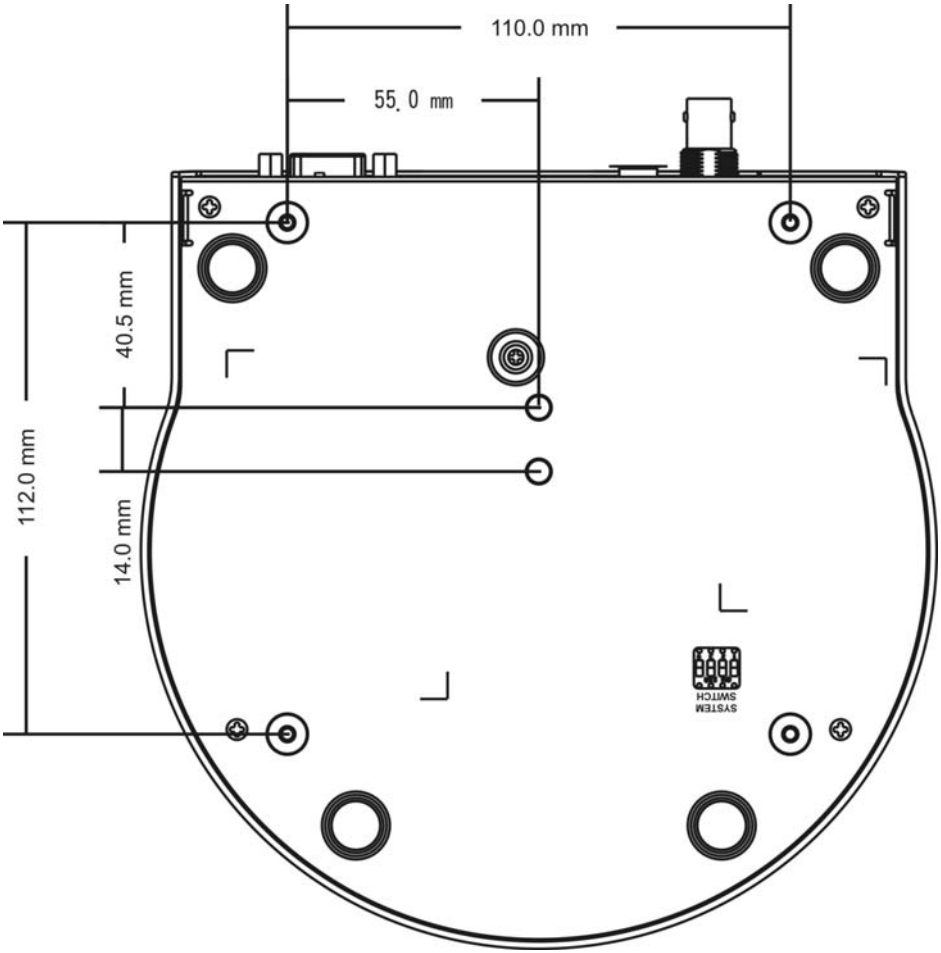
2. Metal plate A - machine side



Metal plate A locking screw

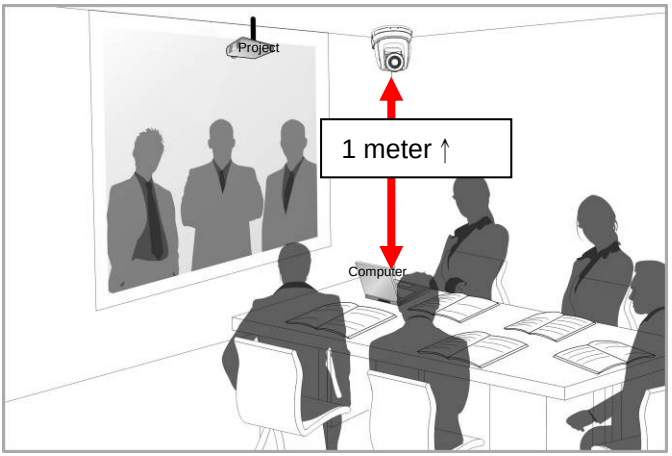
Metal plate A - machine side

3. Bottom of machine



4.2.2.5 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 1 meter away from the object to be captured. Please adjust for a best distance according to the magnification of the lens.



