

# Marshall

Broadcast A/V Division

## VS-PTC-300

PTZ Camera IP/ Controller



## User Manual

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## Chapter 1: Safety Instructions

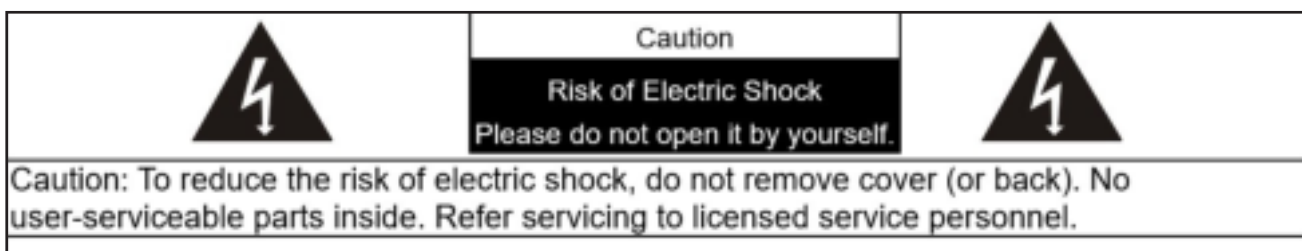
**Always follow these safety instructions when setting up and using this product:**

1. Use attachments only as recommended.
2. Use the type of power source indicated on the VS-PTC-300 Keyboard Controller. 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 securely inserted into the socket.
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 this product where the cord can be stepped on, as this may result in fraying or damage to the lead or the plug.
6. Never allow liquid of any kind to spill into this product.
7. 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.
8. Unplug this product during thunderstorms or if it is not going to be used for an extended period. Do not place this product or remote control on top of vibrating equipment or heated objects such as a car, etc.
9. Unplug this product 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 this product or this product has been exposed to rain or water.

## ⚡ PRECAUTIONS

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

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





This symbol indicates that this equipment may contain dangerous voltage which could cause electric shock.



This symbol indicates that there are important operating and maintenance instructions in this User Manual with this unit.

## FCC WARNING

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

## NOTICE :

The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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

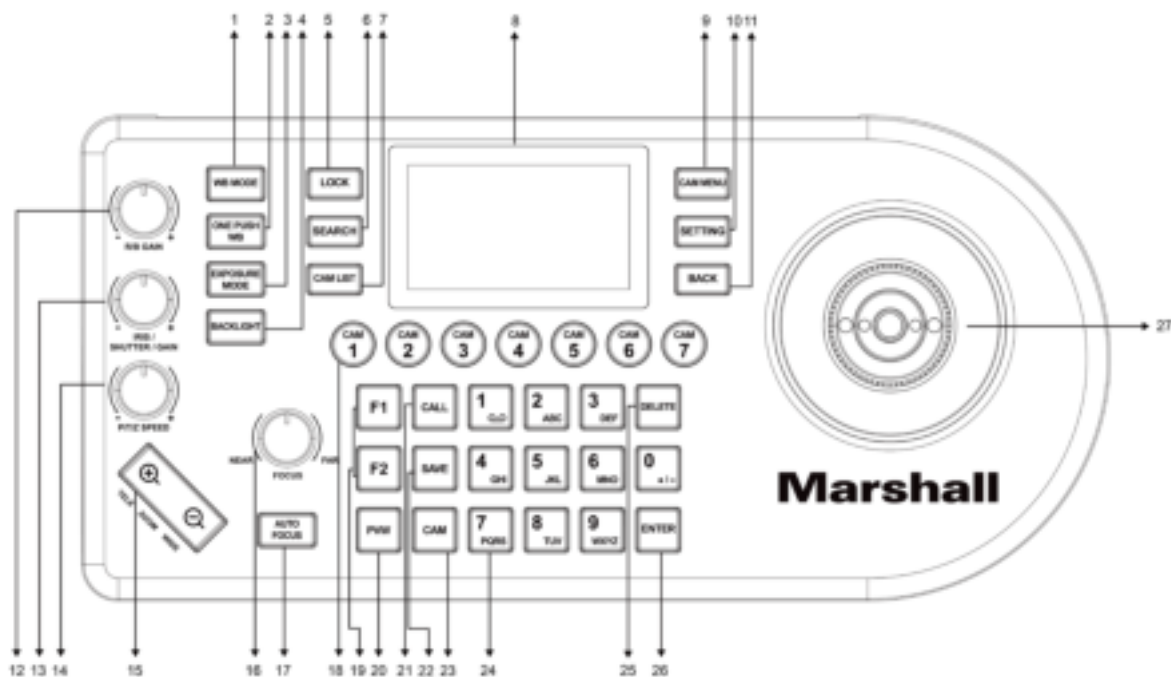
## Chapter 2: Product Overview

### 2.1: I/O Functions Introduction



| No | Item               | Function Descriptions                                                                                      |
|----|--------------------|------------------------------------------------------------------------------------------------------------|
| 1  | RS-422 port        | Connect the RS-422 adapter cable that can control up to 7 units of RS-422 camera                           |
| 2  | RS-232 port        | Connect the RS-232 adapter cable                                                                           |
| 3  | USB port           | Update the keyboard control firmware via a USB disk<br><Note> Use format “FAT32”, “capacity less than 32G” |
| 4  | IP port            | Connect the RJ45 network cable<br>§ Supports PoE(IEEE802.3af)                                              |
| 5  | 12 V DC power port | Connect the included DC power supply adapter and the power cable                                           |
| 6  | Power Button       | Turn on/off keyboard power                                                                                 |
| 7  | Safety lock        | Use the safety lock to lock the keyboard for anti-theft purpose                                            |

