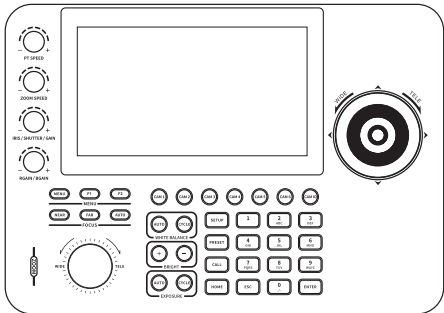


Keyboard Controller

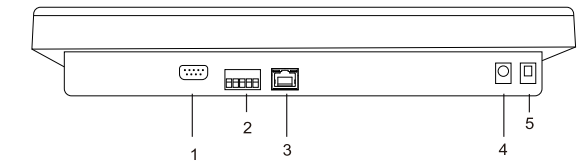
User Manual



Version 1.0-05.02.0294

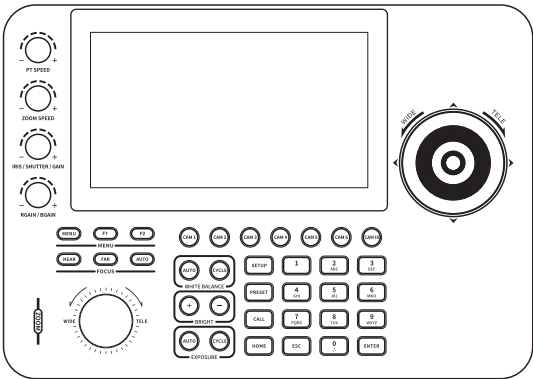
1. Product Overview

1.1 I/O Introduction



No.	Item	Function Descriptions
1	RS232 port	Connect the RS232 cable
2	RS422/RS485	Connect the RS422 or RS485 cable
3	IP port	Connect the RJ45 network cable
4	12 V DC power port	Connect the included DC power supply adapter and the power cable
5	Power button	Turn on/off keyboard power

1.2 Panel Function Introduction



[F1]
Camera Menu Back: After setting parameters in the camera menu,click this button to return to the previous level or step-by-step return to the main menu.

[F2]
Camera Menu Confirm: Click to enter each menu item and confirm settings.

[NEAR FOCUS]
Pressing the [NEAR] button optimizes focus for close-range subjects, ensuring sharp clarity for objects near the camera.

[FAR FOCUS]
Pressing the [FAR] button adjusts focus for distant objects, enhancing details for subjects farther away.

[AUTO FOCUS]
Pressing the [AUTO] button enables automatic focus, allowing the camera to dynamically adjust for optimal clarity.

[PT Speed]
Twist the Speed Control knob in to cycle to increase or decrease the PT.

[Zoom Speed]
Twist the Speed Control knob in to cycle to increase or decrease the Zoom Speed. Turn the knob right for +, left for -.

[Iris/ Shutter/ Gain]
Press the knob to switch the Iris, Shutter and Gain functions. Turn the knob right for +, left for -.

[RGAIN/BGAIN]
Red-Blue Gain: Press the knob to switch the gain type.Turn the knob right for +, left for -.

[ZOOM WIDE/TELE]
Zoom adjustment:turn the knob right for +, left for -.

1.3 Keyboard shortcuts to turn on/off camera tracking function

AI Function On/Off: Long press the [F2] key to activate.

Activate: Long press the [F2] key for 3 seconds to activate the AI function, entering multi-person tracking mode by default.

Exit: Long press the [F2] key for 3 seconds to deactivate the AI function, exiting multi-person tracking mode.

Single-Person Tracking Mode On/Off: With the AI function enabled, long press the [F1] key to activate.

Activate: With AI enabled, long press the [F1] key for 3 seconds to activate single-person tracking. The system enters target selection mode, and a candidate frame (blue border) appears on the screen.

Select Person: Switch targets by moving joystick left or right. Press the button on the top of the knob to lock the target. The target frame on the screen will turn green and continue tracking.