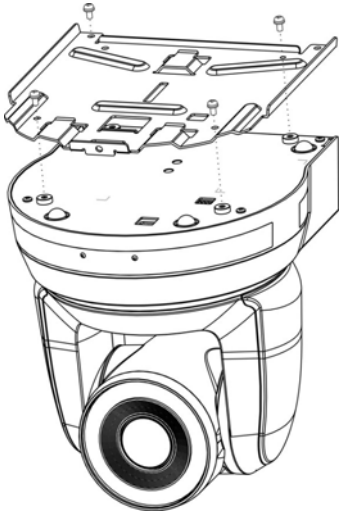
3. The machine (including metal plates) is weighed at about 2.5 kg. If it is to be installed on the ceiling, please use the hanger that has obtained UL security approval to prevent the machine from falling down.
4. Please check whether the camera is installed securely on a regular basis.

4.2.2.6 Installation steps

1. Please adjust resolution on DIP switch at first.

<Remark>Please refer to Chapter 7 DIP Switch Setting for the relevant descriptions on DIP switch.

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



3. Lock the metal plate B on ceiling mounted hanger.

※Caution:

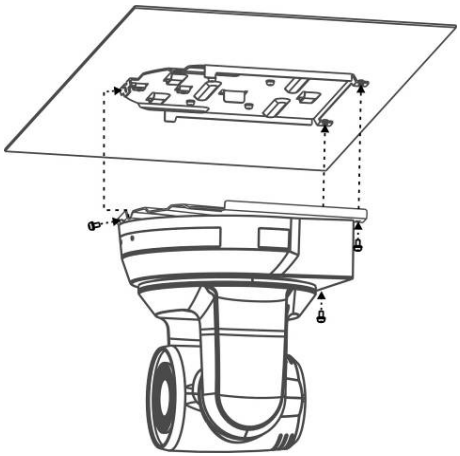
(1) Please use the hanger that has obtained UL security approval

(2) Please reserve the hole for the connecting wires of the camera

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

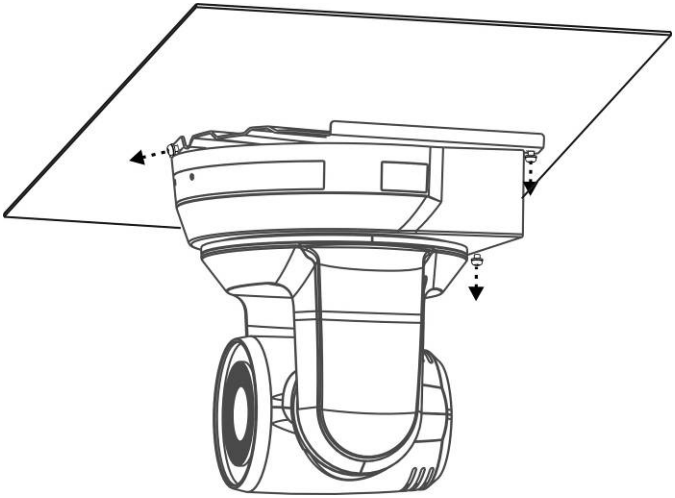
   (1) Push the metal plate A up to the ceiling and then to the right to latch the metal plate B

   (2) Fix with 3 M3 screws



4.2.2.7 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.