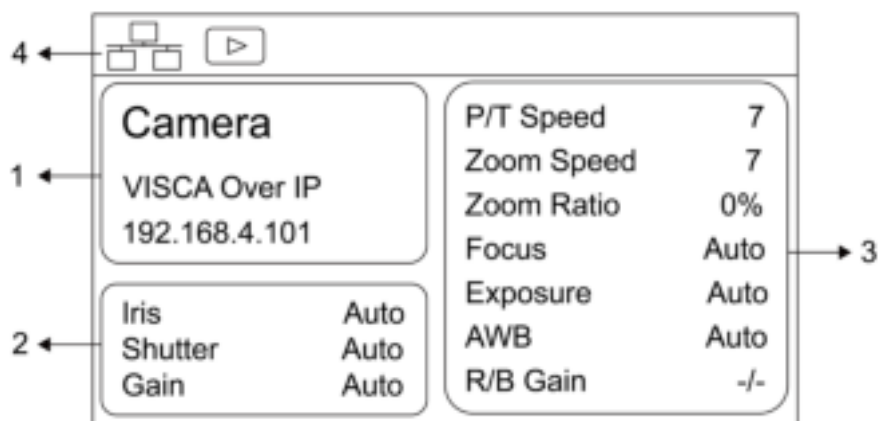
## 2.2: Panel Function Introduction



| No | Item        | Function Descriptions                                                                                                                                                    |
|----|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | WB          | Automatic/manual white balance switch<br>When the setting is automatic white balance, the AUTO indicator will turn on                                                    |
| 2  | ONE PUSH WB | One push white balance                                                                                                                                                   |
| 3  | EXPOSURE    | Auto, Iris PRI, Shutter PRI                                                                                                                                              |
| 4  | BACKLIGHT   | Turn on/off back light compensation                                                                                                                                      |
| 5  | LOCK        | Lock the control of all image adjustment and rotary buttons<br>Press and hold for 3 seconds to enable the lock;<br>press and hold for 3 seconds again to cancel the lock |
| 6  | SEARCH      | Search or add the camera IP setting                                                                                                                                      |
| 7  | CAM LIST    | Check the currently connected camera                                                                                                                                     |
| 8  | LCD screen  | Display control and setting information of the keyboard                                                                                                                  |
| 9  | CAM MENU    | Call the camera OSD menu                                                                                                                                                 |
| 10 | SETTING     | Enter the settings menu                                                                                                                                                  |
| 11 | BACK        | Back to the previous step                                                                                                                                                |
| 12 | R/B GAIN    | Adjust the white balance in red/blue manually                                                                                                                            |

| No | Item                       | Function Descriptions                                                                                                                                                                                                       |
|----|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 13 | IRIS / SHUTTER             | Adjust the aperture or shutter                                                                                                                                                                                              |
| 14 | P/T/Z SPEED                | Rotate: Adjust/control the speed<br>Press: Switch between P/T or Z                                                                                                                                                          |
| 15 | ZOOM SEESAW                | Control ZOOM in/out                                                                                                                                                                                                         |
| 16 | FOCUS CONTROL              | Rotate the knob to adjust NEAR/FAR parameters (for Manual Focus use only)<br>Press to execute One Push Focus<br>LCD menu: Rotate left/right to adjust parameters and navigate the menu<br>LCD menu: Press to select an item |
| 17 | AUTO FOCUS                 | Automatic/manual focus switch<br>When the setting is automatic focus, the AUTO indicator will turn on                                                                                                                       |
| 18 | CAMERA BUTTON<br>CAM1~CAM7 | Quickly select Camera 1 ~ 7 and control the camera within 1 second<br>Press and hold for 3 seconds to access the shortcut key settings page                                                                                 |

### 2.3: LCD Screen Display Description



| No | Item                                   | Function Descriptions                                                        |
|----|----------------------------------------|------------------------------------------------------------------------------|
| 1  | Camera ID and protocol                 | Display the camera currently under control and the protocol currently in use |
| 2  | EXPOSURE MODE                          | Display the current camera exposure mode                                     |
| 3  | Connected device parameter information | Display the current camera parameter information                             |
| 4  | Network connection indication status   | If the play icon appears, the camera's RTSP streaming video can be displayed |

## Chapter 3: LCD Function Menu Description

### 3.1: Access LCD Function Menu



Press the **SETTING** button on the keyboard to access the LCD function menu

### 3.2: Hot Key Camera

| Item | Settings | Description                                          |
|------|----------|------------------------------------------------------|
| CAM  | 1~7      | Assign the camera number; 7 units can be set at most |