Exit: Long press the [F1] key again for 3 seconds to return to multi-person tracking mode.

1.4 Keyboard Control Camera Cruise (Route Tracking) Function

Only supports device versions V1.2.02 and higher, such as V1.2.01, V1.2.06..

1.4.1 Cruise Route Recording Setup

1) Set Cruise Route: Long press the [PRESET] key to enter the cruise route setup interface, then enter a cruise route number in the bottom-right corner of the screen (with 0-9 for option), e.g.. 1. Next, set the cruise interval time (default 7s, range 7–30s). Then, press [ENTER] to save the cruise interval time setting and start recording.

2) Operate Joystick: Start recording the camera’s cruise route. Supports pan/tilt/zoom operations.

3) Finish Recording: Press the [ENTER] key to save the currently recorded cruise route.

4) During Recording: The backlight of the [PRESET] key will flash continuously, indicating cruise route recording is in progress.

1.4.2 Cruise Route Playback

1) Play Cruise Route: Long press the [CALL] key to start cruise route playback. Enter the cruise route number in the bottom-right corner of the screen, e.g., 1, and confirm to start loop playback of cruise route 1.

2) During Playback: The backlight of the [CALL] key will flash continuously. Note: During playback, if the camera receives pan/tilt/zoom operations, the system will prompt with a pop-up window asking “Stop Cruise Track Call?”. The user can press [ENTER] to confirm or press [ESC] to cancel. If not press [ENTER] or press [ESC], the cruise continues. If press [ENTER], cruise playback stops.

1.5 Knob Description

Operating	Output Control	Operating	Output Control	Operating	Output Control
	Upward		Downward		Left
	Right		Zoom +		Zoom -

Press the button on top of the Knob to confirm

2. Camera Setting Overview on Keyboard Controller

2.1 Camera Setting Overview

Item	Settings	Description
CAM	1 ~ 255	Assign the camera number; 255 units can be set at most
Protocol	VISCA NDI ONVIF PELCO-D PELCO-P	Select a control protocol to be used for connecting the camera

2.2 Add Analog Devices

Device List	Manually Add			
Search Device	channel	1		
Manually Add	protocol	Pelco-D		
System Set	ip	. . .	address	1
	port		baudtare	9600
Network Set	username	admin	password	admin
	rtsp username		rtsp posswd	
exit	rtsp url	/stream1		
Save Cancel				

Item	Settings	Description
Port	RS232 / RS422/RS485	Set the control protocol of VISCA/PELCO-D /PELCO-P control
Baud Rate	2400 4800 9600 19200 38400	When selecting VISCA/PELCO-D/PELCO-P as the control protocol, the Baud rate transmission speed must be specified

2.3 Add Network Devices

Device List	Manually Add			
Search Device	channel	1		
Manually Add	protocol	onvif		
System Set	ip	192.168.1.206	address	1
	port	8010	baudtare	2400
Network Set	username	admin	password	admin
	rtsp username		rtsp posswd	
exit	rtsp url	/stream1		
Save Cancel				

Item	Description
Channel	Any channel
Protocol	Onvif / NDI/VISCA over IP
IP	Input the camera IP address
Address	Any Address
Port	Select a port to be used by the camera (Input the camera port Corresponding to the Network Protocol)
User Name	Input camera user name
Password	Input camera password

3. LCD Function Menu Description

Press the SETUP button on the keyboard to access the LCD function menu.

3.1 Device List

Device List	Device				
Search Device	select	channel	ip/address	port/baud	protocol
Manually Add	☐	1	192.168.0.205	5961	NDI
System Set	☐	2	192.168.0.201	8080	ONVIF
	☐	3	192.168.0.207	52381	VISCA
Network Set	☐	4	192.168.0.208	52381	VISCA
	☐	5	192.168.0.205	52381	VISCA
exit	☐	6	192.168.0.210	52381	VISCA
	☐	7	192.168.0.211	52381	VISCA
Left Turn Right Turn Cancel Edit					

Enter Device List and select the device which you want to add through joystick 'UP' and 'DOWN'; press the [EDIT] button to modify the camera information.