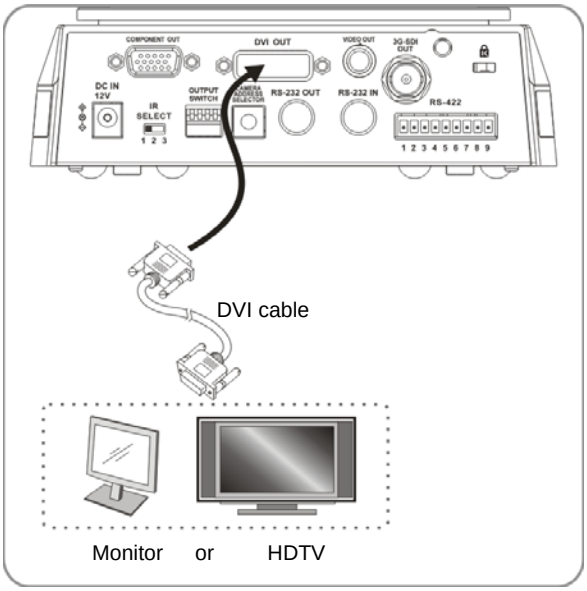


3. Then remove the screws on the hanger and the machine.

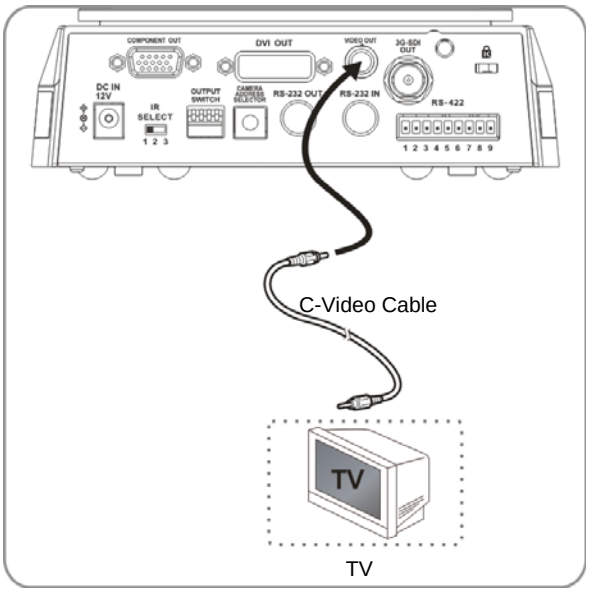
4.3 Connecting the device

4.3.1 Image output

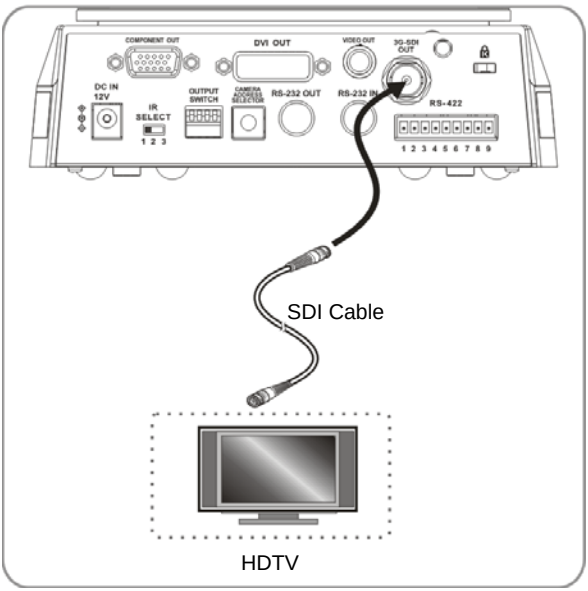
4.3.1.1 Connecting to a HDTV/computer monitor (DVI)



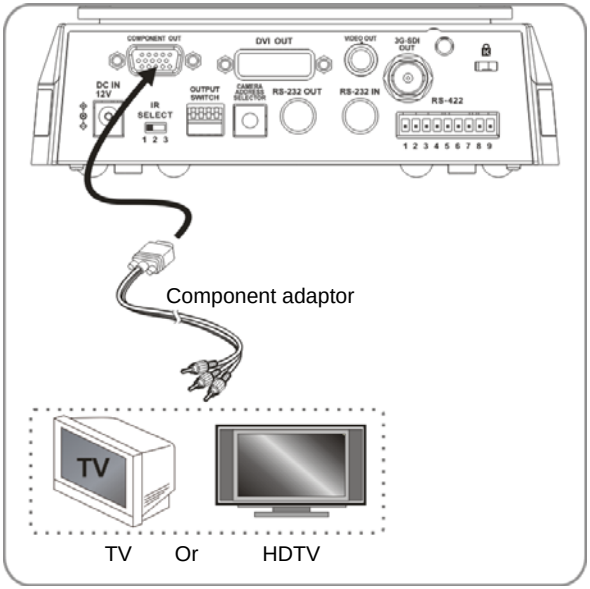
4.3.1.2 Connecting to a TV (C-Video)



