# Marshall

## BROADCAST & **PRO AV**

# CV620-BK2/WH2
Full-HD PTZ Camera

## Installation Guide

# Table of Contents

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# Safety Instructions

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

1.   Use attachments only as recommended.
2.   Use the type of power source indicated on the Camera. If you are not sure of the type of power available, consult your distributor 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 leads or multi-way plug boards to avoid potential risks.
5.   Do not place the 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 the slots and openings in the case of this Camera. They provide ventilation and prevent the Camera from overheating. Do not place the Camera on the soft surfaces of sofas, carpets, or other similar surface.
7.   Never push objects of any kind through cabinet slots. Never allow liquid of any kind to spill into the 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 Camera during thunderstorms or if it is not going to be used for an extended period. Do not place the Camera or remote control on top of vibrating equipment or heated objects such as a car, etc.
10.   Unplug the Camera from the wall outlet and refer servicing to licensed service personnel when the following situations happen:
   - ■ If the power cable or plug becomes damaged or frayed.
   - ■ If the Camera is wet with liquid, 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 camera to rain or moisture.**

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

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

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

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

Cet appareil 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.

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# Chapter 2 Package Contents

| CV620-BK2/WH2 | Instructions for installation | Remote Control |
|---|---|---|
| | | |
| Power Cord | Power Adapter | RS-422 Connector |
| Appearance may vary depending on country/region | | |
| Metal Plate A | Metal Plate B | M3 Screws |
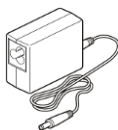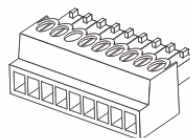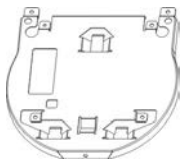
**Marshall**
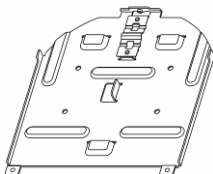
# Chapter 3 Product Overview

## 3.1 Overview

Front View                          Rear View
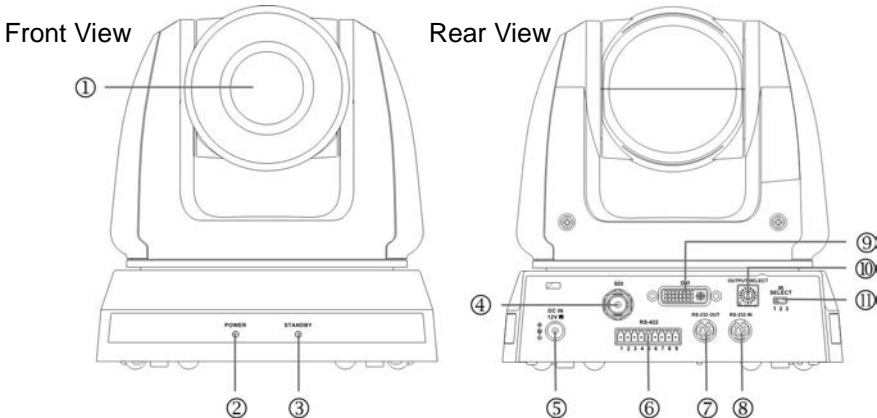


| 1.  Camera Lens | 2.  Power LED Indicator |
|---|---|
| 3.  Standby LED Indicator | 4.  3G-SDI Output |
| 5.  Power Input | 6.  RS-422 Connection |
| 7.  RS-232 Output | 8.  RS-232 Input |
| 9.  DVI Output | 10.OUTPUT Switch |
| 11.IR SELECT | |

## 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 seconds

### 3.2.2 Standby：

3.2.2.1 Orange: In standby mode

3.2.2.2 No Light: Power on

# Instruction for Installation

## 4.1 Preparation before installation

Installation and connection of the 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 this device on an 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 the 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 Instructions for installation

> **4.2.1 I would like to install CV620-BK2/WH2 on a 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
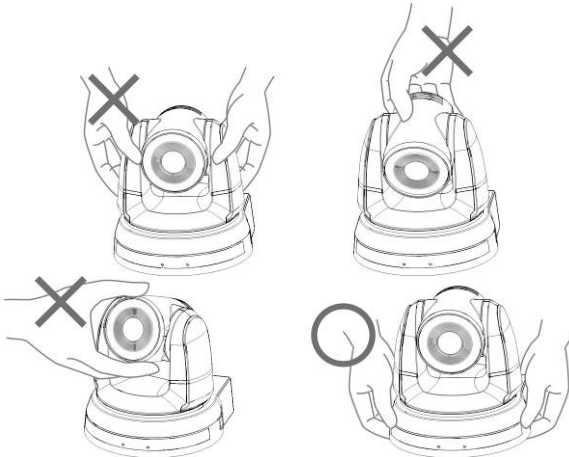
#### 4.2.1.2 Installation steps

    1. Please adjust DIP switch at first prior to installation

**\*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
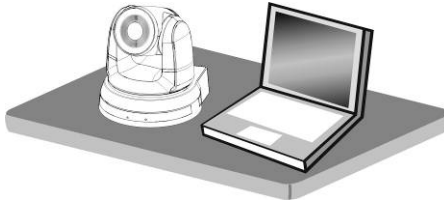


## 4.2.2 I would like to install CV620-BK2/WH2 on the ceiling

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

    1. Accessories of CV620-BK2/WH2 in the box
       (metal plates A,B, M3 screw silver x 8, black x 2)
    2. Screw for locking on ceiling mounted hanger x 4
    3. Drilling machine, screw driver, ladder

