AI TRACKING FHD PTZ CAMERA

EAGLE P12A/P20A/P30A

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, read below manual. This manual should be saved and kept on hand for further convenient reference.

Warning & 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.
- Ensure unit is properly grounded at all times to prevent electrical shock hazard.
- 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: The manual may change with product updates.

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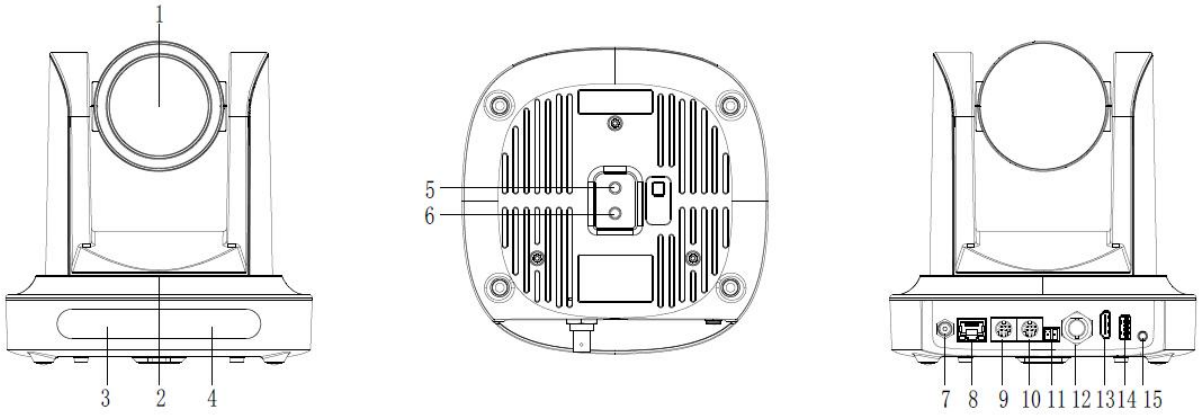
1. Product Overview

1.1 Product Introduction

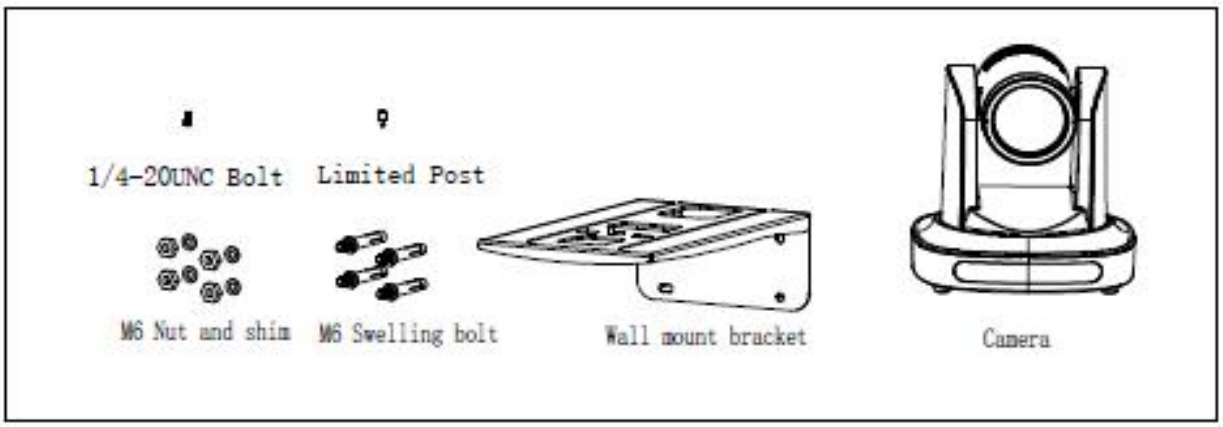
1.1.1 Interface Instruction

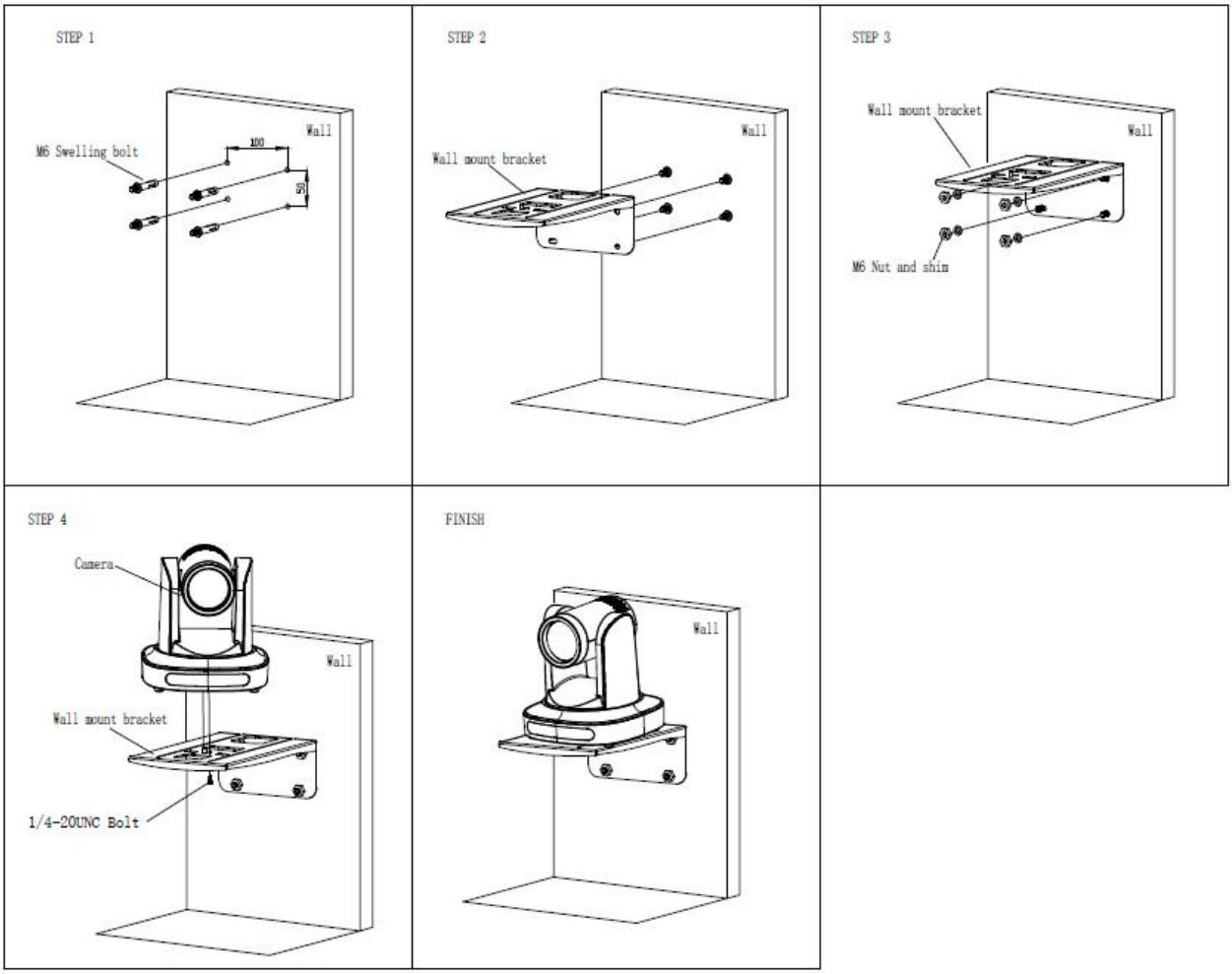


1. Camera Lens
2. Power LED Indicator
3. Infrared Receiver
4. Infrared Receiver
5. Positioning Hole
6. 1/4-20UNC Threaded Mounting Hole
7. DC12V Power IN
8. Network(RJ45)
9. RS232 IN
10. RS232 OUT
11. RS485
12. 3G-SDI
13. HDMI OUT
14. USB3.0 OUT
15. LINE IN & MIC IN

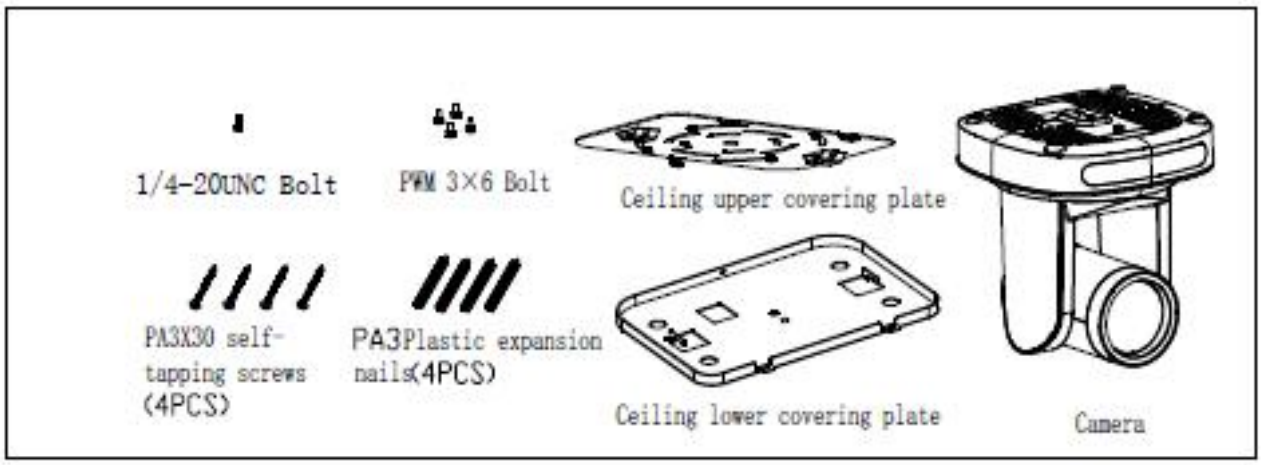
1.1.2 Installing

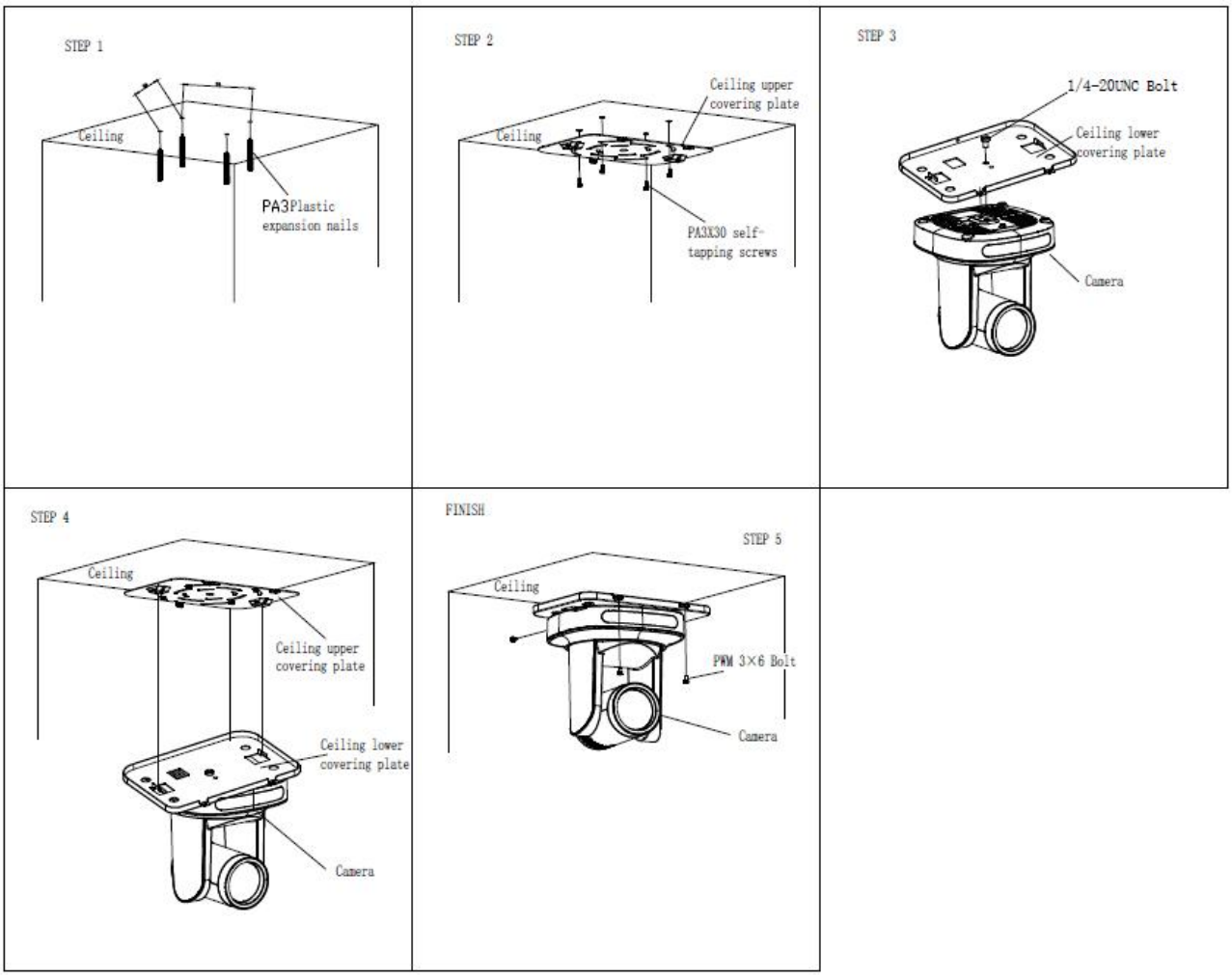
1) Steps of wall mounting





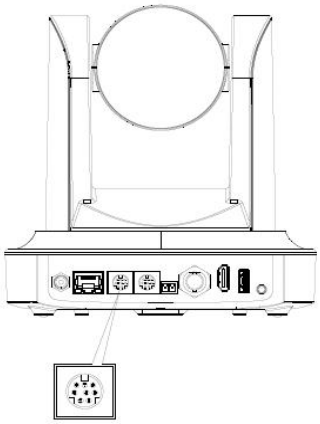
2) Steps of ceiling mount





1.1.3 RS-232 Interface

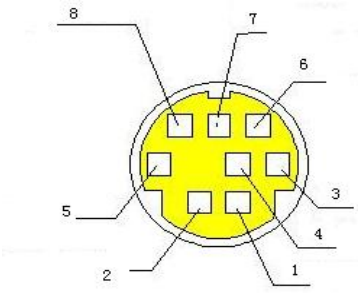
1) RS-232 Mini-DIN to RS232(DB9) Cable



Connection method for PC and controller

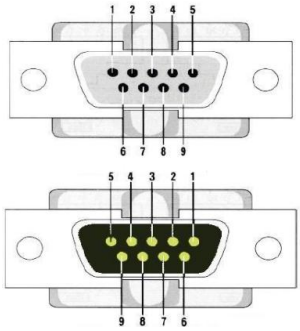
Device	WindowsDB-9
1.DTR	1.DCD
2.DSR	2.RXD
3.TXD	3.TXD
4.GND	4.DTR
5.RXD	5.GND
6.GND	6.DSR
7.IR OUT	7.RTS
8.NC	8.CTS
	9.RI