#### Advanced Settings for Hot Key Camera

| Item                | Settings                                            | Description                                                           |
|---------------------|-----------------------------------------------------|-----------------------------------------------------------------------|
| Alias               | -                                                   | The camera can be named using letters on the keyboard                 |
| Protocol            | <b>VISCA</b><br>VISCAIP<br>VISCATCP<br>ONVIF<br>NDI | Select a control protocol to be used for connecting the camera        |
| Address             | 1~7                                                 | Set VISCA ID from 1 to 7                                              |
| Baudrate            | <b>9600</b> / 19200 /<br>38400 / 115200             | Set control Baudrate                                                  |
| Stream URL          | rtsp://cam<br>ip:8557/h264                          | Can be automatically imported based on added models                   |
| RTSP Authentication | <b>Off/On</b>                                       | Select to enable RTSP Authentication function                         |
| User Name           | admin                                               | Automatically import account and password, shown by User name.        |
| Password            | 9999                                                | Automatically import account and password, shown by *****             |
| Select from List    | -                                                   | Select a specific camera from the CAM List and apply it automatically |

### 3.3: Device Management

| Item                  | Settings | Description                              |
|-----------------------|----------|------------------------------------------|
| Device List           | -        | View the current device list             |
| Add a New List        | -        | Add a new device                         |
| Ignored Device List   | -        | View the current list of ignored devices |
| Add an Ignored Device | -        | Add an ignored device                    |

### 3.4: Network

| Item        | Settings                    | Description                                                                            |
|-------------|-----------------------------|----------------------------------------------------------------------------------------|
| Type        | STATIC / <b><u>DHCP</u></b> | Specify a static IP or let DHCP to assign an IP to the keyboard                        |
| IP Address  | 192.168.0.100               | For a static IP, specify the IP address in this field<br>(Default IP is 192.168.0.100) |
| Subnet Mask | 255.255.255.0               | For a static IP, specify the subnet mask in this field                                 |
| Gateway     | 192.168.0.1                 | For a static IP, specify the gateway in this field                                     |
| DNS 1       | 192.168.0.1                 | Set DNS 1 information                                                                  |
| DNS 2       | 8.8.8.8                     | Set DNS 2 information                                                                  |

## 3.5 KEYS

| Item    | Settings          | Description                                                                                                                                                                                                                                                                      |
|---------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| F1 ~ F2 | None              | <p>F1 ~ F2 buttons can be set as shortcut keys separately</p> <p>Functions may be set as the list displayed to the left</p> <p>After selecting Function, choose the target function</p> <p>Press the shortcut key and the camera will perform the specified function quickly</p> |
|         | Home              |                                                                                                                                                                                                                                                                                  |
|         | Power             |                                                                                                                                                                                                                                                                                  |
|         | Mute              |                                                                                                                                                                                                                                                                                  |
|         | Picture Freeze    |                                                                                                                                                                                                                                                                                  |
|         | Picture Flip      |                                                                                                                                                                                                                                                                                  |
|         | Picture           |                                                                                                                                                                                                                                                                                  |
|         | LR_Reverse        |                                                                                                                                                                                                                                                                                  |
|         | Tracking Mode     |                                                                                                                                                                                                                                                                                  |
|         | Framing Mode      |                                                                                                                                                                                                                                                                                  |
|         | Auto Tracking On  |                                                                                                                                                                                                                                                                                  |
|         | Auto Tracking Off |                                                                                                                                                                                                                                                                                  |
|         | Auto Framing On   |                                                                                                                                                                                                                                                                                  |
|         | Auto Framing Off  |                                                                                                                                                                                                                                                                                  |
|         | D-Zoom On         |                                                                                                                                                                                                                                                                                  |
|         | D-Zoom Off        |                                                                                                                                                                                                                                                                                  |
|         | Group             |                                                                                                                                                                                                                                                                                  |
|         | Custom            |                                                                                                                                                                                                                                                                                  |
|         | Commands          |                                                                                                                                                                                                                                                                                  |

### 3.6 DISPLAY

| Item           | Settings                                               | Description                |
|----------------|--------------------------------------------------------|----------------------------|
| Theme Color    | Red<br>Green<br><b><u>Blue</u></b><br>Orange<br>Purple | Adjust LCD theme color     |
| Brightness     | Low<br>Medium<br><b><u>High</u></b>                    | Adjust keyboard brightness |
| Key Brightness | Low<br><b><u>Medium</u></b><br>High                    | Adjust key brightness      |

### 3.7 BEEP

| Item   | Settings                | Description                         |
|--------|-------------------------|-------------------------------------|
| Enable | <b><u>Off</u></b> / On  | Turn on or off button sound effects |
| Style  | <b><u>1</u></b> / 2 / 3 | Select the button sound type        |