### 4.2.2.2 Camera Size

Length x Width x Height: 174 x 186.2 x 185.5 mm
Weight           : 2.0 Kg



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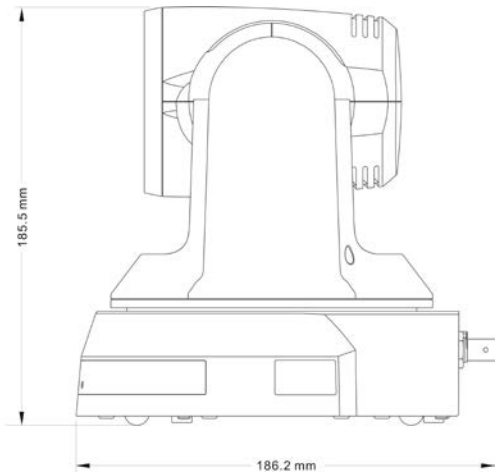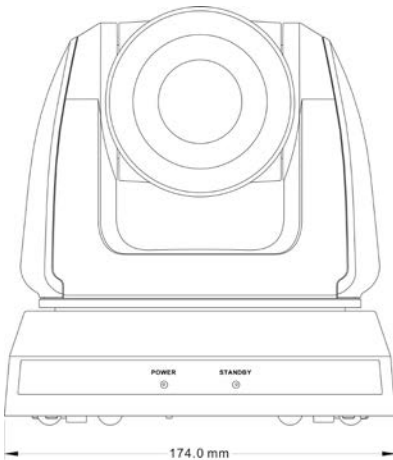
### 4.2.2.3 Max. rotation dimension of camera

200.4 mm

185.5 mm

186.2 mm

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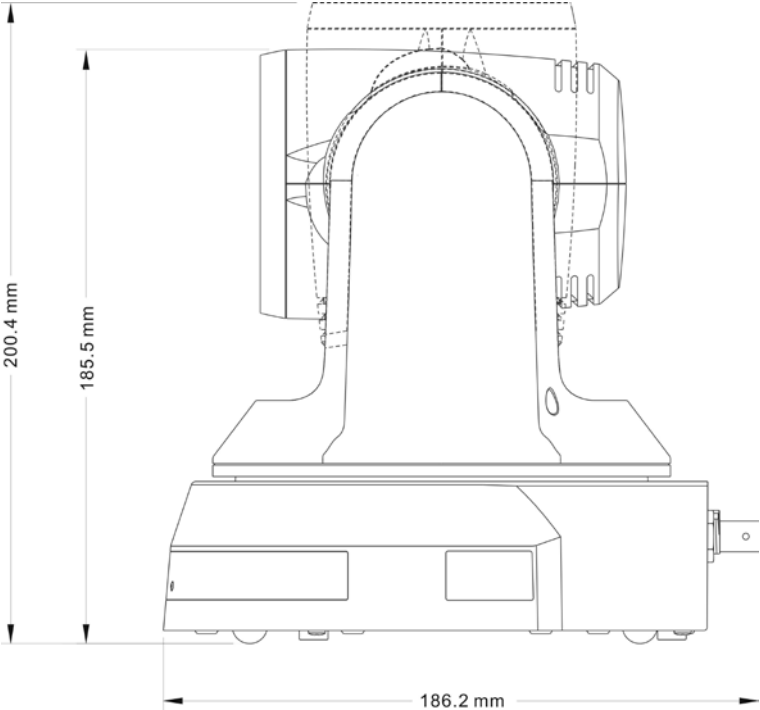
### 4.2.2.4 Size Diagram