Device List	Device > Modify			
Search Device	protocol	ndi		
Manually Add	ip	192.168.0.205	address	
System Set	port	5961	baudtare	2400
	username	admin	password	admin
Network Set	rtsp username		rtsp posswd	
	rtsp url			
exit	Save Cancel			

3.2 Search Device

Search--Confirm NDI or ONVIF protocol search --Add--Input the Camera Username, password and Channel-Save.

NOTE: Default Protocol is ONVIF/NDI, if any other protocols need, use Manually added.

Device List	Search				
Search Device	select	number	address	port	device name
Manually Add					
System Set			ONVIF		
			NDI		
Network Set					
exit					

Device List	Search				
Search Device	select	number	address	port	device name
Manually Add	☒	1	192.168.1.231	5961	VHD620A
System Set					
Network Set	Search Select All Cancel Add				
exit					

Device List	Search > Adduser			
Search Device	username	admin		
Manually Add	password	admin		
System Set	channel	45		
Network Set	Save Cancel			
exit				

3.3 Manually Add

Device List	Manually Add			
Search Device	channel	44		
Manually Add	protocol	onvif		
System Set	ip	. . .	address	1
	port		baudtare	2400
Network Set	username		password	
	rtsp username		rtsp posswd	
exit	rtsp url	/stream1		
Save Cancel				

Warranty Certificate

(Please keep this for warranty claims)

User Information

Name: _____ Phone: _____

Email: _____ Postal Code: _____

Address: _____

Product Information

Model: _____

Barcode: _____

Fault Description

Notes

- Please fill in your user information accurately and completely to ensure the repaired device can be returned to you promptly.
- Specify the model, barcode, and provide a detailed description of the malfunction.

Button instruction

[CAM1] [CAM2] [CAM3] [CAM4] [CAM5] [CAM6] [CAM ID]

Quickly switch devices. Click the button to enter the corresponding camera.

[CAM ID]: Press [CAM ID], then press combination of digits [0–9] to call the corresponding numbered camera.

Split-Screen Display: When a button is selected, press it again to quickly switch between single-screen and 4-split display. For example, if the current channel [CAM1] is in single-screen display, pressing [CAM1] again will switch it to 4-split display.

[SETUP]
Menu Setup:Click to enter keyboard parameter settings and add devices.

[RPESET]
Set Preset: Click to set a preset position. Enter the number and press [Enter] button to save the preset.

[CALL] Call Preset: Click to call a preset position. Enter the number and press [Enter] button to call the preset.

[HOME] This button function is to get back to the original position of the camera.

[1-9] Numeric key presets: Long press for preset setting while short press for preset calling.

For Example: Set Preset #1: First move the camera to the position where you want to set the preset, long press the number [1], "PRESET 1" will appear at the bottom of the screen, then move the camera to another position, short press the number [1] to call and it will turn to preset#1 position which you set.

[ESC] Menu Back/Exit

[ENTER] Confirmation

[AUTO WHITE BALANCE] Single click to enter auto exposure mode

[CYCLE WHITE BALNCE] Single click to switch between white balance modes.

Mode Options: One push WB/Manual WB/AUTO WB/Indoor WB/Outdoor WB.

[BRIGHT+]
Brightness Increase: Click to increase the brightness setting of the image.

[BRIGHT-]
Brightness Decrease: Click to decrease the brightness setting of the image.

[AUTO EXPOSURE] Single click to enter auto exposure mode.

[CYCLE EXPOSURE]
Single click to switch between exposure modes.

