



PTZ CAMERA JOYSTICK CONTROLLER

USING THE UNIT SAFELY

Before using this unit, please read below warning and precautions which provide important information concerning the proper operation of the unit. Besides, to assure that you have gained a good grasp of every feature of your new unit, please read below manual. This manual should be saved and kept on hand for further convenient reference.



Warning And Cautions

- ※ To avoid falling or damage, please do not place this unit on an unstable cart, stand, or table.
- ※ Operate unit only on the specified supply voltage.
- ※ Disconnect power cord by connector only. Do not pull on cable portion.
- ※ Do not place or drop heavy or sharp-edged objects on power cord. A damaged cord can cause fire or electrical shock hazards. Regularly check power cord for excessive wear or damage to avoid possible fire / electrical hazards.
- ※ Do not operate unit in hazardous or potentially explosive atmospheres. Doing so could result in fire, explosion, or other dangerous results.
- ※ Do not use this unit in or near water.
- ※ Do not allow liquids, metal pieces, or other foreign materials to enter the unit.
- ※ Handle with care to avoid shocks in transit. Shocks may cause malfunction. When you need to transport the unit, use the original packing materials or alternate adequate packing.
- ※ Do not remove covers, panels, casing, or access circuitry with power applied to the unit! Turn power off and disconnect power cord prior to removal. Internal servicing / adjustment of unit should only be performed by qualified personnel.
- ※ Turn off the unit if an abnormality or malfunction occurs. Disconnect everything before moving the unit.

Note: due to constant effort to improve products and product features, specifications may change without notice.

CONTENT

1.Brief Introduction	1
1.1 Overview	1
1.2 Main Features	1
2.Interfaces.....	2
2.1 Interfaces	2
2.2 Specification.....	2
3.Control Panel.....	4
3.1 Description	4
3.2 Keyboard Button	5
4.Menu Settings	7
4.1 STATUS.....	7
4.2 SETUP	7
4.2.1 IP Config	7
4.2.2 LED setting	9
4.2.3 Skin setting	9
4.2.4 Assigned key	9
4.2.5 Version	10
4.2.6 Reset.....	10
4.3 Search.....	10
4.4 Inquiry	11
4.5 Camera position setting	11
5.PTZ camera controller connection	12
6.Accessories	13

1. Brief Introduction

1.1 Overview

This is a professional PTZ camera controller that supports RS-422 / RS-485 / RS-232 / IP control, connects up to 255 cameras, provides the ability to control aperture, focus, white balance, exposure, and real-time speed control, and provides more refined camera settings in controlling PTZ cameras, widely used in education, conference, remote medical, medical services and many other industry sectors.



1.2 Main Features

- Cross protocol mix-control with IP/ RS-422/ RS-485/ RS-232
- Control protocol by VISCA, VISCA-Over-IP, Onvif and Pelco P&D
- Control up to total of 255 IP cameras on a single network
- 3 camera quick call up keys, or 3 user-assignable keys to quickly invoke shortcut functions
- Quick control of exposure, shutter speed, iris, compensation, white balance, focus, pan/tilt speed, zoom speed
- Tactile feel with professional rocker/seesaw switch for zoom control
- Automatically search available IP cameras in a network and assign IP addresses easily
- Multi-color key illumination indicator directs operation to specific functions
- ally GPIO output for indicating the camera be currently controlled
- Metal housing with 2.2 inch LCD display, joystick, 5 rotation button
- Supports both POE and 12V DC power supplies

2.Interfaces

2.1 Interfaces



1	Power Switch
2	DC 12V Power
3	TALLY GPIO
4	RS232 (PELCO-D, PELCO-P, VISCA)
5	RS-422/485 (PELCO-D, PELCO-P, VISCA)
6	IP (ONVIF, VISCA Over IP)

2.2 Specification

CONNECTIONS	Interfaces	IP(RJ45), RS-232, RS-485/RS-422
	Control Protocol	IP Protocol: ONVIF, VISCA Over IP Serial Protocol: PELCO-D, PELCO-P, VISCA
	Serial Baud Rate	2400, 4800, 9600, 19200, 38400 bps