1. Metal plate A - machine side
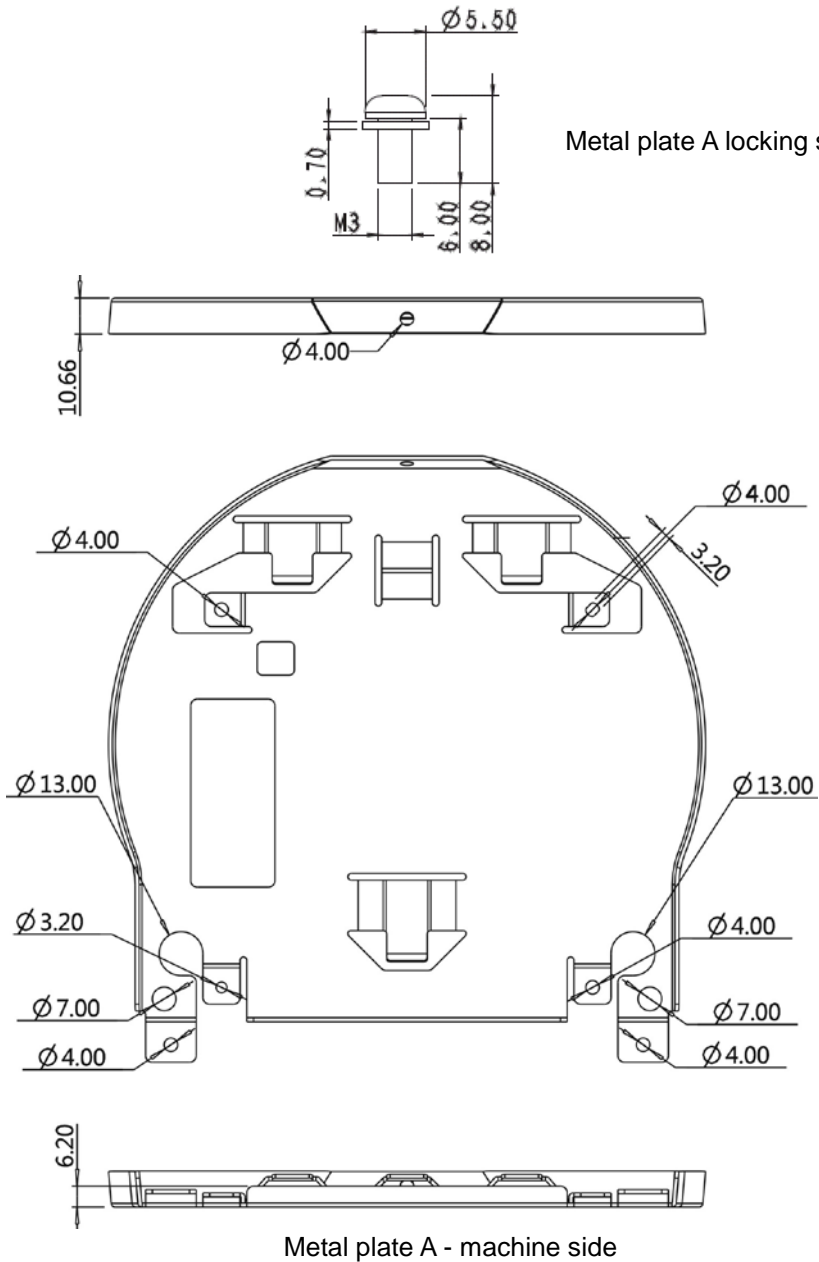
Metal plate A locking screw

Metal plate A - machine side

2. Metal plate B - ceiling side
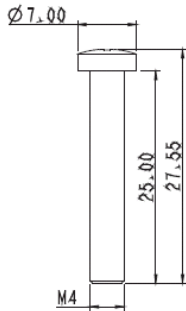
Metal plate B locking screw          Metal plate B locking bolt
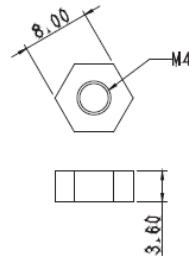
M3 threaded hole

4-Ø4.50
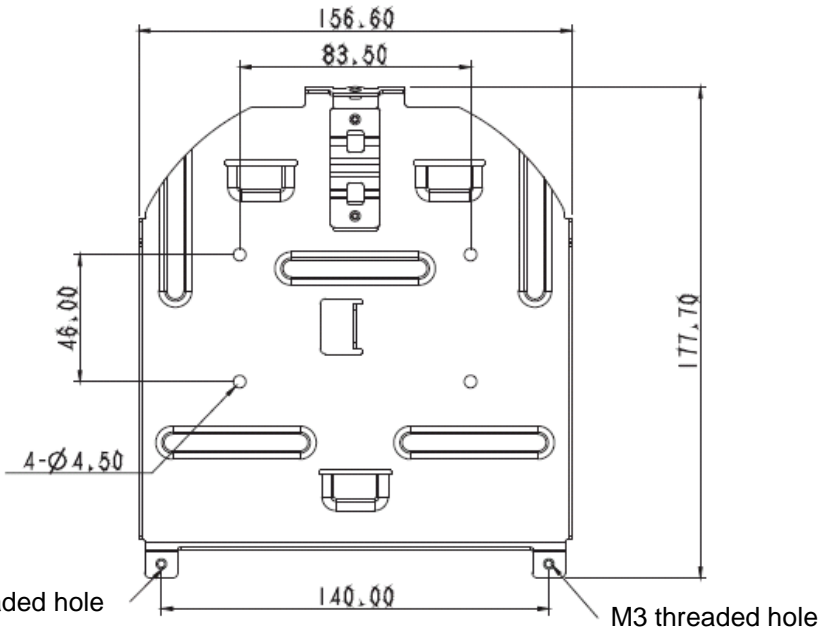
M3 threaded hole          M3 threaded hole
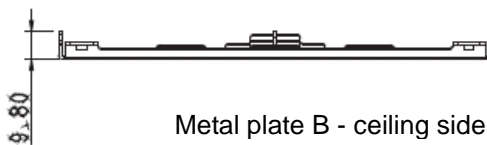
Metal plate B - ceiling side

3. Bottom of camera



112.0 mm

14.1 mm

40.4 mm

55.0 mm

110.0 mm

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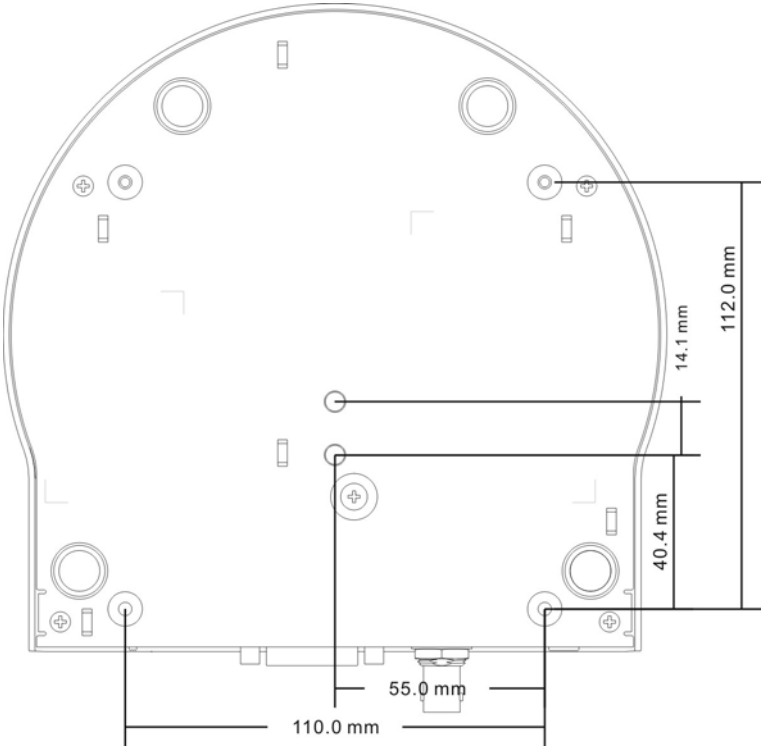
### 4.2.2.5 Precautions for installation

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.



