

# **PTZ Camera Controller**

## **User Manual**



## **Federal Communication Commission Interference Statement**



This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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 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.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

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## WARNING

- To reduce risk of fire or electric shock, do not expose this appliance to rain or moisture. Warranty will be void if any unauthorized modifications are done to the product.
- Do not drop the device it to physical shock.
- Use correct power supply voltage to avoid damaging camera.
- Do not place the device where the cord can be stepped on as this may result in fraying or damage to the lead or the plug.
- Hold the both side of the device with both hands to move the device. Do not grab one side of device to move the device.

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## Contact Information

### Global

AVer Information Inc.  
[www.aver.com](http://www.aver.com)  
8F, No.157, Da-An Rd., Tucheng Dist.,  
New Taipei City  
Taiwan

### USA

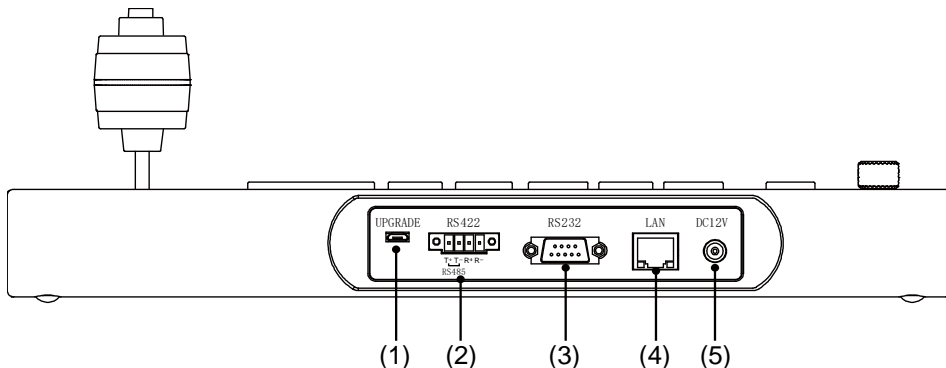
AVer Information Inc.  
[www.averusa.com](http://www.averusa.com)  
668 Mission Ct.  
Fremont, CA 94539, USA  
Toll-free: 1(877)528-7824  
Local: 1(408)263-3828  
[Support.usa@aver.com](mailto:Support.usa@aver.com)