Mode options: Shutter Priority/IRIS Priority/Manual Exposure/Auto Exposure/Brightness Priority

[MENU]
Camera Menu: Press this button to access the camera menu settings for the PTZ camera

3.4 System Set

Device List	System	
Search Device	language	English
	sound	OFF
Manually Add	System	factory reset
		restart upgrade
System Set	version	V5.4.3-20250526
Network Set	☐ visca echo code opened	
exit	Save Cancel	

Item	Description
Language	English/ Chinese
Sound	On/Off for the Keyboard sound
System	Factory Reset / restart/Upgrade When executing the factory reset, do not move the PTZ joystick and the ZOOM in/out button
Version	Keyboard Version

3.5 Network Set

Device List	Network	
Search Device	type	DHCP
	ip	192.168.0.113
Manually Add	mask	255.255.255.0
	gateway	192.168.0.196
System Set	DNS	192.168.0.196
Network Set		
exit	Save Cancel	

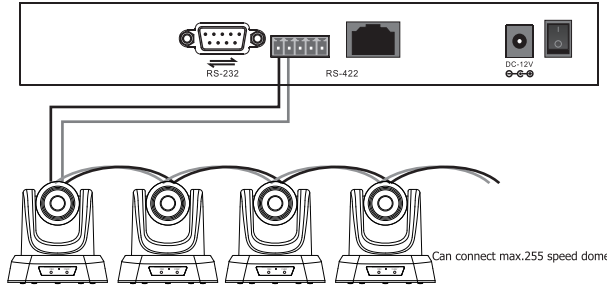
Item	Settings	Description
Type	STATIC/DHCP	Specify a static IP or let DHCP to assign an IP to the keyboard
IP Address	192.168.0.179	For a static IP, specify the IP address in this field
Mask	255.255.255.0	For a static IP, specify the mask in this field
Gateway	192.168.0.1	For a static IP, specify the gateway in this field
DNS	192.168.0.179	For a static IP, specify the DNS in this field

4. Camera Connection Description

4.1 Analog Connection

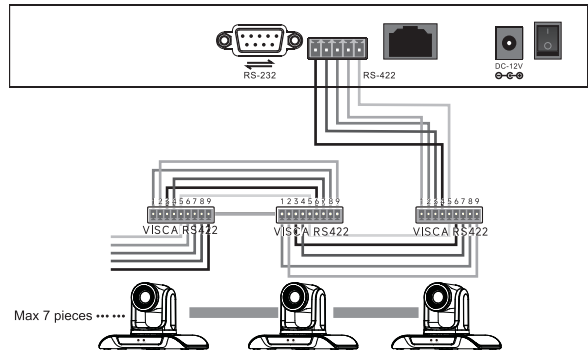
4.1.1 RS485 Connection

Analog Mode: Connection diagram of controlling PTZ camera Via RS485.



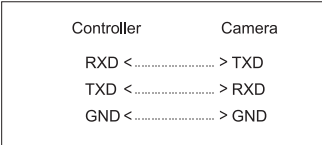
RS485 Control Output: RS485+ of PTZ camera connects to Ta of RS422 on the joystick controller and RS485- of PTZ camera connects to Tb of RS422 on the Joystick controller.

4.1.2 RS422 Connection



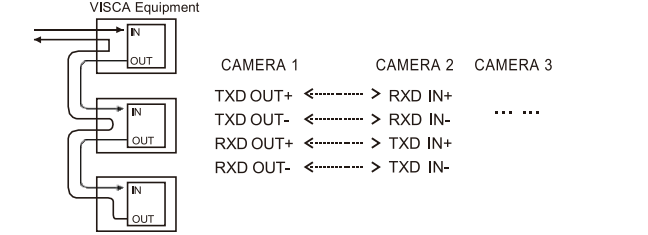
4.1.3 RS232 Connection

The first pin RXD of joystick controller (10pin terminal) connects to the Input interface TXD of camera, the second pin TXD of joystick controller connects to RXD of camera, the third pin of joystick controller connects to GND of camera (also can use the standard RS232 interface (DBO) of joystick controller to connect the camera.)