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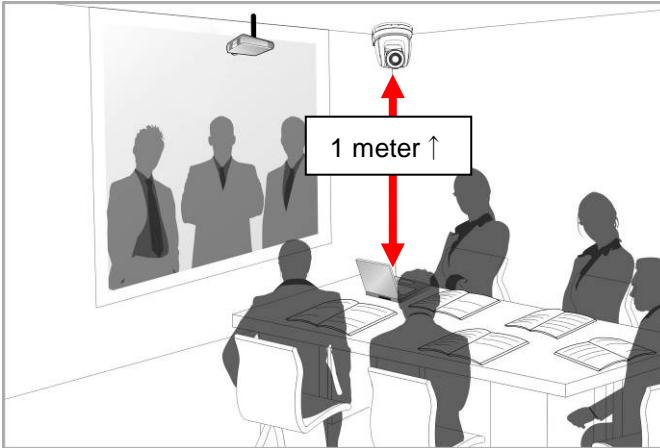
3. The machine (including metal plates) is weighed at about 2.5 kg. If it is to be installed on the ceiling, please use the hanger that has obtained UL security approval to prevent the machine from falling down.
4. Please check whether the camera is installed securely on a regular basis.

### 4.2.2.6 Installation steps

1. Please adjust resolution on DIP switch at first

**\*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 silver screws

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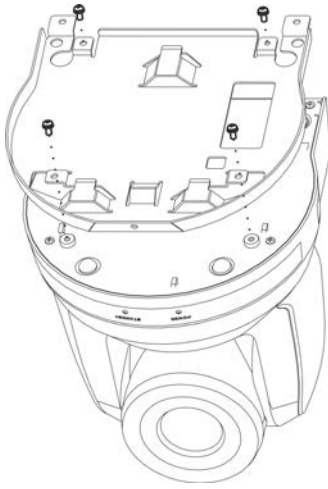
3. Lock the metal plate B on ceiling mounted hanger

※Caution:

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

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

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



black screw
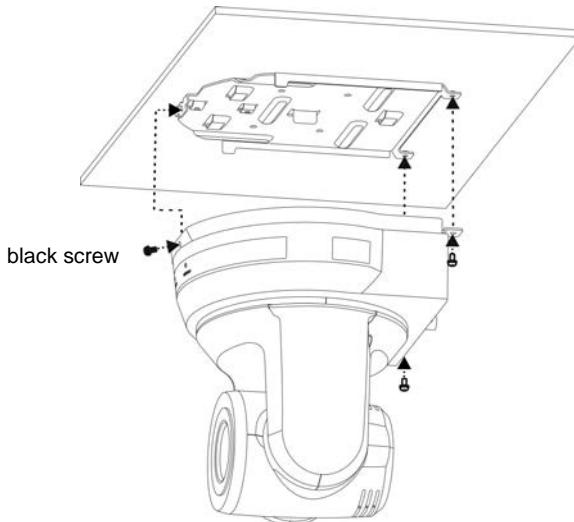
#### 4.2.2.7 **How to remove**

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
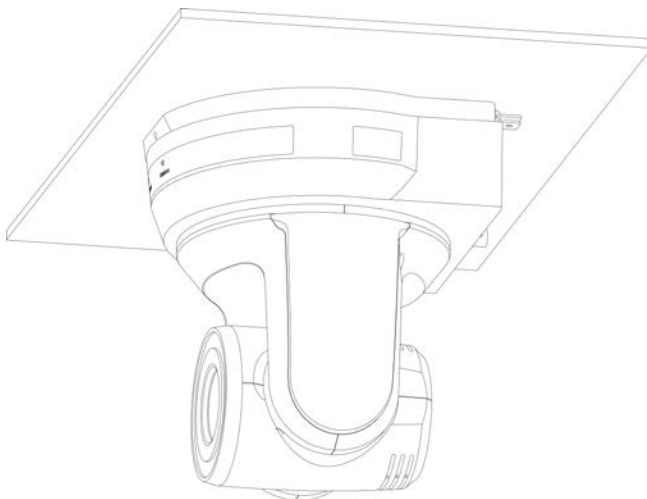


3. Remove the screws on the hanger and the machine

## 4.3 Connecting the device

### 4.3.1  Image Output

4.3.1.1  Connecting to a HDTV / computer monitor (DVI)



DVI cable

Monitor    or    HDTV
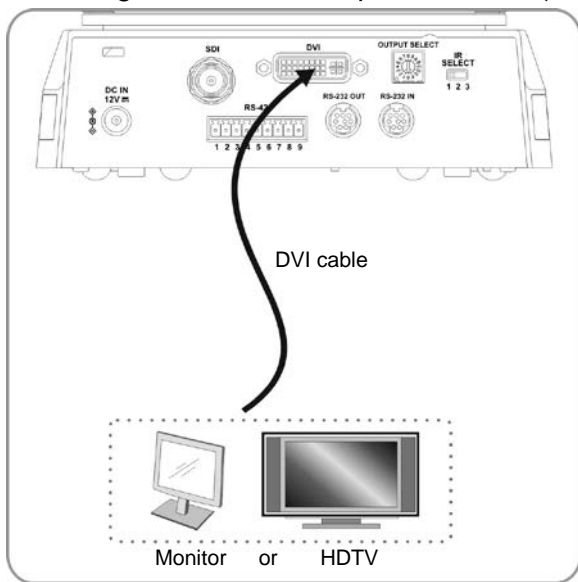
4.3.1.2  Connecting to an HDTV (3G-SDI)