4.3.1.3 Connecting to a HDTV (3G-SDI)

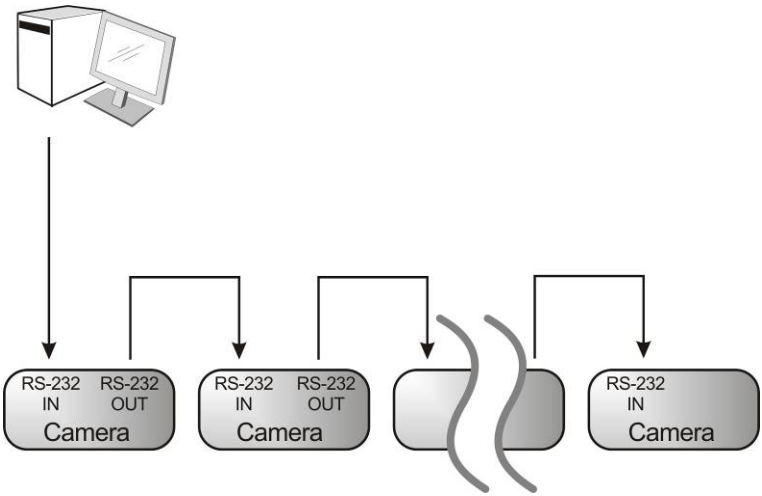


4.3.1.4 Connection to the device for image output



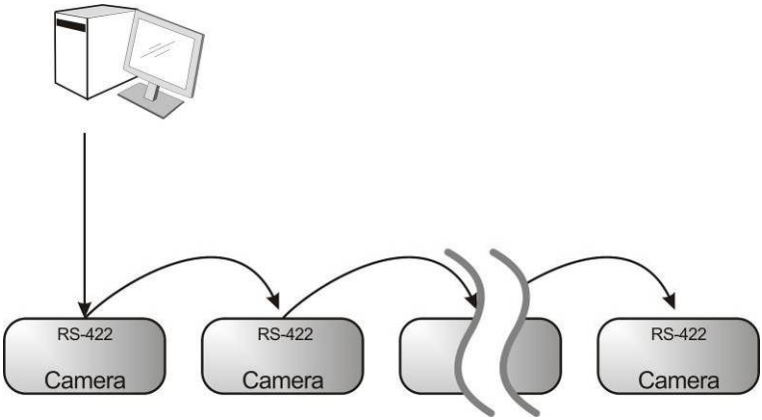
4.3.2 Controlling cameras with the computer

4.3.2.1 Connecting to one computer for connection between cameras (RS-232 in/out)



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

4.3.2.2 Connecting to one computer for connection between cameras (RS-422)



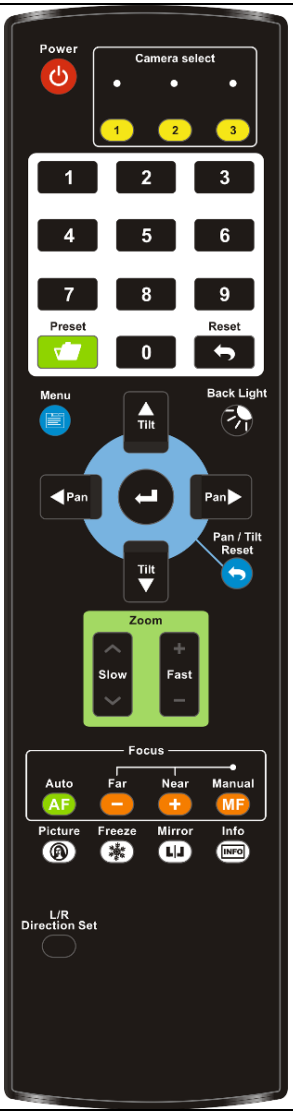
<Remark>Please refer to 7.2 RS-422 connection for the RS-422 connection instructions.

<Remark>With RS-422, at most 7 cameras can be connected.

Chapter 5 Remote Control and Setting Menu

5.1 Functions of remote control

<Remark>The below functions are listed alphabetically.