### 3.8 JOYSTICK

| Item         | Settings               | Description                                  |
|--------------|------------------------|----------------------------------------------|
| Zoom Enable  | <b><u>On</u></b> / Off | Enable/Disable the Joystick control for Zoom |
| Pan Reverse  | On / <b><u>Off</u></b> | Enable/Disable the horizontal inversion      |
| Tilt Reverse | On / <b><u>Off</u></b> | Enable/Disable the vertical inversion        |
| Correction   | -                      | Correct the Joystick direction               |

## 3.9 TALLY

| Item   | Settings               | Description            |
|--------|------------------------|------------------------|
| Enable | <b><u>ON</u></b> / OFF | Enable the Tally light |

## 3.10 LANGUAGE

| Item                                                             | Description      |
|------------------------------------------------------------------|------------------|
| <b><u>English</u></b> / Simplified Chinese / Traditional Chinese | Language setting |

## 3.11 PASSWORD SETTING

| Item            | Settings               | Description                                                       |
|-----------------|------------------------|-------------------------------------------------------------------|
| Enable          | ON / <b><u>OFF</u></b> | Once enabled, you need to enter a password when entering SETTINGS |
| Change Password | -                      | Set up a new password                                             |

## 3.12 SLEEP MODE

| Item                | Settings                             | Description                                               |
|---------------------|--------------------------------------|-----------------------------------------------------------|
| Enable              | ON / <b><u>OFF</u></b>               | Enable the sleep mode                                     |
| Goes to Sleep after | 15 Mins / 30 Mins / 60 Mins          | Set the sleep mode activation time                        |
| Lightness change    | LCD Screen Light<br>Keypad Backlight | Set the sleep mode preview screen and keyboard brightness |

## 3.13 ABOUT DEVICE

| Item | Description                |
|------|----------------------------|
| -    | Display device information |

### 3.14 RESET DEVICE

| Item                   | Settings        | Description                                                                        |
|------------------------|-----------------|------------------------------------------------------------------------------------|
| Reset Setting          | ON / <b>OFF</b> | Remain the keyboard network and CAM LIST, restore other settings to default values |
| Reset Setting and Data | ON / <b>OFF</b> | Clear all keyboard settings, including IP setting                                  |

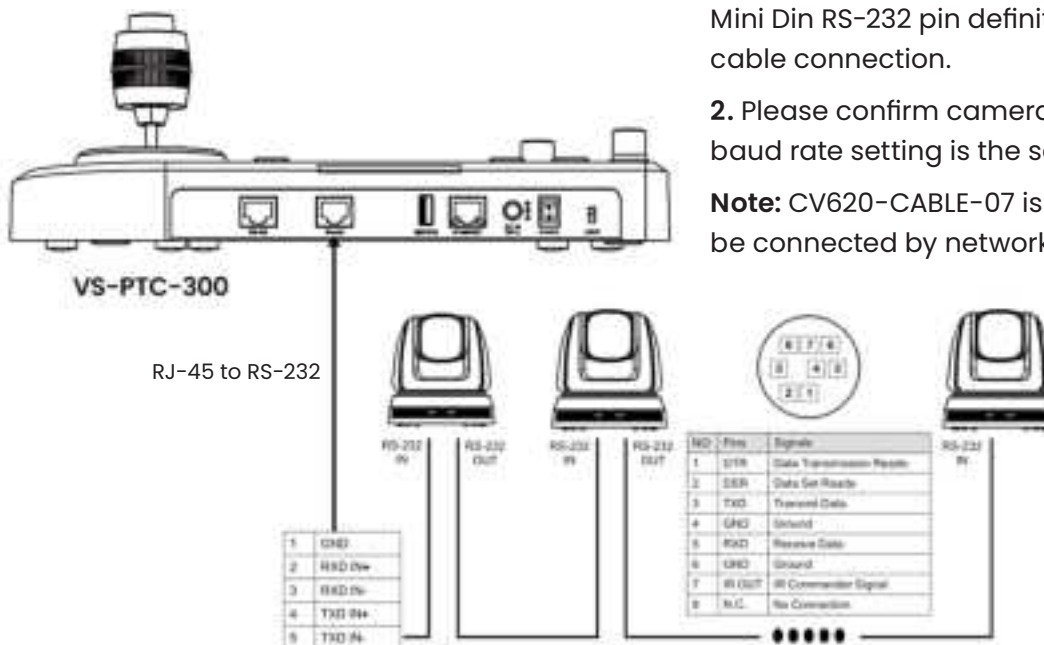
## Chapter 4: Camera Connection Description