2) RS-232 Mini-DIN 8-pin Port Definition



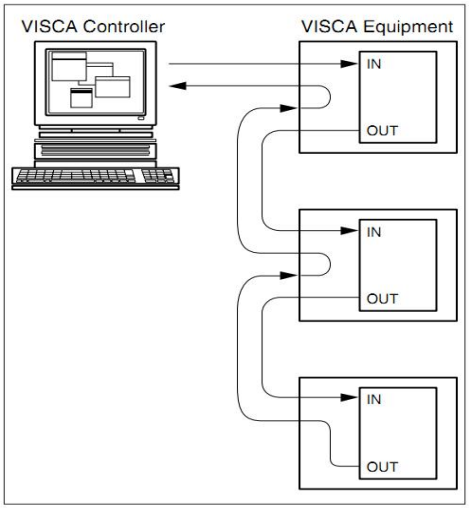
NO.	Port	Definition
1	DTR	Data Terminal Ready
2	DSR	Data Set Ready
3	TXD	Transmit Data
4	GND	System Ground
5	RXD	Receive Data
6	GND	System Ground
7	IR OUT	IR Commander Signal
8	NC	No Connection

3) RS232 (DB9) Port Definition

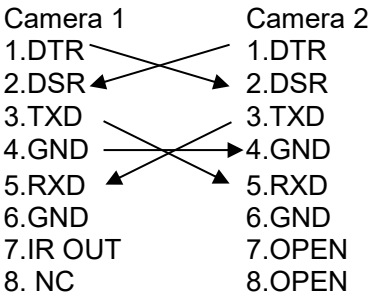


NO.	Port	Definition
1	DCD	Data Carrier Detect
2	RXD	Receive Data
3	TXD	Transmit Data
4	DTR	Data Terminal Ready
5	GND	System Ground
6	DSR	Data Set Ready
7	RTS	Request to Send
8	CTS	Clear to Send
9	RI	Ring Indicator

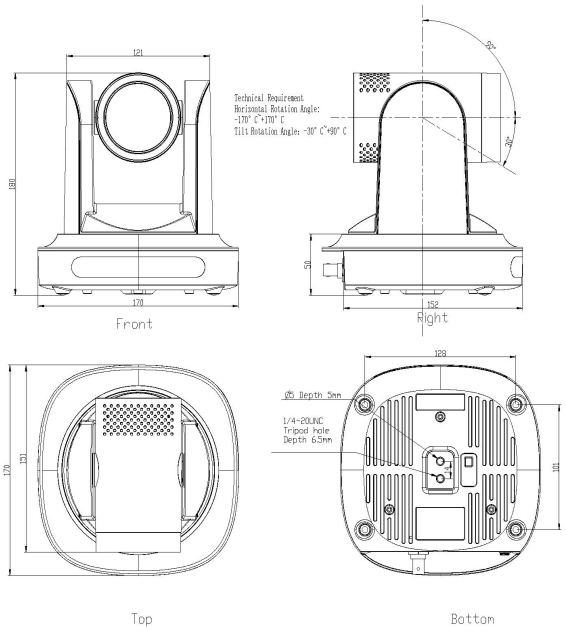
4) VISCA Networking



Camera cascade connection method



1.1.4 Dimension



1.2 Main Features

This series camera offers perfect functions, superior performance and rich interfaces. The features include advanced ISP processing algorithms to provide vivid images with a strong sense of depth, high resolution and fantastic color rendition. It supports encoding which makes motion video fluent and clear even with less than ideal bandwidth conditions.

- **Superb High-definition Image:** Equipped with a 1/2.8-inch 2.07-megapixel high-quality image sensor, the maximum resolution can reach 1920x1080, with an output frame rate of up to 60 frames per second.
- **Optical Zoom Lens:** It has 12X/20X /30Xoptical zoom lens for options.
- **Leading Auto-focus Technology:** Boasting leading auto-focus algorithm, this camera can achieve auto focus with speed, accuracy, and stability.
- **Low Noise and High SNR:** Low Noise CMOS effectively ensure high SNR of video. Advanced 2D/3D noise reduction technology is used to further reduce the noise while ensuring image resolution.
- **Multi-Format Video Outputs**: Supports HDMI, SDI, USB, and wired LAN (POE+ functionality optional); SDI supports transmission up to 100 meters at 1080P60 format.
- **Multiple Audio Compression Format:** It supports video compression and AAC, G.711A in audio compression. The resolution can reach up to 1920*1080 at 60 fps.
- **Audio Input:** Supports AAC and G.711A audio encoding. AAC encoding supports sample rates of 16000, 32000, 44100, and 48000 Hz, while G.711A encoding supports only 8000 Hz sample rate.
- **Multiple Network Protocols:** It supports for ONVIF, GB/T28181, RTSP, RTMP,SRT protocols, NDI(Optional), RTMP push mode, easy to link with streaming media server(Wowza, FMS) Supports RTP multicast mode and full network command VISCA control protocol.
- **AI Dynamic Tracking**: Equipped with advanced automatic tracking and framing technology, integrating facial and human shape recognition algorithms, providing tracking features for environments such as conference rooms, classrooms, and churches.

- **Multiple Control Interface:**RS485, RS232； RS232, supporting for cascading, convenient to set up.
- **Support Multiple Control Protocol:** Support VISCA, PELCO-D, PELCO-P protocols, which can also be automatically recognized.
- **Super Silent PTZ:** Utilizes high-precision stepper motors and a precise motor driver controller to ensure smooth and noiseless low-speed operation of the PTZ.
- **Low-power Sleep Mode:** Supports low-power sleep/wake mode, with power consumption below 400mW in sleep mode.
- **Multiple presets:** User can set 255 presets (remote control can call out 10)
- **Multiple Remote Controls:** There are IR remoter and 2.4G wireless remote for options. The 2.4G wireless remote controller will not be affected by angle, distance or IR interference.
- **Wide Application:** Tele-education, Lecture capture, Webcasting, Videoconferencing, Tele-training, Tele-medicine, Interrogation and Emergency command systems.

1.3 Technical Specification

Model	EAGLE-P12A	EAGLE-P20A	EAGLE-P30A
Parameters			
Image Sensor	1/2.8 inch high quality HD CMOS sensor		
Effective Pixel	2.07M, 16:9		
Video Format	**HDMI/SDI interface video format：** 1080P60/59.94/50/30/29.97/25, 1080I60/50/59.94, 720P60/59.94/ 50 **USB3.0:** **YUY2/NV12:** 1920*1080/1280*720/1024*576/800*600/800*448/640*480/640*360/480*270/ 320*180@60/30/25/20/15/10/5fps; **MJPG:**1920*1080/1280*720/640*360/640*480/320*240/320*180@60/30/25/20/15 /10/5fps **LAN: Main Stream:** **MJPEG:** 1920*1080/1280*720/640*480@60/30/25/20/15/10/5fps **Sub-stream:** **MJPEG:** 1280*720/640*360/640*480/320*240/320*180@60/30/25/20/15/10/5fps;		
Optical Lens	12X f=4.1~49.2mm	20X f=5.1 ~ 94.49mm	30X F=5.2 ~ 148.4mm
Viewing Angle	D: 78.36° - 7.50° H: 70.28° - 6.57° V: 42.06° - 3.76°	D: 67.45° - 3.94° H: 60.04° - 3.45° V: 35.31° - 1.97°	D: 65.4° - 2.48° H: 58.1° - 2.14° V: 33.8° - 1.2°
Digital Zoom	16 X		
Minimum Illumination	0.5Lux (F1.8, AGC ON)		
DNR	2D&3D		
White Balance	Auto/Manual/One Touch White Balance/Specified Color Temperature (2400K-7100K, adjustable in 100K steps)		
Focus	Auto/Manual/One-push		
Iris	Auto/Manual		

Electronic Shutter	Auto/Manual
BLC(Backlight Compensation)	On/Off
Dynamic Range	Off/ Dynamic level adjustment
Video Adjustment	Brightness, Color, Saturation, Contrast, Sharpness, B/W Mode, Gamma curve
SNR	⩾50dB
Interface	
Interface	HDMI, SDI, LAN (POE+ support), USB3.0, A-IN, RS232-IN, RS232-OUT, RS485, DC12V power supply
Video output	HDMI, SDI, LAN, USB3.0
Video compression formats	LAN USB 3.0: MJPG, YUY2, NV12
Video Bitrate	64-40960
Bitrate Control	Fixed Bitrate, Variable Bitrate
Frequency	50Hz:1fps ~ 50fps 60Hz:1fps ~ 60fps
Audio In Interface	Dual audio channel 3.5mm linear input
Audio Output Interface	HDMI, LAN, USB 3.0, SDI
Audio Bitrate	96Kbps, 128Kbps
Audio Compression Format	AAC, G.711A
Network Interface	100M Ethernet port, optional POE+ power supply, supports audio and video output
Network Protocol	RTSP, RTMP, ONVIF, GB/T28181, SRT, FreeD, NDI|HX3(Optional), IP VISCA, supports remote upgrade, remote reboot, and remote reset
Control Interfaces	RS232-IN, RS232-OUT, RS485
Serial Communication Protocol	VISCA/Pelco-D/Pelco-P; Supports baud rates of 115200/38400/9600/4800/2400
USB Communication Protocol	UVC (Video Communication Protocol) UAC (Audio Communication Protocol)
Power Interface	HEC3800 power socket (DC12V)
Power Adapter	Input:AC110V-AC220V Output:DC12V/1.5A
Input Voltage	DC12V±10%
Input Currency	≤1.2A
Power Consumption	≤13.8W
PTZ	
Pan	-170°～+170°
Tilt	-30°～+90°
Pan Speed	0.1 ～100°/s
Tilt Speed	0.1～45°/s
Preset Speed	Pan：100°/s, Tilt：45°/s
Preset Quantity	User can set 255 presets (10 via IR remote control)
Monocular Tracking	
Tracking Modes	Off, Real-time Tracking, Stage Tracking, Area Tracking, and Intelligent Framing
Tracking Distance	Maximum tracking distance up to 18 meters
Others	
Storage Temperature	-10℃ ～ +70℃

Storage Humidity	20%～95%
Working Temperature	-10℃～+50℃
Working Humidity	20%～80%
Dimension	170×170×180mm
Weight	1.26kg
Environment	Indoors

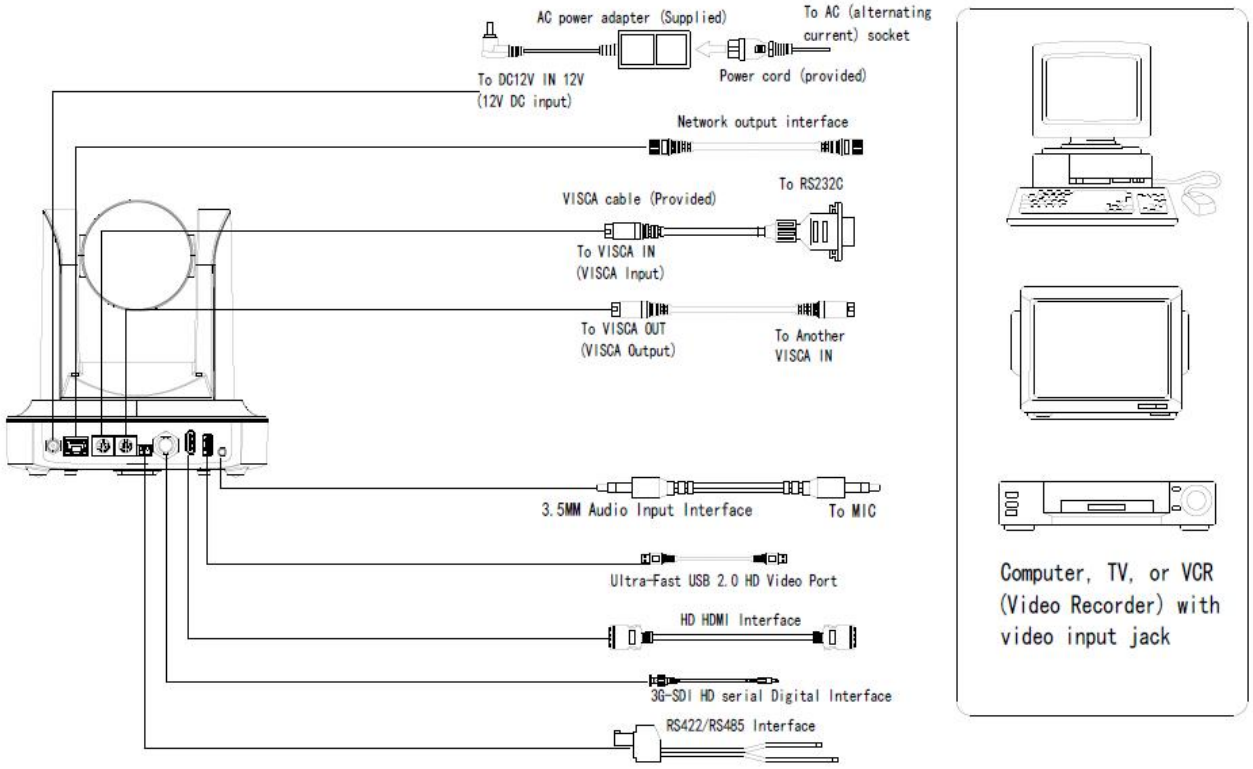
1.4 Accessory

When you unpack your package, check that all the supplied accessories are included:

Supplied	Power adapter
	User manual
	IR remote control
	USB 3.0 Video Cable
	RS232 Cable
Optional	Wireless remote control
	Brackets for wall mounting
	Brackets for ceiling mount

1.5 Interface Description

This product's external interfaces include: HDMI interface, USB 3.0 interface, SDI interface, audio input interface, network interface, RS232 input/output, RS485 interface, and DC12V power input. The diagram of the external interfaces is shown in Figure below.



2. Application Instruction

2.1 Power on Initial Configuration

1) Power on: Connect DC12V power supply adapter with power supply socket.

2) Initial configuration: Power on with power indicator light on and remote control receiver light blinking, camera head moves from bottom left to the bottom, and then goes to the HOME position (intermediate position of both horizontal and vertical), while the camera module stretches. When remote control receiver light stops blinking, the self-checking is finished.

Note: If you set preset 0, when Power on self-test is completed, the camera automatically moves to the preset 0 position.

2.2 Video Output

Connect to the video output cable: the user selects the output mode according to the machine model.

1) **Network output:** connect this product and your computer through network cable; open the OSD menu to check the camera's IP address, then open the browser, enter the camera IP address in the address bar, then go to the login page and input a user name and password (factory default are “admin”), Finally enter the preview page, and the image comes out.

(Note: If you forget your user's name, password, IP address, you can manually restore the default by the remote controller key combination * #)

2) **3G-SDI output or DVI (HDMI) output:** Connect the monitor with the corresponding video output interface, then the monitor output image.

2.3 Remote Controller

1. Standby Key

After 3S long press, the camera will step into standby mode. Long press 3S again, the camera will self-test again and back to HOME position. (Note: If power-on mode is turned on and Preset 0 is set, and there is no operation within 12s, it will automatically point to the specified preset position.

2. Camera Address Selection

Select the camera **address** which wants to be controlled

3. Number Key

Set or run 0-9 presets

4. *, # Key

Key combination use

5. Focus Control Key

Auto Focus: Enter into auto focus mode.

Manual Focus: The camera focus mode is manual

Switch the camera focus mode to manual focus by

pressing [focus +] or [focus -] to adjust.