SDI Cable

HDTV

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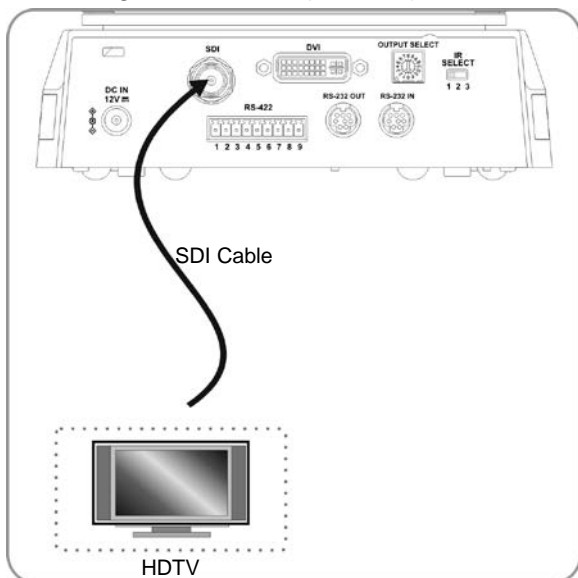
### 4.3.2 Controlling CV620-BK2/WH2s with the computer

4.3.2.1 Connecting to one computer for connection between CV620-BK2/WH2s (RS-232 in/out)
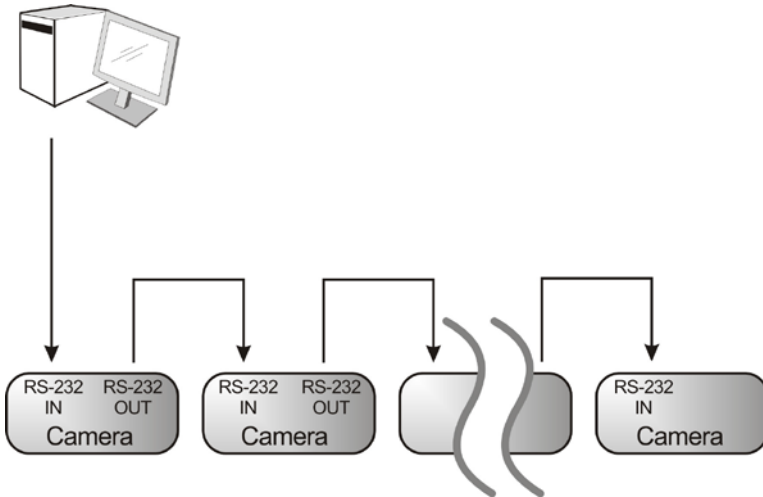


**\* With RS-232 in/out, at most 7 CVs can be connected.**

4.3.2.2 Connecting to one computer for connection between CV620-BK2/WH2s (RS-422)
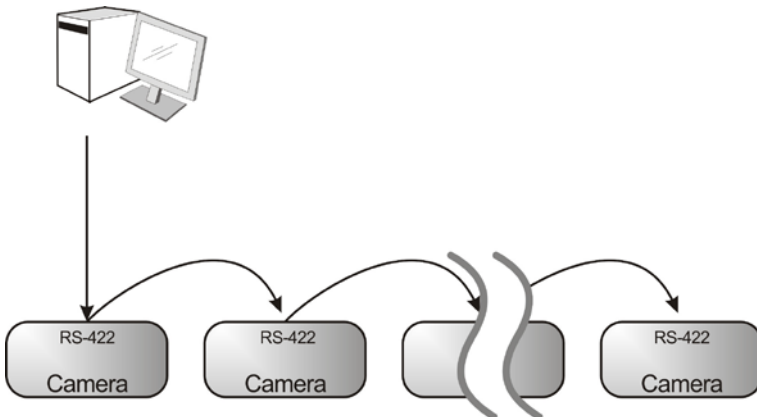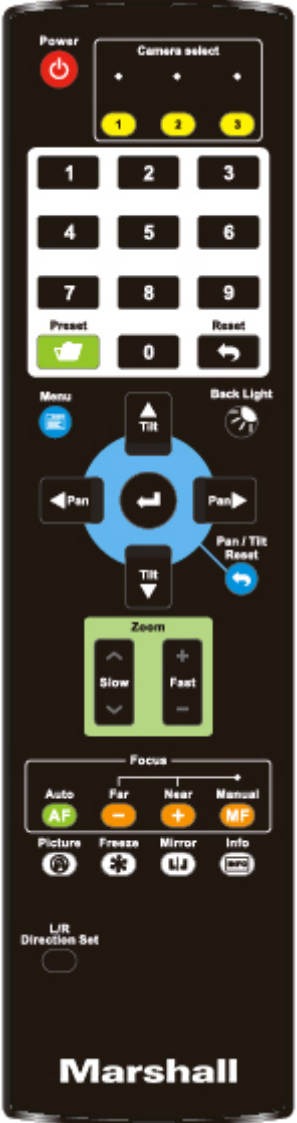


**\*Please refer to 7.2 RS-422 connection for the RS-422 connection instructions.**
**\*With RS-422, at most 7 CVs can be connected.**

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# Chapter 5 Remote Control and Setting Menu