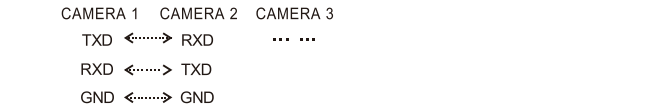


4.1.4 Connection Between Cameras

Use the RS485 bus cascade connection method. The output of camera #1 connects to the input of camera #2 and the output of camera #2 connects to the input of camera #3 and so on as shown in the diagram below:

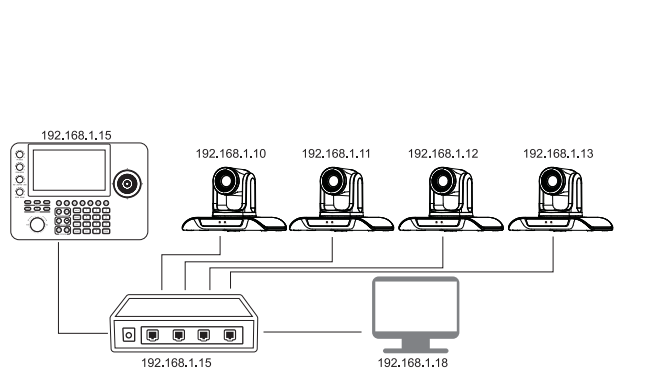


The RS232 cascade connection method is essentially the same as that for RS485: connect the output of camera #1 to the input of camera #2, the output of camera #2 to the input of camera #3, and so on.



4.2 Network Connection

Network Mode: Connection diagram of controlling PTZ camera via VISCA, NDI, ONVIF.



Connect the camera and joystick controller in the same LAN and ensure their IP address in the same network segment, such as 192.168.1.123 and 192.168.1.111 belong to the same network segment, while 192.168.1.123 and 192.168.0.125 do not belong to the same network segment, so you need to modify the joystick controller or the ptz camera IP address. The joystick controller gets its IP address dynamically.

5. Network Configuration

5.1 Home connection & Login

Please connect the power cable and then the network cable to the joystick controller.

The initial username: admin; password: blank.

1. Connect the joystick controller and computer to the same LAN segment, enter the joystick controller IP address (The default IP address: 192.168.0.180) to the browser.

The page display as follows:

PTZ Controller

Login

English

Login

2. Default username: admin; password: blank.

3. Enter device web interface, the page display as follows:

Device Management

Settings

Search Device

Add Manually

Channel	IP	Port	Protocol(network)	Baudrate	Address	Protocol(analog)	Operate
1	192.168.0.205	52381	SONY VISCA(UDP)	9600	1	PELCO-D	
2	192.168.0.206	52381	SONY VISCA(UDP)	9600	2	PELCO-D	
3	192.168.0.207	52381	SONY VISCA(UDP)	9600	3	PELCO-D	
4	192.168.0.208	52381	SONY VISCA(UDP)	9600	4	PELCO-D	
5	192.168.0.209	52381	SONY VISCA(UDP)	9600	5	PELCO-D	
6	192.168.0.210	52381	SONY VISCA(UDP)	9600	6	PELCO-D	
7	192.168.0.211	52381	SONY VISCA(UDP)	9600	7	PELCO-D	

Search

Search Type

ONVIF

NDI

Camera: 1

Type: Network Protocol

Network:

Protocol: SONY VISCA(UDP)

IP: 192.168.0.205

Port: 52381

rtsp url: rtsp://192.168.0.205:554/live/av1

rtsp user: admin

rtsp password: admin

Analog:

Protocol: PELCO-D

Baudrate: 9600

Address: 1

4. After entering the device home page, you can view the details of the device parameters, which can be changed.

5. Click to add and modify the device parameters in the LAN. Input the device number corresponding IP address, port number and user name and click save.

Note: When entering the joystick controller web interface to add a device successfully, which will be displayed on the LCD screen of the joystick controller. After adding the device on the web interface successfully, click the joystick controller corresponding number to control the camera.