6. Zoom Control Key

Zoom＋:Lens near; Zoom－:Lens far

7. Set or Clear Preset key:

Set Preset: Set preset key + 0-9 number key:

Clear Preset key: Clear preset key + 0-9 number key

8. Pan/Tilt Control Key

Press ▲Key: Up; Press ▼Key :Down;

Press ◄Key: Left; Press ►Key: Right

“HOME” Key: Return to the middle position or enter into the next level menu

9. BLC Control Key

Back Light ON / OFF: Turn on or off the back light

10. Menu Setting

Open or close the OSD menu; Enter/exit the OSD or return to the previous menu

11. Camera IR Remote Control Address Setting

【*】+【＃】+【F1】:Camera Address No.1
【*】+【＃】+【F2】:Camera Address No. 2
【*】+【＃】+【F3】:Camera Address No. 3
【*】+【＃】+【F4】:Camera Address No. 4

12. Key Combination Functions

【#】+【#】+【#】:Clear all presets
【*】+【#】+【6】:Restore factory defaults
【*】+【#】+【9】:Flip switch
【*】+【#】+Auto: Enter into the aging mode
【*】+【#】+【3】:Menu set to Chinese
【*】+【#】+【4】:Menu set to English
【#】+【#】+【0】:Switch the video to 1080P60
【#】+【#】+【1】: Switch the video to 1080P50
【#】+【#】+【2】:Switch the video to 1080P30
【#】+【#】+【3】:Switch the video to 1080P25
【#】+【#】+【4】:Switch the video to 1080I60
【#】+【#】+【5】:Switch the video to 1080I50
【#】+【#】+【6】:Switch the video to 720P60
【#】+【#】+【7】:Switch the video to 720P50
【*】+【#】+Manual: Restore the default user name, password, and IP address

2.4 Applications

Finishing initialization, it can receive and execute the IR commands. Press the remote controller button, the indicator light is flashing; release the button, the indicator light stops flashing. Users can control the pan/tilt/zoom, setting and running preset positions via the IR remote controller.

Key Instruction:

1. In this instruction, “press the key” means a click rather than a long-press, and a special note will be given if a long-press for more than one second is required.

2. When a key-combination is required, do it in sequence. For example, “【*】+【#】+【F1】”means press” 【*】”first and then press”【#】” and last press”【F1】”.

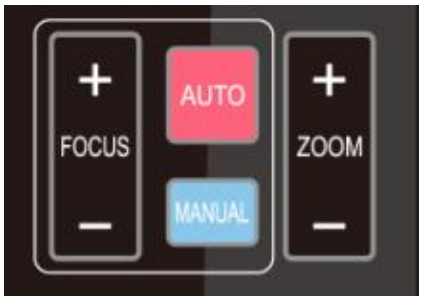
1) Camera Selection

Select the camera address to control.

2) Pan/Tilt Control

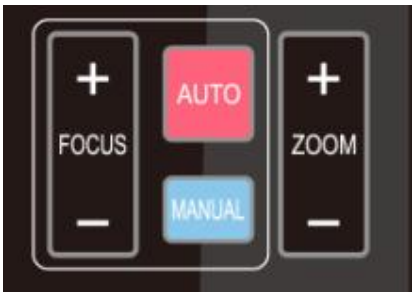
Up: press ▲ Down: press ▼
Left: press ◄ Right: press ►
Back to middle position: press”【HOME】”
Press and hold the up/down/left/right key, the pan/tilt will keep running, from slow to fast, until it runs to the endpoint; the pan/tilt running stops as soon as the key is released.

3) Zoom Control



ZOOM IN: press “ZOOM +“key
ZOOM OUT: press “ZOOM -“key
Press and hold the key, the camera will keep zooming in or zooming out and stops as soon as the key is released.

4) Focus Control



Focus (near):Press “【focus+】” key (Valid only in manual focus mode)
Focus (far): Press “【focus-】”key (Valid only in manual focus mode)
Auto Focus: Support
Manual Focus: Support
Press and hold the key, the action of focus will keep continue and stops as soon as the key is released.

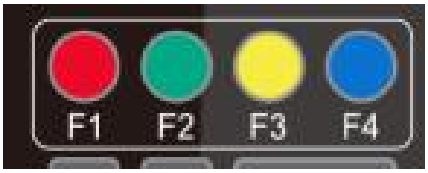
5) BLC Setting

BLC ON/OFF: Support

6) Presets Setting, Running, Clearing

1. Save a Preset Position：Press the [Set Preset] button, then press a number key from 0 to 9 to assign a preset position corresponding to the selected number key.
Note: A maximum of 10 preset positions can be saved using the remote control.
2. Recall a Preset Position: Simply press the number key (0 to 9) to recall a previously saved preset position.
Note: If no preset has been saved for the selected number key, the action will have no effect.
3. Clear a Preset Position: Press the [Clear Preset] button, then press a number key from 0 to 9 to cancel the corresponding preset position.
Note: Pressing the [#] key three times

7) Camera Remote Controller Address Setting



【*】+【＃】+【F1】:Camera Address No.1
【*】+【＃】+【F2】:Camera Address No. 2
【*】+【＃】+【F3】:Camera Address No. 3
【*】+【＃】+【F4】:Camera Address No. 4

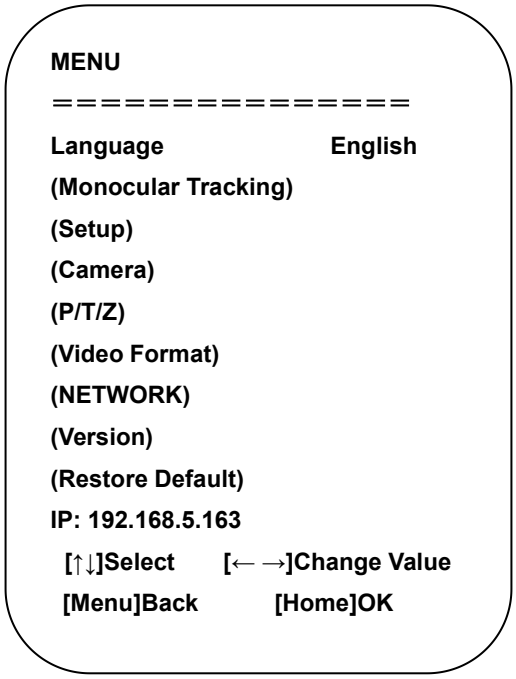
8) Tracking Setting

F1: Turn off tracking
F2: Real-time tracking
F3: AI tracking mode switch
F4: No Function

2.5 MENU Settings

2.5.1 Main Menu

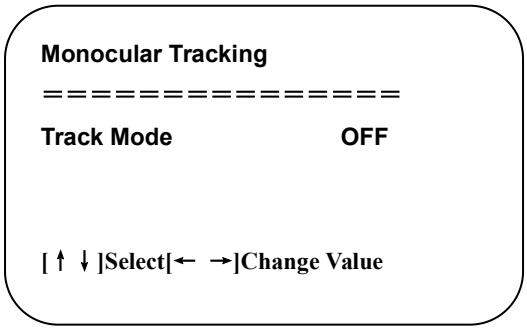
In normal working mode, press 【MENU】 key to display the menu, using scroll arrow to point at or highlight
the selected items



Language: Language setting, Chinese/English
Monocular Tracking: Enter the monocular tracking settings menu.
Setup: System setting
Camera: Camera setting
PTZ: Pan tilt setting
Version: Camera version setting
Restore Default: Reset setting
[↑↓] Select: for selecting menu
[← →] Change Value: for modify parameters
[MENU] Back: Press [MENU] to return
[Home] OK: Press [Home] to confirm

2.5.2 Monocular Tracking

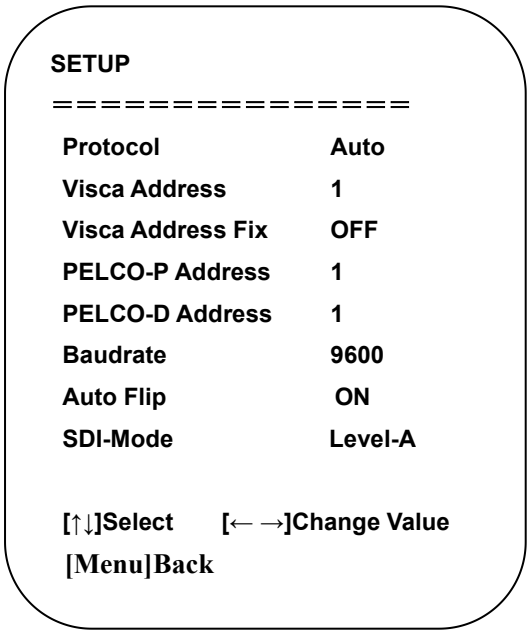
In the main menu, move the cursor to “Monocular Tracking” and press the [HOME] button to enter the settings page, as shown in the image below.



Tracking Switch: Off/Real-time Tracking/
Stage Tracking/Area Tracking/Intelligent View
Figure Size: Close-Up, Half Body, Full Body, Custom
Custom Level: 0-5 (Only effective in Custom mode)
Person Position: Left, Right, Center
Sensitivity: High, Middle, Low
Target Loss Action: Home, Preset 0, Stay
Target Loss Time: 0-60 seconds

2.5.3 System Setting

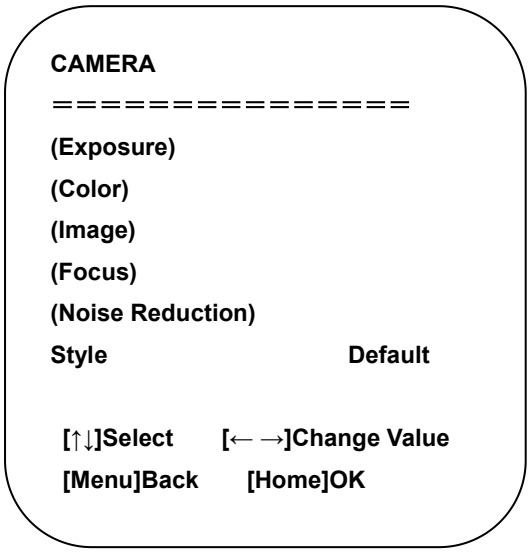
Move the pointer to the (Setup) in the Main Menu, click the 【HOME】key and enter into the (System Setting) as shown below:



Protocol: VISCA/Pelco-P/Pelco-D/Auto
Visca ADDR:
VISCA=1~7 Pelco-P=1~255 Pelco-D=1~255
BaudRate: 2400/4800/9600/38400/115200
Visca Address Fix: On/Off
Auto Flip: On/Off
SDI-Mode: Level-A/Level-B

2.5.4 Camera Setting

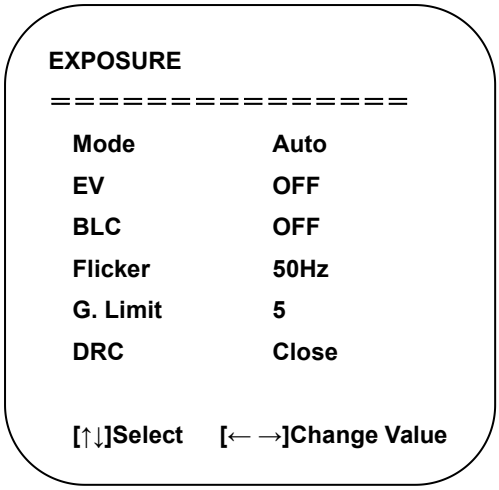
Move the pointer to the (CAMERA) in the Main Menu, click the【HOME】key and enter the (CAMERA) as follow:



Exposure: Enter into Exposure setting
Color: Enter into color setting
Image: Enter into image setting
Focus: Enter into focus setting
Noise Reduction: Enter into noise reduction
Style: Default, Meeting, Clarity, Bright, Soft

1) EXPOSURE SETTING

Move the pointer to the (EXPOSURE) in the Main Menu, click the【HOME】and enter the (EXPOSURE SET) as follow:



Mode: Auto, Manual, SAE, AAE, Bright
EV: On/Off
Iris: Close, F1.8, F2.0, F2.4, F2.8, F3.4, F4.0, F4.8, F5.6, F6.8, F8.0, F9.6, F11
Compensation Level: -7~7 (only available in auto mode when EV is ON)
BLC: ON/OFF for options (only available in auto mode)
Flicker: OFF/50Hz/60Hz for options (only available in Auto/Iris priority/Brightness priority modes)
Gain Limit: 0~15(only available in Auto/ Iris priority /Brightness priority mode)
DRC: Close, 1~8

Shutter Priority:
1/25,1/30,1/50,1/60,1/90,1/100,1/120,1/180,1/250,1/350,1/500,1/1000,1/2000,1/3000,1/4000,1/6000,1/10000(only available in Manual and Shutter priority mode)

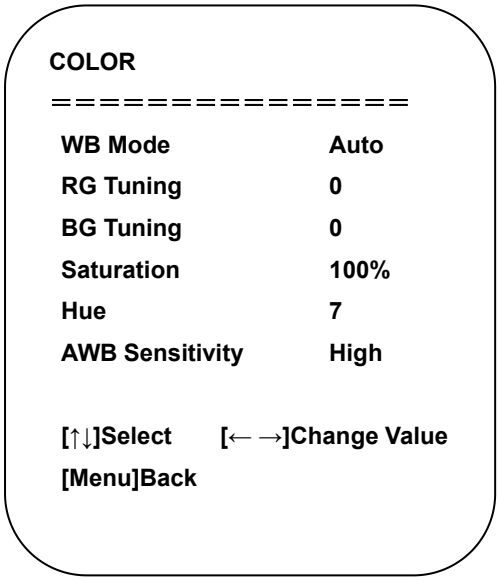
IRIS Priority: OFF, F11.0, F9.6, F8.0, F6.8, F5.6, F4.8, F4.0, F3.4, F2.8, F2.4, F2.0, F1.8(only available in Manual and Iris priority mode)

Brightness: 0~23 (only available in Brightness priority mode)

Gain: 0~20 (only available in Manual/Shutter priority mode)

2) COLOR SETTING

Move the pointer to the (COLOR) in the Main Menu, click the【HOME】and enter the (COLOR SET) as follow:

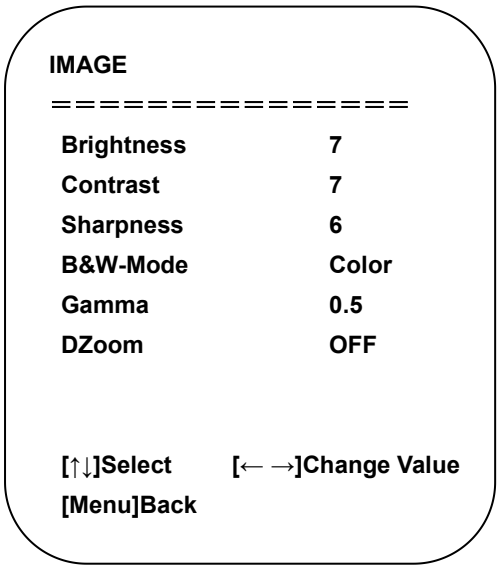


WB Mode: Auto, Manual, One Push, VAR

RG Tuning: -10~10
RG Tuning: -10~10
Saturation: 60%, 70%, 80%, 90%,100%, 110%,120%,130%,140%,150%, 160%,170%,180%, 190%, 200%
Hue: 0~14
AWB Sensitivity: High/Middle/Low

3) IMAGE

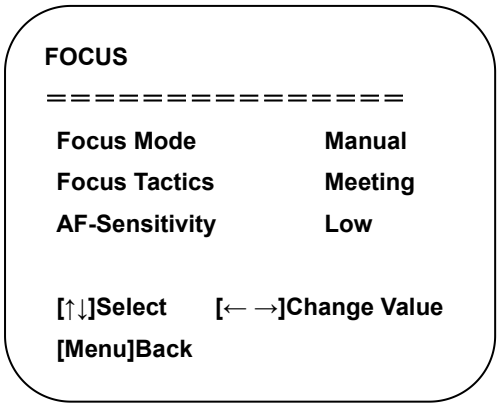
Move the pointer to the (IMAGE) in the Menu, click the【HOME】and enter the (IMAGE) as follow:



Brightness: 0~14
Contrast: 0~14
Sharpness: Auto, 0-14
Flip-H: On/Off
Flip-V: On/Off
B&W Mode: color, black/white
Gamma: 0.45, 0.48, 0.50, 0.55, 0.63
DZoom: Digital zoom options: On/Off