## 5.1 Functions of remote control
**\* The below functions are listed alphabetically.**

| Item | Description |
|---|---|
| ◄,►,▲,▼ | Move the lens |
| Back Light | Turn on/off back light compensation |
| Camera select | Select 1 ~ 3 CV620-BK2/WH2 |
| 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 / Normal |
| Menu | Display OSD menu |
| Mirror | Rotate the image (OFF / Mirror / Flip / Rotate) |
| 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

*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. **Full Auto**<br>2. Shutter Pri<br>3. Iris Pri<br>4. Manual<br>5. White Board | | Exposure mode setting |
| | **Exposure Comp.** | On / **Off** | | AE Level |
| | **Exposure Comp. Level** | -6~**C**~4 | | The value can be adjusted only after **Exposure Comp.** is activated |
| | **Spot Light** | On / **Off** | | 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 Priority** | 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 Priority** | 1. **F1.6**<br>2. F2<br>3. F2.2<br>4. F2.7<br>5. F3.2<br>6. F3.8<br>7. F4.5<br>8. F5.4<br>9. F6.3<br>10. F7.8<br>11. F9<br>12. F11<br>13. F13<br>14. F16<br>15. F18 |  | Iris priority setting |

| | | | | |
|---|---|---|---|---|
| | **Manual Gain** | 1. **<u>0dB</u>**<br>2. 2 dB<br>3. 4 dB<br>4. 6 dB<br>5. 8 dB<br>6. 10 dB<br>7. 12 dB<br>8. 14 dB<br>9. 16 dB<br>10. 18 dB<br>11. 20 dB<br>12. 22 dB<br>13. 24 dB<br>14. 26 dB<br>15. 28 dB<br>16. 30 dB | | Manually set the gain |
| | **Manual Speed** | 60/30 mode | 50/25 mode | Manually set the shutter |
| | | 1/10000 | 1/10000 | |
| | | 1/5000 | 1/5000 | |
| | | 1/3000 | 1/3000 | |
| | | 1/2500 | 1/2500 | |
| | | 1/2000 | 1/1750 | |
| | | 1/1500 | 1/1250 | |
| | | 1/1000 | 1/1000 | |
| | | 1/725 | 1/600 | |
| | | 1/500 | 1/425 | |
| | | 1/350 | 1/300 | |
| | | 1/250 | 1/215 | |
| | | 1/180 | 1/150 | |
| | | 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 | |
| | **Manual Iris** | 1. **F1.6**<br>2. F2<br>3. F2.2<br>4. F2.7<br>5. F3.2<br>6. F3.8<br>7. F4.5<br>8. F5.4<br>9. F6.3<br>10. F7.8<br>11. F9<br>12. F11<br>13. F13<br>14. F16<br>15. F18 | | Manually set the iris |
| | **Gain Limit** | 1. 8 dB<br>2. 10 dB<br>3. 12 dB<br>4. 14 dB<br>5. 16 dB<br>6. 18 dB<br>7. 20 dB<br>8. 22 dB<br>9. 24 dB<br>10. 26 dB<br>11. 28 dB<br>12. **30dB** | | The maximum electric gain limit. |

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| | | | |
|---|---|---|---|
| | **Iris Limit** | 1. F1.6<br>2. **<u>F2.2</u>**<br>3. F3.2<br>4. F4.5<br>5. F6.3<br>6. F9<br>7. F13<br>8. F18 | Max. limit value of iris |
| | **WDR** | 1. **<u>Off</u>**<br>2. 1<br>3. 2<br>4. 3<br>5. 4<br>6. 5 | Set WDR |
| | **Anti Flicker** | 1. 50Hz<br>2. 60Hz<br>1. **<u>Off</u>** | Set the image sync frequency during capturing |
| **White Balance** | **Mode** | 1. **<u>Auto</u>**<br>2. Indoor<br>3. Outdoor<br>4. One Push WB<br>5. ATW<br>6. Sodium Lamp<br>7. Manual<br>8. 3000K<br>9. 4300K<br>10. 5000K<br>11. 6500K<br>12. 8300K<br>13. WideAuto | Select the color temperature mode<br>1. 4000k ~ 7000k<br>2. 3200k<br>3. 5800k<br>4. 1700k ~ 10000k<br>5. 1700k ~ 10000k<br>6. 2800k<br>7. Custom<br>8. 3000K<br>9. 4300K<br>10. 5000K<br>11. 6500K<br>12. 8000K<br>13. 3000k ~ 7000k |
| | **One Push Trigger** | **<u>ENTER</u>** | One push trigger |
| | **Manual Red** | 0~ **<u>C</u>**~60 | Adjustable when the white balance mode is set to **Manual** |

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| | | | | |
|---|---|---|---|---|
| | **Manual Blue** | 0~ **C**~60 | | Adjustable when the white balance mode is set to **Manual** |
| **Picture** | **Picture effect** | 1. **Off**<br>2. Neg<br>3. B & W | | Set the picture effect |
| | **Sharpness** | 1~**A**~16 | | Adjust the **sharpness** of the image |
| | **2D NR** | 1. **Auto**<br>2. Off<br>3. 1<br>4. 2<br>5. 3<br>6. 4<br>7. 5 | | Set 2D noise reduction |
| | **3D NR** | 1. Off<br>2. **LOW**<br>3. Typ<br>4. Max<br>5. Auto | | Set 3D dynamic noise reduction |
| | **Image Mode** | 1. Mode1<br>2. Mode2<br>3. Mode3<br>4. Mode4<br>5. **Mode5**<br>6. Mode6<br>7. Custom | | The user may customize his/her desired image mode |
| | **Image Mode Load** | 1. **Mode1**<br>2. Mode2<br>3. Mode3<br>4. Mode4<br>5. Mode5<br>6. Mode6 | | Adjustable when the *Image mode* is set to *Custom*. After selected, the corresponding *Image mode* parameters will be read and applied to *Custom* |
| | **Saturation** | 0~ **A** ~25 | | Adjustable when the *Image mode* is set to *Custom* **mode** |
| | **Hue** | 0~ **A** ~14 | | Adjustable when the *Image mode* is set to *Custom* **mode** |