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# Product Introduction

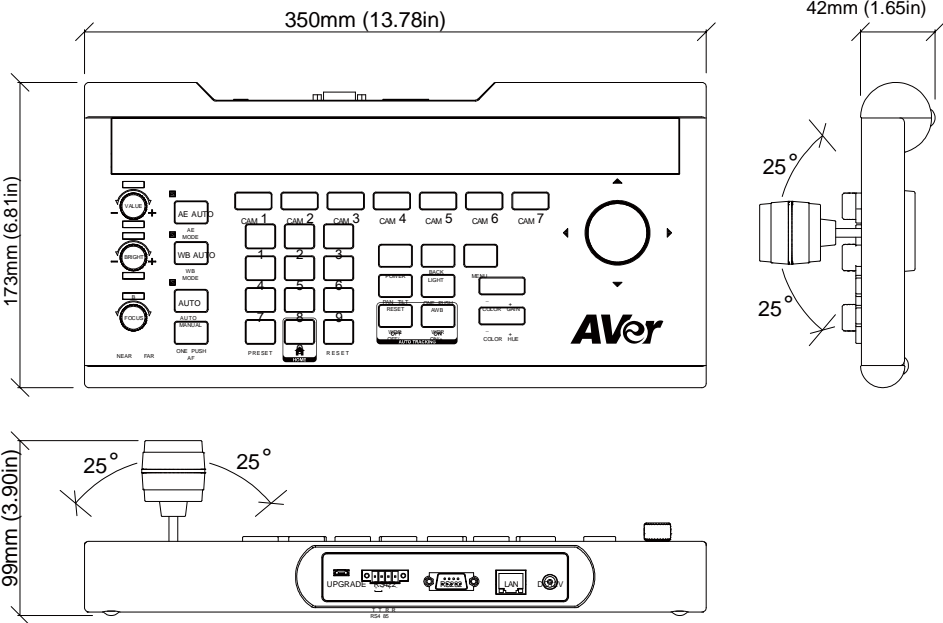
## Overview



Name	Function																				
(1) Micro USB port	For firmware upgrades of the device. Using a micro USB cable to connect with a PC running STMISP software tool.																				
(2) RS422/RS485 port	<p>For RS422 or RS485 connection with the camera. Please refer to the table below for connections.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="2">RS422</th> </tr> </thead> <tbody> <tr> <td>Camera Controller</td> <td>Camera</td> </tr> <tr> <td>T+</td> <td>R+</td> </tr> <tr> <td>T-</td> <td>R-</td> </tr> <tr> <td>R+</td> <td>T+</td> </tr> <tr> <td>R-</td> <td>T-</td> </tr> </tbody> </table> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="2">RS485</th> </tr> </thead> <tbody> <tr> <td>Camera Controller</td> <td>Camera</td> </tr> <tr> <td>T+</td> <td>RS485 A+</td> </tr> <tr> <td>T-</td> <td>RS485 B-</td> </tr> </tbody> </table>	RS422		Camera Controller	Camera	T+	R+	T-	R-	R+	T+	R-	T-	RS485		Camera Controller	Camera	T+	RS485 A+	T-	RS485 B-
RS422																					
Camera Controller	Camera																				
T+	R+																				
T-	R-																				
R+	T+																				
R-	T-																				
RS485																					
Camera Controller	Camera																				
T+	RS485 A+																				
T-	RS485 B-																				
(3) RS232 port	For 9-Pin RS232 control connection with the camera.																				
(4) LAN port	For RJ-45 network connection.																				
(5) DC 12V	DC 12V power plug.																				

# Dimensions

Unit: mm

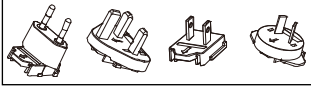


# Connections

## Power:

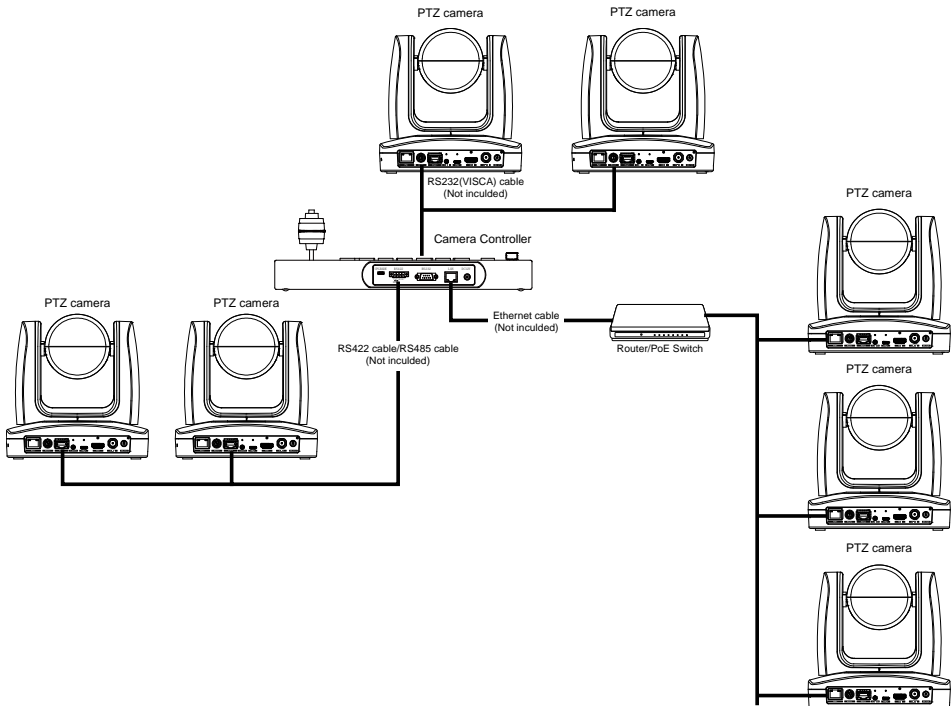
- All devices need to connect to a power source and power on.

**[Note]** For camera controller, please use the power plug that corresponds to your country. We provide 4 types of power plugs in the package – EU, US, UK, and AU.