Item	Description
◀,▶,▲,▼	Move the lens
Back Light	Turn on/off back light compensation
Camera select	Choose camera 1 ~ 3
Focus-Manual / Far/Near	Turn on manual focus to adjust the focal length
Focus-Auto	Auto focus
Freeze	Freeze the screen
Home-Enter	Go back to the main page/Execute
Info	Status information
L/R Direction Set	L/R Direction / Disable / Normal
Menu	Display OSD menu
Mirror	Rotate the image (Off/ Mirror/ Flip/ Mirror+Flip)
Pan/Tilt Reset	Clear the Pan/Tilt setting
Picture	Switch image effect (Off / Neg / B&W)
Power	Power switch
Preset	Appoint an ID (0 ~ 9) to save the current position data
Reset	Appoint an ID (0 ~ 9) to delete the current position data
Zoom-Fast	Adjust image size
Zoom-Slow	Fine-tune image size

5.2 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 Major Items	2nd Level Minor Items	3rd Level Adjustment Values		Function Descriptions
Exposure	**Mode**	1. **<u>Full Auto</u>** 2. Shutter Pri 3. Iris Pri 4. Manual 5. White Board		Exposure mode setting
	Exposure_ Comp.	ON/**<u>Off</u>**		AE Level
	Exposure_ Comp. Level	-6~**<u>0</u>**~4		The value can be adjusted only after **Exposure_Comp.** is activated
	Spot Light	ON/**<u>Off</u>**		The value can be adjusted when the mode is set to **Full Auto** or **Shutter Pri**
	Spot Light Position	X(0~8)Y(0~6)		The value can be adjusted only after **Spot Light** is activated
	Shutter Pri	60/30 mode	50/25 mode	Shutter priority setting
		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	
		1/60	**1/50**	
		1/30	1/25	
		1/15	1/12	
		1/8	1/6	
		1/4	1/3	
		1/2	1/2	
		1/1	1/1	
	Iris Pri	1. **F1.6** 2. F2.2 3. F3.2 4. F4.5 5. F6.3 6. F9 7. F13 8. F18		IRIS priority setting

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10. 2 dB
11. 4 dB
12. 6 dB
13. 8 dB
14. 10 dB
15. 12 dB
16. 14 dB
17. 16 dB
18. 18 dB
19. 20 dB
20. 22 dB
21. 24 dB
22. 26 dB
23. 28 dB
24. 30 dB</td><td>Manually set the gain</td></tr>
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<tr><td></td><td>1/250</td><td>1/215</td><td></td></tr>
<tr><td></td><td>1/180</td><td>1/150</td><td></td></tr>
<tr><td></td><td>1/120</td><td>1/120</td><td></td></tr>
<tr><td></td><td>1/100</td><td>1/100</td><td></td></tr>
<tr><td></td><td>1/90</td><td>1/75</td><td></td></tr>
</table>

		1/60	**1/50**	
		1/30	1/25	
		1/15	1/12	
		1/8	1/6	
		1/4	1/3	
		1/2	1/2	
		1/1	1/1	
	Manual Iris	1. **F1.6** 2. F2.2 3. F3.2 4. F4.5 5. F6.3 6. F9 7. F13 8. F18		Manually set the IRIS
	Gain Limit	1. 8 dB 2. 10 dB 3. 12 dB 4. 14 dB 5. 16 dB 6. 18 dB 7. 20 dB 8. 22dB 9. 24dB 10. 26 dB 11. 28 dB 12. **30dB**		The maximum electric gain limit
	WDR	1. **Off** 2. 1 3. 2 4. 3 5. 4 6. 5		Set WDR

	Anti Flicker	1. 50Hz 2. 60Hz 3. **Off**	Set the synchronization frequency for the captured images
White Balance	**Mode**	1. **Auto** 2. Indoor 3. Outdoor 4. One Push WB 5. ATW 6. Sodium lamp 7. Manual 8. 3000K 9. 4300K 10. 5000K 11. 6500K 12. 8000K 13. WidwAuto	Select the color temperature mode 1. 4000k ~ 7000k 2. 3200k 3. 5800k 4. 1700k ~ 10000k 5. 1700k ~ 10000k 6. 2800k 7. Custom 8. 3000K 9. 4300K 10. 5000K 11. 6500K 12. 8000K 13. 3000k ~ 7000k
	One Push Trigger	**ENTER**	One push trigger
	Manual Blue	0~ **C**~60	Adjustable when the white balance mode is set to **Manual**
	Manual Red	0~ **C**~60	Adjustable when the white balance mode is set to **Manual**
Picture	**Picture effect**	4. **Off** 5. Neg 6. B&W	Set the picture effect
	Sharpness	1~**A**~16	Adjust the **sharpness** of the image
	2D NR	1. **Auto** 2. Off 3. 1 4. 2 5. 3 6. 4 7. 5	Set 2D noise reduction