| | | | |
|---|---|---|---|
| | **Gamma** | 0~ <u>**A**</u> ~3 | Adjustable when the *Image mode* is set to *Custom* **mode** |
| | **Skin Tone** | 1~ <u>**A**</u> ~5 | Skin tone settings; adjustable when *Image mode* is set to *Custom* **mode** |
| | **Brightness** | 0~ <u>**A**</u> ~14 | Adjustable when the *Image mode* is set to *Custom* |
| | **Contrast** | 0~ <u>**A**</u> ~14 | Contrast adjustment; Adjustable when the *Image mode* is set to *Custom* |
| | **Black Level** | 1. <u>**Off**</u> <br> 2. Type 1 <br> 3. Type 2 <br> 4. Type 3 | Adjust the shadow details and transparency of the screen, adjustable when the *Image mode* is set to *Custom* |
| **Pan Tilt Zoom** | **Pan/Tilt Limit** | On / <u>**Off**</u> | Turn on/off the angle limit setting |
| | **Pan Right Limit** | 0~<u>**170**</u> | Limit the right angle |
| | **Pan Left Limit** | <u>**-170**</u>~0 | Limit the left angle |
| | **Tilt UP Limit** | 0~<u>**90**</u> | Limit the upward angle |
| | **Tilt Down Limit** | <u>**-30**</u>~0 | Limit the downward angle |
| | **Pan Flip** | On / <u>**Off**</u> | When turned on, Pan command will be reversed |
| | **Tilt Flip** | On / <u>**Off**</u> | When turned on, Tilt command will be reversed |
| | **Pan/Tilt Speed** | <u>**Normal**</u>/Smooth | Adjust Pan/Tilt Speed |
| | **Preset Speed** | 1. 5 deg/sec <br> 2. 25 deg/sec <br> 3. 50 deg/sec <br> 4. 80 deg/sec <br> 5. 120 deg/sec <br> 6. <u>**160 deg/sec**</u> <br> 7. 200 deg/sec <br> 8. 300 deg/sec | Set the rotation speed of the cradle head when Preset is executed |

| | | | |
|---|---|---|---|
| | **PTZ Speed Comp** | **On** / Off | Set the Pan/Tilt Moving speed subject to the zoom position |
| | **D-Zoom Limit** | **x1**~x12 | Limit the D-zoom multiple |
| **D-Effect** | **Mirror** | 1. **Off**<br>2. Mirror<br>3. Flip<br>4. Mirror + Flip | Set the mode at which the image is turned |
| **Auto Focus** | **AF Sensitivity** | 1. LOW<br>2. **Middle**<br>3. High | Select the AF triggering speed. The higher the speed is, the faster AF is triggered |
| | **AF Frame** | **Full Frame**/<br>Center | 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 |
| **System** | **Video Type** | SDI<br>**DVI-I** | Select video output type |
| | **Prompt** | On / **Off** | Turn on/off the prompt information on the display |
| | **IR Receive** | **On** / Off | Turn on/off the infrared reception |
| | **Language** | **English** / Chinese | Language |
| | **Control Device** | Encoder /<br>**Controller** | Control Device setting,<br>**Controller:** for joystick<br>**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. |
| | **Protocol** | **Protocol V** /<br>Protocol PD | Protocol V: VISCA<br>Protocol PD: PELCO D |

| | | | |
|---|---|---|---|
| | **PD Address** | 1~ **C**~255 | The Protocol set to PD allows the camera ID address to be assigned |
| | **Camera Address** | **0**~7 | |
| | **Output Mode** | 1. **1920x1080/60p** 2. 1920x1080/50p 3. 1920x1080/30p 4. 1920x1080/25p 5. 1920x1080/60i 6. 1920x1080/50i 7. 1280x720/60p 8. 1280x720/50p 9. 1280x720/30p 10. 1280x720/25p 11. 1080/59.94p 12. 1080/59.94i 13. 1080/29.97p 14. 720/59.94p 15. 720/29.97p | Choose the output resolution |
| | **Control Protocol** | **RS-232C**/RS-422 | Choose whether the control interface used is RS-232C or RS-422 |
| | **Baud Rate** | **9600**/38400 | Choose the transmission speed of the control signal |
| | **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 to CV620-BK2/WH2

1. Press **[Camera 1 ~ 3]** on the **remote control** to select CV620-BK2/WH2.
- **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 stored 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 the 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 hide the preset image switch (Motionless Preset)

1. Press **[MENU]** to activate the setting menu.

2. Press **[▶]** or **[◀]** to select **[System]**.
3. Press **[ENTER]** to activate.
4. Press **[▲]** or **[▼]** to select **[Motionless Preset]**.
5. Press **[ENTER]** to activate.
6. Press **[▶]** or **[◀]** to select **[Off / On]**.
7. Press **[MENU]** to exit.

## 6.7  I would like to zoom in/out images
### 6.7.1   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.

### 6.7.2   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.

## 6.8  I would like to adjust the focal length
### 6.8.1   Auto tune
1. Press **[AF]** on the **remote control** to adjust automatically.

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

## 6.9  I would like to adjust the AF sensitivity
Triggering speed of focus. The higher the speed is, the faster focus is triggered.
To shoot fast-moving objects, *AF Sensitivity* can be set to **[High]** or **[Medium]**, 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 Sensitivity* 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.