4) FOCUS

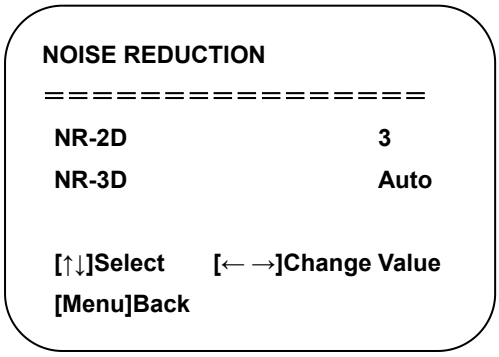
Move the pointer to the (FOCUS) in the Menu, click the【HOME】and enter the (FOCUS) as follow:



Focus Mode: Auto, manual, One-push
Focus Tactics: Meeting, Education, Moving, Center Focus, Front Focus, Behind Focus
AF-Sensitivity: High, middle, low

5) NOISE REDUCTION

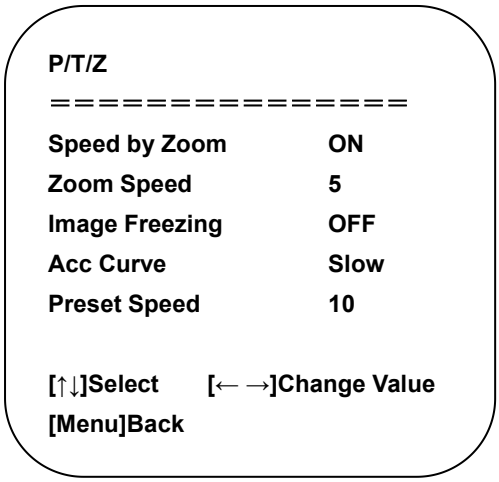
Move the pointer to the (NOISE REDUCTION) in the Menu, click the【HOME】and enter the (NOISE REDUCTION) as follow:



2D Noise Reduction: Auto, OFF, 1~7
3D Noise Reduction: Auto, OFF, 1~7

2.5.5 P/T/Z

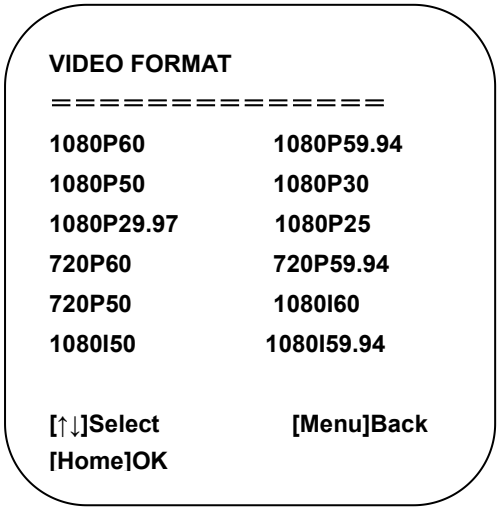
Move the pointer to the (P/T/Z) in the Main Menu, click the【HOME】and enter the (P/T/Z) as follow:



Speed by Zoom: On/ Off
When zoom in, the PT control speed by remoter will become slow),
Zoom Speed: Set the zoom speed for remote controller, 1~8
Image Freezing: On/Off
Accelerating Curve: Fast/slow
Preset Speed: 1~10

2.5.6 Video Format

Move the pointer to the (**Video Format**) in the Menu, click the【HOME】and enter the (**Video Format**) as follow. Exit menu after modifying parameter to save it after powered off



2.5.7 Network Setting

Move the pointer to the (**Network**) in the Menu, click the【HOME】and enter the (Network) as follow. Exit menu after modifying parameter to save it after powered off

```
NETWORK SETTINGS
================
DHCP                ON
IP Addr:            192.168.5.163
Subnet Mask:        255.255.255.0
Gateway:            10.1.20.1
DNS:                0.0.0.0
Whether to reset?   NO

The parameter takes effect after restart!
[↑↓]Select    [← →]Change Value
[Menu]Back
```

DHCP: ON/OFF
Whether to reset?: YES/NO

2.5.8 Version

Move the pointer to the (VERSION) in the Main Menu, click the【HOME】and enter the (VERSION) as follow:

```
VERSION
=================
MCU Version      V.3.0.1    2025-08-27
Camera Version   V.1.0.0    2025-08-27
AF Version       V.1.0.0    2025-06-13

[Menu]Back
```

MCU Version: Display MCU version information
Camera Version: Display camera version information
AF Version: Display the focus version information

2.5.9 Restore Default

Move the pointer to the (RESTORE DEFAULT) in the Main Menu, click the【HOME】and enter the (RESTORE DEFAULT) as follow:

```
RESTORE DEFAULT
==================
Restore  Default?          NO

[↑↓]Select      [← →]Change Value
[Menu]Back      [Home]OK
```

Restore default: yes/no; after restoring default, the video format won't be restored. Note: If the address of former remoter is not 1 but another one from 2, 3, 4, the corresponding camera address will restore to 1 when all parameters or system parameters are restored. User should change the remoter address to be 1 (press No.1 according to the camera so to get normal operation)

3. Network Connection

3.1 Connecting Mode

Direct connection: Connect the camera and computer by network connecting cable.

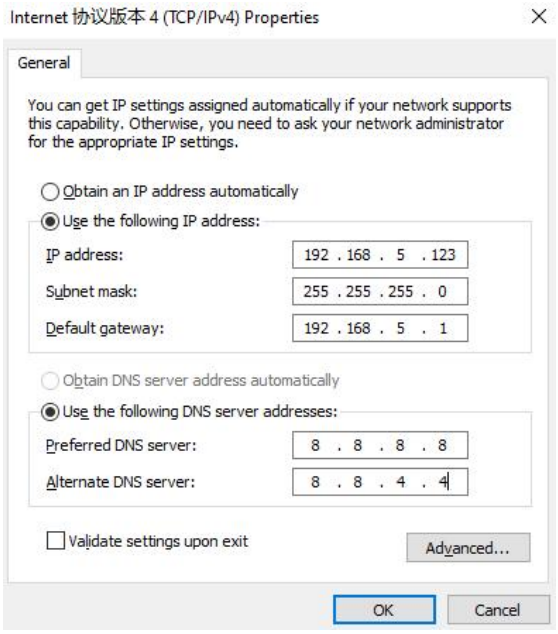
Internet connection mode: Connect the camera to Internet by Router or Switch and user can log in the device by browser.

Note: Please do not put the power and network cable in places where can be easily touched to prevent video quality lowered by unstable signal transmission due to poor contact of cables.

The computer must have the network segment where the camera IP address belongs to. The device will not be accessible if without the segment. I.E. The camera default IP address is 192.168.5.163, then segment 5 must be added in the computer. Specific steps are as below:

Firstly, open the window of Local Area Connection Properties on computer, select the “Internet protocol version 4(TCP/IPv4)” as shown by picture on the left. Double click or click the property “Internet” protocol version 4 (TCP/IPv4) to enter into the Internet Protocol Version 4(TCP/IPv4) Properties window, select

“Advanced” to enter into the Advanced TCP/IP Setting and add IP and subnet mask in the IP browser as picture shown below. Click the “Confirm” to finish the adding of IP segment. User can add the

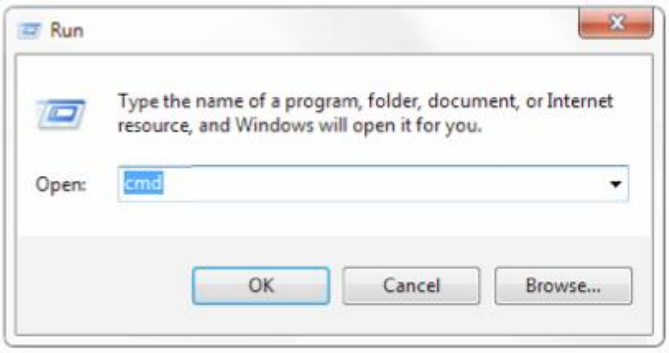


corresponding network segment according to the revised IP address of the camera.

Note: The IP address to be added cannot be same with that of other computers or devices. The existence of this IP address needs to be verified before adding.

Click the “Start” and select “Operation” to input cmd as picture below to verify if the network segment has been successfully added.

Click “OK” and open the DOS command window, input ping 192.168.5.26 and press Enter key, it will show message as below: which means network segment adding is succeed.



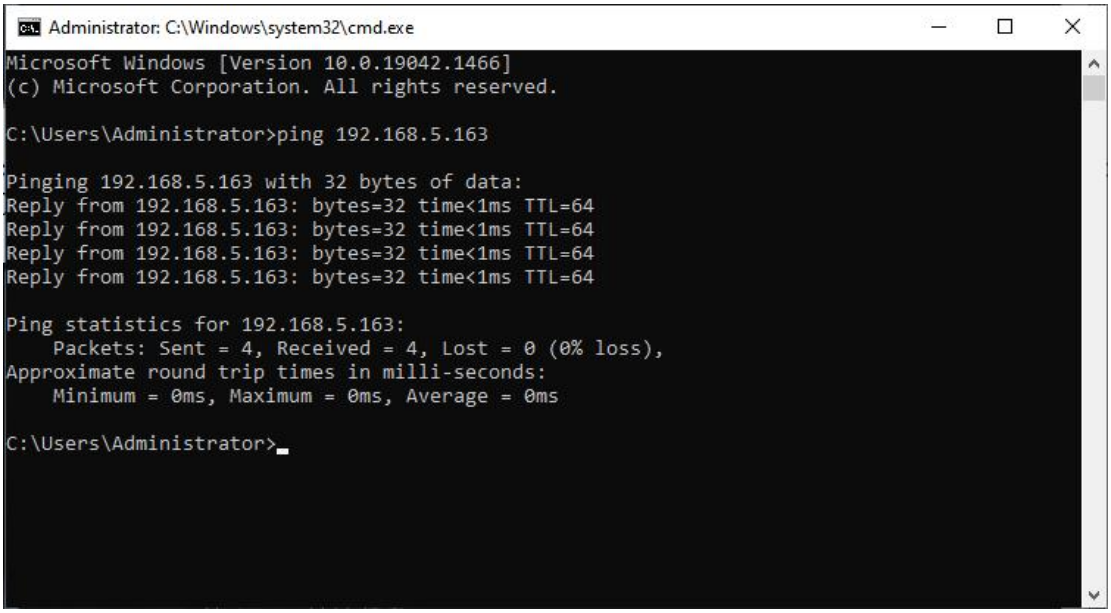

```
C:\Users\Administrator>ping 192.168.5.26

Pinging 192.168.5.26 with 32 bytes of data:
Reply from 192.168.5.26: bytes=32 time<1ms TTL=128
Reply from 192.168.5.26: bytes=32 time<1ms TTL=128
Reply from 192.168.5.26: bytes=32 time<1ms TTL=128
Reply from 192.168.5.26: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.5.26:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\Users\Administrator>
```

User can also to verify network connection as steps above mentioned after the finish of camera self-check. If IP is default, open DOS command window and input 192.168.5.163, then press Enter key. It will show message as below: which means network connection is normal.



3.2 IE Log In

3.2.1 Web Client

Web Client Log In

Input the IP address 192.168.5.163 of the device in the address filed of browser and click Enter button to enter into Web Client login page as below picture. User can login as administrator and normal user. If login as administrator (Default User name/Password: admin), users can preview, configuration and cancel in

the Web Client; If login in as normal user(Default User name/Password:user1 or user2),users can only preview, playback and cancel, no option for configuration.

Note: Web access supported browsers: IE, 360 browser and other conventional browser.

3.2.2 Preview

After successful login into the management interface, it enters the video preview interface. In the preview screen, users can control PTZ, zoom, focus, sound, full screen and set the preset position, run, delete and other operations.

1) Login as administrator

User name, password, the default admin

PTZ control can be carried out, zoom, focus, sound, full screen and set the preset position, run, and delete; you can preview, playback, configuration, log off.

2) Login as normal user

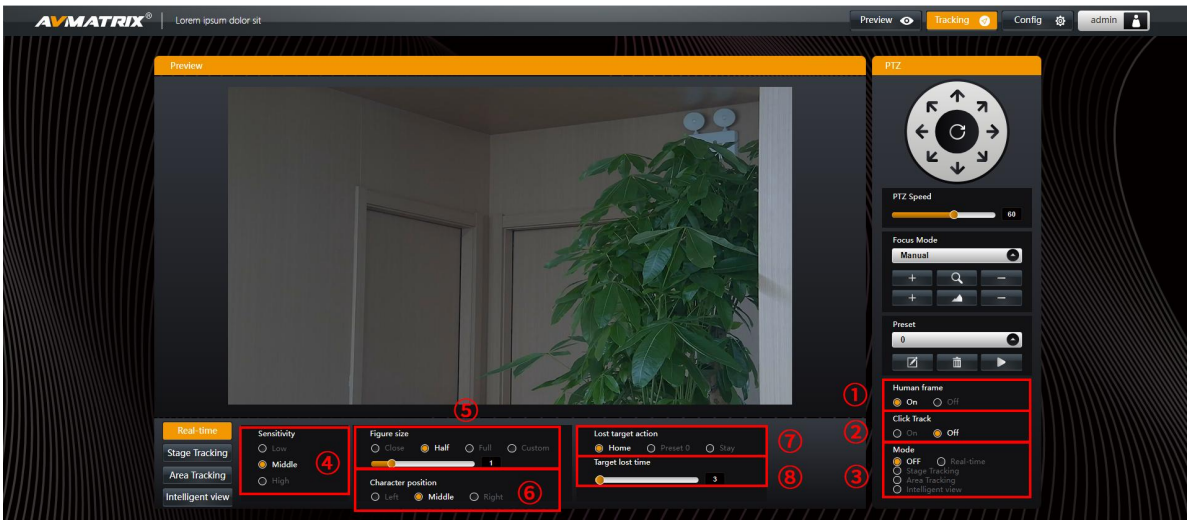
Default User name/password: user1 or user2

PTZ control can be carried out, zoom, focus, sound, full screen and set the preset position, run, and delete; you can preview, playback and log off.

NOTE: There is no configuration right for normal user login.

3.2.3 Monocular Tracking

1) Real-time Tracking



1. Enable/Disable Human Detection Box – Default is disabled. When enabled, the tracked target will be surrounded by a yellow box, while other objects will be in green boxes.
2. Enable/Disable Object Selection – Default is disabled. When enabled, left-clicking on a person with the mouse will make that person the tracking target.
3. Select Tracking Mode: Disable Tracking, Real-time Tracking, Stage Tracking, Area Tracking, and Intelligent Framing – Default is disabled.
4. Set Sensitivity: High, Medium, or Low – Default is Medium.
5. Set Person Size: Close-up, Half-body, Full-body, or Custom (0–5) – Default is Half-body.
6. Set Position of the Person in the Frame: Left, Center, or Right – Default is Center.
7. Set Action When Target is Lost: Return to Origin, Preset Position 0, or Last Known Position – Default is Return to Origin.
8. Target Loss Duration: Can be set from 0 to 60 seconds.

	Sensitivity	Person Size	Person Position	Target Loss Action	Target Loss Duration
Real-time Tracking	◎	◎	◎	◎	◎
Stage Tracking	◎	×	◎	◎	◎
Area Tracking	◎	×	×	◎	◎
Intelligent Framing	◎	×	×	◎	◎

Notes:

1.◎:Configurable in this tracking mode.