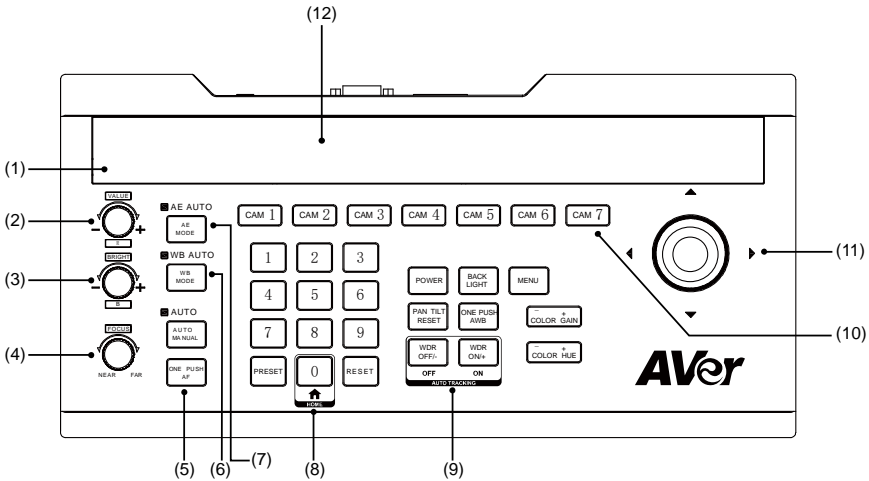


## LAN:

- The PTZ camera controller and camera must be connected via a switch/router (not included) and on the same network (LAN) segment in order for controller to find the camera for controlling. The CL01 uses UDP protocol for connection, a cross-cable will not work for direct connection of controller/camera.

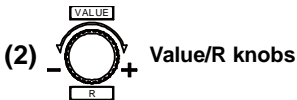


# Function Buttons



## (1) Light sensor

Light Sensor is to detect the current environmental brightness. When the keyboard back light is set to **AUTO**, then, the keyboard will adjust brightness of keyboard panel according to environment brightness. When the environment is brightly lit, the back light will turn OFF. When the environment is dimly lit, the back light will turn ON to access the buttons more easily.



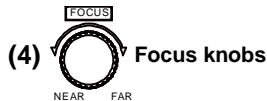
## (2) Value/R knobs

To adjust camera's exposure parameters or red gain value. In a clockwise direction it will increase the values, counterclockwise direction it will decrease the values.



## (3) Bright/B knobs

To adjust camera's exposure parameters or blue gain value. In a clockwise direction it will increase the values, counterclockwise direction it will decrease the values.



## (4) Focus knobs

To adjust camera's focal length. The clockwise direction is to adjust the focal length Far. The counterclockwise direction is to adjust the focus length Near (When using this function, the keyboard's focus mode will be changed to MANUAL mode).



## (5) Auto Focus Function buttons

To adjust camera's focus. When "AUTO" indicator is ON, it means current status is in "AUTO MODE".

"ONE PUSH AF" button is to trigger one time auto focus function. Each time the button is pressed, the camera will focus once and for that moment the camera will enter the auto focus mode.



## Function Buttons (continued)

■ WB AUTO

### (6) WB Auto button

It is to modify the camera's White Balance (WB) mode to either Auto or Manual each time it is pressed. Under the Auto White balance mode, the R-Knobs and B-Knobs do nothing. Under WB Manual, you will have a control of R-Gain and B-Gain of the camera. Please refer to the table shown. When the indicator of WB Mode button is ON, then Knob 1 and Knob 2 are only available for White Balance adjustment.

WB Mode	R-Knobs Function	B-Knobs Function
Auto	None	None
Manual	Red Gain	Blue Gain

■ AE AUTO

### (7) AE Auto button

It is to modify the five Exposure modes, to either Auto or Manual each time it is pressed. Under the different exposure modes, use the VALUE knob and BRIGHT knob to adjust the values. When AE Mode indicator is ON, it means Knob 1 and Knob 2 are only available for exposure parameters adjustment. The values will show in the Controller's display.








Exposure Mode	VALUE Knob	BRIGHT Knob
AUTO	None	Gain Compensation
MANUAL	Shutter	IRIS
Shutter Priority	Shutter	Gain Compensation
Iris Priority	IRIS	Gain Compensation
Brightness Priority	None	Brightness

## (8) Preset function buttons

**PRESET** button: It is to save and call presets.

- **Save Presets:** Press "PRESET" button and the PRESET button will start to flash. Then, press the number of preset and press "PRESET" again to save the preset. For example: "PRESET" + "1" + "2" + "PRESET" to set the preset as 12.
- **Call Presets:** Preset number button + "PRESET". For example: Press "1" + "2" + "PRESET" button to call preset 12.
- **RESET:** To clear the Preset. Press "RESET" button and the "RESET" button will start to flash. Then, press the number of preset and press the "RESET" button to reset the preset. For example: To clear preset 25, "RESET" + "2" + "5" and "RESET".

## (9) Camera function buttons

- **Power:** To check the power status of the cameras (      ). When the "POWER" button is pressed, the CAM1 to CAM7 buttons will show status light.

Green	Power On
White	Standby
Off	No camera is connected or cannot detect the status

Press POWER + CAM (1-7) to turn ON/Off the camera. **\*Note:** TR camera must be connected via RS232/422 or WOL software to power on.