5.2 WEB Interface setup

Network settings can modify the device's IP acquisition method and port parameters, as shown below:

Network

Network Type: STATIC

IP Address: 192.168.0.11

Netmask: 255.255.255.0

Gateway: 192.168.0.1

DNS1: 8.8.8.8

DNS2: 114.114.114.114

MAC: 3A:2D:75:FB:9B:2E

Save

Dynamic Address(DHCP)(Default acquisition method):The joystick controller will request an IP address from the router automatically. After the request is successful, it will be displayed on the joystick controller's display.

The display format is: " Local IP: 192 .168 .x . xxx ". Static Address(STATIC): When the user wants to set the network segment by himself modify the network type to a static address and fill in the information of the network segment that requires to be modified.

5.3 System upgrade

Upgrade

Browse Upgrade

Upgrade function is used as the maintenance and update joystick function. After entering the upgrade page, select the correct upgrade file and click "start". The device will automatically restart after the upgrade is completed.

Note: Do not perform any operations against the device during its upgrade process, and do not power off or disconnect the network!

5.4 System Reset

Reset

Reset

When clicking the device to reset, the joystick controller will remove all data, and the network will automatically default to a static IP. Recommended caution operation.

5.5 Account

Network	Settings			
Upgrade	☐	ID	Username	Password
Reset	☐	1	admin1	
Restart	☐	2	admin2	
Import	☐	3	admin3	
Export	☐	4	admin4	
Account	☐	5	admin5	
Calibrate	☐	6	admin6	
Version	☐	7	admin7	
Multiview	Add Delete			

5.6 Joystick/Rocker calibration

Network	Joystick calibration Rocker calibration	
Upgrade	Manual Calibration	
Reset		
Restart		
Import		
Export		
Account		
Calibrate		
Version		
Multiview		

5.7 Restart & Version

Reset	Reset
Reset	Hardware: V1.0.1-190823
	Software: V5.3.2-20250918
	Web: V3.0.6-20250918

After the device is used for a long time, you need to restart it for maintenance. Click Restart to restart the camera.

5.8 Multi-View Setting

There are 4 zones on the screen, select the IP address of the camera you want to display the camera screen in the corresponding zone.

Multiview

1	2	3	4
ID1-192.168.0.205	ID2-192.168.0.206	ID3-192.168.0.207	ID4-192.168.0.208
ID1-192.168.0.205	ID2-192.168.0.206	ID3-192.168.0.207	ID4-192.168.0.208
ID5-192.168.0.209	ID6-192.168.0.210	ID7-192.168.0.211	

6. Trouble Shooting

Q1: LCD Display shows “Control Failure”

This can occur when the controller doesn’t receive a response from the camera.

- Please check that the network jacks you are using are active.
- Please check that the network cable you are using is not failing.
- Please check that the camera is supplying an Acknowledgement and Completion response.

Q2: The joystick isn’t controlling any cameras at all

This can occur when the camera(s) and/or joystick aren’t properly set up.

- Check that the network jacks you are using are active.
- Check that the network or serial cables you are using are not failing.
- Check that the camera control address matches the joystick control address.
- Check that you are in the correct control mode. Hold the Joystick Controller button for 3+ seconds to toggle between serial and Network control.

Q3: Multiple cameras are being controlled at once

This can occur when multiple cameras are set to the same joystick control address.

Check the camera’s control addresses and ensure that each camera has a unique address.

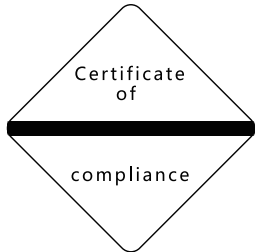
- Open the joystick OSD menu and select option 3. Device List: Inquire. Check that none of the connected cameras have the same control address.
- Log into the Web UI and select Devices. Check that none of the connected cameras have the same control address.

Note:

- Add device for manual addition.
- Enter the correct port number and device connection protocol in Add Device.

When the screen displays "Incorrect username and password", please check whether the username and password of the added device are correct.

When use ONVIF protocol but fails to add devices of other brands, please check.



材质:100g书纸, 双面黑白印刷
尺寸: 说明书大小 495*297(w*h)左右4折5页再对折
折叠后 99*148.5mm(w*h)