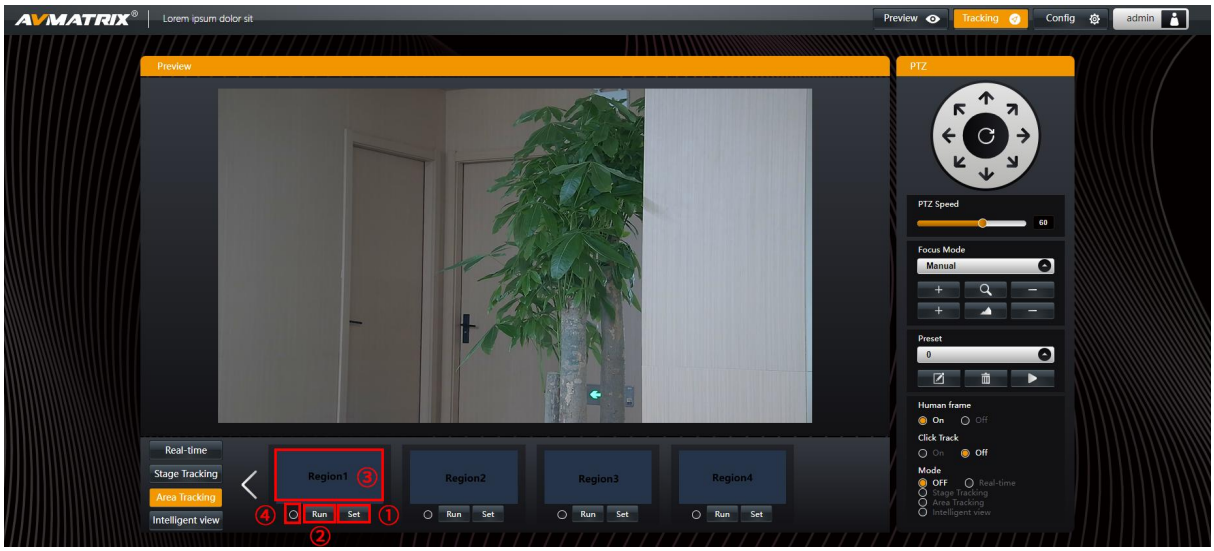
2.×: Not configurable in this tracking mode.

3.For optimal performance, the recommended distance from the target to the camera, depending on the

person's size, is as follows:

Close-up: ≥0.8m Half-body: ≥1.5m Full-body: ≥3m

2) Stage Tracking



①:Click to set the left boundary of the tracking area, then click [Set] to complete.

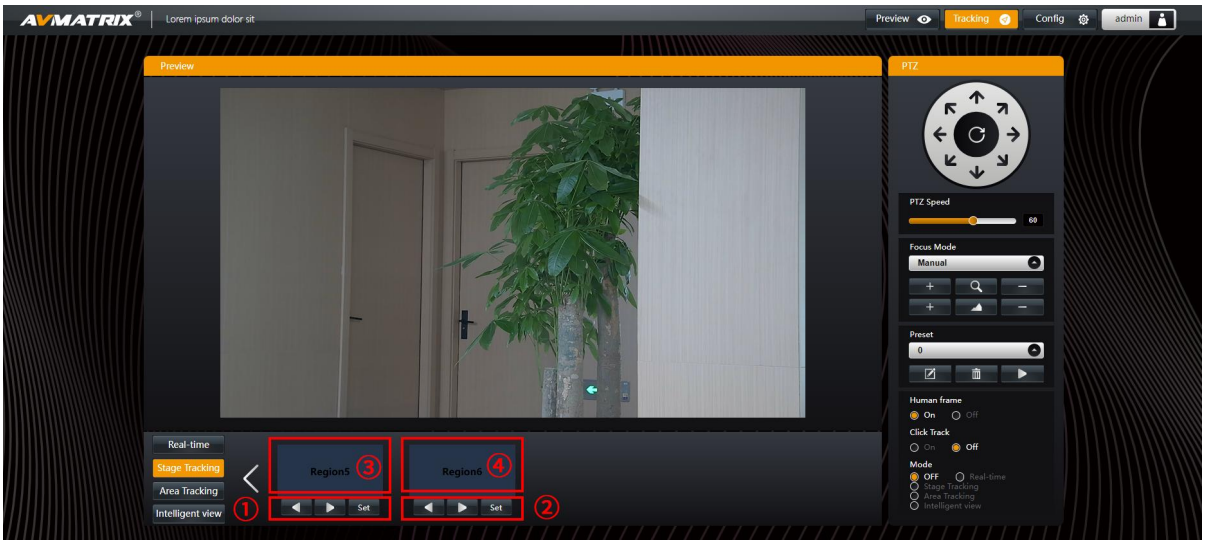
②:Click to set the right boundary of the tracking area, then click [Set] to complete.

③:Click to adjust the window to the left boundary position.

④:Click to adjust the window to the right boundary position.

Note: Area setting is only possible when tracking is disabled.

3) Area Tracking



①:Taking Area 1 as an example: Adjust the pan-tilt to set the tracking area, then click [Set] to finalize the setup, and the image will be saved and displayed in Window 1.

②:Click [Recall] to adjust the camera to the preset area.

③:Click the window view to adjust the camera to the preset area.

④:Select the areas to track, with a minimum of 2 areas required.

Notes:

1. Area setting is only possible when tracking is disabled.

2. Each preset view must be continuous from left to right and overlap during setup.

4) Intelligent View

Intelligent View: Employing superior face detection algorithm to intelligently and automatically frames according to the number of people in the scene, and the characters are in the middle.

3.2.4 Configuration

Click **Configuration** to enter into the device parameters setting page

There are the following options: Audio configuration, video configuration, network configuration and system configuration.

Menu	Explanation
Audio Configuration	Including audio compressing format, sampling frequency, sampling precision, compressing code rate settings etc.
Video Configuration	Including video encoding, video parameters, character-overlapping, character size, video output setting etc.
Network Configuration	Including basic parameters, Ethernet, DNS, GB28181 etc.
System Configuration	Including equipment property, system time, user management, version update, Reset, Reboot device settings etc.

1) Audio configuration

Enable: Choose to enable the audio or not.

Encode Type: Set audio compressing format and the device will reboot automatically after change (default AAC, G.711A optional)

Sample Rate: Set sampling frequency and the device will reboot automatically after change (default 48000, 16000, 32000 and 44100 optional)

Sample Bits: Set sampling precision (default 16bits)

Bit Rate: Set audio compressing code rate (default 64bits, 32, 48, 96, 128bits optional)

Channel: Set channel (default Stereo, mono optional)

Input Volume: Set the input volume level (default:2, range:1-10 optional)

Click the “Save” button to display the “Success” The settings will take effect after restarting the device”. Restart the device for the changes to take effect.

3.2.5 Video Configuration

1) Video Encode

Code Stream: Different video output mode setting, use different streams. (Main stream, substream)

Compression Format: Set the video compression format, save and reboot to take it effect (primary/secondary stream, MJPEG optional)

Profile: Profile Mode Setting (Default HP, BP, MP Optional)

Image Size: Set video image resolution, save and reboot to take it effect (main stream default 1920*1080, 1280*720, 640*480 optional; default sub stream 320*180,320*240,640*360,640*480, 1280*720 optional)

Rate Control: Set rate control mode, save and reboot to take it effect (Primary/sub stream default variable bit rate, fixed rate is for option).

Image Quality: Set the image quality, image quality can be changed only when rate control is variable bit rate (There are best, better, good, bad, worse, worst for options).

Rate (Kb / s): Set the video bit rate (main stream default 4096Kb/s; sub stream default 512Kb/s)

Frame Rate (F / S): Set the video frame rate (primary/secondary stream default 25F/S, Primary stream 5-60F/S optional, sub stream 5-60F/S optional).

Key Frame Interval: Set the key frame interval (primary/secondary stream default 100F, primary stream 1-300F optional; sub stream 1-300F optional).

I Frame Min QP: Set the frame mini QP. (Default is 20, and 10-51 for optional)

Stream Name: When streaming via rtsp, rtmp and mjpeg, user can modify stream name. Main stream(live/av0), sub stream(live/av1)

Click the “Save” button to display the “saved successfully” message, then settings take effect.

2) Stream Publish

Enable: To turn on/off the main/sub stream.

Protocol Type: Default RTMP protocol. RTSP and SRT optional.

Host Address: server IP addresses (default 192.168.5.11)

Host Port: server port number (default 1935, 0-65535 optional)

Stream Name: choose a different stream name (live/av0, live/av1 optional).

Username: Set the user’s name.

Password: Set the password.

SRT Password: Set the SRT password, Crypto key length in bytes: Default: 0, options: 0, 16, 24, 32

Click on the “Save” button to display the “success”, then settings take effect.

3) Multicast/Unicast

Enable: Main/Sub Stream On/off

Protocol Type: RTP or TS or UDP or TCP

Address: Default 224.1.2.3. It can be edited.

Port: Main Stream Default Port: 4000, Sub Stream Default Port: 4002)

Access Method: Address comes up after setting. Eg; rtp://224.1.2.3:4000; udp://@224.1.2.3:4002;

4) Video Parameters

(a) Focus: Focus mode, focus tactics, focus sensitivity can be set.

Focus Mode: set the focus mode (the default auto, manual, onepush optional)

Focus Tactics: set the focus tactics (Default: Meeting, Front Focus, Behind Focus, Education Tracking,

Moving Object Focus, Center Focus available)

Focus Sensitivity: Set the focus sensitivity (default is low, high, medium optional)

(b) Exposure: Exposure mode, exposure compensation, back light compensation, anti-flicker, gain limit, wide dynamic, shutter speed, aperture value and brightness can be set.

Exposure Mode: Set the exposure mode (default auto, manual, SAE, AAE, bright priority optional

Exposure Compensation: Exposure compensation setting is active when it is auto status (default is off).

Exposure Compensation Value: Set the exposure compensation value, valid when it is set for auto (default 0, -7 to 7 optional).

BLC: Set back light compensation, valid when it is auto status (default is off).

Flicker: Set up anti-flicker mode, valid when status of automatic, aperture or brightness priority (default 50Hz, off and 60Hz optional).

Gain Limit: set the gain limits, auto, active when it is status of aperture or brightness priority(default 5, 0-15 optional).

Dynamic Range: set the dynamic range (off, 1-8 optional).

Shutter Speed: active when it is status of manual or shutter-priority (default 1/120, 1/25, 1/30, 1/50, 1/60, 1/90, 1/100, 1/120, 1/200, 1/250, 1/350, 1/500, 1/1000, 1/2000, 1/3000, 1/4000, 1/6000, 1/10000 optional.

Aperture Value: Set the aperture value, active when it is status of manual or aperture-priority(default F1.8 closed, F11, F9.6, F8.0, F6.8, F5.6, F4.8, F4.0, F3.4, F2 .8, F2.4, F2.0, F1.8 optional).

Brightness: Set the brightness value, active when it is a state of brightness priority (default 11, 0~23 optional).

(c) Color: White balance, saturation, hue, AWB sensitivity, RG Tuning and BG-Tuning can be set.

White Balance Modes: Set the white balance mode (the default auto, manual, VAR and One-push optional). Note: Click the “Correction” button when selected the One-push white balance mode.

Red Gain Tuning: Set the red gain, effective when it is manual (default 0, -10~10 optional).

Blue Gain Tuning: Sets the Blue gain, effective when it is manual (default 0, -10~10 optional).

Saturation: Set the saturation (default 100%,60%,70%,80%,90%,100%,110%,120%,130%,140%, 150%, 160%, 170%, 180%, 190%, 200%optional).

Hue: Set the chrome (default 7, 0-14 optional).

Auto White Balance Sensitivity: Sensitivity Auto white balance settings (default is high, low, medium optional).

(d) Image: Brightness, contrast, sharpness, black and white mode, the gamma curve, Horizontal Flip and Vertical Flip can be set.

Brightness: Set the brightness (default 7, 0-14 optional).

Contrast: set the contrast (default 7, 0-14 optional).

Sharpness: Set the sharpness value (default 6, 0-14, auto optional).

Gamma: Gamma value setting (default 0.50, 0.45, 0.48, 0.50, 0.55 and 0.63 optional).

Black and White Mode: Set black and white mode (default color, B&W, off optional).

Flip Horizontal: Set Flip Horizontal (default off, Off and on optional).

Flip Vertical: Set vertical flip (default Off, On optional).

DZoom: Set the electronic zoom (Default: Off, On/Off optional).

Auto Flip: Set the image flip (Default: On, On/Off options).

Low-Light Mode: Set Low-Light Mode (default Off, On optional).

(e) Noise reduction: Set 2D noise reduction and 3D noise reduction

2D Noise Reduction: Set 2D noise reduction level (default:3, Auto,1-7 and Off optional).

3D Noise Reduction: Set 3D noise reduction level (default Auto, 1-7 and Off optional).

(f) Style：Set style (Default, Meeting, Clarity, Bright and Soft optional).

Note: Click "Refresh" to make revision of any video parameters of a, b, c, d, e, f effective.

5) Video OSD

Show Time: Set whether to display the time and date (default off).

Show Title: Set whether to display the title (default off).

Time Font Color: Set font color of time and date (default white, black, yellow, red, blue optional).

Title Font Color: Set font color of title (default white, black, yellow, red, blue optional).

Moving Characters: Set the display position of moving date, time and title, click on the "up, down, left, right" buttons to move the corresponding character position.

Click on the "Save" button and display the "success", then the settings will take effect.

6) OSD Font Size

Scale Size Automatically: Default On, off optional

Master Stream OSD Font Size: Set the character size of the display, the device will restart automatically after changed and saved (default 48, 8-200 optional)

Slave Stream OSD Font Size: Set the character size of the display, the device will restart automatically after changed and saved (default 48, 8-200 optional)

Click on the "Save" button to display "Parameter saved successfully" message, set to take effect

7) Video Output

Output Format: Set the video output format (default 1080P60, Options include:1080P60, 1080P59.94, 1080P50, 1080P30, 1080P29.97, 1080P25, 720P60, 720P59.94, 720P50, 1080I60, 1080I50 and 1080I59.94).

Click on the "Save" button, it will be valid when display "success".

3.2.6 Network Configuration

1) Network Port

Port Data: Set the data port, the device will restart automatically after changed (default 3000, 0-65535

optional).

Port Web: Set Web port, the device will restart automatically after changed (default is 80, 0-65535 is optional).

Port Onvif: Set Onvif port, the device will restart automatically after changed (default 2000, 0-65535 optional).

Port RTMP: Set RTMP port (default 1935, 0-65535 optional).

Port RTSP: Set RTSP port, the device will restart automatically after changed (default 554, 0-65535 optional).

Port Visca: Set Visca port, the device will restart automatically after changed (default 1259, 0-65535 optional).

Port WebSocket: Set the Visca port. After changing and saving, restart the device for the changes to take effect (default is 8088, range 0-65535 available).

Click on the “Save” button, it will be valid when display “success”.

2) Ethernet Parameters

DHCP: Enable or disable obtain IP automatically can be set. Save changes and reboot the device to takes effect (Default: ON)

IP Address: Set the IP address, save changes and reboot the device to takes effect (default 192.168.5.163). Note: This IP address is the same with the one used to login Web page.

Subnet Mask: Set the subnet mask (default 255.255.255.0).

Default Gateway: Set the default gateway (default 0.0.0.0).

MAC Address: Set the physical address (the parameter is read-only but cannot be modified).

Click on the “Save” button, it will be valid when display “Success”. (Note: To prevent IP conflicts When modify).

3) DNS Parameters

Preferred DNS Server: set the preferred DNS server. (Default 0.0.0.0).

Alternate DNS Server: Alternative DNS server settings. (Default 0.0.0.0).

Click on the “Save” button, it will be valid when display “Success”.