### 4.1 Port Pin Definition

VS-PTC-300 supports crossing protocol hybrid control between RS-232, RS-422 and IP.  
Supported control protocols include: VISCA and VISCA over IP

| RS-232  |          |              | IP      |          |              | RS-422  |          |              |
|---------|----------|--------------|---------|----------|--------------|---------|----------|--------------|
| Pin No. | Function | Color        | Pin No. | Function | Color        | Pin No. | Function | Color        |
| 1       | -        | Orange/White | 1       | TX+      | Orange/White | 1       | TX-      | Orange/White |
| 2       | -        | Orange       | 2       | TX-      | Orange       | 2       | TX+      | Orange       |
| 3       | GND      | Green/White  | 3       | RX+      | Green/White  | 3       | GND      | Green/White  |
| 4       | -        | Blue         | 4       | n/c      | Blue         | 4       | -        | Blue         |
| 5       | -        | Blue/White   | 5       | n/c      | Blue/White   | 5       | -        | Blue/White   |
| 6       | GND      | Green        | 6       | RX-      | Green        | 6       | -        | Green        |
| 7       | TXD      | Brown/White  | 7       | n/c      | Brown/White  | 7       | RX-      | Brown/White  |
| 8       | RXD      | Brown        | 8       | n/c      | Brown        | 8       | RX+      | Brown        |

### 4.2 How to connect RS-232

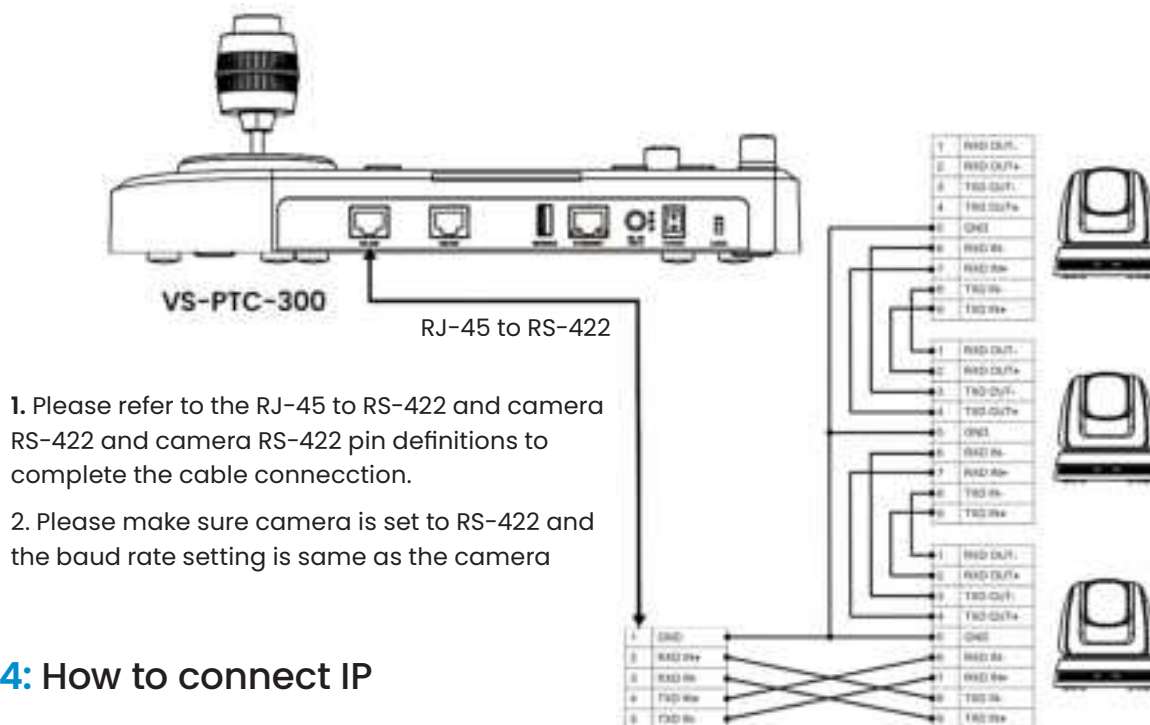


1. Please refer to the RJ-45 to RS-232 and camera Mini Din RS-232 pin definitions to complete the cable connection.

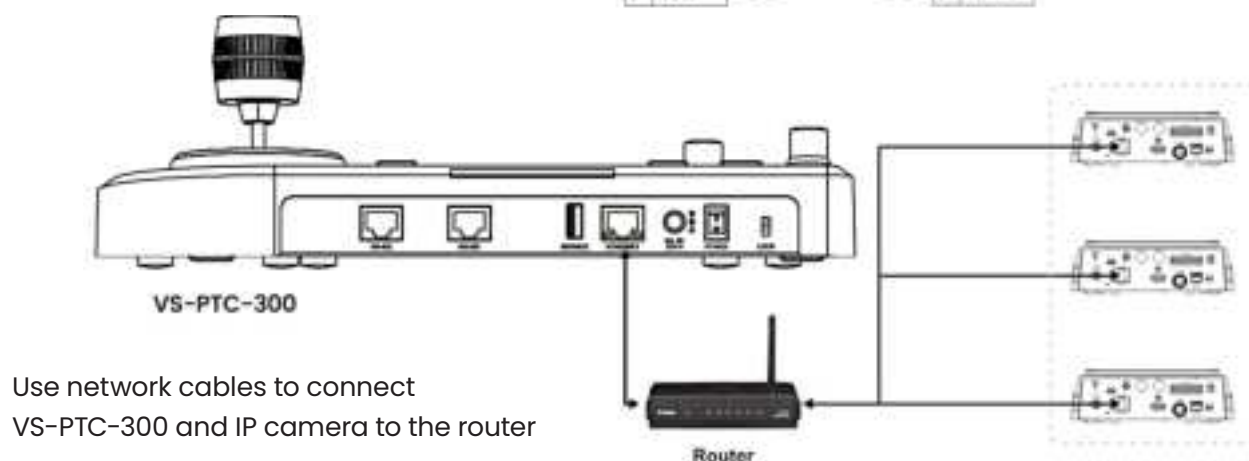
2. Please confirm camera is set to RS232 and the baud rate setting is the same as the controller.