USER	Display	2.2 inch LCD
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INTERFACES	Joystick	Pan/Tilt/Zoom
	Camera shortcut	3 channels
	Keyboard	User-assignable keys×3, Lock×1, Menu×1, BLC×1, Rotation button×5, Rocker×1, Seesaw×1
	Camera Address	Up to 255
	Preset	Up to 255
POWER	Power	PoE / DC 12V
	Power Consumption	PoE: 5W, DC: 5W
ENVIRONMENT	Working Temperature	-20°C ~ 60°C
	Storage Temperature	-40°C ~ 80°C
DIMENSION	Dimension (LWD)	270mm(L)×145mm(W)×29.5mm(H)
	Weight	1181g


3.Control Panel



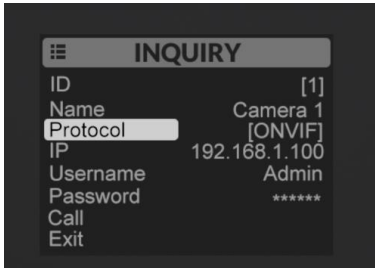

3.1 Description



1	Camera Quick Access Control (Aperture/exposure/white balance/focus function settings)
2	3 Camera Call Up & User-assignable keys, Lock, Menu and BLC buttons.
3	Seesaw button (Zoom control)
4	Menu knob (Use for pan/tilt speed, zoom speed control and PTZ camera menu settings)
5	Camera address and position setting
6	Multi-function digital panel (Inputting numbers, letters, etc.)
7	PTZ joystick (Controlling camera motion action)

3.2 Keyboard Button

<p>■ Camera Quick Access Control</p> <p>Press the AUTO EXPOSURE button to turn on automatic exposure. In non-auto exposure mode, turn the IRIS knob to manually adjust the camera aperture value.</p> <p>Press the AUTO WB button to turn on automatic white balance. Press the ONE PUSH WB button, the camera enters the one-touch white balance mode.</p> <p>In non-automatic white balance mode, turn the R knob to manually adjust the camera red gain and turn the B knob to manually adjust the camera blue gain.</p> <p>Press the AUTO AF button to turn on the camera autofocus, and press the ONE PUSH AF button to put the camera into one-touch focus mode.</p> <p>In the non-autofocus mode, you can manually adjust the camera focus.</p>	
<p>■ Lock, Menu, BLC & User-assignable keys</p> <p>Lock: Buttons Lock; Menu: Open Menu; BLC: Backlight.</p> <p>Press the shortcut keys F1-F3 to quickly call the corresponding camera, you can also customize the key function according to user requirements, the specific function is set inside the menu.</p>	
<p>■ Seesaw button</p> <p>Press the seesaw T button to pull the camera focus farther, and press the seesaw W button to pull the camera focus closer, in addition, you can also use the PTZ joystick to control the camera zoom.</p>	
<p>■ Menu knob</p> <p>Press the SETUP button to enter the controller menu. The menu options can be selected by the knob. Under the status page, rotating the knob can be used to control the PTZ camera speed.</p>	

<p>■ Multi-function digital panel</p> <p>The numeric panel allows you to enter numbers, letters, etc.</p>	
<p>■ Camera address and position setting</p> <p>SEARCH: Controller's camera search</p> <p>INQUIRY: Controller's camera inquiry</p> <p>CAM: Recall the specified camera, press the number of the specified camera on the panel, and then press the button to switch the camera.</p> <p>PRESET: Camera set preset position, input the number on the panel, then press the PRESET button to store the camera position.</p> <p>RESET: The camera clears the preset position, input the number on the panel, and then press RESET to clear the camera preset position</p> <p>CALL: Recall the preset position, input the number on the panel, then press CALL button, then the camera recalls the specified preset position.</p>	
<p>■ Screen</p> <p>Display of menu settings, display of status page.</p>	
<p>■ PTZ joystick</p> <p>Used to control camera motion under normal conditions.</p> <p>Used for menu control when calling up the camera menu.</p>	

4.Menu Settings

4.1 STATUS

The status page displays the camera address, camera name, control protocol and protocol related information (IP port, baud rate and other information). Under the status page, turn the knob to control the PTZ camera speed. The status page as following:

STATUS		STATUS	
[0]	Camera 0	[0]	Camera 0
Protocol	VISCA-IP	Protocol	VISCA-IP
IP	0.0.0.0	IP	0.0.0.0
		PTZ Speed [100%]	

In addition, the information of the number entered will be displayed in the lower left corner of the status page, and the information of the operation will be displayed in the lower right corner.