4) GB28181

Enable: Set whether open GB28181

ClockSync: Set synchronization time

Video Type: stream type setting (default main stream, sub stream optional)

Registration Valid Time(s): 3600; Range 0-65535

Heartbeat Time (s): 60, Range 0-65535

Register ID: 34020000001320000001

Register Name: IPC

Register Password: 12345678

Equipment Belong: Users can add their own

Administrative Region: Users can add their own

Alarm Areas: Users can add their own

Device Address: Users can add their own

Local SIP Port: 5060; Range 0-65535

Server IP: IP address of the computer

Server SIP Port: 5060; Range 0-65535

Server ID: 34020000002000000001

Click on the “Save” button, it will be valid when display “Success”.

5) SRT

SRT Port: Set the SRT port (default 9000, 0-65535 optional)

Password for Stream Encryption: Users can add their own

Crypto Key Length in Bytes: Set the Crypto Key Length (default 0, 16, 24, 32 optional)

Click the "Save" button, and the prompt message "Success! It will take effect after restarting!" will be displayed. After setting, restart the camera to take effect.

6) NDI

NDI Enable: Set whether to enable NDI

NDI HX3 Enable: Set whether to enable NDI HX3

NDI Multicast Enable: Set whether to enable NDI Multicast

Discovery Servers: Set whether to enable discovery servers.

NDI Name: Users can add their own

NDI Device: Users can add their own

NDI Group: Users can add their own

Click the "Save" button, and a message "Save successful! To apply the RTMP enable settings, the device needs to be restarted!" will appear. After setting, restart the camera for the changes to take effect.

7) FreeD

FreeD Enable: Set whether to enable FreeD.

FreeD Mode: Default UDP; VISCA optional.

FreeD Target Address: default 255.255.255.255

FreeD Port: default 1999

Click the "Save" button, and a message "Success" will appear. After setting, restart the camera for the changes to take effect.

3.2.7 System Configuration

1) System Attribute

Device Name: Set the device name (the default Camera-1, user can add their own).

Device ID: Set the device ID (default 1, Read-Only).

Language: Set the system language (default Simplified Chinese, English optional).

Need to re-login after modify and save the setting.

NDI Activation:

Device UID: 2238083167

License: Fill out the license code to activate the NDI.

Click on the “Save” button, it will be valid when display “Success”.

2) Computer Time

Date Format: Set the date format (YYYY-MM-DD default year - month - day, MM-DD-YYYY namely Month - Day - Year, DD-MM-YYYY Date-Month-Year optional)

Date Separator: Set the date separator (default '/','.','-' Optional).

Time Zone: Set the time zone (default East eight districts, other time zones optional).

Hour Type: Set the time types (default 24 hours, optional 12 hours).

NTP Enable: Enable NTP or not

Update Interval: Set the NTP server automatic updated time interval. Valid after setting NTP server synchronization (default one day, 1-10 days Optional).

Host Url: Set NTP server address or domain name (default time.nist.gov). Valid after setting NTP server synchronization.

Host Port: Sets the NTP server port (default 123 effective only when NTP is enabled).Valid after setting NTP server synchronization.

Set the time manually, Effective when set manually.

Time Setting: Set time mode (to choose the computer time synchronization, NTP server time synchronization, or set manually).

Computer Time: Display the computer time (only valid if syncing with computer time). Click the "Sync" button to sync.

Click on the “Save” button, it will be valid when display “Success”.

3) System User

Authority: Set the user type (default admin, Common User 1, Common User 2 optional)

Username: set the user’s name (Select User Administrator default admin; select a common user1 default user1; to select a common user 2 default user2; user can modify their own)

Password: Set a password (Select User Administrator default admin; select a common user1 default user1; to select a common user 2 default user2; user can modify their own).

Confirm Password: Confirm the input passwords are the same or not.

Click on the “Save” button to display the “Success” message, the settings will take effect.

Note: Please note the case-sensitivity of the user’s name and password.

If logged in as a regular user, you will not have configuration permissions and will only be able to preview or log out.

4) Upgrade

MCU Version: V3.0.1 2025-8-27

Camera Version: V1.0.0 2025-8-27

Focus Version: V1.0.0 2025-6-13

NDI Version: V0.0.0 0-0-0

Users only read the version information above which is consistent with the menu version but can not modify. Different types of the machine have different information.

Update file:

Click “Browse ...” installation to select the upgrade file in the pop-up window.

Click on the “Upgrade” button, the upgrade dialog will appear. The device will reboot automatically after updated successfully. (Note: make sure the power and network is keeping connected during the process, otherwise the upgrade will fail)

Note: After the version upgrade is complete, you need to restore factory defaults; a, through web to restore the factory default configuration; b, through the recovery menu; c, remote control shortcut * # 6; Choose one of the above three ways. If chose a, the IP accounts, passwords also need to be restored to the default.

5) Default: Restore factory setting

Click “Default” to pop-up “Restore Factory Defaults” button and choose “Confirm” or “Cancel”, if you choose “Confirm”, the device will restart automatically and restore factory setting.

6) Reboot

Click on the pop-up “Reboot” button and choose “Confirm” or “Cancel”, if you choose “Confirm”, the device will restart automatically

3.2.8 Logout

Click “admin” in the top-right corner; choose “Confirm” or “Cancel”; choose “Confirm” to exit the current page and return to the user login interface.

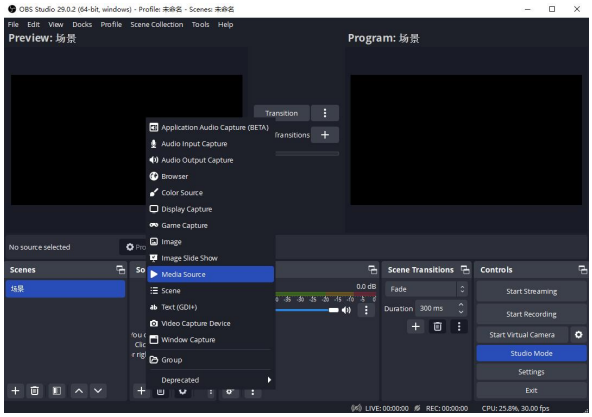
3.2.9 Stream Setting

1) Method of obtaining RTSP: **rtsp://device IP address:554/live/av0** (av0 means main stream; av1 means sub stream; the default port No. of the RTSP is 554.

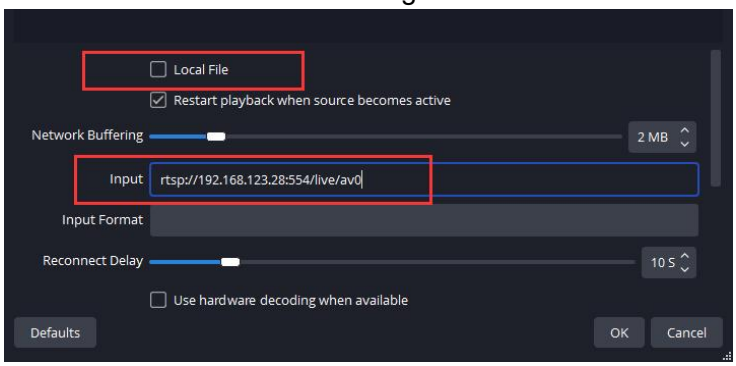
Method of obtaining RTMP: **rtmp://device IP address:1935/live/av0**

2) How to play the RTSP Stream by the OBS Studio:

Step1: Open OBS studio, click “+” key in the sources, create a new Media source.

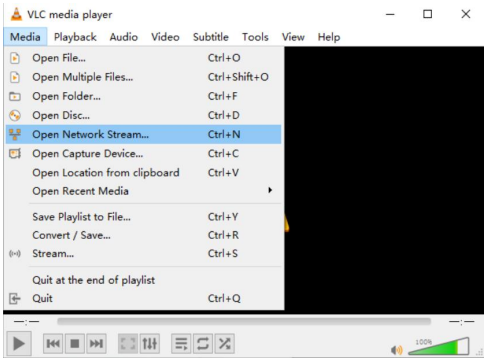


Step 2: Cancel the local file setting, add rtsp setting (rtsp://device IP address:554/live/av0) in the “input”, and then click “OK” to add the signal of the PTZ camera.



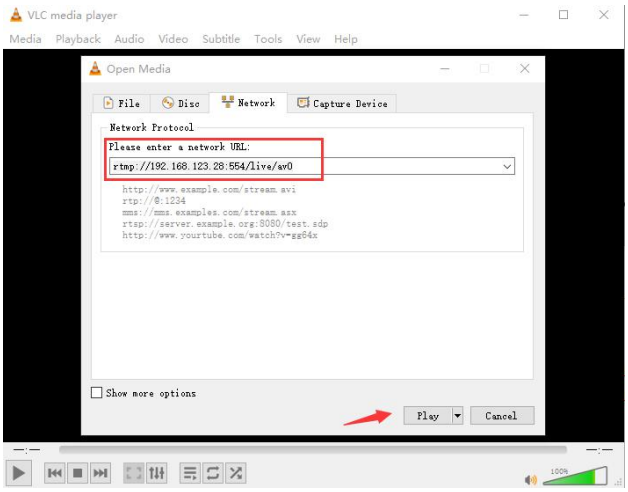
3) How to play the RTSP Stream by the VLC Player:

Step 1: Open the VLC Player, and click “Open Network” key in the Media.



Step 2: Please enter the RTSP address: **rtsp://device IP address:554/live/av0**

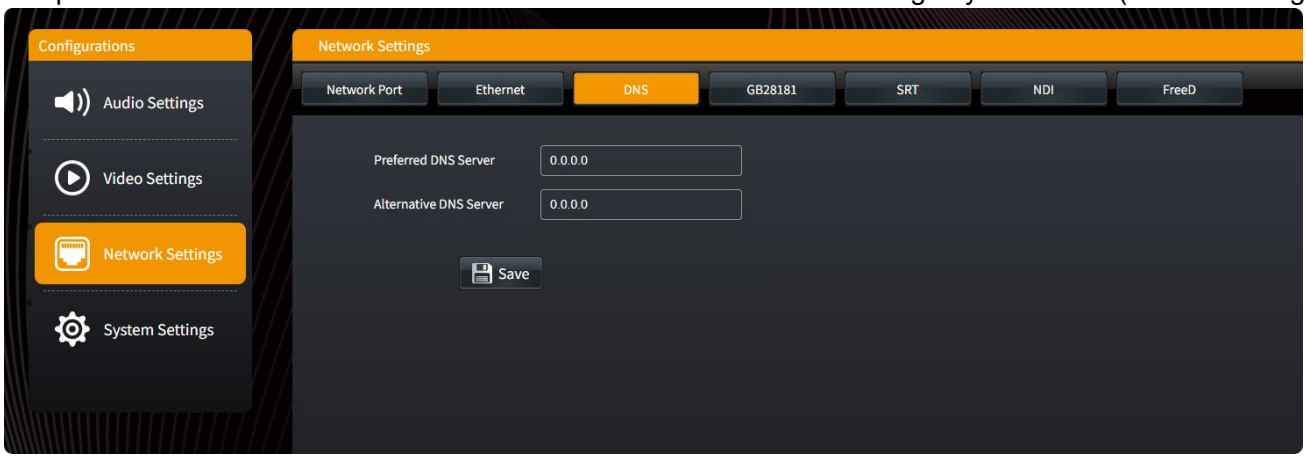
(av0 means main stream; av1 means sub stream)



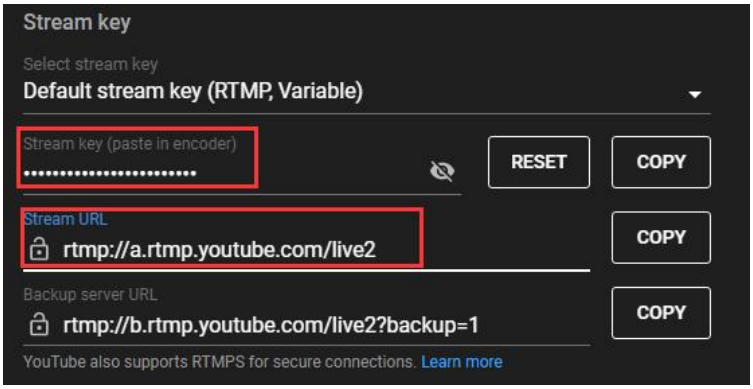
Step 3: Click “Play” key to add the signal of the PTZ camera.

4) How to live stream via RTMP (take YouTube as an example):

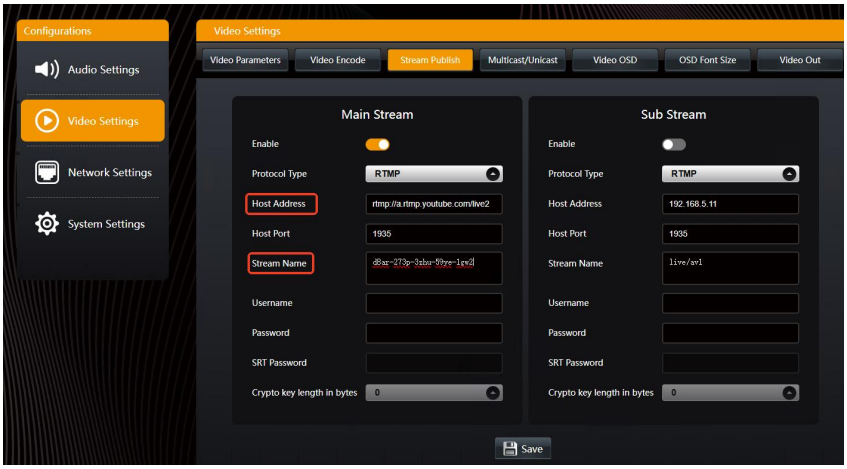
Step 1: Set the Preferred DNS server and Alternate DNS server according to your needs. (Default setting:

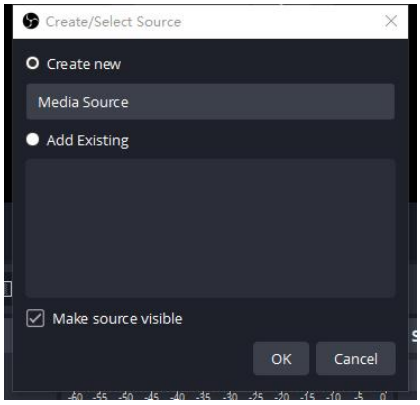


Step 2: Open the live streaming settings of the stream platform and get the **Stream URL** and **Stream Key** of the live platform.



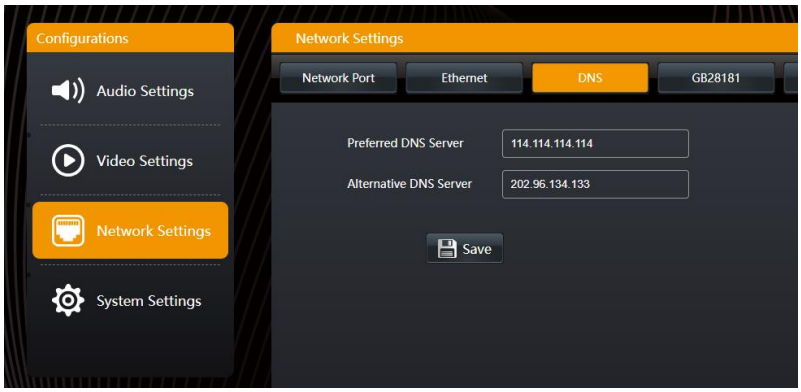
Step 3: Log in the IP website, select “Stream settings”, copy the **stream URL** into the **host Address**, copy **stream key** into the **stream name**. Then turn on “switch”, click “Save” to live stream.





5) How to live stream via SRT (take Bilibili as an example):

Step 1: Set the Preferred DNS server and Alternate DNS server according to your needs. (Default setting: 0.0.0.0). Then click on the “Save” button, it will be valid when display “Success”.