- **Backlight:** To turn ON/OFF Backlight of the camera (BLC).
- **Menu:** To call out or exit the camera setup menu. Press for 3 seconds to call out the CL01 setup menu display on controller.
- **PAN TILT/RESET:** To Reset the Pan/Tilt position of camera.

## Function Buttons (continued)

### (9) Camera function buttons (continued)

- **ONE PUSH AWB:** To trigger one time white balance adjustment.
- **WDR OFF/- and Tracking OFF**  
Wide Dynamic Range, WDR OFF/-: To turn off WDR function or reduce the WDR.  
Tracking OFF: Press to turn OFF the tracking function.  
**\*Note:** For AVer Tracking cameras.
- **WDR ON/+ and Tracking ON**  
Wide Dynamic Range, WDR ON/+: To turn on WDR function or increase the WDR.  
Tracking ON: Press to turn ON the tracking function.  
**\*Note:** For AVer Tracking cameras.
- **COLOR GAIN +/-:** To adjust the color gain value.
- **COLOR HUE +/-:** To adjust the color hue value.

### (10) CAM1 ~ CAM7 buttons

Press the camera button to switch camera control and the camera indicator will turn green.

Each camera button will need the IP address and Port of the camera configured before control will work. (Please refer to "Camera Controller Operation" > "Ethernet setting").

**\*Note:** For AVer Tracking cameras, be sure to enable the "Visca Over IP" setting in Advanced Settings of the camera.

### (11) Joystick

#### Camera:

The Joystick can adjust camera Pan/Tilt by moving left/right and up/down. To adjust camera Zoom In/Out, rotate in a clockwise/counterclockwise direction.

In the camera setup menu, the Joystick can move the cursor and modify parameters. To confirm a selection, press the center button on top of Joystick.

#### Controller Display:

While using to move the cursor in the Controller display, pressing the center button on top of Joystick does nothing. Move the cursor to the right to confirm a selection.

### (12) LED Display Panel

It displays current camera controller status, displays information, and system's menu.

### (13) Multi-Channel

Control more than 7 cameras, maximum support is 256 cameras.

A. Long press "MENU" to call out controller's menu. Go to "3. Ethernet setting" > "1. Channel: select CAM 7" and then make sure that "4. Lock: Disabled"

- |  |
|--|
| <ol style="list-style-type: none"><li>1. System Setting</li><li>2. COM setting</li><li>3. Ethernet setting</li><li>4. Password setting</li></ol> |
|--|

- |   |
|---|
| <ol style="list-style-type: none"><li>1. Channel: CAM7</li><li>2. Camera IP: 192.168.001.001</li><li>3. Port: 52381</li><li>4. Lock: Disabled</li></ol> |
|---|

B. Go to "1. Channel: Cam007" and use joystick or keyboard to select your camera number for setting.

If you have already finished A & B, go back to home screen of controller, now you can press camera's number on keyboard, then press "CAM7" button to control the selected camera.

# PTZ Camera Controller Operation

## Menu

Press “**MENU**” button for 3 seconds to enter the menu. Press menu button again to exit.

The main menu is as below shown:

1. System Setting
2. COM setting
3. Ethernet setting
4. Password setting

While in Menu mode, use the joystick to select and setup the parameters.

Right	Enter the submenu, move to the selection, or confirm the selected value
Left	Exit current selection or move back to the last selection
Up	Move between menu selection or change the value
Down	Move between menu selection or change the value
Top button	Enter or confirm the selection or move cursor to right to confirm

## System Setting

The System setting menu is as below shown:

1. Language: English	
2. LED brightness: Normal	
3. Backlight: Auto	
4. Joystick sensitive: 7	↓↓↓↓
5. Auto standby: Off	↑↑↑↑
6. ItselfIP: 192.168.000.088:08090	
7. About keyboard	

[Note] “↓↓↓↓” and “↑↑↑↑” indicates that the menu page can page down or page up (More).

### ■ Language

The system supports “**English**”, “**Traditional Chinese**”, and “**Simplified Chinese**”.

### ■ LED brightness

Adjust LED panel brightness of the PTZ camera controller – **High**, **Low**, or **Normal**.

### ■ Backlight

Setup the backlight of the buttons on the PTZ camera controller – **Auto**, **Off**, or **On**.

## System Setting (continued)

- Joystick sensitivity**

Setup the sensitive level of joystick – 1~7. The swinging amplitude of the joystick can control the speed of the pan/tilt rotation speed. When the joystick sensitivity is set to high, it can swing a small amplitude amount to control the rapid rotation.