For example, if you enter the number 10, the number 10 will be displayed in the lower left corner, and when you press CALL button, the information of that operation will be displayed in the lower right corner, as shown in the figure.

STATUS		STATUS	
[0]	Camera 0	[0]	Camera 0
Protocol	VISCA-IP	Protocol	VISCA-IP
IP	0.0.0.0	IP	0.0.0.0
[10]		Call Position [10]	

4.2 SETUP

Press SETUP on the button panel to enter the SETUP menu.

SETUP	
IP Config	[Static]
Led Mode	[On]
Skin	[Color 1]
Assigned Key	
Version	
Reset	
Exit	

4.2.1 IP Config

Select the IP Config option and press the menu knob to configure the IP of the controller.

● Network

There are two ways to acquire the IP: Dynamic (IP configured by router) and Static (set IP freely by yourself). Select the method you need by knob menu. The default setting is Dynamic, and the default IP address is 192.168.5.177.

Dynamic: Connecting the PTZ camera with a router with DHCP features, then it will auto obtain an IP address automatically. Make sure that PTZ camera and PC are in the same local area network.

Static: Select static IP acquire method when the PC is without DHCP. Connect the PTZ camera with PC via network cable, set the PC's IP address to the same IP range as PTZ camera

SETUP	
DHCP	[On]
IP	192.168.5.177
Netmask	255.255.255.0
Gateway	192.168.5.1
Exit	

SETUP	
DHCP	[Off]
IP	192.168.5.177
Netmask	255.255.255.0
Gateway	192.168.5.1
Exit	

● Netmask

Set the NetMask. The default setting is 255.255.255.0.

SETUP	
DHCP	[On]
IP	192.168.5.177
Netmask	255.255.255.0
Gateway	192.168.5.1
Exit	

● Gateway

Set the GateWay according to current IP address. The default setting is 192.168.5.1.

Save the configuration when network setting finish.

SETUP	
DHCP	[On]
IP	192.168.5.177
Netmask	255.255.255.0
Gateway	192.168.5.1
Exit	

4.2.2 LED setting

Turn on the LED mode, the key light on the panel is always on, turn off the LED mode, the key light on the panel is off.

SETUP	
IP Config	[Static]
Led Mode	[On]
Skin	[Color 1]
Assigned Key	
Version	
Reset	
Exit	

4.2.3 Skin setting

Entering SETUP settings from the menu to switch the screen skin style. There are four styles to choose from Color1/Color2/Color3/Color4.

SETUP	
IP Config	[Static]
Led Mode	[On]
Skin	[Color 1]
Assigned Key	
Version	
Reset	
Exit	

4.2.4 Assigned key

Assigned keys can be configured as shortcuts to activate camera functions.

The F1, F2, F3, F4, F5 and F6 shortcuts can be configured to flip the camera image up and down and left and right, freeze the camera screen, etc.

From the keyboard Setup Menu, move the cursor to the ASSIGNED KEY field.