	3D NR	1. Off 2. **Low** 3. Typ 4. Max 5. Auto	Set 3D dynamic noise reduction
	Image Mode	1. Mode1 2. Mode2 3. Mode3 4. Mode4 5. **Mode5** 6. Mode6 7. Custom	The user may customize his/her desired image mode.
	Image Mode Load	1. **Mode1** 2. Mode2 3. Mode3 4. Mode4 5. Mode5 6. Mode6	Adjustable when ***Image Mode*** is set to ***Custom***. The user may load an Image Mode and apply it to Custom.
	Saturation	0~ **A** ~25	Adjustable when ***Image Mode*** is set to ***Custom***.
	Hue	0~ **A** ~14	Adjustable when ***Image Mode*** is set to ***Custom***.
	Gamma	0~ **A** ~3	Adjustable when ***Image Mode*** is set to ***Custom***.
	Skin Tone	1~ **A** ~5	Set skin tone, Adjustable when ***Image Mode*** is set to ***Custom***.
	Brightness	0~ **A** ~14	Adjustable when ***Image Mode*** is set to ***Custom***.
	Contrast	0~ **A** ~14	Adjust the contrast of the screen, Adjustable when ***Image Mode*** is set to ***Custom***.
	Black Level	1. **Off** 2. Type1 3. Type2 4. Type3	Adjust the shadow detail and transparency of the screen, Adjustable when ***Image Mode*** is set to ***Custom***.
Pan Tilt	**Pan/Tilt Limit**	ON/**Off**	Turn on/off the angle limit setting

Zoom	**Pan Right Limit**	0~**170**	Limit the right angle
	Pan Left Limit	**-170**~0	Limit the left angle
	Tilt Up Limit	0~**90**	Limit the upward angle
	Tilt Down Limit	**-30**~0	Limit the downward angle
	D-Zoom Limit	**x1**~ x4	Limit the D-zoom multiple
D-effect	**Mirror**	1. **Off** 2. Mirror 3. Flip 4. Mirror + Flip	Set the mode at which the image is turned
Auto Focus	**AF Sensitivity**	1. Low 2. **Middle** 3. High	Select the AF triggering speed. The higher the speed is, the faster AF is triggered.
	AF speed	Fast/**Normal**	Focus speed upon triggering AF
	AF Frame	1. **Auto** 2. Full Frame 3. Center	AF frame setting. When central area was set as AF frame, focusing will be on the center of the screen. When full area was set as AF frame, focusing will be calculated based on the full screen.
System	**C-Video**	NTSC LB	Image mode
		NTSC CP	
		NTSC SQ	
		PAL LB	
		PAL CP	
		PAL SQ	
	Video Type	SDI	Select output video type
		YPbPr/DVI	
	Prompt	ON/**Off**	Turn on/off the prompt information on the display
	IR Receive	**ON**/Off	Turn on/off the infrared reception
	Control Device	**Encoder** / Controller	Set control device

	Protocol	**Protocol V** / Protocol PD	Protocol V : VISCA Protocol PD : PELCO D
	PD Address	**1**~255	The Protocol set to PD allows the camera ID address to be assigned
	Factory Reset	ON/**Off**	Resume the factory default setting
Status			Display the current setting status

Chapter 6 Descriptions of Major Functions

6.1 I would like to switch camera

1. Press **[Camera 1 ~ 3]** on the **Remote Control** to select camera.

- **Camera 1 ~ 3 is selected with IR SELECT.**

6.2 I would like to save the current lens position data

1. Hold **[Preset + ID]** on the **remote control** to save the current position data.

- **ID shall be a digit [0 ~ 9].**
- **Use VISCA Command to save the position data to [0~127]**