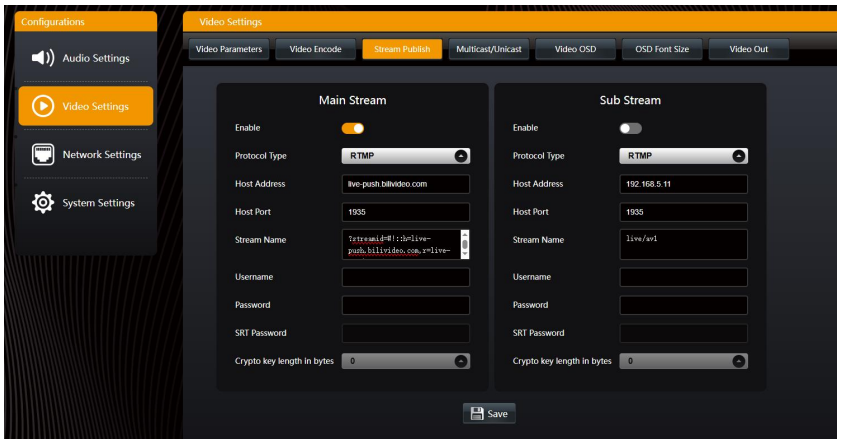


Step 2: Open the live streaming settings of the Bilibili to get the Server address as follow picture.

Operation path: Personal Center -> Live Streaming -> Start Broadcasting Settings, select Category > Start Live Streaming.

Step 3: Copy the server address and split it into three parts, then log in PTZ camera’s Web client, open Configuration-Video Configure-Stream Publish, paste the first part to **Host address**, the second part to **Host Port**, and the third part to **Stream Name**, as shown below.

1. live-push.bilivideo.com
2. 1937
3. ?streamid=#!::h=live-push.bilivideo.com,r=live-bvc/?streamname=live_348742824_1882082, key=dcd481e95080ad53c817bd6d5ebdfbea,schedule=srtts,pflag=1



Step 4: Open the “Enable” key of the “stream”, then click “Save” key to live stream.

4. Serial Communication Control

Under common working condition, the camera could be controlled through RS232/RS485 (VISCA), RS232C serial parameter are as follows:

Baud rate: 2400/4800/9600/115200 bits / sec; Start bit: 1; data bits: 8; Stop bit: 1; Parity: None.

After power on, the camera first goes left, then back to the middle position.

Self-test is finished after the zoom moved to the farthest and then back to the nearest position. If the camera saved 0 preset before, it will be back to that position after initialization. At this point, the user can control the camera by the serial commands.

4.1 VISCA Protocol List

4.1.1 Camera Return Command

Ack/Completion Message		
	Command packet	**Note**
ACK	z0 41 FF	Returned when the command is accepted.
Completion	z0 51 FF	Returned when the command has been executed.

z = camera address + 8

Error Messages		
	Command packet	**Note**
Syntax Error	z0 60 02 FF	Returned when the command format is different or when a command with illegal command parameters is accepted
Command Not Executable	z0 61 41 FF	Returned when a command cannot be executed due to current conditions. For example,when commands controlling the focus manually are received during auto focus.

4.2 AI Tracking Commands

Main Function	Function Description (Input and Query)	VISCA Protocol Command	Command Description
Tracking Mode	Direct	8x 0A 01 32 00 00 02 0p FF	0p:0: Off 1: Real-time Tracking 2: Stage Tracking 3: Area Tracking 4: Auto Framing
	Tracking Mode Inq	8x 09 01 32 FF	y0 50 0p FF 0p:0-4
Tracking Sensitivity	Direct	8x 01 0B 00 02 0p FF	0p:0: High 1:Medium 2: Low
	Tracking Sensitivity Inq	8x 09 0B 00 02 FF	y0 50 0p FF 0p:0-2
Tracking Figure size	Direct	8x 01 0B 02 01 0p FF	0p:0: Half-body 1: Close-up 2: Full-body 3: Custom
	Tracking Figure size	8x 09 0B 02 01 FF	y0 50 0p FF 0p:0-3
Tracking_Figure size	Direct	8x 01 0B 02 02 0p FF	0p:0: Left 1:Center 2: Right

Custom level	Tracking Figure size Custom level Inq	8x 09 0B 02 02 FF	y0 50 0p FF 0p:0-2
Tracking Lost target action	Direct	8x 01 0B 00 04 0p FF	0p:0: home 1: Preset Position0 2: Current Position
	Tracking Lost target action Inq	8x 09 0B 00 04 FF	y0 50 0p FF 0p:0-2
Tracking Target lost time	Direct	8x 01 0B 00 03 0p FF	0p:0-60
	Tracking Target lost time Inq	8x 09 0B 00 03 FF	y0 50 0p FF 0p:0-60

4.3 Camera Control Command

Command	Function	Command packet	Note
Address Set	Broadcast	88 30 0p FF	p: Address setting
IF_Clear	Broadcast	88 01 00 01 FF	I/F Clear
CAM_Power	On	8x 01 04 00 02 FF	Power ON/OFF
	Off	8x 01 04 00 03 FF	
CAM_Zoom	Stop	8x 01 04 07 00 FF	
	Tele(Standard)	8x 01 04 07 02 FF	
	Wide(Standard)	8x 01 04 07 03 FF	
	Tele(Variable)	8x 01 04 07 2p FF	p = 0(low) - F(high)
	Wide(Variable)	8x 01 04 07 3p FF	
	Direct	8x 01 04 47 0p 0q 0r 0s FF	pqrs: Zoom Position
CAM _Focus	Stop	8x 01 04 08 00 FF	
	Far(Standard)	8x 01 04 08 02 FF	
	Near(Standard)	8x 01 04 08 03 FF	
	Far(Variable)	8x 01 04 08 2p FF	p = 0(low) - F(high)
	Near (Variable)	8x 01 04 08 3p FF	
	Direct	8x 01 04 48 0p 0q 0r 0s FF	pqrs: Focus Position
	Auto Focus	8x 01 04 38 02 FF	
	One Push Mode	8x 01 04 38 04 FF	
	Manual Focus	8x 01 04 38 03 FF	
CAM _Zoom Focus	Direct	8x 01 04 47 0p 0q 0r 0s 0t 0u 0v 0w FF	pqrs: Zoom Position tuvw: Focus Position
CAM_WB	Auto	81 01 04 35 00 FF	
	3000k	81 01 04 35 01 FF	
	4000k	81 01 04 35 02 FF	
	One push mode	81 01 04 35 03 FF	
	5000k	81 01 04 35 04 FF	
	Manual	81 01 04 35 05 FF	
	6500k	81 01 04 35 06 FF	
	3500k	81 01 04 35 07 FF	
	4500k	81 01 04 35 08 FF	
	5500k	81 01 04 35 09 FF	

	6000k	81 01 04 35 0A FF	
	7000k	81 01 04 35 0B FF	
	2400k	81 01 04 35 0C FF	
	2500k	81 01 04 35 0D FF	
	2600k	81 01 04 35 0E FF	
	2700k	81 01 04 35 0F FF	
	2800k	81 01 04 35 10 FF	
	2900k	81 01 04 35 11 FF	
	3100k	81 01 04 35 12 FF	
	3200k	81 01 04 35 13 FF	
	3300k	81 01 04 35 14 FF	
	3400k	81 01 04 35 15 FF	
	3600k	81 01 04 35 16 FF	
	3700k	81 01 04 35 17 FF	
	3800k	81 01 04 35 18 FF	
	3900k	81 01 04 35 19 FF	
	4100k	81 01 04 35 1A FF	
	4200k	81 01 04 35 1B FF	
	4300k	81 01 04 35 1C FF	
	4400k	81 01 04 35 1D FF	
	4600k	81 01 04 35 1E FF	
	4700k	81 01 04 35 1F FF	
	2400k	81 01 04 35 20 FF	
	4800k	81 01 04 35 21 FF	
	4900k	81 01 04 35 22 FF	
	5100k	81 01 04 35 23 FF	
	5200k	81 01 04 35 24 FF	
	5300k	81 01 04 35 25 FF	
	5400k	81 01 04 35 26 FF	
	5600k	81 01 04 35 27 FF	
	5700k	81 01 04 35 28 FF	
	5800k	81 01 04 35 29 FF	
	5900k	81 01 04 35 2A FF	
	6100k	81 01 04 35 2B FF	
	6200k	81 01 04 35 2C FF	
	6300k	81 01 04 35 2D FF	
	6400k	81 01 04 35 2E FF	
	6600k	81 01 04 35 2F FF	
	6700k	81 01 04 35 30 FF	
	6800k	81 01 04 35 31 FF	
	6900k	81 01 04 35 32 FF	
	7100k	81 01 04 35 33 FF	
CAM _RGain	Reset	8x 01 04 03 00 FF	Manual Control of R Gain
	Up	8x 01 04 03 02 FF	
	Down	8x 01 04 03 03 FF	

	Direct	8x 01 04 43 00 00 0p 0q FF	pq: R Gain
CAM_ Bgain	Reset	8x 01 04 04 00 FF	Manual Control of B Gain
	Up	8x 01 04 04 02 FF	
	Down	8x 01 04 04 03 FF	
	Direct	8x 01 04 44 00 00 0p 0q FF	pq: B Gain
CAM_AE	Full Auto	8x 01 04 39 00 FF	Automatic Exposure mode
	Manual	8x 01 04 39 03 FF	Manual Control mode
	Shutter priority	8x 01 04 39 0A FF	Shutter Priority Automatic Exposure mode
	Iris priority	8x 01 04 39 0B FF	Iris Priority Automatic Exposure mode
	Bright	8x 01 04 39 0D FF	Bright mode
CAM_Shutter	Reset	8x 01 04 0A 00 FF	Shutter Setting
	Up	8x 01 04 0A 02 FF	
	Down	8x 01 04 0A 03 FF	
	Direct	8x 01 04 4A 00 00 0p 0q FF	pq: Shutter Position
CAM_Iris	Reset	8x 01 04 0B 00 FF	Iris Setting
	Up	8x 01 04 0B 02 FF	
	Down	8x 01 04 0B 03 FF	
	Direct	8x 01 04 4B 00 00 0p 0q FF	pq: Iris Position
CAM_Gain Limit	Gain Limit	8x 01 04 2C 0p FF	p: Gain Positon
CAM_Bright	Reset	8x 01 04 0D 00 FF	Bright Setting
	Up	8x 01 04 0D 02 FF	
	Down	8x 01 04 0D 03 FF	
	Direct	8x 01 04 4D 00 00 0p 0q FF	pq: Bright Positon
CAM_ExpComp	On	8x 01 04 3E 02 FF	Exposure Compensation ON/OFF
	Off	8x 01 04 3E 03 FF	
	Reset	8x 01 04 0E 00 FF	Exposure Compensation Amount Setting
	Up	8x 01 04 0E 02 FF	
	Down	8x 01 04 0E 03 FF	
	Direct	8x 01 04 4E 00 00 0p 0q FF	pq: ExpComp Position
CAM_Back Light	On	8x 01 04 33 02 FF	Back Light Compensation
	Off	8x 01 04 33 03 FF	
CAM_WDRStrength	Reset	8x 01 04 21 00 FF	WDR Level Setting
	Up	8x 01 04 21 02 FF	
	Down	8x 01 04 21 03 FF	
	Direct	8x 01 04 51 00 00 00 0p FF	p: WDR Level Positon
CAM_NR(2D)		8x 01 04 53 0p FF	P=0-7 0: OFF
CAM_NR(3D)		8x 01 04 54 0p FF	P=0-8 0: OFF
CAM_Gamma		8x 01 04 5B 0p FF	p = 0 – 4 0: 0.45

			1: 0.48 2: 0.50 3: 0.55 4: 0.63
CAM_Flicker	OFF	8x 01 04 23 00 FF	OFF
	50HZ	8x 01 04 23 01 FF	50HZ
	60HZ	8x 01 04 23 02 FF	60HZ
CAM_Sharpness	Reset	8x 01 04 02 00 FF	Sharpness
	Up	8x 01 04 02 02 FF	
	Down	8x 01 04 02 03 FF	
	Direct	8x 01 04 42 00 00 0p 0q FF	pq: Sharpness
CAM_Memory	Reset	8x 01 04 3F 00 pq FF	pq: Memory Number (=0 to 254) Corresponds to 0 to 9 on the Remote Commander
	Set	8x 01 04 3F 01 pq FF	
	Recall	8x 01 04 3F 02 pq FF	
CAM_LR_Reverse	On	8x 01 04 61 02 FF	Image Flip Horizontal ON/OFF
	Off	8x 01 04 61 03 FF	
CAM_PictureFlip	On	8x 01 04 66 02 FF	Image Flip Vertical ON/OFF
	Off	8x 01 04 66 03 FF	
CAM_ColorSaturation	Direct	8x 01 04 49 00 00 00 0p FF	P=0-E 00:60% 01:70% 02:80% 03:90% 04:100% 05:110% 06:120% 07:130% 08:140% 09:150% 0A:160% 0B:170% 0C:180% 0D:190% 0E:200%
CAM_IDWrite		8x 01 04 22 0p 0q 0r 0s FF	pqrs: Camera ID (=0000 to FFFF)
SYS_Menu	ON	8x 01 06 06 02 FF	Turn on the menu screen
	OFF	8x 01 06 06 03 FF	Turn off the menu screen
IR_Receive	ON	8x 01 06 08 02 FF	IR (remote commander)receive On/Off
	OFF	8x 01 06 08 03 FF	
CAM_SettingReset	Reset	8x 01 04 A0 10 FF	Reset Factory Setting
CAM_Brightness	Direct	8x 01 04 A1 00 00 0p 0q FF	pq: Brightness Position
CAM_Contrast	Direct	8x 01 04 A2 00 00 0p 0q FF	pq: Contrast Position
CAM_Flip	OFF	8x 01 04 A4 00 FF	Single Command for Video Flip
	Flip-H	8x 01 04 A4 01 FF	
	Flip-V	8x 01 04 A4 02 FF	
	Flip-HV	8x 01 04 A4 03 FF	
CAM_VideoSystem	Set camera video system	8x 01 06 35 00 0p FF	P: 0~7 A-D Video format 00:1080P60 01:1080P50 02:1080I60

			03:1080I50 04:720P60 05:720P50 06:1080P30 07:1080P25 0A:1080P59.94 0B:1080I59.94 0C:720P59.94 0D:1080P29.97
Pan_tiltDrive	Up	8x 01 06 01 VV WW 03 01 FF	VV: Pan speed 0x01 (low speed) to 0x18 (high speed) WW: Tilt speed 0x01 (low speed) to 0x14 (high speed) YYYY: Pan Position ZZZZ: Tilt Position
	Down	8x 01 06 01 VV WW 03 02 FF	
	Left	8x 01 06 01 VV WW 01 03 FF	
	Right	8x 01 06 01 VV WW 02 03 FF	
	Upleft	8x 01 06 01 VV WW 01 01 FF	
	Upright	8x 01 06 01 VV WW 02 01 FF	
	DownLeft	8x 01 06 01 VV WW 01 02 FF	
	DownRight	8x 01 06 01 VV WW 02 02 FF	
	Stop	8x 01 06 01 VV WW 03 03 FF	
	AbsolutePosition	8x 01 06 02 VV WW 0Y 0Y 0Y 0Y 0Z 0Z 0Z 0Z FF	
	RelativePosition	8x 01 06 03 VV WW 0Y 0Y 0Y 0Y 0Z 0Z 0Z 0Z FF	
	Home	8x 01 06 04 FF	
	Reset	8x 01 06 05 FF	
Pan-tiltLimitSet	Set	8x 01 06 07 00 0W 0Y 0Y 0Y 0Y 0Z 0Z 0Z 0Z FF	W:1 UpRight 0:DownLeft YYYY: Pan Limit Position ZZZZ: Tilt Limit Position
	Clear	8x 01 06 07 01 0W 07 0F 0F 0F 07 0F 0F 0F FF	