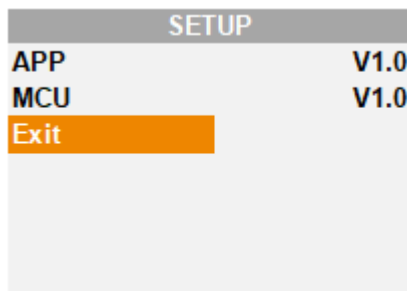
SETUP	
F1	[Cam 1]
F2	[Cam 2]
F3	[Cam 3]
F4	[Flip]
F5	[Freeze]
F6	[Mute]
Exit	

Assigned key can be assigned to camera features from following:

1	Cam N	Quick call camera N
2	Home	Command the selected camera to activate its 'Home' preset
3	P/T Reset	Reset the selected camera
4	Power	Power off the selected camera
5	Mute	Mute the audio from the selected camera
6	Freeze	Freeze the image of the selected camera
7	Flip	Flip the image of the selected camera (Flip Up and down)
8	LR Reverse	Invert the L/R (pan direction) of the selected camera (Flip left and right)

4.2.5 Version

Enter the menu to check the APP version and MCU version of the PTZ camera controller.



4.2.6 Reset

Clear all keyboard settings, and restore factory default.

NOTE: Don't move the Joystick nor the Zooming Seesaw and leave them at original position while the FACTORY DEFAULT is processing.

Select Exit and press the menu knob to exit this menu page and return to the status page.

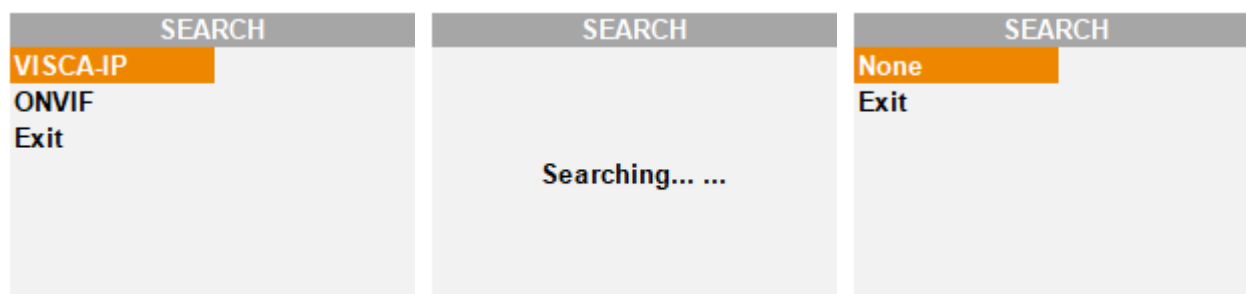


4.3 Search

The controller supports both VISCA-IP and ONVIF protocols to search cameras, you need to configure the network first, press the SEARCH button on the panel and select VISCA-IP, ONVIF protocol through the menu. Select the protocol according to the situation and start the search.

When the search is complete, all cameras searched will be displayed, click on the corresponding IP to enter the camera corresponding camera settings, if it shows none, it means that the camera is not found.

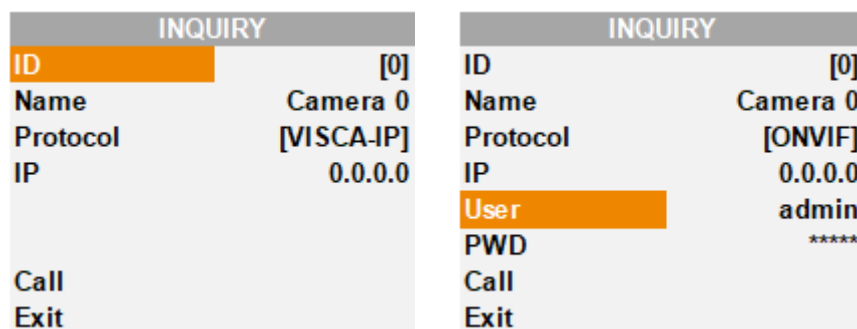
The user name and password used in the ONVIF protocol can be changed. Press once on the number panel and enter the corresponding number, press twice or more times in a row to enter the corresponding letter. Press once on the panel to input the number and twice or more times to input the letter.



4.4 Inquiry

The controller stores a total of 255 cameras (1~255). By pressing the INQUIRY button on the status page, you can query the information of any camera on the INQUIRY query page, or enter a number and click the "INQUIRY" button to query the information of the camera with the corresponding number address.