**Note:** CV620-CABLE-07 is an optional item. It can be connected by network cable.

## 4.3: How to connect RS-422

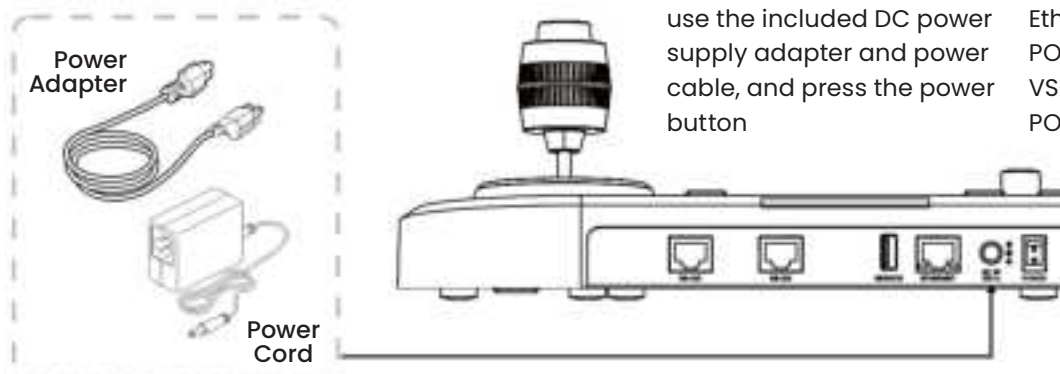


## 4.4: How to connect IP



## Chapter 5: Camera Setting Description

### 5.1 Power on VS-PTC-300

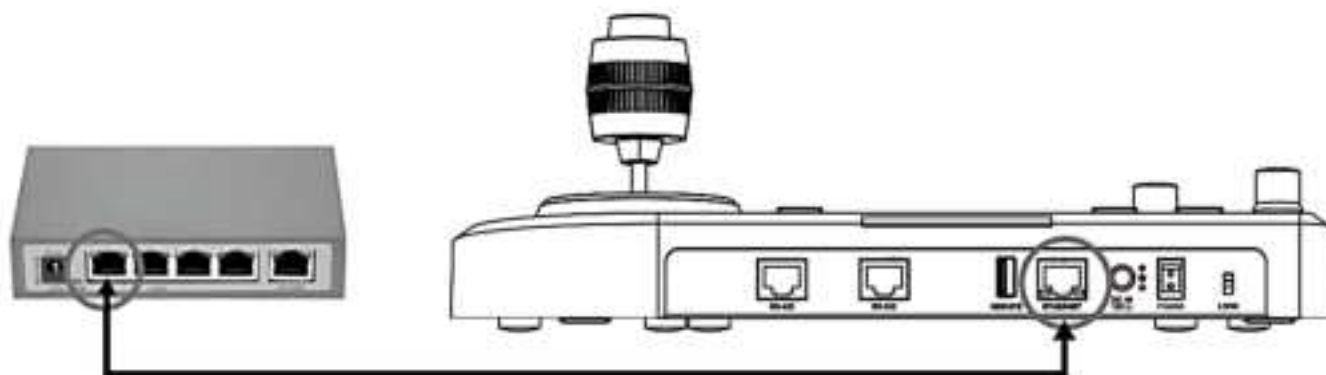


Two types of power supply can be used by VS-PTC-300:

**DC12V power supply:** Please use the included DC power supply adapter and power cable, and press the power button

**POE power supply:** Use Ethernet cables to connect POE switch and IP port of VS-PTC-300, and press the POWER button

## Chapter 5: Camera Setting Description



### 5.2: Instruction on RS-232 Setting

- Press **SETTING**, select Hot Key Camera
- Select CAM1 ~ 7
- Set CAMIDAlias
- Select VISCA for Protocol
  - Port is set as RS-232
  - Set the same baud rate between camera and controller
- Press **Back** to exit

### 5.3: Instruction on RS-422 Setting

- Press **SETTING**, select Hot Key Camera
- Select CAM1 ~ 7
- Set CAMID Alias
- Select VISCA for Protocol
  - Port is set as RS-422
  - Set the baud rate between camera and controller
- Press **Back** to exit