- Auto Standby**

To setup the PTZ camera controller enter to standby mode within limited idle time – 1mins, 2mins, 5mins, 10mins, 20mins, 30mins, or 60mins.

- ItselfIP**

Setup the PTZ camera controller's IP address and port. The default IP and port values are 192.168.001.088: 5000.

**[Tip]** Use number buttons (0~9) to enter the IP address and port.

- About keyboard**

Display the name of PTZ camera controller, firmware version, and serial number.

## COM Setting

The COM setting menu is as below shown:

1. Channel: CAM1
2. Address: 1
3. Baudrate: 9600
4. Protocol: Visca

- CHANNEL**

Select the channel (CAM1 ~ CAM 7) to setup. The channel corresponds to the CAM1 ~ CAM7 button on the PTZ camera controller.

- Address**

Setup the channel address. The table shows the available address value for different protocol.

When the address is set to "Others", after exiting from setting menu, you can modify the address by adding the corresponding channel button. For example, the address of CAM1 is set to "Others", press the number button "1" + "2" + "CAM1" to set the address of CAM1 to 12.

Protocol	Address value
Visca <sup>1</sup>	1~7
SonyVisca <sup>2</sup>	1~7, other
Pelco-P	1~7, other
Pelco-D	1~7, other

1:

VISCA	Serial port(RS-232/422/485) : VISCA
	UDP VISCA

2:

Sony VISCA	IP: VISCA over IP
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## COM Setting (continued)

- **Baudrate**

Setup the baud rate for channel (CAM1 ~ CAM7) – **2400, 4800, 9600, 19200, 38400.**

- **Protocol**

Setup the protocol for channel (CAM1 ~ CAM7) – **Visca, SonyVisca, Pelco-P or Pelco-D.**

## Ethernet Setting

To set the camera's channel, IP address, and port on the PTZ camera controller.

The Ethernet setting menu is as below shown:

- |  |
|--|
| <ol style="list-style-type: none"><li>1. Channel: CAM1</li><li>2. Cam IP: 192.168.001.100</li><li>3. Port: 52381</li></ol> |
|--|

- **CHANNEL**

Select the channel (CAM1 ~ CAM 7) to setup. The channel corresponds to the (CAM1 ~ CAM7) button on the PTZ camera controller.

- **Cam IP**

To setup the cameras IP address. When entering a 3 digit number, the cursor will move to next column automatically. If user enters less than a 3 digit number, press the “**RESET**” button, and it will move to the next column. If the user enters the wrong value, press the “**PRESET**” button to delete the value.

**[Tip]** Use number buttons (0~9) to enter the IP address.

- **Port**

Setup the connection port for the camera.

**[Tip]** Use number buttons (0~9) to enter the port.

## Password Setting

Enable/disable the password of the PTZ camera controller and change the password.

The Password setting menu is as below shown:

- |  |
|--|
| <ol style="list-style-type: none"><li>1. Password enable: disable</li><li>2. Modify password</li></ol> |
|--|

- **Password enable**

Enable/disable password function on the PTZ camera controller. The default password is “8888”.

When the password is enabled, user needs to enter the password before entering to menu.

**[Tip]** Using the number buttons (0~9) to enter the password.

- **Modify password**

When changing the password, user needs to enter the current password, then, enter the new password and re-enter the new password again to confirm.

**[Tip]** Using the number buttons (0-9) to enter the password.

# Specification

I/O port	
RS422/RS485 port	4Pin Terminal
RS232 port	DB 9Pin Male Interface
LAN port (All Communication Ports can function at the same time)	RJ45 Female port
Power plug	JEITA type4 Female
Upgrade port	Micro USB Female port
Camera Control	
Max Support	255 PTZ Cameras
Control Protocol	VISCA , PELCO P/D
Display Screen	OLED Screen
Camera Channels	7
Knobs	3
Joystick	1
Control Signal Format	
Baud Rate	2400bps, 4800bps, 9600bps, 19200bps, 38400bps
Data Bit	8bits
Stop Bit	1bit
Parity Bit	NONE
Ethernet Protocol	UDP / TCP / IP
Power	
Rated Voltage	DC 12V
Rated Current	0.3A max, 3.6W
Power Consumption	24W
Physical	
Working Temperature	0°C ~ 40°C(32 °F ~ 104 °F)
Storage Temperature	-20°C ~ +60°C(-4 °F ~ 140 °F)
Working Temperature	Indoor
Dimension Size (L*W*H )	350mm (13.78in) x 173mm (6.81in) x 99mm (3.90in)
G.W ( kg )	2.5kg
Packing Accessories	User Manual / 4 Pin Terminal / Power Adapter/ Power jack transfer cable