6.3 I would like to clear the saved position data

1. Hold **[Reset + ID]** on the **remote control** to clear the given position data.

- **ID shall be a digit [0 ~ 9].**
- **Use VISCA Command to clear the position data of [0~127]**

6.4 I would like to turn on the back light compensation function

1. Press **[Back Light]** on the **remote control** to turn on or turn off the back light compensation.

6.5 I would like to adjust the shooting angle of the lens

1. Press **[Tilt ▲]** or **[Tilt ▼]** on the **remote control** to adjust the angle upward or downward.
2. Press **[Pan ►]** or **[Pan ◄]** on the **remote control** to adjust the angle to right or left.
3. Press **[Pan - Tilt Reset]** on the **remote control** to reset the angle to the center point.

6.6 I would like to zoom in/out images

6.6.1 Adjust image size

1. Press **[Fast +]** on the **remote control** to zoom in images.
2. Press **[Fast -]** on the **remote control** to zoom out images.

6.6.2 Fine-tune image size

1. Press **[Slow +]** on the **remote control** to zoom in images.
2. Press **[Slow -]** on the **remote control** to zoom out images.

6.7 I would like to adjust the focal length

6.7.1 Auto tune

1. Press **[AF]** on the **remote control** to adjust automatically.

6.7.2 Manual focus

1. Press **[MF]** on the **remote control** to turn on the manual focus function.
2. Press **Focus - [+]** or **Focus - [-]** to adjust.

6.8 I would like to adjust the focus speed

6.8.1 Adjust the AF sensitivity

AF triggering speed. The higher the speed is, the faster AF is triggered.

To shoot fast-moving objects, AF can be set to **[High]** or **[Middle]**, which is applicable to quick focus.

When the environment is too dark to enable auto focus or fixed objects have to be shot in different brightness, AF can be set to **[Low]**.

1. Press [MENU] to activate the setting menu.
2. Press [►] or [◄] to select [**Auto Focus**].
3. Press [ENTER] to activate.
4. Press [▲] or [▼] to select **[AF Sensitivity]**.
5. Press [ENTER] to activate.
6. Press [►] or [◄] to select [High/Meddle/Low].
7. Press [MENU] to exit.

6.8.2 Adjust the focus speed

The focus speed upon triggering AF

- **[Normal] (**default): Image flickering may not occur

- **[Fast]:** The focus speed is fast, but image flickering is more likely to occur

1. Press [MENU] to activate the setting menu.
2. Press [►] or [◄] to select [**Auto Focus**].
3. Press [ENTER] to activate.
4. Press [▲] or [▼] to select [AF Speed].
5. Press [ENTER] to activate.
6. Press [►] or [◄] to select [Normal/Fast].
7. Press [MENU] to exit.

6.9 I would like to set the image mode

1. Press **[Picture]** on the **Remote Control** to switch [Off/Neg/B&W].

6.10 I would like to freeze images

1. Press **[Freeze]** on the **remote control** to freeze the current image on the display.

6.11 I would like to rotate the image

1. Press **[Mirror]** on the **Remote Control** to switch [Disable/Mirror/Flip/ Mirror+Flip].

6.12 I would like to change the camera direction

1. Press **[L/R Direction Set]** on the **remote control** to switch [L/R Direction/Disable/Normal].

6.13 I would like to display the current status

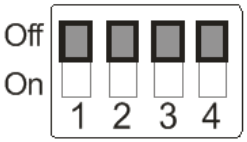
1. Press **[Info]** on the **remote control** to display the current status information.

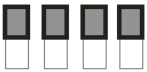
Chapter 7 DIP switch setting

<Note>Please turn off the machine before changing DIP switch setting.