4.3.1 Inquiry Command

Command	Function	Command packet	Note
CAM_PowerInq	8x 09 04 00 FF	y0 50 02 FF	On
		y0 50 03 FF	Off(Standby)
CAM_ZoomPosInq	8x 09 04 47 FF	y0 50 0p 0q 0r 0s FF	pqrs: Zoom Position
CAM_FocusAFModeInq	8x 09 04 38 FF	y0 50 02 FF	Auto Focus
		y0 50 03 FF	Manual Focus
		y0 50 04 FF	One Push mode
CAM_FocusPosInq	8x 09 04 48 FF	y0 50 0p 0q 0r 0s FF	pqrs: Focus Position
CAM_WBModeInq	8x 09 04 35 FF	y0 50 00 FF	Auto
		y0 50 01 FF	3000k
		y0 50 02 FF	4000k
		y0 50 03 FF	One push mode

		y0 50 04 FF	5000k
		y0 50 05 FF	Manual
		y0 50 06 FF	6500k
		y0 50 07 FF	3500k
		y0 50 08 FF	4500k
		y0 50 09 FF	5500k
		y0 50 0A FF	6000k
		y0 50 0B FF	7000k
		y0 50 0C FF	2400k
		y0 50 0D FF	2500k
		y0 50 0E FF	2600k
		y0 50 0F FF	2700k
		y0 50 10 FF	2800k
		y0 50 11 FF	2900k
		y0 50 12 FF	3100k
		y0 50 13 FF	3200k
		y0 50 14 FF	3300k
		y0 50 15 FF	3400k
		y0 50 16 FF	3600k
		y0 50 17 FF	3700k
		y0 50 18 FF	3800k
		y0 50 19 FF	3900k
		y0 50 1A FF	4100k
		y0 50 1B FF	4200k
		y0 50 1C FF	4300k
		y0 50 1D FF	4400k
		y0 50 1E FF	4600k
		y0 50 1F FF	4700k
		y0 50 20 FF	2400k
		y0 50 21 FF	4800k
		y0 50 22 FF	4900k
		y0 50 23 FF	5100k
		y0 50 24 FF	5200k
		y0 50 25 FF	5300k
		y0 50 26 FF	5400k
		y0 50 27 FF	5600k
		y0 50 28 FF	5700k
		y0 50 29 FF	5800k
		y0 50 2A FF	5900k
		y0 50 2B FF	6100k
		y0 50 2C FF	6200k
		y0 50 2D FF	6300k
		y0 50 2E FF	6400k
		y0 50 2F FF	6600k
		y0 50 30 FF	6700k

		y0 50 31 FF	6800k
		y0 50 32 FF	6900k
		y0 50 33 FF	7100k
CAM_RGainInq	8x 09 04 43 FF	y0 50 00 00 0p 0q FF	pq: R Gain
CAM_BGainInq	8x 09 04 44 FF	y0 50 00 00 0p 0q FF	pq: B Gain
CAM_AEModeInq	8x 09 04 39 FF	y0 50 00 FF	Full Auto
		y0 50 03 FF	Manual
		y0 50 0A FF	Shutter priority
		y0 50 0B FF	Iris priority
		y0 50 0D FF	Bright
CAM_ShutterPosInq	8x 09 04 4A FF	y0 50 00 00 0p 0q FF	pq: Shutter Position
CAM_IrisPosInq	8x 09 04 4B FF	y0 50 00 00 0p 0q FF	pq: Iris Position
CAM_Gain LimitInq	8x 09 04 2C FF	y0 50 0p FF	p: Gain Positon
CAM_ BrightPosiInq	8x 09 04 4D FF	y0 50 00 00 0p 0q FF	pq: Bright Position
CAM_ExpCompModeInq	8x 09 04 3E FF	y0 50 02 FF	On
		y0 50 03 FF	Off
CAM_ExpCompPosInq	8x 09 04 4E FF	y0 50 00 00 0p 0q FF	pq: ExpComp Position
CAM_BacklightModeInq	8x 09 04 33 FF	y0 50 02 FF	On
		y0 50 03 FF	Off
CAM_WDRStrengthInq	8x 09 04 51 FF	y0 50 00 00 00 0p FF	p: WDR Strength
CAM_NRLevel(2D) Inq	8x 09 04 53 FF	y0 50 0p FF	P: 2DNRLevel
CAM_NRLevel(3D) Inq	8x 09 04 54 FF	y0 50 0p FF	P:3D NRLevel
CAM_FlickerModeInq	8x 09 04 55 FF	y0 50 0p FF	p: Flicker Settings(0: OFF,1: 50Hz,2:60Hz)
CAM_SharpnessInq	8x 09 04 42 FF	y0 50 00 00 0p 0q FF	pq: Sharpness
CAM_PictureEffectModeInq	8x 09 04 63 FF	y0 50 00 FF	Off
		y0 50 04 FF	B&W
CAM_MemoryInq	8x 09 04 3F FF	y0 50 0p FF	p: Memory number last operated.
SYS_MenuModeInq	8x 09 06 06 FF	y0 50 02 FF	On
		y0 50 03 FF	Off
CAM_LR_ReverseInq	8x 09 04 61 FF	y0 50 02 FF	On
		y0 50 03 FF	Off
CAM_PictureFlipInq	8x 09 04 66 FF	y0 50 02 FF	On
		y0 50 03 FF	Off
CAM_ColorSaturationInq	8x 09 04 49 FF	y0 50 00 00 00 0p FF	p: Color Gain setting 0h (60%) to Eh (200%)
CAM_IDInq	8x 09 04 22 FF	y0 50 0p FF	p: Gamma ID
IR_ReceiveInq	8x 09 06 08 FF	y0 50 02 FF	On
		y0 50 03 FF	Off
CAM_BrightnessInq	8x 09 04 A1 FF	y0 50 00 00 0p 0q FF	pq: Brightness Position

CAM_ContrastInq	8x 09 04 A2 FF	y0 50 00 00 0p 0q FF	pq: Contrast Position
CAM_FlipInq	8x 09 04 A4 FF	y0 50 00 FF	Off
		y0 50 01 FF	Flip-H
		y0 50 02 FF	Flip-V
		y0 50 03 FF	Flip-HV
CAM_GammaInq	8x 09 04 5B FF	y0 50 0p FF	p: Gamma setting
CAM_VersionInq	8x 09 00 02 FF	y0 50 ab cd mn pq rs tu vw FF	ab cd : vender ID (0220) mn pq : model ID ST (0950) rs tu: ARM Version vw: reserve
VideoSystemInq	8x 09 06 23 FF	y0 50 0p FF	P: 0~7，A-D Video format 00:1080P60 01:1080P50 02:1080I60 03:1080I50 04:720P60 05:720P50 06:1080P30 07:1080P25 0A:1080P59.94 0B:1080I59.94 0C:720P59.94 0D:1080P29.97
Pan-tiltMaxSpeedInq	8x 09 06 11 FF	y0 50 ww zz FF	ww: Pan Max Speed zz: Tilt Max Speed
Pan-tiltPosInq	8x 09 06 12 FF	y0 50 0w 0w 0w 0w 0z 0z 0z 0z FF	wwww: Pan Position zzzz: Tilt Position

Note: [X] in the above table indicates the camera address to be operated,【y】=【x + 8】.

4.4 Pelco-D Protocol Command List

Function	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7
Up	0xFF	Address	0x00	0x08	Pan Speed	Tilt Speed	SUM
Down	0xFF	Address	0x00	0x10	Pan Speed	Tilt Speed	SUM
Left	0xFF	Address	0x00	0x04	Pan Speed	Tilt Speed	SUM
Right	0xFF	Address	0x00	0x02	Pan Speed	Tilt Speed	SUM
Upleft	0xFF	Ad0dress	0x00	0x0C	Pan Speed	Tilt Speed	SUM
Upright	0xFF	Address	0x00	0x0A	Pan Speed	Tilt Speed	SUM
DownLeft	0xFF	Address	0x00	0x14	Pan Speed	Tilt Speed	SUM
DownRight	0xFF	Address	0x00	0x12	Pan Speed	Tilt Speed	SUM
Zoom In	0xFF	Address	0x00	0x20	0x00	0x00	SUM
Zoom Out	0xFF	Address	0x00	0x40	0x00	0x00	SUM

Focus Far	0xFF	Address	0x00	0x80	0x00	0x00	SUM
Focus Near	0xFF	Address	0x01	0x00	0x00	0x00	SUM
Set Preset	0xFF	Address	0x00	0x03	0x00	Preset ID	SUM
Clear Preset	0xFF	Address	0x00	0x05	0x00	Preset ID	SUM
Call Preset	0xFF	Address	0x00	0x07	0x00	Preset ID	SUM
Query Pan Position	0xFF	Address	0x00	0x51	0x00	0x00	SUM
Query Pan Position Response	0xFF	Address	0x00	0x59	Value High Byte	Value Low Byte	SUM
Query Tilt Position	0xFF	Address	0x00	0x53	0x00	0x00	SUM
Query Tilt Position Response	0xFF	Address	0x00	0x5B	Value High Byte	Value Low Byte	SUM
Query Zoom Position	0xFF	Address	0x00	0x55	0x00	0x00	SUM
Query Zoom Position Response	0xFF	Address	0x00	0x5D	Value High Byte	Value Low Byte	SUM

4.5 Pelco-P Protocol Command List

Function	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte8
Up	0xA0	Address	0x00	0x08	Pan Speed	Tilt Speed	0xAF	XOR
Down	0xA0	Address	0x00	0x10	Pan Speed	Tilt Speed	0xAF	XOR
Left	0xA0	Address	0x00	0x04	Pan Speed	Tilt Speed	0xAF	XOR
Right	0xA0	Address	0x00	0x02	Pan Speed	Tilt Speed	0xAF	XOR
Upleft	0xA0	Address	0x00	0x0C	Pan Speed	Tilt Speed	0xAF	XOR
Upright	0xA0	Address	0x00	0x0A	Pan Speed	Tilt Speed	0xAF	XOR
DownLeft	0xA0	Address	0x00	0x14	Pan Speed	Tilt Speed	0xAF	XOR
DownRight	0xA0	Address	0x00	0x12	Pan Speed	Tilt Speed	0xAF	XOR
Zoom In	0xA0	Address	0x00	0x20	0x00	0x00	0xAF	XOR
Zoom Out	0xA0	Address	0x00	0x40	0x00	0x00	0xAF	XOR
Focus Far	0xA0	Address	0x01	0x00	0x00	0x00	0xAF	XOR
Focus Near	0xA0	Address	0x02	0x00	0x00	0x00	0xAF	XOR
Set Preset	0xA0	Address	0x00	0x03	0x00	Preset ID	0xAF	XOR
Clear Preset	0xA0	Address	0x00	0x05	0x00	Preset ID	0xAF	XOR
Call Preset	0xA0	Address	0x00	0x07	0x00	Preset ID	0xAF	XOR
Query Pan Position	0xA0	Address	0x00	0x51	0x00	0x00	0xAF	XOR
Query Pan Position Response	0xA0	Address	0x00	0x59	Value High Byte	Value Low Byte	0xAF	XOR
Query Tilt Position	0xA0	Address	0x00	0x53	0x00	0x00	0xAF	XOR
Query Tilt	0xA0	Address	0x00	0x5B	Value High	Value Low	0xAF	XOR

Position Response					Byte	Byte		
Query Zoom Position	0xA0	Address	0x00	0x55	0x00	0x00	0xAF	XOR
Query Zoom Position Response	0xA0	Address	0x00	0x5D	Value High Byte	Value Low Byte	0xAF	XOR

5. Maintenance and Troubleshooting

5.1 Camera Maintenance

1) If camera is not used for long time, please turn off power adapter switch and AC plug.
2) Use soft cloth or tissue to clean the camera cover.
3) Use soft cloth to clean the lens; Use neuter cleanser if bad smeared. No use strong or corrosive cleanser or corrosive cleanser avoiding scuffing.

5.2 Troubleshooting

1) No video output

A) Check whether the camera power supply is connected, the voltage is normal, the power indicator is lit.

B) Whether the machine could do self-inspection after restarted.

C) Check whether the bottom of the DIP switch is the normal operating mode

D) Check whether the video output cable or video display is normal

2) No image sometimes

Check whether the video output cable or video display is normal

3) Image dithering when zoom-in or zoom-out

A) Check whether the camera installation position is solid

B) Whether there is shaking machine or objects around the camera

4) Remote controller can not work

A) Remote control address is set to 1 (if the machine is set back to the factory defaults, remote control addresses need to be back to 1 too)

B) Check whether the battery is installed on the remote controller or low

C) Check the camera working mode is the normal operating mode

D) Check the menu whether is closed, camera control through remote controller is only available after exiting the menu. If video output from LAN, menu will not be displayed, menu will automatically exist 30s later, then it can be controlled by remote controller.

5) Serial port cannot work

A) Check whether the camera serial device protocol, baud rate, address is consistent

B) Check whether the control cable is connected properly

C) Check whether the camera working mode is the normal operating mode

6) Web pages cannot log in

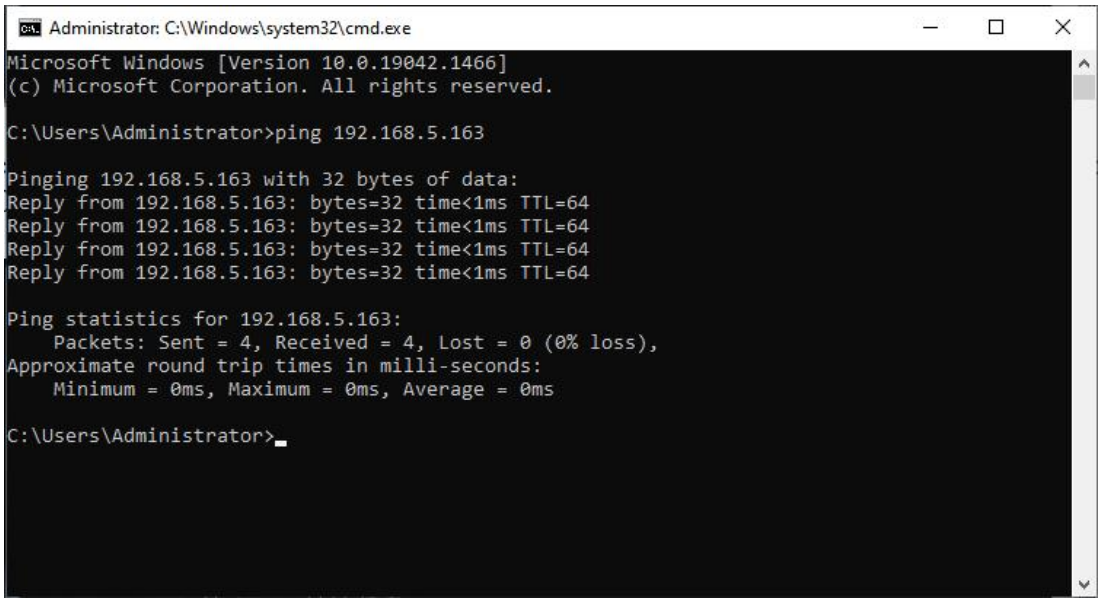
A) Check whether the camera is showing normally.

B) Check whether the network cable is connected properly (Ethernet port yellow light flashes to indicate normal network cable connection)

C) Check whether your computer is added the segment and the segment is consistent with the IP address of the camera

D) Click “Start” and select “Run” and then type “CMD” in the computer; Click “OK” then turn on a DOS command window to enter ping 192.168.5.163. Press the Enter key to appear message as follows:

Description network connection is normal



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