In addition, the INQUIRY page allows you to easily change the camera's configuration, including: camera name, camera protocol, camera IP, baud rate, port, user name, password, etc. The PELCO-D, PELCO-P and VISCA protocols have a baud rate configuration and port selection configuration, the ONVIF and VISCA-IP protocols have an IP configuration, and ONVIF requires both a user name and password configuration (need to match the camera).



4.5 Camera position setting

- **Setting / creating presets:**

Move the camera to the desired position, Enter the desired preset number on the alphanumeric keyboard, such as "77" and then press the Preset button to save the preset.

STATUS	
[0]	Camera 0
Protocol	VISCA-IP
IP	0.0.0.0
[77]	

STATUS	
[0]	Camera 0
Protocol	VISCA-IP
IP	0.0.0.0
Set Position [77]	

- **Calling presets:**

Enter the desired preset number on the alphanumeric keypad such as “77”, Press the Call button.

STATUS	
[0]	Camera 0
Protocol	VISCA-IP
IP	0.0.0.0
Call Position [77]	

STATUS	
[0]	Camera 0
Protocol	VISCA-IP
IP	0.0.0.0
[77]	

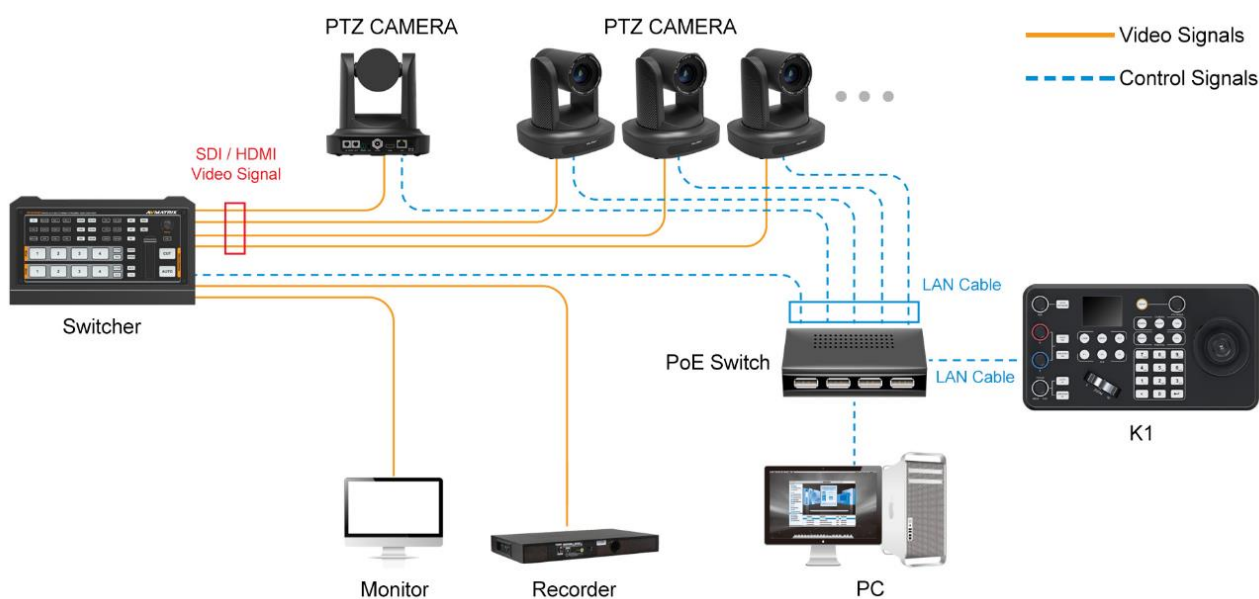
- **Resetting / Clearing presets:**

Enter the number of the preset you would like to clear such as “77”, and then Press the Reset button.

STATUS	
[0]	Camera 0
Protocol	VISCA-IP
IP	0.0.0.0
[77]	

STATUS	
[0]	Camera 0
Protocol	VISCA-IP
IP	0.0.0.0
Clear Position [77]	

5.PTZ camera controller connection



6.Accessories

This PTZ camera controller is equipped with one 12V power adapter and one 9 PIN GPIO connector.



12V Power Adapters



9 PIN GPIO Connector