### 5.4: Instruction on IP Setting

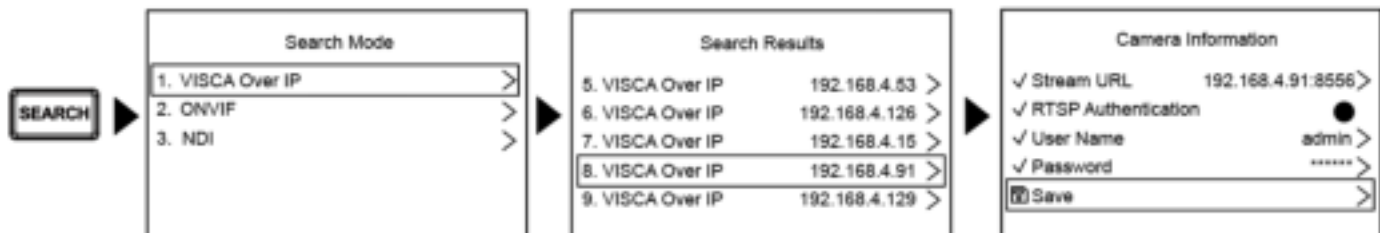
#### 5.4.1: Set VS-PTC-300 IP address

- Press **SETTING**, select Network
- Type: Select STATIC or DHCP
- IP Address: If select STATIC, use Focus Near/Far to choose the location, input the IP address via numbers on the keyboard. Last, press **ENTER** to save and exit

## 5.4: Instruction on IP Setting

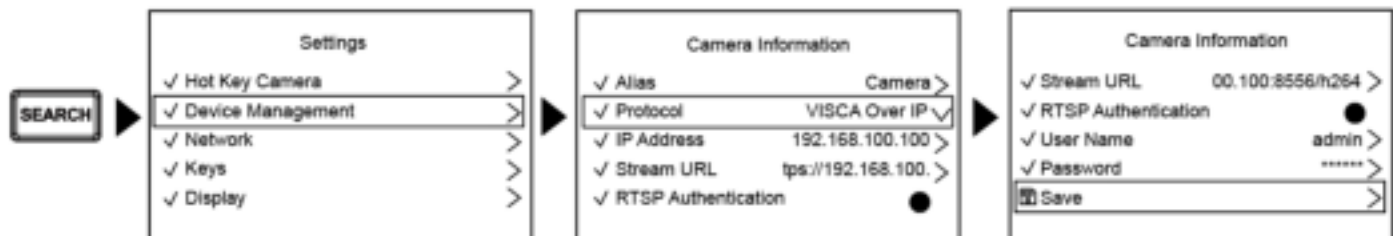
### 5.4.2 Add a Camera

#### 1. Automatic Search



- Press **SEARCH**
- Select search mode
- Select the target camera; set the CAMID
- After pressing **SAVE** at the bottom, you can check the saved camera list

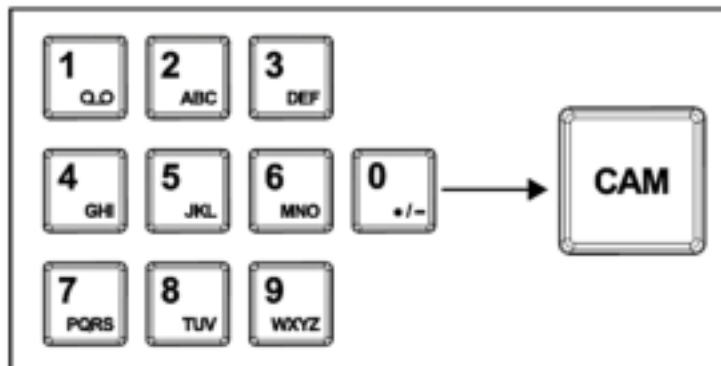
#### 2. Manual Add



- Press **SETTING**, select Device Management
- Set CAMID
- Select VISCAIP/ONVIF for Protocol, and set the camera IP address
- Press **SAVE** at the bottom to save

## Chapter 6: Descriptions of Major Functions

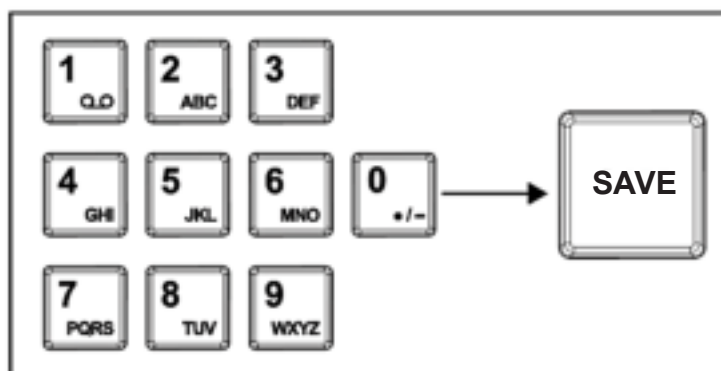
### 6.1: Call the camera



**6.1.1:** Use the number keyboard to call the camera

1. Key in the camera number to be called via the keyboard
2. Press the **"CAM"** button

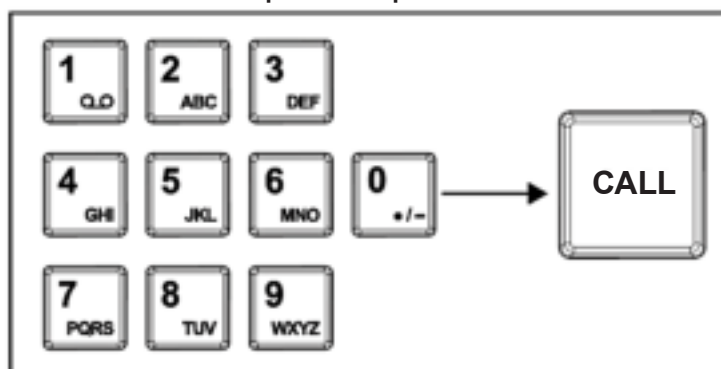
### 6.2: Setup/call/cancel preset position