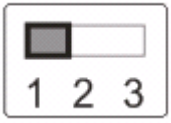
7.1 DIP SWITCH

7.1.1 OUTPUT Switch



Output Mode	Setting	Output Mode	Setting
1920x1080/60p		1920x1080/50p	
1920x1080/30p		1920x1080/25p	
1920x1080/60i		1920x1080/50i	
1280x720/60p		1280x720/50p	
1280x720/30p		1280x720/25p	
1920x1080/59.94p		1920x1080/59.94i	
1920x1080/29.97p		1280x720/59.94p	
1280x720/29.97p			

7.1.2 IR SELECT



ID	Setting
1	
2	
3	

7.1.3 Camera Address Selector



Setting	Function Descriptions
0~7	ID 0~7
8~9	Reserved

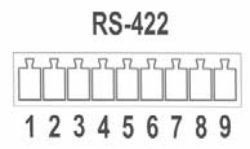
7.1.4 System Switch



Setting	Function Descriptions
DIP 1	RS-232C/RS-422 selector OFF : RS-232C / ON : RS-422
DIP 2	Infrared signal output switch OFF : Off / ON : On
DIP 3	Communication baud rate selector OFF : 9600 / ON : 38400
DIP 4	Reserved

7.2 RS-422 Connection

7.2.1 RS-422 Pin Description



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 +

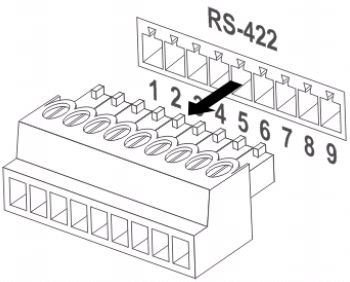
<Note>

For SONY products, please connect IN+ to OUT+

For non-SONY products, it may be necessary to connect IN+ to OUT-

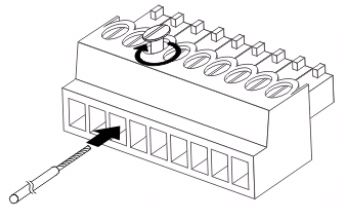
7.2.2 Use RS-422 Connection

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

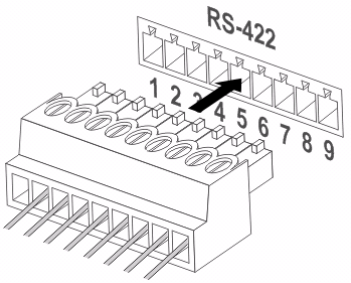


2. Peel off a section of copper wire (AWG Nos.28 to18) and insert it into

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.



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

Chapter 8 Troubleshooting

This chapter describes problems you may encounter while using camera. If you have questions, please refer to related chapters and follow all the suggested solutions. If the problem still occurred, please contact our distributors or service center.

No.	Problems	Solutions
1.	**Boot without power signal**	1. Make sure you have plugged in the power cord. 2. Make sure the Service DIP switch is Off.
2.	**There is no image output from camera**	1. Check the power. 2. Check if DIP switch is properly set. Please refer to **Chapter 7 DIP Switch Setting** for related settings. 3. Make sure the display supports the output resolution; in general, the resolution is 1080p60/1080i60/720p60. 4. Replace the cables and make sure they are not faulty.
3.	**Camera image is severely delayed**	Please use 1080p or 720p 60/50 Hz signals rather than 25/30 Hz signals.
4.	**Not working after changes to DIP Switch setting**	After completing DIP Switch setting, unplug and reconnect the power cord and turn on the machine to change the setting.
5.	**Camera cannot be operated by remote control**	1. Please confirm if the Camera Select on the remote control can be used together with the IR Select on the camera. 2. Please prevent camera from direct sunshine. 3. Make sure the energy-saving bulb and the IR touch screen are as far as possible in order to avoid

		interference. 4. When several cameras are connected in the same area, the operation of two remote controls at the same time may result in signal interference. It is recommended to use one remote control only.
6.	**The device cannot be controlled with Codec**	1. Please consult the distributor to make sure the firmware version is the latest one. The steps to check version is as follows: 1.1 Press [MENU] on the remote control 1.2 Choose [Status] 1.3 Go to Page 5 of [System] 1.4 Make sure the firmware version is correct 2. Make sure the connection is correct (RS-232/422 Input). 3. Make sure System Switch DIP1 and DIP3 are correct.
7.	**The device cannot be controlled with RS-232/RS422**	1. Make sure the connection is correct (RS-232/422 Input). 2. Make sure System Switch DIP1 and DIP3 are correct.