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6.  Press [▶] or [◀] to select [High / Middle / Low].
7.  Press [MENU] to exit.

## 6.10 I would like to set the image mode
1.  Press **[Picture]** on the **remote control** to switch [Off / Neg / B&W].

## 6.11 I would like to freeze images
1.  Press **[Freeze]** on the **remote control** to freeze the current image on the display.

## 6.12 I would like to rotate the image
1.  Press **[Mirror]** on the **remote control** to switch [Off / Mirror / Flip / Mirror + Flip].

## 6.13 I would like to change the camera direction
1.  Press **[L/R Direction Set]** on the **remote control** to switch [L/R Direction / Off / Normal].

## 6.14 I would like to display the current status
1.  Press **[Info]** on the **remote control** to display the current status information.

## 6.15 I would like to reset to the original setting
1.  Press **[MENU]** to activate the setting menu.
2.  Press [▶] or [◀] to select **[System]**.
3.  Press **[ENTER]** to activate.
4.  Press [▲] or [▼] to select **[Factory Reset]**.
5.  Press **[ENTER]** to activate.
6.  Press [▶] or [◀] to select **[On]**.
7.  Press **[ENTER]** to execute.

# Chapter 7 DIP switch setting

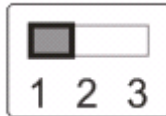**\* Please turn off the machine before changing DIP switch setting.**

## 7.1 DIP Switch

### 7.1.1  OUTPUT Switch

| Setting | Function Descriptions |
|---------|-----------------------|
| 0 | 1920x1080/60p |
| 1 | 1920x1080/50p |
| 2 | 1920x1080/30p |
| 3 | 1920x1080/25p |
| 4 | 1920x1080/60i |
| 5 | 1920x1080/50i |
| 6 | 1280x720/60p |
| 7 | 1280x720/50p |
| 8 | 1280x720/30p |
| 9 | 1280x720/25p |
| A | 1080/59.94p |
| B | 1080/59.94i |
| C | 1080/29.97p |
| D | 720/59.94p |
| E | 720/29.97p |
| F | Reserved |

### 7.1.2  IR SELECT

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

## 7.2 RS-422 Connection

### 7.2.1 RS-422 Pin Description

RS-422



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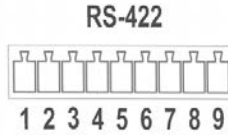
| Pin NO. | Function |
|---------|-----------|
| 1 | RXD OUT - |
| 2 | RXD OUT + |
| 3 | TXD OUT - |
| 4 | TXD OUT + |
| 5 | GND |
| 6 | RXD IN - |
| 7 | RXD IN + |
| 8 | TXD IN - |
| 9 | TXD IN + |

*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

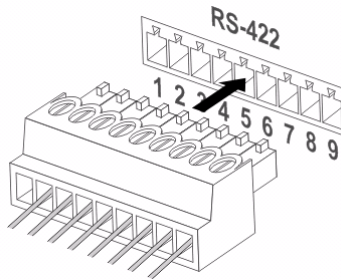1. Hold the two sides of RS-422 connector and pull out in the direction shown by the arrow in the figure below
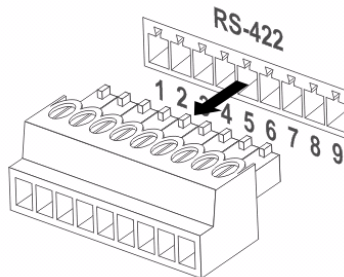


2. Peel off a section of copper wire (AWG Nos. 28 to 18) and insert it into the connector hole; then use a flat head screw driver to fix it

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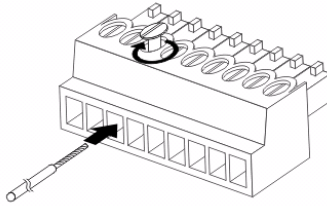
3. Insert the wired RS-422 connector back to the camera. Now the connection is completed



\* 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 the CV620-BK2/WH2. If you have questions, please refer to related chapters and follow all suggested solutions. If the problem still occurs, please contact your distributor or service center.

| No. | Problems | Solutions |
|-----|----------|-----------|
| 1. | **Boot without power signal** | Make sure you have plugged in the power cord. |
| 2. | **There is no image output from CV620-BK2/WH2** | 1. Check the power.<br>2. Check if DIP switch is properly set.   Refer to **Chapter 7 DIP switch setting for related settings**.<br>3. Make sure the display supports the output resolution; in general, the resolution is 1080p60/1080i60/720p60.<br>4. Replace the cables and make sure they are not faulty. |
| 3. | **CV620-BK2/WH2 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. | **CV620-BK2/WH2 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.<br>2. Please prevent Camera from direct sunshine.<br>3. Make sure the energy-saving bulb and the IR touch |

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| | | screen are as far away from each other? as possible in order to avoid interference. |
| --- | --- | --- |
| | | 4. When several CV620-BK2/WH2s 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 only one remote control. |
| **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:<br>  1.1 Press [MENU] on the remote control<br>  1.2 Choose [Status]<br>  1.3 Go to Page 5 of [System]<br>  1.4 Make sure the firmware version is correct.<br>2. Make sure the connection is correct (RS-232/422 Input).<br>3. Please confirm OSD menu [System]/[Control Protocol] setting. |
| **7.** | **The device cannot be controlled with RS-232/RS-422** | 1. Make sure the connection is correct (RS-232/422 Input).<br>2. Please confirm OSD menu [System]/[Control Protocol] setting. |