**6.2.1:** Save the preset number

1. Relocate the camera to the desired position
2. Enter the desired preset position number, then press the SAVE button

#### 6.2.2: Call the preset position



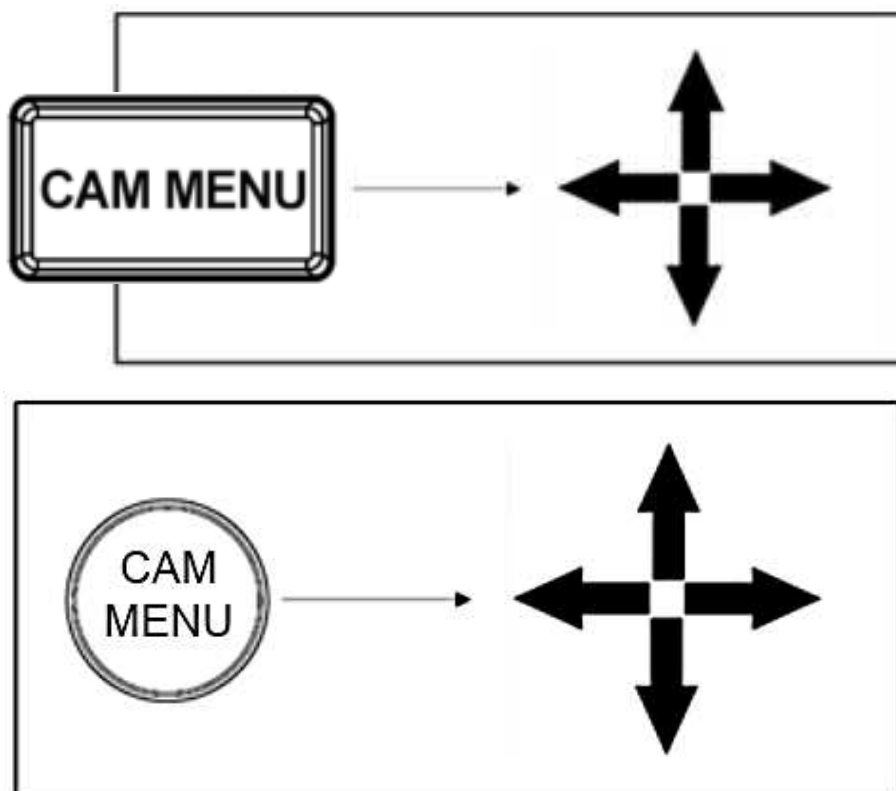
**6.2.2:** Call the preset position

1. Key in the desired preset position number via keyboard
2. Press **"CALL"** button

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## 6.3: set the camera OSD menu via the keyboard

1. Press the "CAM MENU" button on the keyboard
2. Set the camera OSD menu via the PTZ joystick
  - Move the joystick up and down. Switch the menu items/Tune the parameter values
  - Move the joystick to the right: Enter
  - Move the joystick to the left: Exit



## Chapter 7: Troubleshooting

Frequently asked questions about the use of VS-PTC-300 with suggestions, methods, and solutions.

| No. | Problems                                                                     | Solutions                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----|------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | <b>After plugging in the power supply, VS-PTC-300 power is not on</b>        | <ol style="list-style-type: none"> <li>1. Please check whether the power button on the back is pressed down correctly</li> <li>2. If POE is used, please make sure the Ethernet network cable is correctly connected to the power port of the POE switch</li> </ol>                                                                                                                                                                        |
| 2   | <b>VS-PTC-300 camera cannot be controlled</b>                                | <ol style="list-style-type: none"> <li>1. Please confirm the port pin connection is correct (RS-232/422)</li> <li>2. Please confirm if the camera OSD is correctly switched to RS-232/RS-422 and the baud rate setting is the same as the controller.</li> <li>3. Please confirm whether the MENU button on the keyboard is pressed down by mistake, causing the camera OSD menu to open and the camera unable to be controlled</li> </ol> |
| 3   | <b>Cannot use the keyboard buttons to change the image settings or focus</b> | Please confirm the LOCK button is set in "LOCK" mode                                                                                                                                                                                                                                                                                                                                                                                       |

For Warranty information, please refer to Marshall website page:

[marshall-usa.com/company/warranty.php](http://marshall-usa.com/company/warranty.php)